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## M E M O R A N D U M

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**DATE:** September 9, 2020  
**TO:** Ron Bales, INDOT Environmental Policy Manager  
**FROM:** Josh Iddings, American Structurepoint, Inc.  
**RE:** Additional Information Documentation, Des. No. 1602280 (Previous Des No 0710288), Ronald Reagan Parkway Extension in Boone and Hendricks County, Indiana  
**CC:** Brandon Miller, INDOT Environmental Services Division; Mike Maurovich and Briana Hope, American Structurepoint, Inc.; John Ayers, Hendricks County Engineer

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This Additional Information (AI) Document addresses the modifications of the Extension of the Ronald Reagan Parkway from County Road (CR) 600 North to State Road (SR) 267/Interstate(I)-65 in Boone County (Des. No. 0710288). The Des. No. 1602280 has been assigned to this AI document. Since the 2010 EA the project has been split into phases for funding and construction purposes. The Ronald Reagan Parkway project corridor now consists of four phases (1A, 1B, 2A, and 2B). No phases are currently constructed. Termini of the anticipated phases can be found in the table below.

| Phase | Length | Termini   |
|-------|--------|---|
| 1A    | 1.6-mi | Hendricks CR 600 North to CR 750 North            |
| 1B    | 2.6-mi | Hendricks CR 750 North to CR 1000 North           |
| 2A    | 2.7-mi | Hendricks CR 1000 North to Whitestown Parkway     |
| 2B    | 2.9-mi | Whitestown Parkway to the SR 267/I-65 Interchange |

The project corridor is located on the Clermont, Fayette, and Zionsville USGS Topographic Maps in Section 6 of Township 16 North, Range 2 East; Section 1 of Township 16 North, Range 1 East; Sections 2, 11, 12, 13, 14, 24, 25, and 36 of Township 17 North, Range 1 East; and Sections 27, 34, and 35 of Township 18 North, Range 1 East. A map of the location of Phases 1A, 1B, 2A, and 2B can be referenced in Appendix A, A-9.

A Federal Highway Administration (FHWA) Environmental Assessment (EA) for the Ronald Reagan Parkway (Des. No. 0710288) was approved and released for public involvement on July 6, 2010. Following the release of the EA, a public hearing was held on August 2, 2010. On March 7, 2011, following the conclusion of the public involvement requirements, the FHWA issued a Finding of No Significant Impact (FONSI) for the Extension of the Ronald Reagan Parkway project (Des. No. 0710288) (Appendix J, J-5). Unless specifically discussed in this document, the impacts as identified in the 2010 EA remain unchanged.

Furthermore, the approved 2010 EA (Appendix J) acknowledged the intent of Boone and Hendricks County to include design changes through the project corridor as engineering advanced through the design phase. Once engineering advanced for the phases of the extension of the road, it would be necessary to prepare an AI that addressed the additional impacts to the social and natural environment that would occur within that phase of construction. To date, no environmental reevaluations (AI's or Note to File's) have been completed. This document is the first AI since the issuance of the FONSI in 2011. This AI addresses impacts to specific environmental resources resulting from modifications to the final design for Phases 1A and 1B located within Hendricks County as defined in the table above. Details related to engineering and environmental impacts for

Phase 2A and 2B within Boone County will be presented in subsequent AI documents. Specific modifications for Phase 1A and 1B are discussed in detail in the following sections.

Phase 1A and 1B exhibit logical termini, as these phases of the overall Ronald Reagan Parkway project will begin and end at intersecting roadways (CR 600 N for Phase 1A and CR 750 N for Phase 1B). Both Phase 1A and 1B are designed to terminate at county road intersections that are heavily utilized by local commuter traffic for access to the northwest side of Indianapolis and I-465 (CR 750 N for Phase 1A and CR 1000 N for Phase 1B) and will act as logical, temporary termini for both phases of the extension. Phase 1A and 1B also exhibit independent utility as the extension of the Ronald Reagan Parkway constructed during these phases will continue to function whether or not construction of future phases is implemented.

No federal funding is currently involved with the Extension of the Ronald Reagan Phase 1A or 1B undertakings. However, this document has been prepared due to the previous use of federal funds and the desire to maintain eligibility for future federal funding.

## **1.0 PROJECT OVERVIEW AND HISTORY**

The primary purpose and need of the proposed project remains unchanged from the original 2010 EA document. As defined in the 2010 EA, the purpose and need for the proposed project is based upon improving regional and local mobility by providing better local access to Hendricks and Boone County residents through an alternative route, linkage of existing roadways, improving local access, and promoting future economic growth. For reference to the original purpose and need in the approved 2010 EA, see Appendix J, J-8.

The 2010 EA identified Alternative 1D/1B-b as the preferred alternative (Appendix J, J-8 to J-10). The typical section of the preferred alternative proposed the initial construction of two 12 foot wide travel lanes in each direction with 11 foot useable shoulders (10 foot paved). Intended design speed was 55 miles-per-hour. The travel lanes will be separated by a 16 foot flush median. Side ditches bordering the roadway are proposed and will include 4:1 side slopes, 4-foot flat ditches with 3:1 back slopes. The proposed right-of-way would be maintained within a 230-foot wide minimum corridor [115-feet on either side of the proposed centerline (Appendix J, J-10)].

CR 900 E was noted to be converted into dead-end roadway with cul-de-sacs on each side of the Ronald Reagan Parkway due to the crossing of the proposed Ronald Reagan Parkway approximately 0.56 mile north of CR 600 N. The document also noted that the remaining portions of CR 900 E will remain as a frontage road to provide access to the residences along the roadway (Appendix J, J-11). Additionally, although not explicitly noted in the EA document, mapping and the Public Hearing Notice in the 2010 EA did call out a realignment of Maloney Road.

The project also included the construction of new structures for the crossings of an unnamed tributary to School Branch (UNT 1), Pump Run, Etter Ditch, and White Lick Creek. The structures were determined to be designed at a later time, as the project advances. General proposed outside to outside widths of all structures were 90 feet 4 inches. Channel work was estimated to extend 100 feet up and downstream of the proposed structure limits. A bridge carrying SR 267 over White Lick Creek was included to be expanded from a 46-foot 3-inch width to a 90-foot 4-inch outside to outside width. Length of channel work on all stream crossings was reported at 300 feet (Appendix J, J-12 to J-14).

## **2.0 MODIFIED DESIGN PLANS (2020)**

Since the July 6, 2010 approval of the EA, the project has been modified to include four phases. Phase 1A begins at CR 600 N in Hendricks County and extends north to CR 750 N, Phase 1B begins at CR 750 N and extends north to CR 1000 N, Phase 2A begins at CR 1000 N and extends north to Whitestown Parkway in Boone County,

and Phase 2B begins at Whitestown Parkway and extends north to the SR 267/I-65 Interchange (Appendix A, A-9). This AI addresses impacts to specific environmental resources resulting from the final design for Phases 1A and 1B. Additional right-of-way discussed in this AI is entirely located within Phases 1A and 1B. While preliminary design for the remaining phases (2A and 2B) has occurred, it has not been modified from the 2010 EA and right-of-way for these phases is still estimated based on the same 230-foot wide corridor used in the 2010 EA. Final right-of-way acreage has not been calculated for Phases 2A and 2B, and subsequent AI documents will be prepared to document modifications in these phases at a later time.

## **2020 AI**

### **Detention Ponds**

Modifications to Phases 1A and 1B include the construction of stormwater detention ponds along the Ronald Reagan Parkway. Three stormwater detention ponds will be located within Phase 1A and are proposed to be northwest of the intersection of CR 600 N and the proposed Ronald Reagan Parkway (10.52 acres) (Appendix B, B-45), southwest of the intersection of CR 900 E and CR 700 N (3.97 acres) (Appendix B, B-46), and southeast of the intersection of CR 900 E and CR 750 N (5.75 acres) (Appendix B, B-47). Four stormwater detention ponds will be located within Phase 1B and are proposed to be located northeast of the intersection of CR 750 N and the proposed Ronald Reagan Parkway (4.59 acres) (Appendix B, B-126), 0.35 mile north of CR 750 N and east of the proposed Ronald Reagan Parkway (17.94 acres) (Appendix B, B-124), and then two ponds, located 0.06 and 0.11 mile south of CR 1000 N and west of the proposed Ronald Reagan Parkway (7.59 acres total for both) (Appendix B, B-127 to B-128).

### **Stream Crossings**

Since the 2010 EA, engineering of stream crossings has been completed for Phases 1A and 1B of the project. A total of two streams cross the Ronald Reagan Parkway within Phases 1A and 1B. The crossings include an unnamed tributary to School Branch (UNT 1) and Pump Run which were noted in the 2010 EA (Appendix J, J-12 to J-13). UNT 1 will cross the proposed Ronald Reagan Parkway approximately 0.10 mile north of CR 600 N. A 125-foot long, 16-foot x 5-foot reinforced concrete box culvert is proposed to be constructed for the crossing of UNT 1. An additional 50 linear feet of riprap is proposed to be placed within the relocated stream at the inlet and outlet of the culvert. The structure is 34.7 feet longer than the length assumed in the 2010 EA; however, the length of work up and downstream of the structure is 150 linear feet shorter than the riprap limits originally assumed in the 2010 EA.

The second stream crossing is on Pump Run. Pump Run will cross the proposed Ronald Reagan Parkway approximately 0.10 mile south of CR 1000 N. A 152-foot long, 28-foot x 10 foot, 3-sided concrete arch structure is proposed to be constructed at this location. An additional 229 linear feet of Class I riprap will be placed at the inlet, outlet, and along footers (inside the structure) of the proposed concrete arch at the north and south banks of Pump Run. The structure is 61.6 feet longer than the length assumed in the 2010 EA; however, the length of work up and downstream of the structure is 72 feet shorter than the riprap limits originally assumed in the 2010 EA.

Deviations in the anticipated impacts for both crossings can be attributed to the fact that a *Wetland Delineation and Waters Report* had not been prepared for the project at the time of the 2010 EA. Therefore, the 2010 EA did not include crossing specific impacts. Additionally, as noted in Section 1.0 above, no design was completed for the preferred alternative at the time of the 2010 EA and all crossings were assumed to utilize the same structure and require the same length of construction work up and downstream of the crossing.

### **Railroad Grade Separation**

Since the 2010 EA, the CSX Railroad crossing in Phase 1A, located approximately 0.2 mile south of the intersection of CR 700 N, has been modified to an above-grade crossing. A two span continuous composite pre-

stressed concrete bulb tee beam bridge with an out-to-out coping length of 97 feet 6 inches will be constructed over the CSX Railroad. General deck dimensions will consist of two 12 foot travel lanes in each direction, a 12 foot left turn lane, 4 feet of striped median, 10 foot multi-use path, and 10 foot 4 inch paved shoulders on each side. A 10 inch wide rail will be installed on each side of the multi-use path (Appendix B, B-69). Retaining walls will be used to decrease the amount of right-of-way and the overall footprint of the crossing. The bridge will have a minimum 23 foot, 2 and 5/8 inch clearance over the CSX railroad tracks (Appendix B, B-68).

### **Cross Streets and Multi-Use Path**

The general cross section of the proposed Ronald Reagan Parkway remains relatively unchanged from the 2010 EA. The overall lane configuration has not been modified; however, for cross street approaches at CR 600 N, CR 700 N, CR 750 N, Maloney Road, and CR 1000 N, the proposed 16 foot flush median will transition to a 12 foot left turn lane with a 4 foot striped median. A 10-foot wide multi-use path has been added since the 2010 EA and will be incorporated along the east side of the Ronald Reagan Parkway throughout the project corridor. The 11-foot wide usable shoulders, 10-foot paved, along the corridor remain as described in the 2010 EA. The use of side ditches bordering the roadway will remain consistent with the originally proposed design. Typical cross sections for Phases 1A and 1B can be referenced in Appendix B, B-2 to B-4 and Appendix B, B-73 to B-74, respectively.

Modifications to cross streets have also been proposed within Phases 1A and 1B of the project. Within Phase 1A, modifications to CR 600 N, CR 700 N, and CR 750 N will include the addition of a left turn lane onto the proposed Ronald Reagan Parkway. Twelve foot wide right turn lanes will be added to both the east bound and west bound lanes of CR 600 N. The four-way intersections at CR 600 N, CR 700 N, CR 750 N, and Maloney Road will be equipped with traffic signals. The proposed work extends approximately 900 feet east and west along CR 600 N (Appendix B, B-5) and approximately 500 feet east and west along CR 700 N (Appendix B, B-7) and CR 750 N (Appendix B, B-8).

Within Phase 1B, Maloney Road is proposed to be realigned as noted on the mapping and discussed briefly in the Public Hearing Notice of the 2010 EA. Maloney Road within the proposed Ronald Reagan corridor is currently an east-west roadway with a dog-legged intersection at CR 900 E and two ninety degree turns. As traffic heads west along Maloney Road, it must turn north on CR 900 E and continue for approximately 600 feet before navigating a ninety degree turn to the west, as CR 900 E ends and meets Maloney Road. Traffic then continues on Maloney Road for approximately 1,200 feet before entering a second ninety degree turn to the north. The proposed project will reconfigure Maloney Road eliminating the dog legged intersection with CR 900 E. To accomplish this, the roadway will be realigned beginning at the westernmost ninety degree turn previously described and aligning the roadway south and to the west, creating a four way signalized intersection for Maloney Road and the proposed Ronald Reagan Parkway, as well as the existing CR 900 E (Appendix B, B-81).

Additionally, at the intersection of CR 1000 N within Phase 1B, the alignment of Ronald Reagan Parkway is proposed to be shifted approximately 200 feet east from the corridor shown in the 2010 EA. This alignment shift has been deemed necessary to minimize stream impacts to Pump Run. The alignment shift also eliminates the need to purchase right-of-way from and reduces the projects adverse effect with the Lawler Farmstead (I-House) (IHSSI No. 063-699-00012). The Lawler Farmstead has been determined eligible for listing in the National Register of Historic Places (NRHP) and as a Section 4(f) property. The Lawler Farmstead is located west of the proposed Ronald Reagan Parkway, north of CR 1000 N (Appendix D, D-9 to D-15). The intersection of CR 1000 N will consist of a three-way intersection with a stop sign for northbound traffic on the Ronald Reagan Parkway. CR 1000 N will not be equipped with a traffic signal until construction of Phase 2A commences, when the intersection will be converted from a three-way intersection into a four-way intersection. Further modifications to CR 1000 N include the addition of a 12-foot wide, 350-foot long left-turn lane for westbound traffic queuing to turn south onto the Ronald Reagan Parkway. Twelve feet of pavement striping will be installed west of the

intersection of Ronald Reagan Parkway, dividing the eastbound and westbound travel lanes (Appendix B, B-81). These pavement markings will taper moving west from the intersection of the Ronald Reagan Parkway before ending 234 linear feet west of the intersection.

Finally, as part of the proposed construction of Phases 1A and 1B, CR 900 E will be modified due to the alignment of Ronald Reagan Parkway, with the at grade crossing of the CSX Railroad track, and realignment of Maloney Road, as detailed above in this section. The currently proposed modifications are similar to those presented in the 2010 EA. However, a discussion of the current modifications is presented below due to the lack of a clear description of which portions of CR 900 E would remain and which would be removed in the 2010 EA.

These modifications to CR 900 E will result in the creation of two discontinuous, dead end, sections of the roadway remaining along the Ronald Reagan Parkway. The remaining sections maintain access to all existing homes and properties along the roadway as described in the 2010 EA. The first remaining section of CR 900 E begins at CR 600 N and will continue north for approximately 0.5 mile before ending at a cul-de-sac south of the proposed Ronald Reagan Parkway, approximately 0.2 mile north of the intersection of Hession Farms Boulevard (Appendix B, B-20 and B-27). The second remaining segment will begin at a cul-de-sac north of the Ronald Reagan Parkway, approximately 0.1 mile south of the intersection of CR 700 N (Appendix B, B-21 and B-28). From this point CR 900 E will remain in its current configuration before ending at a residential driveway approximately 350 feet north of Maloney Road (Appendix B, B-82). The existing pavement north of the driveway extending along CR 900 E to the western leg of Maloney Road, as well as approximately 0.3 mile of pavement between the two constructed cul-de-sacs, will be permanently removed.

Total additional right-of-way for seven stormwater detention ponds and the cross street modifications within Phases 1A and 1B is 61.86 acres of permanent and 0.22 acre of temporary right-of-way. The typical width of right-of-way along the project corridor is 230 feet (115 feet on either side of the proposed centerline), which is unchanged from the 2010 EA. The total includes an additional 11.50 acres of permanent right-of-way for the proposed improvements to the cross streets and 50.36 acres of permanent right-of-way for the proposed stormwater detention ponds. Additional details regarding the modification of right-of-way can be found in Section 6.0 of this AI document.

The modified alternative continues to meet the Purpose and Need that was outlined in the 2010 EA by continuing to improve regional and local mobility, providing better local access to Hendricks and Boone County residents through an alternative route, linkage of existing roadways, improving local access, and promoting future economic growth.

## **2.1 Re-coordination**

Re-coordination for the project was addressed in a letter dated February 21, 2018 (Appendix C, C-1 to C3). The re-coordination letter addresses preliminary design for Phase 1A of the proposed project, as preliminary design had yet to be completed for the additional remaining phases of the project. The re-coordination letter addresses modifications to Phase 1A including one additional relocation, cross street modifications (CR 600 N, CR 700 N, and CR 750N), and the construction of stormwater detention ponds. Since that time, preliminary design has been completed for Phase 1B of the proposed project. This prompted re-coordination efforts for Phase 1B, which was initiated in a letter dated September 6, 2019 (Appendix C, C-71 to C-73). The re-coordination letter addresses modifications to Phase 1B including cross street modifications (Maloney Road and CR 1000 N), and the construction of stormwater detention ponds. At this time, preliminary design for the remaining phases (2A and 2B) has occurred; however, final right-of-way acreage has not been calculated. Re-coordination will be conducted to initiate activities associated with the preparation of additional AI documents for Phase 2A and 2B at a later time.

### **3.0 PUBLIC INVOLVEMENT**

#### **2010 Approved EA**

A Notice of Survey letter was sent to local property owners and residents on August 18, 2006, prior to conducting any field survey. Discussion of the notice of entry in the 2010 approved EA can be referenced in Appendix J, J-7.

Two Project Coordination Team Meetings were held during the development of the 2010 EA document. The first was held on March 16, 2006 and a second on March 19, 2007. A Public Information Meeting was held on May 23, 2007. The initial EA also held three Community Advisory Committee Meetings on September 7, 2006, March 22, 2007, and February 13, 2008.

In accordance with 36 CFR 800.2(d), 800.3(e), and 800.6(a) (4), the views of the public were sought regarding the "Adverse Effect" determination by FHWA and draft Memorandum of Agreement (MOA). A Public Notice was advertised in the *Hendricks County Flyer* on July 22, 2009 and *The Lebanon Reporter* on July 21, 2009 with a 30 day public comment period ending on August 20, 2009.

A public hearing was held for the project on Thursday August 2, 2010 at the Zionsville West Middle School. The legal notice of public hearing was published in the July 21, 2010 and the July 28, 2010 issues of the *Hendricks County Flyer* and *The Lebanon Reporter*. In addition to the publication, the legal notice was also mailed to affected property owners notifying them of the hearing.

The established deadline for comments was August 19, 2010 and additional comments were received. These comments were reviewed, summarized and addressed as part of the environmental document. On September 2, 2010 INDOT issued certification for public involvement for the project. Reported information regarding the 2010 EA Public Involvement can be found in Appendix J page J-7.

#### **2020 AI**

Updated notice of entry letters were sent to affected property owners on September 23, 2016 and again on February 6, 2018 (Appendix G, G-1 to G-2).

#### **October 19, 2016 Public Information Meeting**

A Public Information Meeting was held on October 19, 2016 at the Whitestown Public Hall at 6210 Veterans Drive in Whitestown, Indiana as part of the AI process. A public notice for the October 19 meeting was published in the *Hendricks County Flyer* (Appendix G, G-4), *The Lebanon Reporter* (Appendix G, G-5), and *The Indianapolis Star* (Appendix G, G-6 to G-8) on October 12, 2016. The meeting discussed a brief history of the project, project description, schedule, and funding related to the proposed Ronald Reagan Parkway (Des. No. 1602280). The attending parties were offered the opportunity to comment on the project within the 15-day comment period following the meeting and ending on November 3, 2016. Comments received included requests for additional information, support for the project, and general questions regarding engineering. The Notice of Public Meeting, presentation, meeting sign in sheet, and received public comments can be found in Appendix G, G-3 to G-42.

#### **December 15, 2017 Section 106 Consulting Parties Meeting**

A Section 106 Consulting Parties meeting was held on December 15, 2017 at the Hendricks County Government Center (355 South Washington Street Danville, Indiana). An email invitation was sent to all non-Tribal consulting parties by American Structurepoint on November 22, 2017 (Appendix D, D-165 to D-166). Included in the invitation were instructions directing consulting parties to access an Effects Letter for the project on INSCOPE. This invitation detailed the consultation efforts prior to Weintraut & Associates (W&A) involvement in 2016, including the MOA executed in 2009, to address adverse effects on historic properties from the project and the

Environmental Assessment (EA) that was approved in 2010. The invitation also noted the Section 106 process has been reinitiated due to the passage of time and changes in the project and that W&A had completed a new Historic Properties Report (HPR) that reassessed properties in the Area of Potential Effect (APE). INDOT sent the invitation to Tribal organizations via email the same day. At the December 15<sup>th</sup> meeting a brief history of the project, list of anticipated effects for historic properties within the project's APE, overview of the MOA executed in 2009, and a tentative schedule for upcoming project events was presented. Participating consulting parties were given the opportunity to comment on the anticipated effects and the overall project. (Appendix D, D-16 to D-21)

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "Adverse Effect" was published in the *Hendricks County Flyer* (Appendix D, D-341 to D-343), *The Lebanon Reporter* (Appendix D, D-339 to D-340), and *The Indianapolis Star* (Appendix D, D-336 to D-338) on June 27, 2018 offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a). The public comment period closed 30 days later on July 27, 2018.

### **Individual Property Owner Meetings**

Between 2016 and 2017 individual meetings were held with willing affected property owners along Phases 1A and 1B. The meetings consisted of a site visit to discuss the impacts of the proposed project in relation to the owner's property and the need for site access required for various surveys associated with the project. Follow up visits to affected property owners were completed to discuss specific drainage issues, such as the location and presence of sub-surface drainage tiles, which may be affected as a result of the project as necessary.

### **Future Public Involvement Meeting**

The project will meet the minimum requirements described in the current INDOT Public Involvement Manual which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. In response to the re-coordination letter submitted on September 6, 2019, INDOT Office of Public Involvement (PI) recommended that public involvement be considered due to the passage of time since the last public involvement meeting. American Structurepoint contacted the FHWA to discuss the need for additional public involvement on September 20, 2019. FHWA concurred with INDOT PI's recommendation for additional public involvement on September 23, 2019 (Appendix C, C-95 to C-96). Following coordination with Hendricks County Officials, it was determined that a public involvement meeting will be held following the approval of this document and prior to the commencement of construction. INDOT Environmental Services (ES) and FHWA agreed that this would be an acceptable approach (Appendix C, C-93). Construction is anticipated to begin in August 2020. All applicable INDOT PI and FHWA commitments are included in the commitments section of this document.

## **4.0 MAINTENANCE OF TRAFFIC (MOT)**

### **2010 Approved EA**

According to the 2010 EA, the project would not require the use of an official detour. The 2010 EA described a MOT plan, which consisted of temporary pavement widening on existing county roads intersecting the corridor during construction to maintain traffic. The EA goes on to state temporary closure of low volume local county roads is possible. All signs, lights and barricades utilized for traffic maintenance or detour during construction would be in accordance with current INDOT standards and the Uniform Traffic Control Manual (Appendix J, J-14).

### **2020 AI**

Construction is anticipated to begin in August 2020. Construction of Phase 1A (from CR 600 N to CR 750 N in Hendricks County) will begin at the proposed intersection of Ronald Reagan at CR 600 N and progress north. The MOT on Phase 1A (from CR 600 N to CR 750 N in Hendricks County) will consist of the use of detours

which will route traffic around the closed portions of CR 900 E and the intersecting county roads of 700 N and 750 N. Temporary closure of CR 900 E at the intersection of CR 600 N to CR 700 N will require the establishment of a detour. Both intersecting cross streets of CR 700 N and CR 750 N would remain open during this portion of construction. The proposed detour for CR 900 E is approximately 6.3 miles and will utilize CR 600 N, N Raceway Road, and Maloney Road (Appendix B, B-9).

As Phase 1A construction advances north, CR 900 E will remain closed as described above; however, temporary closure of CR 700 N at the intersection of CR 900 E will be required. This will require the establishment of an additional detour to direct thru traffic on CR 700 E around the closed intersection. This detour is approximately 4.4 miles and will utilize SR 267, CR 600 N, and CR 1000 E (Appendix B, B-10).

The next portion of construction will occur once Phase 1A of the Ronald Reagan Parkway can be opened from CR 600 N to CR 700 N. At this time, CR 900 E would be closed from the intersection of CR 700 N to CR 750 N. The official detour for this portion of construction is approximately 4.9 miles and will utilize SR 267, CR 600 N, and CR 1000 E. Additional details regarding MOT, including the location of proposed signage, is included in Appendix B, B-11.

As construction of Phase 1A progresses north to the intersection of CR 750 N and enters Phase 1B (from CR 750 N to CR 1000 N in Hendricks County) of the project, CR 900 E will be closed between CR 750 N and Maloney Road. This will require the establishment of an additional detour. This detour is approximately 4.75 miles and will utilize CR 750 N, N. Raceway Road, and Maloney Road for traffic bound for Maloney Road (Appendix B, B-77).

As Phase 1B construction advances north, temporary closure of a portion of Maloney Road at the intersection of CR 900 E will require the establishment of an additional detour. The detour is approximately 4.72 miles and will utilize CR 925 E, CR 950 N, CR 950 E, CR 1000 N, and CR 800 E (Appendix B, B-75).

The final portion of construction of Phase 1B, which will extend the Ronald Reagan Parkway from Maloney Road to CR 1000 N, will occur once Maloney Road is re-opened from CR 900 E to CR 800 E. During this portion of construction, temporary closure of a portion of CR 1000 N at the proposed intersection of Ronald Reagan Parkway will require the establishment of a detour. This detour is approximately 4.5 miles and will utilize CR 800 E, Maloney Road, CR 925 E, CR 950 N, and CR 950 E. Additional details regarding MOT, including the location of proposed signage, is included in Appendix B, B-76.

The closures will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated and all inconveniences will cease upon project completion. Delays may occur during construction but will cease with project completion. Construction is anticipated to begin in August 2020 and continue through August 2022.

## **5.0 ESTIMATED PROJECT COST AND SCHEDULE**

### **2010 Approved EA**

As documented in the 2010 EA, the total estimated cost of the project - which included preliminary engineering, right-of-way, and construction costs - was \$85,543,615 (2010). A breakdown of this total cost is \$3,195,415 for preliminary engineering, \$7,100,000 for right-of-way, and \$75,248,200 for construction (Appendix J, J-14).

### **2020 AI**

As a result of inflation and modifications to the project design for Phases 1A and 1B the project costs have increased. The total construction cost including reimbursable utility construction cost of Phases 1A and 1B is estimated to be \$55,890,908, the right-of-way cost is estimated to be \$5,501,071, and the engineering cost



(construction and preliminary) including the utility engineering cost is estimated to be \$5,078,800. In all, with a 5% contingency on all related costs, the total estimated cost of Phases 1A and 1B of the Ronald Reagan Extension project is estimated to be \$69,794,394. At this time all funding is 100% local and no federal monies are included in this total. Construction of Phases 1A and 1B of the project is anticipated to begin in August 2020 and extend to 2022. The table below reflects the updated costs of the Phases 1A and 1B of the project. This is the only currently funded portion of the project.

| Phase                  | 2020 Construction Cost | Construction Engineering | Reimbursable Utility Engineering Cost | Reimbursable Utility Construction Cost | Right of Way       | Totals              |
|------------------------|------------------------|--------------------------|---------------------------------------|--|--------------------|---------------------|
| Phase 1A               | \$23,855,000           | \$2,385,500              | \$50,000                              | \$2,333,980                            | \$3,130,171        | \$31,754,651        |
| Phase 1B               | \$23,258,000           | \$2,325,800              | \$317,500                             | \$6,444,000                            | \$2,370,900        | \$34,716,200        |
| Project Contingency 5% | \$2,355,650            | \$235,565                | \$18,375                              | \$438,899                              | \$275,054          | \$3,233,543         |
| <b>Totals</b>          | <b>\$49,468,650</b>    | <b>\$4,946,865</b>       | <b>\$385,875</b>                      | <b>\$9,216,879</b>                     | <b>\$5,776,125</b> | <b>\$69,794,394</b> |

The overall Ronald Reagan Extension project (all four phases) is included in the Fiscal Year (FY) 2020 to 2023 Indianapolis Regional Transportation Improvement Program (IRTIP) (Appendix H, H-1 to H-3). As there is no federal funding for the Ronald Reagan Extension project at this time, it is not listed in the Statewide Transportation Improvement Program (STIP). The IRTIP reports the overall project costs (for all four phases) is \$112,133,130 (Appendix H, H-1). A breakdown of funding per phase is not provided in the IRTIP. As of the date of the AI, the 2020 to 2023 IRTIP funding has not been updated to reflect the updated 100% local costs or anticipated construction schedule of Phases 1A and 1B.

Subsequent AI documents will be completed as necessary to update funding and the schedule for Phases 2A and 2B.

## 6.0 RIGHT-OF-WAY

### 2010 Approved EA

The 2010 EA indicated approximately 241 acres of permanent right-of-way would have been required for the construction of the preferred alternative. The land use composition of this right-of-way included 217.77 acres of agricultural lands, 5.33 acres of commercial, 13.76 acres of residential, 0.44 acre of forest, and 3.70 acre from floodplains. No temporary right-of-way acquisition was anticipated to be required. The typical width of the proposed right-of-way was stated as approximately 230 feet wide (115 feet on either side of the proposed centerline). According to the 2010 EA, the project will require five residential relocations and no business relocations.

### 2020 AI

Modifications to the proposed stormwater detention ponds and intersection improvements has resulted in a net increase in the overall right-of-way for the Ronald Reagan Extension Project. The overall project will require 302.86 acres of permanent and 0.22 acre of temporary right-of-way from residential, commercial, forested, and agricultural properties along the project corridor (Appendix A, Page A-9). This is a net increase of 61.86 acres of permanent right-of-way when compared to the limits indicated in the 2010 EA. The project also requires approximately 0.22 acre of temporary right-of-way from residential land use along the project corridor. This is a net increase of 0.22 acre when compared to the limits indicated in the 2010 EA. The additional temporary right-of-way is associated with the Residential Relocation 1 in the northwest quadrant of the proposed Ronald Reagan

Parkway and CR 600 N (Appendix B, B-5). The permanent and temporary right-of-way are detailed in the table below. Please note that floodplains within the project corridor are entirely agricultural land use.

| Land Use Type      | Acreage of New Right-of-Way |             |  |             | Difference due to Phase 1A |             | Differences due to Phase 1B |             |
|--------------------|-----------------------------|-------------|--|-------------|----------------------------|-------------|-----------------------------|-------------|
|                    | Des. No. 0710288 (2010 EA)  |             | Des. No. 1602280 Modified Design (2020 AI) |             | Perm. (ac)                 | Temp. (ac)  | Perm. (ac)                  | Temp. (ac)  |
|                    | Perm. (ac)                  | Temp. (ac)  | Perm. (ac)                                 | Temp. (ac)  |                            |             |                             |             |
| Residential        | 13.76                       | 0.00        | 14.16                                      | 0.22        | 0.19                       | 0.22        | 0.21                        | 0.00        |
| Commercial         | 5.33                        | 0.00        | 5.33                                       | 0.00        | 0.00                       | 0.00        | 0.00                        | 0.00        |
| Industrial         | 0.00                        | 0.00        | 0.00                                       | 0.00        | 0.00                       | 0.00        | 0.00                        | 0.00        |
| Agricultural       | 217.77                      | 0.00        | 278.80                                     | 0.00        | 24.02                      | 0.00        | 37.01                       | 0.00        |
| Forest             | 0.44                        | 0.00        | 0.87                                       | 0.00        | 0.43                       | 0.00        | 0.00                        | 0.00        |
| Wetlands           | 0.00                        | 0.00        | 0.00                                       | 0.00        | 0.00                       | 0.00        | 0.00                        | 0.00        |
| Other: floodplains | 3.70                        | 0.00        | 3.70                                       | 0.00        | 0.00                       | 0.00        | 0.00                        | 0.00        |
| <b>Total</b>       | <b>241.00</b>               | <b>0.00</b> | <b>302.86</b>                              | <b>0.22</b> | <b>24.64</b>               | <b>0.22</b> | <b>37.22</b>                | <b>0.00</b> |

If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

Additional right-of-way discussed in this AI is entirely located within Phases 1A and 1B. Subsequent AI documents will discuss any modifications to right-of-way totals in Phases 2A and 2B.

## 7.0 STREAMS, RIVERS, WATERCOURSES, AND JURISDICTIONAL DITCHES

### 2010 Approved EA

The 2010 EA discussed anticipated impacts to four streams at five crossings. Discussion of the crossings of Pump Run (Martin Dugan Drain), Etter Ditch, two crossings of White Lick Creek, and an UNT to School Branch were included (Appendix J, J-15 to J-16). Impact and structure measurements reported in this section vary from that previously detailed in the *Design Criteria for Bridges* section of the 2010 EA and presented in Section 1.0 above, which noted that the length of channel work on all five stream crossings was reported at 300 feet (Appendix J, J-12 to J-14).

### 2020 AI

As no formal wetland determination or delineation was completed as part of the 2010 EA, it was determined that the overall Ronald Reagan Extension Project (all four phases) required assessment for the presence of streams, rivers, watercourses, and jurisdictional ditches.

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, the aerial maps of the project area (Appendix A, A-9 to A-15) and the water resources map in the RFI report (Appendix E, E-12 to E-14) there are 23 streams located within a 0.5 mile search radius. There are ten streams, rivers, watercourses, and/or jurisdictional ditches present within or adjacent to the project area. Additionally, four 303d Listed Stream segments are located within the 0.5 mile search radius. These segments, associated with Etter Ditch, Pump Run/Dugan Ditch, and School Branch, are listed for *Escherichia coli* (*E. coli*). Workers who are working in or near water with *E. coli* should take care to wear appropriate personal protection equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure. This is documented as a firm commitment in Section 22.0 of this AI document.

A *Wetland Delineation and Waters Report* was completed for the overall project (all four phases) on January 13, 2017 with an addendum being added on February 18, 2019 to document expanded areas for the detention and cross street modifications within Phase 1B detailed in Section 2.0 above. Please refer to Appendix F, F-1 to F-348 for the 2017 *Wetland Delineation and Waters Report* and Appendix F, F-349 to F-398 for the 2019 *Wetland Delineation and Waters Report Addendum*. It was determined that 9 streams totaling 7,667 linear feet were identified within the investigated area. The U.S. Army Corps of Engineers (USACE), Louisville District makes all final determinations regarding jurisdiction.

The four streams identified in the 2006 and 2007 investigations (Pump Run [Martin Dugan Ditch], Etter Ditch, White Lick Creek, and UNT to School Branch Creek [UNT 1]) were confirmed during the 2016 and 2017 field investigations, along with five additional streams (UNT 2 through UNT 4, Martin Dugan Ditch, and School Branch) not identified in the original 2006 and 2007 investigations. Although the 2010 EA notes Pump Run and Martin Dugan Ditch as the same stream, it has been determined that they are two different streams. Pump Run is a tributary to Martin Dugan Ditch (Appendix F, F-287). Additional streams identified during the field investigation can be attributed to the fact that a formal delineation was not performed as part of the 2010 EA and expanded investigational limits which include areas necessary for the detention basins and cross street modifications detailed in Section 2.0 above.

Additional information on delineated streams is detailed in the table below:

| 2016 and 2017 Delineated Streams |                        |                             |                   |                                      |  |  |
|----------------------------------|------------------------|-----------------------------|-------------------|--------------------------------------|--|--|
| Delineated Resource              | Lat/Long               | OHWL (feet)                 | Narrative Quality | Length in Project Area (linear feet) | Length of Total Impacts <sup>2</sup> (linear feet) | Area of Total Impacts <sup>1</sup> (acres) |
| <b>Phase 1A</b>                  |                        |                             |                   |                                      |  |  |
| UNT 1                            | 39.85307/<br>-86.35491 | 2 feet wide by 2 feet deep  | Poor              | 675                                  | 212  | 0.01                                       |
| UNT 2                            | 39.86226/<br>-86.36318 | 3 feet wide by 2 feet deep  | Very Poor         | 250                                  | 0  | 0  |
| School Branch                    | 39.87297/<br>-86.36168 | 15 feet wide by 2 feet deep | Fair              | 210                                  | 20   | 0.01                                       |
| <b>Phase 1A Total</b>            |                        |                             |                   | <b>1,135</b>                         | <b>232</b>   | <b>0.02</b>                                |
| <b>Phase 1B</b>                  |                        |                             |                   |                                      |  |  |
| Pump Run                         | 39.90810/<br>-86.37263 | 5 feet wide by 2 feet deep  | Fair              | 1,615                                | 267  | 0.03                                       |
| Martin-Dugan Ditch               | 39.90811/<br>-86.37377 | 10 feet wide by 2 feet deep | Good              | 535                                  | 41   | 0.01                                       |
| UNT 3                            | 39.90617/<br>-86.37379 | 5 feet wide by 2 feet deep  | Good              | 35                                   | 0  | 0  |
| <b>Phase 1B Total</b>            |                        |                             |                   | <b>2,185</b>                         | <b>308</b>   | <b>0.04</b>                                |
| <b>Phase 1A and 1B</b>           |                        |                             |                   | <b>3,320</b>                         | <b>540</b>   | <b>0.06</b>                                |

| <b>2016 and 2017 Delineated Streams</b> |                        |                                |                          |   |  |  |
|---|------------------------|--------------------------------|--------------------------|---|--|--|
| <b>Delineated Resource</b>              | <b>Lat/Long</b>        | <b>OHWL (feet)</b>             | <b>Narrative Quality</b> | <b>Length in Project Area (linear feet)</b> | <b>Length of Total Impacts<sup>2</sup> (linear feet)</b> | <b>Area of Total Impacts<sup>1</sup> (acres)</b> |
| <b>Phase 2A and 2B</b>                  |                        |                                |                          |   |  |  |
| Etter Ditch                             | 39.92931/<br>-86.37947 | 10 feet wide by<br>2 feet deep | Poor                     | 1,325                                       | N/A  | N/A  |
| White Lick Creek (first crossing)       | 39.95337/<br>-86.38776 | 12 feet wide by<br>2 feet deep | Fair                     | 1,290                                       | N/A  | N/A  |
| White Lick Creek (second crossing)      | 39.96937/<br>-86.39875 | 5 feet wide by 2<br>feet deep  | Fair                     | 1,120                                       | N/A  | N/A  |
| UNT 4                                   | 39.95341/<br>-86.38909 | 1 foot wide by 2<br>feet deep  | Very Poor                | 902   | N/A  | N/A  |
| <b>Phase 2A and Phase 2B</b>            |                        |                                |                          | <b>4,637</b>                                | <b>N/A</b>   | <b>N/A</b>                                       |
| <b>Total (All Phases)</b>               |                        |                                |                          | <b>7,957</b>                                | <b>N/A</b>   | <b>N/A</b>                                       |

1. Below the ordinary high water mark (OHWM) 2. Stream impacts for Phase 2A and 2B have not been completed as final engineering is incomplete. Subsequent AI documents will note impacts to streams in these phases.

Four streams within Phases 1A and 1B are anticipated to be permanently impacted due to the installation of drainage structures and placement of riprap within the construction limits. Anticipated impacts to streams within Phases 1A and 1B total 540 linear feet. Avoidance and minimization of impacts to jurisdictional waterways has been incorporated into the design to the maximum extent practical. This includes the use of headwalls on culverts as well as three-sided concrete arch structures where applicable to reduce encapsulation and minimize stream bed impacts.

Due to total permanent impacts of over 300 linear feet for Phases 1A and 1B, compensatory mitigation is required for stream impacts. Coordination with Indiana Department of Environmental Management (IDEM) and the USACE, Louisville District in 2018 and 2019 was completed to discuss anticipated wetland impacts, jurisdictional status of delineated waters, and permitting for the proposed Ronald Reagan Parkway Extension. It was determined that due to the anticipated schedule for the project and lack of funding for Phases 2A and 2B, the Ronald Reagan Extension project could be permitted by phases and utilize the Indiana Department of Natural Resources-Division of Fish and Wildlife (IDNR-DFW) In-Lieu Fee program to mitigate impacts.

Re-coordination letters were sent to the U.S. Fish and Wildlife Service (USFWS), the IDNR-DFW, IDEM, and the USACE, Louisville District on February 21, 2018 (Appendix C, C-1 to C-3). These same agencies were sent an additional re-coordination letter on September 6, 2019 for the expanded project limits in Phase 1B associated with detention areas and cross street modifications detailed in Section 2.0 (Appendix C, C-71 to C-73). The USACE, Louisville District did not formally respond to the re-coordination request.

In an automated response to re-coordination on February 21, 2018 IDEM made standard recommendations regarding permitting impacts to jurisdictional waters (Appendix C, C-32 to C-40). IDEM reiterated these

recommendations in an automated response to re-coordination for Phase 1B of the project on September 6, 2019 (Appendix C, C-74 to C-80).

The USFWS responded on March 15, 2018 with recommendations to minimize impacts to fish and wildlife resources (Appendix C, C-46 to C-50). These included restrictions of in-stream channel work on perennial and larger intermittent streams during the fish spawning season of April 1<sup>st</sup> to June 30<sup>th</sup> and minimization of channel work and vegetation clearing. The response also included recommendations on the construction of wildlife crossings, placement of riprap, implementation of erosion and sediment control measures, and re-vegetation of disturbed soils. The USFWS also noted that stream impacts may require permits from the USACE, Louisville District, IDEM, and/or IDNR and that these impacts should be avoided if possible. If wetland impacts are unavoidable, compensation, in accordance with the USACE, Louisville District, mitigation guidelines, should be implemented. USFWS reiterated these recommendations in a response to re-coordination for Phase 1B of the project on December 10, 2019 (Appendix C, C-89 to C-92). Minimization and mitigation measures are discussed above, within this section.

The IDNR-DFW responded on March 22, 2018 with recommendations related to streams, bank stabilization, and riparian habitat including avoiding, minimizing, or compensating for impacts to fish, wildlife, and botanical resources (Appendix C, C-64 to C-67). These include restrictions of in-stream channel work on perennial and larger intermittent streams during the fish spawning season of April 1<sup>st</sup> to June 30<sup>th</sup> and minimization of channel work and vegetation clearing. The IDNR-DFW reiterated these recommendations in a response to re-coordination for Phase 1B of the project on October 4, 2019 (Appendix C, C-97).

Coordination with the USFWS, the IDNR-DFW, IDEM, and the USACE, Louisville District for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

All applicable USFWS, IDNR-DFW, IDEM, and USACE, Louisville District recommendations are included in the Environmental Commitments section of this AI document.

## **7.1 Wetlands**

### **2010 Approved EA**

No formal wetland determination or delineation had been completed at the time of the 2010 EA approval. While the EA did not have a formal wetland determination or delineation, review of NWI mapping and a field investigation for the project was conducted in May 2006 and October 2007 to visually confirm wetlands identified through desktop review. The results of this investigation identified five NWI wetlands associated with stream crossings which were anticipated to be impacted by the project and a private track of land in IDNR-DFW Wildlife Habitat Cost-Share Program which was concluded to be avoided by the project. The 2010 EA also noted the NWI map identified other potential palustrine, forested and palustrine emergent wetland areas along the project corridor including one significant palustrine, forested wetland that occurs south of the Etter Ditch crossing and is identified as private land in the DNR Wildlife Cost-Share Program, which was noted in a response letter from USFWS on June 5, 2006 (Appendix C, C-12). The 2010 EA goes on to note that the evaluation of alternatives allowed for a corridor alignment that avoided impacting wetlands beyond those stream channels requiring structures for the roadway crossing, including the wetland noted on the private land in the DNR Wildlife Cost-Share Program property (Appendix J, J-17 to J-18).

### **2020 AI**

As no formal wetland determination or delineation was completed as part of the 2010 EA, it was determined that the overall Ronald Reagan Extension Project (all four phases) required assessment for the presence of wetlands and other water resources.

Based on a review of the National Wetlands Inventory (NWI) online Mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, the USGS topographic map (Appendix A, A-2 to A-5), and the RFI report (Appendix E, E-1 to E-25) there are 71 wetlands located within the 0.5 mile search radius. There are 15 wetlands present within or adjacent to the project area.

A *Wetland Delineation and Waters Report* was completed for the overall project (all four phases) on January 13, 2017 with an addendum being added on February 18, 2019 to document expanded areas for the detention and cross street modifications within Phase 1B detailed in Section 2.0 above. Please refer to Appendix F, F-1 to F-348 for the 2017 *Wetland Delineation and Waters Report* and Appendix F, F-349 to F-398 for the 2019 *Wetland Delineation and Waters Report Addendum*. It was determined that 29 wetlands totaling 4.059 acres in size were identified within the overall Phase 1A, 1B, 2A, and 2B investigated area. The USACE, Louisville District makes all final determinations regarding jurisdiction. All 29 wetlands identified in the 2016 and 2017 field investigation were previously unidentified in the 2010 EA. This can be attributed to the fact that a formal delineation was not performed, expanded investigational limits which included areas necessary for the detention basins and cross street modifications detailed in Section 2.0 above were added, as well as USACE, Louisville District and IDEM regulatory positions for wetlands in agricultural lands and constructed roadside ditches have evolved.

Additional information on delineated wetlands is detailed in the table below:

| Delineated Resource   | Lat/Long               | Type     | Quality | Acre(s) within Project Area | Proposed Area of Impact (acres) <sup>4</sup> |
|-----------------------|------------------------|----------|---------|-----------------------------|--|
| <b>Phase 1A</b>       |                        |          |         |                             |  |
| Wetland 6N-A          | 39.85025/<br>-86.35617 | Emergent | Poor    | 0.28                        | 0  |
| Wetland 6N-B          | 39.85275/<br>-86.35578 | Emergent | Fair    | 0.10                        | 0.04   |
| Wetland 6N-C          | 39.85347/<br>-86.35414 | Emergent | Fair    | 0.04                        | 0  |
| Wetland 6N-D          | 39.85246/<br>-86.35654 | Forested | Fair    | 0.06                        | 0  |
| Wetland 6N-E          | 39.86265/<br>-86.36359 | Emergent | Poor    | 0.04                        | 0  |
| Wetland 6N-F          | 39.86294/<br>-86.36390 | Emergent | Poor    | 0.01                        | 0.01   |
| Wetland 6N-G          | 39.86287/<br>-86.36416 | Emergent | Poor    | 0.02                        | 0.02   |
| Wetland 6N-H          | 39.86220/<br>-86.36346 | Emergent | Poor    | 0.02                        | 0  |
| Wetland 6N-I          | 39.86586/<br>-86.36675 | Emergent | Poor    | 0.03                        | 0  |
| Wetland 6N-J          | 39.86584/<br>-86.36703 | Emergent | Poor    | 0.03                        | 0  |
| Wetland 6N-K          | 39.84793/<br>-86.35560 | Emergent | Poor    | 0.19                        | 0  |
| <b>Phase 1A Total</b> |                        |          |         | <b>0.82</b>                 | <b>0.07</b>                                  |

| Delineated Resource                | Lat/Long               | Type                                 | Quality | Acre(s) within Project Area | Proposed Area of Impact (acres) <sup>4</sup> |
|------------------------------------|------------------------|--------------------------------------|---------|-----------------------------|--|
| <b>Phase 1B</b>                    |                        |                                      |         |                             |  |
| Wetland 9N-A                       | 39.90204/<br>-86.37043 | Emergent                             | Poor    | 0.08                        | 0.05   |
| Wetland 9N-B                       | 39.90805/<br>-86.37350 | Emergent                             | Poor    | 0.08                        | 0  |
| Wetland 9N-C                       | 39.90912/<br>-86.37460 | Forested                             | Good    | 0.03                        | 0  |
| Wetland 9N-D                       | 39.90806/<br>-86.37404 | Forested                             | Good    | 0.01                        | 0  |
| <b>Phase 1B Total</b>              |                        |                                      |         | <b>0.2</b>                  | <b>0.05</b>                                  |
| <b>Phase 2A and 2B</b>             |                        |                                      |         |                             |  |
| Wetland 10N-A                      | 39.92177/<br>-86.37308 | Emergent,<br>Forested,<br>Open Water | Good    | 2.03                        | N/A  |
| Wetland 10N-B                      | 39.92343/<br>-86.37276 | Emergent                             | Poor    | 0.03                        | N/A  |
| Wetland 8S-A                       | 39.93615/<br>-86.38207 | Emergent                             | Poor    | 0.02                        | N/A  |
| Wetland 7S-A                       | 39.94756/<br>-86.38268 | Emergent                             | Poor    | 0.004                       | N/A  |
| Wetland 7S-B                       | 39.94755/<br>-86.38227 | Emergent                             | Poor    | 0.005                       | N/A  |
| Wetland 7S-C                       | 39.94816/<br>-86.38275 | Emergent                             | Fair    | 0.14                        | N/A  |
| Wetland 6S-A                       | 39.95942/<br>-86.39796 | Emergent                             | Poor    | 0.13                        | N/A  |
| Wetland 6S-B                       | 39.96592/<br>-86.39883 | Emergent                             | Poor    | 0.21                        | N/A  |
| Wetland 5S-A                       | 39.96930/<br>-86.39869 | Emergent                             | Fair    | 0.02                        | N/A  |
| Wetland 5S-B                       | 39.9694/<br>-86.39976  | Emergent                             | Fair    | 0.05                        | N/A  |
| Wetland 5S-C                       | 39.96903/<br>-86.39777 | Emergent                             | Fair    | 0.16                        | N/A  |
| Wetland 5S-D                       | 39.97542/<br>-86.39839 | Emergent                             | Poor    | 0.13                        | N/A  |
| Wetland 5S-E                       | 39.97854/<br>-86.39776 | Emergent                             | Poor    | 0.07                        | N/A  |
| Wetland 5S-F                       | 39.97545/<br>-86.39867 | Emergent                             | Poor    | 0.04                        | N/A  |
| <b>Total Phase 2A and Phase 2B</b> |                        |                                      |         | <b>3.039</b>                | <b>N/A</b>                                   |

1. Wetland impacts for Phase 2A and 2B have not been completed as final engineering is incomplete. Subsequent AI documents will note impacts to wetlands in these phases.

Four of the fifteen delineated wetlands are anticipated to be impacted by the placement of roadway fill within the construction limits of Phases 1A and 1B. Permanent impacts to wetlands within Phases 1A and 1B total 0.12 acre, all emergent wetlands. As part of the 2010 EA alternatives analysis, review of project area and NWI mapping was completed to choose an alternative which avoided impacts to all NWI wetlands other than those identified at stream channels. The chosen alignment also avoided forested and high quality habitats, such as the IDNR-DFW land detailed above, therefore minimizing impacts to potential wetlands in those areas. The four impacted wetlands are all oriented perpendicular to the proposed Ronald Reagan Parkway alignment, as such total avoidance of these features is not feasible without modifications to the alignment approved in the 2010 EA.

As impacts are greater than 0.1 acre for Phases 1A and 1B, wetland mitigation is anticipated. During general project coordination with IDEM and the USACE, Louisville District in 2018 and 2019, it was determined that due to the anticipated schedule for the project and lack of funding for Phases 2A and 2B, the Ronald Reagan Extension project could be permitted by phases and utilize the IDNR-DFW In-Lieu Fee program to mitigate impacts. Subsequent AI's will be completed for Phase 2A and 2B as further details of those phases develop.

Re-coordination letters were sent to the USFWS, the IDNR-DFW, IDEM, and the USACE, Louisville District on February 21, 2018 (Appendix C, C-1 to C-3). These same agencies were sent an additional re-coordination letter on September 6, 2019 for the expanded project limits in Phase 1B associated with detention areas and cross street modifications detailed in Section 2.0 (Appendix C, C-71 to C-73). The USACE, Louisville District did not formally respond to the re-coordination request.

In an automated response to re-coordination on February 21, 2018 IDEM made standard recommendations regarding permitting impacts to jurisdictional waters (Appendix C, C-32 to C-40). IDEM reiterated these recommendations in an automated response to re-coordination for Phase 1B of the project on September 6, 2019 (Appendix C, C-74 to C-80).

The USFWS responded on March 15, 2018 with recommendations to minimize impacts to fish and wildlife resources (Appendix C, C-46 to C-50). These included recommendations on the construction of wildlife crossings, placement of riprap, implementation of erosion and sediment control measures, and re-vegetation of disturbed soils. The USFWS also noted that wetland impacts may require permits from the USACE, Louisville District, IDEM, and/or IDNR and that these impacts should be avoided if possible. If wetland impacts are unavoidable, compensation, in accordance with the USACE, Louisville District mitigation guidelines, should be implemented. USFWS reiterated these recommendations in a response to re-coordination for Phase 1B of the project on December 10, 2019 (Appendix C, C-89 to C-92).

The IDNR-DFW responded on March 22, 2018 with recommendations to minimize impacts to wetlands. These recommendations include; coordinating with IDEM 401 program and the USACE 404 program regarding wetland habitat mitigation, evaluating the installation of a depressed, native vegetated median to address storm water management, and rebuilding the natural water cycle by using storage techniques or recharging groundwater using infiltration techniques (Appendix C, C-64 to C-67). The IDNR-DFW reiterated these recommendations in a response to re-coordination for Phase 1B of the project on October 4, 2019 (Appendix C, C-97). As noted above in Section 2.0, drainage and stormwater concerns have been addressed. Additionally coordination with the USACE, Louisville District and IDEM has been completed in regards to mitigation and permitting.

Coordination with the USFWS, the IDNR-DFW, IDEM, and the USACE, Louisville District for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

All applicable USFWS, IDNR-DFW, and IDEM recommendations are included in the Environmental Commitments section of this AI document.



## 7.2 Other Surface Waters

### 2010 Approved EA

The 2010 EA noted that there are farm ponds and detention basins located along the entire length of the proposed corridor. The document noted that Eagle Creek Reservoirs is located 2.5 mile east of the proposed roadway. The document concluded that the evaluation of various alternatives allowed for the selection of an alternative with construction limits that avoid those water bodies along the roadway (Appendix J, J-16 to J-17).

### 2020 AI

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, the aerial maps of the project area (Appendix A, A-9 to A-15) and the water resources map in the RFI report (Appendix E, E-12 to E-14) there are 17 lakes located within a 0.5 mile search radius. No other surface waters are present within or adjacent to the project area.

A *Wetland Delineation and Waters Report* was completed for the overall project (all four phases) on January 13, 2017 with an addendum being added on February 18, 2019 to document expanded areas for the detention and cross street modifications within Phase 1B detailed in Section 2.0 above. It was determined that one retention pond totaling 0.43 acre in size was identified within the investigated area. The USACE, Louisville District makes all final determinations regarding jurisdiction.

The retention pond is located in Boone County, approximately 50 feet east of SR 267 and approximately 450 feet south of Indianapolis Road in Phase 2B of the proposed undertaking. The pond appears to be associated with a storm water best management practice (BMP) feature.

As part of the currently funded Phases 1A and 1B project, construction will take place south of CR 1000 N in Hendricks County. No other water features were identified during the wetland delineation within these areas. Therefore, no impacts to other surface waters are anticipated. Subsequent AI documents will note anticipated impacts to the retention pond following final engineering as well as any coordination with regulatory agencies associated with the feature.

Re-coordination letters were sent to the USFWS, the IDNR-DFW, IDEM, and the USACE, Louisville District on February 21, 2018 (Appendix C, C-1 to C-3). These same agencies were sent an additional re-coordination letter on September 6, 2019 for the expanded project limits in Phase 1B associated with detention areas and cross street modifications detailed in Section 2.0 (Appendix C, C-71 to C-73). The USACE, Louisville District did not formally respond to the re-coordination request.

In an automated response to re-coordination on February 21, 2018 IDEM made standard recommendations regarding permitting impacts to jurisdictional waters (Appendix C, C-32 to C-40). IDEM reiterated these recommendations in an automated response to re-coordination for Phase 1B of the project on September 6, 2019 (Appendix C, C-74 to C-80).

The USFWS responded on March 15, 2018 with recommendations to avoid or minimize impacts to fish and wildlife resources (Appendix C, C-46 to C-50). These included implementation of erosion and sediment control measures and recommendations for use of pollutant-trapping technology. USFWS reiterated these recommendations in a response to re-coordination for Phase 1B of the project on December 10, 2019 (Appendix C, C-89 to C-92).

The IDNR-DFW responded on March 22, 2018 with recommendations to avoid or minimize impacts to riparian habitat (Appendix C, C-64 to C-67). These included recommendations regarding the development of a mitigation plan for unavoidable habitat impacts as per the DNR's Floodway Habitat Mitigation guidelines, streambank

stabilization and erosion control with the use of native vegetation and/or hard bank stabilization materials when necessary, and stormwater runoff control. The IDNR-DFW reiterated these recommendations in a response to re-coordination for Phase 1B of the project on October 4, 2019 (Appendix C, C-97).

Coordination with the USFWS, the IDNR-DFW, IDEM, and the USACE, Louisville District for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

All applicable USFWS, IDNR-DFW, and IDEM recommendations are included in the Environmental Commitments section of this AI document.

## 8.0 TERRESTRIAL HABITAT

### 2010 Approved EA

The 2010 EA indicated land use impacted by the preferred alternative primarily consisted of agricultural fields in a suburban environment. In fact, of the total 241 acres affected by the project, approximately 217.77 acres was considered agricultural, 5.33 acres was considered commercial development and 0.44 acre was forested. The remaining land use impacted by the project was residential property consisting of maintained lawns and ornamental trees. This habitat was found to support a variety of predatory and song birds, squirrel, deer, raccoon, opossum, field mice, and other small and large mammals typical of forested and agricultural environments. The predominant flora in the area included American basswood (*Tilia Americana*), sugar maple (*Acer Saccharum*), eastern cottonwood (*Populus deltoides*), beech (*Fagus grandifolia*), black walnut (*Juglans nigra*), green ash (*Fraxinus pennsylvanica*), giant ragweed (*Ambrosia trifida*), whitegrass (*Leersia virginica*), clearweed (*Pilea pumila*), jewelweed (*Impatiens capensis*), and slippery elm (*Ulmus rubra*) (Appendix J, J-18 to J-19).

### 2020 AI

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, and the aerial maps of the project area (Appendix A, A-9 to A-15), the project corridor was observed to be relatively flat and consisting primarily of agricultural fields with some scattered forested lands and residential properties. The dominant species consisted of cultivated agricultural crops (*Zea mays* and *Glycine max*) as well as tall fescue (*Schedonorus arundinaceus*) Kentucky Bluegrass (*Poa pratensis*), cattail (*Typha angustifolia*), barnyard grass (*Echinochloa crus-galli*), green bristlegrass (*Setaria viridis*), and woody stems (*Celtis occidentalis*, *Ulmus americana*, and *Acer negundo*). As a result of Phase 1A and 1B design modifications, approximately 61.03 acres of agricultural land, 0.43 acres of forested land, and 0.40 acres of residential land would be impacted in addition to the area discussed in the 2010 EA. These additional areas are for the proposed stormwater detention ponds and intersection modifications discussed in Section 2.0.

Approximately 2.37 acres of trees confined to the tree lined riparian corridors along UNT to School Branch (UNT 1), School Branch, Pump Run, and Martin Dugan Ditch will be cleared as a result of Phases 1A and 1B. As part of the 2010 EA, an alternative analysis was completed which reviewed and considered impacts to terrestrial habitat, including forested habitat. The chosen alignment (1D, 1B-b) was identified by the USFWS to result in the fewest impacts to fish and wildlife resources (Appendix J, J-11). Stream crossings have been minimized to the maximum extent possible by installing wingwalls on structures and minimizing the limits of riprap for scour protection.

Re-coordination letters were sent to the USFWS, the IDNR-DFW, and IDEM on February 21, 2018 (Appendix C, C-1 to C-3). These same agencies were sent an additional re-coordination letter on September 6, 2019 for the expanded project limits in Phase 1B associated with detention areas and cross street modifications detailed in Section 2.0 (Appendix C, C-71 to C-73).

The IDNR-DFW responded on March 22, 2018 with recommendations to avoid or minimize impacts to terrestrial habitat (Appendix C, C-64 to C-67). These recommendations include; designing roadways in or adjacent to existing right-of-ways to minimize significant impacts to undisturbed habitat, use previously disturbed or degraded areas versus intact habitats, align the roadway along existing man-made edges, and disturb as narrow an area as possible to help minimize impacts to terrestrial habitat.

Coordination with the USFWS, the IDNR-DFW, and IDEM for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

All applicable USFWS, IDNR-DFW, and IDEM recommendations are included in the Environmental Commitments section of this AI document.

## 9.0 THREATENED OR ENDANGERED SPECIES

### 2010 Approved EA

According to the 2010 EA, coordination with the USFWS indicated that the proposed project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened bald eagle (*Haliaeetus leucocephalus*) (no longer listed as indicated). The USFWS indicated that the proposed project would not likely adversely affect either of these species.

The 2010 EA coordination with the IDNR-DFW indicated that the Natural Heritage Program's database had been checked, and no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur within the project vicinity (Appendix J, J-19).

### 2020 AI

The IDNR-DFW Hendricks and Boone County Endangered, Threatened and Rare (ETR) Species List were reviewed as part of the RFI Report (Appendix E, E-1 to E-25), completed by American Structurepoint on January 21, 2020. The highlighted species on the list reflect the federal and state identified ETR species located within the counties. According to the IDNR-DFW re-coordination response letters dated March 22, 2018 (Appendix C, C-64 to C-67) and September 6, 2019 (Appendix C, C-97), the Natural Heritage Program's Database has been checked. IDNR-DFW stated that the presence of the state endangered osprey (*Pandion haliaetus*) is within 0.5 mile of the south end of the project area in Section 7, Township 16 North, Range 2 East; however, it was concluded that the osprey nesting site is more than 2,000 feet from the investigated area, which exceeds the recommended buffer (660 feet) to prevent disturbance of nesting raptors. Therefore IDNR-DFW does not foresee any impacts to this bird species as a result of the proposed project (Appendix C, C-64).

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, C-105 to C-109). The project is within range of the federally endangered Indiana bat and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and northern long-eared bat. Refer to paragraph below.

Based on project information entered into the USFWS's Information for Planning and Consultation (IPaC) Determination Key, five main issues arose preventing the overall (all four phases) Ronald Reagan Extension Project from qualifying for Range-wide Programmatic Informal Consultation. These included: portions of the overall corridor are over 300 feet from existing road or railways, the overall project will clear approximately 0.87 acres of suitable forested summer bat habitat, the project may include slash pile burning, the project includes bridge replacement activities, and the project includes the removal of 14 residential structures and out buildings. Due to these conflicts, the INDOT Environmental Services manager from the Crawfordsville District was contacted on January 30, 2018. In an email response on the same day INDOT personnel indicated direct coordination with the USFWS for this project would be needed (Appendix C, C-52 to C-57).

Coordination with the USFWS on February 21, 2018 determined that it would be appropriate to complete coordination for the threatened and endangered species informally through direct consultation of the USFWS for each phase of the project (Appendix C, C-46 to C-51). This will provide the most concise information for review to the USFWS and avoid duplication of effort due to the yet to be finalized designs of future phases (2A and 2B). In an email dated February 23, 2018 INDOT Crawfordsville District approved informal direct consultation with the USFWS on a per phase basis beginning with Phase 1A under the current Des. No. 1602280 (Appendix C, C-52 to C-53).

Informal direct consultation with the USFWS of the proposed Ronald Reagan Parkway Extension project resulted in a finding of Not Likely to Adversely Affect (NLAA) for Phase 1A on March 15, 2018 (Appendix C, C-46 to C-49) and for Phase 1B on December 10, 2019 (Appendix C, C-89 to C-94). Time of year restrictions will be placed on the proposed tree and brush clearing. Tree clearing will take place during the approved DNR clearing season from October 1 to March 31. Additionally, recommendations regarding minimization of clearing along streams, posting Do Not Disturb signs at the construction zone to prevent un-necessary clearing outside the construction limits, and examination of culvert and bridge structures prior to the initiation of work on these features were included in the March 15, 2018 response for Phase 1A and the December 10, 2019 response for Phase 1B.

In addition to the recommendations regarding federally listed Indiana bat and NLEB, the USFWS made standard recommendations to minimize adverse impacts to fish and wildlife. These standard recommendations include; avoid all work within the inundated part of the stream channel during fish spawning season (April 1 through June 30), except for work within sealed structures such as caisson or cofferdams that were installed prior to spawning season. No equipment should be operated below the Ordinary High Water Mark (OHWM). Restrict below low-water work to placement of piers, pilings and/or footings, shaping of the spill slopes around bridge abutments, and placement of riprap. Restrict channel work and vegetation clearing to the minimum necessary. Construct new structures with a widened span and benches on one or both sides to provide wildlife crossing, if practical. If riprap is utilized for bank stabilization, extend it below the low-water elevation to provide aquatic habitat. Implement temporary erosion and siltation control devices such as placement of riprap check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control materials, and grading slopes to retain runoff in basins. Re-vegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone whenever feasible. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973 (as amended) for Phases 1A and 1B of the Ronald Reagan Parkway (Des. No. 1602280) project.

Coordination with the USFWS for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

All applicable USFWS, IDNR-DFW, and IDEM recommendations are included in the Environmental Commitments section of this AI document.

## **10.0 DRINKING WATER RESOURCES**

### **2010 Approved EA**

The 2010 EA indicated that drinking water within the project area is supplied by public water supplies or private wells, with a majority of the drinking water supplied by private wells. Additionally, for portions of southeastern Boone County and parts of eastern Hendricks County, water is supplied by the Indianapolis Water Company. The Indianapolis Water Company uses surface water from the Eagle Creek Reservoir, Fall Creek, and the White River and ground water primarily from wells outside of Boone County. Impacts to drinking water resources are anticipated to be minimal.

The 2010 EA also identified that the project is not located within the legally designated St. Joseph Aquifer System, the known sole source aquifer in the state of Indiana. The IDEM Groundwater Section was contacted to determine if the proposed project is located in a wellhead protection area. IDEM responded indicating that the project is not located within a wellhead protection area (Appendix J, J-20).

## **2020 AI**

### **Sole Source Aquifer**

The project is located in Hendricks County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the State of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. Therefore a detailed groundwater assessment is not needed and no impacts are expected.

### **Wellhead Protection Area and Source Water**

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on December 30, 2019 by American Structurepoint. This project is not located within a Wellhead Protection Area or Source Water Assessment Area. In a re-coordination letter dated February 21, 2018, IDEM stated the project is not located within a wellhead area (Appendix C, C-44 to C-45). No impacts to wellhead protection areas or source water assessment are expected.

### **Water Wells**

The IDNR-DFW Water Well Record Database (<https://www.in.gov/dnr/water/3595.htm>) was accessed on December 30, 2019 by American Structurepoint. Based on this search, six IDNR-DFW water wells are within the currently proposed right-of-way for the overall project (Phases 1A, 1B, 2A, and 2B). An additional site survey performed by American Structurepoint confirmed the presence of one additional well not in the IDNR-DFW database. The well is located within a property to be acquired. The completed site survey also eliminated three IDNR-DFW water wells incorrectly identified as present within the pavement limits or within the current right-of-way of SR 267 in Boone County. No additional wells were identified during the survey by American Structurepoint. Based on this information, three unconfirmed DNR water wells and one confirmed well are located within the proposed right-of-way.

Private water wells encountered within the proposed right-of-way will be abandoned following the Article 13 (Rule 10) of the Indiana Administrative Code (312 IAC 13-10) abandonment procedures. Abandonment will be completed by a licensed water well driller or water well pump installer with impervious grouting material to prevent the migration of fluids and loss of pressure. The licensed professional completing the abandonment will report the closure of the well in writing to the IDNR, Division of Water within 30-days after plugging is completed.

### **Urban Area Boundary**

This project is located in an Urban Area Boundary (UAB) location based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by American Structurepoint on December 16, 2019, and the RFI report (Appendix E, E-1 to E-25). Re-coordination letters were sent on February 21, 2018 and September 6, 2019 to the Brownsburg MS4 Coordinator and the Hendricks County Regional Sewer District. The Hendricks County Regional Sewer District did not respond to the re-coordination letter. The Brownsburg MS4 Coordinator responded with comments on October 1, 2019 (Appendix C, C-87 to C-88) including:

- American Structurepoint is to obtain approval from the Hendricks County Surveyor's Office for discharge within the watershed of a County Legal Drain.
- Inlet ponding, according to the Town's Stormwater Management Ordinance (Chapter 151) allows for up to 6 inches in the 100 year storm condition. Chapter 151 requires an evaluation of the 100-year flood routing when the storm system is full.
- Show the routing on the plans and ensure that buildings or adjacent properties are not impacted.

- Provide a description of the post-construction stormwater quality BMP.
- Brownsburg has an 80% TSS removal and floatable control standard for water quality treatment. If the Town is to own and maintain the BMP, include an Operation and Maintenance manual for the BMP. The BMP must be located within the right of way and within 14 feet of a paved surface for vac-truck access.
- Inlets must be precast with a pollution prevention message such as “Dump no Waste. Drains to Stream”.
- For areas where soil will be excavated, storm inlets must be protected to collect sediments and filter construction site runoff. Specification 02101, 3.03 (C) and Chapter 151.22(A)(1)(b)(6) – for inlets within a road or driving lane, inlet protection must be installed below the grate and be equipped with an overflow or bypass so that ponding water does not cause unsafe driving conditions.
- Chapter 151.22(A)(1)(b)(3) – establish a concrete washout area to contain residual concrete and washout waters. Water collected from washout that does not harden or evaporate must be handled as wastewater.

On January 3, 2020, the above recommendations were forwarded to the project engineer who confirmed that coordination had occurred with the Hendricks County Drainage Board and that all recommendations have been addressed and will be incorporated throughout the project.

### **Public Water System**

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, coordination with Citizens Energy Group, and the aerial maps of the project area (Appendix A, A-10 to A-15), this project is not located where there is a public water system. Utility coordination letters were sent on September 27, 2016 to Citizens Energy Group. Citizens Energy Group responded on November 1, 2016 with a letter stating that the public water system will not be affected because it is not located within the boundaries of the project area (Appendix C, C-99 to C-104).

## **11.0 FLOODPLAINS**

### **2010 Approved EA**

The 2010 EA identified one floodplain crossing within the preferred alternative. The floodplain of White Lick Creek will be crossed between CR 650 S and CR 550 S in southeastern Boone County. The proposed crossing was identified to occur within Flood Zone A, as determined by a review of the Federal Emergency Management Agency (FEMA) website.

The crossing of White Lick Creek was classified as a Category 4 Action. A Risk Assessment was performed to determine the potential flood risk at the project site. The assessment found that zero homes are located within the base floodplain within 1,000 feet upstream, and 1,000 feet downstream. However, the proposed structure over White Lick Creek would have an effective capacity such that backwater surface elevations are not expected to significantly increase. As a result, there would be no significant adverse impacts on natural and beneficial floodplain values; no significant change in flood risks; and no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, the 2010 EA concluded that the encroachment of the designated 100 year floodplain of White Lick Creek is not significant (Appendix J, J-20 to J-21).

### **2020 AI**

Based on a desktop review of the IDNR-DFW Indiana Floodway Information Portal website (<http://dnrmaps.dnr.in.gov/appsphp/fdms/>) by American Structurepoint on December 30, 2019, and the RFI report (Appendix E, E-1 to E-25); this project is located in a regulatory floodplain as determined from approved IDNR-DFW floodplain maps (Appendix F, F-272 to F-280). Re-coordination was conducted on January 24, 2020 with the Hendricks County Floodplain Administrator (HCFA). The HCFA responded on January 28, 2020 requesting the submittal of stormwater detention pond plans that include a “Special Flood Hazard Area” which delineates the floodway and the floodway fringe. The HCFA also made recommendations to obtain a floodplain

permit and to coordinate with the Hendricks County Surveyor's Office and Erosion Control Department (Appendix C, C-113 to C-115). On January 29, 2020, the above recommendations were forwarded to the project engineer who confirmed that additional coordination will occur once stormwater detention pond plans are finalized. All applicable HCFA recommendations are included in the Environmental Commitments section of this AI document.

A re-evaluation of the FEMA designated 100 year Floodplains within the investigated area indicates the presence of three floodplains associated with School Branch, Etter Ditch, and White Lick Creek (Appendix F, F-272 to F-280).

Within Phases 1A and 1B of the proposed Ronald Reagan Parkway, grading activities and detention basin outfalls will be constructed within the 100-year floodplain of School Branch. The proposed detention basin within Phase 1A is located south of CR 750 N and east of CR 900 E (Appendix B, B-47 and Appendix F, F-273). The proposed detention basins within Phase 1B are located northeast of the intersection of CR 750 N and the proposed Ronald Reagan Parkway and 0.35 mile north of CR 750 N and east of the proposed Ronald Reagan Parkway (Appendix B, B-124 to B-125 and Appendix F, F-379). Work within the floodplain of School Branch will consist of excavation activities to create the detention basins. Additionally, the emergency overflow channel and outfall for the detention basins will be constructed within the 100-year floodplain. All construction activities within the 100-year floodplain of School Branch for Phases 1A and 1B will result in an increase in flood storage capacity as material will be excavated and removed from the regulated floodplain.

This project qualifies as a Category 2 per the INDOT CE Manual, which states – *This project will not involve the replacement or modification of any existing drainage structures or the addition of any new drainage structures. As a result, this project will not affect flood heights or floodplain limits. This project will not increase flood risks or damage, and it will not adversely affect existing emergency services or emergency routes, therefore, it has been determined that this encroachment is not substantial.*

The crossings of Etter Ditch (Phase 2A) and White Lick Creek (Phase 2B) will be evaluated once designs have been finalized. This information will be discussed in subsequent AI documents.

## **12.0 FARMLAND**

### **2010 Approved EA**

According to the 2010 EA, the proposed project would have resulted in the conversion of approximately 217.77 acres of agricultural land. The original point value from the Form AD-1006 exceeded the total point value of 160 points. Following additional coordination with the Natural Resources Conservation Services (NRCS) Indianapolis office in July 2009, additional mitigation measures were deemed unnecessary (Appendix J, J-21).

### **2020 AI**

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, and the aerial maps of the project area (Appendix A, A-9 to A-15), the project will convert 61.03 acres of additional farmland within Phases 1A and 1B as defined by the Farmland Protection Policy Act. A re-coordination letter was sent on February 21, 2018 to NRCS. In a phone call on March 5, 2018 the NRCS indicated that they would like to limit their consultation regarding impacts to prime farmland to the areas of additional right-of-way associated with the detention areas in Phase 1A and the intersections of CR 700 N and CR 750 N (Appendix C, C-58 to C-59). The NRCS formally responded to the re-coordination request on March 15, 2018. Form AD-1006 was revised accordingly to reflect the changes to the right-of-way within Phase 1A of the Ronald Reagan Parkway project (Appendix C, Page C-62 to C-63). Three areas of additional farmland were evaluated. Area 1 corresponds with the stormwater detention pond located at the northwest corner of CR 600 N and the Ronald Reagan Parkway. Area 2 corresponds with the stormwater detention pond located at the southwest corner of CR 900 E and CR 700 N. Area 3 corresponds with the

stormwater detention pond located at the southeast corner of CR 900 E and CR 750 N. These areas were assessed for their individual impacts to prime farmland. The assessed areas received scores ranging from 132 to 135 (Appendix C, C-62 to C-63).

A re-coordination letter was sent to the NRCS on September 6, 2019 for Phase 1B of the project. Following additional coordination explaining the NRCS's previous coordination and method for the assessment of areas of additional right-of-way for Phase 1A, the NRCS provided Form AD-1006 for areas of additional right-of-way within Phase 1B. These areas were assessed and received a score of 146 (Appendix C, C-110 to C-111).

NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since the project scores derived from the re-coordination for additional right-of-way within Phase 1A and 1B are less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No other alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland.

Coordination with the NRCS for future phases (2A, and 2B) will be completed during the AI process of the respective phase.

### **13.0 CULTURAL RESOURCES**

#### **2010 Approved EA**

##### **Area of Potential Effect (APE)**

To complete the Section 106 process the APE was submitted to the State Historic Preservation Office (SHPO) on March 15, 2006, as part of the project's early coordination information. The APE was delineated to consider the effect of the undertaking in respect to visual and audible intrusions, changes in traffic patterns, and alterations in land use or public access for new road construction on new and existing alignment. The preliminary APE extends the length of the proposed project, approximately 9.8 miles beginning at CR 600 North in Hendricks County and extending north to I-65 and SR 267 in Boone County. The specific APE boundary is approximately 10,480 acres in size and surrounds the Ronald Reagan Parkway for the length of the project. FHWA approved the APE, with the project finding, on July 14, 2009. The SHPO concurred with the APE and project finding via a letter dated August 17, 2009 (Appendix J, J-21 to J-23).

##### **Coordination with Consulting Parties**

Invitations to consulting parties were originally sent on May 16, 2006. The SHPO, INDOT Office of Environmental Services, Indiana Landmarks, City of Lebanon, Howard School Restoration Group, Hendricks County Heritage Alliance, and Hendricks County Historian composed the original Consulting Parties (Appendix J, J-22).

##### **Archaeology**

A Phase Ia Archaeological Reconnaissance was completed for the project area by Archaeological Consultants of Ossian on December 31, 2007. The reconnaissance identified 20 archaeological sites with a mixture of prehistoric and historic cultural resources. None of the sites documented were evaluated as significant. The report indicated that the proposed project would not affect any properties eligible for listing on the NRHP and no additional archaeological work was warranted. The reconnaissance report was submitted to the SHPO for review and the SHPO concurred that no further archaeological investigations were necessary on February 8, 2008 (Appendix J, J-23). It was noted that if the Howard Cemetery is encroached within 100 feet by the constructed berm, a cemetery development will be presented as required by Indiana Code 14-21-I-26.5 (appendix D, D-85). This has been listed as a firm commitment in the commitments section of this document.



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### **Historic Properties**

A Historic Properties Report (HPR) was not required for the project because project consultation was underway before June 1, 2007. EFI Global established the limits of the APE and evaluated the APE for historic resources. EFI Global identified the I-House Farmstead (063-699-00012) and Howard School (011-205-45031) as the only resources eligible for listing in the NRHP.

No permanent or temporary right-of-way was proposed to be acquired from either property and the project was concluded to have no direct physical effects on the location, design, materials, or workmanship of either the I-House Farmstead or the Howard School.

The Ronald Reagan Parkway project was, however, determined to alter the relatively rural setting around both properties and would introduce a visual and audible element to both properties that would alter the feeling of the rural setting. On January 16, 2009 a consulting party meeting was held on-site to discuss impacts to the historic properties and identify mitigation within the Memorandum of Agreement (MOA) (Appendix J, J-24).

### **Documentation of Findings**

On July 14, 2009, the FHWA approved the APE and issued an "Adverse Effect" determination for this project (Appendix J, J-24).

### **Public Involvement**

The "Adverse Effect" finding was submitted to the SHPO and consulting parties for a 30-day review and comment period on July 16, 2009. An advertisement was placed in the *Hendricks County Flyer* on July 22, 2009 and in *The Lebanon Reporter* on July 21, 2009 to provide comments on the "Adverse Effect" determination made by the FHWA and the draft MOA. The established deadline for comments on the "Adverse Effect" finding and draft MOA was August 20, 2009.

SHPO responded to the submitted MOA and concurred with the effect finding made by FHWA and the underlying findings and determinations with regard to the APE and special properties on August 17, 2009. SHPO did comment on the proposed mitigation measures for the I-House and Howard School requesting more specific language regarding plantings and locations.

On July 31, 2009, Historic Landmarks Foundation indicated they agreed with the Adverse Effect and the proposed mitigation for each site as proposed in the MOA. They did request that the trees planted to shield each property be native conifers to offer year round visual screening.

On August 5, 2009, Howard School indicated that the preferred mitigation alternative include the property between the cemetery and the proposed Ronald Reagan Parkway be acquired and deeded to the Howard School Restoration Group to maintain as a vegetated buffer for the property and prevent further development adjacent to the site. They also wanted the tree plantings to include specific native trees from the time period when the school was built (1881). Tree species requested included scarlet oak, scarlet maple, catalpa, silver maple, yellow poplar, butternut, and sweet gum. It was noted that if the Howard Cemetery is encroached within 100 feet by the constructed berm, a cemetery development will be presented as required by Indiana Code 14-21-I-26.5 (Appendix D, D-85).

The comments received from the consulting parties and SHPO were incorporated into the MOA. The finalized MOA and 800.11(e) documentation were sent to the Advisory Council on Historic Preservation (ACHP) on September 9, 2009. On October 19, 2009 the ACHP declined participation to resolve the adverse effects. Copies of the MOA were submitted to Boone County, Hendricks County, SHPO, FHWA and INDOT for signature. This

completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled (Appendix J, J-24 to J-25).

### **Additional Archaeology**

As a result of comments received during the August 2, 2010 public hearing, the alignment of the proposed Ronald Reagan Parkway was shifted in Hendricks County near CR 1000 North. A local property owner in Hendricks County requested to adjust the roadway location approximately 50 feet to the east, from CR 1000 North to the Hendricks-Boone County line, approximately 1.0 mile in length. The corridor is shifting to the east to allow adequate area on each side of the roadway for possible future development near CR 1000 North.

This shift in alignment is well within the existing APE for the project so the previous finding of “Adverse Effect” approved by the FHWA on July 14, 2009 is still valid, requiring no additional Section 106 consultation. An additional archaeological field reconnaissance was conducted to address the slight shift in alignment. The archaeological reconnaissance found no archaeological artifacts, features, or sites. The project area contained no cultural resources and no additional archaeological assessment was necessary. The reconnaissance report was submitted to the SHPO for review and approval on January 25, 2011. The SHPO concurred that no further archaeological investigations were necessary on February 21, 2011 (Appendix J, J-25).

### **2020 AI**

#### **Area of Potential Effect (APE)**

For the purposes of this survey, qualified professionals meeting 36 CFR 800.2(a)(1) from W&A examined the original APE (established in 2006) in light of the most current information about the Ronald Reagan Parkway undertaking to assess if the original APE would appropriately encompass direct and indirect effects. W&A extended the APE at the I-65 and SR 267 interchange to the northeast to account for potential changes in traffic and view. No other modifications to the APE were recommended. SHPO concurred with the APE on April 26, 2017 (Appendix D, D-5).

#### **Coordination with Consulting Parties**

On March 23, 2017, the parties identified in the table below were invited to participate as Section 106 consulting parties as part of the re-initiation of the Section 106 process (Appendix D, D-117 to D-119). If no response was received to the consulting party invitation after thirty days, it was assumed the invited parties did not wish to act as consulting parties for the undertaking. For reference to the Consulting Party Invitation and responses, see Appendix D, D-128 to D-171.

| <b>Agency/Organization</b>                            | <b>Response</b> |
|---|-----------------|
| Indiana Landmarks                                     | Yes             |
| Indianapolis Metropolitan Planning Organization       | No              |
| Hendricks County Historical Society/Museum*           | No              |
| Hendricks County Heritage Alliance                    | No              |
| Hendricks County Historian                            | No              |
| Fairfield Historic Preservation Society               | No              |
| Town of Brownsburg Manager                            | No              |
| Town of Brownsburg Council                            | No              |
| Indiana National Road Association                     | No              |
| Property Owner – Lawler Farmstead at 8460 E CR 1000 N | No              |
| Property Owner – Farmstead at 8030 E CR 1000 N        | Yes             |
| Property Owner – House at 8795 E CR 600 N             | No              |
| Property Owner – P.C. Hogan Farm at 9110 CR 1000 N    | Yes             |

| Agency/Organization                      | Response |
|--|----------|
| Howard School Restoration Group          | Yes      |
| Patrick Henry Sullivan Museum            | No       |
| City of Lebanon Mayor                    | No       |
| Boone County Historical Society          | No       |
| Jackson Township Historical Society      | No       |
| Sugar Creek Historical Society           | No       |
| Zionsville Historical Society            | No       |
| Boone County Historian                   | Yes      |
| Lebanon Historic Preservation Commission | No       |
| SullivanMunce Cultural Center            | No       |
| Town of Whitestown Town Manager          | No       |
| Town of Whitestown Town Council          | No       |

\* Note the Hendricks County Historical Society/Museum was not included on the list of consulting parties shown in the March 23, 2017 early coordination documentation, but were provided with copies of this information and invited to consult.

In addition, the following agencies are automatically recognized as a consulting party for this undertaking:

| Agency/Organization   |
|---|
| Federal Highway Agency (FHWA)   |
| Indiana Department of Transportation Cultural Resource Office (INDOT CRO) |
| Indiana State Historic Preservation Officer (SHPO)                        |
| Board of Hendricks County Commissioners                                   |
| Board of Boone County Commissioners                                       |

On March 24, 2017 INDOT emailed an invitation to join in agency-to-agency consultation and invited those parties to access the HPR on INDOT's Section 106 Consultation and Outreach Portal Enterprise (INSCOPE) to the following Tribal Organizations:

| Agency/Organization                | Response |
|------------------------------------|----------|
| Delaware Nation of Oklahoma        | Yes      |
| Forest County Potawatomi Community | Yes      |
| Miami Tribe of Oklahoma            | Yes      |
| Eastern Shawnee Tribe of Oklahoma  | No       |

A Section 106 Consulting Parties meeting was held on December 15, 2017 at the Hendricks County Government Center (355 South Washington Street Danville, Indiana). An email invitation was sent to all non-Tribal consulting parties by American Structurepoint on November 22, 2017. Included in the letter were instructions directing consulting parties to access an Effects Letter for the project on INSCOPE. This letter detailed the consultation efforts prior to W&A involvement in 2016, including previous the MOA, executed in 2009, to address adverse effects on historic properties from the project and the Environmental Assessment (EA) that was approved in 2010. The letter also noted the Section 106 process has been reinitiated due to the "passage of time and changes in the project" and that W&A had completed a new HPR that reassessed properties in the APE. INDOT sent the invitation to Tribal organizations via email the same day. At the December 15<sup>th</sup> meeting a brief history of the project, list of anticipated effects for historic properties within the project's APE, overview of the MOA executed

in 2009, and a tentative schedule for upcoming project events was presented. Participating consulting parties were given the opportunity to comment on the anticipated effects and the overall project (Appendix D, D-15).

### **Archaeology**

A Phase 1a Archaeological Report was completed for the additional right-of-way within Phase 1A of the project area on November 2017 by W&A (Appendix D, D-294 to D-297). Ten previously unidentified archaeological sites and one previously recorded archeology site were encountered during the Phase 1a archeological field reconnaissance. All eleven sites do not appear to meet eligibility criterion and were recommended as not eligible for listing in the Indiana Register of Historic Sites and Structures (IRHSS) or NRHP. Therefore, no further archaeological work was recommended on these sites. On December 20, 2017, INDOT CRO emailed consulting Tribal Organizations a notification that the archaeology report for this project was available for review and comment within a 30 day review window closing on January 19, 2018 (Appendix D, D-9). None of the Tribal Organizations responded within the 30 day review time frame. The SHPO concurred with the conclusions and recommendation of the archaeological survey on January 22, 2018 (Appendix D, D-197-198).

A Phase 1a Archaeological Report Addendum was completed for the additional right-of-way within Phase 1B of the project area in August 2019 by W&A (Appendix D, D-345 to D-347). Four previously unidentified archaeological sites were encountered during the Phase 1a archeological field reconnaissance. All four sites do not appear to meet eligibility criterion and are recommended as not eligible for listing in the IRHSS or NRHP. Therefore, no further archaeological work is recommended on these sites. On December 20, 2017, INDOT CRO emailed consulting Tribal Organizations a notification that the archaeology report for this project was available for review and comment within a 30 day review window closing on the January 19, 2018 (Appendix D, D-192 to D-193). None of the Tribal Organizations responded within the 30 day review time frame. The SHPO concurred with the conclusions and recommendation of the archaeological survey on January 22, 2018 (Appendix D, D-197 to D-198).

### **Historic Properties**

Due to the passage of time and changes in the project, Section 106 was reinitiated for the overall project. A HPR was completed for the overall project in January 2017 by W&A (Appendix D, D-292 to D-293). W&A identified Howard School (011-205-45031) as being listed in the NRHP and the Lawler (I-House) Farmstead (063-699-00012) as being previously determined eligible for listing in the NRHP. Three additional properties not included in the 2009 MOA or 800.11 (e) (The House (063-117-40006), P.C. Hogan Farm (063-699-00006), and Farmstead (063-205-00014)) were also recommended eligible for listing in the NRHP.

The Howard School and Lawler (I-House) Farmstead were identified as resources which will be adversely effected by the proposed Ronald Reagan Parkway (Des. No. 1602280). The finding states that no direct effects will occur on the two *Adverse Effect* properties. However, the overall rural setting views and increased traffic will introduce visual changes to the NRHP and alter its feelings as rural buildings leading to the determination of *Adverse Effect*. This is consistent with the findings presented in the 2009 MOA and 800.11(e) documentation.

The Farmstead at 8030 CR 100 N and P.C. Hogan Farm at 9110 CR 1000 N were issued a finding of *No Adverse Effect*. The Ronald Reagan Parkway project was found to have little visual effect on the properties due to the distance and intervening environment between the resource and the proposed project. Therefore, the changes will not adversely affect the characteristics that make the Farmstead and P.C. Hogan Farms eligible for the NHRP.

The House at 8795 CR 600 N was issued a *No Effect* finding. Due to the distance and intervening environment between the House and the proposed Ronald Reagan Parkway, the Ronald Reagan Parkway will not affect this historic property.

The SHPO agreed with this determination on April 26, 2017 (Appendix D, D-154 to D-155) and again on August 17, 2017 (Appendix D, D-163 to D-164).

### **Documentation of Findings**

On July 16, 2009, the SHPO and participating consulting parties were provided a copy of the FHWA *Adverse Effect* determination. The SHPO and consulting parties agreed with the *Adverse Effect* determination made by the FHWA. A MOA was approved for this project on October 19, 2009. However, due to the passage of time, FHWA has re-initiated Section 106 consultation, and three additional NRHP eligible resources have been identified within the area of potential effect (APE). Therefore, a new MOA was proposed to be drafted to supersede the October 19, 2009 MOA.

The Phase Ia Archaeological Report Addendum and the July 2, 2019 version of the MOA was transmitted to the SHPO and consulting parties in a letter dated August 30, 2019 (Appendix D, D-314 to D-335). The MOA (version July 2, 2019) was executed on July 23, 2019, outlining the proposed mitigation for the adverse impacts the project will have on the Howard School at 4555 East CR 750 South in Boone County and the Lawler Farmstead at 8460 CR 1000 North in Hendricks County. The executed MOA was provided to the Advisory Council on Historic Preservation (ACHP) October 1, 2019 fulfilling FHWA's requirements of 36 CFR 800.11(f) (Appendix D, D-344).

### **Public Involvement**

An invitation to the consulting parties meeting was sent to all non-tribal consulting parties on November 22, 2017 (Appendix D, D-165 to D-166). A consulting party meeting was held on December 15, 2017 at the Hendricks County Government Center (355 S Washington Street) in Danville, Indiana. A brief overview of the history of the Ronald Reagan Parkway, a list of anticipated effect for historic properties within the APE, a brief overview of the 2009 MOA, and a tentative schedule for upcoming project events was presented (Appendix D, D-303 to D-313).

Comments were received from P.C. Hogan Farms, Howard School, Patrick Wethington (P.C. Hogan Farms), SHPO, Indiana Landmarks following the December 15, 2017 consulting party meeting.

Representatives from P.C. Hogan Farms questioned the boundary of the APE and noted a portion of farm operated by family was not included within the boundary of the APE. Additionally, Patrick Wethington requested information on registering the P.C. Hogan Farms property with the NHRP (Appendix D, D-217).

The Howard School addressed concerns regarding the adoption of an updated MOA and requested the mitigation measures outlined in the 2009 MOA be implemented, and the feasibility of a constructed berm between the Howard Cemetery and the proposed Ronald Reagan Parkway right-of-way be investigated (Appendix D, D-15).

The SHPO responded to the meeting in a letter dated December 18, 2017. Within the response, SHPO outlined an alternative which would reduce but not eliminate the adverse effect on Lawler Farmstead (I-House). The response stated they do not disagree with the proposed effects assessment but would like to review the meeting minutes. Additionally, SHPO requested that the updated MOA to be drafted and explicitly state that it supersedes the 2009 MOA. They additionally asked to review the draft MOA and archaeology report before finalization (Appendix D, D-188 to D-189).

On January 29, 2018, Indiana Landmarks responded to the consulting meeting documentation provided by American Structurepoint, and noted they had "no record of an invitation" from Structurepoint "to participate in the October 19, 2016 meeting." This meeting was a Public Information Meeting and not a meeting conducted as part of the Section 106 process. On February 21, 2018, Indiana Landmarks submitted comments regarding the

December 15, 2017 meeting. Indiana Landmarks concurred with the continued finding of adverse effect on Howard School and Lawler Farms. Indiana Landmarks also stated FHWA should fund construction of vegetated buffers and/or mowable berms as mitigation for the effect. Indiana Landmarks also requested contact information so they could directly contact the owners of P.C. Hogan Farms and discuss the NHRP designation (Appendix D, D-210).

A public notice of *Adverse Effect* was posted in the *Indianapolis Star* (Appendix D, D-336 To D-338), *The Lebanon Reporter* (Appendix D, D-339 to D-340), and *The Hendricks County Flyer* (Appendix D, D-341 to D-343), all local newspapers on June 27, 2018. No responses were received within the 30 day public comment period.

## **14.0 SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES**

### **2010 Approved EA**

#### **Section 4(f) Resources**

The 2010 EA identified no federal national wildlife refuges, state fish and wildlife areas, schools, public parks, or recreation areas within the project area. There were two historic properties eligible for the NRHP within the project APE that are considered Section 4(f) resources.

The I-House, 8460 CR 1000 North, and the farmstead of which it is a part is eligible for the NRHP under Criterion C, as properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

The Howard School, 4555 CR 750 South, is the only known remaining one room school house of its kind in Boone County. The structure is eligible for the NRHP under Criterion A, properties that are associated with events that have made a significant contribution to the broad patterns of our history. The property is also eligible for the NRHP under Criteria C, properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

These two historic properties are located along the project corridor. The alternative screening process identified a corridor alignment that will avoid any right-of-way acquisition from the historic properties. Therefore, the 2010 EA concluded the project will not result in the direct or constructive use of the Section 4(f) resources and there will be no impact on Section 4(f) resources.

#### **Section 6(f) Resources**

The 2010 EA indicated that an early coordination response from the U.S. Department of the Interior identified the Williams Park as a potential 6(f) property within the study area. The park is located approximately 1.0 mile southwest of the intersection of US 136 and SR 267 in Brownsburg. The document concluded that the proposed Ronald Reagan Parkway will not impact the park (Appendix J, J-26).

### **2020 AI**

#### **Section 4(f) Resources**

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties. Lands subject to this law are considered Section 4(f) resources.

Eleven Section 4(f) resources are located within the 0.5 miles search radius based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, the aerial maps of the project area (Appendix A, A-9 to A-15), the HPR completed by W&A (Appendix D, D-292 to D-293), and the RFI report (Appendix E, E-1 to E-25).

Three of the Section 4(f) resources; all proposed trails yet to be constructed, will be located within, adjacent to, or will cross through the project area, and are anticipated to be associated with the multi-use path being constructed along the Ronald Reagan Parkway. The proposed trails planned for construction are managed by the Parks and Recreation Department for the Town of Whitestown, the Boone County Area Plan Commission, and the Hendricks County Planning and Building Commission. All three management entities were contacted on March 8, 2018 and again on February 7, 2020 and were given the opportunity to provide questions, comments, and/or concerns regarding the project as it pertains to the associated proposed trails (Appendix C, C-68 to C-70). No response was obtained from any of the management entities regarding the proposed trails. The construction of the Ronald Reagan Parkway will not prevent construction of the proposed trails that are located within Phase 1A (CR 600 N) and Phase 1B (CR 1000 N), as they are being constructed as part of the undertaking. The trail located north of Phase 1B will not be impacted as it is located outside of the area covered by this AI document.

A private classified wildlife habitat area located in Hendricks County between CR 800 E and the proposed Ronald Reagan Parkway corridor, is a part of the IDNR Wildlife Habitat Cost-Share Program. The private property is approximately 27 acres of forested land surrounding a 3-acre residential site (Appendix J, J-18). The USFWS NWI mapping identified this area as a palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland (Appendix C, C-12). Due its status as private property, this property is not eligible for 4(f) classification. Furthermore, the preferred corridor alignment will avoid impacting the property during construction.

### **Section 6(f)**

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of Section 6(f) properties on the LWCF website at <https://www.lwcfcoalition.com/tools> revealed a total of eight properties in Hendricks and Boone County (Appendix K, K-14 to K-15). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to Section 6(f) resources as a result of this project.

## **15.0 AIR QUALITY**

### **2010 Approved EA**

In 2010 Hendricks County was listed as non-attainment for annual particulate matter (PM 2.5) (1997) and both Boone and Hendricks Counties were identified as maintenance areas for 8 hour ozone (1997).

The Ronald Reagan Parkway project was listed in the Indianapolis Metropolitan Planning Organization (MPO) 2030 Regional Transportation Plan (TP). The project was included as part of the 2009 Air Conformity Analysis and conforms to the State Implementation Plan (SIP). The project was not considered to be regionally significant and it can therefore be concluded that the project will have no significant impact on air quality. Therefore, the 2010 EA concluded the conformity requirements of 40 CFR 93 were met (Appendix J, J-27).

### **2020 AI**

This project is included in the Fiscal Year (FY) 2020-2024 Indianapolis MPO Transportation Improvement Program (TIP) (Appendix H, H-1)

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**Attainment Status**

This project is located in Hendricks County, which is currently a maintenance area for Ozone, under the 1997 Ozone 8-hour standard, which was revoked in 2015 but is being evaluated for conformity due to the February 16, 2018, South Coast Air Quality Management District V. Environmental Protection Agency, Et. Al. Decision. The project's design concept and scope are accurately reflected in both the Indianapolis MPO 2030 Regional TP and the Indianapolis MPO TIP and both conform to the SIP. Therefore, the conformity requirements of 40 CFR 93 have been met.

**16.0 NOISE****2010 Approved EA**

A noise analysis was completed as part of the original 2010 EA as the project was classified as a Type 1 Project. The analysis identified 19 receivers, all residential, that approached or exceeded the Noise Abatement Criteria (NAC). As such, noise abatement measures were evaluated including traffic noise barriers, traffic management measures (truck restrictions), alteration of vertical and horizontal alignments, acquisition of property for buffer zones, and insulation of public buildings or non-profit institutional structures.

The analysis concluded that noise abatement measures were not reasonable or feasible for the identified receivers due to lack of access control to the affected receivers, not having the necessary dB(A) reduction for first row receivers, or cost (Appendix J, J-28).

**2020 AI**

Due to changes in the project area discussed in Section 2.0 and the addition of receivers in the area, a Noise Analysis Report was completed for Phase 1A of the project on July 13, 2018 (Appendix I, I-1 to I-65). This report identified 50 residential (Activity Category B) receptors along Phase 1A of the project. Two receptors are located in residential dwellings which will be relocated as part of Phase 1A. Of the remaining 48 receptors in Phase 1A, one receptor was determined to exceed the NAC of 67 dB(A) for Activity Category B (Residential) receptors. The existing noise level for this receptor is 63.9 dB(A). The future traffic noise level of the impacted residential receptor is predicted to be 67.4 dB(A).

Additionally, a Noise Analysis Report was completed for Phase 1B of the Project on June 28, 2019 (Appendix I, I-67 to I-108). This report identified eight residential (Activity Category B) receptors along Phase 1B of the project. Of the receptors in Phase 1B, one receptor was determined to approach the NAC of 67 dB(A) for residential receptors. The existing noise level of this receptor is 59.5 dB(A). The future traffic noise level of the impacted residential receptor is predicted to be 66.6 dB(A).

Based on the studies thus far, Hendricks County, the project sponsor for Phases 1A and 1B, has not identified any locations where noise abatement is likely. Noise abatement at these locations is based upon preliminary design costs and design criteria. Noise abatement has not been found to be feasible for the impacted receptors due to the presence of existing access which prohibits long, uninterrupted noise barrier segments. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, noise abatement measures may be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

Additional noise analysis will be completed for the remaining two phases (2A and 2B) of the proposed Ronald Reagan Parkway as final design is determined. These analyses will be summarized in subsequent AI documents as necessary.



## **17.0 PUBLIC FACILITIES AND SERVICES**

### **2010 Approved EA**

The originally approved 2010 EA stated that there were no health or educational facilities located along the project corridor. The St. Malachy Catholic Church is located in the southwest quadrant of the intersection of CR 750 N and CR 1000 E in Hendricks County. Construction of the St. Malachy Catholic School was completed on the Church grounds in 2014. The facilities are located approximately 0.25 mile east of the corridor. The project should provide improved access to the location. No additional religious institutions are within the project area. The Brownsburg Community School Corporation has property along the east side of existing CR 900 E between CR 700 N and CR 750 N in Hendricks County. There is potential for future development of the site for a school facility. The Ronald Reagan Parkway corridor is located to the west of the property and will not impact that location. Existing CR 900 E will be maintained as a frontage road for residences along the roadway. CR 900 E will provide access to the Brownsburg Community School Corporation property between CR 700 N and CR 750 N. Additional access to the Ronald Reagan Parkway from the intersections with both CR 750 N and CR 700 N will be provided.

### **2020 AI**

Based on a desktop review, site visits on October 10, 11, and 31, 2016, January 11, 2017, June 3, 2017, and October 29, 2018 by American Structurepoint, the aerial maps of the project area (Appendix A, A-10 to A-15) and the RFI report (Appendix E, E-1 to E-25) there is one religious facility, one cemetery, one private airport, and five trails within 0.5 mile of the project area.

Three potential trails were identified crossing through the proposed project. The proposed trails are managed by the Parks and Recreation Department for the Town of Whitestown, Boone County Area Plan Commission, and the Hendricks County Planning and Building Commission. All three trail management entities were contacted on March 8, 2018 (Appendix C, C-68 to C-70). No response was obtained regarding the proposed trails.

Coordination with Fuller Field, a privately owned and operated airport located off of CR 950 N, west of CR 925 E, and approximately 750 feet east of the proposed alignment, was conducted on January 22, 2020. According to the Owner of Fuller Field Airport, no immediate concerns are anticipated with the project's effects on the airport and it is anticipated that construction of the parkway should not have any effect on small aircraft using the airstrip (Appendix C, C-112).

A re-coordination letter was sent to the Brownsburg Community School Corporation (BCSC) on September 6, 2019. BCSC responded on September 27, 2019 with recommendations that the roadway project include dedicated turn lanes and right turn deceleration lanes on the Ronald Reagan Parkway, dedicated left turn lanes on cross streets that intersect the Ronald Reagan Parkway, and signalization of Ronald Reagan Parkway intersections with an emphasis on the intersections of the Ronald Reagan Parkway at Maloney Road and CR 1000 N, in an effort to reduce vehicular conflicts in the area (Appendix C, C-86). These recommendations were considered during the design phase of the modifications to the project and are addressed in Section 2.0 of this document.

Re-coordination was conducted with St. Malachy Catholic Church on January 13, 2020. St. Malachy Catholic Church is located approximately 0.25 mile east of the project area. Church officials were consulted regarding MOT in the area surrounding the church property. It was determined that access to the church property will be maintained during construction via the surrounding roadway network; therefore, no impacts are expected (Appendix C, C-98).

Currently, one electric company (Hendricks Power), one natural gas company (Vectren Transmission), four petroleum companies (Marathon Petroleum, CountryMark, Panhandle Eastern Pipeline Co., and Buckeye

Partners, L.P.), one communications company (AT&T), one sanitary company (Hendricks County Regional Sewer District), and one water company (Citizens Water) provide services to residents and businesses within the project area. Coordination with these utility companies to identify potential conflicts and relocation of the appropriate facilities, if needed, has been initiated. This coordination will continue through the duration of the engineering phase of the project.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

## **18.0 ENVIRONMENTAL JUSTICE (EJ)**

### **2010 Approved EA**

The originally approved 2010 EA identified 241 acres of permanent right-of-way and five relocations. Therefore, an EJ analysis was performed. Three census tracts were identified as affected communities, Census Tract 8107 in Boone County and Census Tracts 2101.01 and 2101.02 in Hendricks County. The communities of comparison were Boone and Hendricks Counties. The results of the EJ analysis indicated that the identified affected communities did not possess an EJ community and concluded that the project would not have a disproportionately high and adverse impact on any minority or low-income population. (Appendix J, J-30).

### **2020 AI**

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Since this project is being evaluated at the Environmental Assessment level, EJ analysis is warranted. Phase 1A and 1B of this project will require approximately 302.86 acres of permanent right-of-way and six relocations. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city, or town, and is called the community of comparison (COC). In this project, the COC is Lincoln and Brown Townships in Hendricks County (Appendix K, K-1). The community that overlaps the project limits is called the affected community (AC). In the project, the AC in Hendricks County is Census Tract 2101.02 and 2101.04 and the AC in Boone County is Census Tract 810700. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income population is 125% of the COC. Data from the 2017 American Community Survey 5-Year Estimates (2013-2017) was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on November 27, 2019 by American Structurepoint (Appendix K, K-1 to K-7). The data collected for minority and low-income populations within the AC are summarized in the below table.

Hendricks County Census Data

|   | <b>COC 1</b><br>Lincoln and Brown Townships,<br>Hendricks County, Indiana | <b>AC 1</b><br>Census<br>Tract<br>2101.02 | <b>AC 2</b><br>Census<br>Tract<br>2101.04 |
|---|---|---|---|
| <b>LOW-INCOME POPULATION</b>                                  |   |   |   |
| <b>Total Population for Whom Poverty Status is Determined</b> | 43,290  | 18,404                                    | 8,551                                     |
| <b>Total Population Below Poverty Level</b>                   | 942   | 235                                       | 143                                       |
| <b>Percent Low-Income</b>                                     | 2.18%   | 1.28%                                     | 1.67%                                     |
| <b>125 Percent of COC</b>                                     | 2.72%   |   |   |
| <b>AC Percent Low-Income Greater Than 125 Percent of COC?</b> |   | N   | N   |
| <b>AC Percent Low-Income Greater Than 50 Percent?</b>         |   | N   | N   |
| <b>Population of EJ Concern?</b>                              |   | N   | N   |
| <b>MINORITY POPULATION</b>                                    |   |   |   |
| <b>Total Population</b>                                       | 43,641  | 18,450                                    | 8,551                                     |
| <b>Minority Population</b>                                    | 6,487   | 3,163                                     | 1,819                                     |
| <b>Percent Minority</b>                                       | 14.86%  | 17.14%                                    | 21.27%                                    |
| <b>125 Percent of COC</b>                                     | 18.58%  |   |   |
| <b>AC Percent Minority Greater Than 125 Percent of COC?</b>   |   | N   | Y   |
| <b>AC Percent Minority Greater Than 50 Percent?</b>           |   | N   | N   |
| <b>Population of EJ Concern?</b>                              |   | N   | Y   |

AC-1, Census Tract 2101.02 has a percent minority of 17.14%, which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 2101.04 has a percent minority of 21.27%, which is below 50% but is above the 125% COC threshold. Therefore, AC-2 is a minority population of EJ concern.

AC-1, Census Tract 2101.02 has a percent low-income of 1.28%, which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 2101.04 has a percent low-income of 1.67%, which is below 50% and is below the 125% COC threshold. Therefore, both AC's do not contain low-income population of EJ concern.

Impacts to the identified populations include right-of-way and relocations throughout the project area. Approximately 3.6 miles of the Ronald Reagan Parkway fall within AC-2. As part of the 2010 EA, five alternative alignments were analyzed which crossed through AC-2. The identified preferred alternative 1D/1B-b corridor alignment has not been modified since the approval of the 2010 EA. The chosen alternative minimized right-of-way as well as relocations as noted in the 2010 EA (Appendix J, J-11). The identified low-income and minority populations will not experience a disproportionately high and adverse impact from the project since the majority of the affected parcels within AC-2 are large agricultural tracts which will remain farmable post construction and not result in a conversion of land use outside of the identified right-of-way. Only seven residential parcels are located within the project area and AC-2; of which, three residential parcels within AC-2, have been identified as relocations presumably previously identified in the 2010 EA. Access to all properties will be maintained and the Ronald Reagan Parkway Extension will not create a physical barrier to the affected community. Due to the surrounding land use and low number of residential parcels, these do not represent disproportionately high or adverse impacts to low-income or minority communities present.

As noted in the 2010 EA, the proposed Ronald Reagan Parkway will benefit all users by improving regional and local mobility as well as providing improved access to and between communities (Appendix J, J-8). Additionally, since the 2010 EA, the project has been modified to include a multi-use path which will benefit the overall community. Additional analysis of Environmental Justice for Phase 2A and Phase 2B of the proposed undertaking will be completed as part of subsequent AI document(s).

## **18.0 DISPLACEMENT OF PEOPLE, BUSINESSES, OR FARMS**

### **2010 Approved EA**

According to the 2010 EA, the project will require five residential relocations and no business relocations. (Appendix J, J-31 to J-32). No mapping or location data is available in the approved AI document to determine the location of the relocations.

### **2020 AI**

A review of the 2010 EA proposed right-of-way limits, which were reported to be contained in a 230 feet wide typical corridor (115 feet on either side of the proposed centerline) (Appendix J, J-15), revealed it would be anticipated that six relocations would be required for the identified alignment of 1D/1B-b (Appendix K, K-13). Five residential dwellings are located within the 2010 proposed right-of-way limits. A sixth, the home located in the northwest corner of CR 750 N and CR 900 E, is located approximately 10 feet west and outside of the right-of-way. The project, as proposed in 2010 would take over 70% of this parcel for the preferred alignment and not leave room for relocation of septic on the parcel. Discussion with the engineer and right-of-way team for the project have indicated that this parcel should have been considered a complete take and therefore a relocation. As no mapping or location information is provided in the 2010 EA, this review is solely presenting data that can be interpolated from the known right-of-way limits in 2010. This review cannot be verified with data available in the 2010 EA and therefore its accuracy is not guaranteed. Mapping of the current project limits and anticipated relocations within Phases 1A and 1B is included in Appendix K, K-8 to K-13. Several alternatives were evaluated within the 2010 EA. The preferred alternative (1D/1B-b) minimizes the number of relocations required while still meeting the project purpose and need.

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocatees without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

## **19.0 HAZARDOUS MATERIALS AND REGULATED SUBSTANCES**

### **2010 Approved EA**

A Red Flag Survey was conducted as part of the 2010 EA. The results of the survey indicated that no hazardous material concerns were located within the investigated area. However, sites were located within the vicinity of the project area but are not anticipated to impact the project. A separate Environmental Site Information report was conducted by First Search Technology Corporation in November 2005. This report identified three sites within a quarter of a mile radius of the project corridor, all within Boone County. The three sites were determined to be located outside of the investigated area and not anticipated to impact the proposed project (Appendix J, J-32).

### **2020 AI**

Based on a review of GIS and available public records, a RFI was completed on January 21, 2020 by American Structurepoint (Appendix E, E-1 to E-25). One underground storage tank (UST) and three leaking underground storage tank (LUST) sites are located within 0.5 mile of the project area. One UST/LUST site, (Love's Travel Stop #459, 4155 South Indianapolis Road, Agency Interest ID # 109636) is located within the project area. Although the site is noted as an UST site on the RFI mapping, this facility is listed under the LUST database for

LUST Incident #201506500 according to documentation reviewed on the IDEM VFC. A FSI stated that a release was reported because of a damaged diesel product line in 2015. IDEM granted site characterization in May 2016 and the facility agreed to perform monitoring for one year. A No Further Action (NFA) Letter, dated October 12, 2017, was reviewed on the IDEM Virtual File Cabinet (VFC). The NFA Letter stated that the impacted soil and groundwater do not extend off the property and that no soil constituents were above the commercial screening levels. Additionally, a review of the most recent available groundwater monitoring report (dated May 26, 2017), indicated that the direction of groundwater flow at the site is to the southeast, away from the project area. Appropriate coordination should occur with the IDEM Office of Land Quality, UST Section, if excavation is to occur in the area surrounding the identified UST site. This facility is located at the intersection of Indianapolis Road and SR 267 in Whitestown, which is in Phase 2B of the project corridor. Appropriate coordination will be conducted with the IDEM Office of Land Quality, UST Section upon commencement of Phase 2A and 2B activities. Additional coordination and documentation will be included in subsequent AI documents as necessary for Phase 2A and Phase 2B.

## 20.0 PERMITS

### 2010 Approved EA

The following permits were identified in the 2010 EA (Appendix J, J-33) as being needed for the project:

- Individual Section 401 Water Quality Certification
- Individual Permit Section 404 Permit
- IDEM Rule 5 Permit
- Construction in a Floodway Permit

### 2020 AI

Due to impacts of greater than 0.1 acre and more than 300 feet within Phases 1A and 1B and following coordination with IDEM and the USACE, Louisville District it is anticipated a Section 401 Individual Water Quality Certificate and Section 404 Regional General Permit would be required. As more than 1.0 acre of land will be impacted as part of the proposed project, an IDEM Rule 5 Permit will be necessary. Based on the design modifications for Phases 1A and 1B, Construction in a Floodway Permits may be required for the proposed detention basin outfalls to School Branch in three locations and grading activities in the regulated floodplain (Appendix F, F-272 to F-280).

In addition to the aforementioned permits, a Hendricks County Drainage Permit was determined to be needed from the Hendricks County Surveyors Office to address stormwater detention needs. These permit applications are in the process of being coordinated with the Hendricks County Surveyors Office.

Applicable recommendations provided by IDEM, USACE, Louisville District, IDNR-DFW, and Hendricks County Surveyor Office are included in the Environmental Commitments section of this document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

It is the responsibility of the project sponsor to identify and obtain all necessary permits.

## 21.0 ENVIRONMENTAL COMMITMENTS

### 2010 Approved EA

The 2010 EA identified thirty-one *Firm* Environmental Commitments. These included commitments related to clearing of potential Indiana bat and northern long-eared bat habitat, standard IDNR-DFW and IDEM recommendations, and recommendations related to obtaining the necessary permits before impacting

jurisdictional wetlands. A full list of commitments from the 2010 EA can be found in Appendix J, J-34 to J-35. All commitments listed in the 2010 EA remain applicable.

## 2020 AI Firm

1. If the scope of work or right-of-way amounts change, INDOT Environmental Services Division (or district if it's a lower level CE) will be contacted immediately. (INDOT-ESD)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT-ESD)
3. No equipment should be operated below the Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)
4. Prior to the initiation of any construction activities on bridges or culverts, including the removal of any bridge structures, we recommend each structure be carefully examined for the presence of bats, especially between April 1 and September 30. If any bats are found roosting on the underside of the bridge, we request that you immediately contact our office. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (USFWS)
5. To protect water quality from the increased road run-off that will likely occur, it is recommended to use pollutant-trapping technology (where applicable) such as storm drain inserts, etc. to reduce runoff of urban pollutants directly to receiving stream systems. (USFWS)
6. Prior to the initiation of construction, a Public Information Meeting shall be held. (INDOT ESD)
7. Obtain approval from the Hendricks County Surveyor's Office for discharge within the watershed of a County Legal Drain. (Brownsburg MS4)
8. Provide a description of the post-construction stormwater quality BMP. If the Town is to own and maintain the BMP, include an O&M manual for the BMP. The BMP must be located within the right of way and within 14 feet of a paved surface for vac-truck access. (Brownsburg MS4)
9. Stormwater detention pond plans that include a Special Flood Hazard Area that delineates the floodway and the floodway fringe, will be submitted to the Hendricks County Floodplain Administration (HCFA). (HCFA)
10. Coordination with the Hendricks County Erosion Control Department and County Surveyors Office will occur. (HCFA)
11. Workers who are working in or near water with E. coli should take care to wear appropriate Personal Protective Equipment (PPE), observe hygiene procedures, including regular hand washing, and limit personal exposure.
12. If the Howard Cemetery is encroached within 100 feet by construction activities, a cemetery development plan will be presented as required by Indiana Code 14-21-I-26.5. (IDNR-DFW)
13. 100-year flood routing must be shown on project plans and, it must ensure that buildings and adjacent properties are not impacted. (Brownsburg MS4)
14. Inlets must be precast with a pollution prevention message such as "Dump no Waste. Drains to Stream". (Brownsburg MS4)
15. For areas where soil will be excavated, storm inlets must be protected to collect sediments and filter construction site runoff. For inlets within a road or driving lane, inlet protection must be installed below the grate and be equipped with an overflow or bypass so that ponding water does not cause unsafe driving conditions. (Brownsburg MS4)
16. A concrete washout area must be established to contain residual concrete and washout waters. Water collected from washout that does not harden or evaporate, must be handled as wastewater. (Brownsburg MS4)
17. One (1) UST site is located within the 0.5 mile search radius. The site, Love's Travel Stop #459, 4155 South Indianapolis Road, Agency Interest (AI) ID 109636, is located within the project area. Based on

documentation reviewed on the IDEM VFC, a LUST incident (#201506500) was reported for the site on May 27, 2015. A No Further Action (NFA) Letter dated October 12, 2017, stated that the impacted soil and groundwater do not extend off the property and that no soil constituents were above the commercial screening levels. IDEM conducted a UST Inspection on June 25, 2019 and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. Documentation indicates a release may have occurred. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with IDEM before further site activities occur. (INDOT Site Assessment and Management (SAM))

18. FHWA, in coordination with INDOT, shall ensure that work carried out pursuant to the MOA shall be done by or under the direct supervision of historic preservation professionals who meet the Secretary of the Interior's Professional Qualifications Standards ("qualified professional", As Amended and Annotated [[http://www.nps.gov/history/local-law/arch\\_stnds\\_9.htm](http://www.nps.gov/history/local-law/arch_stnds_9.htm)]). The FHWA and INDOT shall ensure that consultants retained for services pursuant to the MOA meet these standards. (FHWA, SHPO)
19. Mitigation measures for The Howard School at 4555 East CR 750 South (within Phase 2A – Boone County)
  - Mitigation measures for this property shall begin during the construction of Phase 2A of the project.
  - The FHWA shall provide funding for the acquisition of the real property located between the Howard Cemetery and the required, permanent right-of-way for the Project, which it shall deed to the Howard School Restoration Group.
  - The Howard School Restoration Group shall maintain this property, including its trees and berm, as a vegetated buffer between the Howard Cemetery and the Project limits to provide a visual screen and to prevent future development of that parcel of real property.
  - The deed to the real property shall specify that the area between the Howard Cemetery and the Project limits will remain a vegetated buffer and will not include future development.
  - As part of the Project, FHWA shall fund the purchase of trees and all materials, equipment, and labor necessary for the planting of those trees in the area between the Howard Cemetery and the Project to provide a visual screen.
  - FHWA shall ensure that trees planted shall be a combination of native coniferous trees and may also include Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Butternut, and Sweet Gum.
  - As part of the Project, FHWA shall fund the materials, equipment, and labor necessary for the construction of an earthen berm between the Howard Cemetery and the Project limits to provide a visual screen.
  - The berm will be constructed of earth fill with a 3:1 maximum side slopes to the extent possible within the deeded property.
  - FHWA will plant a native grass or sedge ground-cover on the surface of the berm of a type that will require minimal maintenance.
  - As part of the Project, FHWA shall fund the research and writing of an historic marker application for the Howard School through the Indiana Historical Bureau's Indiana State Historic Marker Program.
  - If the historic marker application is approved by the Indiana Historical Bureau, FHWA shall fund the manufacture and installation of the marker on the Howard School property under the terms of the Indiana State Historic Marker Program.
  - The research and writing of the application and the drafting of proposed content for the marker will be conducted by individuals meeting the requirements under Stipulation I and will be subject to the approval of the Indiana Historical Bureau.

- A draft of the application for the historic marker will be provided to the Indiana SHPO and consulting parties prior to submission to the Indiana Historical Bureau for review and comment. If the Indiana SHPO does not respond within thirty (30) days, acceptance will be assumed. If the Indiana SHPO responds with recommendations, a good faith effort to accommodate the recommendations will be made. FHWA will inform the Indiana SHPO and consulting parties of its response to such recommendations and provide any revisions to the Indiana SHPO and consulting parties for their records before submitting the application to the Indiana Historical Bureau for consideration.
  - If the submitted marker application is denied by the Indiana Historical Bureau due to a lack of significance, as defined by the Indiana Historic Bureau, or as part of the competitive process for the limited markers available at the time of submission, FHWA will be considered to have completed this mitigation requirement and will have no further obligation to continue funding additional attempts to procure a marker.
  - FHWA will bear no responsibility for maintenance and/or repair of the historic marker once it is installed on the Howard School property.
  - The Howard School Restoration Group shall provide FHWA and INDOT or their contractors with a right of entry to the property during all mitigation implementation. (FHWA, SHPO)
20. Mitigation Measures for The Lawler Farmstead at 8460 CR 1000 North (within Phase 2A – Hendricks County)
- Mitigation measures for this property shall begin during the construction of Phase 2A of the project.
  - FHWA or their representatives shall consult with the property owner of the Lawler Farmstead and, if appropriate and given consent by the property owner, FHWA will fund and install vegetative screening on this property as part of the Project.
  - If the property owner provides consent for the vegetative screen, the property owner shall provide FHWA and INDOT or their contractors with a right of entry to the property during mitigation implementation.
  - After the installation of the vegetative screening, maintenance of such screening on private property shall be the responsibility the property owner of the Lawler Farmstead.
  - FHWA shall ensure that trees planted will be native coniferous trees to offer a year round visual screen from the roadway.
  - FHWA may, at their discretion and with property owner permission, also install a grass berm in combination with the tree plantings between the Project limits and the Farmstead. (FHWA, SHPO)
21. Treatment of Archaeological Resources; Statutory and Regulatory Standards
- The studies completed pursuant to Stipulation III.B. and E. of the MOA shall demonstrate a level of effort consistent with the 36 C.F.R. part 800 regulations in effect on the date upon which the last of the required signatories has signed the MOA and provide FHWA with the information to determine, in consultation with the Indiana SHPO, which archaeological properties are eligible for inclusion in the NRHP. FHWA shall acknowledge and seek the special expertise of any federally recognized Indian Tribes, which have previously entered into consultation in assessing the eligibility of historic properties that may possess religious and cultural significance to them.
  - In implementing Stipulation III.A through III.F., INDOT may consult with the consulting parties and others identified in accordance with the 36 C.F.R. part 800 regulations in effect on the date upon which the MOA is fully executed.
  - In accordance with Section 304 of the National Historic Preservation Act (NHPA) and the 36 C.F.R. part 800 regulations in effect on the date upon which the MOA is fully executed, INDOT and its consultants shall ensure that sensitive information regarding the nature and location of human



remains and grave goods, and the location, character, and ownership of archaeological sites is kept confidential from the public.

- Modification or modifications (“modifications”) to the Project which fall outside of the Archaeological APE shall be subject to archaeological identification and evaluation and assessment per Stipulations III.B. and III.C. If FHWA determines that the modifications have the potential to cause adverse effects on archaeological resources, then FHWA shall treat the archaeological resource in accordance with Stipulation III.F.
- Any dispute regarding the report(s) shall be resolved in accordance with Stipulation V. (FHWA, SHPO)

#### 22. Treatment of Archaeological Resources; Identification and Evaluation

- INDOT shall proceed with additional archaeological investigations and evaluations in a series of phases (1A, 1B, 2A, and 2B) as provided on the map provided in Appendix A.
- Before commencing ground-disturbing activities in the Project Archaeological APE, INDOT shall complete the identification and evaluation of archaeological properties within the project footprint in accordance with applicable Federal and State standards and guidelines listed in Stipulations I and III.A.
- INDOT shall prepare final Identification and Evaluation reports in accordance with Stipulations I and III.A and distribute those reports to appropriate consulting parties for review and comment.
- Upon completion of these evaluations, FHWA shall follow the procedures set forth in the 36 C.F.R. part 800 regulations in effect on the date upon which the MOA is fully executed which shall include updated documentation described in those regulations, if it is determined that no historic properties shall be affected. (FHWA, SHPO)

#### 23. Treatment of Archaeological Resources; Assessment of Effects

- In consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom FHWA deems appropriate, FHWA shall determine if the Project shall adversely affect archeological properties determined eligible for inclusion in the NRHP pursuant to the 36 C.F.R. part 800 regulations in effect on the date upon which the MOA is fully executed.
- If, in consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom FHWA deems appropriate, FHWA determines the Project may adversely affect NRHP-eligible archeological properties, then FHWA shall make reasonable efforts to avoid or minimize the adverse effect. If, after this consultation, FHWA determines it is not possible to avoid or minimize adverse effects, then FHWA shall treat the archaeological resource in accordance with Stipulation III.G. of the MOA.
- Any dispute regarding the determination of effects on NRHP-eligible archaeological properties shall be resolved in accordance with applicable Federal and State standards and guidelines listed in Stipulation V. (FHWA, SHPO)

#### 24. Treatment of Archaeological Resources; Avoidance

- If future investigations discover archaeological sites that, after consultation with SHPO, are determined to require avoidance or to be subjected to additional archaeological investigations, INDOT shall investigate designs that avoid those sites.
- If avoidance is not feasible, INDOT will submit plans for further archaeological investigations to SHPO for review and comment and follow the provisions in Stipulation III.E. (FHWA, SHPO)

#### 25. Treatment of Archaeological Resources; Additional Investigations

- Where avoidance is not possible, all archaeological investigations shall be conducted according to applicable Federal and State standards and guidelines listed in Stipulations I and III.A.
  - To maximize the opportunity to avoid adverse effects, the required archaeological investigations shall be conducted as soon as practicable upon securing the appropriate rights to access property.
  - INDOT, in consultation with the Indiana SHPO, and other parties deemed appropriate by INDOT, shall take reasonable measures to avoid disinterment and disturbance to human remains and grave goods of religious and cultural significance to Native Americans, including investigations associated with modifications of the Project. (FHWA, SHPO)
26. If FHWA, in consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom FHWA deems appropriate, determines that the adverse effect cannot be avoided or minimized, then FHWA shall develop and implement a Treatment Plan(s), as part of the above consultation, to mitigate the adverse effects to an archeological resource on a site-by-site basis. The implementation of the Treatment Plan(s) must be completed for each site prior to the initiation of any Project construction activities that could affect that site. (FHWA, SHPO)
27. If properties—other than the Howard School at 4555 East CR 750 South, the Lawler Farmstead at East 8460 CR 1000 North, the Farmstead at 8030 East CR 1000 North, the House at 8795 East CR 600 North, and the P.C. Hogan Farm at 9110 East CR 1000 North—are discovered that may be historically significant or unanticipated effects on historic properties are found, the FHWA shall follow the procedure specified in 36 C.F.R. § 800.13. (FHWA, SHPO)
28. Should any signatory or concurring party to the MOA object at any time to any actions proposed or the manner in which the terms of the MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:
- Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
  - If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
  - FHWA's responsibility to carry out all other actions subject to the terms of the MOA that are not the subject of the dispute remain unchanged. (FHWA, SHPO)
29. The MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP. (FHWA, SHPO)
30. The MOA will expire if its terms are not carried out within fifteen (15) years from the date of its execution. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VI. (FHWA, SHPO)
31. If any signatory (including Invited Signatories) to the MOA determines that its terms will not or cannot be carried out that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VI, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written

notification to the other signatories. Once the MOA is terminated, and prior to work continuing on the Project, FHWA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA shall notify the signatories as to the course of action it will pursue. Execution of the MOA by the FHWA and Indiana SHPO and implementation of its terms evidence that FHWA has taken into account the effects of this Project on historic properties and afforded the ACHP an opportunity to comment. (FHWA, SHPO)

### For Consideration

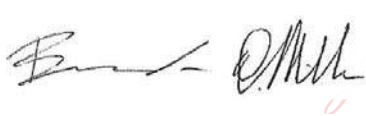
1. Where possible, design the roadway in or adjacent to existing rights-of-way to minimize significant impacts to natural resource habitat. Utilize previously disturbed or degraded habitat versus intact habitat areas. Align the roadway along or near existing man-made edges rather than routing the roadway through previously undisturbed areas. (IDNR-DFW)
2. Disturb as narrow an area as possible to help minimize negative impacts. Where significant impacts to fish, wildlife, or botanical resources are likely due to the roadway's width (riparian areas for example), reduce the width to help reduce the impacts on surrounding habitat. (IDNR-DFW)
3. If box or pipe culverts are used the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2 feet) below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. (IDNR-DFW)
4. Stream crossing structures should span the entire channel width (a minimum of 1.2 times bankfull width), maintain natural stream substrate, have a minimum openness ratio (height x width/length) of 0.25, and have stream depth and water velocities during low flow conditions that are approximate to those in the natural stream channel. (IDNR-DFW)
5. New, replaced, or rehabbed stream crossing structures, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to current conditions. (IDNR-DFW)
6. Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges. (IDNR-DFW)
7. For streambed stabilization or scour protection, riprap or other stabilization materials should not be placed in the active stream channel above the existing streambed elevation. (IDNR-DFW)
8. The Division of Fish and Wildlife recommends considering a more sustainable approach to stormwater management. (IDNR-DFW)
9. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR-DFW)
10. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pump-arounds without prior approval, if required. (IDNR-DFW)
11. Use minimum of 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR-DFW)
12. Operate equipment used to replace the bridge away from the existing roadway. (IDNR-DFW)
13. Protect the area around and below any concentrated discharge points, down to the waterway's normal flow level, with an appropriate structural armament such as riprap. (IDNR-DFW)
14. Formal approval from IDNR-DFW pursuant to the Flood Control Act (IC 14-28-1) may be required. Detailed plans should be submitted to the IDNR Department of Water's Technical Services Division if the requirement for a permit is unclear. (IDNR-DFW)

## 22.0 CONCLUSIONS

The revised project still meets the original purpose and need specified in the 2010 EA and the FONSI issued by the FHWA on March 7, 2011. The changes to the scope of the project are not anticipated to result in significant changes to the impacts on the environment outside of those previously documented in the approved 2010 EA

and 2011 FONSI. Unless specifically discussed in this document, the discussions and analysis of the environmental impacts in the approved 2010 EA and 2011 FONSI remain valid.

The following signature lines have been provided for approval of this document.



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10/19/2020

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INDOT Environmental Services Division

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Approval Date

**MICHELLE B ALLEN**



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Federal Highway Administration  
Indiana Division

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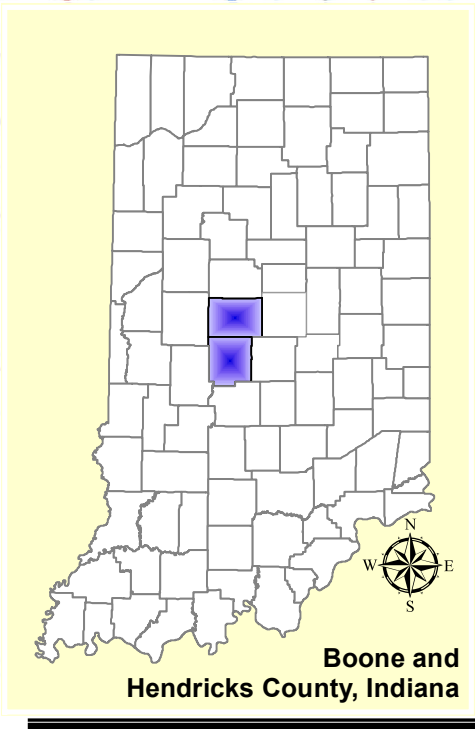
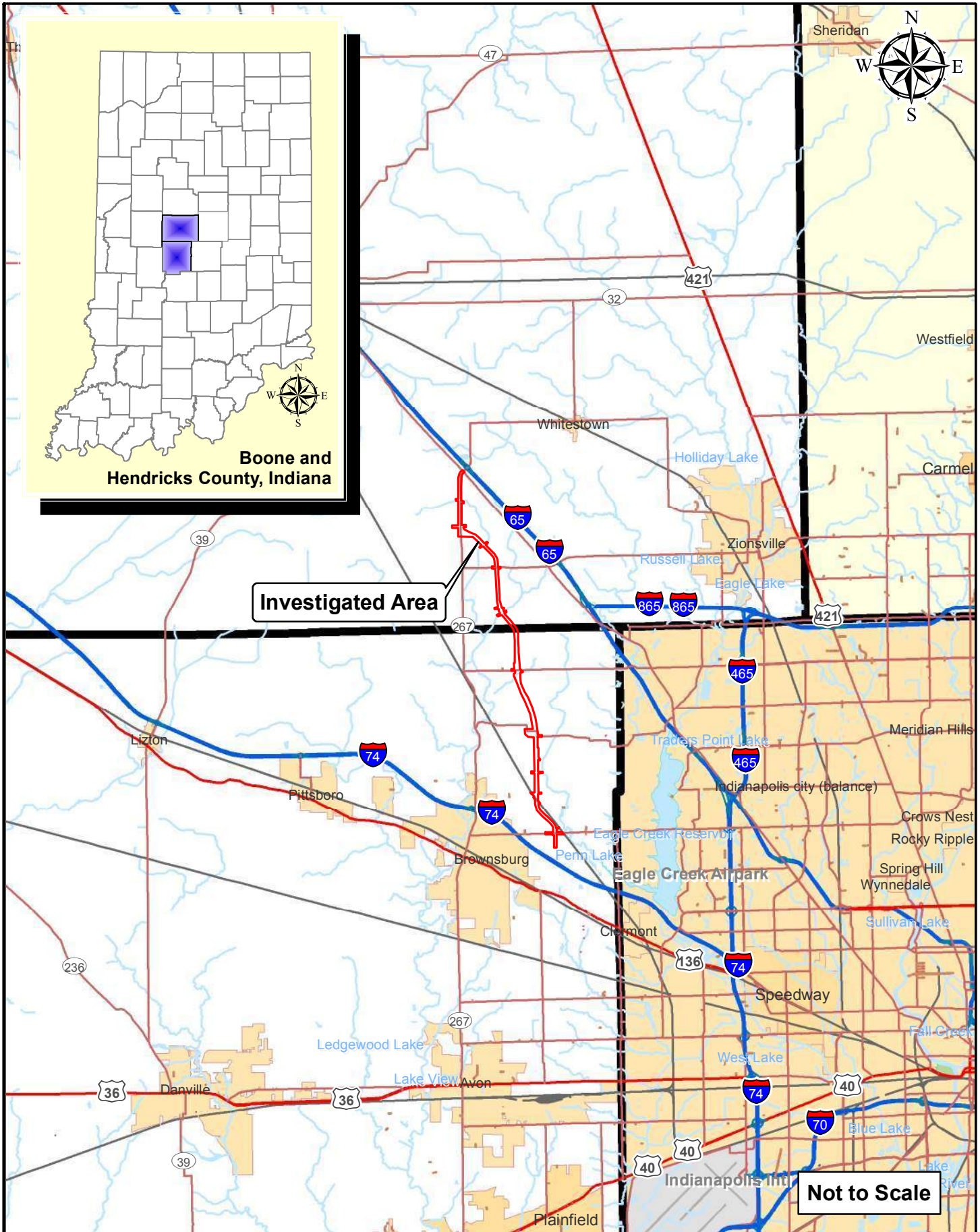
Approval Date

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| • Pages from 2020-2024 Indianapolis MPO TIP– November 5, 2019                      | H-1            |
| • Funding Discussion, American Structurepoint – December 12, 2019                  | H-2 to H-3     |
| <b>Appendix I: Noise Analysis and Report</b>                                       | <b>I</b>       |
| • Noise Analysis and Report, Ronald Reagan Parkway – Phase 1A March 6, 2018        | I-1 to I-65    |
| • Indiana Department of Transportation, Environmental Services – August 9, 2018    | I-66           |
| • Noise Analysis and Report, Ronald Reagan Parkway – Phase 1B August 16, 2019      | I-67 to I-108  |
| • Indiana Department of Transportation, Environmental Services – September 3, 2019 | I-109          |
| <b>Appendix J: 2010 Environmental Assessment Documentation</b>                     | <b>J</b>       |
| • Environmental Assessment Des. No. 0710288  | J-1 to J-37    |
| • Finding of No Significant Impact – March 7, 2011                                 | J-5            |
| • Design Criteria for Bridges over UNT 1 and Pump Run                              | J-12 to J-13   |
| <b>Appendix K: Additional Studies</b>  | <b>K</b>       |
| • Environmental Justice Map  | K-1            |
| • 2013 to 2017 U.S. Census Data  | K-2 to K-7     |
| • Relocation Figures   | K-8 to K-13    |
| • Hendricks County 6(f) Properties   | K-14           |
| • Boone County 6(f) Properties   | K-15           |

**Appendix A: Graphics**



**Boone and Hendricks County, Indiana**

**Investigated Area**

**Not to Scale**

Path: P:\2011\00183\Drawings\ArcView\Waters\2011.00183.EV\2016-11-2.Map.State.AEH.mxd Date: 1/12/2017 User: rhammer



**Project Location Map**


Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

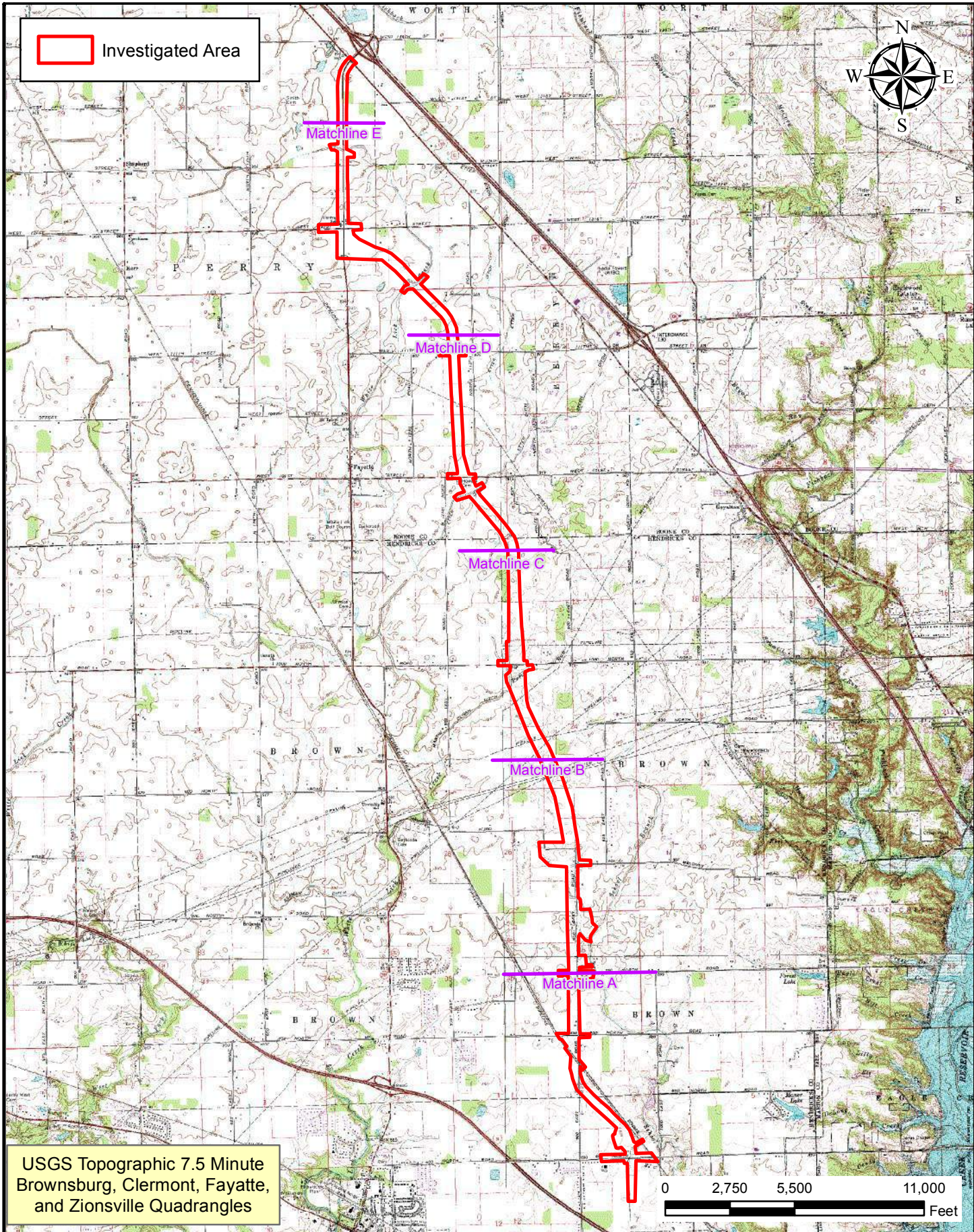
Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

**Ronald Reagan Parkway**  
Des. No. 1602280  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

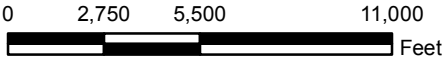
Date: 11/02/2016



 Investigated Area



USGS Topographic 7.5 Minute  
Brownsburg, Clermont, Fayette,  
and Zionsville Quadrangles



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AMERICAN  
**STRUCTUREPOINT**  
INC.

### USGS Topographic Map


Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

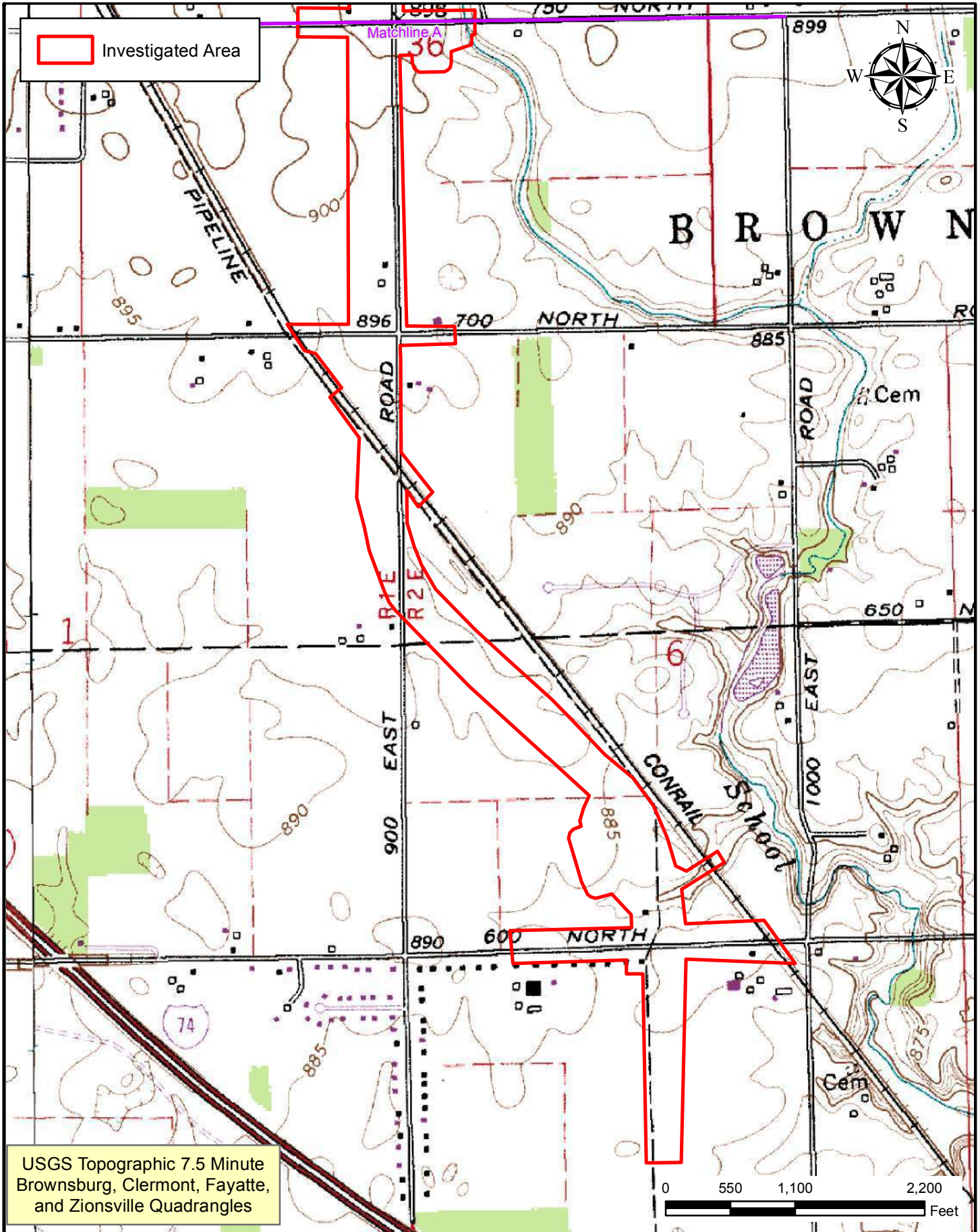
Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

### Ronald Reagan Parkway Des No 1602280

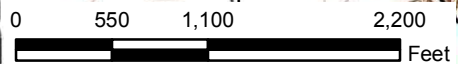
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Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 01/14/2020

 Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



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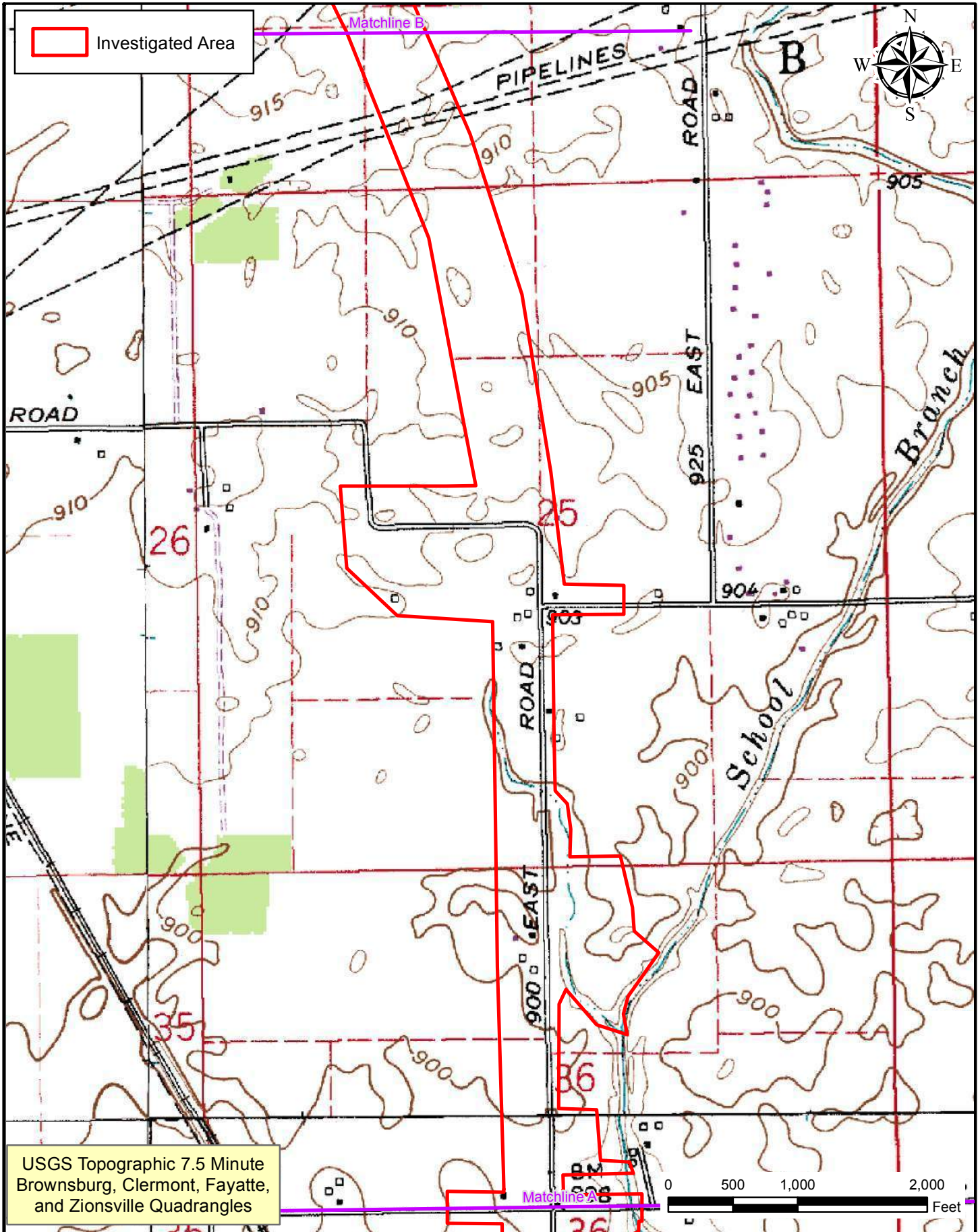
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| Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|---|--|

**Ronald Reagan Parkway**  
Des No 1602280

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 01/20/2020

 Investigated Area



USGS Topographic 7.5 Minute  
Brownsburg, Clermont, Fayette,  
and Zionsville Quadrangles

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**USGS Topographic Map**

|  |   |
|--|---|
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|--|---|

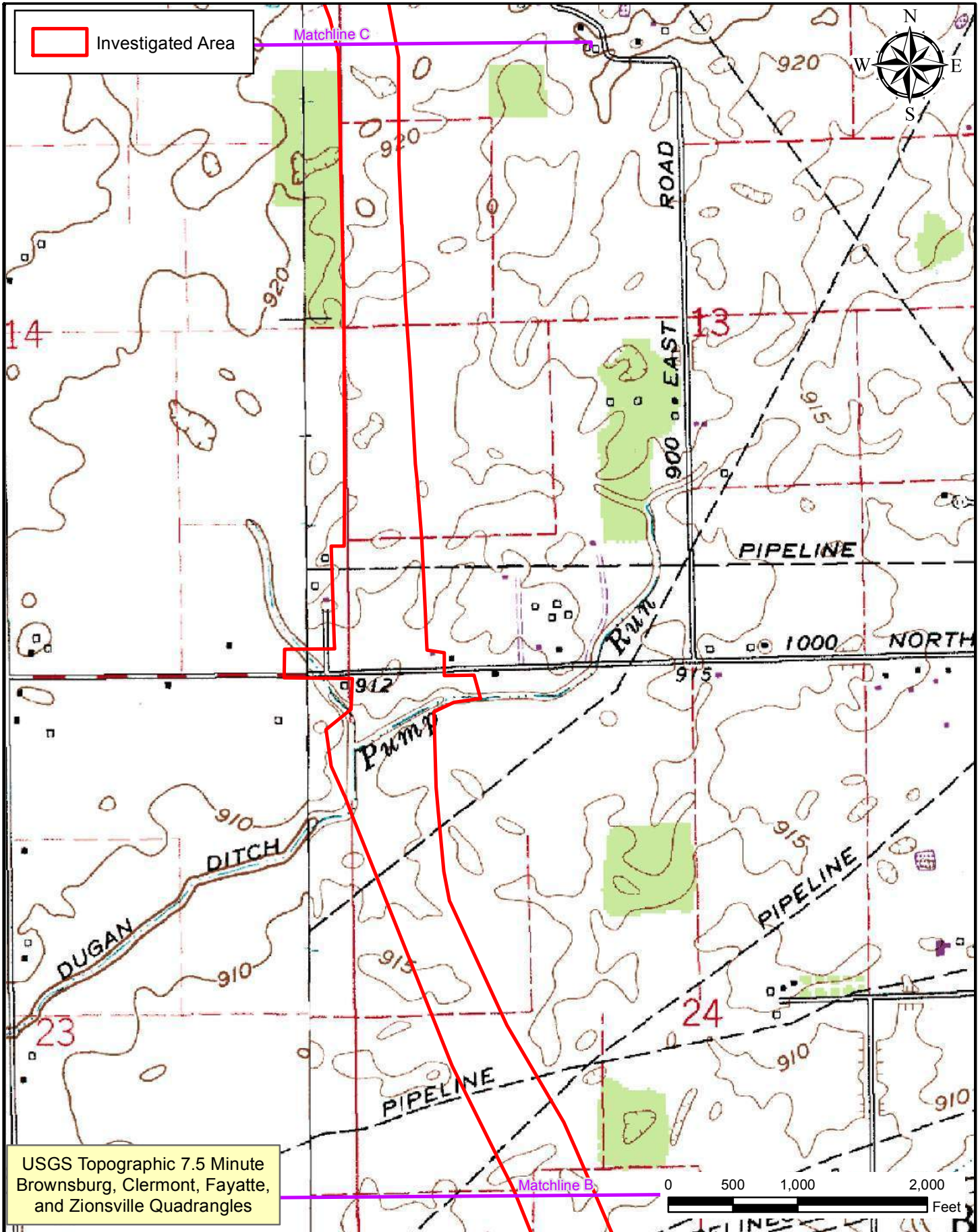
Ronald Reagan Parkway  
Des No 1602280

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

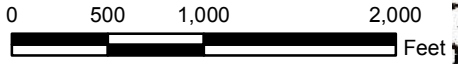
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Page 2

Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



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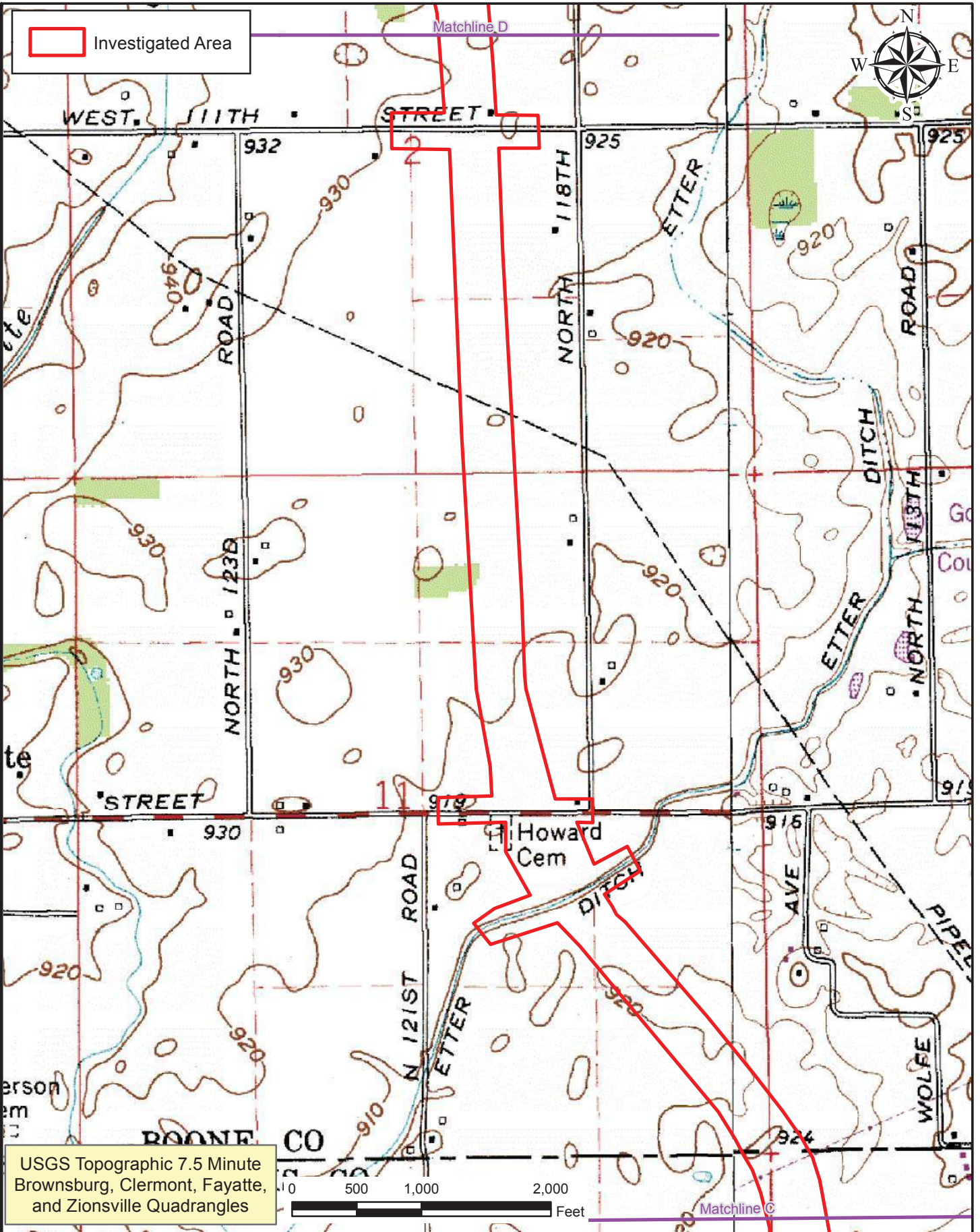
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|--|---|

**Ronald Reagan Parkway  
Des No 1602280**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 01/14/2020 Page 3

Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



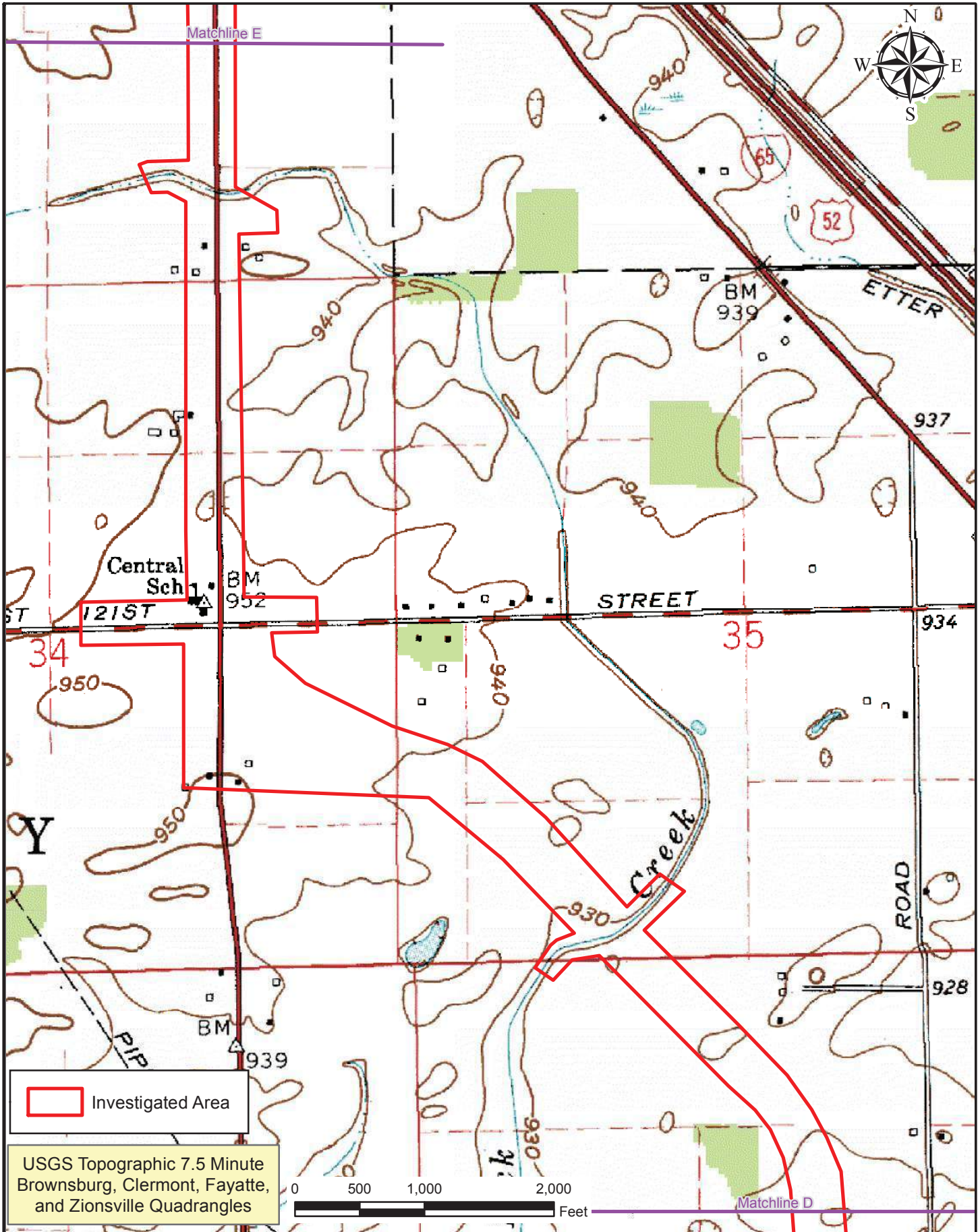
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**USGS Topographic Map**

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|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway Extension**  
 Des. No. 1602280  
 Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry Counties:  
 Boone and Hendricks State: Indiana  
 Date: 01/14/2020



Path: P:\2011\1001\83\3D\_Drawings\Arc\lew\Waters\Topo\2011\_00183.EV\2016-09-23\_Map\_Topos\_AEH.mxd Date: 12/2/2016 User: rahanner

Investigated Area

USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles

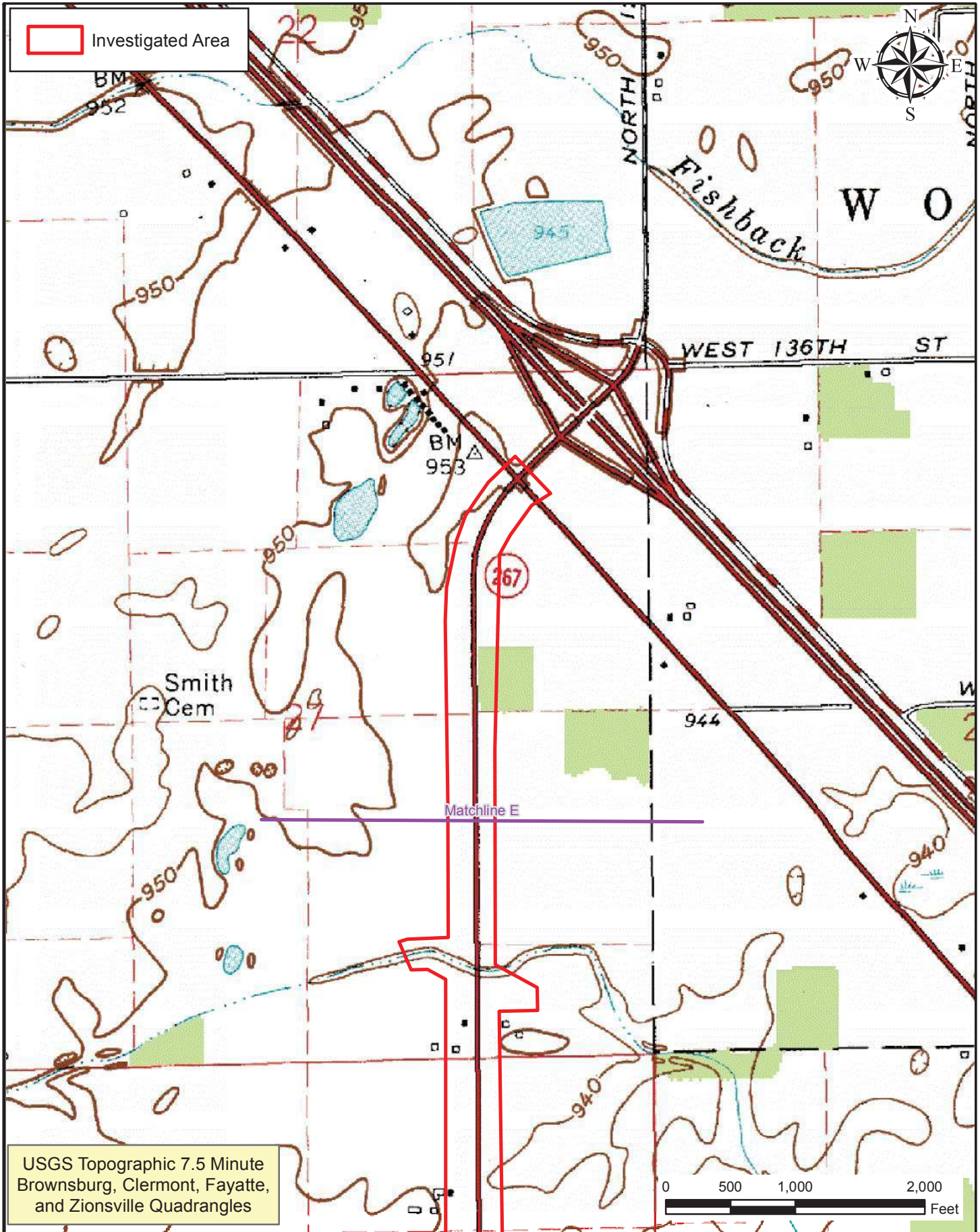


**USGS Topographic Map**

|   |  |
|---|--|
| Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|---|--|

**Ronald Reagan Parkway Extension**  
Des. No. 1602280  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry Counties:  
Boone and Hendricks State: Indiana  
Date: 01/14/2020

Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



Path: P:\2011\100183\Drawings\Arc\lew\Waters\Topo\2011\_00183\_EV\2016-09-23\_Map\_Topog6\_AEH.mxd Date: 12/2/2016 User: ahanner



**AMERICAN  
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INC.**

**USGS Topographic Map**

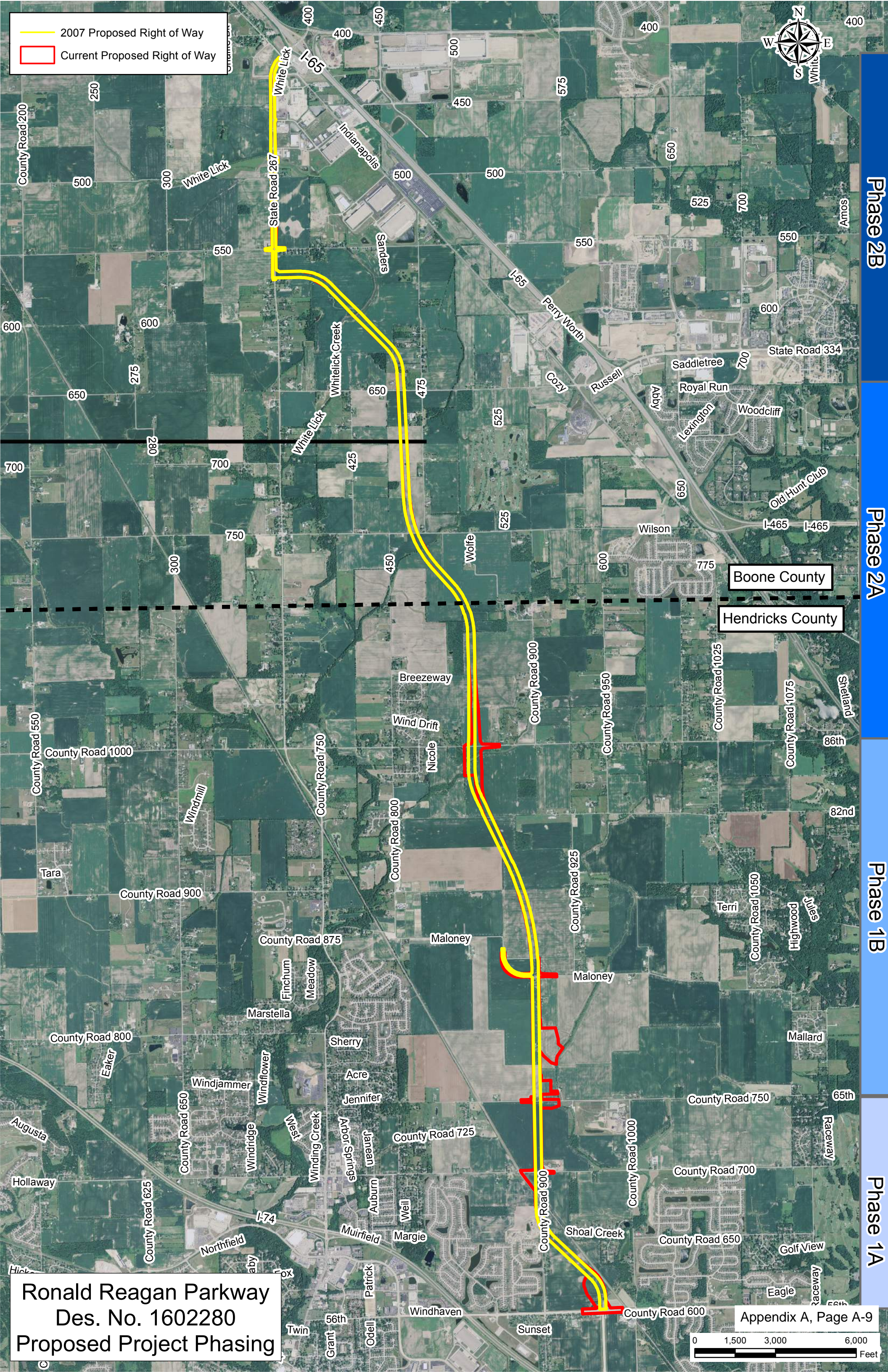
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| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway Extension  
Des. No. 1602280**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry Counties:  
Boone and Hendricks State: Indiana

Date: 01/14/2020

— 2007 Proposed Right of Way  
 Current Proposed Right of Way



Phase 2B

Phase 2A

Phase 1B

Phase 1A

Boone County


Hendricks County

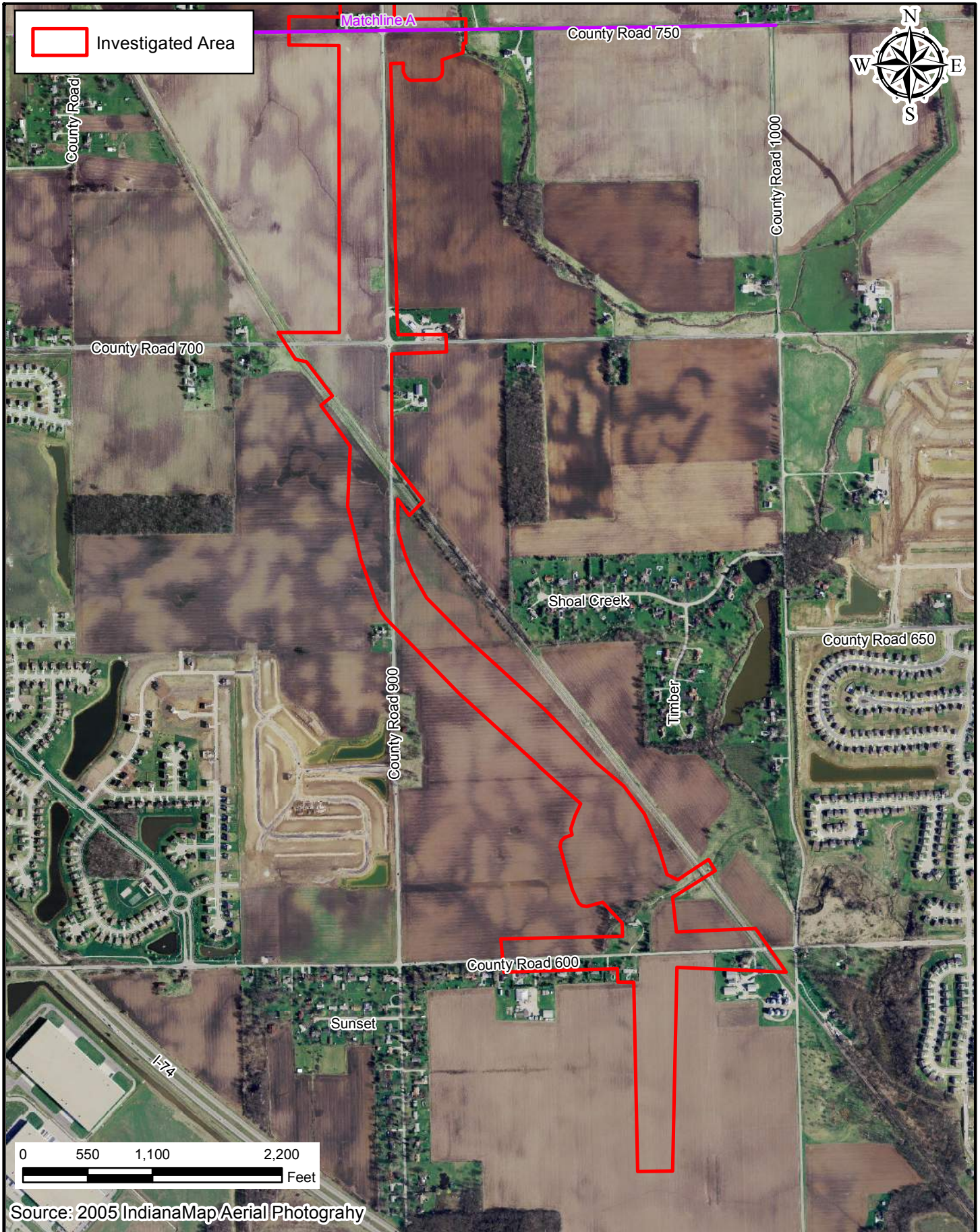
**Ronald Reagan Parkway**  
 Des. No. 1602280  
 Proposed Project Phasing

Appendix A, Page A-9





 Investigated Area



Source: 2005 IndianaMap Aerial Photography

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**Figure 6: 2005 Aerial Photography Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 01/14/2020

Page 2

Investigated Area



Matchline B

County Road 925

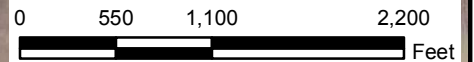
Maloney

Maloney

County Road 900

Matchline A

County Road 750



Source: 2005 IndianaMap Aerial Photography

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AMERICAN  
**STRUCTUREPOINT**  
INC.

### Figure 6: 2005 Aerial Photography Map

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

### Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 01/14/2020

Page 2

Investigated Area

Matchline C



County Road 1000

County Road 900

County Road 950

County Road 925

County Road 800

Wind Drift

Nicole

Breezeway

Windward

Ridgewind



Source: 2005 IndianaMap Aerial Photography

Matchline B

Path: P:\2011\1001\83\1D\_Drawings\ArcV\ew\Waters\2005Aerial\2011\_00183\_EV\2016-09-23\_Map\_2005aerial3\_AEH.mxd Date: 11/14/2020 User: jiddings



AMERICAN  
**STRUCTUREPOINT**  
INC.

### Figure 6: 2005 Aerial Photography Map

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

### Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

Page 3

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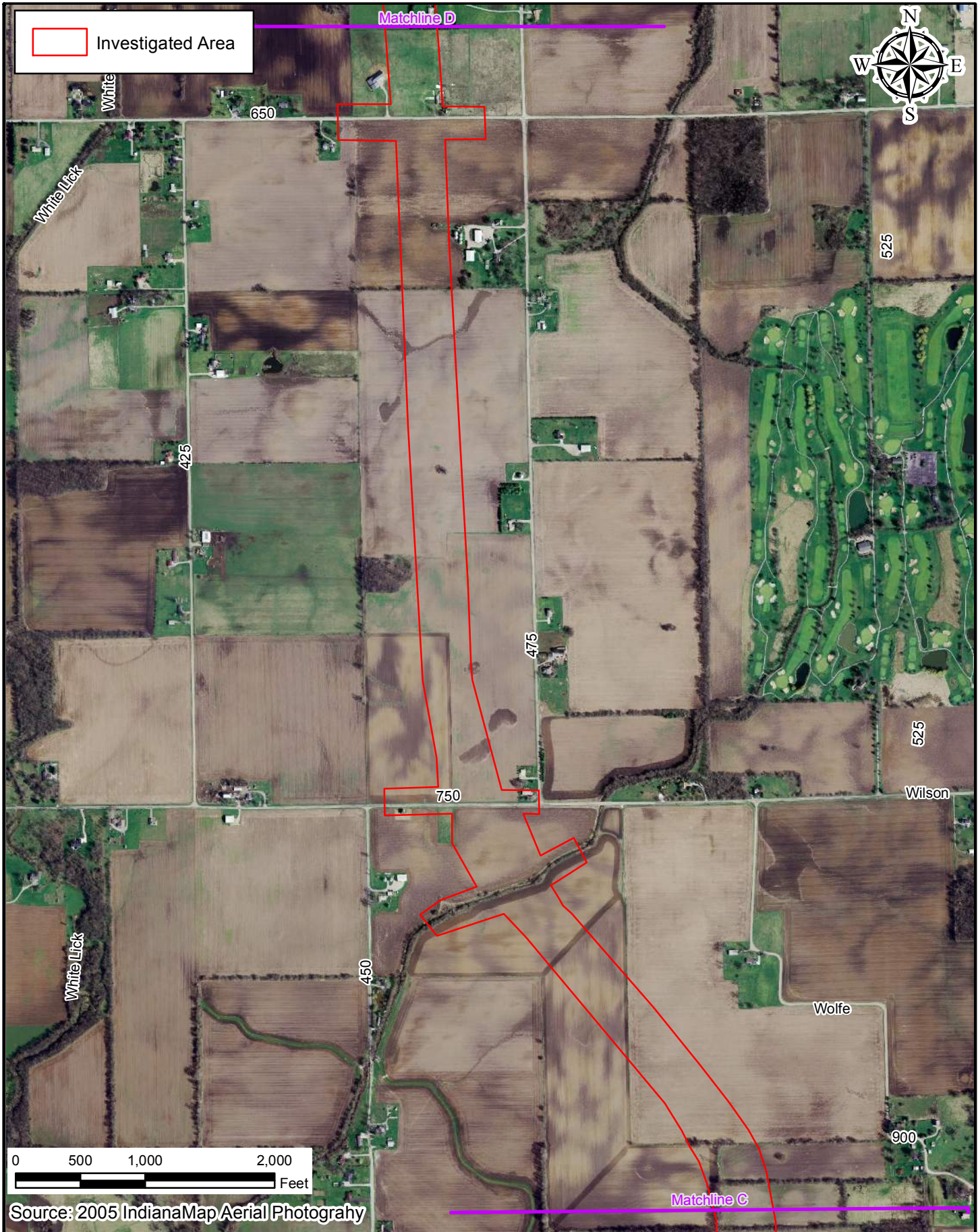


Figure 6: 2005 Aerial Photography Map

Hendricks County Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway


Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

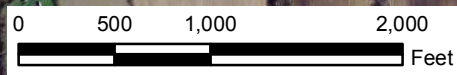
Page 4






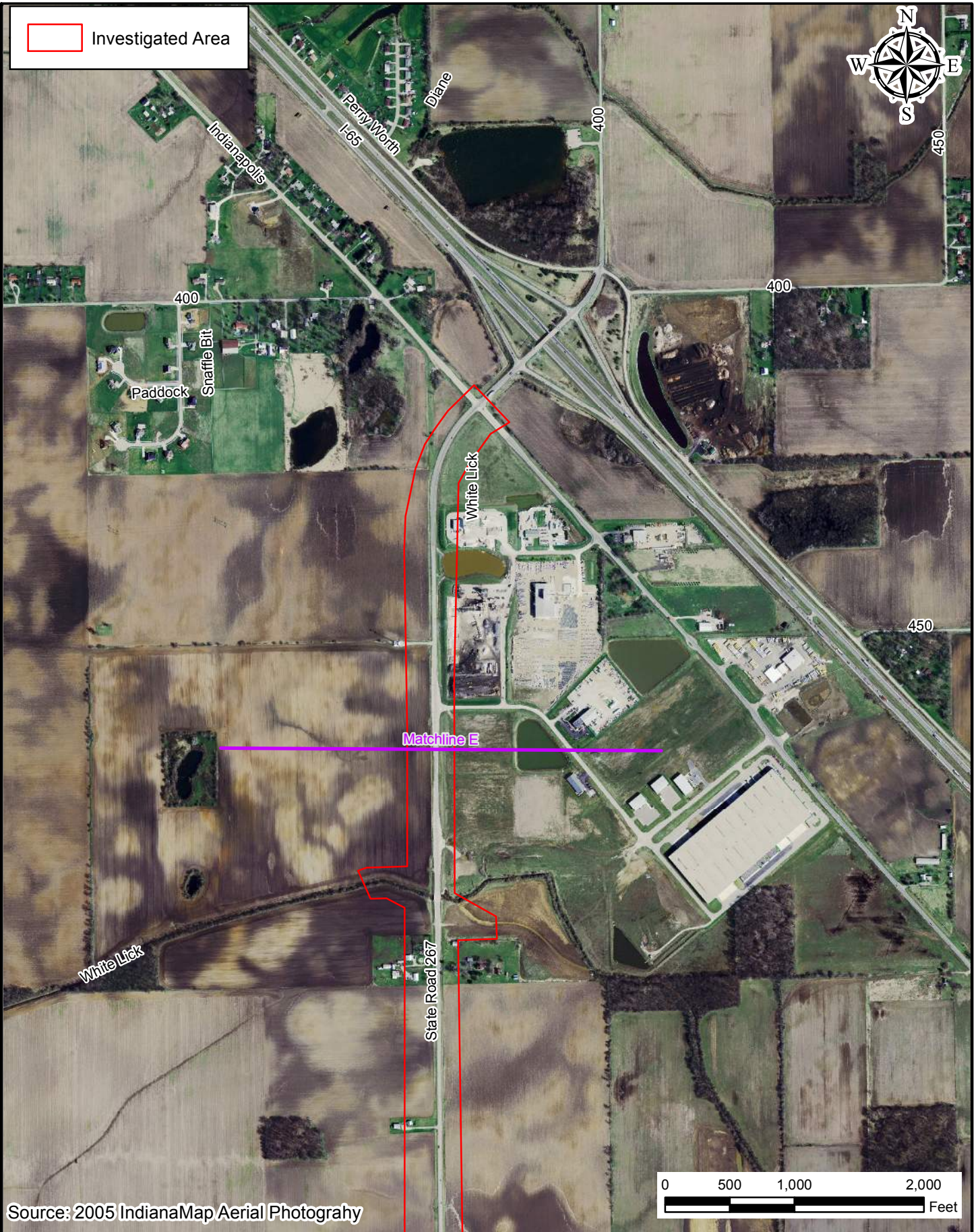
 Investigated Area

Source: 2005 IndianaMap Aerial Photography



|   |  |   |   |
|---|--|---|---|
|  | <b>Figure 6: 2005 Aerial Photography Map</b>                                     |   | <b>Ronald Reagan Parkway</b><br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |

Investigated Area



Path: P:\2011\00183\ID. Drawings\ArcV\ew\Waters\2005Aerial\2011.00183.EV\2016-09-23.Map.2005aerial6.AEH.mxd Date:11/14/2020 User:jiddings

Source: 2005 IndianaMap Aerial Photography

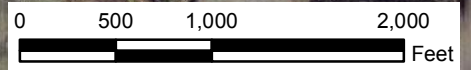


Figure 6: 2005 Aerial Photography Map



Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

**Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016**



1. Looking south along eastern edge of existing Ronald Reagan Parkway, south of Hendricks CR 600 N



2. . Looking east along north side of Hendricks CR 600 N, west of existing Ronald Reagan Parkway's northern terminus



3. Looking southeast along CSX railroad south of Hendricks CR 600 N



4. Looking northwest along west side of CSX Railroad, north of Hendricks CR 600 N



5. Looking south at culvert south of Hendricks CR 600 N



6. Looking west along south side of Hendricks CR 600 N, west of existing Ronald Reagan Parkway's northern terminus

**Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016**



7. Looking northeast at agricultural field north of Hendricks CR 600 N, representative of surrounding area



8. Looking northwest of CR 900 E at housing development not present on some aerial photography



9. Looking north along grassed swale east of housing development west of Hendricks CR 900 E



10. Looking east at culvert underneath Hendricks CR 900 E



11. Looking south along Hendricks CR 900 E at the roadside ditches



12. Looking east along Hendricks CR 700 N at the roadside ditches



**Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016**



13. Looking south along Hendricks CR 900 E at CR 750 N



14. Looking west along Hendricks CR 750 N at the roadside ditches



15. Looking north along Hendricks CR 900 E at the roadside ditches



16. Looking southeast at grassed swale designated as Hendricks County legal drain Kate Lee



17. Looking south along grassed swale, designated as Hendricks County legal drain Kate Lee



18. Looking west at culvert underneath Hendricks CR 900 E

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



19. Looking north along the cornfield



20. Looking south along Martin-Dugan Ditch  
(downstream)



21. Looking south along Martin-Dugan Ditch  
(downstream)



22. Looking south along Martin-Dugan Ditch  
(downstream)



23. Looking north at confluence of Pump Run and  
Martin-Dugan Ditch



24. Looking northeast along Pump Run (upstream)

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 11, 2016



25. Looking north at vegetation within project area



26. Looking east at area within agricultural field



27. Looking north along forested area west of investigated area



28. Looking west within agricultural field north of Hendricks CR 1000 N



29. Looking west at area west of investigated area



30. Looking west at area west of investigated area

**Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10 and 31, 2016**



31. Looking southwest along Etter Ditch (downstream)



32. Looking northeast along Etter Ditch (upstream)



33. Looking south at Howards Cemetery



34. Looking east at agricultural field designated as Boone County legal drain Schenck



35. Looking west at upland tree line between agricultural fields



36. Looking north along property line, north of Boone CR 650 S

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



37. Looking south along tree line between agricultural fields



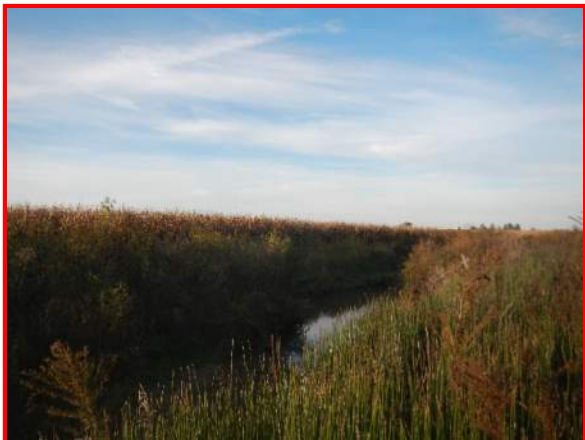
38. Looking west at agricultural field north of Boone CR 650 S



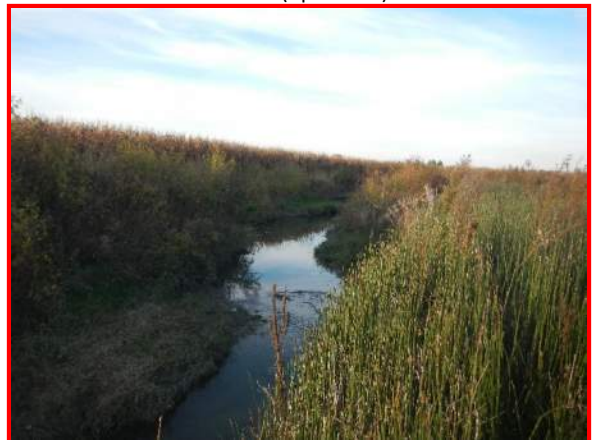
39. Looking south at agricultural field north of Boone CR 650 S



40. Looking northeast along White Lick Creek (upstream)



41. Looking north from DP 75-13 at White Lick Creek (upstream)



42. Looking northeast along White Lick Creek (upstream)

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



43. Looking west at agricultural field adjacent to White Lick Creek



44. Looking south along erosional feature observed on aerial photography



45. Looking south at agricultural field east of SR 267



46. Looking east within agricultural field east of SR 267



47. Looking south along the west side of SR 267 south of Boone CR 550 S



48. Looking west along tree line north of agricultural field

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 11, 2016



49. Looking east along berm east of SR 267



50. Looking west along berm east of SR 267



51. Looking east at bridge carrying SR 267 over White Lick Creek (downstream)



52. Looking west along White Lick Creek (upstream)



53. Looking east along White Lick Creek (downstream)



54. Looking southeast along White Lick Creek (downstream) at Wetland 5S- C

**Appendix B: Plans**



|          |                   |
|----------|-------------------|
| PROJECT  | DESIGNATION       |
| 1602280  | 1602280           |
| CONTRACT | BRIDGE FILE       |
| ----     | HENDRICKS BR00089 |

Draft Final Plans  
March 7, 2019

Additional Right of Way  
Required for this Project

# HENDRICKS COUNTY RONALD REAGAN PKWY FROM C.R. 600 N TO C.R. 750 N ROAD PLANS

| STRUCTURE                  | TYPE   | SPAN AND SKEW                         | OVER               | STATION           |
|----------------------------|--|---------------------------------------|--------------------|-------------------|
| HENDRICKS BRIDGE NO. 00089 | COMPOSITE PRESTRESSED CONCRETE BULB TEE BEAM | 2 SPANS @ 151'-0" & 162'-0" 53° RIGHT | CSX TRANSPORTATION | 66+16.50 LINE "A" |

Project Description: New Construction of Ronald Reagan Parkway, beginning at C.R. 600 N, and extending north for 1.67 miles, located in Section 1, R1E, T16N & Sections 6 & 7, R2E, T16N of Lincoln Township, and Section 36, R1E, T17N of Brown Township in Hendricks County, Indiana.

| KIN PROJECT INFORMATION |                                 |
|-------------------------|---------------------------------|
| DESIGNATION             | PROJECT DESCRIPTION             |
| 1602280                 | RONALD REAGAN PKWY CONSTRUCTION |
| 1602280                 | HENDRICKS COUNTY BRIDGE 00089   |

PROJECT NO. **1602280 P.E.**  
**1602280 R/W**  
**1602280 CONST.**

## HENDRICKS COUNTY BOARD OF COMMISSIONERS

MATTHEW D. WHETSTONE, COMMISSIONER, PRESIDENT \_\_\_\_\_ DATE

PHYLLIS A. PALMER, COMMISSIONER, VICE PRESIDENT \_\_\_\_\_ DATE

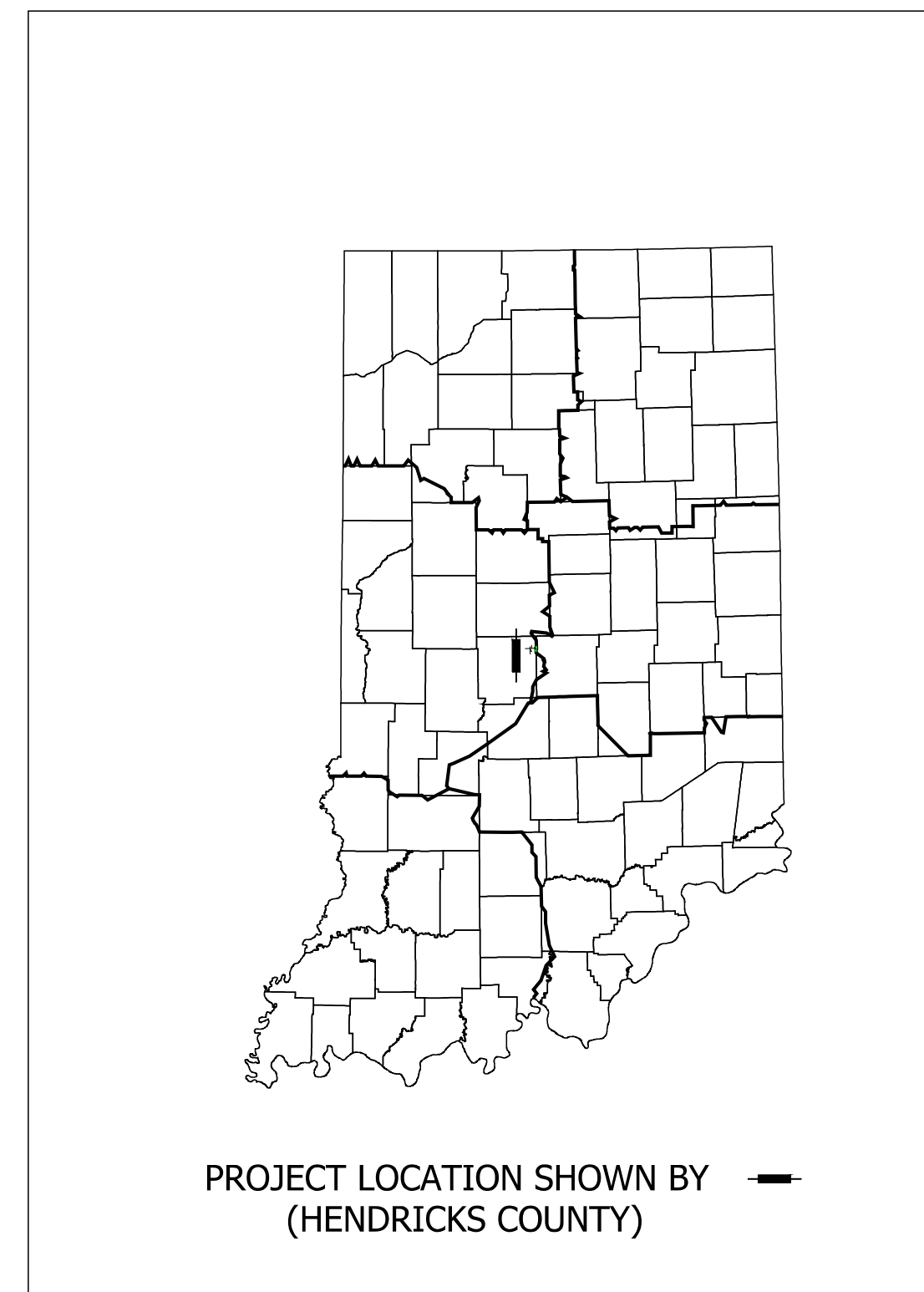
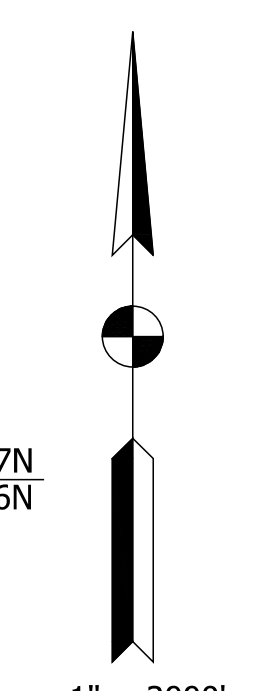
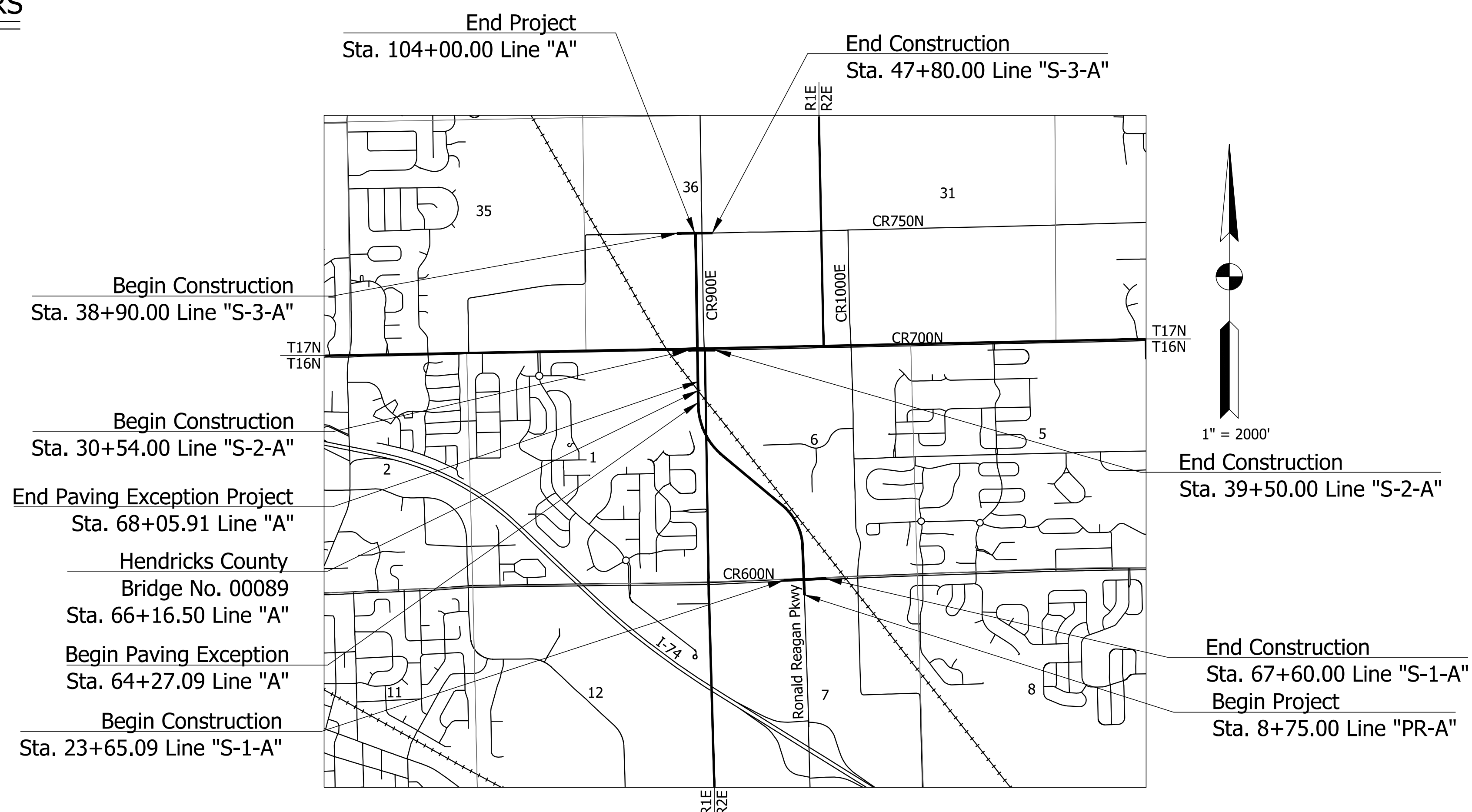
BOB GENTRY, COMMISSIONER \_\_\_\_\_ DATE

## HENDRICKS COUNTY AUDITOR

NANCY MARSH \_\_\_\_\_ DATE

## HENDRICKS COUNTY ENGINEER

JOHN AYERS, PE  
COUNTY ENGINEER  
EMPLOYEE IN RESPONSIBLE CHARGE \_\_\_\_\_ DATE



LATITUDE: 39°51'05" N LONGITUDE: 86°21'23" W

|                 |       |     |
|-----------------|-------|-----|
| BRIDGE LENGTH:  | 0.060 | MI. |
| ROADWAY LENGTH: | 1.608 | MI. |
| TOTAL LENGTH:   | 1.668 | MI. |
| MAX. GRADE:     | 5.00  | %   |

INDIANA DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS DATED 2018  
TO BE USED WITH THESE PLANS

Date: Oct 28, 2019, 2:43pm User Name: SBurgos File: S:\L\2017\1602280\Road\CD\Misc\DWG\SHL\_Title.dwg



1625 N. Post Road  
Indianapolis, IN 46219  
Phone 317-895-2585  
Fax 317-895-2596  
www.ucindy.com

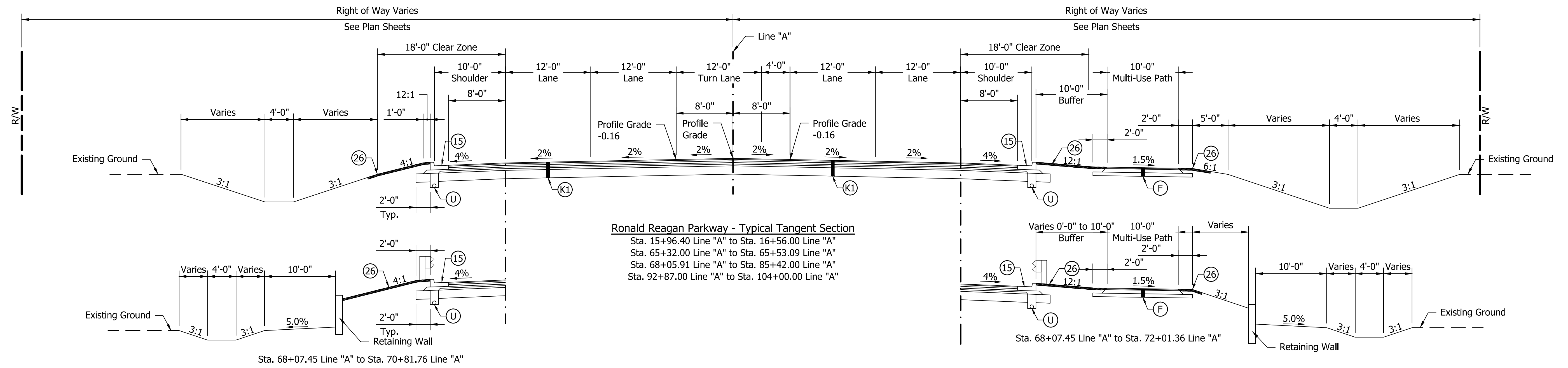
PLANS PREPARED BY: Lochmueller Group, Inc. (317) 222-3880 PHONE NUMBER

CERTIFIED BY: \_\_\_\_\_ --/-- DATE

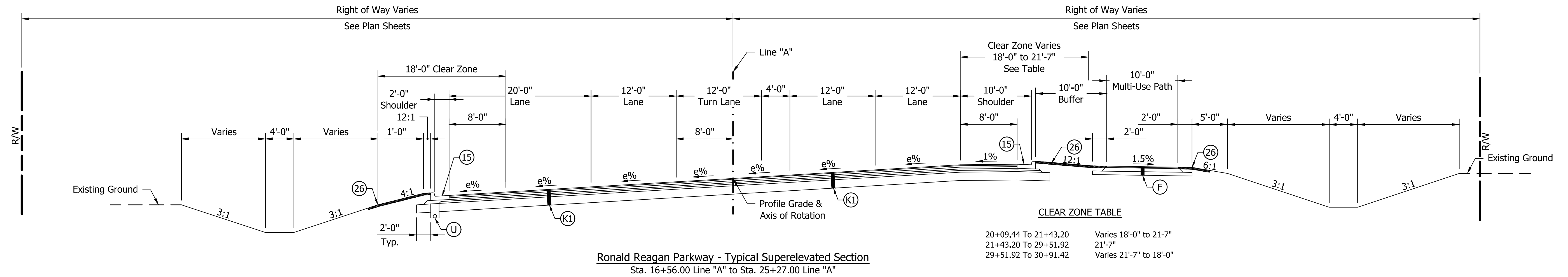
APPROVED FOR LETTING: \_\_\_\_\_ DATE

INDIANA DEPARTMENT OF TRANSPORTATION

|                   |          |
|-------------------|----------|
| BRIDGE FILE       |          |
| HENDRICKS BR00089 |          |
| DESIGNATION       |          |
| 1602280           |          |
| SHEETS            |          |
| SURVEY BOOK       | 1 of 172 |
| ELECTRONIC        | 1 of 172 |
| CONTRACT          | PROJECT  |
| ---               | 1602280  |



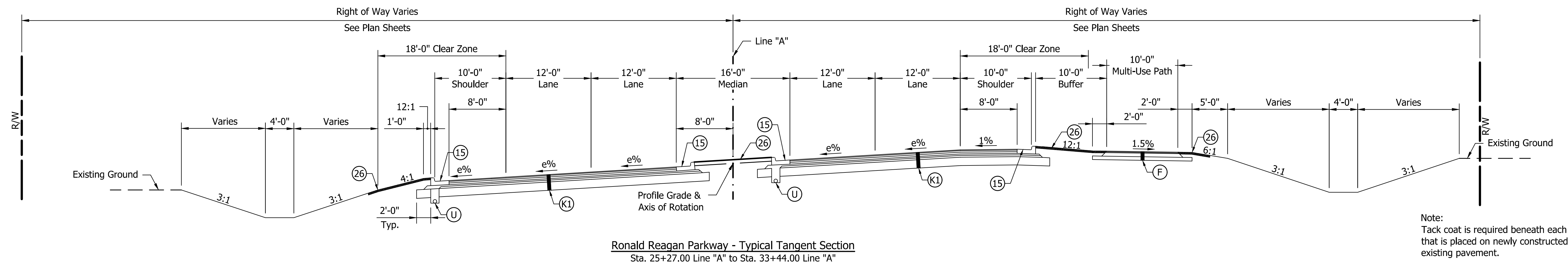
**Ronald Reagan Parkway - Typical Tangent Section**  
 Sta. 15+96.40 Line "A" to Sta. 16+56.00 Line "A"  
 Sta. 65+32.00 Line "A" to Sta. 65+53.09 Line "A"  
 Sta. 68+05.91 Line "A" to Sta. 85+42.00 Line "A"  
 Sta. 92+87.00 Line "A" to Sta. 104+00.00 Line "A"



**Ronald Reagan Parkway - Typical Superelevated Section**  
 Sta. 16+56.00 Line "A" to Sta. 25+27.00 Line "A"

**CLEAR ZONE TABLE**

|                      |                         |
|----------------------|-------------------------|
| 20+09.44 To 21+43.20 | Varies 18'-0" to 21'-7" |
| 21+43.20 To 29+51.92 | 21'-7"                  |
| 29+51.92 To 30+91.42 | Varies 21'-7" to 18'-0" |



**Ronald Reagan Parkway - Typical Tangent Section**  
 Sta. 25+27.00 Line "A" to Sta. 33+44.00 Line "A"

Note:  
 Tack coat is required beneath each course of HMA material that is placed on newly constructed HMA course or on an existing pavement.

- (15) Curb and Gutter, Concrete, Modified
- (26) Sodding
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB
- (U) Underdrain - Pipe, Type 4, Circular, 6"



RECOMMENDED FOR APPROVAL \_\_\_\_\_

DESIGNED: JNH      DRAWN: MDV

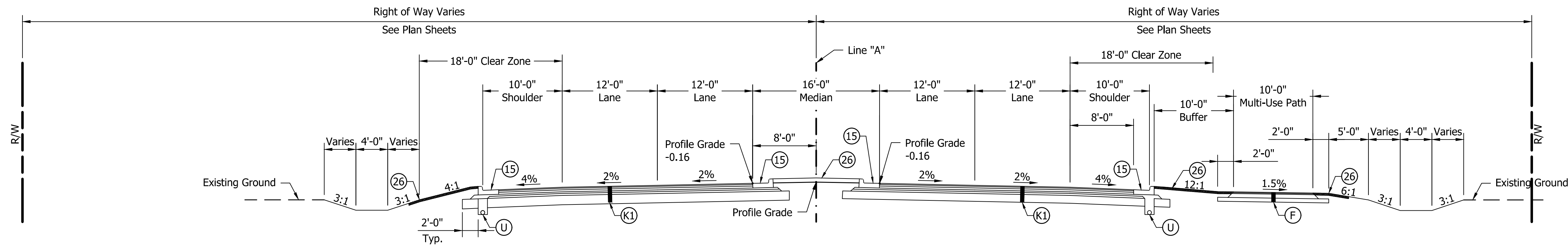
CHECKED: BKA      CHECKED: BKA

**HENDRICKS COUNTY**

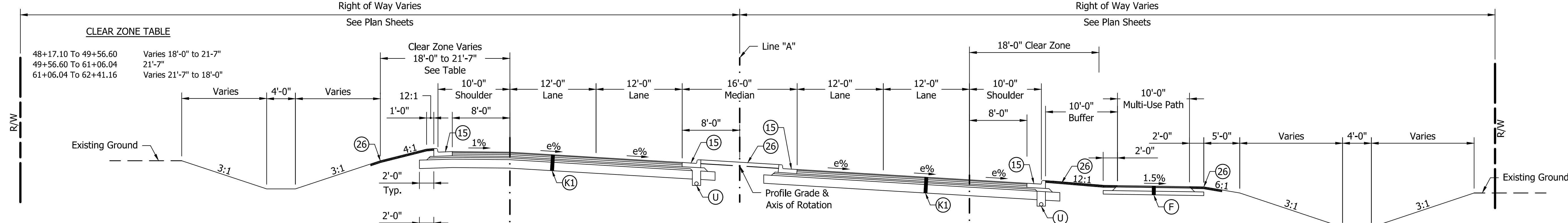
**TYPICAL SECTIONS**  
**LINE "A"**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1/8" = 1'-0"     | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| 1/8" = 1'-0"     | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 3 of 172          |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_3017217-2005\09\09\Road\CAD\Mech\DWG\Shl\_Typ\_Sec.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago



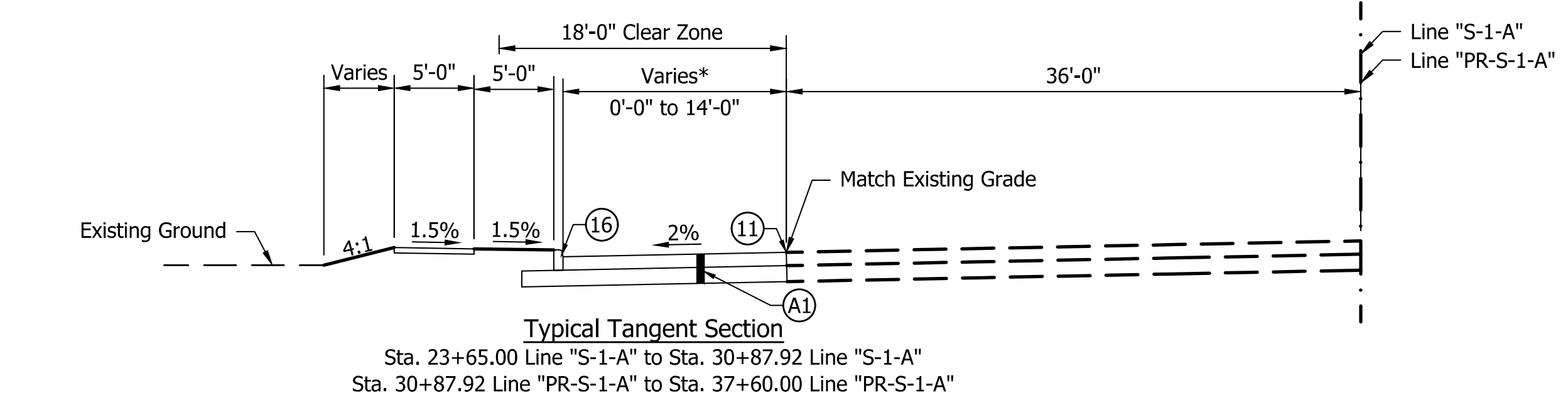
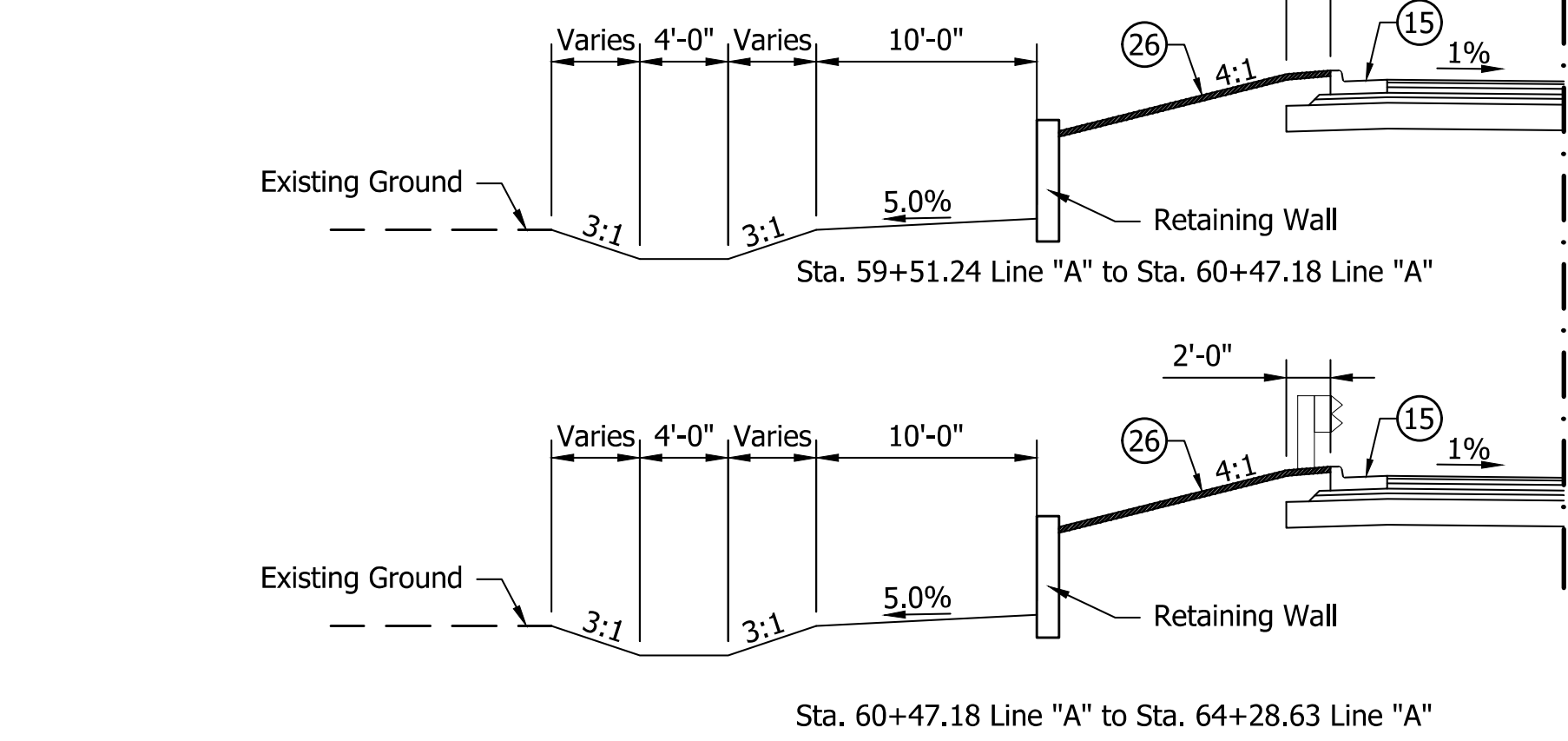
**Ronald Reagan Parkway - Typical Tangent Section**  
 Sta. 33+44.00 Line "A" to Sta. 46+02.00 Line "A"  
 Sta. 85+42.00 Line "A" to Sta. 92+87.00 Line "A"



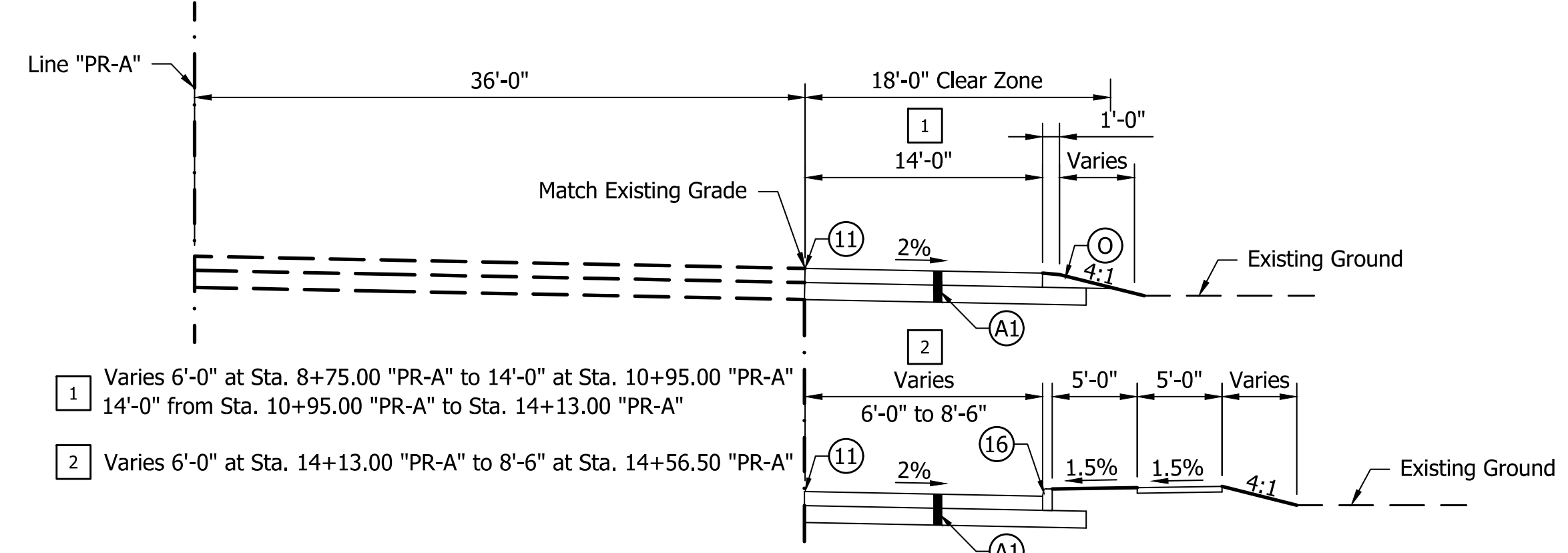
**Ronald Reagan Parkway - Typical Superelevated Section**  
 Sta. 46+02.00 Line "A" to Sta. 65+32.00 Line "A"

**CLEAR ZONE TABLE**

|                      |                         |
|----------------------|-------------------------|
| 48+17.10 To 49+56.60 | Varies 18'-0" to 21'-7" |
| 49+56.60 To 61+06.04 | 21'-7"                  |
| 61+06.04 To 62+41.16 | Varies 21'-7" to 18'-0" |



\*Varies 0'-0" at Sta. 23+65.00 "S-1-A" to 14'-0" at Sta. 26+35.00 "S-1-A"  
 14'-0" from Sta. 26+35.00 "S-1-A" to Sta. 30+87.92 "S-1-A"  
 14'-0" from Sta. 30+87.92 "PR-S-1-A" to Sta. 34+90.00 "PR-S-1-A"  
 Varies 14'-0" at Sta. 34+90.00 "PR-S-1-A" to 0'-0" at Sta. 37+60.00 "PR-S-1-A"



**Typical Tangent Section**  
 Sta. 8+75.00 Line "PR-A" to Sta. 14+56.50 Line "PR-A"

Note:  
 Tack coat is required beneath each course of HMA material that is placed on newly constructed HMA course or on an existing pavement.

- (A1) QC/QA PCCP, 10" on 9" Subbase for PCCP on Subgrade Treatment, IB
- (15) Curb and Gutter, Concrete, Modified
- (16) Curb, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (U) Underdrain - Pipe, Type 4, Circular, 6"

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB
- (11) Sawcut
- (26) Sodding

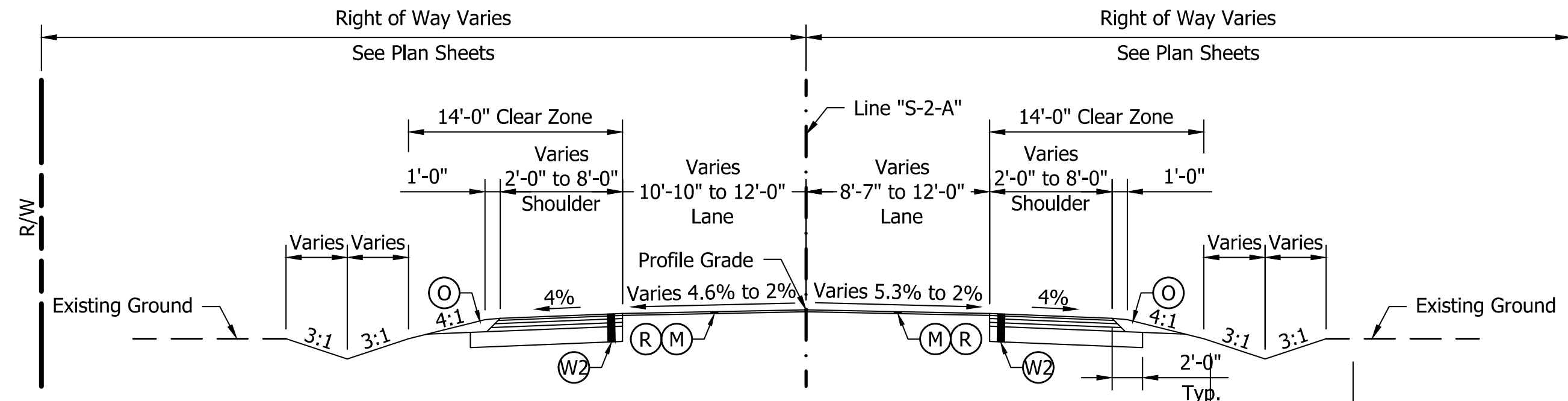


|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: ---      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

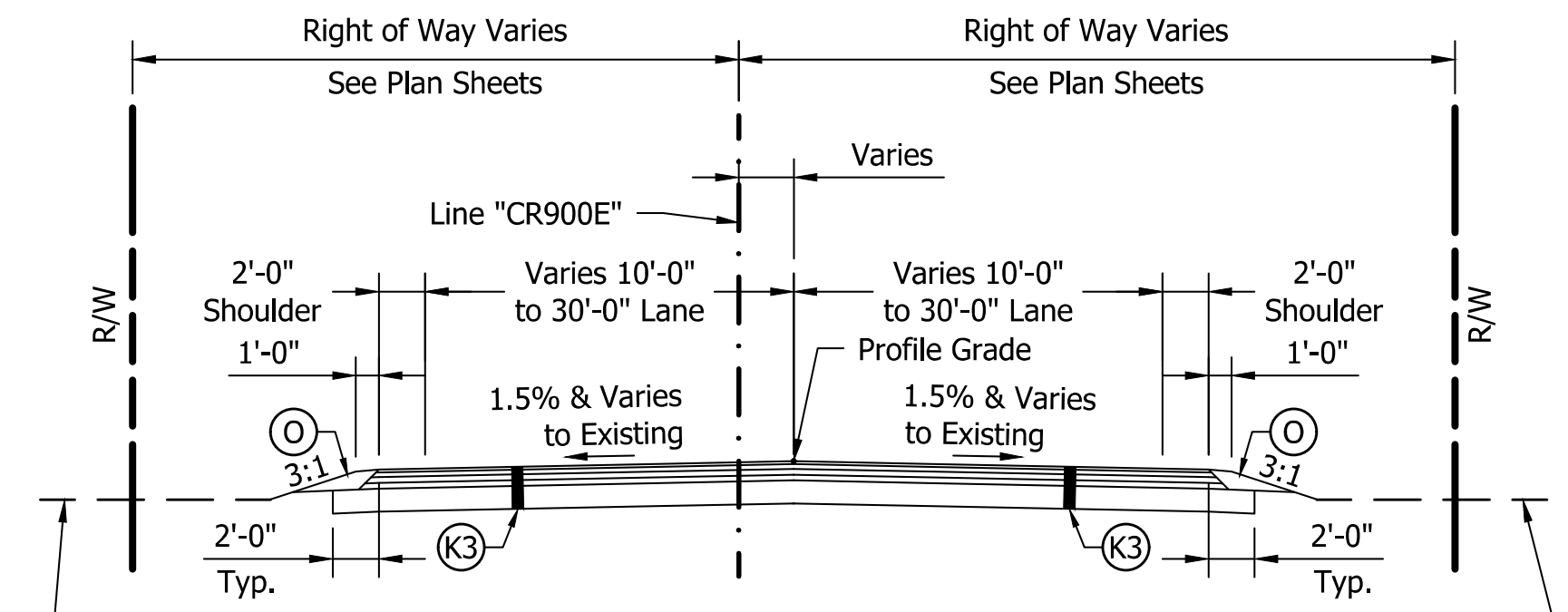
|                         |  |
|-------------------------|--|
| <b>HENDRICKS COUNTY</b> |  |
| -----                   |  |
| -----                   |  |

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 40'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 4'          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 4 of 172          |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_3017217-2005\05\05\Road\CAD\Mech\DWG\Sheet\_Typ\_Section.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago

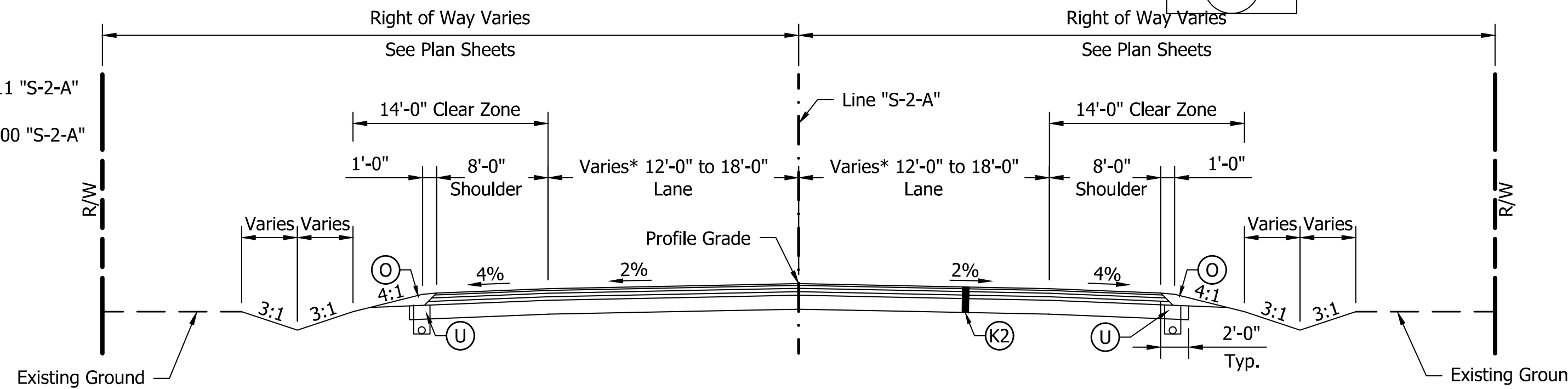


**C.R. 700N & C.R. 750N - Typical Incidental Section**  
 Sta. 30+00.00 Line "S-2-A" to Sta. 30+54.00 Line "S-2-A"  
 Sta. 39+50.00 Line "S-2-A" to Sta. 40+00.00 Line "S-2-A"

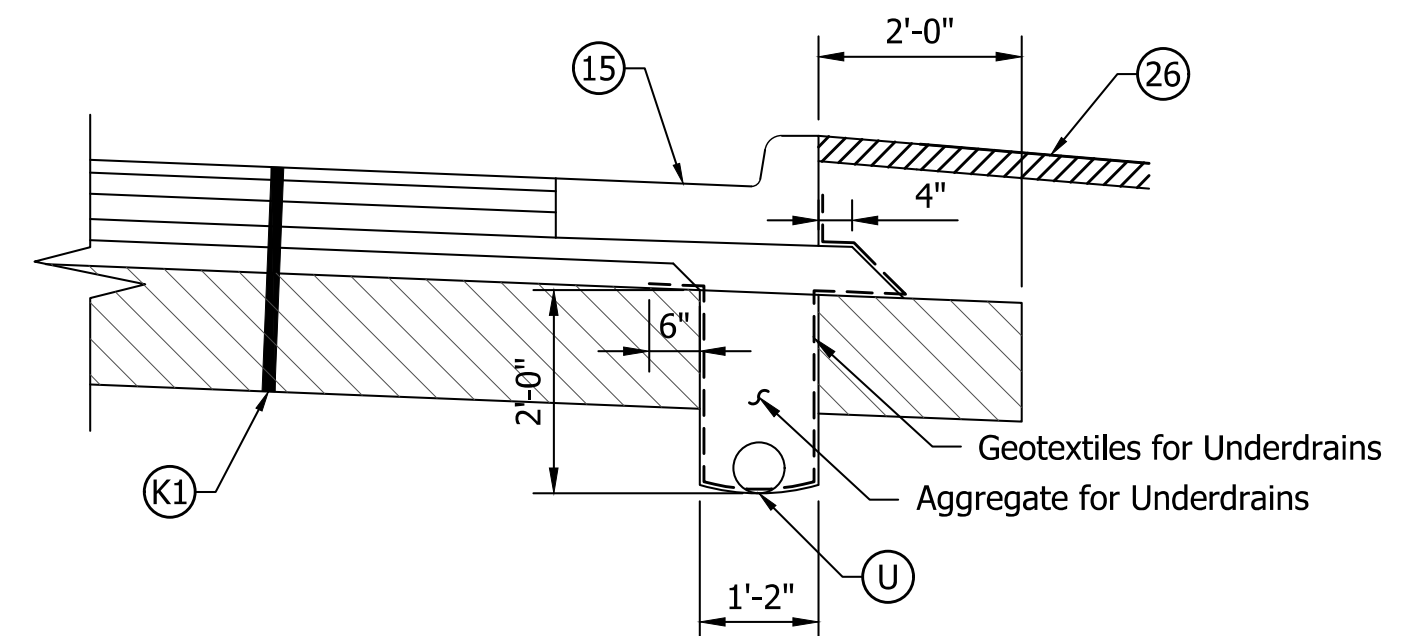


**C.R. 900E - Typical Tangent Section (Cul-de-sac)**  
 Sta. 12+48.82 Line "CR900E" to Sta. 13+34.46 Line "CR900E"  
 Sta. 29+41.02 Line "CR900E" to Sta. 30+90.90 Line "CR900E"

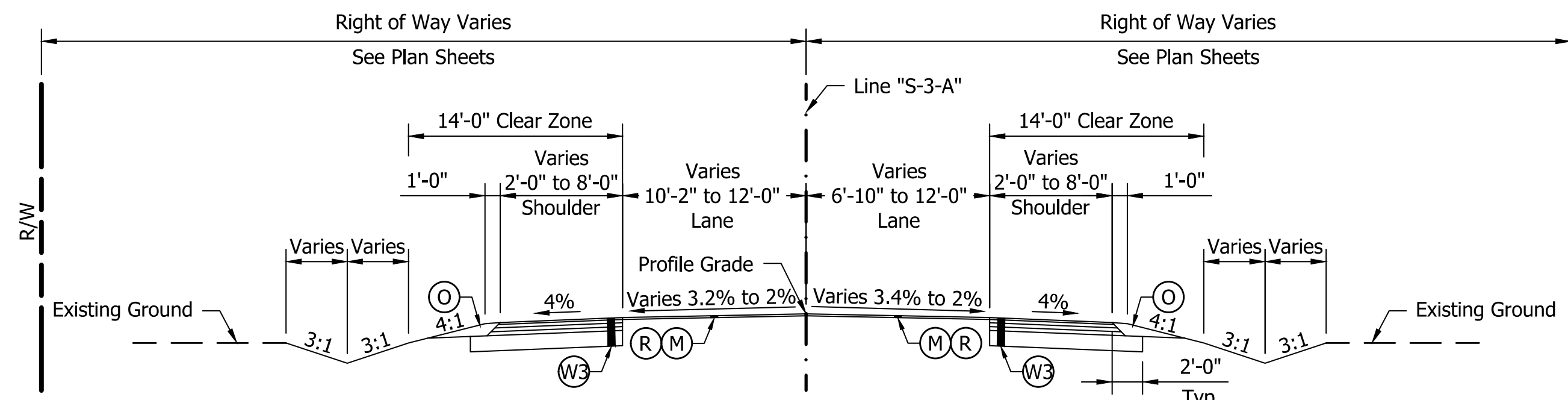
\*Varies 12'-0" at Sta. 30+54.00 "S-2-A" to 18'-0" at Sta. 32+34.11 "S-2-A"  
 18'-0" from Sta. 32+34.11 "S-2-A" to Sta. 37+70.11 "S-2-A"  
 Varies 18'-0" at Sta. 37+70.11 "S-2-A" to 12'-0" at Sta. 39+50.00 "S-2-A"



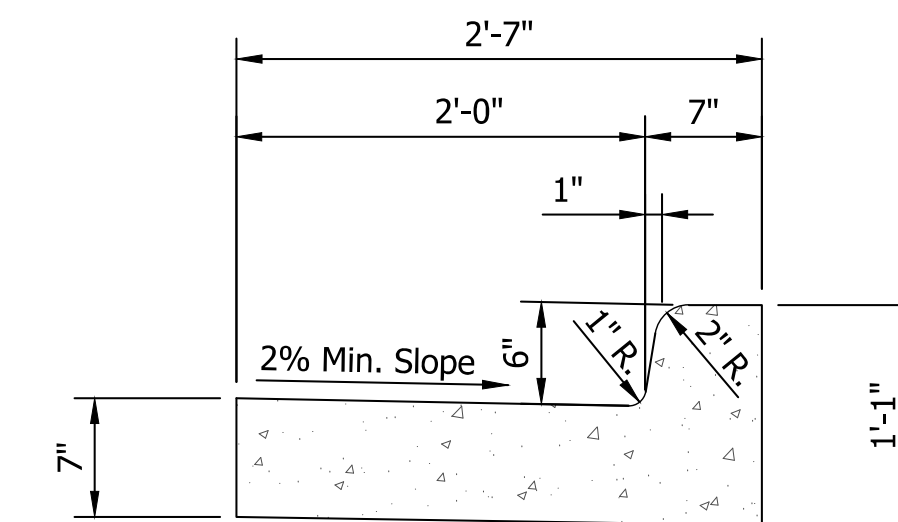
**C.R. 700N - Typical Tangent Section**  
 Sta. 30+54.00 Line "S-2-A" to Sta. 39+50.00 Line "S-2-A"



**Modified Concrete Curb and Gutter Section with Underdrain**  
 Not to Scale



**C.R. 700N & C.R. 750N - Typical Incidental Section**  
 Sta. 38+40.00 Line "S-3-A" to Sta. 38+90.00 Line "S-3-A"  
 Sta. 47+80.00 Line "S-3-A" to Sta. 48+30.00 Line "S-3-A"



**Modified Concrete Curb and Gutter Detail**  
 Not to Scale

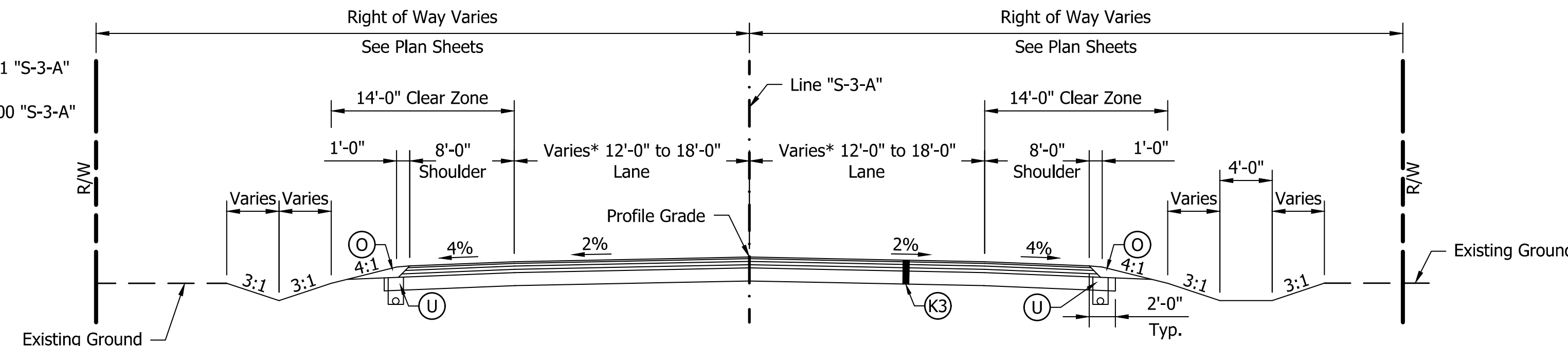
**EARTHWORK SUMMARY TABLE**

| COMMON EXCAVATION                 |                |            |
|-----------------------------------|----------------|------------|
| Line "A"                          | 76,875         | CYD        |
| Line "S-2-A"                      | 1,795          | CYD        |
| Line "S-3-A"                      | 7,995          | CYD        |
| Topsoil Removal                   | 12,665         | CYD        |
| Southern Basin                    | 44,840         | CYD        |
| Central Basin                     | 32,620         | CYD        |
| Northern Basin                    | 16,745         | CYD        |
| <b>TOTAL COMMON EXCAVATION</b>    | <b>193,535</b> | <b>CYD</b> |
| <b>TOTAL UNUSEABLE EXCAVATION</b> | <b>12,665</b>  | <b>CYD</b> |
| <b>TOTAL USEABLE EXCAVATION</b>   | <b>180,870</b> | <b>CYD</b> |

| FILL                                  |                |            |
|---------------------------------------|----------------|------------|
| Line "A"                              | 260,470        | CYD        |
| Line "S-2-A"                          | 12,165         | CYD        |
| Line "S-3-A"                          | 1,130          | CYD        |
| Fill to Replace Topsoil               | 12,665         | CYD        |
| Southern Basin                        | 55             | CYD        |
| Central Basin                         | 0              | CYD        |
| Northern Basin                        | 0              | CYD        |
| <b>SUBTOTAL, FILL VOLUME REQUIRED</b> | <b>272,635</b> | <b>CYD</b> |
| <b>SWELL (15%)</b>                    | <b>40,890</b>  | <b>CYD</b> |
| <b>TOTAL FILL</b>                     | <b>313,525</b> | <b>CYD</b> |
| <b>LESS USEABLE EXCAVATION</b>        | <b>180,870</b> | <b>CYD</b> |
| <b>TOTAL BORROW REQUIRED</b>          | <b>132,655</b> | <b>CYD</b> |

Note:  
 Tack coat is required beneath each course of HMA material that is placed on newly constructed HMA course or on an existing pavement.

\*Varies 12'-0" at Sta. 38+90.00 "S-3-A" to 18'-0" at Sta. 40+70.11 "S-3-A"  
 18'-0" from Sta. 40+70.11 "S-3-A" to Sta. 46+00.00 "S-3-A"  
 Varies 18'-0" at Sta. 46+00.00 "S-3-A" to 12'-0" at Sta. 47+80.00 "S-3-A"



**C.R. 750N - Typical Tangent Section**  
 Sta. 38+90.00 Line "S-3-A" to Sta. 47+80.00 Line "S-3-A"

(K2) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

(K3) 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB

(W2) Widening with HMA, Type C, to be: 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

(W3) Widening with HMA, Type C, to be: 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB

(M) Milling, Asphalt, 1.5"

(O) Compacted Aggregate, No. 53

(R) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm

(U) Underdrain - Pipe, Type 4, Circular, 6"



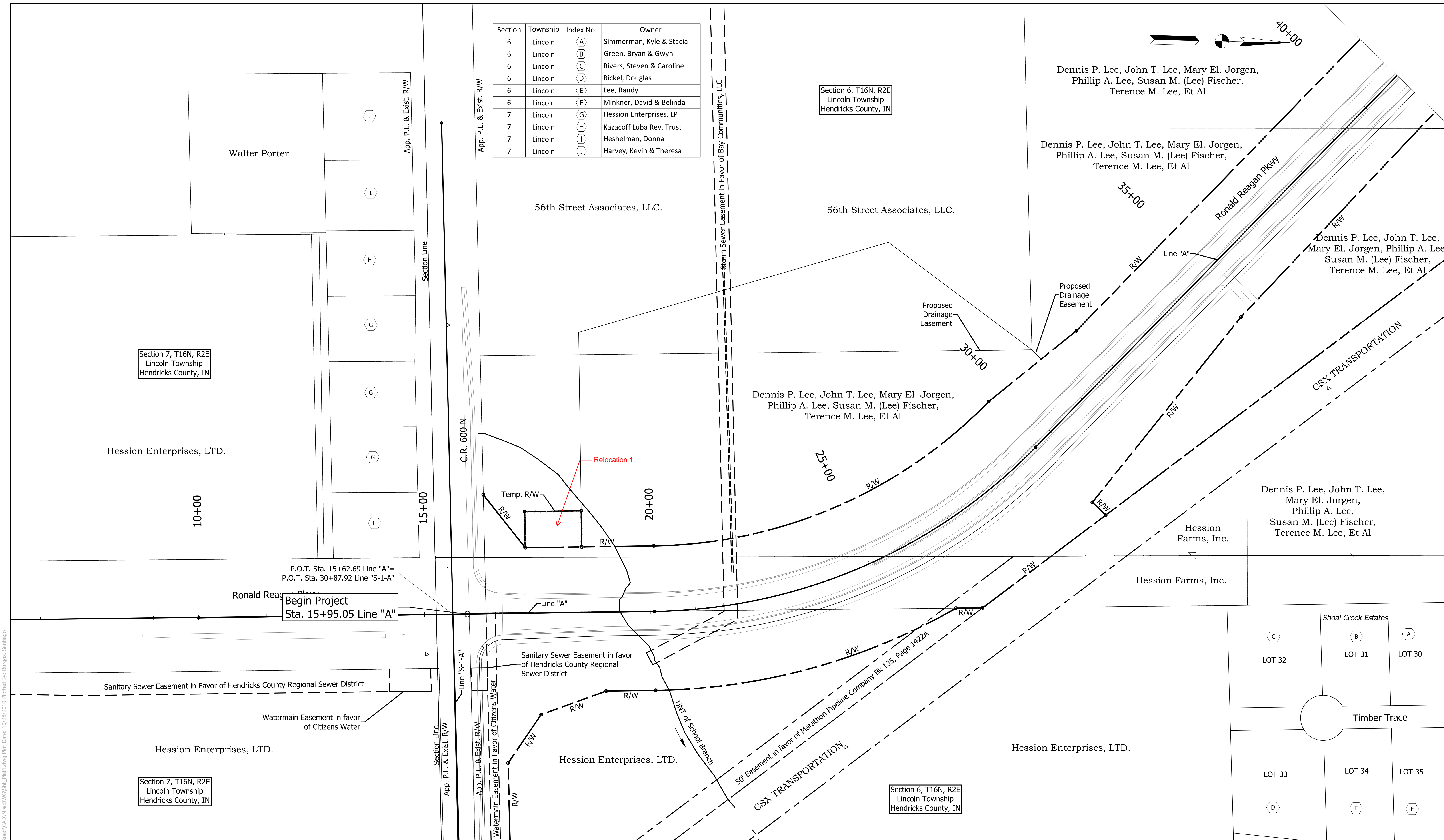
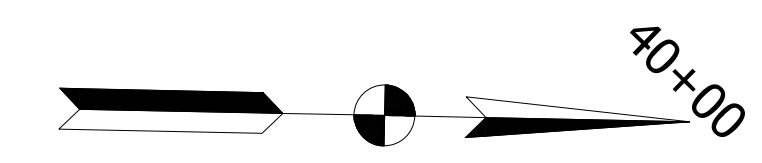
RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: ---  
 CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

| HORIZONTAL SCALE |   | BRIDGE FILE       |     |
|------------------|---|-------------------|-----|
| "= ' "           |   | HENDRICKS BR00089 |     |
| VERTICAL SCALE   |   | DESIGNATION       |     |
| "= ' "           |   | 1602280           |     |
| SURVEY BOOK      |   | SHEETS            |     |
| ELECTRONIC       | 5 | of                | 172 |
| CONTRACT         |   | PROJECT           |     |
| ####             |   | 1602280           |     |

| Section | Township | Index No. | Owner                     |
|---------|----------|-----------|---------------------------|
| 6       | Lincoln  | (A)       | Simmerman, Kyle & Stacia  |
| 6       | Lincoln  | (B)       | Green, Bryan & Gwyn       |
| 6       | Lincoln  | (C)       | Rivers, Steven & Caroline |
| 6       | Lincoln  | (D)       | Bickel, Douglas           |
| 6       | Lincoln  | (E)       | Lee, Randy                |
| 6       | Lincoln  | (F)       | Minkner, David & Belinda  |
| 7       | Lincoln  | (G)       | Hession Enterprises, LP   |
| 7       | Lincoln  | (H)       | Kazacoff Luba Rev. Trust  |
| 7       | Lincoln  | (I)       | Heshelman, Donna          |
| 7       | Lincoln  | (J)       | Harvey, Kevin & Theresa   |



Section 7, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 7, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN

P.O.T. Sta. 15+62.69 Line "A"=  
P.O.T. Sta. 30+87.92 Line "S-1-A"

Begin Project  
Sta. 15+95.05 Line "A"

Sanitary Sewer Easement in favor of  
Hendricks County Regional  
Sewer District

Watermain Easement in favor  
of Citizens Water

Watermain Easement in Favor of Citizens Water

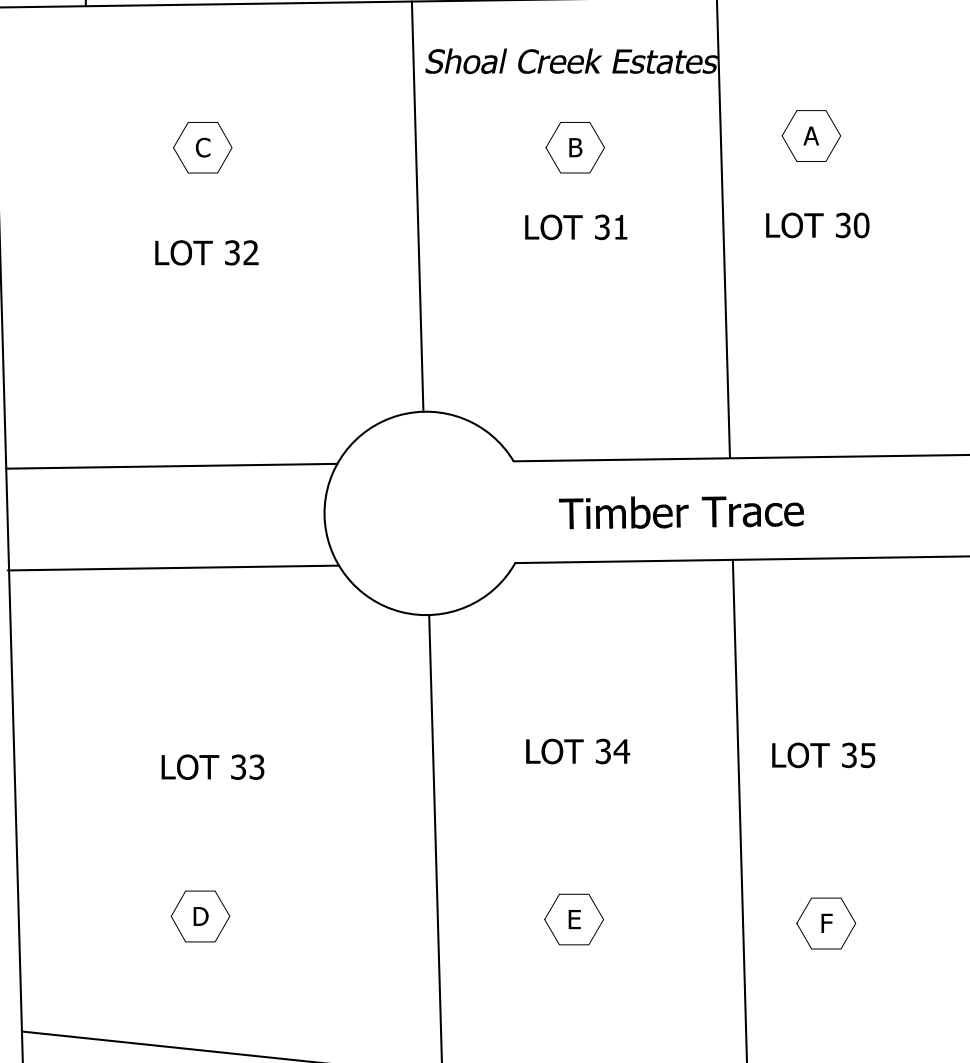
50' Easement in favor of Marathon Pipeline Company Bk. 125, Page 1422A

File Name: S:\\_3017217-2005\001\0001\CAD\MECH\DWG\SSM\_Plat.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago

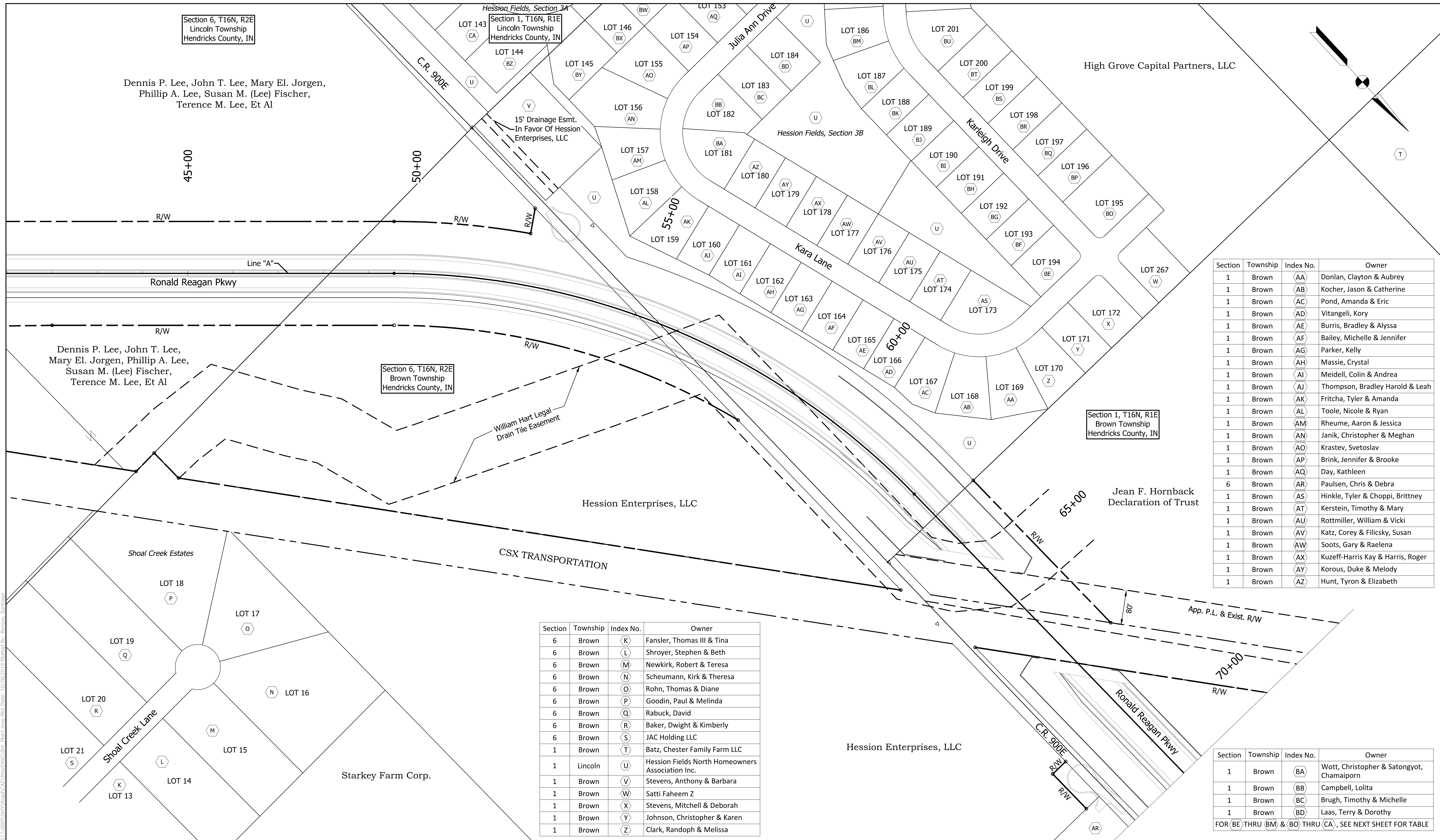
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| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

HENDRICKS COUNTY

PLAT NO. 1



|                               |  |                                  |  |
|-------------------------------|--|----------------------------------|--|
| HORIZONTAL SCALE<br>1" = 100' |  | BRIDGE FILE<br>HENDRICKS BR00089 |  |
| VERTICAL SCALE<br>N/A         |  | DESIGNATION<br>1602280           |  |
| SURVEY BOOK<br>ELECTRONIC     |  | SHEETS<br>6 of 172               |  |
| CONTRACT<br>###               |  | PROJECT<br>1602280               |  |



| Section | Township | Index No. | Owner                             |
|---------|----------|-----------|-----------------------------------|
| 1       | Brown    | (AA)      | Donlan, Clayton & Aubrey          |
| 1       | Brown    | (AB)      | Kocher, Jason & Catherine         |
| 1       | Brown    | (AC)      | Pond, Amanda & Eric               |
| 1       | Brown    | (AD)      | Vitangeli, Kory                   |
| 1       | Brown    | (AE)      | Burris, Bradley & Alyssa          |
| 1       | Brown    | (AF)      | Bailey, Michelle & Jennifer       |
| 1       | Brown    | (AG)      | Parker, Kelly                     |
| 1       | Brown    | (AH)      | Massie, Crystal                   |
| 1       | Brown    | (AI)      | Meidell, Colin & Andrea           |
| 1       | Brown    | (AJ)      | Thompson, Bradley Harold & Leah   |
| 1       | Brown    | (AK)      | Fritcha, Tyler & Amanda           |
| 1       | Brown    | (AL)      | Toole, Nicole & Ryan              |
| 1       | Brown    | (AM)      | Rheume, Aaron & Jessica           |
| 1       | Brown    | (AN)      | Janik, Christopher & Meghan       |
| 1       | Brown    | (AO)      | Krastev, Svetoslav                |
| 1       | Brown    | (AP)      | Brink, Jennifer & Brooke          |
| 1       | Brown    | (AQ)      | Day, Kathleen                     |
| 6       | Brown    | (AR)      | Paulsen, Chris & Debra            |
| 1       | Brown    | (AS)      | Hinkle, Tyler & Choppi, Brittney  |
| 1       | Brown    | (AT)      | Kerstein, Timothy & Mary          |
| 1       | Brown    | (AU)      | Rottmiller, William & Vicki       |
| 1       | Brown    | (AV)      | Katz, Corey & Filicsky, Susan     |
| 1       | Brown    | (AW)      | Soots, Gary & Raelena             |
| 1       | Brown    | (AX)      | Kuzeff-Harris Kay & Harris, Roger |
| 1       | Brown    | (AY)      | Korous, Duke & Melody             |
| 1       | Brown    | (AZ)      | Hunt, Tyron & Elizabeth           |

| Section | Township | Index No. | Owner  |
|---------|----------|-----------|--|
| 6       | Brown    | (K)       | Fansler, Thomas III & Tina                       |
| 6       | Brown    | (L)       | Shroyer, Stephen & Beth                          |
| 6       | Brown    | (M)       | Newkirk, Robert & Teresa                         |
| 6       | Brown    | (N)       | Scheumann, Kirk & Theresa                        |
| 6       | Brown    | (O)       | Rohn, Thomas & Diane                             |
| 6       | Brown    | (P)       | Goodin, Paul & Melinda                           |
| 6       | Brown    | (Q)       | Rabuck, David                                    |
| 6       | Brown    | (R)       | Baker, Dwight & Kimberly                         |
| 6       | Brown    | (S)       | JAC Holding LLC                                  |
| 1       | Brown    | (T)       | Batz, Chester Family Farm LLC                    |
| 1       | Lincoln  | (U)       | Hession Fields North Homeowners Association Inc. |
| 1       | Brown    | (V)       | Stevens, Anthony & Barbara                       |
| 1       | Brown    | (W)       | Satti Faheem Z                                   |
| 1       | Brown    | (X)       | Stevens, Mitchell & Deborah                      |
| 1       | Brown    | (Y)       | Johnson, Christopher & Karen                     |
| 1       | Brown    | (Z)       | Clark, Randolph & Melissa                        |

| Section | Township | Index No. | Owner                                     |
|---------|----------|-----------|---|
| 1       | Brown    | (BA)      | Wott, Christopher & Satongyot, Chamaiporn |
| 1       | Brown    | (BB)      | Campbell, Lolita                          |
| 1       | Brown    | (BC)      | Brugh, Timothy & Michelle                 |
| 1       | Brown    | (BD)      | Laas, Terry & Dorothy                     |

FOR (BE) THRU (BM) & (BO) THRU (CA), SEE NEXT SHEET FOR TABLE

Note:  
See Page 9 for Property Owner Key



RECOMMENDED FOR APPROVAL \_\_\_\_\_

DESIGNED: JNH      DRAWN: MDV

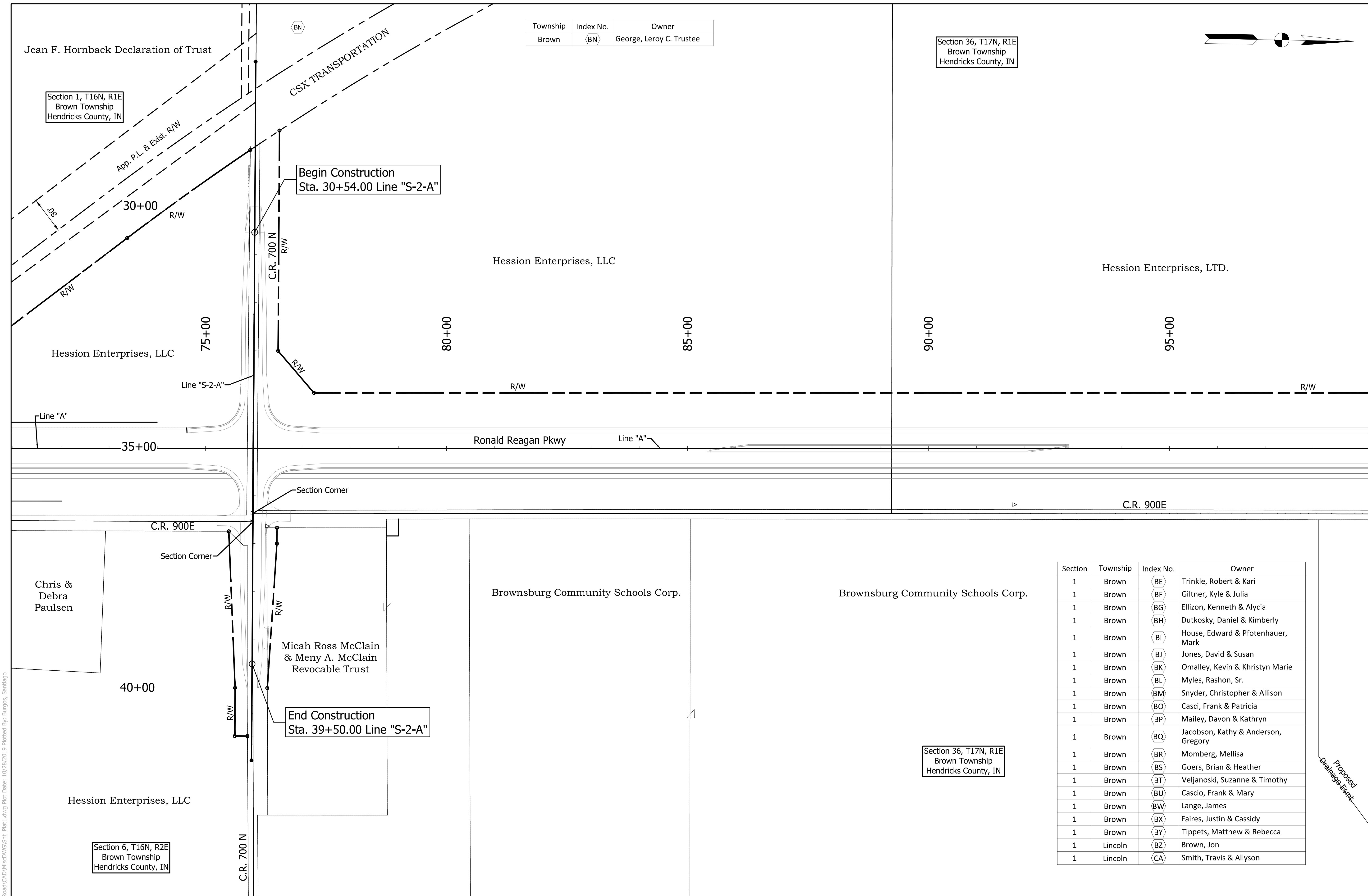
CHECKED: BKA      CHECKED: BKA

HENDRICKS COUNTY

PLAT NO. 1

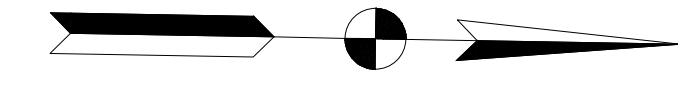
|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 100'        | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 7 of 172          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\2017\17-2005\001\001\001\CADD\Misc\DWG\Site\_Plot.dwg Date: 10/26/2018 Plotted By: Brandon Schaefer



| Township | Index No. | Owner                    |
|----------|-----------|--------------------------|
| Brown    | (BN)      | George, Leroy C. Trustee |

Section 36, T17N, R1E  
Brown Township  
Hendricks County, IN



| Section | Township | Index No. | Owner                               |
|---------|----------|-----------|-------------------------------------|
| 1       | Brown    | (BE)      | Trinkle, Robert & Kari              |
| 1       | Brown    | (BF)      | Giltner, Kyle & Julia               |
| 1       | Brown    | (BG)      | Ellizon, Kenneth & Alycia           |
| 1       | Brown    | (BH)      | Dutkosky, Daniel & Kimberly         |
| 1       | Brown    | (BI)      | House, Edward & Pfothauer, Mark     |
| 1       | Brown    | (BJ)      | Jones, David & Susan                |
| 1       | Brown    | (BK)      | Omalley, Kevin & Khristyn Marie     |
| 1       | Brown    | (BL)      | Myles, Rashon, Sr.                  |
| 1       | Brown    | (BM)      | Snyder, Christopher & Allison       |
| 1       | Brown    | (BO)      | Casci, Frank & Patricia             |
| 1       | Brown    | (BP)      | Mailey, Davon & Kathryn             |
| 1       | Brown    | (BQ)      | Jacobson, Kathy & Anderson, Gregory |
| 1       | Brown    | (BR)      | Momberg, Mellisa                    |
| 1       | Brown    | (BS)      | Goers, Brian & Heather              |
| 1       | Brown    | (BT)      | Veljanoski, Suzanne & Timothy       |
| 1       | Brown    | (BU)      | Cascio, Frank & Mary                |
| 1       | Brown    | (BV)      | Lange, James                        |
| 1       | Brown    | (BX)      | Faires, Justin & Cassidy            |
| 1       | Brown    | (BY)      | Tippets, Matthew & Rebecca          |
| 1       | Lincoln  | (BZ)      | Brown, Jon                          |
| 1       | Lincoln  | (CA)      | Smith, Travis & Allyson             |

Section 36, T17N, R1E  
Brown Township  
Hendricks County, IN

Note:  
See Page 9 for Property Owner Key



RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

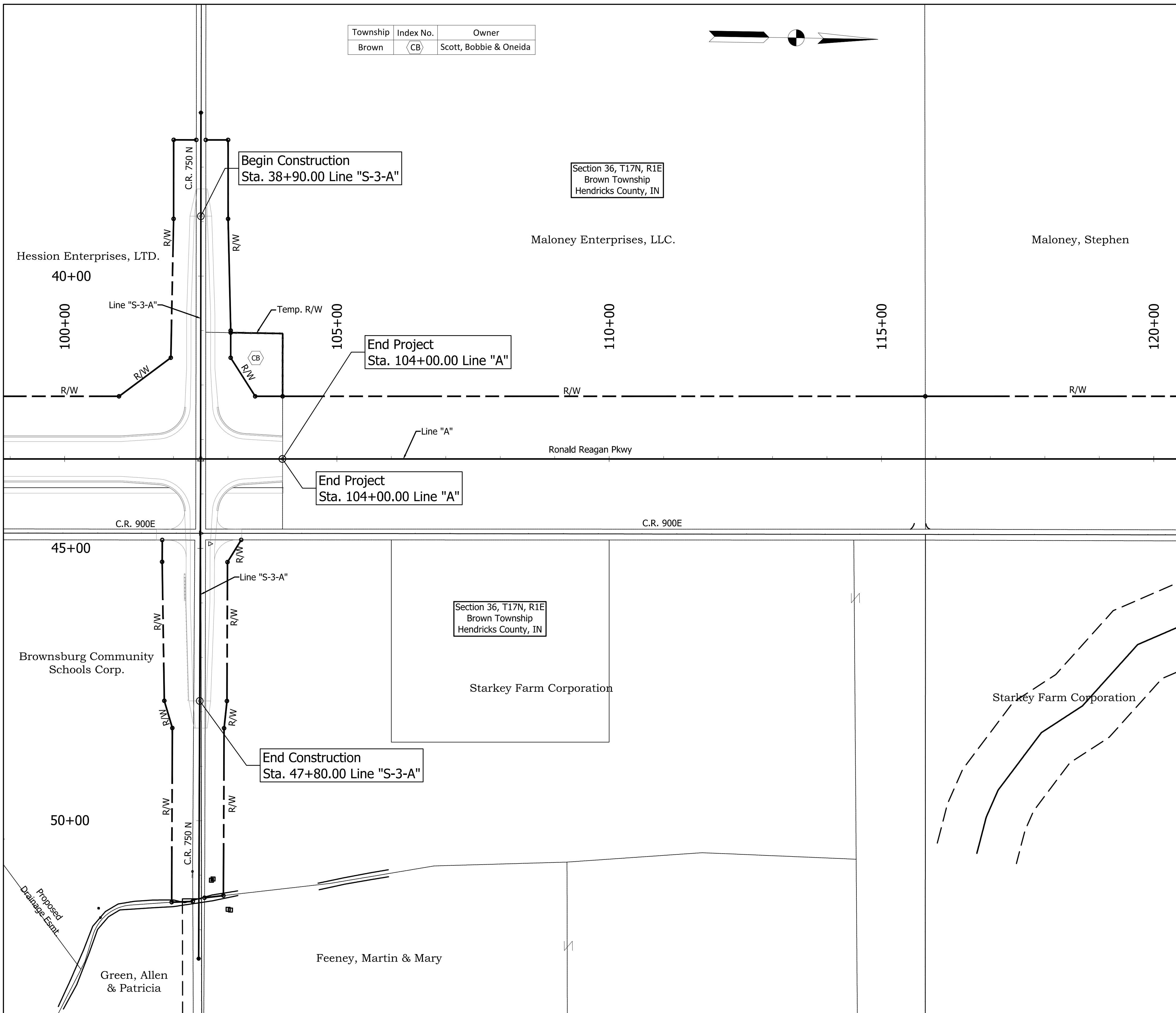
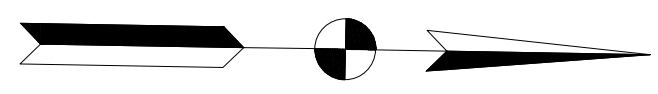
HENDRICKS COUNTY

PLAT  
NO. 1

|                               |                                  |
|-------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 100' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A         | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC     | SHEETS<br>8 of 172               |
| CONTRACT<br>####              | PROJECT<br>1602280               |

File Name: S:\\_301717-2005\001\Road\CAD\Misc\DWG\SHL\_Plat.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago

| Township | Index No. | Owner                  |
|----------|-----------|------------------------|
| Brown    | (CB)      | Scott, Bobbie & Oneida |



Section 36, T17N, R1E  
Brown Township  
Hendricks County, IN

Starkey Farm Corporation

Starkey Farm Corporation

Feeney, Martin & Mary

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

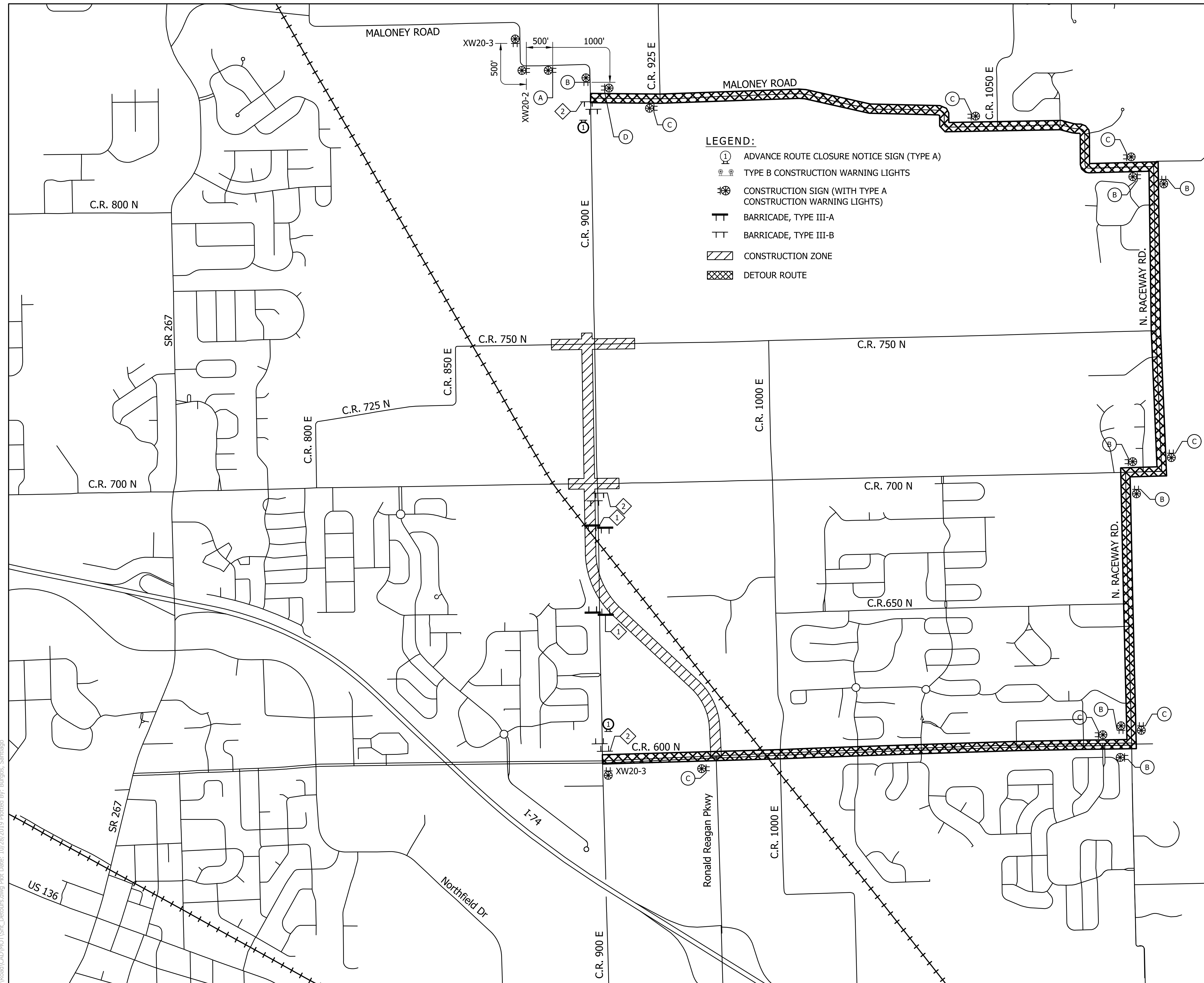
HENDRICKS COUNTY

PLAT  
NO. 1

|                               |                                  |
|-------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 100' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A         | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC     | SHEETS<br>9 of 172               |
| CONTRACT<br>###               | PROJECT<br>1602280               |

File Name: S:\\_3017217-2005\001\0001\CAD\Misc\DWG\SHL\_Plat.dwg Plot Date: 10/28/2019 Plotted By: Burgos, Santiago



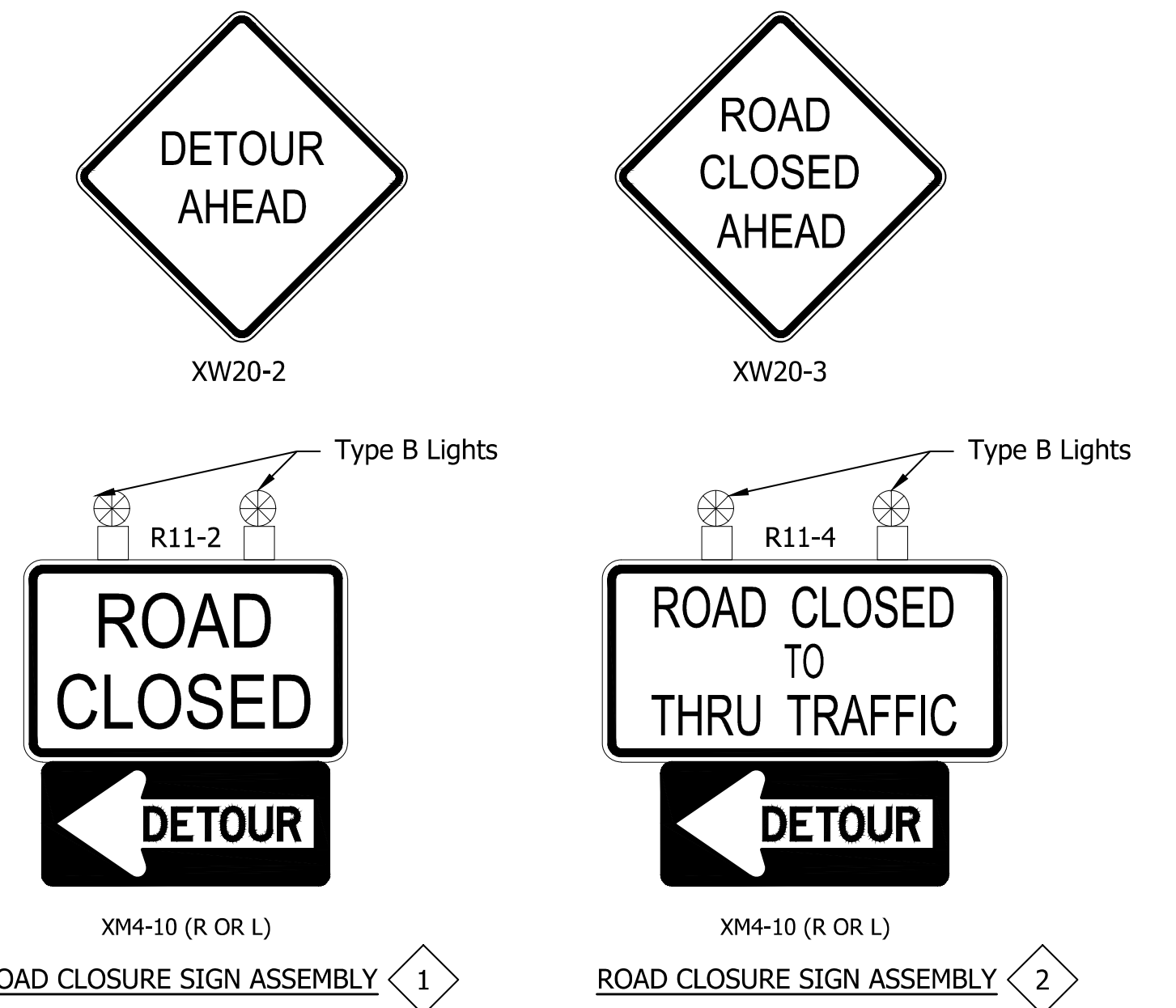
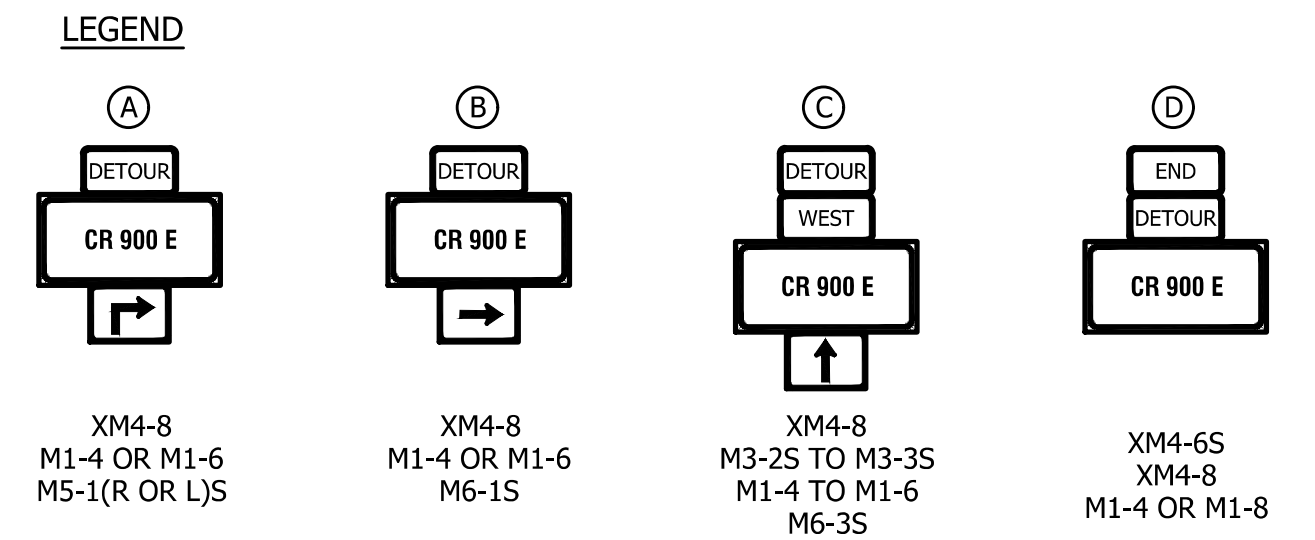


- LEGEND:**
- ① ADVANCE ROUTE CLOSURE NOTICE SIGN (TYPE A)
  - ☉ TYPE B CONSTRUCTION WARNING LIGHTS
  - ☉ CONSTRUCTION SIGN (WITH TYPE A CONSTRUCTION WARNING LIGHTS)
  - TT BARRICADE, TYPE III-A
  - TT BARRICADE, TYPE III-B
  - ▨ CONSTRUCTION ZONE
  - ▨ DETOUR ROUTE

| CONSTRUCTION SIGN SCHEDULE |  |           |                      |           |
|----------------------------|--|-----------|----------------------|-----------|
| SIGN NO.                   | DESCRIPTION                                    | SIZE (IN) | TYPE                 | EST. QTY. |
| XW20-2                     | "DETOUR AHEAD" SIGN                            | 36 x 36   | A                    | 1         |
| XW20-3                     | "ROAD CLOSED AHEAD" SIGN                       | 36 x 36   | A                    | 2         |
| (1)                        | ADVANCE ROUTE CLOSURE NOTICE SIGN (C.R. 900 E) |           | A                    | 2         |
|                            |  |           | TOTAL TYPE "A" SIGNS | 5         |

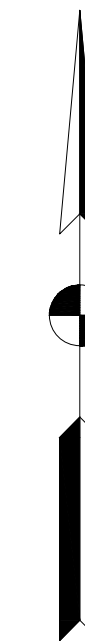
DETOUR ROUTE MARKER ASSEMBLIES: 16 EACH  
 ROAD CLOSURE SIGN ASSEMBLY: 5 EACH  
 TYPE III-A BARRICADES: 48 LFT.  
 TYPE III-B BARRICADES: 72 LFT.

- ① Road Closure Sign Assembly with Type A Barricades (4 x 12 = 48 LFT), R11-2 and XM4-10 (R) or (L)
- ② Road Closure Sign Assembly with Type B Barricades (6 x 12 = 72 LFT), R11-4 and XM4-10 (R) or (L)



**GENERAL NOTES**

- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
- SEE INDOT STD DWG 801-TCDT-01 FOR ADDITIONAL DETAILS.
- SEE INDOT STD DWG 801-TCLG-01 FOR GENERAL NOTES.
- ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
- C.R. 700 N AND C.R. 750 N SHALL NOT BE CLOSED AT THE SAME TIME.



File Name: S:\\_2017\217-0005\BHP\Road\CAD\WOT\SHL\_Detours.dwg Plot Date: 10/26/2019 Plotted By: Burgos, Santiago

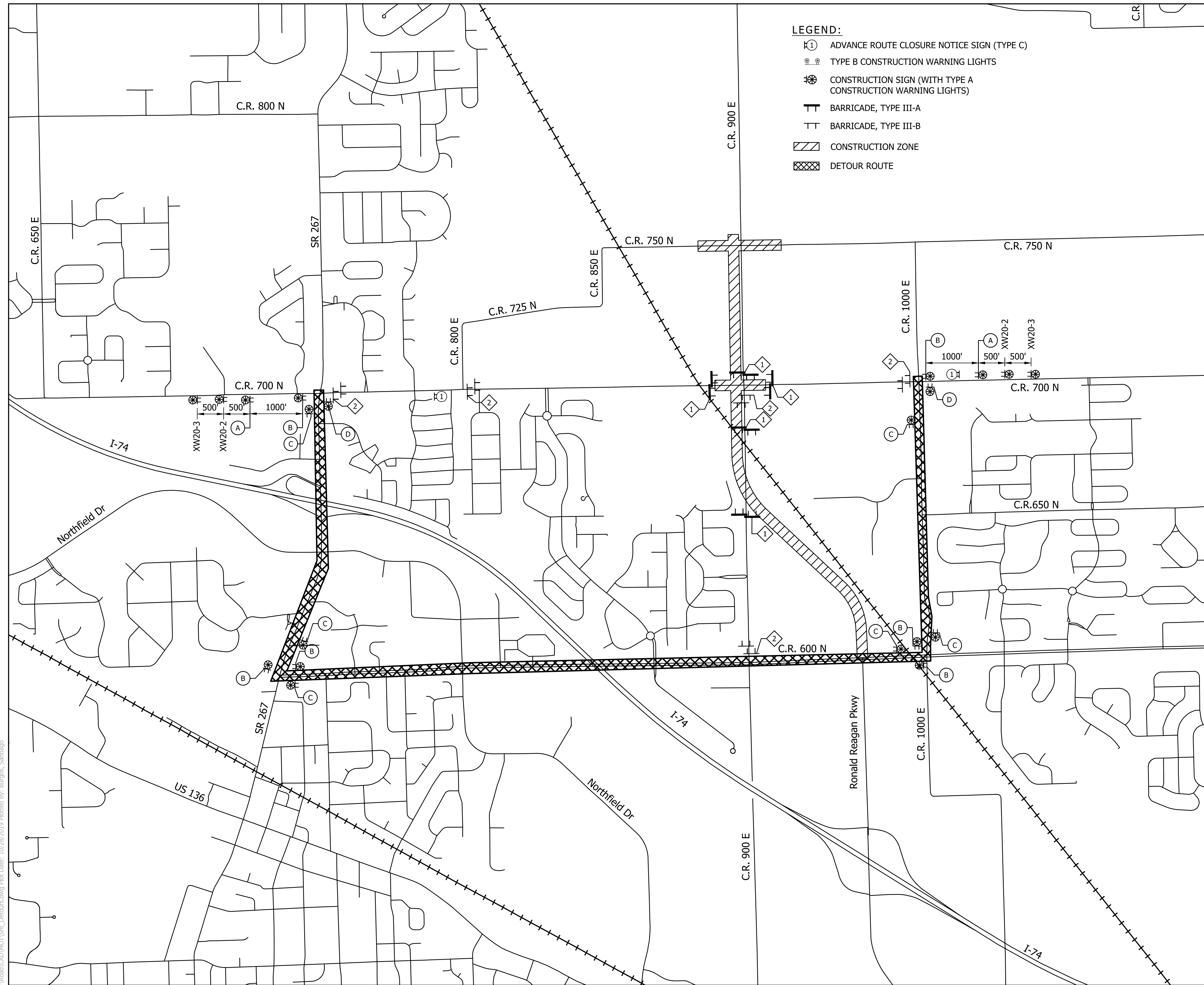
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: ---  
 CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| " = ' "          | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| " = ' "          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 10 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

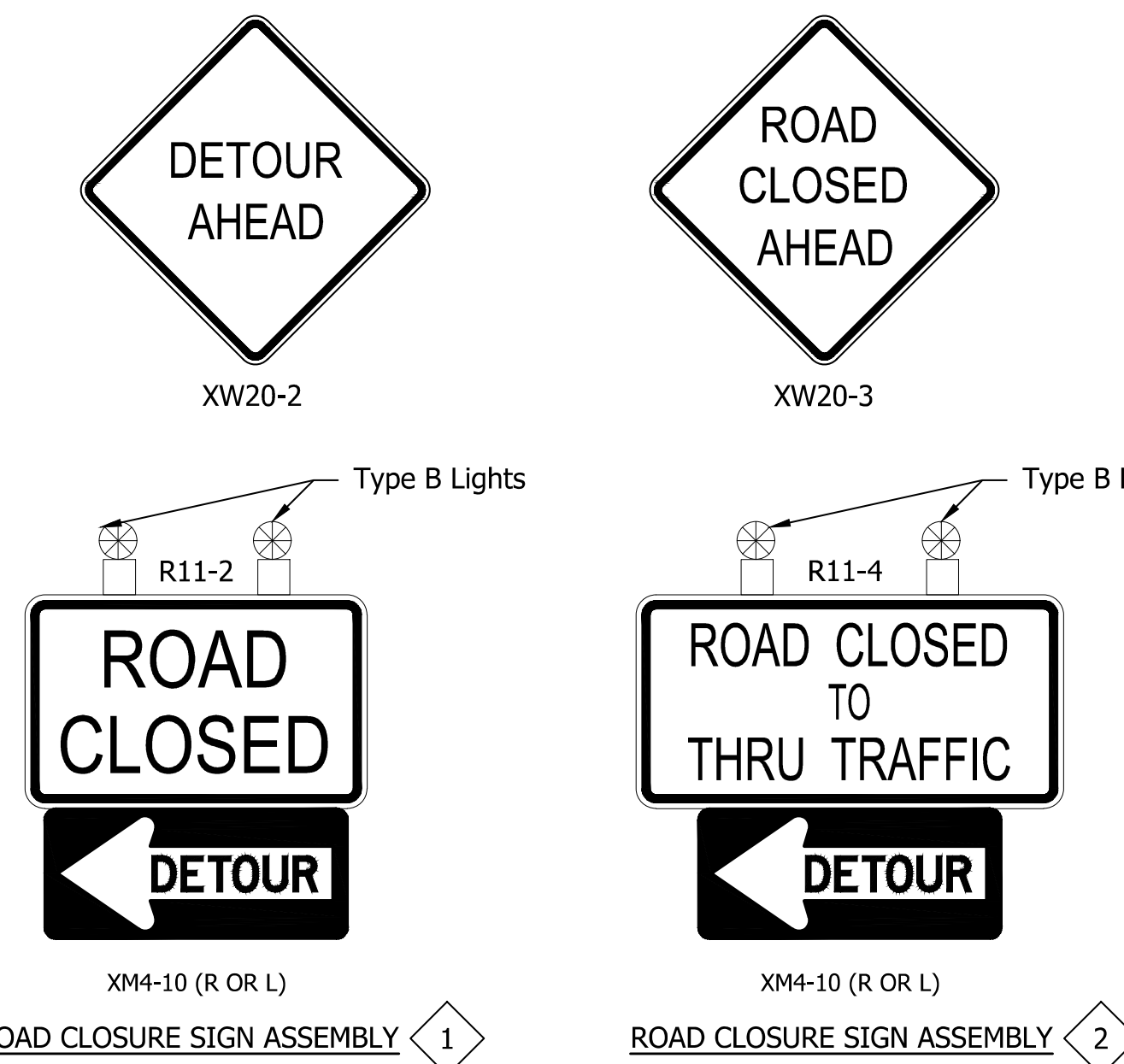
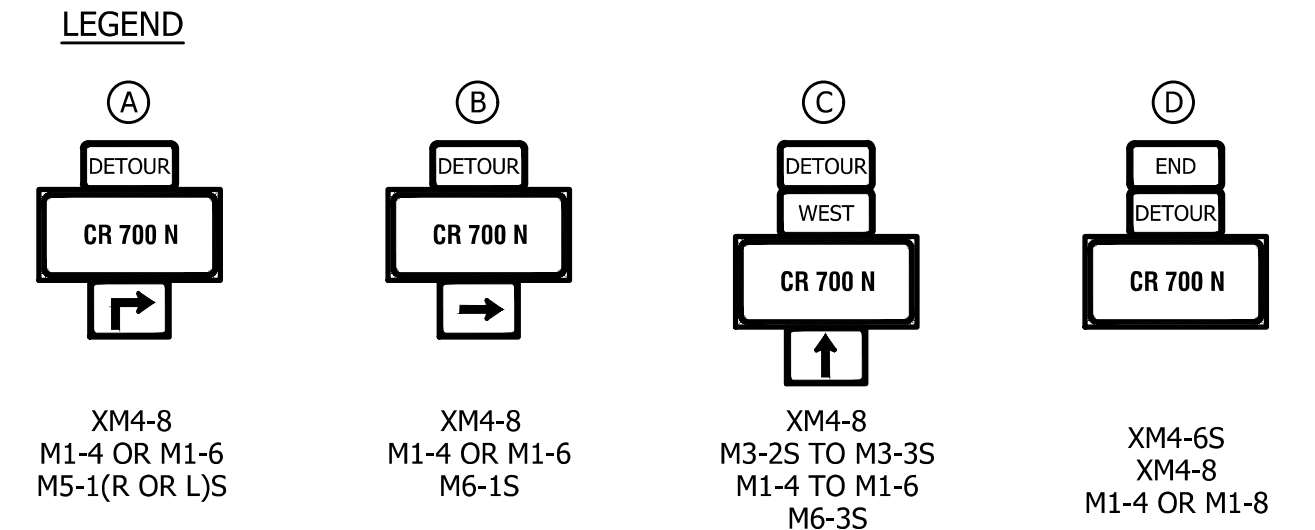


- LEGEND:**
- ① ADVANCE ROUTE CLOSURE NOTICE SIGN (TYPE C)
  - ⊗ TYPE B CONSTRUCTION WARNING LIGHTS
  - ⊗ CONSTRUCTION SIGN (WITH TYPE A CONSTRUCTION WARNING LIGHTS)
  - TT BARRICADE, TYPE III-A
  - TT BARRICADE, TYPE III-B
  - ▨ CONSTRUCTION ZONE
  - ▩ DETOUR ROUTE

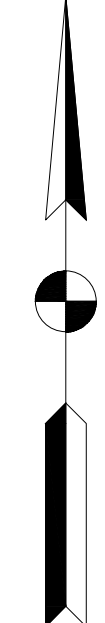
| CONSTRUCTION SIGN SCHEDULE |  |           |      |           |
|----------------------------|--|-----------|------|-----------|
| SIGN NO.                   | DESCRIPTION                                    | SIZE (IN) | TYPE | EST. QTY. |
| XW20-2                     | "DETOUR AHEAD" SIGN                            | 36 x 36   | A    | 2         |
| XW20-3                     | "ROAD CLOSED AHEAD" SIGN                       | 36 x 36   | A    | 2         |
| (1)                        | ADVANCE ROUTE CLOSURE NOTICE SIGN (C.R. 700 N) |           | A    | 2         |
| TOTAL TYPE "A" SIGNS       |  |           |      | 6         |

DETOUR ROUTE MARKER ASSEMBLIES: 16 EACH  
 ROAD CLOSURE SIGN ASSEMBLY: 10 EACH  
 TYPE III-A BARRICADES: 48 LFT.  
 TYPE III-B BARRICADES: 72 LFT.

- ① Road Closure Sign Assembly with Type A Barricades (10 x 12 = 120 LFT), R11-2 and XM4-10 (R) or (L)
- ② Road Closure Sign Assembly with Type B Barricades (10 x 12 = 120 LFT), R11-4 and XM4-10 (R) or (L)



- GENERAL NOTES**
- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
  - SEE INDOT STD DWG 801-TCDT-01 FOR ADDITIONAL DETAILS.
  - SEE INDOT STD DWG 801-TCLG-01 FOR GENERAL NOTES.
  - ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
  - C.R. 700 N AND C.R. 750 N SHALL NOT BE CLOSED AT THE SAME TIME.



File Name: S:\\_2017\217-0005\BHP\RoadCAD\WDT\SHL\_Detours.dwg Plot Date: 10/28/2019 Plotted By: Burgos, Santiago

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |                       |            |
|--------------------------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV            |            |
| CHECKED: BKA                   | CHECKED: BKA          |            |

HENDRICKS COUNTY

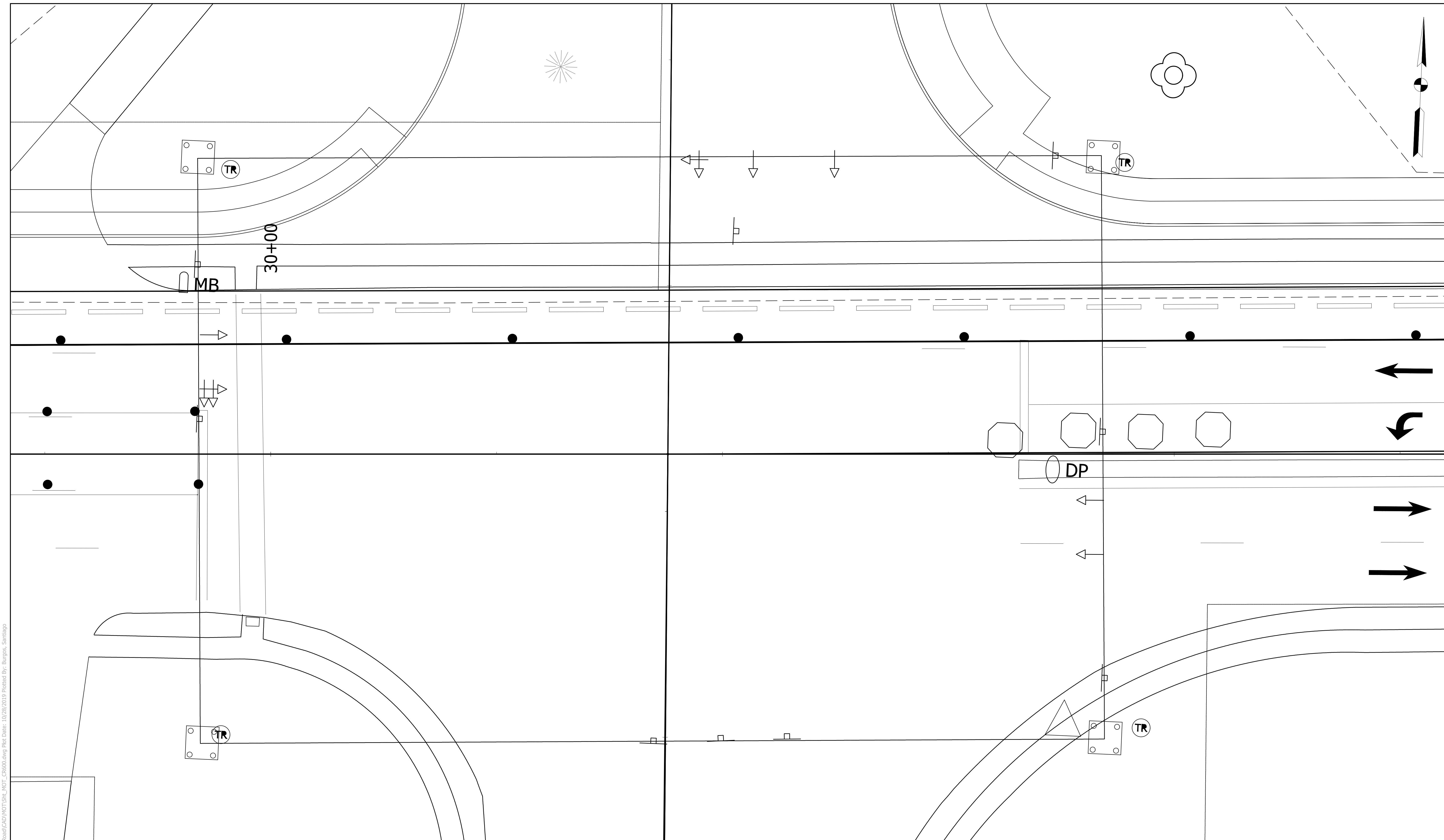
MAINTENANCE OF TRAFFIC  
 CR700N DETOUR

|                                |                                  |
|--------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 1000' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A          | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC      | SHEETS<br>11 of 172              |
| CONTRACT<br>###                | PROJECT<br>1602280               |





File Name: S:\\_301717-2005\05\Road\CAD\MOIS\MOIS\_MOT\_C0600.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



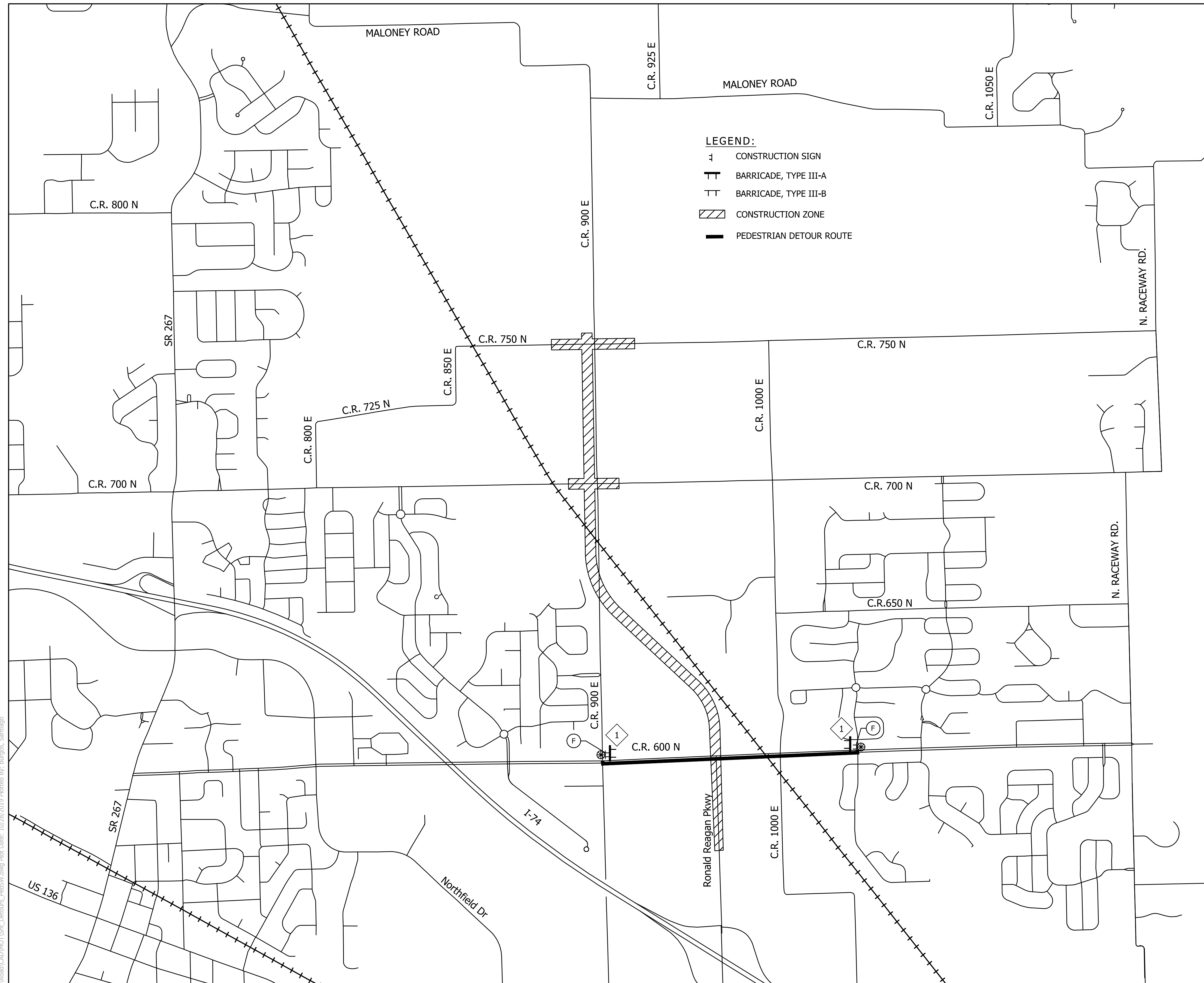
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |                     |
|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGN ENGINEER                | DATE                |
| DESIGNED: <u>JNH</u>           | DRAWN: <u>MDV</u>   |
| CHECKED: <u>BKA</u>            | CHECKED: <u>BKA</u> |

**HENDRICKS COUNTY**

**MAINTENANCE OF TRAFFIC  
TEMPORARY SIGNAL DETAILS**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 10' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>14 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



| CONSTRUCTION SIGN SCHEDULE             |                        |           |      |                      |
|--|------------------------|-----------|------|----------------------|
| SIGN NO.                               | DESCRIPTION            | SIZE (IN) | TYPE | EST. QTY.            |
| R9-11a                                 | "SIDEWALK CLOSED" SIGN | 24 x 12   | DRMA | 2                    |
| DETOUR ROUTE MARKER ASSEMBLIES: 2 EACH |                        |           |      | TOTAL TYPE "A" SIGNS |
| TYPE III-A BARRICADES: 12 LFT.         |                        |           |      | 2                    |

1 Road Closure Sign Assembly with Type A Barricades (2 x 6 = 12 LFT)

**LEGEND**

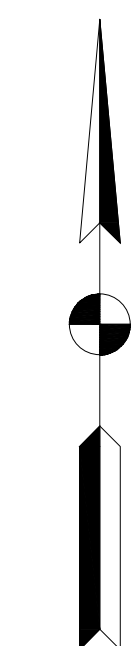
F



R9-11a (R OR L)

**GENERAL NOTES**

- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
- ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
- SIDEWALK ON NORTH SIDE AND SOUTH SIDE OF CR 600N SHALL NOT BE CLOSED AT THE SAME TIME.



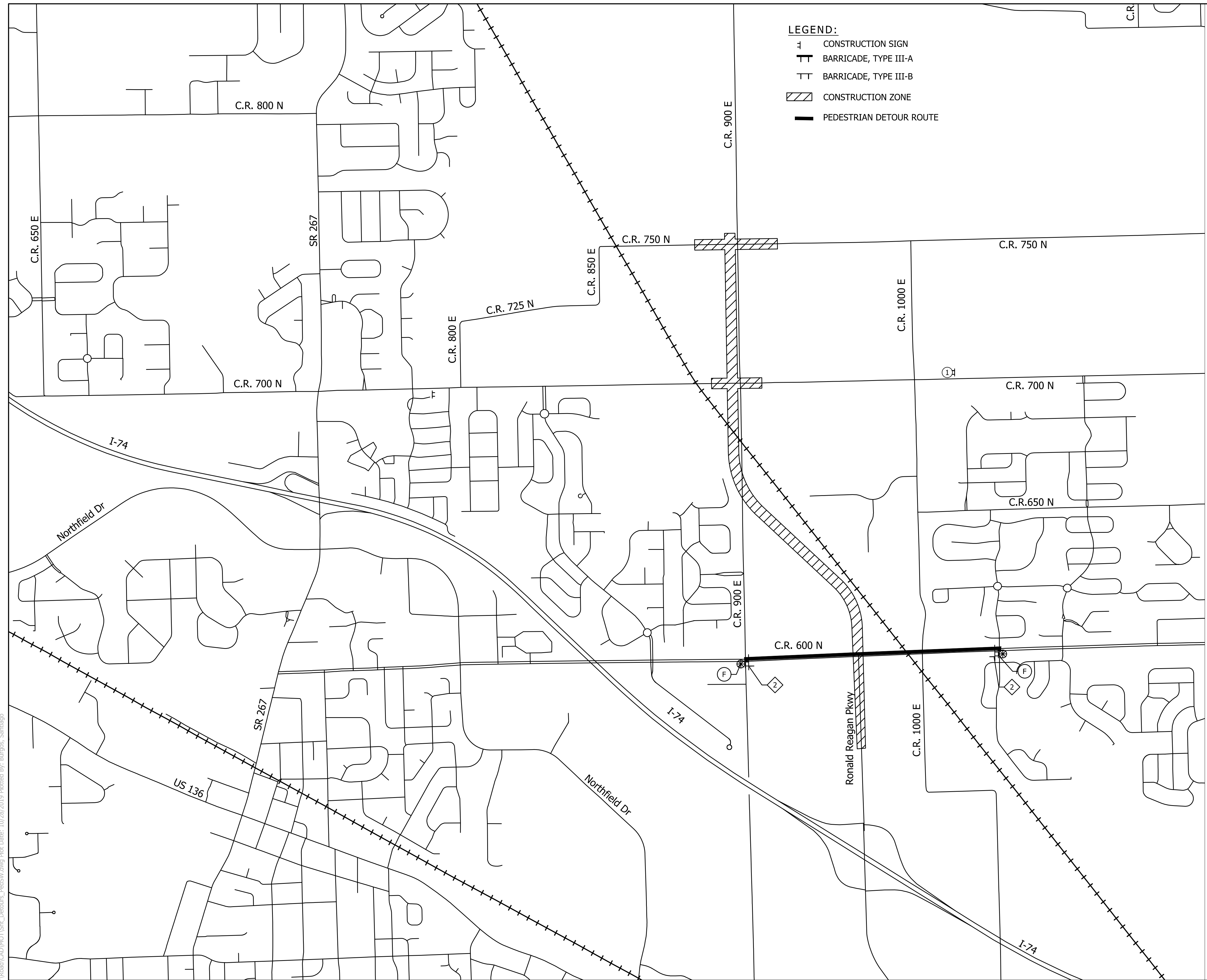
File Name: S:\\_2017\217-0005\BHT\Road\CAD\WOT\Sht\_Detours\_Ped5.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Saritago

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: ---      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

|                  |       |
|------------------|-------|
| HENDRICKS COUNTY |       |
| -----            | ----- |
| -----            | ----- |

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| " = ' "          | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| " = ' "          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 15 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



**LEGEND:**  
 CONSTRUCTION SIGN  
 BARRICADE, TYPE III-A  
 BARRICADE, TYPE III-B  
 CONSTRUCTION ZONE  
 PEDESTRIAN DETOUR ROUTE

| CONSTRUCTION SIGN SCHEDULE             |             |           |      |                         |
|--|-------------|-----------|------|-------------------------|
| SIGN NO.                               | DESCRIPTION | SIZE (IN) | TYPE | EST. QTY.               |
|  |             |           |      |                         |
|  |             |           |      |                         |
| DETOUR ROUTE MARKER ASSEMBLIES: 2 EACH |             |           |      | TOTAL TYPE "DRMA" SIGNS |

① Road Closure Sign Assembly with Type A Barricades  
 (6 x 2 = 12 LFT)

**LEGEND**

Ⓢ



R9-11a  
 (R OR L)

**GENERAL NOTES**

1. ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
2. ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
3. SIDEWALK ON NORTH SIDE AND SOUTH SIDE OF CR 600N SHALL NOT BE CLOSED AT THE SAME TIME.

File Name: S:\\_2017\217-0005\BHT\Road\CAD\NOTES\Detours\_Ped50.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Saritago

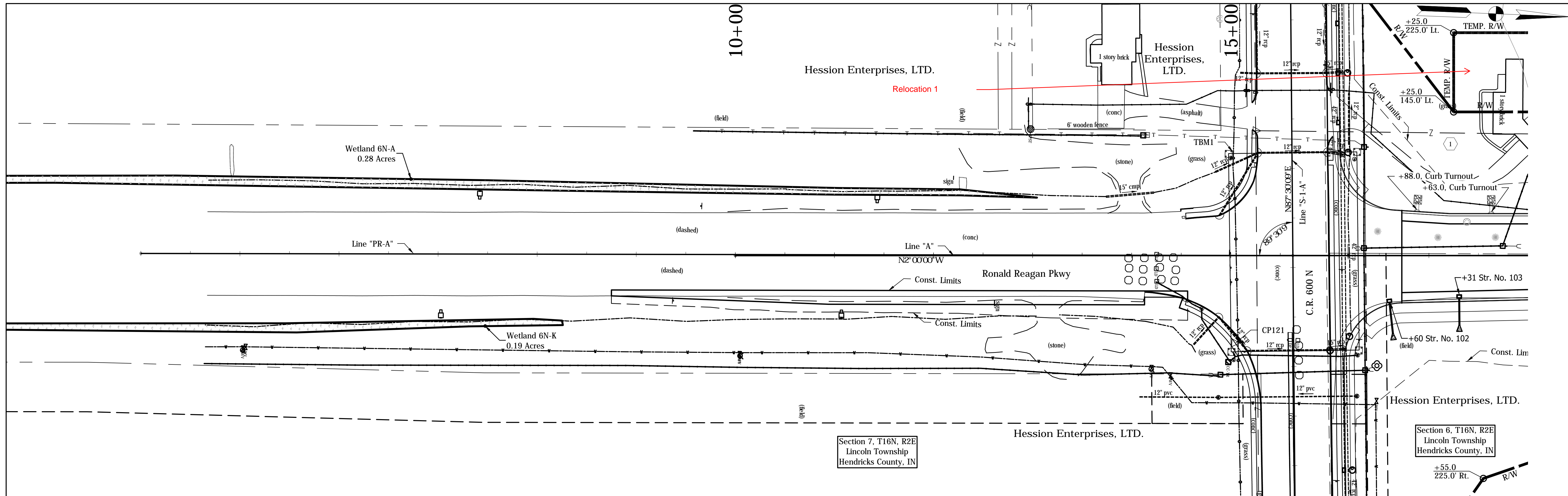
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

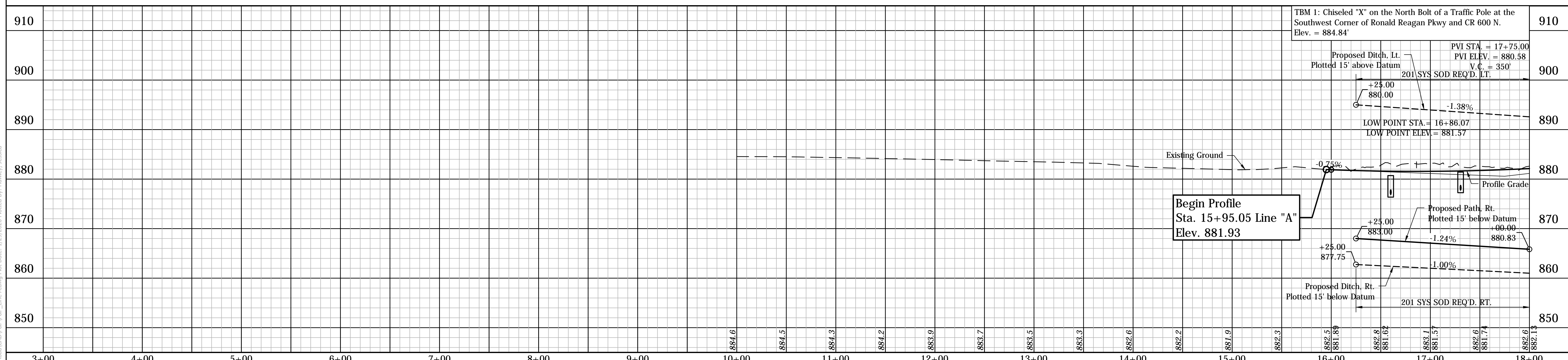
DESIGNED: JNH DRAWN: ---  
 CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| " = ' "          | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| " = ' "          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 16 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



File Name: S:\2017\217-0005\01\Road\CAD\880\880\_P&P\_Line Advng Plot Date: 1/29/2020 Plotted By: Hawley, Jessica

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

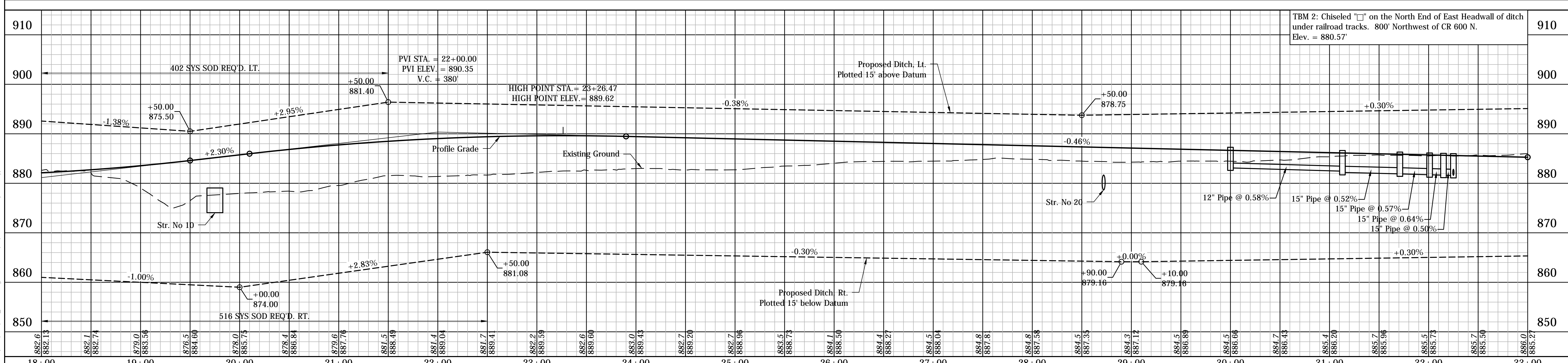
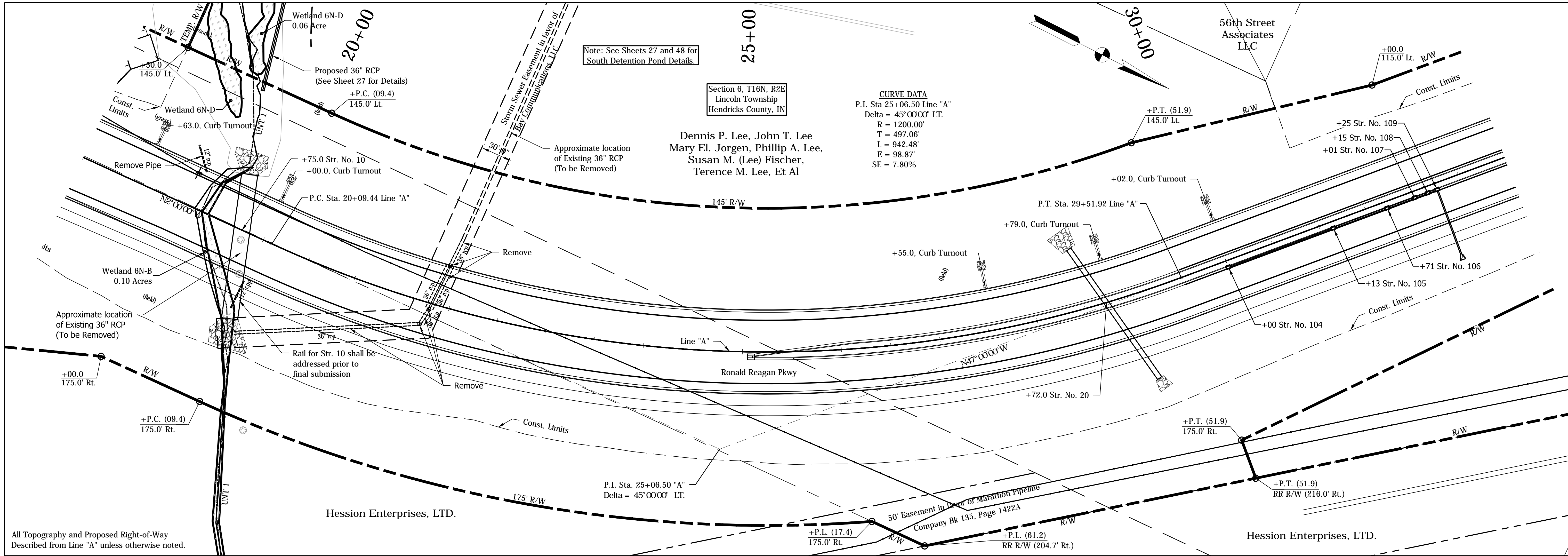
|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "A" & LINE "PR-A"**  
 STA. 10+00 TO STA. 18+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>17 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |





|   |                          |                 |  |      |  |                              |                                  |
|---|--------------------------|-----------------|--|------|--|------------------------------|----------------------------------|
| <p><b>LOCHMUELLER GROUP</b><br/>         3502 Woodview Terrace, Suite 150<br/>         Indianapolis, Indiana, 46268<br/>         PHONE: 317.222.3880<br/>         TOLL FREE: 888.830.6977</p> | RECOMMENDED FOR APPROVAL | DESIGN ENGINEER |  | DATE | <b>HENDRICKS COUNTY</b><br><br><b>PLAN AND PROFILE - LINE "A"</b><br><b>STA. 18+00 TO STA. 33+00</b> | HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
|   | DESIGNED: JNH            | DRAWN: MDV      |  |      |  | VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
|   | CHECKED: BKA             | CHECKED: BKA    |  |      |  | SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>18 of 172              |
|   |                          |                 |  |      |  | CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_2017\217-0005\04\Road\CAD\98\98.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica

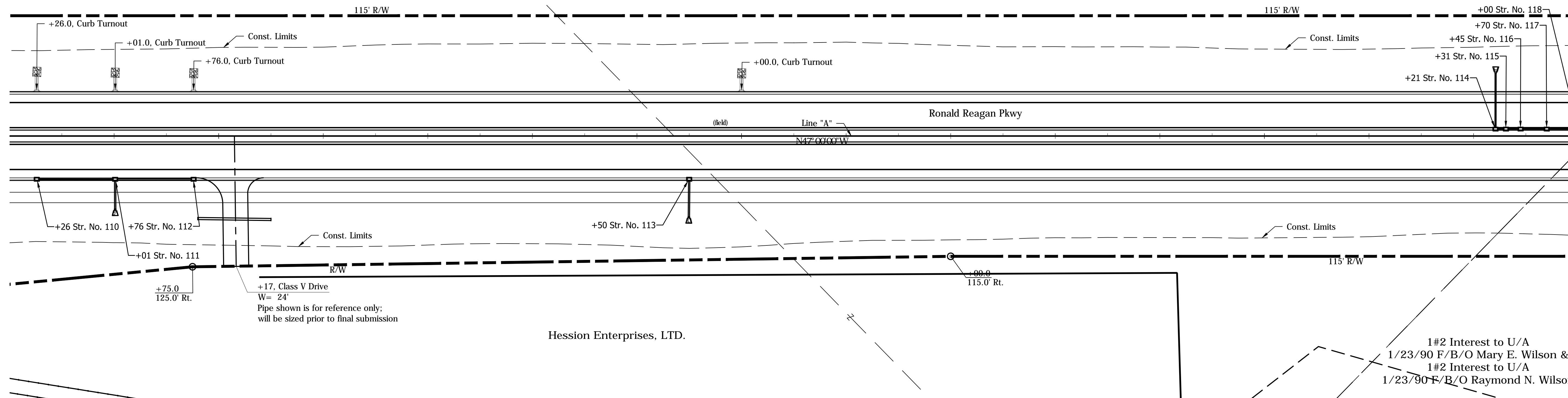
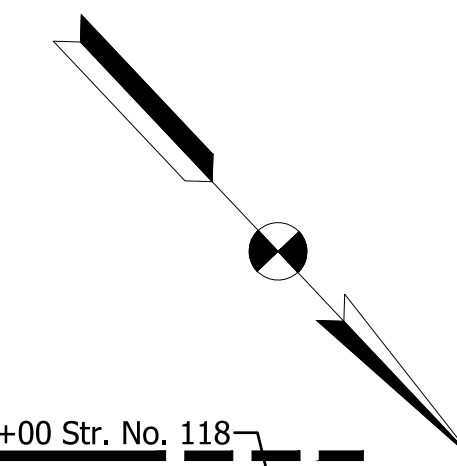
35+00

40+00

45+00

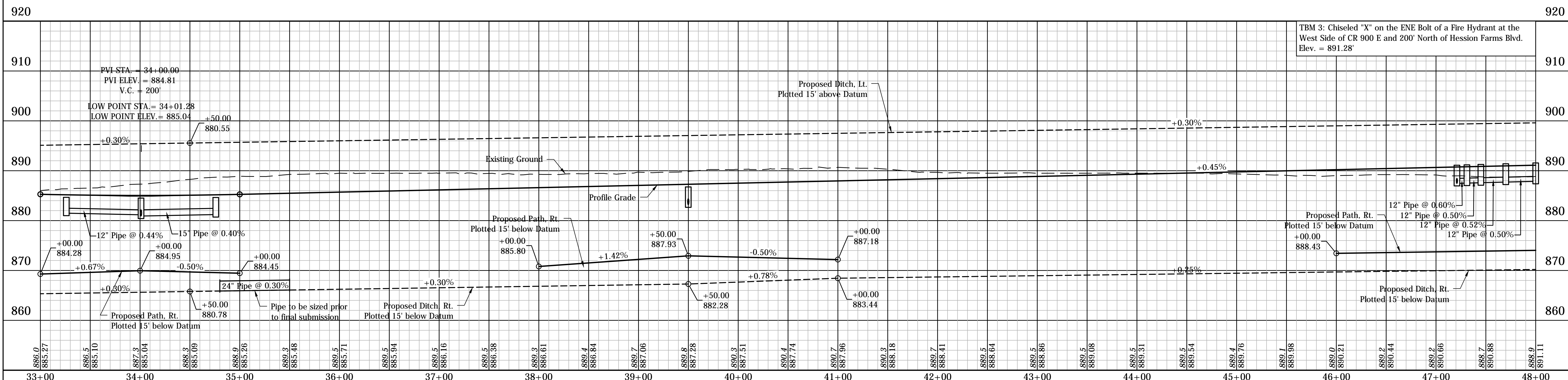
Dennis P. Lee, John T. Lee  
Mary El. Jorgen, Phillip A. Lee,  
Susan M. (Lee) Fischer,  
Terence M. Lee, Et Al

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN



1#2 Interest to U/A  
1/23/90 F/B/O Mary E. Wilson &  
1#2 Interest to U/A  
1/23/90 F/B/O Raymond N. Wilson

All Topography and Proposed Right-of-Way  
Described from Line "A" unless otherwise noted.



TBM 3: Chiseled "X" on the ENE Bolt of a Fire Hydrant at the  
West Side of CR 900 E and 200' North of Hession Farms Blvd.  
Elev. = 891.28'

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

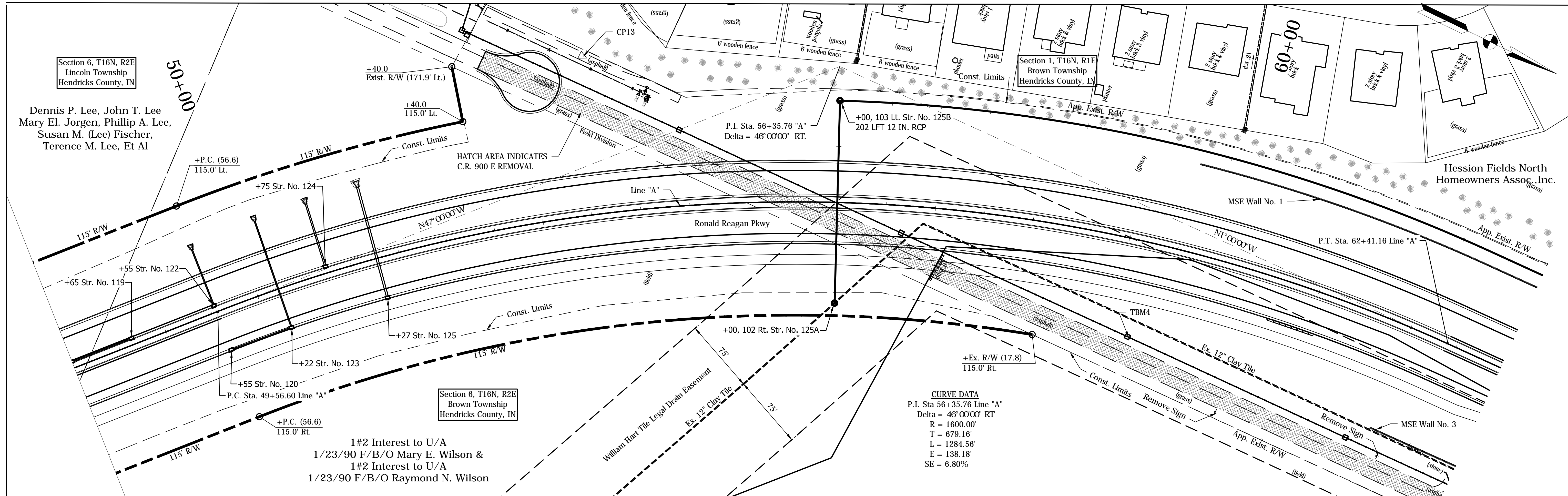
|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY

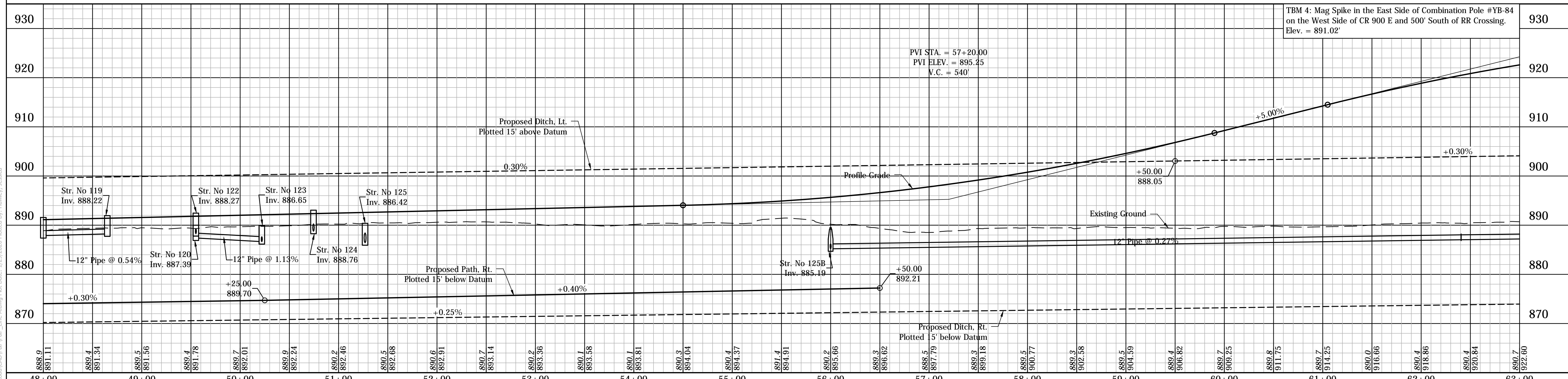
**PLAN AND PROFILE - LINE "A"**  
STA. 33+00 TO STA. 48+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 19 of 172                        |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_2017\217-0005\04\Road\CAD\fig\pdp\_Line A.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica



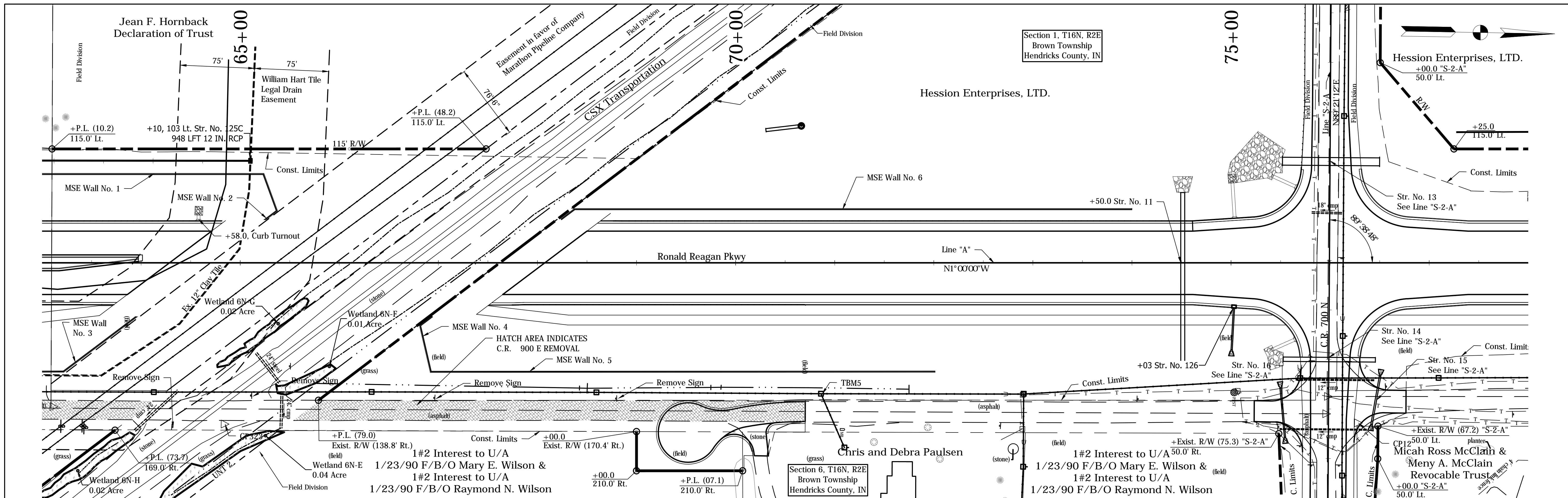
All Topography and Proposed Right-of-Way  
Described from Line "A" unless otherwise noted.



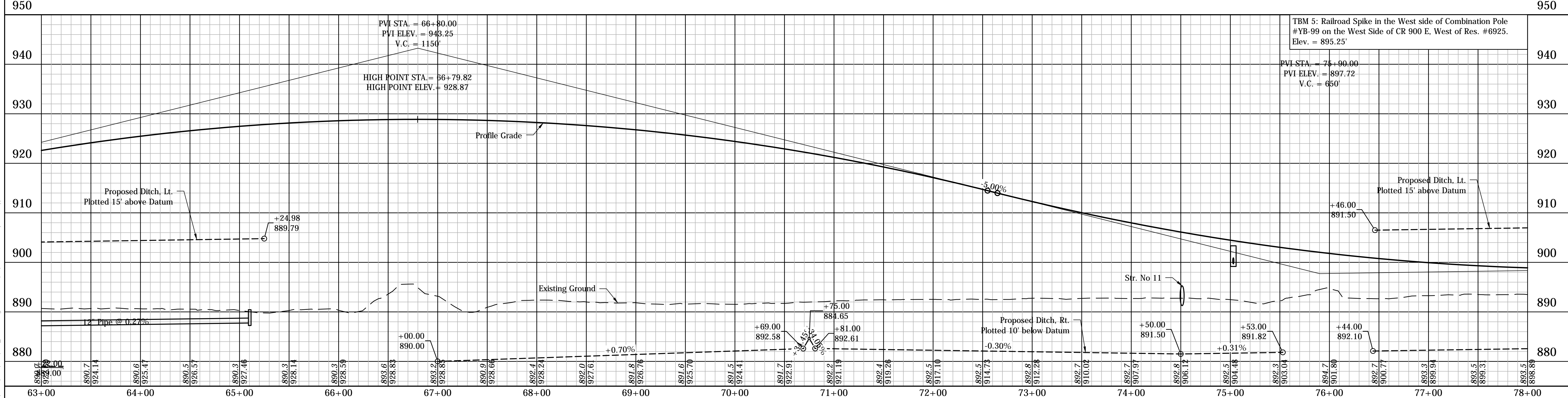
TBM 4: Mag Spike in the East Side of Combination Pole #YB-84  
on the West Side of CR 900 E and 500' South of RR Crossing.  
Elev. = 891.02'

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> |  | <p>RECOMMENDED FOR APPROVAL _____</p> <p>DESIGN ENGINEER _____ DATE _____</p> |  | <p>HENDRICKS COUNTY</p>   |  |
| <p>DESIGNED: JNH</p> <p>CHECKED: BKA</p>   |  | <p>DRAWN: MDV</p> <p>CHECKED: BKA</p>   |  | <p>PLAN AND PROFILE - LINE "A"<br/>STA. 48+00 TO STA. 63+00</p> |  |
| <p>HORIZONTAL SCALE<br/>1" = 50'</p> <p>VERTICAL SCALE<br/>1" = 10'</p>  |  | <p>BRIDGE FILE<br/>HENDRICKS BR00089</p> <p>DESIGNATION<br/>1602280</p>       |  | <p>SURVEY BOOK<br/>ELECTRONIC</p> <p>CONTRACT<br/>###</p>       |  |
| <p>SHEETS<br/>20 of 172</p>  |  | <p>PROJECT<br/>1602280</p>  |  |   |  |

File Name: S:\2017\217-0005\DR\Road\CAD\fig\pdp\_Line A.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE \_\_\_\_\_

DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

**HENDRICKS COUNTY**

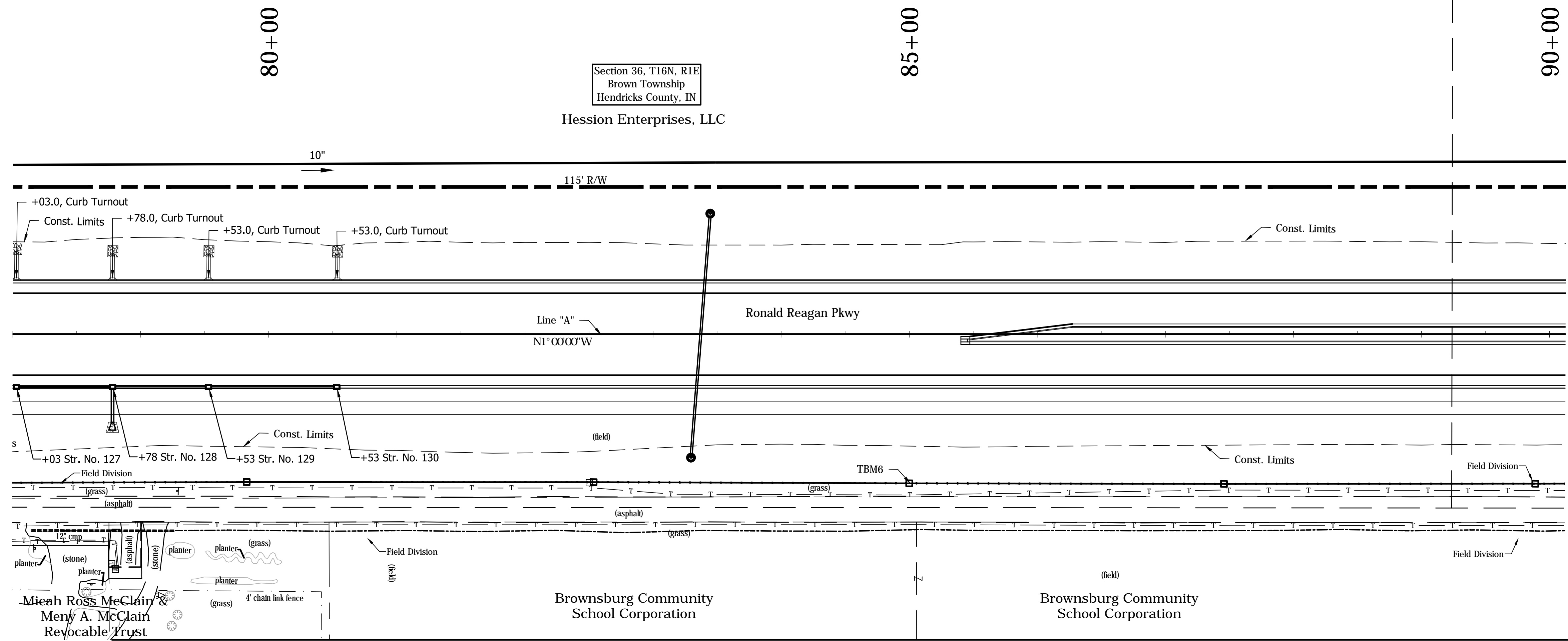
**PLAN AND PROFILE - LINE "A"**  
**STA. 63+00 TO STA. 78+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>21 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

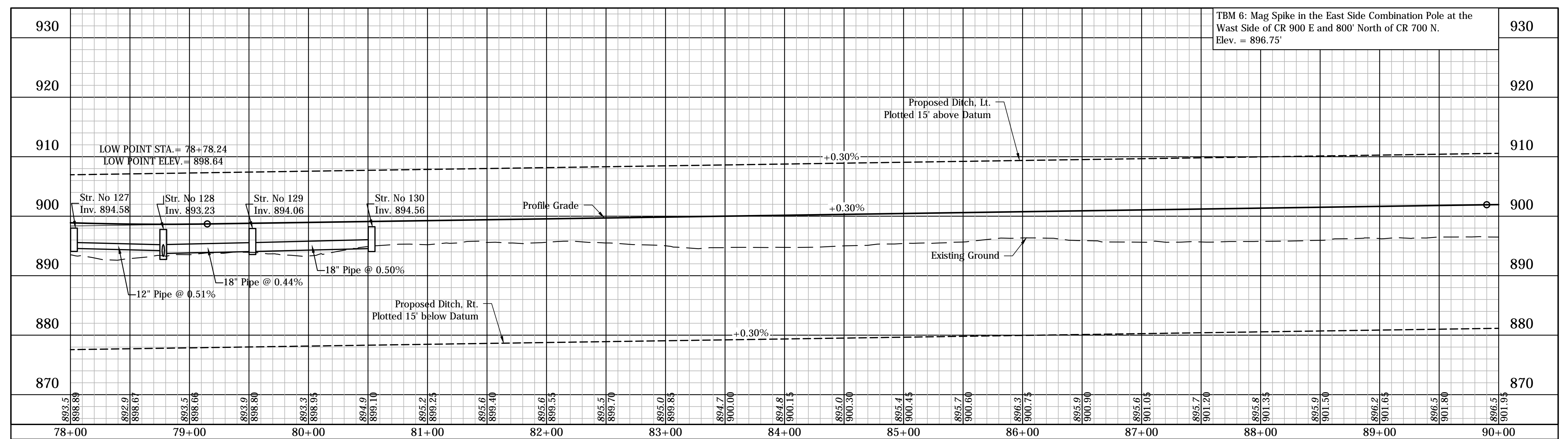
File Name: S:\\_2017\217-0005\01\Road\CAD\fig\fig01\_Line A.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica

Section 36, T16N, R1E  
Brown Township  
Hendricks County, IN

Hession Enterprises, LLC



All Topography and Proposed Right-of-Way  
Described from Line "A" unless otherwise noted.



TBM 6: Mag Spike in the East Side Combination Pole at the West Side of CR 900 E and 800' North of CR 700 N. Elev. = 896.75'

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3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

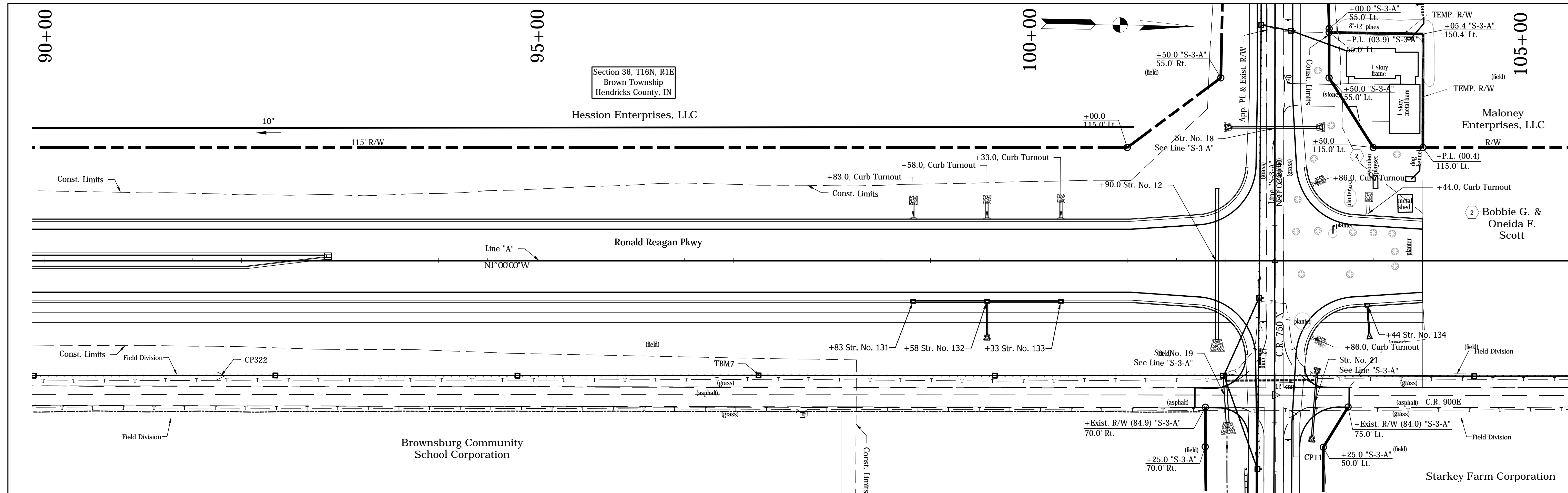
DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

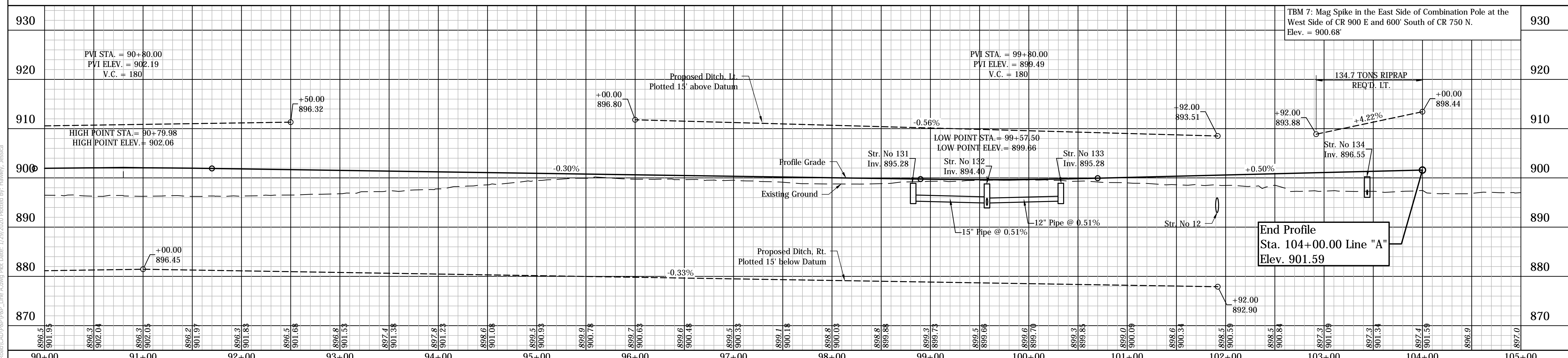
PLAN AND PROFILE - LINE "A"  
STA. 78+00 TO STA. 90+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 22 of 172                        |
| CONTRACT<br>####             | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\01\Road\CAD\fig\p9p\_Line A.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica

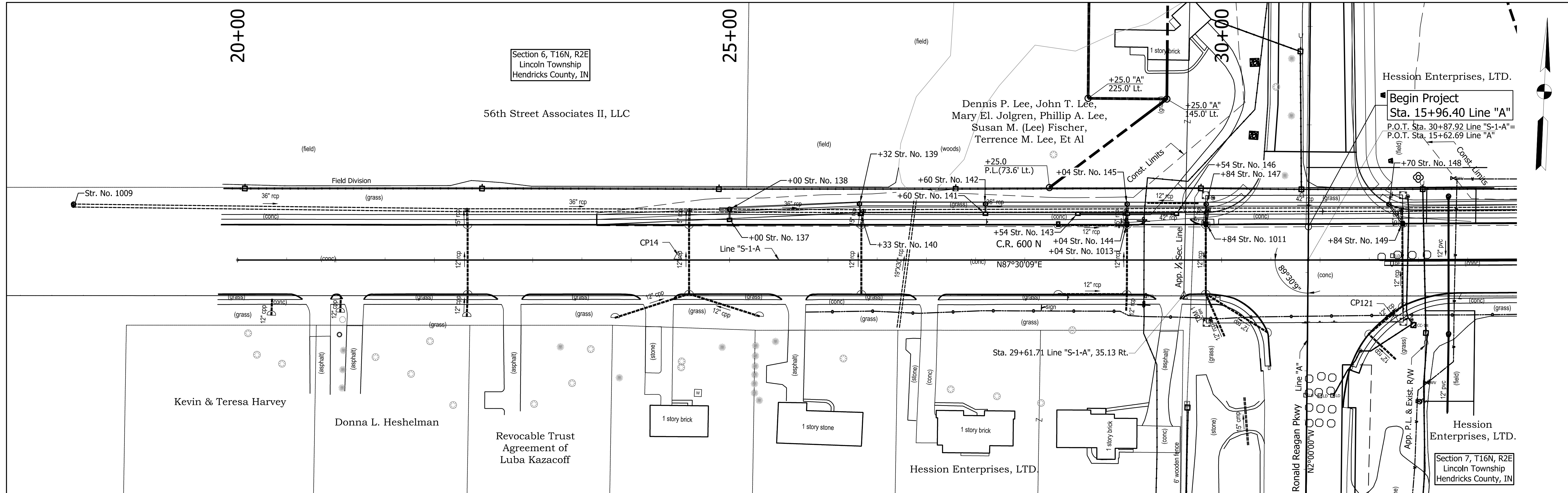


All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

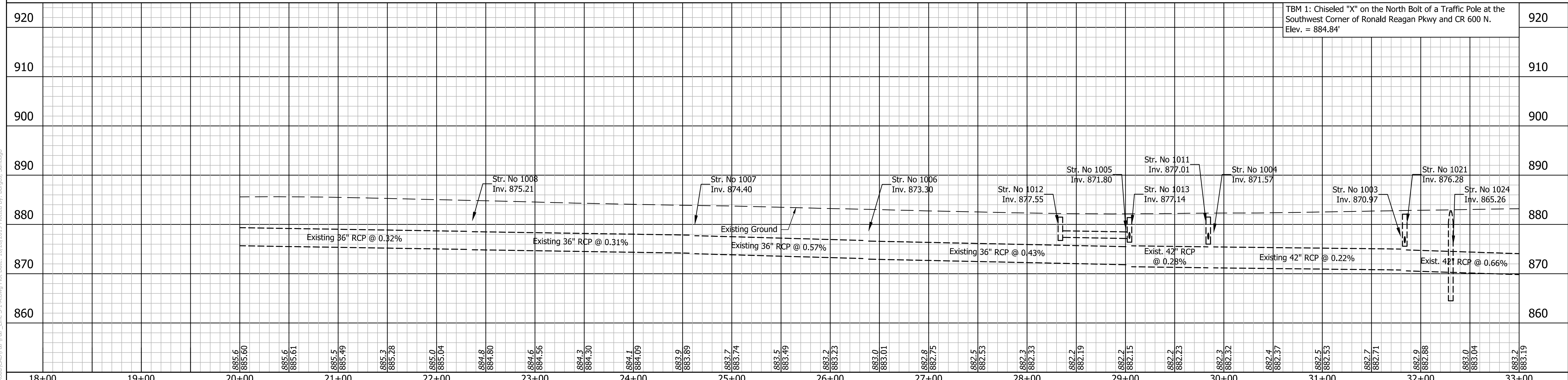


|  |  |  |  |
|--|--|--|--|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> | RECOMMENDED FOR APPROVAL _____<br>DESIGN ENGINEER DATE | HENDRICKS COUNTY<br><br><b>PLAN AND PROFILE - LINE "A"</b><br><b>STA. 90+00 TO STA. 105+00</b> | HORIZONTAL SCALE<br>1" = 50'<br>BRIDGE FILE<br>HENDRICKS BR00089 |
|  | DESIGNED: JNH DRAWN: MDV                               |  | VERTICAL SCALE<br>1" = 10'<br>DESIGNATION<br>1602280             |
|  | CHECKED: BKA CHECKED: BKA                              |  | SURVEY BOOK SHEETS<br>ELECTRONIC 23 of 172                       |
|  | CONTRACT PROJECT<br>### 1602280                        |  |  |


File Name: S:\2017\217-0005\01\Road\CAD\800\800\_P&P\_Line A.dwg Plot Date: 1/29/2020 Plotted By: Hawley, Jessica



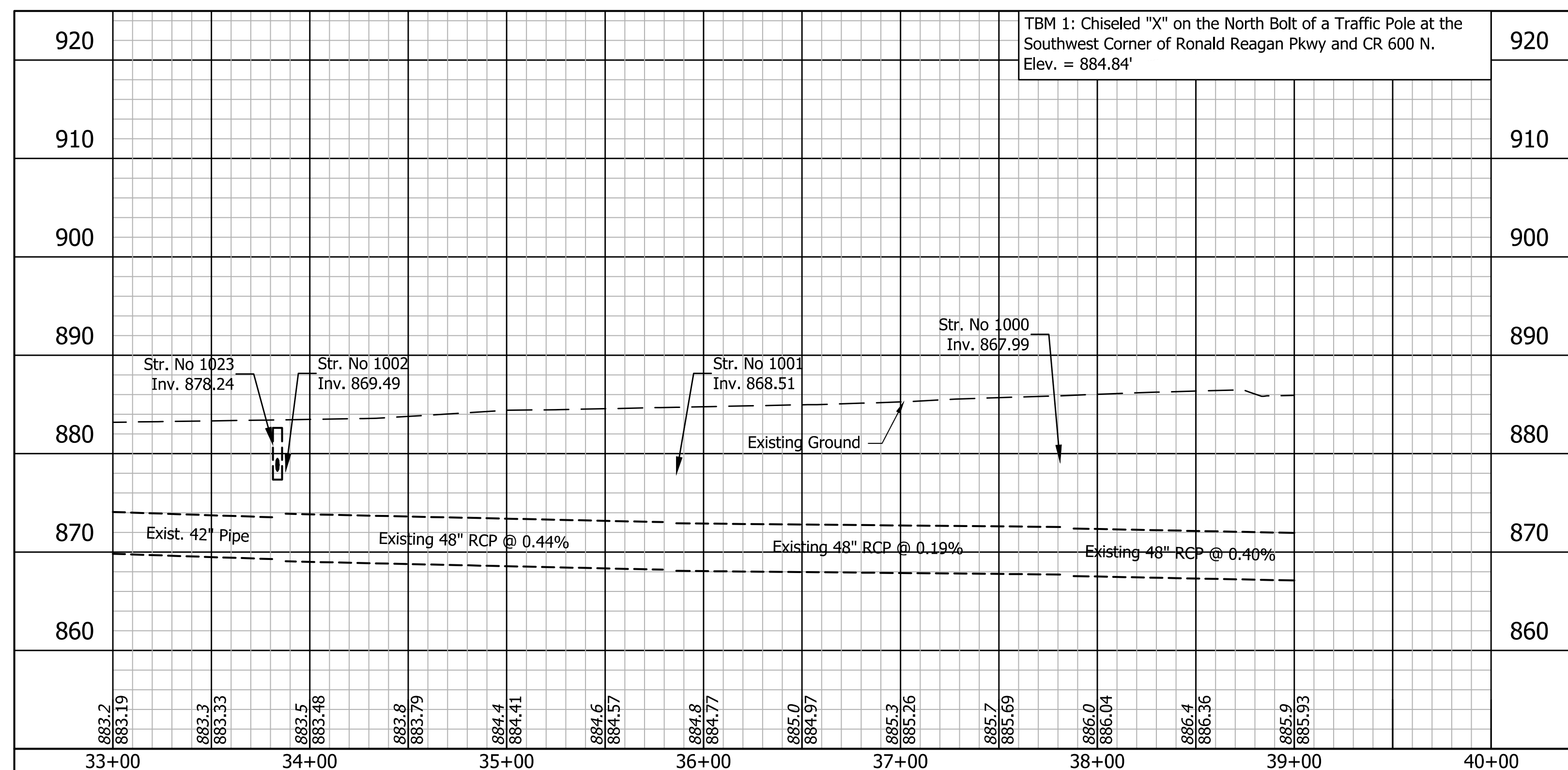
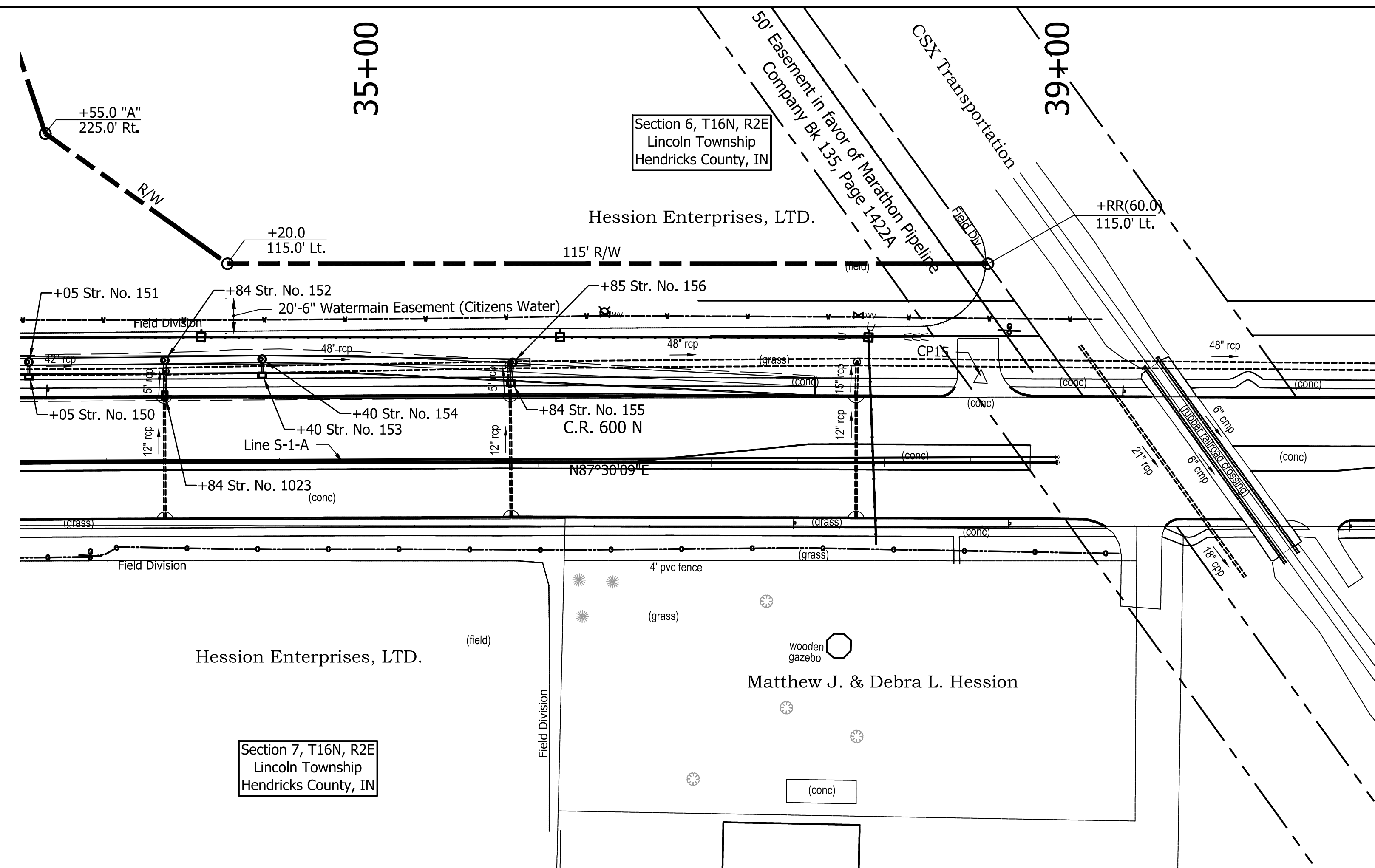
All Topography and Proposed Right-of-Way Described from Line "S-1-A" unless otherwise noted.



TBM 1: Chiseled "X" on the North Bolt of a Traffic Pole at the Southwest Corner of Ronald Reagan Pkwy and CR 600 N. Elev. = 884.84'

|   |                                |                  |                                 |                              |                                  |                        |
|---|--------------------------------|------------------|---------------------------------|------------------------------|----------------------------------|------------------------|
| <br>3502 Woodview Terrace, Suite 150<br>Indianapolis, Indiana, 46268<br>PHONE: 317.222.3880<br>TOLL FREE: 888.830.6977 | RECOMMENDED FOR APPROVAL _____ | HENDRICKS COUNTY |                                 | HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |                        |
|   | DESIGNED: JNH                  | DRAWN: MDV       | PLAN AND PROFILE - LINE "S-1-A" |                              | VERTICAL SCALE<br>1" = 10'       | DESIGNATION<br>1602280 |
|   | CHECKED: BKA                   | CHECKED: BKA     | STA. 20+00 TO STA. 33+00        |                              | SURVEY BOOK                      | SHEETS                 |
|   |                                |                  |                                 |                              | ELECTRONIC                       | 24 of 172              |
|   |                                |                  |                                 | CONTRACT                     | PROJECT                          |                        |
|   |                                |                  |                                 | ###                          | 1602280                          |                        |

File Name: S:\1301717-0005\0001\Road\CAD\Sheet\PS\20\_00\_Line S-1-A.dwg Plot Date: 10/25/2019 Plotted By: Burgess, Santiago



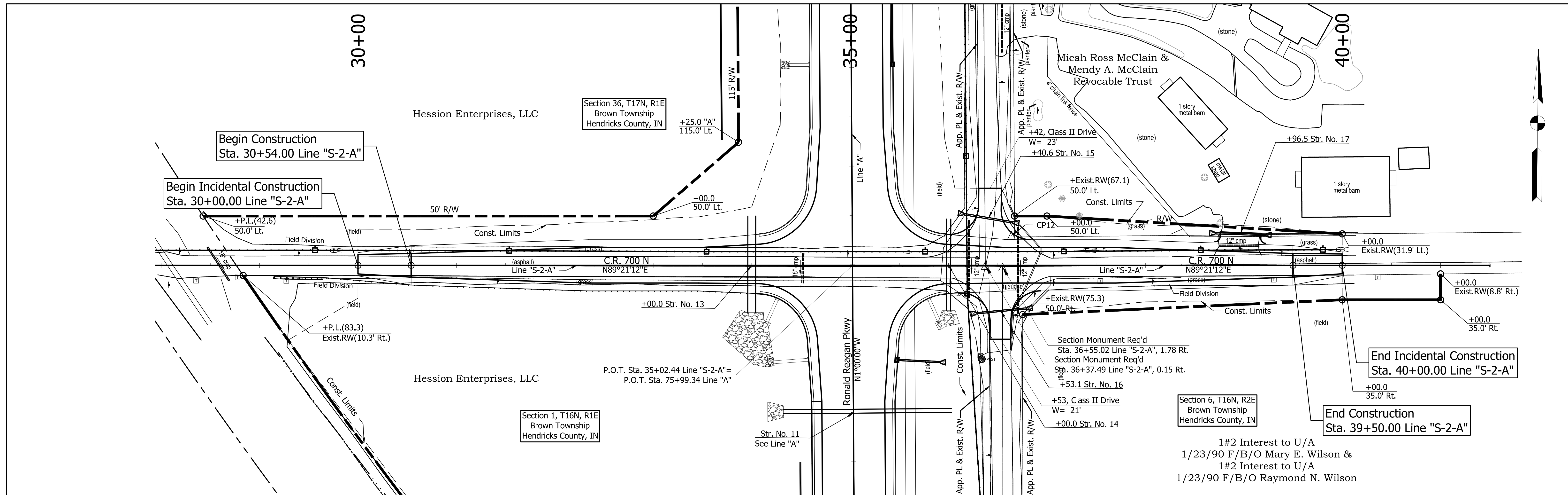
RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE  
 DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY  
 PLAN AND PROFILE - LINE "S-1-A"  
 STA. 33+00 TO STA. 40+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 25 of 172                        |
| CONTRACT                     | PROJECT                          |
| ###                          | 1602280                          |

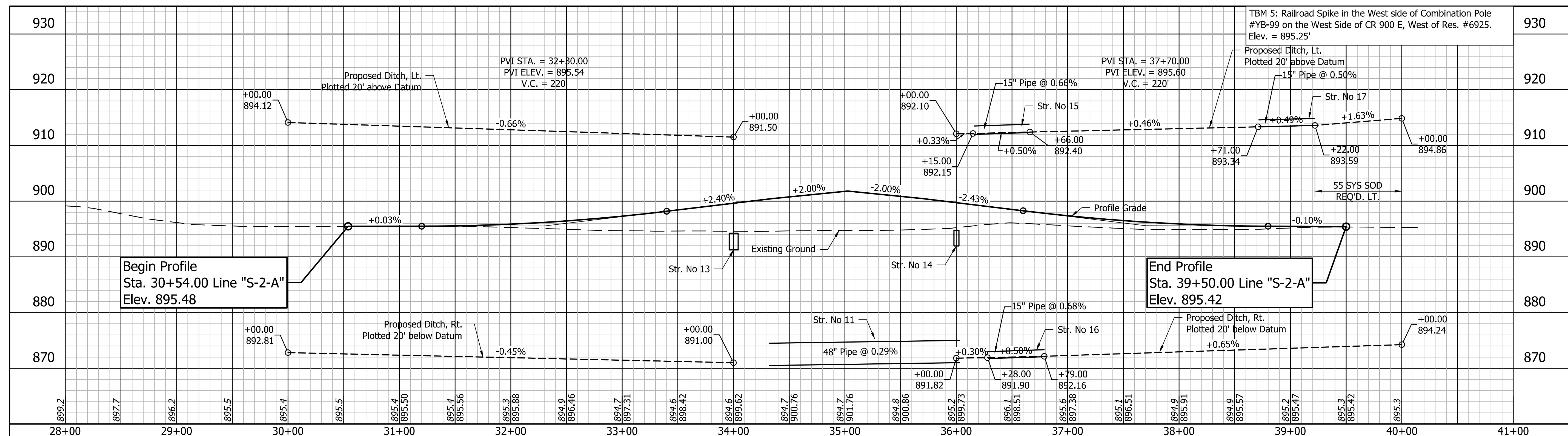
File Name: S:\\_301717-0005\001\Road\CAD\Plan\380\_Line S-1-A.dwg Plot Date: 10/25/2019 Plotted By: Burgos, Santiago





1#2 Interest to U/A  
 1/23/90 F/B/O Mary E. Wilson &  
 1#2 Interest to U/A  
 1/23/90 F/B/O Raymond N. Wilson

All Topography and Proposed Right-of-Way  
 Described from Line "S-2-A" unless otherwise noted.



Begin Profile  
 Sta. 30+54.00 Line "S-2-A"  
 Elev. 895.48

End Profile  
 Sta. 39+50.00 Line "S-2-A"  
 Elev. 895.42

File Name: S:\\_301717-0005\001\Road\CAD\Sheet\02\28+00 to 41+00.dwg Plot Date: 10/28/2019 Plotted By: Burgos, Santiago

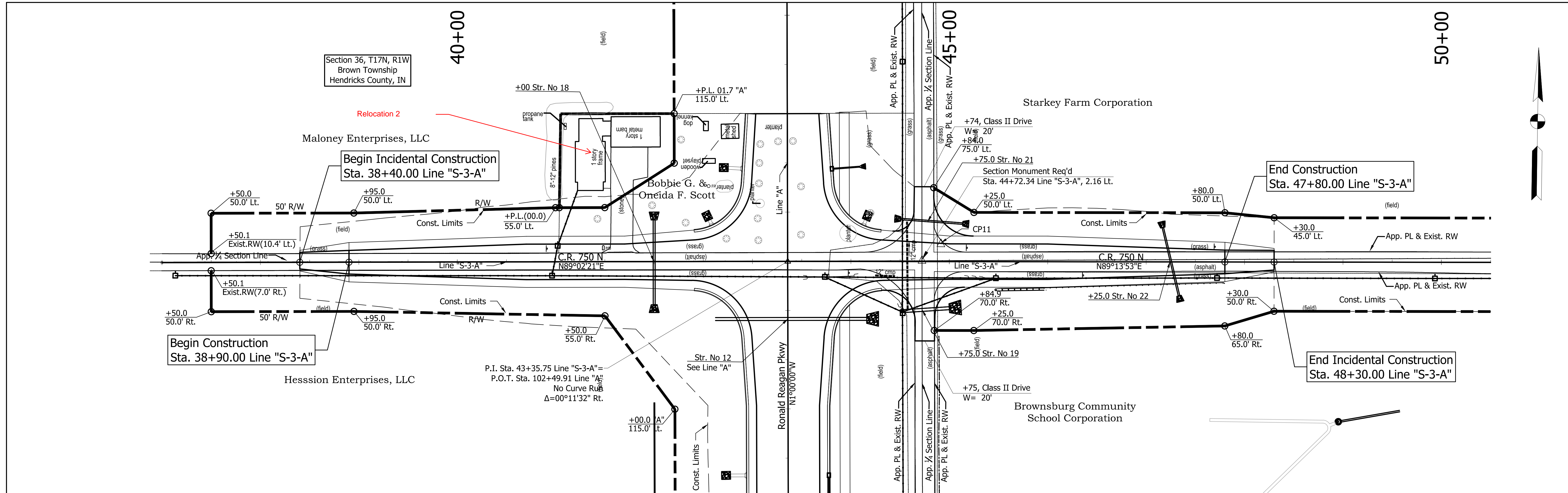
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

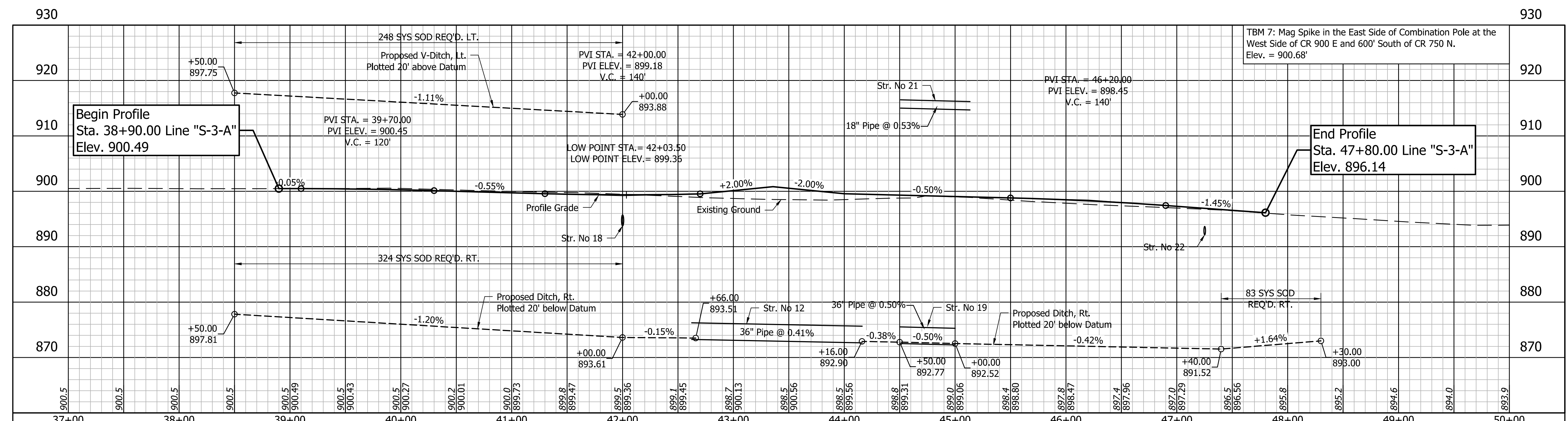
**HENDRICKS COUNTY**

PLAN AND PROFILE - LINE "S-2-A"  
 STA. 28+00 TO STA. 41+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>26 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



All Topography and Proposed Right-of-Way Described from Line "S-3-A" unless otherwise noted.



File Name: S:\\_3017217-0005\001\Road\CAD\Plan\Plan Line S-3-A.dwg Plot Date: 10/25/2019 Plotted By: Burgos, Santiago

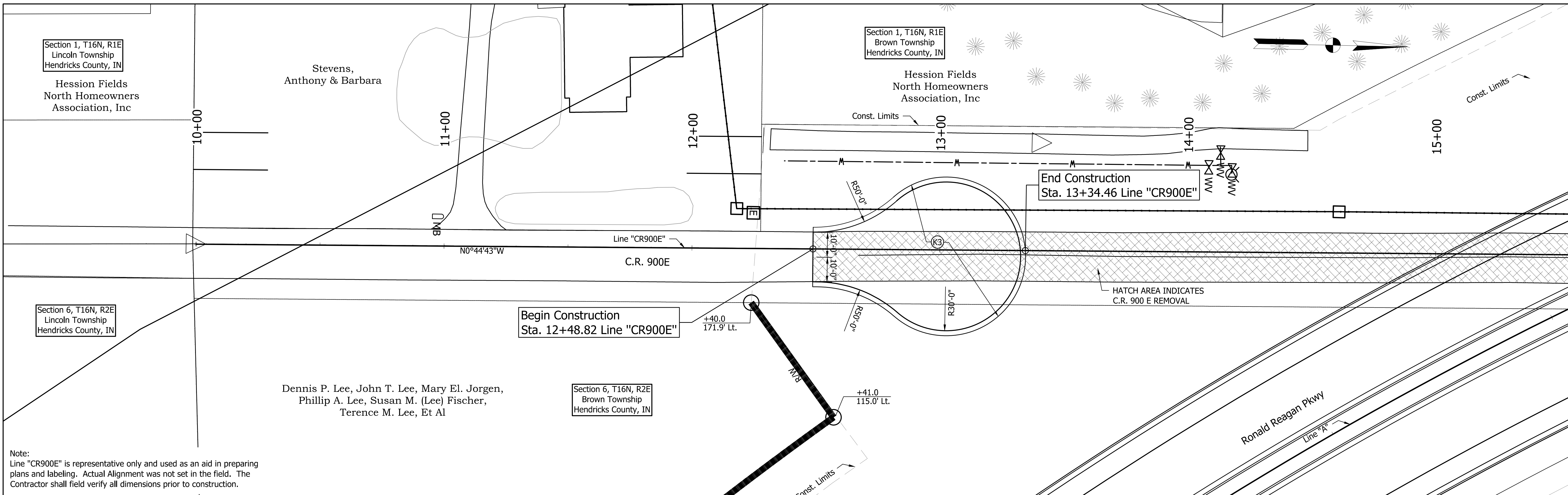
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

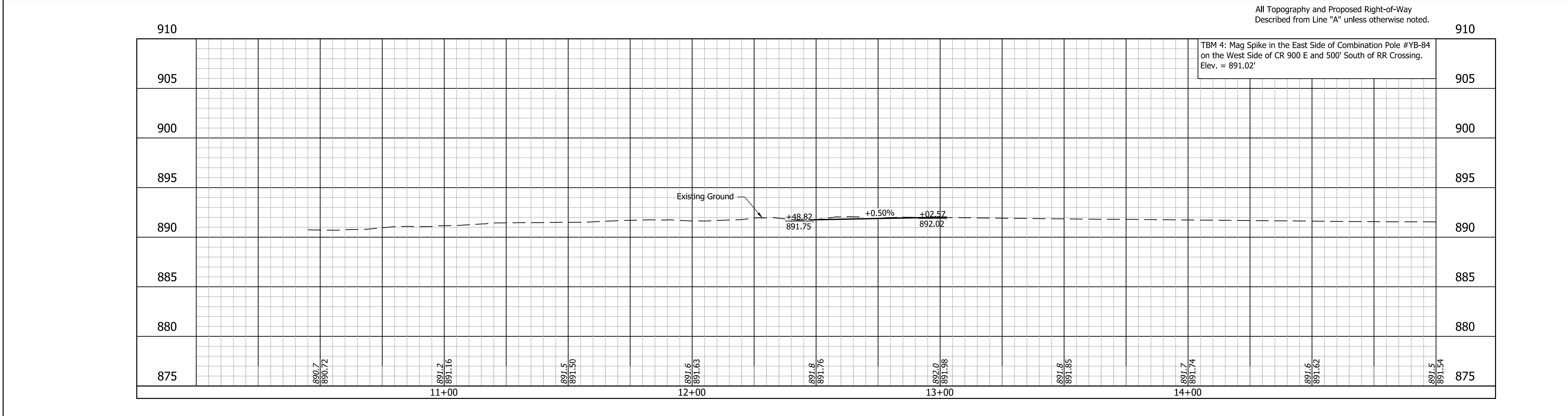
**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "S-3-A"**  
**STA. 37+00 TO STA. 50+00**

|                  |            |             |                   |
|------------------|------------|-------------|-------------------|
| HORIZONTAL SCALE | 1" = 50'   | BRIDGE FILE | HENDRICKS BR00089 |
| VERTICAL SCALE   | 1" = 10'   | DESIGNATION | 1602280           |
| SURVEY BOOK      | ELECTRONIC | SHEETS      | 27 of 172         |
| CONTRACT         | ###        | PROJECT     | 1602280           |



Note:  
 Line "CR900E" is representative only and used as an aid in preparing plans and labeling. Actual Alignment was not set in the field. The Contractor shall field verify all dimensions prior to construction.



TBM 4: Mag Spike in the East Side of Combination Pole #YB-84 on the West Side of CR 900 E and 500' South of RR Crossing. Elev. = 891.02'

- 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB
- 15) Curb and Gutter, Concrete, Modified



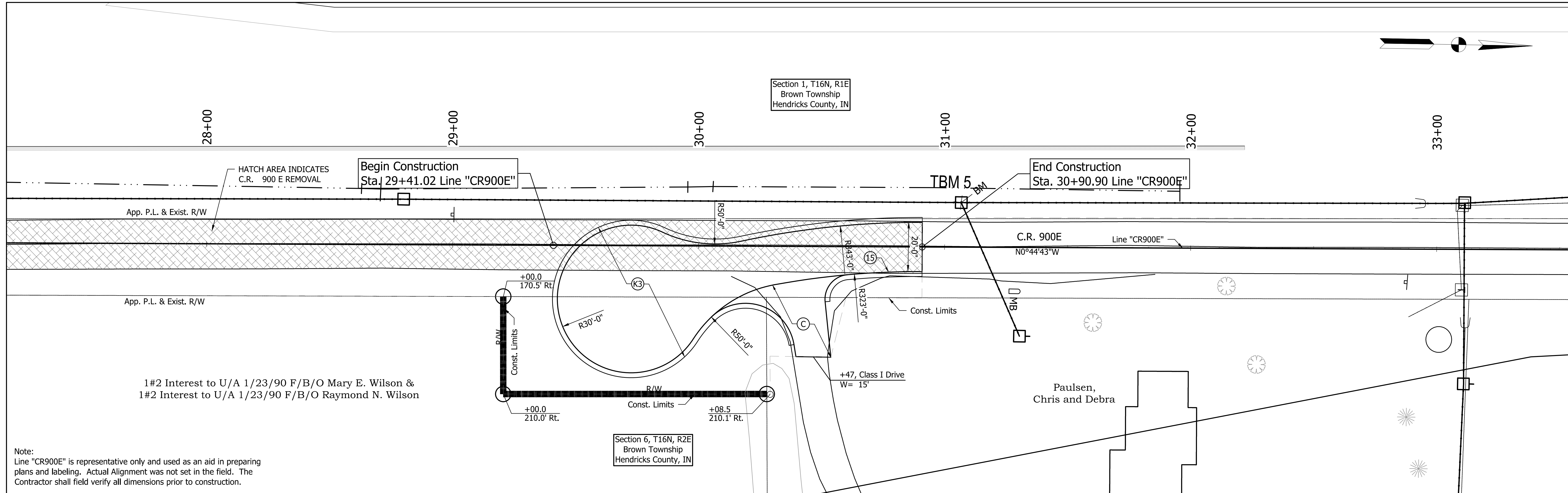
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|--------------------------------|--------------|------|
| RECOMMENDED FOR APPROVAL _____ |              |      |
| DESIGN ENGINEER                |              | DATE |
| DESIGNED: JNH                  | DRAWN: MDV   |      |
| CHECKED: BKA                   | CHECKED: BKA |      |

HENDRICKS COUNTY

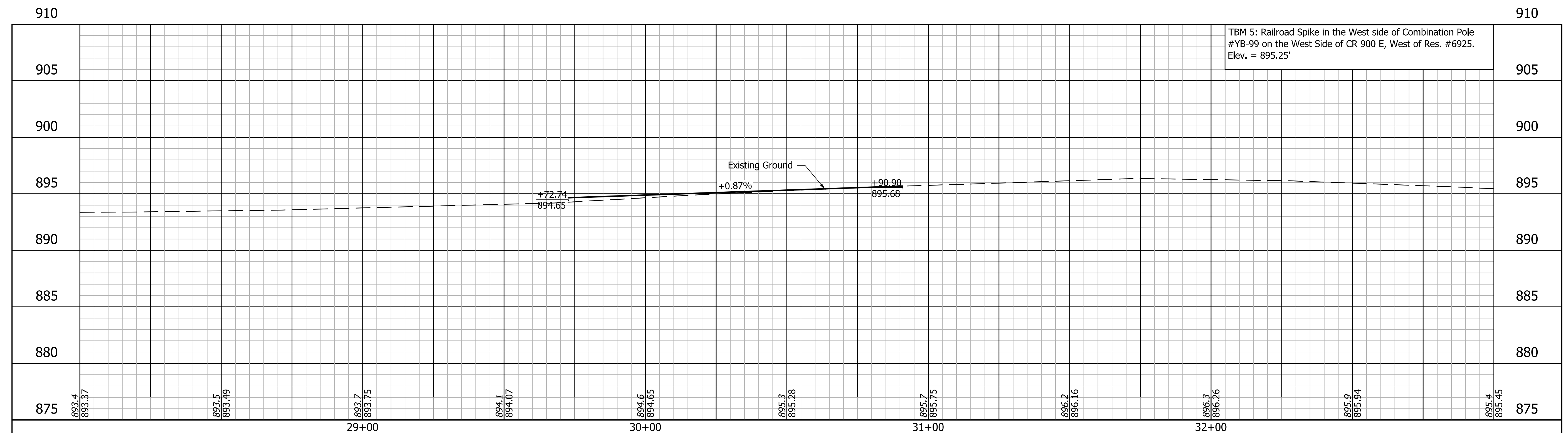
PLAN AND PROFILE  
 C.R. 900 CUL-DE-SAC

|  |   |
|--|---|
| HORIZONTAL SCALE<br>1" = 20'                 | BRIDGE FILE<br>HENDRICKS BR00089          |
| VERTICAL SCALE<br>1" = 10'                   | DESIGNATION<br>1602280                    |
| SURVEY BOOK<br>ELECTRONIC<br>CONTRACT<br>### | SHEETS<br>28 of 172<br>PROJECT<br>1602280 |

File Name: S:\\_2017\17-00089\09\09\01\Cad\CAD\MOUSE\DWG\SHL\_Cul-De-Sac.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



- (C) PCCP for Approaches, 8 IN
- (K3) 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB
- (15) Curb and Gutter, Concrete, Modified

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

**HENDRICKS COUNTY**

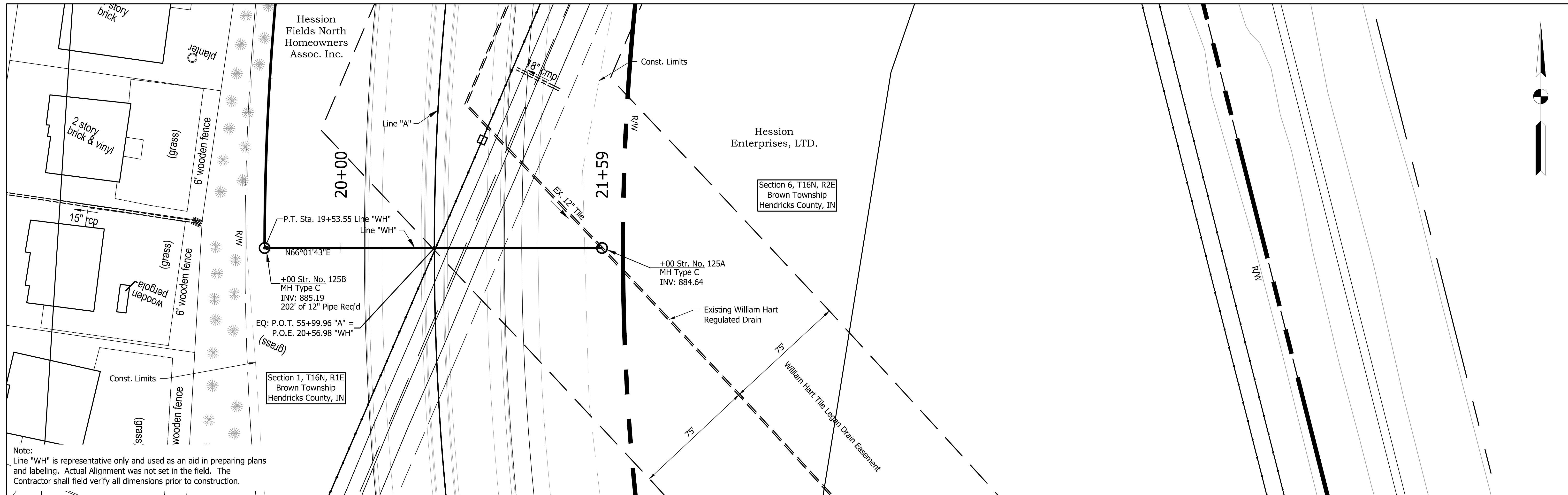
**PLAN AND PROFILE**  
**C.R. 900 CUL-DE-SAC**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>29 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\2017\17-2005\001\001\001\CAD\Misc\DWG\SHR\_Cul-De-Sac.dwg Plot Date: 10/26/2017 Printed By: Burrows, Sebastian



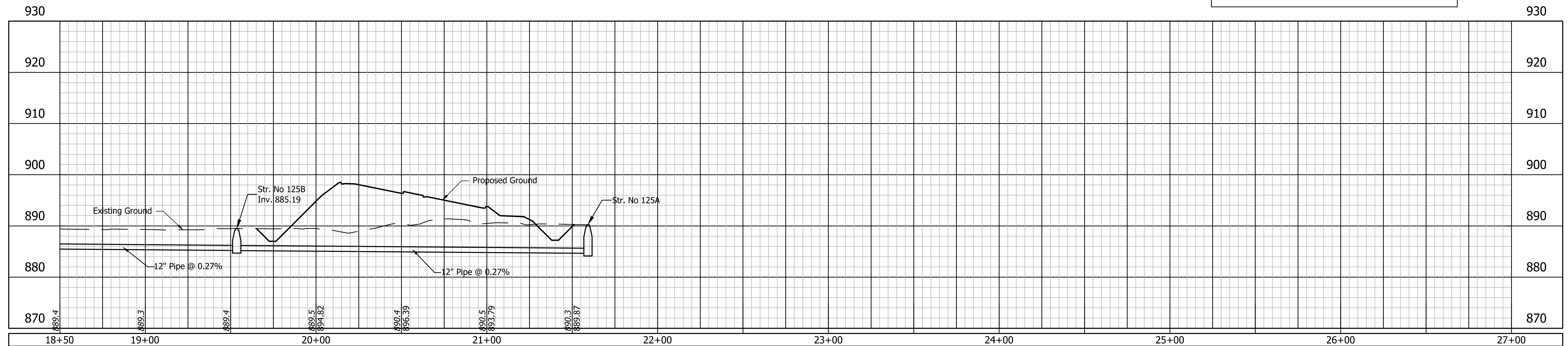




Note:  
Line "WH" is representative only and used as an aid in preparing plans and labeling. Actual Alignment was not set in the field. The Contractor shall field verify all dimensions prior to construction.

All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

TBM 4: Mag Spike in the East Side of Combination Pole #YB-84 on the West Side of CR 900 E and 500' South of RR Crossing. Elev. = 891.02'



File Name: S:\\_2017\17-0005\001\Draw\CAD\DWG\CR900E\_WH\_Hart\_PIP.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago

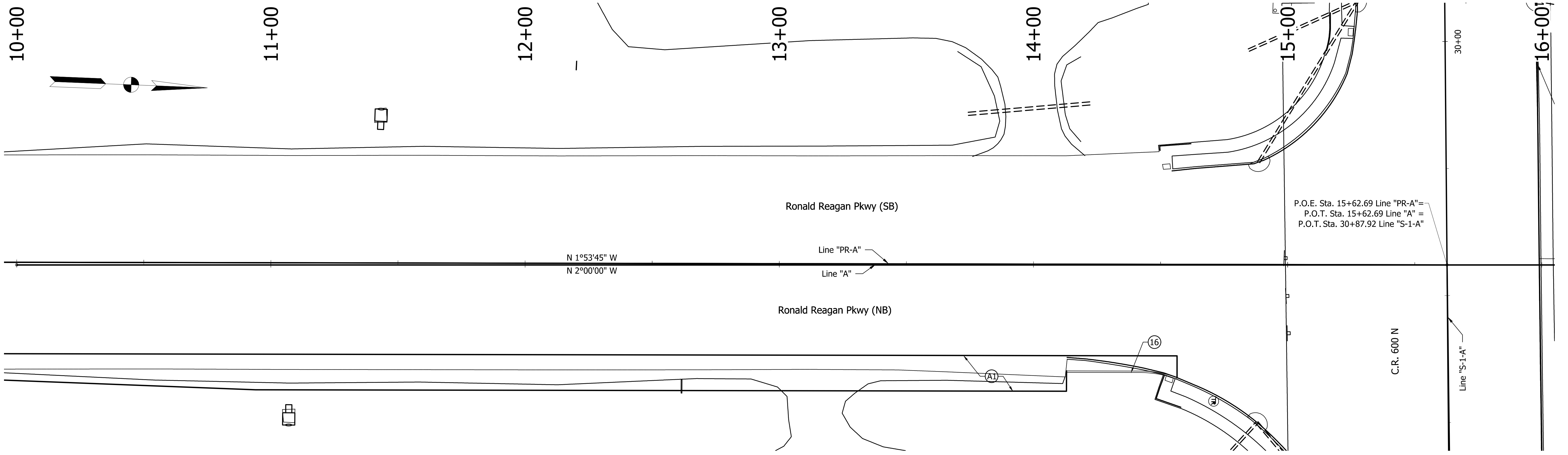
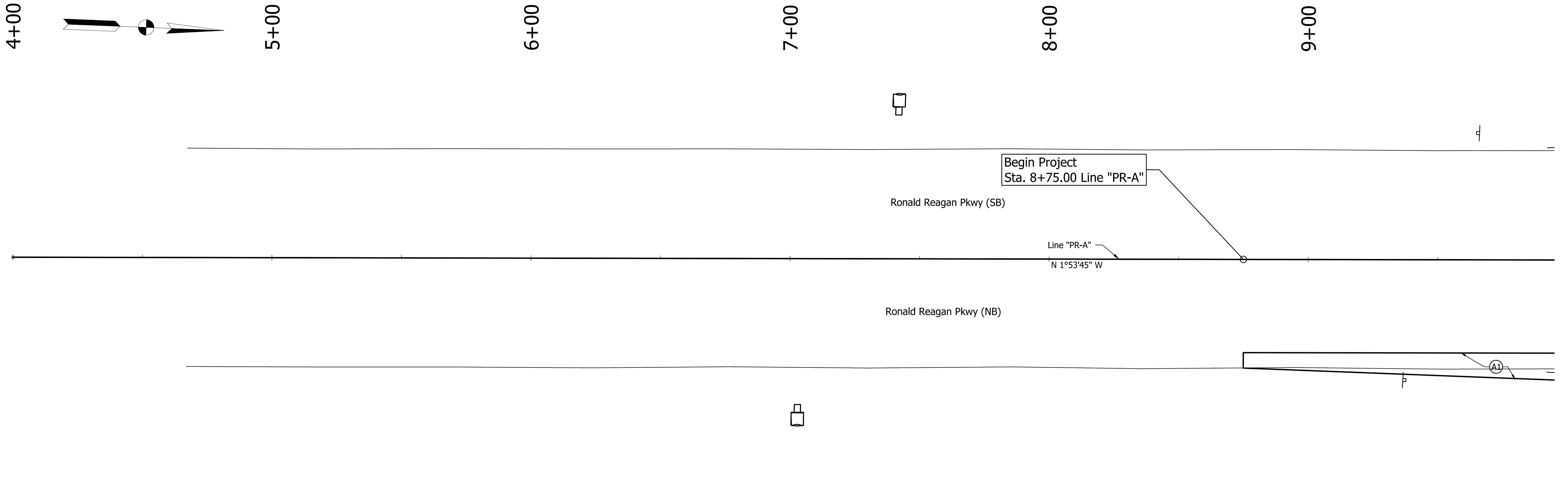


RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY  
**PLAN AND PROFILE**  
WILLIAM HART REGULATED DRAIN

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 30' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>30B of 172             |
| CONTRACT<br>###              | PROJECT<br>1602280               |



File Name: S:\\_301717-0005\05\0505\Road\CAD\Plan\Const Doc\_Line Aiding Plot Date: 10/28/2019 Plotted By: Burgess, Santiago

- (F) Curb and Gutter, Concrete, Modified
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (A1) QC/QA PCCP, 10" on 9" Subbase for PCCP on Subgrade Treatment, IB
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB
- (16) Curb, Concrete



|                                |                     |
|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGNED: <u>JNH</u>           | DRAWN: <u>MDV</u>   |
| CHECKED: <u>BAK</u>            | CHECKED: <u>BAK</u> |

HENDRICKS COUNTY

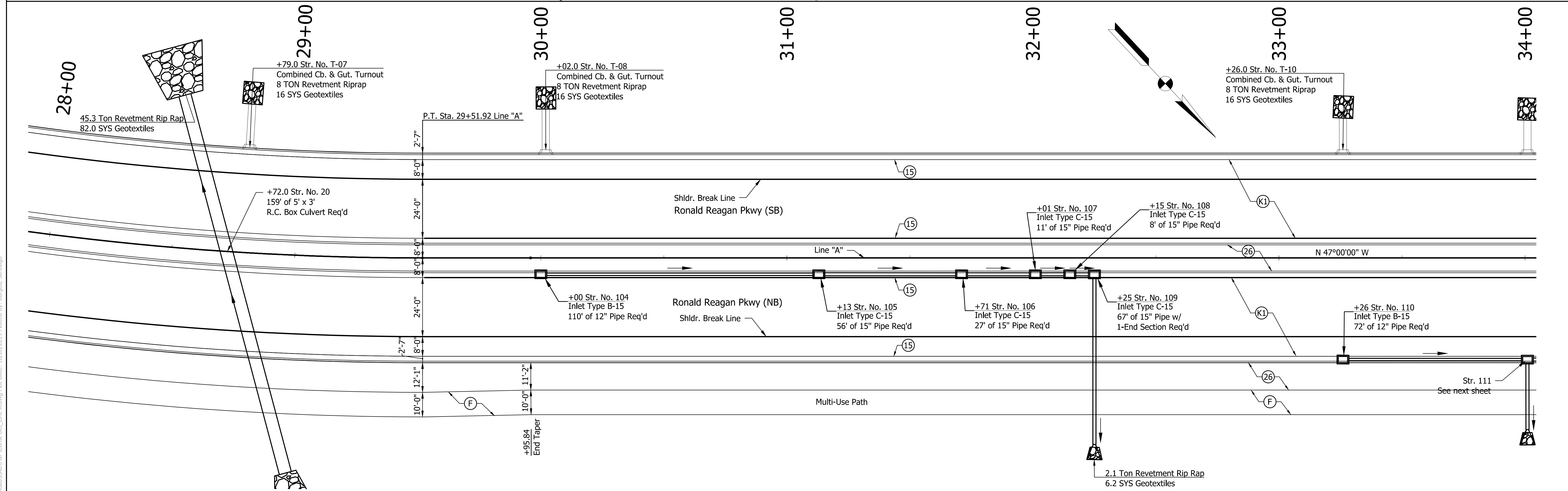
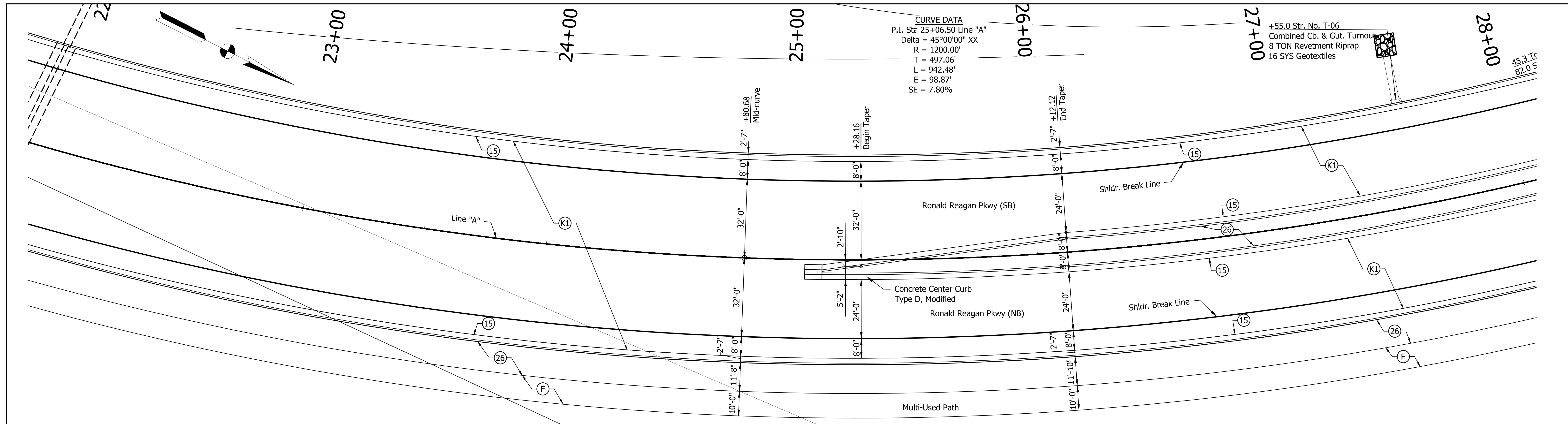
CONSTRUCTION DETAILS - LINE "A" AND "PR-A"

STA. 4+00 TO STA. 16+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>33 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |







|      |   |      |   |
|------|---|------|---|
| (15) | Curb and Gutter, Concrete, Modified<br>140 LB/SYS HMA Surface, Type B on<br>220 LB/SYS HMA Intermediate, Type B on<br>6" Compacted Aggregate, No. 53, Base on<br>Subgrade Treatment, Type III | (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on<br>275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>Subgrade Treatment, Type IB |
|------|---|------|---|

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

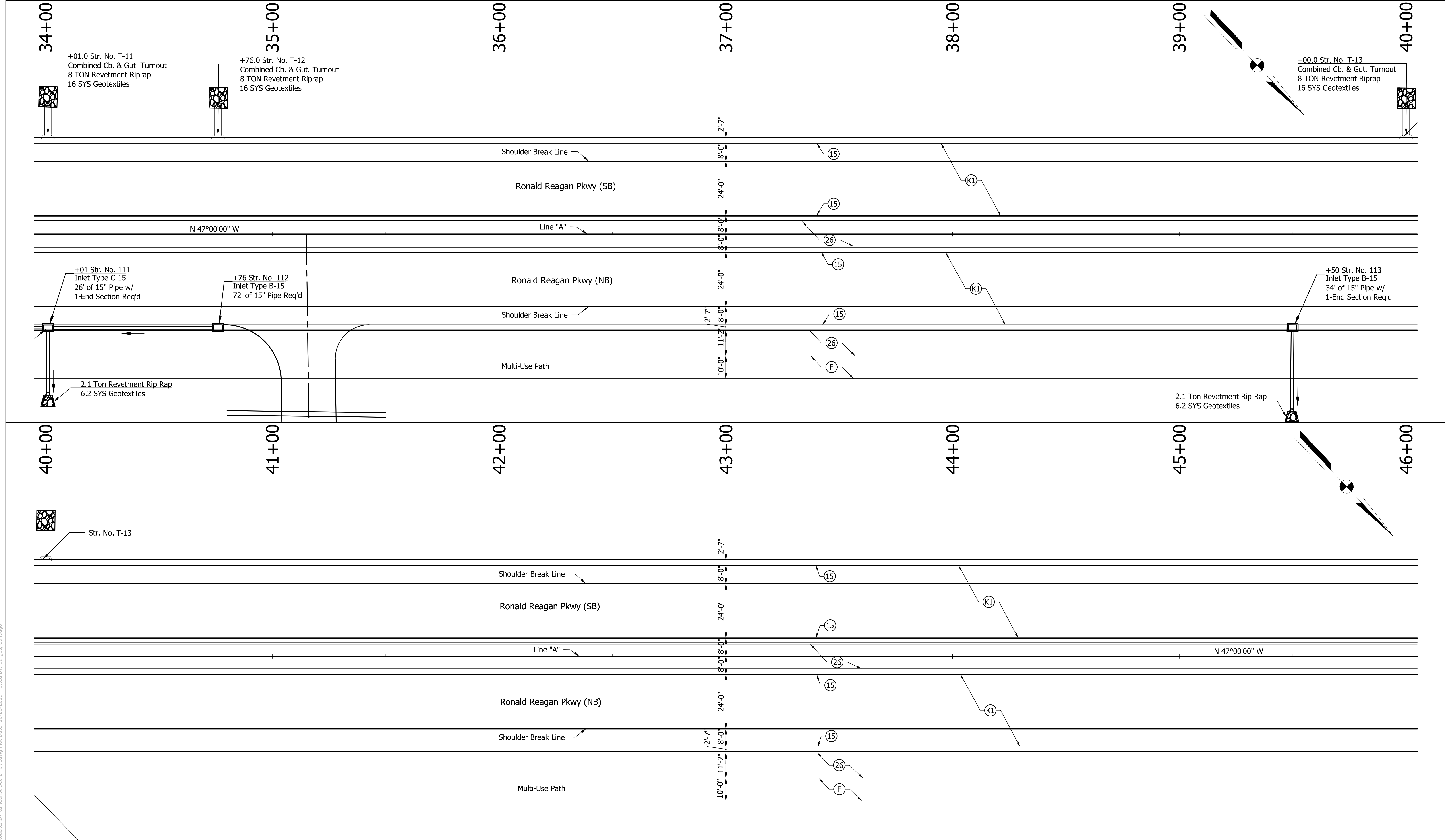
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|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA. 22+00 TO STA. 34+00**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 35 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\1717\2005\06\Road\CAD\Plan\Cons\Dot\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



File Name: S:\\_3017217-2005\05\05\05\Road\CAD\Plan\Const\Doc\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgos, Santiago

(15) Curb and Gutter, Concrete, Modified  
 140 LB/SYS HMA Surface, Type B on  
 220 LB/SYS HMA Intermediate, Type B on  
 6" Compacted Aggregate, No. 53, Base on  
 Subgrade Treatment, Type III

(K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on  
 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
 Subgrade Treatment, Type IB

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
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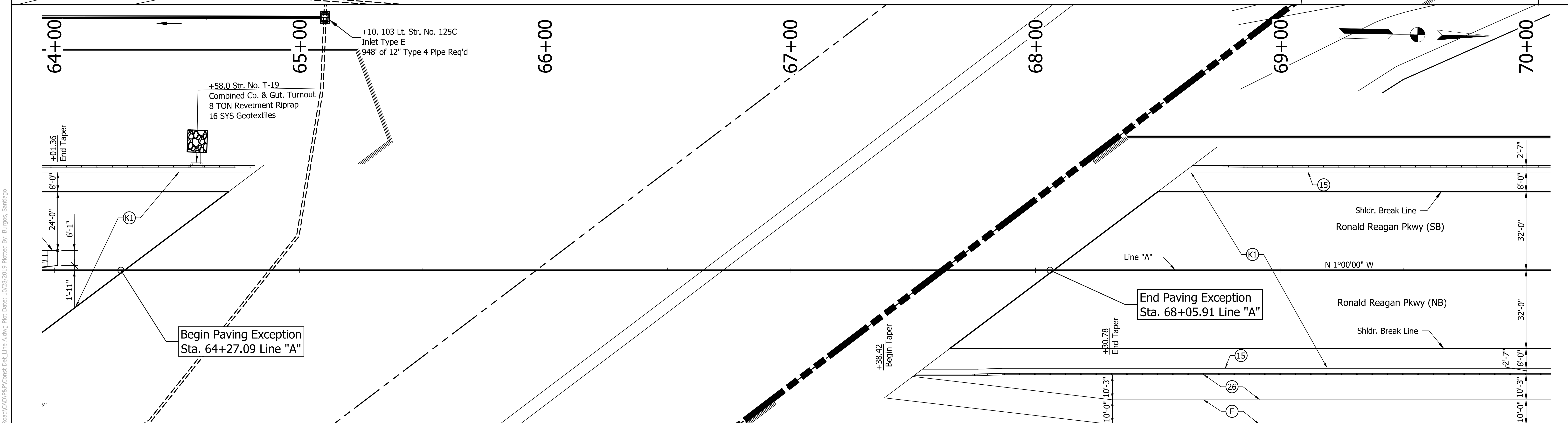
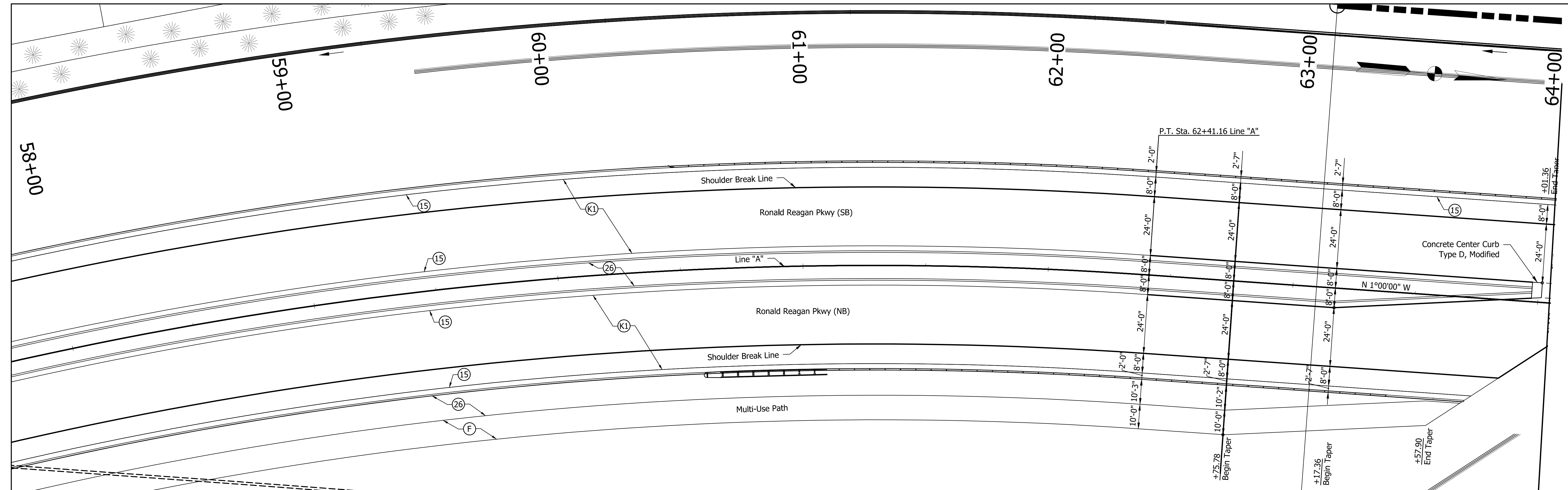
|                          |              |
|--------------------------|--------------|
| RECOMMENDED FOR APPROVAL |              |
| DESIGNED: JNH            | DRAWN: MDV   |
| CHECKED: BKA             | CHECKED: BKA |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA. 34+00 TO STA. 46+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>36 of 172              |
| CONTRACT<br>####             | PROJECT<br>1602280               |





|      |   |
|------|---|
| (15) | Curb and Gutter, Concrete, Modified<br>140 LB/SYS HMA Surface, Type B on<br>220 LB/SYS HMA Intermediate, Type B on<br>6" Compacted Aggregate, No. 53, Base on<br>Subgrade Treatment, Type III   |
| (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on<br>275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>Subgrade Treatment, Type IB |

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

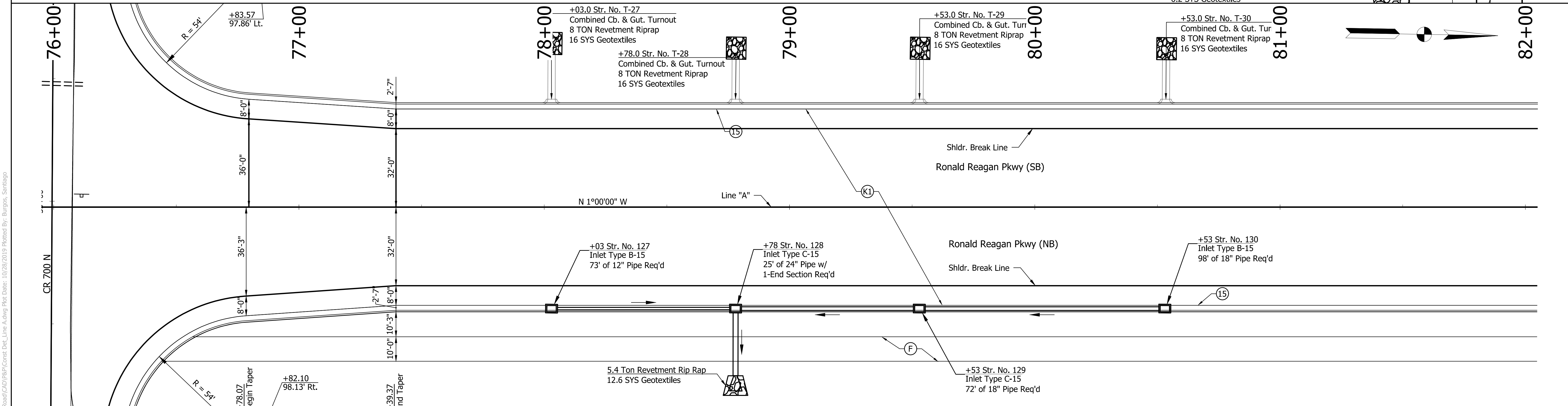
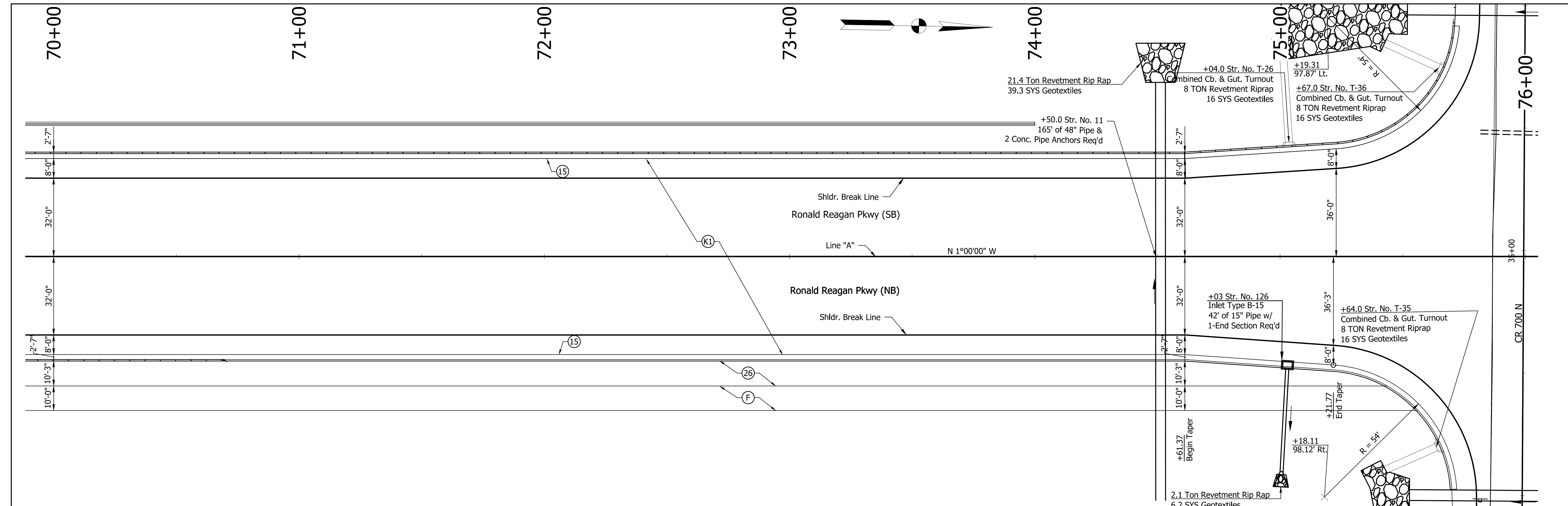
|                          |              |                 |  |      |  |
|--------------------------|--------------|-----------------|--|------|--|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER |  | DATE |  |
| DESIGNED: JNH            | DRAWN: MDV   |                 |  |      |  |
| CHECKED: BKA             | CHECKED: BKA |                 |  |      |  |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA. 58+00 TO STA. 70+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>38 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_3017217-2005\05\05\Road\CAD\Plan\Cons\Doc\Line A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



|      |   |
|------|---|
| (15) | Curb and Gutter, Concrete, Modified<br>140 LB/SYS HMA Surface, Type B on<br>220 LB/SYS HMA Intermediate, Type B on<br>6\" Compacted Aggregate, No. 53, Base on<br>Subgrade Treatment, Type III  |
| (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on<br>275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>Subgrade Treatment, Type IB |

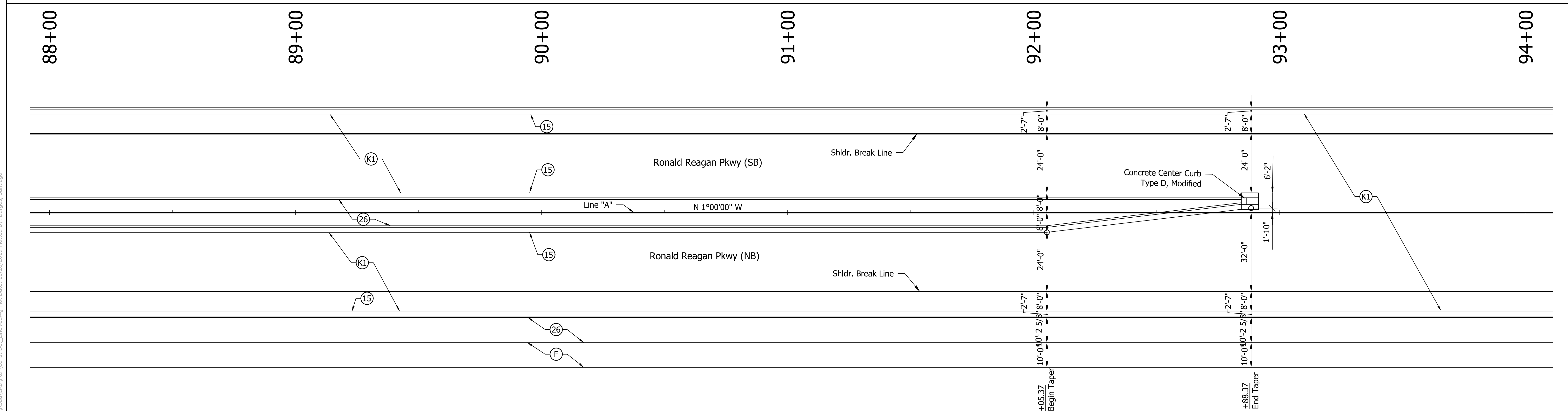
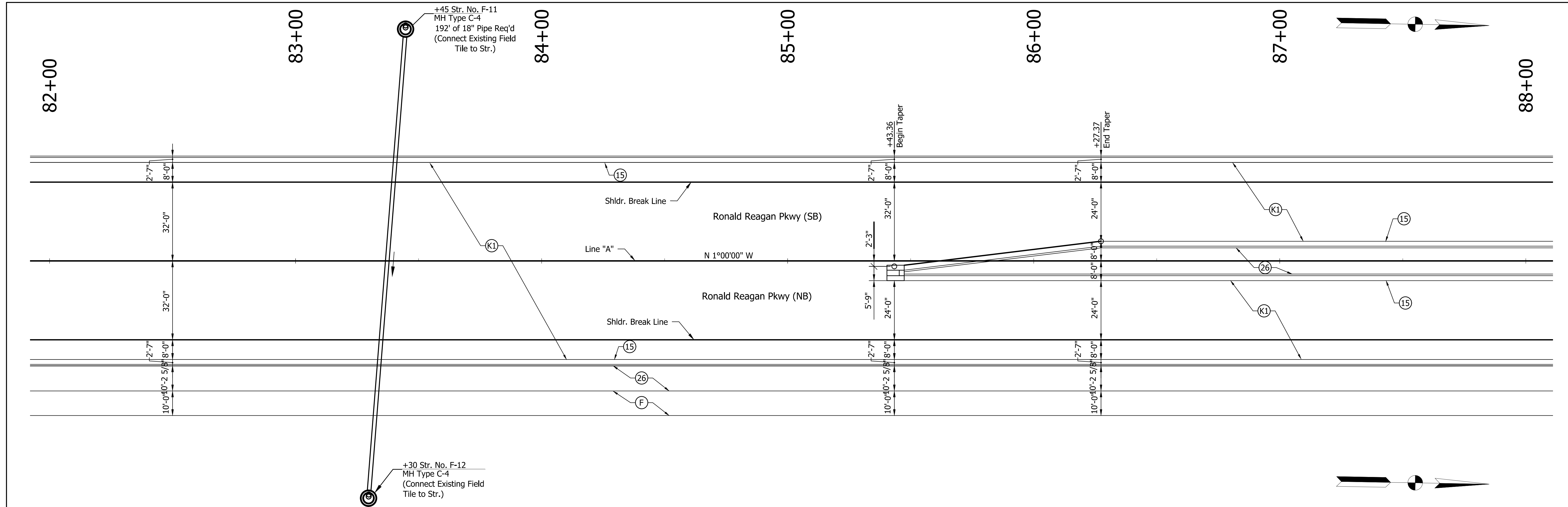
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 70+00 TO STA. 82+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 39 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_3017217-2005\04\05\00\01\Road\CAD\Plan\Cons\Doc\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



|      |   |
|------|---|
| (15) | Curb and Gutter, Concrete, Modified   |
| (F)  | 140 LB/SYS HMA Surface, Type B on<br>220 LB/SYS HMA Intermediate, Type B on<br>6\" Compacted Aggregate, No. 53, Base on<br>Subgrade Treatment, Type III |

|      |   |
|------|---|
| (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on<br>275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>Subgrade Treatment, Type IB |
|------|---|

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 Indianapolis, Indiana, 46268  
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 TOLL FREE: 888.830.6977

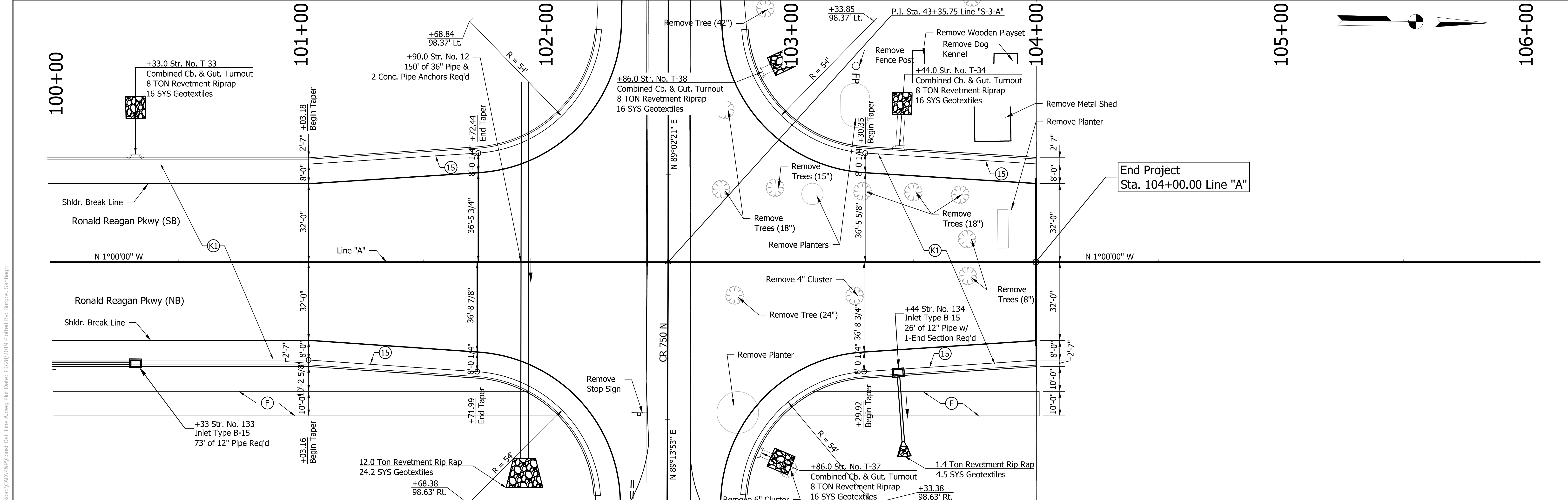
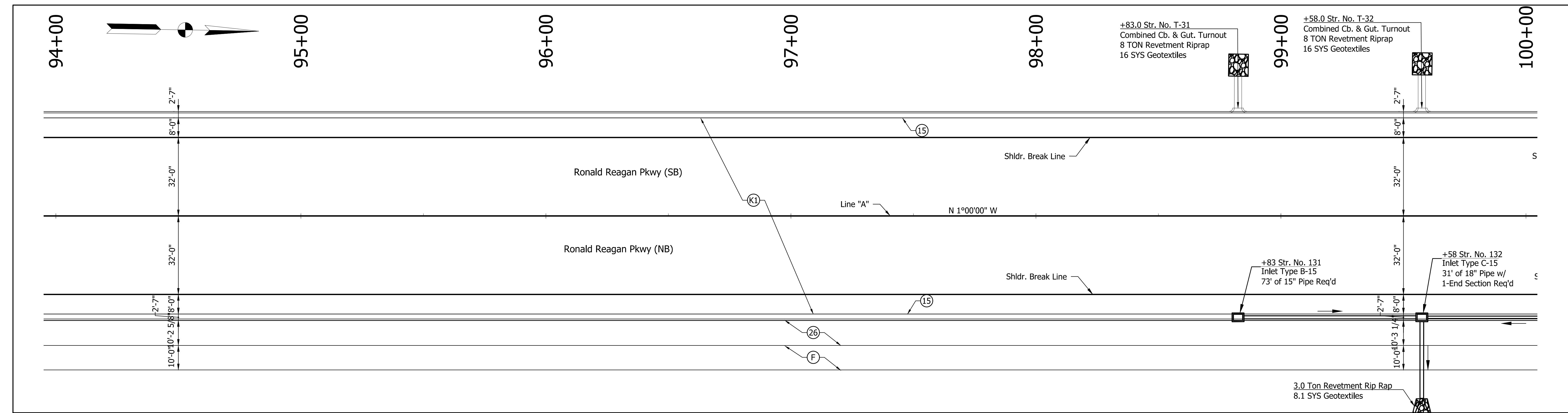
|                          |              |
|--------------------------|--------------|
| RECOMMENDED FOR APPROVAL |              |
| DESIGNED: JNH            | DRAWN: MDV   |
| CHECKED: BKA             | CHECKED: BKA |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 82+00 TO STA. 94+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 40 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_301717-2005\05\05\Road\CAD\Plan\Const\Doc\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



|  |  |
|--|--|
| (15) Curb and Gutter, Concrete, Modified | (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on   |
| (F) 140 LB/SYS HMA Surface, Type B on    | 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on    |
| 220 LB/SYS HMA Intermediate, Type B on   | 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on            |
| 6" Compacted Aggregate, No. 53, Base on  | 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on |
| Subgrade Treatment, Type III             | 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on            |
|  | Subgrade Treatment, Type IB                          |

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 Indianapolis, Indiana, 46268  
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 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DESIGNED: JNH DRAWN: MDV

CHECKED: BKA CHECKED: BKA

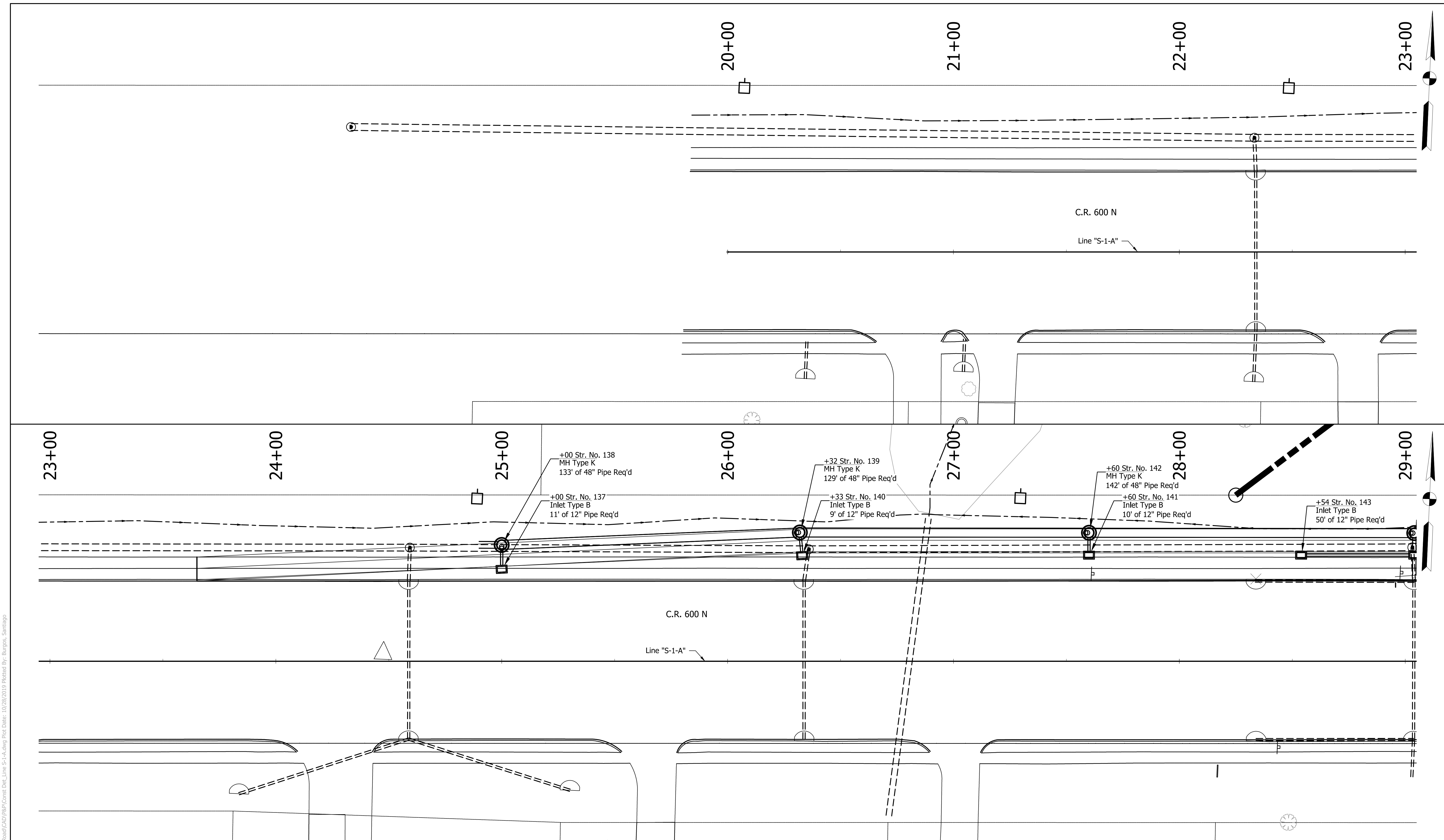
HENDRICKS COUNTY

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 94+00 TO STA. 106+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 41 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_3017217-2005\09\09\Road\CAD\Plan\Consolid Line A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago





File Name: S:\\_3017217-0005\0001\Road\CAD\Plan\Const Det\_Line S-1-A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago

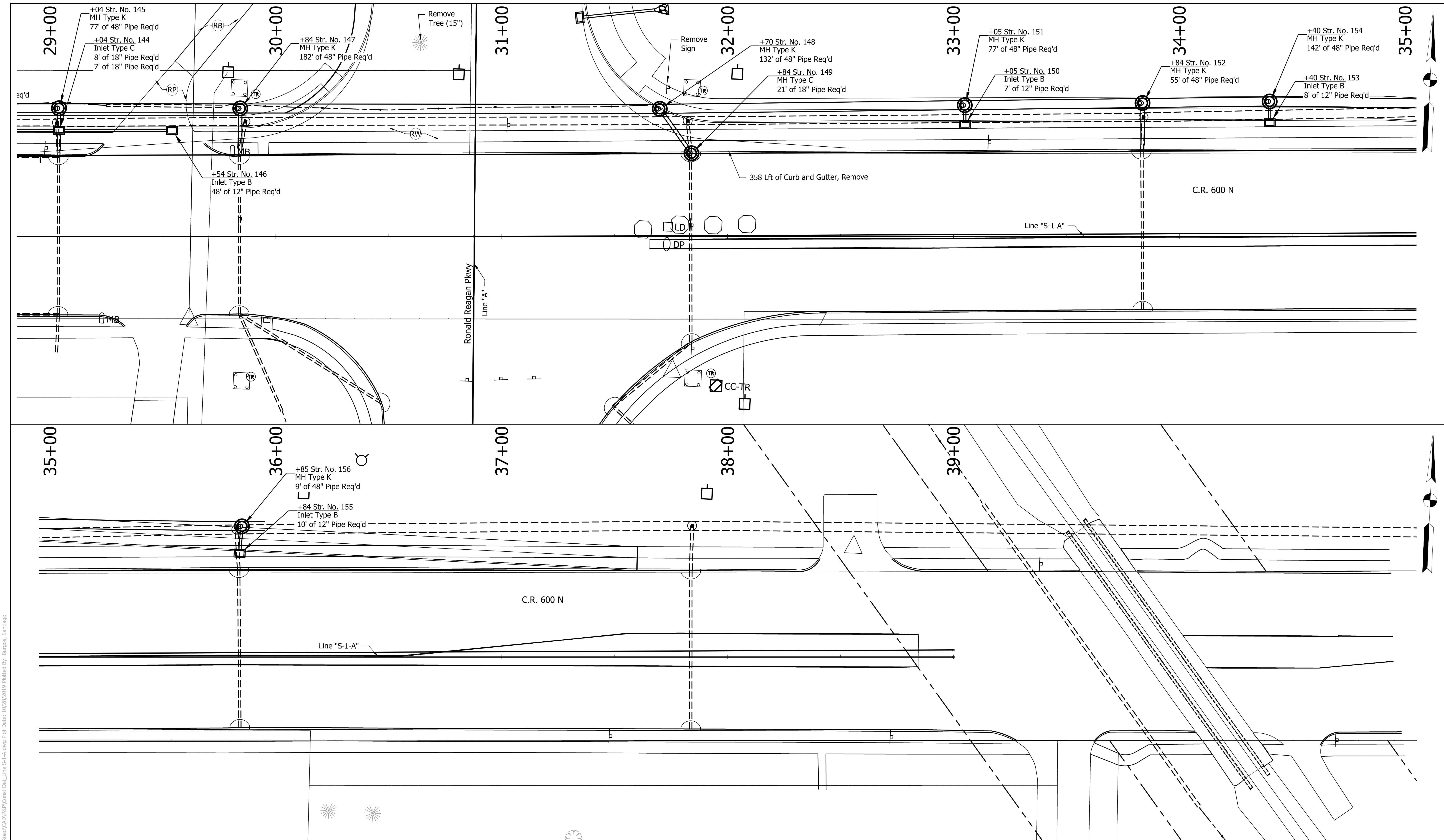
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
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|                                |              |                       |            |
|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-1-A"**  
**STA. 20+00 TO STA. 29+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>42 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



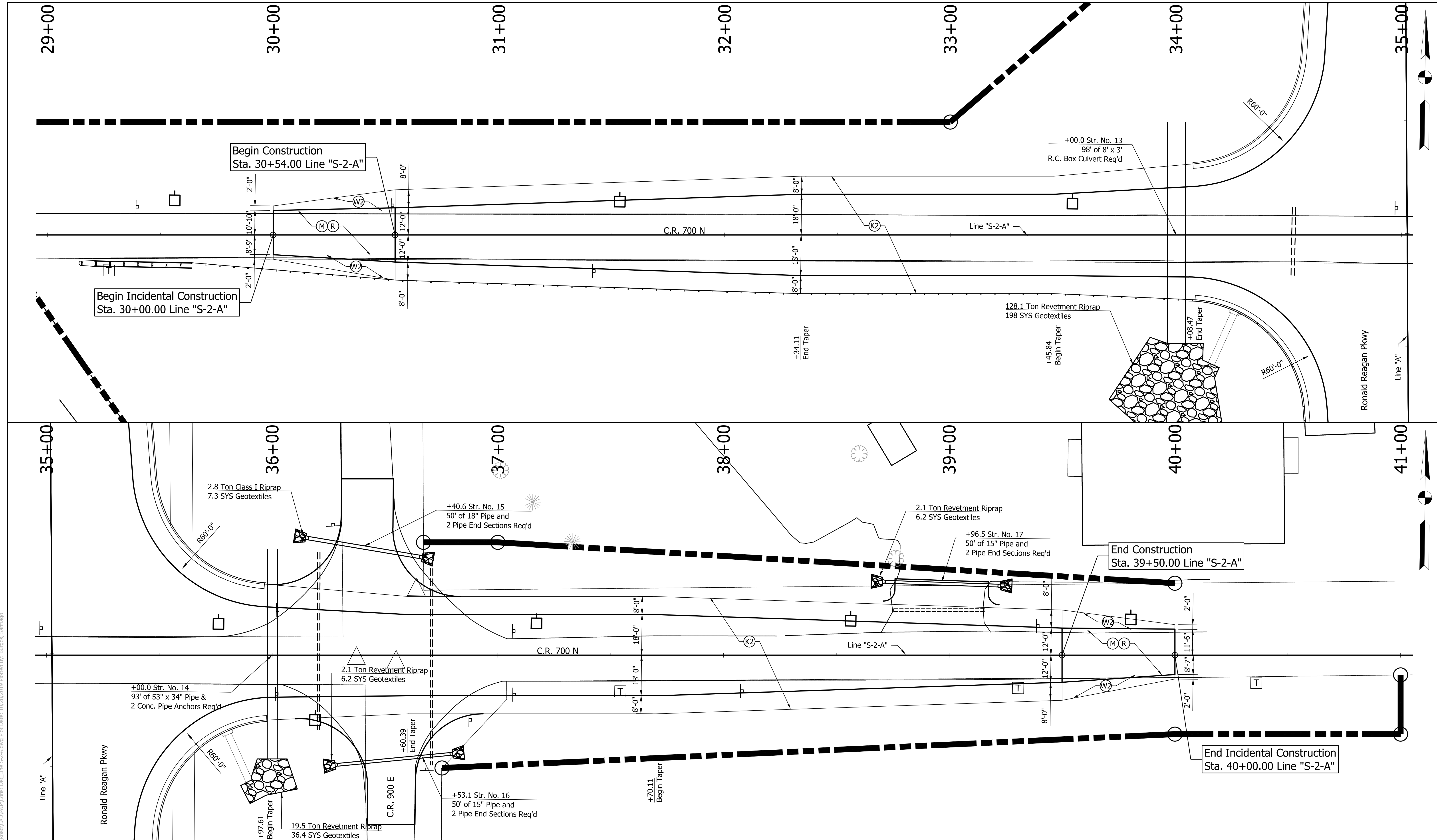
File Name: S:\\_3017217-0005\001\0005\001\0005\CAD\Plan\Const\Dot\_Line\_S-1-A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago

  
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**  
  
**CONSTRUCTION DETAILS - LINE "S-1-A"**  
**STA. 29+00 TO STA. 41+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>43 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



- (KZ) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
Subgrade Treatment, Type IB
- (M) Milling, Asphalt, 1.5"
- (R) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm

- (WZ) Widening with HMA, Type C, to be:  
165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
Subgrade Treatment, Type IB



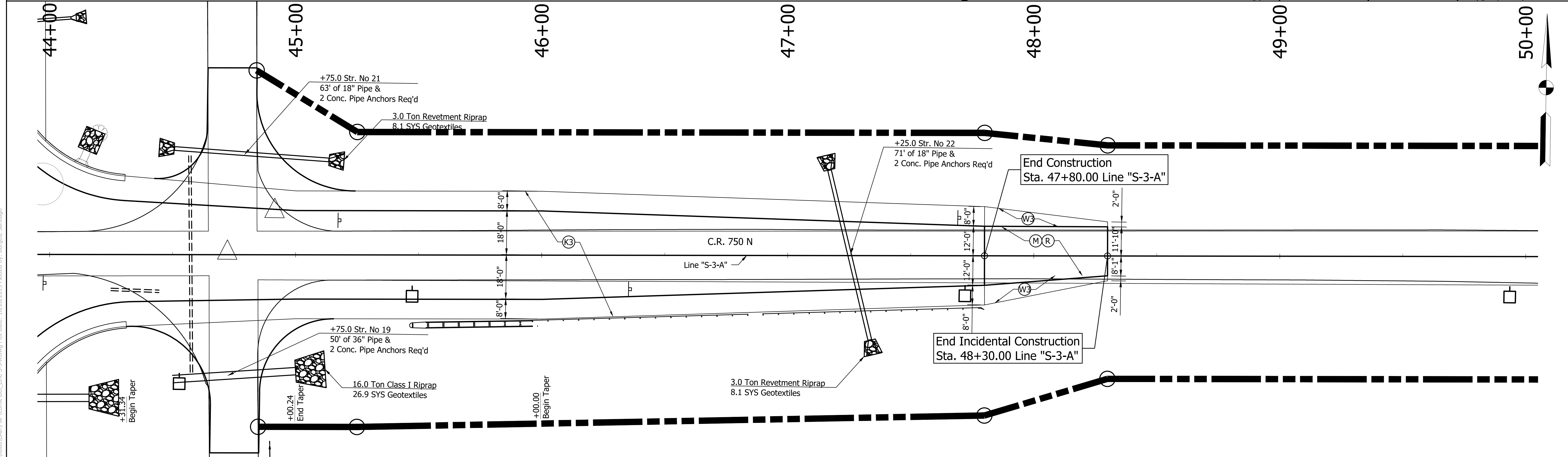
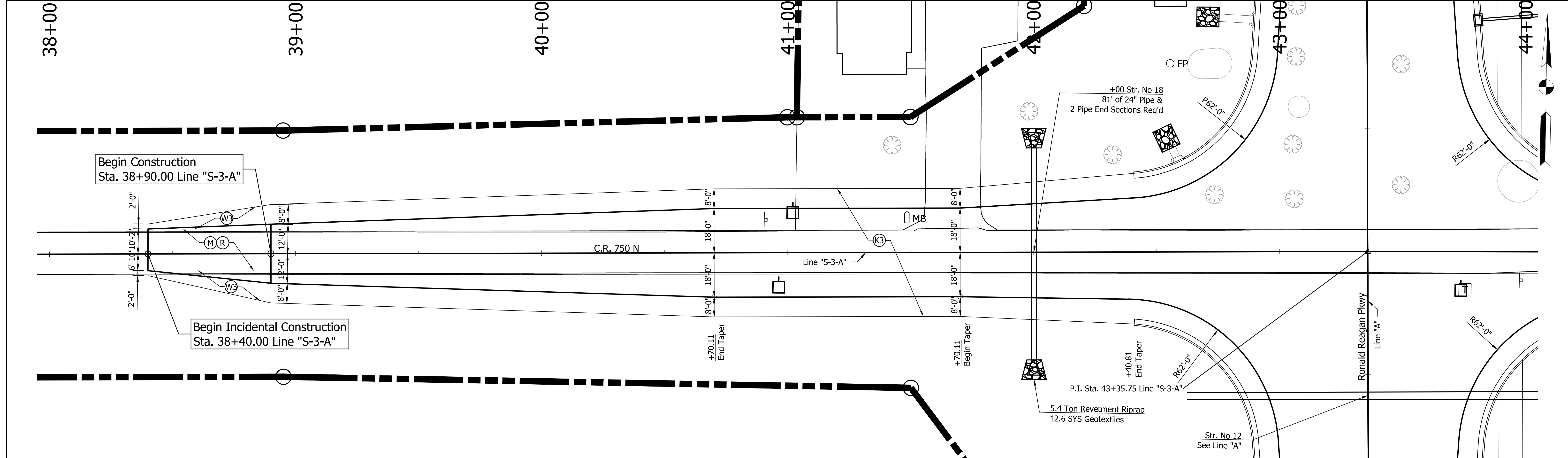
**LOCHMUELLER  
GROUP**  
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Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

|                          |              |
|--------------------------|--------------|
| RECOMMENDED FOR APPROVAL |              |
| DESIGN ENGINEER          | DATE         |
| DESIGNED: JNH            | DRAWN: MDV   |
| CHECKED: BKA             | CHECKED: BKA |

|  |  |
|--|--|
| HENDRICKS COUNTY                           |  |
| <b>CONSTRUCTION DETAILS - LINE "S-2-A"</b> |  |
| STA. 29+00 TO STA. 41+00                   |  |

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 44 of 172                        |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\11217-2005\06\05\Drawings\Drawings\29+00-41+00\Plan\Drawings\29+00-41+00 Line "S-2-A" Rev. 1.0.dwg Plot Date: 10/28/2019 Plotted By: Burgos, Santiago



|  |   |
|--|---|
| <p>(K) 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB</p> <p>(M) Milling, Asphalt, 1.5"</p> <p>(R) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm</p> | <p>(W3) Widening with HMA, Type C, to be:<br/>165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB</p> |
|--|---|



|                          |              |
|--------------------------|--------------|
| RECOMMENDED FOR APPROVAL |              |
| DESIGN ENGINEER          | DATE         |
| DESIGNED: JNH            | DRAWN: MDV   |
| CHECKED: BKA             | CHECKED: BKA |

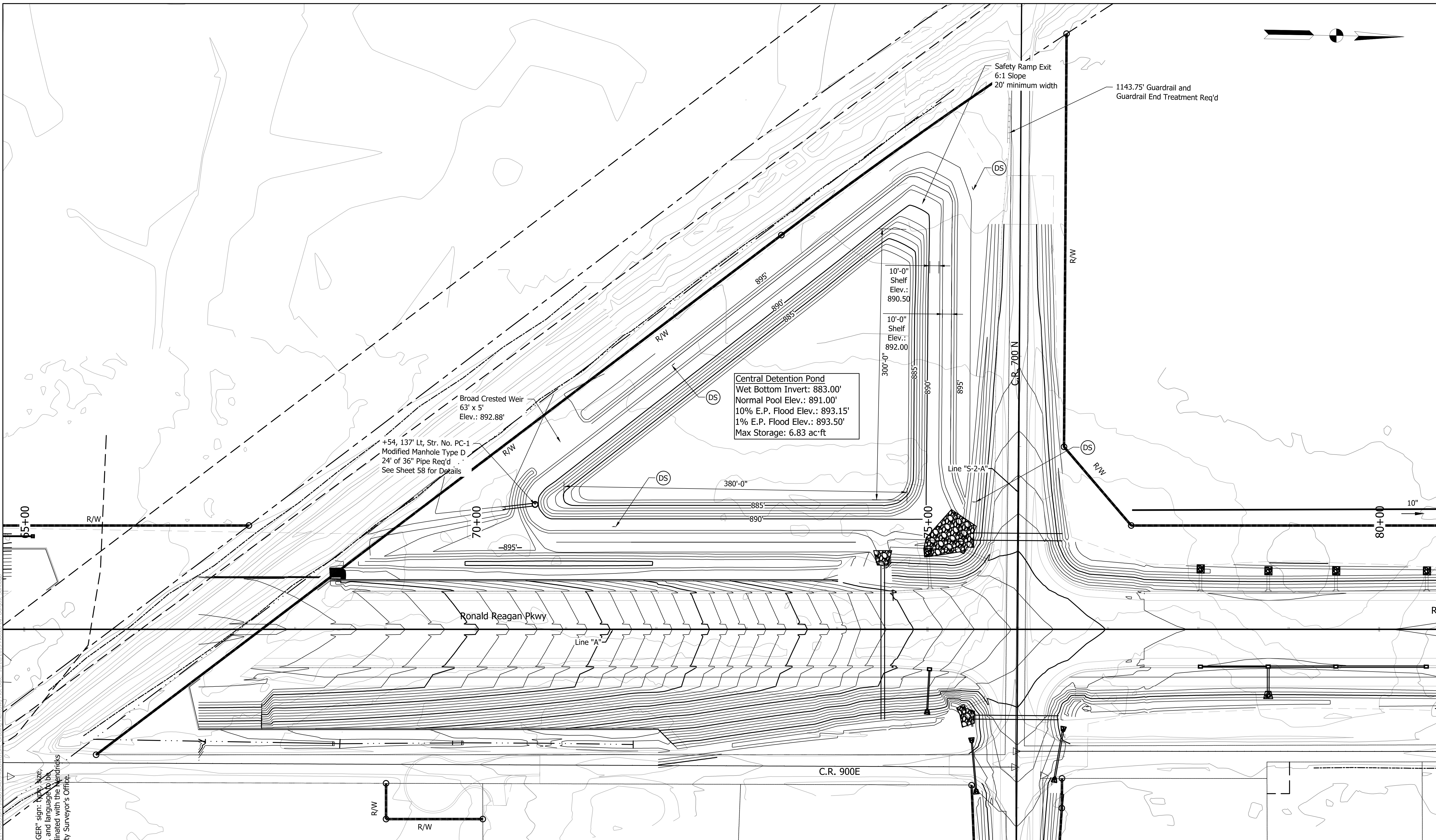
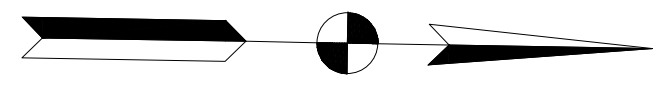
HENDRICKS COUNTY

CONSTRUCTION DETAILS - LINE "S-3-A"  
STA. 38+00 TO STA. 50+00

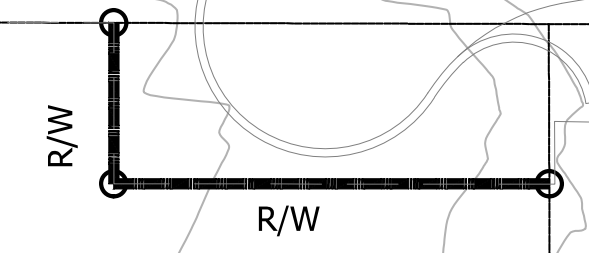
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| HORIZONTAL SCALE |  | BRIDGE FILE       |        |
| 1" = 20'         |  | HENDRICKS BR00089 |        |
| VERTICAL SCALE   |  | DESIGNATION       |        |
| N/A              |  | 1602280           |        |
| SURVEY BOOK      |  | SHEETS            |        |
| ELECTRONIC       |  | 45                | of 172 |
| CONTRACT         |  | PROJECT           |        |
| ####             |  | 1602280           |        |

File Name: S:\\_101717\_2005\0505\0505\0505\CADD\RP\Consol.Cad Line S-3-A.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago





"DANGER" sign: type, size, color, and language to be coordinated with the Hendricks County Surveyor's Office.



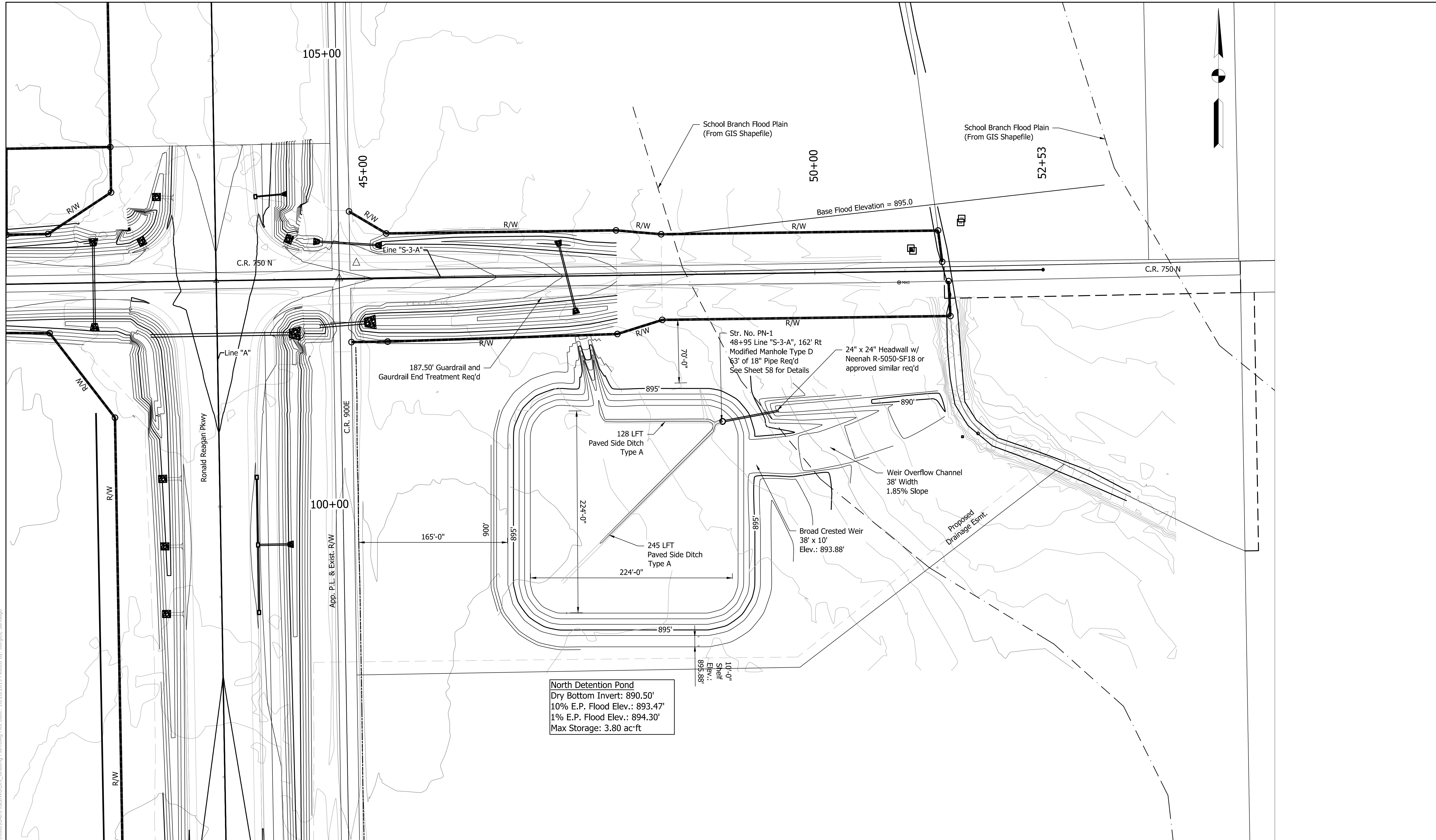
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**

**GRADING PLAN**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 53 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



North Detention Pond  
 Dry Bottom Invert: 890.50'  
 10% E.P. Flood Elev.: 893.47'  
 1% E.P. Flood Elev.: 894.30'  
 Max Storage: 3.80 ac-ft

File Name: S:\\_3017217-2005\001\Road\CAD\Misc\DWG\SHL\_Grading\_Plan.dwg Plot Date: 10/29/2010 Plotted By: Burgess, Santiago

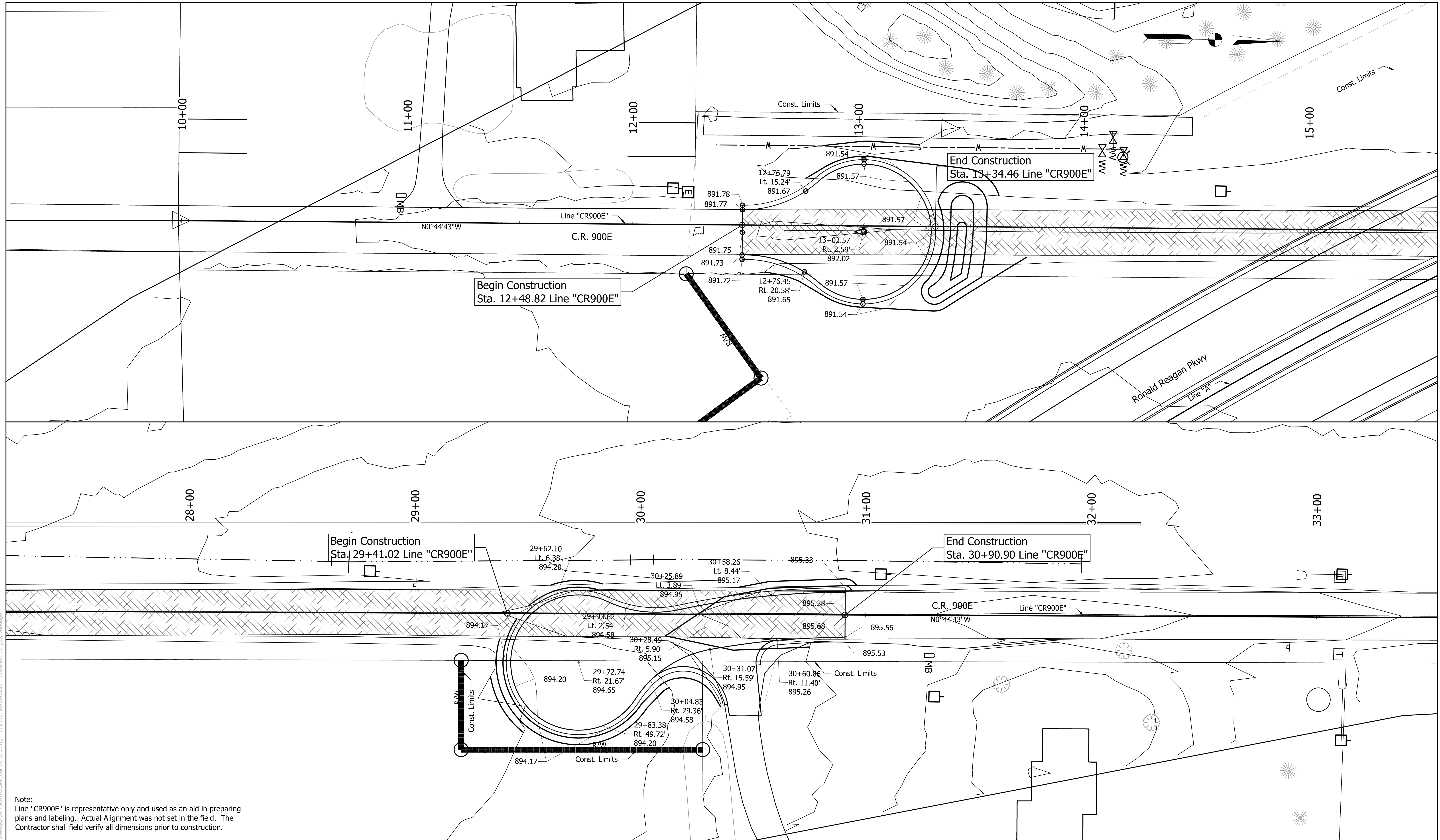
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

HENDRICKS COUNTY

**GRADING PLAN**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 54 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- Note:**  
Line "CR900E" is representative only and used as an aid in preparing plans and labeling. Actual Alignment was not set in the field. The Contractor shall field verify all dimensions prior to construction.
- 13) 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on  
330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on  
3" Compacted Aggregate, No. 53, Base on  
Subgrade Treatment, Type IB
  - 15) Curb and Gutter, Concrete, Modified



|                                |                       |            |
|--------------------------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV            |            |
| CHECKED: BKA                   | CHECKED: BKA          |            |

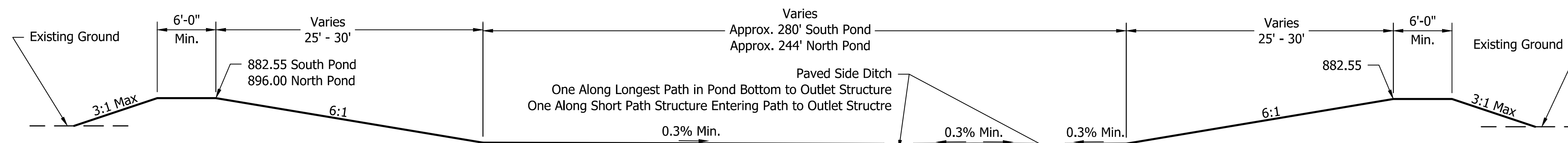
**HENDRICKS COUNTY**

**GRADING PLAN**  
**C.R. 900 CUL-DE-SACS**

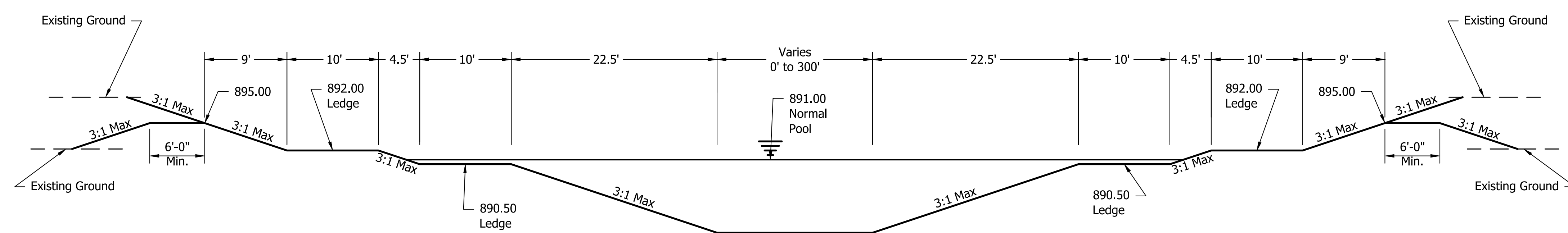
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|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 10' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>55 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_3017217-2008\06\09\Bentley\CAD\microwgs\Shl\_Cul-De-Sacs.dwg Plot Date: 10/28/2019 10:09:38 AM





Pond - Typical Section  
South Pond  
North Pond



Pond - Typical Section  
Central Pond

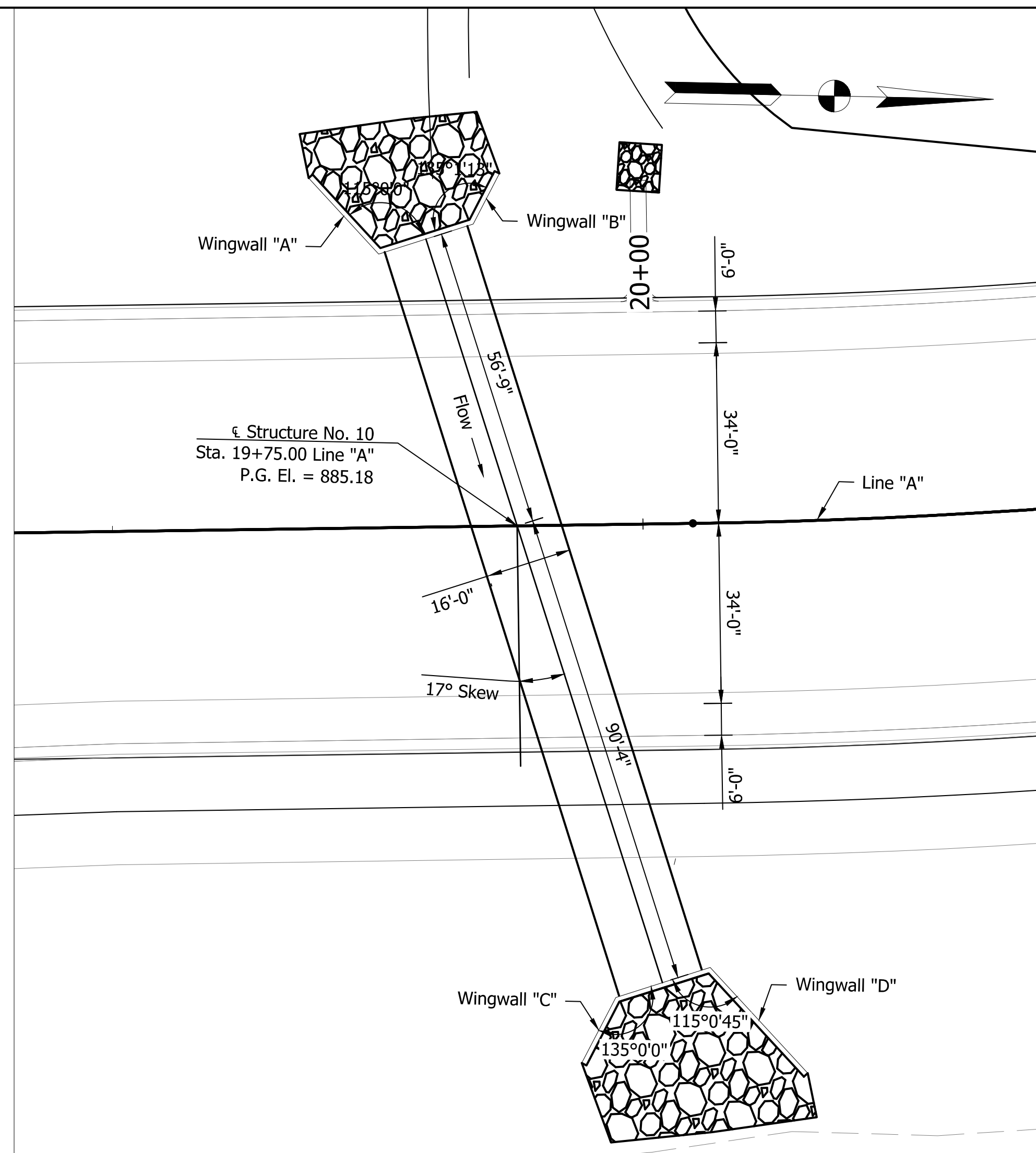
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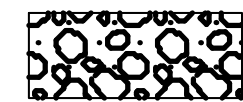
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|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

|                                    |  |
|------------------------------------|--|
| HENDRICKS COUNTY                   |  |
| TYPICAL SECTIONS<br>DRAINAGE PONDS |  |

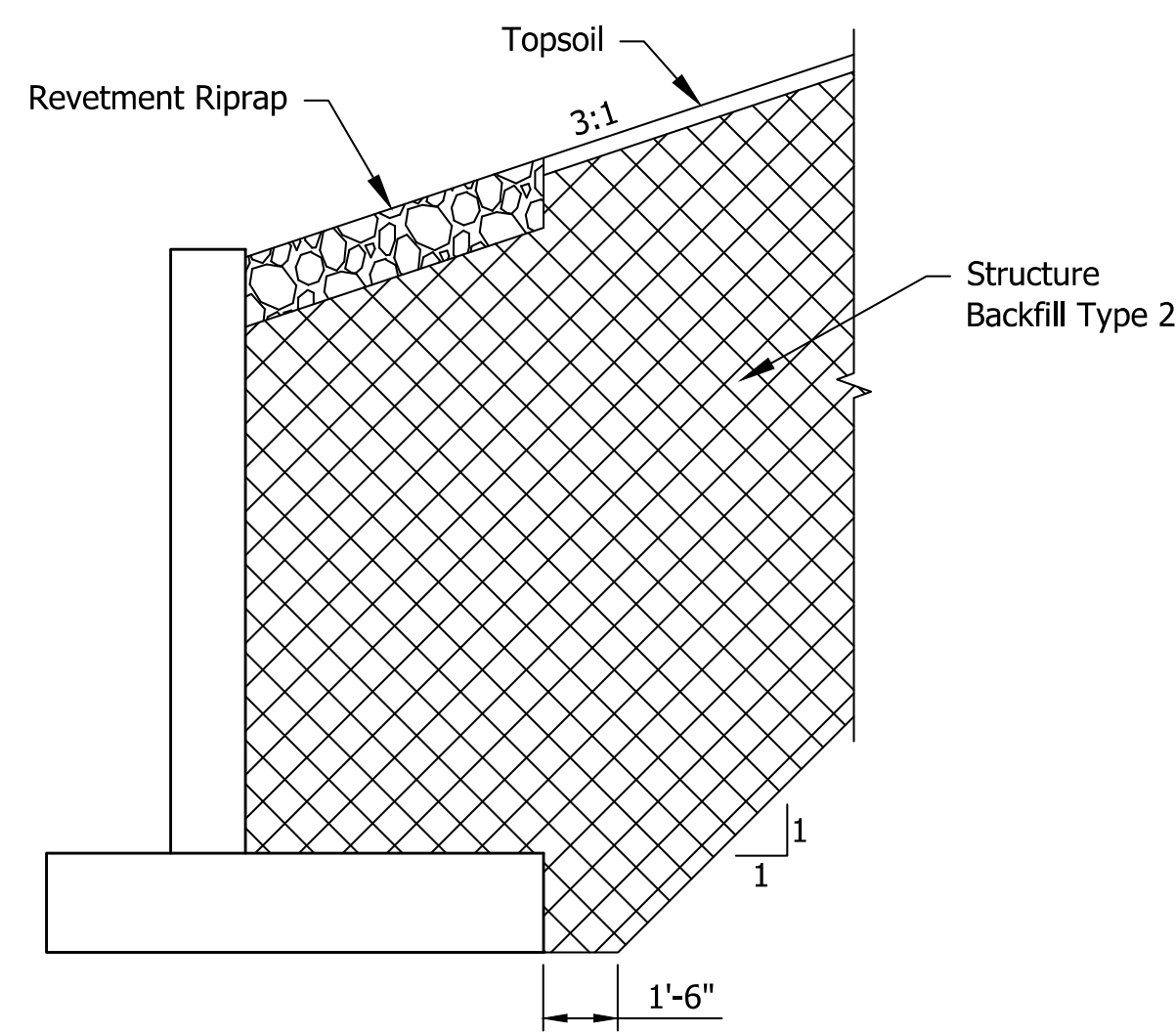
|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1/8" = 1'-0"     | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| 1/8" = 1'-0"     | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 56 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



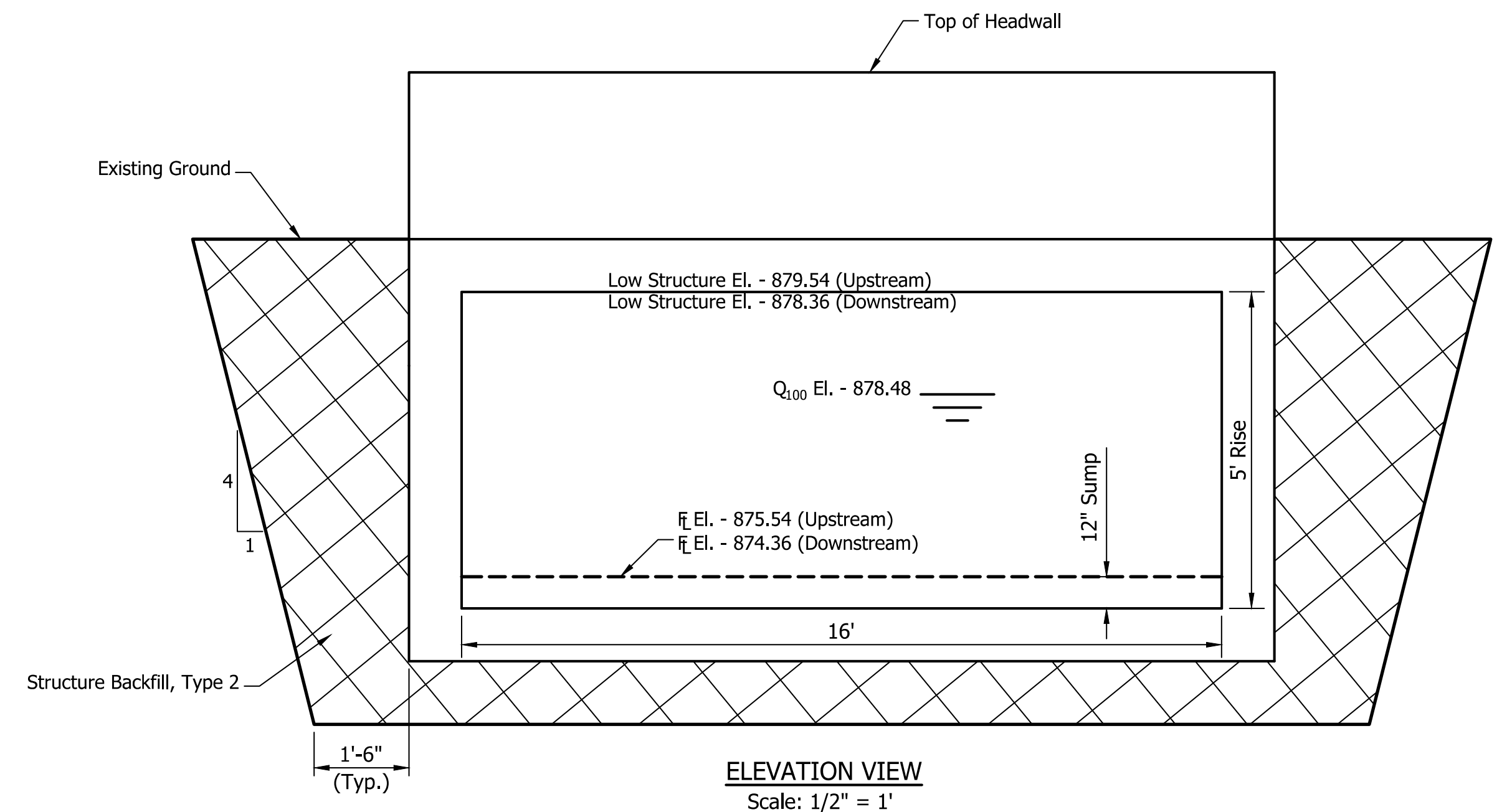
PLAN VIEW  
Scale: 1" = 20'



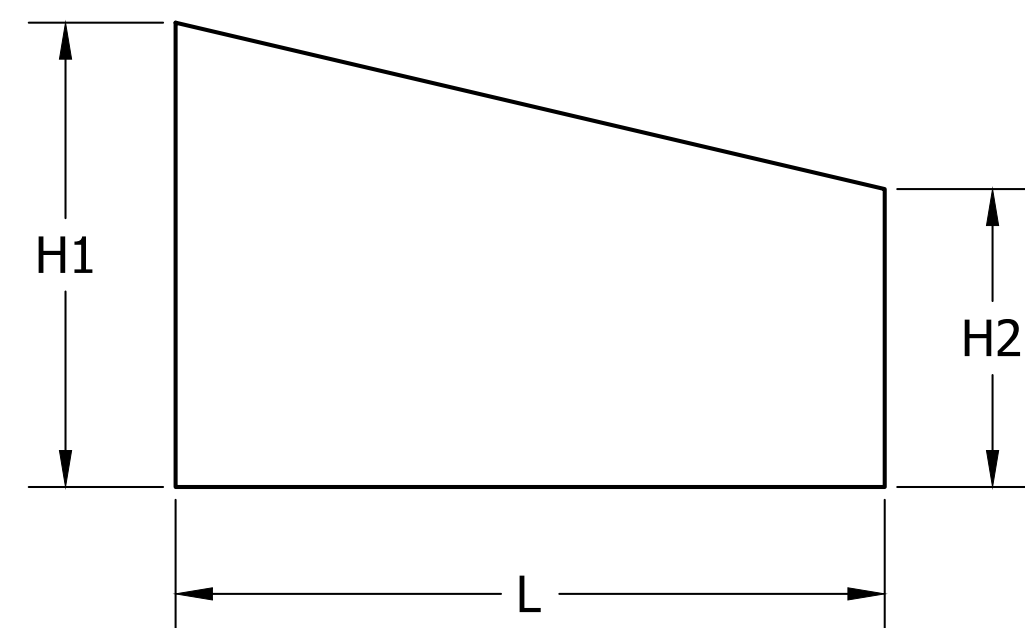
DENOTES LIMITS OF 24" CLASS I RIPRAP AND GEOTEXTILES



WINGWALL BACKFILL DETAIL  
Scale N.T.S.



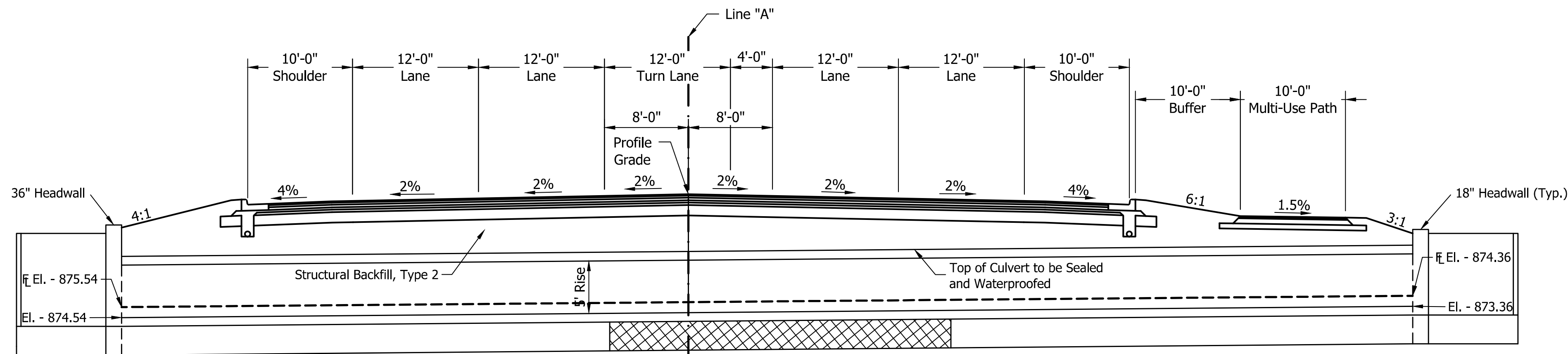
ELEVATION VIEW  
Scale: 1/2" = 1'



| WINGWALLS   |            |         |         |         |
|-------------|------------|---------|---------|---------|
| Designation | Area (SFT) | H1 (FT) | H2 (FT) | L       |
| "A"         | 83.33      | 6'-7"   | 2'-0"   | 19'-5"  |
| "B"         | 36.17      | 5'-0"   | 2'-0"   | 10'-4"  |
| "C"         | 51.03      | 5'-10"  | 1'-6"   | 13'-11" |
| "D"         | 135.83     | 8'-2"   | 1'-10"  | 27'-2"  |
| Total       | 306.36     |         |         |         |

Note to Reviewer:  
Remaining soils data will be included with final geotechnical report.

| SOILS DATA   |            |
|--|------------|
| Factored Bearing Resistance                                      | 3,800 psf  |
| Angle of Internal Friction of Foundation Soil ( $\phi$ )         | $x^\circ$  |
| Angle of Friction Between Footing & Foundation Soil ( $\delta$ ) | $xx^\circ$ |
| Ultimate Cohesion of Foundation Soil (C)                         | $xx$ psf   |
| Ultimate Adhesion Between Foundation Soil & Concrete ( $C_a$ )   | $xx$ psf   |



TYPICAL CROSS SECTION  
Scale: 1/8" = 1'

Design Data:

Wingwalls and wingwall foundations shall be designed in accordance with AASHTO LRFD Bridge Specifications.

Note: A three-sided, arch-topped or true-arch structure will not be permitted at this location.

STRUCTURE 10  
RONALD REAGAN PARKWAY

PRECAST REINFORCED CONCRETE BOX CULVERT

1 SPAN @ 16'-0"; 5'-0" RISE  
CLEAR ROADWAY: 85'-0"  
SKEW: 17°



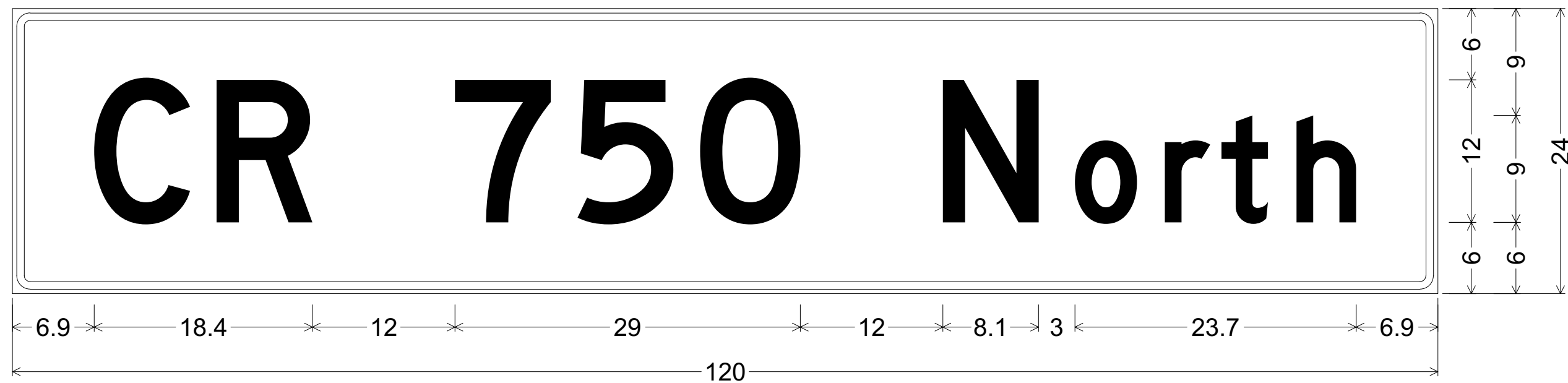
RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

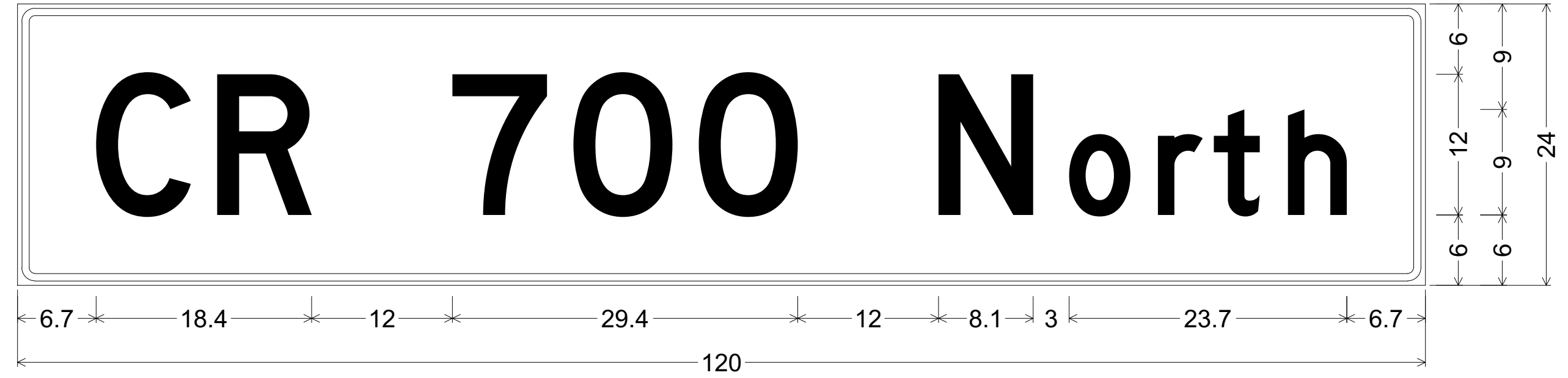
CULVERT DETAILS  
STRUCTURE 10

| HORIZONTAL SCALE |  | BRIDGE FILE       |        |
|------------------|--|-------------------|--------|
| AS SHOWN         |  | HENDRICKS BR00089 |        |
| VERTICAL SCALE   |  | DESIGNATION       |        |
| AS SHOWN         |  | 1602280           |        |
| SURVEY BOOK      |  | SHEETS            |        |
| ELECTRONIC       |  | 57                | of 172 |
| CONTRACT         |  | PROJECT           |        |
| ###              |  | 1602280           |        |



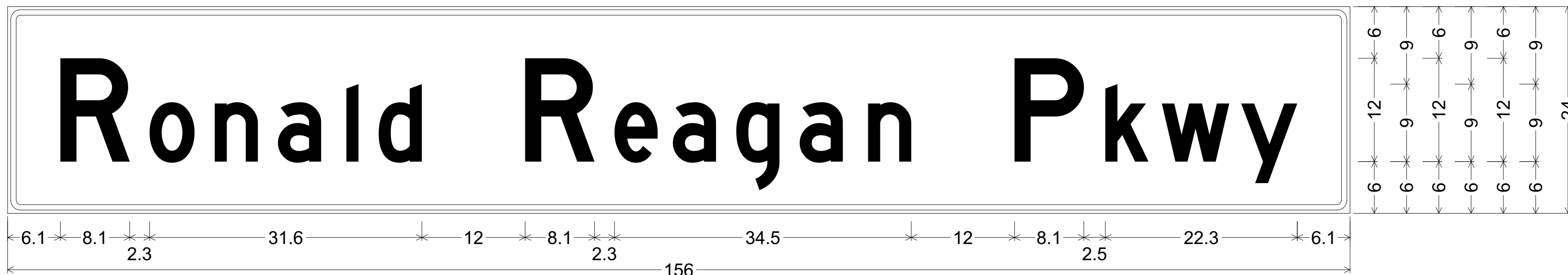
Identifier : D3-1(4) ;  
 1.5" Radius, 0.6" Border, 0.4" Indent, White on Green;  
 [CR 750 North] D;  
 Table of widths and spaces.

|     |     |     |     |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C   | R   | 7   | 5   | 0    | N   | o   | r   | t    | h   |     |     |     |     |     |     |     |     |     |
| 6.9 | 8.0 | 2.3 | 8.1 | 12.0 | 8.0 | 2.3 | 8.4 | 12.0 | 8.1 | 3.0 | 5.3 | 2.3 | 3.8 | 1.0 | 3.9 | 2.4 | 5.0 | 6.9 |



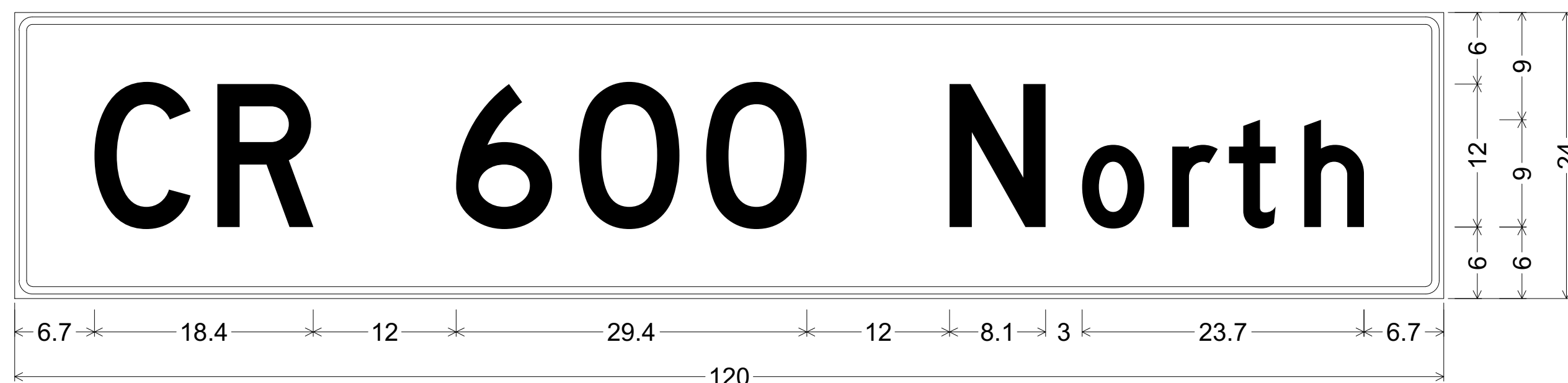
Identifier : D3-1(3) ;  
 1.5" Radius, 0.6" Border, 0.4" Indent, White on Green;  
 [CR 700 North] D;  
 Table of widths and spaces.

|     |     |     |     |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C   | R   | 7   | 0   | 0    | N   | o   | r   | t    | h   |     |     |     |     |     |     |     |     |     |
| 6.7 | 8.1 | 2.2 | 8.1 | 12.0 | 8.0 | 2.3 | 8.4 | 12.0 | 8.1 | 3.0 | 5.3 | 2.3 | 3.8 | 1.0 | 3.9 | 2.4 | 5.0 | 6.7 |



Identifier : D3-1(1) ;  
 1.5" Radius, 0.6" Border, 0.4" Indent, White on Green;  
 [Ronald Reagan Pkwy] D;  
 Table of widths and spaces.

|     |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|
| R   | o   | n   | a   | l   | d   | R   | e   | a   | g   | a   | n   | P    | k   | w   | y   |     |     |     |     |     |     |     |     |      |     |     |     |     |     |     |     |     |
| 6.1 | 8.1 | 2.3 | 5.2 | 2.4 | 5.0 | 2.3 | 5.0 | 3.0 | 1.4 | 2.3 | 5.0 | 12.0 | 8.1 | 2.3 | 5.0 | 1.8 | 5.0 | 2.4 | 5.0 | 2.3 | 5.1 | 2.9 | 5.0 | 12.0 | 8.1 | 2.5 | 5.0 | 1.5 | 7.9 | 1.3 | 6.6 | 6.1 |



Identifier : D3-1(2) ;  
 1.5" Radius, 0.6" Border, 0.4" Indent, White on Green;  
 [CR 600 North] D;  
 Table of widths and spaces.

|     |     |     |     |      |     |     |     |      |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| C   | R   | 6   | 0   | 0    | N   | o   | r   | t    | h   |     |     |     |     |     |     |     |     |     |
| 6.7 | 8.1 | 2.2 | 8.1 | 12.0 | 8.0 | 2.3 | 8.4 | 12.0 | 8.1 | 3.0 | 5.3 | 2.3 | 3.8 | 1.0 | 3.9 | 2.4 | 5.0 | 6.7 |

File Name: P:\RD\CBD\17-405\Road\Drawings\Signal\Details.dwg Plot Date: 2/5/2020 Plotted By: Vic Dobson



1625 N. Post Road  
 Indianapolis, IN 46219  
 Phone 317-895-2585  
 Fax 317-895-2596  
 www.ucindy.com

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 DESIGN ENGINEER DATE

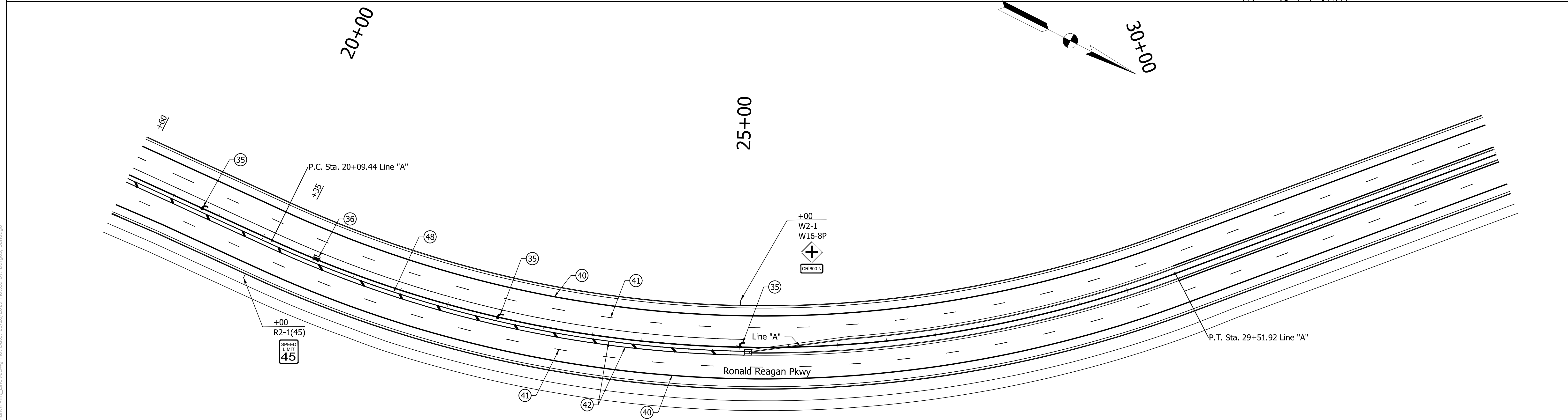
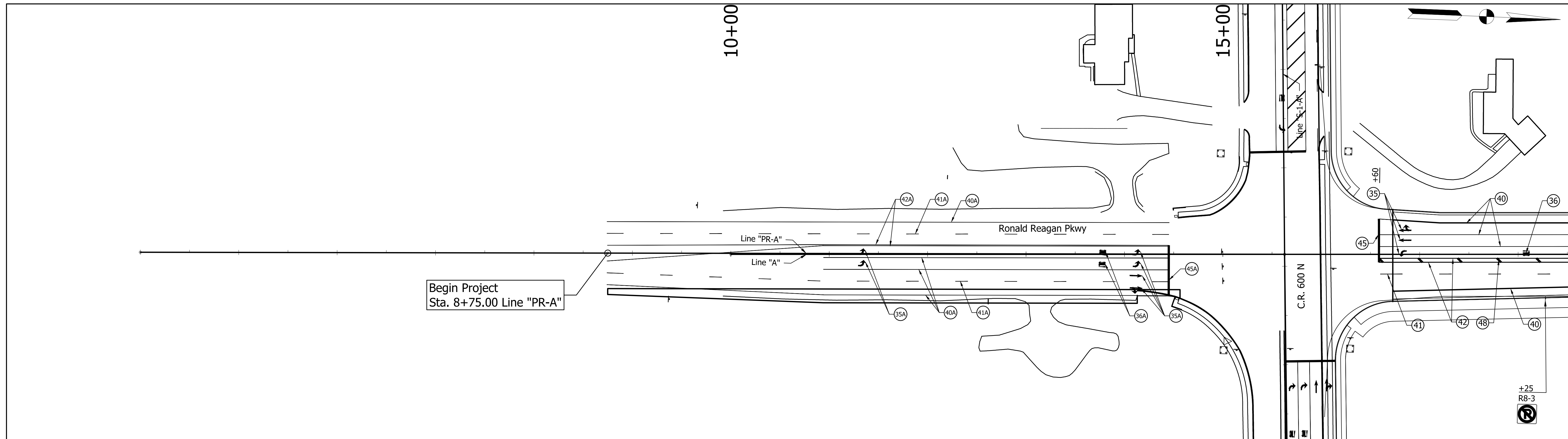
DESIGNED: ATW DRAWN: ATW

CHECKED: JRA CHECKED: JRA

HENDRICKS COUNTY

INTERSECTION DETAILS  
 OVERHEAD SIGNAL MOUNTED SIGNS

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 72A of 172        |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (35A) Pavement Message Marking, Multi-Component, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (36A) Pavement Message Marking, Multi-Component, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (40A) Line, Multi-Component, Solid, White, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (41A) Line, Multi-Component, Broken, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (42A) Line, Multi-Component, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"
- (45A) Transverse Marking, Multi-Component, Stop Bar, White, 24"
- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"
- (PR) Pavement Message Marking, Remove

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

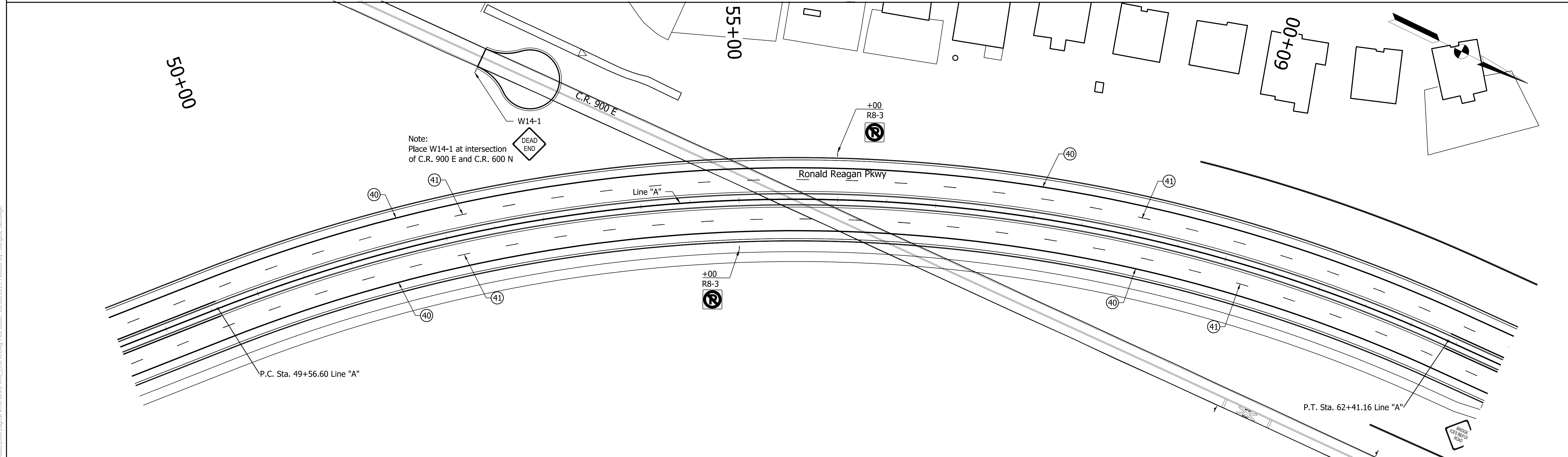
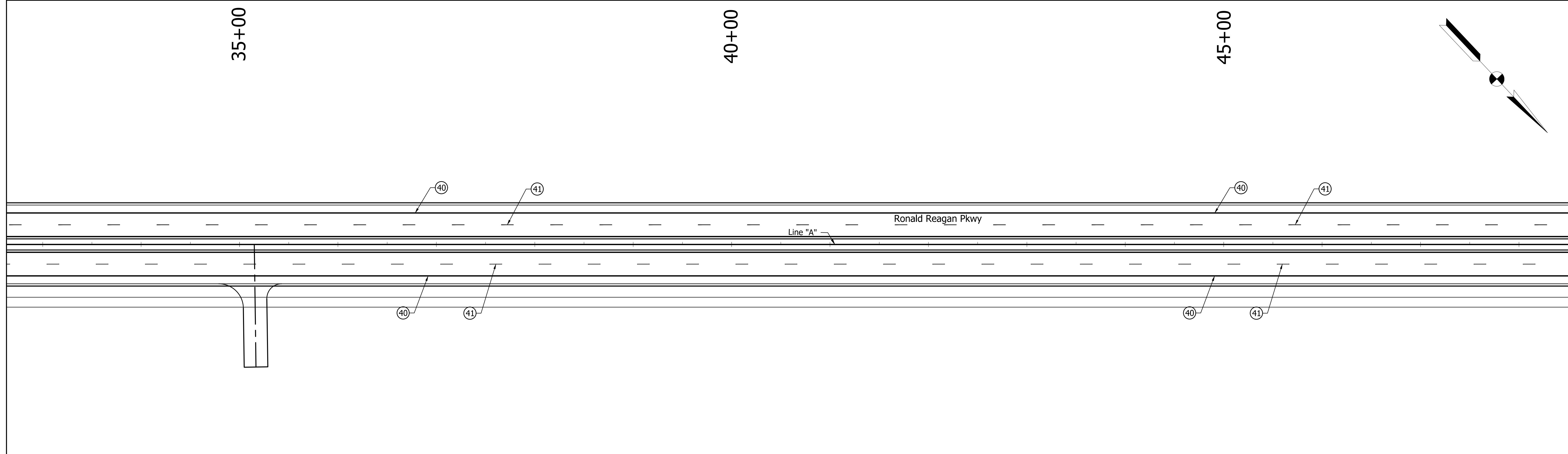
|                          |              |
|--------------------------|--------------|
| RECOMMENDED FOR APPROVAL |              |
| DESIGN ENGINEER          | DATE         |
| DESIGNED: JNH            | DRAWN: MDV   |
| CHECKED: BKA             | CHECKED: BKA |

HENDRICKS COUNTY

PAVMENT MARKING AND SIGNING - LINE "A"  
STA. 3+00 TO STA. 33+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>73 of 172              |
| CONTRACT<br>####             | PROJECT<br>1602280               |

File Name: S:\\_2017\17-0005\0005\0005\CAD\Sigs\Print\Print\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



- 40 Line, Thermoplastic, Solid, White, 4"
- 41 Line, Thermoplastic, Broken, White, 4"

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 TOLL FREE: 888.830.6977

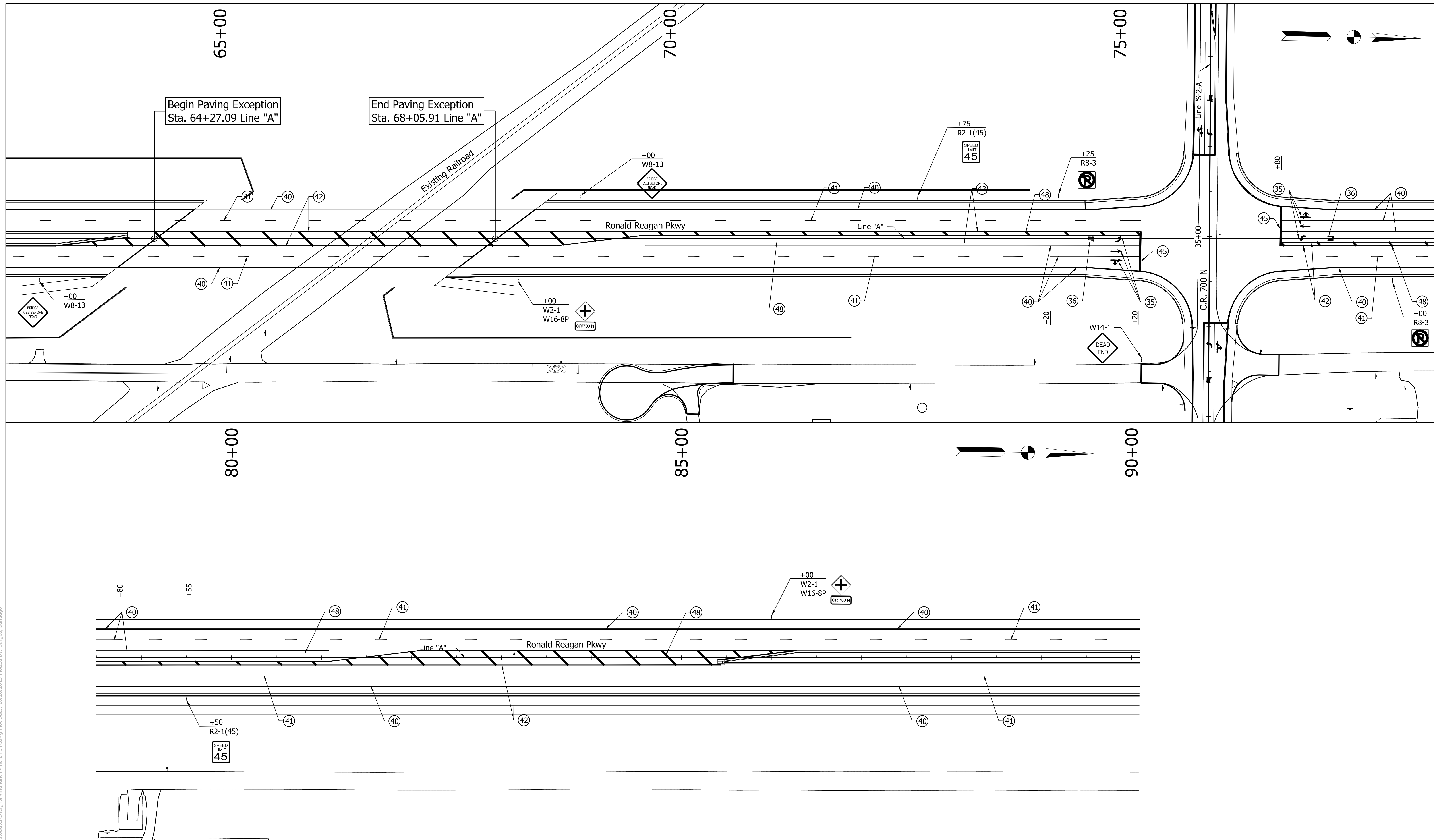
|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**

**PAVEMENT MARKING AND SIGNING - LINE "A"**  
**STA. 33+00 TO STA. 63+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>74 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_3017217-2005\09\09\Road\CAD\Signs\Print\Print\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"
- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

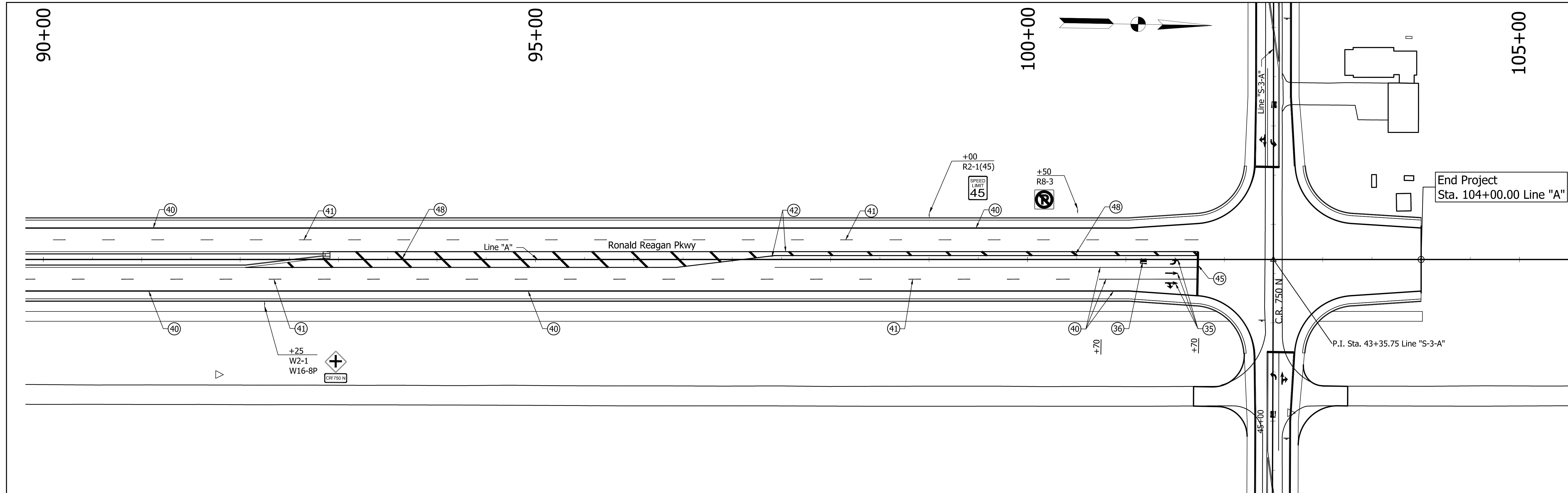
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|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

HENDRICKS COUNTY

PAVEMENT MARKING AND SIGNING - LINE "A"  
 STA. 63+00 TO STA. 90+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>75 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_2017\17-0005\05\05\Road\CAD\Sign\Print\Print\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"
- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"

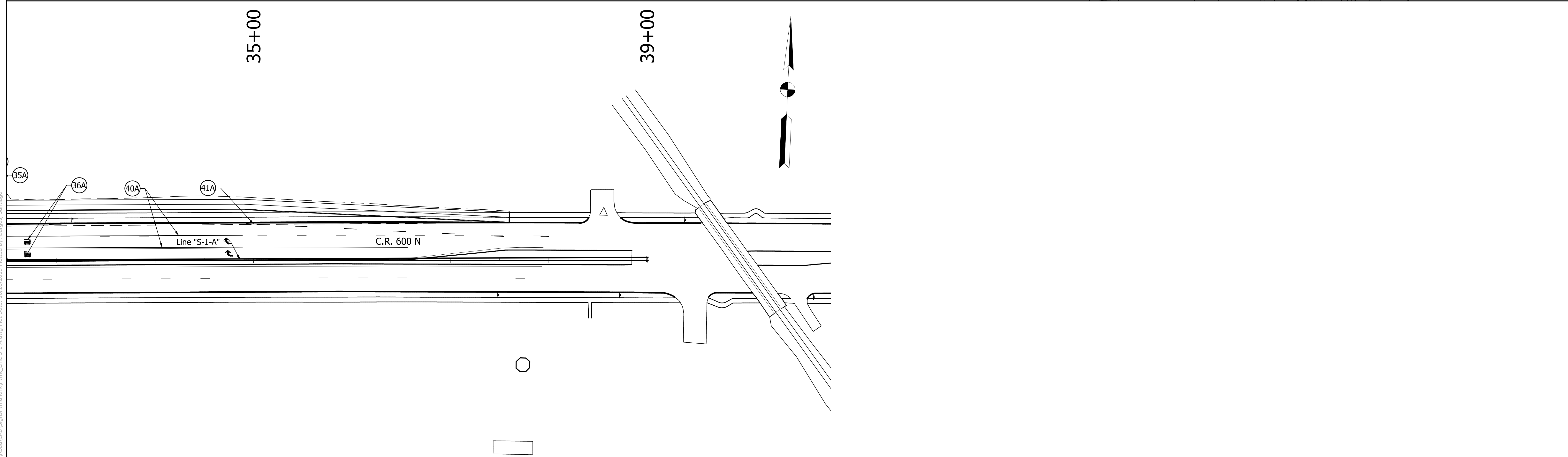
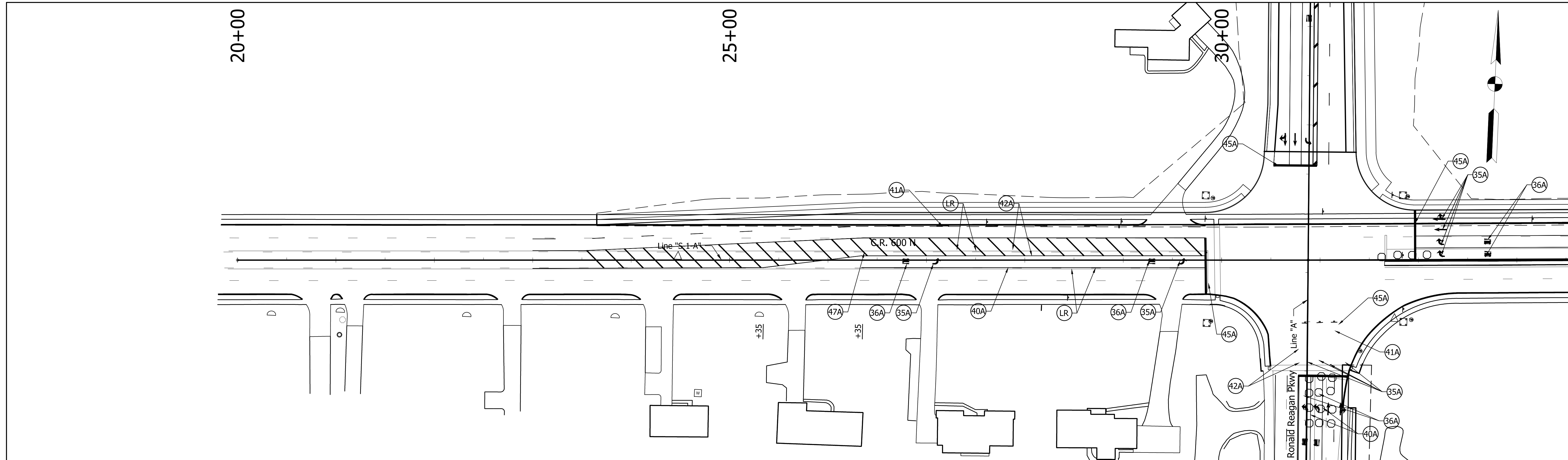
**LOCHMUELLER GROUP**  
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 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

|  |  |
|--|--|
| HENDRICKS COUNTY                               |  |
| <b>PAVEMENT MARKING AND SIGNING - LINE "A"</b> |  |
| STA. 90+00 TO STA. 105+00                      |  |

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 76 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_2017\17-0005\005\005\005\005\CAD\SigsPermit\Print\_Line\_A.dwg Plot Date: 10/28/2019 Plotted By: Burgess, Santiago



- 35A Pavement Message Marking, Multi-Component, Lane Indication Arrow
- 36A Pavement Message Marking, Multi-Component, ONLY
- 40A Line, Multi-Component, Solid, White, 4"
- 42A Line, Multi-Component, Solid, Yellow, 4"

- 47A Transverse Marking, Multi-Component, Crosshatch Line, Yellow, 12"
- LR Line, Remove
- 41A Line, Multi-Component, Broken, White, 4"
- 45A Transverse Marking, Multi-Component, Stop Bar, White, 24"

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 Indianapolis, Indiana, 46268  
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 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

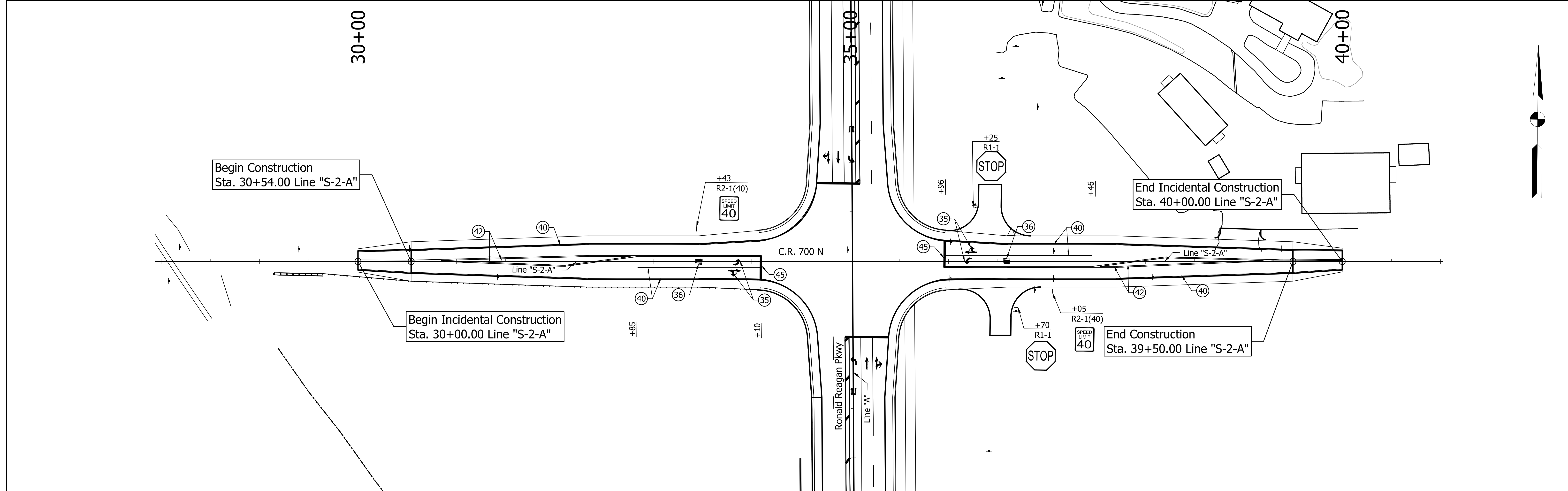
**HENDRICKS COUNTY**

**PAVEMENT MARKING AND SIGNING - LINE "S-1-A"**  
 STA. 18+00 TO STA. 40+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 77 of 172         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_3017217-0005\0005\0005\0005\CAD\SigntPermit\Print\_Line\_S-1-A.dwg Plot Date: 10/28/2010 Plotted By: Bunnie Santiago





File Name: S:\\_3017217-0005\0005\0005\Road\CAD\Signs\Permit\Print\_Line\_S-2-A.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago

- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"

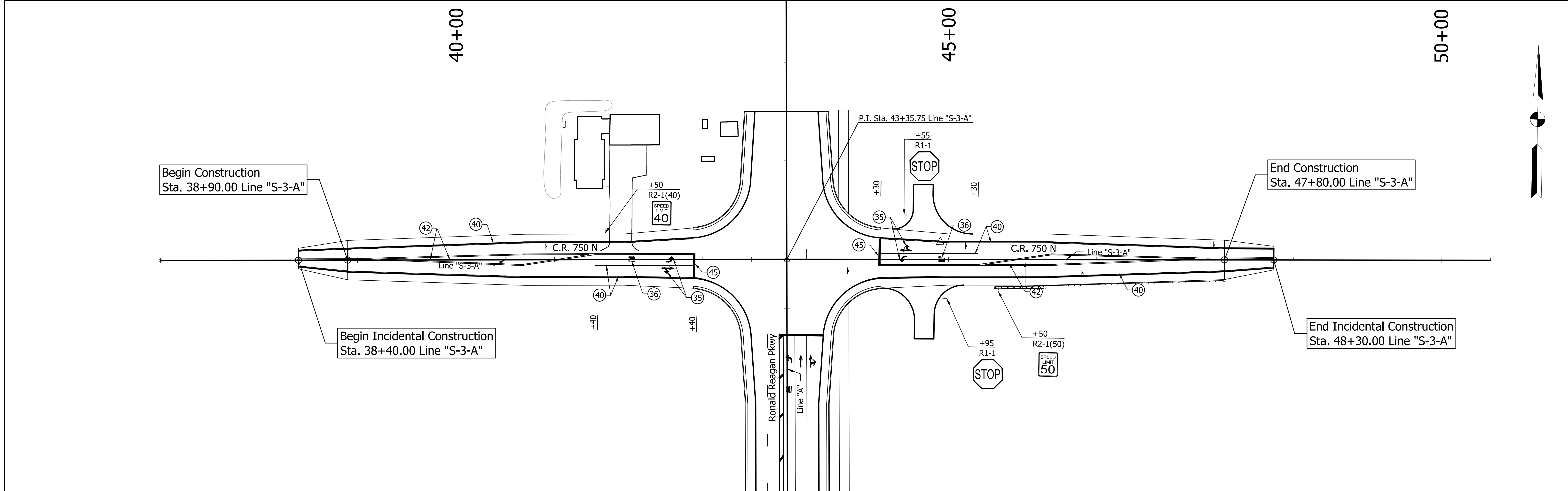
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**

**PAVEMENT MARKING AND SIGNING - LINE "S-2-A"**  
**STA. 28+00 TO STA. 41+00**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 78 of 172         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



File Name: S:\\_301717-0005\0005\0005\Drawings\Plan\Line S-3-A.dwg Plot Date: 10/28/2010 Plotted By: Burgess, Santiago

- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

**HENDRICKS COUNTY**

**PAVEMENT MARKING AND SIGNING - LINE "S-3-A"**  
**STA. 37+00 TO STA. 50+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>79 of 172              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

| STRUCTURE                      | TYPE   | SPAN AND SKEW                              | OVER               | STATION      |
|--------------------------------|--|--|--------------------|--------------|
| HENDRICKS COUNTY BRIDGE NO. 89 | CONTINUOUS COMPOSITE PRESTRESSED CONCRETE BULB TEE BEAM BRIDGE | 2 SPANS @ 151'-0", 162'-0" SKEW: 53° RIGHT | CSX TRANSPORTATION | 66+16.50 "A" |

# HENDRICKS COUNTY, INDIANA RONALD REAGAN PARKWAY BRIDGE NO. 89

## BRIDGE PLANS

FOR SPANS OVER 20 FEET

PROJECT NO. 1602280 P.E.  
1602280 R/W  
1602280 CONST.

| TRAFFIC DATA              | RONALD REAGAN PARKWAY          |
|---------------------------|--------------------------------|
| A.D.T. (2018)             | 9,070 V.P.D.                   |
| A.D.T. (2038)             | 29,210 V.P.D.                  |
| D.H.V. (2038)             | 2,921 V.P.H.                   |
| DIRECTIONAL DISTRIBUTION  | 50%                            |
| TRUCKS                    | 4% D.H.V.<br>2% D.H.V.         |
| DESIGN DATA               |                                |
| DESIGN SPEED              | 45 M.P.H.                      |
| PROJECT DESIGN CRITERIA   | NEW CONSTRUCTION (NON-FREEWAY) |
| FUNCTIONAL CLASSIFICATION | PRINCIPAL ARTERIAL             |
| RURAL/URBAN               | URBAN                          |
| TERRAIN                   | LEVEL                          |
| ACCESS CONTROL            | PARTIAL                        |

### HENDRICKS COUNTY BOARD OF COMMISSIONERS

\_\_\_\_\_  
MATTHEW D. WHETSTONE, PRESIDENT

\_\_\_\_\_  
PHYLLIS A. PALMER, VICE PRESIDENT

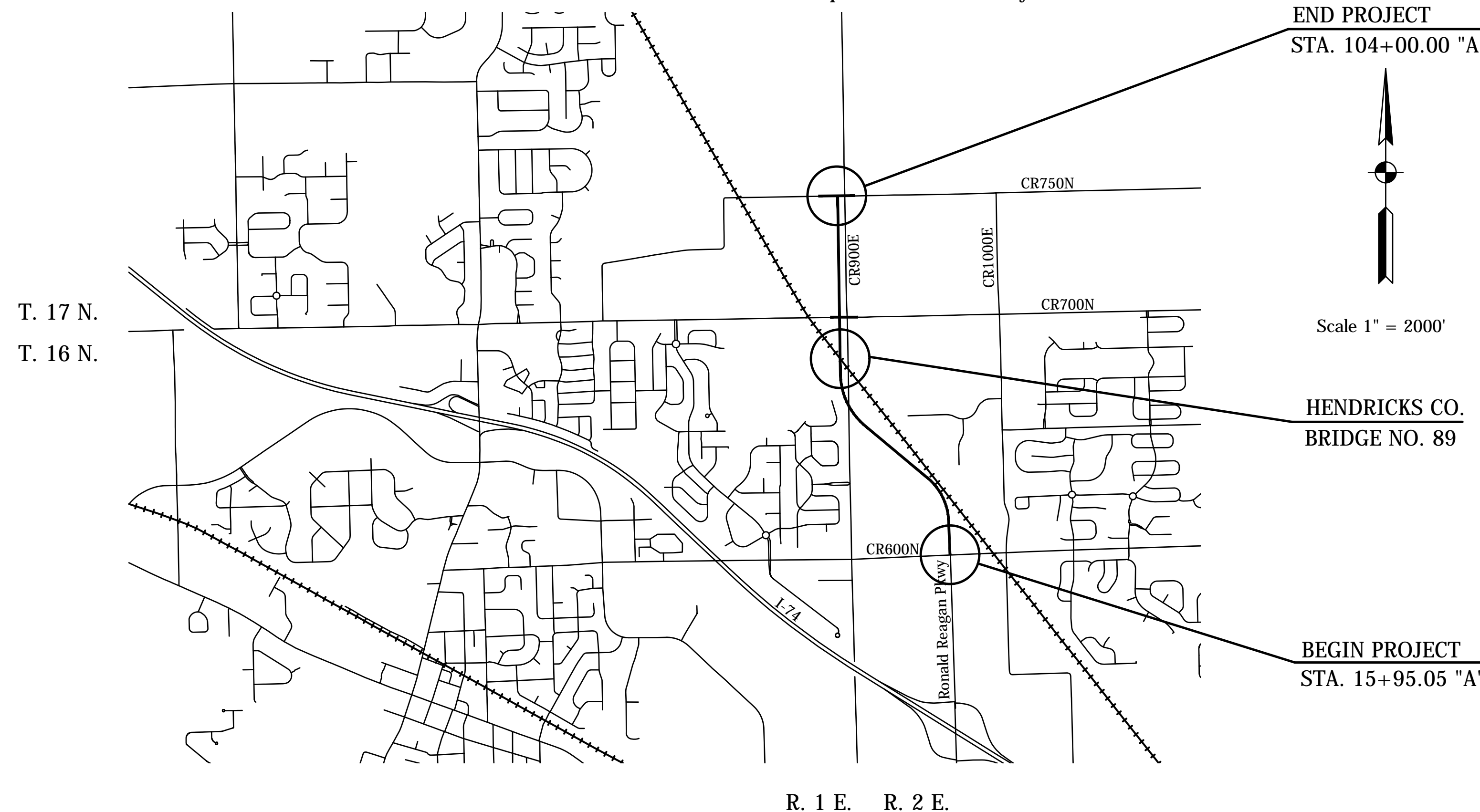
\_\_\_\_\_  
BOB GENTRY, MEMBER

\_\_\_\_\_  
NANCY MARSH, AUDITOR

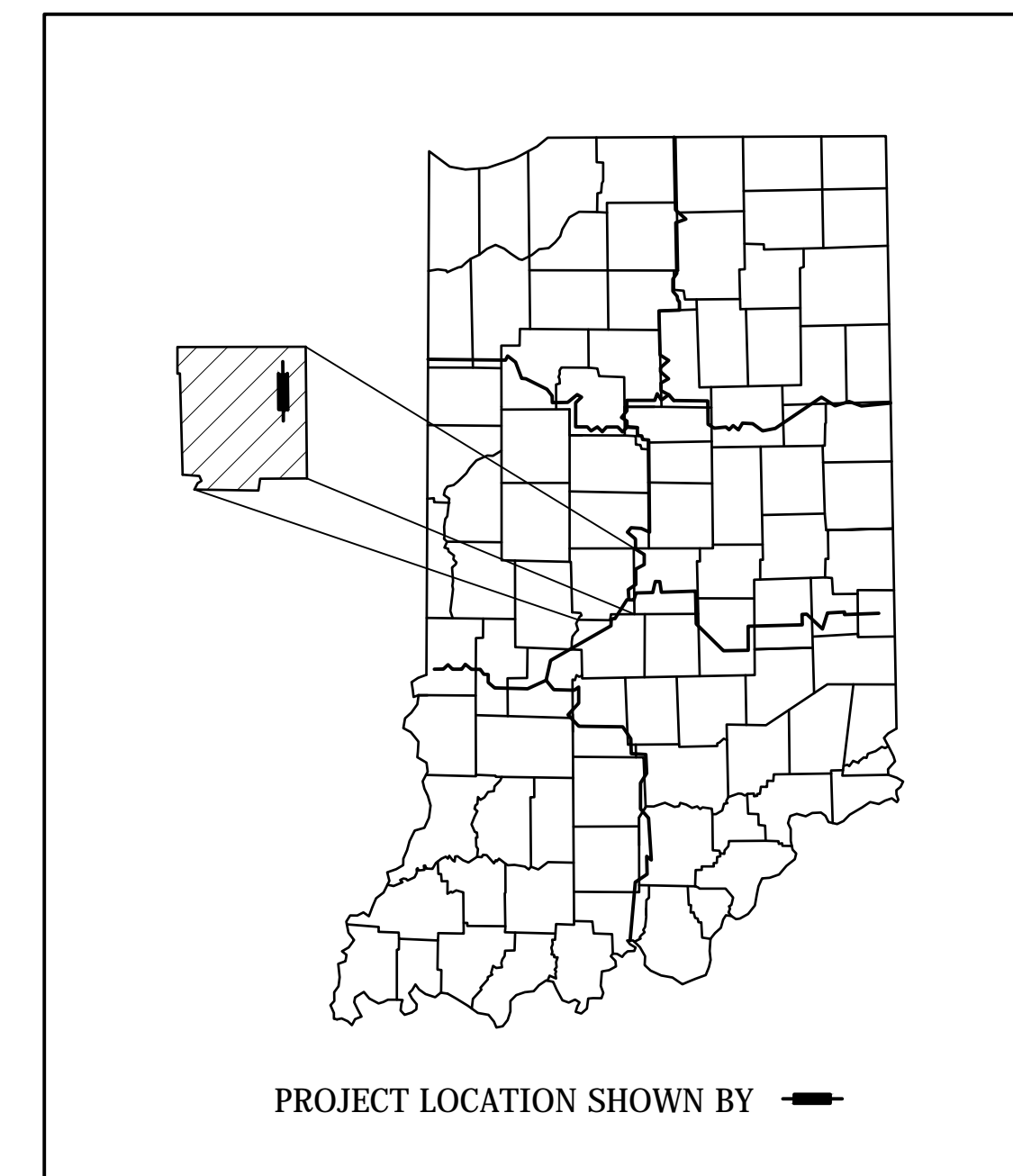
APPROVED:

\_\_\_\_\_  
JOHN AYERS, P.E.  
COUNTY ENGINEER

This New Bridge Construction is on Ronald Reagan Parkway over CSX Transportation located approximately 1.35 Miles North of Interstate 74 in Section 1, T-16-N, R-1-E, Brown Township, Hendricks County, Indiana.



HENDRICKS COUNTY



LATITUDE: 39°51'46"N      LONGITUDE: 86°21'50"W

|                  |           |
|------------------|-----------|
| BRIDGE LENGTH :  | 0.060 MI. |
| ROADWAY LENGTH : | 1.608 MI. |
| TOTAL LENGTH :   | 1.668 MI. |
| MAX GRADE :      | 5.00%     |

**BROWN TOWNSHIP  
HENDRICKS COUNTY**

[INDIANA DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS DATED 2018 TO BE  
USED WITH THESE PLANS]

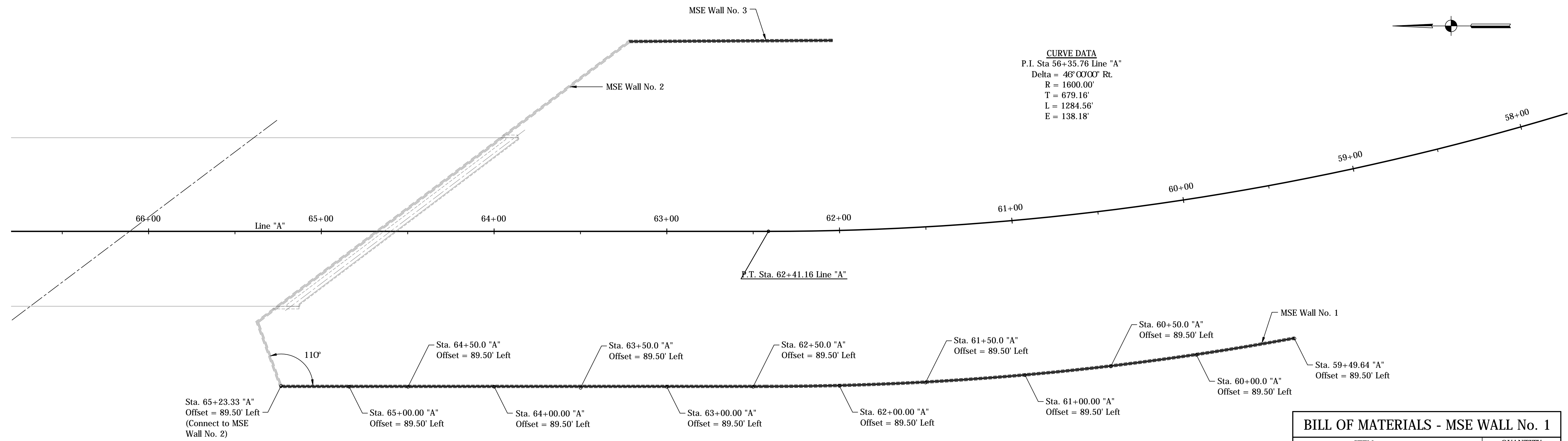


1625 N. Post Road  
Indianapolis, Indiana 46219  
Phone: 317-895-2585  
Fax: 317-895-2596 Web: www.ucindy.com

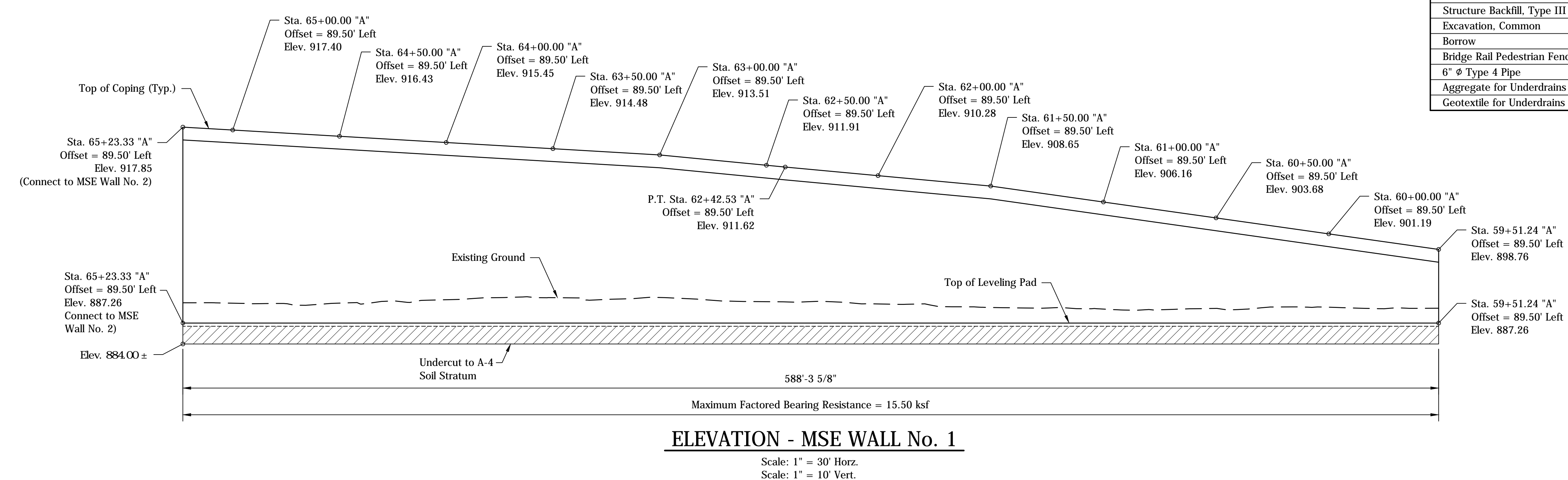
|                       |                                      |                       |
|-----------------------|--------------------------------------|-----------------------|
| PLANS PREPARED BY:    | <b>UNITED CONSULTING</b>             | <b>(317) 895-2585</b> |
|                       |                                      | PHONE NUMBER          |
| CERTIFIED BY:         | _____                                | DATE                  |
| APPROVED FOR LETTING: | _____                                | DATE                  |
|                       | INDIANA DEPARTMENT OF TRANSPORTATION |                       |

| BRIDGE FILE   |         |
|---------------|---------|
| HENDRICKS 89  |         |
| DESIGNATION   |         |
| -             |         |
| SURVEY BOOK   |         |
| HENDRICKS #89 | 1 of 48 |
| CONTRACT      |         |
| -             |         |

File Name: P:\CS\DA17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.



| BILL OF MATERIALS - MSE WALL No. 1 |             |
|------------------------------------|-------------|
| ITEM                               | QUANTITY    |
| Face Panels, Concrete              | 10,545 sft. |
| Wall Erection                      | 10,545 sft. |
| Leveling Pad, Concrete             | 589 lft.    |
| B Borrow                           | 6,707 cys.  |
| Structure Backfill, Type III       | 7,960 cys.  |
| Excavation, Common                 | 3,161 cys.  |
| Borrow                             | 464 cys.    |
| Bridge Rail Pedestrian Fence       | 589 lft.    |
| 6" Ø Type 4 Pipe                   | 589 lft.    |
| Aggregate for Underdrains          | 50 cys.     |
| Geotextile for Underdrains         | 459 sys.    |



**NOTES:**  
 All stations and offsets described from Line "A".  
 All stations, offsets & dimensions are measured to the back face of wall.  
 For Additional MSE Wall details, see sheets 4-9.



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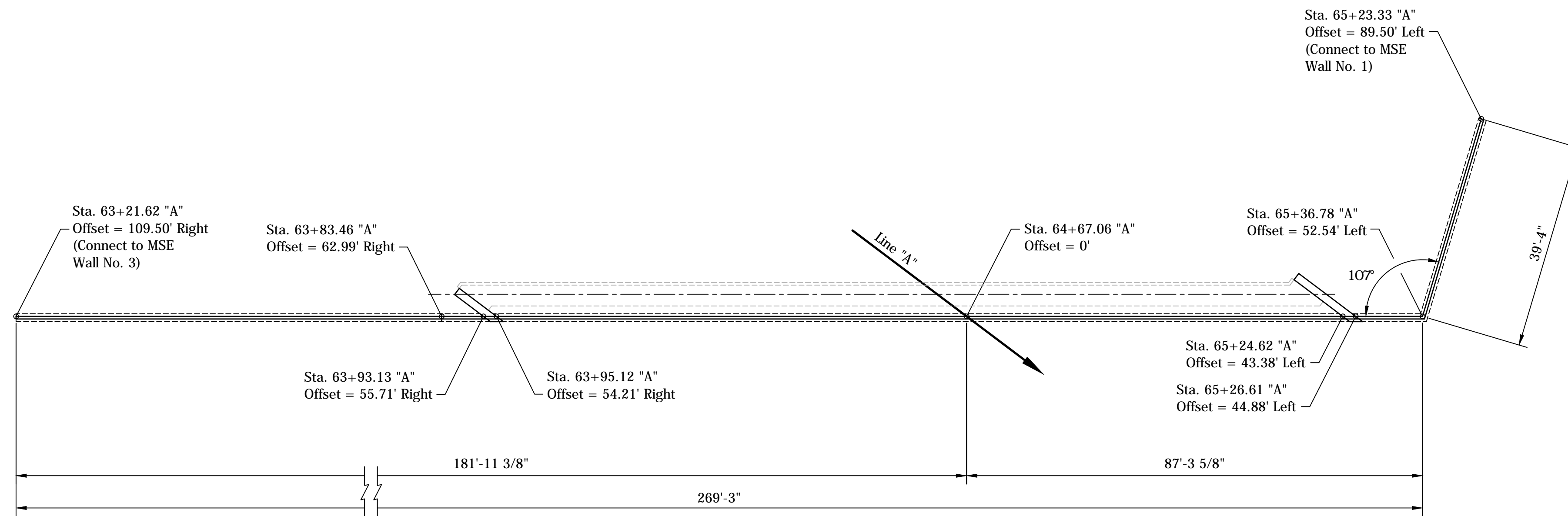
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|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: SGM                  | DRAWN: RSJ   |
| CHECKED: JNR                   | CHECKED: SGM |

**HENDRICKS COUNTY**

**MSE WALL DETAILS**  
**RONALD REAGAN PARKWAY OVER CSX**

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 3 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |

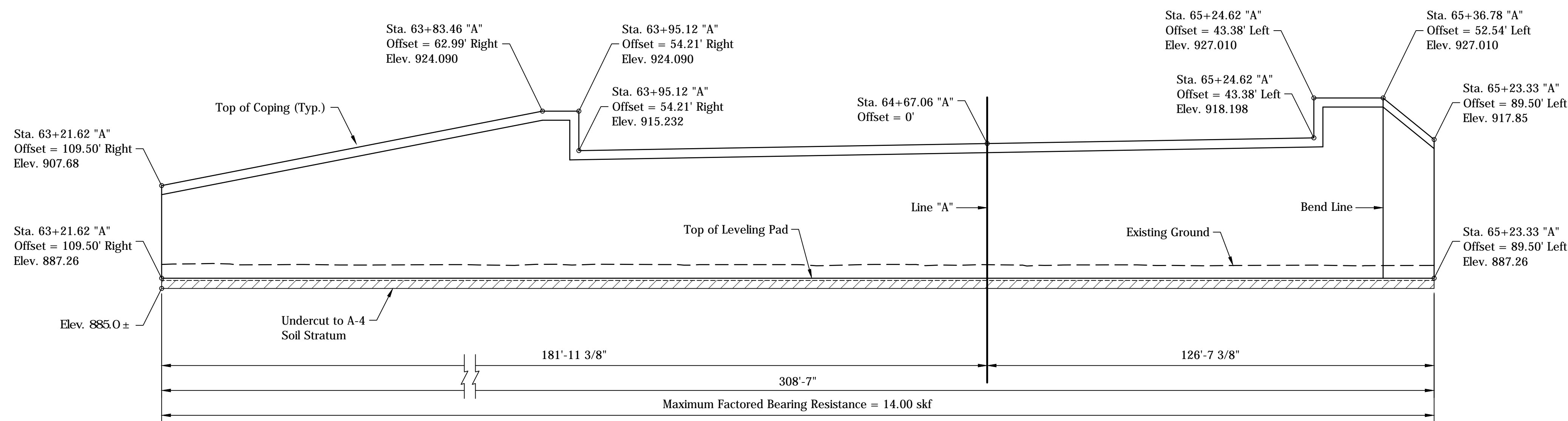
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**PLAN - MSE WALL No. 2**

Scale: 1/16" = 1'-0"

| BILL OF MATERIALS - MSE WALL No. 2 |             |
|------------------------------------|-------------|
| ITEM                               | QUANTITY    |
| Face Panels, Concrete              | 7,929 sqft. |
| Wall Erection                      | 7,929 sqft. |
| Leveling Pad, Concrete             | 309 sqft.   |
| B Borrow                           | 311 cys.    |
| Structure Backfill, Type III       | 9,780 cys.  |
| Excavation, Common                 | 1,754 cys.  |
| Borrow                             | 117 cys.    |
| Bridge Rail Pedestrian Fence       | 147 sqft.   |
| 6" $\phi$ Type 4 Pipe              | 309 sqft.   |
| Aggregate for Underdrains          | 26 cys.     |
| Geotextile for Underdrains         | 241 sqft.   |



**ELEVATION - MSE WALL No. 2**

Scale: 1/16" = 1'-0"

NOTES:  
 All stations and offsets described from Line "A".  
 All stations, offsets & dimensions are measured to the back face of wall.  
 For Additional MSE Wall details, see sheets 3, & 5-9.

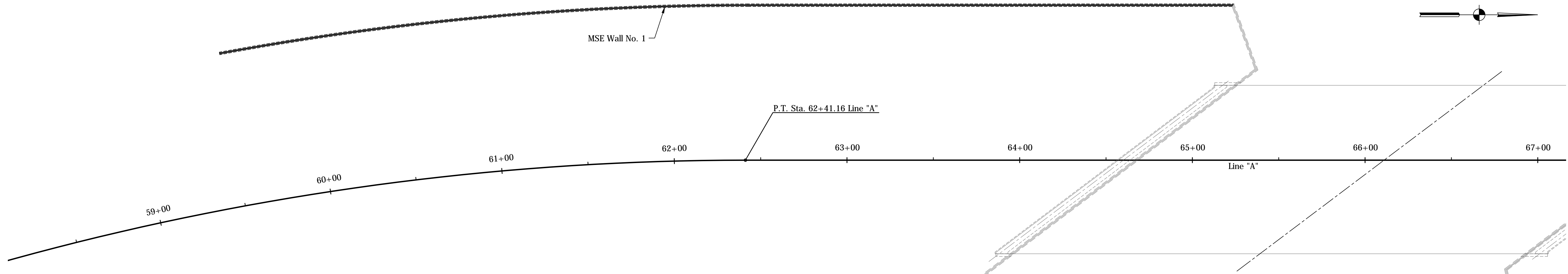


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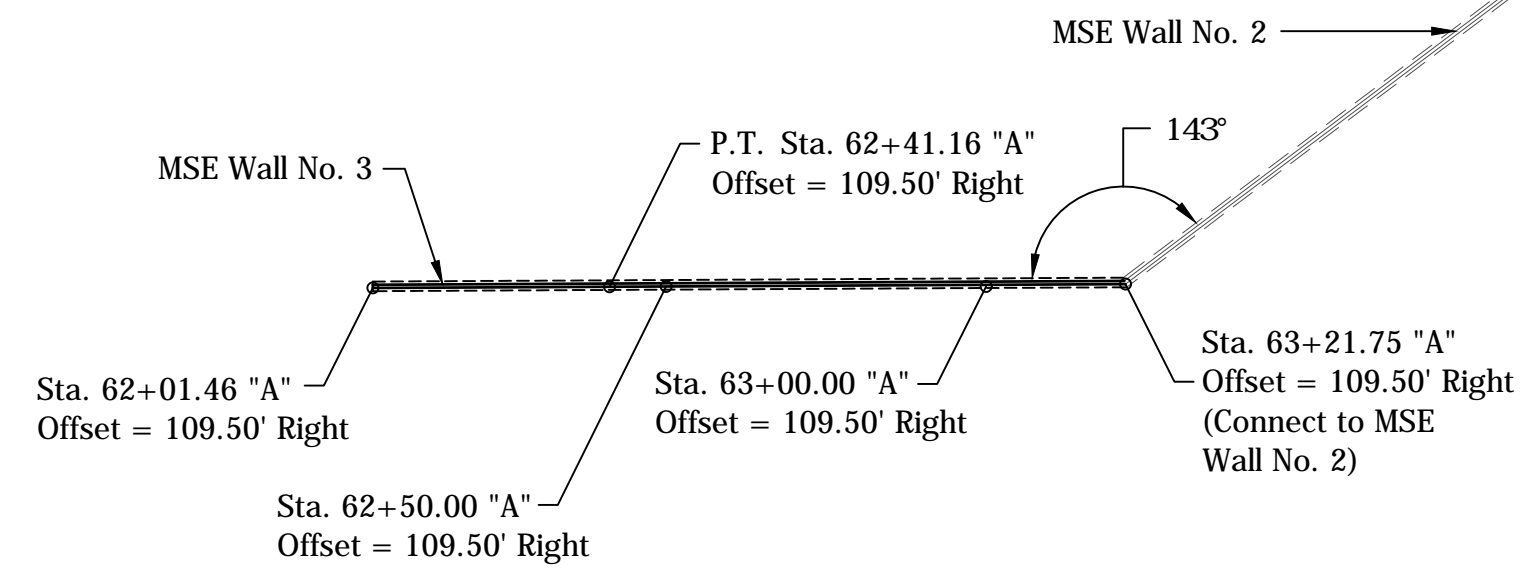
|                                |                     |
|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 4 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |

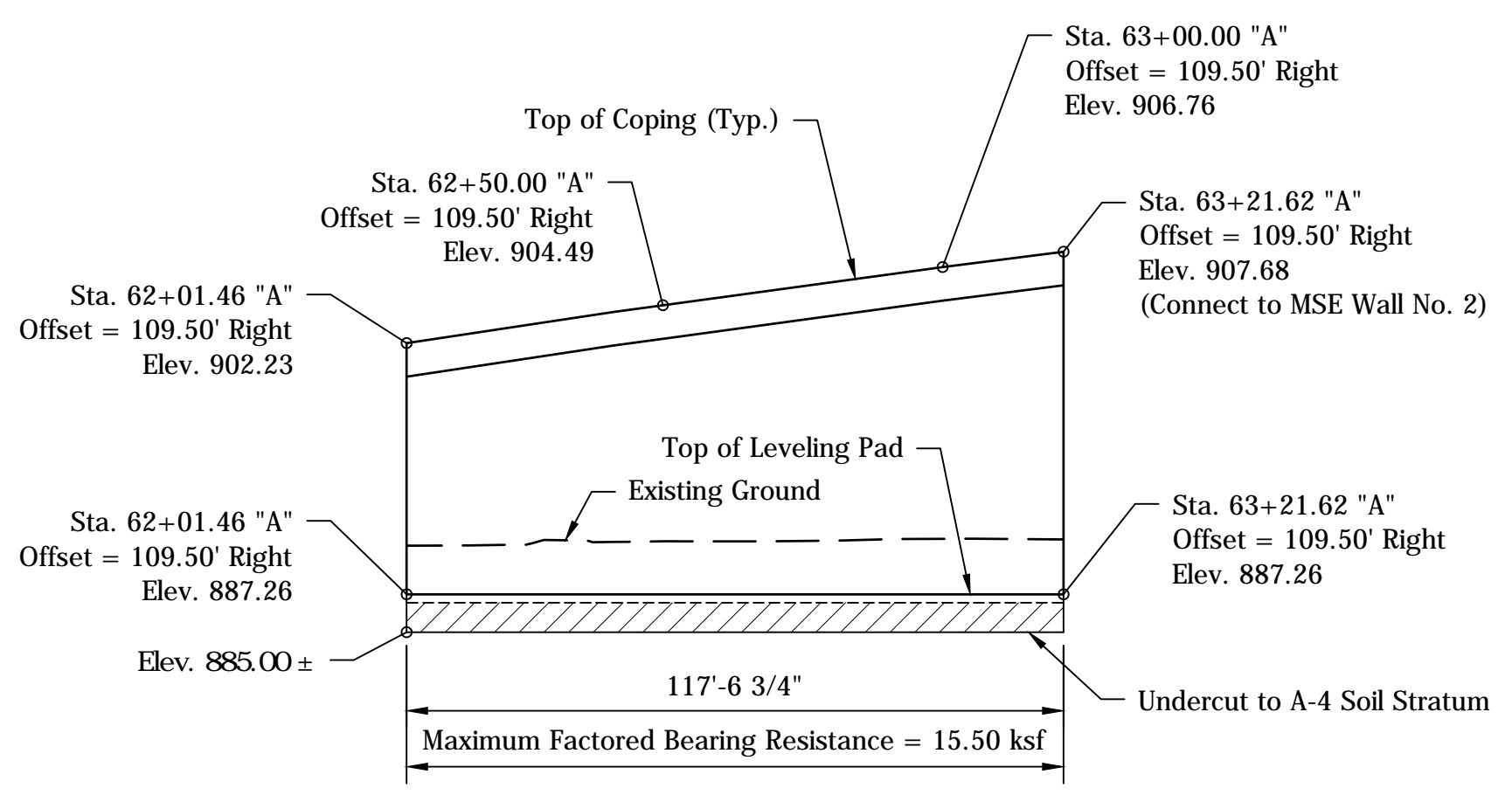


**CURVE DATA**  
 P.I. Sta 56+35.76 Line "A"  
 Delta = 46°00'00" Rt.  
 R = 1600.00'  
 T = 679.16'  
 L = 1284.56'  
 E = 138.18'



**PLAN MSE WALL No. 3**  
 Scale: 1" = 30'

| BILL OF MATERIALS - MSE WALL No. 3 |            |
|------------------------------------|------------|
| ITEM                               | QUANTITY   |
| Face Panels, Concrete              | 1,511 sft. |
| Wall Erection                      | 1,511 sft. |
| Leveling Pad, Concrete             | 118 ft.    |
| B Borrow                           | 729 cys.   |
| Structure Backfill, Type III       | 891 cys.   |
| Excavation, Common                 | 399 cys.   |
| Borrow                             | 45 cys.    |
| Bridge Rail Pedestrian Fence       | 118 ft.    |
| 6" $\phi$ Type 4 Pipe              | 118 ft.    |
| Aggregate for Underdrains          | 10 cys.    |
| Geotextile for Underdrains         | 92 sys.    |



**ELEVATION - MSE WALL No. 3**  
 Scale: 1" = 30' Horz.  
 Scale: 1" = 10' Vert.

**NOTES:**  
 All stations and offsets described from Line "A".  
 All stations, offsets & dimensions are measured to the back face of wall.  
 For Additional MSE Wall details, see sheets 3-4, 6-9.

File Name: P:\CS\DA17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.

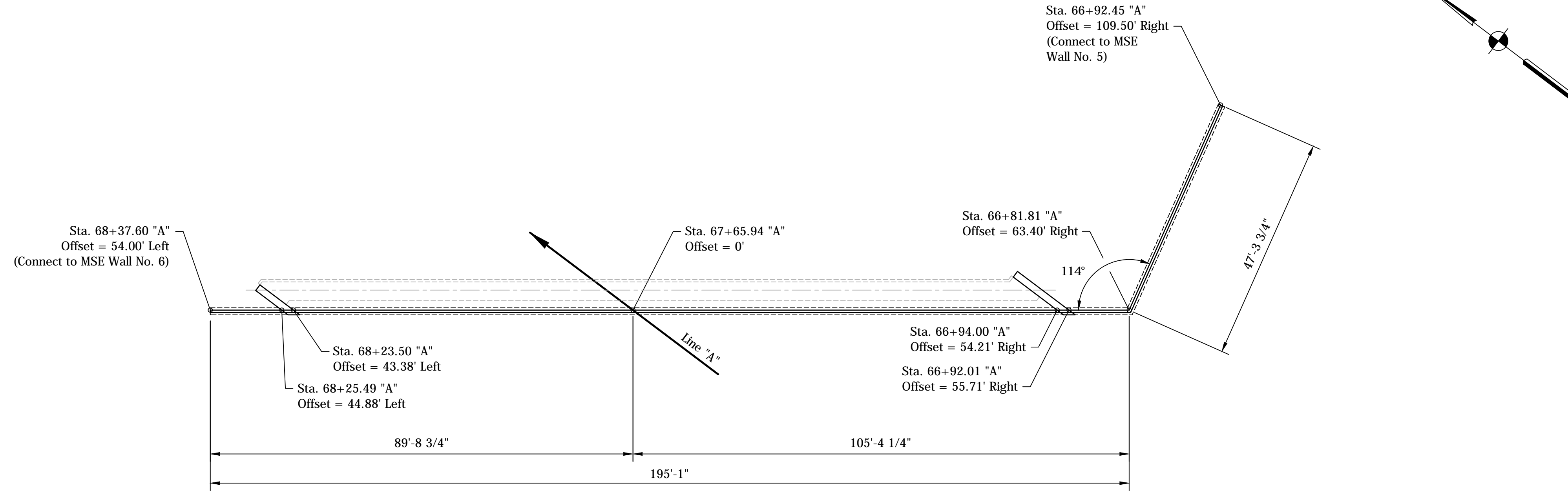


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|                                |                     |
|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

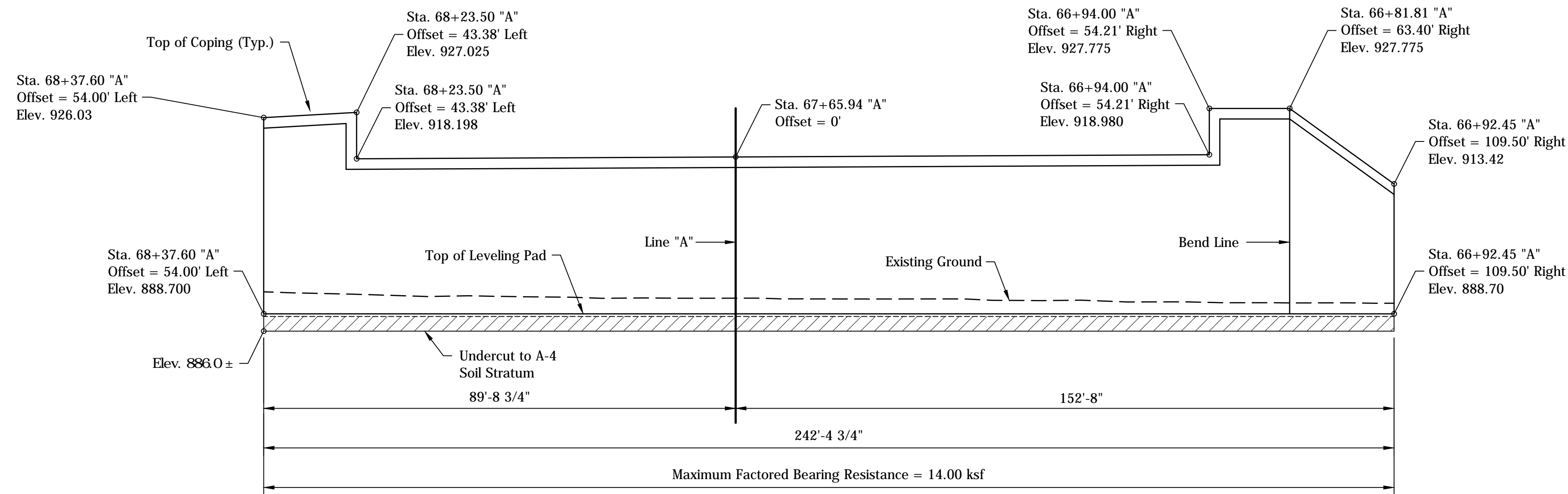
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|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 5 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |



**PLAN - MSE WALL No. 4**

Scale: 1/16" = 1'-0"

| BILL OF MATERIALS - MSE WALL No. 4 |            |
|------------------------------------|------------|
| ITEM                               | QUANTITY   |
| Face Panels, Concrete              | 6,458 sft. |
| Wall Erection                      | 6,458 sft. |
| Leveling Pad, Concrete             | 243 lft.   |
| B Borrow                           | 6,395 cys. |
| Structure Backfill, Type III       | 8,450 cys. |
| Excavation, Common                 | 1,330 cys. |
| Borrow                             | 131 cys.   |
| Bridge Rail Pedestrian Fence       | 81 lft.    |
| 6" $\phi$ Type 4 Pipe              | 243 lft.   |
| Aggregate for Underdrains          | 21 cys.    |
| Geotextile for Underdrains         | 189 sys.   |



**ELEVATION - MSE WALL No. 4**

Scale: 1/16" = 1'-0"

NOTES:  
 All stations and offsets described from Line "A".  
 All stations, offsets & dimensions are measured to the back face of wall.  
 For Additional MSE Wall details, see sheets 3-5, 7-9.

File Name: P:\CS\DA17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.

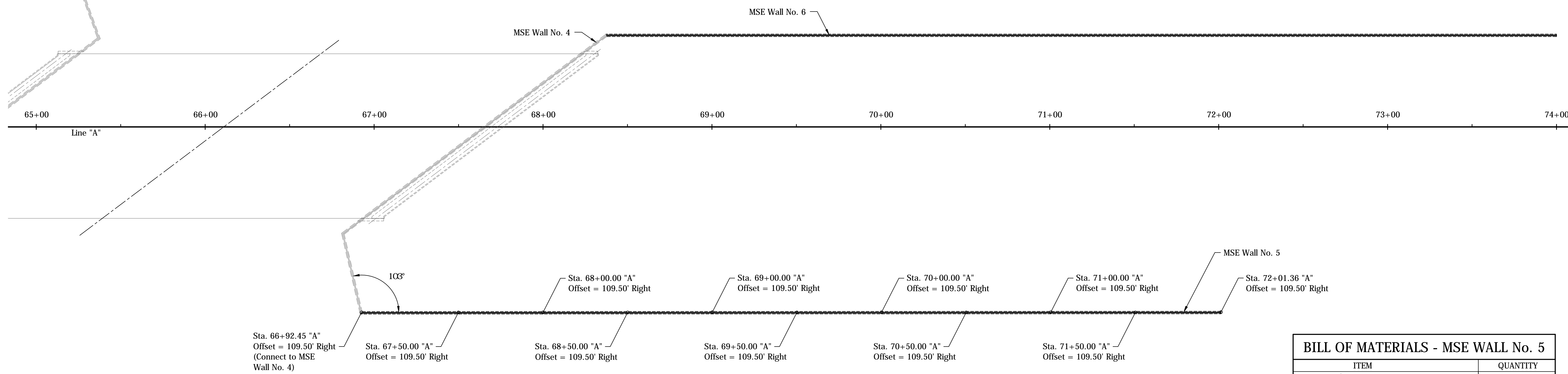
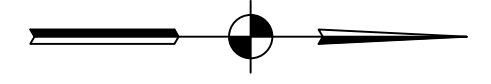


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|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGN ENGINEER                | DATE                |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

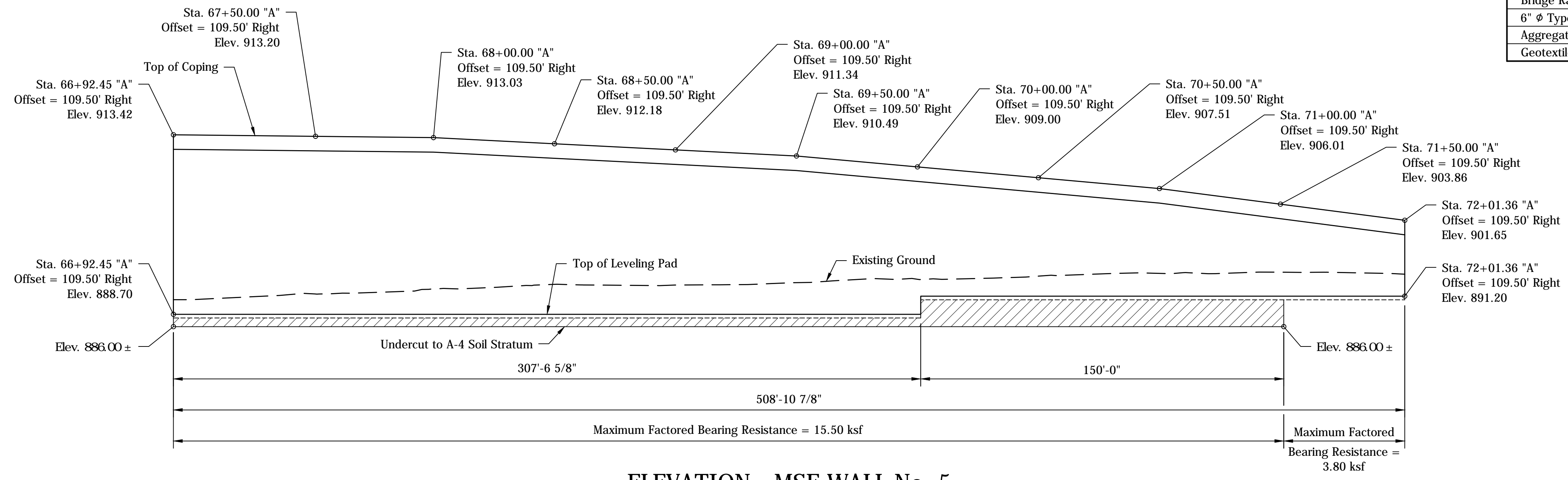
|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 6 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |



**PLAN MSE WALL No. 5**

Scale: 1" = 30'

| BILL OF MATERIALS - MSE WALL No. 5 |            |
|------------------------------------|------------|
| ITEM                               | QUANTITY   |
| Face Panels, Concrete              | 7,316 sft. |
| Wall Erection                      | 7,316 sft. |
| Leveling Pad, Concrete             | 509 lf.    |
| B Borrow                           | 4,390 cys. |
| Structure Backfill, Type III       | 5,043 cys. |
| Excavation, Common                 | 2,714 cys. |
| Borrow                             | 467 cys.   |
| Bridge Rail Pedestrian Fence       | 509 lf.    |
| 6" $\phi$ Type 4 Pipe              | 509 lf.    |
| Aggregate for Underdrains          | 43 cys.    |
| Geotextile for Underdrains         | 396 sys.   |



**ELEVATION - MSE WALL No. 5**

Scale: 1" = 30' Horz.  
Scale: 1" = 10' Vert.

NOTES:  
All stations and offsets described from Line "A".  
All stations, offsets & dimensions are measured to the back face of wall.  
For Additional MSE Wall details, see sheets 3-6, 8-9.

File Name: P:\CSD\17-405\Bridges\DWG\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.



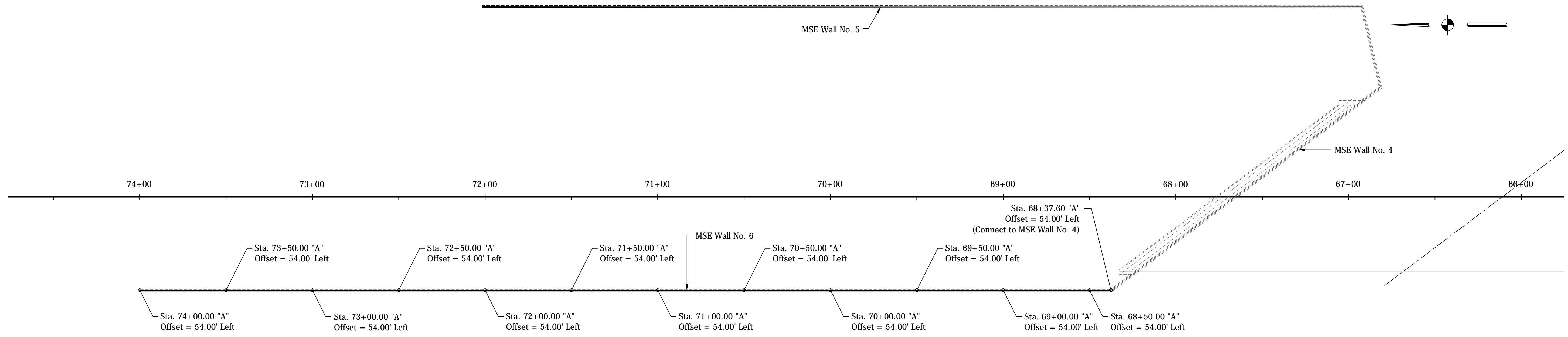
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|                                |                     |
|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 7 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |

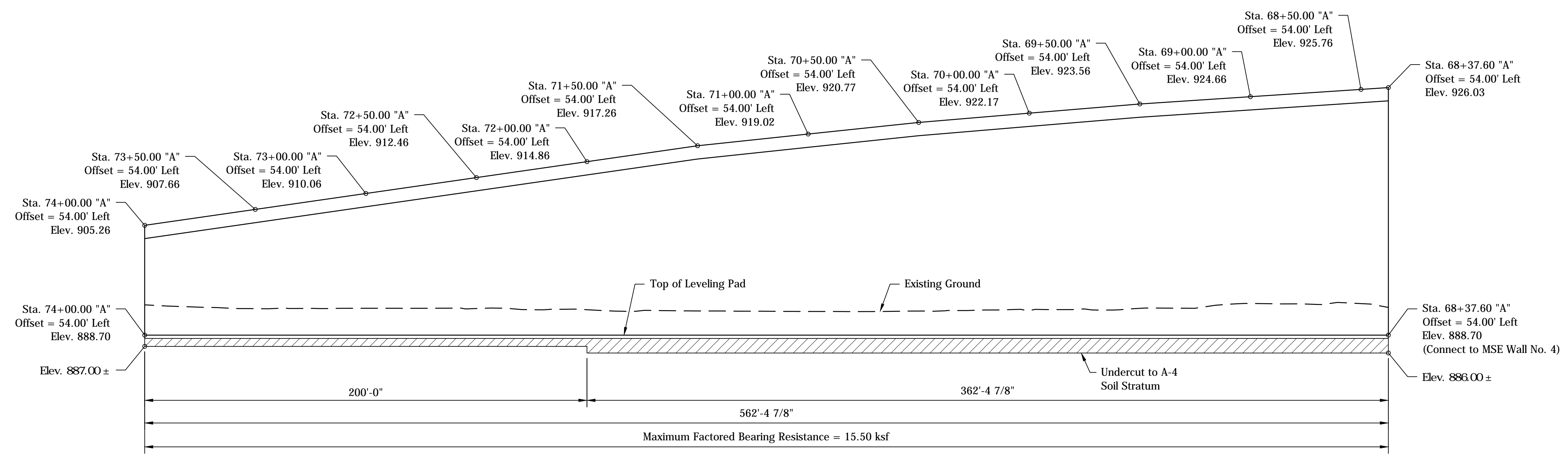




**PLAN MSE WALL No. 6**

Scale: 1" = 30'

| BILL OF MATERIALS - MSE WALL No. 6 |             |
|------------------------------------|-------------|
| ITEM                               | QUANTITY    |
| Face Panels, Concrete              | 12,695 sft. |
| Wall Erection                      | 12,695 sft. |
| Leveling Pad, Concrete             | 563 ft.     |
| B Borrow                           | 9,166 cys.  |
| Structure Backfill, Type III       | 11,837 cys. |
| Excavation, Common                 | 3,364 cys.  |
| Borrow                             | 239 cys.    |
| Bridge Rail Pedestrian Fence       | 563 ft.     |
| 6" $\phi$ Type 4 Pipe              | 563 ft.     |
| Aggregate for Underdrains          | 47 cys.     |
| Geotextile for Underdrains         | 438 sys.    |



**ELEVATION - MSE WALL No. 6**

Scale: 1" = 30' Horz.  
Scale: 1" = 10' Vert.

NOTES:  
All stations and offsets described from Line "A".  
All stations, offsets & dimensions are measured to the back face of wall.  
For Additional MSE Wall details, see sheets 3-7, 9.

File Name: P:\CSD\17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.



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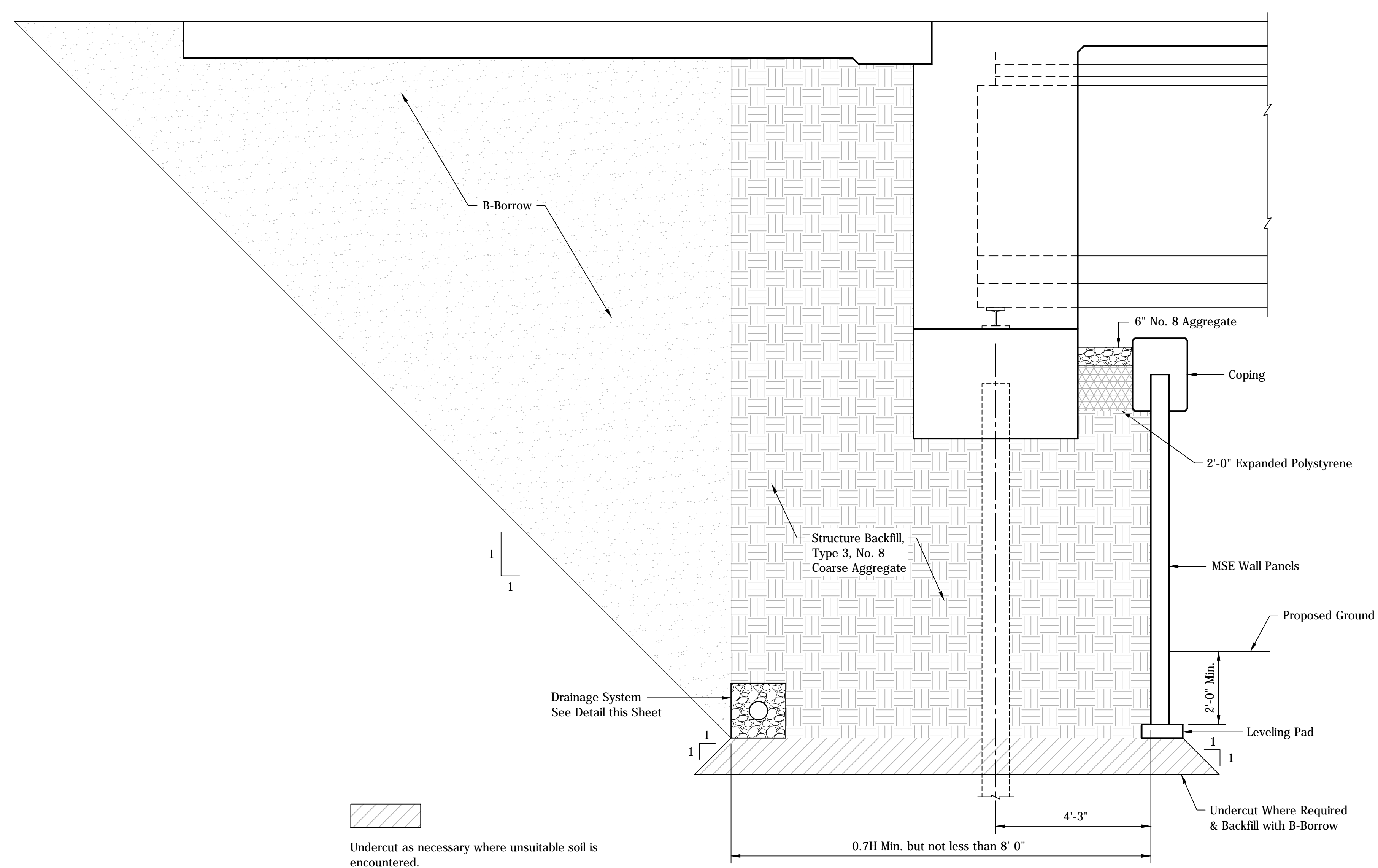
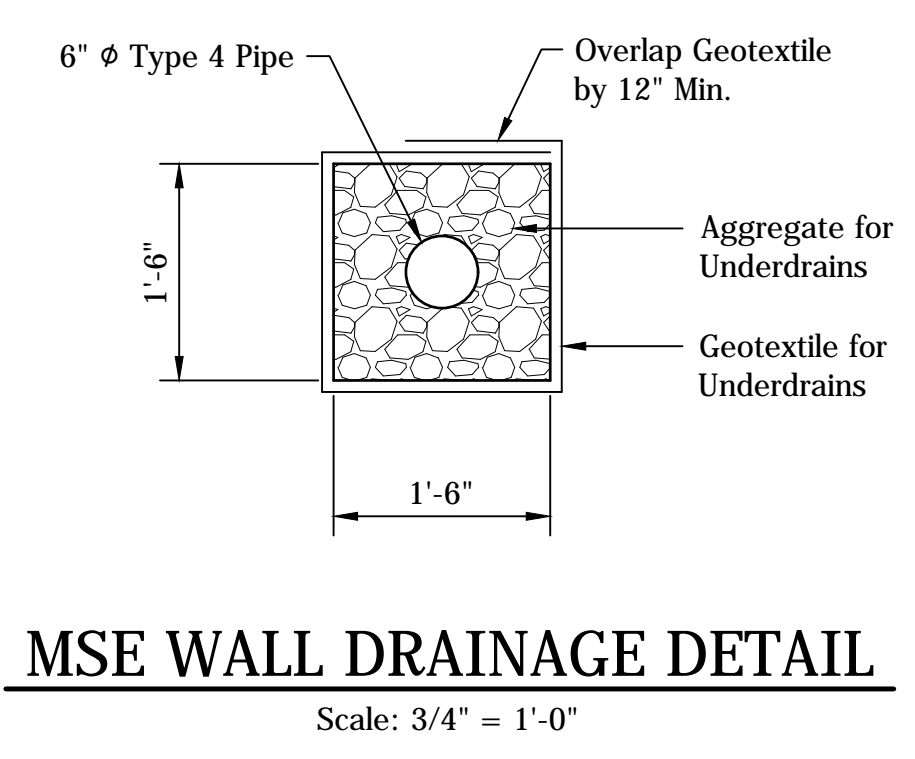
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|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |


**HENDRICKS COUNTY**

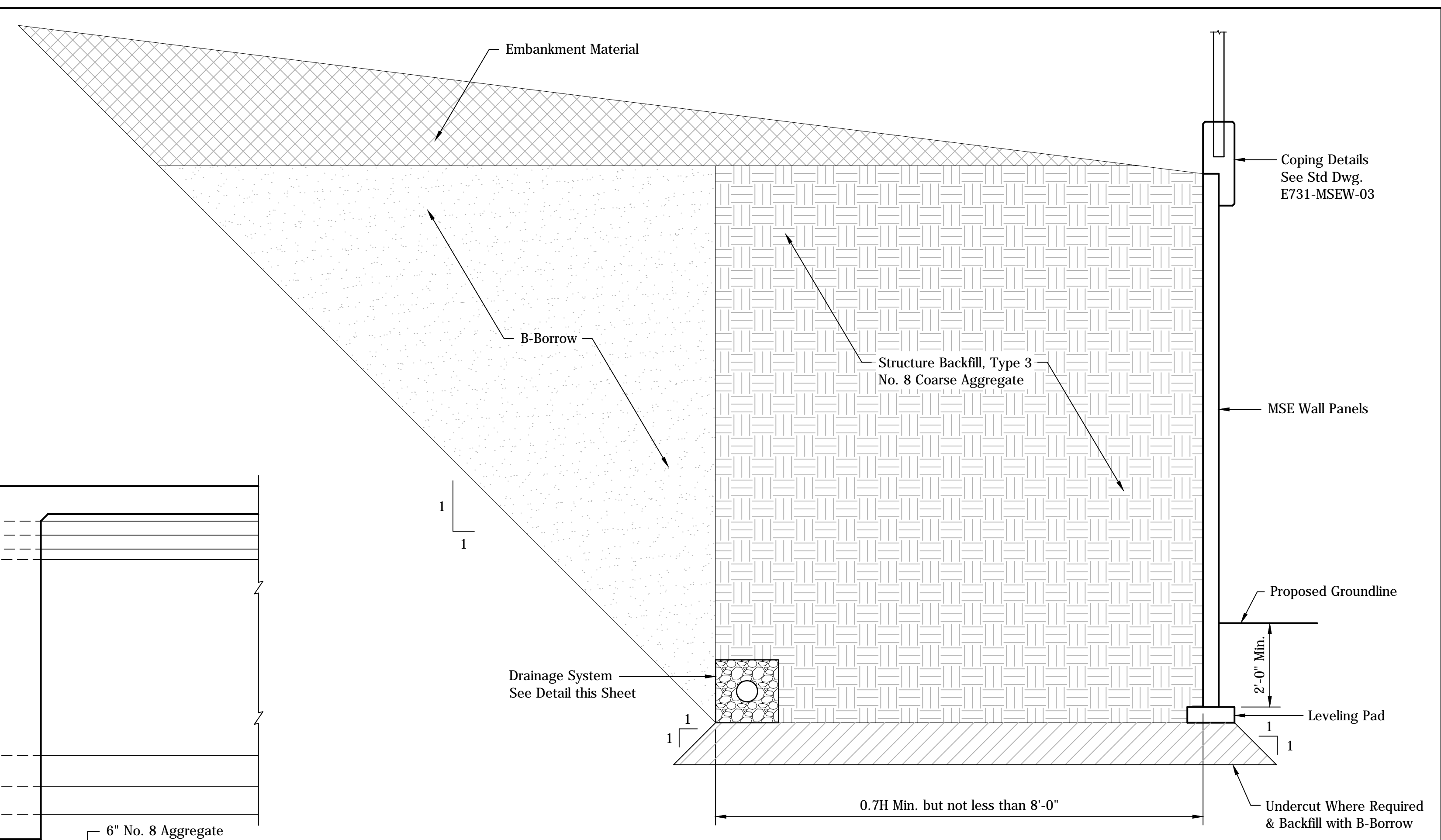
**MSE WALL DETAILS**

**RONALD REAGAN PARKWAY OVER CSX**

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 8 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |



 Undercut as necessary where unsuitable soil is encountered.



Coping Details See Std Dwg. E731-MSEW-03

**TYPICAL SECTION @ FLARES**  
Not to Scale

**DESIGN DATA**

Design in accordance with the AASHTO LRFD Bridge Design Specifications, Sixth Edition, 2012, and its Subsequent Interims.

The leveling pad, leveling pad step locations, elevations, dimensions, and resulting structure backfill and B Borrow backfill quantities are conceptual and are provided for information only. The contractor shall be responsible for the quantity on which it bases its bid.

NOTES:  
All stations and offsets described from Line "A".  
All stations, offsets & dimensions are measured to the back face of wall.  
For Additional MSE Wall details, see sheets 3-8.

File Name: P:\CS\DA17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.



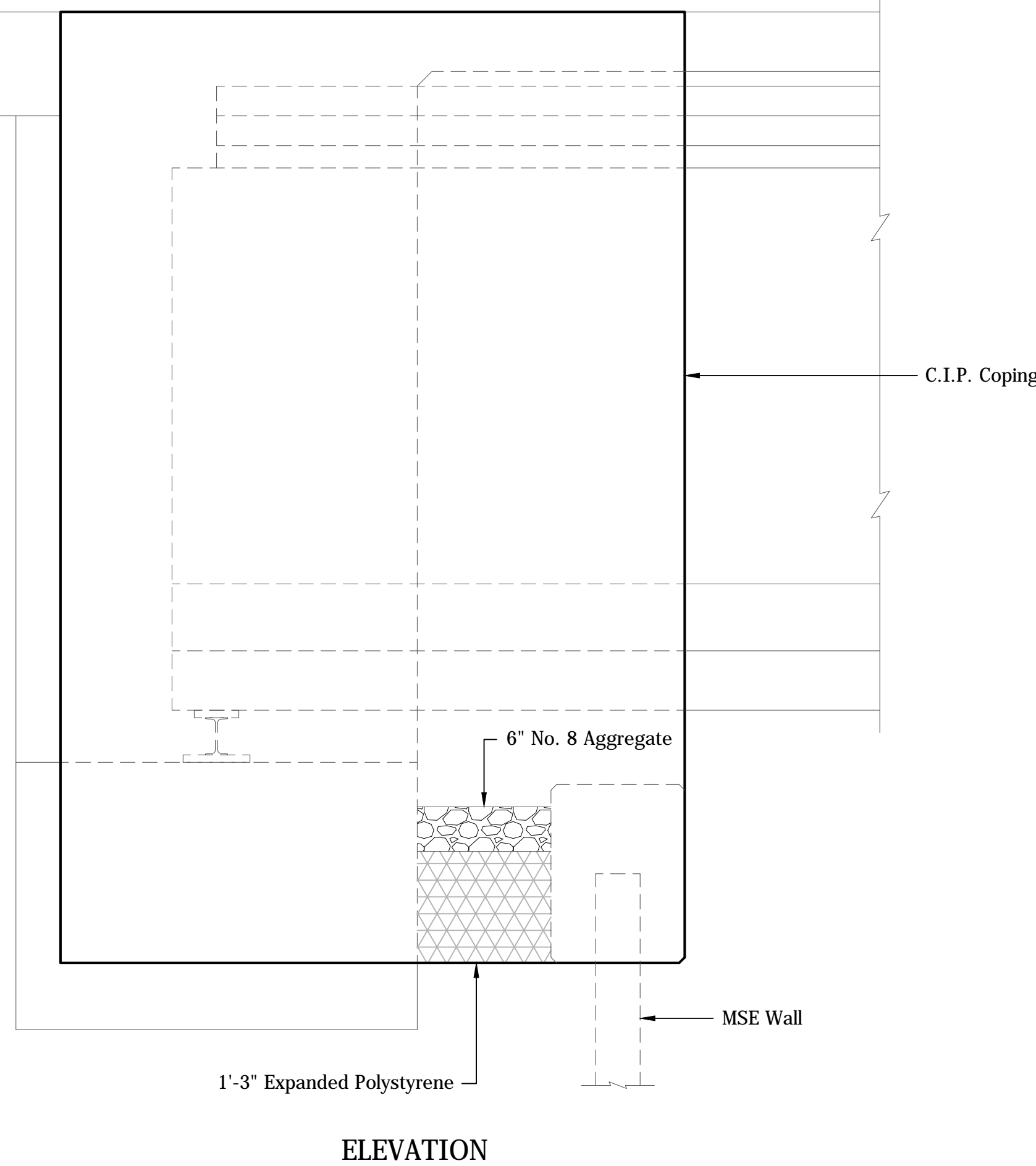
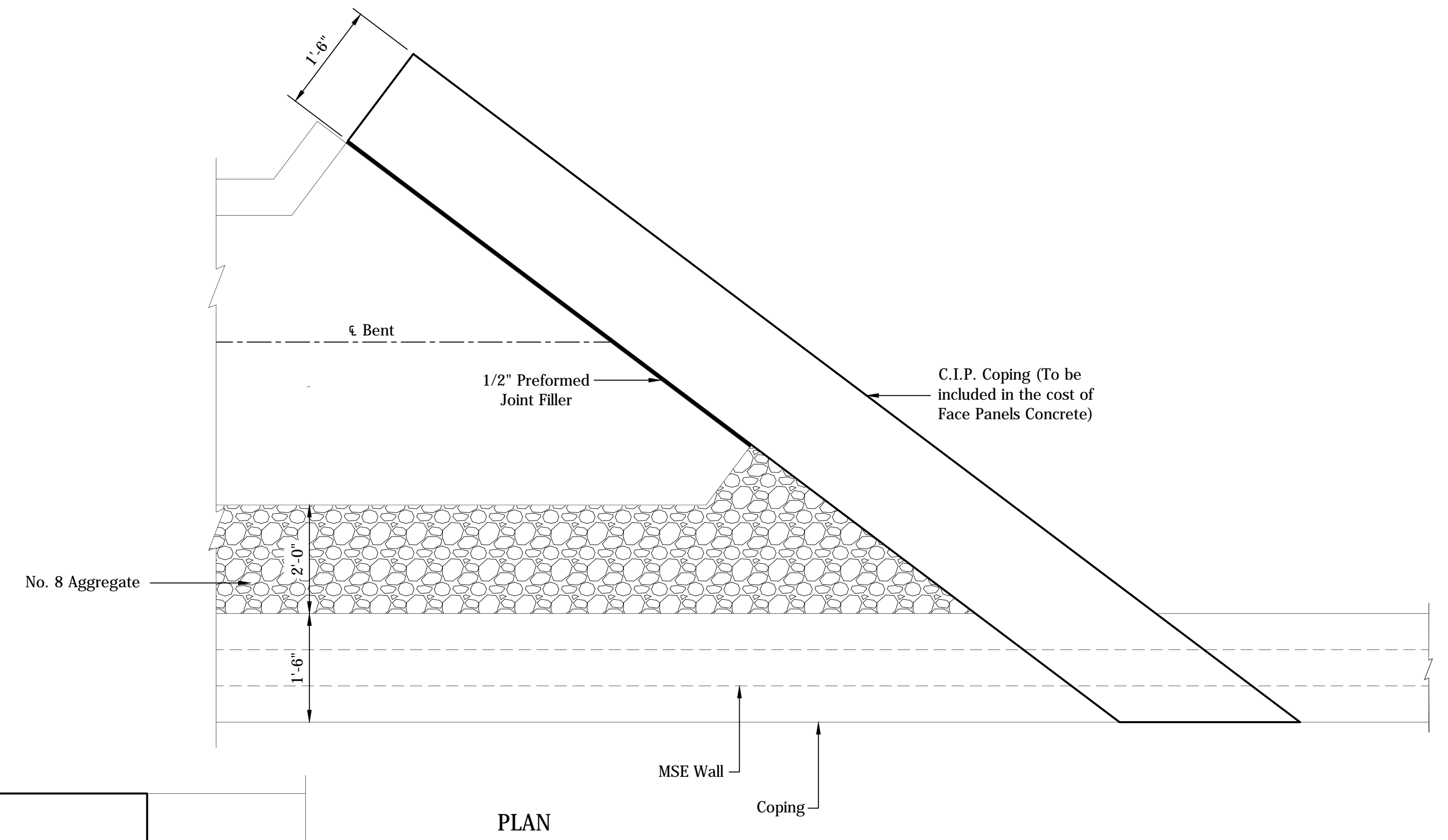
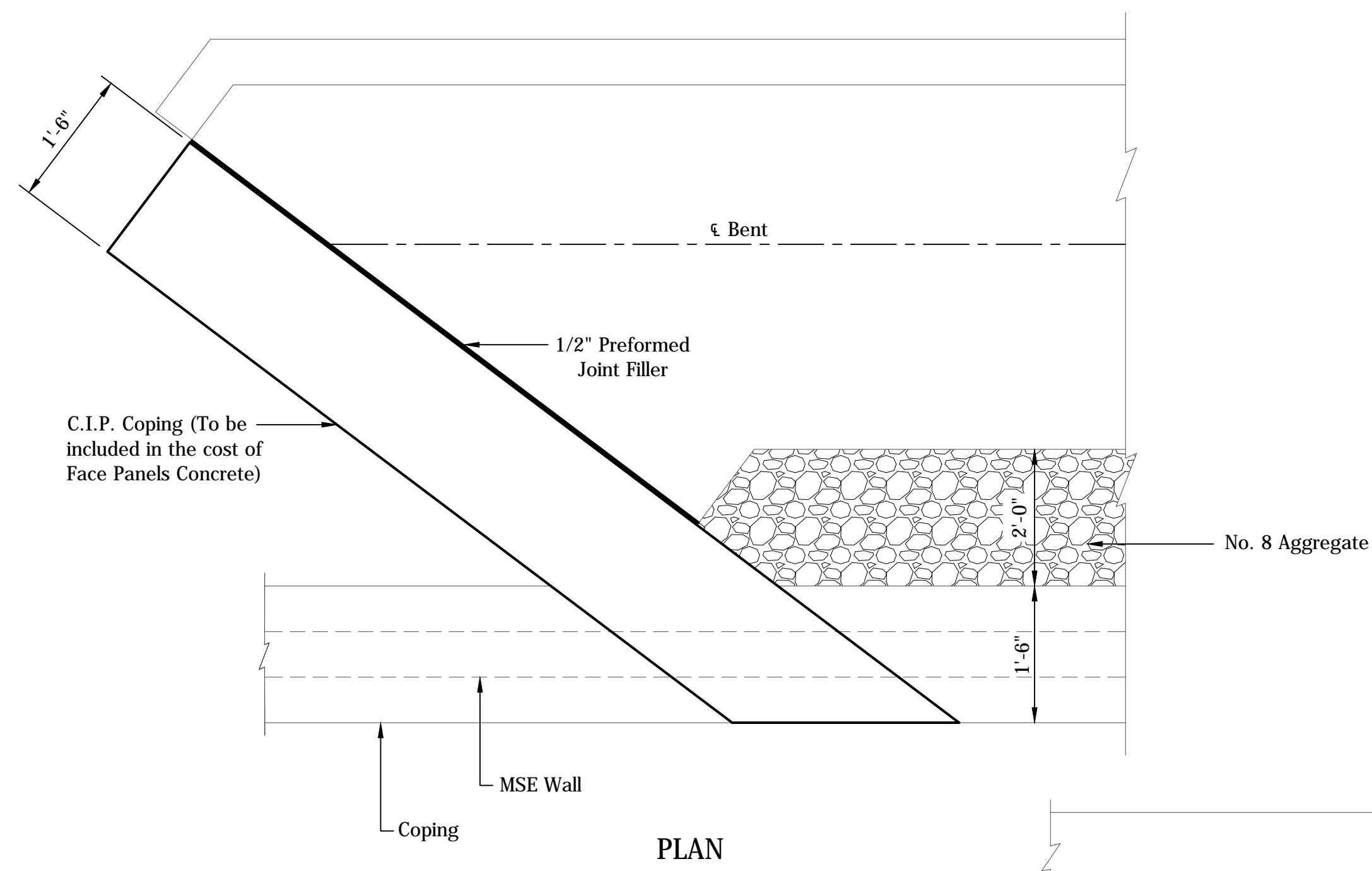
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|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: SGM                  | DRAWN: RSJ   |
| CHECKED: JNR                   | CHECKED: SGM |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 9 of 48      |
| CONTRACT         | PROJECT      |
| -                | -            |

File Name: P:\CSD\17-405\Bridges\Plans\MSE Walls.dwg Plot Date: 2/8/2018 Plotted By: Moffatt, Andrew J.



**BRIDGE COPING DETAILS**  
Scale: 3/4" = 1'-0"

**NOTES:**  
All stations and offsets described from Line "A".  
All stations, offsets & dimensions are measured to the back face of wall.  
For Additional MSE Wall details, see sheets 3-8.

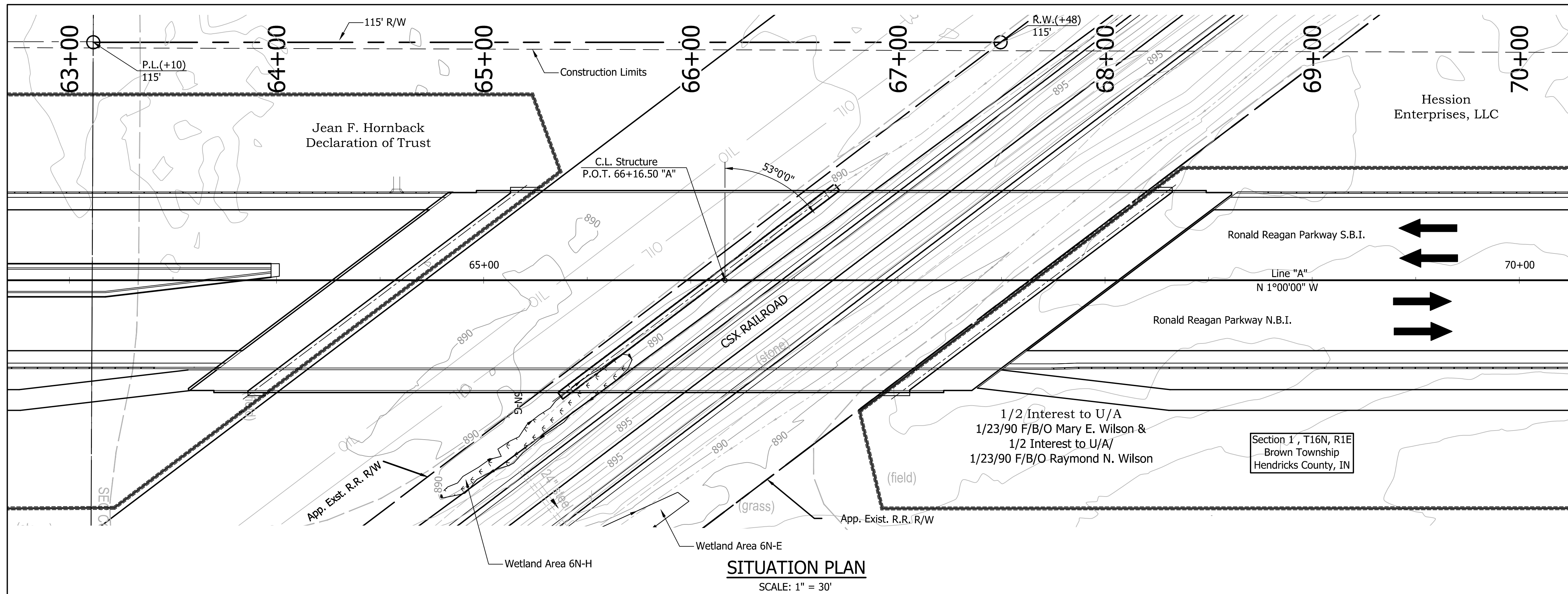


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|--------------------------------|---------------------|
| RECOMMENDED FOR APPROVAL _____ |                     |
| DESIGN ENGINEER                | DATE                |
| DESIGNED: <u>SGM</u>           | DRAWN: <u>RSJ</u>   |
| CHECKED: <u>JNR</u>            | CHECKED: <u>SGM</u> |

|                                       |  |
|---------------------------------------|--|
| <b>HENDRICKS COUNTY</b>               |  |
| <b>MSE WALL DETAILS</b>               |  |
| <b>RONALD REAGAN PARKWAY OVER CSX</b> |  |

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| AS NOTED         | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| AS NOTED         | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 10 of 48     |
| CONTRACT         | PROJECT      |
| -                | -            |

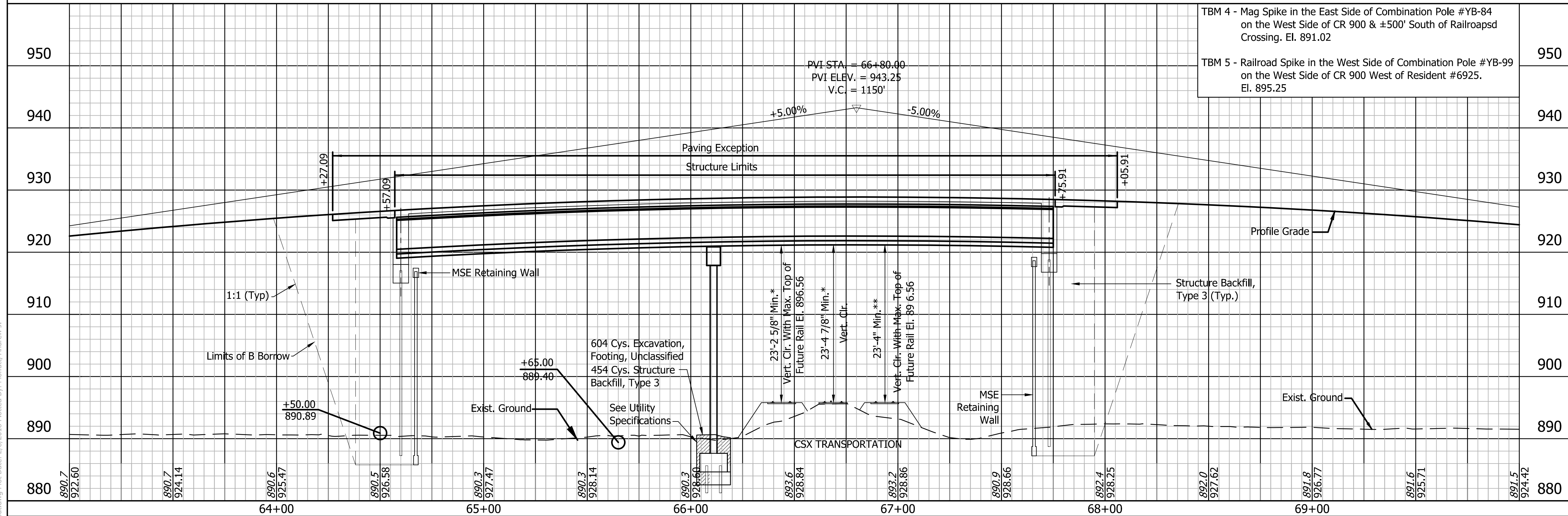


**SITUATION PLAN**  
SCALE: 1" = 30'

**EXISTING STRUCTURE**  
NONE

**EARTHWORK SUMMARY**

- \* SEE MSE WALL DETAIL SHEETS FOR STRUCTURE BACKFILL TYPE 3 AND B-BORROW QUANTITIES.
- \*\* SEE ROADWAY PLANS FOR MAINLINE EARTHWORK QUANTITIES.



**PROFILE ON PROPOSED ROADWAY**  
SCALE: 1" = 30'

NOTES:  
\*Indicates vertical clearance point is actually 6' left of the  $\epsilon$  tracks. Shown on tracks for clarity.  
\*\*Indicates vertical clearance point is actually 6' right of the  $\epsilon$  tracks. Shown on tracks for clarity.  
For guardrail limits, side ditch grades and topo references, see Road Plan and Profile Sheet.

**CONTINUOUS COMPOSITE PRESTRESSED CONCRETE BULB TEE BEAM BRIDGE**  
2 SPANS: 151'-0", 162'-0"  
SKEW: 53° RIGHT  
CLEAR ROADWAY: 84'-8"  
RONALD REAGAN PARKWAY OVER CSX

File Name: P:\CD\17-405\bridge\Drawings\Layout.dwg Plot Date: 2/19/2018 Plotted By: Hrdifrac, Andrew J.

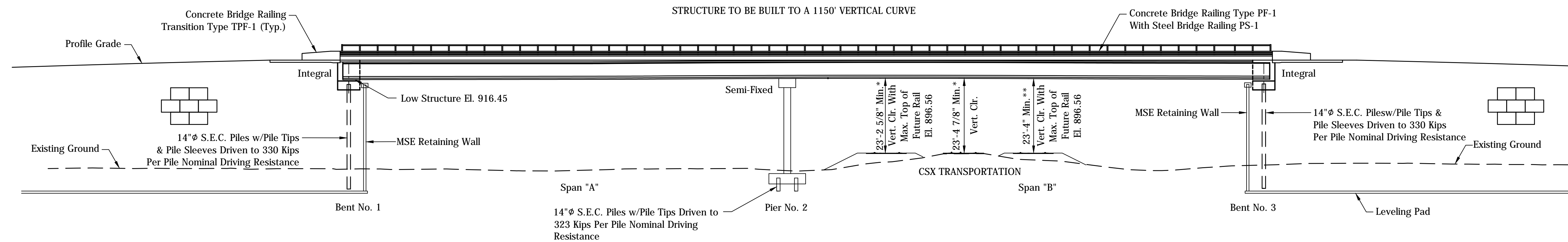


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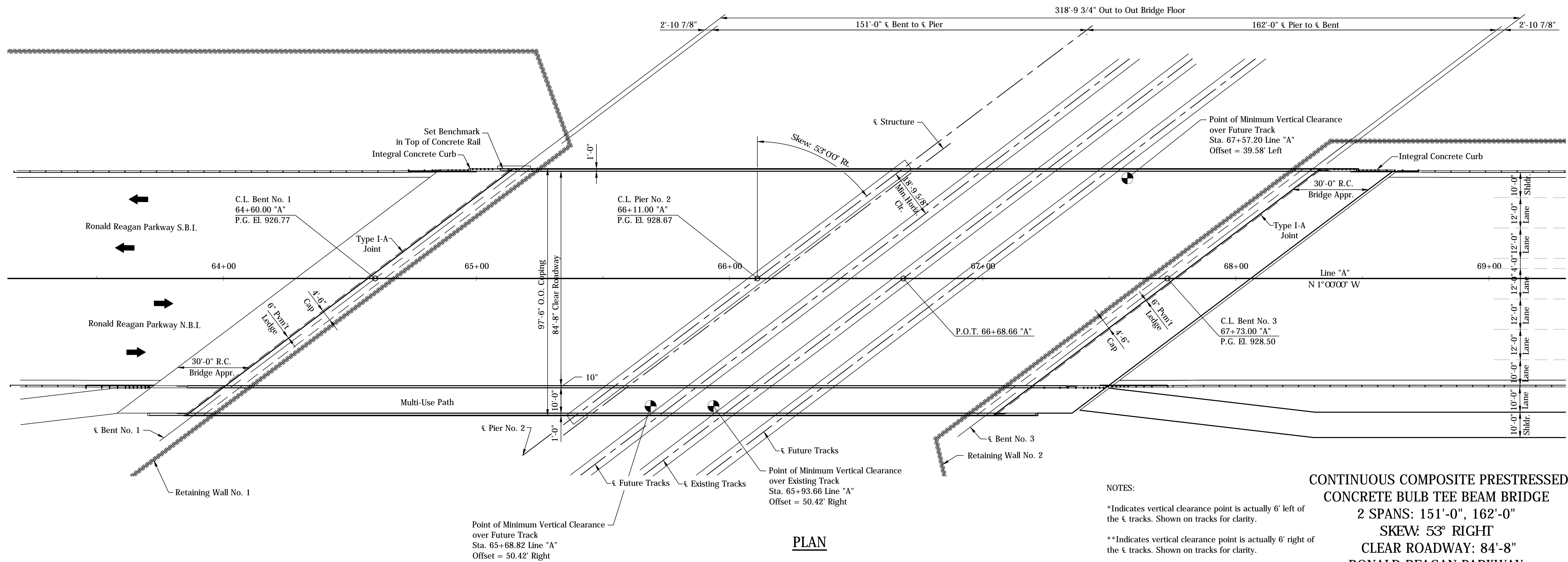
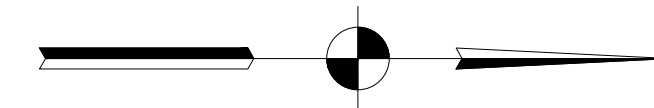
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|--------------------------|--------------|-----------------|--|------|--|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER |  | DATE |  |
| DESIGNED: CJA            | DRAWN: AJM   |                 |  |      |  |
| CHECKED: SGM             | CHECKED: CJA |                 |  |      |  |

**HENDRICKS COUNTY**  
**LAYOUT**  
**RONALD REAGAN PARKWAY OVER CSX**

|                  |              |       |
|------------------|--------------|-------|
| HORIZONTAL SCALE | BRIDGE FILE  |       |
| 1" = 30'         | HENDRICKS 89 |       |
| VERTICAL SCALE   | DESIGNATION  |       |
| 1" = 10'         | -            |       |
| SURVEY BOOK      | SHEETS       |       |
| HENDRICKS #89    | 14           | of 48 |
| CONTRACT         | PROJECT      |       |
| -                | -            |       |



ELEVATION



PLAN

NOTES:

\*Indicates vertical clearance point is actually 6' left of the ε tracks. Shown on tracks for clarity.

\*\*Indicates vertical clearance point is actually 6' right of the ε tracks. Shown on tracks for clarity.

**CONTINUOUS COMPOSITE PRESTRESSED  
CONCRETE BULB TEE BEAM BRIDGE**  
 2 SPANS: 151'-0", 162'-0"  
 SKEW: 53° RIGHT  
 CLEAR ROADWAY: 84'-8"  
 RONALD REAGAN PARKWAY  
 OVER CSX TRANSPORTATION

File Name: P:\CD\17-405\bridge\Drawings\General\Plan.dwg Plot Date: 2/19/2018 Plotted By: Mofatt, Andrew J.



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|                          |              |                 |      |
|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: CJA            | DRAWN: AJM   |                 |      |
| CHECKED: SGM             | CHECKED: CJA |                 |      |

**HENDRICKS COUNTY**

**GENERAL PLAN**

**RONALD REAGAN PARKWAY OVER CSX**

|                  |              |
|------------------|--------------|
| HORIZONTAL SCALE | BRIDGE FILE  |
| 1"=20'           | HENDRICKS 89 |
| VERTICAL SCALE   | DESIGNATION  |
| N/A              | -            |
| SURVEY BOOK      | SHEETS       |
| HENDRICKS #89    | 15 of 48     |
| CONTRACT         | PROJECT      |
| -                | -            |

## CONSTRUCTION LOADING

The exterior girder has been checked for strength, deflection, and overturning using the construction loads shown below. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior girder. The finishing machine was assumed to be supported 6" outside the vertical coping form. The top overhang brackets were assumed to be 6" past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and web.

- DECK FALSEWORK LOADS:** Designed for 15 Lbs./Sft. for permanent metal stay-in-place deck forms, removable deck forms, and 2' exterior walkway.
- CONSTRUCTION LIVE LOAD:** Designed for 20 Lbs./Sft. extending 2' past the edge of coping and 75 Lbs./Ft. vertical force applied at a distance of 6" outside the face of coping over a 30' length of the deck centered with the finishing machine.
- FINISHING-MACHINE LOAD:** 4500 Lbs. distributed over 10' along the coping.
- WIND LOAD:** Structure designed for 70 mph horizontal wind loading in accordance with LRFD 3.8.1.

## GENERAL NOTES

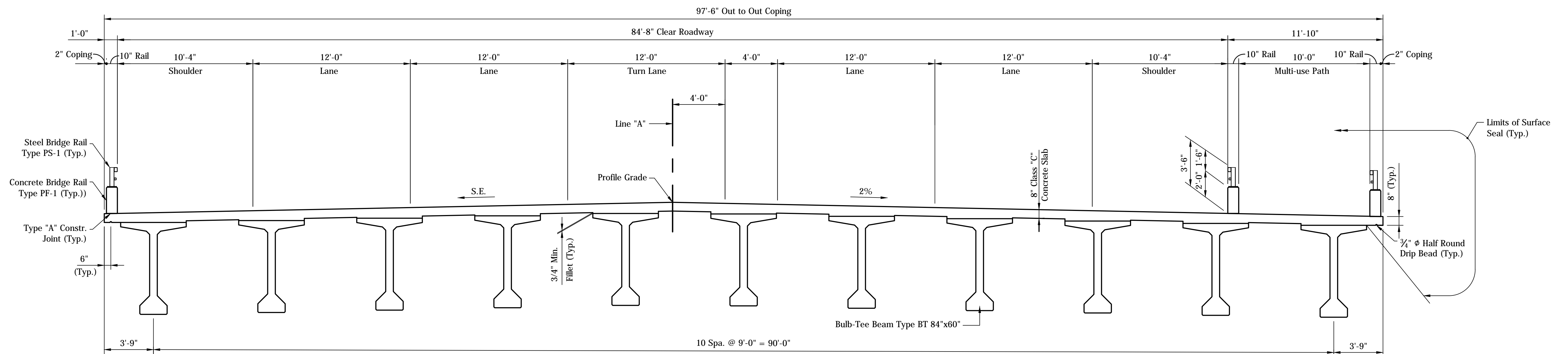
Reinforcing steel covering to be 2 1/2" in the top and 1" minimum in the bottom of floor slabs, 3" in the footings except the bottom steel which shall be 4", and 2" in all other parts, unless noted.  
Surface seal top of bridge deck, all surfaces of concrete railing, railing transitions, face of deck coping and underside of deck from outside edge to flange of exterior beams, approach slabs and all exposed surfaces of end bents.  
(Estimated Quantity = 41,928 sft.)

## DESIGN DATA

- LIVE LOAD:** Superstructure and substructure designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Sixth Edition, 2012, and Interim Revisions.
- DEAD LOAD:** Actual Weight plus 35 Lbs./Sft. for permanent metal deck forms.
- FLOOR SLAB:** Designed with a 7.5" structural depth plus 1/2" sacrificial wearing surface.
- UNIT STRESSES:**
- |                    |                    |
|--------------------|--------------------|
| Reinforcing Steel  | Fy = 60,000 p.s.i. |
| Class "A" Concrete | fc = 3,500 p.s.i.  |
| Class "B" Concrete | fc = 3,000 p.s.i.  |
| Class "C" Concrete | fc = 4,000 p.s.i.  |

## SEISMIC DESIGN DATA

Seismic Performance Zone = Zone 1  
Seismic Response (S01) = 0.123  
Seismic Soil Profile Type = Site Class D



## TYPICAL SECTION

**CONTINUOUS COMPOSITE PRESTRESSED  
CONCRETE BULB TEE BEAM BRIDGE**  
2 SPANS: 151'-0", 162'-0"  
SKEW: 53° RIGHT  
CLEAR ROADWAY: 84'-8"  
RONALD REAGAN PARKWAY  
OVER CSX TRANSPORTATION

File Name: P:\CD\17-405\Bridges\Drawings\General\Plan\cdg Plot Date: 2/19/2018 Plotted By: Moffatt, Andrew J.



1625 N. Post Road  
Indianapolis, IN 46219  
Phone 317-895-2585  
Fax 317-895-2596  
www.ucindy.com

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: CJA                  | DRAWN: AJM   |
| CHECKED: SGM                   | CHECKED: CJA |

**HENDRICKS COUNTY**

**GENERAL PLAN**

**RONALD REAGAN PARKWAY OVER CSX**

|                                  |                             |
|----------------------------------|-----------------------------|
| HORIZONTAL SCALE<br>1/4" = 1'-0" | BRIDGE FILE<br>HENDRICKS 89 |
| VERTICAL SCALE<br>1/4" = 1'-0"   | DESIGNATION<br>-            |
| SURVEY BOOK<br>HENDRICKS #89     | SHEETS<br>16 of 48          |
| CONTRACT<br>-                    | PROJECT<br>-                |

|          |             |
|----------|-------------|
| PROJECT  | DESIGNATION |
| 1602280  | 1602280     |
| CONTRACT |             |
| ----     |             |

# HENDRICKS COUNTY

## ROAD PLANS

ROUTE: RONALD REAGAN PKWY - FROM C.R. 750 N. TO C.R. 1000 N.

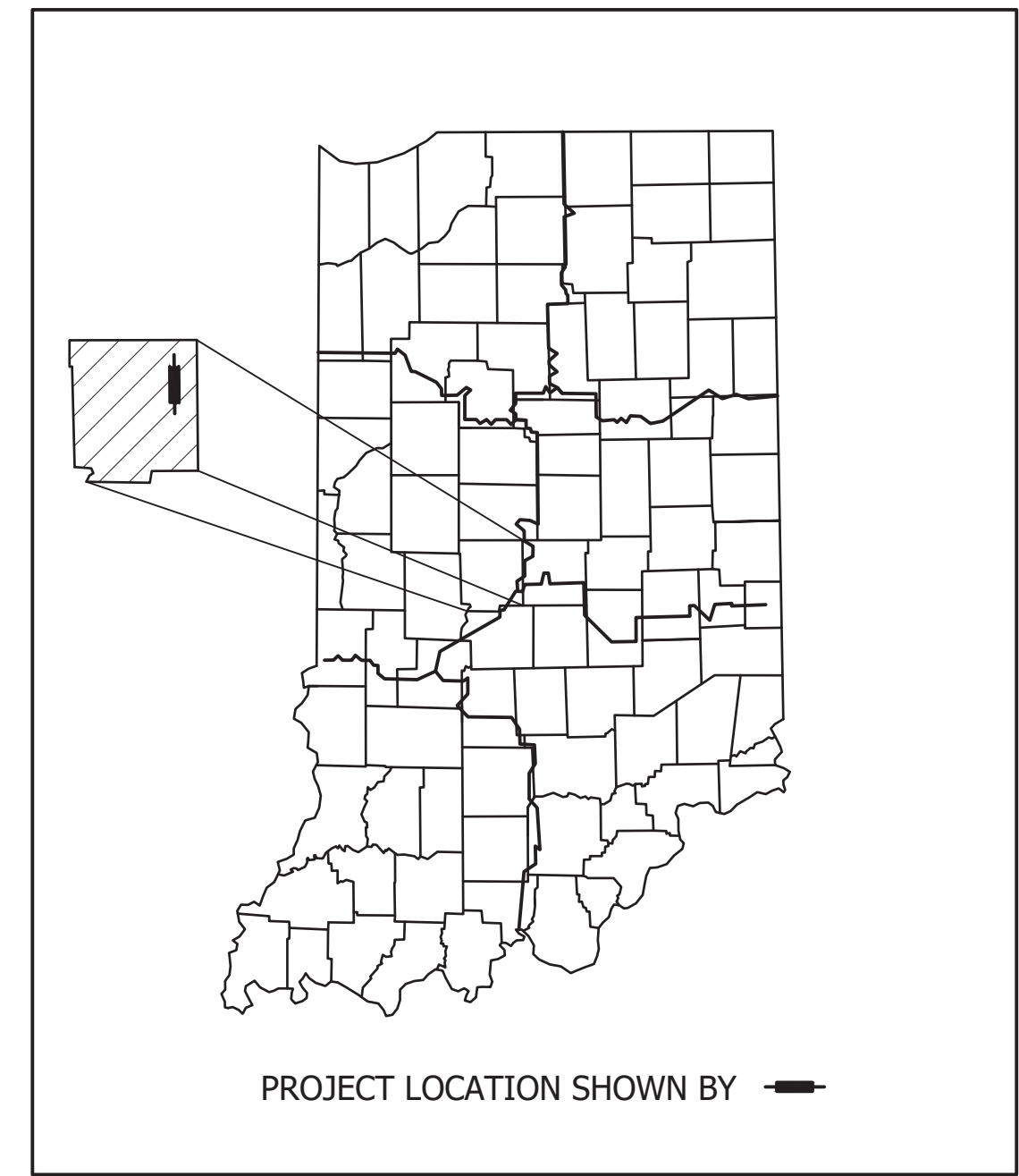
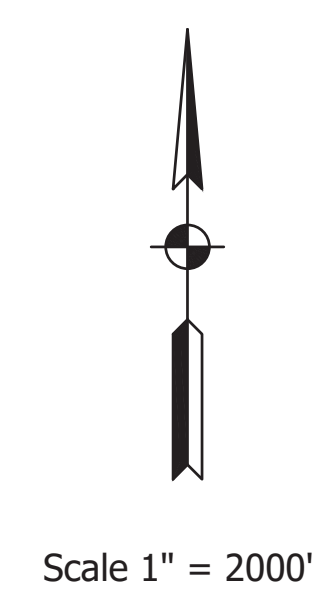
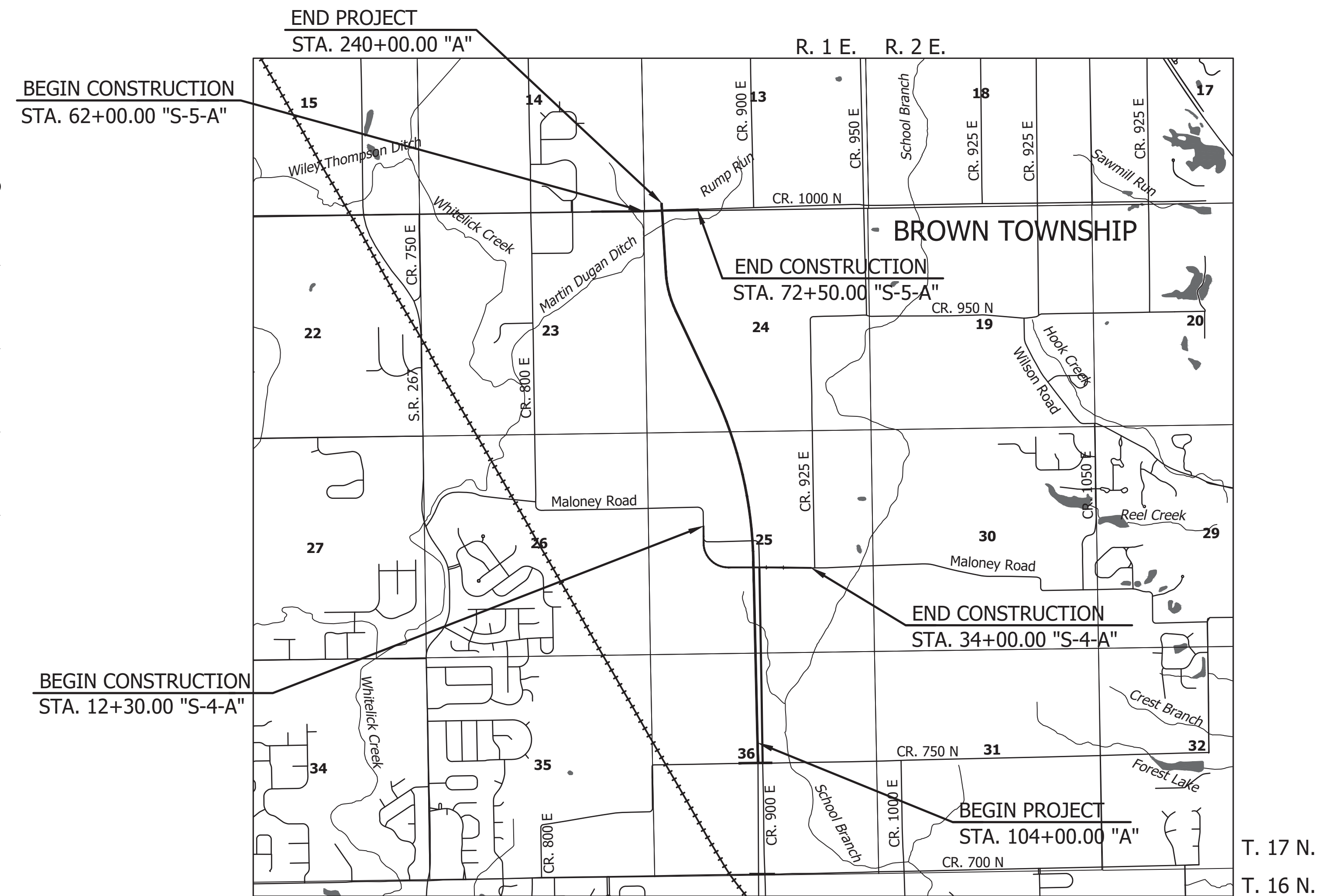
PROJECT NO. 1602280 P.E., R/W, CONST.

New Construction of Ronald Reagan Parkway, beginning at C.R. 750 N., and extending in a northerly direction for 2.58 miles (13,600 ft.) to C.R. 1000N, located in Sections 36, 25, 24 & 13 of Township 17 North, Range 1 East, in Brown Township, Hendricks County, Indiana.

| TRAFFIC DATA              | RONALD REAGAN                  |          |
|---------------------------|--------------------------------|----------|
| A.D.T. (2018)             | 2,000                          | V.P.D.   |
| A.D.T. (2038)             | 42,890                         | V.P.D.   |
| D.H.V. (2038)             | 4,289                          | V.P.H.   |
| DIRECTIONAL DISTRIBUTION  | 55% NB/45% SB                  |          |
| TRUCKS                    | 4%                             | A.A.D.T. |
|                           | 2%                             | D.H.V.   |
| DESIGN DATA               |                                |          |
| DESIGN SPEED              | 45 M.P.H.                      |          |
| PROJECT DESIGN CRITERIA   | NEW CONSTRUCTION (NON-FREEWAY) |          |
| FUNCTIONAL CLASSIFICATION | PRINCIPAL ARTERIAL             |          |
| RURAL/URBAN               | URBAN (SUBURBAN)               |          |
| TERRAIN                   | LEVEL                          |          |
| ACCESS CONTROL            | PARTIAL                        |          |

### HENDRICKS COUNTY BOARD OF COMMISSIONERS

- \_\_\_\_\_  
MATTHEW D. WHETSTONE, PRESIDENT
- \_\_\_\_\_  
PHYLLIS A. PALMER, VICE PRESIDENT
- \_\_\_\_\_  
BOB GENTRY, MEMBER
- \_\_\_\_\_  
NANCY MARSH, AUDITOR
- APPROVED:
- \_\_\_\_\_  
JOHN AYERS, P.E.  
COUNTY ENGINEER



LATITUDE: 39°53'27.00"N LONGITUDE: 86°21'54.00"W

Gross Length: 2.58 MI.  
Net Length: 2.58 MI.  
Maximum Grade: 1.00 %

[INDIANA DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS DATED 2018 TO BE  
USED WITH THESE PLANS]

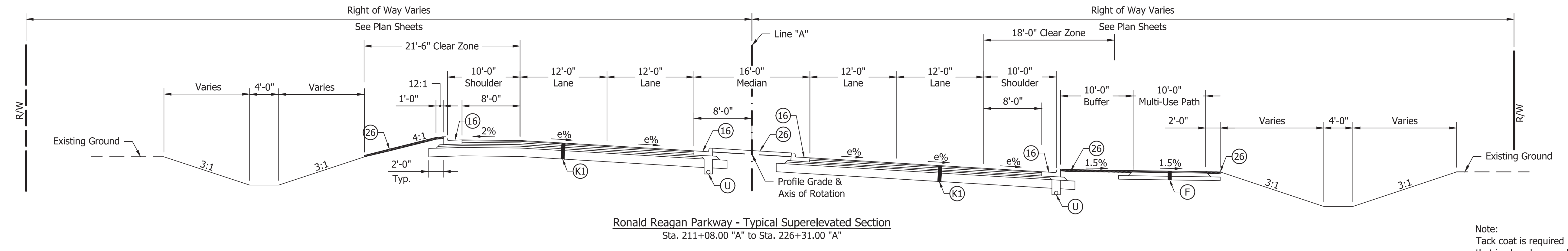
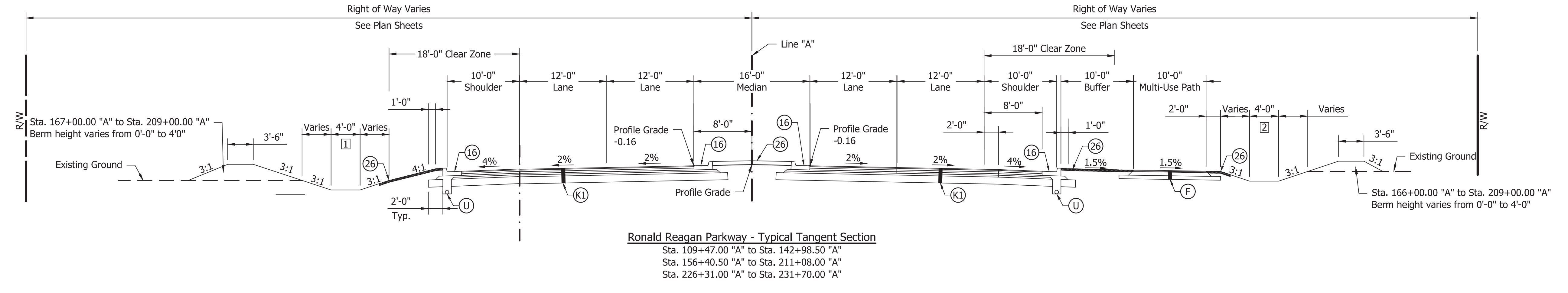
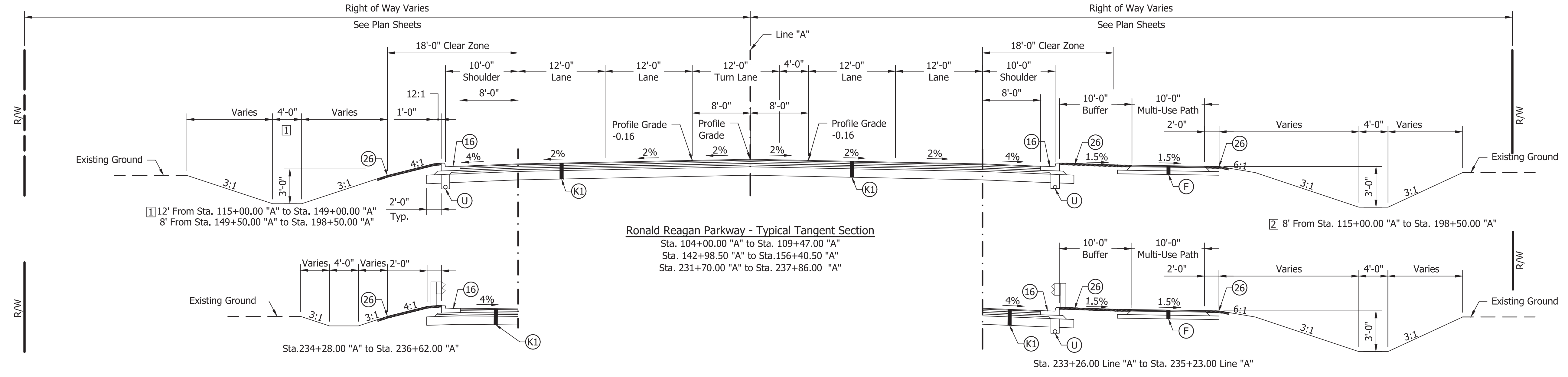
File Name: P:\CSD\17-05\Road\Draw\Plans\Title 1B.dwg Plot Date: 3/14/2019 Plotted By: Eric Harmed



8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                       |                                      |                |
|-----------------------|--------------------------------------|----------------|
| PLANS PREPARED BY:    | UNITED CONSULTING                    | (317) 895-2585 |
|                       |                                      | PHONE NUMBER   |
| CERTIFIED BY:         |                                      | DATE           |
| APPROVED FOR LETTING: |                                      | DATE           |
|                       | INDIANA DEPARTMENT OF TRANSPORTATION |                |

|             |             |  |
|-------------|-------------|--|
|             | DESIGNATION |  |
|             | 1602280     |  |
| SURVEY BOOK | SHEETS      |  |
|             | 1 of 211    |  |
| CONTRACT    | PROJECT     |  |
| ----        | 1602280     |  |



Note:  
 Tack coat is required beneath each course of HMA material that is placed on newly constructed HMA course or on an existing pavement.

- (16) Curb and Gutter, Concrete, Type B
- (26) Sodding, Nursery
- (F) HMA for Sidewalk  
 140 LB/SYS HMA Surface, Type B on  
 220 LB/SYS HMA Intermediate, Type B on  
 6" Compacted Aggregate, No. 53, Base on  
 Subgrade Treatment, Type III
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19.0mm on  
 330 LB/SYS QC/QA HMA Base, 3, 64, 19.0mm on  
 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19.0mm on  
 330 LB/SYS QC/QA HMA Base, 3, 64, 19.0mm on  
 Subgrade Treatment, Type IB
- (U) Underdrain - Pipe, Type 4, Circular, 6"



|                          |                 |
|--------------------------|-----------------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER |
| DESIGNED: JNH            | DRAWN: AJK      |
| CHECKED: BKA             | CHECKED: BKA    |

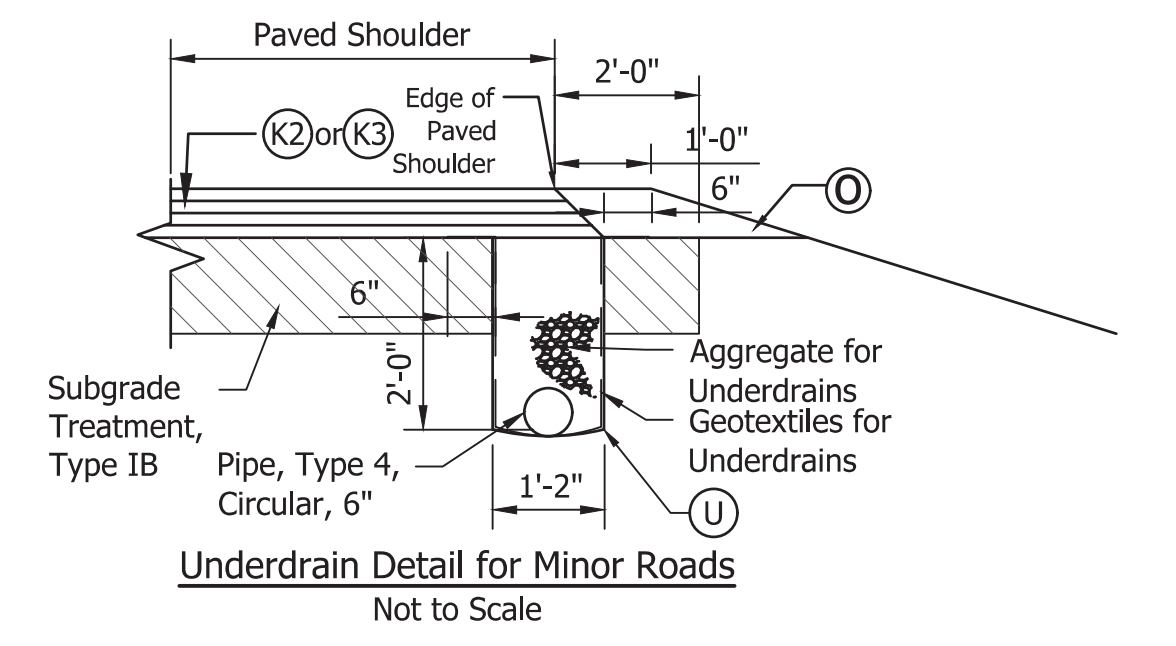
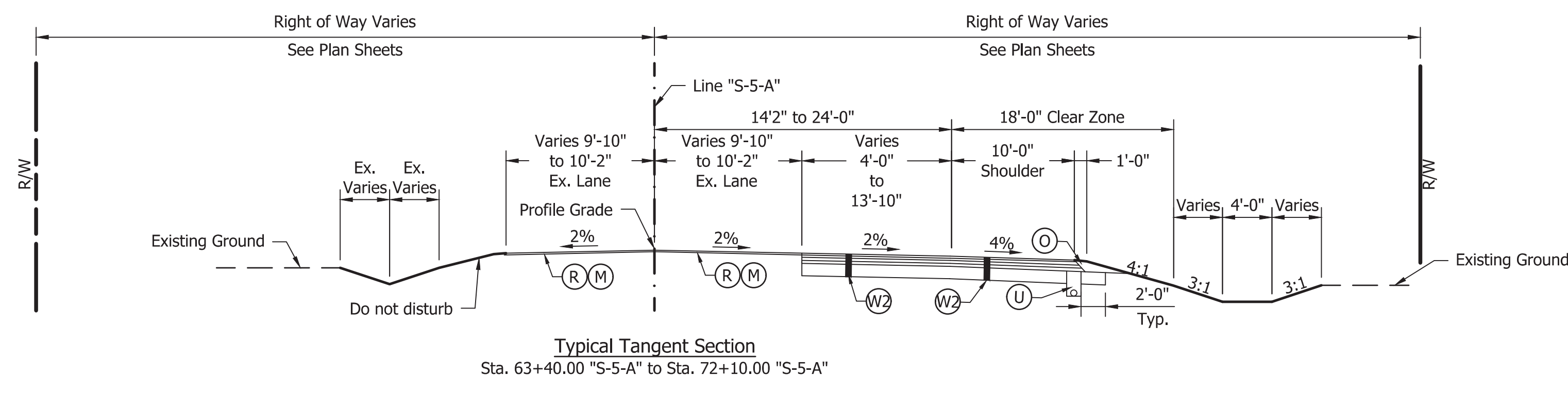
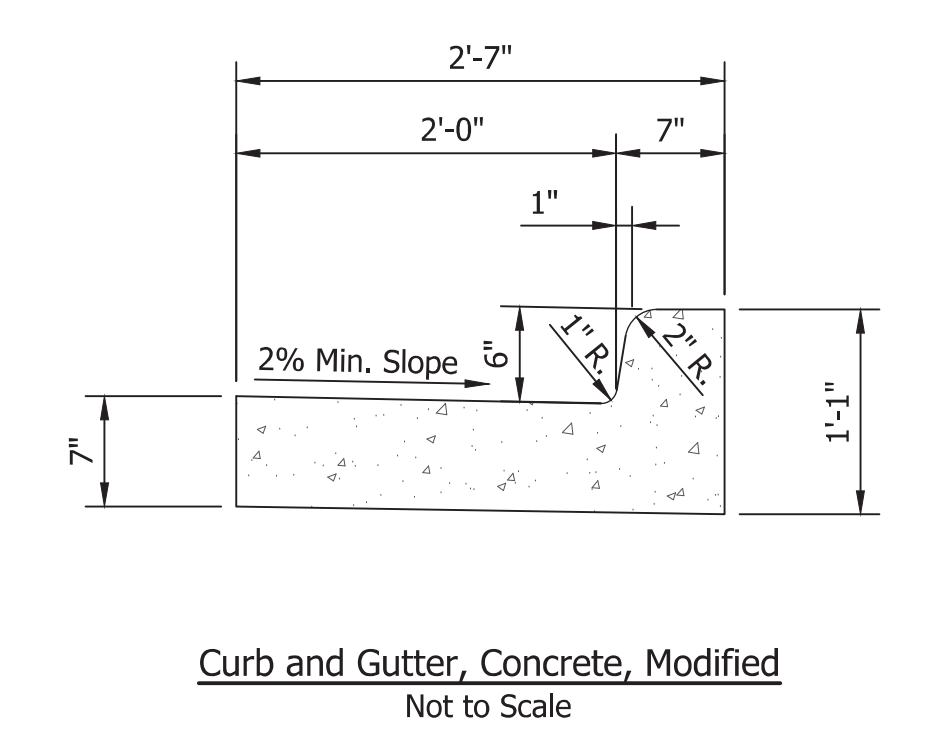
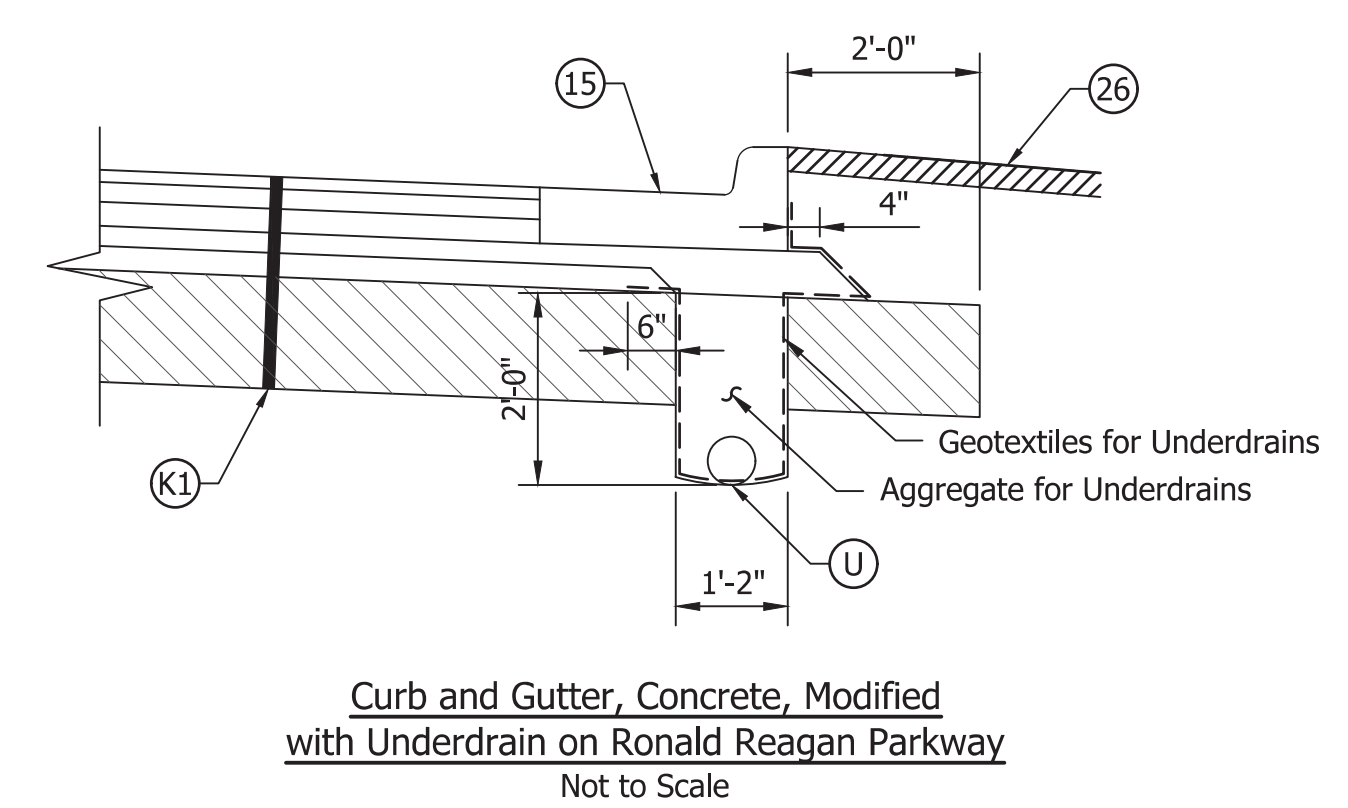
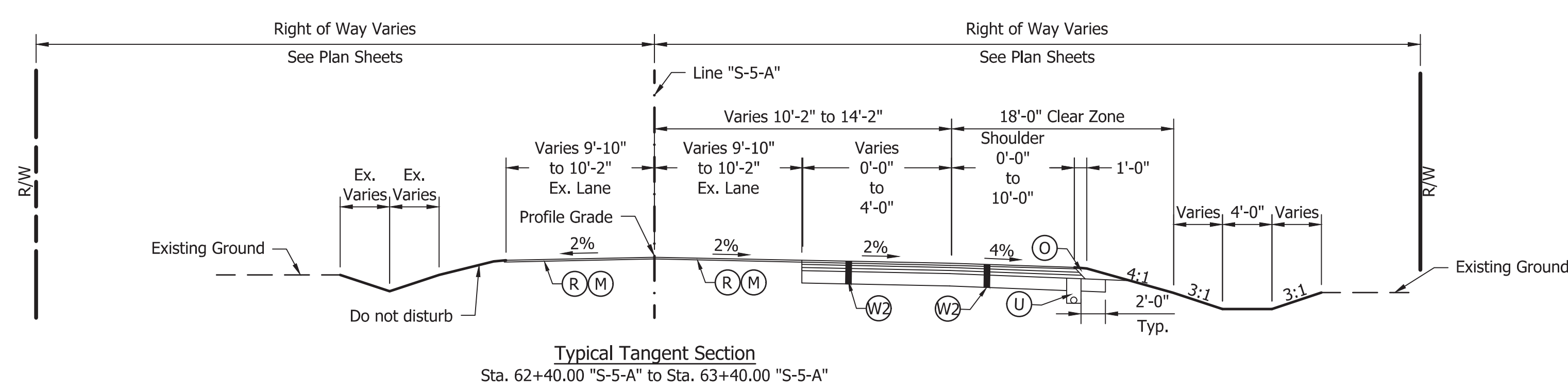
**HENDRICKS COUNTY**

**TYPICAL SECTIONS**  
**LINE "A"**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1/8" = 1'-0"     | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1/8" = 1'-0"     | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 3 of 211          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\2017\17-0005\1602280\Road\CAD\Misc\DWG\SH\_Typ\_Sec\_IB.dwg Plot Date: 3/7/2019 Plotted By: HUB\_Jacobson





| EARTHWORK SUMMARY TABLE (Sta. 150+47.41-238+20.11) |                |            |
|--|----------------|------------|
| <b>COMMON EXCAVATION</b>                           |                |            |
| Line "A"   | 28,250         | CYD        |
| Line "S-5-A"                                       | 3,500          | CYD        |
| Topsoil Removal                                    | 17,795         | CYD        |
| Pond N1  | 7,419          | CYD        |
| Pond N2  | 11,560         | CYD        |
| <b>TOTAL COMMON EXCAVATION</b>                     | <b>68,524</b>  | <b>CYD</b> |
| <b>LESS UNUSEABLE EXCAVATION</b>                   | <b>17,795</b>  | <b>CYD</b> |
| <b>TOTAL USEABLE EXCAVATION</b>                    | <b>50,729</b>  | <b>CYD</b> |
| <b>FILL</b>  |                |            |
| Line "A"   | 110,735        | CYD        |
| Line "S-5-A"                                       | 690            | CYD        |
| Topsoil Removal                                    | 17,795         | CYD        |
| Pond N1  | 217            | CYD        |
| Pond N2  | 291            | CYD        |
| <b>SUBTOTAL, FILL VOLUME REQUIRED</b>              | <b>111,425</b> | <b>CYD</b> |
| <b>SWELL (15%)</b>                                 | <b>16,710</b>  | <b>CYD</b> |
| <b>TOTAL FILL</b>                                  | <b>128,135</b> | <b>CYD</b> |
| <b>LESS USEABLE EXCAVATION</b>                     | <b>50,729</b>  | <b>CYD</b> |
| <b>TOTAL BORROW REQUIRED</b>                       | <b>77,406</b>  | <b>CYD</b> |

- Note:
- 1) Tack coat is required beneath each course of HMA material that is placed on newly constructed HMA course or on an existing pavement.
  - 2) See Geotechnical Report for existing pavement cores.

File Name: S:\\_2017-2018\114\Road\CAD\Misc\DWG\SH\_Type\_Sec\_IB.dwg Plot Date: 3/7/2019 Plotted By: H.H. Jacobson

- W2 Widening with HMA, Type C to be:  
165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA-HMA Intermediate, 3, 70, 19.0mm on  
330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on  
330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on  
Subgrade Treatment, Type IB
- U Underdrain - Pipe, Type 4, Circular, 6"
- 26 Sodding, Nursery
- M Milling, Asphalt, 1.5"
- R 165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm
- O Compacted Aggregate No. 53

**LOCHMUELLER GROUP**

3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

DESIGNED: JNH DRAWN: AJK

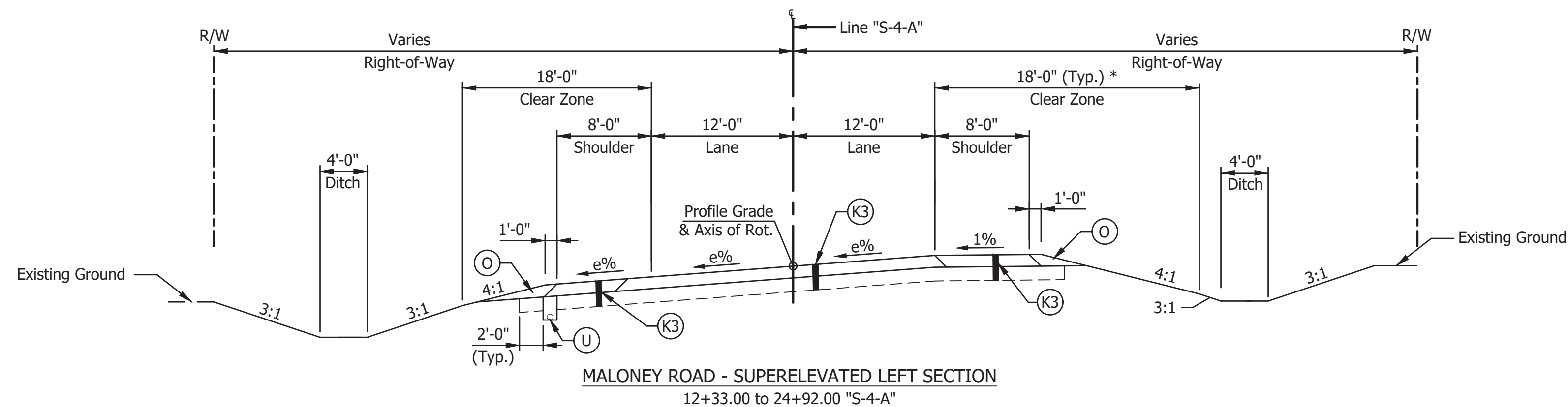
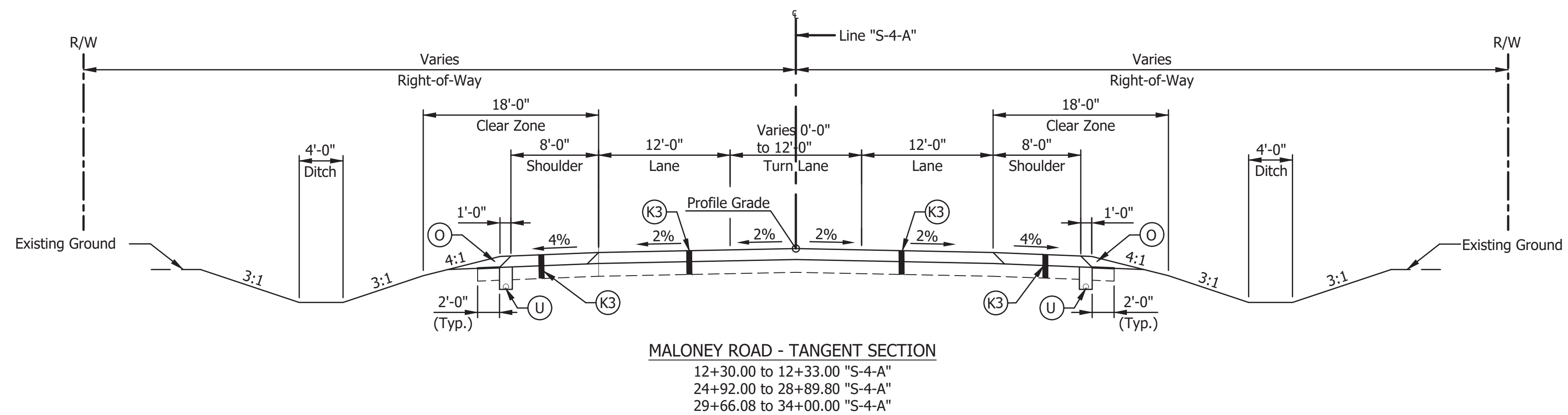
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

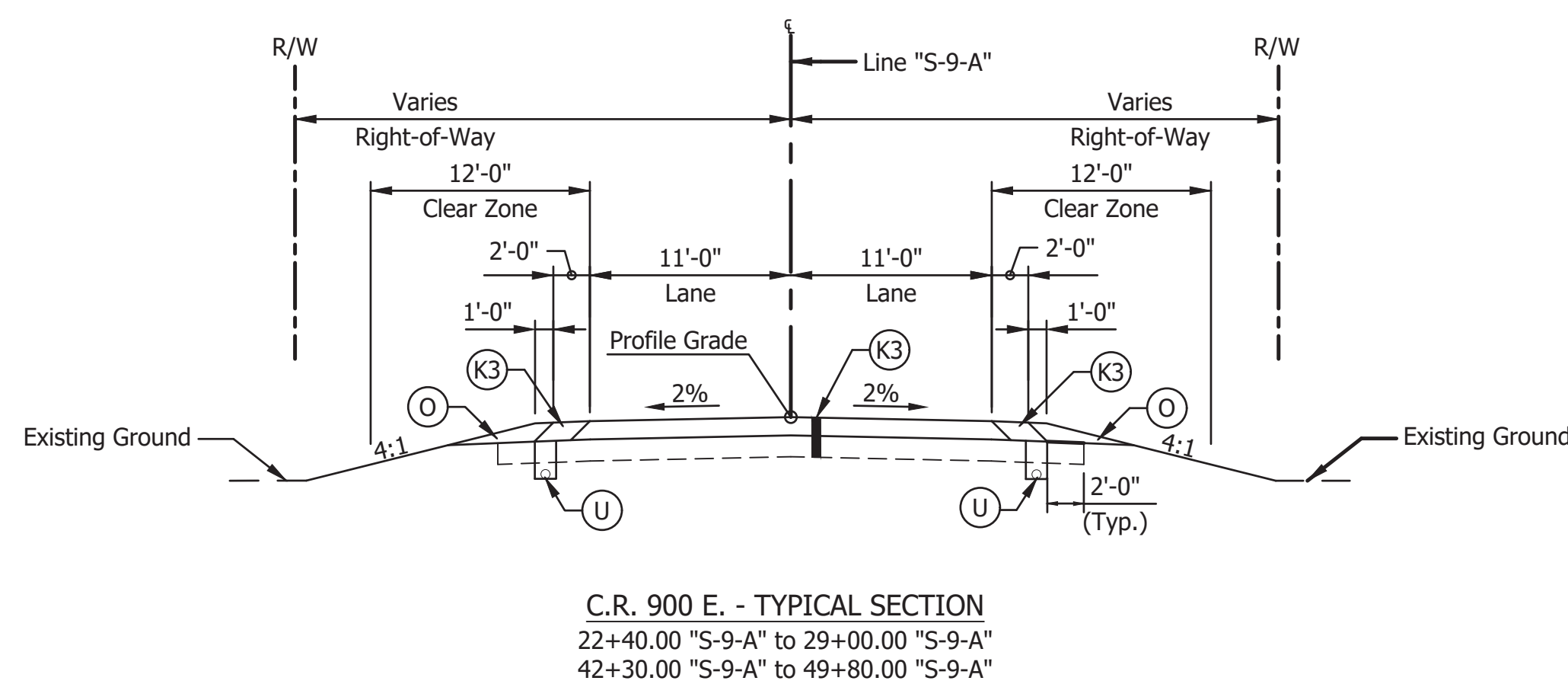
TYPICAL SECTIONS  
"S" LINES

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1/8" = 1'-0"     | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1/8" = 1'-0"     | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 4 of 211          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: P:\C3D\17-405\Road\Drawings\Plans\Typ-Sec B1.dwg Plot Date: 3/14/2019 Plotted By: Eric Harmed



\* Clear Zone Varies 18'-0" to 25'-3" from 14+00.64 to 15+24.64 "S-4-A"  
 Clear Zone = 25'-3" from 15+24.64 to 23+22.70 "S-4-A"  
 Clear Zone Varies 25'-3" to 18'-0" from 23+22.70 to 24+46.70 "S-4-A"



**LEGEND**

- Ⓚ Full Depth QC/QA-HMA Pavement  
 165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
 275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
 330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
 3" Compacted Aggregate No. 53, on  
 Subgrade Treatment, Type IB
- Ⓞ Compacted Aggregate, No. 53
- Ⓢ Underdrain
- Ⓣ Sodding, Nursery

Note:  
 Tack coat is required beneath each course of HMA material that is placed on a newly constructed HMA course or on an existing pavement.



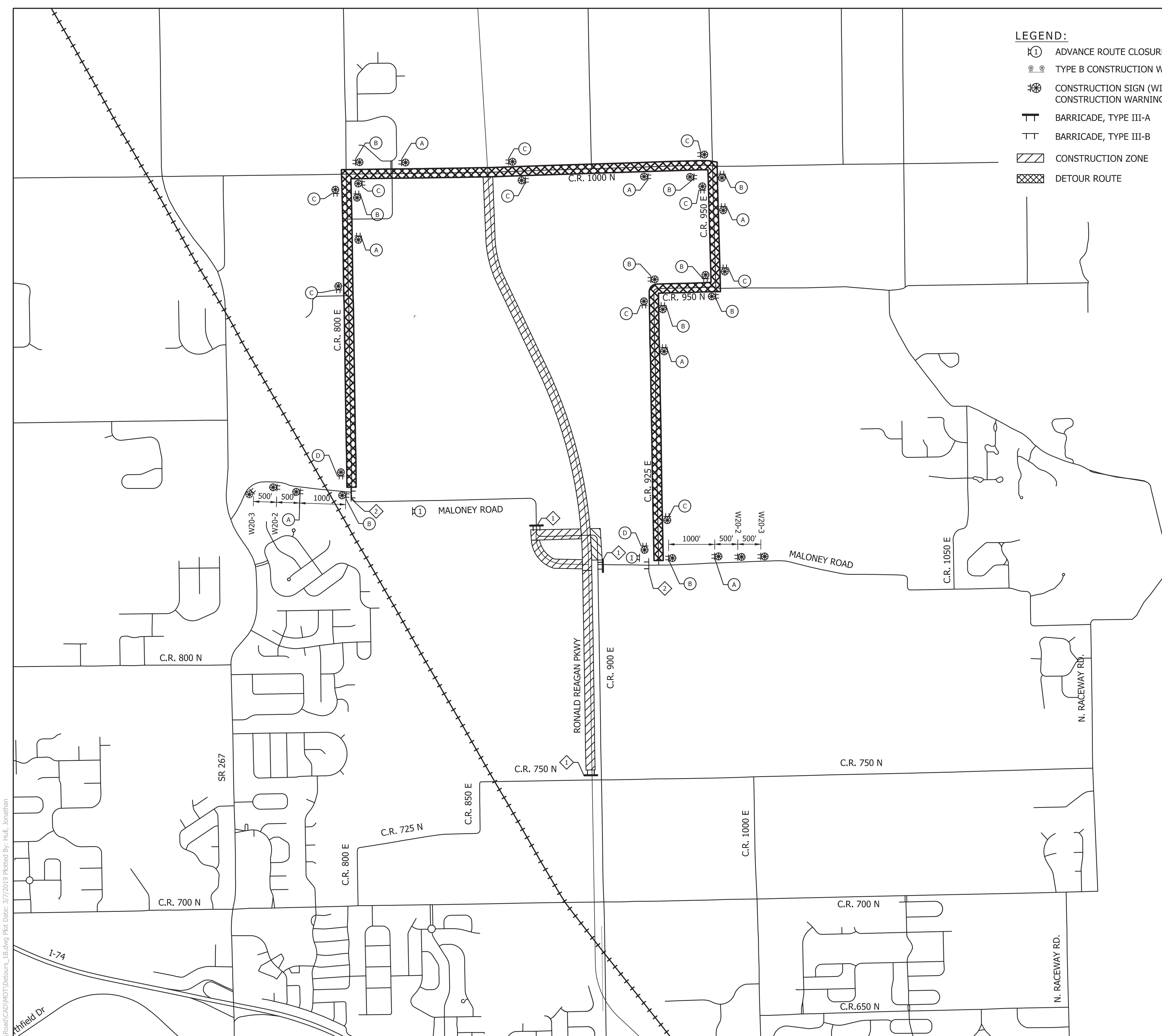
8440 Allison Pointe Boulevard, Suite 200  
 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: BEA                  | DRAWN: VAD   |
| CHECKED: JAR                   | CHECKED: JAR |

**HENDRICKS COUNTY**

**TYPICAL CROSS SECTIONS  
 LINES "S-4-A" & "S-9-A"**

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| 1/8"=1'          | ----        |
| VERTICAL SCALE   | DESIGNATION |
| 1/8"=1'          | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 5 of 211    |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |

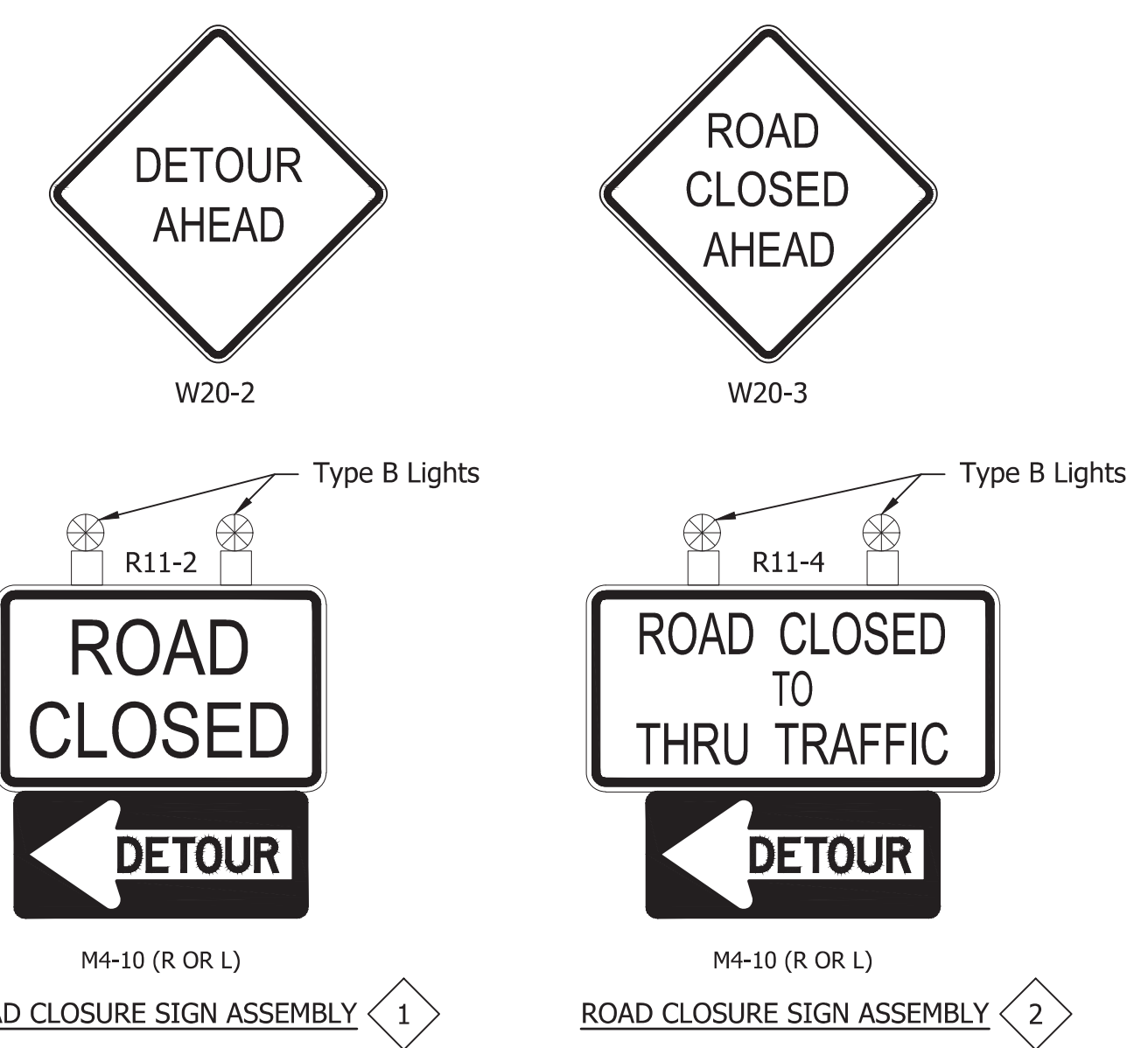
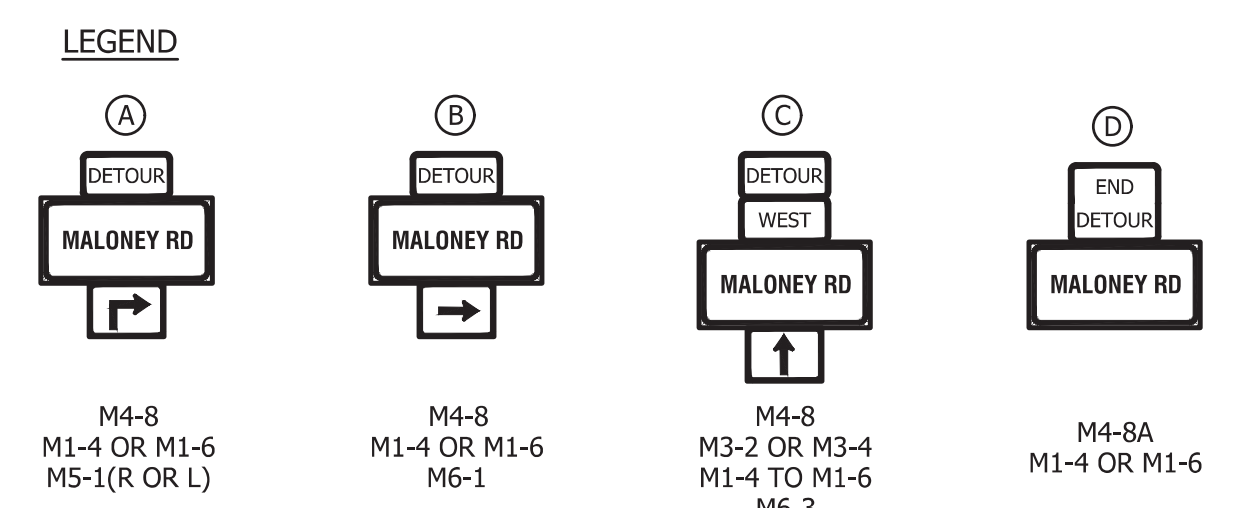


- LEGEND:**
- (C) ADVANCE ROUTE CLOSURE NOTICE SIGN (TYPE C)
  - ☉ TYPE B CONSTRUCTION WARNING LIGHTS
  - ⊗ CONSTRUCTION SIGN (WITH TYPE A CONSTRUCTION WARNING LIGHTS)
  - TT BARRICADE, TYPE III-A
  - TT BARRICADE, TYPE III-B
  - ▨ CONSTRUCTION ZONE
  - ▩ DETOUR ROUTE

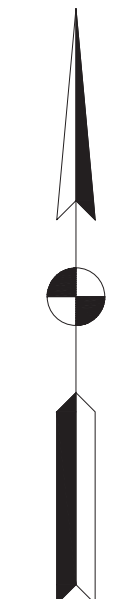
| CONSTRUCTION SIGN SCHEDULE |   |           |                      |           |
|----------------------------|---|-----------|----------------------|-----------|
| SIGN NO.                   | DESCRIPTION                             | SIZE (IN) | TYPE                 | EST. QTY. |
| W20-2                      | "DETOUR AHEAD" SIGN                     | 36 x 36   | A                    | 2         |
| W20-3                      | "ROAD CLOSED AHEAD" SIGN                | 36 x 36   | A                    | 2         |
| (1)                        | ADVANCE ROUTE CLOSURE SIGN (MALONEY RD) |           | A                    | 2         |
|                            |   |           | TOTAL TYPE "A" SIGNS | 6         |

DETOUR ROUTE MARKER ASSEMBLIES: 29 EACH  
 ROAD CLOSURE SIGN ASSEMBLY: 4 EACH  
 TYPE III-A BARRICADES: 48 LFT.  
 TYPE III-B BARRICADES: 48 LFT.

- 1 Road Closure Sign Assembly with Type A Barricades (2 x 24') = 48 LFT, R11-2 and M4-10 (R) or (L)
- 2 Road Closure Sign Assembly with Type B Barricades (2 x 24') = 48 LFT, R11-4 and M4-10 (R) or (L)



- GENERAL NOTES**
- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
  - SEE INDOT STD DWG 801-TCDT-01 FOR ADDITIONAL DETAILS.
  - SEE INDOT STD DWG 801-TCLG-01 FOR GENERAL NOTES.
  - ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
  - CR 1000 N AND MALONEY RD SHALL NOT BE RESTRICTED OR CLOSED AT THE SAME TIME.



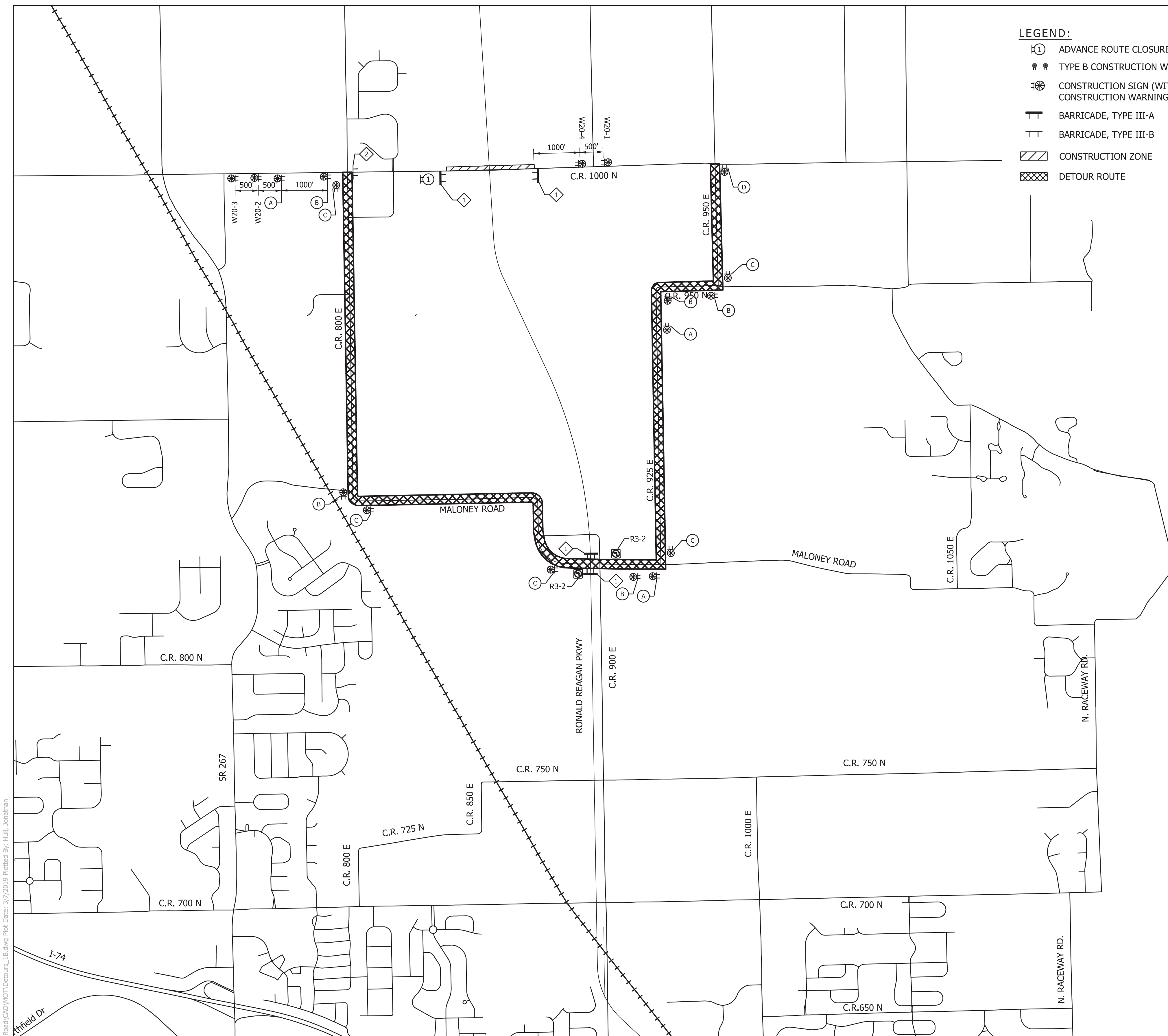
File Name: S:\\_2017\17-0005\114\Drawings\CAD\DOT\Drawings\_18.dwg Plot Date: 3/7/2019 Plotted By: Hull, Jonathan

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: AJK      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
 MAINTENANCE OF TRAFFIC - DETOUR  
 MALONEY RD

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 1200'       | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 7 of 211          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- LEGEND:**
- Ⓛ ADVANCE ROUTE CLOSURE NOTICE SIGN (TYPE C)
  - Ⓜ TYPE B CONSTRUCTION WARNING LIGHTS
  - Ⓢ CONSTRUCTION SIGN (WITH TYPE A CONSTRUCTION WARNING LIGHTS)
  - TT BARRICADE, TYPE III-A
  - TT BARRICADE, TYPE III-B
  - ▨ CONSTRUCTION ZONE
  - DETOUR ROUTE

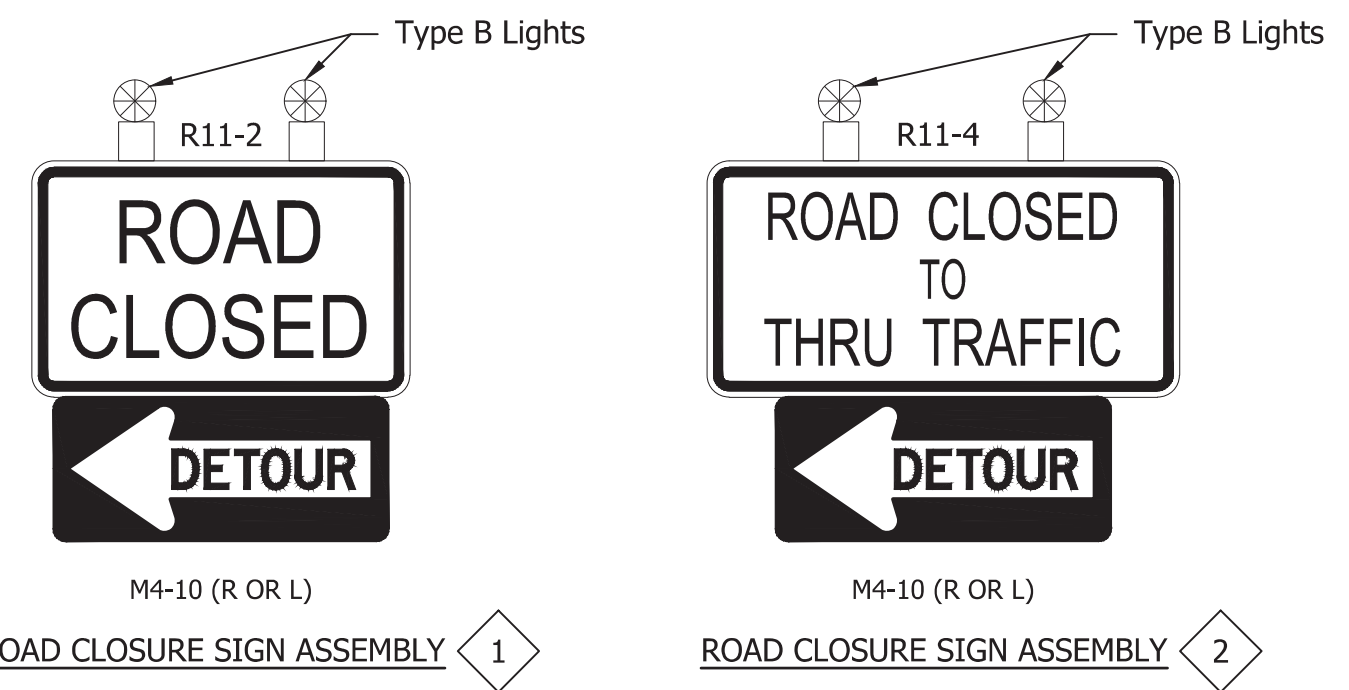
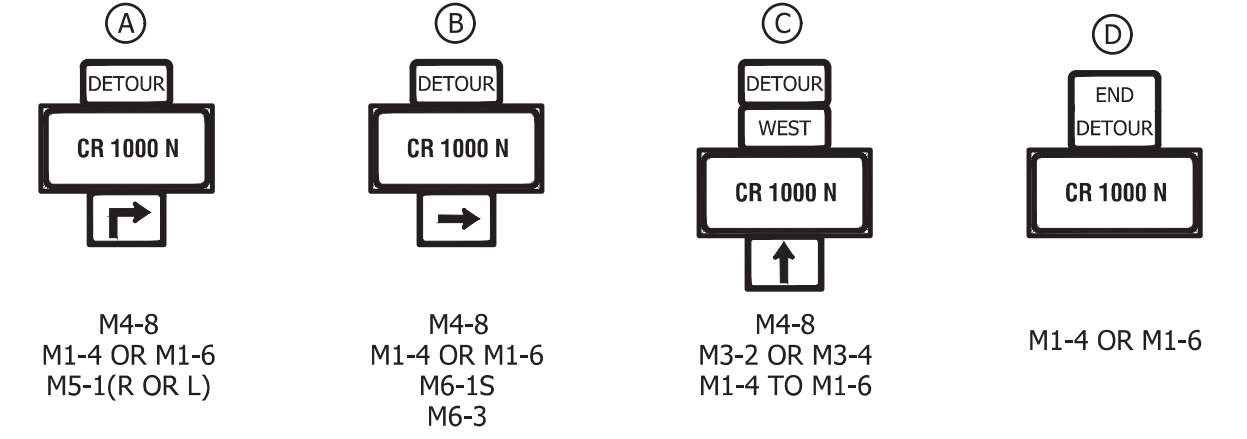
| CONSTRUCTION SIGN SCHEDULE |   |           |      |                      |   |
|----------------------------|---|-----------|------|----------------------|---|
| SIGN NO.                   | DESCRIPTION                                     | SIZE (IN) | TYPE | EST. QTY.            |   |
| W20-1                      | "ROAD WORK AHEAD" SIGN                          | 36 x 36   | A    | 1                    |   |
| W20-2                      | "DETOUR AHEAD" SIGN                             | 36 x 36   | A    | 1                    |   |
| W20-3                      | "ROAD CLOSED AHEAD" SIGN                        | 36 x 36   | A    | 1                    |   |
| W20-4                      | "ONE LANE ROAD AHEAD" SIGN                      | 36 x 36   | A    | 1                    |   |
| (1)                        | ADVANCE ROUTE CLOSURE NOTICE SIGN (C.R. 1000 N) |           | A    | 1                    |   |
|                            |   |           |      | TOTAL TYPE "A" SIGNS | 5 |

DETOUR ROUTE MARKER ASSEMBLIES: 14 EACH  
 ROAD CLOSURE SIGN ASSEMBLY: 5 EACH  
 TYPE III-A BARRICADES: 232 LFT.  
 TYPE III-B BARRICADES: 24 LFT.

1 Road Closure Sign Assembly with Type A Barricades  
 (2 x 84' = 168 LFT), R11-2 and M4-10 (R) or (L)  
 (2 x 24' = 48 LFT), R11-2 and M4-10 (R) or (L)

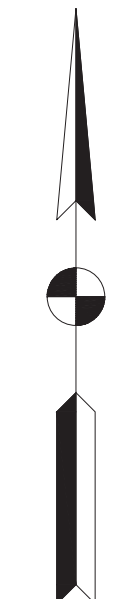
2 Road Closure Sign Assembly with Type B Barricades  
 (1 x 24' = 24 LFT), R11-4 and M4-10 (R) or (L)

**LEGEND**



**GENERAL NOTES**

- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
- SEE INDOT STD DWG 801-TCDD-01 FOR ADDITIONAL DETAILS.
- SEE INDOT STD DWG 801-TCLG-01 FOR GENERAL NOTES.
- ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
- CR 1000 N AND MALONEY RD SHALL NOT BE CLOSED OR RESTRICTED AT THE SAME TIME.



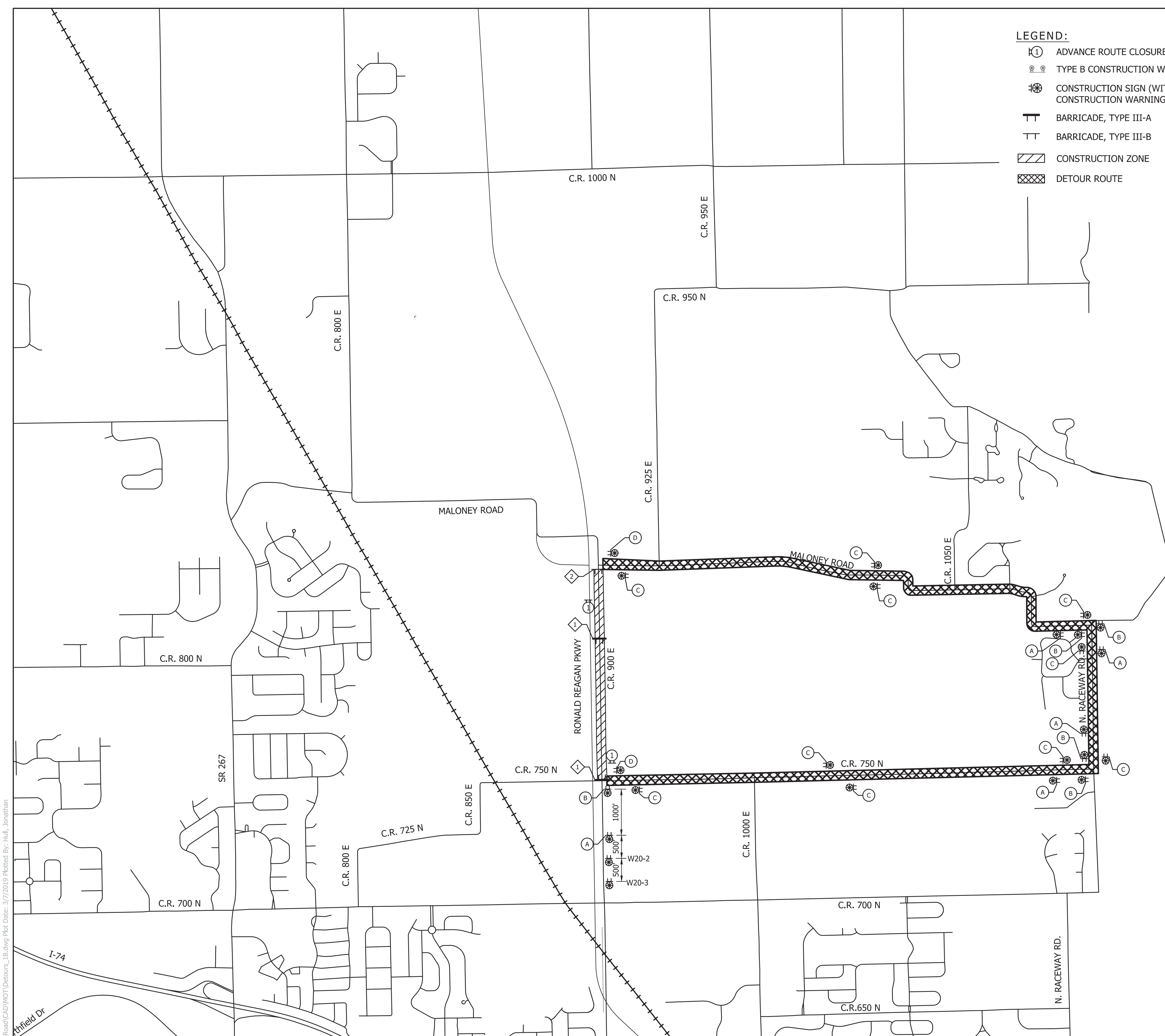
File Name: S:\\_2017\17-0005\114\1\Drawn\CAD\1001\Drawings\_18.dwg Plot Date: 3/7/2019 Plotted By: Hall, Jonathan

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 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: AJK      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
 MAINTENANCE OF TRAFFIC - DETOUR  
 C.R. 1000 N

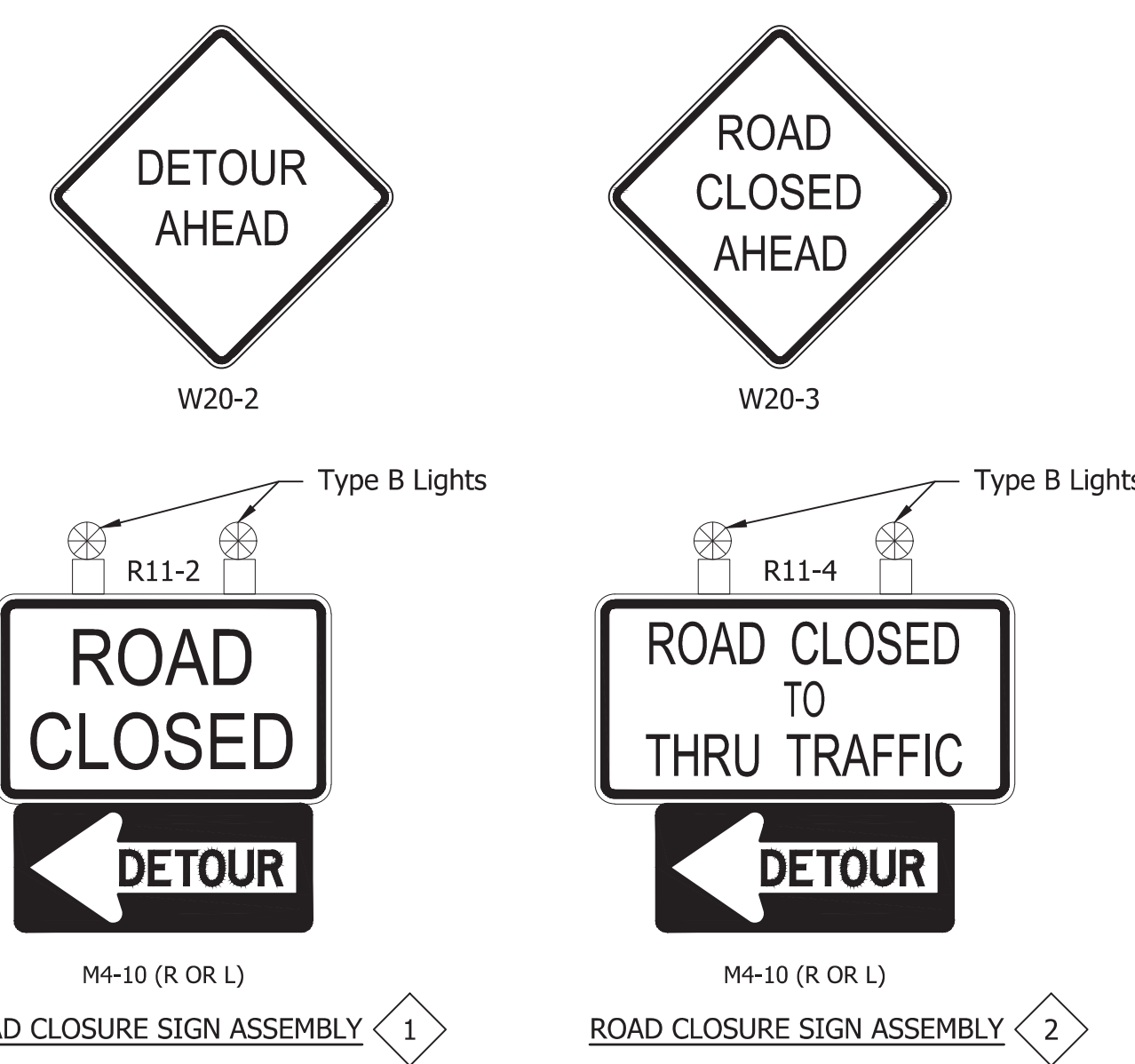
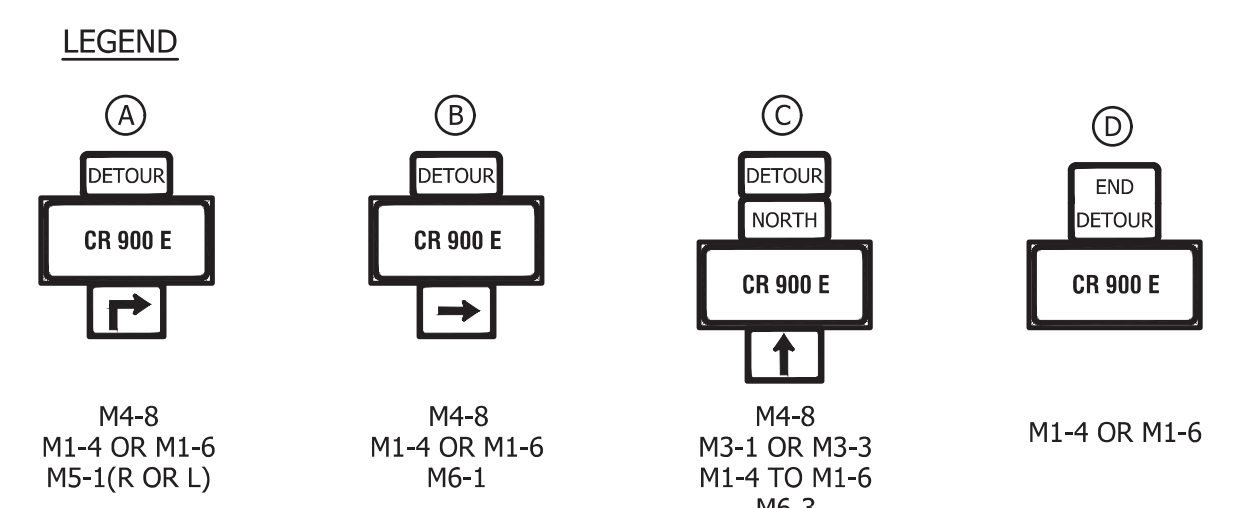
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|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 1200'       | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 8 of 211          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- LEGEND:**
- ADVANCE ROUTE CLOSURE NOTICE SIGN (TYPE C)
  - TYPE B CONSTRUCTION WARNING LIGHTS
  - CONSTRUCTION SIGN (WITH TYPE A CONSTRUCTION WARNING LIGHTS)
  - BARRICADE, TYPE III-A
  - BARRICADE, TYPE III-B
  - CONSTRUCTION ZONE
  - DETOUR ROUTE

| CONSTRUCTION SIGN SCHEDULE |  |           |      |                      |   |
|----------------------------|--|-----------|------|----------------------|---|
| SIGN NO.                   | DESCRIPTION                                    | SIZE (IN) | TYPE | EST. QTY.            |   |
| W20-2                      | "DETOUR AHEAD" SIGN                            | 36 x 36   | A    | 1                    |   |
| W20-3                      | "ROAD CLOSED AHEAD" SIGN                       | 36 x 36   | A    | 1                    |   |
| (1)                        | ADVANCE ROUTE CLOSURE NOTICE SIGN (C.R. 900 E) |           | A    | 2                    |   |
|                            |  |           |      | TOTAL TYPE "A" SIGNS | 4 |

- DETOUR ROUTE MARKER ASSEMBLIES: 22 EACH  
 ROAD CLOSURE SIGN ASSEMBLY: 3 EACH  
 TYPE III-A BARRICADES: 48 LFT.  
 TYPE III-B BARRICADES: 48 LFT.
- Road Closure Sign Assembly with Type A Barricades (2 x 24' = 48 LFT), R11-2 and M4-10 (R) or (L)
  - Road Closure Sign Assembly with Type B Barricades (2 x 24' = 48 LFT), R11-4 and M4-10 (R) or (L)



- GENERAL NOTES**
- ALL MAINTENANCE OF TRAFFIC DEVICES, SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE INDIANA MUTCD.
  - SEE INDOT STD DWG 801-TCDT-01 FOR ADDITIONAL DETAILS.
  - SEE INDOT STD DWG 801-TCLG-01 FOR GENERAL NOTES.
  - ACCESS SHALL BE MAINTAINED FOR LOCAL BUSINESSES AND RESIDENTS AT ALL TIMES.
  - C.R. 1000 N, C.R. 900 E, AND MALONEY RD SHALL NOT BE CLOSED AT THE SAME TIME.



File Name: S:\\_2017\17-0005\114\Drawings\CAD\DOT\Drawings\_18.dwg Plot Date: 3/7/2019 Plotted By: Hull, Jonathan

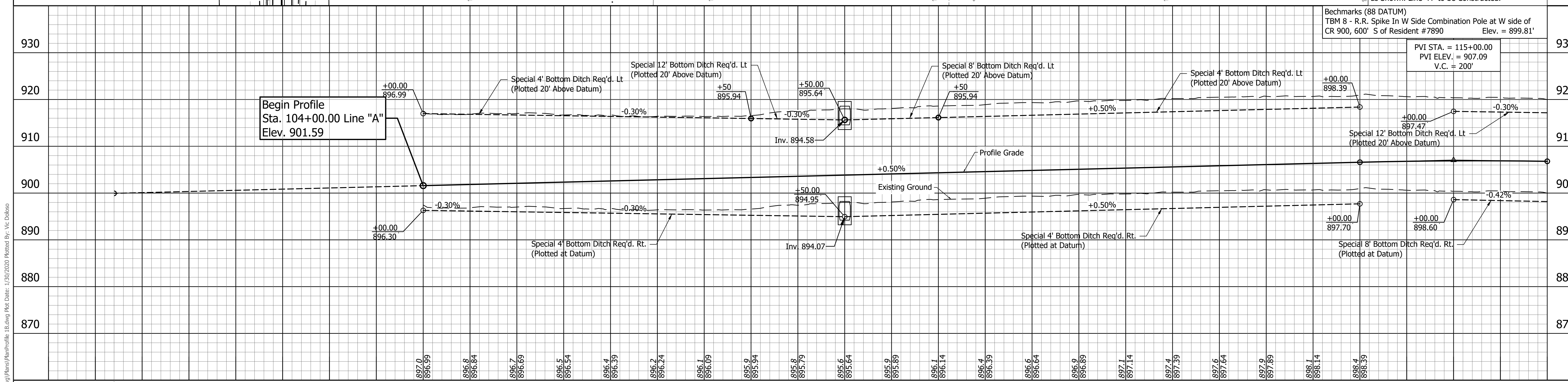
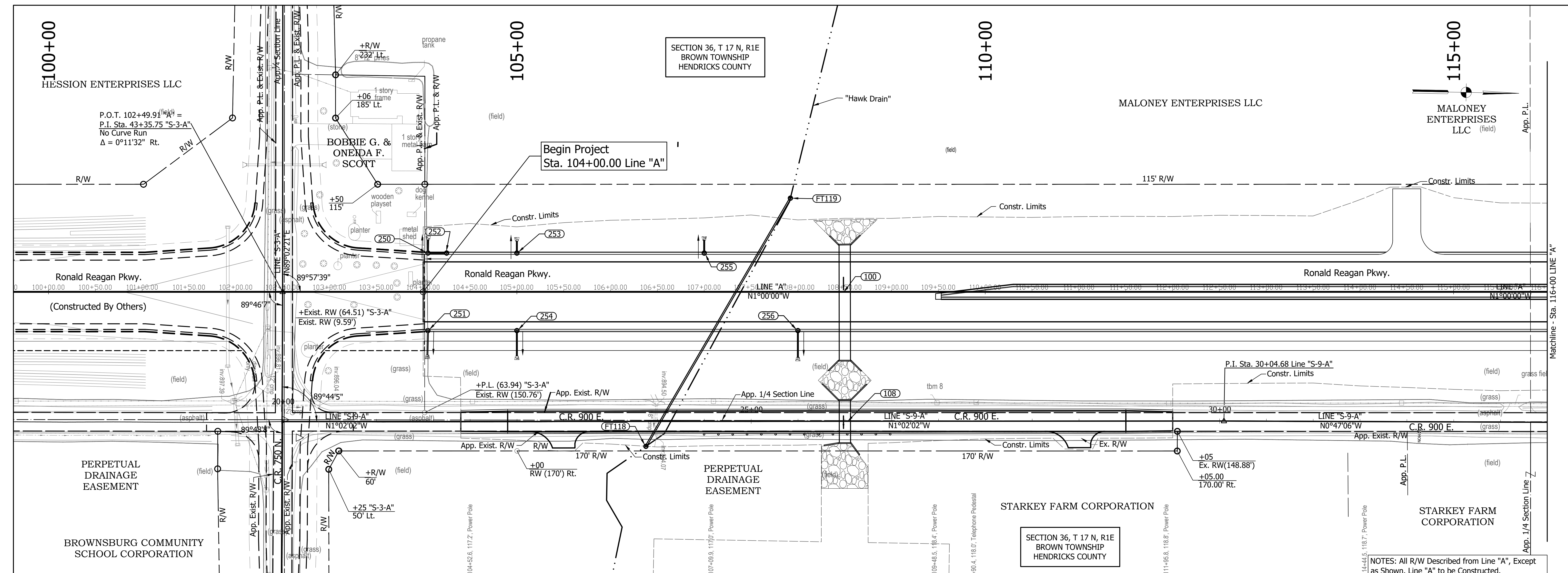
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: AJK      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY

MAINTENANCE OF TRAFFIC - DETOUR  
 CR 900 E

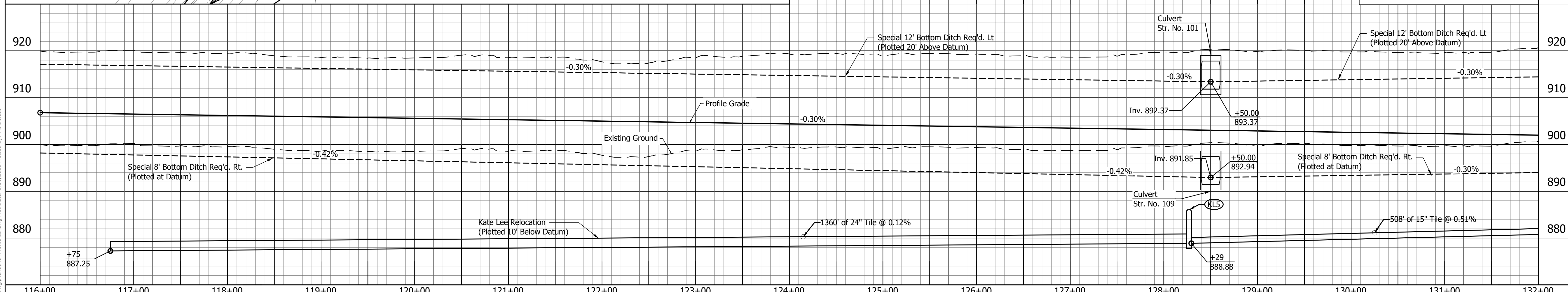
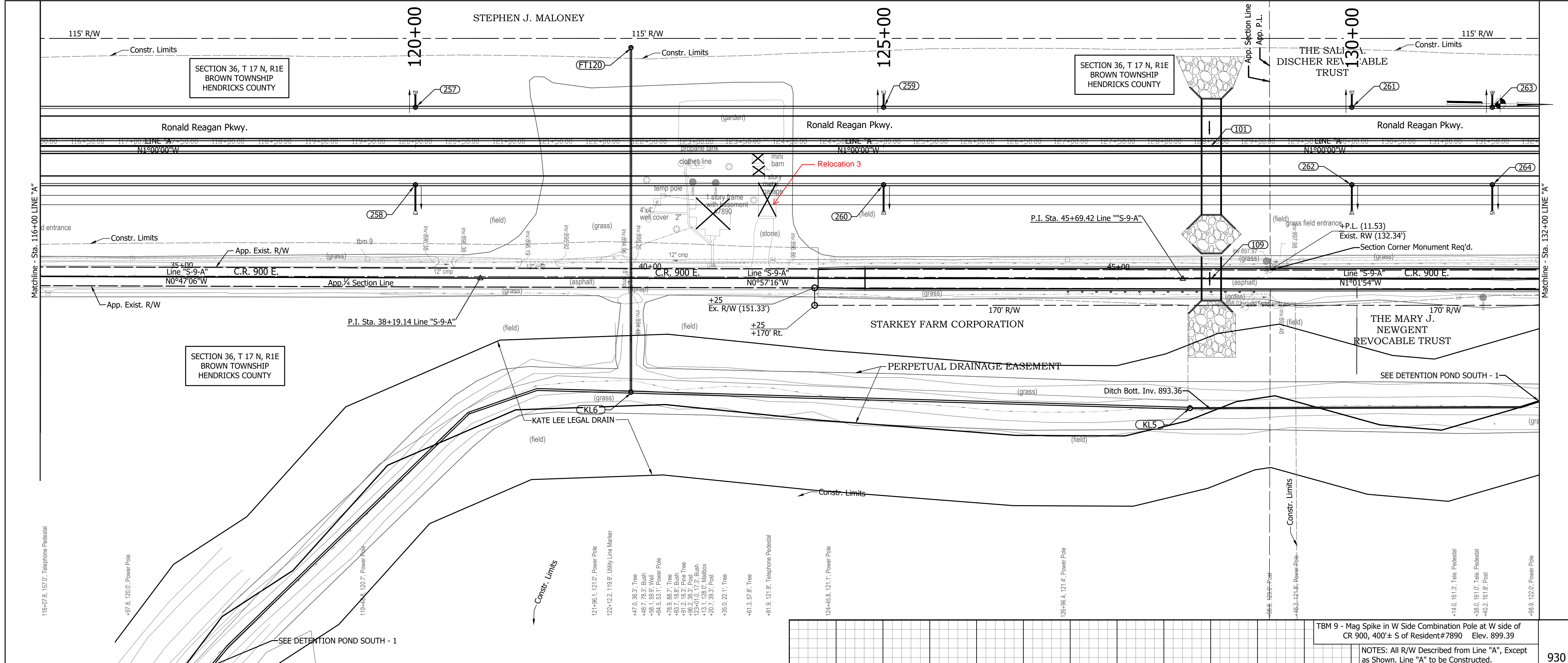
|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 1200'       | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 9 of 211          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



|   |   |                              |                        |
|---|---|------------------------------|------------------------|
| RECOMMENDED FOR APPROVAL _____<br>DESIGN ENGINEER _____ DATE _____<br>DESIGNED: BEA DRAWN: VAD<br>CHECKED: JEL CHECKED: JEL | <b>HENDRICKS COUNTY</b><br><br><b>PLAN AND PROFILE LINE "A"</b> | HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>---     |
|   |   | VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
|   |   | SURVEY BOOK<br>---           | SHEETS<br>10 of 211    |
|   |   | CONTRACT<br>---              | PROJECT<br>1602280     |

**UNITED Consulting**  
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 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

File Name: P:\RD\CD\17-05\Road\Draw\Plans\Plan\Profile - 1B.dwg Plot Date: 1/20/2020 Plotted By: Vic Dobson



TBM 9 - Mag Spike in W Side Combination Pole at W side of CR 900, 400'± S of Resident #7890 Elev. 899.39  
 NOTES: All R/W Described from Line "A", Except as Shown. Line "A" to be Constructed.

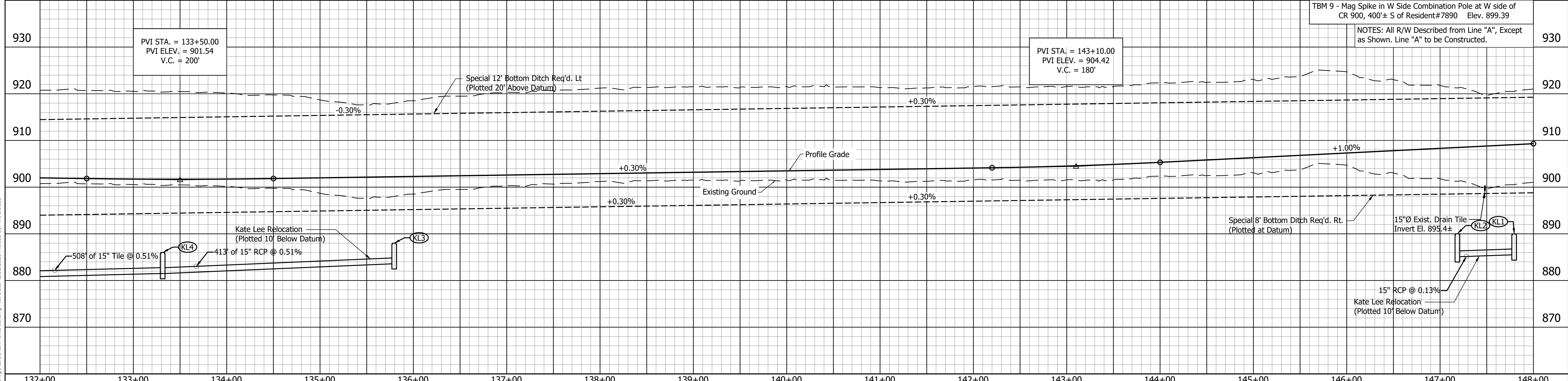
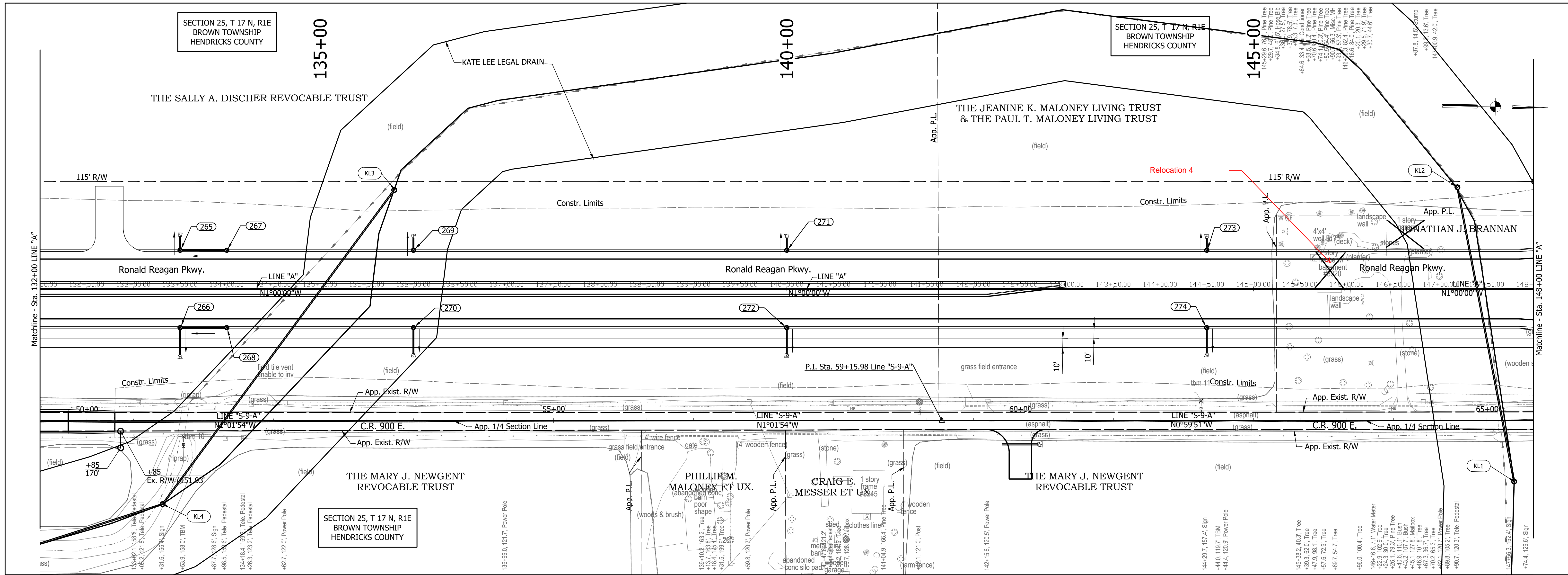
**UNITED Consulting**  
 8440 Allison Pointe Boulevard, Suite 200  
 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 DESIGNED: BEA DRAWN: VAD  
 CHECKED: JEL CHECKED: JEL

HENDRICKS COUNTY  
 PLAN AND PROFILE  
 LINE "A"

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>11 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\PlanProfile\_1B.dwg Plot Date: 1/20/2020 Plotted By: Vic Doloso



File Name: P:\RD\CD\17-405\Road\Draw\Plans\PlanProfile - 18.dwg Plot Date: 1/20/2020 Plotted By: Vic Dobson

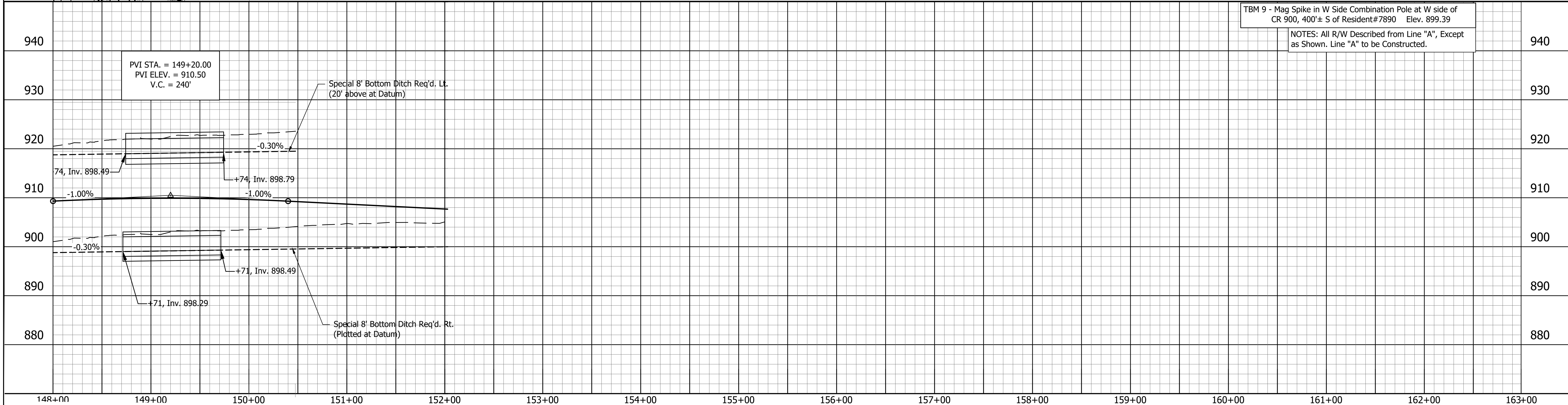
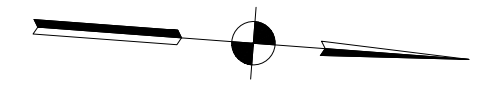
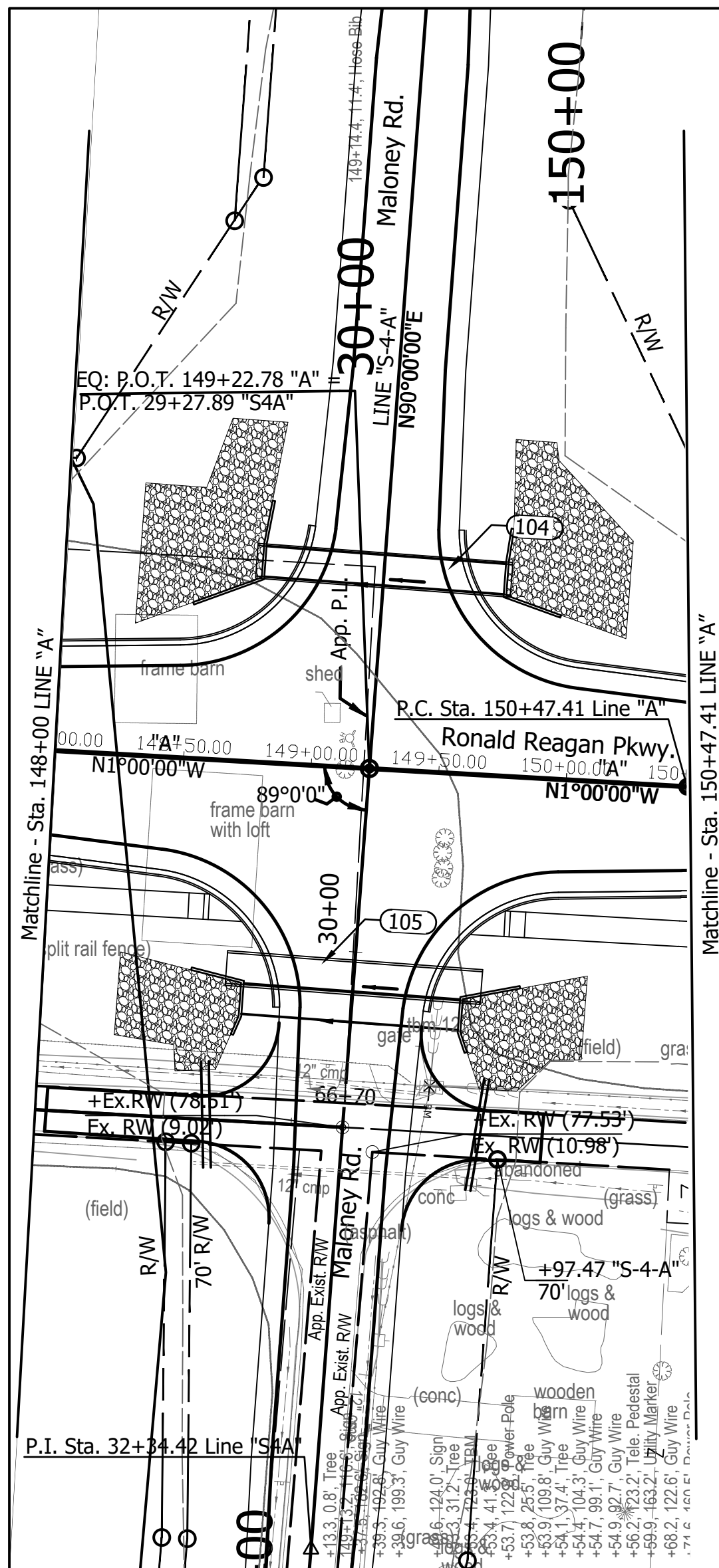
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 Phone 317-895-2585  
 www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

**HENDRICKS COUNTY**  
 PLAN AND PROFILE  
 LINE "A"

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>12 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |





TBM 9 - Mag Spike in W Side Combination Pole at W side of CR 900, 400'± S of Resident#7890 Elev. 899.39

NOTES: All R/W Described from Line "A", Except as Shown. Line "A" to be Constructed.

File Name: P:\RD\CD\17-405\Road\Draw\Plans\PlanProfile - 1B.dwg Plot Date: 1/20/2020 Plotted By: Vic Doloso



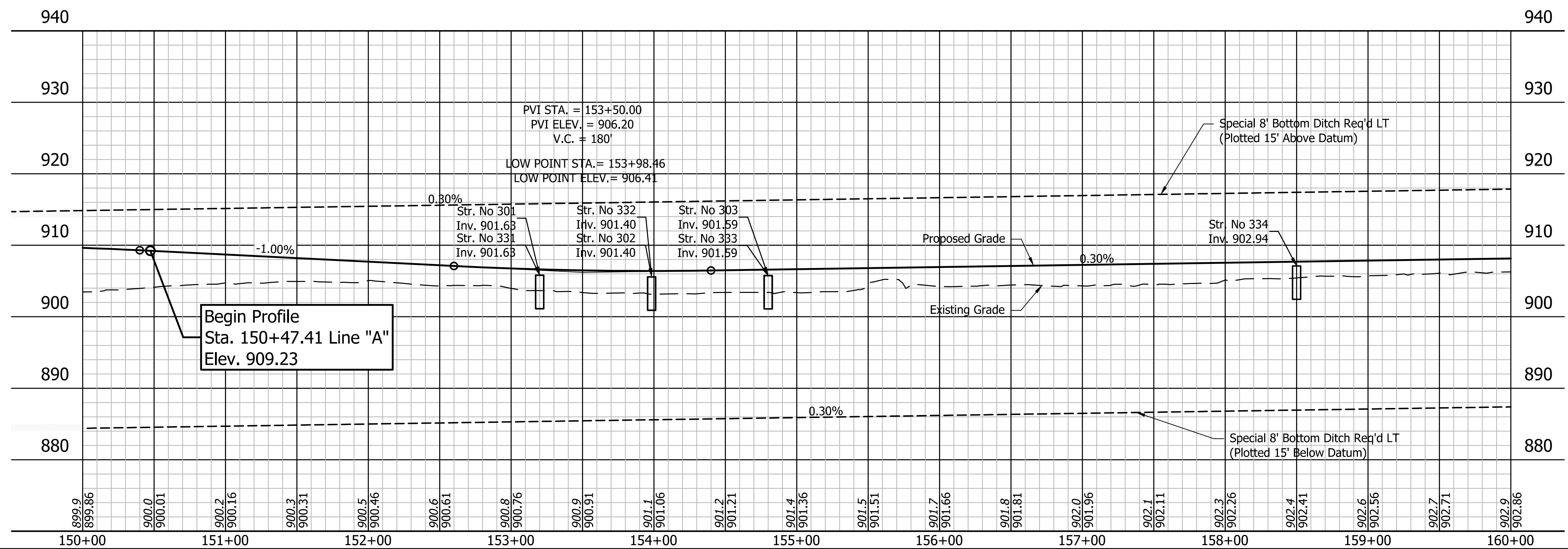
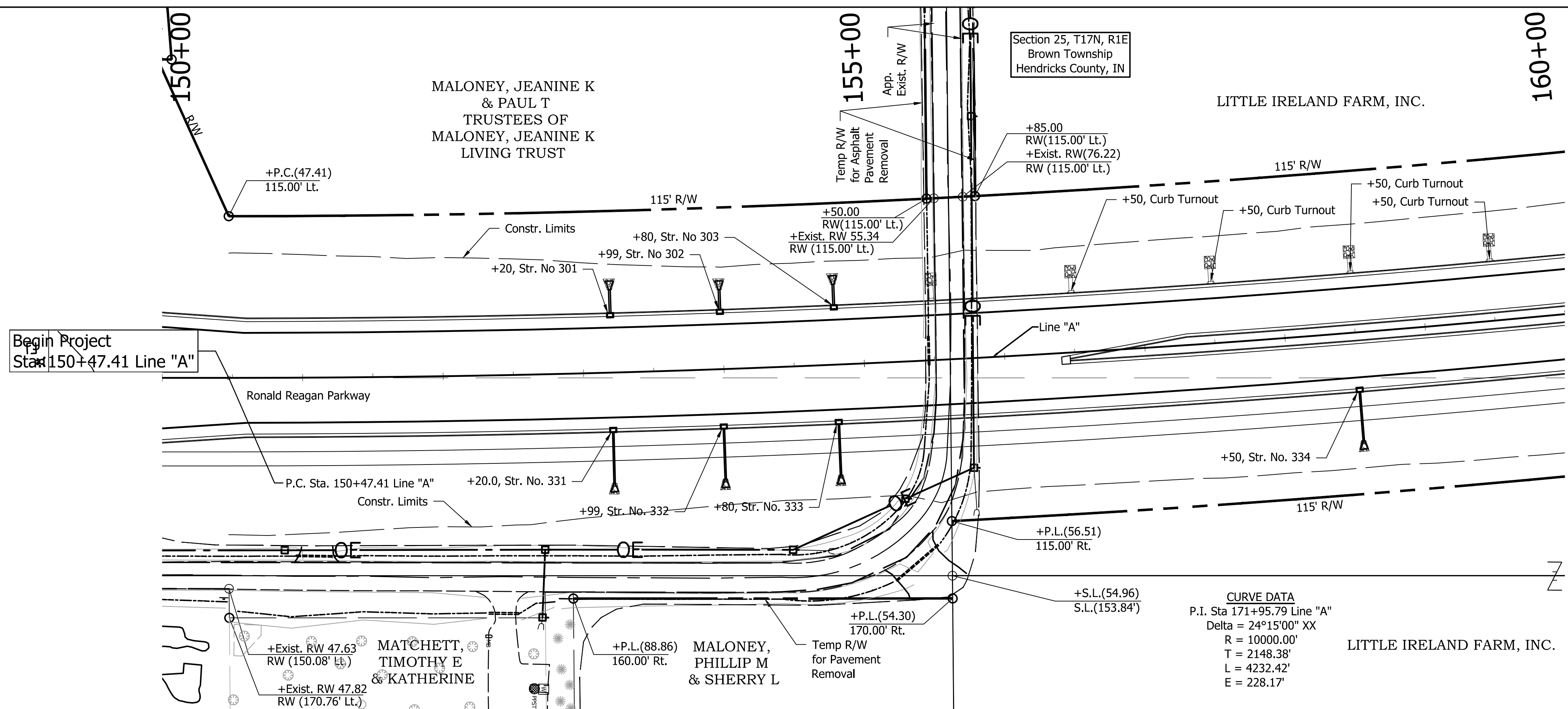
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                                |               |                                  |  |
|--------------------------------|---------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |               | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: VAD    |                                  |  |
| CHECKED: JEL                   | CHECKED: ---- |                                  |  |

HENDRICKS COUNTY

PLAN AND PROFILE  
LINE "A"

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>13 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |



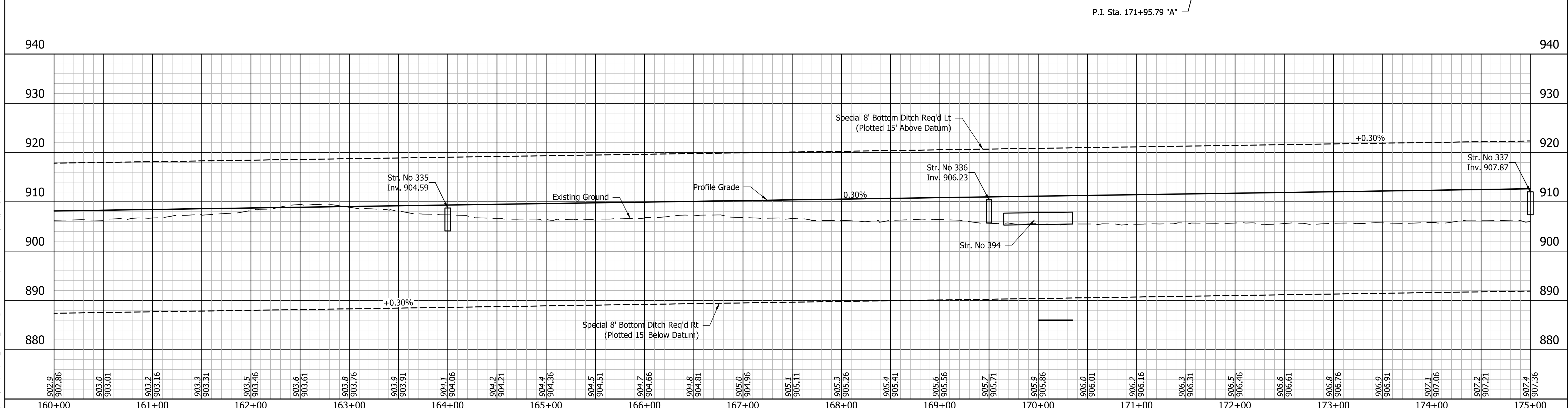
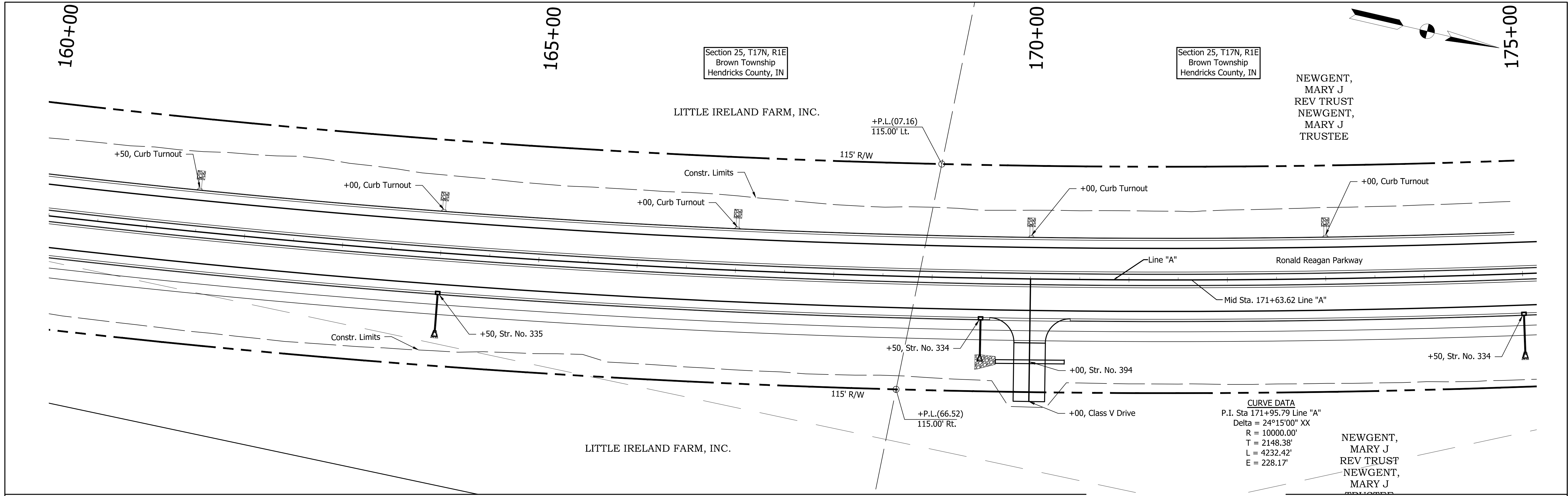
File Name: S:\\_2017\17-0005\16V\Road\CAD\1829\1829\_Plan\_A\_18.dwg Plot Date: 1/29/2020 Plotter: By: Angene Kalyke

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 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DATE \_\_\_\_/\_\_\_\_/\_\_\_\_  
 DESIGN ENGINEER  
 DESIGNED: JNH DRAWN: JDH  
 CHECKED: BKA CHECKED: BKA

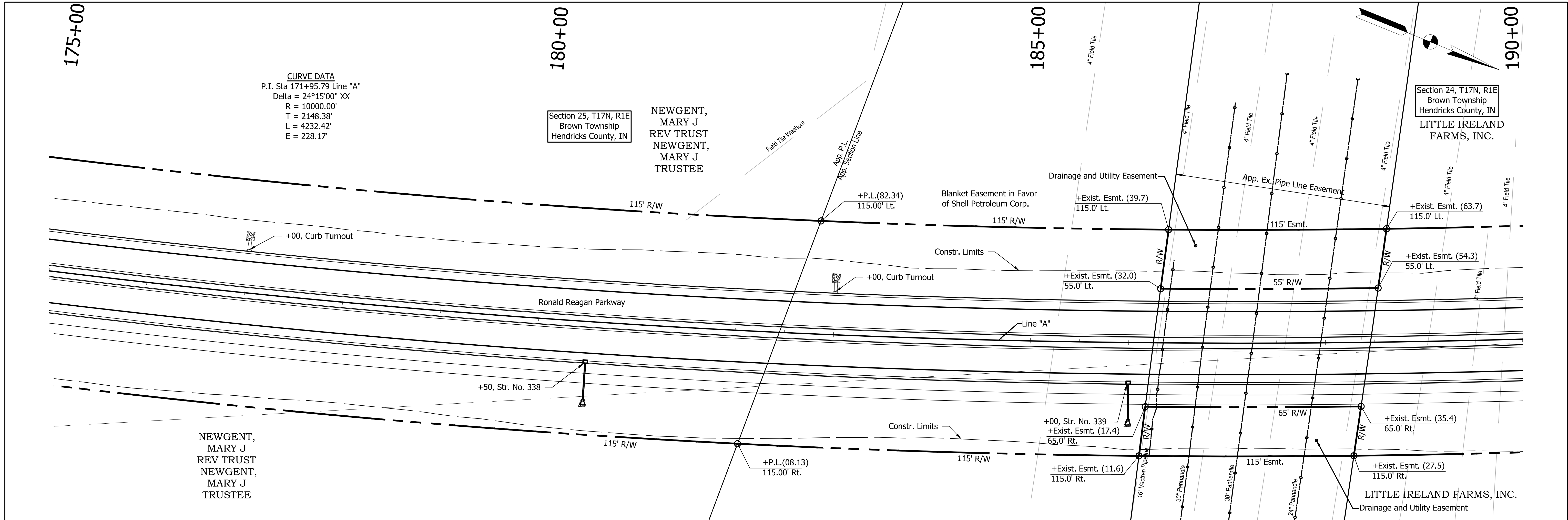
HENDRICKS COUNTY  
**PLAN AND PROFILE - LINE "A"**  
 STA 150+47.41 TO STA 160+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 10'         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 8 of 119          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



|                               |  |  |  |   |  |  |  |
|-------------------------------|--|--|--|---|--|--|--|
|                               |  | RECOMMENDED FOR APPROVAL _____<br>DESIGN ENGINEER DATE |  | <b>HENDRICKS COUNTY</b>   |  | HORIZONTAL SCALE<br>1" = 50'<br>BRIDGE FILE<br>HENDRICKS BR00090             |  |
| DESIGNED: JNH<br>CHECKED: BKA |  | DRAWN: JDH<br>CHECKED: BKA                             |  | <b>PLAN AND PROFILE - LINE "A"</b><br><b>STA 160+00 TO STA 175+00</b> |  | VERTICAL SCALE<br>1" = 10'<br>DESIGNATION<br>1602280                         |  |
|                               |  |  |  |   |  | SURVEY BOOK SHEETS<br>ELECTRONIC 9 of 119<br>CONTRACT PROJECT<br>### 1602280 |  |

File Name: S:\\_2017\17-0005\1602280\1602280\_Plan\_A\_1B.dwg Plot Date: 1/29/2020 Plotter: By: Angene Kalye



**CURVE DATA**  
 P.I. Sta 171+95.79 Line "A"  
 Delta = 24°15'00" XX  
 R = 10000.00'  
 T = 2148.38'  
 L = 4232.42'  
 E = 228.17'

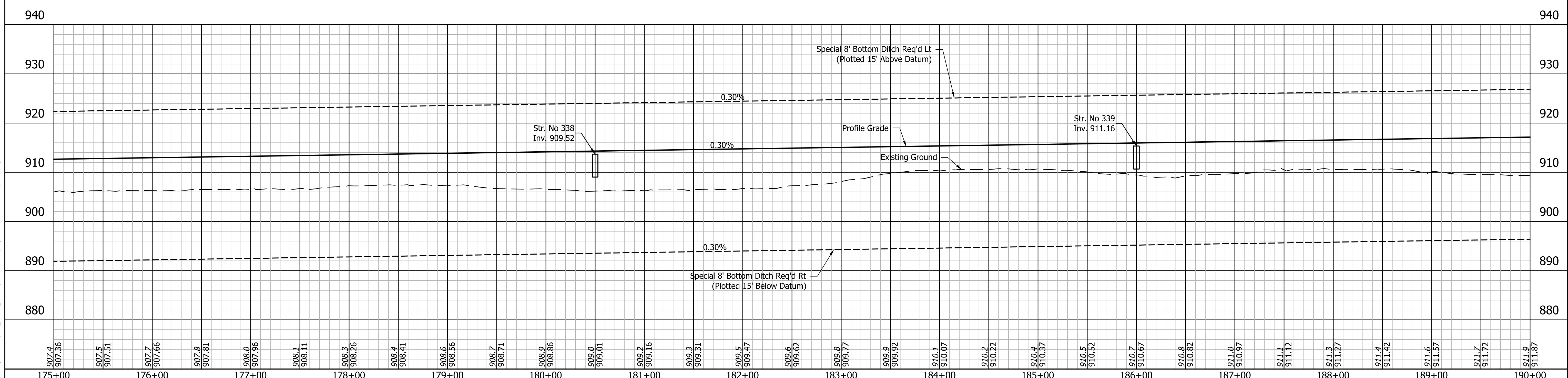
Section 25, T17N, R1E  
 Brown Township  
 Hendricks County, IN

NEWGENT,  
 MARY J  
 REV TRUST  
 NEWGENT,  
 MARY J  
 TRUSTEE

Section 24, T17N, R1E  
 Brown Township  
 Hendricks County, IN  
 LITTLE IRELAND  
 FARMS, INC.

NEWGENT,  
 MARY J  
 REV TRUST  
 NEWGENT,  
 MARY J  
 TRUSTEE

LITTLE IRELAND FARMS, INC.



File Name: S:\\_2017\17-0005\18V\Basic\CD\18V\18V\_Plan\_A\_18.dwg Plot Date: 1/29/2020 Plotter: Bv-Angene-Scythe

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 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

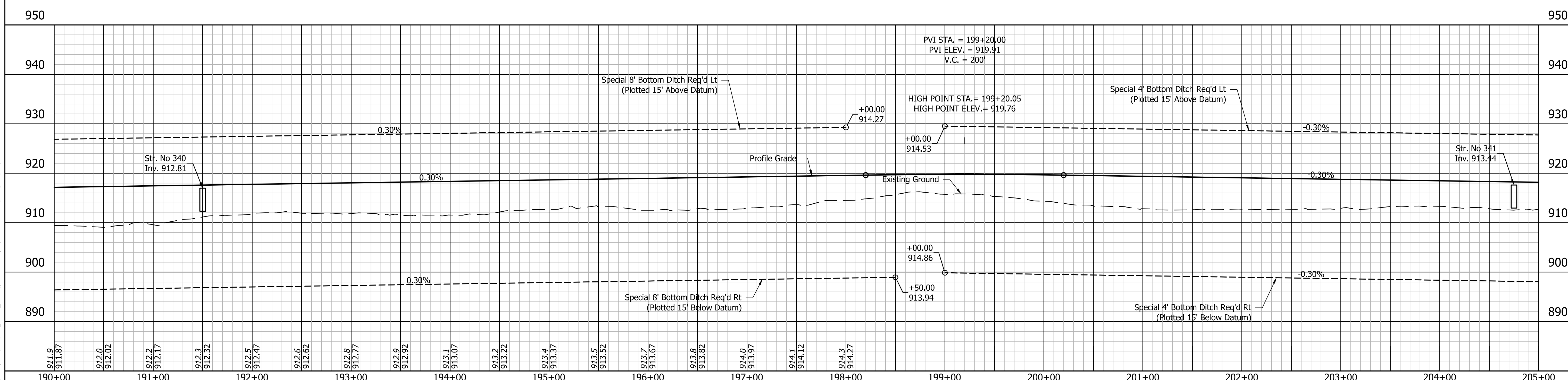
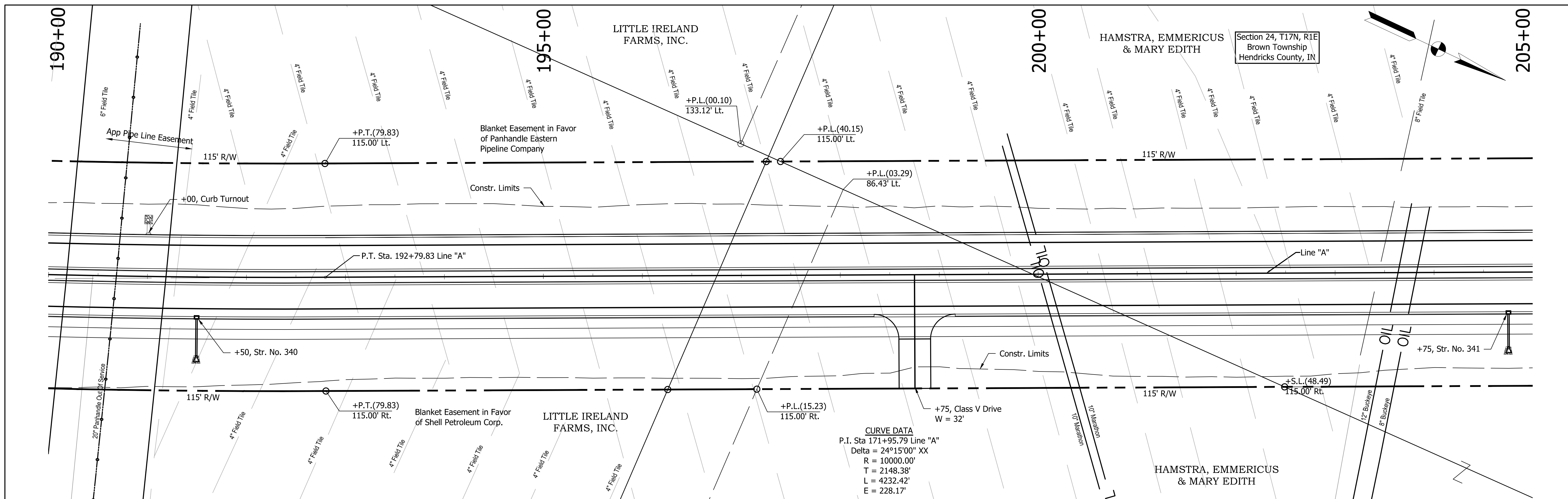
DESIGNED: JNH DRAWN: JDH

CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

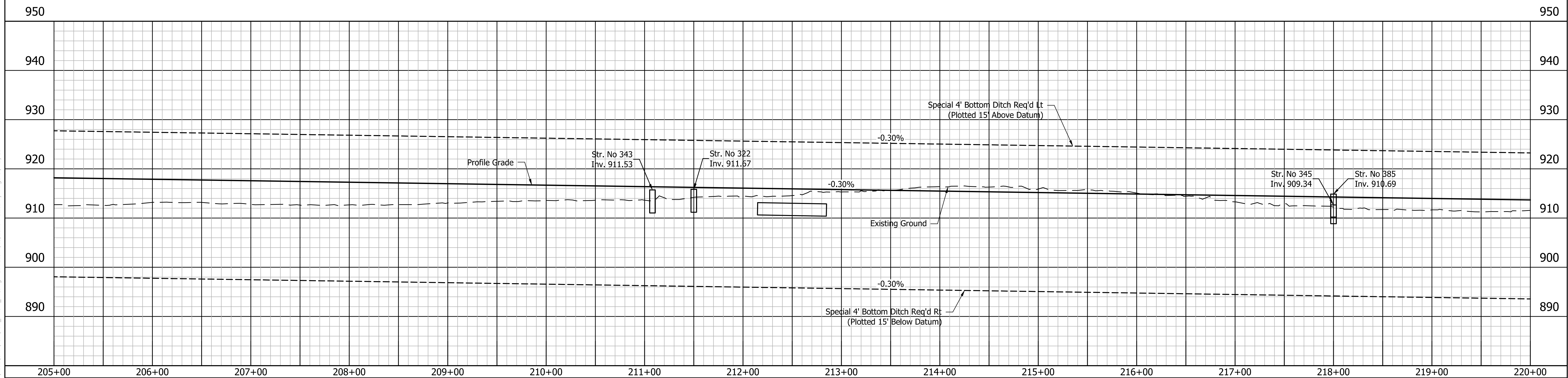
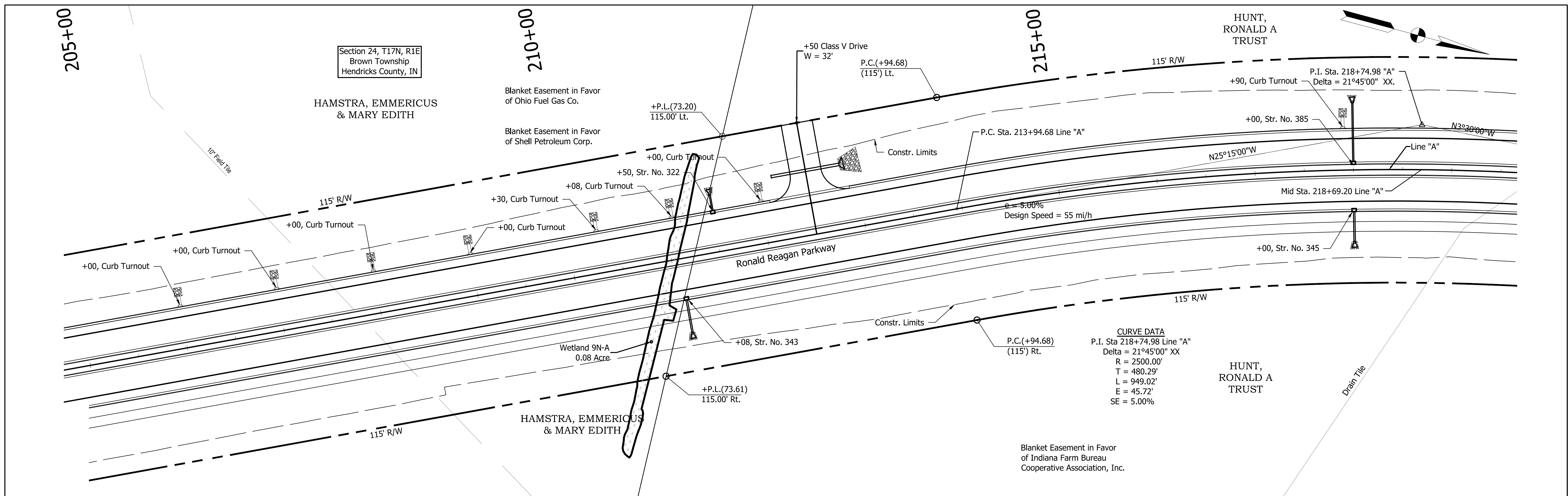
**PLAN AND PROFILE - LINE "A"**  
 STA 175+00 TO STA 190+00

|                  |    |                   |  |
|------------------|----|-------------------|--|
| HORIZONTAL SCALE |    | BRIDGE FILE       |  |
| 1" = 50'         |    | HENDRICKS BR00090 |  |
| VERTICAL SCALE   |    | DESIGNATION       |  |
| 1" = 10'         |    | 1602280           |  |
| SURVEY BOOK      |    | SHEETS            |  |
| ELECTRONIC       | 10 | of 119            |  |
| CONTRACT         |    | PROJECT           |  |
| ###              |    | 1602280           |  |



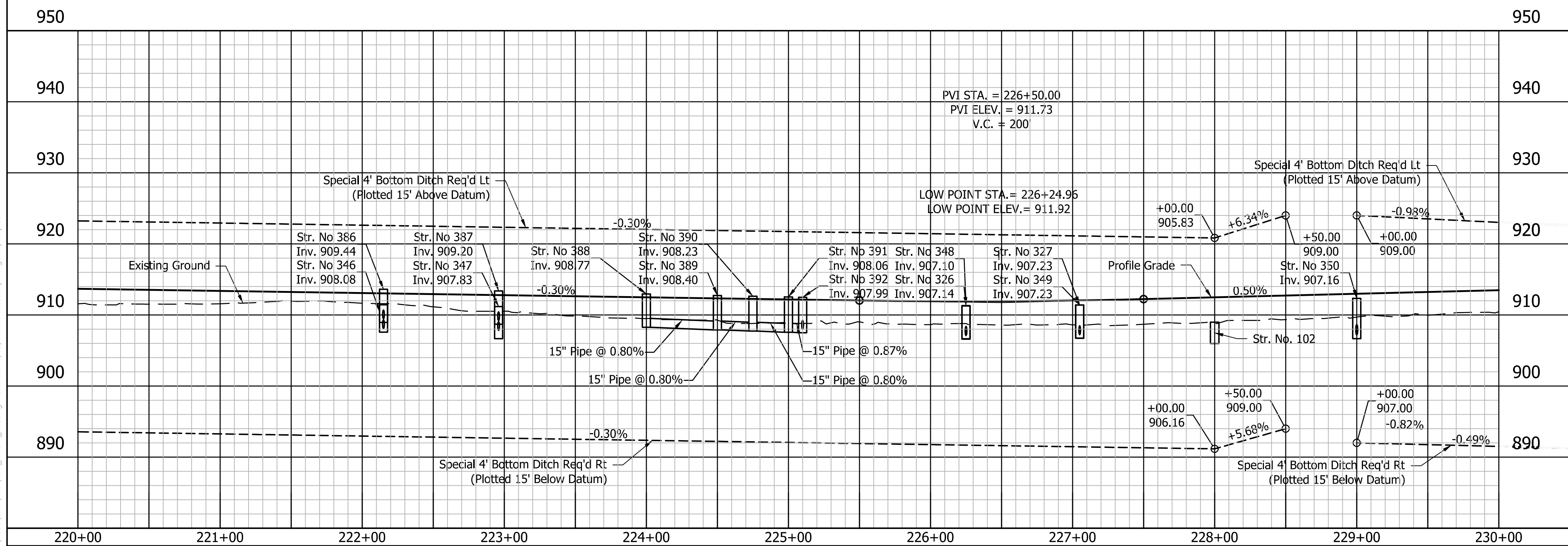
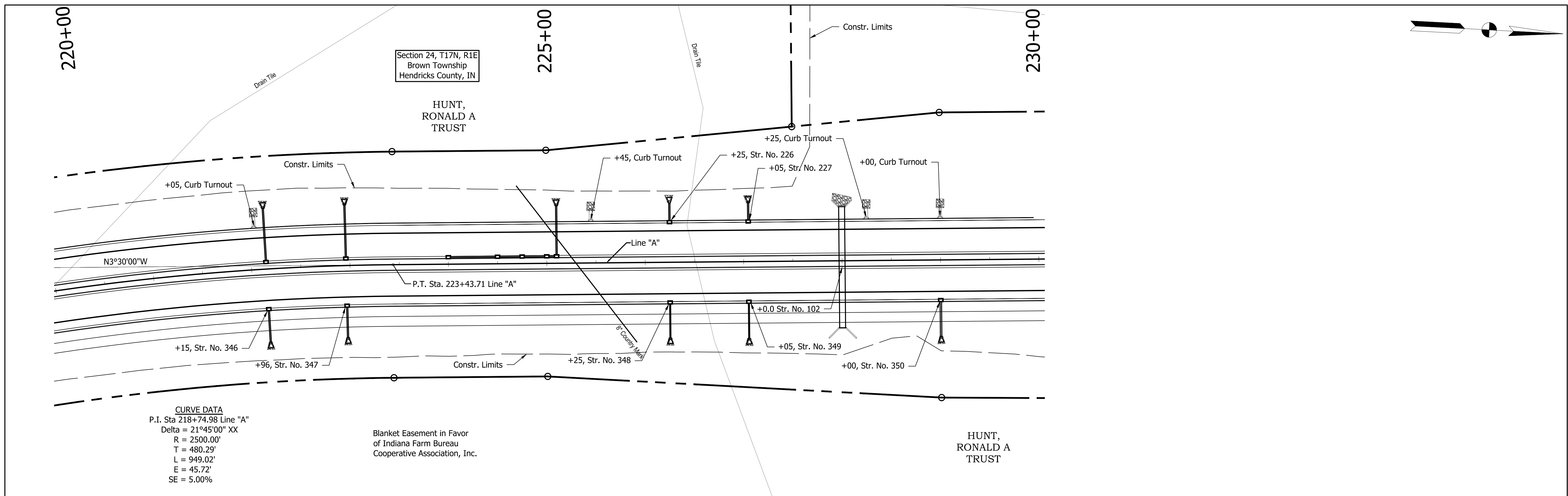
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|--|--|---|--|---|--|---|--|---|--|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> |  | <p>RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____</p> <p>DESIGNED: JNH DRAWN: JDH</p> <p>CHECKED: BKA CHECKED: BKA</p> |  | <p>HENDRICKS COUNTY</p> <p>PLAN AND PROFILE - LINE "A"<br/>STA 190+00 TO STA 205+00</p> |  | <p>HORIZONTAL SCALE<br/>1" = 50'</p> <p>VERTICAL SCALE<br/>1" = 10'</p> |  | <p>BRIDGE FILE<br/>HENDRICKS BR00090<br/>DESIGNATION<br/>1602280</p> <p>SURVEY BOOK<br/>ELECTRONIC 11 of 119<br/>CONTRACT<br/>PROJECT<br/>### 1602280</p> |  |
|--|--|---|--|---|--|---|--|---|--|

File Name: S:\\_2017\17-0005\16V\BentCAD\16V\16V.dwg Plot Date: 1/29/2020 Plotter: By: Andrew Skyles



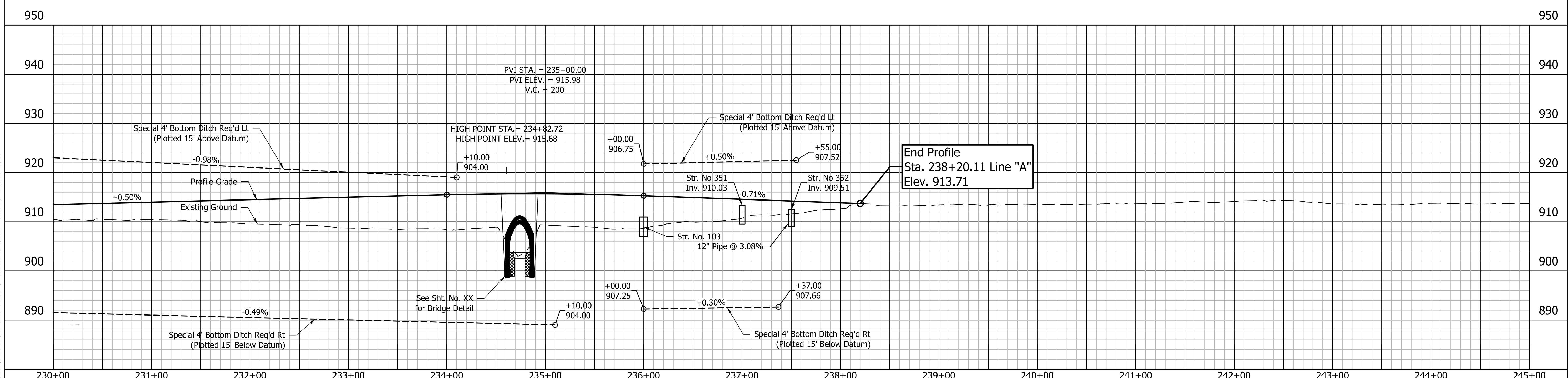
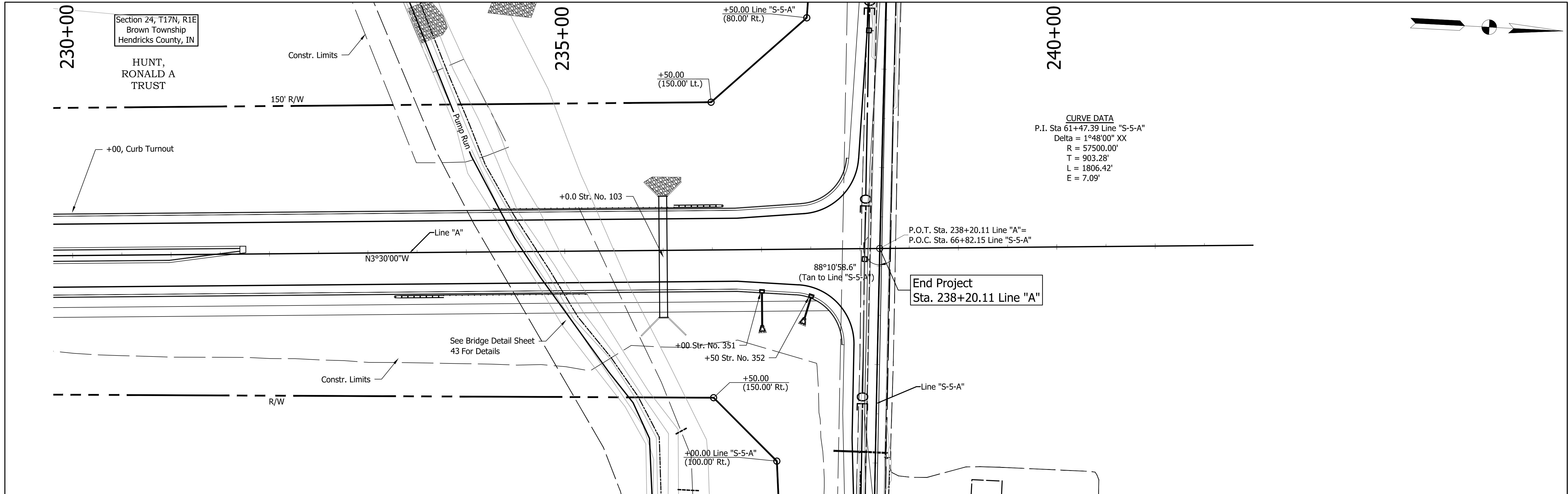
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|--|--|--|--|---|--|---|--|---|--|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> |  | <p>RECOMMENDED FOR APPROVAL _____</p> <p>DESIGN ENGINEER _____ DATE _____</p> <p>DESIGNED: JNH DRAWN: JDH</p> <p>CHECKED: BKA CHECKED: BKA</p> |  | <p>HENDRICKS COUNTY</p> <p>PLAN AND PROFILE - LINE "A"<br/>STA 205+00 TO STA 220+00</p> |  | <p>HORIZONTAL SCALE<br/>1" = 50'</p> <p>VERTICAL SCALE<br/>1" = 10'</p> <p>SURVEY BOOK<br/>ELECTRONIC</p> <p>CONTRACT<br/>###</p> |  | <p>BRIDGE FILE<br/>HENDRICKS BR00090<br/>DESIGNATION<br/>1602280</p> <p>SHEETS<br/>12 of 119</p> <p>PROJECT<br/>1602280</p> |  |
|--|--|--|--|---|--|---|--|---|--|

File Name: S:\\_2017\17-0005\16V\BentCAD\BentCAD.dwg Plot Date: 1/29/2020 Plotter: By: Angene Kalyke



|  |  |  |  |
|--|--|--|--|
| <br>3502 Woodview Terrace, Suite 150<br>Indianapolis, Indiana, 46268<br>PHONE: 317.222.3880<br>TOLL FREE: 888.830.6977 | RECOMMENDED FOR APPROVAL _____<br>DESIGN ENGINEER _____ DATE _____ | HENDRICKS COUNTY<br><br><b>PLAN AND PROFILE - LINE "A"</b><br>STA 220+00 TO STA 230+00 | HORIZONTAL SCALE<br>1" = 50'<br>BRIDGE FILE<br>HENDRICKS BR00090             |
|  | DESIGNED: JNH<br>CHECKED: BKA                                      |  | DRAWN: JDH<br>CHECKED: BKA   |
|  |  |  | SURVEY BOOK<br>ELECTRONIC 13 of 119<br>CONTRACT<br>PROJECT<br>###<br>1602280 |

File Name: S:\\_2017\217-0005\114V\BentCAD\Bent\Plan A\_18.dwg Plot Date: 1/29/2020 Plotter: By: Angene Kalye



File Name: S:\\_2017\17-0005\16\Work\CAD\16\1609\1609\_Plan\_A\_18.dwg Plot Date: 1/29/2020 Plotter: By: Angene Kalyke

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 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

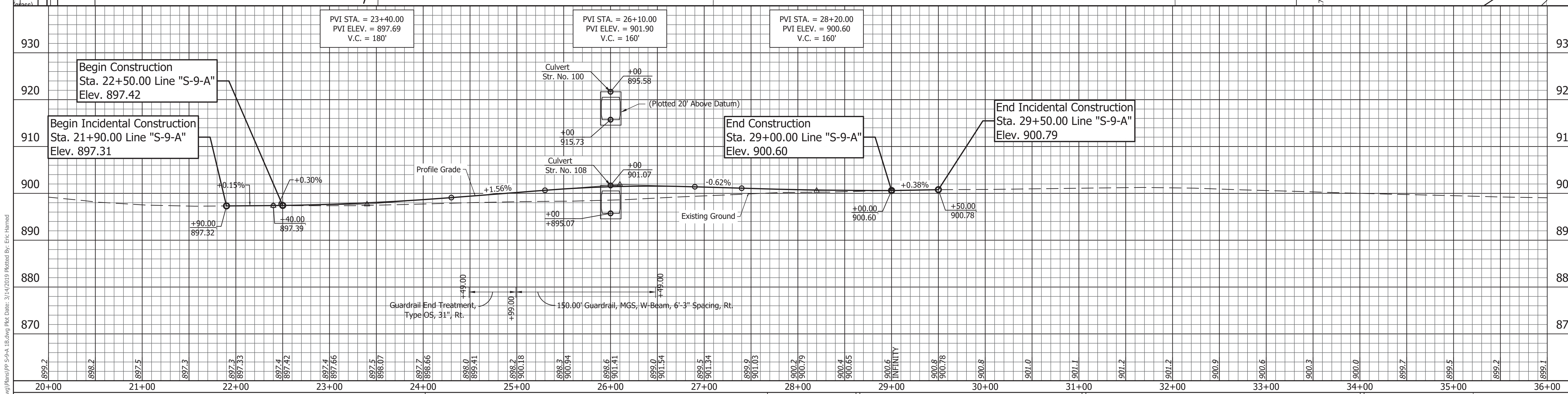
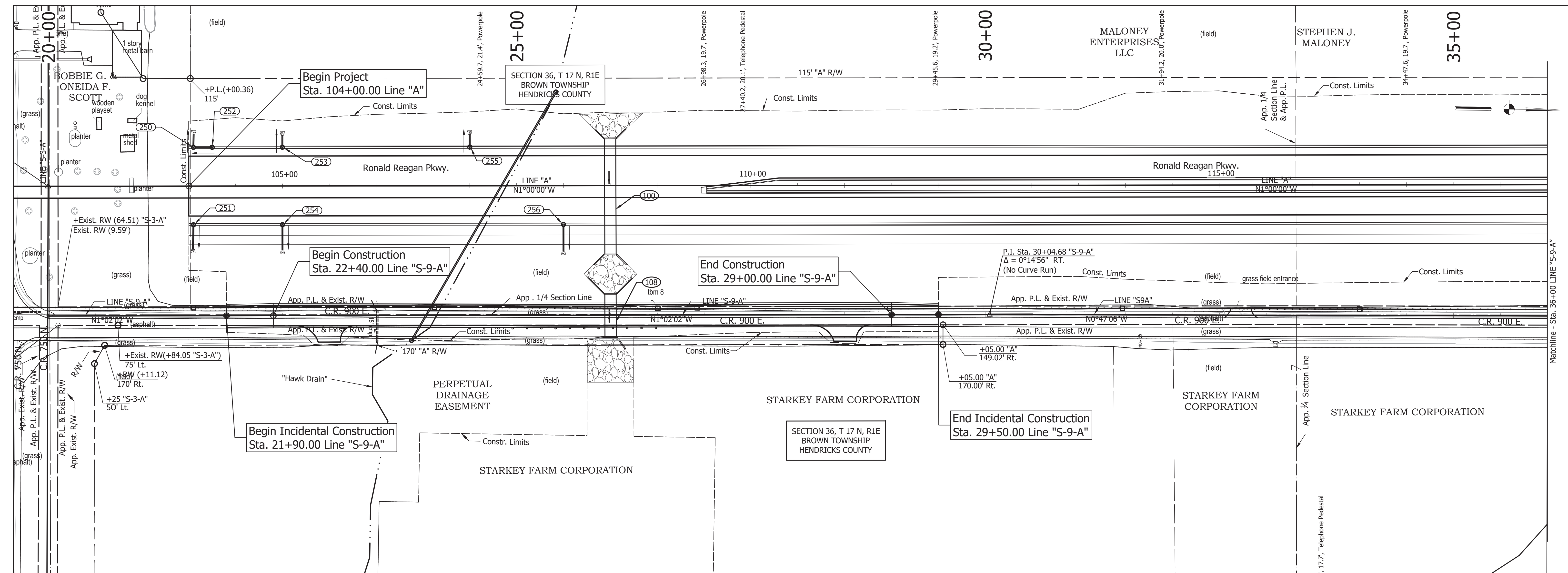
|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "A"**  
 STA 230+00 TO STA 245+00

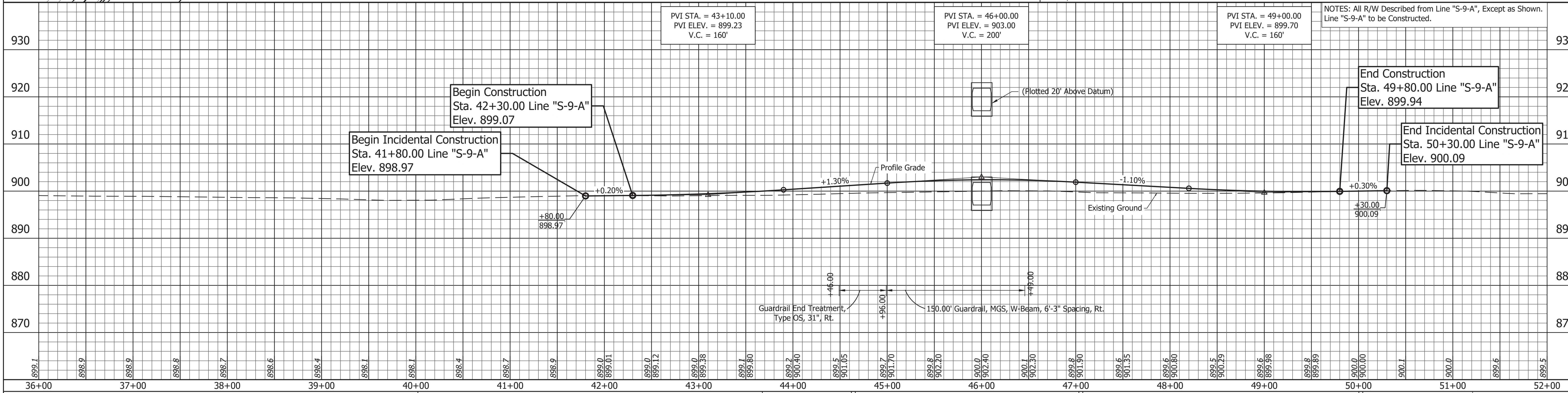
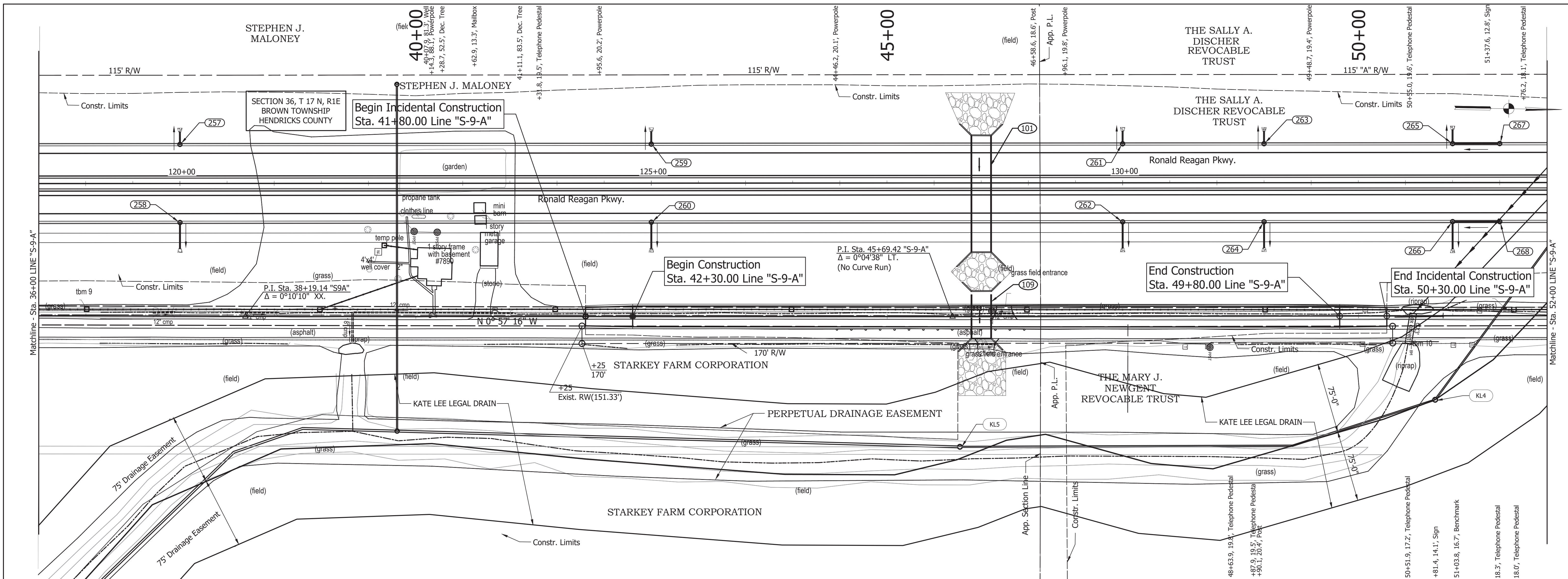
|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 10'         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 14 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |





|  |  |  |                            |                                   |                              |                            |
|--|--|--|----------------------------|-----------------------------------|------------------------------|----------------------------|
|  | 8440 Allison Pointe Boulevard, Suite 200<br>Indianapolis, IN 46250<br>Phone 317-895-2585<br>www.ucindy.com | RECOMMENDED FOR APPROVAL _____<br>DESIGN ENGINEER _____ DATE _____ | HENDRICKS COUNTY           |                                   | HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----        |
|  |  | DESIGNED: BEA<br>CHECKED: JAR                                      | DRAWN: VAD<br>CHECKED: JAR | PLAN AND PROFILES<br>LINE "S-9-A" |                              | VERTICAL SCALE<br>1" = 10' |
|  |  |  |                            | SURVEY BOOK<br>---                | SHEETS<br>21 of 211          | PROJECT<br>1602280         |

File Name: P:\CDD\17-405\Road\Drawings\SP-S-9-A.15.dwg Plot Date: 3/1/2019 Plotted By: Eric Harrod



NOTES: All R/W Described from Line "S-9-A", Except as Shown. Line "S-9-A" to be Constructed.

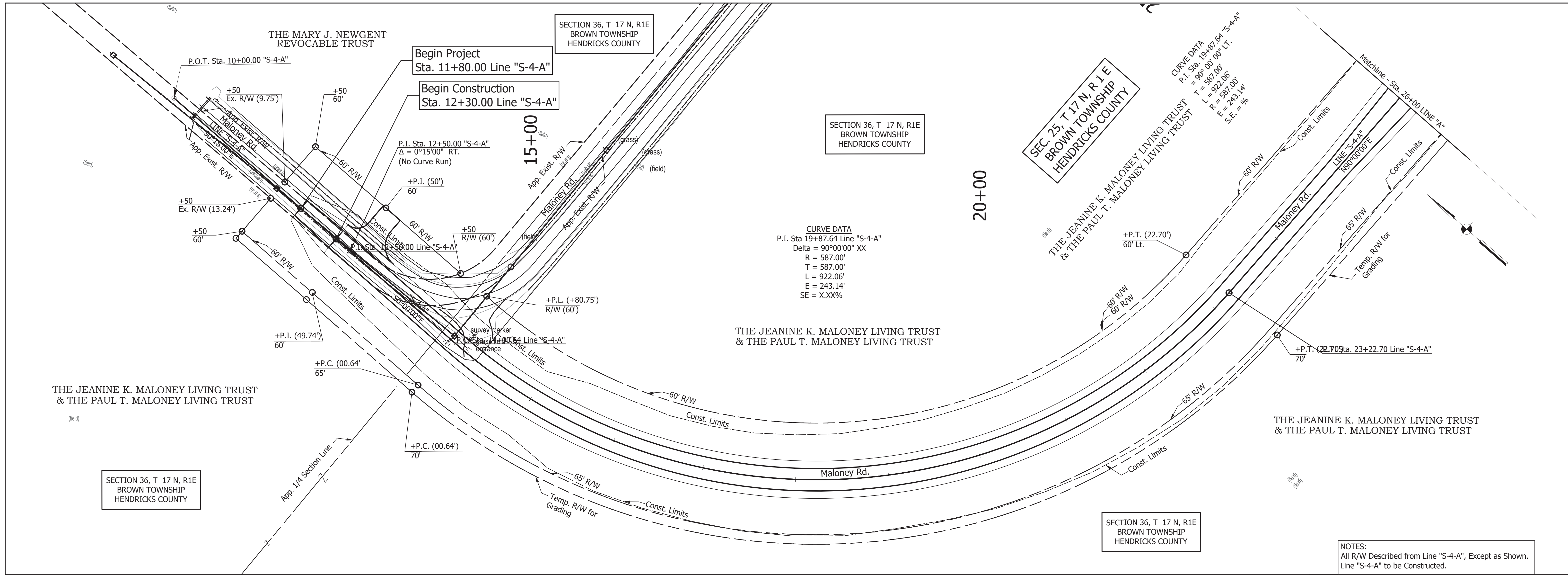
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

|                              |                        |
|------------------------------|------------------------|
| HENDRICKS COUNTY             |                        |
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE            |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK                  | SHEETS                 |
| ---                          | 22 of 211              |
| CONTRACT                     | PROJECT                |
| ---                          | 1602280                |

PLAN AND PROFILES  
LINE "S-9-A"

File Name: P:\CDD\17-405\Road\Draw\Plans\SP S-9-A 15.dwg Plotted By: Eric Hamrad Date: 3/1/2019 10:15:00 AM

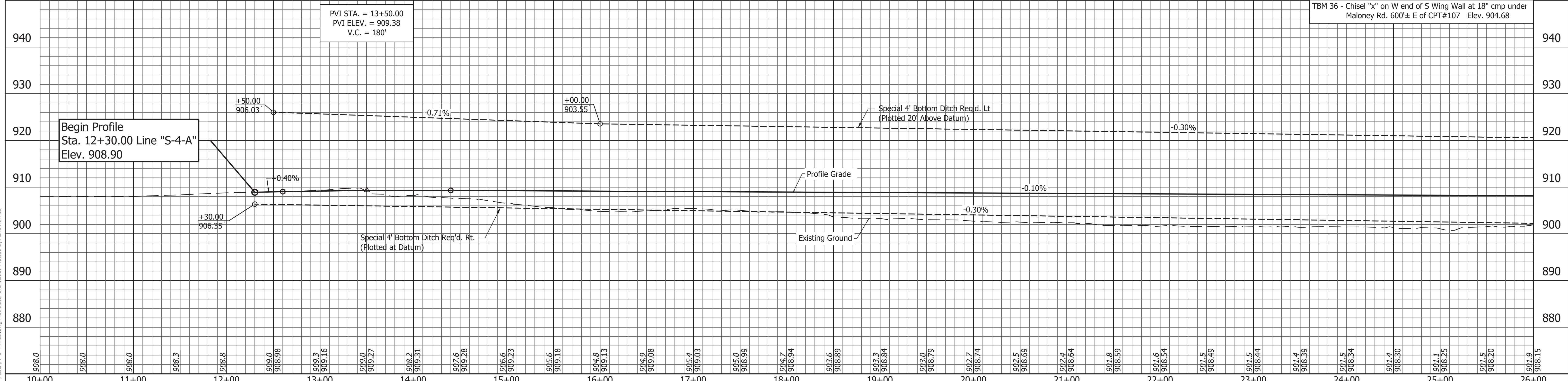


**CURVE DATA**  
 P.I. Sta 19+87.64 Line "S-4-A"  
 Delta = 90°00'00" XX  
 R = 587.00'  
 T = 587.00'  
 L = 922.06'  
 E = 243.14'  
 SE = X.XX%

**CURVE DATA**  
 P.I. Sta. 19+87.64 Line "S-4-A"  
 T = 587.00'  
 L = 922.06'  
 E = 243.14'  
 S.E. = 9%

**NOTES:**  
 All R/W Described from Line "S-4-A", Except as Shown.  
 Line "S-4-A" to be Constructed.

TBM 36 - Chisel "x" on W end of S Wing Wall at 18" cmp under Maloney Rd. 600'± E of CPT#107 Elev. 904.68



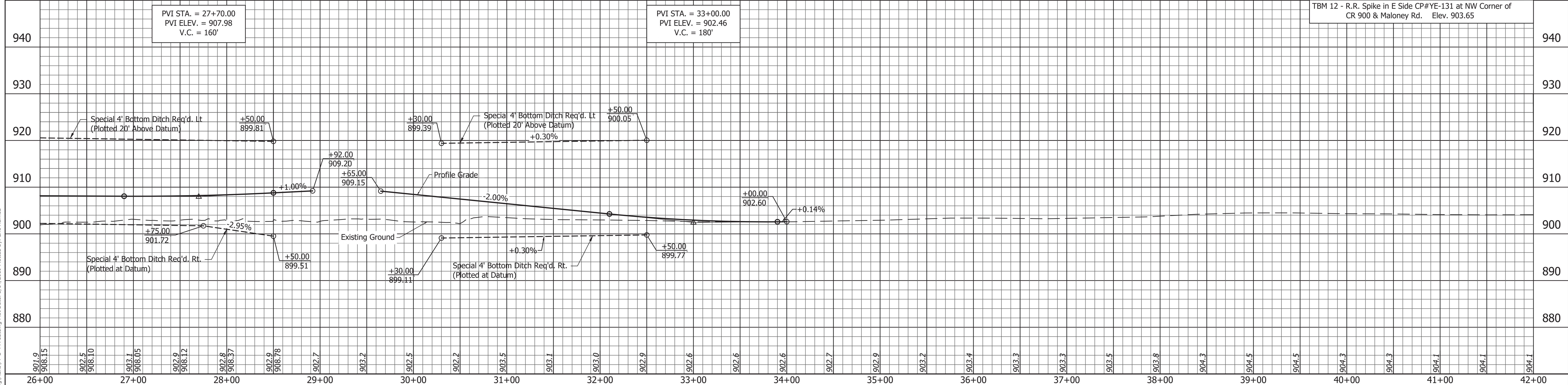
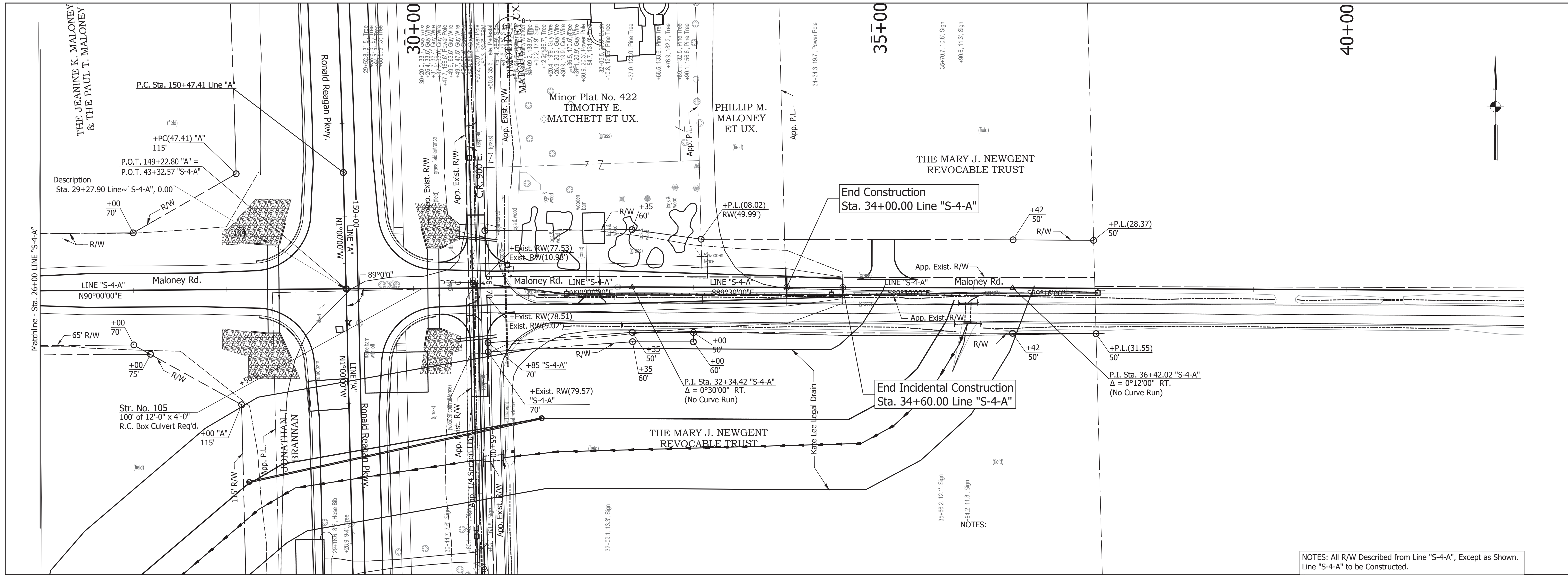
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 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

HENDRICKS COUNTY  
 PLAN AND PROFILES  
 LINE "S-4-A"

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| 1" = 50'         | ----        |
| VERTICAL SCALE   | DESIGNATION |
| 1" = 10'         | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 23 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |

File Name: P:\CADD\17-405\Road\Drawings\SP-S-4-A-18.dwg Plot Date: 3/7/2019 Plotted By: Eric Harrod



NOTES: All R/W Described from Line "S-4-A", Except as Shown. Line "S-4-A" to be Constructed.

TBM 12 - R.R. Spike in E Side CP#YE-131 at NW Corner of CR 900 & Maloney Rd. Elev. 903.65



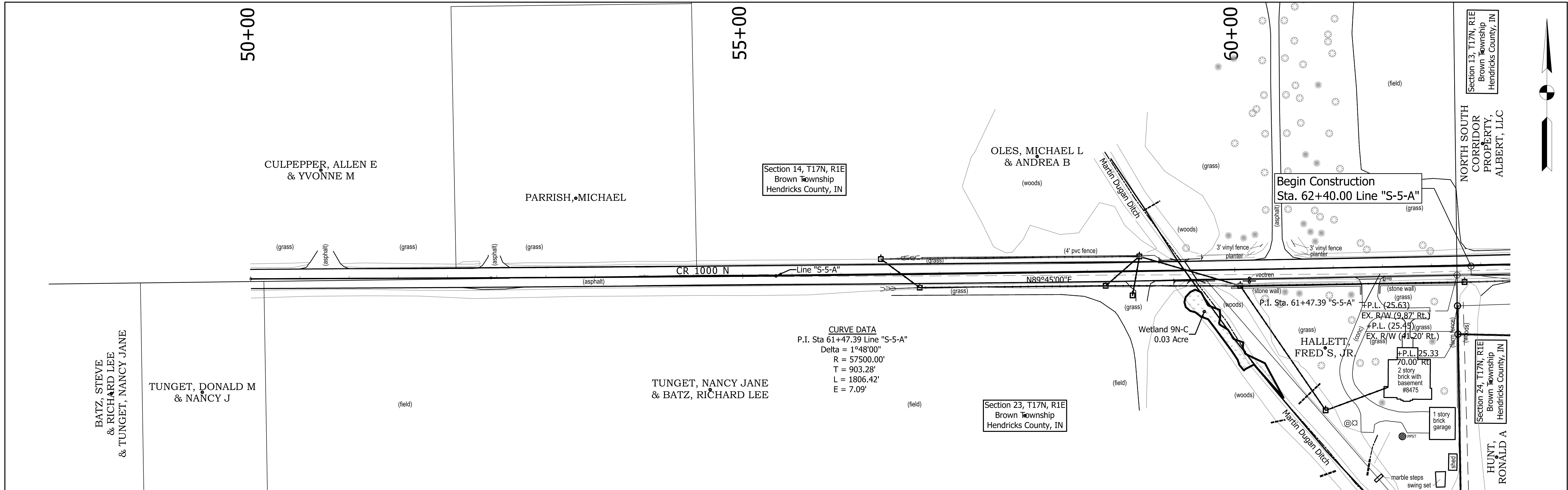
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|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

HENDRICKS COUNTY

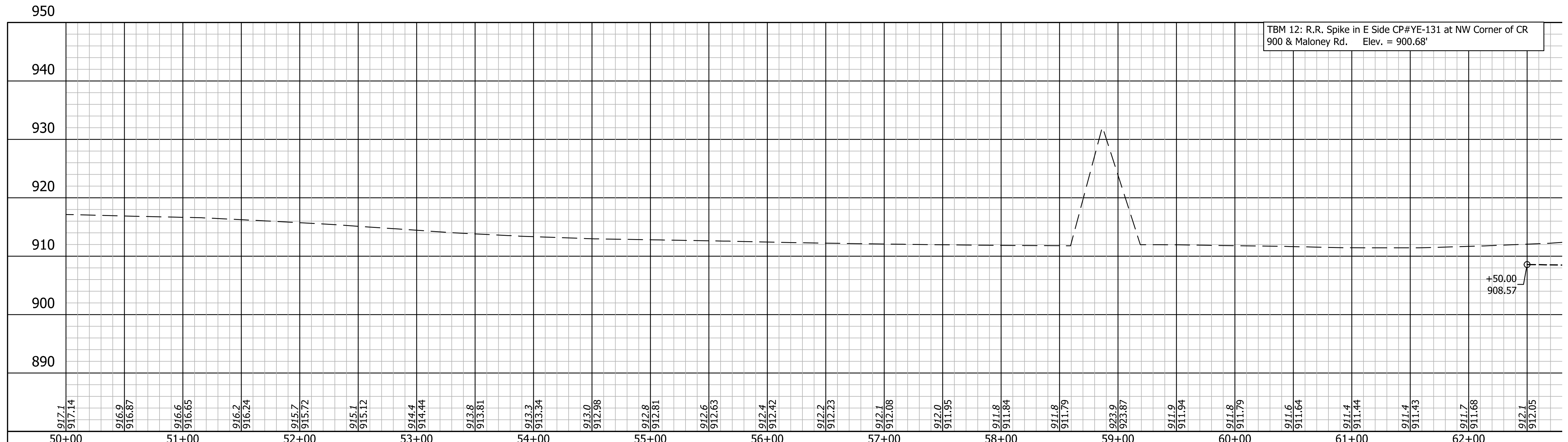
PLAN AND PROFILES  
LINE "S-4-A"

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>24 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |



**CURVE DATA**  
 P.I. Sta 61+47.39 Line "S-5-A"  
 Delta = 1°48'00"  
 R = 57500.00'  
 T = 903.28'  
 L = 1806.42'  
 E = 7.09'

All Topography and Proposed Right-of-Way Described from Line "S-5-A" unless otherwise noted.



File Name: S:\\_2017\17-0005\114\Draw\CAD\889\889\_Plan\_S-5-A\_1B.dwg Plot Date: 1/29/2020 Plotted By: Angene, Kaylee

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

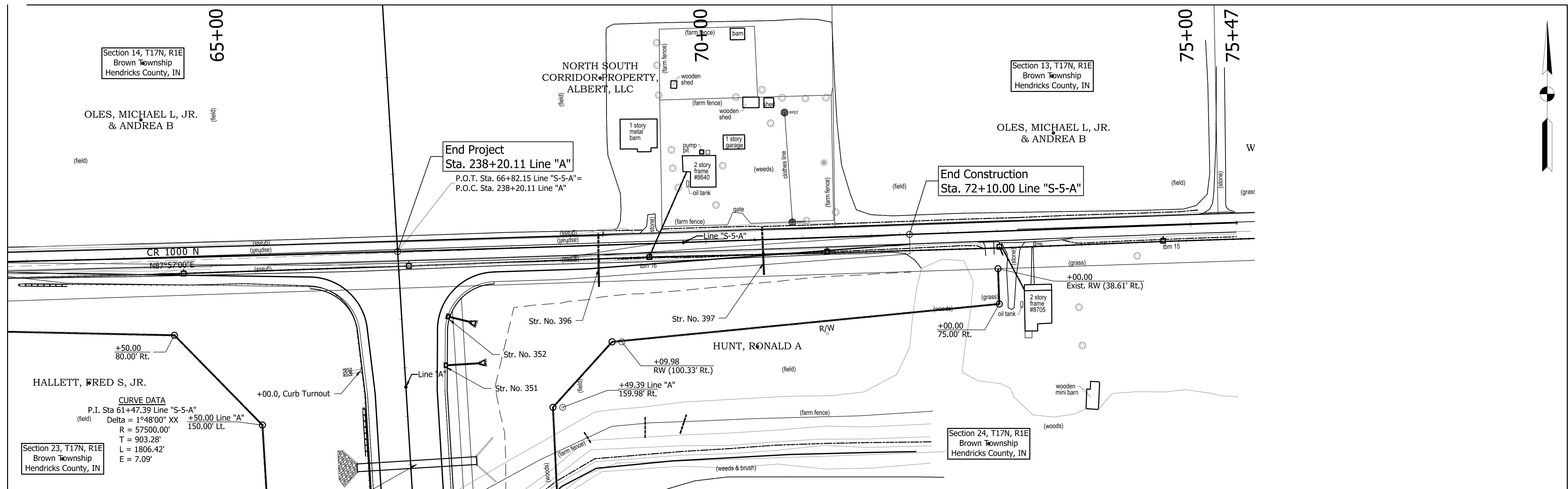
DESIGNED: JNH DRAWN: JDH

CHECKED: BKA CHECKED: BKA

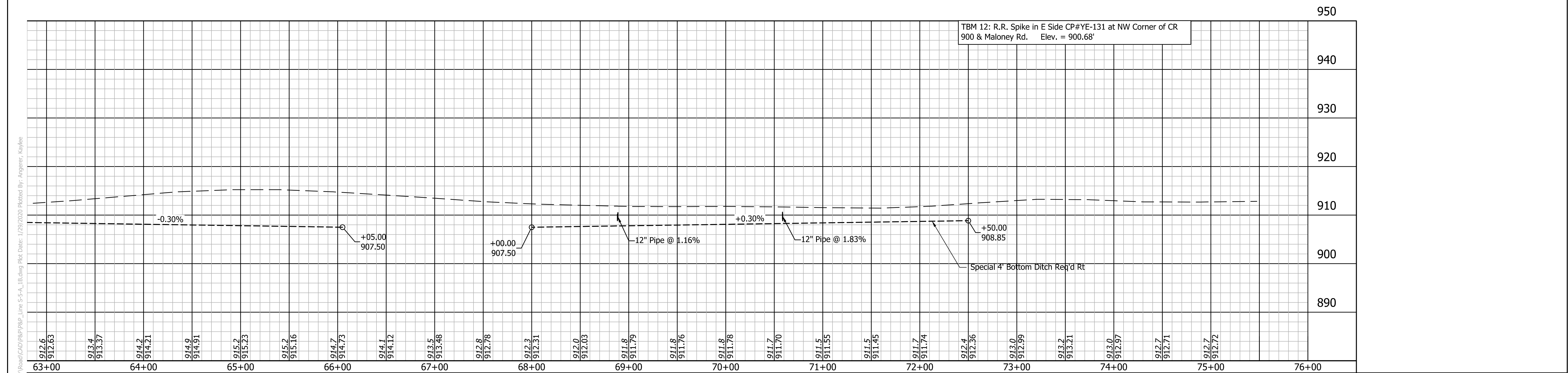
HENDRICKS COUNTY

**PLAN AND PROFILE - LINE "S-5-A"**  
 STA 48+00 TO STA 63+00

|                  |    |                   |  |
|------------------|----|-------------------|--|
| HORIZONTAL SCALE |    | BRIDGE FILE       |  |
| 1"=50'           |    | HENDRICKS BR00090 |  |
| VERTICAL SCALE   |    | DESIGNATION       |  |
| 1"=10'           |    | 1602280           |  |
| SURVEY BOOK      |    | SHEETS            |  |
| ELECTRONIC       | 15 | of 119            |  |
| CONTRACT         |    | PROJECT           |  |
| ###              |    | 1602280           |  |



All Topography and Proposed Right-of-Way Described from Line "S-5-A" unless otherwise noted.



File Name: S:\\_2017\217-0005\11\01\Drawings\CR900\CR900\_Plan\_S-5-A\_1B.dwg Plot Date: 1/29/2020 Plotted By: Rogers, Kayla

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 3502 Woodview Terrace, Suite 150  
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 TOLL FREE: 888.830.6977

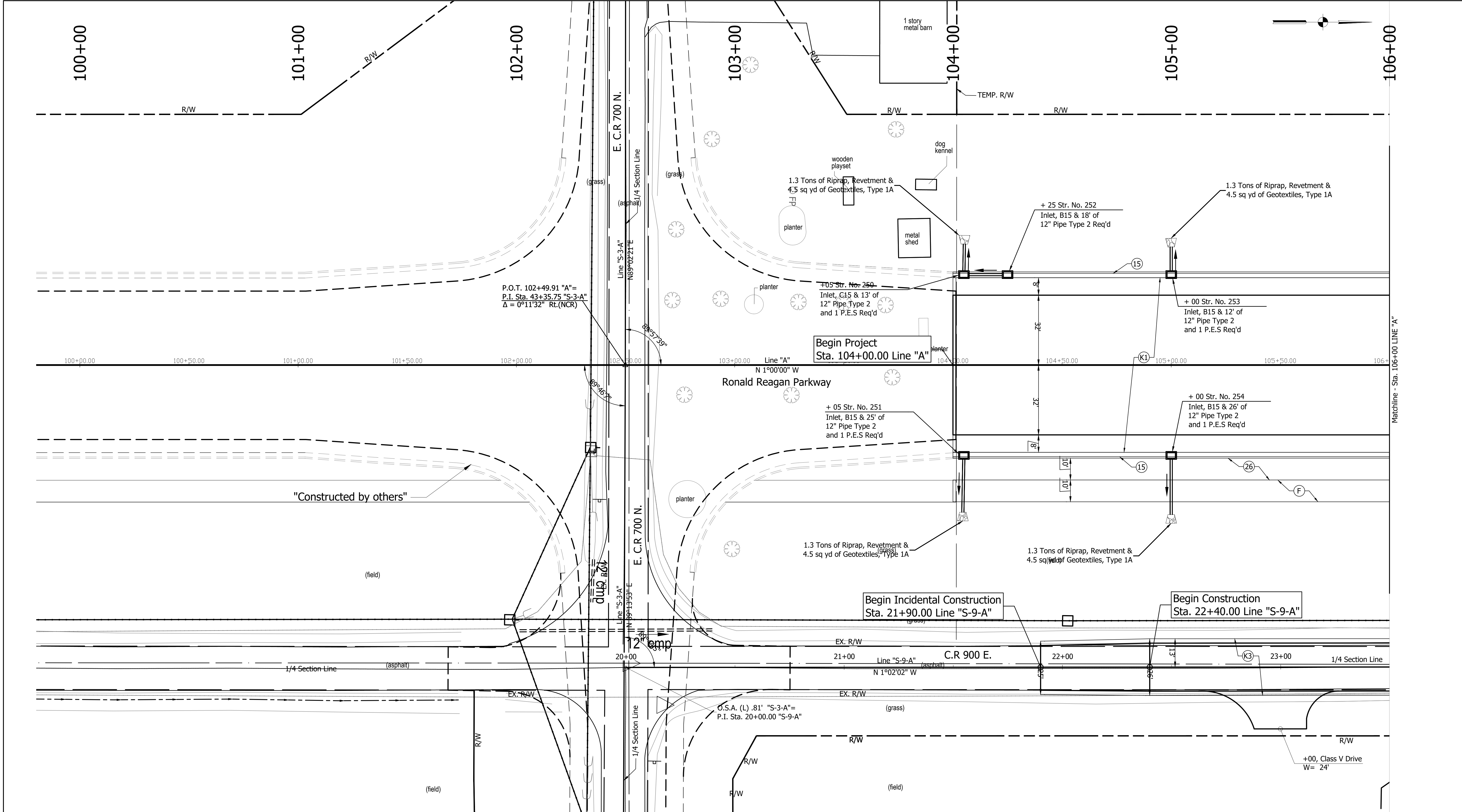
|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY

**PLAN AND PROFILE - LINE "S-5-A"**  
 STA 63+00 TO STA 78+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1"=50'           | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1"=10'           | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 16 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: P:\RD\C3D\17-405\Road\Drawings\Plans\Cons-Det A 1B.dwg Plot Date: 1/30/2020 Plotted By: Vic Doloso



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K2) Full Depth QC/QA-HMA Pavement, C.R. 900 E Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53 on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery



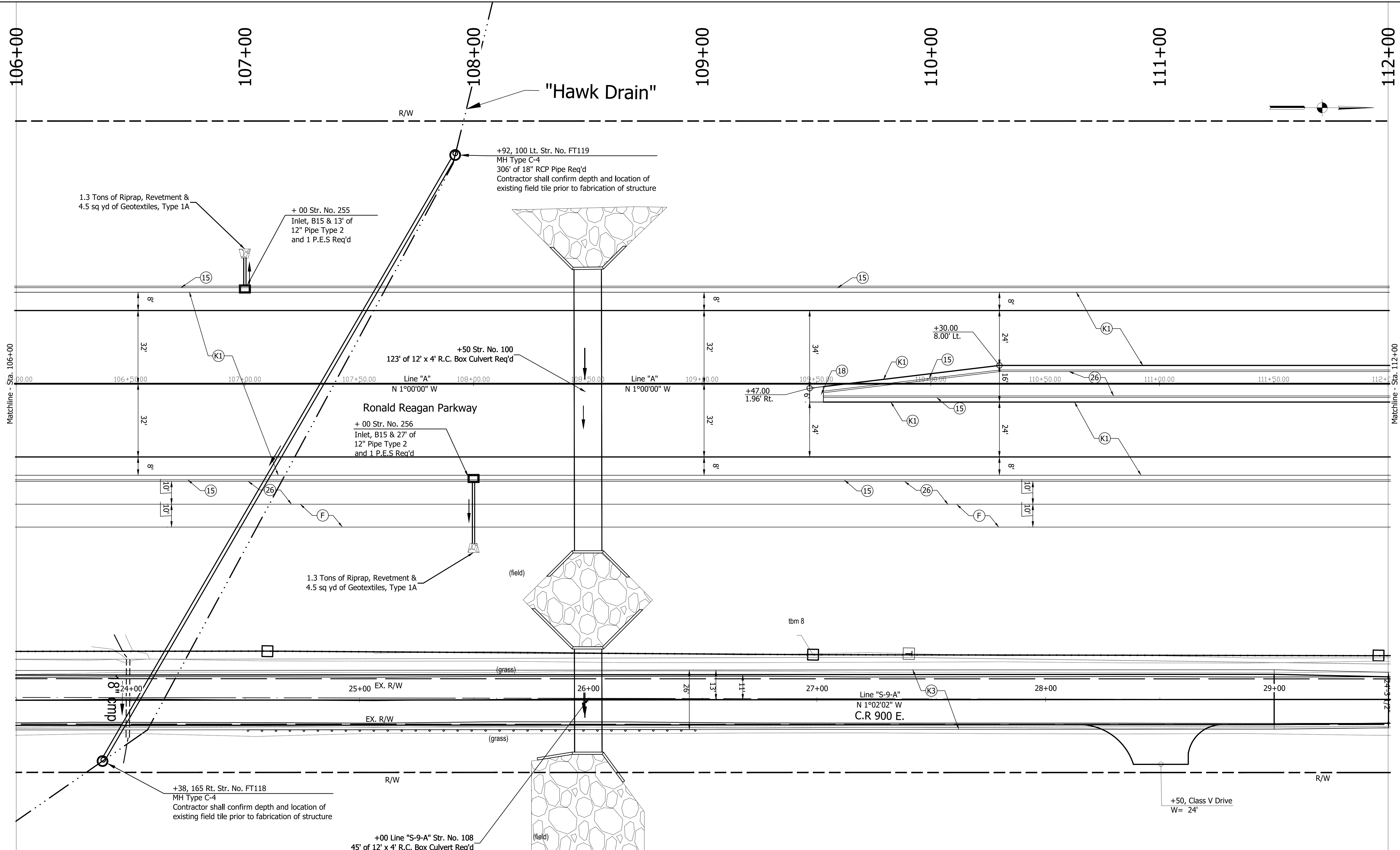
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

|   |  |
|---|--|
| HENDRICKS COUNTY                          |  |
| CONSTRUCTION DETAILS - LINE "A" & "S-9-A" |  |
| STA. 104+00 to 106+00                     |  |

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>29 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: P:\RD\C3D\17-405\Road\Drawings\Plans\Cons-Det A 1B.dwg Plot Date: 1/30/2020 Plotted By: Vic Doloso



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

**UNITED**  
 Consulting

8440 Allison Pointe Boulevard, Suite 200  
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 Phone 317-895-2585  
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|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: VAD   |                                  |  |
| CHECKED: JAR                   | CHECKED: JAR |                                  |  |

HENDRICKS COUNTY

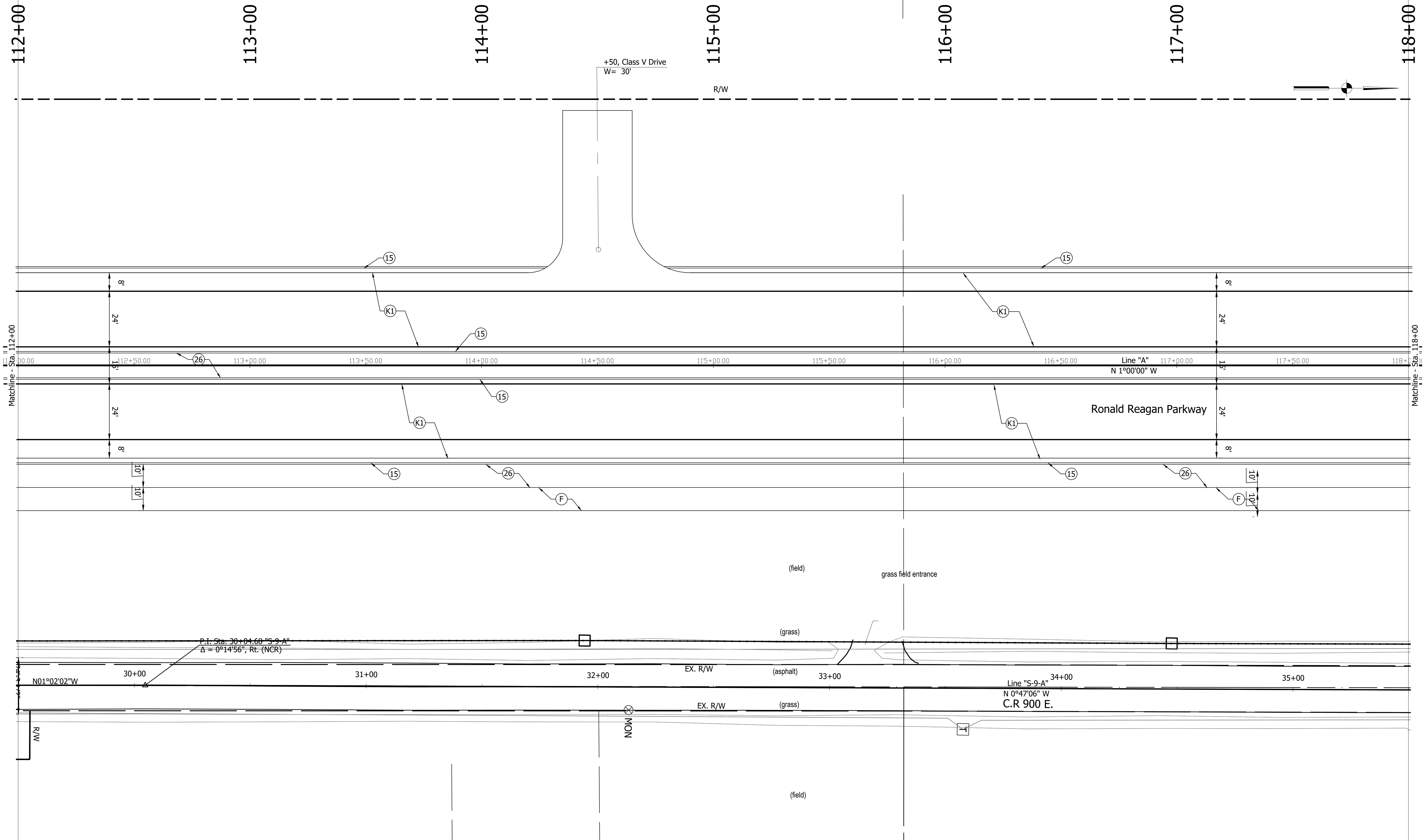
CONSTRUCTION DETAILS - LINE "A" & "S-9-A"

STA. 106+00 to 112+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>30 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |



File Name: P:\RD\C3D\17-405\Road\Drawings\Plans\Cons-Det A 1B.dwg Plot Date: 1/30/2020 Plotted By: Vic Doloso



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type 1B
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery



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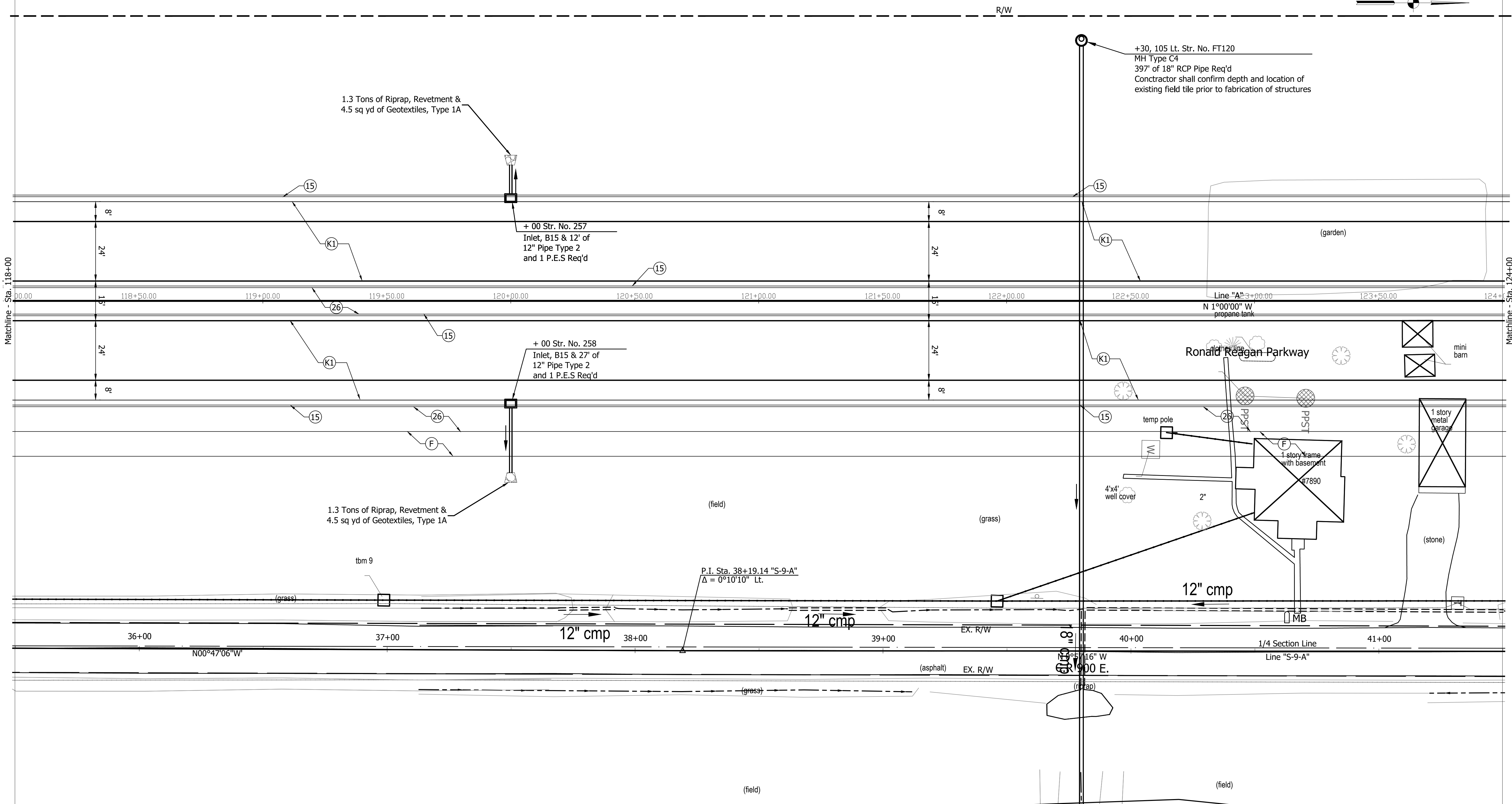
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|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD   |                 |      |
| CHECKED: JAR             | CHECKED: JAR |                 |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A" & "S-9-A"**  
STA. 112+00 to 118+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>31 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

118+00 119+00 120+00 121+00 122+00 123+00 124+00



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

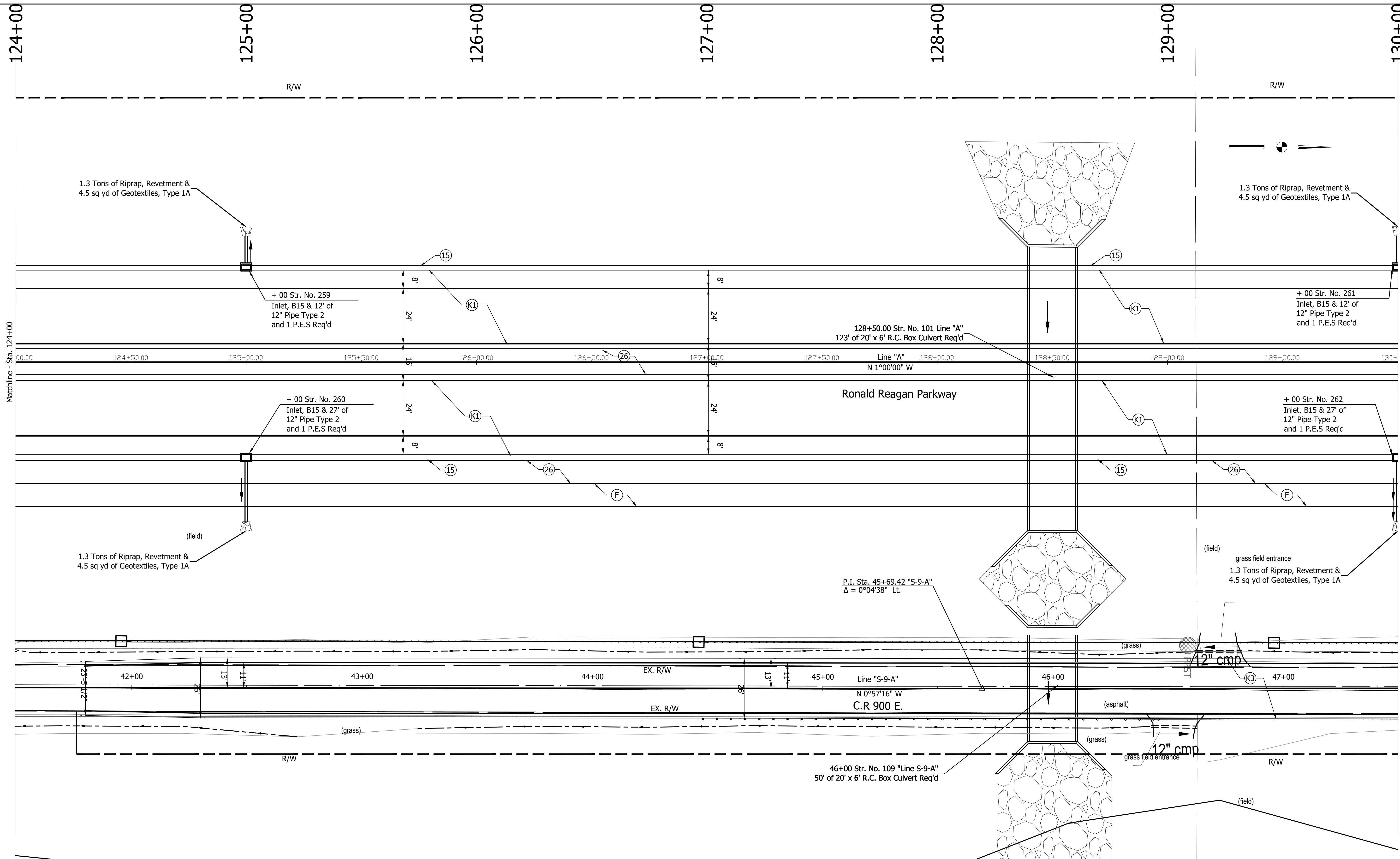
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Phone 317-895-2585  
www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "A" & "S-9-A"**  
STA. 118+00 to 124+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>32 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp-Def A.tbl.dwg Plot Date: 1/30/2020 Plotted By: VC Dobson



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 #/Sys QC/QA-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

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|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: VAD   |                                  |  |
| CHECKED: JAR                   | CHECKED: JAR |                                  |  |

HENDRICKS COUNTY

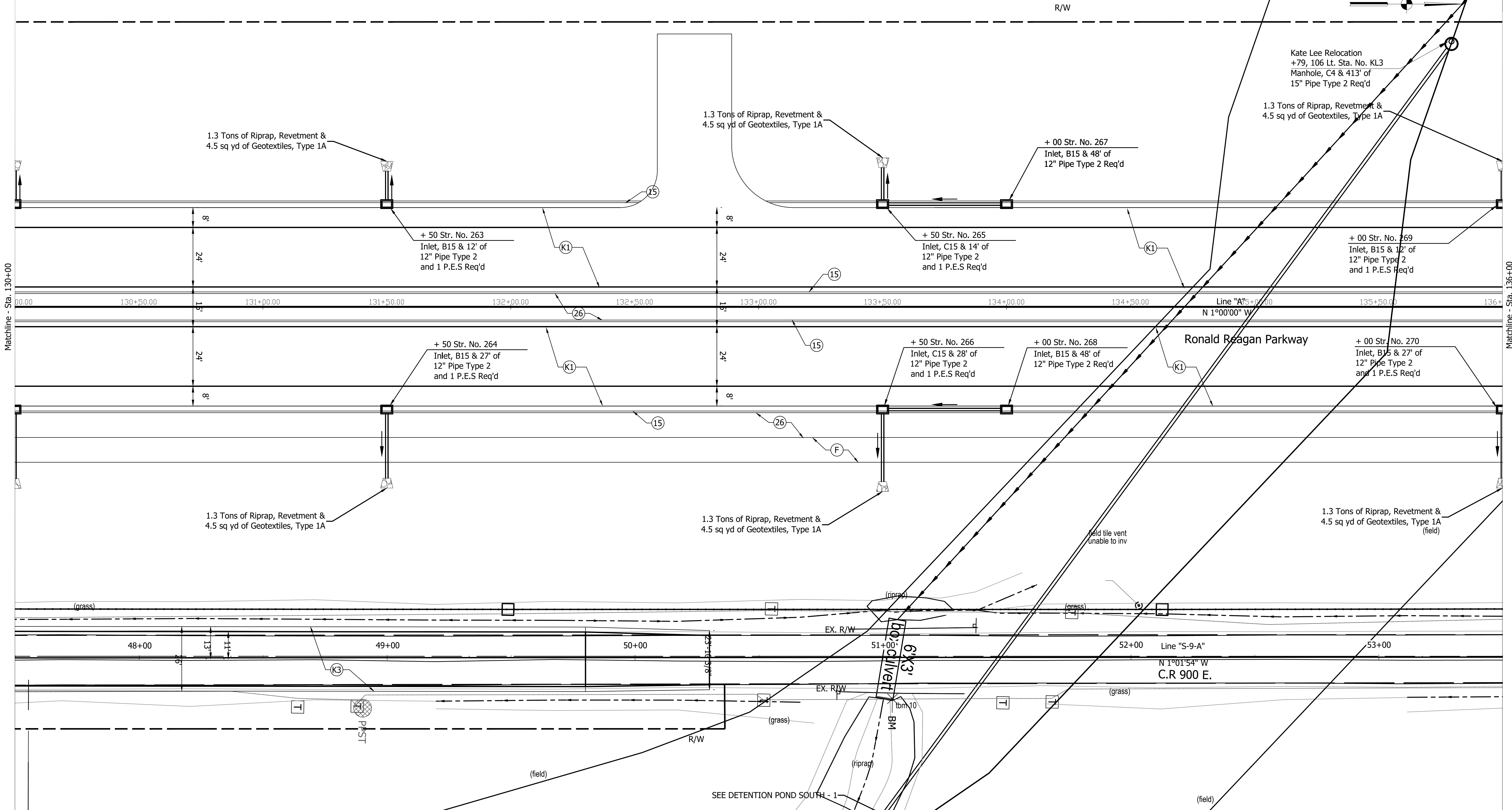
CONSTRUCTION DETAILS - LINE "A" & "S-9-A"

STA. 124+00 to 130+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>33 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp-Det A 15.dwg Plct Date: 1/30/2020 Plotted By: VC Dobson

130+00 131+00 132+00 133+00 134+00 135+00 136+00



Matchline - Sta. 130+00

Matchline - Sta. 136+00

- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery



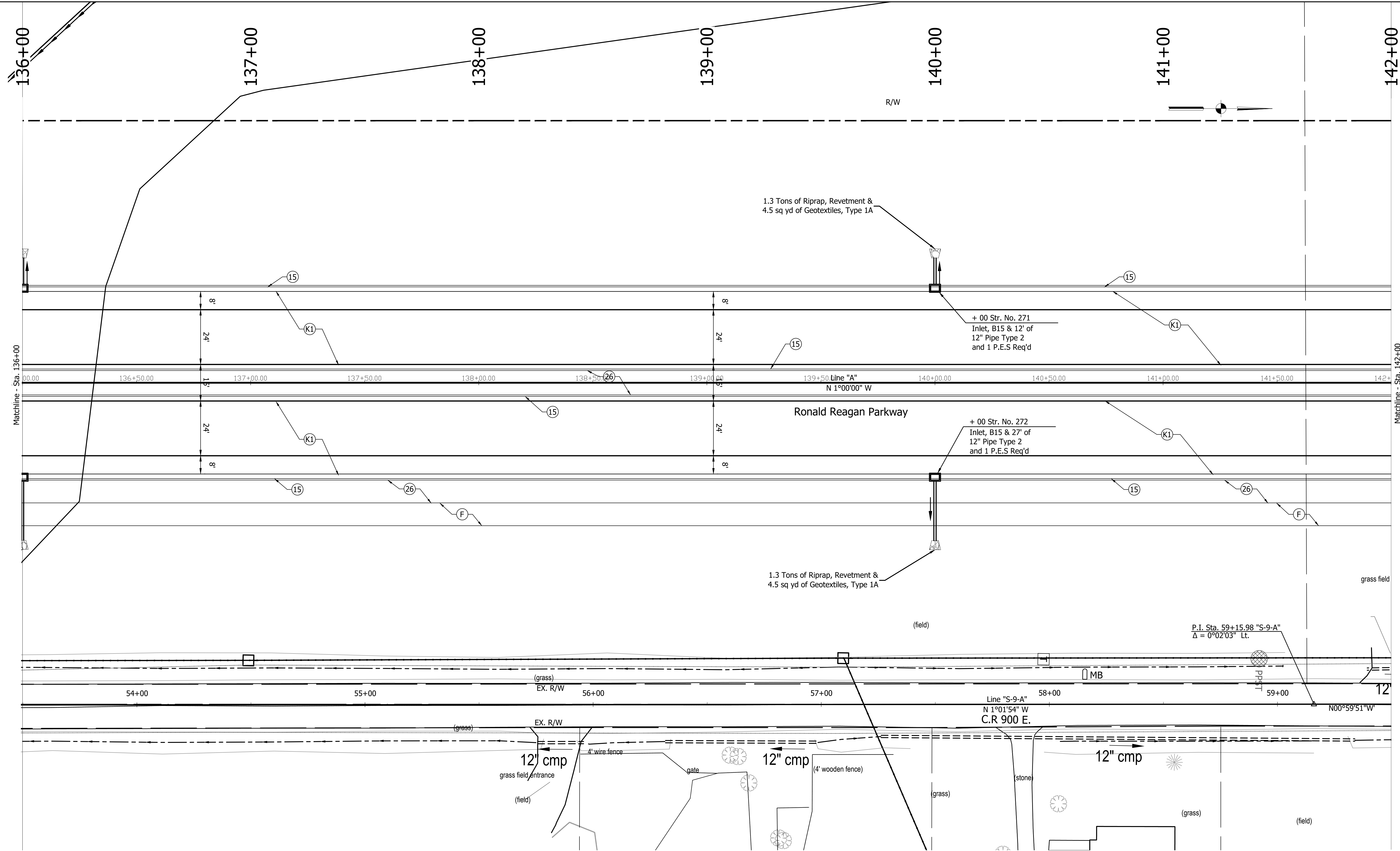
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www.ucindy.com

|                                |              |                       |  |            |  |
|--------------------------------|--------------|-----------------------|--|------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ |  | DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: VAD   |                       |  |            |  |
| CHECKED: JAR                   | CHECKED: JAR |                       |  |            |  |

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "A" & "S-9-A"**  
STA. 130+00 to 136+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>34 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp-Def A.tbl.dwg Plot Date: 1/30/2020 Plotted By: VC Dobson



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

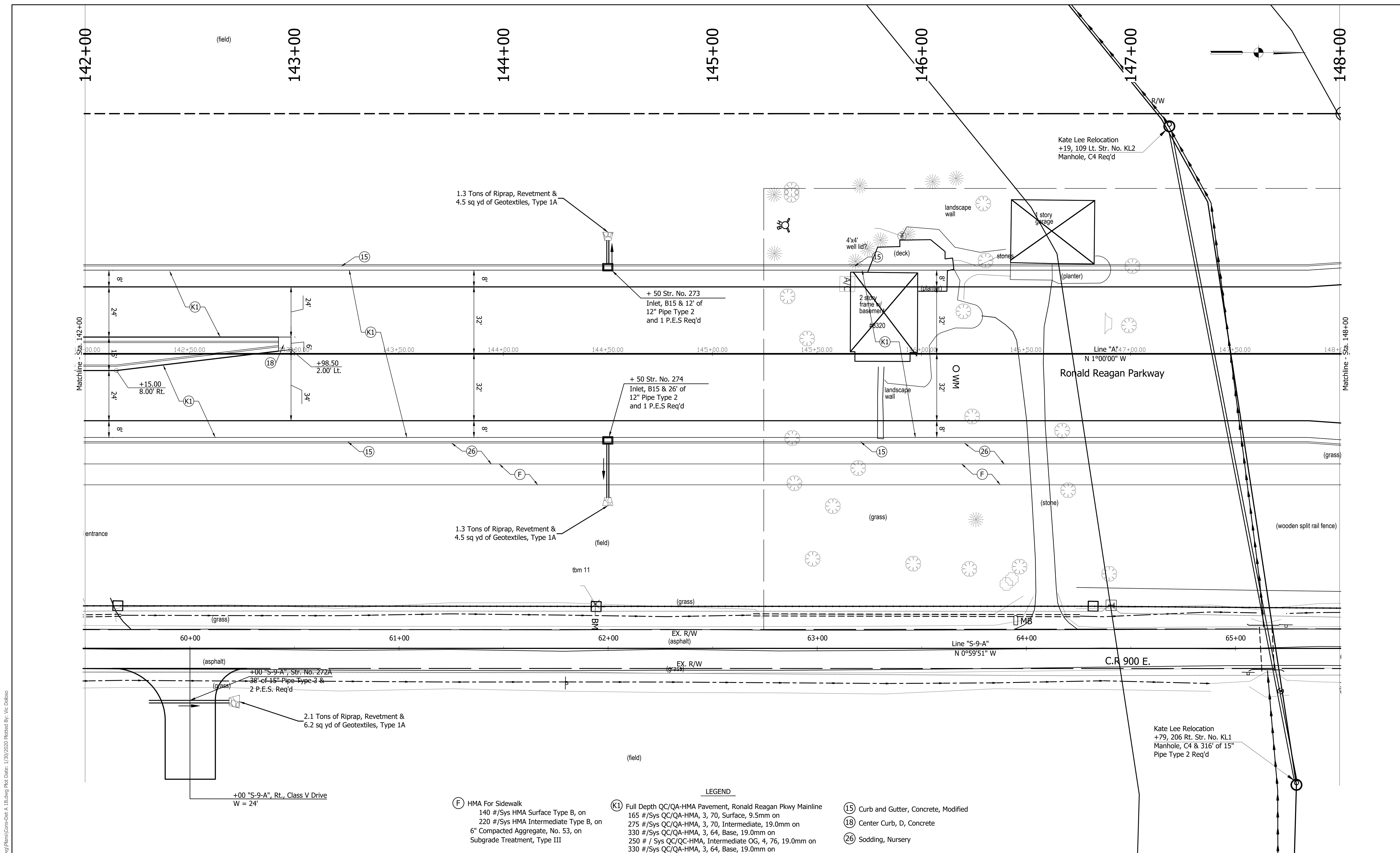
**UNITED Consulting**  
 8440 Allison Pointe Boulevard, Suite 200  
 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 DESIGNED: BEA DRAWN: VAD  
 CHECKED: JAR CHECKED: JAR

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "A" & "S-9-A"**  
 STA. 136+00 to 142+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>35 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp\Det A.tbl.dwg Plot Date: 1/30/2020 Plotted By: VC Dobson



142+00 (field) 143+00 144+00 145+00 146+00 147+00 148+00

Matchline - Sta. 142+00 142+00.00 142+50.00 143+00.00 143+50.00 144+00.00 144+50.00 145+00.00 145+50.00 146+00.00 146+50.00 147+00.00 147+50.00 148+00.00 Matchline - Sta. 148+00

60+00 61+00 62+00 EX. R/W (asphalt) 63+00 Line "S-9-A" N 0°59'51" W 64+00 65+00

- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 #/Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

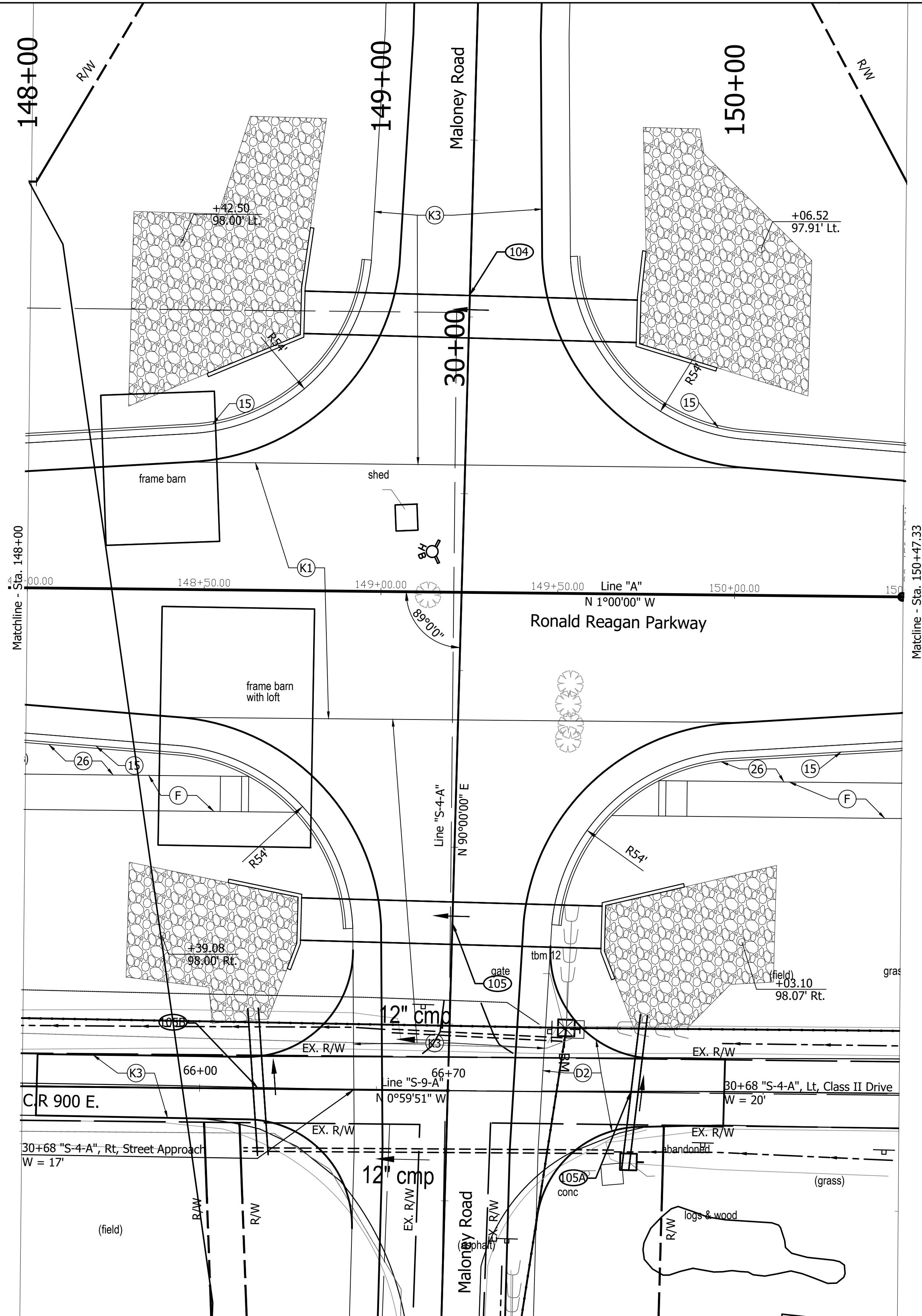
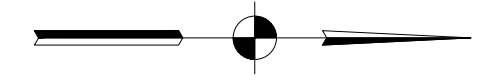
**UNITED Consulting**  
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER DATE \_\_\_\_\_  
DESIGNED: BEA DRAWN: VAD  
CHECKED: JAR CHECKED: JAR

HENDRICKS COUNTY  
CONSTRUCTION DETAILS - LINE "A" & "S-9-A"  
STA. 142+00 to 148+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>36 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: P:\RD\CD\17-405\Road\Drawings\Plans\Comp-Det A, Including Pkwy Date: 1/30/2020 Plotted By: VC, Dobson



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53 on  
Subgrade Treatment, Type IB
  - (D2) HMA for Approaches  
165 #/Sys HMA Surface, Type B on  
385 #/Sys HMA Intermediate, Type B on  
Subgrade Treatment, Type II
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp-Det A.tbl.dwg Plot Date: 1/30/2020 Plotted By: VC Dobson



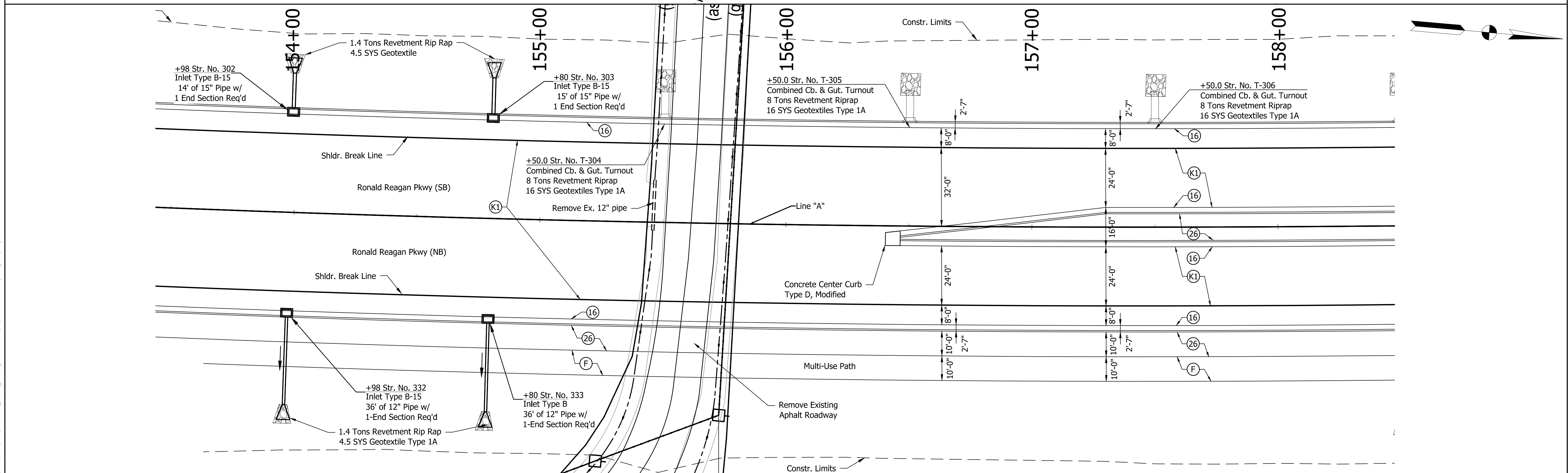
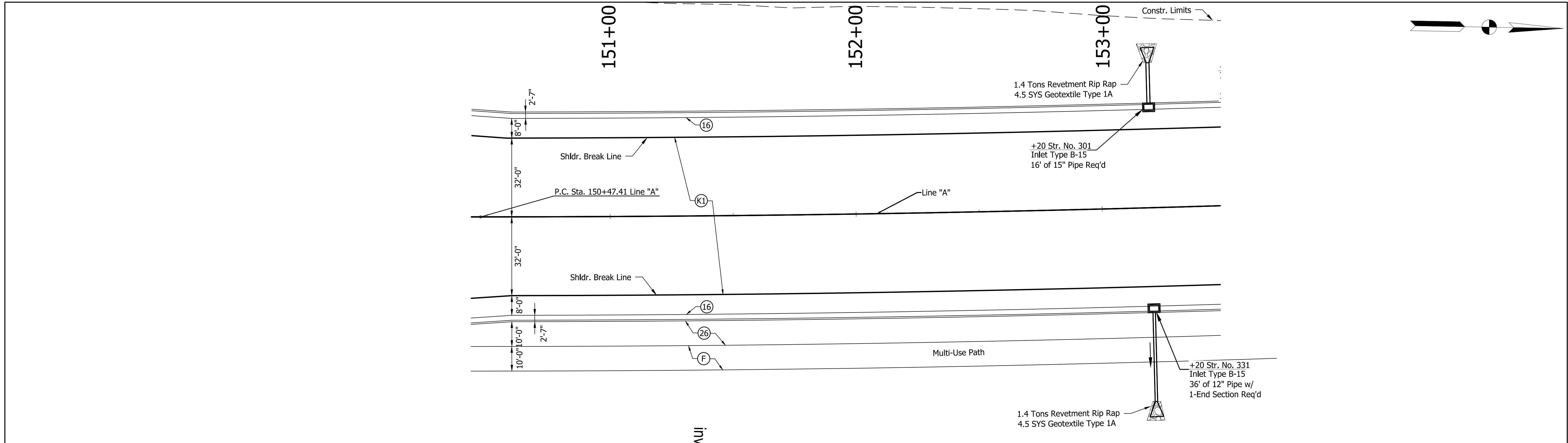
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Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: VAD   |                                  |  |
| CHECKED: JEL                   | CHECKED: JEL |                                  |  |

|   |  |
|---|--|
| HENDRICKS COUNTY                          |  |
| CONSTRUCTION DETAILS - LINE "A" & "S-9-A" |  |
| STA. 148+00 TO 150+47.33                  |  |

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>37 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: S:\\_2017\17-0005\16\04\Road\CAD\1604\Constr\Det\_Line A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angene, Kuyale



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (R) Remove
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

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 3502 Woodview Terrace, Suite 150  
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 TOLL FREE: 888.830.6977

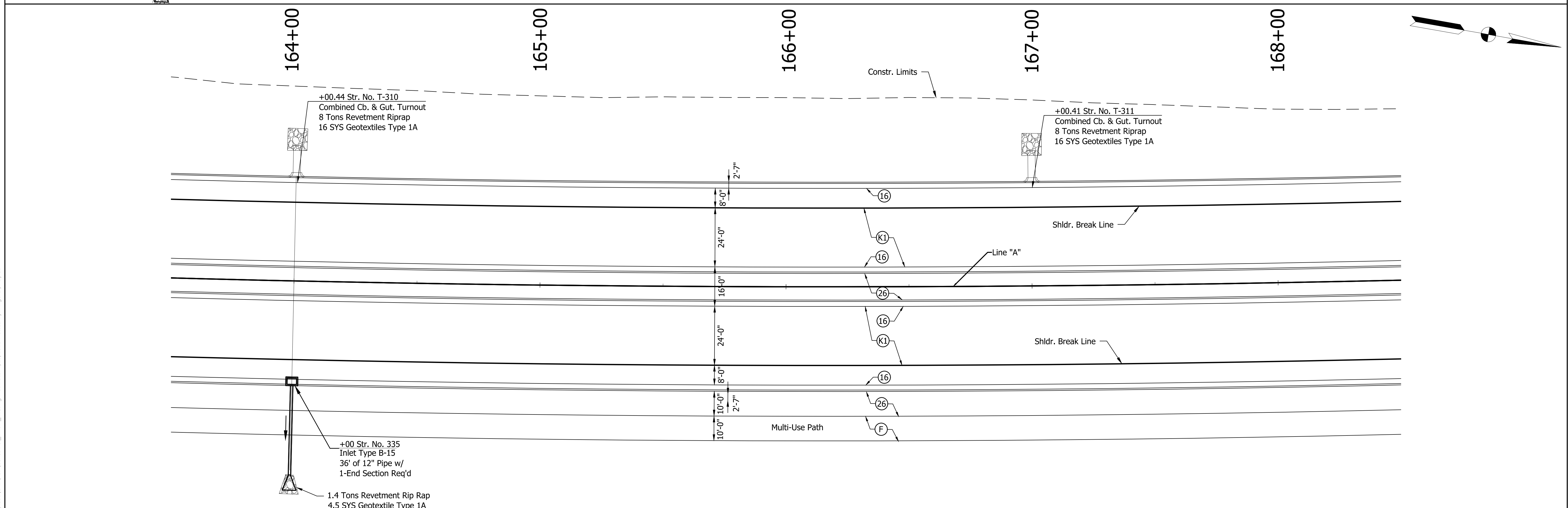
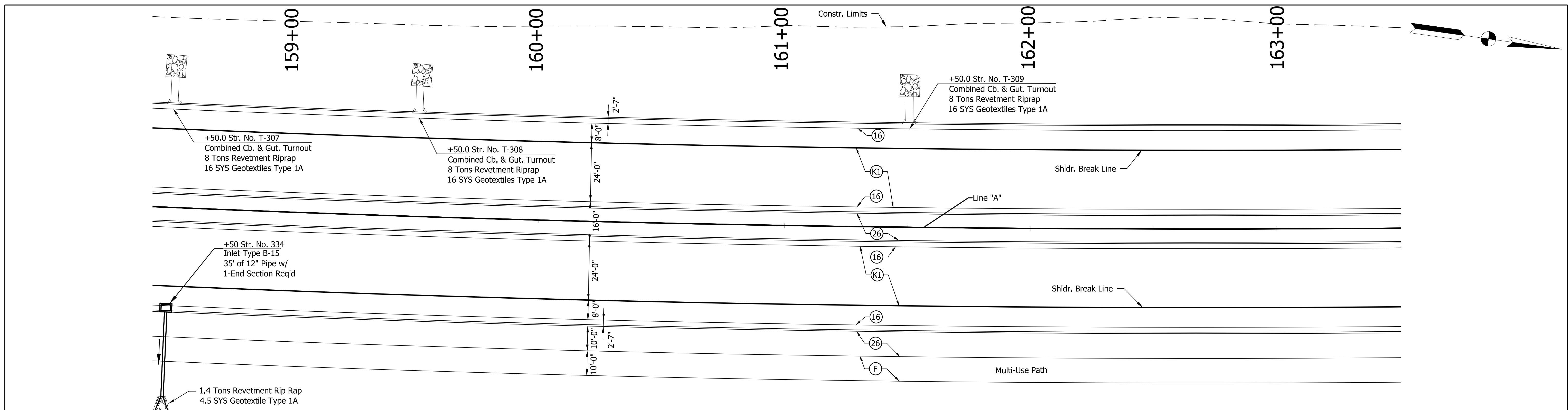
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|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH   |                 |      |
| CHECKED: BKA             | CHECKED: BKA |                 |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA 150+47.17 TO STA 158+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 18 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |





- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (S) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



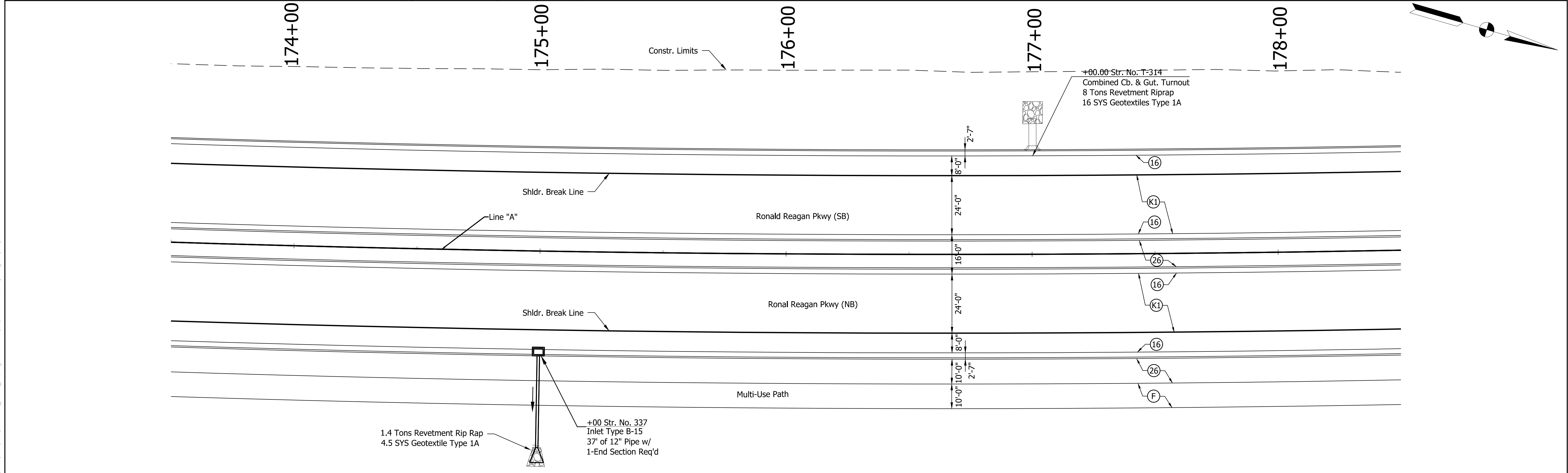
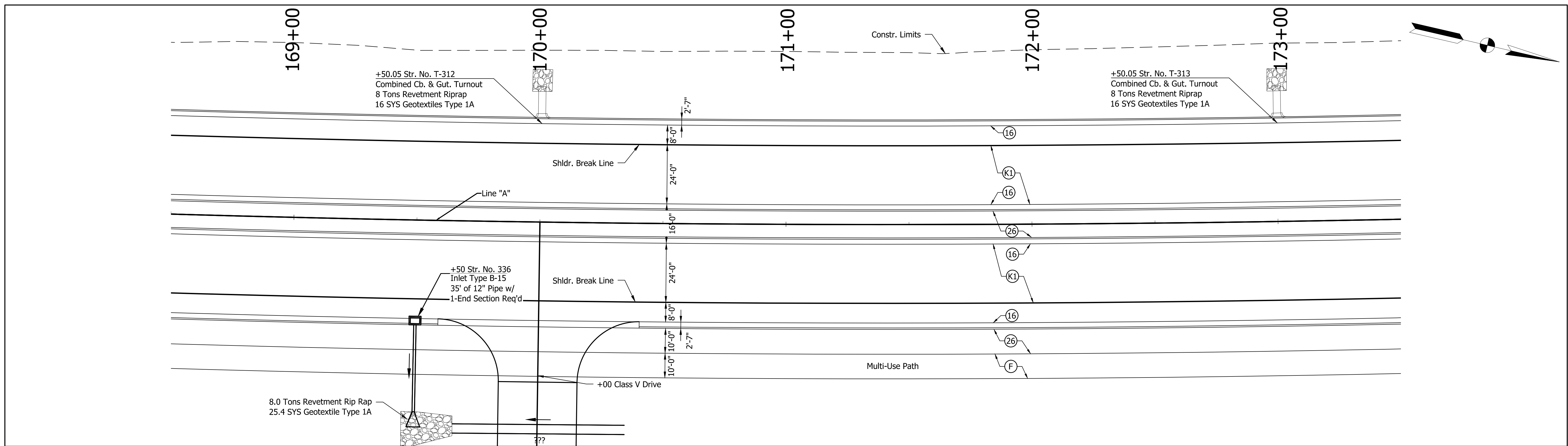
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
STA 158+50 TO STA 168+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 19 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\1602280\Road\CAD\BEG\Constr Det\_Line A\_LB.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Kevyle



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6\" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (S) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

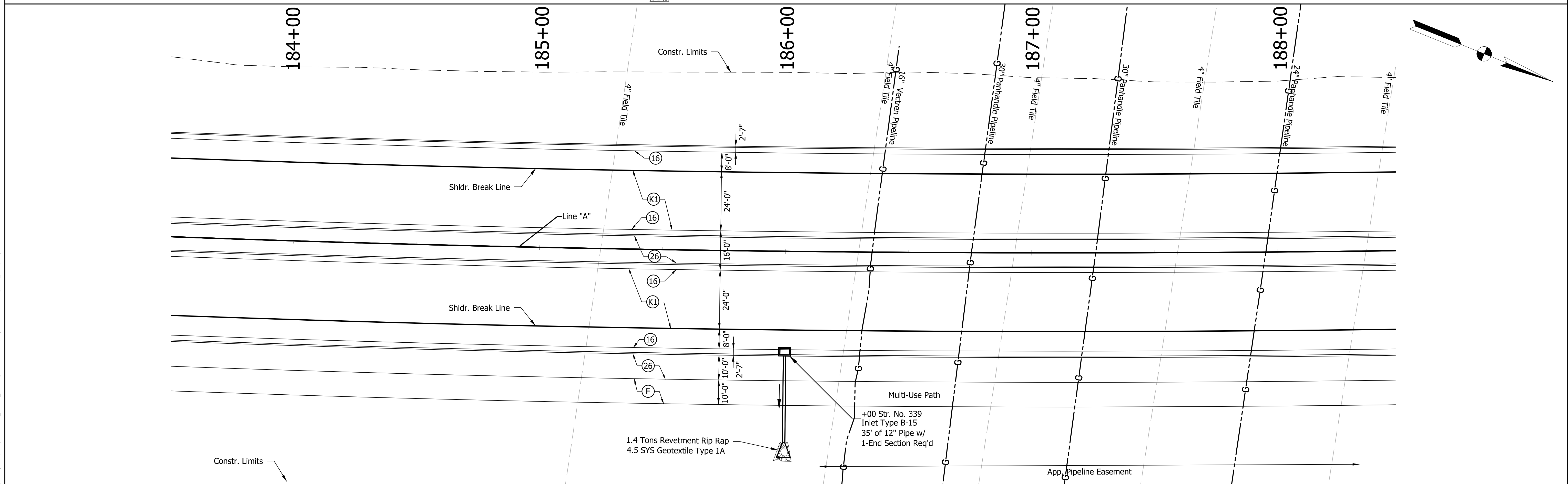
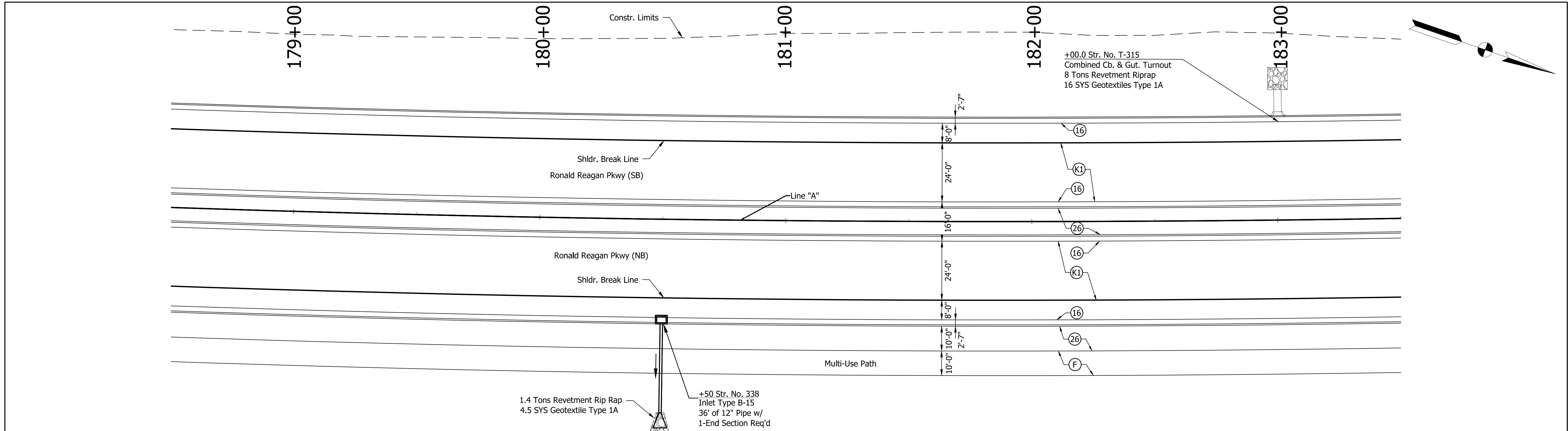
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
SSTA 168+50 TO STA 178+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 20 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-2025\16V\Road\CAD\168P\Constr Det\_Line A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Kevyle

File Name: S:\\_2017\17-0005\184\Road\CAD\Sheet\Det\_Line\_A\_184.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Kevale



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

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 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

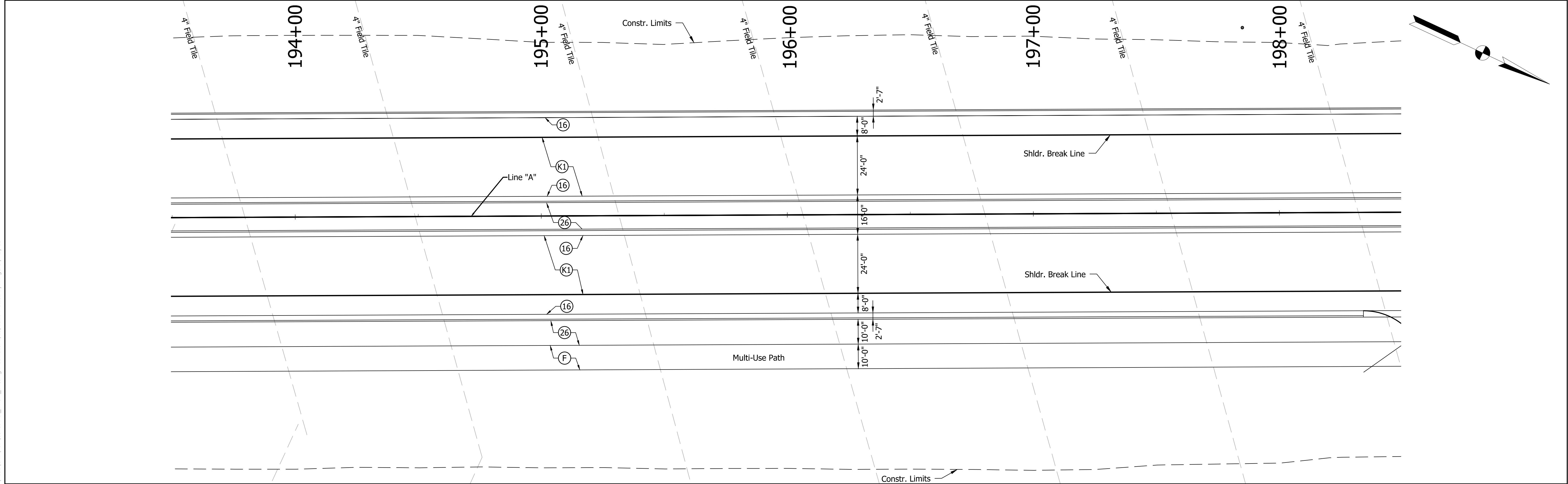
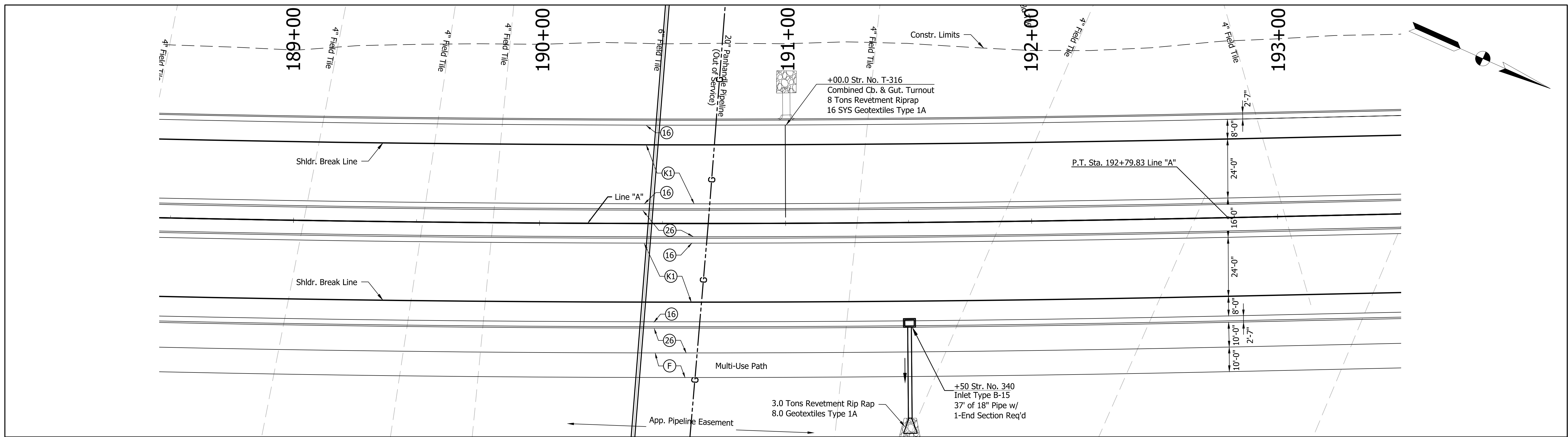
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|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH   |                 |      |
| CHECKED: BKA             | CHECKED: BKA |                 |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA 178+50 TO STA 188+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 21 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\114\Road\CAD\1889\Const\Det\_Line A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angene, Kuyale



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on  
220 LB/SYS HMA Intermediate, Type B on  
6" Compacted Aggregate, No. 53, Base on  
Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
Subgrade Treatment, Type IB

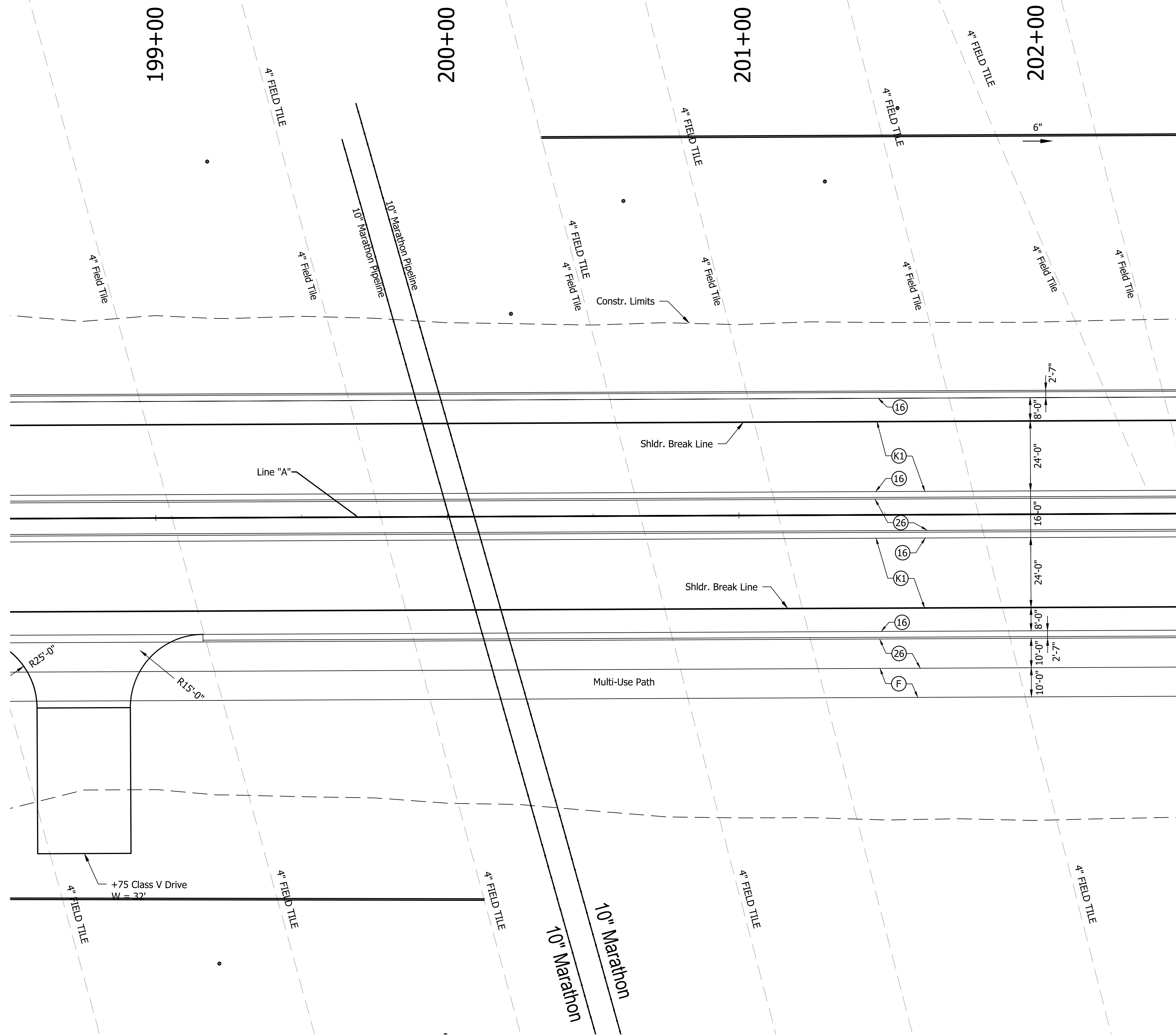
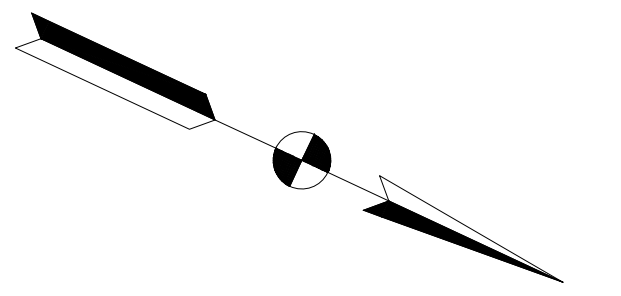


|                                |              |                       |  |            |  |
|--------------------------------|--------------|-----------------------|--|------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ |  | DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: JDH   |                       |  |            |  |
| CHECKED: BKA                   | CHECKED: BKA |                       |  |            |  |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA 188+50 TO STA 198+50**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 22 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

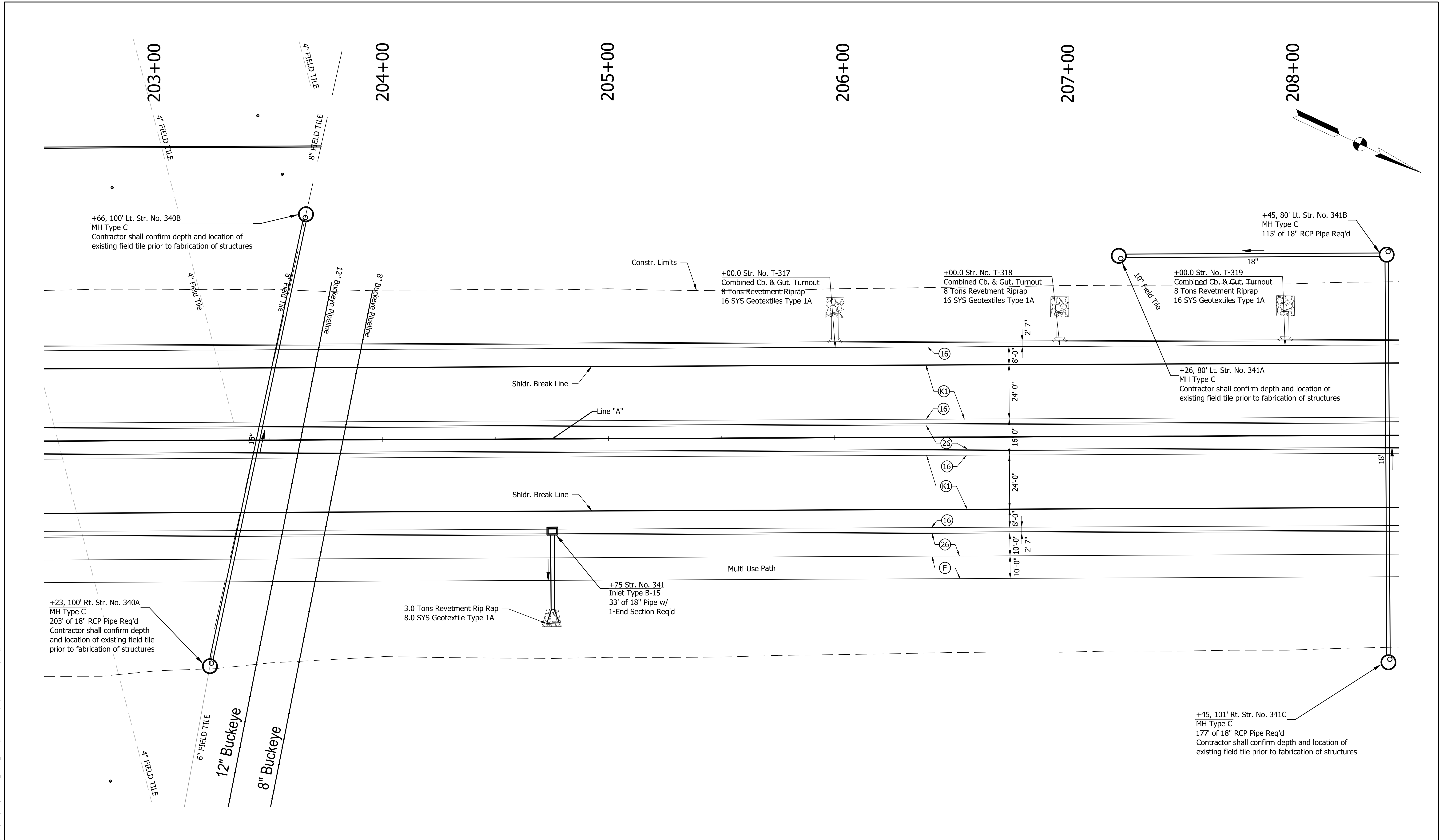
HENDRICKS COUNTY

**CONSTRUCTION DETAILS - LINE "A"**  
STA 198+50 TO STA 202+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 23 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-2025\1602280\Road\CAD\1602280\1602280\_CAD\_Line A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angene, Knyale

File Name: S:\\_2017\17-2025\16V\Road\CAD\BSP\Constr\Det\_Line A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Katelyn



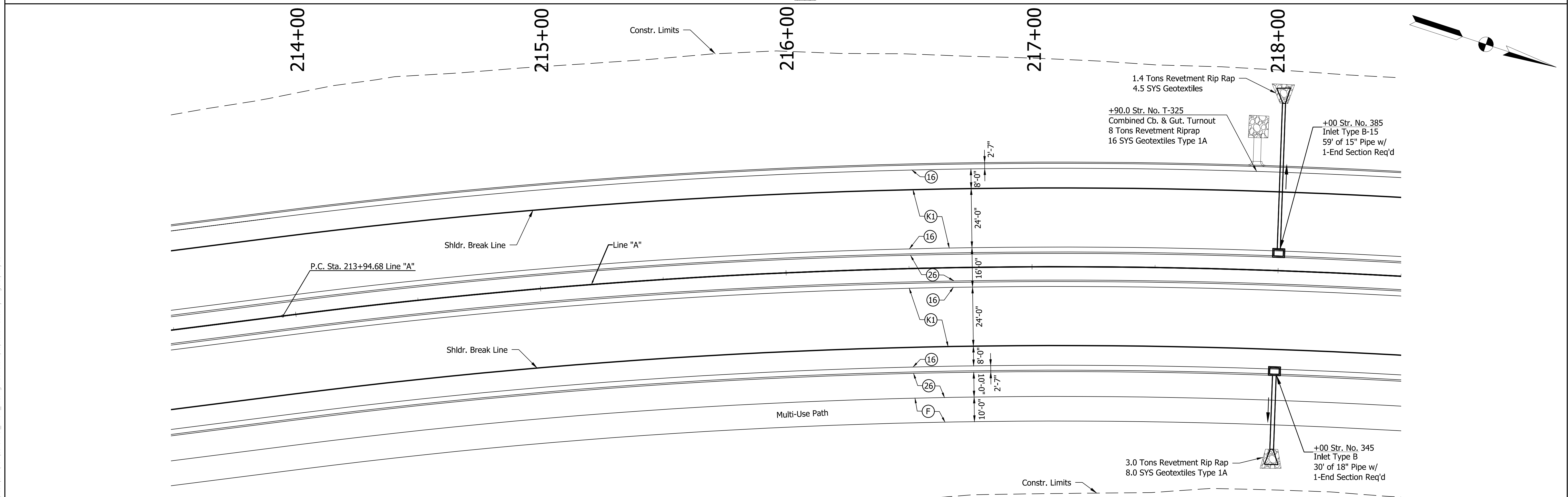
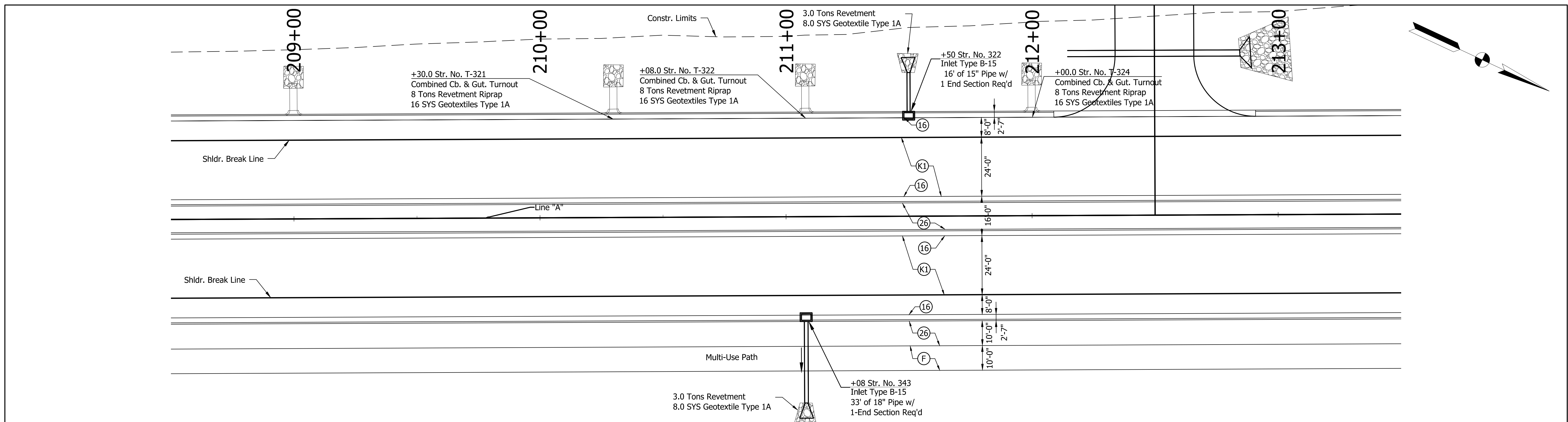
|      |  |      |   |
|------|--|------|---|
| (16) | Curb and Gutter, Concrete, Type B  | (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on<br>275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on<br>330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on<br>Subgrade Treatment, Type IB |
| (F)  | 140 LB/SYS HMA Surface, Type B on<br>220 LB/SYS HMA Intermediate, Type B on<br>6\"/> |      |   |

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**  
  
**CONSTRUCTION DETAILS - LINE "A"**  
**STA 202+50 TO STA 208+50**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 23A of 119        |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

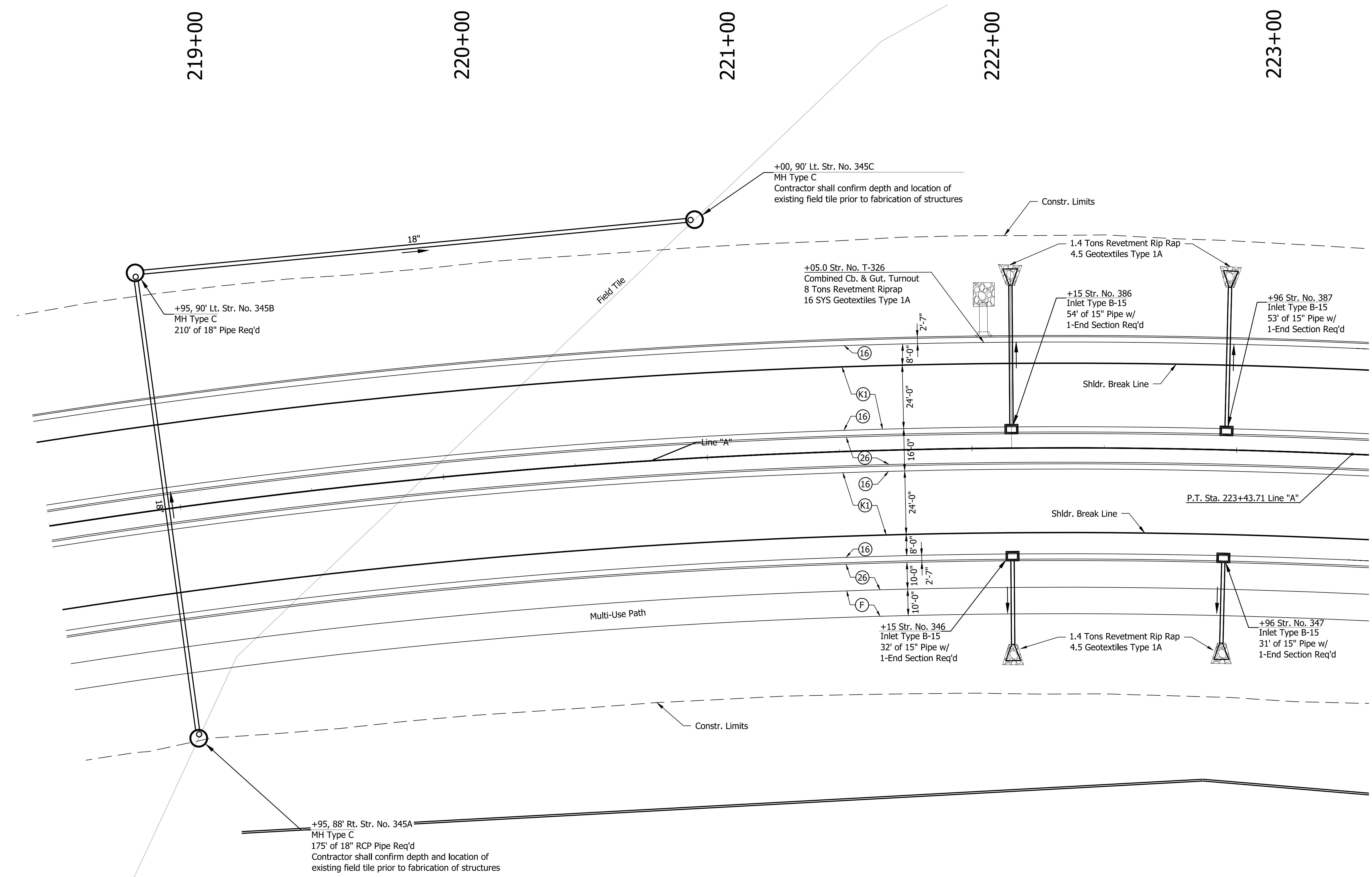
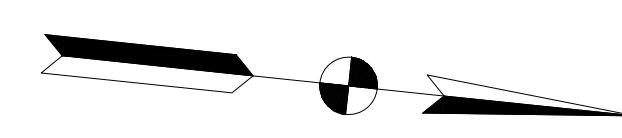
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**

**STA 208+50 TO STA 218+50**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 24 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\16\Road\CAD\168\Constr\Det\_Line\_A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Anjalee



- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6\" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |              |                 |      |
|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH   |                 |      |
| CHECKED: BKA             | CHECKED: BKA |                 |      |

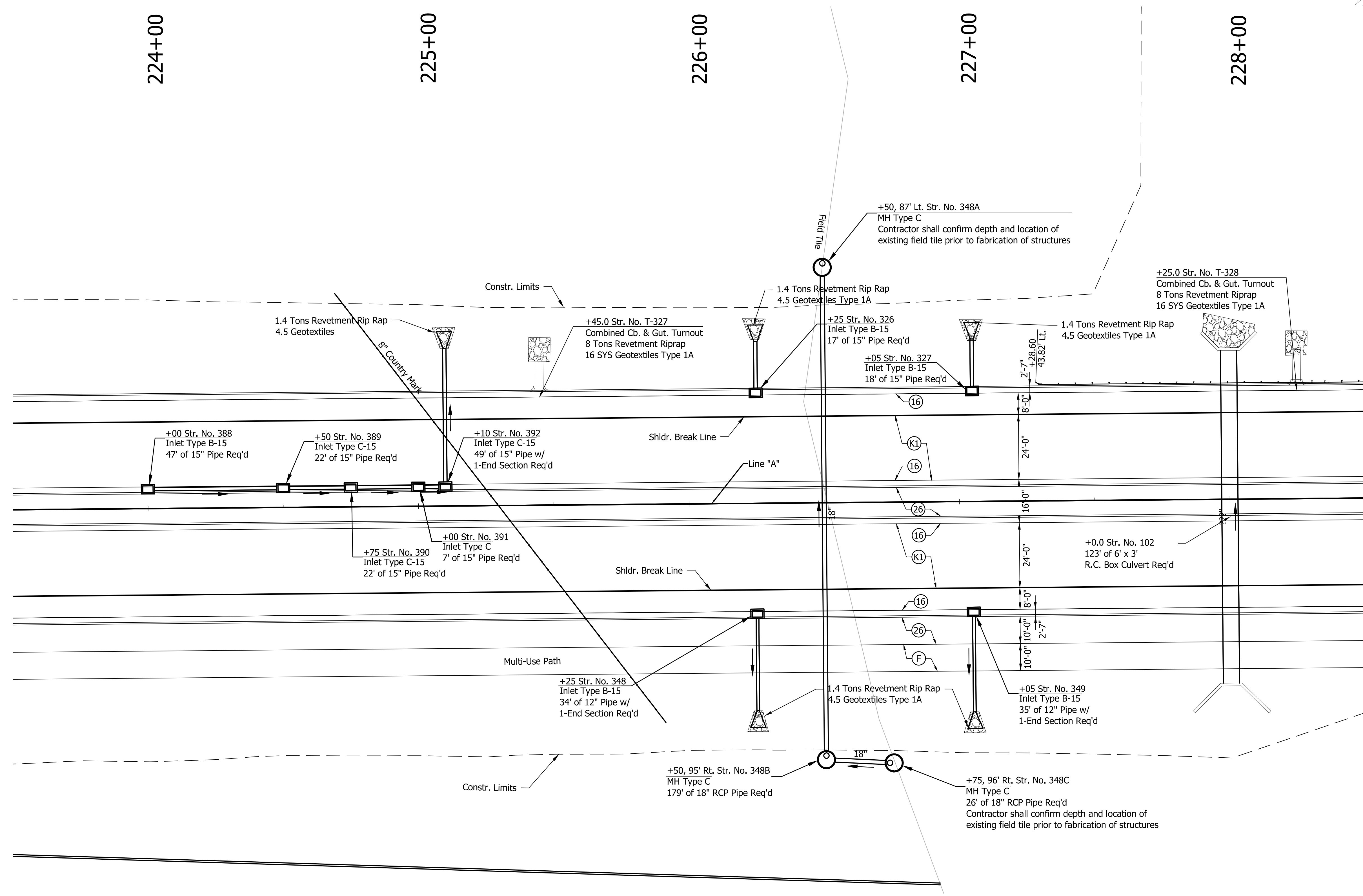
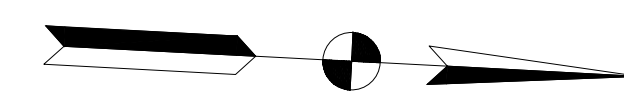
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA 218+50 TO STA 223+50**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 25 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\16V\Road\CAD\Sheet\Doc\_Line\_A\_18.dwg Plot Date: 1/29/2020 Plotted By: Angene, Kuyale





- (16) Curb and Gutter, Concrete, Type B
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III
- (N) Nursery, Sodding
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



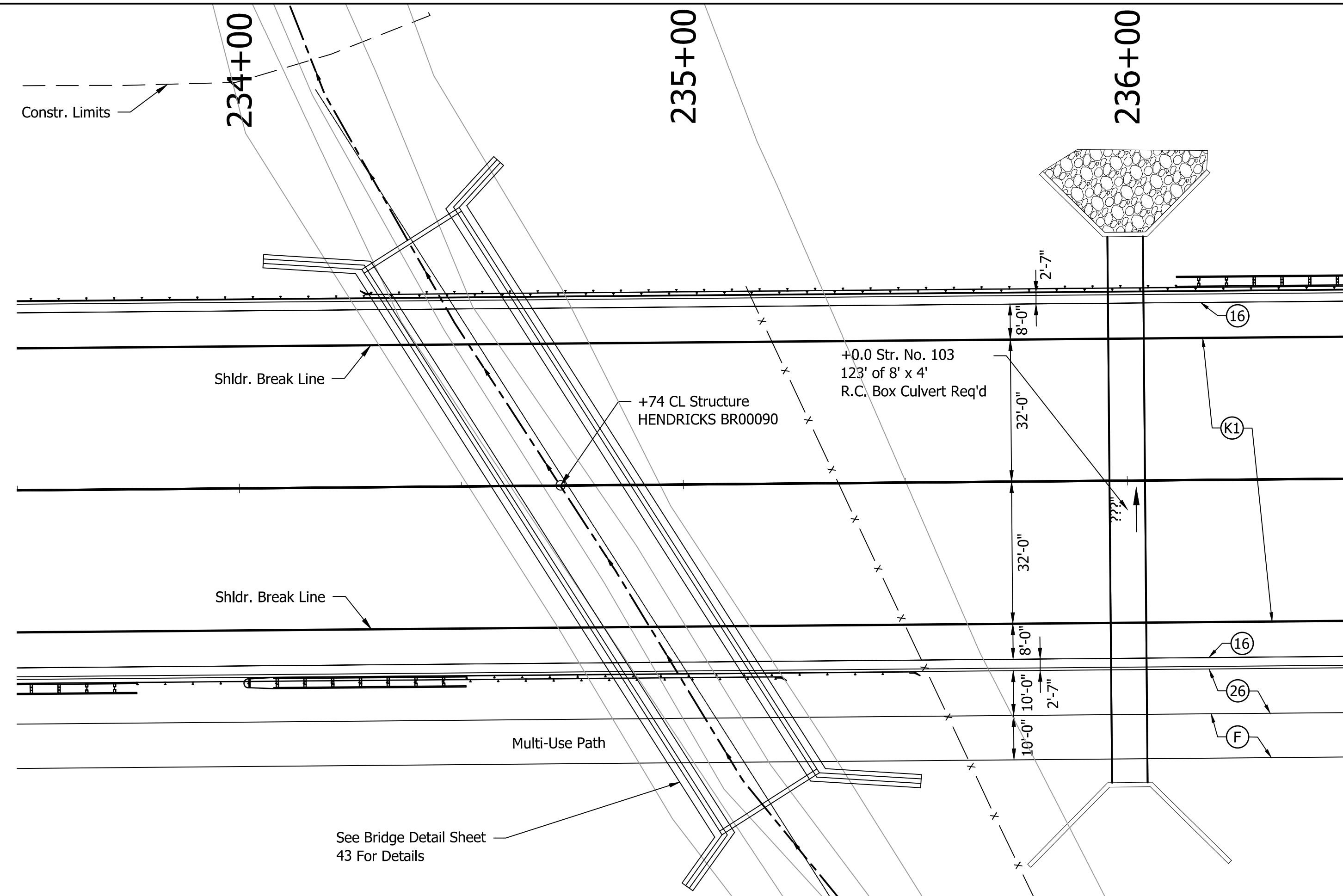
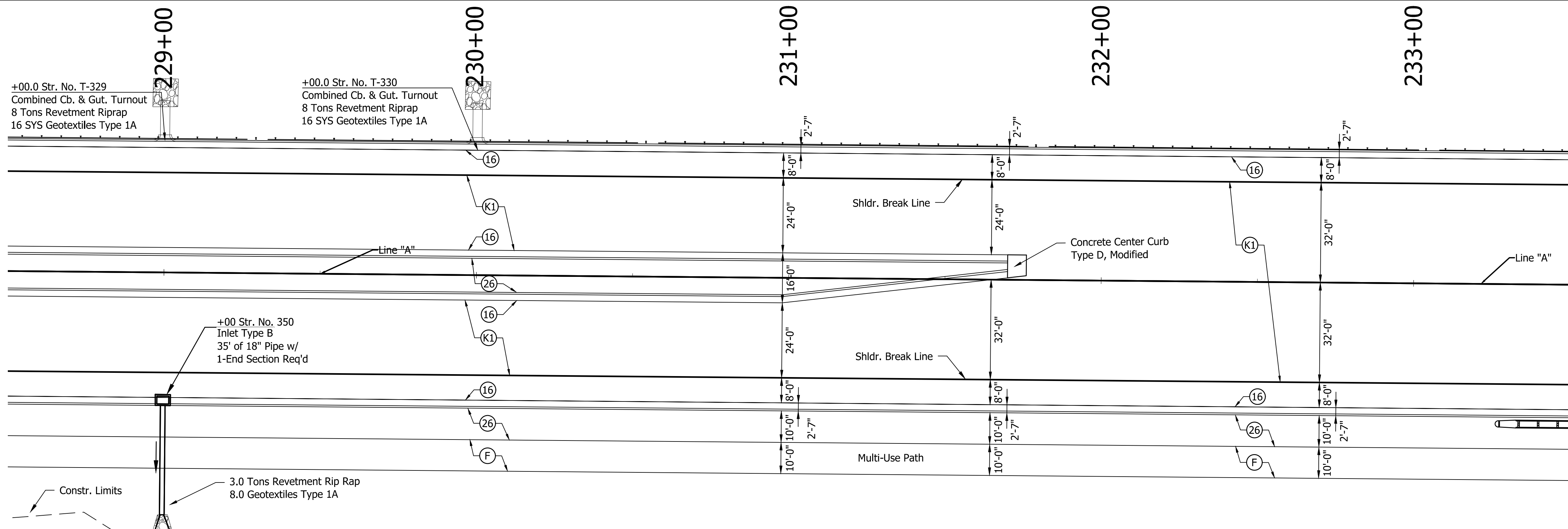
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
STA 223+50 TO STA 228+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 25A of 119        |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\16\Road\CAD\1602280\Drawings\1602280.dwg Plot Date: 1/29/2020 Plotted By: Angene Kuyale



- (16) Suburb and Gutter, Concrete, Type B
- (F) 40 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 330 LB/SYS QC/QA HMA Base, No. 53, Base on Subgrade Treatment, Type III
- (N) 3.0 Tons Revetment Rip Rap 8.0 Geotextiles Type 1A
- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

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 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_ DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DESIGNED: JNH DRAWN: JDH

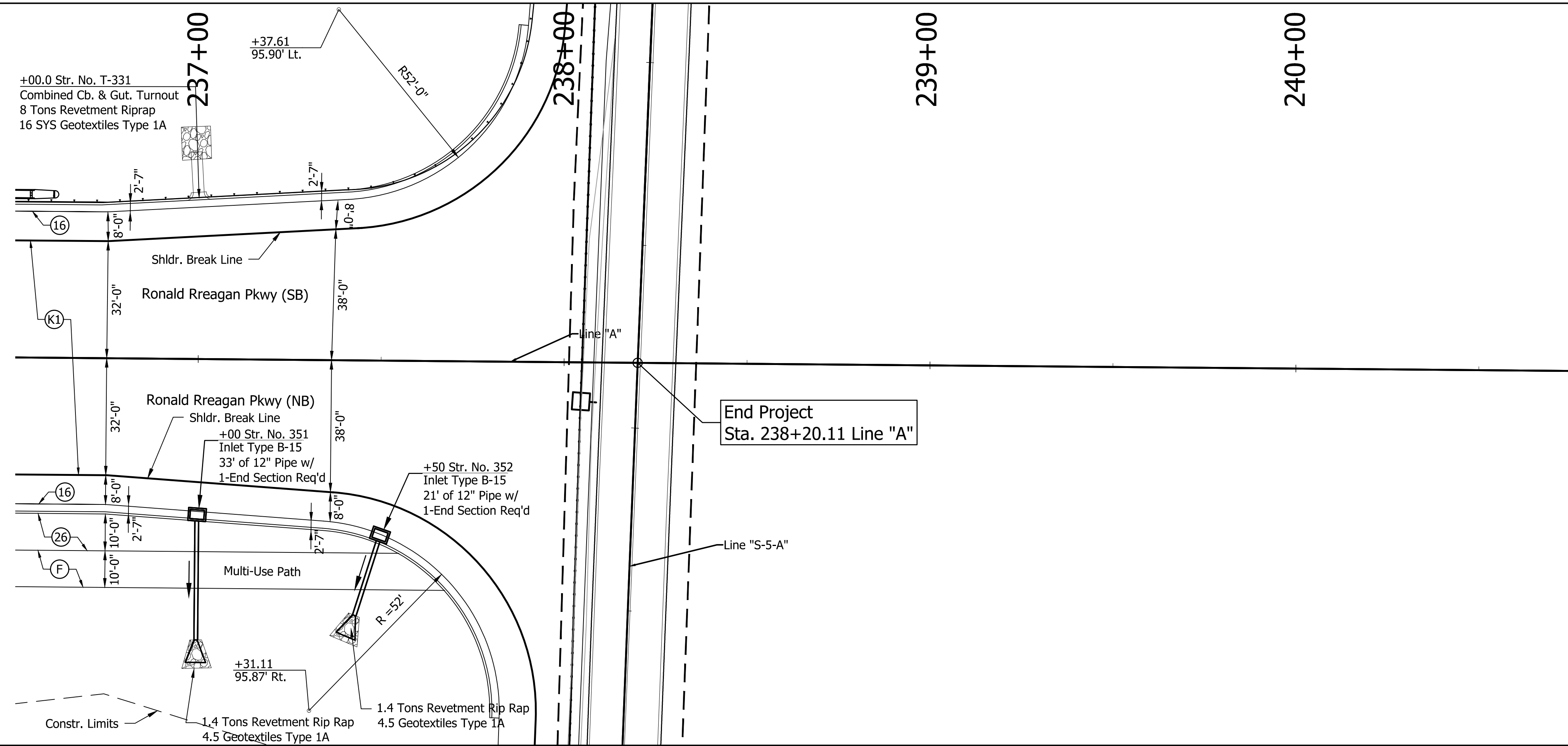
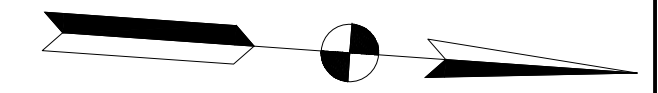
CHECKED: BKA CHECKED: BKA

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA 228+50 TO STA 236+50**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 26 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\1602280\Road\CAD\1602280\Constr Det\_Line A\_LB.dwg Plot Date: 1/29/2020 Plotted By: Angene, Kylee



End Project  
Sta. 238+20.11 Line "A"

Line "S-5-A"

(16) Curb and Gutter, Concrete, Type B  
(F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

(K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB



|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

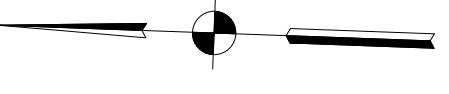
HENDRICKS COUNTY  
  
CONSTRUCTION DETAILS - LINE "A"  
STA 236+50 TO STA 240+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 27 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-2025\16V\Road\CAD\1602280\Constr\Det\_Line\_A\_16.dwg Plot Date: 1/29/2020 Plotted By: Angene, Knyale

10+00

15+00



inv:904.87

inv:905.23

18" cmp

Begin Incidental Construction  
Sta. 11+80.00 Line "S-4-A"

Begin Construction  
Sta. 12+30.00 Line "S-4-A"

P.I. Sta. 12+50.00 "S-4-A"  
 $\Delta = 0^\circ 15' 00''$  Rt. (NCR)

+58, Class V Drive  
W = 24'

P.C. Sta. 14+00.64 Line "S-4-A"

LINE "S-4-A"  
 $50^\circ 00' 00''$  E

Maloney Rd.

$50^\circ 00' 00''$  E

**CURVE DATA**  
P.I. Sta 19+87.64 Line "S-4-A"  
Delta =  $90^\circ 00' 00''$  LT  
R = 587.00'  
T = 587.00'  
L = 922.06'  
E = 243.14'  
SE = 7.60%

**LEGEND**

- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
- (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
- (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53 on  
Subgrade Treatment, Type IB
- (D2) HMA for Approaches  
165 #/Sys HMA Surface, Type B on  
385 #/Sys HMA Intermediate, Type B on  
Subgrade Treatment, Type II
- (15) Curb and Gutter, Concrete, Modified
- (18) Center Curb, D, Concrete
- (26) Sodding, Nursery



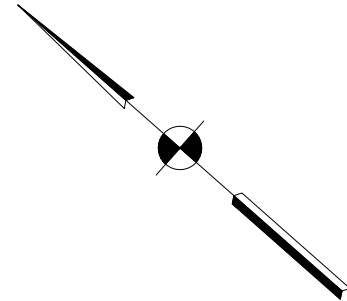
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Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: BEA                  | DRAWN: NPO   |
| CHECKED: JAR                   | CHECKED: JAR |

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "S-4-A"**  
STA. 10+00 TO 15+50

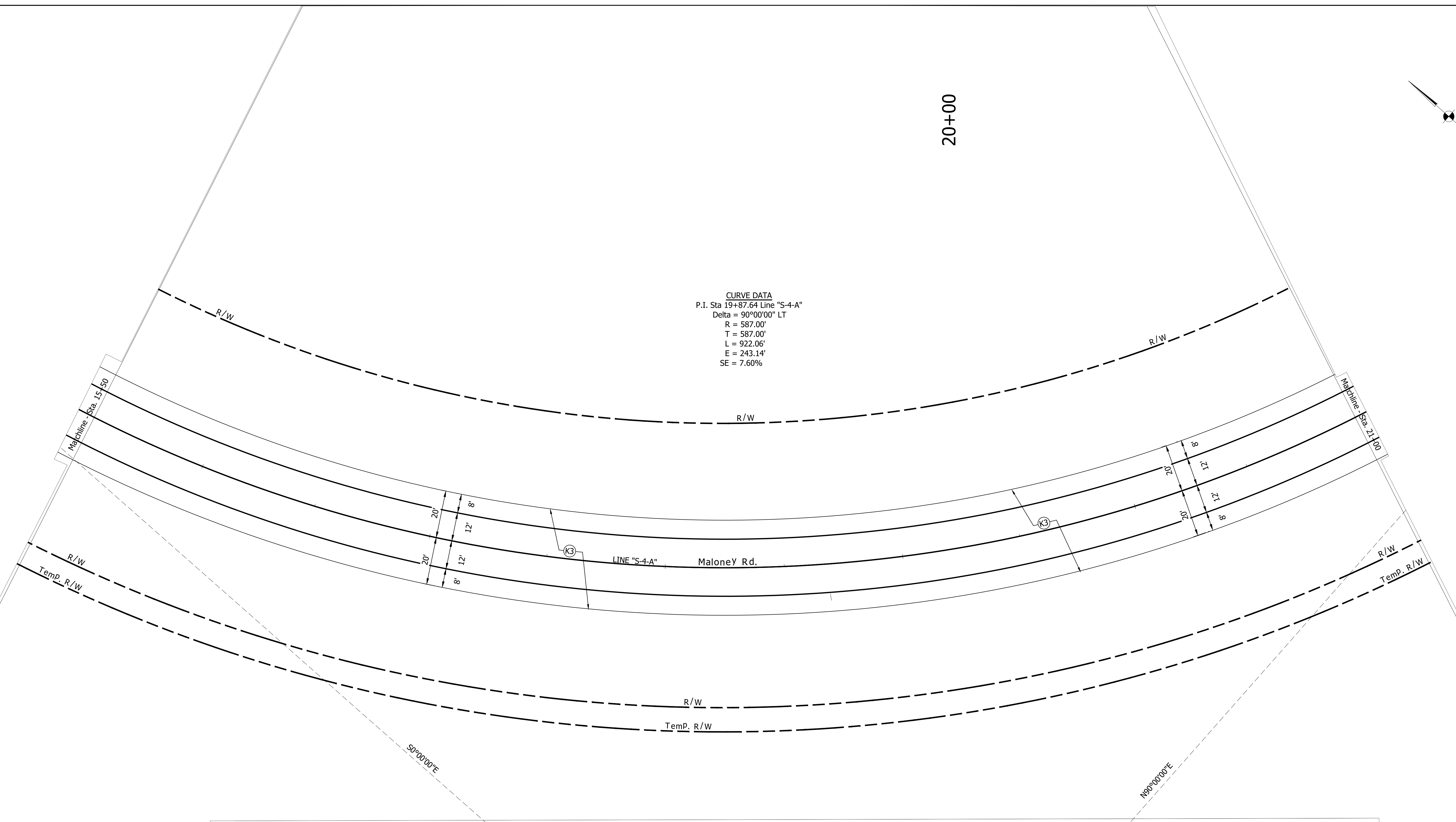
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| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>----          | SHEETS<br>50 of 211    |
| CONTRACT<br>----             | PROJECT<br>1602280     |

File Name: P:\RD\CDD\17-405\Road\Draw\Plans\Comp-Det 5-4-B.dwg Plct Date: 1/20/2020 Plotted By: Vic Dobson



20+00

**CURVE DATA**  
 P.I. Sta 19+87.64 Line "S-4-A"  
 Delta = 90°00'00" LT  
 R = 587.00'  
 T = 587.00'  
 L = 922.06'  
 E = 243.14'  
 SE = 7.60%



| LEGEND   |   |  |  |   |
|--|---|--|--|---|
| <b>(F)</b> HMA For Sidewalk<br>140 #/Sys HMA Surface Type B, on<br>220 #/Sys HMA Intermediate Type B, on<br>6" Compacted Aggregate, No. 53, on<br>Subgrade Treatment, Type III | <b>(K1)</b> Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline<br>165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on<br>275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on<br>330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on<br>250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on<br>330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on<br>Subgrade Treatment, Type IB | <b>(K3)</b> Full Depth QC/QA-HMA Pavement, Co. Rd. 900E<br>165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on<br>275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on<br>330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on<br>3" Compacted Aggregate, No. 53 on<br>Subgrade Treatment, Type IB | <b>(D2)</b> HMA for Approaches<br>165 #/Sys HMA Surface, Type B on<br>385 #/Sys HMA Intermediate, Type B on<br>Subgrade Treatment, Type II | <b>(15)</b> Curb and Gutter, Concrete, Modified<br><b>(18)</b> Center Curb, D, Concrete<br><b>(26)</b> Sodding, Nursery |



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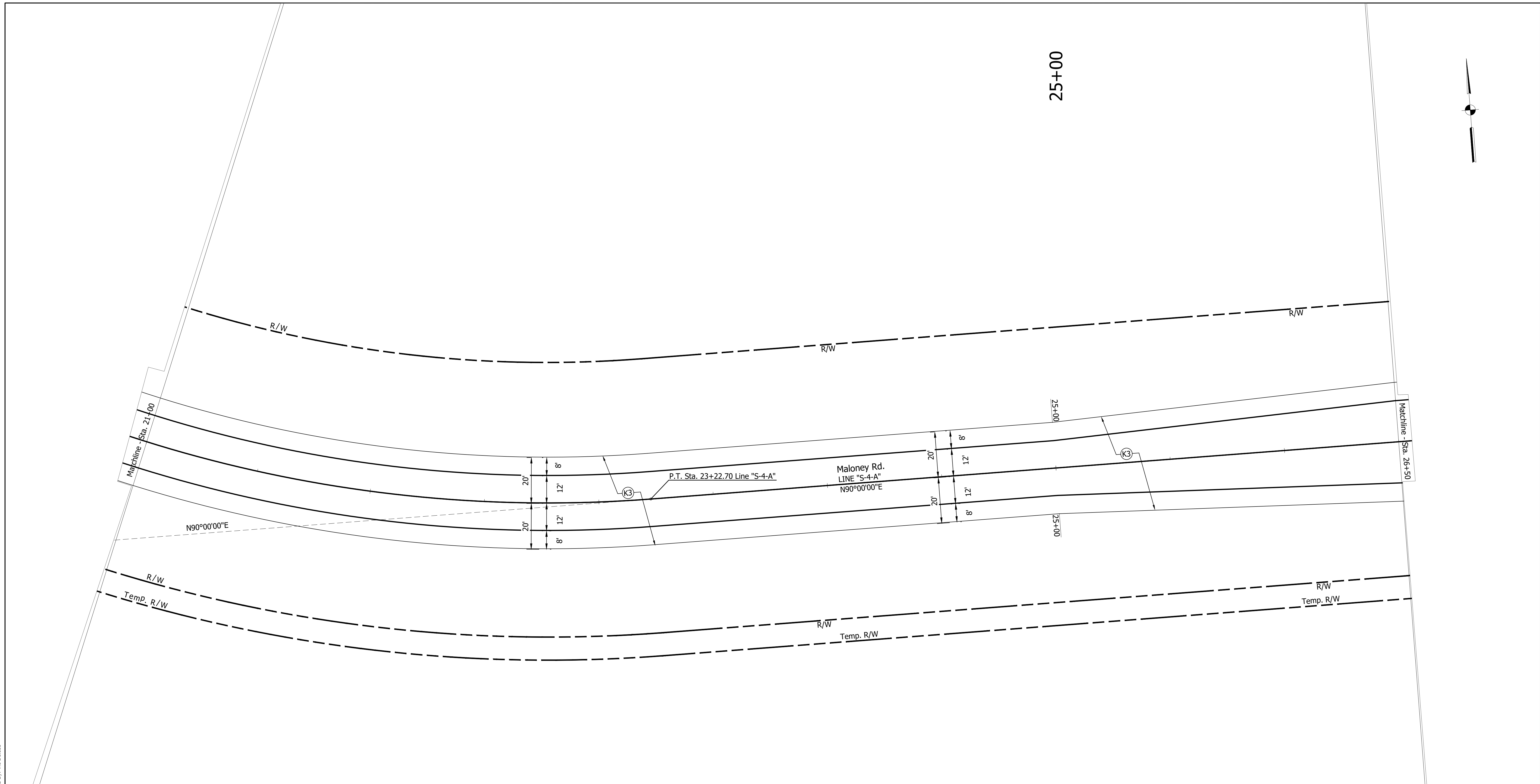
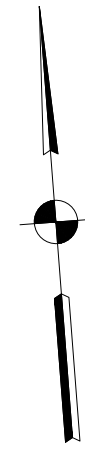
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: NPO      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-4-A"**  
 STA. 15+50 TO 21+00

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| 1" = 20'         | ----        |
| VERTICAL SCALE   | DESIGNATION |
| N/A              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 51 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |

File Name: P:\RD\CDD\17-405\Road\Draw\Plans\Comp-Det 5-4-B.dwg Plct Date: 1/20/2020 Plotted By: Vic Dobson



| LEGEND  |  |   |   |
|---|--|---|---|
| (F) HMA For Sidewalk<br>140 #/Sys HMA Surface Type B, on<br>220 #/Sys HMA Intermediate Type B, on<br>6" Compacted Aggregate, No. 53, on<br>Subgrade Treatment, Type III | (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline<br>165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on<br>275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on<br>330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on<br>250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on<br>330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on<br>Subgrade Treatment, Type IB | (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E<br>165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on<br>275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on<br>330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on<br>3" Compacted Aggregate, No. 53 on<br>Subgrade Treatment, Type IB | (D2) HMA for Approaches<br>165 #/Sys HMA Surface, Type B on<br>385 #/Sys HMA Intermediate, Type B on<br>Subgrade Treatment, Type II |
|   |  |   | (15) Curb and Gutter, Concrete, Modified<br>(18) Center Curb, D, Concrete<br>(26) Sodding, Nursery                                  |

File Name: P:\RD\CDD\17-405\Road\Draw\Plans\Comp-02 5-4-B.dwg Plct Date: 1/20/2020 Plotted By: Vic Dobson



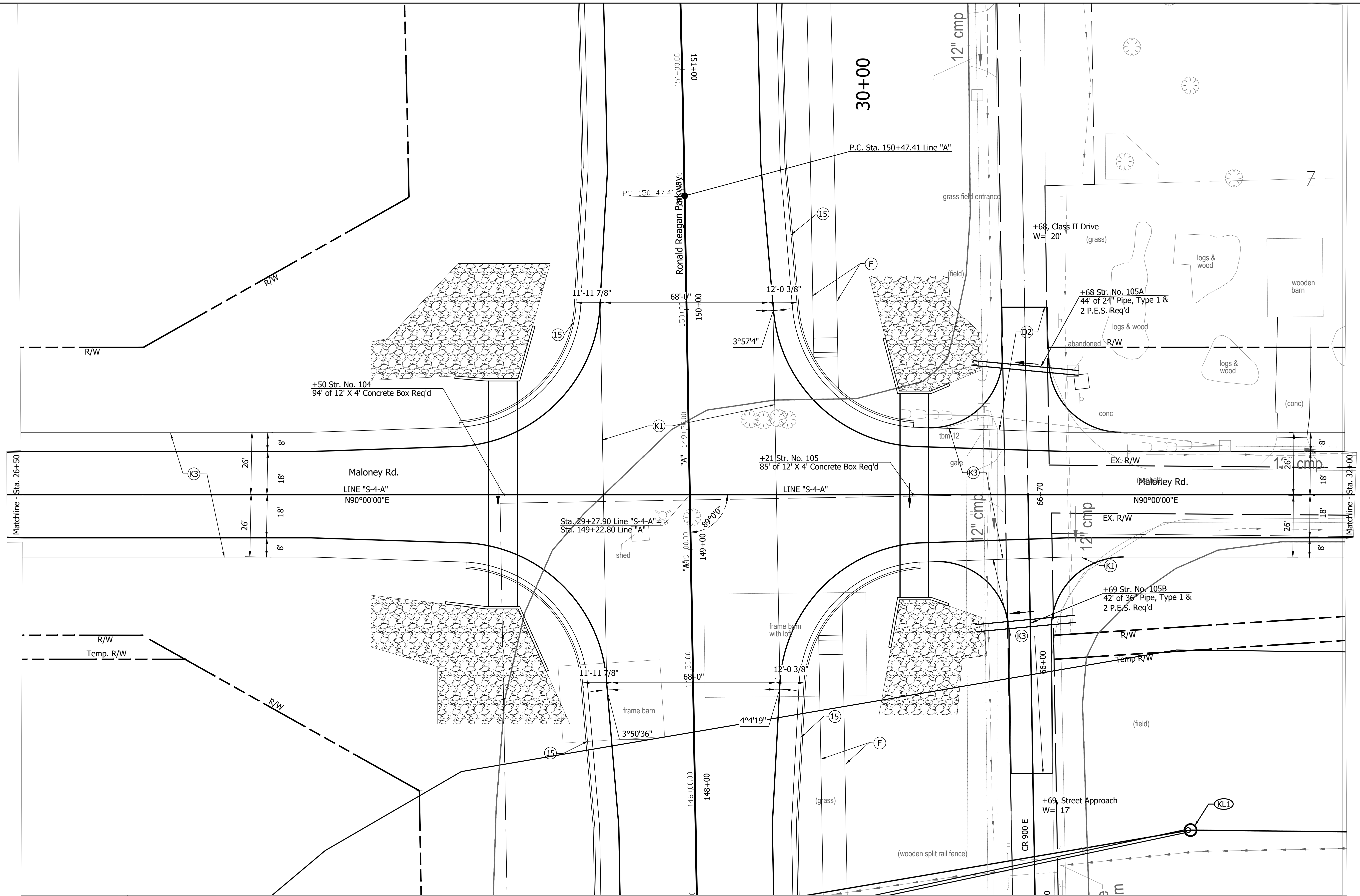
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: NPO      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

HENDRICKS COUNTY  
**CONSTRUCTION DETAILS - LINE "S-4-A"**  
STA. 21+00 TO 26+50

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| 1" = 20'         | ----        |
| VERTICAL SCALE   | DESIGNATION |
| N/A              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 52 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |

File Name: P:\RD\CD\17-405\Road\Draw\Plans\Comp-04-18-18.dwg Plc Date: 1/20/2020 Plotted By: Vic Dobson



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53 on  
Subgrade Treatment, Type IB
  - (D2) HMA for Approaches  
165 #/Sys HMA Surface, Type B on  
385 #/Sys HMA Intermediate, Type B on  
Subgrade Treatment, Type II
  - (15) Curb and Gutter, Concrete, Modified  
(18) Center Curb, D, Concrete  
(26) Sodding, Nursery

**UNITED**  
Consulting

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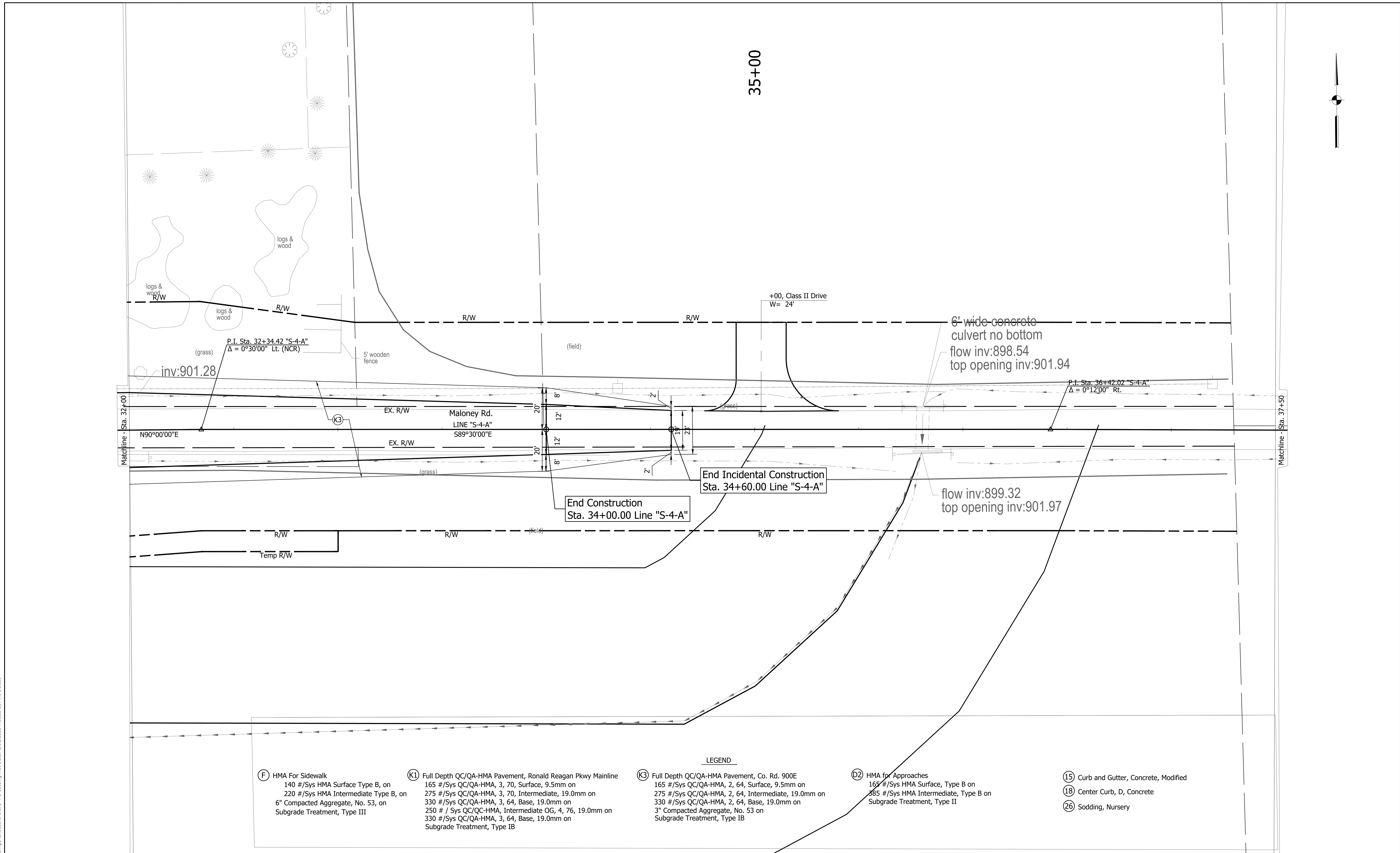
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| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: BEA                  | DRAWN: NPO   |                                  |  |
| CHECKED: JAR                   | CHECKED: JAR |                                  |  |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-4-A"**  
STA. 26+50 TO 32+00

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>53 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

File Name: P:\RD\CDD\17-405\Road\Draw\Plans\Comp-DET 5-4-B.dwg Plct Date: 1/20/2020 Plotted By: Vic Dobson



- LEGEND**
- (F) HMA For Sidewalk  
140 #/Sys HMA Surface Type B, on  
220 #/Sys HMA Intermediate Type B, on  
6" Compacted Aggregate, No. 53, on  
Subgrade Treatment, Type III
  - (K1) Full Depth QC/QA-HMA Pavement, Ronald Reagan Pkwy Mainline  
165 #/Sys QC/QA-HMA, 3, 70, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 3, 70, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
250 # / Sys QC/QC-HMA, Intermediate OG, 4, 76, 19.0mm on  
330 #/Sys QC/QA-HMA, 3, 64, Base, 19.0mm on  
Subgrade Treatment, Type IB
  - (K3) Full Depth QC/QA-HMA Pavement, Co. Rd. 900E  
165 #/Sys QC/QA-HMA, 2, 64, Surface, 9.5mm on  
275 #/Sys QC/QA-HMA, 2, 64, Intermediate, 19.0mm on  
330 #/Sys QC/QA-HMA, 2, 64, Base, 19.0mm on  
3" Compacted Aggregate, No. 53 on  
Subgrade Treatment, Type IB
  - (D2) HMA for Approaches  
165 #/Sys HMA Surface, Type B on  
385 #/Sys HMA Intermediate, Type B on  
Subgrade Treatment, Type II
  - (15) Curb and Gutter, Concrete, Modified
  - (18) Center Curb, D, Concrete
  - (26) Sodding, Nursery



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|                                |  |                       |  |            |  |
|--------------------------------|--|-----------------------|--|------------|--|
| RECOMMENDED FOR APPROVAL _____ |  | DESIGN ENGINEER _____ |  | DATE _____ |  |
| DESIGNED: BEA                  |  | DRAWN: NPO            |  |            |  |
| CHECKED: JAR                   |  | CHECKED: JAR          |  |            |  |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-4-A"**  
STA. 32+00 TO 37+50

|                              |  |                        |  |
|------------------------------|--|------------------------|--|
| HORIZONTAL SCALE<br>1" = 20' |  | BRIDGE FILE<br>----    |  |
| VERTICAL SCALE<br>N/A        |  | DESIGNATION<br>1602280 |  |
| SURVEY BOOK<br>---           |  | SHEETS<br>54 of 211    |  |
| CONTRACT<br>---              |  | PROJECT<br>1602280     |  |



50+00

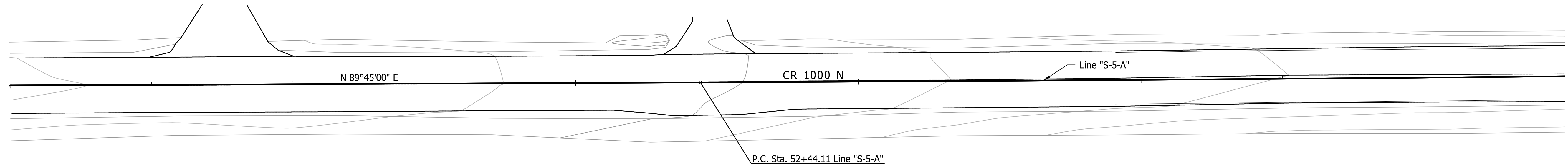
51+00

52+00

53+00

54+00

55+00



**CURVE DATA**  
 P.I. Sta 61+47.39 Line "S-5-A"  
 Delta = 1°48'00" XX  
 R = 57500.00'  
 T = 903.28'  
 L = 1806.42'  
 E = 7.09'  
 SE = X.XX%

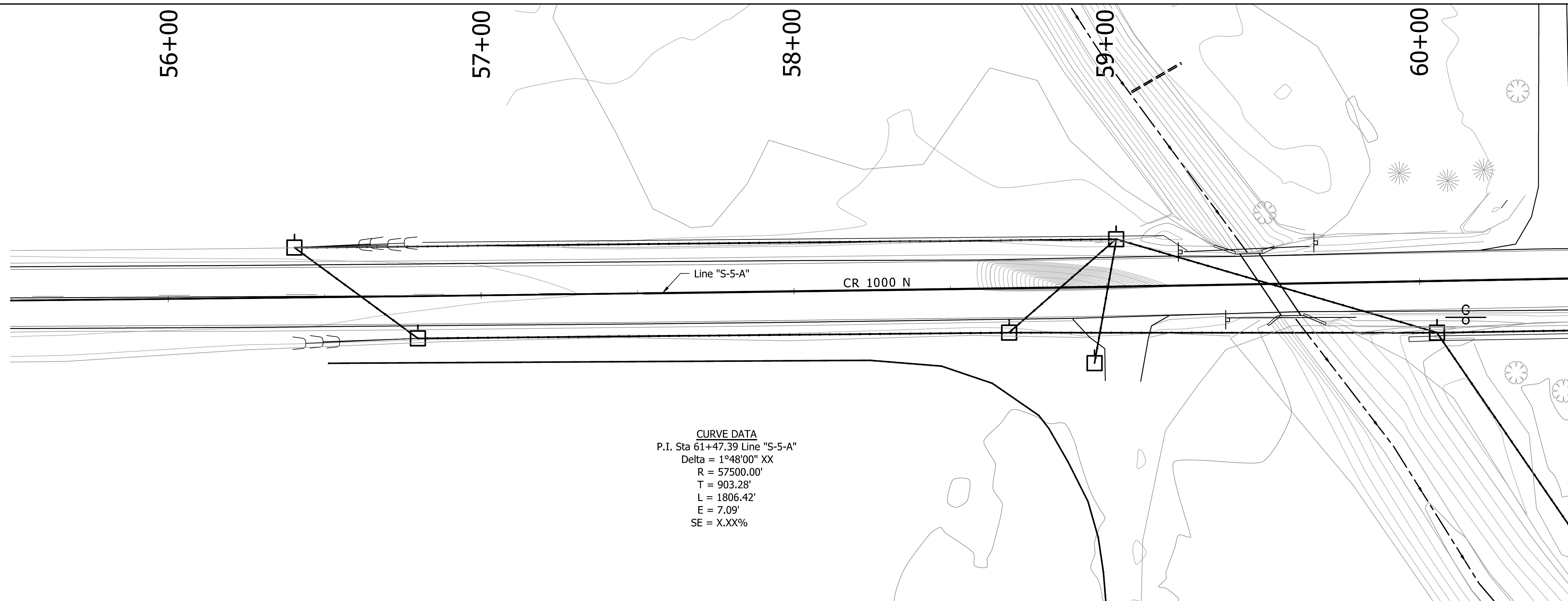
56+00

57+00

58+00

59+00

60+00



**CURVE DATA**  
 P.I. Sta 61+47.39 Line "S-5-A"  
 Delta = 1°48'00" XX  
 R = 57500.00'  
 T = 903.28'  
 L = 1806.42'  
 E = 7.09'  
 SE = X.XX%

File Name: S:\\_2017\17-0005\16\Work\CAD\1602280\Constr\Det\_Line S-5-A.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Kasper

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: JDH      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

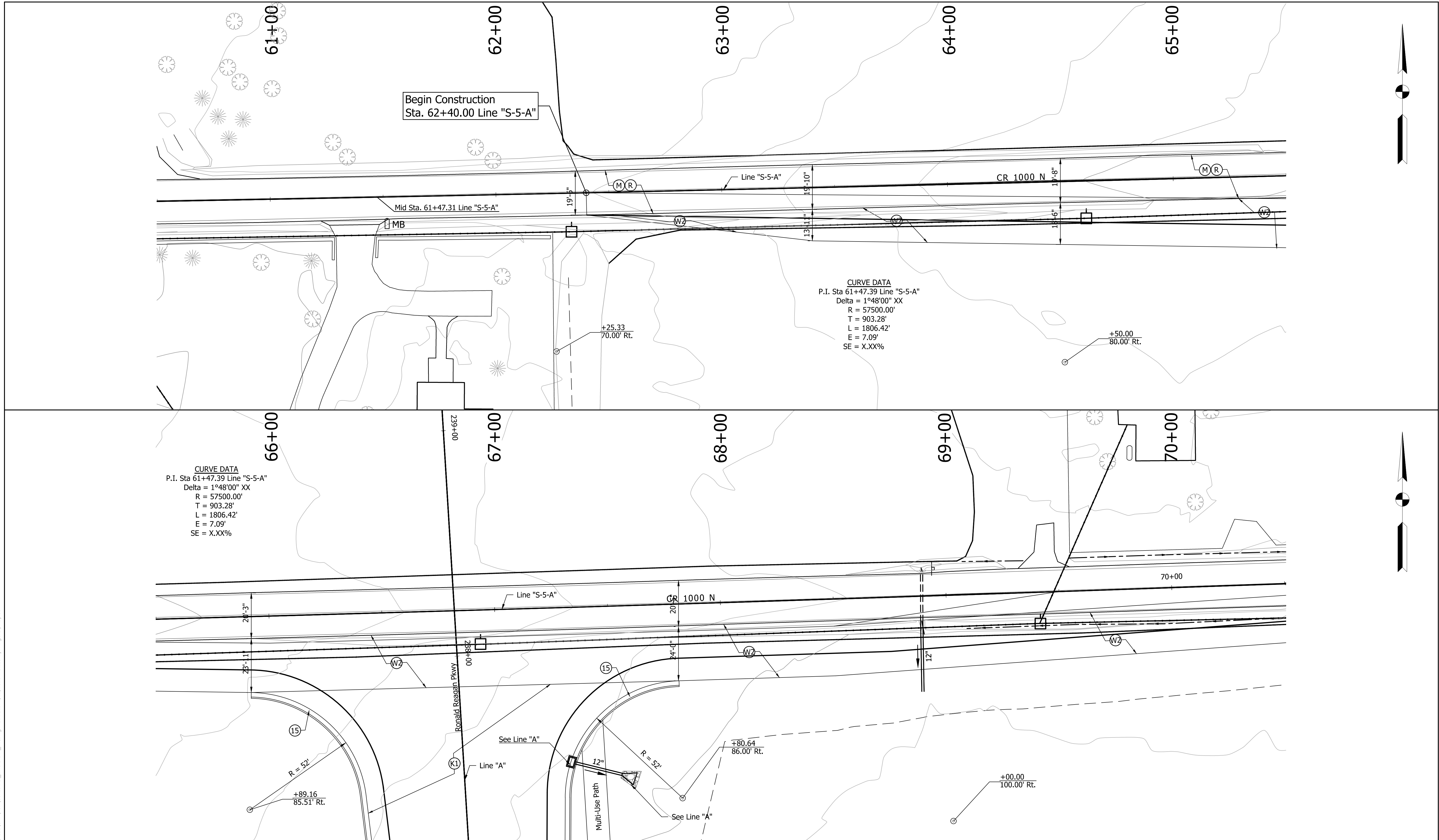
HENDRICKS COUNTY

**CONSTRUCTION DETAILS - LINE "S-5-A"**

STA 50+00 TO STA 60+50

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1"=20'           | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 28 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\114\Road\CAD\1849\Constr\Det\_Line S-5-A\_1B.dwg Plot Date: 1/29/2020 Plotted By: Angerer, Kasperle



- (W2) Widening with HMA, Type C to be:  
165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA-HMA Intermediate, 3, 70, 19.0mm on  
330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on  
330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on  
Subgrade Treatment, Type 1B
- (M) Milling, Asphalt, 1.5"
- (R) 165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm

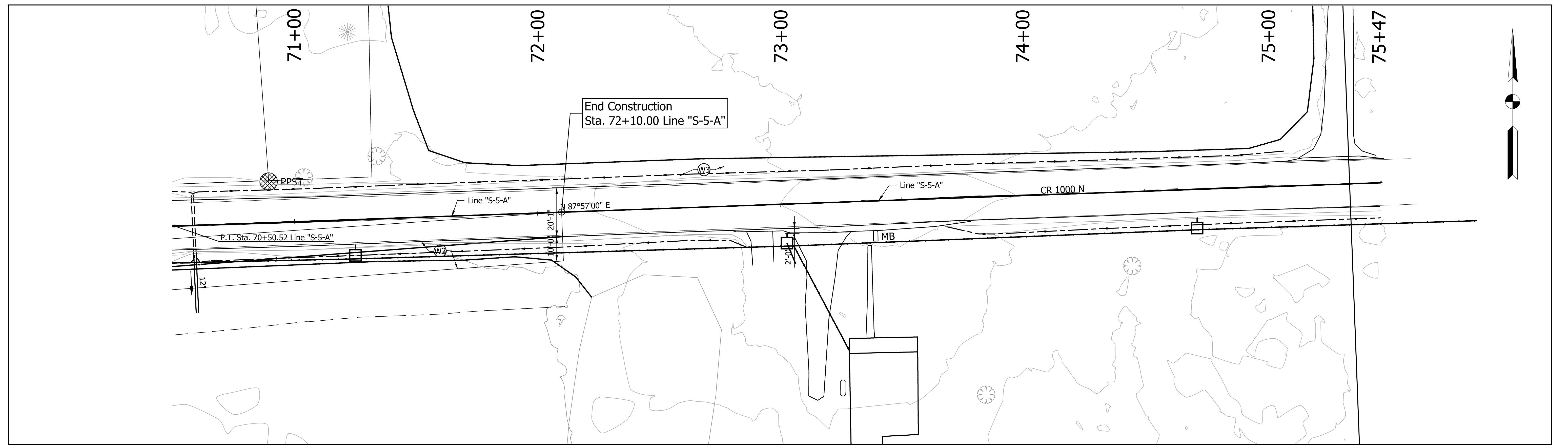
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Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

|                                |                                  |
|--------------------------------|----------------------------------|
| RECOMMENDED FOR APPROVAL _____ | DESIGN ENGINEER _____ DATE _____ |
| DESIGNED: JNH                  | DRAWN: JDH                       |
| CHECKED: BKA                   | CHECKED: BKA                     |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-5-A"**  
**STA 60+50 TO STA 70+50**

|                            |                                  |
|----------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1"=20' | BRIDGE FILE<br>HENDRICKS BR00090 |
| VERTICAL SCALE<br>N/A      | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC  | SHEETS<br>29 of 119              |
| CONTRACT<br>###            | PROJECT<br>1602280               |



File Name: S:\\_2017\17-0005\18\01\Drawings\CAD\Drawings\1801\1801-01-01.dwg Plot Date: 1/29/2020 Plotted By: Angeneer, Kasper

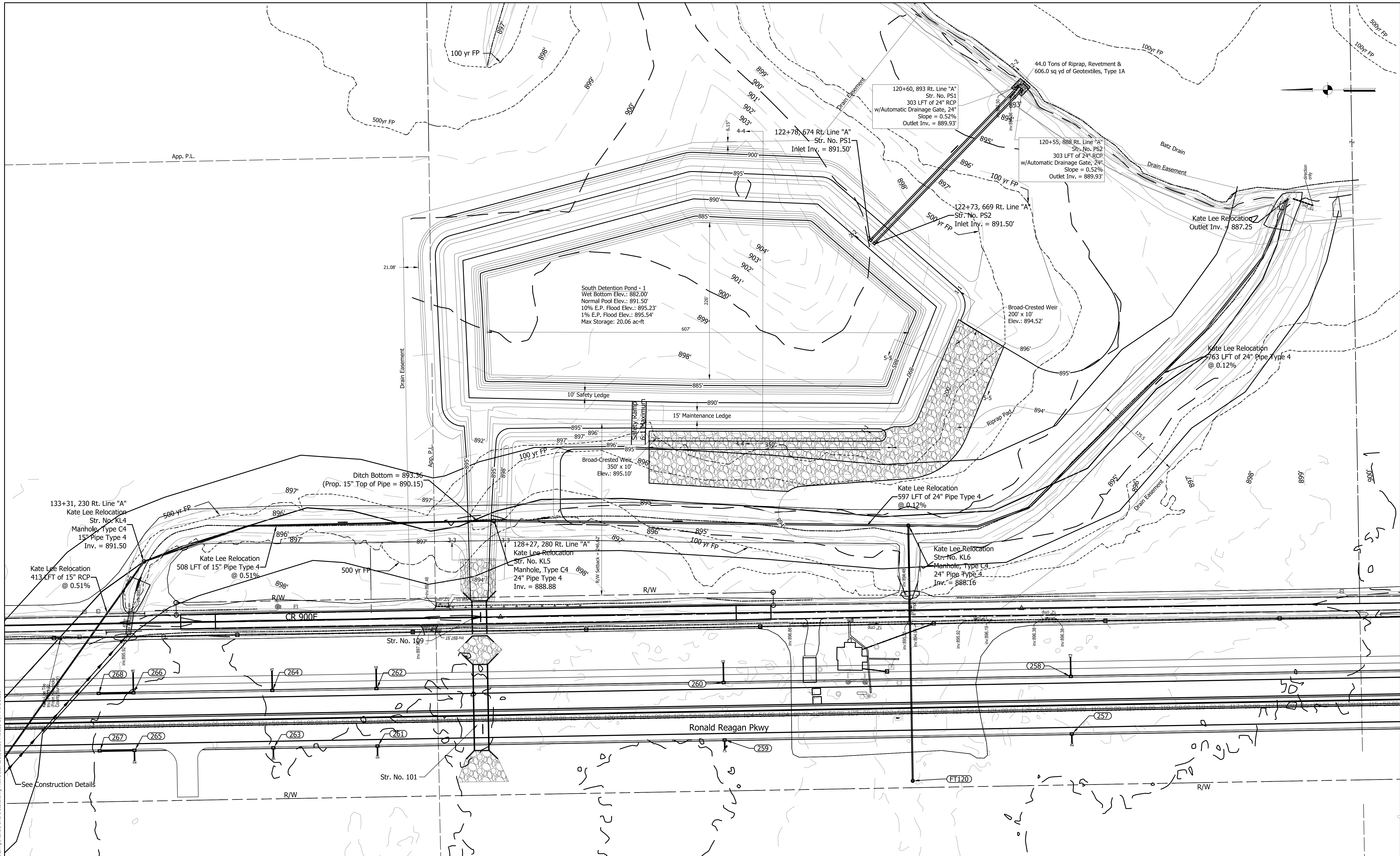
- (W2) Widening with HMA, Type C to be:
  - 165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm on
  - 275 LB/SYS QC/QA-HMA Intermediate, 3, 70, 19.0mm on
  - 330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on
  - 330 LB/SYS QC/QA-HMA Base, 3, 64, 19.0mm on
  - Subgrade Treatment, Type 1B
- (M) Milling, Asphalt, 1.5"
- (R) 165 LB/SYS QC/QA-HMA Surface, 3, 70, 9.5mm



|                                |  |                 |  |      |  |
|--------------------------------|--|-----------------|--|------|--|
| RECOMMENDED FOR APPROVAL _____ |  | DESIGN ENGINEER |  | DATE |  |
| DESIGNED: JNH                  |  | DRAWN: JDH      |  |      |  |
| CHECKED: BKA                   |  | CHECKED: BKA    |  |      |  |

|                                     |  |
|-------------------------------------|--|
| HENDRICKS COUNTY                    |  |
| CONSTRUCTION DETAILS - LINE "S-5-A" |  |
| STA 70+50 TO STA 75+47              |  |

|                  |  |                   |        |
|------------------|--|-------------------|--------|
| HORIZONTAL SCALE |  | BRIDGE FILE       |        |
| 1"=20'           |  | HENDRICKS BR00090 |        |
| VERTICAL SCALE   |  | DESIGNATION       |        |
| N/A              |  | 1602280           |        |
| SURVEY BOOK      |  | SHEETS            |        |
| ELECTRONIC       |  | 30                | of 119 |
| CONTRACT         |  | PROJECT           |        |
| ###              |  | 1602280           |        |



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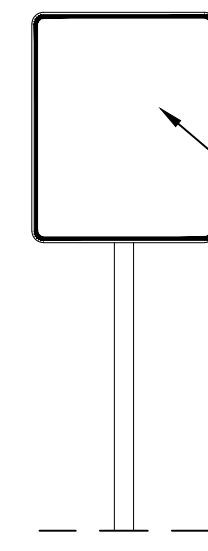
8440 Allison Pointe Boulevard, Suite 200  
Indianapolis, IN 46250  
Phone 317-895-2585  
www.ucindy.com

|                          |              |      |
|--------------------------|--------------|------|
| RECOMMENDED FOR APPROVAL |              |      |
| DESIGNED: ESH            | DRAWN: ESH   | DATE |
| CHECKED: JAR             | CHECKED: JAR |      |

HENDRICKS COUNTY

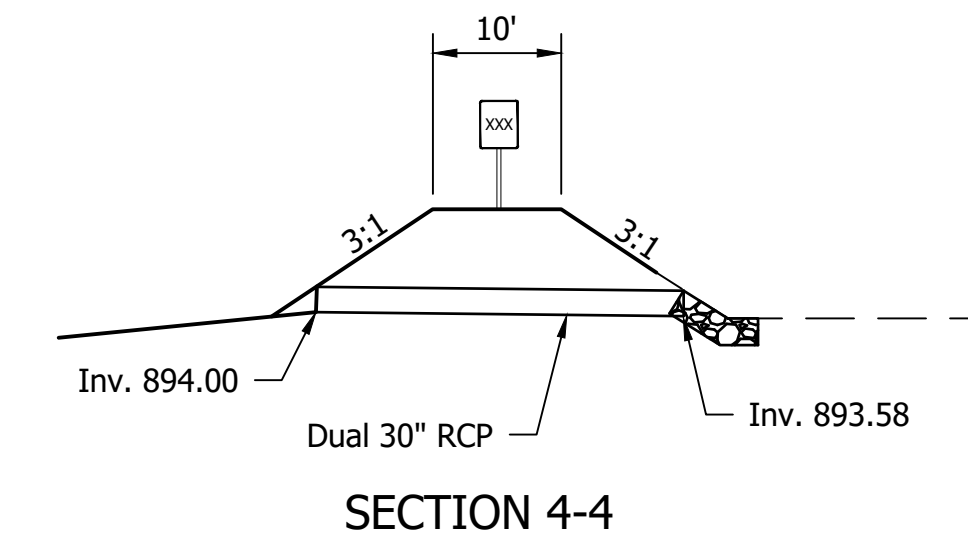
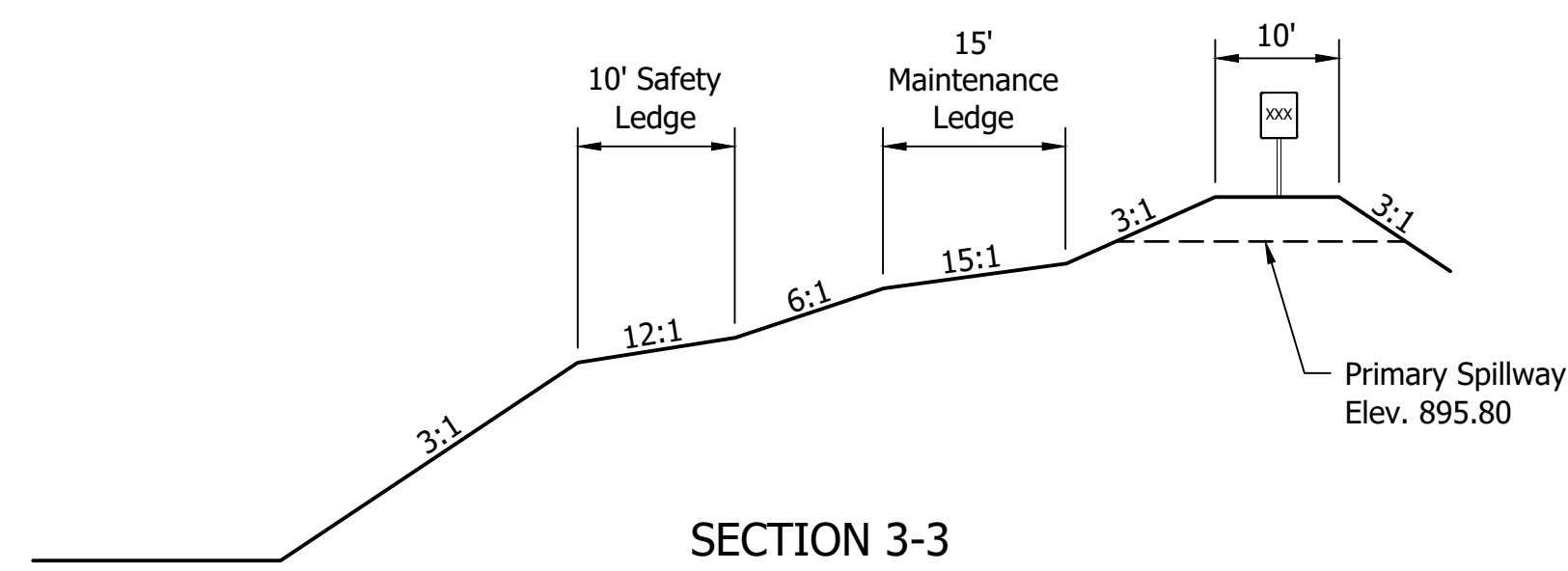
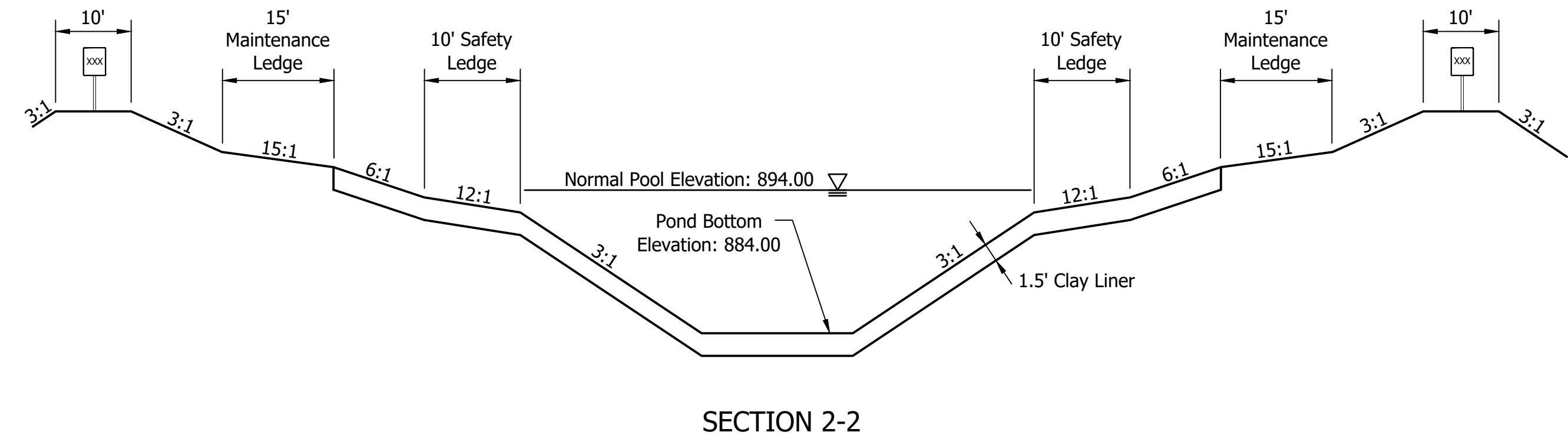
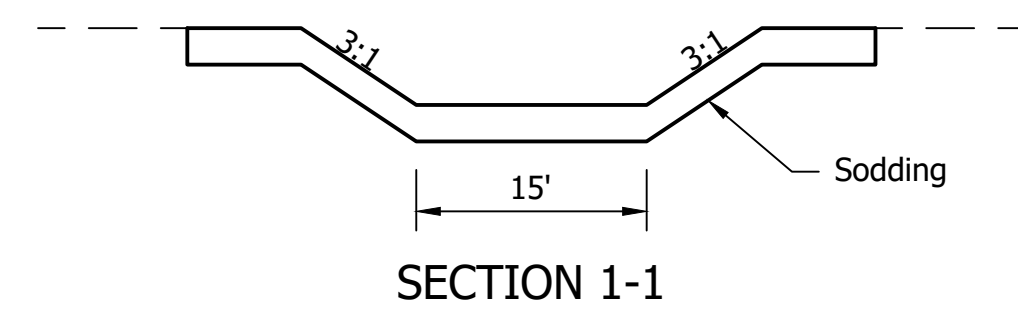
DETENTION POND SOUTH - 1

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| 1" = 60'         | ----        |
| VERTICAL SCALE   | DESIGNATION |
| N/A              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 62 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |



Note: The Wording to be Determined in Consultation with Hendricks County

WARNING SIGN DETAIL



File Name: P:\RD\CD\17-405\Road\Draw\Plans\Pond Sections.dwg Plot Date: 1/30/2020 Plotted By: VIC, Dallas



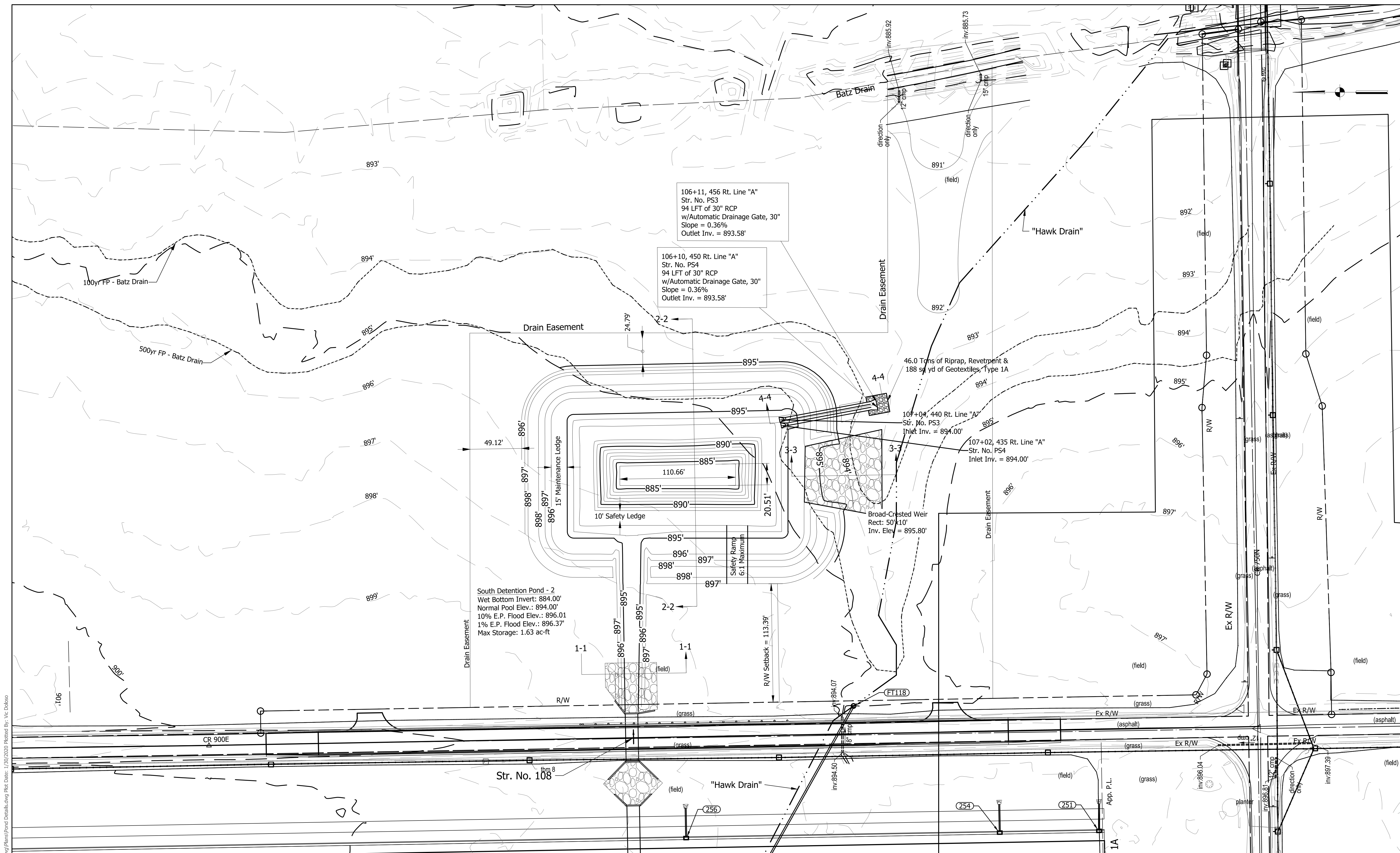
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Indianapolis, IN 46250  
Phone 317-895-2585  
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|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: _____                | DRAWN: _____ |
| CHECKED: JRA                   | CHECKED: JRA |

HENDRICKS COUNTY

POND DETAILS  
DETENTION POND S2

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| N/A              | ----        |
| VERTICAL SCALE   | DESIGNATION |
| N/A              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ----             | 63 of 211   |
| CONTRACT         | PROJECT     |
| ----             | 1602280     |



File Name: P:\RD\Road\Draw\Plans\Pond Details.dwg Plot Date: 1/29/2020 Plotted By: Vc Dobson



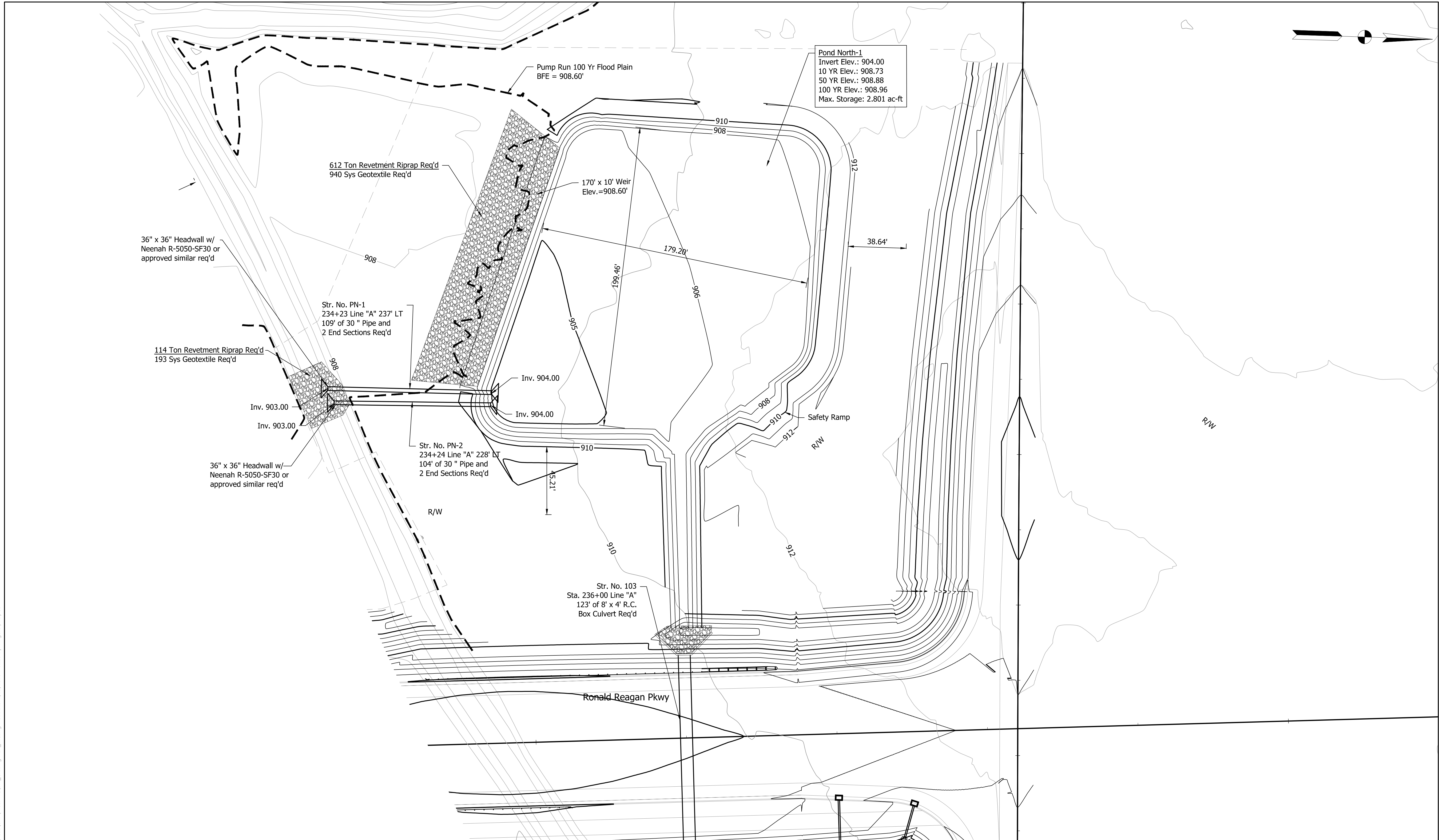
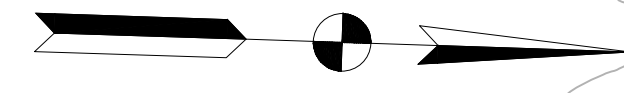
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|                          |              |                 |      |
|--------------------------|--------------|-----------------|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: ESH            | DRAWN: ESH   |                 |      |
| CHECKED: JAR             | CHECKED: JAR |                 |      |

HENDRICKS COUNTY

DETENTION POND SOUTH - 2

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 40' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>64 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |



Pond North-1  
 Invert Elev.: 904.00  
 10 YR Elev.: 908.73  
 50 YR Elev.: 908.88  
 100 YR Elev.: 908.96  
 Max. Storage: 2.801 ac-ft

612 Ton Revetment Riprap Req'd  
 940 Sys Geotextile Req'd

170' x 10' Weir  
 Elev. = 908.60'

36" x 36" Headwall w/  
 Neenah R-5050-SF30 or  
 approved similar req'd

Str. No. PN-1  
 234+23 Line "A" 237' LT  
 109' of 30" Pipe and  
 2 End Sections Req'd

114 Ton Revetment Riprap Req'd  
 193 Sys Geotextile Req'd

Inv. 903.00  
 Inv. 903.00

36" x 36" Headwall w/  
 Neenah R-5050-SF30 or  
 approved similar req'd

Str. No. PN-2  
 234+24 Line "A" 228' LT  
 104' of 30" Pipe and  
 2 End Sections Req'd

Inv. 904.00  
 Inv. 904.00

Str. No. 103  
 Sta. 236+00 Line "A"  
 123' of 8' x 4' R.C.  
 Box Culvert Req'd

Ronald Reagan Pkwy

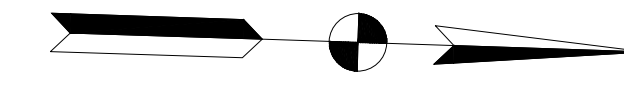
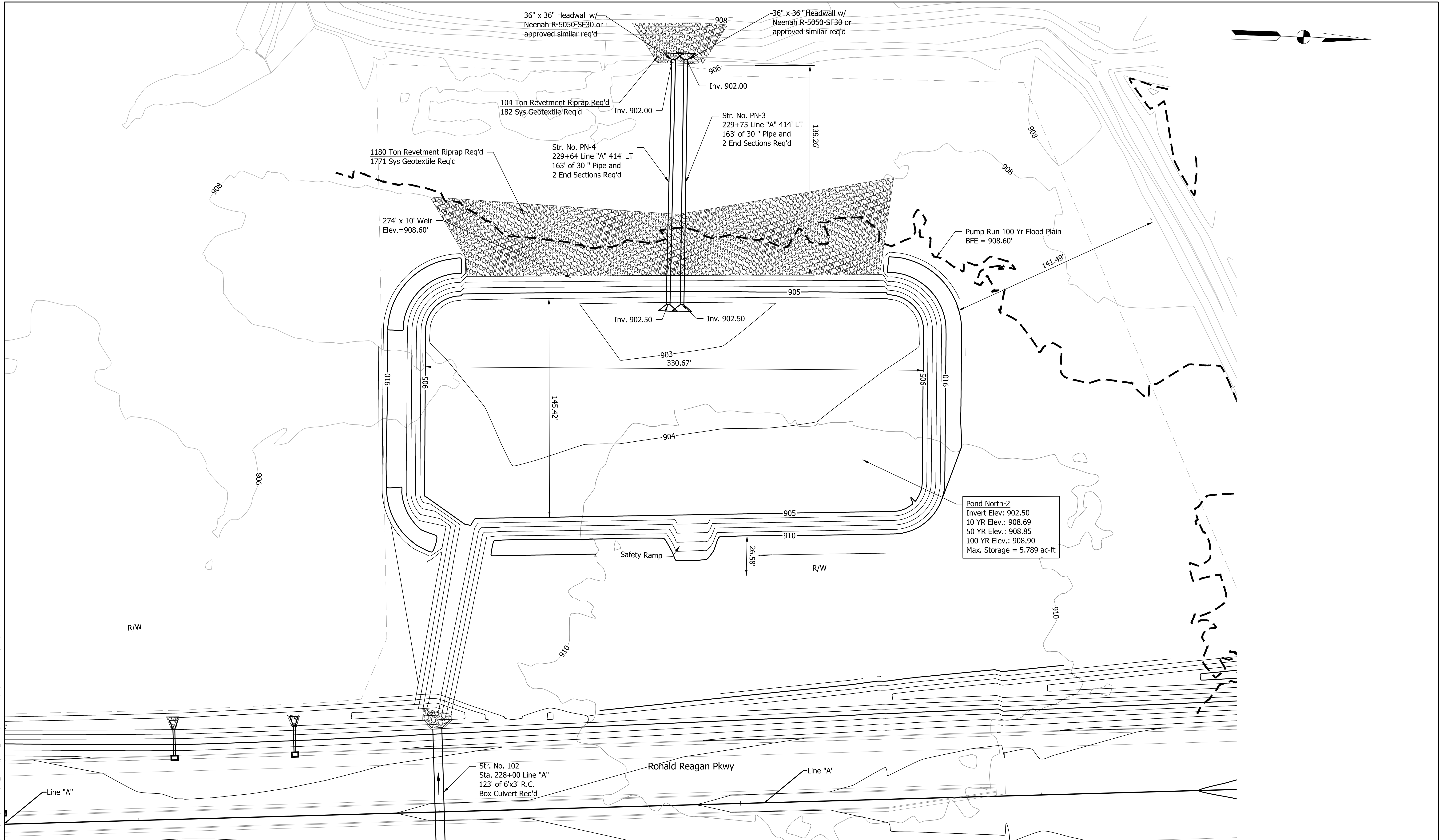
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 Indianapolis, Indiana, 46268  
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 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
 GRADING PLAN  
 DETENTION POND NORTH-1

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 30'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 33 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

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File Name: S:\\_2017\17-0005\16\16\Draw\CD\Grading\Plan\_18.dwg Plot Date: 1/29/2020 Plotted By: Angerer, Kaylee

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 TOLL FREE: 888.830.6977

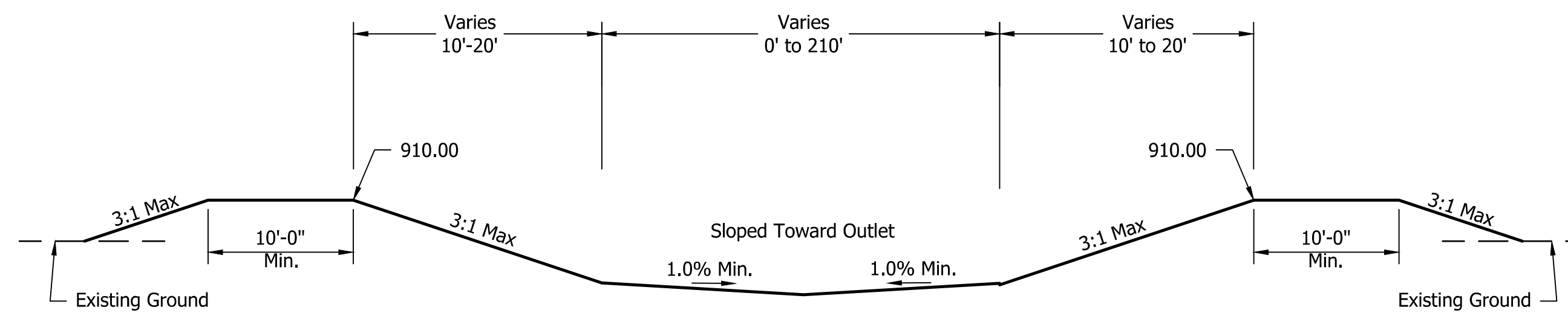
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| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

**HENDRICKS COUNTY**

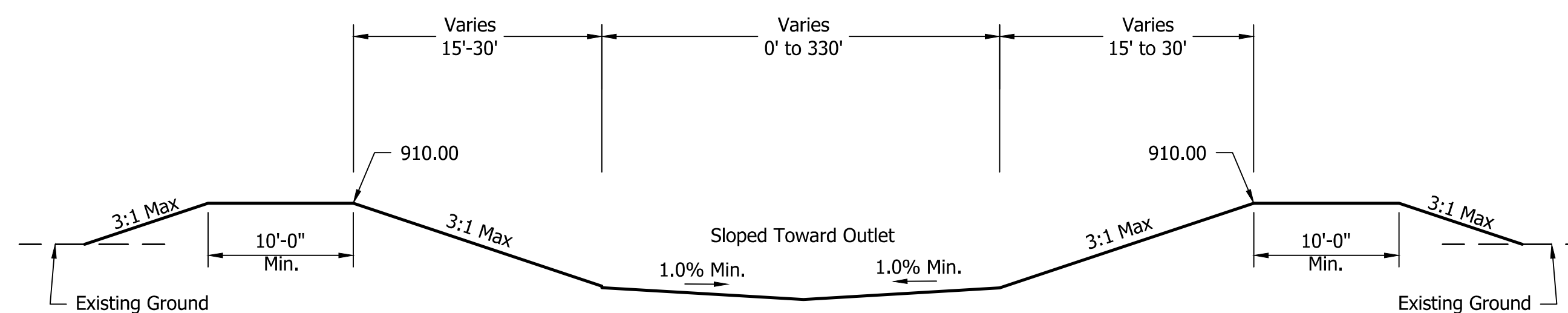
**GRADING PLAN**  
**DETENTION POND NORTH-2**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 30'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 34 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |





Pond - Typical Section  
Detention Pond North-1



Pond - Typical Section  
Detention Pond North-2

File Name: S:\\_2017\17-0005\16\0\Draw\CAD\Misc\DWG\SH\_Pond Typical.dwg Plot Date: 1/29/2020 Plotted By: Angier, Kaylee

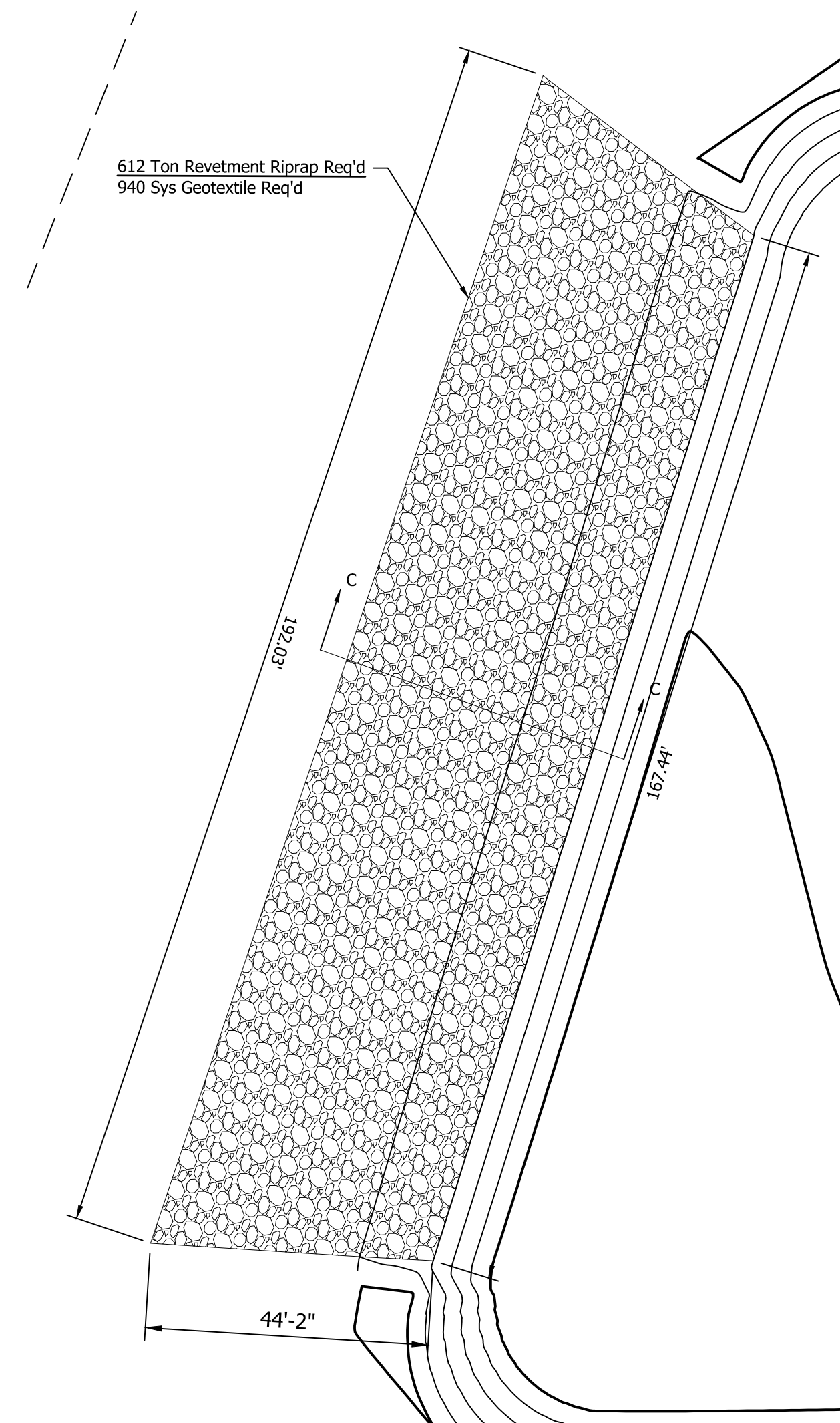


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| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV   |                 |      |
| CHECKED: BKA             | CHECKED: BKA |                 |      |

HENDRICKS COUNTY

TYPICAL SECTIONS  
DETENTION PONDS NORTH-1 AND NORTH-2

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1/8" = 1'-0"     | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1/8" = 1'-0"     | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 35 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

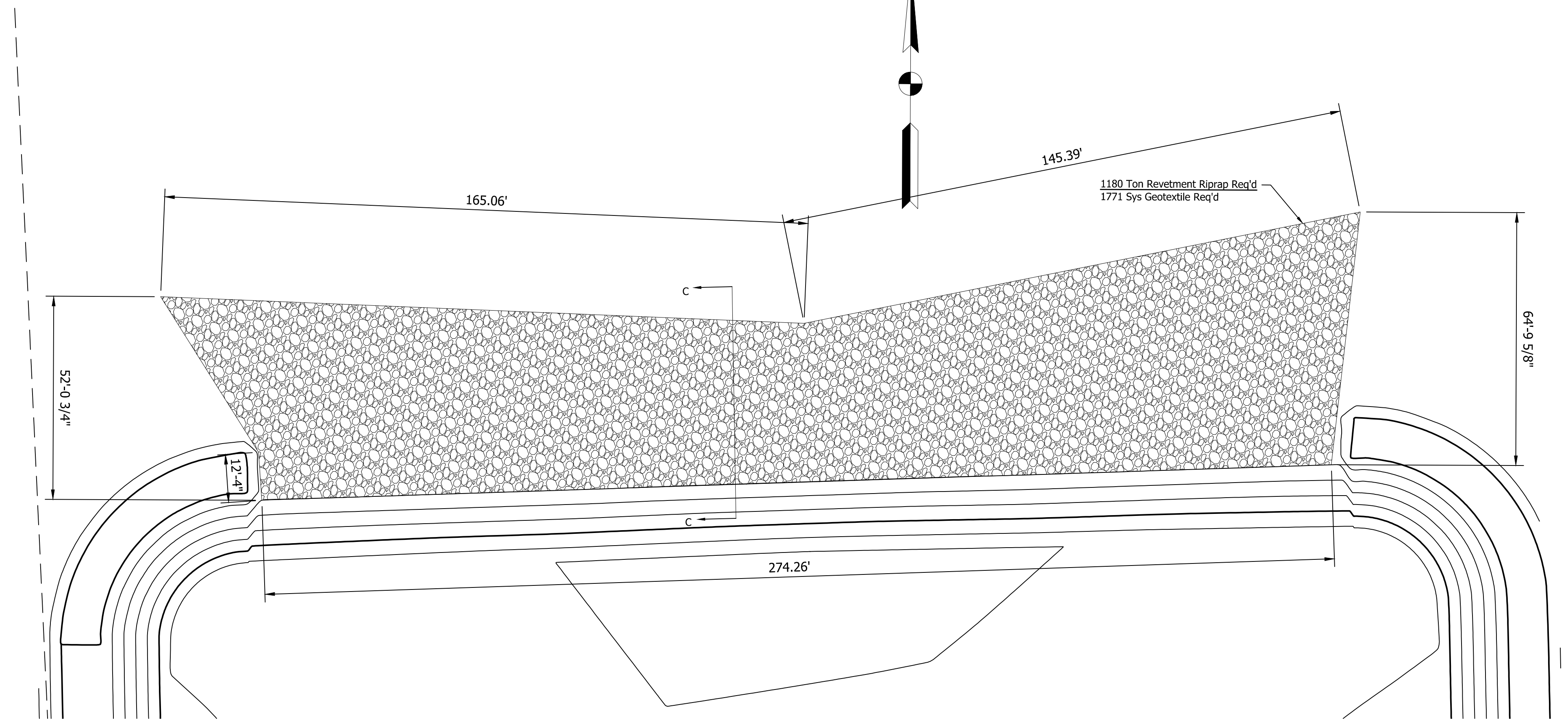


PLAN VIEW

Detention Pond North-1 Armored Spillway Detail

170 X 10' RECTANGULAR WEIR  
NOT TO SCALE

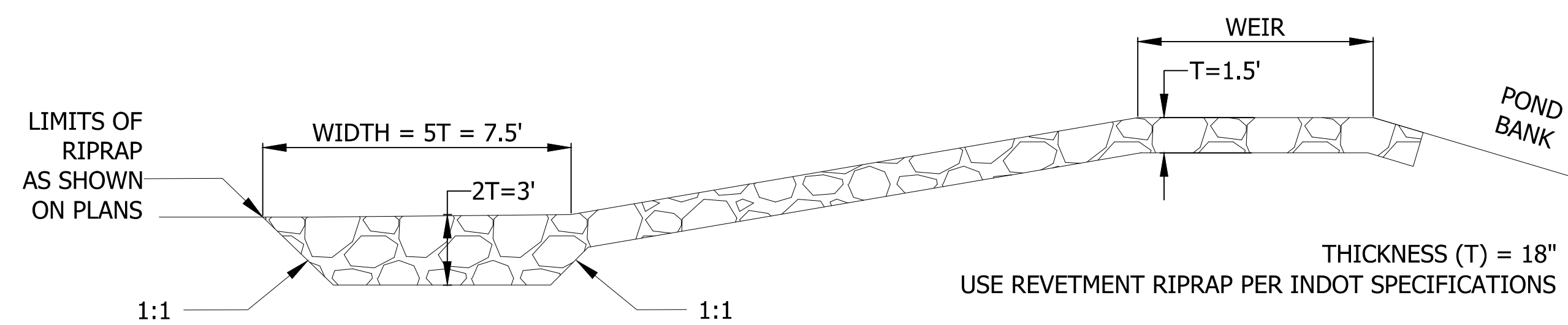
\*SEE SHEET 35 FOR CROSS SECTION DETAIL



PLAN VIEW

Detention Pond North-2 Armored Spillway Detail

6' X 10' PRIMARY RECTANGULAR WEIR  
280' X 10' SECONDARY WEIR  
NOT TO SCALE



Armored Spillway-Cross Section Detail

SECTION B-B AND SECTION C-C

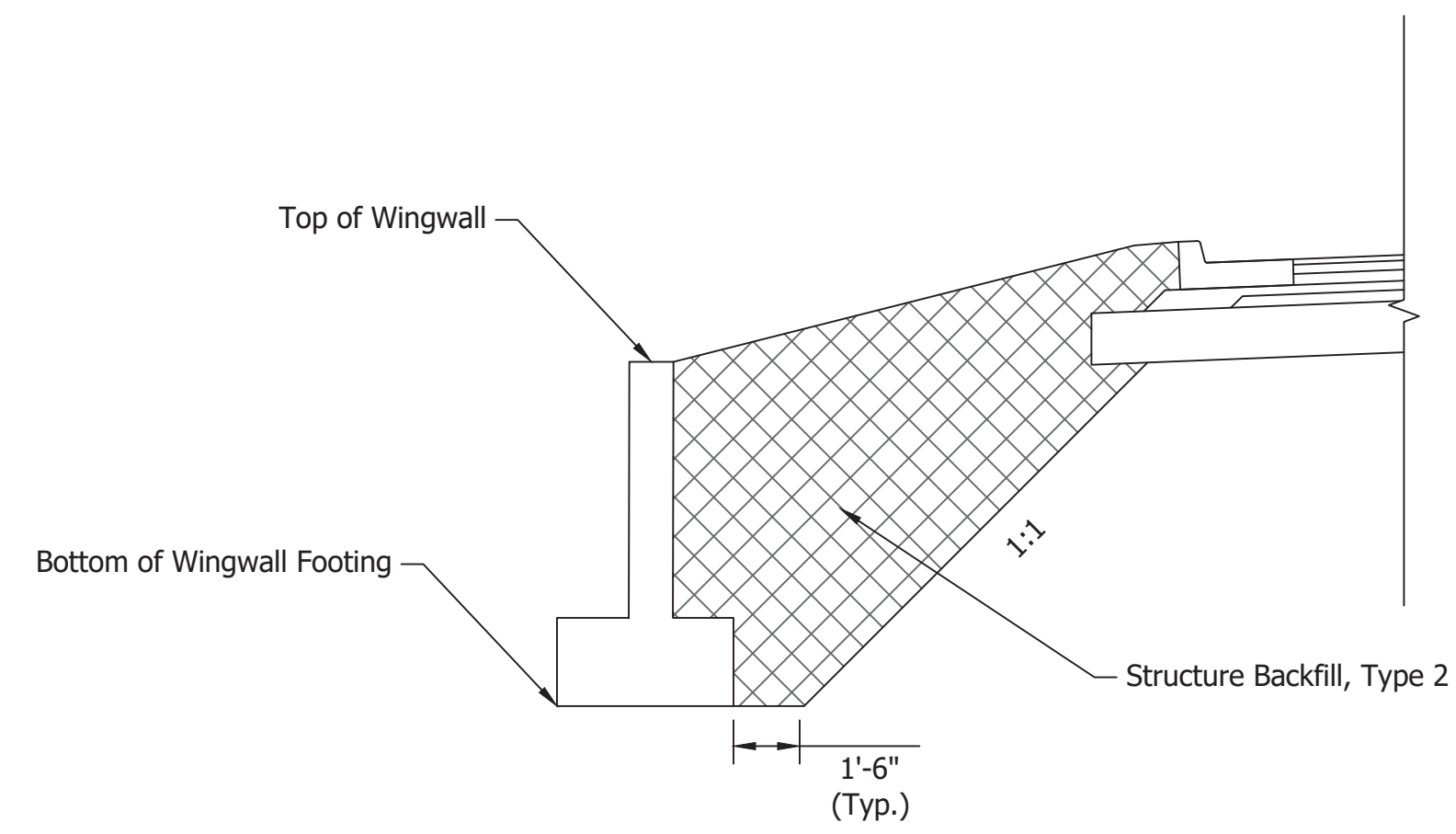
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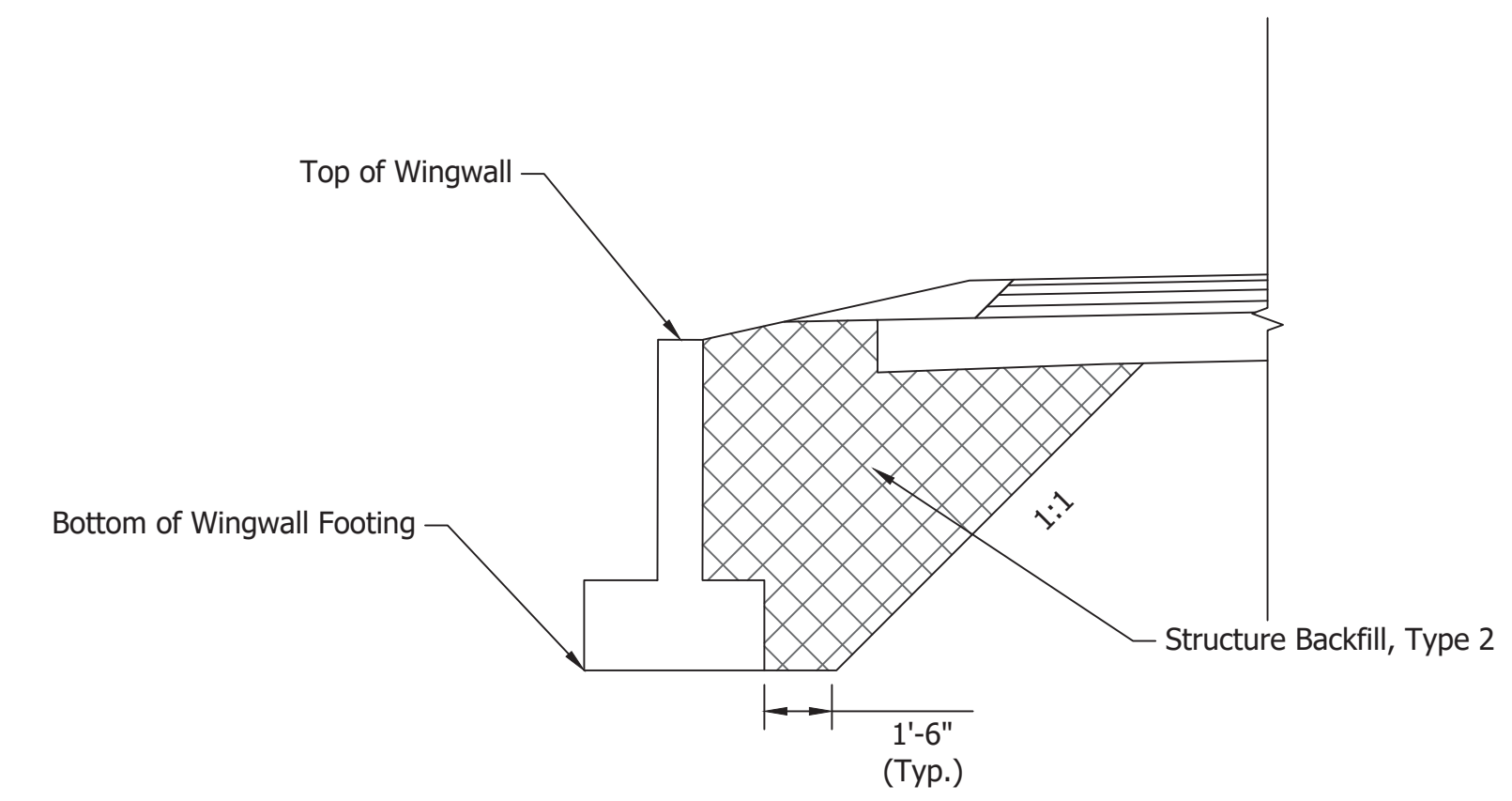
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| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV   |                 |      |
| CHECKED: BKA             | CHECKED: BKA |                 |      |

|                                |  |
|--------------------------------|--|
| HENDRICKS COUNTY               |  |
| STRUCTURE DETAILS              |  |
| DETENTION POND SPILLWAY DETAIL |  |

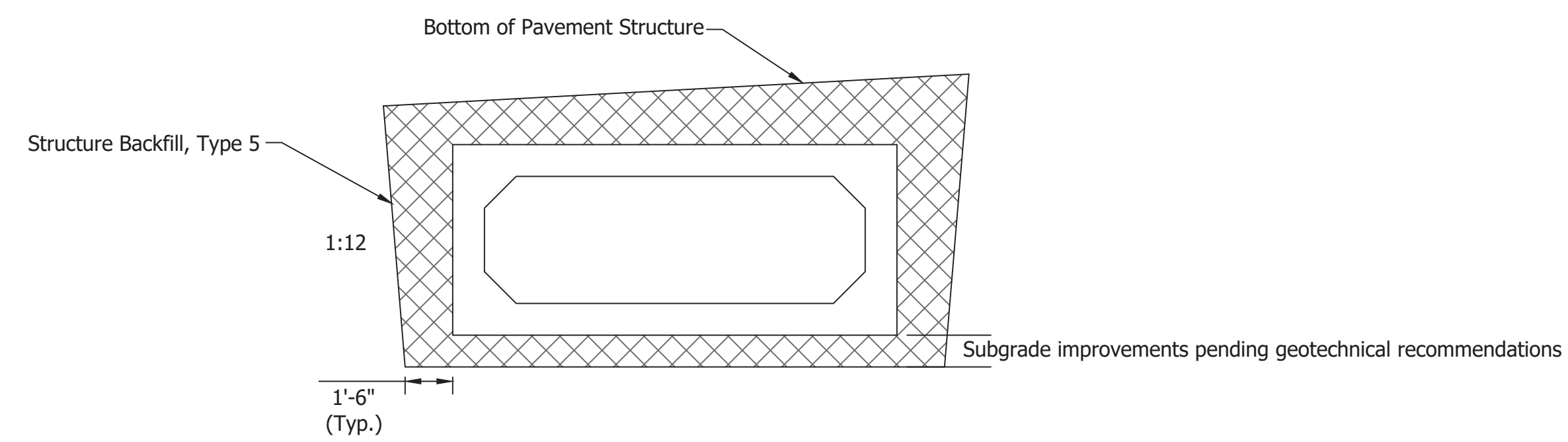
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|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 10'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 1'          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 36 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



**Curbed Roadway Wingwall Backfill Detail**  
NTS



**County Road 900 East Wingwall Backfill Detail**  
NTS



**Elevation View Wingwall Backfill Detail**  
NTS

| SOIL DATA  |                 |
|--|-----------------|
| Factored Bearing Resistance                            | ↑               |
| Angle of Internal Friction of Foundation Soil          | Pending         |
| Angle of Friction Between Footing & Foundation Soil    | Geotechnical    |
| Ultimate Cohesion of Foundation Soil                   | Recommendations |
| Ultimate Adhesion Between Foundation Soil and Concrete | ↓               |

**Design Data:**

- All reinforcement steel shall be epoxy coated.
- Wingwalls and wingwall foundations shall be designed for HL-93 loading in accordance with AASHTO LRFD Bridge Design Specifications.
- Dead load increased 35 psf for future wearing surface.

**Notes:**

- A three-sided, arch-topped or true-arch structure will not be permitted at these locations.

File Name: P:\CD\17-405\Road\Drawings\Plans\STR\_Details.dwg Plot Date: 3/14/2019 Plotted By: Eric Harms



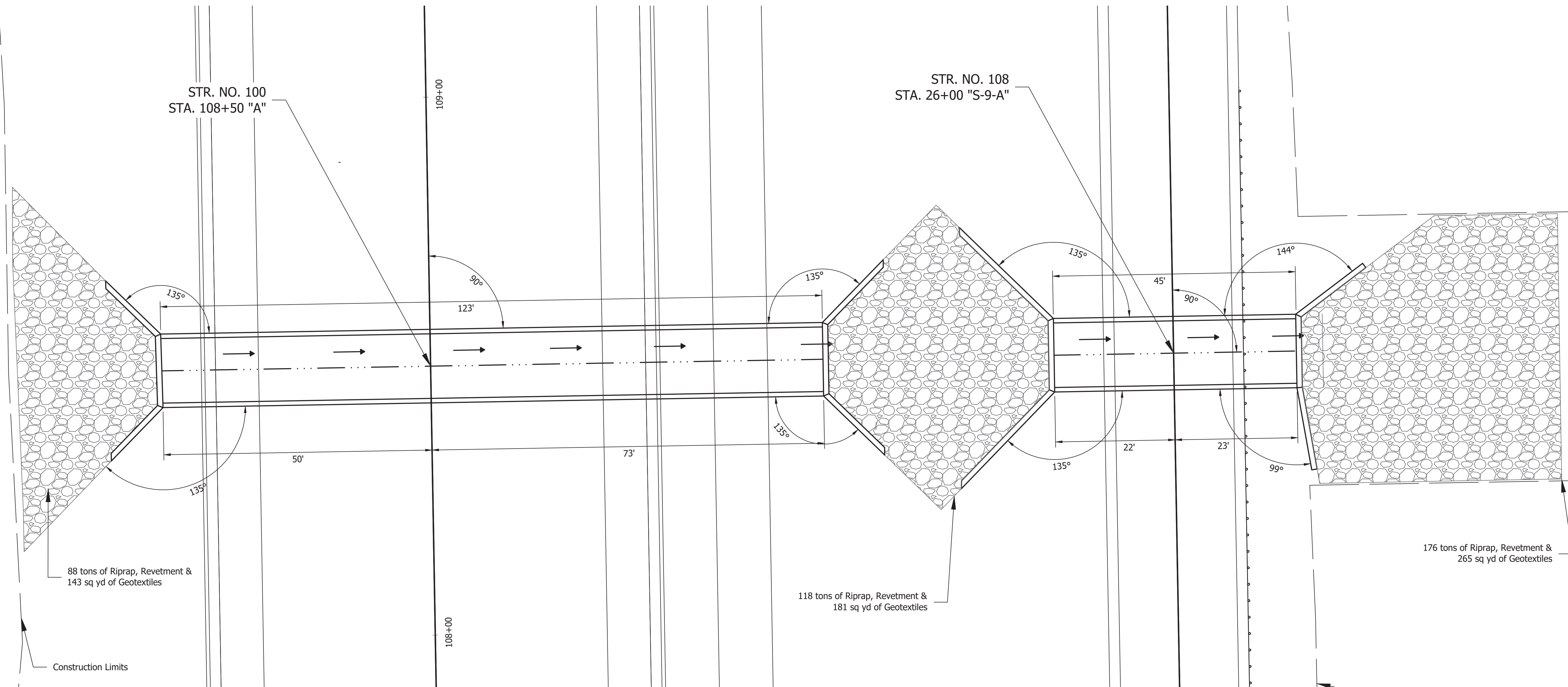
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|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: ESH                  | DRAWN: ESH   |
| CHECKED: JAR                   | CHECKED: JAR |

HENDRICKS COUNTY

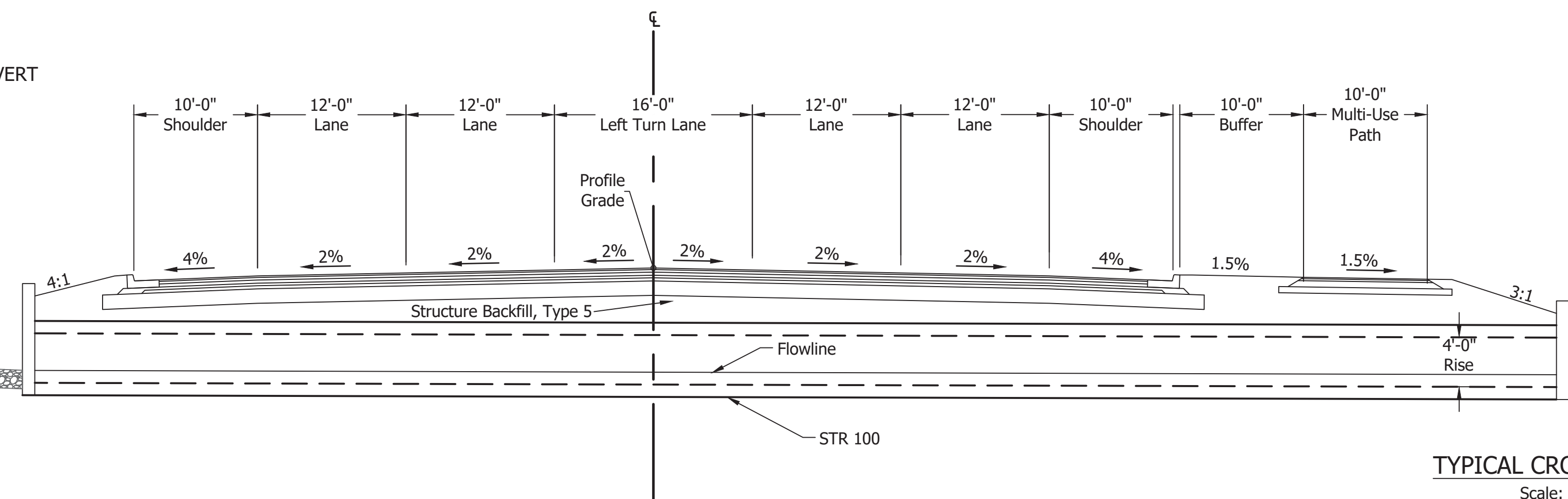
STRUCTURE DETAILS

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| ----             | ----        |
| VERTICAL SCALE   | DESIGNATION |
| ----             | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ----             | 69 of 211   |
| CONTRACT         | PROJECT     |
| ----             | 1602280     |



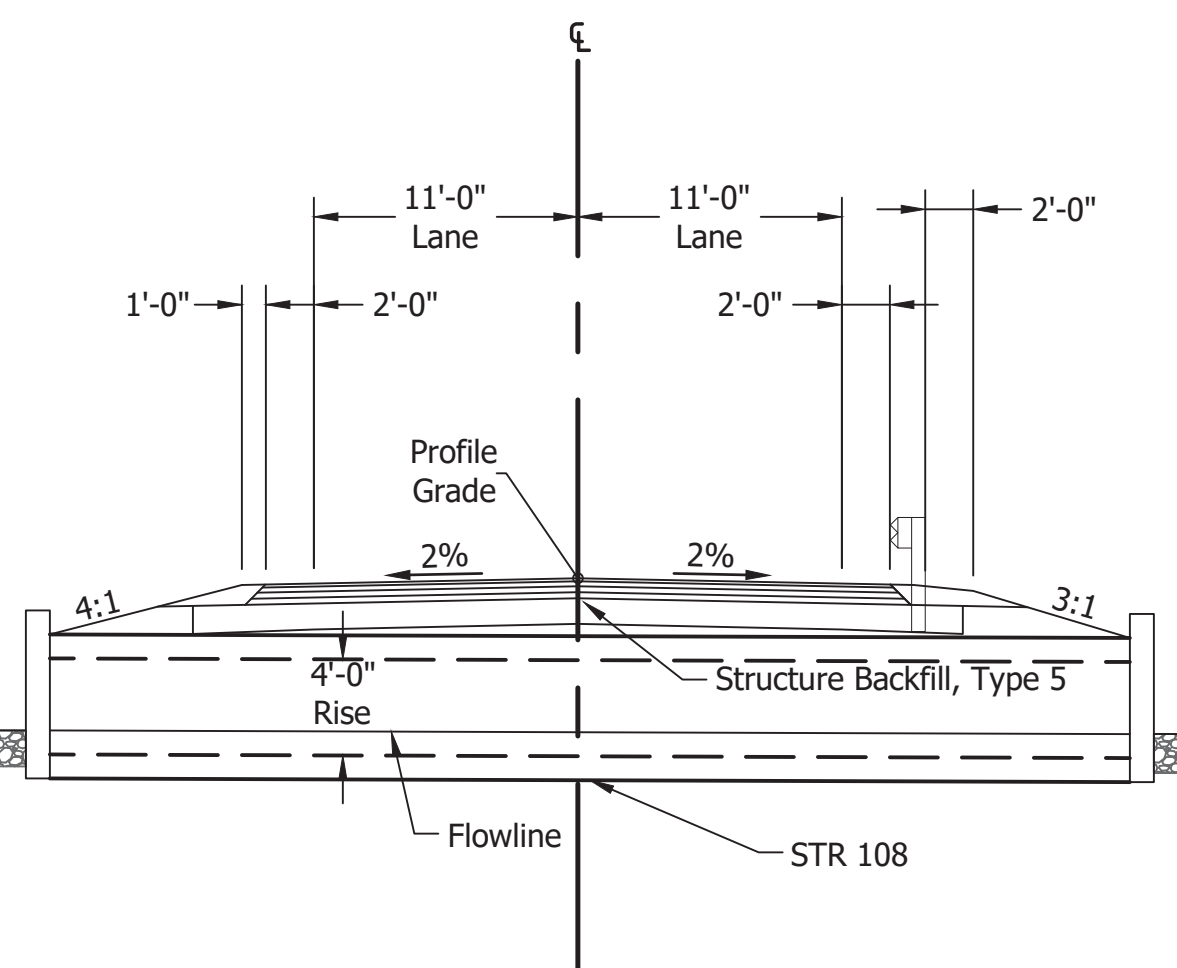
PLAN VIEW  
Scale: 1" = 10'

**STRUCTURE 100**  
RONALD REAGAN PARKWAY  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 84'-0"  
SKEW: 0°



TYPICAL CROSS SECTION  
Scale: 1" = 8'

**STRUCTURE 108**  
RONALD REAGAN PARKWAY  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 26'-0"  
SKEW: 0°



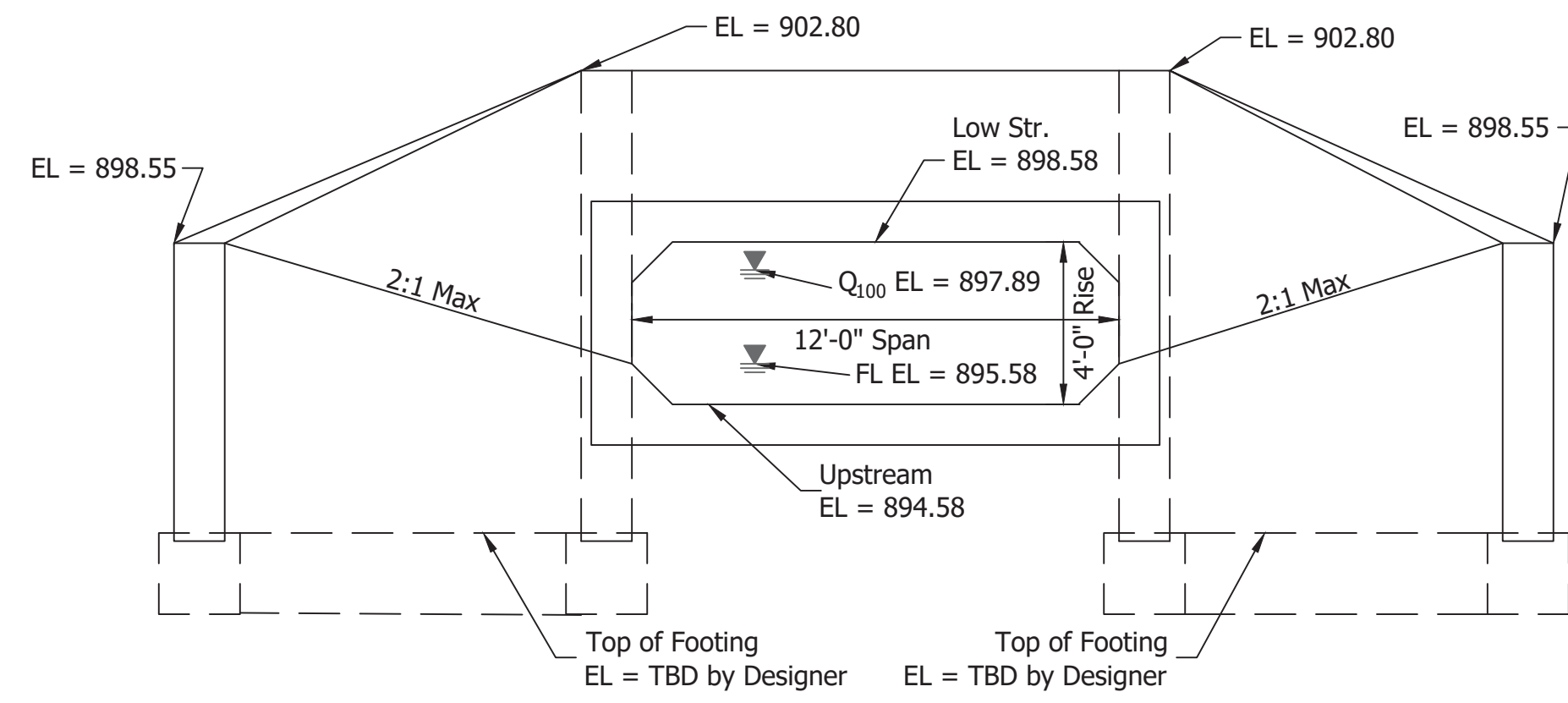
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|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: ESH            | DRAWN: ESH      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

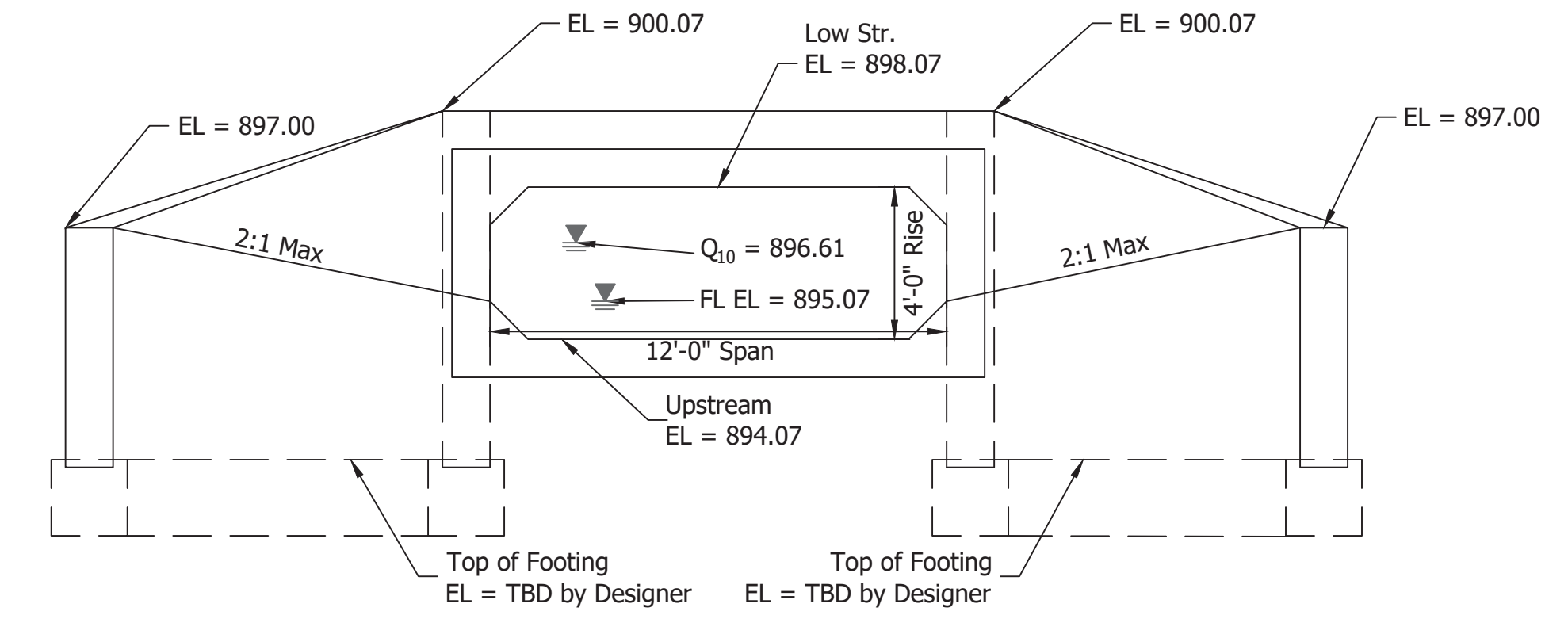
HENDRICKS COUNTY  
**STRUCTURE DETAILS**  
STR 100 and 108

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| VERTICAL SCALE   | DESIGNATION |
| SURVEY BOOK      | SHEETS      |
| CONTRACT         | PROJECT     |

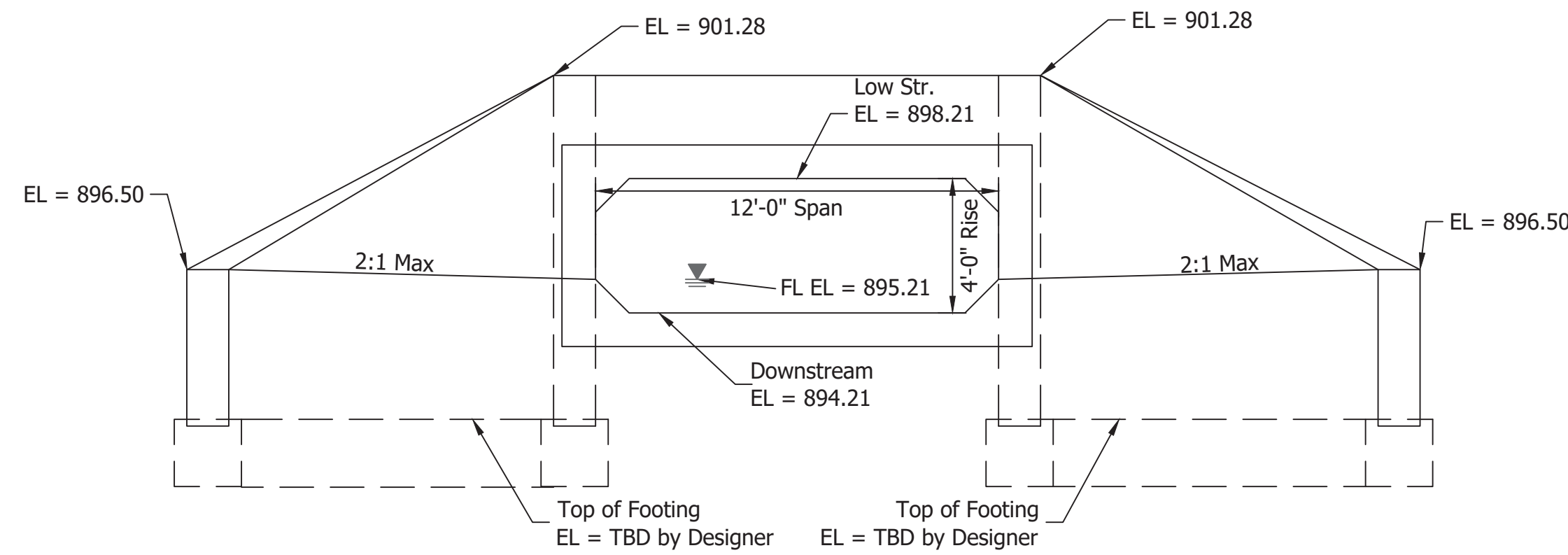
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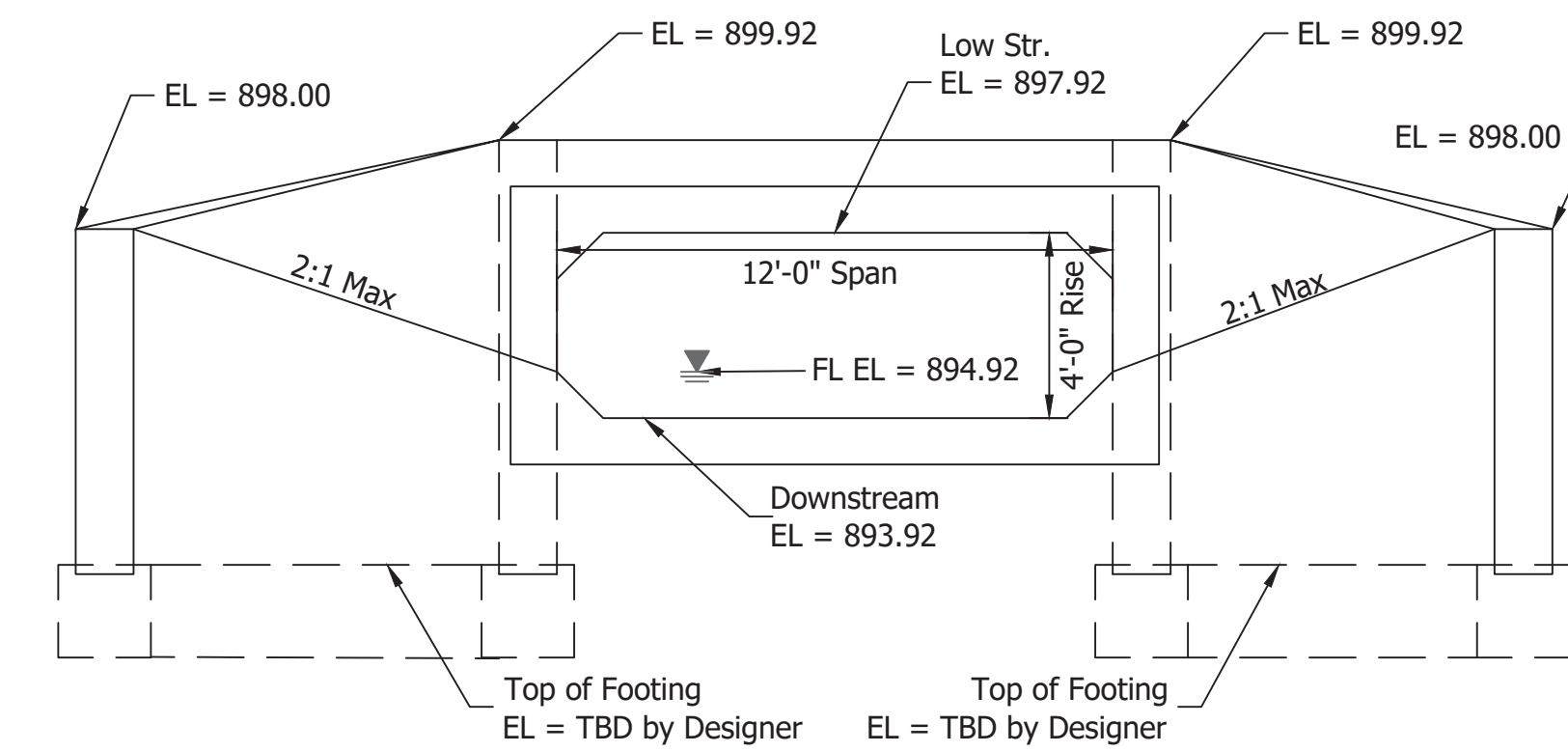
**STRUCTURE 100 UPSTREAM ELEVATION VIEW**  
Scale: 1" = 4'



**STRUCTURE 108 UPSTREAM ELEVATION VIEW**  
Scale: 1" = 4'



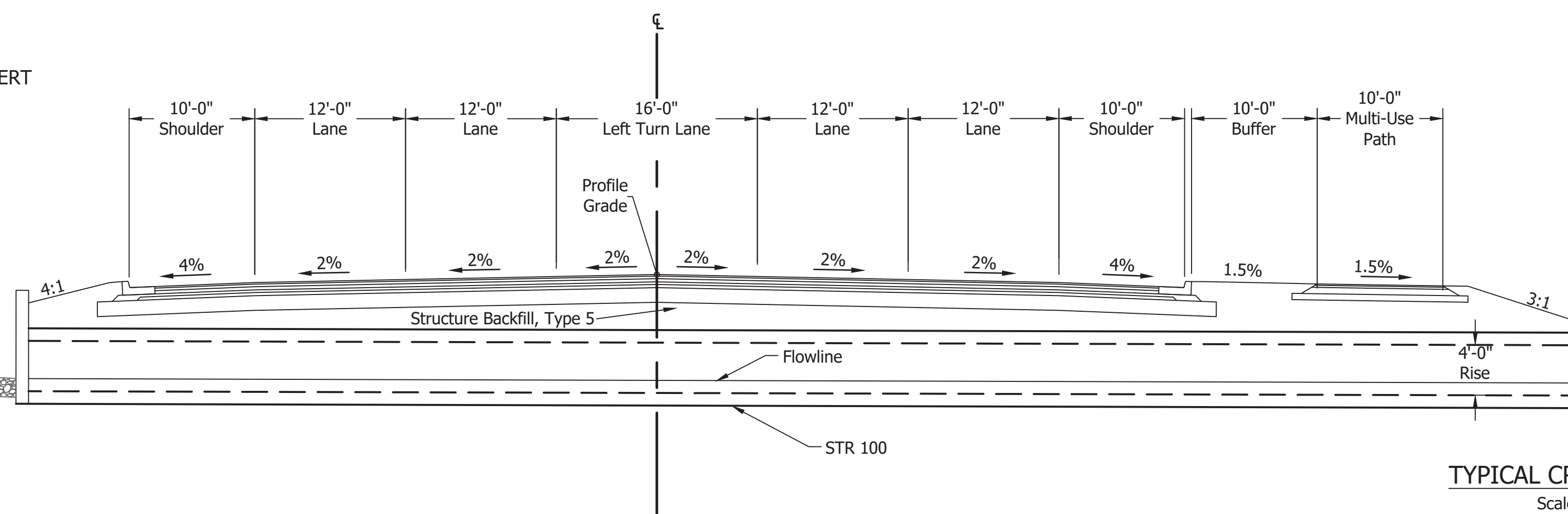
**STRUCTURE 100 DOWNSTREAM ELEVATION VIEW**  
Scale: 1" = 4'



**STRUCTURE 108 DOWNSTREAM ELEVATION VIEW**  
Scale: 1" = 4'

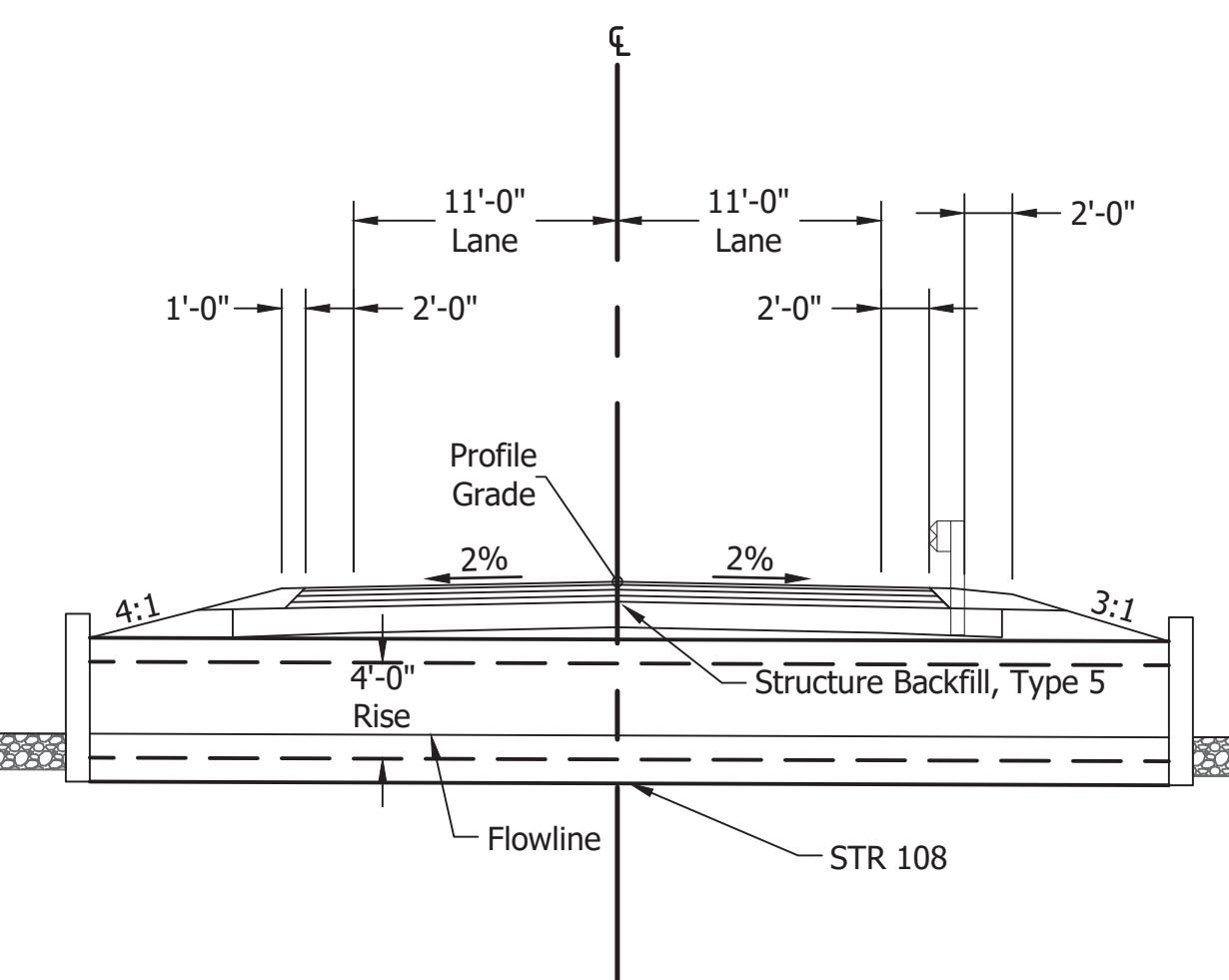
**STRUCTURE 100**  
**RONALD REAGAN PARKWAY**  
**PRECAST REINFORCED CONCRETE BOX CULVERT**

1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 84'-0"  
SKEW: 0°



**STRUCTURE 108**  
**RONALD REAGAN PARKWAY**  
**PRECAST REINFORCED CONCRETE BOX CULVERT**

1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 26'-0"  
SKEW: 0°



**TYPICAL CROSS SECTION**  
Scale: 1" = 8'



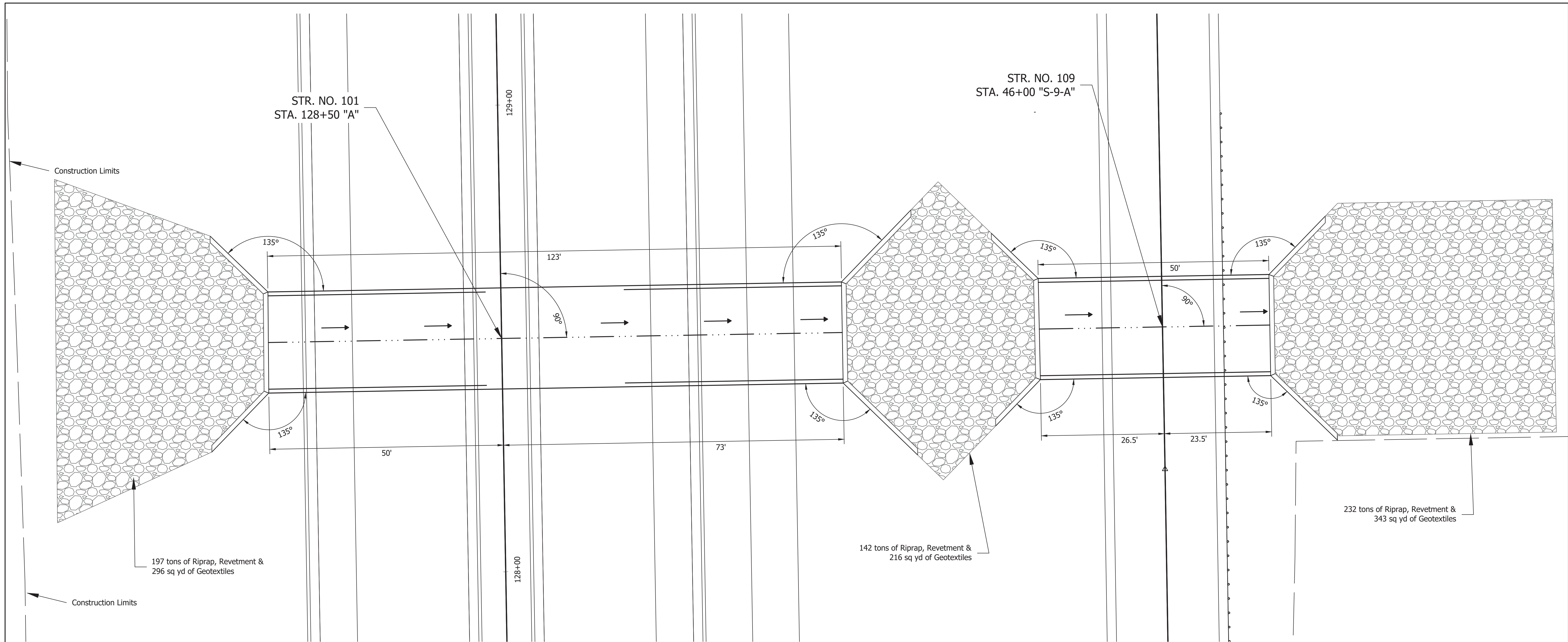
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Phone 317-895-2585  
www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: ESH            | DRAWN: ESH      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

HENDRICKS COUNTY

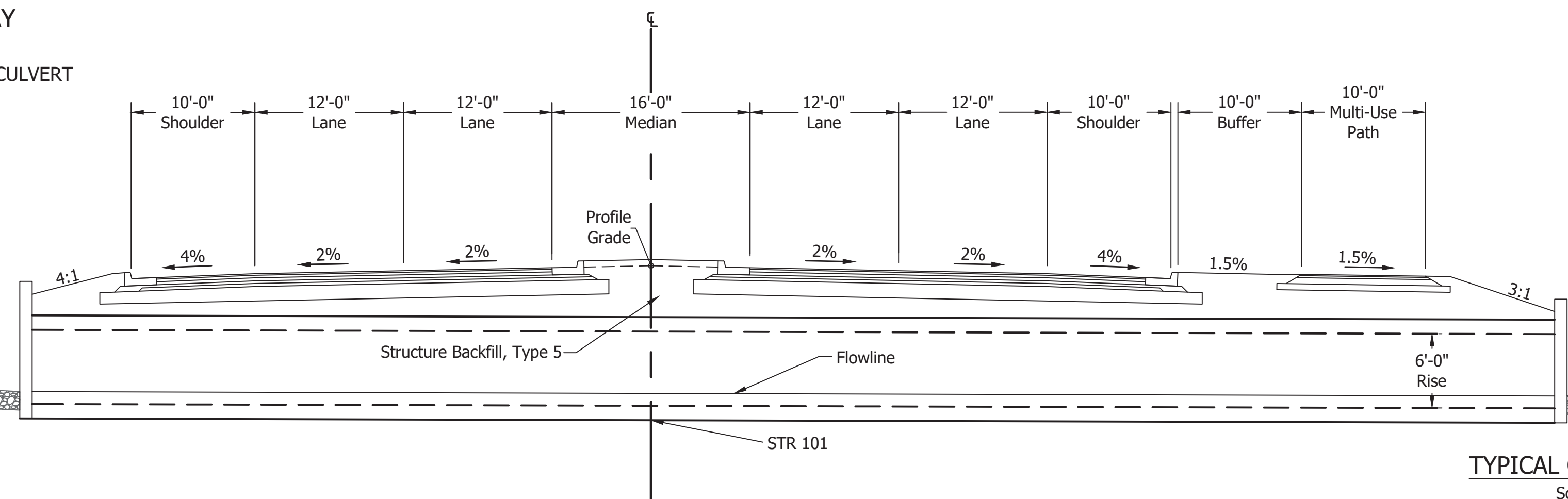
STRUCTURE DETAILS  
STR 100 and 108

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| VERTICAL SCALE   | DESIGNATION |
| SURVEY BOOK      | SHEETS      |
| CONTRACT         | PROJECT     |
|                  | 1602280     |



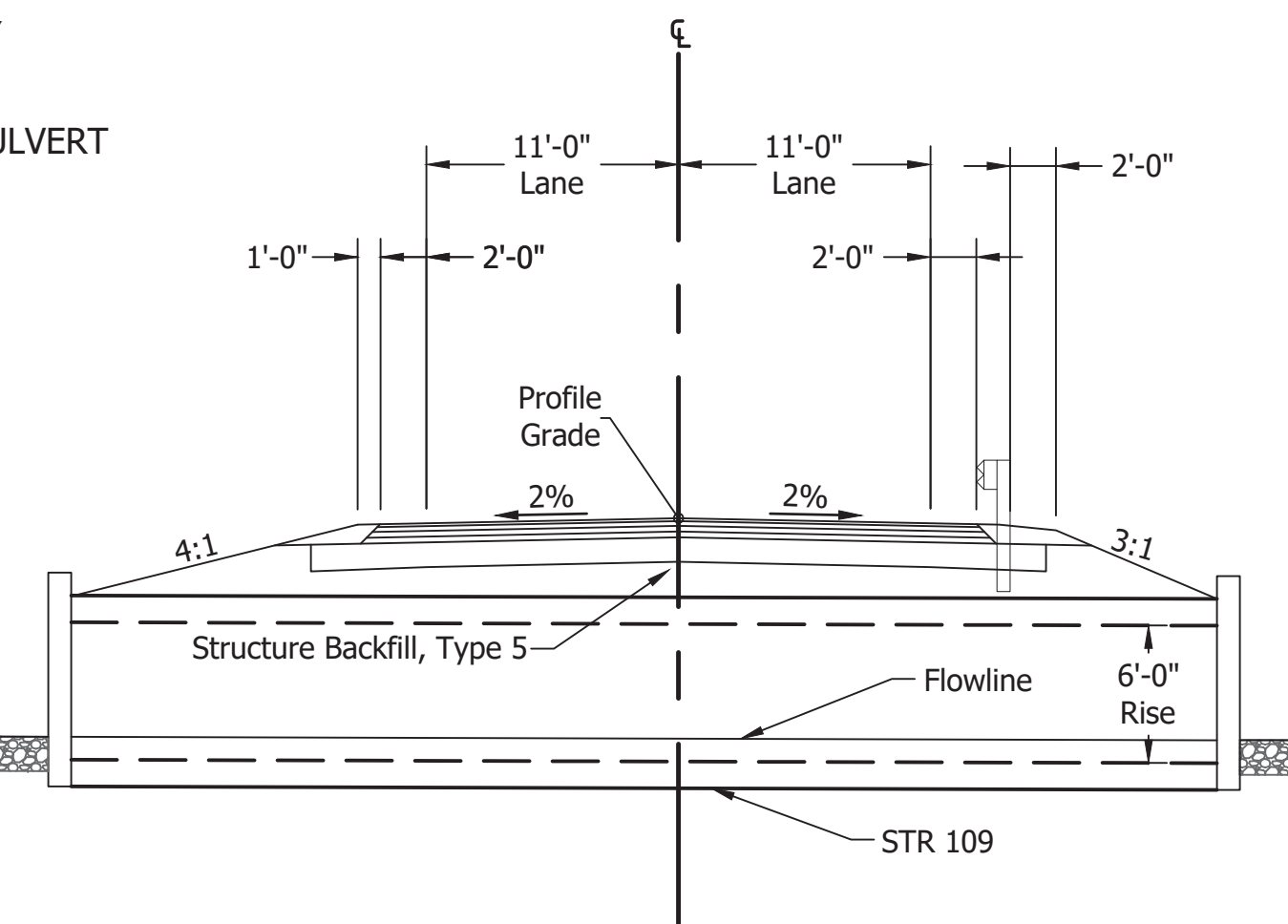
**PLAN VIEW**  
Scale: 1" = 10'

**STRUCTURE 101**  
**RONALD REAGAN PARKWAY**  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 20'-0"; 6'-0" RISE  
CLEAR ROADWAY: 84'-0"  
SKEW: 0°



**TYPICAL CROSS SECTION**  
Scale: 1" = 8'

**STRUCTURE 109**  
**RONALD REAGAN PARKWAY**  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 20'-0"; 6'-0" RISE  
CLEAR ROADWAY: 26'-0"  
SKEW: 0°



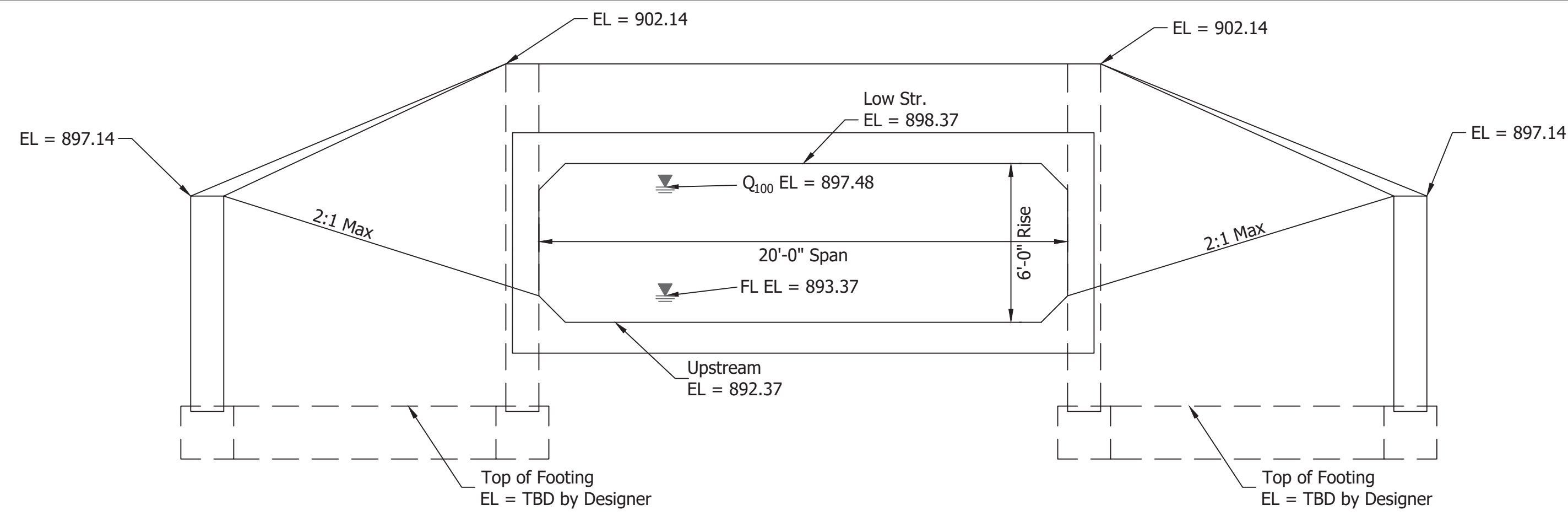
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Indianapolis, IN 46250  
Phone 317-895-2585  
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|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: ESH            | DRAWN: ESH      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

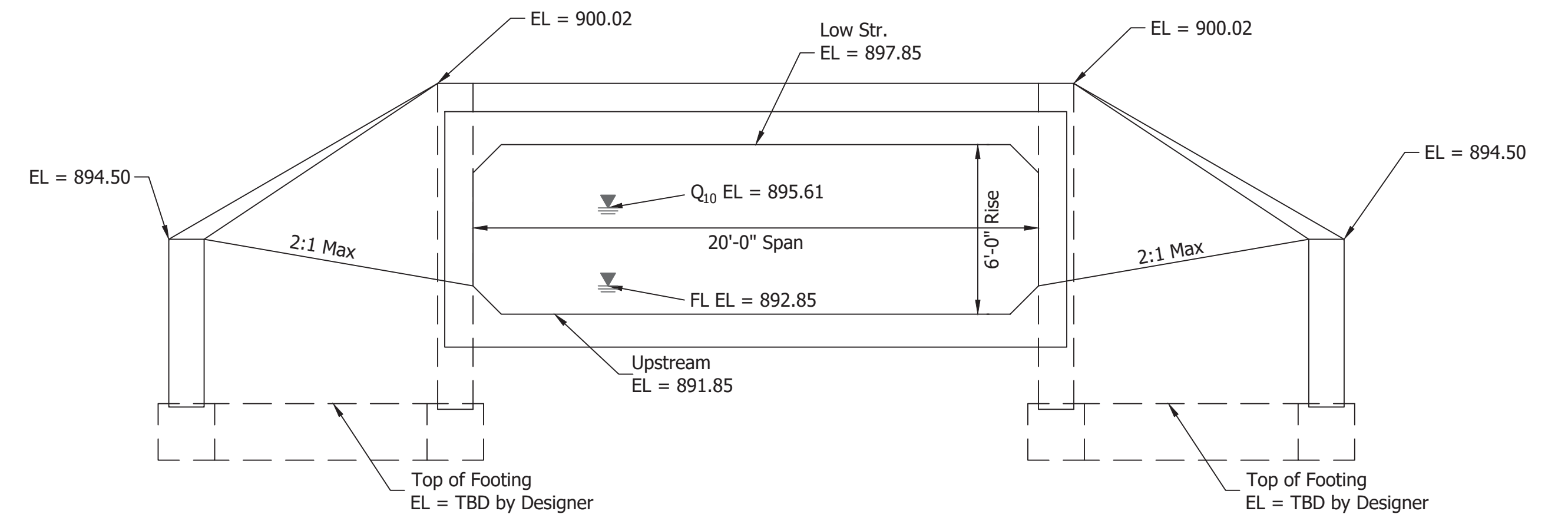
**HENDRICKS COUNTY**  
**STRUCTURE DETAILS**  
**STR 101 and STR 109**

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| VERTICAL SCALE   | DESIGNATION |
| SURVEY BOOK      | SHEETS      |
| CONTRACT         | PROJECT     |
|                  | 72 of 211   |
|                  | 1602280     |

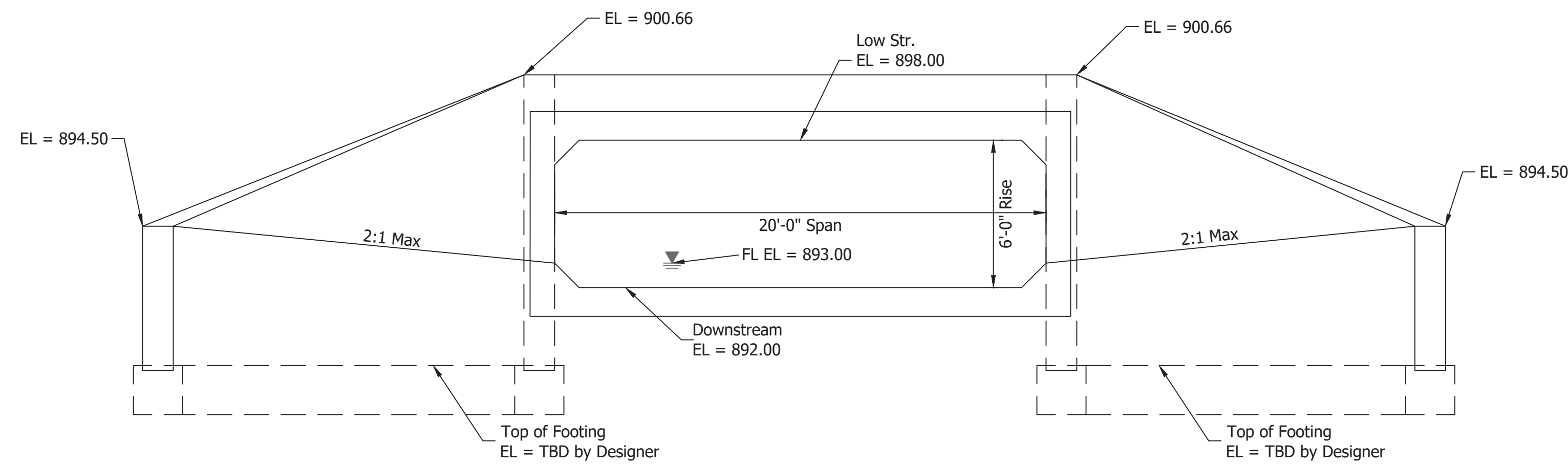
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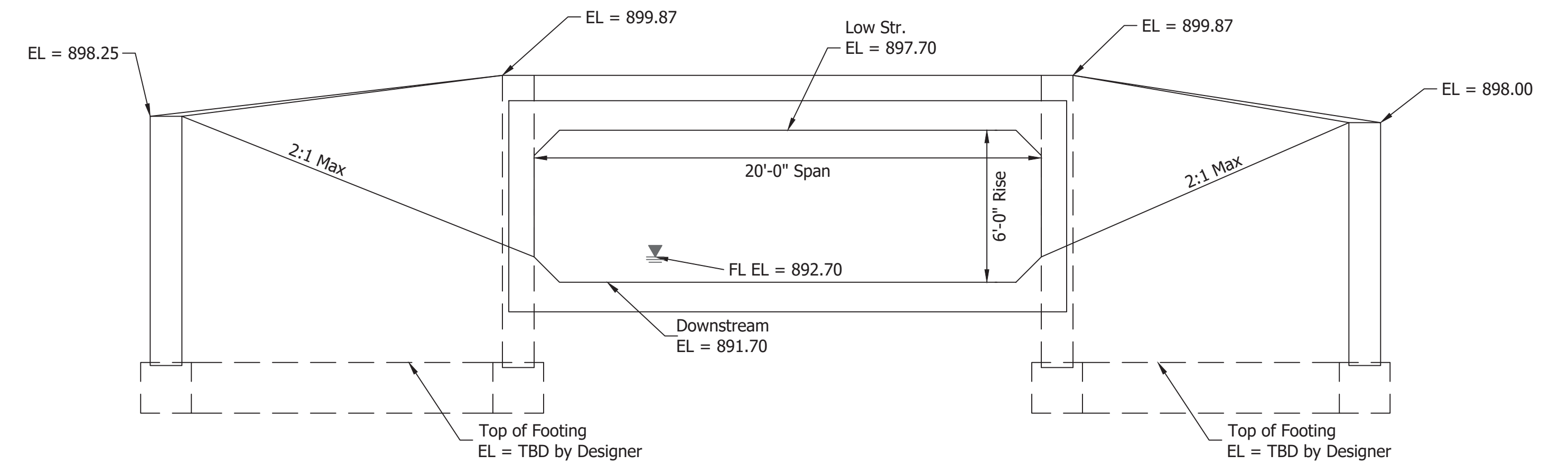
**STRUCTURE 101 UPSTREAM ELEVATION VIEW**  
Scale: 1" = 4'



**STRUCTURE 109 UPSTREAM ELEVATION VIEW**  
Scale: 1" = 4'

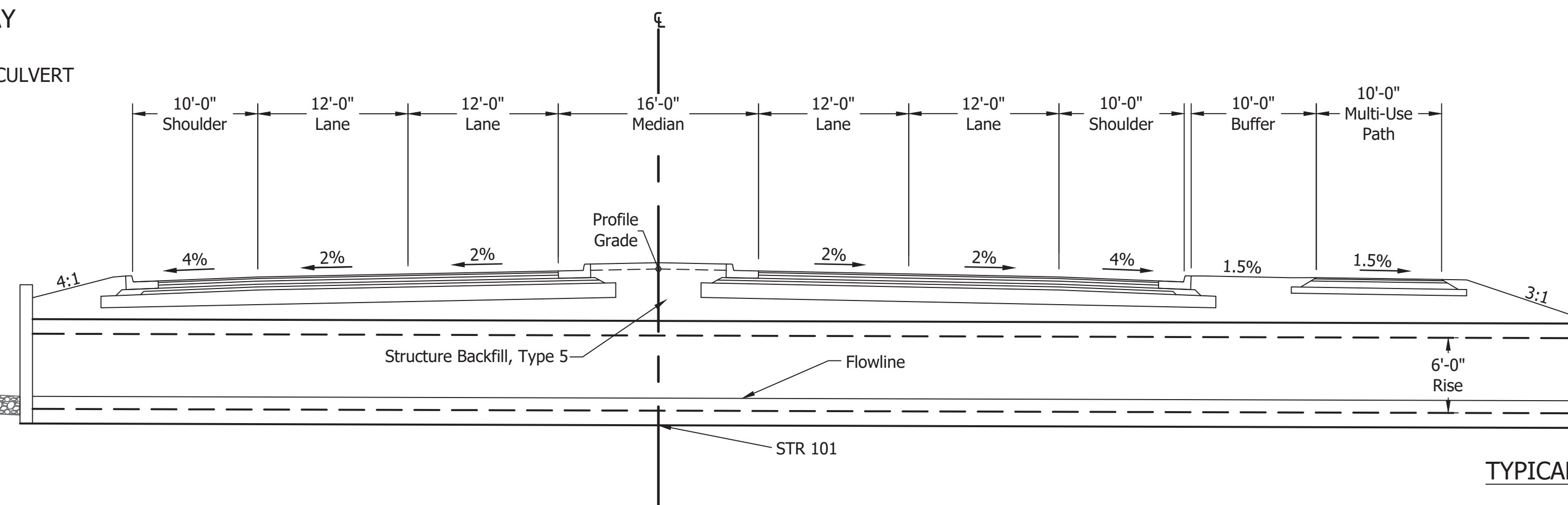


**STRUCTURE 101 DOWNSTREAM ELEVATION VIEW**  
Scale: 1" = 4'



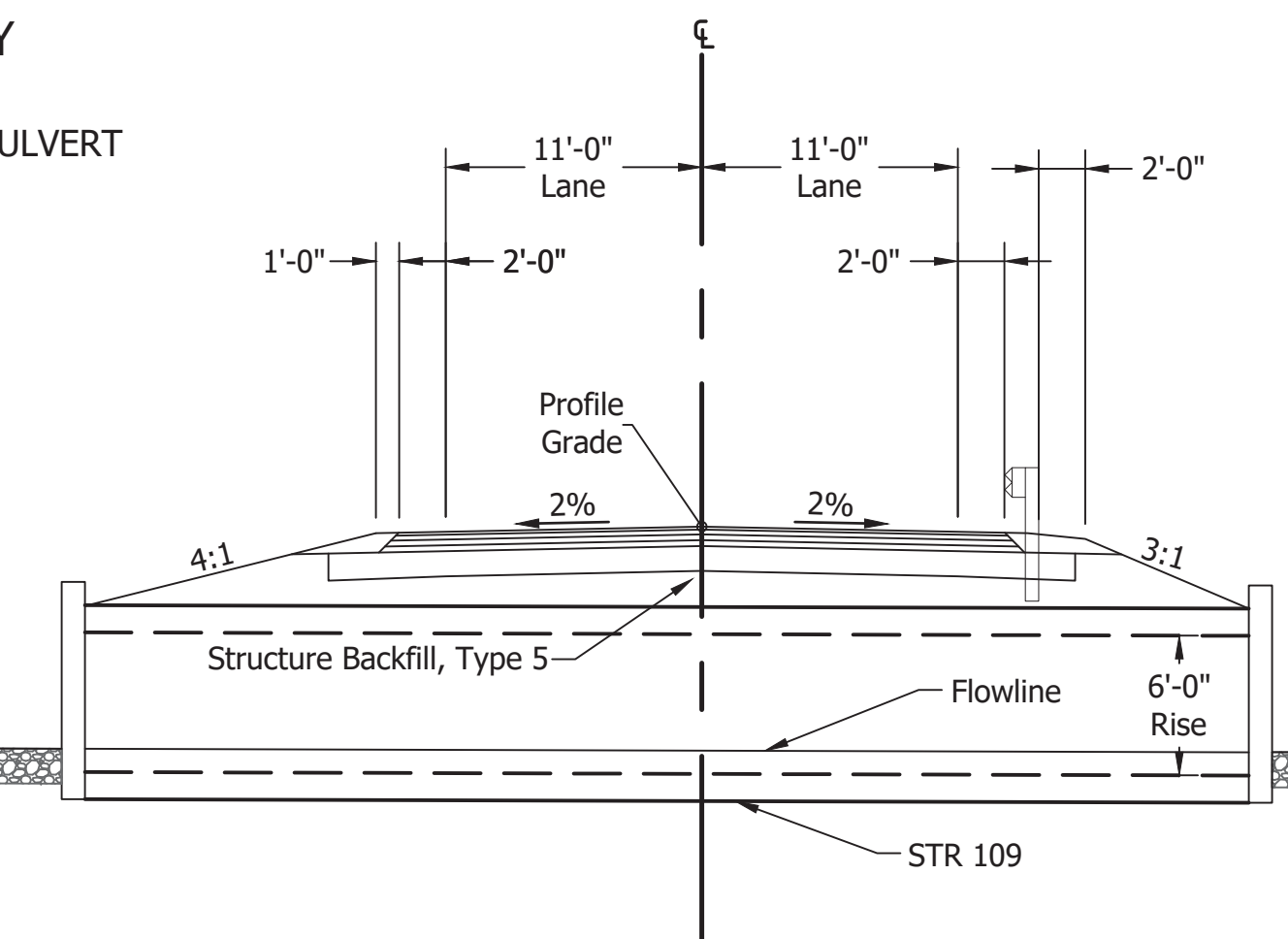
**STRUCTURE 109 DOWNSTREAM ELEVATION VIEW**  
Scale: 1" = 4'

**STRUCTURE 101**  
**RONALD REAGAN PARKWAY**  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 20'-0"; 6'-0" RISE  
CLEAR ROADWAY: 84'-0"  
SKEW: 0°



**TYPICAL CROSS SECTION**  
Scale: 1" = 8'

**STRUCTURE 109**  
**RONALD REAGAN PARKWAY**  
PRECAST REINFORCED CONCRETE BOX CULVERT  
1 SPAN @ 20'-0"; 6'-0" RISE  
CLEAR ROADWAY: 26'-0"  
SKEW: 0°

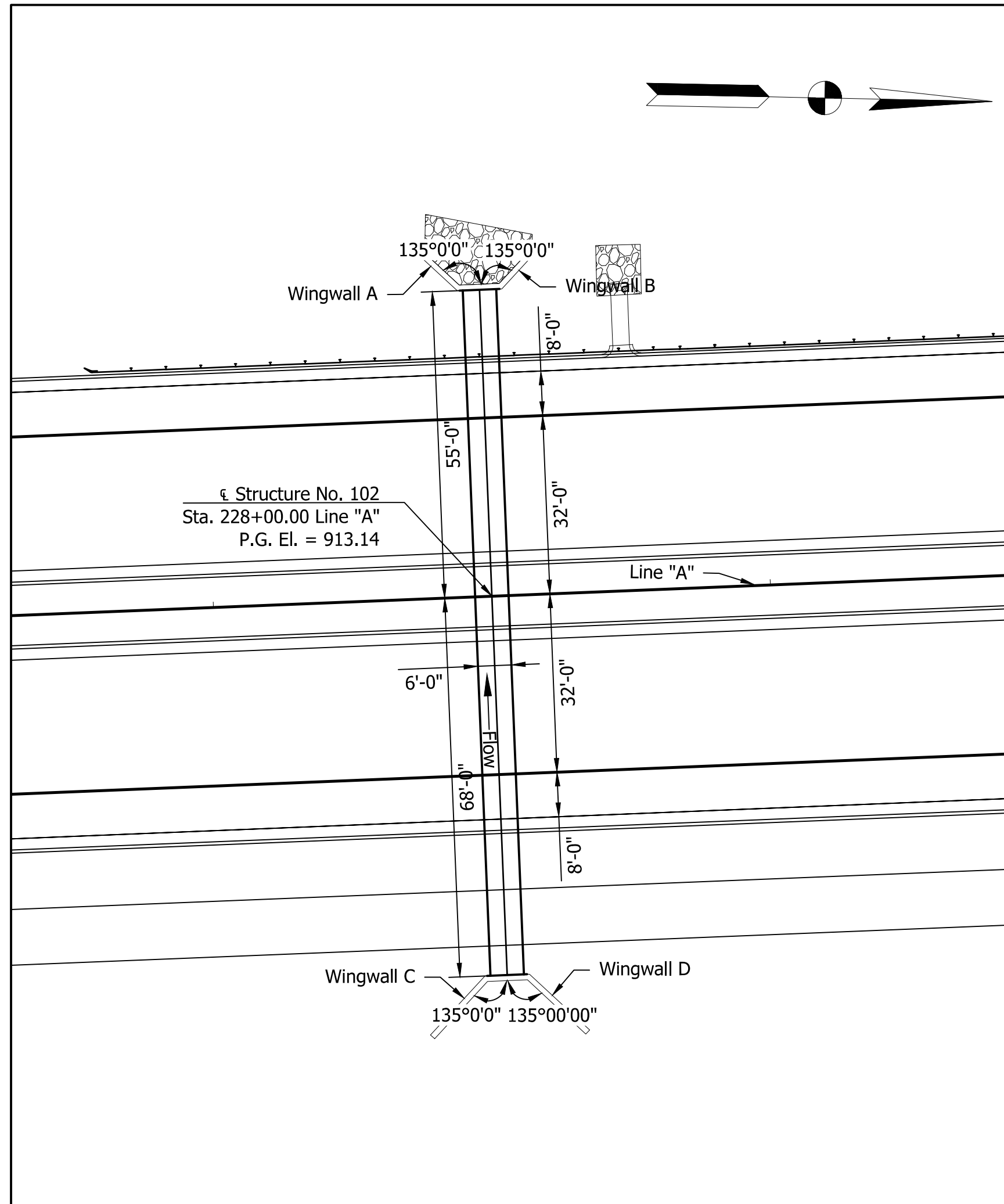


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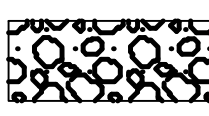
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: ESH            | DRAWN: ESH      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

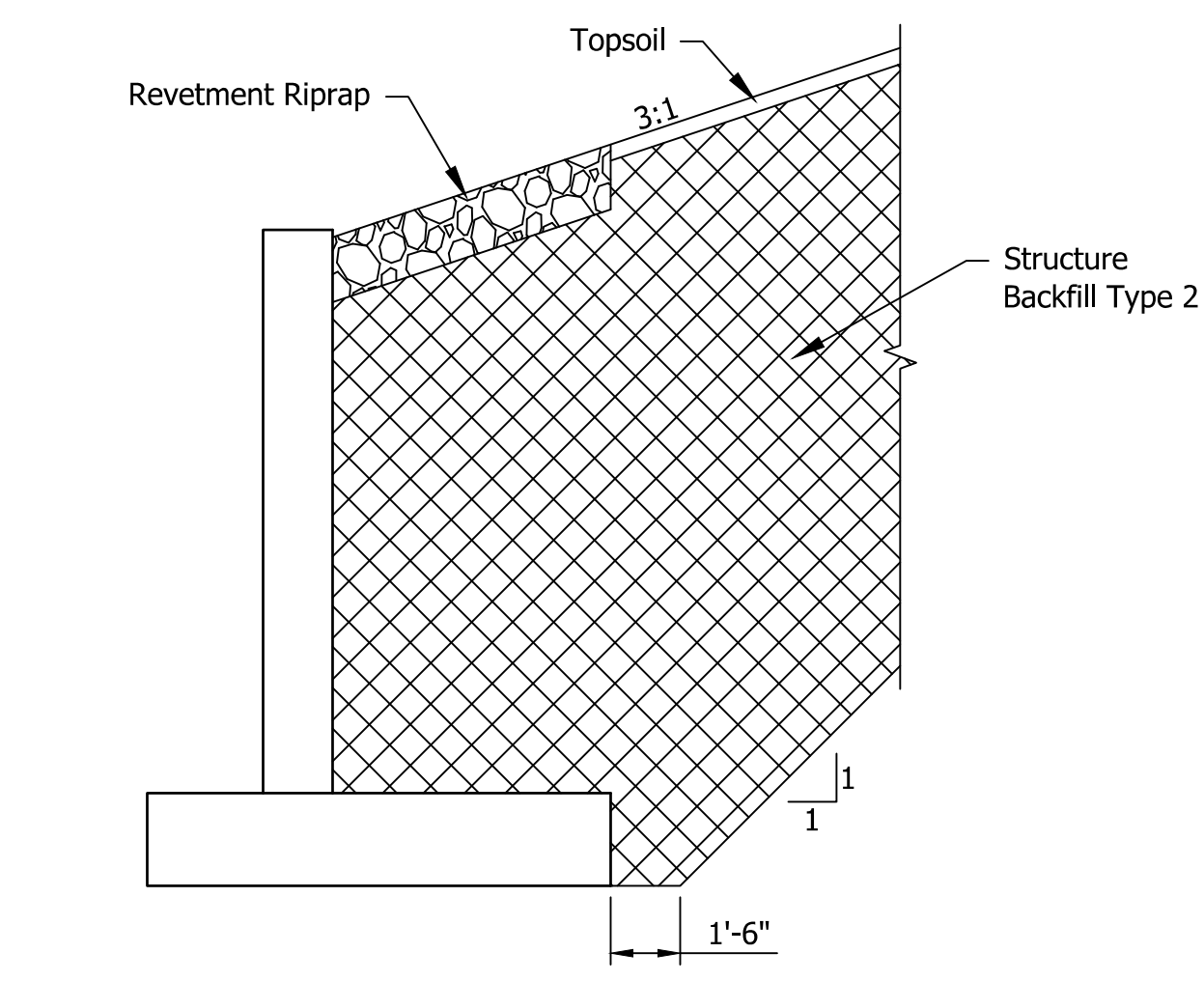
HENDRICKS COUNTY  
**STRUCTURE DETAILS**  
STR 101 and STR 109

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| VERTICAL SCALE   | DESIGNATION |
| SURVEY BOOK      | SHEETS      |
| CONTRACT         | PROJECT     |
|                  | 1602280     |

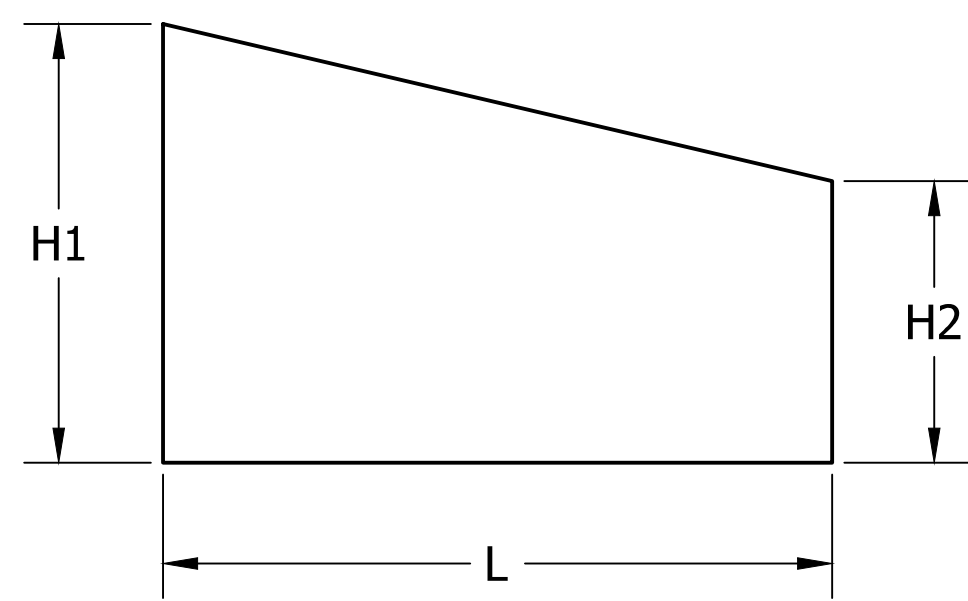


**PLAN VIEW**  
Scale: 1" = 20'

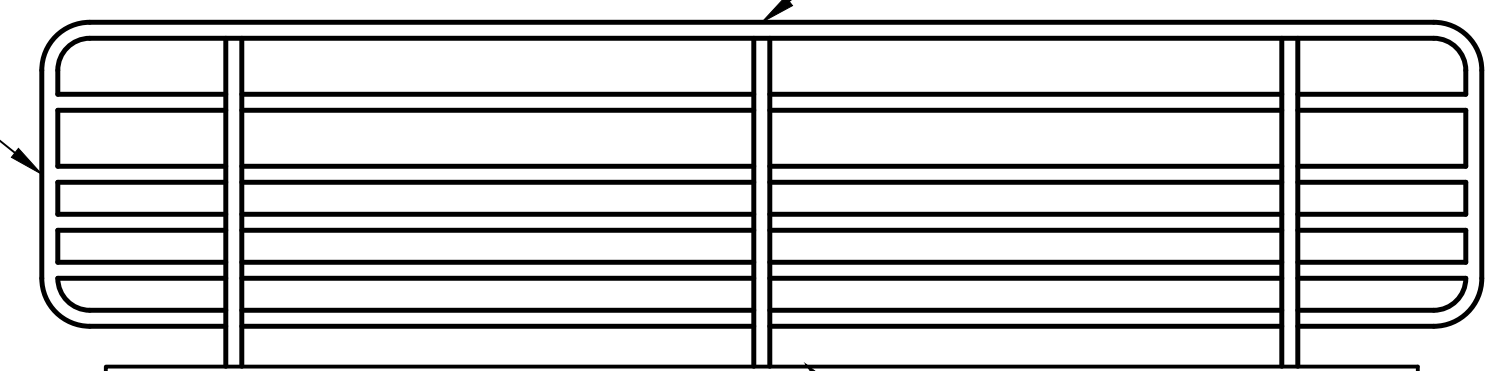
 DENOTES LIMITS OF 24" CLASS I RIPRAP AND GEOTEXTILES



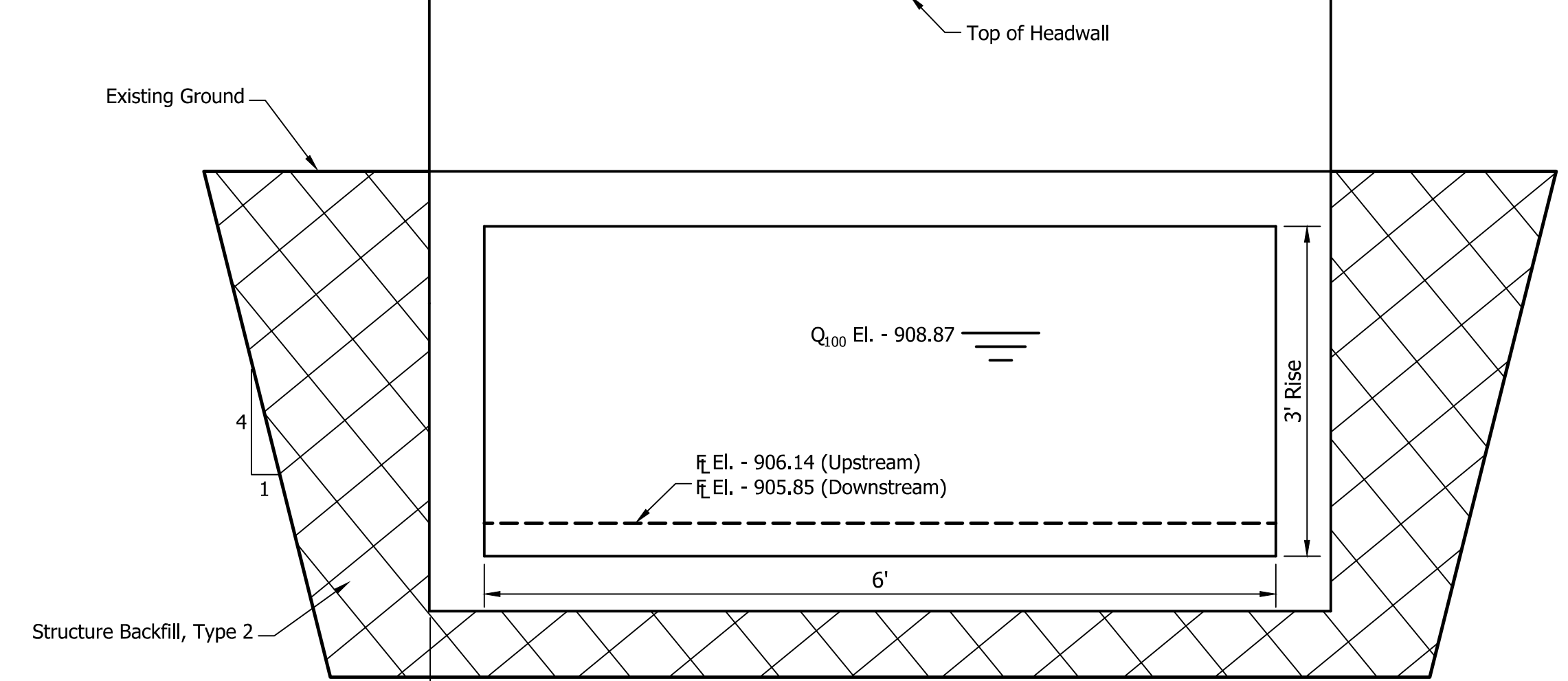
**WINGWALL BACKFILL DETAIL**  
Scale N.T.S.



HANDRAIL PEDESTRIAN, EAST END ONLY



SEE SHEET 44 FOR HANDRAIL DETAIL

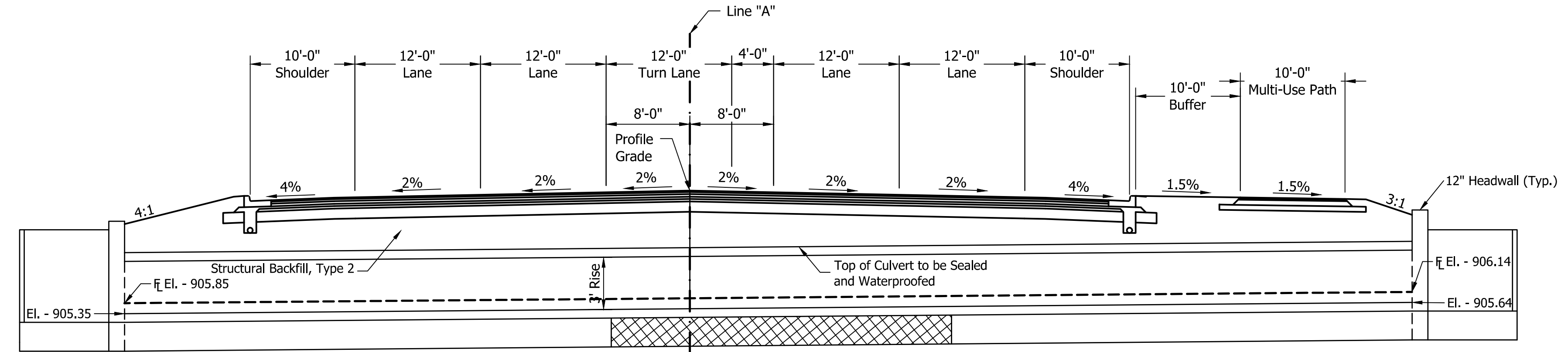


**ELEVATION VIEW**  
Scale: 1/2" = 1'

| WINGWALLS   |            |         |         |        |
|-------------|------------|---------|---------|--------|
| Designation | Area (SFT) | H1 (FT) | H2 (FT) | L      |
| "A"         | 26.26      | 4'-6"   | 2'-0"   | 8'-1"  |
| "B"         | 29.28      | 4'-6"   | 2'-0"   | 9'-1"  |
| "C"         | 43.25      | 4'-6"   | 1'-6"   | 14'-5" |
| "D"         | 44.25      | 4'-6"   | 1'-6"   | 14'-9" |
| Total       | 163.04     |         |         |        |

Note to Reviewer:  
Remaining soils data will be included with final geotechnical report.

| SOILS DATA   |           |
|--|-----------|
| Factored Bearing Resistance                                      | 3,800 psf |
| Angle of Internal Friction of Foundation Soil ( $\phi$ )         | xx°       |
| Angle of Friction Between Footing & Foundation Soil ( $\delta$ ) | xx°       |
| Ultimate Cohesion of Foundation Soil (C)                         | xx psf    |
| Ultimate Adhesion Between Foundation Soil & Concrete ( $C_a$ )   | xx psf    |



**TYPICAL CROSS SECTION**  
Scale: 1/8" = 1'

**Design Data:**

Wingwalls and wingwall foundations shall be designed in accordance with AASHTO LRFD Bridge Specifications.  
Note: A three-sided, arch-topped or true-arch structure will not be permitted at this location.

**STRUCTURE 102  
RONALD REAGAN PARKWAY  
PRECAST REINFORCED CONCRETE BOX CULVERT**

1 SPAN @ 6'-0"; 3'-0" RISE  
CLEAR ROADWAY: 85'-0"  
SKEW: 0°

File Name: S:\\_2017\17-0005\104\Draw\CAD\Misc\WG\SH\_Culvert\_Details\_LB.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Kylee

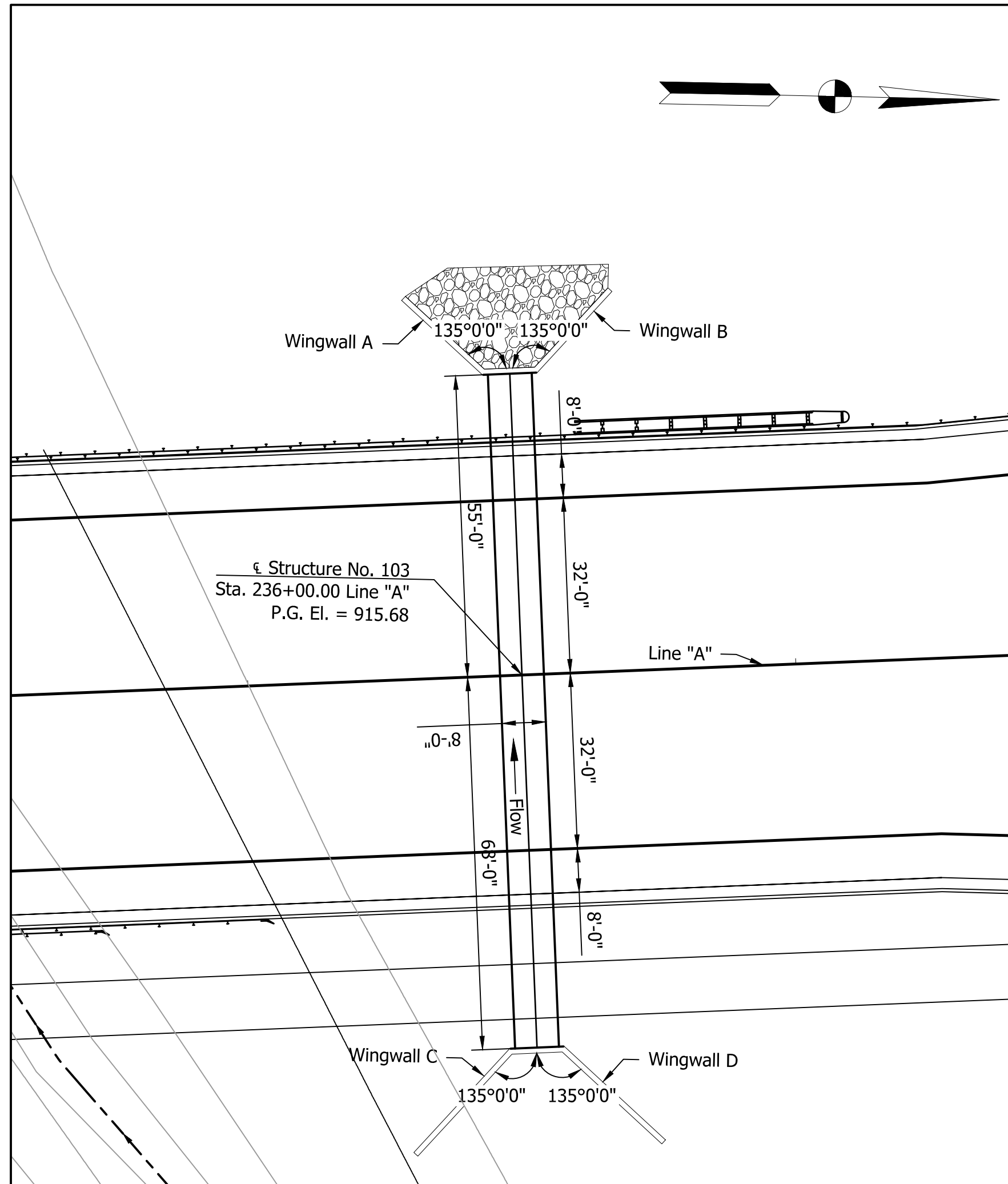
**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: ---      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
**CULVERT DETAILS  
STRUCTURE 102**

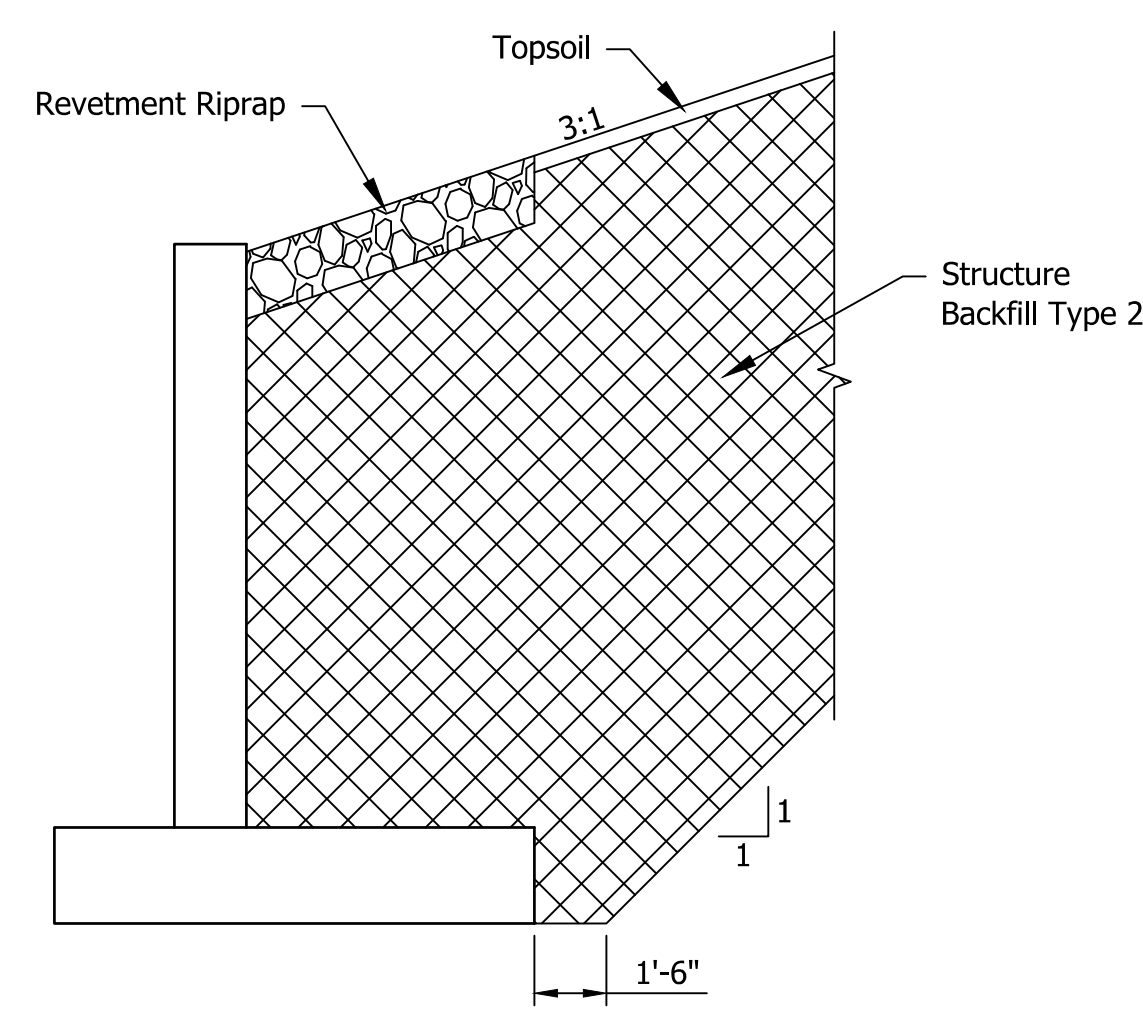
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| AS SHOWN         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| AS SHOWN         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 37 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



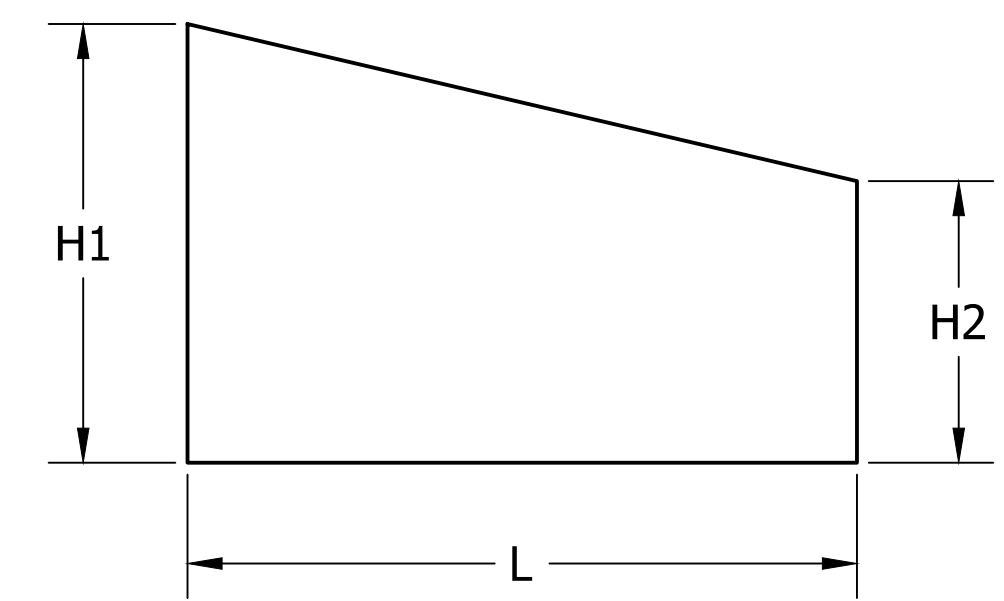


**PLAN VIEW**  
Scale: 1" = 20'

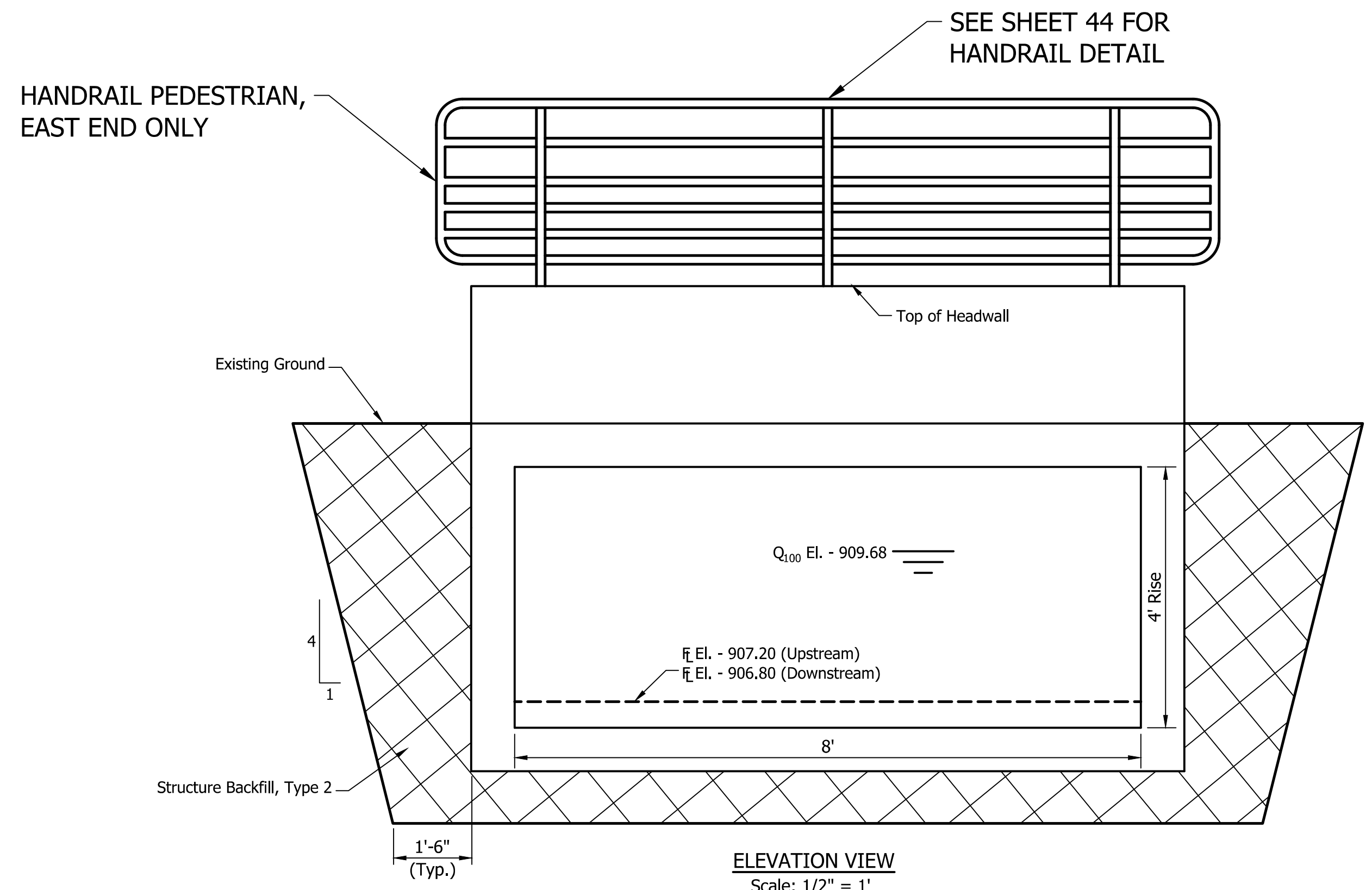
DENOTES LIMITS OF 24" CLASS I RIPRAP AND GEOTEXTILES



**WINGWALL BACKFILL DETAIL**  
Scale N.T.S.



**TYPICAL CROSS SECTION**  
Scale: 1/8" = 1'



**ELEVATION VIEW**  
Scale: 1/2" = 1'

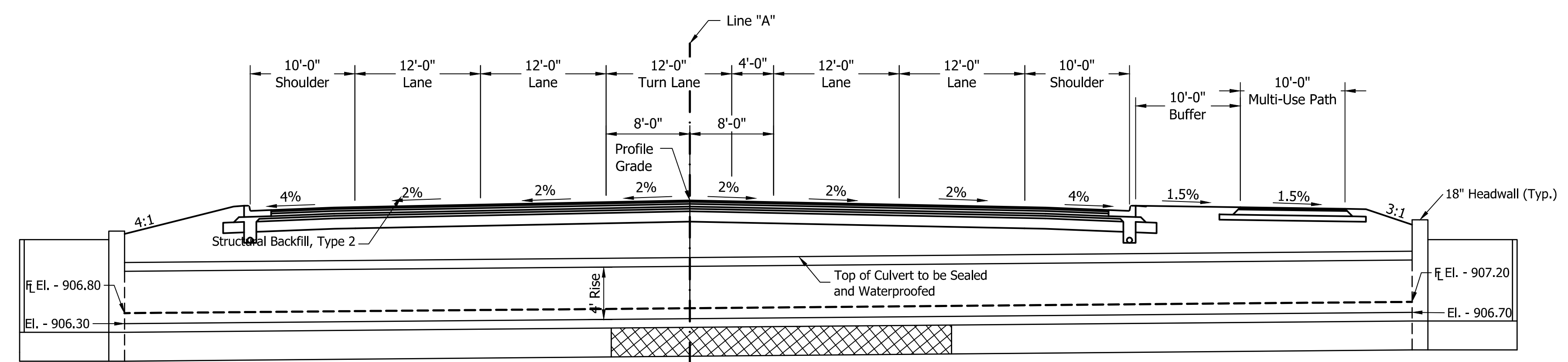
| WINGWALLS   |            |         |         |        |
|-------------|------------|---------|---------|--------|
| Designation | Area (SFT) | H1 (FT) | H2 (FT) | L      |
| "A"         | 78.33      | 5'-10"  | 2'-0"   | 20'-0" |
| "B"         | 78.65      | 5'-10"  | 2'-0"   | 20'-1" |
| "C"         | 128.75     | 7'-0"   | 3'-0"   | 25'-9" |
| "D"         | 125.40     | 7'-0"   | 3'-0"   | 25'-1" |
| Total       | 411.13     |         |         |        |

Note to Reviewer:  
Remaining soils data will be included with final geotechnical report.

| SOILS DATA   |           |
|--|-----------|
| Factored Bearing Resistance                                      | 3,800 psf |
| Angle of Internal Friction of Foundation Soil ( $\phi$ )         | xx°       |
| Angle of Friction Between Footing & Foundation Soil ( $\phi_s$ ) | xx°       |
| Ultimate Cohesion of Foundation Soil (C)                         | xx psf    |
| Ultimate Adhesion Between Foundation Soil & Concrete ( $C_a$ )   | xx psf    |

**Design Data:**

Wingwalls and wingwall foundations shall be designed in accordance with AASHTO LRFD Bridge Specifications.  
Note: A three-sided, arch-topped or true-arch structure will not be permitted at this location.



**STRUCTURE 103**  
**RONALD REAGAN PARKWAY**  
**PRECAST REINFORCED CONCRETE BOX CULVERT**  
1 SPAN @ 8'-0"; 4'-0" RISE  
CLEAR ROADWAY: 85'-0"  
SKEW: 0°

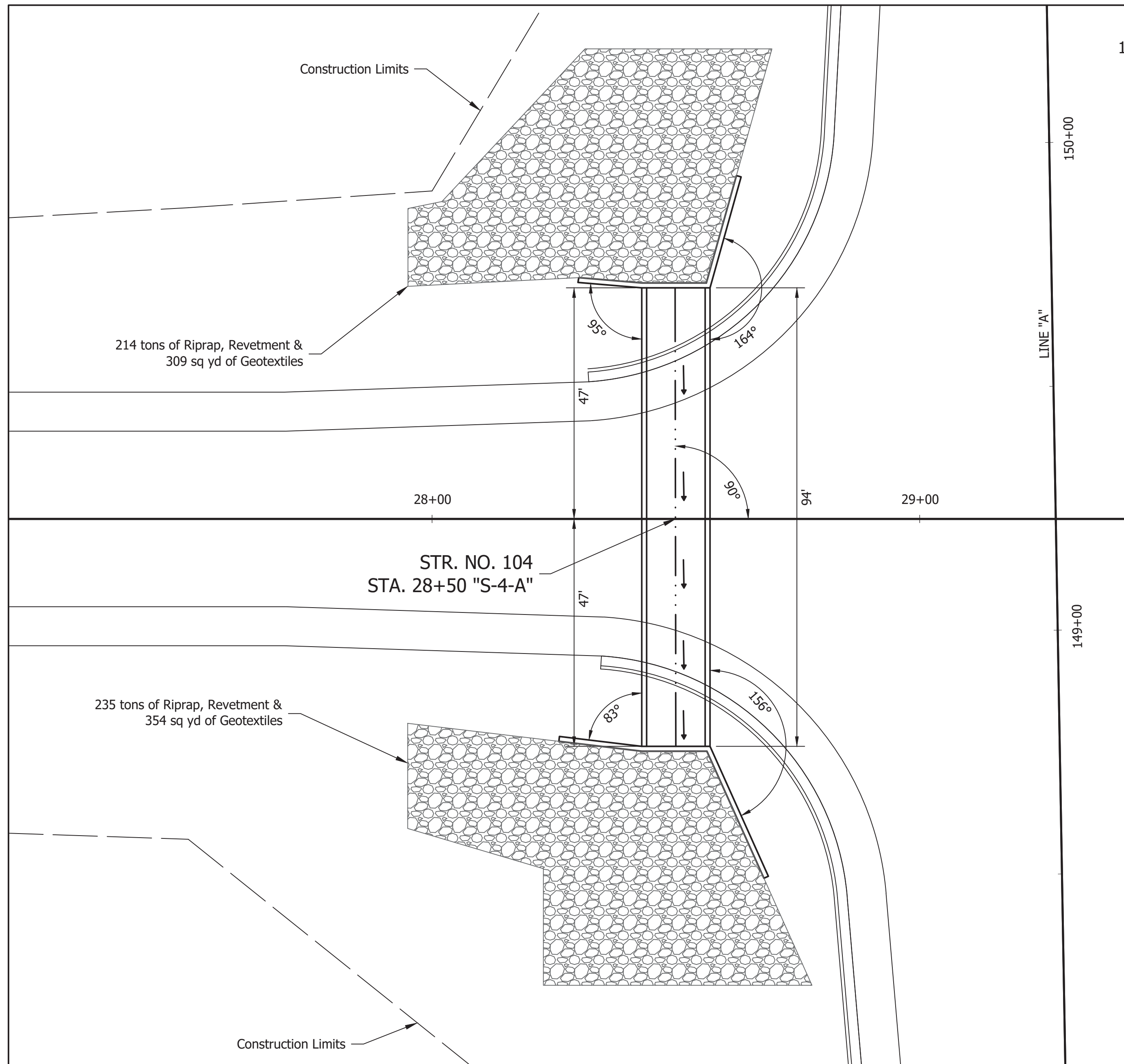
File Name: S:\\_2017\17-0005\10\10\Draw\CAD\MicroWGS\Struct\_Culvert\_Details\_LB.dwg Plot Date: 1/29/2020 Plotted By: Angenev, Khyale

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PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

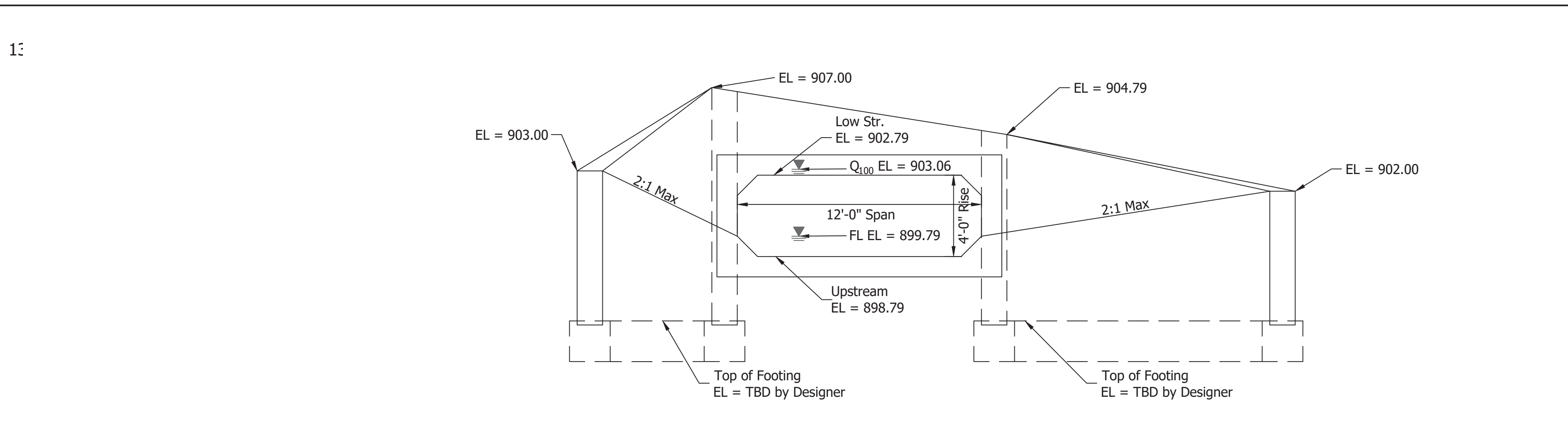
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: ---      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
**CULVERT DETAILS**  
**STRUCTURE 103**

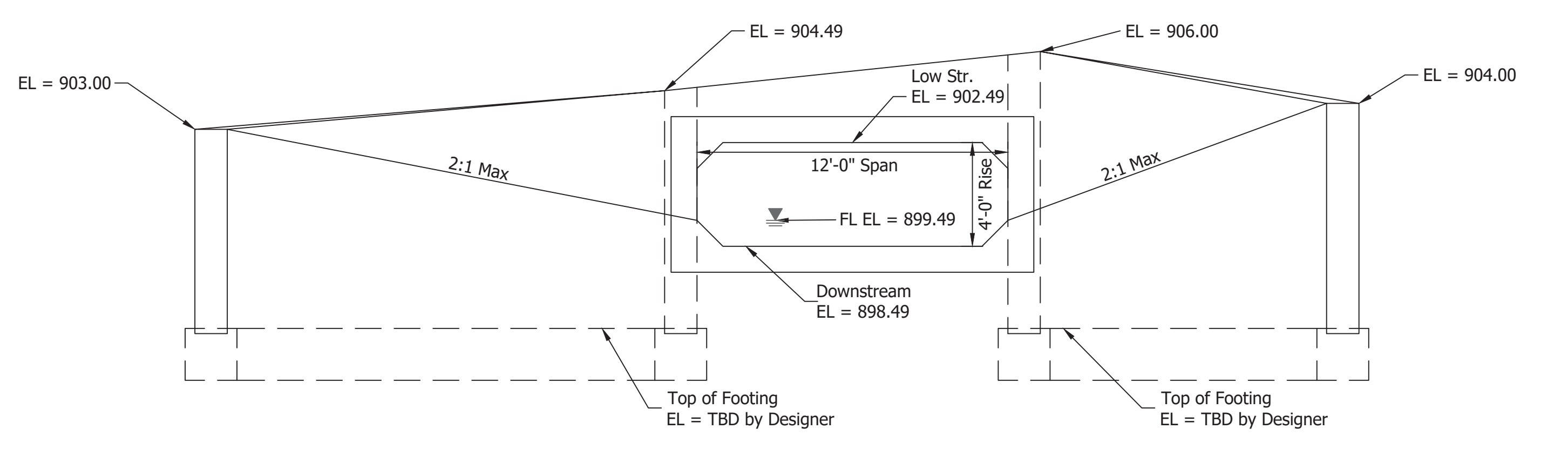
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| HORIZONTAL SCALE | BRIDGE FILE       |
| AS SHOWN         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| AS SHOWN         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 38 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |



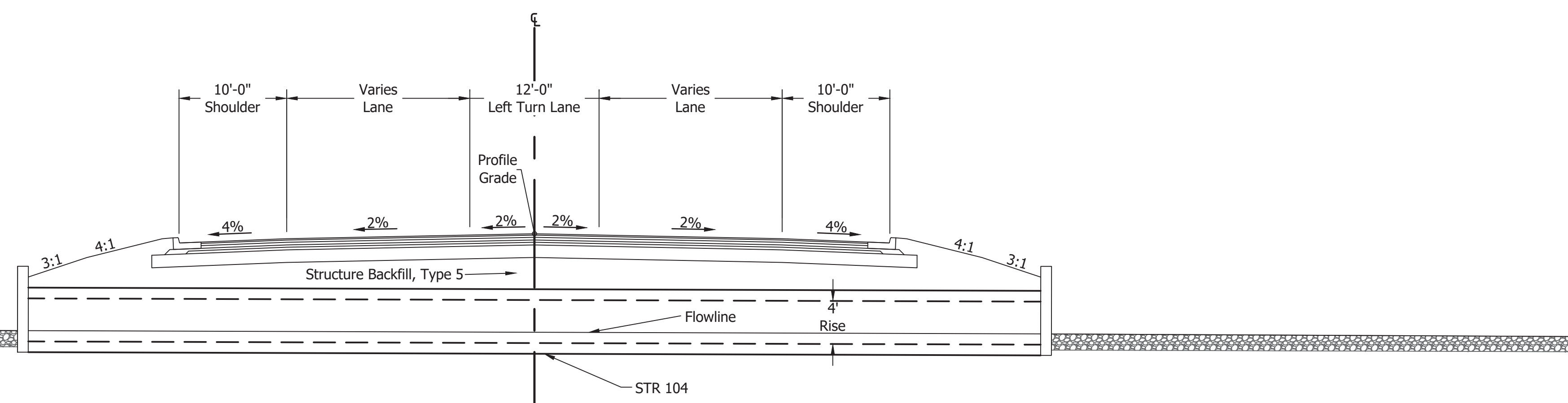
**PLAN VIEW**  
Scale: 1" = 16'



**STRUCTURE 104 ELEVATION VIEW**  
Scale: 1" = 4'



**STRUCTURE 104**  
**RONALD REAGAN PARKWAY**  
**PRECAST REINFORCED CONCRETE BOX CULVERT**  
1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 70'-0"  
SKEW: 0°



**STR 104 TYPICAL CROSS SECTION**  
Scale: 1" = 8'

File Name: P:\CADD\17-405\Road\Drawings\Plans\STR\_Details.dwg Plot Date: 3/14/2019 Plotted By: Eric Hamrad

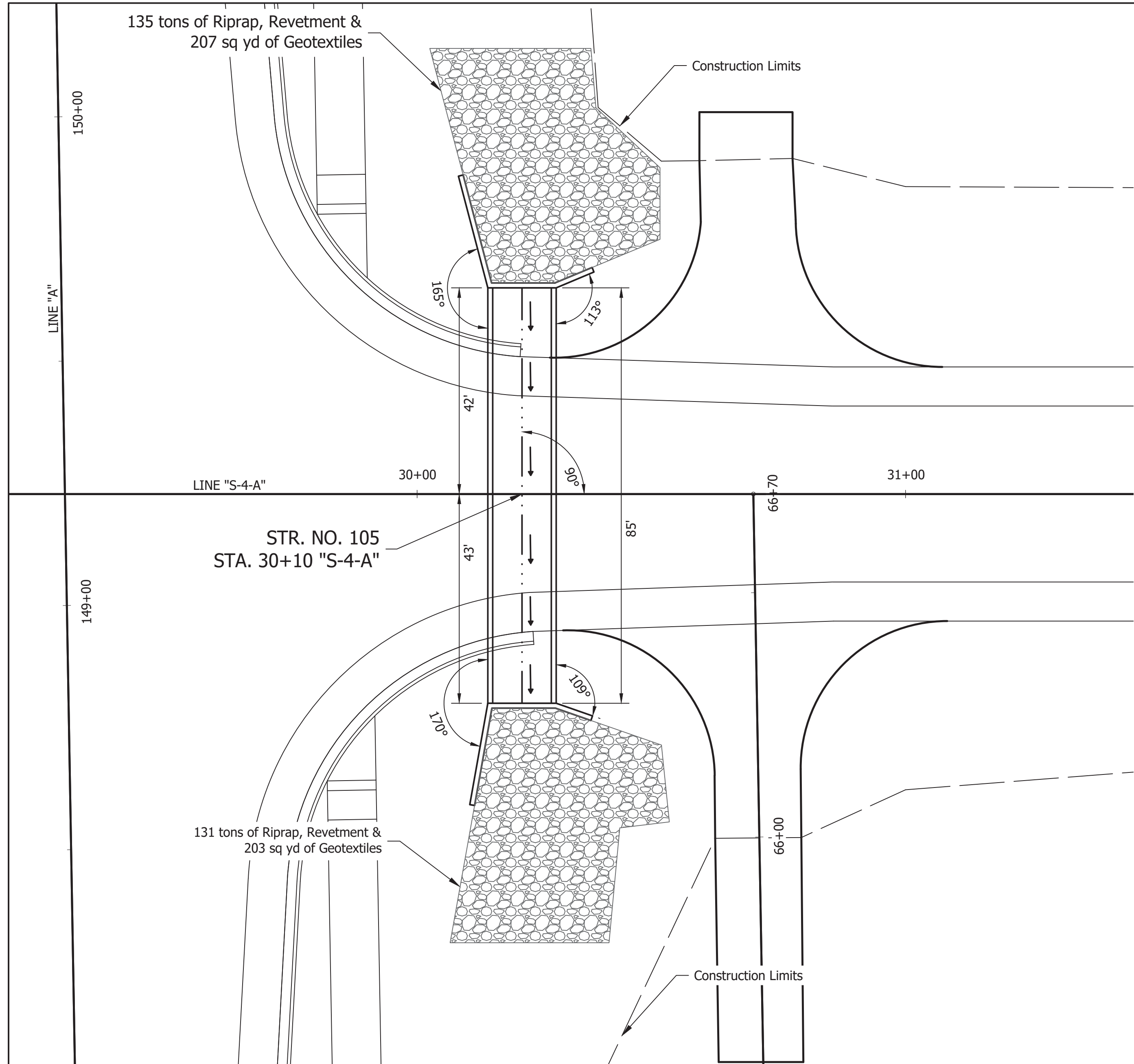


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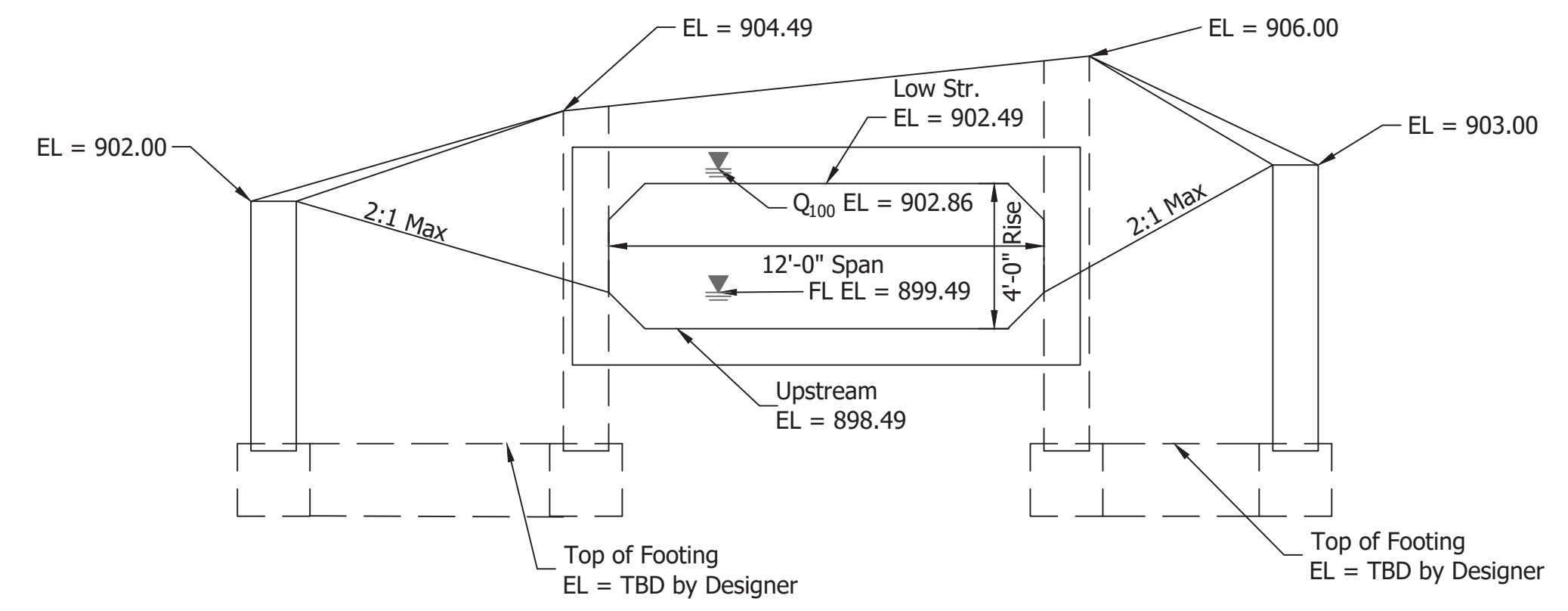
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| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: ESH                  | DRAWN: ESH   |                                  |  |
| CHECKED: JAR                   | CHECKED: JAR |                                  |  |

**HENDRICKS COUNTY**  
**STRUCTURE DETAILS**  
**STR 104**

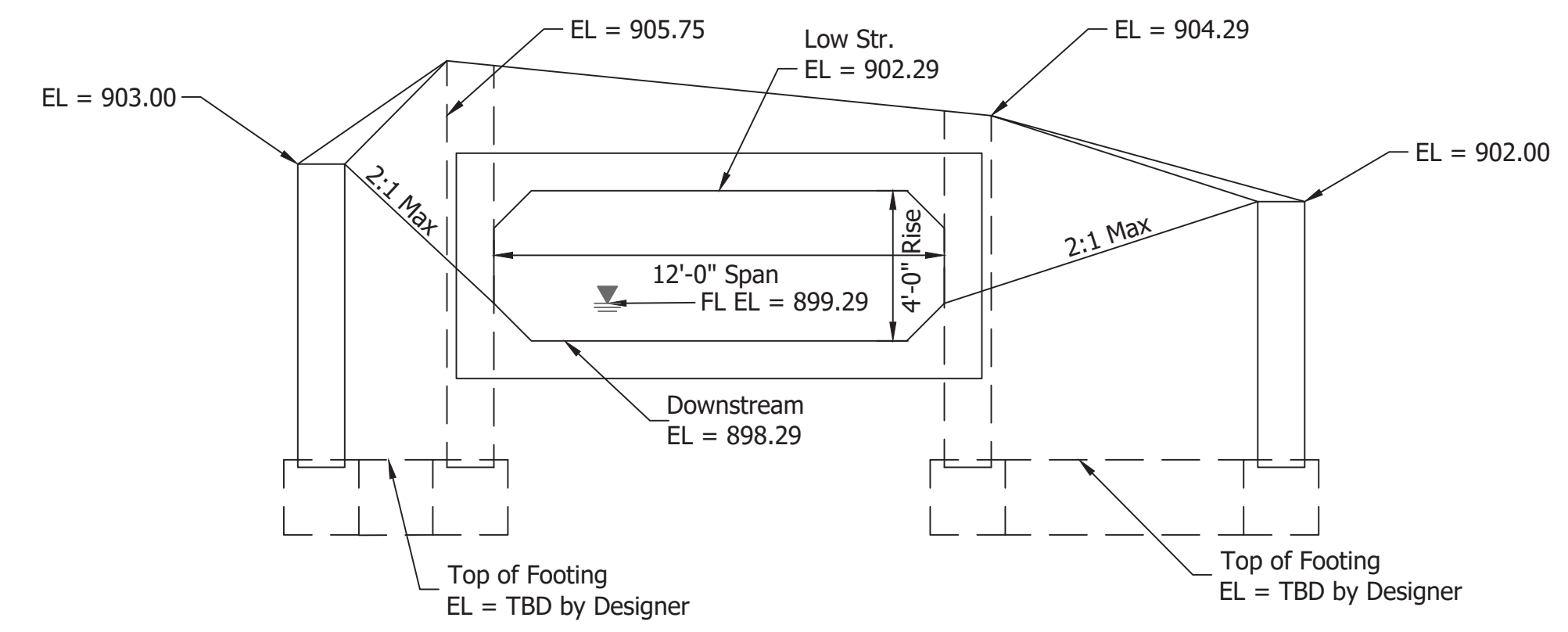
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|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| ---              | ---         |
| VERTICAL SCALE   | DESIGNATION |
| ---              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 76 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |



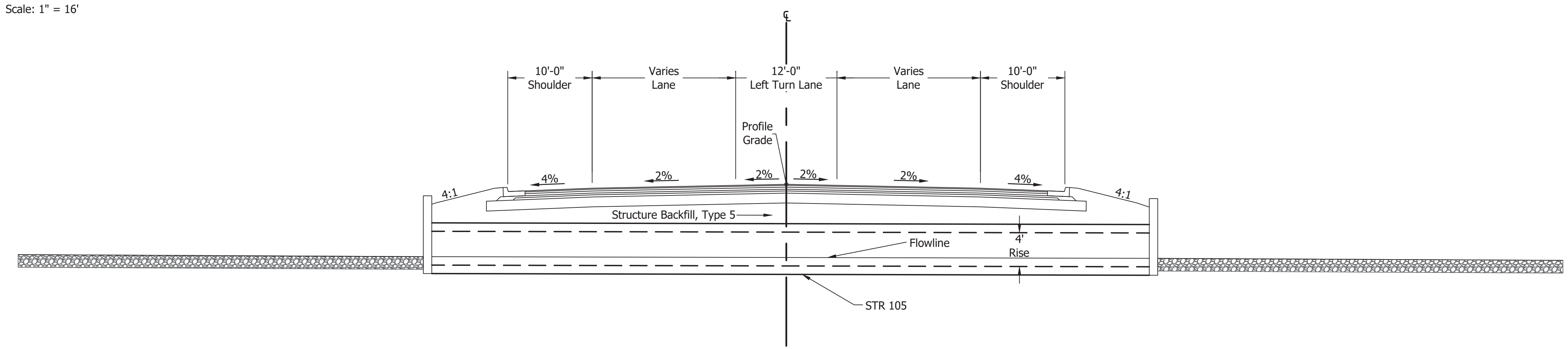
**PLAN VIEW**  
Scale: 1" = 16'



**STRUCTURE 105 ELEVATION VIEW**  
Scale: 1" = 4'



**STRUCTURE 105**  
**RONALD REAGAN PARKWAY**  
**PRECAST REINFORCED CONCRETE BOX CULVERT**  
1 SPAN @ 12'-0"; 4'-0" RISE  
CLEAR ROADWAY: 62'-0"  
SKEW: 0°



**STR 105 TYPICAL CROSS SECTION**  
Scale: 1" = 8'

File Name: P:\CDD\17-405\Road\Drawings\STR\_Details.dwg Plot Date: 3/14/2019 Plotted By: Eric Harrod

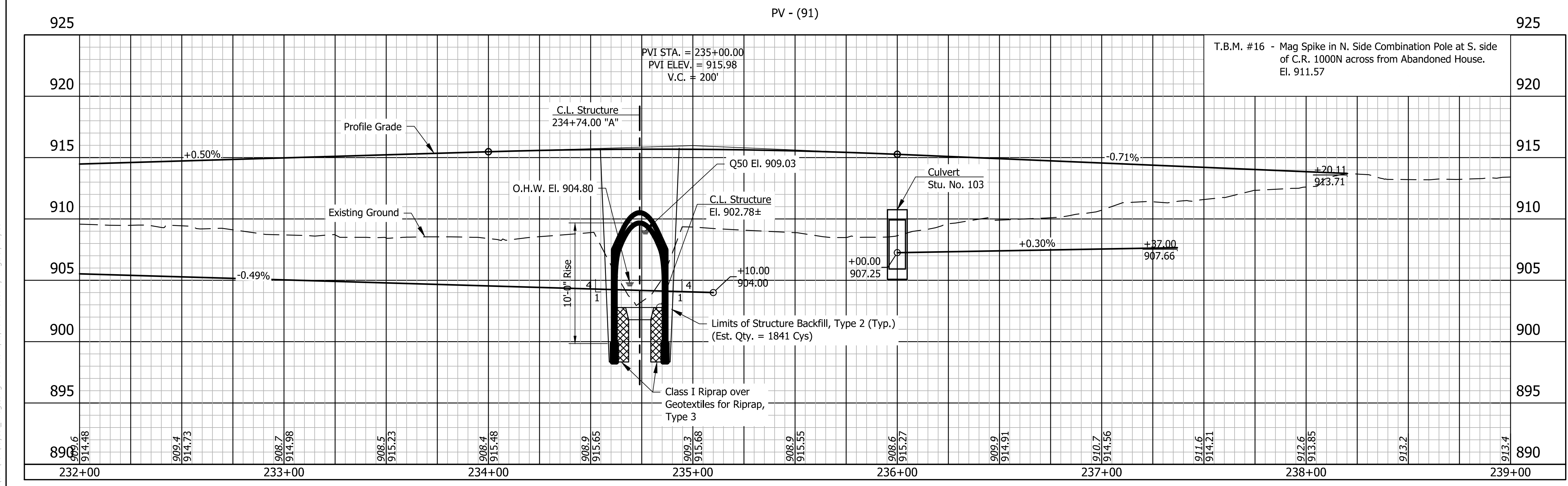
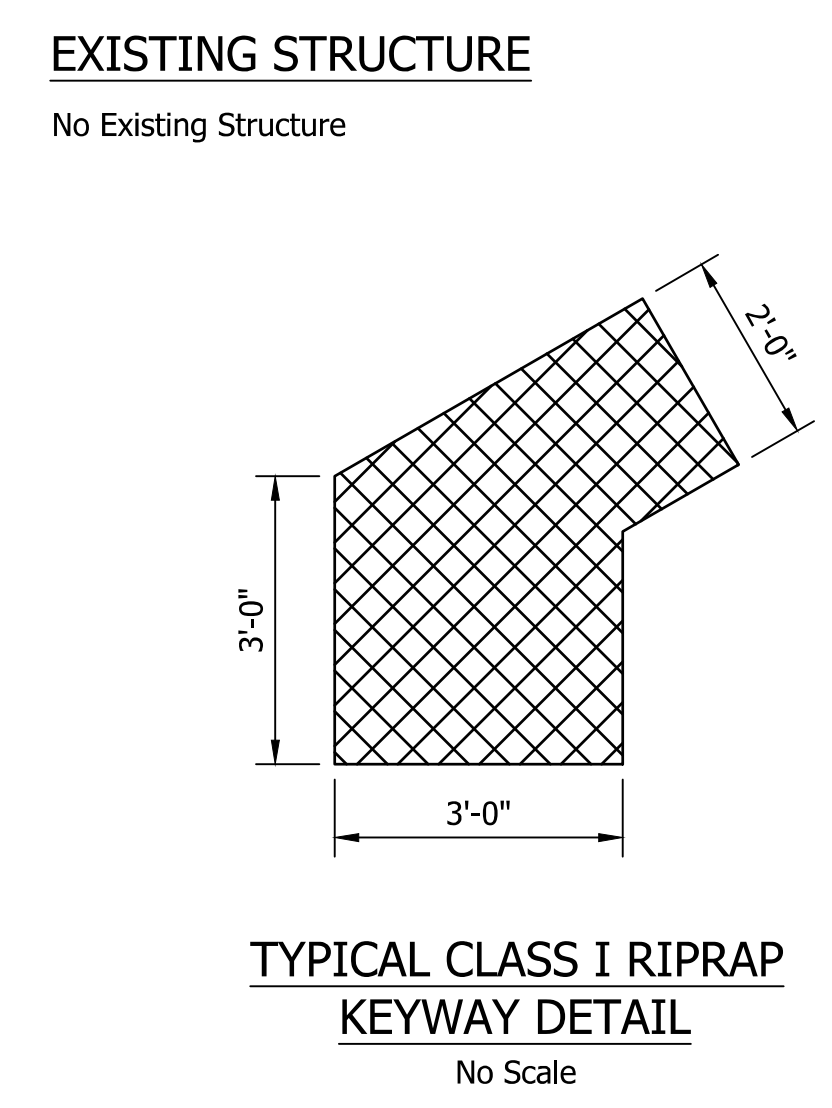
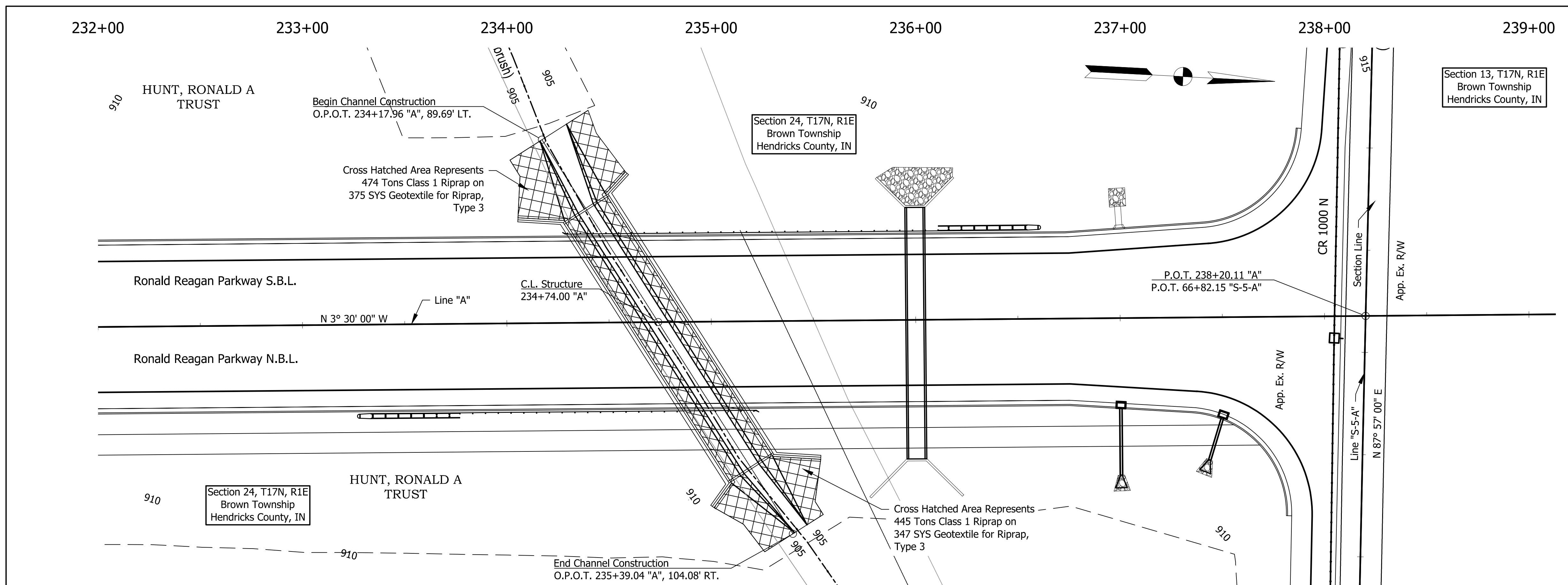


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|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: ESH                  | DRAWN: ESH   |                                  |  |
| CHECKED: JAR                   | CHECKED: JAR |                                  |  |

**HENDRICKS COUNTY**  
**STRUCTURE DETAILS**  
**STR 105**

|                  |             |
|------------------|-------------|
| HORIZONTAL SCALE | BRIDGE FILE |
| ---              | ---         |
| VERTICAL SCALE   | DESIGNATION |
| ---              | 1602280     |
| SURVEY BOOK      | SHEETS      |
| ---              | 77 of 211   |
| CONTRACT         | PROJECT     |
| ---              | 1602280     |



**HYDRAULIC DATA**

|  |                 |
|--|-----------------|
| Drainage Area                                | 0.88 SQ. MI.    |
| Discharge (Q50)                              | 599.7 CFT./SEC. |
| Q50 High Water El. (Nature Channel)          | 909.03 M.S.L.   |
| Backwater @ Q100                             | 0.36 FT.        |
| Velocity                                     | 4.48 FT./SEC.   |
| Waterway Opening Required (Below El. 909.03) | 134.0 SFT.      |
| Waterway Opening Provided (Below El. 909.30) | 134.0 SFT.      |
| Freeboard Provided (Above El. 909.30)        | 0.64 FT.        |

- NOTES**
- All R/W on this sheet described from Line "A"
  - For guardrail limits and side ditch grades, see Road Plan and Profile Sheet.
  - For topo references, see Road Plans.
  - For control point references, see Road Plans.

**PRECAST REINFORCED CONCRETE  
THREE-SIDED STRUCTURE  
RONALD REAGAN PARKWAY OVER PUMP RUN  
1 SPAN: 24'-0"; SKEW: 32° LEFT; Rise: 10'-0"  
HENDRICKS COUNTY**

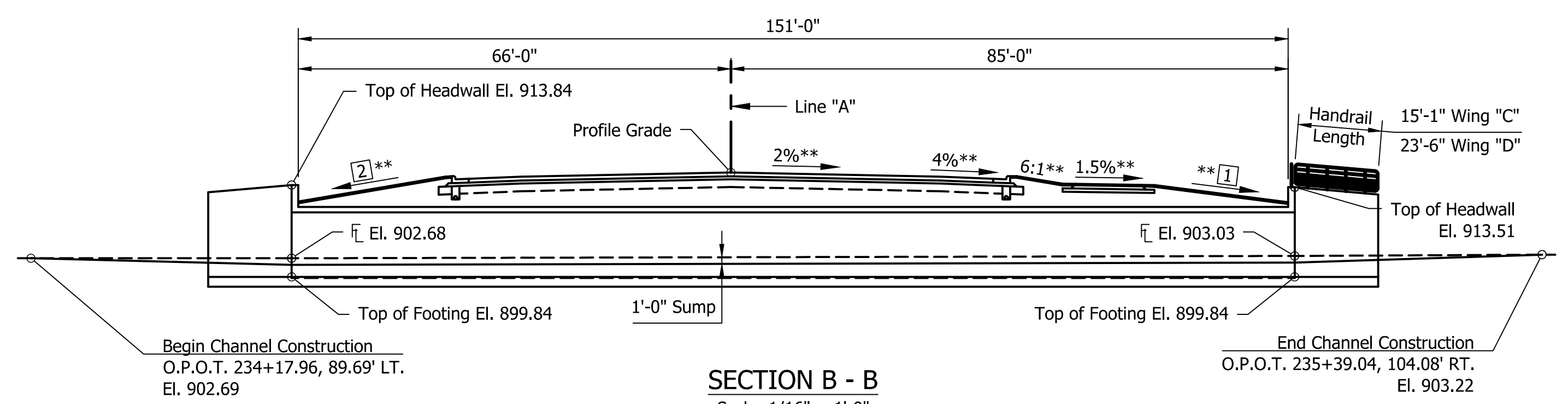
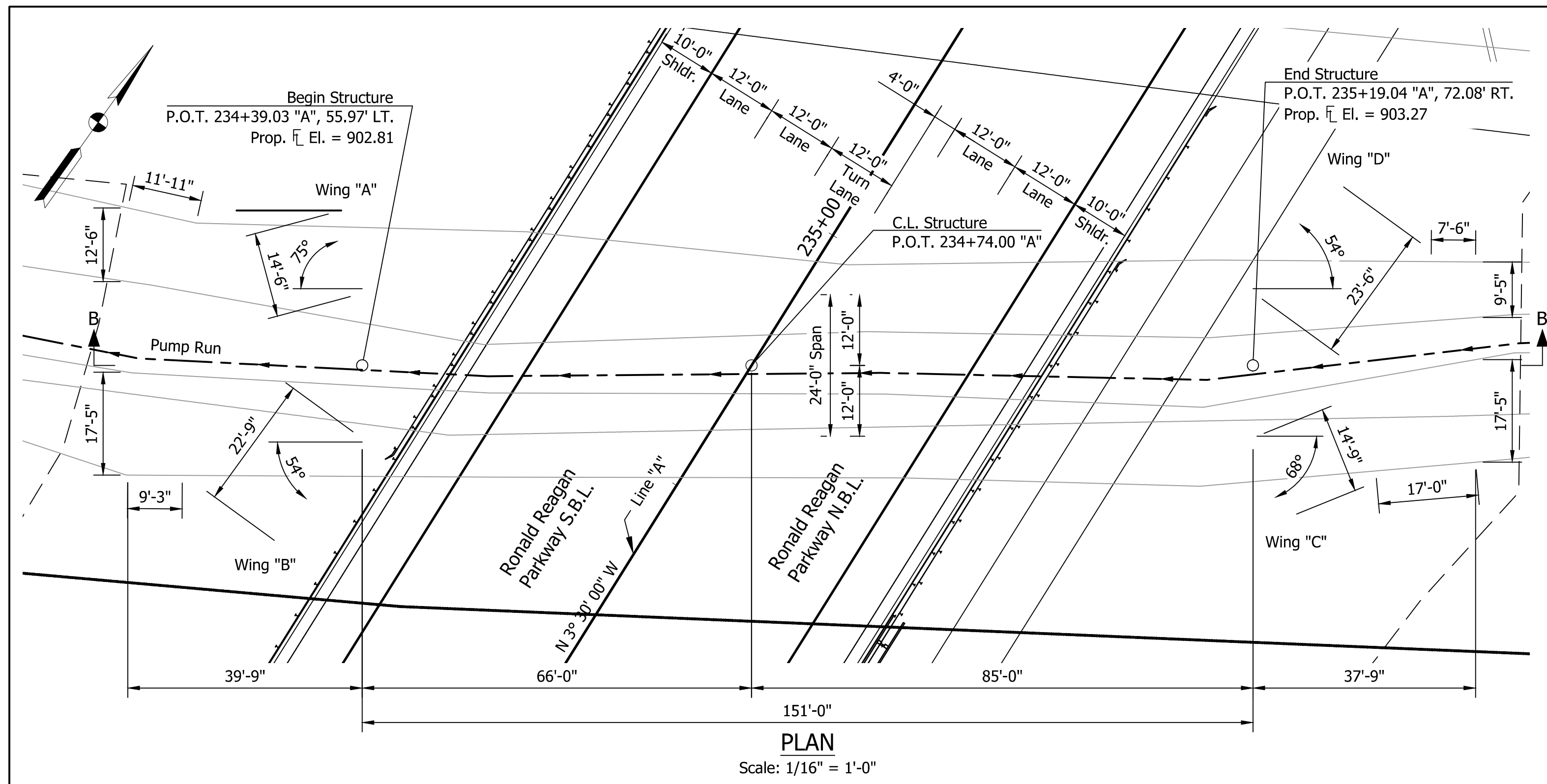
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: EIG            | DRAWN: DJG      |      |
| CHECKED: BAC             | CHECKED: EIG    |      |

**HENDRICKS COUNTY**

**BRIDGE LAYOUT**

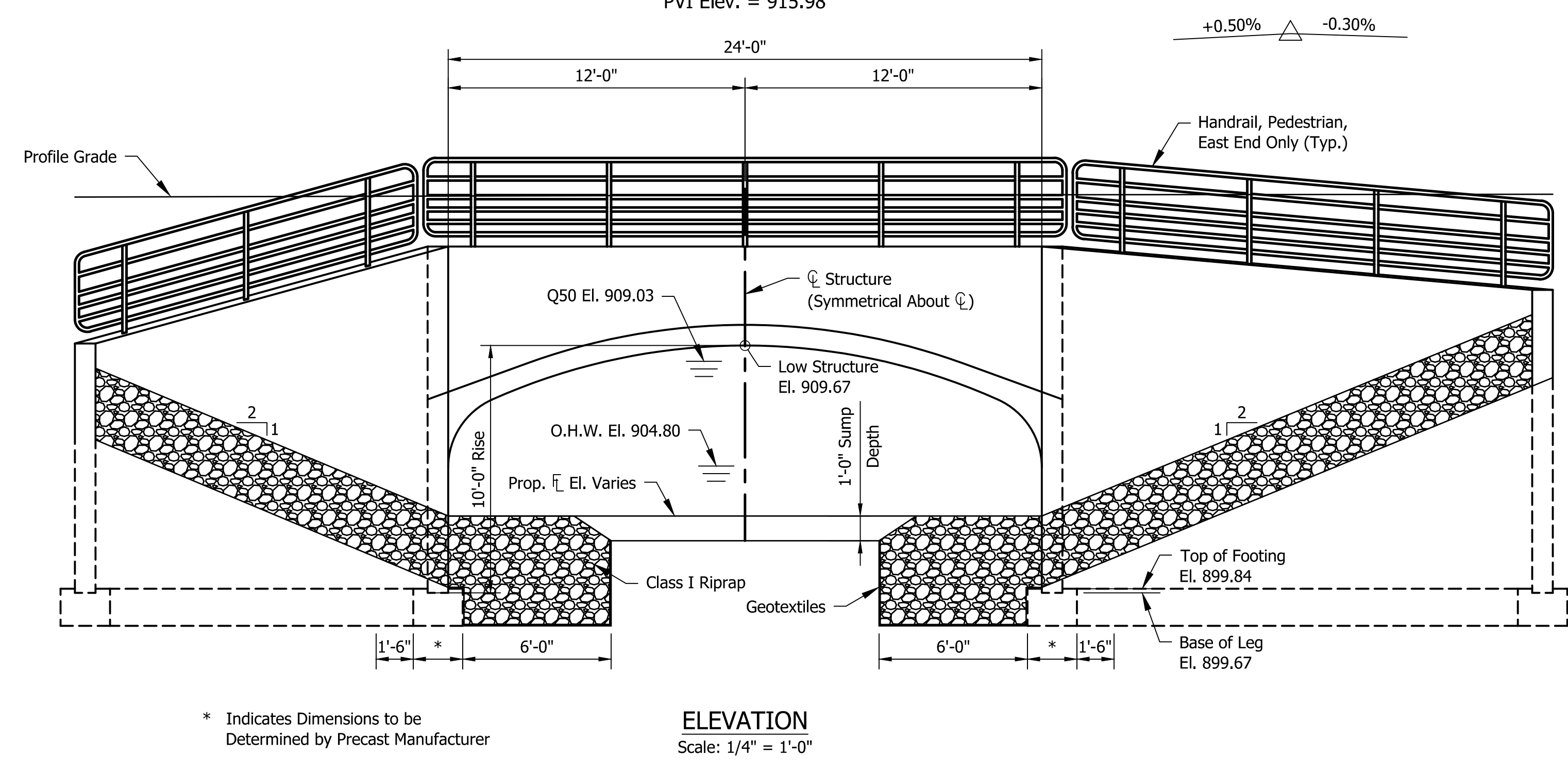
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|------------------|-------------------|
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| 1" = 30'         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 5'          | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 43 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\1602280\Road\Bridges.dwg Plot Date: 1/29/2020 Plotted By: Angerer, Kylee



- 1 Transitions from 3:1 to 8:1 between Sta. 234+75 "A" and 235+05 "A" and 8:1 to 3:1 between Sta. 235+05 "A" and 235+35 "A"
  - 2 Transitions from 3:1 to 8:1 between Sta. 234+15 "A" and 234+45 "A" and 8:1 to 3:1 between Sta. 234+45 "A" and 234+75 "A"
- \*\* Indicates Perpendicular to Line "A"

Structure Built to a 200' Vertical Curve  
PVI Sta. = 235+00  
PVI Elev. = 915.98



**DESIGN DATA**

Live Load: Designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and Interim Revisions.

**NOTES:**

1. An alternate to the structure shown, a flat top, precast, epoxy-coated, reinforced, three-sided structure type with a 24'-0" perpendicular span and a 10'-0" rise may be substituted for the structure shown.
2. Contractor shall verify the existing flowline elevation to set the appropriate sump depth.
3. See sheet 2 for utility owners and survey reference ties.
4. See Plan & Profile for benchmarks, approach work, incidental construction and additional details.
5. See sheet \_\_\_ for Handrail Detail.

**PRECAST REINFORCED CONCRETE  
THREE-SIDED STRUCTURE  
RONALD REAGAN PARKWAY OVER PUMP RUN  
1 SPAN: 24'-0"; SKEW: 32° LEFT; Rise: 10'-0"  
HENDRICKS COUNTY**

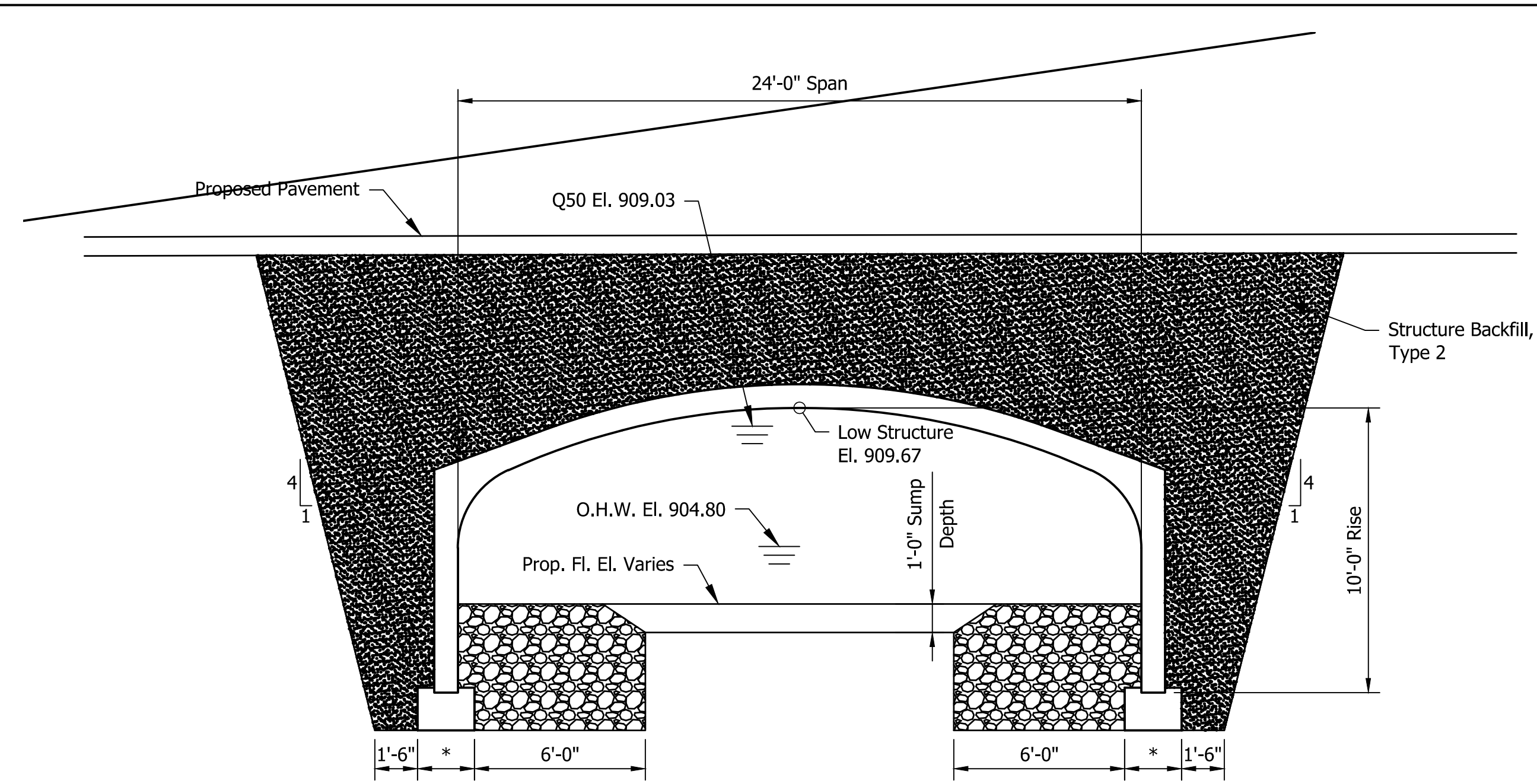
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|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: EIG            | DRAWN: DJG      |      |
| CHECKED: BAC             | CHECKED: EIG    |      |

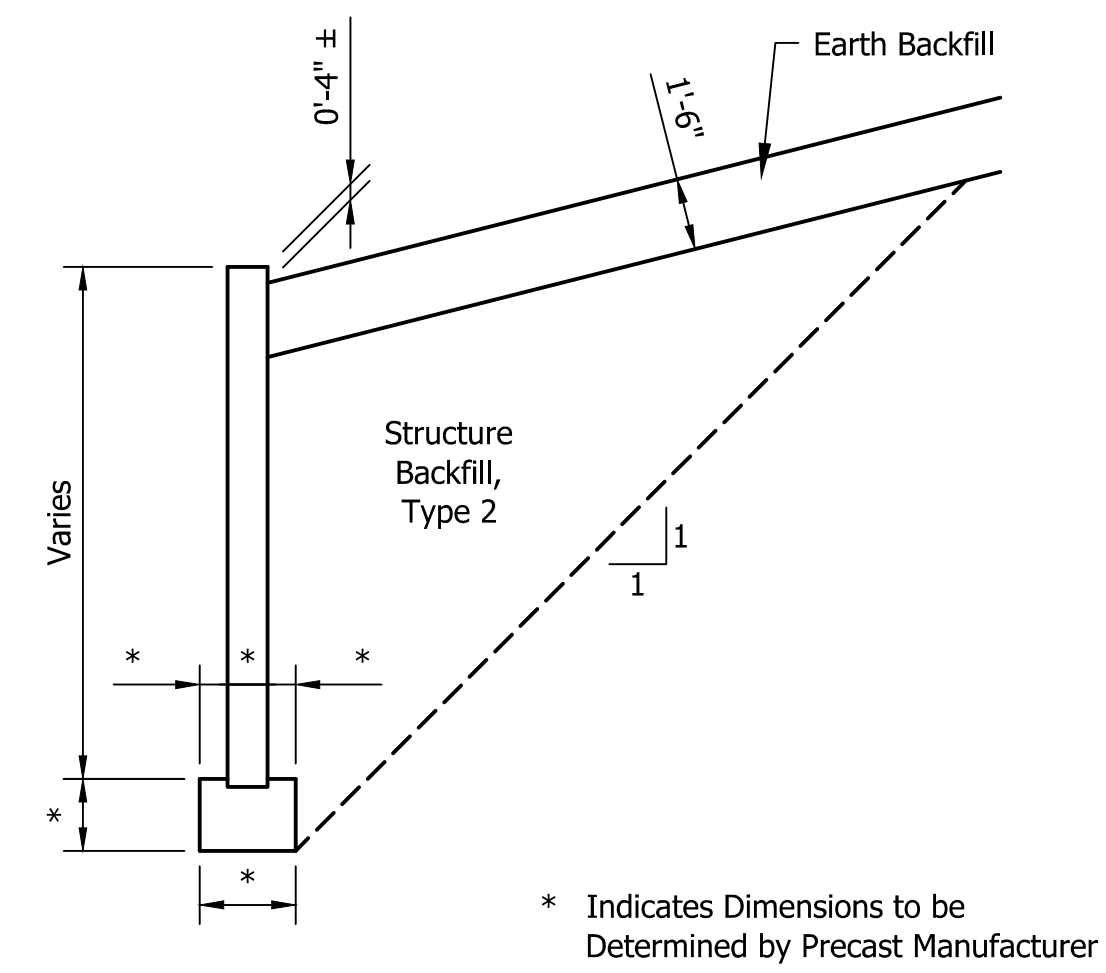
|                        |  |
|------------------------|--|
| HENDRICKS COUNTY       |  |
| GENERAL PLAN - SHEET 1 |  |

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| AS NOTED         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| AS NOTED         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 44 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

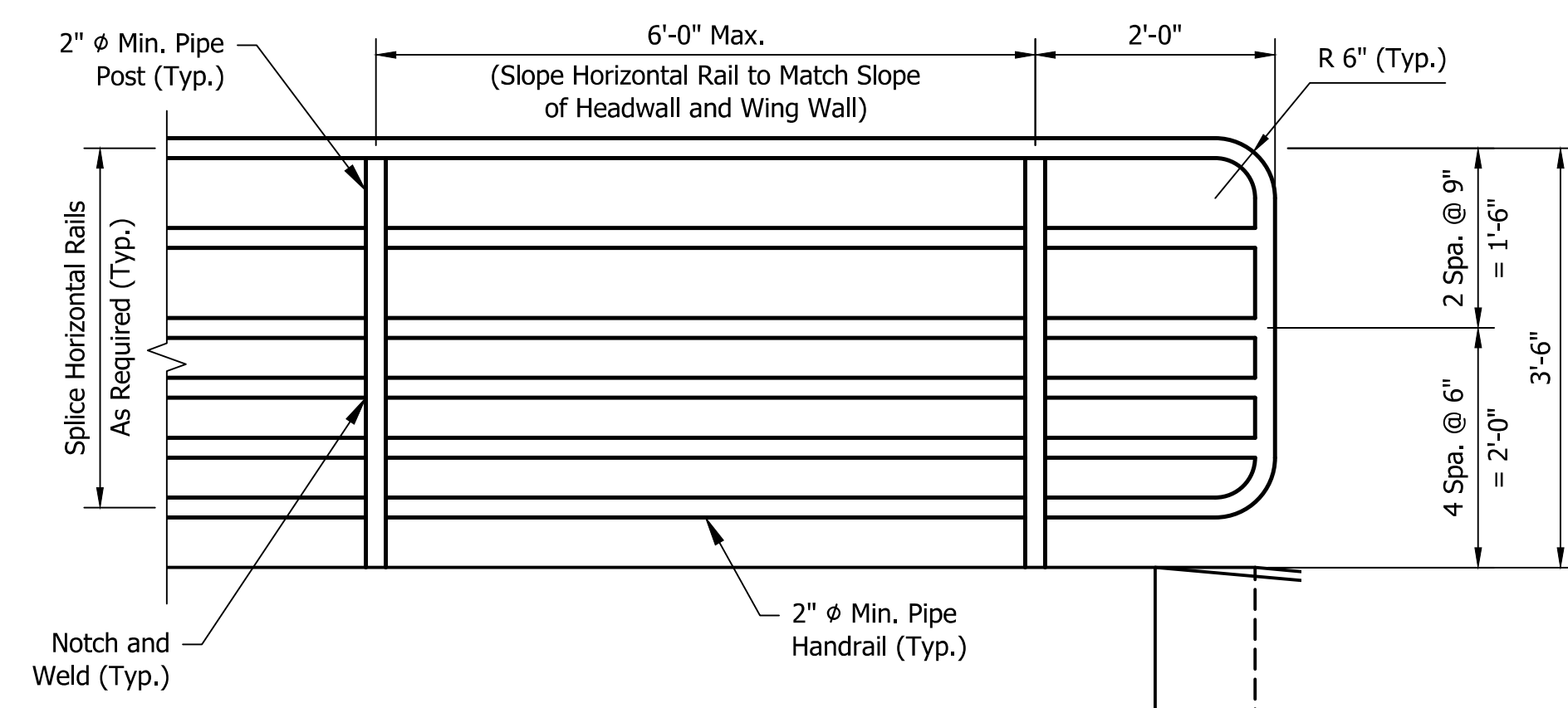


**BACKFILL DETAIL**  
Scale: 1/4" = 1'-0"

\* Indicates Dimensions to be Determined by Precast Manufacturer

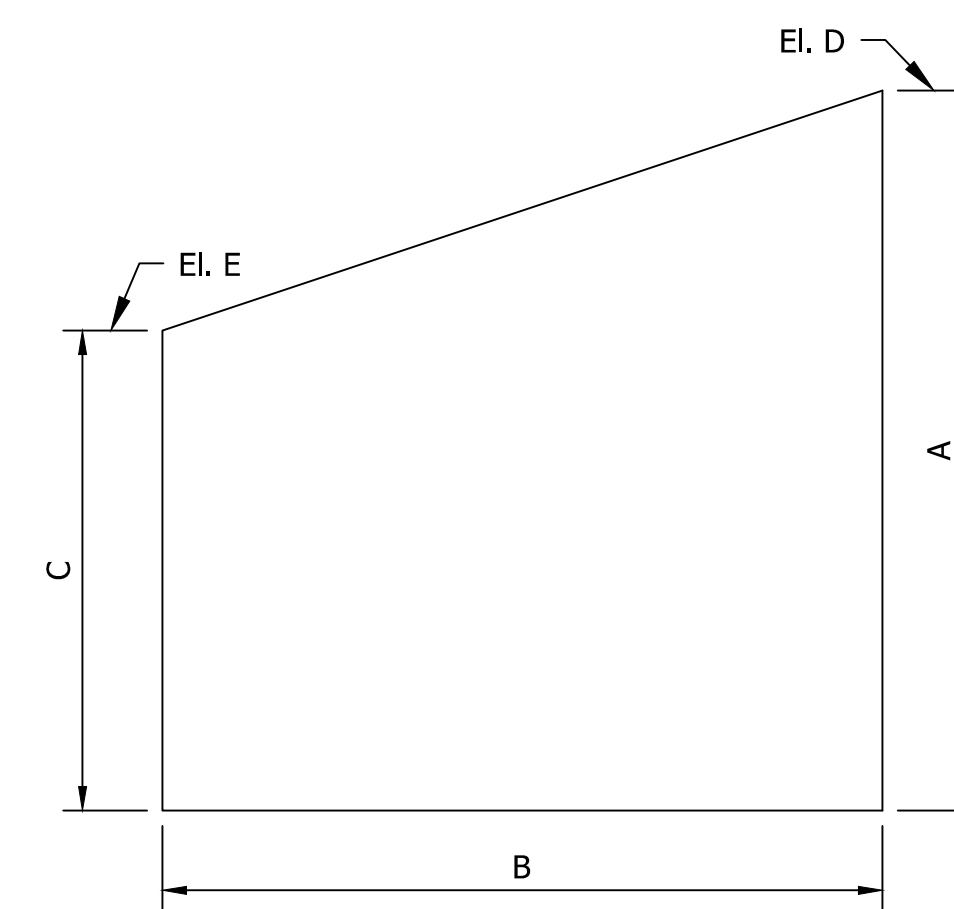


**TYPICAL WING SECTION**  
Scale: 1/4" = 1'-0"



**HANDRAIL DETAIL**  
Scale: 3/4" = 1'-0"

**NOTE:**  
Rail shall be designed for pedestrian rail loads in accordance with AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and Interim Revisions. The Contractor shall submit working drawings for approval in accordance with 105.02.



| WINGWALL TABLE |                 |        |        |        |
|----------------|-----------------|--------|--------|--------|
| Location       | Wing A          | Wing B | Wing C | Wing D |
| Dimension A    | 14.00           | 14.00  | 13.67  | 13.67  |
| Dimension B    | 14.50           | 22.75  | 14.75  | 23.50  |
| Dimension C    | 10.08           | 12.25  | 10.33  | 13.00  |
| Elevation D    | 913.84          | 913.84 | 913.51 | 913.51 |
| Elevation E    | 909.92          | 912.09 | 910.17 | 912.84 |
| Area (SFT)     | 174.58          | 298.59 | 177.00 | 313.37 |
|                | Total (SFT) 964 |        |        |        |

| SOIL PARAMETERS FOR WINGWALL DESIGN   |         |
|---|---------|
| Resistance Factor ( $\phi_b$ )  | --      |
| Nominal Bearing Capacity ( $Q_n$ )  | -- ksf  |
| Factored Bearing Resistance ( $Q_r$ )   | -- ksf  |
| Angle of Friction of Backfill Material  | --°     |
| Friction Factor ( $\tan \delta$ ) of the Foundation Soil                        | --      |
| Angle of Internal Friction of the Foundation Soil ( $\phi$ )                    | --°     |
| Soil Cohesion   | --- psf |
| Ultimate Adhesion Between Foundation Soil and Poured Concrete Footing ( $C_a$ ) | -- psf  |

**WINGWALL DETAIL**  
Scale: 1/4" = 1'-0"

**Note to United:**  
Soil parameters have been requested from Geotechnical Consultant, but have not been received, yet.

**PRECAST REINFORCED CONCRETE  
THREE-SIDED STRUCTURE  
RONALD REAGAN PARKWAY OVER PUMP RUN  
1 SPAN: 24'-0"; SKEW: 32° LEFT; Rise: 10'-0"  
HENDRICKS COUNTY**

File Name: S:\\_2017\17-0005\114\1\Draw\CAD\1849\General Plan\_Bridge.dwg Plot Date: 11/29/2020 Plotted By: Angster, Kc/kye



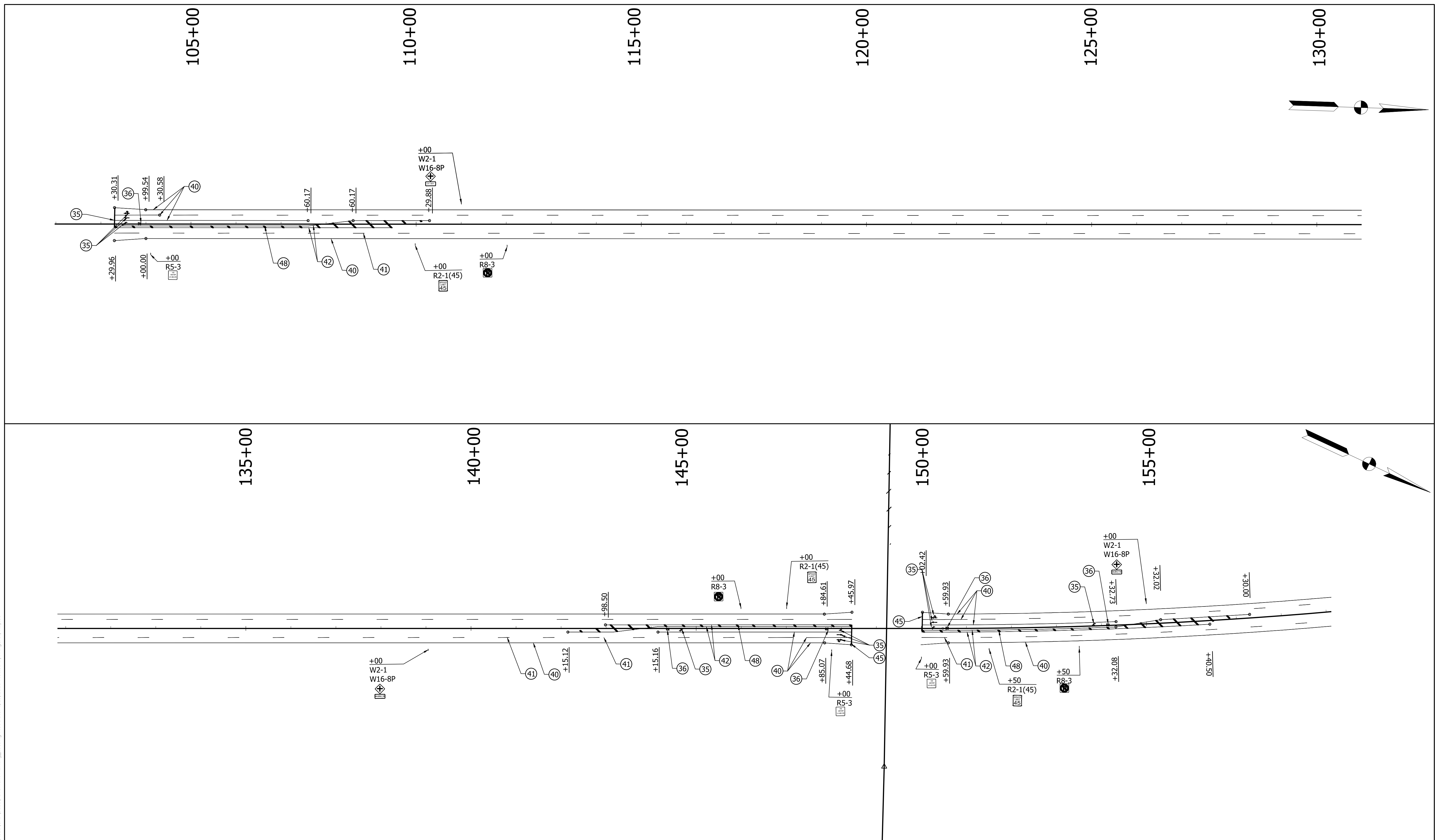
|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: EIG            | DRAWN: DJG      |      |
| CHECKED: BAC             | CHECKED: EIG    |      |

HENDRICKS COUNTY

GENERAL PLAN - SHEET 2

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| AS NOTED         | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| AS NOTED         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 45 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\17-0005\16\Work\Bases\Pavement Marking\_1B.dwg Plot Date: 1/29/2020 Plotted By: Angerer, Kaylee



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"
- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"

**LOCHMUELLER GROUP**

3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

|                          |              |          |
|--------------------------|--------------|----------|
| RECOMMENDED FOR APPROVAL |              | --/--/-- |
| DESIGNED: JNH            | DRAWN: JDH   | DATE     |
| CHECKED: BKA             | CHECKED: BKA |          |

HENDRICKS COUNTY

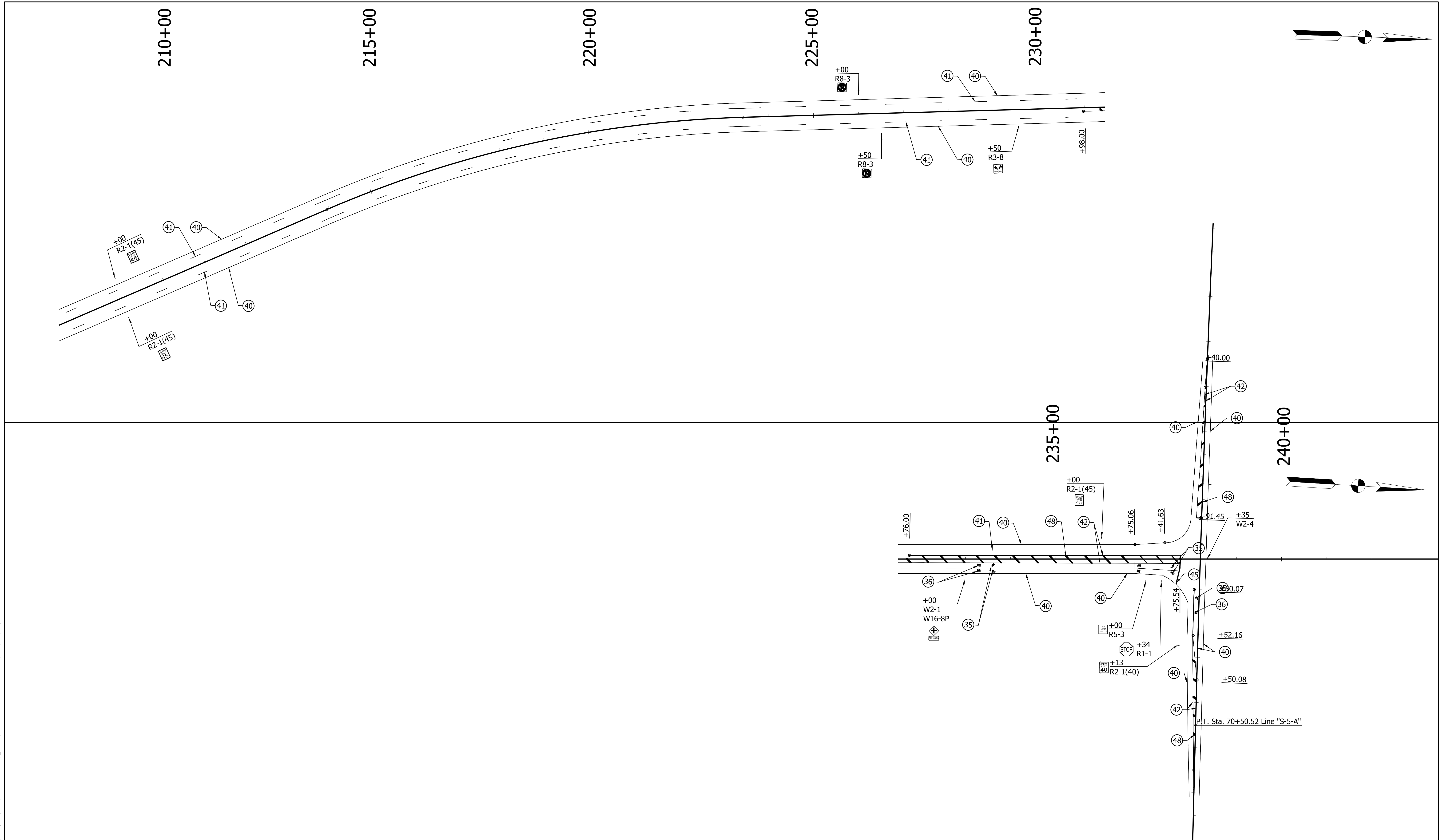
PAVEMENT MARKING PLAN - LINE "A"  
STA 104+00 TO STA 150+47.17

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1"=100'          | HENDRICKS BR00090 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 39 of 119         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |





File Name: S:\\_2017\17-0005\16\Work\Basic\CD\Basic\Pavement Marking\_1B.dwg Plot Date: 1/29/2020 Plotted By: Angerer, Kaylee



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (40) Line, Thermoplastic, Solid, White, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"
- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"

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Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

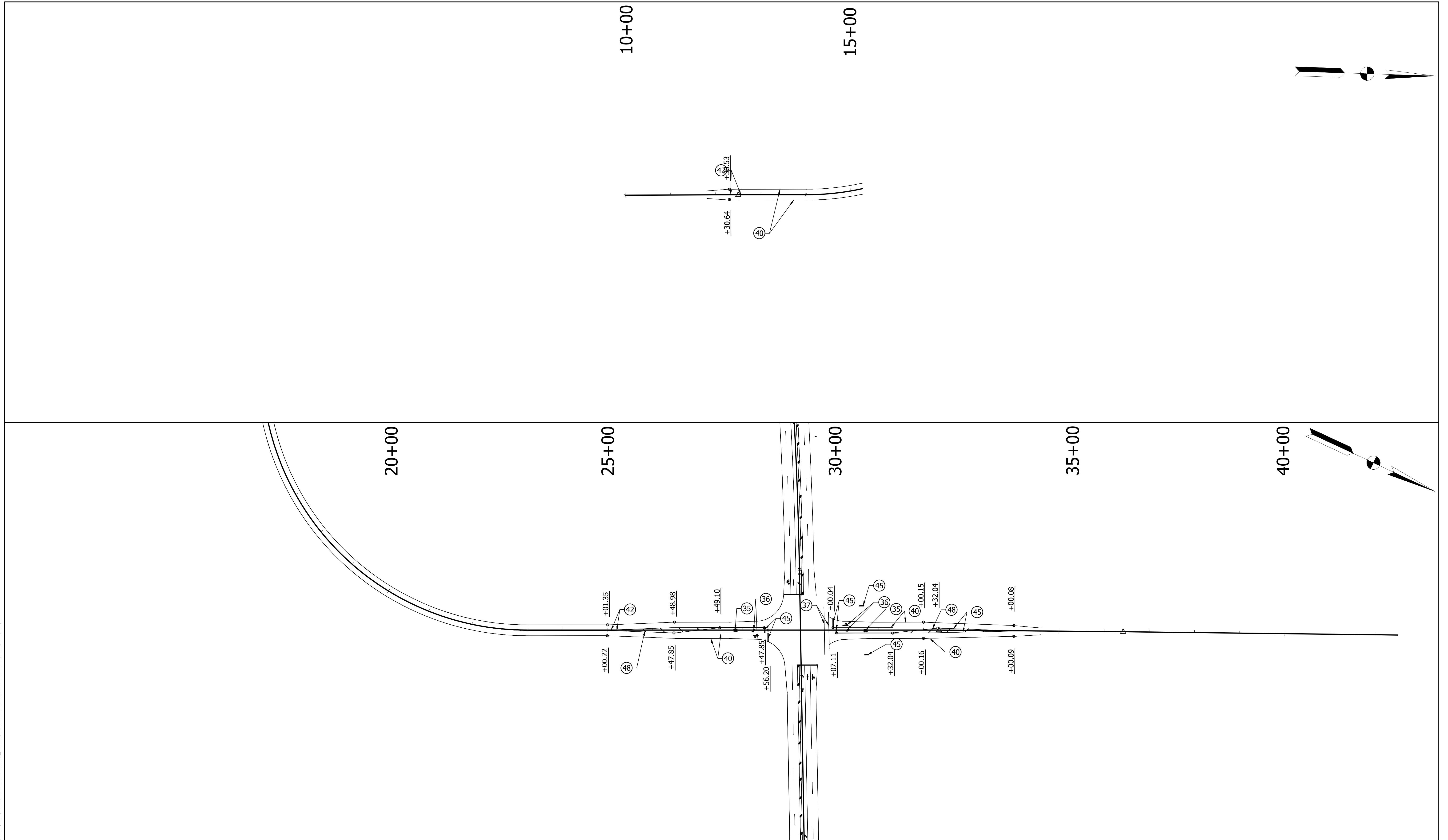
|                          |                 |
|--------------------------|-----------------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER |
| DESIGNED: JNH            | DRAWN: JDH      |
| CHECKED: BKA             | CHECKED: BKA    |

HENDRICKS COUNTY

PAVEMENT MARKING PLAN - LINE "A"  
STA 207+50 TO STA 247+50

|                               |                                  |
|-------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 100' | BRIDGE FILE<br>HENDRICKS BR00090 |
| VERTICAL SCALE<br>N/A         | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC     | SHEETS<br>41 of 119              |
| CONTRACT<br>###               | PROJECT<br>1602280               |

File Name: S:\\_2017\17-0005\11\04\Road\Bases\Pavement Marking\_1B.dwg Plot Date: 1/29/2020 Plotted By: Rogers, Kaylee



- (35) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- (36) Pavement Message Marking, Thermoplastic, ONLY
- (37) Line, Thermoplastic, Solid, White, 6"
- (40) Line, Thermoplastic, Solid, White, 4"
- (41) Line, Thermoplastic, Broken, White, 4"
- (42) Line, Thermoplastic, Solid, Yellow, 4"
- (45) Transverse Marking, Thermoplastic, Stop Bar, White, 24"

- (48) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 24"

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |                     |                       |                  |
|--------------------------------|---------------------|-----------------------|------------------|
| RECOMMENDED FOR APPROVAL _____ |                     | DESIGN ENGINEER _____ | DATE ___/___/___ |
| DESIGNED: <u>JNH</u>           | DRAWN: <u>AJK</u>   |                       |                  |
| CHECKED: <u>BAK</u>            | CHECKED: <u>BAK</u> |                       |                  |

**HENDRICKS COUNTY**  
  
**PAVEMENT MARKING PLAN - LINE "S-4-A"**  
**STA 11+80 TO STA 34+60**

|                             |                                  |
|-----------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1"=100' | BRIDGE FILE<br>HENDRICKS BR00090 |
| VERTICAL SCALE<br>N/A       | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC   | SHEETS<br>42 of 119              |
| CONTRACT<br>###             | PROJECT<br>1602280               |

**Appendix C: Early Coordination**



AMERICAN  
**STRUCTUREPOINT**  
INC.

February 21, 2018

**Example Re-coordination Letter**

Attn:  
Address  
Address 2  
City, State Zip

Re: Des. No. 1602280 (Original Des. No. 0710288)  
Additional Information for Ronald Reagan Parkway  
from Hendricks County Road 600 North to Interstate 65  
Boone and Hendricks Counties, Indiana

Dear Sir or Madam:

On May 3, 2006 Beam, Longest and Neff, LLC initiated early coordination with your agency regarding the Boone and Hendricks County Commissioners proposed project to extend Ronald Reagan Parkway from County Road (CR) 600 N to Interstate 65 (I-65). The proposed project alignment begins approximately at the CR 600 N and Ronald Reagan Parkway intersection in Hendricks County, extends north approximately 8.3 miles on mostly new terrain to SR 267, and continues north along SR 267 for approximately 1.5 miles to the interchange with I-65. The total length of this project is 9.8 miles. On July 6, 2010, the Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) released the prepared Environmental Assessment (EA) for public involvement. Following the release of the EA, a public hearing was held on August 2, 2010. On March 7, 2011, following the conclusion of the public involvement requirements, the FHWA issued a Finding of No Significant Impact (FONSI) for the project.

Since the March 7, 2011 issuance of the FONSI, preliminary design has been completed for Phase IA of the proposed project. The EA stated that the amount of right-of-way would be 241 acres for the entire project. It has been determined that 24.64 acres of additional right-of-way within Phase IA will be required. This additional right-of-way is required for the installation of storm water detention ponds and improvements to the cross streets (CR 600 N, CR 700 N and CR 750 N).

Of the additional 24.64 acres of additional right-of-way, 20.24 acres will be required within Phase IA for three proposed detention ponds. The detention ponds are proposed to be in the northwest quadrant of the CR 600 N and Ronald Reagan Parkway intersection (10.52 acres), in the southwest quadrant of the CR 900 E and CR 700 N intersection (3.97 acres), and in the southeast quadrant of the CR 900 E and CR 750 N intersection (5.75 acres).

Modifications to cross streets has been proposed within Phase 1A of the project. Modifications to CR 700 N and CR 750 N will include the addition of a left turn lane. The typical section for the cross streets will include one 12-foot wide travel lane in each direction, one 12-foot wide left turn lane, and 8-foot wide shoulders. The proposed work extends approximately 900 feet east and west along CR 600 N and approximately 500 feet east and west along CR 700 N and CR 750 N. An additional 4.4 acres of permanent right-of-way and 0.22 acre of temporary right-of-way will be required for the proposed improvements to the cross streets.

The proposed Ronald Reagan Parkway will consist of two 12-foot wide travel lanes (one in each direction) with 10-foot wide outside shoulders. A 12-foot wide turn lane with 4-foot wide striped median or 16-foot median will be constructed, depending on need. A 10-foot wide multi-use path located on the east side of the parkway will also be incorporated into the roadway design. A 10-foot wide grassed buffer will be constructed between the parkway and the multi-use path.

The Ronald Reagan Parkway crossing of the CSX railroad will be a grade separated bridge. The bridge will be a 7-span bulb tee beam bridge with an out-to-out coping length of 97.5 feet with four 12-foot wide travel lanes (two in each direction), a 12-foot wide turn lane with 4-foot wide striped median, 10-foot 4-inch wide outside shoulders, and a 10-foot wide multi-use path . A 10-inch wide rail will be placed on each side of the multi-use path. Retaining walls will be used to decrease the amount of right-of-way needed and the amount of impact. There will be a minimum vertical clearance of 23 feet, 3 5/8 inches over the CSX railroad.

The original EA anticipated five relocations due to the construction of the proposed roadway. The modified plans proposes one additional relocation (six total relocations). The additional proposed relocation is located in the northwest quadrant of the CR 750 N and CR 900 E intersection in Hendricks County.

These modifications necessitate the preparation of an Additional Information (AI) document to the previously approved EA to document the changes in project scope.

You are asked to review this information and provide any comments you may have relative to anticipated impacts of the project modifications on resources for which you have jurisdiction or special expertise. To facilitate the development of this project, you are asked to reply within 30 days of receipt of this letter. If no response is received by that date, it will be assumed you have no comments at the present time. Your timely cooperation in the development of this project is appreciated.

Please contact Josh Iddings by phone at (317) 547-5580 or e-mail me at [jiddings@structurepoint.com](mailto:jiddings@structurepoint.com) if there are any questions or additional information is needed.

Very truly yours,  
American Structurepoint, Inc.

Josh Iddings  
Senior Environmental Scientist

#### Enclosures

2006 Early Coordination  
State Location Map  
USGS Topographic Mapping  
2005 Aerial Site Map  
Site Photographs

Duplicate Mapping removed to reduce file size.  
Please see Appendix A for mapping and site  
photographs.

### Mailing List

US Fish and Wildlife Service  
Indiana Geological Survey  
Indiana Department of Transportation, Environmental Services  
Indiana Department of Transportation, Office of Public Involvement  
Federal Highway Administration  
Indiana Department of Natural Resources  
Indiana Department of Environmental Management  
US Natural Resources Conservation Service  
National Park Service  
Chicago Regional Office, US Department of Housing and Urban Development  
US Army Corps of Engineers  
Indianapolis Metropolitan Planning Organization  
DNR Outdoor Recreation  
Boone County Council  
Boone County Sherriff  
Boone County Surveyor  
Lebanon Community School Corporation  
Boone County EMA  
Hendricks County Council  
Hendricks County Sheriff  
Hendricks County Surveyor  
Brownsburg MS4 Coordinator  
Hendricks County Regional Sewer District  
Brownsburg Community School Corporation  
Hendricks County EMA



**Beam, Longest and Neff, L.L.C.**  
Consulting Engineers & Land Surveyors

May 3, 2006

Re: Extension of Ronald Reagan Parkway  
Hendricks and Boone Counties, Indiana

Dear:

The Hendricks County and Boone County Commissioners have retained Beam, Longest and Neff, LLC (BLN) to provide the environmental services for the proposed extension of Ronald Reagan Parkway in Hendricks and Boone Counties, Indiana. An information packet, project location maps, aerial photographs, and ground level photographs are attached hereto. This letter is written to describe the proposed project and to solicit your comments as early coordination. The description of the referenced project is attached.

As part of our early coordination effort for the referenced project, you are asked to study the enclosed information and provide an assessment of potential project impacts upon those resources within your jurisdiction. You are asked to return a reply by July 3, 2006. In addition, an information packet will be sent to the Division of Historic Preservation. If you have any questions, or if we can be of any further assistance, please do not hesitate to contact this office. Your cooperation is appreciated.

Very truly yours,  
BEAM, LONGEST AND NEFF, L.L.C.

Patricia S. Brower  
Environmental Analyst

cc: Enclosures  
File No. 4019

# PROJECT DATA SHEET

## Extension of Ronald Reagan Parkway From Hendricks County CR 600 North to SR 267/I-65 in Boone County, Indiana

The Hendricks County and Boone County Commissioners have retained Beam, Longest and Neff, LLC (BLN) to provide the environmental services for the proposed extension of Ronald Reagan Parkway in Hendricks and Boone Counties, Indiana. Project location maps, aerial photographs, and ground level photographs are attached hereto.

### **PROJECT LOCATION**

The proposed project is located in northern Hendricks County (2005 population 127,483) and southern Boone County (2005 population 52,061). The proposed extension of Ronald Reagan Parkway begins at CR 600 North in Hendricks County and extends north to I-65 in Boone County. The alignment is proposed to connect with I-65 at the existing I-65/SR 267 interchange. Specifically, the project is located in Sections 1 and 6, Township 16 North, Range 1 East, Sections 13, 24, 25, 26, 35, and 36, Township 17 North, Range 1 East of Brown Township in Hendricks County and Sections 2, 11, and 12, Township 17 North, Range 1 East, Sections 27, 34, and 35, Township 18 North, Range 1 East of Perry Township in Boone County. An illustration of the proposed corridor is provided on the attached aerial photograph (Appendix page A-31). The total length of the new roadway is approximately 9.8 miles.

### **EXISTING CONDITIONS**

The proposed project is an extension of the existing North/South Corridor, now named the Ronald Reagan Parkway, on new alignment beginning at I-70 in Hendricks County. The environmental process and hearing requirements have been completed for the entire segment from I-70 to Hendricks CR 600 North, approximately 12 miles.

The status of each of the project's segments from I-70 to Hendricks CR 600 North is as follows:

- Interchange at I-70 – constructed
- CR 450 South to US 40 – under construction
- US 40 to CR 100 South – development of construction plans has not begun
- CR 100 South to US 36 – construction plans being developed
- US 36 to CR 300 North – constructed
- CR 300 North to north of US 136 – construction plans being developed
- North of US 136 to CR 600 North – construction plans being developed as an INDOT Design/Build project.

Land use for the proposed extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County is primarily agricultural. The corridor passes through agricultural fields north of Hendricks CR 600 North before crossing a CSX Railroad. A commercial property, Cross Roads Feed Barn, is located at Hendricks CR 900 East and Hendricks CR 700 North. Scattered residential parcels exist along Hendricks CR 900 East. Field investigations of depression and forested areas determined that a potential wetland may exist on the east side of Hendricks CR 900 East, north of Hendricks CR 750 North. Potential wetland areas were not field delineated. Once an alignment has been determined, a field delineation in accordance with the 1987 Corps of Engineers Wetland Delineation Manual (Y-87-1) would be conducted. The exact impacts to these wetland areas, if any, would be determined as the design advances.



As the corridor travels north through agricultural and residential property, it crosses Maloney Road. The corridor pass adjacent to a forested area in an agricultural field before crossing Pump Run (Martin Dugan Drain), a legal drain, south of Hendricks CR 1000 North. Pump Run is classified as a riverine, intermittent, streambed seasonally flooded, excavated (R4SBCx) waterway on the National Wetlands Inventory (NWI) map. The corridor also passes near an Indiana Department of Natural Resources (IDNR) conservation area north of Hendricks CR 1000 North, east of Hendricks CR 800 East. This area is classified as a palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland on the NWI map. Field investigations of depressional and forested areas determined that a potential wetland may exist within an agricultural field east of the IDNR Conservation Area. The project corridor crosses high tension transmission lines north of the conservation area before crossing the Hendricks/Boone County line. The corridor crosses Etter Ditch, a legal drain, south of CR 750 South in Boone County. Etter Ditch is classified as a riverine, lower perennial, unconsolidated bottom, permanently flooded, excavated (R2UBHx) waterway on the NWI map.

The project corridor traverses a forested area north of Boone CR 750 South, west of Boone CR 475 East. A new commercial property is under construction on the north side of Boone CR 650 South within the project corridor. A forested area is located north of this structure within the agricultural field and a pond is located north of Boone CR 650 South, west of Boone CR 475 East. The corridor crosses White Lick Creek, a legal drain, south of Boone CR 550 South. White Lick Creek is classified as a R2UBHx waterway on the NWI map. A potential wetland exists within the agricultural field north of White Lick Creek, south of Boone CR 550 South. Field investigations located a broken field tile at this location. The White Lick Creek flood plain extends north and south of Boone CR 550 South. The corridor crosses the floodplain south of Boone CR 550 South. Fayette Nursery exists in the northwest quadrant of SR 267 and Boone CR 550 South. Residential property exists along both sides of Boone CR 550 South, east of SR 267. The corridor crosses White Lick Creek again as proposed Reagan Parkway travels north along existing SR 267, north of Boone CR 550 South.

Perry Industrial Park is located along the east side of SR 267, south of the I-65 interchange in Boone County. A cell tower is located on the west side of SR 267 across from Perry Industrial Park in Boone County. The NWI map indicated that a PFO1A wetland exists on the east side of SR 267 at Perry Industrial Park; however, field investigations located two ponds and no forested area at this location.

The Leaking Underground Storage Tank (LUST) database, which is maintained by the Indiana Department of Environmental Management (IDEM), did not identify any active sites within the project corridor. A Priority Risk Assessment conducted by FirstSearch Technology Corporation determined that a Resource Conservation and Recovery Act Generator Site (RCRAGEN) is located at 4312 White Lick Drive on the east side of SR 267 at Perry Industrial Park. As the environmental process advances, further analyses of the potential impacts to this site would be performed.

### **NEED FOR IMPROVEMENT**

The purpose and need for the proposed project is comprised of the following items:

- System linkage of Ronald Reagan Parkway, providing connectivity for the following areas:
  - The communities of Plainfield, Avon and Brownsburg.
  - Traffic generators including the Indianapolis International Airport, the CSX Railroad Yards, and Indianapolis Raceway Park.
  - Major routes including SR 67, I-70, US 40, US 36, US 136, I-74, and I-65.
- Continuity of roadways, extending from the northern terminus of the currently approved sections of the Parkway to the existing I-65 access point at SR 267.

Once constructed, Reagan Parkway would travel through Plainfield and Avon and connect with I-74 in Brownsburg. Extending the Parkway through Hendricks County into Boone County would relieve traffic

from the Indianapolis Airport and the Indianapolis Raceway Park, and truck traffic from the CSX Railroad Yard. The Parkway would provide access to northwest Indiana by connecting traffic along state roadways west of Indianapolis. Construction of the new roadway would assist in improving regional and local mobility in Hendricks and Boone Counties. The proposed project is included on the Hendricks County Master Thoroughfare Plan, Brownsburg's Ronald Reagan Corridor Master Plan, and the Boone County Master Thoroughfare Plan. It would provide a logical connection to existing Ronald Reagan Parkway. The Brownsburg's Ronald Reagan Corridor Master Plan, the Whitestown's Land Use Plan, the Boone County Area Plan (Perry and Worth Townships, July 2003) and expansion of the Perry Industrial Park has evaluated future land use for the area adjacent to the proposed roadway. As seen on Appendix pages A-52 to A-59, property is anticipated to be zoned commercial, industrial, and residential. The extension of Ronald Reagan Parkway would aid in promoting economic growth in both counties providing access to areas of development.

### **PROPOSED IMPROVEMENTS**

The proposed extension of Ronald Reagan Parkway would function as a minor arterial with partially limited access. The roadway would be a continuation of the North/South Corridor segments that have been approved from SR 67 to CR 600 North in Hendricks County. The design speed would be 55 mph. The proposed cross section would consist of two 12 ft. travel lanes in each direction separated by a 16 ft. flush median. Shoulders and side ditches would border the travel lanes.

The project study corridor is approximately 500 ft. wide with four alternate locations between Hendricks CR 600 North and SR 267 at the I-65 interchange in Boone County. One alternate is located west of Hendricks CR 900 East (1C) and the second alternate travels along existing CR 900 East (1D) to Maloney Road. Two additional alternates are located north of Boone CR 650 South, west of Boone CR 475 East. One of these alternates connects with SR 267 at the intersection of SR 267 and CR 550 South (1B) and the other alternate crosses Boone CR 550 South, east of SR 267, and connects with SR 267 north of Boone CR 550 south (1A). The northern portion of the extension would use existing SR 267 to the I-65 interchange in Boone County. Coordination with INDOT would be necessary for the connection with SR 267 and possible I-65 interchange improvements at SR 267.

Structures would be required at the following waterway crossings: Ronald Reagan Parkway over Pump Run, Etter Ditch, and White Lick Creek (at three locations). The details of these structures would be refined as the project design advances. At-grade intersections are anticipated for all existing public road crossings. Additional access points are anticipated at approximately 0.5 mile intervals.

It is anticipated the proposed right-of-way would be maintained within a 230 ft. minimum corridor (115 ft. on either side of the proposed centerline). The majority of this additional right-of-way would be required from agricultural land. However, right-of-way would also be required from residential, industrial, and commercial areas. Approximately 270 acres of agricultural property could be impacted by the proposed project; however, quantities of proposed right-of-way by land use will be refined as the environmental process advances.

As required by the Farmland Protection Policy Act for corridor type projects, form CPA-106 has been completed. Since this project received a point value of more than 60 points, the form was sent to the Natural Resource Conservation Service (NRCS) with this early coordination packet. If the NRCS evaluation assigns a point value exceeding 160 points, a discussion of the mitigation to reduce the impacts of the loss of prime farmland will be included in the Environmental Assessment. If the point value does not exceed 160 points, this site will receive no further consideration for farmland protection. No other alternatives other than those already discussed in this document would be considered without a re-evaluation of the project's potential impacts on farmland.

**AREA OF POTENTIAL EFFECT (APE)**

A preliminary Area of Potential Effect (APE) has been established for the proposed project. The APE is the area in which an undertaking may cause direct or indirect changes in character or use of a historic property. The boundary of the APE is determined through the consideration of the effect of the undertaking in respect to visual and audible intrusions, changes in traffic patterns and alterations in land use or public access. The preliminary APE was developed in regard to the scope of the project, which is new road construction on new and existing alignment. The preliminary APE extends the length of the proposed project, approximately 9.8 miles beginning at CR 600 North in Hendricks County and extending north to I-65 and SR 267 in Boone County. The recommended APE boundary for the referenced project is illustrated on the attached aerial photograph (Appendix page A-31).

The National Register of Historic Places (NRHP) database was utilized to identify individual and district listings within the preliminary APE. Review of the NRHP did not reveal the presence of any listed properties. Review of the Indiana Register of Historic Sites and Structures (State Register) identified one historic resource in Hendricks County. The Walker School (Lincoln Township District School No. 1), 1895. The *Indiana Historic Sites and Structures Inventory for Hendricks County* and the *Indiana Historic Sites and Structures Inventory for Boone County (Interim Reports)* were reviewed for potentially historic resources within the project area. Six notable and two outstanding resources were identified within the preliminary APE. These resources are listed in the following table and identified with letters to match those letters placed on the aerial shown on Appendix page A-31.

**POTENTIAL HISTORIC RESOURCES WITHIN THE PRELIMINARY APE**

| HENDRICKS COUNTY |  |
|------------------|--|
| Resource No.     | Resource Description   |
| 40006 (A)        | House, Central-passage/Gothic Revival, c. 1860; Architecture, Vernacular/ Construction. Lincoln Township. <b>(Notable)</b>   |
| 40004 (C)        | Lincoln Township School, District No. 1, T-plan, 1895; Vernacular/ Construction, Education. Lincoln Township. <b>(Notable)</b>   |
| 00012 (Q)        | Farm; House: I-house/Greek Revival, c.1865 (Farris, builder); Outbuildings: English barns, privy, shed: Agriculture, Architectures, Vernacular/ Construction. Brown Township. <b>(Notable)</b>   |
| 00006 (V)        | PC Hogan Farm; House: gable-front, c.1900; Outbuildings: English barn, c.1910, English barn, c.1907, chicken house, privy, hog house, pump house; Agriculture, Vernacular/Construction. Brown Township. <b>(Notable)</b>                         |
| 00007 (W)        | Dugan Farm, House: gable-front/Queen Anne, c.1900/1920/1970; Outbuildings: English barns, hog houses, shed, chicken house, pump house, privy, tractor shed; Agriculture, Architecture, Vernacular/Construction. Brown Township. <b>(Notable)</b> |
| BOONE COUNTY     |  |
| Resource No.     | Resource Description   |
| 45029 (HH)       | Dr. Kemper Westfall house; Italianate/Colonial Revival, c.1880/c.1939; Architecture. Perry Township. <b>(Outstanding)</b>  |
| 45027 (II)       | Historical Marker; Site of William Sullivan House, 1837; Exploration/ Settlement. Perry Township. <b>(Outstanding)</b>   |
| 45010 (LL)       | Charles A. Goehanour Farm; Free Classic, 1905; Architecture. <b>(Notable)</b><br>Field survey revealed that this structure has been razed.   |

Contributing resources were also identified in the *Hendricks and Boone Counties Interim Reports* as potentially eligible for the National Register of Historic Places (NRHP). Photographs of these structures and additional potentially eligible structures within the corridor can be found on Appendix pages A-32 to A-51. The structures are identified with letters to match those letters located on the aerial on Appendix page A-31.

A potential historic school house built around 1885 is within the project corridor (AA). The school is located at 4555 East CR 750 South and is listed as Contributing in *Boone County Interim Report* for Perry Township (Resource No. 45031). The school house is currently under renovation.

Howards Cemetery, established in 1886, is within the project corridor (BB). The cemetery is located on the south side of Boone CR 750 South between Boone CR 450 East and Boone CR 475 East. The cemetery is listed as Contributing in the *Boone County Interim Report* for Perry Township (Resource No. 45030). The details of potential impacts to the cemetery would be refined as the project design advances. Should the alignment disturb the ground within 100 ft. of a cemetery for the purpose of erecting, altering, or repairing a structure a development plan to the Indiana Department of Natural Resources, State Historic Preservation Officer (SHPO) would be submitted to define impacts and mitigation measures.

An archaeological records review was conducted by Archaeological Consultants of Ossian (ACO) for the proposed project area on November 18, 2005. The records review concluded that the project area has the potential to contain historic sites. Additionally, there are known archaeological resources that have been documented near the project area. Therefore, a field reconnaissance has been recommended and will be conducted when the alignment has been determined. Continuing coordination with the SHPO and the identified consulting parties will be undertaken to modify the APE, or verify the presence of any additional resources.

# **APPENDIX B**

## **Early Coordination**



# United States Department of the Interior

## Fish and Wildlife Service



Bloomington Field Office (ES)  
620 South Walker Street  
Bloomington, IN 47403-2121  
Phone: (812) 334-4261 Fax: (812) 334-4273

June 5, 2006

Ms. Patricia S. Brower  
Environmental Analyst  
Beam, Longest and Neff, LLC  
8126 Castleton Road  
Indianapolis, Indiana 46250

Project No.: NA  
Road: Ronald Reagan Parkway  
Waterway: Multiple  
Structure: Multiple  
Work Type: Four-lane road on new alignment  
Counties: Hendricks and Boone

Dear Ms. Brower:

This responds to your letter dated 3 May 2006 requesting U.S. Fish and Wildlife Service (FWS) comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

### PROJECT OVERVIEW

The proposed project involves construction of approximately 9.8 miles of new four-lane roadway between CR 600 North in Hendricks County and I-65 at the SR 267 interchange in Boone County. The proposed road would have two 12-foot travel lanes in each direction with shoulders and ditches, separated by a 16-foot median. The right-of-way would be a minimum of 230 feet wide.

There are four alignments under consideration. The project begins at CR 600 North in Hendricks County and runs for approximately 0.5 mile parallel to the Conrail Railroad. It then diverges into Alignment 1D (east) which corresponds for most of its length with CR 900 East, and Alignment 1C, which parallels it approximately 200 meters to the west for about 2.3 miles. The alignments

then re-join approximately two miles south of the Hendricks, Boone County line. A single alignment then runs north for approximately four miles before splitting again into Alignment 1A and Alignment 1B. Alignments 1A (east) and 1B (west) parallel each other for approximately 1.5 miles before re-joining approximately one mile south of the proposed project terminus at I-65.

Land use in the proposed project area is a combination of urban developed land and agricultural land. Little natural vegetation remains within the nearly ten mile length of the study corridor. The proposed alignments would cross Pump Run, Etter Ditch, and White Lick Creek in addition to several headwater streams. The first crossing is of an unnamed tributary to School Branch just north of the south terminus of the proposed project. It has a minimal riparian corridor and appears to have limited in-stream habitat. The second crossing is of Pump Run which has a narrow, forested riparian corridor adjacent to a small block of upland forest at the crossing site. The third crossing is of Etter Ditch. It has a minimal riparian corridor and appears to have limited in-stream habitat. The fourth, fifth, and sixth crossings occur where Alignments 1A and 1B cross White Lick Creek and an unnamed tributary. There is a very narrow band of woody riparian vegetation along White Lick Creek in this area. Alignment 1A parallels White Lick Creek in close proximity for approximately 500 meters. Alignment 1B crosses White Lick Creek perpendicularly but would cross and perhaps lie over a headwater tributary stream flowing out of an agricultural field. The seventh crossing occurs over White Lick Creek after Alignments 1A and 1B re-join. This crossing would occur at an existing County Road at a location where there is a narrow woody riparian corridor along the stream.

## WETLANDS

The National Wetland Inventory indicates few wetlands remaining in the proposed project area – most of the historic wetlands in this area have likely been drained. One significant palustrine, forested (PFO1A) wetland occurs south of the Etter Ditch crossing and is identified as the DNR Conservation Area. Other wetlands may exist as indicated in the information provided.

## ENDANGERED SPECIES

The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and federally threatened bald eagle (*Haliaeetus leucocephalus*). The proposed project is not likely to adversely affect these two species.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinstate consultation.

## COMMENTS AND RECOMMENDATIONS

Although the proposed project consist of nearly ten miles of four-lane roadway on new alignment, the area has comparatively few remaining fish and wildlife resources, and therefore the impacts of the proposed project should be minimal.

Based on a review of the information provided, we recommend the following mitigation measures be included in the final project plans to further minimize adverse impacts on fish and wildlife resources:


1. We recommend that Alignments 1B and 1D be carried forward as those likely, based on existing information, to result in the fewest impacts to fish and wildlife resources.
2. Avoid impacts to existing wetlands. Shift the alignment east beginning where the alignment turns north near the crossing of Pump Run. This should preserve at least a 100 foot buffer between the small forest block associated with Pump Run and the PFO1A wetland (DNR Conservation Area) and the west project right-of-way.
3. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries.
4. Minimize impacts to ephemeral, intermittent, and perennial streams. Restrict below low-water work to placement of piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. Culverts should span the active stream channel, be sunk or embedded except where stream is at or near bedrock in which case an arch pipe or open-arch culvert is preferable, and be installed where practicable on an essentially flat slope. Bridge openings should allow for the passage of terrestrial species (including deer) under the bridge between the bridge abutments and the stream channel. A good discussion of culvert design for fish and wildlife passage is available at: [http://www.umass.edu/umext/nrec/pdf\\_files/guidelines\\_river\\_stream\\_crossings.pdf](http://www.umass.edu/umext/nrec/pdf_files/guidelines_river_stream_crossings.pdf)
5. Minimize the extent of artificial bank stabilization. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
6. Implement temporary erosion and siltation control devices such as placement of riprap check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control matting or straw, and grading slopes to retain runoff in basins.
7. Revegetate all disturbed soil areas immediately upon project completion. Avoid the use of invasive species.
8. Evaluate the installation of a depressed, native vegetated median to address stormwater implications of the proposed project. Information on alternative practices to manage highway runoff can be found at the Izaak Walton League website at: <http://www.iwla.org/index.php?id=223>
9. Avoid channel work during the fish spawning season (April 1 through June 30).

A permit under Section 404 of the Clean Water Act may be needed for the proposed project. Our recommendations to the U.S. Army Corps of engineers for permit conditions would be consistent with our comments here.



We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please re-coordinate with our office as soon as possible. If you have any questions about our recommendations, please call Forest Clark at (812) 334-4261 (Ext. 206).

Sincerely yours,

  
for Scott E. Pruitt  
Field Supervisor

cc: Federal Highway Administration, Indianapolis, IN  
Liz Elverson, IDEM, Water Quality Standards Section, Indianapolis, IN  
Christie Stanifer, Indiana Division of Fish and Wildlife, Indianapolis, IN  
U.S. Army Corps of Engineers, Louisville District, Louisville, KY



# United States Department of the Interior



National Park Service

Midwest Region  
601 Riverfront Drive  
Omaha Nebraska 68102-4226

18-00540(MWR-P/G)

Ms. Patricia S. Brower  
Environmental Analyst  
Beam, Longest and Neff, LLC  
8126 Castleton Road  
Indianapolis, Indiana 46250

JAN 19 2008

Dear Ms. Brower:

The National Park Service has reviewed the proposal for an extension of Ronald Reagan Parkway in Hendricks and Boone Counties, Indiana. We understand the proposed project involves having environmental services provided by your company for the proposed project.

The proposed study area includes one public park and recreation area that was developed with assistance from the Land and Water Conservation Fund (L&WCF) program. This site is Williams Park, which was improved under L&WCF grant 18-00540.

We recommend you consult directly with the official who administers the L&WCF program in the State of Indiana, to determine any potential conflicts with Section 6(f)(3) of the L&WCF Act (Public Law 88-578, as amended). This section states: "No property acquired or developed with assistance under this section shall, without the approval of the Secretary of the Interior, be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location."

The administrator for the L&WCF program in Indiana is Mr. John R. Davis, Deputy Director, Land Management Team, Department of Natural Resources, 402 West Washington Street, W256, Indianapolis, Indiana 46204.

Sincerely,

Robert Maydwell  
Grants Management Assistant



cc:

Mr. Robert J. Bronson, Chief, State and Community Outdoor Recreation Planning  
Section, Division of Outdoor Recreation, Department of Natural Resources, 402 West  
Washington Street, W271, Indianapolis, Indiana 46204



DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
INDIANAPOLIS FIELD OFFICE  
9799 BILLINGS ROAD  
INDIANAPOLIS, INDIANA 46216-1055  
FAX: (317) 532-4228  
<http://www.lrl.usace.army.mil>

June 8, 2006

Operations Division  
Regulatory Branch (North Section)  
ID no. 200600621-djd

This is in response to your request for comments concerning:

Description: Extension of Ronald Reagan Parkway from County Road 600 North in Hendricks County to I-65 in Boone County in Sections 1 and 6, Township 16 North, Range 1 East; Sections 13, 24, 25, 26, 35 and 36, Township 17 North, Range 1 East in Hendricks County, Indiana and Sections 2, 11, 12, Township 17 North, Range 1 East; Sections 27, 34, 35, Township 18 North, Range 1 East in Boone County, Indiana

Name of Organization requesting early coordination:

Hendricks County Commissioners and Boone County Commissioners

We do not have any comments on the general environmental impacts of the proposed project. This agency is not funded or authorized to provide general environmental assessments for all federally related development proposals. Our lack of comments on specific potential environmental impacts should not be construed as concurrence that no significant environmental damage would result from the project.

1. The proposed improvement may impact the following waterways under our jurisdiction:

Unnamed tributary to School Branch, Pump Run, Etter Ditch, Lick Ckreek, and any tributaries to any of these streams that maintain an Ordinary High Water (OHW) mark

2. Current and/or future plans to develop the waterways include:

Not applicable

3. The following Corps of Engineer's projects and/or studies are located within the area:

None

4. The depth or elevation of Ordinary High Water (OHW) is:

The OHW elevation is the line on the bank established by the changing water surface and indicated by physical characteristics such as a clear natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; and other indications as determined upon inspection of the area. If additional information is needed for the OHW you may contact our Hydrology & Hydraulics Branch by calling (502) 315-6456.

5. The project site is within flood elevations:

Flood plain information is available by writing this office directly and requesting a floodplain delineation for a specific area. However, we are required by law to collect a fee for this service. The fee varies with the scope and complexity of the request. If you are interested in receiving this service please re-submit this request to the above address, ATTN: CELRL-PMP or call (502) 315-6892 and we will provide information on the fee schedule. Otherwise you may be able to obtain this information from local agency sources such as planning commissions.


6. Wetlands:

To our knowledge, no wetland mapping of your proposed project site has been done, nor does the Corps of Engineers have any future plans to delineate and map jurisdictional wetlands for public or private use. If you suspect wetlands would be impacted by the discharge of dredged or fill material, a wetland delineation report conforming to the "Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1," would have to be submitted. Members of our regulatory staff having expertise in this area would evaluate and verify the wetland delineation report as part of our review process. If you need assistance in preparing a wetland delineation, there are several environmental consultants in your geographic area having this expertise.

7. If based on your coordination with the State Historic Preservation Officer, it is determined that the project may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the Department of the Army permit application must include information stating which historic property may be affected by the proposed work and/or a vicinity map indicating the location of the historic property.

8. If your project would impact any "waters of the United States," including jurisdictional wetlands, then you should submit a Department of the Army (DA) permit application for review by this office. Copies of DA permit application forms can be obtained by writing to the above address ATTN: CELRL-OP-FN or by calling (502) 315-6733.

Sincerely,

  
Deborah Duda Snyder  
Regulatory Specialist  
Regulatory Branch



Natural Resources Conservation Service  
6013 Lakeside Blvd.  
Indianapolis, IN 46268

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July 25, 2006

Patricia S. Brower  
Beam, Longest and Neff, L.L.C.  
8126 Castleton Road  
Indianapolis, Indiana 46250

Dear Ms. Brower:

The proposed project to extend the Ronald Reagan Parkway in Hendricks and Boone County, Indiana, as stated in your letter dated May 3, 2006, will cause a conversion of prime farmland.

In order to comply with the Farmland Protection Act, please have the federal funding agency complete the attached Form AD-1006 Parts I and III and return it to our office.

Please be advised that due to recent clarifications of the Farmland Protection Policy Act, questionnaires are not associated with the FPPA, and therefore, NRCS will not be completing submitted questionnaires.

If you need additional information, please contact Lisa Bolton at 317-290-3200, extension 342.

Sincerely,

**ACTING FOR**

A handwritten signature in black ink, appearing to read "Jane E. Hardisty", written over a horizontal line.

JANE E. HARDISTY  
State Conservationist

Enclosures

**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

|   |  |   |   |
|---|--|---|---|
| <b>PART I (To be completed by Federal Agency)</b>   |  | 3. Date of Land Evaluation Request                      | 4. Sheet 1 of <u>1</u>  |
| 1. Name of Project <b>Reagan Parkway, Hendricks portion</b>   |  | 5. Federal Agency Involved                              |   |
| 2. Type of Project <b>Transportation</b>  |  | 6. County and State <b>Hendricks County, Indiana</b>    |   |
| <b>PART II (To be completed by NRCS)</b>  |  | 1. Date Request Received by NRCS <b>5-4-04</b>          | 2. Person Completing Form <b>Steve Sprecher</b>                     |
| 3. Does the corridor contain prime, unique statewide or local important farmland?<br>(If no, the FPPA does not apply - Do not complete additional parts of this form) YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |  | 4. Acres Irrigated   Average Farm Size<br><b>187 Ac</b> |   |
| 5. Major Crop(s) <b>Corn</b>  | 6. Farmable Land in Government Jurisdiction<br>Acres: <b>255,400</b> % <b>98</b> |   | 7. Amount of Farmland As Defined in FPPA<br>Acres: <b>238,303</b> % |
| 8. Name Of Land Evaluation System Used<br><b>LESA</b>   | 9. Name of Local Site Assessment System  |   | 10. Date Land Evaluation Returned by NRCS<br><b>7-25-06</b>         |

| <b>PART III (To be completed by Federal Agency)</b>               | Alternative Corridor For Segment : |            |            |            |
|---|------------------------------------|------------|------------|------------|
|   | Alt. 1-a                           | Alt. 1-b   | Alt. 1-c   | Alt. 1-d   |
| A. Total Acres To Be Converted Directly                           |                                    |            |            |            |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services |                                    |            |            |            |
| C. Total Acres In Corridor  | <b>0.0</b>                         | <b>0.0</b> | <b>0.0</b> | <b>0.0</b> |

| <b>PART IV (To be completed by NRCS) Land Evaluation Information</b>               | Alt. 1-a     | Alt. 1-b     | Alt. 1-c      | Alt. 1-d      |
|--|--------------|--------------|---------------|---------------|
| A. Total Acres Prime And Unique Farmland   | <b>124.9</b> | <b>125.6</b> | <b>147.5</b>  | <b>147.5</b>  |
| B. Total Acres Statewide And Local Important Farmland                              | <b>0.0</b>   | <b>0.0</b>   |               |               |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted            | <b>0.470</b> | <b>0.470</b> | <b>0.0580</b> | <b>0.0580</b> |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value | <b>48.0</b>  | <b>48.0</b>  | <b>39.7</b>   | <b>39.7</b>   |

| <b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b> | Alt. 1-a  | Alt. 1-b  | Alt. 1-c  | Alt. 1-d  |
|--|-----------|-----------|-----------|-----------|
|  | <b>83</b> | <b>82</b> | <b>82</b> | <b>83</b> |

| <b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b> | Maximum Points | Alt. 1-a   | Alt. 1-b   | Alt. 1-c   | Alt. 1-d   |
|--|----------------|------------|------------|------------|------------|
| 1. Area in Nonurban Use  | 15             | <b>13</b>  | <b>13</b>  | <b>13</b>  | <b>13</b>  |
| 2. Perimeter in Nonurban Use   | 10             | <b>8</b>   | <b>8</b>   | <b>8</b>   | <b>8</b>   |
| 3. Percent Of Corridor Being Farmed  | 20             | <b>18</b>  | <b>18</b>  | <b>18</b>  | <b>18</b>  |
| 4. Protection Provided By State And Local Government   | 20             | <b>0</b>   | <b>0</b>   | <b>0</b>   | <b>0</b>   |
| 5. Size of Present Farm Unit Compared To Average   | 10             | <b>10</b>  | <b>10</b>  | <b>10</b>  | <b>10</b>  |
| 6. Creation Of Nonfarmable Farmland  | 25             | <b>20</b>  | <b>20</b>  | <b>20</b>  | <b>20</b>  |
| 7. Availability Of Farm Support Services   | 5              | <b>5</b>   | <b>5</b>   | <b>5</b>   | <b>5</b>   |
| 8. On-Farm Investments   | 20             | <b>10</b>  | <b>10</b>  | <b>10</b>  | <b>10</b>  |
| 9. Effects Of Conversion On Farm Support Services  | 25             | <b>20</b>  | <b>20</b>  | <b>20</b>  | <b>20</b>  |
| 10. Compatibility With Existing Agricultural Use   | 10             | <b>10</b>  | <b>10</b>  | <b>10</b>  | <b>10</b>  |
| <b>TOTAL CORRIDOR ASSESSMENT POINTS</b>  | <b>160</b>     | <b>114</b> | <b>114</b> | <b>114</b> | <b>114</b> |

| <b>PART VII (To be completed by Federal Agency)</b>                       | Alt. 1-a   | Alt. 1-b   | Alt. 1-c   | Alt. 1-d   |
|---|------------|------------|------------|------------|
| Relative Value Of Farmland (From Part V)                                  | <b>83</b>  | <b>82</b>  | <b>82</b>  | <b>83</b>  |
| Total Corridor Assessment (From Part VI above or a local site assessment) | <b>114</b> | <b>114</b> | <b>114</b> | <b>114</b> |
| <b>TOTAL POINTS (Total of above 2 lines)</b>                              | <b>197</b> | <b>196</b> | <b>196</b> | <b>197</b> |

|  |   |   |   |
|--|---|---|---|
| 1. Corridor Selected:<br><b>Combination of 1D+1B (1DB-b)</b> | 2. Total Acres of Farmlands to be Converted by Project:<br><b>218</b> | 3. Date Of Selection:<br><b>July 09</b> | 4. Was A Local Site Assessment Used?<br>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
|--|---|---|---|

5. Reason For Selection:  
**All corridors were evaluated and the corridor of 1DB-b had the lowest overall impact to farmland and other environmental constraints.**

Signature of Person Completing this Part: \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: Complete a form for each segment with more than one Alternate Corridor

**State of Indiana  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water**

**Early Coordination/Environmental Assessment**

**DNR #:** ER-12142 **Request Received:** May 4, 2006

**Requestor:** Beam, Longest and Neff, LLC  
Patricia S Brower  
8126 Castleton Road  
Indianapolis, IN 46250-2007

**Project:** Ronald Reagan Parkway Extension

**County/Site info:** Boone - Hendricks Counties

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

**Regulatory Assessment:** This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

**Natural Heritage Database:** The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

**Fish & Wildlife Comments:** Large scale projects of this nature often require mitigation for impacts to natural resources within the area of effect. There are three steps for any mitigation project: avoidance, minimization, and compensation.

The first step in mitigation is to avoid impacts altogether during the planning and design stages of a project by configuring the site design to avoid floodways, wetlands, and wooded habitat. Designers should configure the project to incorporate natural areas, green space, and buffers into the site plan.

Some impacts may be unavoidable and for these, the next mitigation step is to minimize impacts. Minimization should occur during planning and design, as well as during the construction phase of the project. Impacts of the project on fish, wildlife, or botanical resources can be minimized through scheduling to avoid impacts during certain seasons. For example, in-stream work should be scheduled outside of fish spawning seasons and tree removal should be planned for late fall or winter because of the use of trees by bats and nesting birds. The standard date restrictions placed on DNR permits include:

- April 1 through June 30 there is no in-stream work on non-salmonid streams
- March 15 through June 15 and July 15 through November 30 there is no in-stream work on salmonid streams [as designated under 327 IAC 2-1.5-5(a)(3)]
- April 15 through September 15 there is no cutting of any trees suitable for Indiana bat roosting (greater than 14 inches in diameter, living or dead, with loose hanging bark)

Minimization of impacts can also occur through the restoration of temporary impacts and decreasing the duration of the impact. For stream crossings, examples of minimization include a reduction of multiple crossings and keeping permanent impacts as far away from the stream as possible. During the construction phase, adapting to changes with the project site can minimize impacts. For example, the number of trees preserved could be increased during construction because less area was used for equipment than originally planned.



**State of Indiana  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water**

**Early Coordination/Environmental Assessment**

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Compensatory mitigation is only an option for unavoidable impacts that remain after the applicant has taken all appropriate and practical steps to avoid and minimize impacts. The DNR may request an Avoidance/Minimization report or Alternatives Analysis report prior to pursuing any compensatory mitigation to ensure there was an effort to reduce impacts. Compensatory mitigation can occur through several different methods including: restoration, creation, enhancement, and preservation.

(1) Restoration is the preferred method of compensatory mitigation and involves restoring destroyed resources and often includes restoring the hydrology to an area and/or removing fill material. Restoration is perceived to have a higher success rate than creation. All options for restoration should be considered prior to pursuing alternative mitigation methods.

(2) Enhancement is similar to restoration but the resource in question is significantly impacted, but not destroyed, as in restoration. Enhancement should result in a significant increase in function, which is usually measured by various assessment tools like Floristic Quality Assessment (FQA) and Qualitative Habitat Evaluation Index (QHEI). The enhancement should not result in a negative impact to other valuable functions of the resource.

(3) Preservation mitigation is the least favorable option as there is no replacement made for lost functions, values, or acreage. The baseline mitigation ratio for preservation is 10:1 and can be higher. Preservation is only considered when:

- it is prohibitive to mitigate using one of the other forms of compensatory mitigation at the approved ratio AND
- when preservation will protect large tracts (10 acres or more) of better than average quality or
- where there is an outstanding resource or
- where there is a demonstrable threat to the resource outside the control of the applicant

In addition, preservation is to be combined with other types of compensatory mitigation, such as restoration or enhancement, to compensate for lost functions, values, and/or acreage. This combination of mitigation methods generally decreases the mitigation ratio for the restoration or enhancement site.

(4) Creation of habitat is a difficult, complex endeavor with a high failure rate that can have problems with improper soils and hydrology, among other factors.

Because mitigation is meant to offset temporal losses of function and the risk of failure, mitigation ratios are generally greater than 1:1. There is typically a long-term loss of values and functions of the impacted resources before a constructed or reconstructed area is developed. There is also the risk that the values and functions of the original area may not be fully replaced by the mitigation effort. There is a loss of production when a habitat is destroyed, and this production may never be equaled within the mitigation area.

For all proposed stream crossings, use bridges in place of culverts where possible. Bridges allow for longer spans across floodway and floodplain habitat. Longer spans allow for improved wildlife movement and vegetative restoration along a streams riparian corridor. Use three-sided culverts in place of box or pipe culverts. Three-sided culverts maintain a more natural substrate and offer fewer barriers to the movement of aquatic and terrestrial wildlife both upstream and downstream of the culvert installation. When determining an appropriate bridge or culvert size, consider whether or not wildlife/vehicle collisions are a concern at the crossing site. A larger culvert or bridge opening can allow for the movement of wildlife under the roadway in order to minimize

**State of Indiana  
DEPARTMENT OF NATURAL RESOURCES  
Division of Water**

**Early Coordination/Environmental Assessment**

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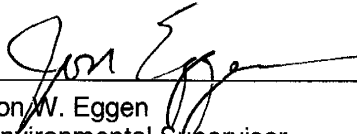
wildlife/vehicle collisions.

Due to the presence or potential presence of wetlands on site, coordination with the Indiana Department of Environmental Management (IDEM) 401 program and also the U.S. Army Corps of Engineers Regulatory Branch 404 program should be made. Avoid impacts to wetland habitat to the greatest extent possible. Isolated wetland areas in a matrix of agricultural land use are important habitat sites for migratory and local fish, wildlife, and botanical resources. Wetlands are vital components of the Indiana landscape. Wetlands serve important functions, both in human benefits such as maintaining the quality of the water we drink and controlling flooding, and in environmental benefits such as providing habitat for endangered species of wildlife and plants. The fact that the majority of the wetland resources once present in Indiana have been lost or converted to other uses makes wetlands especially critical resources for conservation.

Avoid impacts to wooded areas to the greatest extent possible. Isolated wooded areas in a matrix of agricultural land use are important habitat sites for migratory and local fish, wildlife, and botanical resources. Wooded corridors are significant habitat features used by wildlife for travel between larger habitat areas or through congested urban areas. Wooded corridors also provide essential habitat for fish, wildlife, and botanical resources. Wooded habitat corridors are limited, irreplaceable resources that are often the last, good foothold for many native plant and animal communities. Road, bridge, trail, and utility line construction within wooded corridors have seven general effects on fish, wildlife, and botanical resources: mortality from construction activities, mortality from maintenance activities or collision with vehicles, modification of animal behavior, alteration and fragmentation of the physical environment, alteration of the chemical environment, spread of exotic plant species, and increased human use and disturbance of these areas. The evidence from well-designed studies suggests that well-connected wooded habitat corridors are valuable conservation areas for fish, wildlife, and botanical resources.

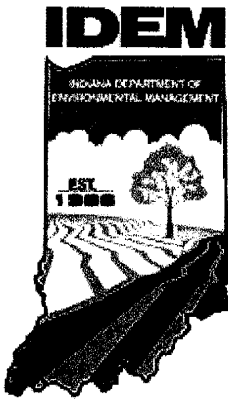
**Contact Staff:**

Christie L. Stanifer, Environ. Coordinator, Environmental Unit  
Our agency appreciates this opportunity to be of service. Please do not hesitate to contact the above staff member at (317) 232-4160 or 1-877-928-3755 (toll free) if we can be of further assistance.



Jon W. Eggen  
Environmental Supervisor  
Division of Fish and Wildlife

**Date:** October 17, 2006



## Indiana Department of Environmental Management

*We make Indiana a cleaner, healthier place to live.*

Mitchell E. Daniels, Jr.  
Governor

100 North Senate Avenue  
Indianapolis, Indiana 46206

Thomas W. Easterly  
Commissioner

(317) 232-8603  
800) 451-6027  
[www.IN.gov/idem](http://www.IN.gov/idem)

Hendricks and Boone County Commissioners  
John Ayres, P.E. and Tom Kouns  
355 South Washington Street, Suite 204  
Danville, IN 46122

Beam, Longest and Neff, L.L.C.  
Brian Shaw  
8126 Castleton Road  
Indianapolis, IN 46250

Wednesday, July 15, 2009

To Engineers and Consultants Proposing Roadway Construction Projects:

**RE:** Extension of the Ronald Reagan Parkway from CR 600 North in Hendricks County to the SR 267/I65 Interchange in Boone County. The roadway would be a continuation of the Ronald Reagan Parkway segments that have been approved from SR 67 to CR 600 North in Hendricks County. The proposed project cross section will consist of two 12 foot travel lanes in each direction with 11 foot usable shoulders, 10 foot paved, separated by a 16 ft. flush median and a design speed of 55 mph. New structures would be required for stream crossings at the tributary to School Branch Creek and Pump Run in Hendricks County, and Etter Ditch, and White Lick Creek, between CR 650 South and CR 550 South in Boone County. The existing SR 267 bridge over White Lick creek, approximately 0.65 mile north of CR 550 South will be extended to accommodate the additional travel lanes

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: <http://www.in.gov/idem/5283.htm>.

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

## WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see [USACE Permits and Public Notices \(http://www.lrl.usace.army.mil/orf/default.asp\)](http://www.lrl.usace.army.mil/orf/default.asp) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at <http://www.in.gov/idem/4396.htm>. IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: <http://www.in.gov/idem/4384.htm>.
3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana. A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.
4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: <http://www.in.gov/idem/4384.htm> for the appropriate staff contact to further discuss your project.
5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the following statutes:
  - o IC 14-26-2 Lakes Preservation Act 312 IAC 11
  - o IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
  - o IC 14-28-1 Flood Control Act 310 IAC 6-1
  - o IC 14-29-1 Navigable Waterways Act 312 IAC 6
  - o IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
  - o IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: <http://www.in.gov/dnr/water/9451.htm>. Contact the DNR Division of Water at 317-232-4160 for further information.

The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

6. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for a Rule 5 Storm Water Runoff Permit. Visit the following Web page
  - o <http://www.in.gov/idem/4902.htm>

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (<http://www.in.gov/idem/4917.htm#constreq>), and as described in 327 IAC 15-5-6.5 (<http://www.in.gov/legislative/iac/T03270/A00150> [PDF], pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (<http://www.in.gov/isda/soil/contacts/map.html>).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm>.

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for additional project input.
8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.
9. For projects involving effluent discharges to waters of the State of Indiana, contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

## AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (<http://www.in.gov/idem/4148.htm>) under specific conditions. You also can seek an open burning variance from IDEM.

However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus *Histoplasma capsulatum*, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

2. The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: <http://www.in.gov/idem/4145.htm>.)

The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit:

[http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf).) It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure visit: <http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>, <http://www.in.gov/idem/4145.htm>, or <http://www.epa.gov/radon/index.html>.

3. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at <http://www.in.gov/icpr/webfile/formsdiv/44593.pdf>.

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. All notification remitters will be billed on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: <http://www.in.gov/idem/4983.htm>.

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: <http://www.in.gov/isdh/19131.htm>.
5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>).
6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: [www.ai.org/legislative/iac/t03260/a00020.pdf](http://www.ai.org/legislative/iac/t03260/a00020.pdf).) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
7. For more information on air permits visit: <http://www.in.gov/idem/4223.htm>, or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

## LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm>.
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.
4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.
5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).

6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: <http://www.in.gov/idem/4999.htm>.

## FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that is it the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at <http://www.in.gov/idem/5284.htm>, is used.

Sincerely,



Thomas W. Easterly  
Commissioner

---

## Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

## Project Description

Extension of the Ronald Reagan Parkway from CR 600 North in Hendricks County to the SR 267/I65 Interchange in Boone County. The roadway would be a continuation of the Ronald Reagan Parkway segments that have been approved from SR 67 to CR 600 North in Hendricks County. The proposed project cross section will consist of two 12 foot travel lanes in each direction with 11 foot usable shoulders, 10 foot paved, separated by a 16 ft. flush median and a design speed of 55 mph. New structures would be required for stream crossings at the tributary to School Branch Creek and Pump Run in Hendricks County, and Etter Ditch, and White Lick Creek, between CR 650 South and CR 550 South in Boone County. The existing SR 267 bridge over White Lick creek, approximately 0.65 mile north of CR 550 South will be extended to accommodate the additional travel lanes

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: \_\_\_\_\_

Signature of the INDOT

Project Engineer or Other Responsible Agent \_\_\_\_\_

John Ayres, P.E. and Tom Kouns

Date: \_\_\_\_\_

Signature of the  
For Hire Consultant



Brian Shaw



**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
(317) 232-8603  
Toll Free (800) 451-6027  
[www.idem.IN.gov](http://www.idem.IN.gov)

June 17, 2009

Brian Shaw  
Beam Longest & Neff  
8126 Castleton Road  
Indianapolis, Indiana 46250

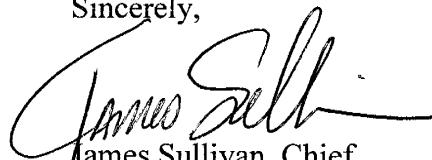
RE: Wellhead Protection Area Proximity Determination  
Ronald Reagan Parkway From County Road 600  
North To State Road 267/I65 Interchange, Hendricks  
County

Upon review of the above referenced site, it has been determined that the site **is not** located within a Wellhead Protection Area.

This information is accurate to the best of our knowledge. However, there are in some cases, a few factors that could impact the accuracy of this determination. For example, some Wellhead Protection Area Delineations have not been submitted or may not have been approved by this office. In these cases, we use a 3,000 foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's Wellhead Protection Area Delineation, please visit our tracking database at <http://www.in.gov/idem/4289.htm>.

If you have any additional questions, please feel free to contact me at the address above or at (317) 308-3388.

Sincerely,



James Sullivan, Chief  
Ground Water Section  
Drinking Water Branch  
Office of Water Quality

JS:gml



**Questionnaire for the Indiana Department of Transportation,  
Office of Aviation**

**Project No:** \_\_\_\_\_ **Des/Bridge No:** \_\_\_\_\_

**Project Description:**

Extension of Ronald Reagan Parkway; Hendricks and Boone  
Counties, IN

**Requested By:**

Beam, Longest and Neff, LLC

**Are there any existing or proposed airports within or near the project limits?** Yes

**If yes, describe any potential conflicts with air traffic during or after the construction of the project.**

This project should have no impact on airspace or air navigation. However, Boone County Airport is a public-use airport and is located 15,000 feet from the northern edge of the proposed project site. Also, Cliburn Airport is a private-use airport and is located 3,000 feet from the southern edge of the proposed project site. Please be in contact with the owner, Skip Newby, (317) 858-0561.

**This information was furnished by:**

**Name:** Justin Klump  
**Title:** Project Manager, INDOT-Office of Aviation  
**Date:** 07/07/2006

Project No. \_\_\_\_\_ Des. No. \_\_\_\_\_

Project Description: Extension of Ronald Reagan Parkway  
Hendricks and Boone Counties, Indiana

Name of Organization requesting early coordination:

BEAM, LONGEST AND NEFF, LLC

**QUESTIONNAIRE FOR THE INDIANA GEOLOGICAL SURVEY**

1) Do unusual and/or problem ( ) geographic, ( ) geological, ( ) geophysical, or ( ) topographic features exist within the project limits? Describe:

No  
\_\_\_\_\_  
\_\_\_\_\_

2) Have existing or potential mineral resources been identified in this area? Describe:

No  
\_\_\_\_\_

3) Are there any active or abandoned mineral resources extraction sites located nearby?

Describe: No  
\_\_\_\_\_  
\_\_\_\_\_

This information was furnished by:

Name: Jennifer Olejnik Title: Geologist

Address: 611 North Walnut Grove Bloomington, IN 47405

Phone: 812-855-1347 Date: June 12, 2006



MENU

(<https://portal.idem.in.gov/>)

Gov. Eric J. Holcomb

(M.IN.GOV/)

IDEM (<http://www.in.gov/idem/index.htm>) > Proposed Roadway Letter



# Indiana Department of Environmental Management

*We Protect Hoosiers and Our Environment.*

100 North Senate Avenue - Indianapolis, IN 46204  
(800) 451-6027 - (317) 232-8603 - [www.idem.IN.gov](http://www.idem.IN.gov)

Boone and Hendricks County Commissioners  
Craig Parks and John Ayers  
County Engineers  
355 South Washington Street  
Danville, IN 46122  
Date

American Structurepoint, Inc.  
Josh Iddings  
American Structurpoint, Inc.  
7260 Shadeland Station  
Indianapolis, IN 46256

Dear Grant Administrator or Other Finance Approval Authority:

RE: Please note there are two project owners the second is Craig Parks 116 West Washington Street Lebanon, IN 46052. On May 3, 2006 Beam, Longest and Neff, LLC initiated early coordination with your agency regarding the Boone and Hendricks County Commissioners proposed federal aid project to extend Ronald Reagan Parkway from County Road (CR) 600 N to Interstate 65 (I-65). The proposed project (Des. No 1602280) alignment begins approximately at the CR 600 N and Ronald Reagan Parkway intersection in Hendricks County, extends north approximately 8.3 miles on mostly new terrain to SR 267, and continues north along SR 267 for approximately 1.5 miles to the interchange with I-65. The total length of this project is 9.8 miles. Modifications to the project necessitate the preparation of an AI document. You are asked to review this information and provide any comments you may have relative to anticipated impacts of the project modifications on resources for which you have jurisdiction or special expertise.

The Indiana Department of Environmental Management (IDEM) is aware that many local government or not-for-profit entities are seeking grant monies, a bond issuance, or another public funding mechanism to cover some portion of the cost of a public works, infrastructure, or community development project. IDEM also is aware that in order to be eligible for such funding assistance, applicants are required to first evaluate the potential impacts that their particular project may have on the environment. In order to assist applicants seeking such financial

assistance and to ensure that such projects do not have an adverse impact on the environment, IDEM has prepared the following list of environmental issues that each applicant must consider in order to minimize environmental impacts in compliance with all relevant state laws.

IDEM recommends that each applicant consider the following issues when moving forward with their project. IDEM also requests that, in addition to submitting the information requested above, each applicant also sign the attached certification, attesting to the fact that they have read the letter in its entirety, agree to abide by the recommendations of the letter, and to apply for any permits required from IDEM for the completion of their project.

IDEM recommends that any person(s) intending to complete a public works, infrastructure, or community development project using any public funding consider each of the following applicable recommendations and requirements:

## WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (<http://www.lrl.usace.army.mil/orf/default.asp>)

(<http://www.lrl.usace.army.mil/orf/default.asp>)

(<http://www.lrl.usace.army.mil/orf/default.asp>) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana ) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at <http://www.in.gov/idem/4396.htm> (<http://www.in.gov/idem/4396.htm>). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality. To learn more about the water quality certification program, visit: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>).
3. If the USACE determines that a wetland or other body of water is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A state isolated wetland permit from IDEM's Office of Water Quality is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the Office of Water Quality at 317-233-8488.
4. If your project will impact more than 0.5 acres of wetland, stream relocation, or other large-scale alterations to bodies of water such as the creation of a dam or a water diversion, you should seek additional input from the Office of Water Quality, Wetlands staff at 317-233-8488.
5. Work within the one-hundred year floodway of a given body of water is regulated by the Department of Natural Resources, Division of Water. Contact this agency at 317-232-4160 for further information.
6. The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.
7. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
  - <http://www.in.gov/idem/4902.htm> (<http://www.in.gov/idem/4902.htm>)

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (<http://www.in.gov/idem/4917.htm#constreq>) (<http://www.in.gov/idem/4917.htm#constreq>), and as described in 327 IAC 15-5-6.5 (<http://www.in.gov/legislative/iac/T03270/A00150> [PDF] (<http://www.in.gov/legislative/iac/T03270/A00150.PDF>), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (<http://www.in.gov/isda/soil/contacts/map.html>) (<http://www.in.gov/isda/soil/contacts/map.html>)).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm> (<http://www.in.gov/idem/4900.htm>).

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

8. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317-232-4080) for additional project input.
9. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.
10. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
11. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

## AIR QUALITY

The above-noted project (see page 1) should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed under specific conditions (<http://www.in.gov/idem/4148.htm> (<http://www.in.gov/idem/4148.htm>)). You also can seek an open burning variance from IDEM.

IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on-site. You must register with IDEM if more than 2,000 pounds is to be composted; contact 317-232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) on-site, although burying large quantities of such material can lead to subsidence problems.

2. Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

If construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for three to five years, precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus *Histoplasma capsulatum*, which stems from bird or bat droppings that have accumulated in one area for three to five years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at 317-233-7272.

3. The U.S. EPA and the U.S. Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. For a county-by-county map of predicted radon levels in Indiana , visit <http://www.in.gov/idem/4267.htm> (<http://www.in.gov/idem/4267.htm>).

The U.S. EPA further recommends that all homes and apartments (within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L or higher, then U.S. EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L or higher, then U.S. EPA recommends the installation of radon-reduction measures. For a list of qualified radon testers and radon mitigation (or reduction) specialists, visit [http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf)

([http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf)). Also, is

recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure, visit

<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>

(<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>), <http://www.in.gov/idem/4145.htm>

(<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html>

(<http://www.epa.gov/radon/index.html>).

4. With respect to asbestos removal, all facilities slated for renovation or demolition (except residential buildings that have four (4) or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

In all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at [www.in.gov/icpr/webfile/formsdiv/44593.pdf](http://www.in.gov/icpr/webfile/formsdiv/44593.pdf).

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. Billings will occur on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: <http://www.in.gov/idem/4983.htm> (<http://www.in.gov/idem/4983.htm>).

5. With respect to lead-based paint removal, IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal, visit



<http://www.in.gov/idem/permits/guide/waste/leadabatement.html>  
(<http://www.in.gov/idem/permits/guide/waste/leadabatement.html>).

6. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months of April through October. See 326 IAC 8-5-2 , Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF> (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>)).
7. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 ( [www.ai.org/legislative/iac/t03260/a00020.pdf](http://www.ai.org/legislative/iac/t03260/a00020.pdf) (<http://www.ai.org/legislative/iac/t03260/a00020.pdf>)). New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
8. For more information on air permits, visit <http://www.in.gov/idem/4223.htm> (<http://www.in.gov/idem/4223.htm>), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or [oamprod@idem.in.gov](mailto:oamprod@idem.in.gov).

## LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm> (<http://www.in.gov/idem/4998.htm>).
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.
4. If Polychlorinated Biphenyls (PCBs) are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.
5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes. (Asbestos removal is addressed above, under Air Quality.)
6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM

Underground Storage Tank program at 317-308-3039( <http://www.in.gov/idem/4999.htm>  
(<http://www.in.gov/idem/4999.htm>)).

## FINAL REMARKS

Should the applicant need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that they notify all adjoining property owners and/or occupants within ten days of your submittal of each permit application. Applicants seeking multiple permits, may still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Please note that this letter does not constitutes a permit, license, endorsement, or any other form of approval on the part of either the Indiana Department of Environmental Management or any other Indiana state agency.

Should you have any questions relating to the content or recommendations of this letter, or if you have additional questions about whether a more complete environmental review of your project should be conducted, please feel free to contact Steve Howell at (317) 232-8587, [snhowell@idem.in.gov](mailto:snhowell@idem.in.gov).

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## Signature(s) of the Applicant

I acknowledge that I am seeking grant monies, a bond issuance, or other public funding mechanism to cover some portion of the cost of the public works, infrastructure, or community development project as described herein, which I am working (possibly with others) to complete.

## Project Description

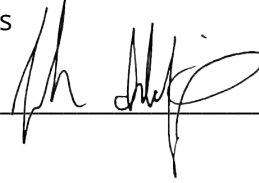
Please note there are two project owners the second is Craig Parks 116 West Washington Street Lebanon, IN 46052. On May 3, 2006 Beam, Longest and Neff, LLC initiated early coordination with your agency regarding the Boone and Hendricks County Commissioners proposed federal aid project to extend Ronald Reagan Parkway from County Road (CR) 600 N to Interstate 65 (I-65). ). The proposed project (Des. No 1602280) alignment begins approximately at the CR 600 N and Ronald Reagan Parkway intersection in Hendricks County, extends north approximately 8.3 miles on mostly new terrain to SR 267, and continues north along SR 267 for approximately 1.5 miles to the interchange with I-65. The total length of this project is 9.8 miles. Modifications to the project necessitate the preparation of an AI document. You are asked to review this information and provide any comments you may have relative to anticipated impacts of the project modifications on resources for which you have jurisdiction or special expertise.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environmental Management that appears directly above. In addition, I understand that in order to complete the project in which I am interested, with a minimum impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Dated Signature of the Public Owner  
Contact/Responsible Elected Official \_\_\_\_\_

Craig Parks and John Ayers

Dated Signature of the Project  
Planner/Consultant Contact Person \_\_\_\_\_ 2/21/18



Josh Iddings

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## Organization and Project Information

**Project ID:**

**Des. ID:** Des. No. 1602280

**Project Title:** Ronald Reagan Parkway

**Name of Organization:** American Structurepoint Inc.

**Requested by:** Josh Iddings

## Environmental Assessment Report

### 1. Geological Hazards:

- Moderate liquefaction potential
- Floodway

### 2. Mineral Resources:

- Bedrock Resource: Moderate Potential
- Sand and Gravel Resource: Low Potential

### 3. Active or abandoned mineral resources extraction sites:

- None documented in the area

\*All map layers from Indiana Map ([maps.indiana.edu](http://maps.indiana.edu))

#### **DISCLAIMER:**

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

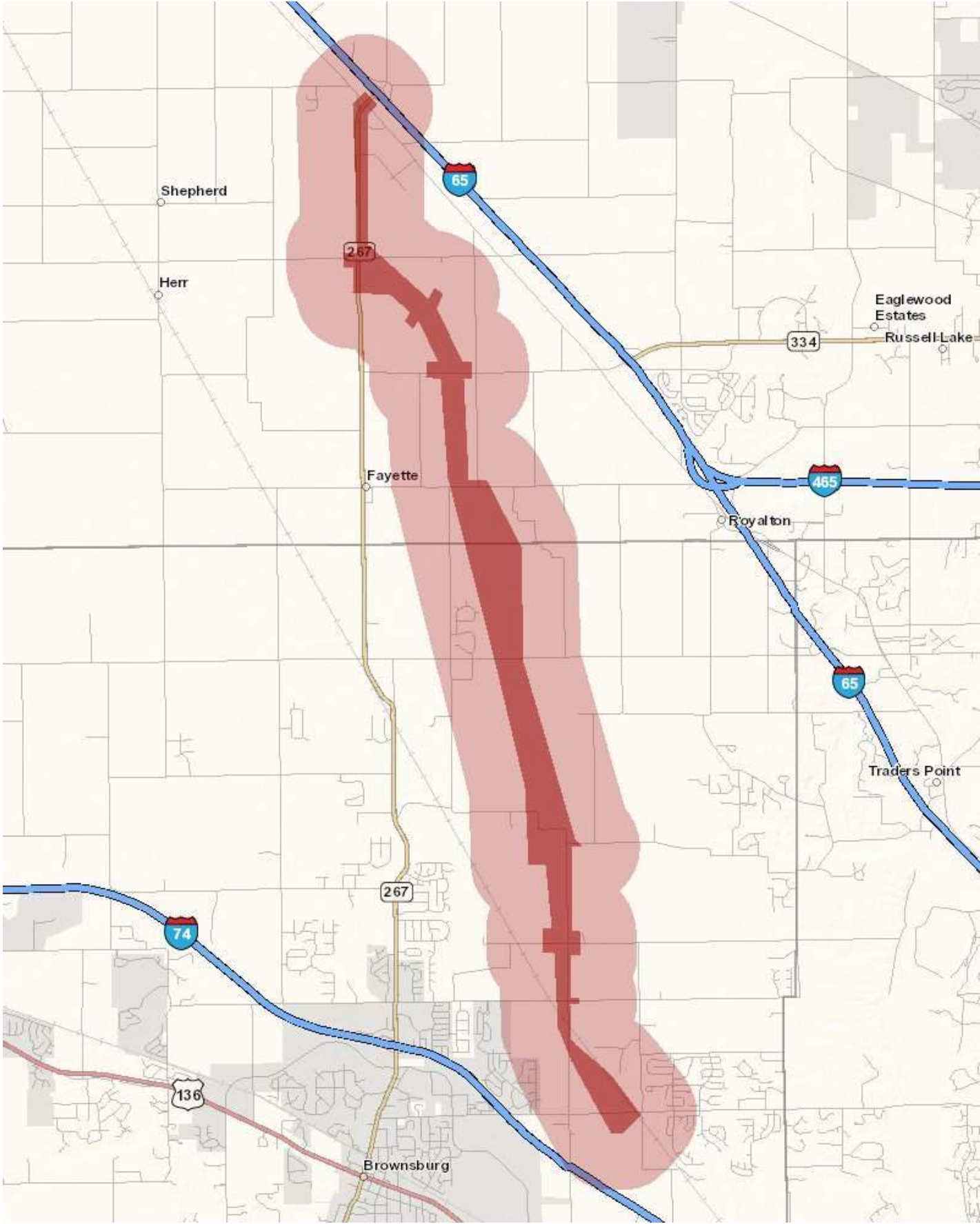
This information was furnished by Indiana Geological Survey

Address: 611 N. Walnut Grove Avenue, Bloomington, IN 47405-2208

Email: [IGSEnvir@indiana.edu](mailto:IGSEnvir@indiana.edu)

Phone: 812 855-7428

Date: February 22, 2018



# Metadata:

- [https://maps.indiana.edu/metadata/Geology/Seismic\\_Earthquake\\_Liquefaction\\_Potential.html](https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html)
- [https://maps.indiana.edu/metadata/Geology/Industrial\\_Minerals\\_Sand\\_Gravel\\_Resources.html](https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.html)
- [https://maps.indiana.edu/metadata/Hydrology/Floodplains\\_FIRM.html](https://maps.indiana.edu/metadata/Hydrology/Floodplains_FIRM.html)
- [https://maps.indiana.edu/metadata/Geology/Bedrock\\_Geology.html](https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html)

February 23, 2018

66-33

American Structurepoint, Inc.  
Attention: Mr. Josh Iddings  
7260 Shadeland Station  
Indianapolis, Indiana 46256

Dear Mr. Josh Iddings,

RE: Wellhead Protection Area  
Proximity Determination  
Des No 1602280 (originally 071028)  
Additional Information for Ronald  
Reagan Parkway from Hendricks  
County Road 600 North to Interstate  
65, Boone and Hendricks Counties,  
Indiana

Upon review of the above referenced project site, it has been determined that the proposed project area **is not located within** a Wellhead Protection Area. The information is accurate to the best of our knowledge; however, there are in some cases a few factors that could impact the accuracy of this determination. Some Wellhead Protection Area Delineations have not been submitted, and many have not been approved by this office. In these cases we use a 3,000 foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's (PWSS's) Wellhead Protection Area Delineation please visit our tracking database at <http://www.in.gov/idem/cleanwater/2456.htm> and scroll to the bottom of the page.

The project area shown on Figure 6 page 1 **is located within** a Source Water Assessment Area for a PWSS's surface water intake. The Source Water Assessment Area relates to the surface water drainage area that water could potentially flow and influence water quality for a PWSS's source of drinking water. The PWSS that could be impacted by the project is Speedway Water Works. A contact person for Speedway Water Works is Mary Armacost, and could be reached via e-mail and/or phone at: [marmacost@speedwayin.gov](mailto:marmacost@speedwayin.gov) and (317) 241-9766. The contact information is provided as a courtesy and reference for you if any issues arise that could potentially impact the water quality for the PWSS during the course of the project. It is not a requirement of IDEM that you contact the system regarding the project.

Note: the Drinking Water Branch has launched a new self service feature which allows one to determine wellhead proximity without submitting the application form. Use the following instructions:

1. Go to <http://idemmaps.idem.in.gov/whpa2/>
2. Use the search tool located in the upper left hand corner of the application to zoom to your site of interest by way of city, county, or address; or use the mouse to click on the site of interest displayed on the map.
3. Once the site of interest has been located and selected, use the print tool to create a .pdf of a wellhead protection area proximity determination response.

In the future please consider using this self service feature if it suits your needs.

If you have any additional questions please feel free to contact me at the address above or at (317) 233-9158 and [aturnbow@idem.in.gov](mailto:aturnbow@idem.in.gov).

Sincerely,

A handwritten signature in black ink that reads "Alisha Turnbow". The signature is written in a cursive, flowing style.

Alisha Turnbow,  
Environmental Manager  
Ground Water Section  
Drinking Water Branch  
Office of Water Quality



**From:** McWilliams, Robin  
**To:** [Iddings, Joshua](#)  
**Subject:** Re: Des No 1602280 Ronald Reagan Parkway Early Coordination Request  
**Date:** Thursday, March 15, 2018 12:35:37 PM  
**Attachments:** [image005.png](#)  
[image003.png](#)  
[image002.png](#)  
[image006.png](#)  
[image007.png](#)  
[image004.png](#)  
[image001.png](#)

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Dear Mr. Iddings,

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, as amended, and the U. S. Fish and Wildlife Service's Mitigation Policy.

According to information you provided our office, the proposed project will extend the Ronald Reagan Parkway from County Road 600 north to Interstate I-65. The 8.3 mile project is being developed in a series of four phases. At this time you are requesting input regarding the impacts associated with Phase 1A from CR 600 N to CR 750 N in Hendricks County, Indiana. Within Phase 1A, 4 existing structures will be impacted. No portion of the Phase 1A roadway will be greater than 300-ft from an existing roadway/rail line. Tree clearing will occur within the corridor immediately north of CR 600 N and along the rail line within the project limits as needed for the roadway project. It is anticipated that all clearing would be limited to the October 1 to March 31 DNR set clearing season.

## RECOMMENDATIONS

Based on a review of the information you provided, we recommend the following mitigation measures be included in the final project plans to minimize adverse impacts to fish and wildlife resources:

1. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment should be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams.

2. Restrict below low-water work to placement of piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.
3. Restrict channel work and vegetation clearing to the minimum necessary.
4. Construct new structures with a widened span and benches on one or both sides to provide for wildlife crossing, if practical. The crossing should be above normal high water, relatively flat and with natural substrate suitable for use by a wide variety of wildlife.
5. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
6. Implement temporary erosion and siltation control devices such as placement of riprap check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control materials, and grading slopes to retain runoff in basins.
7. Re-vegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone wherever feasible.
8. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries.
9. Prior to the initiation of any construction activities on bridges or culverts, including the removal of any bridge structures, we recommend each structure be carefully examined for the presence of bats, especially between April 1 and September 30. If any bats are found roosting on the underside of the bridge, we request that you immediately contact our office.

## THREATENED AND ENDANGERED SPECIES

The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) (NLEB). There are numerous records of both species in Marion County.

Indiana bats hibernate in caves then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Recent research has shown that they will inhabit fragmented landscapes with adequate forest for roosting and foraging. Young are raised in nursery colony roosts in trees, typically near drainage-ways in undeveloped areas. Like all other bat species in Indiana, the Indiana bat diet consists exclusively of insects.

The northern long-eared bat was recently listed as threatened under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). At this time, no critical habitat has been proposed for the NLEB. The entire state of Indiana is within the known range of the NLEB. During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically =3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals. Additional habitat types may be identified as new information is obtained.

There is very limited summer habitat present for these species throughout the area surrounding the project site, although a few wooded areas and tree-lines are located within the project boundary. The project description indicates that tree clearing will **not** occur between **April 1 - September 30**. If this measure is implemented we concur that the proposed project is not likely to adversely affect the Indiana bat or the northern long-eared bat.

This precludes the need for further consultation on Phase 1A of this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

Wetland and stream impacts may require permits from the US Army Corps of Engineers, the Indiana Department of Environmental Management's Water Quality Certification program, and the Indiana Department of Natural Resources. Wetland impacts should be avoided, and any unavoidable impacts should be compensated for in accordance with the Corps of Engineer's mitigation guidelines.

To protect water quality from the increased road run-off that will likely occur, we recommend using pollutant-trapping technology (where applicable) such as storm drain inserts, etc. to reduce runoff of urban pollutants directly to receiving stream systems.

We appreciate the opportunity to comment at this early stage of project planning. If project plans change such that fish and wildlife habitat may be affected, please re-coordinate with our office as soon as possible. If you have any questions about our recommendations, please call Robin McWilliams Munson at (812) 334-4261 (Ext. 207).

Sincerely,

Robin

Robin McWilliams Munson

U.S. Fish and Wildlife Service  
620 South Walker Street  
Bloomington, Indiana 46403  
812-334-4261 x. 207 Fax: 812-334-4273

Monday, Tuesday - 7:30a-3:00p  
Wednesday, Thursday - telework 8:30a-3:00p

On Thu, Feb 22, 2018 at 8:04 AM, Iddings, Joshua <[JIddings@structurepoint.com](mailto:JIddings@structurepoint.com)> wrote:

Robin,

Please find attached a copy of the Early Coordination for the Ronald Reagan Parkway Project (Des. No. 1602280) in Boone and Hendricks County. As previously discussed, the project is being developed in a series of four phases. At this time we would like to request your input regarding the impacts associated with Phase 1A from CR 600 N to CR 750 N in Hendricks County, Indiana.

Within Phase 1A, 4 existing structures will be impacted. No portion of the Phase 1A roadway will be greater than 300-ft from an existing roadway/rail line. Tree clearing will occur within the corridor immediately north of CR 600 N and along the rail line within the project limits as needed for the roadway project. It is anticipated that all clearing would be limited to the October 1 to March 31 DNR set clearing season.

Please let me know if there are any questions or if additional information is needed.

Thank you,

---

**JOSH IDDINGS**

**Senior Environmental Scientist**

7260 Shadeland Station

Indianapolis, IN 46256

317.547.5580 OFFICE

765.490.2319 CELL

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**From:** Hoover, Sandra (Sandy)  
**To:** [Iddings, Joshua](#); [Boits, Leah](#)  
**Cc:** [Hilden, Laura](#); [McWilliams, Robin](#)  
**Subject:** RE: USFWS Bat Database Check Des No 1602280  
**Date:** Friday, February 23, 2018 10:36:10 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)  
[image010.png](#)  
[image011.png](#)  
[image012.png](#)  
[image013.png](#)

---

Hi, Mr. Iddings

I apologize for the delay, I have been out of the office the last few days. I am fine with the plan you outline below – just be sure to document all coordination with USFWS regarding bats and any other ETR species and include all applicable/appropriate AMMs in the final environmental document for the project.

Thank you for your time!

**Sandy Hoover**

***Environmental Manager Working Lead***

41 West 300 North  
Crawfordsville, IN 47933

**Office:** (765)361-5259

**Email:** [shoover@indot.in.gov](mailto:shoover@indot.in.gov)



---

**From:** Iddings, Joshua [mailto:JIddings@structurepoint.com]  
**Sent:** Wednesday, February 21, 2018 12:40 PM  
**To:** Hoover, Sandra (Sandy) <SHoover@indot.IN.gov>; Boits, Leah <lboits@structurepoint.com>  
**Cc:** Hilden, Laura <lhilden@indot.IN.gov>; McWilliams, Robin <robin\_mcwilliams@fws.gov>  
**Subject:** RE: USFWS Bat Database Check Des No 1602280

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---

Sandy,

I spoke with Robin McWilliams-Munson this morning (2/21/18) regarding the Ronald Reagan Parkway (Des No 1602280) project. She indicated that it would be appropriate to complete direct informal coordination with her for this project on a per Phase basis.

The project is being developed in a series of 4 phases (1A, 1B, 2A, and 2B). Currently final design, storm water needs, and right-of-way is only known for Phase 1A of the project. A separate Additional Information document will be completed per phase to address the changes in the final designs of the project. This will give the project the opportunity to coordinate with the USFWS during the completion of each AI. This will also prevent duplication of effort necessary to re-coordinate and complete additional structure inspections each year as the designs for the phases are finalized.

Robin indicated that, as long as INDOT approves, there is no need to complete the IPaC process or bat scoping worksheets for this project. Rather she indicated that direct coordination with the USFWS will be completed through the early coordination process. Once she has received the early coordination materials she will respond with the USFWS recommendations and the need to implement avoidance and minimization measures. Additional coordination with her can then take place to insure the coordination process is complete and any AMM's will be incorporated as project commitments.

Please let us know if this is an acceptable arrangement for coordinating with the USFWS. Within the CE we can explain that since the project did not qualify for consultation through IPaC direct informal consultation with the USFWS has been completed to complete coordination commitments.

Thank you,

**JOSH IDDINGS**

**Senior Environmental Scientist**

**From:** McWilliams, Robin [[mailto:robin\\_mcwilliams@fws.gov](mailto:robin_mcwilliams@fws.gov)]

**Sent:** Tuesday, January 30, 2018 10:46 AM

**To:** Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>

**Cc:** Hoover, Sandra (Sandy) <[SHoover@indot.in.gov](mailto:SHoover@indot.in.gov)>; Hilden, Laura <[lhilden@indot.in.gov](mailto:lhilden@indot.in.gov)>

**Subject:** Re: USFWS Bat Database Check Des No 1602280

I don't believe you will have to do formal consultation. Just because it doesn't fit in the Rangewide Programmatic Consultation, does not mean it has to be a formal consultation. I will look at it soon.

Robin

Robin McWilliams Munson

U.S. Fish and Wildlife Service  
620 South Walker Street  
Bloomington, Indiana 46403  
812-334-4261 x. 207 Fax: 812-334-4273



Monday, Tuesday - 7:30a-3:00p  
Wednesday, Thursday - telework 8:30a-3:00p

On Tue, Jan 30, 2018 at 10:41 AM, Iddings, Joshua <[Jiddings@structurepoint.com](mailto:Jiddings@structurepoint.com)> wrote:

Thank you Ms. Hoover. We will proceed with formal consultation.

**JOSH IDDINGS**

Senior Environmental Scientist

---

**From:** Hoover, Sandra (Sandy) [mailto:[SHoover@indot.IN.gov](mailto:SHoover@indot.IN.gov)]  
**Sent:** Tuesday, January 30, 2018 10:39 AM  
**To:** Iddings, Joshua <[Jiddings@structurepoint.com](mailto:Jiddings@structurepoint.com)>; Hilden, Laura <[lhilden@indot.IN.gov](mailto:lhilden@indot.IN.gov)>  
**Cc:** McWilliams, Robin <[robin\\_mcwilliams@fws.gov](mailto:robin_mcwilliams@fws.gov)>

**Subject:** RE: USFWS Bat Database Check Des No 1602280

Mr. Iddings – I cannot find a consistency letter in IPaC for the project – I imagine this is because the project was kicked out of the programmatic. Regardless, it looks like you’re being kicked out of the programmatic due to potential slash pile burning and work occurring >300’ from the road surface. I would suggest direct coordination with USFWS for this project.

Laura – Structurepoint is preparing the environmental work for a proposed new road construction project in Hendricks County. The project does not appear to fall under the programmatic coordination for bats due to the reasons provided below. A consistency letter was not generated because the project was kicked out of the programmatic consultation. Can you please forward this information on to Robin to aid in the determination of appropriate conservation measures needed for this project with respect to the Indiana bat and northern long-eared bat?

Thank you for your time.

**Sandy Hoover**

*Environmental Manager Working Lead*

41 West 300 North

[Crawfordsville, IN 47933](http://Crawfordsville.IN.47933)

**Office:** (765)361-5259

**Email:** [shoover@indot.in.gov](mailto:shoover@indot.in.gov)



**From:** Iddings, Joshua [<mailto:Jiddings@structurepoint.com>]  
**Sent:** Tuesday, January 30, 2018 8:33 AM  
**To:** Hoover, Sandra (Sandy) <[SHoover@indot.IN.gov](mailto:SHoover@indot.IN.gov)>  
**Subject:** RE: USFWS Bat Database Check Des No 1602280

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Good morning,

The above project (Ronald Reagan Parkway Des No 1602280) did not qualify for IPaC. Specific issues which arose:

- 1.) The corridor is over 300 feet from existing roads/rails.
- 2.) The project will clear suitable summer habitat. Approximately 0.4-ac of forested lands or tree lines will be cleared during the inactive season.
- 3.) The project may include slash pile burning.
- 4.) The project includes bridge replacement activities.
- 5.) The project includes structure removal. In total, 14 structures are proposed to be removed over three phases.

The specific reason reached on IPaC was: “Your project is outside of the scope of the programmatic consultation for this key because your project is outside 300 feet from an existing road/rail surface, is not limited to one of the excepted activities, and summer bat surveys have not been conducted. Please contact the appropriate U.S. Fish and Wildlife Service office for additional assistance with your project.”

In filling out the Bat Scoping Worksheet, this project does not meet the criteria for informal consultation because it will clear potentially suitable habitat that is over 100’ from a roadway, includes the replacement of an existing bridge, and will remove structures. Direct consultation with the USFWS will be needed to determine the next steps.

I have added you to the project. There is no record locator number for this project. Please review the IPaC determination key, please note that the key cut off once the project was determined to be over 300 feet from a roadway, clear suitable habitat, and possibly include burning. If you agree that direct consultation is needed, would you like us to reach out to Robin McWilliams-Munson directly or should we work through your office?

Thank you,

**JOSH IDDINGS**  
Senior Environmental Scientist

---

**From:** Hoover, Sandra (Sandy) [<mailto:SHoover@indot.IN.gov>]  
**Sent:** Wednesday, January 17, 2018 3:30 PM  
**To:** Iddings, Joshua <[Jiddings@structurepoint.com](mailto:Jiddings@structurepoint.com)>  
**Subject:** RE: USFWS Bat Database Check Des No 1602280

Mr. Iddings –

Des No. 1602280:

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area.

Thank you for your time.

**Sandy Hoover**

*Environmental Manager Working Lead*

41 West 300 North

[Crawfordsville, IN 47933](#)

**Office:** (765)361-5259

**Email:** [shoover@indot.in.gov](mailto:shoover@indot.in.gov)



---

**From:** Iddings, Joshua [<mailto:JIddings@structurepoint.com>]

**Sent:** Wednesday, January 17, 2018 2:26 PM

**To:** Hoover, Sandra (Sandy) <[SHoover@indot.IN.gov](mailto:SHoover@indot.IN.gov)>

**Subject:** USFWS Bat Database Check Des No 1602280

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Ms. Hoover,

We would like to request a USFWS bat database check for a Red Flag Investigation for the proposed Ronald Reagan Parkway (Des No 162280) in Boone and Hendricks County, Indiana. The site is located on the Clermont Quad in Sections 1, 6,7, and 36, Fayette Quad in Sections 2, 11, 14, 27, 34, and 35, and Zionsville Quad in Sections 11, 12, 13, 14, 23, 24, 25, and 36. Please reference the included mapping for more specific location details. Please contact us if there are any questions or if more information is needed.

Thank you,

---

**JOSH IDDINGS**

**Senior Environmental Scientist**

[7260 Shadeland Station](#)

[Indianapolis, IN 46256](#)

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**From:** Phillips, Daniel - NRCS, Indianapolis, IN  
**To:** [Iddings, Joshua](#)  
**Subject:** RE: Des1602280 Ronald Reagan Parkway AI shapefile  
**Date:** Monday, March 19, 2018 9:38:09 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)

---

Josh,

You should have received the project by now. I was informed the project was sent out March 15. Let me know if you have it or not. Sorry of the delay. Thanks

Daniel

---

**From:** Iddings, Joshua [mailto:[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)]  
**Sent:** Thursday, March 15, 2018 2:45 PM  
**To:** Phillips, Daniel - NRCS, Indianapolis, IN <[daniel.phillips@in.usda.gov](mailto:daniel.phillips@in.usda.gov)>  
**Subject:** RE: Des1602280 Ronald Reagan Parkway AI shapefile

Daniel,

Following up on our conversation from March 5, 2018, is any additional information required to determine the proposed Phase 1A of the Ronald Reagan Parkways effect to prime farmland. I have not received any additional documentation regarding this specific project.

Thank you,

**JOSH IDDINGS**  
**Senior Environmental Scientist**

---

**From:** Iddings, Joshua  
**Sent:** Monday, March 05, 2018 2:46 PM  
**To:** 'daniel.phillips@in.usda.gov' <[daniel.phillips@in.usda.gov](mailto:daniel.phillips@in.usda.gov)>  
**Subject:** RE: Des1602280 Ronald Reagan Parkway AI shapefile

Daniel,

Per our discussion this afternoon please find attached an image file with the approximate locations of the Detention Areas noted in the third paragraph of the Early Coordination Letter. Let me know if this is what you were looking for.

Thanks,

**JOSH IDDINGS**  
**Senior Environmental Scientist**

---

**From:** Iddings, Joshua  
**Sent:** Monday, March 05, 2018 10:31 AM  
**To:** 'daniel.phillips@in.usda.gov' <[daniel.phillips@in.usda.gov](mailto:daniel.phillips@in.usda.gov)>  
**Subject:** Des1602280 Ronald Reagan Parkway AI shapefile

Daniel,

Good talking to you earlier. Please find attached a .kmz and .shp for the proposed Ronald Reagan Parkway extension project (Des 1602280) in Hendricks and Boone Counties, Indiana. Please let me know if there are any issues.

Thank you,

---

**JOSH IDDINGS**  
**Senior Environmental Scientist**

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**From:** Ruffner, Shelby - NRCS, Indianapolis, IN  
**To:** [Iddings, Joshua](#)  
**Cc:** [Phillips, Daniel - NRCS, Indianapolis, IN](#)  
**Subject:** Des No. 1602280 Ronald Regan Parkway  
**Date:** Monday, March 19, 2018 10:19:59 AM  
**Attachments:** [image001.png](#)  
[Farmland Protection Policy Act.pdf](#)  
[Response Letter 1602280.pdf](#)

---

Josh, attached is our response letter, 1006 and the Farmland Protection Policy Act. Let me know if there are any other questions.

Thanks,

Shelby Ruffner  
Indiana State Office Assistant  
Natural Resources Conservation Services- Contractor  
United States Department of Agriculture  
317-295-5842



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United States Department of Agriculture

Natural Resources Conservation Service  
Indiana State Office  
6013 Lakeside Boulevard  
Indianapolis, Indiana 46278  
317-290-3200

March 15, 2018

Josh Iddings  
Senior Environmental Scientist  
7260 Shadeland Station  
Indianapolis, Indiana 46256

Dear Mr. Iddings:

The proposed project to extend Ronald Regan Parkway in Boone and Hendricks County, Indiana (Des No. 1602280) as referred to in your letter received February 21, 2018, will cause a conversion of prime farmland.

The attached packet of information is for your use in completing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact Rick Neilson at 317-295-5875.

Sincerely,

JILL M. REINHART  
Acting State Conservationist

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**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

|  |   |   |  |
|--|---|---|--|
| <b>PART I (To be completed by Federal Agency)</b>  |   | 3. Date of Land Evaluation Request  | 4. Sheet 1 of <u>1</u>                 |
| 1. Name of Project <b>Des.1602280 Reagan Parkway, Hendricks</b>  |   | 5. Federal Agency Involved  |  |
| 2. Type of Project   |   | 6. County and State <b>Hendricks County, Indiana</b>                          |  |
| <b>PART II (To be completed by NRCS)</b>   |   | 1. Date Request Received by NRCS<br><b>2/21/18</b>                            | 2. Person Completing Form<br><b>DP</b> |
| 3. Does the corridor contain prime, unique statewide or local important farmland?<br>(If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |   | 4. Acres Irrigated   Average Farm Size<br><b>226 AC</b>                       |  |
| 5. Major Crop(s)<br><b>Corn</b>  | 6. Farmland in Government Jurisdiction<br>Acres: <b>235,829</b> % <b>97</b> | 7. Amount of Farmland As Defined in FPPA<br>Acres: <b>238,581</b> % <b>91</b> |  |
| 8. Name Of Land Evaluation System Used<br><b>LESA</b>  | 9. Name of Local Site Assessment System                                     | 10. Date Land Evaluation Returned by NRCS<br><b>3/15/18</b>                   |  |

|   |   |               |               |                   |
|---|---|---------------|---------------|-------------------|
| <b>PART III (To be completed by Federal Agency)</b>               | <b>Alternative Corridor For Segment :</b> |               |               |                   |
|   | <b>Area 1</b>                             | <b>Area 2</b> | <b>Area 3</b> | <b>Corridor 4</b> |
| A. Total Acres To Be Converted Directly                           |   |               |               |                   |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services |   |               |               |                   |
| C. Total Acres In Corridor  | <b>0.0</b>                                | <b>0.0</b>    | <b>0.0</b>    | <b>0.0</b>        |

|  |               |               |               |  |
|--|---------------|---------------|---------------|--|
| <b>PART IV (To be completed by NRCS) Land Evaluation Information</b>               |               |               |               |  |
| A. Total Acres Prime And Unique Farmland   | <b>10.2</b>   | <b>4.0</b>    | <b>5.8</b>    |  |
| B. Total Acres Statewide And Local Important Farmland                              | <b>0.0</b>    | <b>0.0</b>    | <b>0.0</b>    |  |
| C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted            | <b>0.0040</b> | <b>0.0020</b> | <b>0.0020</b> |  |
| D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value | <b>26.0</b>   | <b>26.0</b>   | <b>26.0</b>   |  |


|  |           |           |           |  |
|--|-----------|-----------|-----------|--|
| <b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b> | <b>86</b> | <b>86</b> | <b>85</b> |  |
|--|-----------|-----------|-----------|--|

|  |                       |           |           |           |          |
|--|-----------------------|-----------|-----------|-----------|----------|
| <b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b> | <b>Maximum Points</b> |           |           |           |          |
| 1. Area In Nonurban Use  | 15                    | 7         | 10        | 13        |          |
| 2. Perimeter in Nonurban Use   | 10                    | 10        | 4         | 6         |          |
| 3. Percent Of Corridor Being Farmed  | 20                    | 20        | 15        | 18        |          |
| 4. Protection Provided By State And Local Government   | 20                    | 0         | 0         | 0         |          |
| 5. Size of Present Farm Unit Compared To Average   | 10                    | 0         | 10        | 0         |          |
| 6. Creation Of Nonfarmable Farmland  | 25                    | 0         | 0         | 0         |          |
| 7. Availability Of Farm Support Services   | 5                     | 5         | 5         | 5         |          |
| 8. On-Farm Investments   | 20                    | 5         | 5         | 5         |          |
| 9. Effects Of Conversion On Farm Support Services  | 25                    | 0         | 0         | 0         |          |
| 10. Compatibility With Existing Agricultural Use   | 10                    | 0         | 0         | 0         |          |
| <b>TOTAL CORRIDOR ASSESSMENT POINTS</b>  | <b>160</b>            | <b>47</b> | <b>49</b> | <b>47</b> | <b>0</b> |

|   |            |               |               |               |          |
|---|------------|---------------|---------------|---------------|----------|
| <b>PART VII (To be completed by Federal Agency)</b>                       |            |               |               |               |          |
| Relative Value Of Farmland (From Part V)                                  | 100        | 86            | 86            | 85            |          |
| Total Corridor Assessment (From Part VI above or a local site assessment) | 160        | 47            | 49            | 47            | 0        |
| <b>TOTAL POINTS (Total of above 2 lines)</b>                              | <b>260</b> | <b>86 133</b> | <b>86 135</b> | <b>85 132</b> | <b>0</b> |

|                                     |  |   |   |
|-------------------------------------|--|---|---|
| 1. Corridor Selected:<br><b>All</b> | 2. Total Acres of Farmlands to be Converted by Project:<br><b>20</b> | 3. Date Of Selection:<br><b>3/19/18</b> | 4. Was A Local Site Assessment Used?<br>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
|-------------------------------------|--|---|---|

5. Reason For Selection:  
*All three areas are associated with detention ponds for the Ronald Reagan Parkway Phase 1A project.*

Signature of Person Completing this Part:  DATE **3/19/18**

NOTE: Complete a form for each segment with more than one Alternate Corridor

State of Indiana  
DEPARTMENT OF NATURAL RESOURCES  
Division of Fish and Wildlife  
Early Coordination/Environmental Assessment

DNR #: ER-12142-1

Request Received: February 22, 2018

**Requestor:** American Structurepoint, Inc  
Josh Iddings  
7260 Shadeland Station  
Indianapolis, IN 46256

**Project:** Ronald Reagan Parkway from Hendricks CR 600 North to I-65; Des #1602280: project modifications

**County/Site info:** Boone - Hendricks

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

**Regulatory Assessment:** This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

**Natural Heritage Database:** The Natural Heritage Program's data have been checked. The state endangered Osprey (*Pandion haliaetus*) has recently been documented within 1/2 mile of the south end of the project area in Section 7, T16N, R2E.

**Fish & Wildlife Comments:** The documented osprey nest is more than 2000' from the investigated area of the proposed project. A buffer of 660' is recommended to prevent disturbance to nesting raptors. The proposed project far exceeds the recommended buffer; therefore, we do not foresee any impacts to this bird species as a result of this project.

Roadways can cause significant impacts to forested areas, riparian corridors along waterways, and wetland areas. Where possible, design the roadway in or adjacent to existing rights-of-way to minimize significant impacts to natural resource habitat. Utilize previously disturbed or degraded areas versus intact habitat areas. Align the roadway along or near existing man-made edges rather than routing the roadway through previously undisturbed areas. Disturb as narrow an area as possible to help minimize negative impacts. Where significant impacts to fish, wildlife or botanical resources are likely due to the roadway's width (riparian areas for example), reduce the width to help reduce the impact (eliminate or reduce the width of medians, buffers and shoulders). Do not focus only on the direct impact of the roadway's width; also consider the path of the roadway's impact on surrounding habitat. Roadways can fragment larger habitat areas and reduce the overall usefulness of the site for fish, wildlife, or botanical resources (1 large habitat block is better than 2 small habitat blocks).

Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

**State of Indiana**  
**DEPARTMENT OF NATURAL RESOURCES**  
**Division of Fish and Wildlife**  
**Early Coordination/Environmental Assessment**

---

1) Stream Crossings:

For purposes of maintaining fish passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the bankful width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel.

The new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. The Division of Fish and Wildlife would like to emphasize the importance of wildlife passage issues and transportation infrastructure projects. The following is a good place to start in terms of resources to consider in the design of stream crossing structures:

<http://www.fs.fed.us/wildlifecrossings/library/>. The following are also recommended resources for designing and constructing stream crossings for maintenance of instream habitat and aquatic organism passage:

[https://www.fs.fed.us/biology/nsaec/fishxing/aop\\_pdfs.html](https://www.fs.fed.us/biology/nsaec/fishxing/aop_pdfs.html); and

<https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>.

2) Bank Stabilization:

Some form of bank and/or streambed stabilization is almost always needed with the construction, repair, replacement, or modification of a stream channel or crossing structure. For streambank stabilization and erosion control, regrading to a stable slope (2:1 or shallower) and establishing native vegetation along the banks are typically the most effective techniques. A variety of methods to accomplish this include: planting plugs, whips, container stock, seeding, and live stakes. In addition to vegetation establishment, some additional level of bioengineered bank stabilization may be needed under certain circumstances (inability to regrade to a stable slope, flow velocities that exceed the limits of vegetation alone, etc.). Combining vegetation with any of the following bank stabilization methods can provide additional bank protection while not compromising benefits to fish, wildlife, and botanical resources: geotextiles (heavy-duty net-free biodegradable erosion control blankets and/or turf reinforcement mats), vegetated geogrids or soil lifts, fiber rolls, glacial stone, or riprap. Information about bioengineering techniques can be found at

<http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf>. Additionally, the following is a link to a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization:

<http://directives.sc.egov.usda.gov/17553.wba>.

Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. For streambed stabilization or scour protection, riprap or other stabilization materials should not be placed in the active stream channel above the existing streambed elevation. This is to prevent obstructions to the movement of aquatic organisms upstream and downstream.

**State of Indiana**  
**DEPARTMENT OF NATURAL RESOURCES**  
**Division of Fish and Wildlife**  
**Early Coordination/Environmental Assessment**

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3) Riparian Habitat:

We recommend a mitigation plan be developed (and submitted with any permit applications, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at: <http://www.in.gov/legislative/iac/20140806-IR-312140295NRA.xml.pdf>.

Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees) or using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10 acres typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites.

4) Wetland Habitat (see ER-20408):

Due to the presence or potential presence of wetland habitat on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio (see guidelines above).

5) Stormwater Management:

The USFWS expressed concerns over roadway runoff in their comments from the original early coordination in 2006. They recommended evaluating the installation of a depressed, native vegetated median to address stormwater management. It is unclear how something of that nature would tie in with previously completed sections of Ronald Reagan Parkway. However, the Division of Fish and Wildlife does recommend considering a more sustainable approach to stormwater management in general.

The traditional model of stormwater management aims to drain runoff as quickly as possible with the help of channels and pipes, which increases peak flows and costs of stormwater management. This type of solution only transfers flood problems from one section of the basin to another section. A more sustainable approach aims to rebuild the natural water cycle by using storage techniques (retention basins, constructed wetlands, raingardens, etc.) or recharging groundwater using infiltration techniques (infiltration basins or trenches, pervious pavement, etc.). The following link gives a good overview of some of the advancements and challenges of stormwater management systems along roadways and their pros and cons:

[http://www.inafsm.net/assets/Conference/2017/presentations/pc1\\_stormwater\\_hwy\\_mgmt.pdf](http://www.inafsm.net/assets/Conference/2017/presentations/pc1_stormwater_hwy_mgmt.pdf).

6) Roadway Lighting:

The need for new lighting was not mentioned in the submitted information, but could potentially be needed in certain areas. Most transportation corridor designers and municipalities are trending toward LED lighting. Certain types of LED lighting can have negative impacts on both human and wildlife health and safety. The Division of Fish and Wildlife strongly encourages visiting the International Dark-Sky Association's website to learn more about the potential negative impacts of improperly selected LED lighting systems: <http://darksky.org/lighting/led-practical-guide/>.

**State of Indiana**  
**DEPARTMENT OF NATURAL RESOURCES**  
**Division of Fish and Wildlife**  
**Early Coordination/Environmental Assessment**

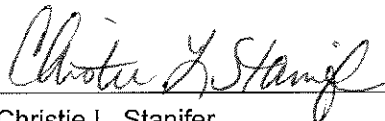
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The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only.
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 3 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds without prior approval, if required.
7. Operate equipment used to replace the bridge from the existing roadway.
8. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
9. Do not use broken concrete as riprap.
10. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
11. Minimize the movement of resuspended bottom sediment from the immediate project area.
12. Do not deposit or allow demolition/construction materials or debris to fall or otherwise enter the waterway.
13. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
14. Seed and protect disturbed stream banks and slopes that are 3:1 or steeper and areas where runoff is conveyed through a channel/swale with heavy-duty net-free biodegradable erosion control blankets to minimize the entrapment and snaring of small wildlife such as snakes and turtles (follow manufacturer's recommendation for installation) or use an appropriate structural armament; seed and apply mulch on all other disturbed areas.
15. Protect the area around and below any concentrated discharge points, down to the waterway's normal flow level, with an appropriate structural armament such as riprap.

**Contact Staff:**

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife  
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



Christie L. Stanifer  
Environ. Coordinator  
Division of Fish and Wildlife

**Date:** March 22, 2018

**From:** [Iddings, Joshua](mailto:iddings_joshua@structurepoint.com)  
**To:** ["rcardis@co.boone.in.us"](mailto:rcardis@co.boone.in.us)  
**Subject:** Des 1602280 Ronald Reagan Parkway Proposed Trail  
**Date:** Thursday, March 08, 2018 4:21:00 PM  
**Attachments:** [Des 1602280 and 1800007 Ronald Reagan Parkway.pdf](#)  
[image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)

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Ms. Cardis,

The Hendricks and Boone Counties Commissioners are developing a roadway improvement project to extend the Ronald Reagan Parkway approximately 9.8 miles north from County Road 600 North in Hendricks County to the SR 267/I65 Interchange in Boone County. As part of the Additional Information document for the Ronald Reagan Parkway (Des No 1602280) and Categorical Exclusion process for the associated wetland and stream mitigation site (Des. 1800007) a potential trail was identified along the corridor as managed by the Hendricks County Planning and Building Commission.

The trail is associated with the proposed multi-use path along the Ronald Reagan Parkway. As part of the AI and CE process we are asked to coordinate with the managers of all proposed trails. As such, you are asked to provide any comments or concerns regarding the proposed roadway and/or mitigation projects. Please find enclosed mapping identifying the proposed trail's location.

Please contact me if you would like more information or if there are any concerns regarding the project. I will be following this email with a phone call to your office the week of 3/12 to 3/16/18.

Thank you,

---

**JOSH IDDINGS**

**Senior Environmental Scientist**

7260 Shadeland Station  
Indianapolis, IN 46256  
317.547.5580 OFFICE  
765.490.2319 CELL  
[structurepoint.com](http://structurepoint.com) WEB



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**\*Attached duplicate mapping has been removed to reduce file size.  
- For USGS Topographic Maps please see Appendix A, A-2 to A-8.  
- For RFI Infrastructure Mapping please see Appendix E, E-9 to E-11**

**From:** [Iddings, Joshua](#)  
**To:** ["tdombrosky@co.hendricks.in.us"](mailto:tdombrosky@co.hendricks.in.us)  
**Subject:** Des No 1602280 and 1800007 Ronald Reagan Parkway Proposed Trail  
**Date:** Thursday, March 08, 2018 4:14:00 PM  
**Attachments:** [image001.png](#)  
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[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[Des 1602280 and 1800007 Ronald Reagan Parkway.pdf](#)

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Mr. Dombrosky,

The Hendricks and Boone Counties Commissioners are developing a roadway improvement project to extend the Ronald Reagan Parkway approximately 9.8 miles north from County Road 600 North in Hendricks County to the SR 267/I65 Interchange in Boone County. As part of the Additional Information document for the Ronald Reagan Parkway (Des No 1602280) and Categorical Exclusion process for the associated wetland and stream mitigation site (Des. 1800007) a potential trail was identified along the corridor as managed by the Hendricks County Planning and Building Commission.

The trail is associated with the proposed multi-use path along the Ronald Reagan Parkway. As part of the AI and CE process we are asked to coordinate with the managers of all proposed trails. As such, you are asked to provide any comments or concerns regarding the proposed roadway and/or mitigation projects. Please find enclosed mapping identifying the proposed trail's location.

Please contact me if you would like more information or if there are any concerns regarding the project. I will be following this email with a phone call to your office the week of 3/12 to 3/16/18.

Thank you,

---

**JOSH IDDINGS**

**Senior Environmental Scientist**

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**\*Attached duplicate mapping has been removed to reduce file size.  
- For USGS Topographic Maps please see Appendix A, A-2 to A-8.  
- For RFI Infrastructure Mapping please see Appendix E, E-9 to E-11**



**From:** [Iddings, Joshua](#)  
**To:** ["nmesser@whitestown.in.gov"](mailto:nmesser@whitestown.in.gov)  
**Subject:** Des 1602280 Ronald Reagan Parkway Proposed Trail  
**Date:** Thursday, March 08, 2018 4:20:00 PM  
**Attachments:** [image001.png](#)  
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[image005.png](#)  
[image006.png](#)  
[image007.png](#)  
[Des 1602280 and 1800007 Ronald Reagan Parkway.pdf](#)

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Mr. Messer,

The Hendricks and Boone Counties Commissioners are developing a roadway improvement project to extend the Ronald Reagan Parkway approximately 9.8 miles north from County Road 600 North in Hendricks County to the SR 267/I65 Interchange in Boone County. As part of the Additional Information document for the Ronald Reagan Parkway (Des No 1602280) a potential trail was identified along the corridor as managed by the Town of Whitestown Parks and Recreation Department.

The proposed trail is associated with the proposed multi-use path along the Ronald Reagan Parkway. As part of the AI process we are asked to coordinate with the managers of all proposed trails. As such, you are asked to provide any comments or concerns regarding the proposed roadway and/or mitigation projects. Please find enclosed mapping identifying the proposed trail's location.

Please contact me if you would like more information or if there are any concerns regarding the project. I will be following this email with a phone call to your office the week of 3/12 to 3/16/18.

Thank you,

---

**JOSH IDDINGS**

**Senior Environmental Scientist**

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**\*Attached duplicate mapping has been removed to reduce file size.**  
**- For USGS Topographic Maps please see Appendix A, A-2 to A-8.**  
**- For RFI Infrastructure Mapping please see Appendix E, E-9 to E-11**



September 6, 2019

**Example Re-coordination Letter**

Regional Environmental Coordinator  
Midwest Regional Office  
National Park Service  
601 Riverfront Drive  
Omaha, Nebraska 68102

Re: Des. No. 1602280 (Original Des. No. 0710288)  
Additional Information for Ronald Reagan Parkway  
from Hendricks County Road 600 North to Interstate 65  
Boone and Hendricks Counties, Indiana

Dear Sir or Madam:

On May 3, 2006, Beam, Longest and Neff, LLC, initiated early coordination regarding the Boone and Hendricks County Commissioners proposed project to extend Ronald Reagan Parkway from County Road (CR) 600 N to Interstate 65 (I-65). The proposed project alignment begins approximately at the CR 600 N and Ronald Reagan Parkway intersection in Hendricks County, extends north approximately 8.3 miles on mostly new terrain to SR 267, and continues north along SR 267 for approximately 1.5 miles to the interchange with I-65. The total length of this project is 9.8 miles. On July 6, 2010, the Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT) released the prepared Environmental Assessment (EA) for public involvement. Following the release of the EA, a public hearing was held on August 2, 2010. On March 7, 2011, following the conclusion of the public involvement requirements, the FHWA issued a Finding of No Significant Impact (FONSI) for the project.

Due to scope modifications, recoordination is warranted. The specific design modifications are described in more detail herein. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above designation numbers and description in your reply. We will incorporate your comments into a study of the project's environmental impacts.

Since the March 7, 2011, issuance of the FONSI, preliminary design has been completed for Phase IA and Phase IB of the proposed project. On February 21, 2018, American Structurepoint, Inc., sent additional information to your agency regarding the modifications within Phase IA. This letter addresses the modifications within Phase IB of the proposed Ronald Reagan Parkway project.

September 6, 2019

Page 2

The 2010 EA stated that the amount of right-of-way would be 241 acres for the entire project. It has been determined that 37.22 acres of additional right-of-way within Phase IB will be required. This additional right-of-way is required for the installation of storm water detention ponds and improvements to the cross streets (Maloney Road and CR 1000 N).

Of the additional 37.22 acres of additional right-of-way, 30.12 acres will be required within Phase IB for four proposed detention ponds. Two detention ponds are proposed to be located east of Ronald Reagan Parkway, between CR 750 N and Maloney Road (4.59 acres and 17.94 acres) and two detention ponds are proposed to be located west of Ronald Reagan Parkway, south of CR 1000 N (7.59 acres).

Modifications to cross streets have been proposed within Phase IB of the project to improve roadway geometry. The new alignment portion of Maloney Road, west of Ronald Reagan Parkway, is proposed to be shifted approximately 100 feet southwest and the alignment of Ronald Reagan Parkway, at the intersection with CR 1000 N, is proposed to be shifted approximately 200 feet east. Modifications to Maloney Road and CR 1000 N will include the addition of a left-turn lane. The typical section for the cross streets will include one 12-foot-wide travel lane in each direction, one 12-foot-wide left-turn lane, and 8- to 10-foot-wide shoulders. The proposed turn lanes extend approximately 470 feet east and 430 feet west along Maloney Road and approximately 570 feet east and 400 feet west along CR 1000 N. An additional 7.10 acres of permanent right-of-way will be required for the proposed improvements to the cross streets.

The proposed Ronald Reagan Parkway will consist of two 12-foot-wide travel lanes (one in each direction) with 10-foot-wide outside shoulders. A 12-foot-wide turn lane with 4-foot-wide striped median or 16-foot median will be constructed, depending on need. A 10-foot-wide multi-use path located on the east side of the parkway, which was not proposed within the original EA, will also be incorporated into the roadway design. A 10-foot-wide grassed buffer will be constructed between the parkway and the multi-use path.

The proposed Ronald Reagan Parkway crossing of Pump Run will consist of a precast concrete arch bridge (Hendricks County Bridge No. 90). The bridge will carry the proposed typical cross section of Ronald Reagan Parkway, described in the paragraph above, across Pump Run. Riprap will be placed within Pump Run. Final design specifications and impacts to environmental resources will be presented in an Additional Information document for the project.

Land use in the vicinity of the project is primarily agricultural with scattered residential properties. A waters and wetlands determinations and a biological assessment to identify any ecological resources that may be present will be performed. This project does not qualify for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern long-eared bat and additional coordination with the USFWS will be completed. The areas of additional right-of-way will be investigated for archaeological and historic resources for compliance with Section 106. The results of this investigation will be forwarded to the State Historic Preservation Officer for review and concurrence.

These modifications necessitate the preparation of an Additional Information (AI) document to the previously approved EA to document the changes in project scope.

You are asked to review this information and provide any comments you may have relative to anticipated impacts of the project modifications on resources for which you have jurisdiction or special expertise. To facilitate the development of this project, you are asked to **reply within 30 days** of receipt of this letter. If no response is received by that date, it will be assumed you have no comments at the present time. Your timely cooperation in the development of this project is appreciated.

September 6, 2019  
Page 3

Please contact Monica Del Real by phone at (317) 547-5580 or e-mail me at mdelreal@structurepoint.com if there are any questions or additional information is needed.

Very truly yours,  
American Structurepoint, Inc.



Monica Del Real  
Environmental Specialist

MDD:mgn

Enclosures

Project Location Map  
Project Phasing Map  
USGS Topographic Mapping  
2005 Aerial Site Map  
Site Photographs

Duplicate Mapping removed to reduce file size.  
Please see Appendix A for mapping and site  
photographs.

Mailing List

US Fish and Wildlife Service  
Indiana Geological Survey  
Indiana Department of Transportation, Environmental Services  
Indiana Department of Transportation, Office of Public Involvement  
Federal Highway Administration  
Indiana Department of Natural Resources, Division of Fish and Wildlife  
Indiana Department of Environmental Management  
US Natural Resources Conservation Service  
National Park Service, Midwest Regional Office  
US Department of Housing and Urban Development, Chicago Regional Office  
US Army Corps of Engineers, Louisville District  
Indianapolis Metropolitan Planning Organization  
DNR Outdoor Recreation  
Boone County Council  
Boone County Sheriff  
Boone County Surveyor  
Boone County EMA  
Lebanon Community School Corporation  
Hendricks County Council  
Hendricks County Sheriff  
Hendricks County Surveyor  
Hendricks County Regional Sewer District  
Hendricks County EMA  
Brownsburg MS4 Coordinator  
Brownsburg Community School Corporation



# Indiana Department of Environmental Management

*We Protect Hoosiers and Our Environment.*

100 North Senate Avenue - Indianapolis, IN 46204  
(800) 451-6027 - (317) 232-8603 - [www.idem.IN.gov](http://www.idem.IN.gov)

Boone and Hendricks County Commissioners

American Structurepoint, Inc  
Monica Del Real

, IN  
Date

, IN

Dear Grant Administrator or Other Finance Approval Authority:

RE: This request addresses the modifications within Phase IB of the proposed Ronald Reagan Parkway project from CR 750 N to CR 1000 N in Hendricks County. The proposed Ronald Reagan Parkway will consist of two 12-foot-wide travel lanes (one in each direction) with 10-foot-wide outside shoulders. A 12-foot-wide turn lane with 4-foot-wide striped median or 16-foot median will be constructed, depending on need. A 10-foot-wide multi-use path located on the east side of the parkway, which was not proposed within the original EA, will also be incorporated into the roadway design. A 10-foot-wide grassed buffer will be constructed between the parkway and the multi-use path. The proposed Ronald Reagan Parkway crossing of Pump Run will consist of a precast concrete arch bridge (Hendricks County Bridge No. 90). The bridge will carry the proposed typical cross section of Ronald Reagan Parkway, described in the paragraph above, across Pump Run. Riprap will be placed within Pump Run. Four detention ponds will be installed along the project corridor. Modifications to cross streets have been proposed within Phase IB of the project to improve roadway geometry. The typical section for the cross streets will include one 12-foot-wide travel lane in each direction, one 12-foot-wide left-turn lane, and 8- to 10-foot-wide shoulders.

The Indiana Department of Environmental Management (IDEM) is aware that many local government or not-for-profit entities are seeking grant monies, a bond issuance, or another public funding mechanism to cover some portion of the cost of a public works, infrastructure, or community development project. IDEM also is aware that in order to be eligible for such funding assistance, applicants are required to first evaluate the potential impacts that their particular project may have on the environment. In order to assist applicants seeking such financial assistance and to ensure that such projects do not have an adverse impact on the environment, IDEM has prepared the following list of environmental issues that each applicant must consider in order to minimize environmental impacts in compliance with all relevant state laws.

IDEM recommends that each applicant consider the following issues when moving forward with their project. IDEM also requests that, in addition to submitting the information requested above, each applicant also sign the attached certification, attesting to the fact that they have read the letter in its entirety, agree to abide by the recommendations of the letter, and to apply for any permits required from IDEM for the completion of their project.

IDEM recommends that any person(s) intending to complete a public works, infrastructure, or community development project using any public funding consider each of the following applicable recommendations and requirements:

## WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (<http://www.lrl.usace.army.mil/orf/default.asp>) (<http://www.lrl.usace.army.mil/orf/default.asp>) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana ) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at <http://www.in.gov/idem/4396.htm> (<http://www.in.gov/idem/4396.htm>). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality. To learn more about the water quality certification program, visit: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>).
3. If the USACE determines that a wetland or other body of water is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A state isolated wetland permit from IDEM's Office of Water Quality is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the Office of Water Quality at 317-233-8488.
4. If your project will impact more than 0.5 acres of wetland, stream relocation, or other large-scale alterations to bodies of water such as the creation of a dam or a water diversion, you should seek additional input from the Office of Water Quality, Wetlands staff at 317-233-8488.
5. Work within the one-hundred year floodway of a given body of water is regulated by the Department of Natural Resources, Division of Water. Contact this agency at 317-232-4160 for further information.

6. The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.
7. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
  - o <http://www.in.gov/idem/4902.htm> (<http://www.in.gov/idem/4902.htm>)

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (<http://www.in.gov/idem/4917.htm#constreq> (<http://www.in.gov/idem/4917.htm#constreq>)), and as described in 327 IAC 15-5-6.5 (<http://www.in.gov/legislative/iac/T03270/A00150> [PDF] (<http://www.in.gov/legislative/iac/T03270/A00150.PDF>), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (<http://www.in.gov/isda/soil/contacts/map.html> (<http://www.in.gov/isda/soil/contacts/map.html>)).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm> (<http://www.in.gov/idem/4900.htm>).

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

8. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317-232-4080) for additional project input.
9. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.

10. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
11. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

## AIR QUALITY

The above-noted project (see page 1) should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed under specific conditions (<http://www.in.gov/idem/4148.htm> (<http://www.in.gov/idem/4148.htm>)). You also can seek an open burning variance from IDEM.

IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on-site. You must register with IDEM if more than 2,000 pounds is to be composted; contact 317-232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) on-site, although burying large quantities of such material can lead to subsidence problems.

2. Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

If construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for three to five years, precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus *Histoplasma capsulatum*, which stems from bird or bat droppings that have accumulated in one area for three to five years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at 317-233-7272.

3. The U.S. EPA and the U.S. Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. For a county-by-county map of predicted radon levels in Indiana , visit <http://www.in.gov/idem/4267.htm> (<http://www.in.gov/idem/4267.htm>).

The U.S. EPA further recommends that all homes and apartments (within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L or higher, then U.S. EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L or higher, then U.S. EPA recommends the installation of radon-reduction measures. For a list of qualified radon testers and radon mitigation (or reduction) specialists, visit [http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf)

([http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf)). Also, is recommended that



radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure, visit

<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm> (<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>),  
<http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html>  
(<http://www.epa.gov/radon/index.html>).

4. With respect to asbestos removal, all facilities slated for renovation or demolition (except residential buildings that have four (4) or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

In all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at [www.in.gov/icpr/webfile/formsdiv/44593.pdf](http://www.in.gov/icpr/webfile/formsdiv/44593.pdf).

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. Billings will occur on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit:

<http://www.in.gov/idem/4983.htm> (<http://www.in.gov/idem/4983.htm>).

5. With respect to lead-based paint removal, IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal, visit

<http://www.in.gov/idem/permits/guide/waste/leadabatement.html>  
(<http://www.in.gov/idem/permits/guide/waste/leadabatement.html>).

6. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months of April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>) (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>)).

7. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 ([www.ai.org/legislative/iac/t03260/a00020.pdf](http://www.ai.org/legislative/iac/t03260/a00020.pdf) (<http://www.ai.org/legislative/iac/t03260/a00020.pdf>)). New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
8. For more information on air permits, visit <http://www.in.gov/idem/4223.htm> (<http://www.in.gov/idem/4223.htm>), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or [oamprod@idem.in.gov](mailto:oamprod@idem.in.gov).

## LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm> (<http://www.in.gov/idem/4998.htm>).
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.
4. If Polychlorinated Biphenyls (PCBs) are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.
5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes. (Asbestos removal is addressed above, under Air Quality.)
6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317-308-3039 (<http://www.in.gov/idem/4999.htm> (<http://www.in.gov/idem/4999.htm>)).

## FINAL REMARKS

Should the applicant need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that they notify all adjoining property owners and/or occupants within ten days of your submittal of each permit application. Applicants seeking multiple permits, may still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Please note that this letter does not constitute a permit, license, endorsement, or any other form of approval on the part of either the Indiana Department of Environmental Management or any other Indiana state agency.

Should you have any questions relating to the content or recommendations of this letter, or if you have additional questions about whether a more complete environmental review of your project should be conducted, please feel free to contact Steve Howell at (317) 232-8587, [snhowell@idem.in.gov](mailto:snhowell@idem.in.gov).

# Signature(s) of the Applicant

I acknowledge that I am seeking grant monies, a bond issuance, or other public funding mechanism to cover some portion of the cost of the public works, infrastructure, or community development project as described herein, which I am working (possibly with others) to complete.

## Project Description

This request addresses the modifications within Phase IB of the proposed Ronald Reagan Parkway project from CR 750 N to CR 1000 N in Hendricks County. The proposed Ronald Reagan Parkway will consist of two 12-foot-wide travel lanes (one in each direction) with 10-foot-wide outside shoulders. A 12-foot-wide turn lane with 4-foot-wide striped median or 16-foot median will be constructed, depending on need. A 10-foot-wide multi-use path located on the east side of the parkway, which was not proposed within the original EA, will also be incorporated into the roadway design. A 10-foot-wide grassed buffer will be constructed between the parkway and the multi-use path. The proposed Ronald Reagan Parkway crossing of Pump Run will consist of a precast concrete arch bridge (Hendricks County Bridge No. 90). The bridge will carry the proposed typical cross section of Ronald Reagan Parkway, described in the paragraph above, across Pump Run. Riprap will be placed within Pump Run. Four detention ponds will be installed along the project corridor. Modifications to cross streets have been proposed within Phase IB of the project to improve roadway geometry. The typical section for the cross streets will include one 12-foot-wide travel lane in each direction, one 12-foot-wide left-turn lane, and 8- to 10-foot-wide shoulders.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environmental Management that appears directly above. In addition, I understand that in order to complete the project in which I am interested, with a minimum impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Dated Signature of the Public Owner  
Contact/Responsible Elected Official \_\_\_\_\_

Dated Signature of the Project  
Planner/Consultant Contact Person \_\_\_\_\_



Monica Del Real

## Organization and Project Information

**Project ID:**  
**Des. ID:** 160280  
**Project Title:** Ronald Reagan Parkway Phase 1B  
**Name of Organization:** American Structurepoint  
**Requested by:** Monica Del Real

## Environmental Assessment Report

1. Geological Hazards:
  - Moderate liquefaction potential
  - Floodway
2. Mineral Resources:
  - Bedrock Resource: Moderate Potential
  - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
  - None documented in the area

\*All map layers from Indiana Map ([maps.indiana.edu](http://maps.indiana.edu))

### **DISCLAIMER:**

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

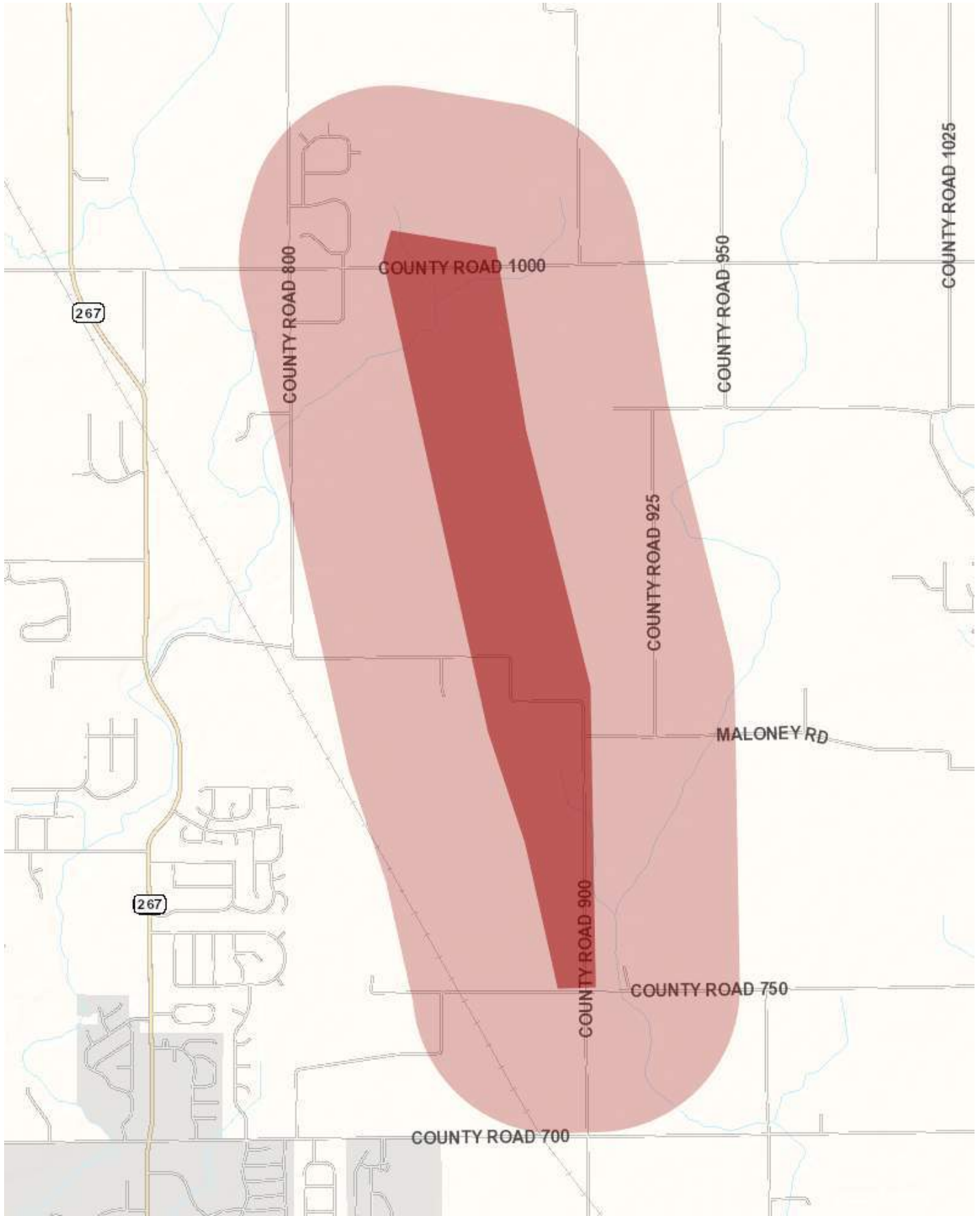
This information was furnished by Indiana Geological Survey

Address: 420 N. Walnut St., Bloomington, IN 47404

Email: [IGSEnvir@indiana.edu](mailto:IGSEnvir@indiana.edu)

Phone: 812 855-7428

Date: September 06, 2019



# Metadata:

- [https://maps.indiana.edu/metadata/Geology/Seismic\\_Earthquake\\_Liquefaction\\_Potential.html](https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html)
- [https://maps.indiana.edu/metadata/Geology/Industrial\\_Minerals\\_Sand\\_Gravel\\_Resources.html](https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.html)
- [https://maps.indiana.edu/metadata/Hydrology/Floodplains\\_FIRM.html](https://maps.indiana.edu/metadata/Hydrology/Floodplains_FIRM.html)
- [https://maps.indiana.edu/metadata/Geology/Bedrock\\_Geology.html](https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html)

## Del Real, Monica

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**From:** Wright, Mary <MWRIGHT@indot.IN.gov>  
**Sent:** Monday, September 9, 2019 10:36 AM  
**To:** Del Real, Monica  
**Subject:** RE: Re-coordination - Ronald Reagan Parkway Phase IB - Des. 1602280 - Hendricks County

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### Early Coordination and Creating a Public Involvement Plan (PIP)

We have received your early coordination notification packet for the above referenced project(s). Our office prefers to be notified at the early coordination stage in order to encourage early and ongoing public involvement aside from the specific legal requirements as outlined in our Public Involvement Manual <http://www.in.gov/indot/2366.htm>. Seeking the public's understanding of transportation improvement projects early in the project development stage can allow the opportunity for the public to express their concerns, comments, and to seek buy-in. Early coordination is the perfect opportunity to examine the proposed project and its impacts to the community along with the many ways and or tools to inform the public of the improvements and seek engagement. A good public involvement plan, or PIP, should consider the type, scope, impacts, and the level of public awareness that should, or could, be implemented. In other words, although there are cases where no public involvement is legally required, sometimes it is simply the right thing to do in order to keep the public informed.

The public involvement office is always available to provide support and resources to bolster any public involvement activities you may wish to implement or discuss. Please feel free to contact our office anytime should you have any questions or concerns. Thank you for notifying our office about your proposed project. We trust you will not only analyze the appropriate public involvement required, but also consider the opportunity to do go above and beyond those requirements in creating a good PIP.

Rickie Clark, Manager  
100 North Senate Avenue, Room N642  
Indianapolis, IN 46204  
Phone: 317-232-6601  
Email: [rclark@indot.in.gov](mailto:rclark@indot.in.gov)

---

**From:** Del Real, Monica [mailto:[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)]  
**Sent:** Friday, September 06, 2019 4:56 PM  
**To:** Wright, Mary <MWRIGHT@indot.IN.gov>  
**Cc:** Clark, Rickie <RCLARK@indot.IN.gov>  
**Subject:** Re-coordination - Ronald Reagan Parkway Phase IB - Des. 1602280 - Hendricks County

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Please find attached the Re-coordination letter prepared for the Ronald Reagan Parkway Phase IB project in Brown Township, Hendricks County. Please review the attached information and supply our office with any comments your office may have regarding the proposed project.

Sincerely,

**Monica Del Real**  
**Environmental Specialist**

9025 River Road, Suite 200  
Indianapolis, IN 46240  
317.547.5580 OFFICE  
structurepoint.com WEB



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## **BROWNSBURG COMMUNITY SCHOOL CORPORATION**

### **F.L. O'NEAL ADMINISTRATION CENTER**

310 Stadium Drive  
Brownsburg, IN 46112  
(317) 852-5726  
www.brownsburg.k12.in.us

September 27, 2019

Monica Del Real  
Environmental Specialist  
American Structure point, Inc.  
9025 River Road, Suite 200  
Indianapolis, IN 46240

Delivered via Email

RE: Des. No. 1602280 (Original Des. No. 0710288)  
Additional Information for Ronald Reagan Parkway  
from Hendricks County Road 600 North to Interstate 65  
Boone and Hendricks Counties, Indiana

Dear Ms. Del Real,

The Brownsburg Community School Corporation appreciates the opportunity to provide input on the continuation of the Ronald Reagan Parkway Corridor. In reviewing the information provided in your letter of September 6, 2019 our comments are limited to requesting careful consideration of intersection design with existing roadways along the Parkway. Regardless of the design and posted speed limit our experience with the existing portions of the Parkway indicates actual traffic speeds are significantly higher. As a result, the Brownsburg Community School Corporation requests:

1. The provision of dedicated left turn lanes and right turn deceleration lanes on the Parkway itself, reducing the risk of rear-end collisions with turning vehicles (including school buses) making turns off of the Parkway
2. The provision of dedicated left turn lanes on roadways intersecting the Parkway to facilitate traffic flow for traffic attempting to turn left onto or cross over the Parkway
3. Consideration of signalization of Parkway intersections, especially CR 1000 N and Maloney Road.
  - a. During peak commute hours both cross streets carry significant volumes of traffic heading into and out of Indianapolis from the northern areas of Brownsburg. Experience with the existing Parkway/CR 400 N intersection indicates significant difficulties in safely accessing or crossing the Parkway without signalization.

We presume similar commentary would be received from the Lebanon Community School Corporation for those portions of the project located within Boone County.

Thank you for your consideration of these requests.

Sincerely,

John P. Voigt, AIA  
Chief Operations Officer

Copy: File

## Del Real, Monica

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**From:** Jack Swalley <jswalley@brownsburg.org>  
**Sent:** Tuesday, October 1, 2019 11:20 AM  
**To:** Del Real, Monica  
**Subject:** FW: Ronald Regan parkway to the north from 56th street to I-65

Good morning Monica

Lisa Christie no longer works for the town of Brownsburg. I will be more than happy to help you, if needed in the future. Below are comments for the Ronald Reagan parkway.

**Jack C Swalley, CISEC**  
Building Commissioner  
Town of Brownsburg  
61 N. Green Street  
Brownsburg, IN 46112  
317-852-1128 (office)  
[jswalley@brownsburg.org](mailto:jswalley@brownsburg.org)



---

**From:** Mary Atkins [mailto:MaryA@wesslerengineering.com]  
**Sent:** Friday, September 27, 2019 5:00 PM  
**To:** Jack Swalley  
**Subject:** RE: Ronald Regan parkway to the north from 56th street to I-65

Here are my comments related to stormwater/drainage and SWPPP planning:

1. Obtain approval from the Hendricks County Surveyor's Office for discharge within the watershed of a County Legal Drain.
2. Inlet ponding according to the Town's Stormwater Management Ordinance (Chapter 151) allows for up to 6 inches in the 100-year storm condition.
3. Chapter 151 requires an evaluation of the 100-year flood routing when the storm system is full. Show the routing on the plans and ensure that buildings or adjacent properties are not impacted.
4. Provide a description of the post-construction stormwater quality BMP. Brownsburg has an 80% TSS removal and floatable control standard for water quality treatment. If the Town is to own and maintain the BMP, include an O&M manual for the BMP. The BMP must be located within the right of way and within 14 feet of a paved surface for vac-truck access.
5. Inlets must be precast with a pollution prevention message such as "Dump no Waste. Drains to Stream".
6. For areas where soil will be excavated, storm inlets must be protected to collect sediments and filter construction site runoff. Specification 02101, 3.03 (C) and Chapter 151.22(A)(1)(b)(6) – For inlets within a road or driving lane, inlet protection must be installed below the grate and be equipped with an overflow or bypass so that ponding water does not cause unsafe driving conditions.
7. Chapter 151.22 (A)(1)(b)(3) – Establish a concrete washout area to contain residual concrete and washout waters. Water collected from washout that does not harden or evaporate must be handled as wastewater.

Mary Atkins , P.E., C.P.E.S.C., LEED AP | Vice President  
<http://www.wesslerengineering.com/>  
6219 South East Street, Indianapolis, Indiana 46227  
P: 317-788-4551

</SPAN>

-----Original Message-----

From: Jack Swalley <[jswalley@brownsburg.org](mailto:jswalley@brownsburg.org)>  
Sent: Monday, September 23, 2019 11:12 AM  
To: Mary Atkins <[MaryA@wesslerengineering.com](mailto:MaryA@wesslerengineering.com)>  
Subject: FW: Xerox Scan

**\*\*WARNING: External email, verify sender before opening attachments or clicking on links.\*\***

Good morning Mary

Attached is a letter to Lisa, about the extension of the Ronald Regan parkway to the north from 56th street to I-65. It is asking for any comments that we may have, for impacts that the extra land needed, to be added to the project. I do not have any comments. Would you have any comments and or concerns?

-----Original Message-----

From: [planningbuilding@brownsburg.org](mailto:planningbuilding@brownsburg.org) [<mailto:planningbuilding@brownsburg.org>]  
Sent: Monday, September 23, 2019 10:54 AM  
To: Jack Swalley  
Subject: Xerox Scan

Please open the scanned attachment

Number of Images: 9  
Attachment File Type: PDF

Device Name: VersaLink C7025  
Device Location:

## Farrell, Scott

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**From:** Del Real, Monica  
**Sent:** Tuesday, December 10, 2019 10:16 AM  
**To:** Iddings, Joshua; Farrell, Scott  
**Subject:** FW: [EXTERNAL] FW: Re-coordination - Ronald Reagan Parkway Phase IB - Des. 1602280 - Hendricks County

USFWS response for Reagan below. Looks like the highlighted paragraph is a copy and paste mistake

**From:** McWilliams, Robin <robin\_mcwilliams@fws.gov>  
**Sent:** Tuesday, December 10, 2019 10:12 AM  
**To:** Del Real, Monica <mdelreal@structurepoint.com>  
**Subject:** Re: [EXTERNAL] FW: Re-coordination - Ronald Reagan Parkway Phase IB - Des. 1602280 - Hendricks County

Dear Monica,

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, as amended, and the U. S. Fish and Wildlife Service's Mitigation Policy.

According to the information you provided our office, the proposed project consists of Phase 1B of the Ronald Reagan Parkway extension. Phase 1B includes the area from CR 750 N to CR 1000 N in Hendricks County, Indiana. Within Phase 1B, four existing structures will be removed. Portions of the Phase 1B roadway will be greater than 300-ft from an existing roadway/rail line. Tree clearing will occur within the corridor as needed for the roadway project, with a majority of the trees being at the northern extent near CR 1000 N. It is anticipated that all clearing would be limited to the October 1 to March 31

will remove the existing historic bridge over the Eel River near Nashville, IN and replace it with a new structure approximately 20 feet south of the current alignment. Subsequently, the historic 2-span Parker pony steel truss bridge would be used for crossings over Salt Creek just south of Nashville, IN as part of a recreation trail system. New right-of-way and tree-clearing will be necessary for both projects.

## RECOMMENDATIONS

Based on a review of the information you provided, we recommend the following mitigation measures be included in the final project plans to minimize adverse impacts to fish and wildlife resources:

1. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment should be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or cofferdams.
  
2. Restrict below low-water work to placement of piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.
  
3. Restrict channel work and vegetation clearing to the minimum necessary.
  
4. Construct new structures with a widened span and benches on one or both sides to provide for wildlife crossing, if practical. The crossing should be above normal high water, relatively flat and with natural substrate suitable for use by a wide variety of wildlife.
  
5. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
  
6. Implement temporary erosion and siltation control devices such as placement of riprap check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control materials, and grading slopes to retain runoff in basins.
  
7. Re-vegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone wherever feasible.
  
8. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries.

## THREATENED AND ENDANGERED SPECIES

The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) (NLEB). There are numerous records of both species in Hendricks County.

Indiana bats hibernate in caves then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Recent research has shown that they will inhabit fragmented landscapes with adequate forest for roosting and foraging. Young are raised in nursery colony roosts in trees, typically near drainage-ways in undeveloped areas. Like all other bat species in Indiana, the Indiana bat diet consists exclusively of insects.

The northern long-eared bat was recently listed as threatened under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). At this time, no critical habitat has been proposed for the NLEB. The entire state of Indiana is within the known range of the NLEB. During the summer, NLEBs typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically  $\geq 3$  inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat seems opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals. Additional habitat types may be identified as new information is obtained.

There is limited summer habitat present for these species throughout the area surrounding the project site, although a few wooded areas and tree-lines are located within the project boundary. The project description indicates that tree clearing will **not** occur between **April 1 - September 30**. If this measure is implemented we concur that the proposed project is not likely to adversely affect the Indiana bat or the northern long-eared bat.

This precludes the need for further consultation on Phase 1B of this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

Wetland and stream impacts may require permits from the US Army Corps of Engineers, the Indiana Department of Environmental Management's Water Quality Certification program, and the Indiana Department of Natural Resources. Wetland impacts should be avoided, and any unavoidable impacts should be compensated for in accordance with the Corps of Engineer's mitigation guidelines.

To protect water quality from the increased road run-off that will likely occur, we recommend using pollutant-trapping technology (where applicable) such as storm drain inserts, etc. to reduce runoff of urban pollutants directly to receiving stream systems.

Sincerely,

Robin

Robin McWilliams Munson

U.S. Fish and Wildlife Service  
620 South Walker Street  
Bloomington, Indiana 46403  
812-334-4261 x. 207 Fax: 812-334-4273

Monday, Tuesday - 7:30a-3:00p  
Wednesday, Thursday - telework 8:30a-3:00p

On Tue, Dec 10, 2019 at 8:22 AM Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)> wrote:

---

**From:** Del Real, Monica  
**Sent:** Wednesday, November 13, 2019 1:17 PM  
**To:** 'Bloomington office' <[robin\\_mcwilliams@fws.gov](mailto:robin_mcwilliams@fws.gov)>  
**Cc:** Iddings, Joshua <[JIddings@structurepoint.com](mailto:JIddings@structurepoint.com)>; Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** RE: Re-coordination - Ronald Reagan Parkway Phase IB - Des. 1602280 - Hendricks County

Hello Robin,

I wanted to reach back out regarding the Ronald Reagan Parkway Phase IB project as I did not see a response to the email below. Please let me know if there are any questions or if additional information is needed.

Thank you,

## Iddings, Joshua

---

**From:** Bales, Ronald <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Sent:** Wednesday, November 06, 2019 9:58 AM  
**To:** Dirks, Robert (FHWA); Iddings, Joshua  
**Cc:** Allen, Michelle (FHWA); Wright, Mary; Clark, Rickie  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

Ideally it would be beneficial to have it before the AI is approved to document what was presented. However, I am good with this approach to maintain the project schedule as it is more of an project schedule update versus significant project changes.

### Ron Bales

INDOT-Environmental Services Division  
**Office:** (317) 234-4916  
**Email:** [rbales@indot.in.gov](mailto:rbales@indot.in.gov)

---

**From:** Dirks, Robert (FHWA) [<mailto:Robert.Dirks@dot.gov>]  
**Sent:** Tuesday, November 05, 2019 5:12 PM  
**To:** Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>  
**Cc:** Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Wright, Mary <[MWRIGHT@indot.IN.gov](mailto:MWRIGHT@indot.IN.gov)>; Clark, Rickie <[RCLARK@indot.IN.gov](mailto:RCLARK@indot.IN.gov)>; Bales, Ronald <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

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This seems like a good approach. I am interested in Rickie Clark's and Ron Bales' views.

### Robert Dirks

Planning and Environmental Specialist  
Federal Highway Administration - Indiana Division  
575 N. Pennsylvania St., #254  
Indianapolis, Indiana 46204  
[robert.dirks@dot.gov](mailto:robert.dirks@dot.gov)  
317-226-7492 phone  
317-294-5511 cell

---

**From:** Iddings, Joshua [<mailto:Jlddings@structurepoint.com>]  
**Sent:** Tuesday, November 5, 2019 8:27 AM  
**To:** Dirks, Robert (FHWA) <[Robert.Dirks@dot.gov](mailto:Robert.Dirks@dot.gov)>  
**Cc:** Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; [mwright@indot.in.gov](mailto:mwright@indot.in.gov); Clark, Rickie <[RCLARK@indot.IN.gov](mailto:RCLARK@indot.IN.gov)>; Bales, Ronald ([rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)) <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

Good morning,

We met with Hendricks County regarding the need for public involvement on the currently proposed project. They understand the need to provide an opportunity to coordinate with the community. They have asked that this meeting be held following the approval of the Additional Information Document and prior to the construction of the first Phase of the project, which would begin at CR 600 and extend north to CR 1000 in Hendricks County. As part of the Additional



Information Document a firm commitment will be made that prior to the initiation of construction, a Public Information Meeting shall be held.

Please let us know if there are any issues with this approach.

Thank you,

**JOSH IDDINGS**  
Environmental Project Manager

---

**From:** Iddings, Joshua  
**Sent:** Tuesday, September 24, 2019 9:12 AM  
**To:** 'Dirks, Robert (FHWA)' <[Robert.Dirks@dot.gov](mailto:Robert.Dirks@dot.gov)>; Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>  
**Cc:** 'Allen, Michelle (FHWA)' <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; 'mwright@indot.in.gov' <[mwright@indot.in.gov](mailto:mwright@indot.in.gov)>; 'Clark, Rickie' <[RCLARK@indot.IN.gov](mailto:RCLARK@indot.IN.gov)>; Bales, Ronald (<[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)> <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

Robert and Mary,

I have just been informed that a Public Involvement meeting has been held since 2010. The meeting took place October 19, 2016 and included information for the overall corridor. Please see the attached Public Involvement documentation which includes publishers affidavits, presentation materials, sign in sheets, and comments received.

The comments were generally related to receiving additional mapping about project locations, drainage issues, and miscellaneous comments with additional recommendations.

Please review the attached materials and let us know your thoughts on the need for additional public involvement.

Thank you,

**JOSH IDDINGS**  
Environmental Project Manager

---

**From:** Iddings, Joshua  
**Sent:** Monday, September 23, 2019 4:00 PM  
**To:** 'Dirks, Robert (FHWA)' <[Robert.Dirks@dot.gov](mailto:Robert.Dirks@dot.gov)>; Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>  
**Cc:** Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Bales, Ronald (<[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)> <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

Robert,

Thank you for looking into this. You are correct there have not been any public meetings since 2010. Hendricks County and Structurepoint has been coordinating frequently with adjacent and affected land owners to ensure agricultural drainage is maintained and to provide insight into the project. This has been more of a one-on-one during design and ROW review though.

We will discuss further internally and let you know if there are any questions.

Thank you,

**JOSH IDDINGS**  
Environmental Project Manager

---

**From:** Dirks, Robert (FHWA) [<mailto:Robert.Dirks@dot.gov>]  
**Sent:** Monday, September 23, 2019 11:03 AM  
**To:** Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>  
**Cc:** Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>; Bales, Ronald ([rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)) <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Subject:** RE: Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

FHWA agrees that some form of public involvement would be a good idea, and for the whole corridor (not just Phase 1B). The hearing was in 2010 and the FONSI was approved in 2011. I do not believe that any public meetings were held since 2010.

**Robert Dirks**

Planning and Environmental Specialist  
Federal Highway Administration - Indiana Division  
575 N. Pennsylvania St., #254  
Indianapolis, Indiana 46204  
[robert.dirks@dot.gov](mailto:robert.dirks@dot.gov)  
317-226-7492 phone  
317-294-5511 cell

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**From:** Del Real, Monica [<mailto:mdelreal@structurepoint.com>]  
**Sent:** Friday, September 20, 2019 10:35 AM  
**To:** Dirks, Robert (FHWA) <[Robert.Dirks@dot.gov](mailto:Robert.Dirks@dot.gov)>  
**Cc:** Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>  
**Subject:** Ronald Reagan Parkway Phase 1B (Des. 1602280) - Public Involvement

Robert,

We received a call from INDOT Public Involvement (PI) regarding the re-coordination letter sent out for Ronald Reagan Parkway Phase 1B (Des. 1602280) on September 6, 2019 (attached). Although no further public involvement is formally required and their standard response was sent, INDOT PI recommended that some form of public involvement be considered due to the passage of time; whether this be a letter to adjacent property owners or a public information meeting.

We wanted to get FHWA's opinion on this to determine the best route to move forward.

Thank you,

---

**Monica Del Real**  
Environmental Specialist

9025 River Road, Suite 200  
Indianapolis, IN 46240  
317.547.5580 OFFICE  
[structurepoint.com](http://structurepoint.com) WEB



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State of Indiana  
DEPARTMENT OF NATURAL RESOURCES  
Division of Fish and Wildlife  
Early Coordination/Environmental Assessment

DNR #: ER-12142-2

Request Received: September 6, 2019

**Requestor:** American Structurepoint, Inc  
Monica Del Real  
7260 Shadeland Station  
Indianapolis, IN 46256

**Project:** Ronald Reagan Parkway Extension, project modifications of Phase IB between CR 1000 North and CR 750 North; Des #1602280 (original Des # 0710288)

**County/Site info:** Hendricks

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

**Regulatory Assessment:** This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

**Natural Heritage Database:** The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

**Fish & Wildlife Comments:** All of the recommendations in our previous letter dated March 22, 2018, still apply to the modifications in the project.

**Contact Staff:** Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife  
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



Date: October 4, 2019

Christie L. Stanifer  
Environ. Coordinator  
Division of Fish and Wildlife



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### PHONE CALL RECORD

**Date:** 1/13/2020 **Time:** 1:45 pm

**Person Called:** John Keefer **of** St. Malachy Church

**Person Calling:** Scott Farrell **of** American Structurepoint

**cc:** Josh Iddings, Briana Hope

**Project Name:** Ronald Reagan Parkway Corridor

**Project Number:** 2011.00183

**Subject:** Maintenance of Traffic (Road Closures) during construction

#### Summary of Conversation

Mr. Farrell contacted Mr. Keefer in an effort to inform St. Malachy Church of the  
impending Ronald Reagan project which will close a portion of CR 900 E during  
Construction (2021). Mr. Keefer appreciated the early coordination and did not have  
any further questions or requests regarding maintenance since the majority of church  
attendees enter and leave the facility utilizing CR 1000 E which will remain open  
during construction activities.

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## Farrell, Scott

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**From:** Ritter, Scott (Service Provider) <SRitter@citizensenergygroup.com>  
**Sent:** Tuesday, October 4, 2016 10:28 AM  
**To:** Utility Coordination  
**Subject:** FW: Initial Notice of Proposed Improvement Project, Des No.  
**Attachments:** Ronald Reagan Survey Limits.pdf; Initial notice work plan.2016-09-27.doc

**Importance:** High

Joe

This request came into me. Please enter into utility coordination

### Scott Ritter

office: 317-927-4434

email: [scritter@citizensenergygroup.com](mailto:scritter@citizensenergygroup.com)

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**From:** Parks, Natalie [mailto:NParks@structurepoint.com]  
**Sent:** Tuesday, September 27, 2016 12:00 PM  
**To:** 'connie.maus@duke-energy.com'; McDaniel, Dawn; rcampbell@bremc.com; Miller, Rich A.; Masbaum, Bob; michael.johnson@tdstelecom.com; Jason Kirkman; Tom Spencer; Chapman, Jody W.; Ernest, George; Newman, Gregory C. (MPC); BURKES, DARLENE L; troy.yackle@energytransfer.com; mwhite@buckeye.com; Bauer, Roy L.; Ritter, Scott (Service Provider); 'cd8729@att.com'; 'deannorwich@jmceainc.com'; 'jceospe@comcast.net'; tknuckles@hendrickspower.com; ben.partlow@countrymark.com; smithmt@countrymark.com; Good, Mike (Service Provider); jeshields@aquaamerica.com  
**Cc:** utilitycoordination; Maurovich, Mike; Mekky, Hatem  
**Subject:** Initial Notice of Proposed Improvement Project, Des No.  
**Importance:** High

American Structurepoint, Inc., is under contract with the Hendricks County Board of Commissioners to perform the task of preliminary design and utility coordination on the project referenced below.

This letter serves as your initial notice of the proposed improvement project Ronald Reagan Parkway from I-74 to I-65, Hendricks and Boone Counties, Indiana

We are providing the following project information to assist in your planning.

- |  |  |
|--|--|
| (1) Name or route number                   | New alignment – Ronald Reagan Parkway    |
| (2) Geographical limits<br>Boone County    | From CR 600 N, Hendricks County to I-65, |
| (3) General description of work            | New Road and Bridge Construction         |
| (4) Date approved work plan will be needed | Phased – see below                       |
| (5) Tracings                               | Phased – see below                       |
| (6) Letting date                           | Phased – see below                       |

(7) Name of designer and contact information

Mike Maurovich, P.E.  
American Structurepoint, Inc.

(8) Major or Minor project

Major

This project is currently proceeding with 100% local funds but additional funding could be used as well. We will follow the IAC rule with this project.

This project will be designed as one project through 30% or preliminary plans. A preliminary field check will be held at a later date to discuss the overall project. For planning purposes, some construction will begin in 2017. The most likely areas of construction next year will be the CSX bridge, and road construction from CR 600 N to CR 700 N in Hendricks County. Likely work plan due date will be June 2017.

In an effort to begin partnering with the utilities early and often, the utility shall respond in writing with the following by **October 27, 2016**. I have attached the first two pages of the work plan for this project for you to complete.

- (1) A description of the type and location of its facilities within the geographical limits of the proposed improvement, or
- (2) A statement that the utility has no facilities within the geographical limits of the improvement project.
- (3) If facilities are within the project area, provide copies of any maps or as-built facility information
- (4) If facilities are within the project area and located within an easement or other property interest, provide copies of any documentation you may have.

We are requesting copies of any maps or as-built drawings for your facilities in the subject area. If you would prefer to supply us location information by some other means, please contact this office to discuss. I have attached an aerial view of the entire project area, which is highlighted in gray.

Additionally, we request you provide us the name, telephone number, address, and email of the individual selected as your contact person for this particular project so as to expedite future communications.

Please send your responses to:

Natalie Parks, PE  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
Tel: (317) 547-5580  
Fax: (317) 543-0270  
email: [utilitycoordination@structurepoint.com](mailto:utilitycoordination@structurepoint.com)

Thank you for your attention to these matters.

---

**Natalie Parks, P.E.**  
**Utility & Railroad Coordinator**



American Structurepoint  
7260 Shadeland Station, Indianapolis, IN 46256  
t 317.547.5580 c 317.523.7517  
e [nparks@structurepoint.com](mailto:nparks@structurepoint.com) e [utilitycoordination@structurepoint.com](mailto:utilitycoordination@structurepoint.com)  
w [www.structurepoint.com](http://www.structurepoint.com)

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Date: October 4, 2016

**Subject:**

|                                   |                       |
|-----------------------------------|-----------------------|
| Utility Relocation Work Plan for: | Citizens Energy Group |
| Facility Type:                    | Water                 |

**Section 1: General Information**


A. Project Information

|                          |   |
|--------------------------|---|
| 1. Project Name:         | Ronald Reagan Parkway   |
| 2. Route Location:       | CR 600 N in Hendricks County to I-65 in Boone County, Indiana |
| 3. Work Type:            | New Road and Bridge Construction                              |
| 4. Date Work Plan Needed | <b>Varies</b>   |

B. Utility Designated Contact – Information

|                                    |  |
|------------------------------------|--|
| 1. Designated Contact Name:        | Scott Ritter   |
| 2. Office telephone:               | 317-927-4434   |
| 3. Mobile telephone:               |  |
| 4. Email address:                  | <a href="mailto:sritter@citizensenergygroup.com">sritter@citizensenergygroup.com</a> |
| 5. Agency name                     | Citizens Energy Group  |
| 6. Address:                        | 2150 Dr. Martin Luther King Jr. St   |
| 7. City, State, Zip Code:          | Indianapolis, IN 46202   |
| 8. Construction Emergency Contact: |  |
| Name:                              | Jayson Watt  |
| Number:                            | 317-263-6642   |

C. By signing here, the Utility has determined to the best of their ability that they do not have facilities within the project area:

  
 \_\_\_\_\_  
 Signature of Utility Representative

Scott Ritter  
 \_\_\_\_\_  
 Print Name

10/04/2016  
 \_\_\_\_\_  
 Date

**Note:** A signature by the utility representative at item “(C)” fulfills the requirement to complete the rest of this form and affirms their contact information above is correct



D. Utility Coordinator Contact Information

|    |                           |  |
|----|---------------------------|--|
| 1. | Utility Coordinator Name: | Natalie Parks, P.E.  |
| 2. | Office Telephone:         | 317.547.5580   |
| 3. | Mobile Telephone:         | 317.523.7517   |
| 4. | Email Address:            | <a href="mailto:nparks@structurepoint.com">nparks@structurepoint.com</a><br><a href="mailto:utilitycoordination@structurepoint.com">utilitycoordination@structurepoint.com</a> |
| 5. | Agency Name:              | American Structurepoint, Inc.  |
| 6. | Address:                  | 7260 Shadeland Station   |
| 7. | City, State, Zip Code     | Indianapolis, Indiana 46256  |

**Section 2:** A narrative description of the facility relocation that will be required.

- A. Describe what types of existing active and inactive facilities are present.
  
- B. Describe the location of existing active and inactive facilities.
  
- C. Describe what will be done with existing active and inactive facilities.
  
- D. Describe the details of the proposed new facilities.
  
- E. Describe the proposed location of the new facilities.
  
- F. By signing here, the Utility has determined to the best of their ability that they have facilities within the project area and the facilities are not in conflict with the project based upon the plans received on **<Enter Date Received Plans>**

\_\_\_\_\_  
Signature of Utility Representative

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

**Note:** A signature by the utility representative at item "(F)" fulfills the requirement to complete the rest of this form and affirms their contact information above is correct.



2150 Dr. Martin Luther King Jr. St. | Indianapolis, IN | 46202

CitizensEnergyGroup.com

November 1, 2016

Natalie Parks, PE  
 American Structurepoint, Inc.  
 7260 Shadeland Station

Indianapolis, Indiana 46256

Re: Ronald Reagan Parkway

Dear Natalie Parks, PE,

In advance of your request for a response to project Alignment – R.Reagan, Pky, representatives from Citizens’ business units have reviewed the request Ronald Reagan Parkway and have noted the following responses respective to their areas.

|                             |   |
|-----------------------------|---|
| <b>Owner:</b>               | Hendricks County Board of Commissioners   |
| <b>Owner’s Project No.:</b> | Alignment – R.Reagan, Pky   |
| <b>DES No.:</b>             |   |
| <b>General Description:</b> | New road and bridge construction. Improvement of Ronald Reagan Parkway from I-74 to I-65, Hendricks and Boone Counties, Indiana |
| <b>Geographical Limits:</b> | From CR 600 N, Hendricks County to I-65, Boone County   |
| <b>Gas Response:</b>        | Outside of service territory  |
| <b>Thermal Response:</b>    | Outside of service territory  |
| <b>Sanitary Response:</b>   | Outside of service territory  |
| <b>Water Response:</b>      | Outside of service territory  |

Attached is our facility location information and/or utility work plans as requested. To expedite future communications, please find contact information for Citizens’ Business Unit Representatives:

| Citizens BU Rep.               | Phone        | Email                            |
|--------------------------------|--------------|----------------------------------|
| <b>Gordon Rundle (Thermal)</b> | 317-693-8854 | grundle@citizensenergygroup.com  |
| <b>Rich Miller (Gas)</b>       | 317-927-4684 | rmiller@citizensenergygroup.com  |
| <b>Bob Masbaum (Sanitary)</b>  | 317-429-3961 | bmasbaum@citizensenergygroup.com |
| <b>Tim Lawson (Water)</b>      | 317-429-3964 | tlawson2@citizensenergygroup.com |

Please note that you may email future **initial** utility coordination requests to [UtilityCoordination@CitizensEnergyGroup.com](mailto:UtilityCoordination@CitizensEnergyGroup.com).

Sincerely,

Joe Smith  
 Utility Coordination

cc: 60 File  
 Citizens BU Reps



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

Phone: (812) 334-4261 Fax: (812) 334-4273

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

In Reply Refer To:

January 03, 2020

Consultation Code: 03E12000-2020-SLI-0511

Event Code: 03E12000-2020-E-02282

Project Name: Des. No. 1602280 (Original Des. No. 0710288) Ronald Reagan Parkway

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Indiana Ecological Services Field Office**

620 South Walker Street

Bloomington, IN 47403-2121

(812) 334-4261

## Project Summary

Consultation Code: 03E12000-2020-SLI-0511

Event Code: 03E12000-2020-E-02282

Project Name: Des. No. 1602280 (Original Des. No. 0710288) Ronald Reagan Parkway

Project Type: TRANSPORTATION

**Project Description:** The proposed project (Ronald Reagan Parkway, Des. No. 1602280) alignment begins approximately at the CR 600 N and Ronald Reagan Parkway intersection in Hendricks County, extends north approximately 8.3 miles on mostly new terrain to SR 267, and continues north along SR 267 for approximately 1.5 miles to the interchange with I-65. The total length of this project is 9.8 miles. The proposed Ronald Reagan Parkway will consist of two 12-foot wide travel lanes (one in each direction) with 10-foot wide outside shoulders. A 12-foot wide turn lane with 4-foot wide striped median or 16-foot median will be constructed, depending on need. A 10-foot wide multi-use path located on the east side of the parkway will also be incorporated into the roadway design. A 10-foot wide grassed buffer will be constructed between the parkway and the multi-use path.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.913270224803N86.37292606202428W>



Counties: Boone, IN | Hendricks, IN

## Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

| NAME   | STATUS     |
|--|------------|
| Indiana Bat <i>Myotis sodalis</i><br>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.<br>Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a><br>Species survey guidelines:<br><a href="https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf</a>  | Endangered |
| Northern Long-eared Bat <i>Myotis septentrionalis</i><br>No critical habitat has been designated for this species.<br>This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">www.fws.gov/midwest/endangered/mammals/nleb/index.html</a></li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a> | Threatened |

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.





United States Department of Agriculture

January 22, 2020

Scott M. Farrell  
American StructurePoint  
9025 River Road, Suite 200  
Indianapolis, Indiana 46240

Dear Mr. Farrell:

The revised project to make modifications to cross streets and detention areas in Boone and Hendricks County, Indiana, (Des No 1602280) as referred to in your letter received December 11, 2019, will cause an impact of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact John Allen at 317-295-5859.

Sincerely,

JERRY RAYNOR  
State Conservationist

Enclosures

**FARMLAND CONVERSION IMPACT RATING  
FOR CORRIDOR TYPE PROJECTS**

|  |  |   |   |
|--|--|---|---|
| <b>PART I (To be completed by Federal Agency)</b>  |  | 3. Date of Land Evaluation Request                      | 4. Sheet 1 of <u>1</u>  |
| 1. Name of Project <b>Des.1602280 Reagan Parkway, Hendricks</b>  |  | 5. Federal Agency Involved                              |   |
| 2. Type of Project   |  | 6. County and State <b>Hendricks County, Indiana</b>    |   |
| <b>PART II (To be completed by NRCS)</b>   |  | 1. Date Request Received by NRCS<br><b>12/11/19</b>     | 2. Person Completing Form<br><b>DP</b>  |
| 3. Does the corridor contain prime, unique statewide or local important farmland?<br>(If no, the FPPA does not apply - Do not complete additional parts of this form). YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |  | 4. Acres Irrigated   Average Farm Size<br><b>226 AC</b> |   |
| 5. Major Crop(s)<br><b>Corn</b>  | 6. Farmable Land in Government Jurisdiction<br>Acres: <b>235,829</b> % <b>97</b> |   | 7. Amount of Farmland As Defined in FPPA<br>Acres: <b>238,581</b> % <b>91</b> |
| 8. Name Of Land Evaluation System Used<br><b>LESA</b>  | 9. Name of Local Site Assessment System  |   | 10. Date Land Evaluation Returned by NRCS<br><b>1/22/20</b>                   |

|   |   |               |               |                   |
|---|---|---------------|---------------|-------------------|
| <b>PART III (To be completed by Federal Agency)</b>               | <b>Alternative Corridor For Segment :</b> |               |               |                   |
|   | <b>Area 1</b>                             | <b>Area 2</b> | <b>Area 3</b> | <b>Corridor 4</b> |
| A. Total Acres To Be Converted Directly                           |   |               |               |                   |
| B. Total Acres To Be Converted Indirectly, Or To Receive Services |   |               |               |                   |
| C. Total Acres In Corridor  | <b>0.0</b>                                | <b>0.0</b>    | <b>0.0</b>    | <b>0.0</b>        |

|  |  |               |  |  |
|--|--|---------------|--|--|
| <b>PART IV (To be completed by NRCS) Land Evaluation Information</b>               |  |               |  |  |
| A. Total Acres Prime And Unique Farmland   |  | <b>43.7</b>   |  |  |
| B. Total Acres Statewide And Local Important Farmland                              |  | <b>0.0</b>    |  |  |
| C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted            |  | <b>0.0170</b> |  |  |
| D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value |  | <b>26.0</b>   |  |  |

|  |           |  |  |  |
|--|-----------|--|--|--|
| <b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b> | <b>88</b> |  |  |  |
|--|-----------|--|--|--|

|  |                       |          |           |          |          |
|--|-----------------------|----------|-----------|----------|----------|
| <b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b> | <b>Maximum Points</b> |          |           |          |          |
| 1. Area in Nonurban Use  | <b>15</b>             |          | <b>10</b> |          |          |
| 2. Perimeter in Nonurban Use   | <b>10</b>             |          | <b>10</b> |          |          |
| 3. Percent Of Corridor Being Farmed  | <b>20</b>             |          | <b>16</b> |          |          |
| 4. Protection Provided By State And Local Government   | <b>20</b>             |          | <b>0</b>  |          |          |
| 5. Size of Present Farm Unit Compared To Average   | <b>10</b>             |          | <b>10</b> |          |          |
| 6. Creation Of Nonfarmable Farmland  | <b>25</b>             |          | <b>0</b>  |          |          |
| 7. Availability Of Farm Support Services   | <b>5</b>              |          | <b>5</b>  |          |          |
| 8. On-Farm Investments   | <b>20</b>             |          | <b>7</b>  |          |          |
| 9. Effects Of Conversion On Farm Support Services  | <b>25</b>             |          | <b>0</b>  |          |          |
| 10. Compatibility With Existing Agricultural Use   | <b>10</b>             |          | <b>0</b>  |          |          |
| <b>TOTAL CORRIDOR ASSESSMENT POINTS</b>  | <b>160</b>            | <b>0</b> | <b>58</b> | <b>0</b> | <b>0</b> |

|   |            |          |                 |          |          |
|---|------------|----------|-----------------|----------|----------|
| <b>PART VII (To be completed by Federal Agency)</b>                       |            |          |                 |          |          |
| Relative Value Of Farmland (From Part V)                                  | <b>100</b> |          | <b>88</b>       |          |          |
| Total Corridor Assessment (From Part VI above or a local site assessment) | <b>160</b> | <b>0</b> | <b>58</b>       | <b>0</b> | <b>0</b> |
| <b>TOTAL POINTS (Total of above 2 lines)</b>                              | <b>260</b> | <b>0</b> | <b>58 / 146</b> | <b>0</b> | <b>0</b> |

|  |   |   |   |
|--|---|---|---|
| 1. Corridor Selected:<br><b>Area 2</b> | 2. Total Acres of Farmlands to be Converted by Project: | 3. Date Of Selection:<br><b>1/24/2020</b> | 4. Was A Local Site Assessment Used?<br>YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
|--|---|---|---|

5. Reason For Selection:  
*This area is associated with detention ponds and Cross Street improvements for the Ronald Reagan Parkway Phase 1B project.*

Signature of Person Completing this Part: \_\_\_\_\_ DATE **1/24/2020**

NOTE: Complete a form for each segment with more than one Alternate Corridor

## Farrell, Scott

---

**From:** Iddings, Joshua  
**Sent:** Wednesday, January 22, 2020 12:22 PM  
**To:** captesful@aol.com  
**Cc:** Farrell, Scott  
**Subject:** Ronald Reagan Parkway Extension; Fuller Field Coordination Items  
**Attachments:** DES1602280 Ronald Reagan Parkway Phase 1B Coordination.pdf

Mr. Fuller,

Thank you for taking the time to discuss the Ronald Reagan Parkway Extension between 56<sup>th</sup> Street (CR 600 N) and 86<sup>th</sup> Street (CR 1000 N) in Hendricks County, Indiana. As we discussed this morning, American Structurepoint, Inc. has been contracted by the Hendricks County Commissioners to oversee the design and coordination of this project with the surrounding community. After review of available data we identified that Fuller Field is a privately owned and operated airport located off of CR 950 N, west of CR 925 E, and approximately 750 feet east of the proposed alignment of Ronald Reagan Parkway.

Following our conversation, you expressed no immediate concerns with the project's effects on the airport and indicated the construction of the parkway should not have an effect on small aircraft using the airstrip. The Hendricks County Commissioners have not set a firm date for construction of the project but based on preliminary timelines they anticipate that the project will move to bidding late in 2020 and that construction would commence in 2021. As mentioned, the project is anticipated to take somewhere between 3-4 years depending on how the County decides to break it up.

I have attached some additional information and mapping of the project for your review. In the letter, there is a discussion of the location of the proposed detention ponds on page 2, as well as other project modifications which have occurred since the original Environmental Document was completed in 2010. Please note that there is a typo in the typical section presented in the document, the roadway will be 4 lanes (2-lanes in both directions). This typo has no effect on the project footprint which is shown on the attached mapping.

If there are specific questions regarding the proposed project that are not addressed in the attached documents please let me know.

Thank you,

---

### JOSH IDDINGS

#### Environmental Project Manager

9025 River Road, Suite 200  
Indianapolis, IN 46240  
317.547.5580 [OFFICE](#)  
[structurepoint.com](#) [WEB](#)



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## Farrell, Scott

---

**To:** Tonya A. Cottrell  
**Subject:** RE: Ronald Reagan Parkway Extension

---

**From:** Tonya A. Cottrell <[tcottrell@co.hendricks.in.us](mailto:tcottrell@co.hendricks.in.us)>  
**Sent:** Tuesday, January 28, 2020 2:24 PM  
**To:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** RE: Ronald Reagan Parkway Extension

Scott,

I will need to see any Special Flood Hazard Area on the plan and it needs to delineate the floodway and the floodway fringe. You will need to obtain a construction in the Floodplain permit once you are ready to start the project. I would also contact the Erosion Control Department as well as the County Surveyor's office to see if anything will be needed from their offices.

If you have any other questions please feel free to contact me.

Thank you,

Tonya A Cottrell, CFM  
317-745-9445

---

**From:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Sent:** Monday, January 27, 2020 2:51 PM  
**To:** Tonya A. Cottrell <[tcottrell@co.hendricks.in.us](mailto:tcottrell@co.hendricks.in.us)>  
**Subject:** RE: Ronald Reagan Parkway Extension

Hi Tonya,

I just left you a voicemail regarding the information we discussed below. Besides providing you updated plans for the storm water detention ponds once the plans are complete, I wanted to see if you had any additional requirements from us before we move forward with the project. Please let me know either via phone or email if you have additional questions, comments, or concerns.

Thanks again, Tonya.

### Scott M. Farrell

Environmental Project Manager

9025 River Road, Suite 200

Indianapolis, IN 46240

317.547.5580 office

317.496.8257 cell

[structurepoint.com](http://structurepoint.com) web



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**From:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Sent:** Friday, January 24, 2020 11:27 AM  
**To:** Tonya A. Cottrell <[tcottrell@co.hendricks.in.us](mailto:tcottrell@co.hendricks.in.us)>  
**Cc:** Iddings, Joshua <[Jiddings@structurepoint.com](mailto:Jiddings@structurepoint.com)>  
**Subject:** RE: Ronald Reagan Parkway Extension

No problem, Tonya. Attached are maps of the overall area of the corridor, a map of the location of the approved detention pond at the southeast corner of the intersection at CR 900 and CR 750 and a map of 2 additional detention ponds (located northeast of the intersection of CR 900 and CR 750) that are still in the design process. These 3 detention ponds are all located within the floodplain associated with School Branch. The approved detention pond can be referenced by IDNR Application# FW-29372.

Thank you for your quick response, Tonya. If you have any further questions, please do not hesitate to ask.

Have a great weekend!

**Scott M. Farrell**

**Environmental Project Manager**

9025 River Road, Suite 200

Indianapolis, IN 46240

317.547.5580 office

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**From:** Tonya A. Cottrell <[tcottrell@co.hendricks.in.us](mailto:tcottrell@co.hendricks.in.us)>  
**Sent:** Friday, January 24, 2020 10:06 AM  
**To:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Cc:** Iddings, Joshua <[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)>  
**Subject:** RE: Ronald Reagan Parkway Extension

Scott,

I appreciate you reaching out to me. I am not part of the Drainage Board so if you can please send me what you have on the project. I would really like to see an overall aerial map and an up to date development plan with the floodplain mapped on it that the Drainage Board has approved.  
Again I thank you for contacting me.

Tonya A Cottrell, CFM  
317-745-9445

---

**From:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Sent:** Friday, January 24, 2020 8:50 AM  
**To:** Tonya A. Cottrell <[tcottrell@co.hendricks.in.us](mailto:tcottrell@co.hendricks.in.us)>  
**Cc:** Iddings, Joshua <[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)>  
**Subject:** Ronald Reagan Parkway Extension

Good morning Ms. Cottrell,

American Structurepoint, Inc. has been contracted by the Hendricks County Commissioners to oversee the design and coordination of the above referenced project, which extends the Ronald Reagan corridor (from CR 600 N (56<sup>th</sup> St.)) to CR 1000 N in Brownsburg. Currently, we are in the design process and further details on construction and detention basins will be presented, once complete. Please note that designs for the detention basins are actively being coordinated with the Drainage Board. If you are an active member of the Drainage Board, you are likely up to speed on where we are in the design phase of the project. If you are not, as the Hendricks County Floodplain Manager, I would like to further coordinate with you. Please let me know whether or not you are a member of the Drainage Board and if not, I'll send you additional documentation and mapping of the project for your review, so that you can supply us with comments and/or recommendations regarding floodplain(s) in the project area.

Thank you for your time, Ms. Cottrell and have a great weekend!

**Scott M. Farrell**

Environmental Project Manager

9025 River Road, Suite 200

Indianapolis, IN 46240

317.547.5580 office

317.496.8257 cell



## Farrell, Scott

---

**From:** Bales, Ronald <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Sent:** Tuesday, February 11, 2020 9:19 AM  
**To:** Iddings, Joshua  
**Cc:** Farrell, Scott  
**Subject:** RE: DES 1602280 Ronald Reagan Parkway; EJ Analysis Coordination

Thank you for the email. Can just document in your AI, and we will review at that time. Thank you.

### Ron Bales

INDOT-Environmental Services Division

**Office:** (317) 234-4916

**Email:** [rbales@indot.in.gov](mailto:rbales@indot.in.gov)

---

**From:** Iddings, Joshua [<mailto:Jlddings@structurepoint.com>]  
**Sent:** Monday, February 10, 2020 8:19 AM  
**To:** Bales, Ronald <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Cc:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** RE: DES 1602280 Ronald Reagan Parkway; EJ Analysis Coordination

\*\*\*\* This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. \*\*\*\*

---

Ron,

Good morning, I hope you had a good weekend. Let us know if you would like to discuss the EJ Analysis further. I know you mentioned the need to add in that the project will not create a physical barrier when we discussed this.

Thanks,

### JOSH IDDINGS

Environmental Project Manager

---

**From:** Iddings, Joshua  
**Sent:** Wednesday, February 05, 2020 4:42 PM  
**To:** 'Bales, Ronald' <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Cc:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** RE: DES 1602280 Ronald Reagan Parkway; EJ Analysis Coordination

Ron,

Good afternoon, I wanted to see if you had a chance to review the EJ Analysis for Ronald Reagan Parkway. If you have any questions let us know.

Thanks,

### JOSH IDDINGS

Environmental Project Manager

---

**From:** Iddings, Joshua  
**Sent:** Tuesday, January 21, 2020 4:56 PM  
**To:** 'Bales, Ronald' <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Cc:** Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** RE: DES 1602280 Ronald Reagan Parkway; EJ Analysis Coordination

Ron,

We have coordinated with our R/W team to gather a bit more information regarding anticipated impacts. I have drafted a EJ Analysis which is attached for review and comment. For this analysis a representative CoC was drawn from the impacted townships in Hendricks County. Please let me know if there are any questions or if additional information is needed.

Thank you,

**JOSH IDDINGS**  
Environmental Project Manager

---

**From:** Iddings, Joshua  
**Sent:** Wednesday, January 15, 2020 1:40 PM  
**To:** 'Bales, Ronald' <[rbales@indot.IN.gov](mailto:rbales@indot.IN.gov)>  
**Cc:** Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>  
**Subject:** DES 1602280 Ronald Reagan Parkway; EJ Analysis Coordination

Ron,

Hope things are going well. Following up on my message, we are working through the EJ Analysis for the Ronald Reagan Parkway project (DES 1602280) and have identified a minority EJ population of concern in one of the Affected Communities in Hendricks County. We have ran the analysis multiple ways using the County as the CoC and then again the Townships as the CoC.

We would like to discuss the analysis and determine what steps should be taken determine if there is a disproportionate effect.

Thanks,

---

**JOSH IDDINGS**  
Environmental Project Manager

9025 River Road, Suite 200  
Indianapolis, IN 46240  
317.547.5580 OFFICE  
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**Appendix D: Section 106 of NHPA**

**FEDERAL HIGHWAY ADMINISTRATION'S  
SECTION 4(F) COMPLIANCE REQUIREMENTS (FOR HISTORIC PROPERTIES) AND  
SECTION 106 FINDINGS AND DETERMINATIONS  
AREA OF POTENTIAL EFFECTS  
ELIGIBILITY DETERMINATIONS  
EFFECT FINDING  
EXTENSION OF THE RONALD REAGAN PARKWAY  
FROM CR 600 NORTH TO SR 267/I-65,  
IN PERRY AND WORTH TOWNSHIPS, BOONE COUNTY AND BROWN TOWNSHIP,  
HENDRICKS COUNTY, INDIANA  
DES. NO.: 1602280**

**AREA OF POTENTIAL EFFECTS  
(Pursuant to 36 CFR § 800.4(a)(1))**

Historians utilized an Area of Potential Effects (APE) that had been established in 2006 for a project of the same name, the "Extension of the Ronald Reagan Parkway (Des. No.: 0710288)." However, the APE was enlarged at the I-65 and SR 267 interchange to the northeast to account for potential changes in traffic and view. No other modifications to the APE were recommended. The APE for archaeological resources is defined as the project footprint. (See Appendix A: Maps and Site Plans and Appendix B: Project Plans.)

**ELIGIBILITY DETERMINATIONS  
(Pursuant to 36 CFR § 800.4(c)(2))**

As a result of Section 106 identification and evaluation efforts, five resources have been identified as listed or recommended eligible for listing in the National Register of Historic Places (NRHP):

- **Howard School (Perry Township No. 1, NR-2123, Indiana Historic Sites and Structures Inventory [IHSSI] No.: 011-205-45031)**
- **Lawler Farmstead (IHSSI No.:063-699-00012)**
- **Farmstead (IHSSI No.: 063-205-00014)**
- **House (IHSSI No.: 063-117-40006)**
- **P.C. Hogan Farm (IHSSI No.: 063-699-00006)**

**Howard School (Perry Township No. 1, NR-2123, IHSSI No.: 011-205-45031):** This brick, one-room school house was constructed in 1881 to replace a frame building. The property was listed in the NRHP in 2009, for significance under Criterion A for Education, and retains the characteristics for which it has been listed. The period of significance is from 1880 to 1916, the dates of its use.

**Lawler Farmstead (IHSSI No.: 063-699-00012):** This farmstead is comprised of a brick I-House dating from the mid-nineteenth century and several frame outbuildings from around the turn of the twentieth century. The property is recommended eligible under Criterion C for its architectural significance. Its period of significance is from about 1850 to 1920.

**Farmstead (IHSSI No.: 063-205-00014):** This farmstead includes a brick Italianate cottage from circa 1880 and outbuildings from around the turn of the century, during the “golden age of agriculture.” This farm is recommended eligible for the NRHP under Criteria A for agricultural significance and C for its architecture. Its period of significance is from 1880 to 1920.

**House (IHSSI No.: 063-117-40006):** Standing one-and-one-half stories tall on a fieldstone foundation, this Gothic Revival-style dwelling was built around 1860. This property is recommended eligible for the NRHP under Criterion C for architecture. Its period of significance is the date of construction: circa 1860.

**P.C. Hogan Farm (IHSSI No.: 063-699-00006):** This farmstead includes a house (built circa 1870), three barns (built circa 1905), and eleven other outbuildings and four water pumps. This farm is recommended eligible for the NRHP under Criterion A for agricultural significance and Criterion C for architecture. Its period of significance is from 1870 to 1970.

## **EFFECT FINDING**

**Howard School at 4555 CR 750 North (NR-2123, IHSSI No.: 011-205-45031) – Adverse Effect**

**Lawler Farmstead at 8460 CR 1000 North (IHSSI No.: 063-699-00012) – Adverse Effect**

**Farmstead at 8030 CR 1000 North (IHSSI No.: 063-205-00014) – No Adverse Effect**

**House at 8795 CR 600 North (IHSSI No.: 063-117-40006) - No Effect**

**P.C. Hogan Farm at 9110 CR 1000 North (IHSSI No.: 063-699-00006) – No Adverse Effect**

The Federal Highway Administration (FHWA), has determined a finding of “adverse effect” is appropriate for this undertaking. FHWA respectfully requests the Indiana SHPO provide written concurrence with the Section 106 determination of effect for each property and the project’s overall effect finding of “adverse effect.”

## **SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)**

**Howard School (Perry Township No. 1, NR-2123, IHSSI No.: 011-205-45031):** This undertaking will not convert property from the Howard School, a Section 4(f) historic property, to a transportation use. FHWA has determined the appropriate Section 106 finding is " Historic Properties Affected: Adverse Effect;" therefore, no Section 4(f) evaluation is required for the Howard School.

**Lawler Farmstead (IHSSI No.: 063-699-00012):** This undertaking will not convert property from the Lawler Farmstead, a Section 4(f) historic property, to a transportation use. FHWA has determined the appropriate Section 106 finding is "Historic Property

Affected: Adverse Effect;" therefore, no Section 4(f) evaluation is required for the Lawler Farmstead.

**Farmstead (IHSSI No.: 063-205-00014):** This undertaking will not convert property from the Farm, a Section 4(f) historic property, to a transportation use. FHWA has determined the appropriate Section 106 finding is "Historic Property Affected: No Adverse Effect;" therefore, no Section 4(f) evaluation is required for the Farm.

**House (IHSSI No.: 063-117-40006):** This undertaking will not convert property from the House, a Section 4(f) historic property, to a transportation use. FHWA has determined the appropriate Section 106 finding is "No Effect;" therefore, no Section 4(f) evaluation is required for the House.

**P.C. Hogan Farm (IHSSI No.: 063-699-00006):** This undertaking will not convert property from the P.C. Hogan Farm, a Section 4(f) historic property, to a transportation use. INDOT, acting on FHWA's behalf, has determined the appropriate Section 106 finding is "Historic Property Affected: No Adverse Effect;" therefore, no Section 4(f) evaluation is required for the P.C. Hogan Farm.

**MICHELLE B ALLEN**  
Mayela Sosa  
Division Administrator  
FHWA-IN Division

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Approved Date

**FEDERAL HIGHWAY ADMINISTRATION  
DOCUMENTATION OF SECTION 106 FINDING OF  
NO ADVERSE EFFECT  
SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER  
PURSUANT TO 36 CFR 800.5(c)  
EXTENSION OF THE RONALD REAGAN PARKWAY  
FROM CR 600 NORTH TO SR 267/I-65,  
IN PERRY AND WORTH TOWNSHIPS, BOONE COUNTY AND BROWN TOWNSHIP,  
HENDRICKS COUNTY, INDIANA  
DES. NO.: 1602280**

**1. DESCRIPTION OF THE UNDERTAKING**

The Hendricks County Commissioners and Boone County Commissioners, with anticipated funding from the Federal Highway Administration (FHWA), and with administrative oversight by the Indiana Department of Transportation, are proposing the extension of the Ronald Reagan Parkway Project in northern Hendricks County and southern Boone County. Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties. The federal involvement in the project is the anticipated funding from the FHWA.

In 2011, the environmental documentation for a project with the same name, "Extension of the Ronald Reagan Parkway from CR 600 North to SR 265/I-65 in Perry Township, Boone County and Brown Township, Hendricks County Indiana," but a different designation number (Des. No.: 0710288) was approved. As part of the Section 106 consultation for the Extension of the Ronald Reagan Parkway (Des. No.: 0710288), the following were determined National Register eligible: I-House Farm at 8460 CR 1000N (IHSSI No.: 063-699-00012: now called "Lawler Farmstead") and to the Howard School (IHSSI No.: 011-205-45031). A finding of Adverse Effect was distributed on June 15, 2009, and a Memorandum of Agreement (MOA) was executed on February 10, 2010. (See Appendix C: Prior Section 106 Documentation.)

Since the July 6, 2010 approval of the Environmental Assessment (EA), the project has been modified to include four phases. Phase 1A begins at County Road (CR) 600 N and extends north to CR 750 N, Phase 1B begins at CR 750 N and extends north to CR 1000 N, Phase 2A begins at CR 1000 N and extends north to Whitestown Parkway, and Phase 2B begins at Whitestown Parkway and extends north to I-65.

An additional 20.24 acres of right-of-way will be required within Phase 1A for the creation of detention ponds. The detention ponds are proposed to be northwest of the intersection between CR 600 N and Ronald Reagan Parkway (10.52 acres), southwest of the intersection between CR 900 E and CR 700 N (3.97 acres), and southeast of the intersection between CR 900 E and CR 750 N (5.75 acres). The stormwater detention ponds will be constructed and designed to handle the added stormwater drainage collected within the side ditches of the new roadway.

The crossing in Phase 1A over the CSX Railroad has been modified to an above-grade crossing. A two-span bulb tee beam bridge with an out-to-out coping length of 97'-6-inch with two 12-foot travel lanes in each direction, a 12-foot turn lane, a 10-foot multi-use path, a 4-foot striped median, and 10-foot, 4-inch shoulders on each side. A 10-inch wide rail will be on each side of the multi-use path. Retaining walls will be used to decrease the amount of right-of-way and the amount of impact. The bridge will have a minimum 23 foot, 3 and 5/8-inch clearance over the CSX railroad tracks.

Modifications to cross streets have been proposed within Phase 1A of the project. Modifications to CR 700 N and CR 750 N will include the addition of a left turn lane onto the proposed Ronald Reagan Parkway. The typical sections will include two 12 foot travel lanes, one 12 foot left turn lane, and 8 foot shoulders. The proposed work extends approximately 900 feet east and west along CR 600 N and approximately 500 feet east and west along CR 700 N and CR 750 N. An additional 4.4 acres of permanent right-of-way and 0.22 acre of temporary right-of-way will be required for the proposed improvements to the cross streets in Hendricks County.

The Area of Potential Effects (APE) is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking” [36 CFR § 800.16(d)].

Due to these project changes and the lapse of time since the MOA had been executed, Section 106 consultation was re-initiated in 2016. Weintraut & Associates, Inc. (W&A) examined the APE (approved for this project in 2009 under Des. No.: 0710288) in light of the most current information. The historians found that the APE established for Des. No.: 0710288 remained appropriate to encompass direct and indirect effects. W&A extended the APE at the I-65 and SR 267 interchange to the northeast to account for potential changes in traffic and view. No other modifications to the APE were recommended. (See Appendix A: Maps and Site Plans.) The Indiana State Historic Preservation Officer (SHPO) concurred with the APE on April 26, 2017. The APE for archaeological resources is defined as the project footprint. (See Appendix A: Maps and Site Plans and Appendix D: Correspondence.)

## **2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES**

Pursuant to 36 CFR § 800.4(b), American Structurepoint (Structurepoint), project consultant for the Hendricks County Commissioners and Boone County Commissioners, has charged W&A with identifying and evaluating aboveground properties within the APE that were constructed during, or prior to, 1970 (fifty years from the likely letting date of this project), and with documenting their efforts and findings in a Historic Property Report (HPR). W&A was also charged with identifying and evaluating archaeological properties in areas not previously surveyed by a professional archaeologist.

On September 23 and September 30, 2016, archaeologists for W&A initiated archaeological identification and evaluation by conducting a records check on the State Historical Architectural and Archaeological Research Database (SHAARD) and

reviewing files at the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (IDNR, DHPA).

Historians for W&A reviewed the NRHP, SHAARD, IHSSI, the *Boone County Interim Report and the Hendricks County Interim Report* for previously identified properties. An examination of primary and secondary resources was conducted and included a review of county histories and historic maps. Historians conducted a site survey on October 14, 17, 18, and 27, 2016, viewing all the properties in the APE and photographing and recording survey notes about properties in and around the APE. Historians identified 103 resources considered or rated Contributing per the IHSSI rating standards and five properties that were either listed, determined eligible, or recommended eligible for the NRHP. (See Appendix E: Photographs for representative photographs of the APE and resources.)

W&A completed an HPR in January 2017 that identified one NRHP-listed property, one property as previously determined eligible for the NRHP, and recommended three properties as eligible for listing in the NRHP. (See Appendix F: Report Summaries.)

On March 23, 2017, Structurepoint emailed and mailed (as reflected on the list in Appendix G: Consulting Parties) an invitation to join in consultation that directed recipients to access the HPR on INDOT's online document portal (INSCOPE) to the following individuals, agencies, and organizations to join consultation (See Appendix D: Correspondence.):

- Indiana Landmarks, Central Regional Office
- Indianapolis Metropolitan Planning Organization
- Hendricks County Heritage Alliance
- Hendricks County Historian
- Fairfield Historic Preservation Society
- Hendricks County Historical Society/Museum<sup>1</sup>
- Town of Brownsburg Manager
- Town of Brownsburg Council
- Indiana National Road Association
- Property Owner - Lawler Farmstead at 8460 E CR 1000 N (recommended eligible for the National Register of Historic Places (NRHP))
- Property Owner – Farmstead at 8030 E CR 1000 N (recommended NRHP-eligible)
- Property Owner – House at 8795 E CR 600 N (recommended NRHP-eligible)
- Property Owner – P.C. Hogan Farm at 9110 CR 1000 N (recommended NRHP-eligible)
- Howard School Restoration Group
- Patrick Henry Sullivan Museum
- City of Lebanon Mayor

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<sup>1</sup> Note the Hendricks County Historical Society/Museum was not included on the list of consulting parties shown in the March 23, 2017 early coordination documentation, but were provided with copies of this information and invited to consult.

- Boone County Historical Society
- Jackson Township Historical Society
- Sugar Creek Historical Society
- Zionsville Historical Society
- Boone County Historian
- Lebanon Historic Preservation Commission
- SullivanMunce Cultural Center
- Town of Whitestown Town Manager
- Town of Whitestown Town Council

On March 24, 2017, INDOT emailed an invitation for consultation to the following Tribes:(See Appendix D: Correspondence.):

- Delaware Nation of Oklahoma
- Forest County Potawatomi Community
- Miami Tribe of Oklahoma
- Eastern Shawnee Tribe of Oklahoma

The SHPO was also provided a copy of the invitation and HPR as a designated consulting party. The Board of Hendricks County Commissioners, and the Board of Boone County Commissioners, INDOT, and the FHWA were copied on the correspondence. (See Appendix D: Correspondence and Appendix G: Consulting Parties).

The Miami Tribe of Oklahoma, Delaware Nation, Forest County Potawatomi Community, the Boone County Historian, Jerry Marks (owner of the Farmstead at 8030 E CR 1000 N; IHSSI No.: 063-205-00014), Patrick Wethington (owner of the P.C. Hogan Farm at 9110 CR 1000 N; IHSSI No.: 063-699-00006), Indiana Landmarks, and Howard School Restoration Group accepted the invitation and/or participated in consultation. No other responses were received. (See Appendix D: Correspondence and Appendix G: Consulting Parties).

On April 16, 2017, Consulting Party Patrick Wethington responded to the HPR and provided clarification about the history of his property, the P.C. Hogan Farm. (See Appendix D: Correspondence and Section 6 for full summary of the correspondence.)

On April 19, 2017, the Boone County historian responded to the HPR and questioned the eligibility recommendation for the Mount Tabor Primitive Baptist Church (IHSSI No.: 011-205-45026; recommended as not eligible for NRHP in the HPR). The Boone County historian offered a build date (1857) for the church and provided information about a lawsuit concerning the Mount Tabor Primitive Baptist Church building (*Smith et. al. v. Pedigo et. al.*) that reached the Indiana Supreme Court in 1893. The Boone County historian stated that the existence of this court case “may lend support to the site being considered historically significant under NRHP evaluation criteria A.” (See Appendix D: Correspondence and Section 6 for full summary of the correspondence.)



On April 24, 2017, Indiana Landmarks responded to the HPR. Landmarks stated that it wished to remain a consulting party, concurred with the identification of NRHP-listed or eligible properties, and generally concurred with the findings regarding ineligible properties. However, Landmarks requested that two properties be examined more thoroughly before they accepted the assessments of eligibility: the Farmstead (IHSSI No.: 063-205-00014) located at 8030 E CR 1000 N and the Pennington House (IHSSI No.: 063-205-00015) located at 10563 CR 800 E. (See Appendix D: Correspondence.)

Historians for W&A wrote a memorandum, dated April 25, 2017, in response to Indiana Landmarks comments and stated that the Farmstead at 8030 E CR 1000 N (IHSSI No.: 063-205-00014) had been recommended NRHP eligible in the text of the HPR, but had been listed as “not eligible” in the appendix property table due to an editing error. Historians continued to consider the Farmstead NRHP eligible. Regarding the Pennington House, W&A acknowledged that although the “resource contributes to the historic fabric of Boone County,” the loss of the wraparound porch (a character defining feature for the Queen Anne Style) and fenestration changes rendered the home not eligible for inclusion in the NRHP. (See Appendix D: Correspondence.)

On April 26, 2017, SHPO agreed with the recommendations of the HPR. (See Appendix D: Correspondence.)

Historians for W&A prepared a memorandum dated May 1, 2017, in response to the Boone County historian’s comments on the HPR. W&A acknowledged that, in light of the information provided by the county historian, the build date of 1857 for the Mount Tabor Primitive Baptist Church (IHSSI No.: 011-205-45026) may be appropriate (the date provided in the HPR was taken from the IHSSI survey card). However, the date of construction would not in itself change the eligibility of the building, given the numerous alterations. While a case involving the congregation was heard by the Indiana Supreme Court in 1893, W&A did not feel that the Mount Tabor Primitive Baptist Church had sufficient historical significance to merit NRHP eligibility under Criterion A. Several earlier cases had dealt with similar issues nationally, in Indiana, and even within the local area (including the project counties, Hendricks and Boone). The *Smith v. Pedigo* case, while important to the congregation’s history, did not appear to make a strong enough impact on local or regional history to meet the requirements for NRHP eligibility under Criterion A. (See Appendix D: Correspondence.)

W&A conducted an archaeological field reconnaissance of areas of the archaeological APE that had not been previously surveyed by a professional archaeologist on March 23, 2017 and June 6, 2017. W&A identified ten previously unidentified archaeological sites (12HE0486 to 12HE0495) and one previously recorded site (12HE0361) that was resurveyed. None of the eleven sites were recommended as eligible for listing in the NRHP. An Archaeological Report was produced in November 2017 and approved by INDOT-CRO on December 6, 2017. (See Appendix F: Report Summaries.)

On July 21, 2017, Structurepoint sent an email notifying consulting parties of the availability on INSCOPE of memorandums (dated April 25, 2017, and May 1, 2017) responding to consulting party comments on the identification of historic properties. On

the same day, INDOT notified consulting Tribes of the posted documents via email. (See Appendix D: Correspondence.)

On August 17, 2017, SHPO responded to the memorandums dated April 25, 2017 and May 1, 2017. In that correspondence, SHPO concurred with the recommendations that the Mount Tabor Primitive Baptist Church and Cemetery (IHSSI No.: 063-205-45026) and the Pennington House (IHSSI No.: 063-205-00015) were not eligible for listing in the NRHP. SHPO also reiterated its earlier notice that the Howard School is listed on the NRHP and that the Lawler Farmstead, house at 895 E CRE 600 N, and the P.C. Hogan Farm are eligible for listing in the NRHP for purposes of Section 106 review. (See Appendix D: Correspondence.)

On December 20, 2017, INDOT emailed Tribes that the Archaeology Report for this project was available for review on INSCOPE and asked them to provide any comments within thirty days. On the same day, Structurepoint mailed a paper copy of the Archaeology Report to the Indiana SHPO for review and comment. (See Appendix D: Correspondence.)

On January 22, 2018, Indiana SHPO responded to the Archaeology Report and concurred with the recommendation of the report that “no further archaeological investigations are necessary in those areas.” SHPO also agreed with report findings that sites 12-He-0486, 12-He-0487, 12-He-0488, 12-He-0489, 12-He-0490, 12-He-0491, 12-He-0492, 12-He-0493, 12-He-0494, and 12-He-0495 and site 12-He-0361 did not appear eligible for inclusion in the NRHP. (See Appendix D: Correspondence.)

No further efforts, including consultation, to identify historic archaeological and aboveground resources took place.

### **3. DESCRIBE AFFECTED HISTORIC PROPERTIES**

Five resources are listed in, previously determined eligible for, or recommended eligible for listing in the National Register of Historic Places (NRHP):

- Howard School (Perry Township No. 1, NR-2123, 011-205-45031)
- Lawler Farmstead (IHSSI No.: 063-699-00012)
- Farmstead (IHSSI No.: 063-205-00014)
- House (IHSSI No.: 063-117-40006)
- P.C. Hogan Farm (IHSSI No.: 063-699-00006)

**Howard School (Perry Township No. 1, NR-2123, IHSSI No.: 011-205-45031):** This brick, one-room school house was constructed in 1881 to replace a frame building. The property was listed in the NRHP in 2009, for significance under Criterion A, for Education, and retains the characteristics for which it has been listed. The period of significance is 1881 to 1916, the dates of its use.

**Lawler Farmstead (IHSSI No.: 063-699-00012):** This farmstead is comprised of a brick I-House dating from the mid-nineteenth century and several frame outbuildings from around the turn of the twentieth century. The property was previously determined eligible

for listing in the NRHP under Criterion C for architecture. It retains the characteristics for which it has been considered eligible for listing in the NRHP. The period of significance dates to its construction circa 1850-1920.

**Farm (IHSSI No.: 063-205-00014):** The farmstead is comprised of a one and one-half story, brick Italianate cottage, which dates to around 1880, and several outbuildings that date from around 1900. The house has a cross gable roof, original doors, and original segmental arched windows. Outbuildings include an English barn, corn crib, chicken house, and shed. The farmstead is recommended eligible for the NRHP under Criteria A, for its affiliation with Indiana's "golden age" of agriculture, and Criteria C, for its architecture. Its period of significance is from 1880 to 1920.

**House (IHSSI No.: 063-117-40006):** Standing one and one-half stories tall on a fieldstone foundation, this Gothic Revival-style dwelling was built around 1860. This property is recommended eligible under Criterion C for its architecture. Its period of significance dates to the date of construction: circa 1860.

**P.C. Hogan Farm (IHSSI No.: 063-699-00006):** This farmstead includes a house (built circa 1870), three barns (built circa 1905), and eleven other buildings and four water pumps. This farm is recommended eligible for the NRHP under Criterion A, for agricultural significance, and Criterion C, for its architecture. The period of significance is from 1870 through 1920.

#### **4. DESCRIBE THE UNDERTAKING'S EFFECTS ON HISTORIC PROPERTIES**

**Howard School (Perry Township No. 1, NR-2123, IHSSI No.: 011-205-45031):** Project improvements will include a new terrain roadway that will run approximately 500 feet east of the school. No permanent or temporary right-of-way will be acquired from the Howard School, and there will be no direct effects to the property. However, the rural setting, views, and increased traffic will introduce visual changes to the property and alter its feeling as a rural building. These changes will be adverse.

**Lawler Farmstead (IHSSI No.: 063-699-00012):** Project improvements will include a new terrain roadway that will run approximately 300 feet east of the property. No permanent or temporary right-of-way will be acquired from the Lawler Farmstead and there will be no direct effects to the property. However, the rural setting, views, and increased traffic will introduce visual changes to the property and alter its feeling as a rural building. These changes will be adverse.

**Farmstead (IHSSI No.: 063-205-00014):** Project improvements will include a new terrain roadway that will run approximately 2,500 feet east of the property. No permanent or temporary right-of-way will be acquired from the Farm, and there will be no direct effects to the property. This undertaking will have little visual effect on this property due to distance and intervening environment. This change will not adversely affect the characteristics that make the Farm eligible for the NRHP.

**House (IHSSI No.: 063-117-40006):** Project improvements will include a new terrain roadway that will run approximately 2,800 feet northeast and 3,000 feet east of the

property. No permanent or temporary right-of-way will be acquired from the House, and there will be no direct effects to the property. This undertaking will have no visual effect on this property due to distance and intervening environment. Project changes will not affect this historic property.

**P.C. Hogan Farm (IHSSI No.: 063-699-00006):** Project improvements will include a new terrain roadway that will run approximately 2,050 feet west of the property and improvements to 86<sup>th</sup> Street approximately 1,300 feet west of the property. No permanent or temporary right-of-way will be acquired from the P. C. Hogan Farm and there will be no direct effects to the property. This undertaking will have little visual effect on this property due to distance and intervening environment. This change will not adversely affect the characteristics that make the P.C. Hogan Farm eligible for the NRHP.

#### **5. EXPLAIN APPLICATION OF CRITERIA OF ADVERSE EFFECT -- INCLUDE CONDITIONS OR FUTURE ACTIONS TO AVOID, MINIMIZE OR MITIGATE ADVERSE EFFECTS**

36 CFR § 800.5(a)(1) states: “An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.”

**Howard School (Perry Township No. 1, NR-2123, IHSSI No.: 011-205-45031):** The criteria of adverse effect as defined and described in 36 CFR 800.5(a)(1) and in 36 CFR 800.5(a)(2)(i) through (v) apply to this property. The Howard School (NR-2123, 011-205-45031) will be affected adversely by the undertaking.

Per 36 CFR 800.5(a)(2)(i), the undertaking will cause no “physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), there will be no “restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the property will not be removed from its historic location.

Per 36 CFR 800.5(a)(2)(iv), there will not be a change “of the character of the property's use or of physical features within the property's setting.” Project improvements will not take place within the historic property boundary.

Per 36 CFR 800.5(a)(2)(v), there will be an “introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.” This is a phased study; a noise study has not yet been conducted for the phase of the project in which the Howard School is located. However, a noise study conducted by Beam, Longest and Neff, L.L.C., as part of the environmental study in 2011 found that while noise will increase in the vicinity of the property, it will not approach or exceed FHWA’s criteria for an adverse effect. The construction of a new terrain roadway about 500 feet east of the Howard School will adversely affect the property’s rural setting and view; thus altering the property’s significance or the integrity of its features. (For configuration of the Preferred Alternative, see Appendix A: Maps and Site Plans.)

Per 36 CFR 800.5(a)(2)(vi), there will be no neglect or deterioration of the property.

Per 36 CFR 800.5(a)(2)(vii), there will be no “transfer, lease, or sale of the property out of Federal ownership or control.”

**Lawler Farmstead (IHSSI No.: 063-699-00012):** The criteria of adverse effect as defined and described in 36 CFR 800.5(a)(1) and in 36 CFR 800.5(a)(2)(i) through (v) apply to this property. The Lawler Farmstead (IHSSI No.: 063-699-00012) will be affected adversely by the undertaking.

Per 36 CFR 800.5(a)(2)(i), the undertaking will cause no “physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), there will be no “restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the property will not be removed from its historic location.

Per 36 CFR 800.5(a)(2)(iv), there will not be a change “of the character of the property’s use or of physical features within the property’s setting.” Project improvements will not take place within the historic property boundary.

Per 36 CFR 800.5(a)(2)(v), there will be an “introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.” This is a phased study; a noise study has not yet been conducted for the phase of the project in which the Lawler Farmstead is located. However, a noise study conducted by Beam, Longest and Neff, L.L.C., as part of the environmental study in 2011 found that while noise will increase in the vicinity of the property, it will not approach or exceed FHWA’s criteria for an adverse effect. The construction of a new terrain roadway about 300 feet east of the Lawler Farmstead will adversely affect the property’s rural setting and view; thus altering integrity of the property’s significant features. (For configuration of the Preferred Alternative, see Appendix A: Maps and Site Plans.)

Per 36 CFR 800.5(a)(2)(vi), there will be no neglect or deterioration of the property.

Per 36 CFR 800.5(a)(2)(vii), there will be no “transfer, lease, or sale of the property out of Federal ownership or control.”

**Farmstead (IHSSI No.: 063-205-00014):** The criteria of adverse effect as defined and described in 36 CFR 800.5(a)(1) and in 36 CFR 800.5(a)(2)(i) through (v) do not apply. The Farm (IHSSI No.: 063-205-00014) will not be adversely affected adversely by the undertaking.

Per 36 CFR 800.5(a)(2)(i), the undertaking will cause no “physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), there will be no “restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the property will not be removed from its historic location.

Per 36 CFR 800.5(a)(2)(iv), there will not be a change “of the character of the property’s use or of physical features within the property’s setting.” Project improvements will take place within the current right-of-way and will not take place within the historic property boundary. (See Appendix A: Maps and Site Plans.)

Per 36 CFR 800.5(a)(2)(v), there will not be an “introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” The property will not experience significant view changes or traffic noise; therefore, changes from this undertaking will not adversely affect the farm’s integrity or significance.

Per 36 CFR 800.5(a)(2)(vi), there will be no neglect or deterioration of the property.

Per 36 CFR 800.5(a)(2)(vii), there will be no “transfer, lease, or sale of the property out of Federal ownership or control.”

**House (IHSSI No.: 063-117-40006):** The criteria of adverse effect as defined and described in 36 CFR 800.5(a)(1) and in 36 CFR 800.5(a)(2)(i) through (v) do not apply. The House (IHSSI No.: 063-117-40006) will not be adversely affected by the undertaking.

Per 36 CFR 800.5(a)(2)(i), the undertaking will cause no “physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), there will be no “restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the property will not be removed from its historic location.

Per 36 CFR 800.5(a)(2)(iv), there will not be a change “of the character of the property’s use or of physical features within the property’s setting.” Project improvements will take place within the current right-of-way and will not take place within the historic property boundary. (See Appendix A: Maps and Site Plans.)

Per 36 CFR 800.5(a)(2)(v), there will not be an “introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” The property will not experience view changes or traffic noise; therefore project activities will have no effect on the historic property’s integrity or significance.

Per 36 CFR 800.5(a)(2)(vi), there will be no neglect or deterioration of the property.

Per 36 CFR 800.5(a)(2)(vii), there will be no “transfer, lease, or sale of the property out of Federal ownership or control.”

**P.C. Hogan Farm (IHSSI No.: 063-699-00006):** The criteria of adverse effect as defined and described in 36 CFR 800.5(a)(1) and in 36 CFR 800.5(a)(2)(i) through (v) do not apply. The P.C. Hogan Farm will not be adversely affected by the undertaking.

Per 36 CFR 800.5(a)(2)(i), the undertaking will cause no “physical destruction of or damage to all or part of the property.”

Per 36 CFR 800.5(a)(2)(ii), there will be no “restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines.”

Per 36 CFR 800.5(a)(2)(iii), the property will not be removed from its historic location.

Per 36 CFR 800.5(a)(2)(iv), there will not be a change “of the character of the property’s use or of physical features within the property’s setting.” Project improvements will not take place within the historic property boundary. The nearest improvement will be about 1,300 feet to the west of the historic boundary of the property. (See Appendix A: Maps and Site Plans.)

Per 36 CFR 800.5(a)(2)(v), there will not be an “introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features.” The property will not experience significant view changes or traffic noise; therefore these changes will not adversely affect its integrity or significance.

Per 36 CFR 800.5(a)(2)(vi), there will be no neglect or deterioration of the property.

Per 36 CFR 800.5(a)(2)(vii), there will be no “transfer, lease, or sale of the property out of Federal ownership or control.”

## **EFFORTS TO AVOID, MINIMIZE, AND MITIGATE**

Throughout this project, engineers sought ways to minimize the effects on historic properties. More specifically, engineers reduced the project footprint near the Lawler Farmstead (formerly called the I-house Farmstead) at 8460 CR 1000 North in Hendricks County to ensure that the undertaking would not require right-of-way from the farm.

In a letter dated April 24, 2017, Landmarks stated that they wanted to ensure that all the terms of the MOA, executed October 19, 2009, regarding the Howard School (NR-2123) would be honored and asked for more explicit statement of “FHWA’s commitment to be the party responsible for purchasing and planting the trees intended to act as a buffer between the Howard School and the new parkway as stipulated in Section I. A. of the MOA.” (See Appendix D: Correspondence.)

On November 22, 2017, Structurepoint emailed non-Tribal consulting parties an invitation to attend a consulting party meeting to be held on December 15, 2017 in Danville, Indiana. Included in the letter were instructions directing consulting parties to access an Effects Letter for the project on INSCOPE. INDOT sent the invitation to Tribes via email the same day. (See Appendix D: Correspondence.)

On December 15, 2017, a consulting party meeting was held at the Hendricks County Government Center (355 S. Washington St.) in Danville, Indiana. At this meeting, project team members provided a short history of the project, a list of anticipated effects for historic properties within the project’s APE, a brief overview of the MOA executed in 2009, and mitigation options for a new MOA, and a tentative schedule for upcoming project events. (For a meeting summary, see Appendix G: Consulting Parties.)

Representatives from the Howard School asked if the mitigation stipulations from the previous MOA would still stand; they were told that while a new MOA was being written, the team is proposing that all of the stipulations remain the same. The Howard School Representatives added that they would like to see a berm included as part of the mitigation. Project members said that they would investigate the feasibility of a berm. (For a meeting summary, see Appendix G: Consulting Parties.)

In a letter dated December 18, 2017, and sent in response to the consulting party meeting, the staff of the SHPO stated that the eastward shift of the project alignment “could reduce slightly—but not eliminate—the project’s adverse effect on the Lawler Farmstead (referred to as the I-House Farmstead in the 2009 [MOA].” Based on their understanding of the project, SHPO staff did not disagree “with the proposed effects assessments for the historic properties identified within the area of potential effects. However, we would like to review the meeting summary and any other consulting party comments before agreeing to sign a revised memorandum of agreement...” SHPO staff noted that the revised MOA “in essence, would be a new agreement” and that they felt it would be appropriate to “state expressly in the preamble of the revised MOA that it supersedes the 2009 MOA.” Moreover, the letter recommended the Advisory Council on Historic Preservation’s (ACHP’s) “Guidance on Agreement Documents” be followed in revising the 2009 MOA, including naming “all historic properties identified within the area of potential effects,” especially the three new historic properties identified in the most recent survey. SHPO staff offered guidance on the drafting of the revised MOA, stating



that drafters should review the uses of the terms “will” and “shall” within the document and establish a new termination date far enough in the future to allow the project and mitigation measures to be completed. (See Appendix D: Correspondence.)

On February 21, 2018, Indiana Landmarks submitted comments regarding the December 15, 2017 consulting party minutes. Landmarks concurred with the continued finding of adverse effect on the Howard School. Landmarks also agreed that the FHWA “should be required to purchase the land between the Howard Cemetery and the new Ronald Reagan Parkway right-of-way (ROW) and deed the land to the Howard School Restoration Group under the new Memorandum of Agreement (MOA).” Landmarks also agreed that the “new MOA should still require the planting of a vegetated buffer of coniferous trees and approved deciduous trees on the land deeded to the Howard School Restoration Group as a mitigation measure for the undertaking’s adverse effect on the Howard School.” Landmarks also believed that the new MOA should be more explicit in stating that the “FHWA will be fully responsible for funding the purchase and installation of the trees.” Additionally, Landmarks thought that the “FHWA should also fund the construction of a mow-able earth berm between Howard Cemetery and the Ronald Reagan Parkway ROW to further mitigate the adverse effect.” Regarding the Lawler Farm, Landmarks continued to concur that the undertaking presented “an adverse effect to the resource and that FHWA should be required under the MOA to purchase and install trees as a vegetated buffer to mitigate the effect.” (See Appendix D: Correspondence.)

An MOA is being prepared that incorporates the stipulations from the 2009 MOA and that also addresses concerns raised since that time by consulting parties. The new MOA will be circulated to consulting parties for comment before it is finalized and executed.

## **6. SUMMARY OF CONSULTING PARTIES AND PUBLIC VIEWS**

The following Tribes and consulting parties participated in the Section 106 consultation: Miami Tribe of Oklahoma, Delaware Nation, Forest County Potawatomi Community, Boone County Historian, Howard School Restoration Group, Jerry Marks (owner of the Farmstead at 8030 E CR 1000 N), Patrick Wethington (owner of the P.C. Hogan Farm at 9110 CR 1000 N), and Indiana Landmarks. (See Appendix D: Correspondence; Appendix G: Consulting Parties.)

The Delaware Tribe responded on March 30, 2017, agreeing to be a consulting party and asking to be kept “up to date on the progress of this project,” and to be contacted immediately “if any discoveries arise.” (See Appendix D: Correspondence.)

On March 30, 2017, the Miami Tribe of Oklahoma agreed to serve as a consulting party and offered “no objection to the abovementioned project at this time.” The Miami noted that this “site is within the aboriginal homelands of the Miami Tribe” and “if any human remains or Native American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery.” (See Appendix D: Correspondence.)

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On March 30, 2017, the Boone County Historian accepted the invitation to become a consulting party for this project and asked for a date to provide comments. (See Appendix D: Correspondence.)

On April 4, 2017, Patrick Wethington, the property owner of the P.C. Hogan Farm, agreed to serve as a consulting party and asked for a paper copy of the HPR and for additional information about how to proceed in listing his property on the NRHP. (See Appendix D: Correspondence.)

On April 16, 2017, Jerry Marks, property owner of the Farmstead at 8030 East CR 1000 North, agreed to be a consulting party. (See Appendix D: Correspondence.)

On April 16, 2017, Wethington responded to the HPR and provided clarification about the history of his property, the P.C. Hogan Farm. He stated that the Dugan-Hogan farm was not divided in 1881; but rather that “Martin Dugan and Patrick Hogan, as brothers in law, purchased 160 acres in 1891.” They then “divided the farm in 1903.” He also noted that the “land was not split east to west as the report indicates. Dugan took the north half and Hogan the south half. It was then that the Hogan house was moved to the southern end of the property.” Mr. Wethington also offered information about his property located west of CR 900 E, stating that “Greg Frazee, owner of Brownsburg Landscape Co, holds a lease on 13 acres of that parcel for the Hogan Farms Pumpkin Patch and Corn Maze, which is open for business in September and October.” He added that he hoped that the “the new road will not have an impact on that venture.” (See Appendix D: Correspondence.)

On April 19, 2017, the Boone County historian responded to the HPR and questioned the eligibility for the Mount Tabor Primitive Baptist Church (IHSSI No.: 011-205-45026; recommended as not eligible for the NRHP in the HPR). The Boone County Historian offered a build date (1857) for the church and provided information about a lawsuit (*Smith et. al. v. Pedigo et. al.*) that reached the Indiana Supreme Court in 1893. The Boone County historian stated that the existence of this court case “may lend support to the site being considered historically significant under NRHP evaluation criteria A.” (See Appendix D: Correspondence.)

On April 20, 2017, the Forest County Potawatomi Community responded to the invitation to consult, the HPR, and archaeology report. The Tribe reserved the right to comment on the undertaking and noted that the entire project occurs within the geographic area of interest on the Tribe. The Tribe concurred with the “finding of NO ADVERSE EFFECT with one provision” that “project construction managers comply with Indiana State Archaeology Law (Indiana Code 14-21-1, all parts), and...contact the Historic Preservation Office in the event there is an inadvertent discovery of human remains or archaeological material for consultation of treatment and handling prior to removal.” (See Appendix D: Correspondence.)

On April 24, 2017, Indiana Landmarks responded to the HPR and stated that it wished to remain a consulting party, concurred with the identification of NRHP-listed or eligible properties, and generally concurred with the findings regarding ineligible properties.

However, Landmarks requested two properties be examined more thoroughly before they accept the historian's assessments of eligibility: the Farmstead (IHSSI No.: 063-205-00014) located at 8030 E CR 1000 N and the Pennington House (IHSSI No.: 063-205-00015) located at 10563 CR 800 E. Landmarks felt that these properties warranted further investigation. Landmarks also wanted to ensure that all the terms of the October 19, 2009, MOA regarding the Howard School (NR-2123) would be honored and asked for more explicit statement of "FHWA's commitment to be the party responsible for purchasing and planting the trees intended to act as a buffer between the Howard School and the new parkway as stipulated in Section I. A. of the MOA." (See Appendix D: Correspondence.)

On April 26, 2017, SHPO responded to the ECL and HPR. The staff of the SHPO was not aware of any parties who should be invited to participate in the Section 106 process beyond those already invited. SHPO concurred with the APE utilized in the HPR. Additionally, SHPO agreed that the Howard School (NR-2123; IHSSI No.: 011-205-45031) is listed on the NRHP and remains eligible for the NRHP. Further, SHPO concurred that the buildings recommended as eligible for the NRHP in the HPR (Lawler Farmstead [IHSSI No.: 063-699-00012], Farmstead [IHSSI no.: 063-205-00014], House [IHSSI No.: 063-117-40006], and the P.C. Hogan Farm [063-699-00006]) were eligible and that their identified boundaries were appropriate. Staff of the SHPO also requested an updated map indicating all areas that would be affected by project-related ground-disturbing activities to assist them in their review of archaeological resources in the project. The SHPO stated that it would resume identification and evaluation procedures after it received the updated map. SHPO staff also noted that the "portions of the proposed project area appear to lie within 100 feet of Howard Cemetery (CR-06-61) and that any project areas within 100 feet of a cemetery require the submission of a cemetery development plan under IC 14-21-1-26.5." Moreover, the "cemetery must be avoided by all project activities, and provisions of relevant state statutes regarding cemeteries (including IC 14-21-1 and IC 23-14) must be adhered to." SHPO concluded by calling special attention to IC 23-14-44-1 and IC 23-14-44-2, regarding restrictions on roads and utility construction in cemeteries. (See Appendix D: Correspondence.)

On August 17, 2017, SHPO responded to the April 25, 2017 and May 1, 2017 memorandums concurring with the recommendations that the Mount Tabor Primitive Baptist Church and Cemetery (IHSSI No.: 063-205-45026) and the Pennington House (IHSSI No.: 063-205-00015) were not eligible for listing in the NRHP. SHPO also reiterated its earlier notice that the Howard School is listed on the NRHP and that the Lawler Farmstead (895 E CR E 600 N) and the P.C. Hogan Farm are eligible for listing in the NRHP for purposes of Section 106 review. SHPO also asked that Structurepoint "provide an updated map including all areas that would be affected by project-related ground-disturbing activities" and "further graphic and verbal information about the distance from the proposed roadway to each of the historic, above-ground properties and about the likelihood of indirect effects." (See Appendix D: Correspondence.)

On December 8, 2017, the Boone County Historian responded to the consulting party meeting invitation stating that he had reviewed it, had no further comments to add, and would probably not attend the meeting on December 15, 2017. (See Appendix D: Correspondence.)

On December 15, 2017, a consulting party meeting was held at the Hendricks County Government Center (355 S. Washington St.) in Danville, Indiana. At this meeting, project team members provided a short history of the project, a list of anticipated effects for historic properties within the project's APE, a brief overview of the 2009 MOA, mitigation options for a new MOA, and a tentative schedule for upcoming project events. (See Appendix G: Consulting Parties.)

A representative of the Indiana SHPO asked that the project team create a summary of the meeting to be made a part of Section 106 documentation and that any public comments made at the meeting be considered official comments for the project. (See Appendix G: Consulting Parties.)

Representatives from the P.C. Hogan Farm asked why the property boundary in the HPR did not include property to the west. The team responded that historians designated the boundary based upon the existing structures and the historic use of the property and not the legal parcel boundaries and that the western property lacks the small field patterns that relate to the period of significance. P.C. Hogan representatives noted that the pumpkin patch to the west has been part of the family holdings for over 100 years. Lastly, farm representatives asked for information on how to get a property listed in the NRHP. Project members agreed to provide information about the process. (See Appendix G: Consulting Parties.)

Representatives from the Howard School asked if the mitigation stipulations from the previous MOA would still stand and were told that while a new MOA was being written, the team is proposing that all of the stipulations remain the same. Howard School Representatives stated they would like to see a berm included as part of the mediation. Project members stated that the project team would investigate the feasibility of a berm. (See Appendix G: Consulting Parties.)

On December 17, 2017, Patrick Wethington requested information about the process for listing his property in the NRHP. (See Appendix D: Correspondence.)

On December 18, 2017, the staff of the SHPO sent a letter responding to the consulting party meeting held on December 15, 2017. After noting an understanding that a meeting summary would be distributed to consulting parties by December 22, 2017, SHPO staff stated that the eastward shift of the project alignment "could reduce slightly—but not eliminate—the project's adverse effect on the Lawler Farmstead (referred to as the I-House Farmstead in the 2009 [MOA].)" Staff of the SHPO stated that they were "unsure whether the field through which the highway would pass is under the same ownership as the Lawler Farmstead or is part of the next farm to the east, but we wonder whether the new alignment would make it more difficult to farm than the original alignment would have made it." Based on their understanding of the project, SHPO staff did not disagree "with the proposed effects assessments for the historic properties identified within the area of potential effects. However, we would like to review the meeting summary and any other consulting party comments before agreeing to sign a revised memorandum of agreement..." SHPO staff noted that the revised MOA "in essence, would be a new agreement" and that they felt it would be appropriate to "state expressly in the preamble

of the revised MOA that it supersedes the 2009 MOA.” Moreover, the letter recommended the Advisory Council on Historic Preservation’s (ACHP’s) “Guidance on Agreement Documents” be followed in revising the 2009 MOA, including naming “all historic properties identified within the area of potential effects,” especially the three new historic properties identified in the most recent survey. (See Appendix D: Correspondence.)

In their letter, SHPO staff offered guidance on the drafting of the revised MOA, stating that drafters should review the uses of the terms “will” and “shall” within the document and establish a new termination date far enough in the future to allow the project and mitigation measures to be completed. The letter also warned that the project, as designed, would come very close to the Howard Cemetery (CR-06-61) and that all project activities must avoid the cemetery and adhere to IC 14-21-1 and IC 23-14. Additionally, if project activities would come within 100 feet of the cemetery, a cemetery development plan may be necessary under IC 14-21-1-26.5. The letter also noted that the project team should be mindful of the restrictions on road and utility construction contained in IC 23-14-44-1 and IC 23-14-44-2. (See Appendix D: Correspondence.)

Additionally, SHPO staff stated that they looked forward to receiving the updated archaeological report for the additional survey area for this project and said it would be advantageous for SHPO and participating Tribes to have the opportunity to review and comment on the report prior to the revised MOA being put into final form. The letter also reminded that if any “prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana Department of Natural Resources (IDNR) within two (2) business days” and that “adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.” (See Appendix D: Correspondence.)

On January 4, 2018, Indiana Landmarks stated that they had learned that a consulting party meeting took place on December 15, 2017, to discuss the Ronald Reagan Project and that they do not believe they received an invitation to the meeting. Landmarks reminded Structurepoint that they are to be included as a consulting party for all Section 106 projects in Indiana. Landmarks also stated that the organization should be a consulting party because it has an easement on the Howard School at 4555 750 S in Boone County. Lastly, Landmarks stated that if there has been an error and there was an invitation sent to their organization to participate in the meeting, they requested “documentation of the relevant correspondence.” (See Appendix D: Correspondence.)

On January 22, 2018, Indiana SHPO responded to the Archaeology Report (received on December 21, 2017) and concurred with the recommendation of the report that “no further archaeological investigations are necessary in those areas.” SHPO also agreed with report findings that sites 12-He-0486, 12-He-0487, 12-He-0488, 12-He-0489, 12-He-0490, 12-He-0491, 12-He-0492, 12-He-0493, 12-He-0494, and 12-He-0495 and site 12-He-0361 did not appear eligible for inclusion in the NRHP. (See Appendix D: Correspondence.)

On January 29, 2018, Landmarks responded to consulting party meeting documentation that had been provided by Structurepoint, and noted they had “no record of an invitation” from Structurepoint “to participate in the October 19, 2016 meeting...”<sup>2</sup> Landmarks stated that they “expect to be included in all future communications intended for consulting parties for this undertaking.” Landmarks stated that they will review the documents and let Structurepoint know if they have comments. They also asked how much time they have to respond to the meeting materials. (See Appendix D: Correspondence.)

On February 21, 2018, Landmarks submitted comments regarding the December 15, 2017, consulting party minutes. Landmarks concurred with the continued finding of adverse effect on the Howard School. Landmarks also agreed that the FHWA “should be required to purchase the land between the Howard Cemetery and the new Ronald Reagan Parkway right-of-way (ROW) and deed the land to the Howard School Restoration Group under the new Memorandum of Agreement (MOA).” Landmarks also agreed that the “new MOA should still require the planting of a vegetated buffer of coniferous trees and approved deciduous trees on the land deeded to the Howard School Restoration Group as a mitigation measure for the undertaking’s adverse effect on the Howard School.” Landmarks also said that the new MOA should be more explicit in stating that the “FHWA will be fully responsible for funding the purchase and installation of the trees.” Additionally, Landmarks indicated that the “FHWA should also fund the construction of a mow-able earth berm between Howard Cemetery and the Ronald Reagan Parkway ROW to further mitigate the adverse effect.”

Regarding the Lawler Farm, Landmarks continued to concur that the undertaking presented “an adverse effect to the resource and that FHWA should be required under the MOA to purchase and install trees as a vegetated buffer to mitigate the effect.” Lastly, Landmarks asked for an update on Weintraut & Associates’ efforts to communicate with the owners of the P.C. Hogan Farm regarding the prospect of NRHP listing and whether the owners are amenable to the idea of a NRHP designation. Landmarks also requested the owner’s contact information so that they might contact them directly regarding the process of listing their property on the NRHP, what that designation means, and how Landmarks may assist them through their Partners in Preservation grant program. [Structurepoint sent Landmarks a copy of W&A’s email correspondence with Patrick Wethington and his contact information on February 27, 2018.] (See Appendix D: Correspondence.)

No other comments were received.

A public notice of “Adverse Effect” will be posted in a local newspaper, and the public will be afforded thirty (30) days to respond. If appropriate, this document will be revised after the expiration of the public comment period.

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<sup>2</sup> The meeting referenced in this letter from Landmarks was a public information meeting held on October 19, 2016; it was not a meeting conducted as part of consultation for Section 106. (See Appendix C: Correspondence for email exchange between Structurepoint and Landmarks on October 21, 26, and 27, 2016.)

**APPENDIX**

**Appendix A: Maps and Site Plans**

**Appendix B: Project Plans**

**Appendix C: Prior Section 106 Documentation**

**Appendix D: Correspondence**

**Appendix E: Photographs**

**Appendix F: Report Summaries**

**Appendix G: Consulting Parties**

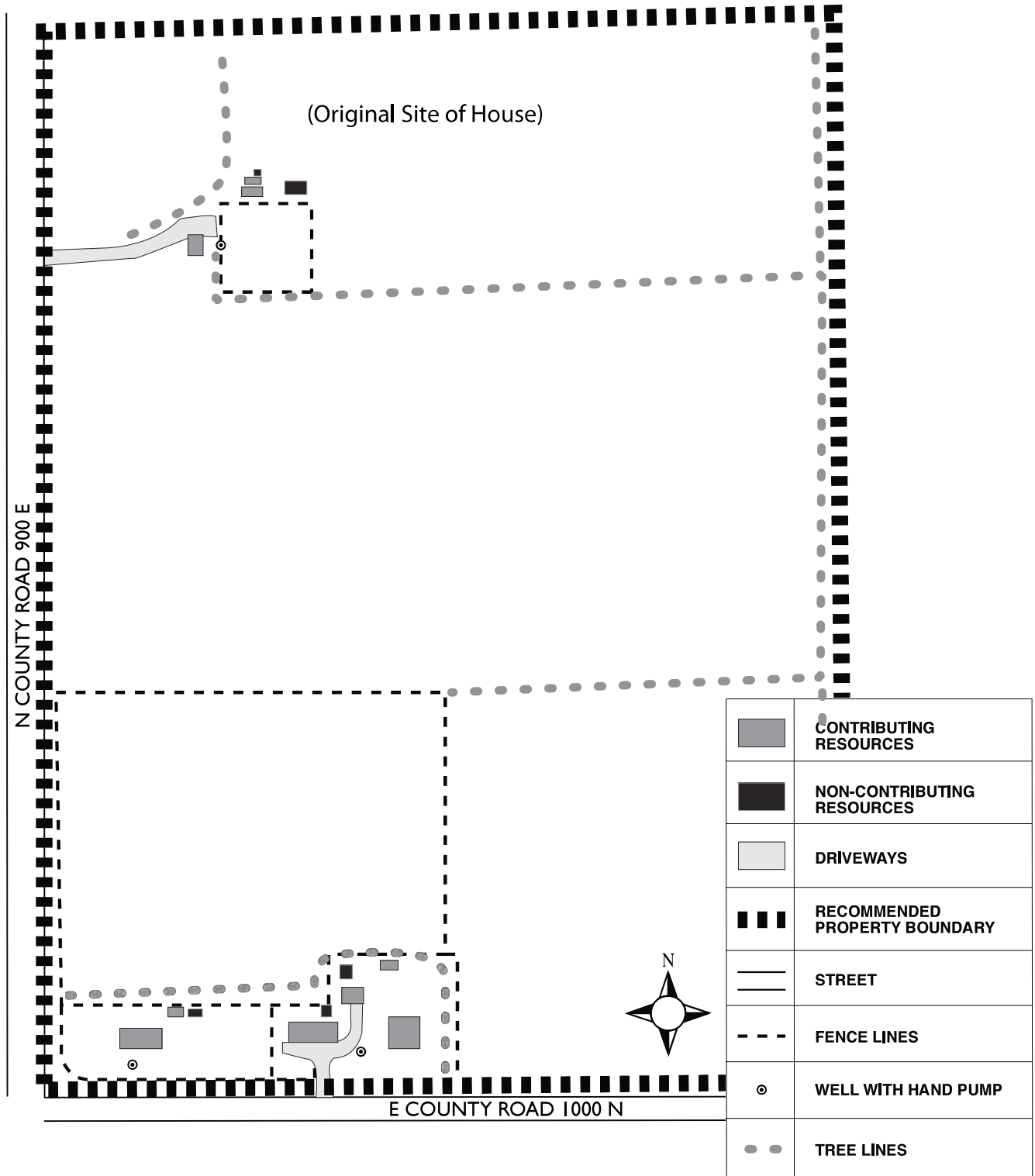
Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018

## Appendix A: Maps and Site Plans

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
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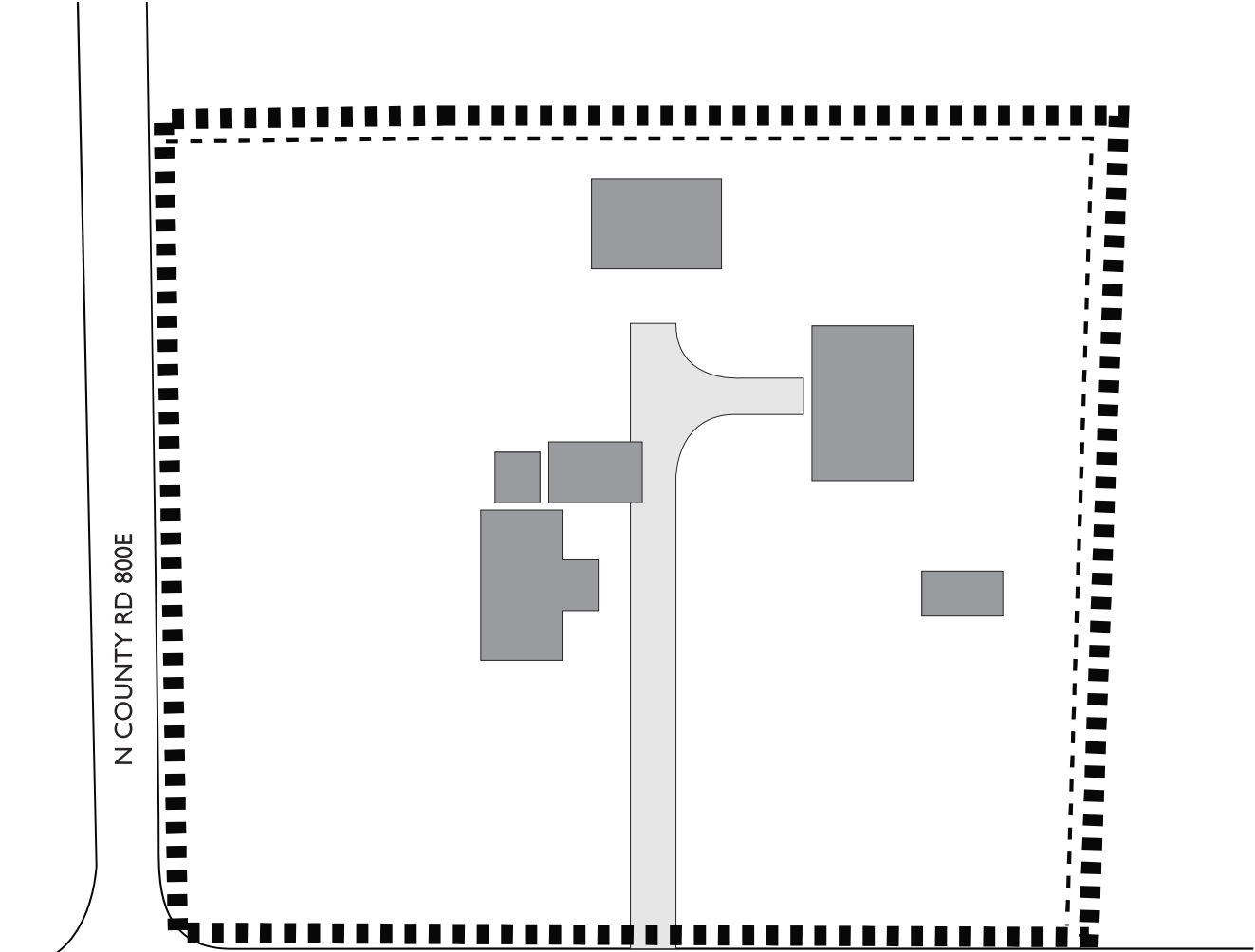
# P.C. Hogan Farm 9110 CR 1000N (063-699-00006)








\*Traced from 2016 aerial.

# FARMSTEAD (063-205-00014)

## 8030 E CR 1000

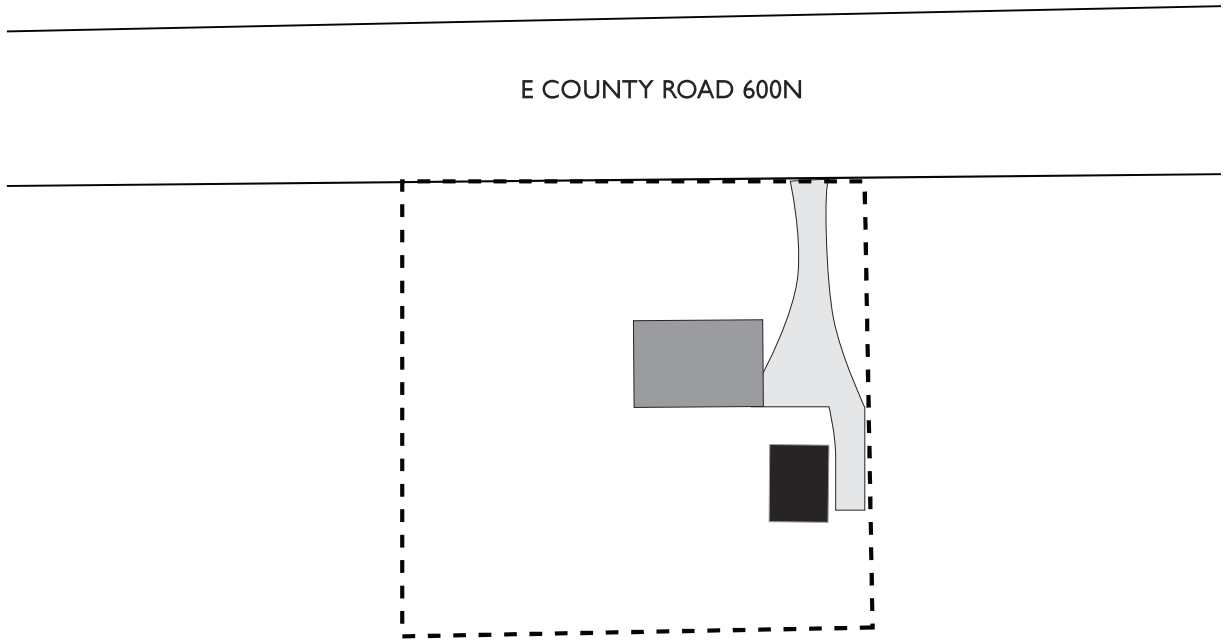







|   |                               |
|---|-------------------------------|
|  | <b>CONTRIBUTING RESOURCES</b> |
|  | <b>FENCE</b>                  |
|  | <b>DRIVEWAY</b>               |
|  | <b>HISTORIC BOUNDARY</b>      |
|  | <b>STREET</b>                 |



\*Traced from 2016 aerial.

# HOUSE - 8795 E CR 600N (063-117-40006)



|   |                                  |
|---|----------------------------------|
|  | <b>CONTRIBUTING RESOURCES</b>    |
|  | <b>DETACHED GARAGE (C. 1967)</b> |
|  | <b>DRIVEWAY</b>                  |
|  | <b>RECOMMENDED BOUNDARY</b>      |
|  | <b>STREET</b>                    |



\*Traced from 2016 aerial.

## Appendix B: Project Plans

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018

|          |                   |
|----------|-------------------|
| PROJECT  | DESIGNATION       |
| 1602280  | 1602280           |
| CONTRACT | BRIDGE FILE       |
| ----     | HENDRICKS BR00089 |

# HENDRICKS COUNTY RONALD REAGAN PKWY FROM C.R. 600 N TO C.R. 750 N

## ROAD PLANS

Project Description: New Construction of Ronald Reagan Parkway, beginning at C.R. 600 N, and extending north for 1.67 miles, located in Sections 1, 6, & 7 of Lincoln Township, R1E and R2E, T16N; and Section 36 of Brown Township, R1E, T17N in Hendricks County, Indiana.

**PROJECT NO. 1602280 P.E.**  
**1602280 R/W**  
**1602280 CONST.**

| TRAFFIC DATA             | Ronald Reagan Pkwy       | C.R. 600 N               |
|--------------------------|--------------------------|--------------------------|
| A.A.D.T. (2018)          | 9,070 V.P.D.             | 15,150 V.P.D.            |
| A.A.D.T. (2038)          | 29,210 V.P.D.            | 25,930 V.P.D.            |
| D.H.V. (2038)            | 2,921 V.P.H.             | 2,593 V.P.H.             |
| DIRECTIONAL DISTRIBUTION | 50 %                     | 50 %                     |
| TRUCKS                   | 4% A.A.D.T.<br>2% D.H.V. | 4% A.A.D.T.<br>2% D.H.V. |

| DESIGN DATA               |                                |                                |
|---------------------------|--------------------------------|--------------------------------|
| DESIGN SPEED              | 45 M.P.H.                      | 45 M.P.H.                      |
| PROJECT DESIGN CRITERIA   | New Construction (Non-Freeway) | New Construction (Non-Freeway) |
| FUNCTIONAL CLASSIFICATION | Principal Arterial             | Local Agency Collector         |
| RURAL/URBAN               | Urban (Suburban)               | Rural                          |
| TERRAIN                   | Level                          | Level                          |
| ACCESS CONTROL            | Partial                        | None                           |

| STRUCTURE                  | TYPE   | SPAN AND SKEW                         | OVER               | STATION           |
|----------------------------|--|---------------------------------------|--------------------|-------------------|
| HENDRICKS BRIDGE NO. 00089 | COMPOSITE PRESTRESSED CONCRETE BULB TEE BEAM | 2 SPANS @ 151'-0" & 162'-0" 53° RIGHT | CSX TRANSPORTATION | 66+16.50 LINE "A" |

| TRAFFIC DATA             | C.R. 700 N               | C.R. 750 N               |
|--------------------------|--------------------------|--------------------------|
| A.A.D.T. (2018)          | 3,660 V.P.D.             | 1,020 V.P.D.             |
| A.A.D.T. (2038)          | 11,840 V.P.D.            | 2,710 V.P.D.             |
| D.H.V. (2038)            | 1,184 V.P.H.             | 271 V.P.H.               |
| DIRECTIONAL DISTRIBUTION | 50 %                     | 50 %                     |
| TRUCKS                   | 4% A.A.D.T.<br>2% D.H.V. | 4% A.A.D.T.<br>2% D.H.V. |

| DESIGN DATA               |                                |                                |
|---------------------------|--------------------------------|--------------------------------|
| DESIGN SPEED              | 40 M.P.H.                      | 40 M.P.H.                      |
| PROJECT DESIGN CRITERIA   | New Construction (Non-Freeway) | New Construction (Non-Freeway) |
| FUNCTIONAL CLASSIFICATION | Local Agency Collector         | Local Agency Collector         |
| RURAL/URBAN               | Rural                          | Rural                          |
| TERRAIN                   | Level                          | Level                          |
| ACCESS CONTROL            | None                           | None                           |

| KIN PROJECT INFORMATION |                                 |
|-------------------------|---------------------------------|
| DESIGNATION             | PROJECT DESCRIPTION             |
| 1602280                 | RONALD REAGAN PKWY CONSTRUCTION |
| XXXX                    | HENDRICKS COUNTY BRIDGE 00089   |

### HENDRICKS COUNTY BOARD OF COMMISSIONERS

BOB GENTRY, DISTRICT 1 \_\_\_\_\_ DATE

MATTHEW WHETSTONE, DISTRICT 2 \_\_\_\_\_ DATE

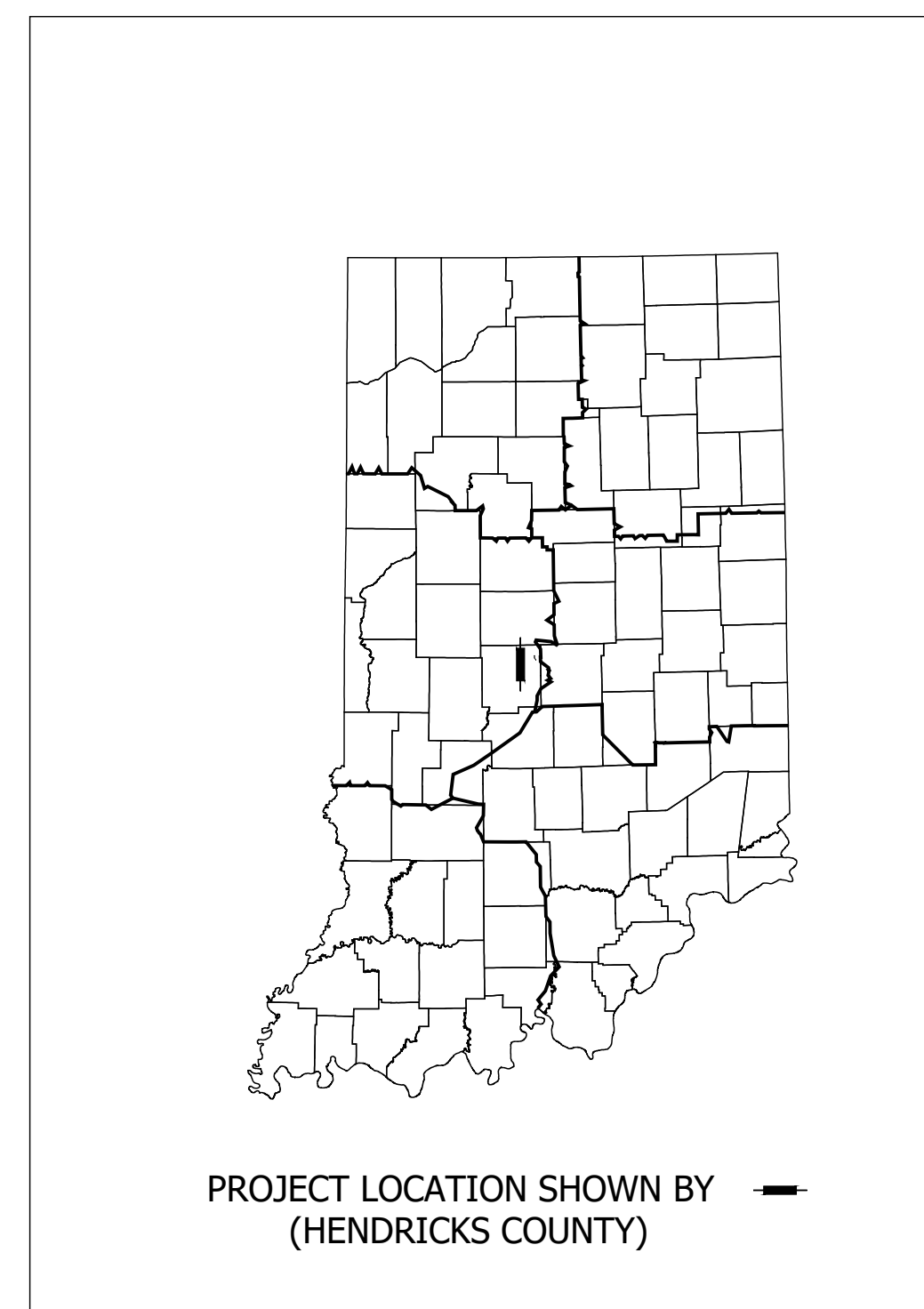
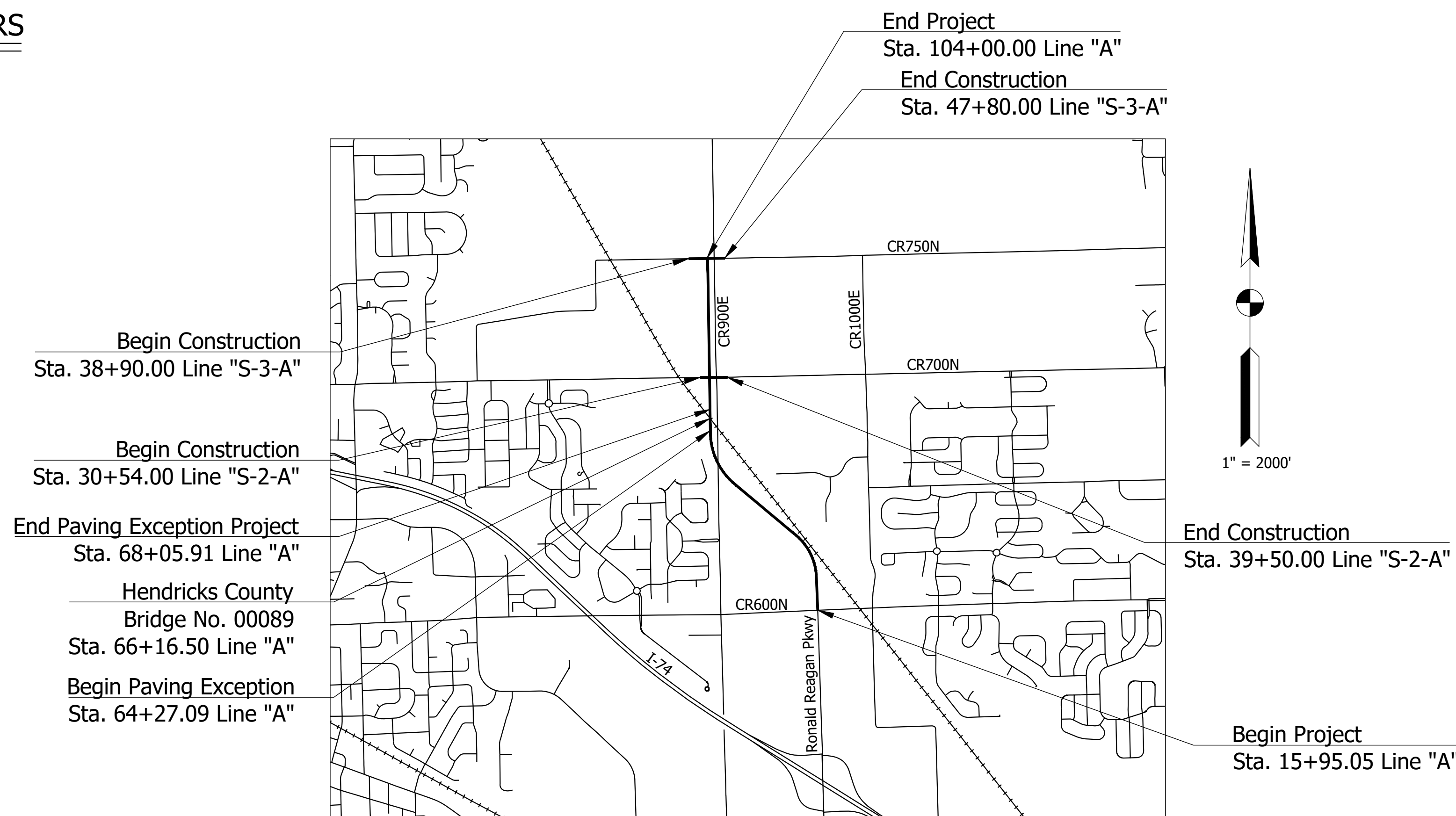
PHYLLIS A. PALMER, DISTRICT 3 \_\_\_\_\_ DATE

### HENDRICKS COUNTY AUDITOR

NANCY MARSH \_\_\_\_\_ DATE

### HENDRICKS COUNTY ENGINEER

JOHN AYERS, PE \_\_\_\_\_ DATE  
EMPLOYEE IN RESPONSIBLE CHARGE



LATITUDE: 39°51'05" N      LONGITUDE: 86°21'23" W

|                 |       |     |
|-----------------|-------|-----|
| BRIDGE LENGTH:  | 0.060 | MI. |
| ROADWAY LENGTH: | 1.608 | MI. |
| TOTAL LENGTH:   | 1.668 | MI. |
| MAX. GRADE:     | 5.00  | %   |

INDIANA DEPARTMENT OF TRANSPORTATION  
STANDARD SPECIFICATIONS DATED 2018  
TO BE USED WITH THESE PLANS

Date: Aug 16, 2017, 6:59am User Name: barterbery File: S:\\_2017\17-0005\Road\CAD\Misc\DWG\SHC\_Title.dwg



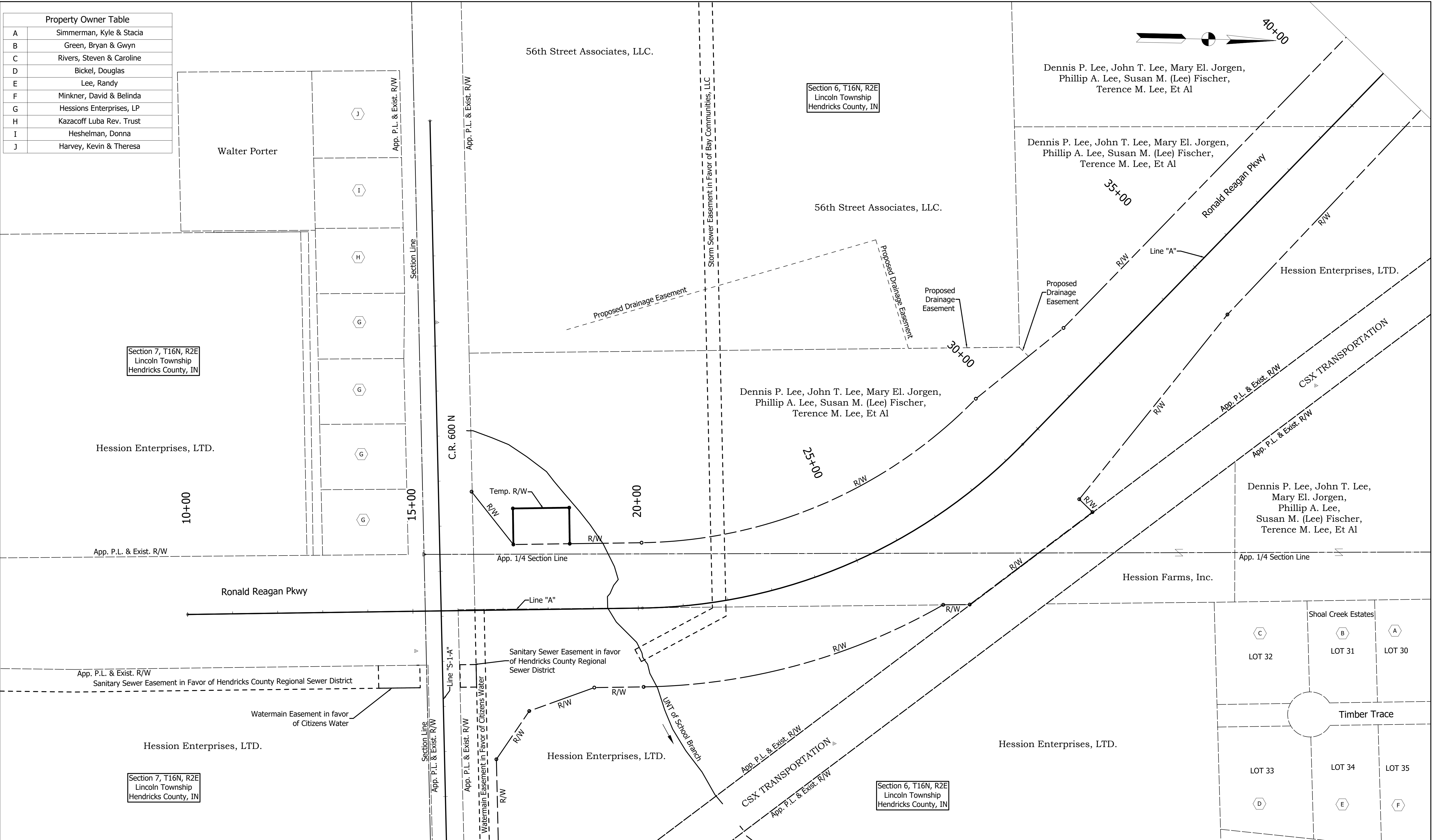
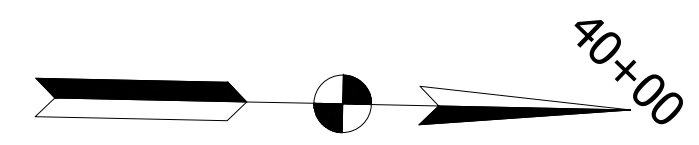
1625 N. Post Road  
Indianapolis, IN 46219  
Phone 317-895-2585  
Fax 317-895-2596  
www.ucindy.com

|                       |                         |                                |
|-----------------------|-------------------------|--------------------------------|
| PLANS PREPARED BY:    | Lochmueller Group, Inc. | (317) 222-3880<br>PHONE NUMBER |
| CERTIFIED BY:         |                         | --/--/--<br>DATE               |
| APPROVED FOR LETTING: |                         | DATE                           |

INDIANA DEPARTMENT OF TRANSPORTATION

| BRIDGE FILE       |          |
|-------------------|----------|
| HENDRICKS BR00089 |          |
| DESIGNATION       |          |
| 1602280           |          |
| SURVEY BOOK       | SHEETS   |
| ELECTRONIC        | 1 of 157 |
| CONTRACT          | PROJECT  |
| ----              | 1602280  |

| Property Owner Table |                           |
|----------------------|---------------------------|
| A                    | Simmerman, Kyle & Stacia  |
| B                    | Green, Bryan & Gwyn       |
| C                    | Rivers, Steven & Caroline |
| D                    | Bickel, Douglas           |
| E                    | Lee, Randy                |
| F                    | Minkner, David & Belinda  |
| G                    | Hessions Enterprises, LP  |
| H                    | Kazacoff Luba Rev. Trust  |
| I                    | Heshelman, Donna          |
| J                    | Harvey, Kevin & Theresa   |



Section 7, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 7, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN

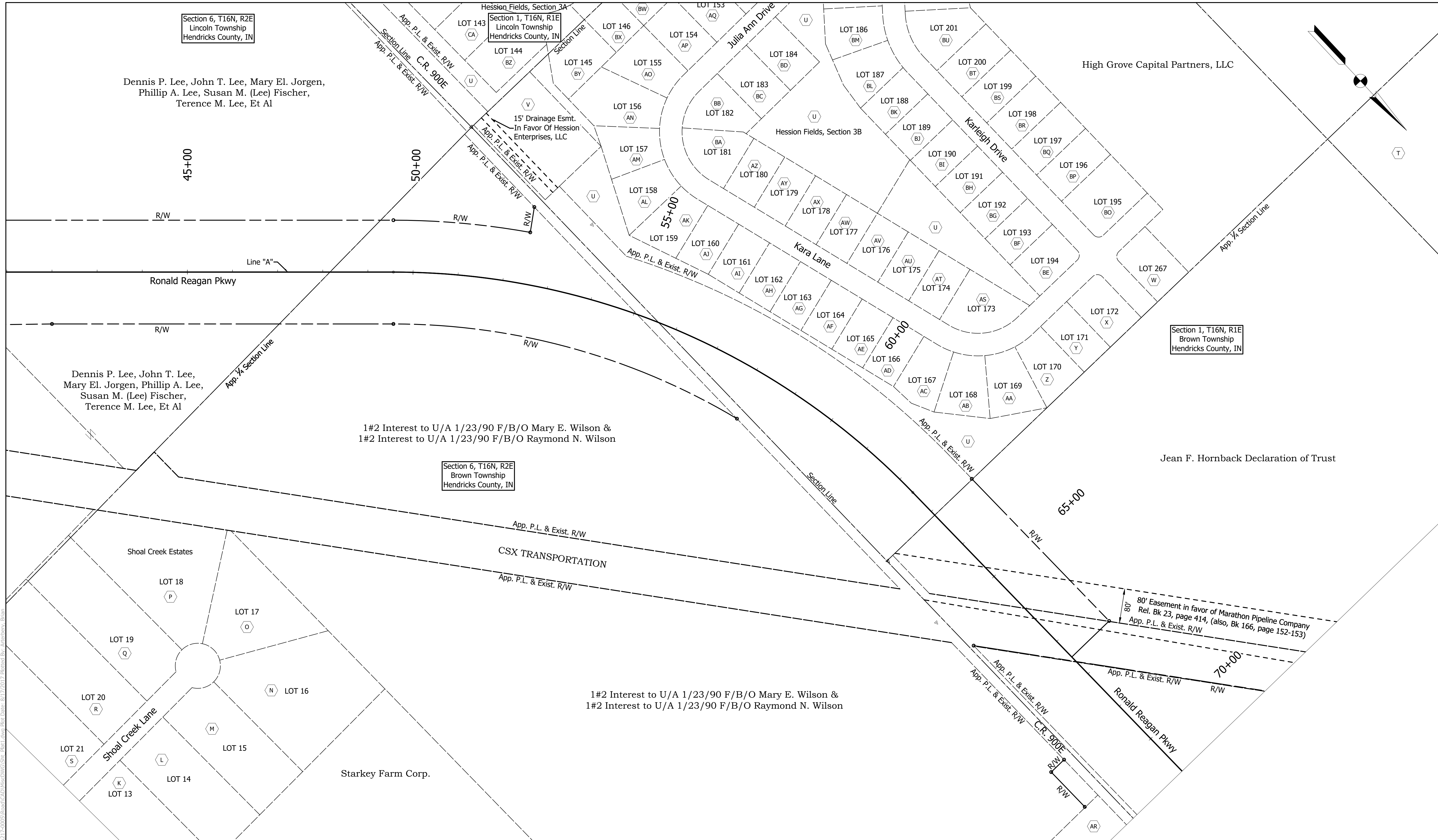
**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

|                  |  |
|------------------|--|
| HENDRICKS COUNTY |  |
| PLAT NO. 1       |  |

|                               |                                  |
|-------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 100' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A         | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC     | SHEETS<br>6 of 157               |
| CONTRACT<br>####              | PROJECT<br>1602280               |

File Name: S:\\_2017\217-0005\Road\CD\Visio\DWG\Site\_Plan.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian



Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN

Hession Fields, Section 3A  
Section 1, T16N, R1E  
Lincoln Township  
Hendricks County, IN

Section 1, T16N, R1E  
Brown Township  
Hendricks County, IN

Section 6, T16N, R2E  
Brown Township  
Hendricks County, IN

Dennis P. Lee, John T. Lee, Mary El. Jorgen,  
Phillip A. Lee, Susan M. (Lee) Fischer,  
Terence M. Lee, Et Al

Dennis P. Lee, John T. Lee,  
Mary El. Jorgen, Phillip A. Lee,  
Susan M. (Lee) Fischer,  
Terence M. Lee, Et Al

1#2 Interest to U/A 1/23/90 F/B/O Mary E. Wilson &  
1#2 Interest to U/A 1/23/90 F/B/O Raymond N. Wilson

1#2 Interest to U/A 1/23/90 F/B/O Mary E. Wilson &  
1#2 Interest to U/A 1/23/90 F/B/O Raymond N. Wilson

High Grove Capital Partners, LLC

Jean F. Hornback Declaration of Trust

Starkey Farm Corp.

CSX TRANSPORTATION

80' Easement in favor of Marathon Pipeline Company  
Rel. Bk 23, page 414, (also, Bk 166, page 152-153)

Note:  
See Page 9 for Property Owner Key

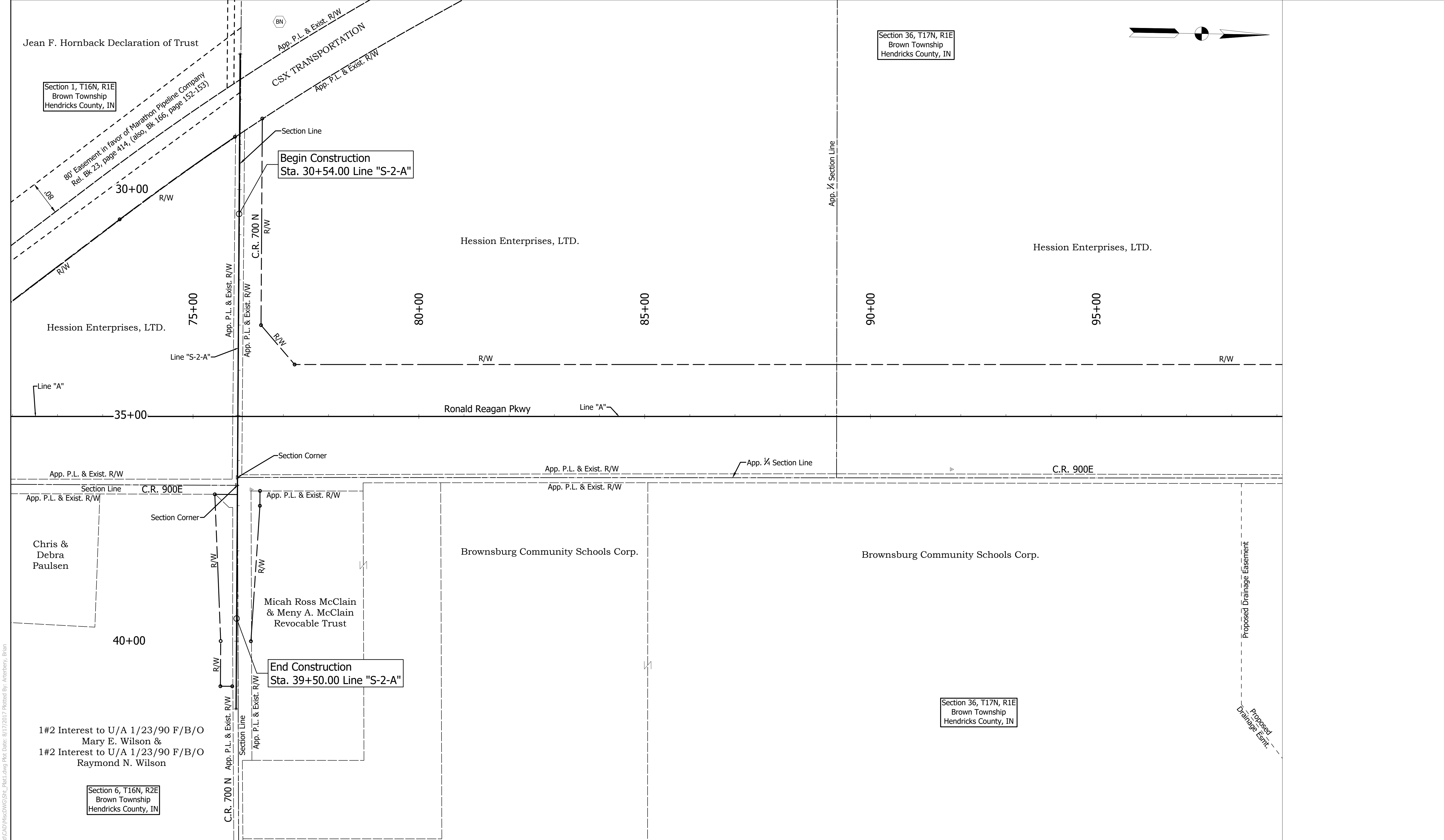
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|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

HENDRICKS COUNTY

PLAT NO. 1

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 100'        | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 7 of 157          |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\\_2017\17-0005\Board\CAD\Misc\DWG\Shr\_Plot.dwg Plot Date: 8/17/2017 Plotted By: Annaberry, Brian



File Name: S:\2017\217-0005\Road\CD\MiscDWG\SHC\_Plat1.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian

Note:  
See Page 9 for Property Owner Key

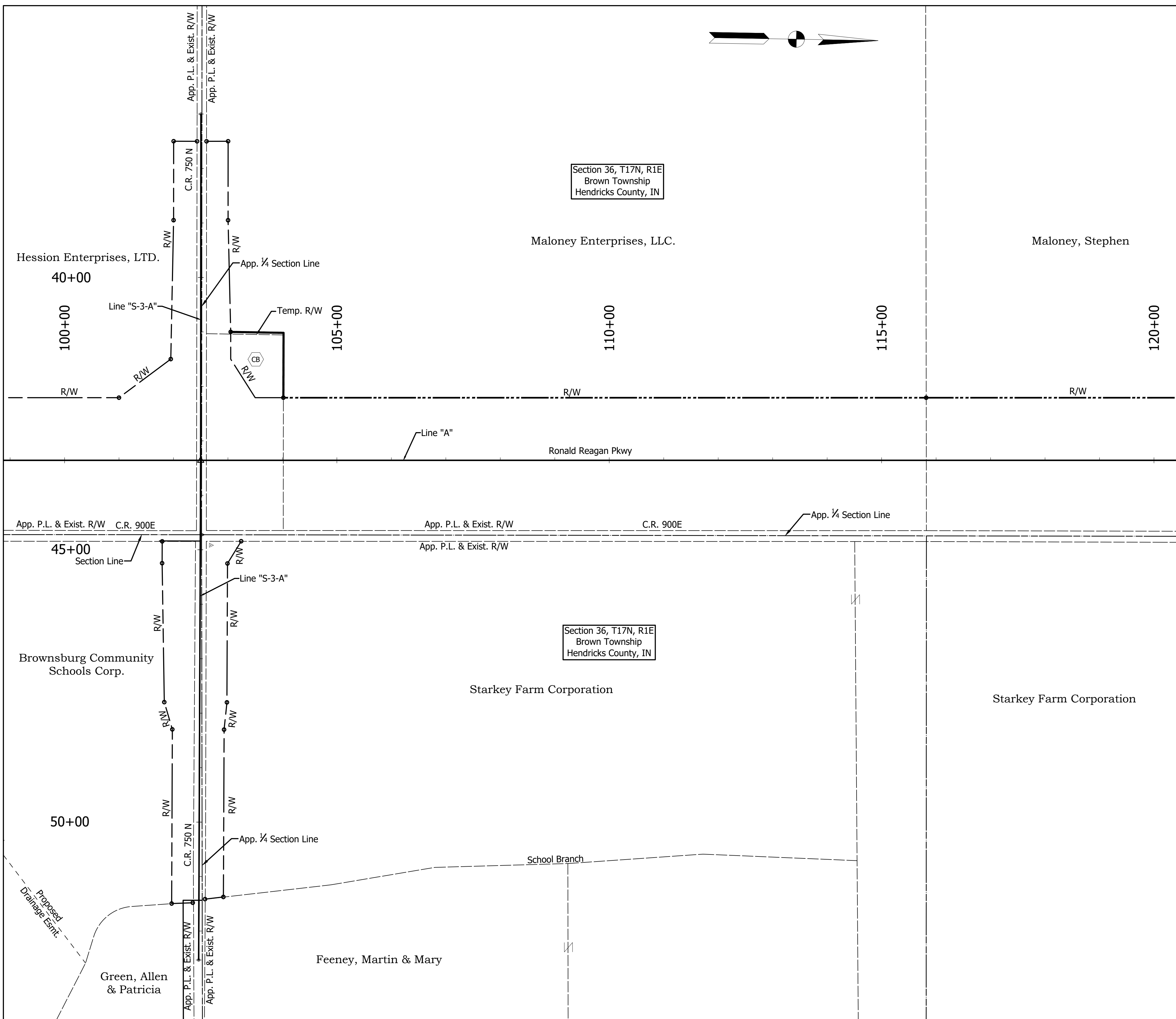
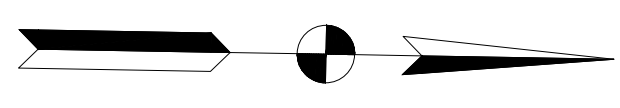
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

|                  |  |
|------------------|--|
| HENDRICKS COUNTY |  |
| PLAT NO. 1       |  |

|                               |                                  |
|-------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 100' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A         | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC     | SHEETS<br>8 of 157               |
| CONTRACT<br>###               | PROJECT<br>1602280               |





| Property Owner Table |  |
|----------------------|--|
| K                    | Fansler, Thomas III & Tina                       |
| L                    | Shroyer, Stephen & Beth                          |
| M                    | Newkirk, Robert & Teresa                         |
| N                    | Scheumann, Kirk & Theresa                        |
| O                    | Rohn, Thomas & Diane                             |
| P                    | Goodin, Paul & Melinda                           |
| Q                    | Rabuck, David                                    |
| R                    | Baker, Dwight & Kimberly                         |
| S                    | JAC Holdings LLC                                 |
| T                    | Batz, Chester Family Farm LLC                    |
| U                    | Hession Fields North Homeowners Association Inc. |
| V                    | Stevens, Anthony & Barbara                       |
| W                    | Satti Faheem Z                                   |
| X                    | Stevens, Mitchell & Deborah                      |
| Y                    | Johnson, Christopher & Karen                     |
| Z                    | Clark, Randolph & Melissa                        |
| AA                   | Donlan, Clayton & Aubrey                         |
| AB                   | Kocher, Jason & Catherine                        |
| AC                   | Pond, Amanda & Eric                              |
| AD                   | Vitangeli, Kory                                  |
| AE                   | Burris, Bradley & Alyssa                         |
| AF                   | Bailey, Michelle & Jennifer                      |
| AG                   | Parker, Kelly                                    |
| AH                   | Massie, Crystal                                  |
| AI                   | Meidell, Colin & Andrea                          |
| AJ                   | Thompson, Bradley Harold & Leah                  |
| AK                   | Fritcha, Tyler & Amanda                          |
| AL                   | Toole Nicole & Ryan                              |
| AM                   | Rheaume, Aaron & Jessica                         |
| AN                   | Janik, Christopher & Meghan                      |
| AO                   | Krastev, Svetoslav                               |
| AP                   | Brink, Jennifer & Brooke                         |
| AQ                   | Day, Kathleen                                    |
| AR                   | Paulsen, Chris & Debra                           |
| AS                   | Hinkle, Tyler & Choppi, Brittney                 |
| AT                   | Kerstein, Timothy & Mary                         |
| AU                   | Rottmiller, William & Vicki                      |
| AV                   | Katz, Corey & Filicsky, Susan                    |
| AW                   | Soots, Gary & Raelena                            |
| AX                   | Kuzeff-Harris Kay & Harris, Roger                |
| AY                   | Korous, Duke & Melody                            |
| AZ                   | Hunt, Tyron & Elizabeth                          |
| BA                   | Wott, Christopher & Satonyot, Chamaiporn         |
| BB                   | Campbell, Lolita                                 |
| BC                   | Brugh, Timothy & Michelle                        |
| BD                   | Laas, Terry & Dorothy                            |
| BE                   | Trinkle, Robert & Kari                           |
| BF                   | Giltner, Kyle & Julia                            |
| BG                   | Ellison, Kenneth & Alycia                        |
| BH                   | Dutkosky, Daniel & Kimberly                      |
| BI                   | House, Edward & Pfothenauer, Mark                |
| BJ                   | Jones, David & Susan                             |
| BK                   | Omalley, Kevin & Khristyn, Marie                 |
| BL                   | Myles, Rashon, Sr.                               |

|    |                                     |
|----|-------------------------------------|
| BM | Snyder, Christopher & Allison       |
| BN | George, Leroy C. Trustee            |
| BO | Cascio, Frank & Patricia            |
| BP | Mailey, Davon & Kathryn             |
| BQ | Jacobson, Kathy & Anderson, Gregory |
| BR | Momberg, Melissa                    |
| BS | Goers, Brian & Heather              |
| BT | Veljanoski, Suzanne & Timothy       |
| BU | Cascio, Frank & Mary                |
| BW | Lange, James                        |
| BX | Faires, Justin & Cassidy            |
| BY | Tippets, Matthew & Rebecca          |
| BZ | Brown, Jon                          |
| CA | Smith, Travis & Allyson             |
| CB | Scott, Bobbie & Oneida              |

File Name: S:\\_2017\217-0005\Road\CD\Visio\DWG\Site\_Plan.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian

RECOMMENDED FOR APPROVAL \_\_\_\_\_

DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

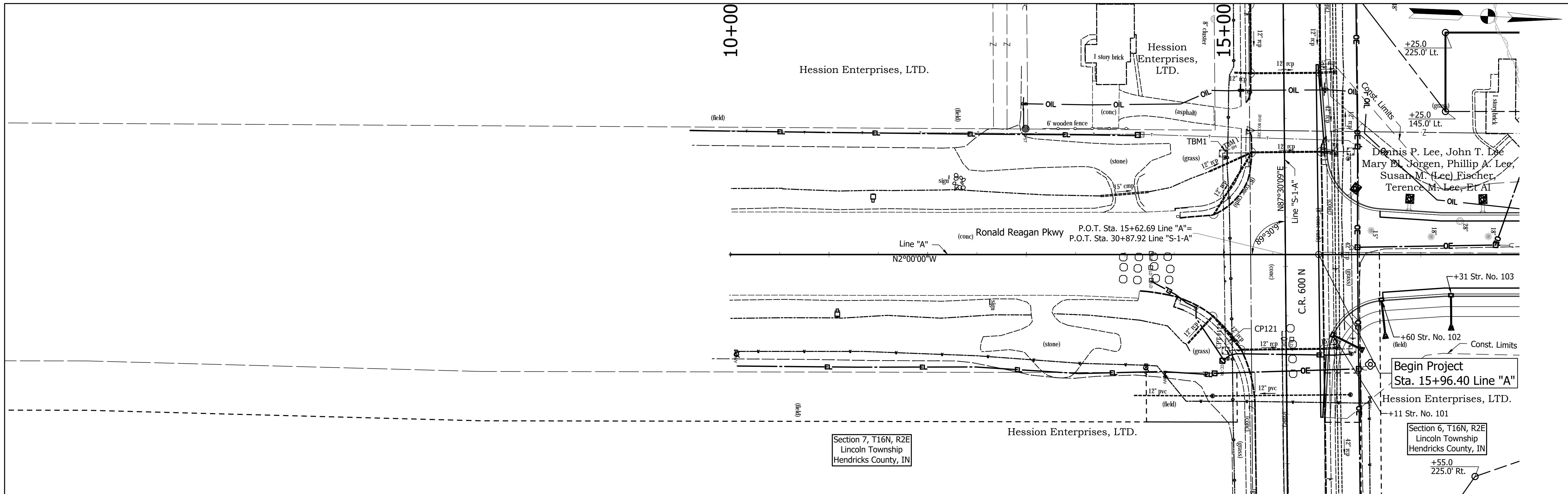
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CHECKED: BKA CHECKED: BKA

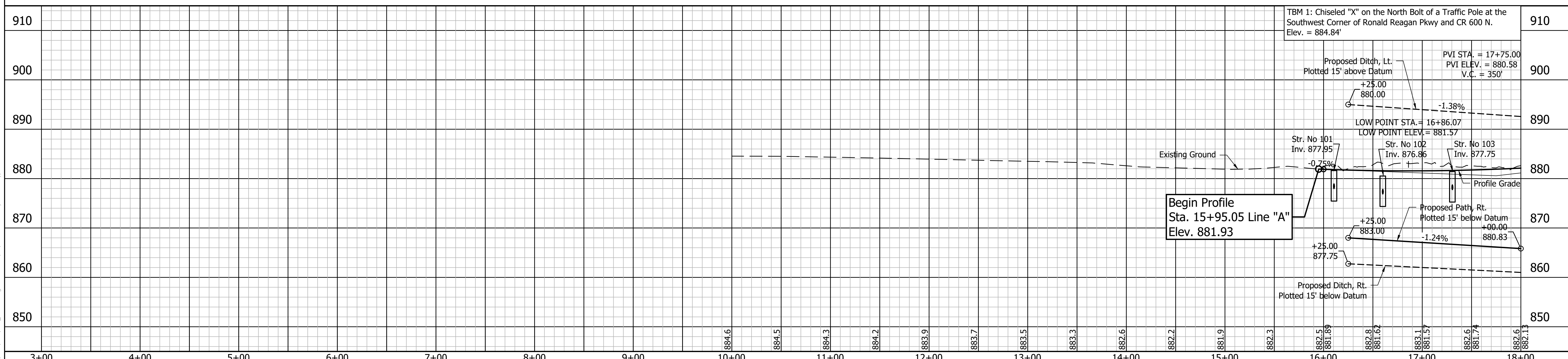
HENDRICKS COUNTY

PLAT NO. 1

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 100'        | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 9 of 157          |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

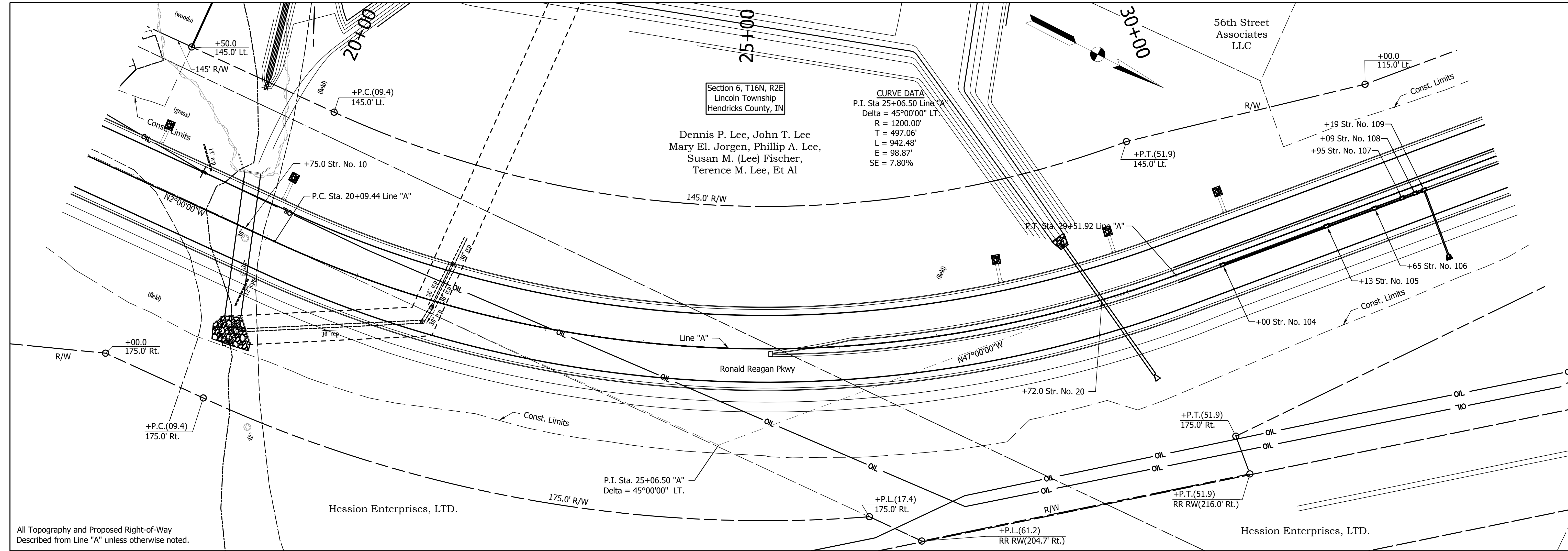


All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

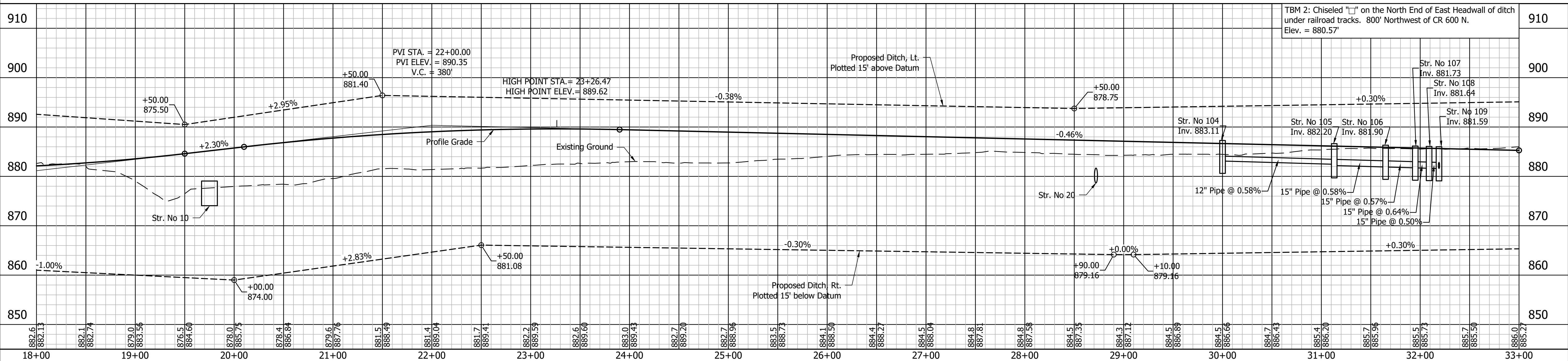


|  |                                |  |                                  |  |  |                              |  |                                  |  |
|--|--------------------------------|--|----------------------------------|--|--|------------------------------|--|----------------------------------|--|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> | RECOMMENDED FOR APPROVAL _____ |  | DESIGN ENGINEER _____ DATE _____ |  | <p style="text-align: center;"><b>HENDRICKS COUNTY</b></p> <p style="text-align: center;"><b>PLAN AND PROFILE - LINE "A"</b></p> <p style="text-align: center;"><b>STA. 3+00 TO STA. 18+00</b></p> | HORIZONTAL SCALE<br>1" = 50' |  | BRIDGE FILE<br>HENDRICKS BR00089 |  |
|  | DESIGNED: JNH                  |  | DRAWN: MDV                       |  |  | VERTICAL SCALE<br>1" = 10'   |  | DESIGNATION<br>1602280           |  |
|  | CHECKED: BKA                   |  | CHECKED: BKA                     |  |  | SURVEY BOOK                  |  | SHEETS                           |  |
|  |                                |  |                                  |  |  | ELECTRONIC                   |  | 14 of 157                        |  |
|  |                                |  |                                  |  |  | CONTRACT                     |  | PROJECT                          |  |
|  |                                |  |                                  |  |  | ###                          |  | 1602280                          |  |

File Name: S:\2017\217-0005\Road\CR600\Plan\Profile\_Plot.dwg Plot Date: 8/18/2017 Plotted By: Anterbery, Brian



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "A"**  
STA. 18+00 TO STA. 33+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>15 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |

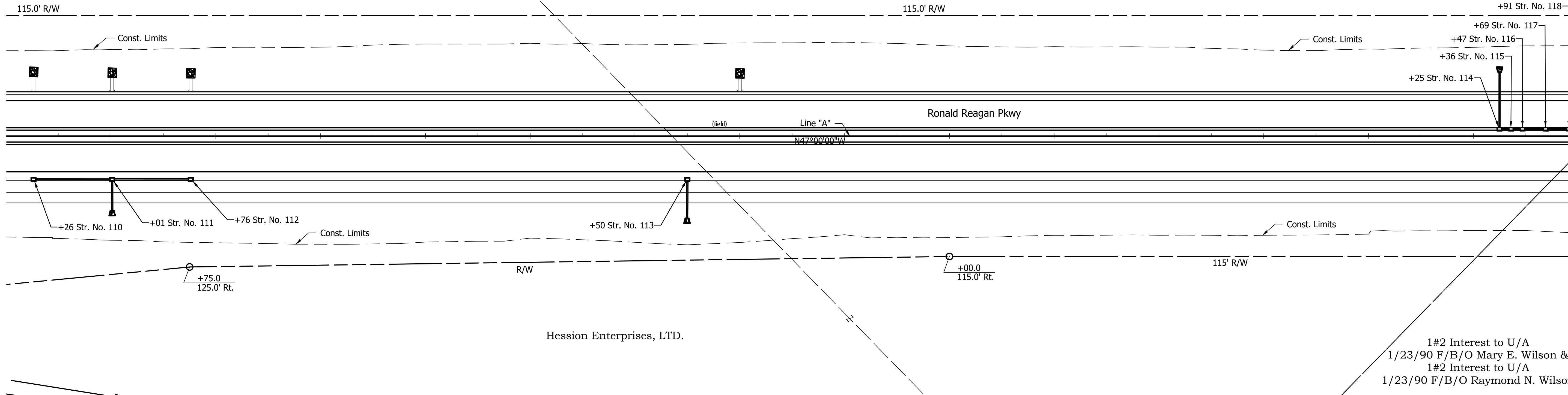
35+00

40+00

45+00

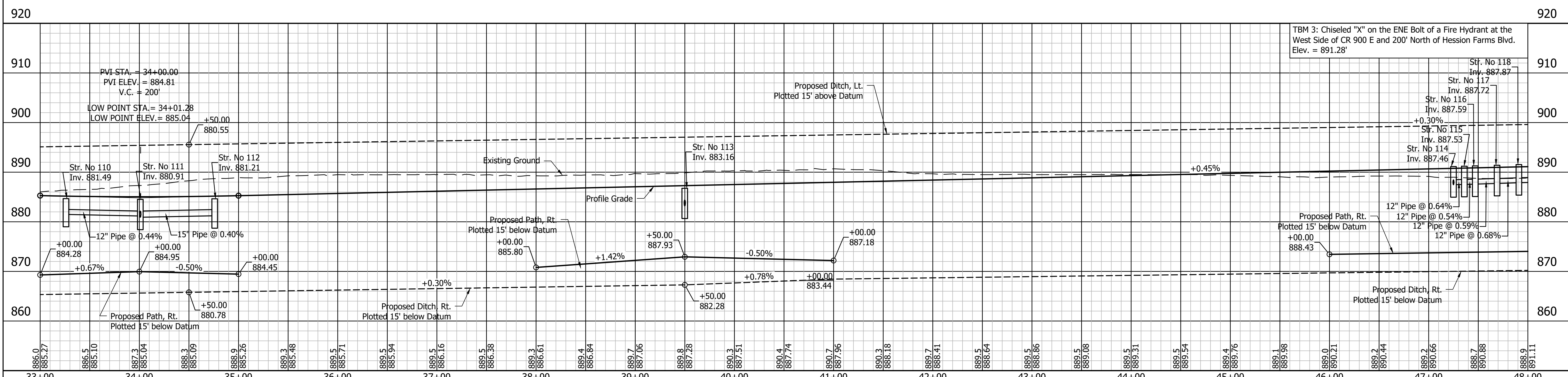
Dennis P. Lee, John T. Lee  
Mary El. Jorgen, Phillip A. Lee,  
Susan M. (Lee) Fischer,  
Terence M. Lee, Et Al

Section 6, T16N, R2E  
Lincoln Township  
Hendricks County, IN



1#2 Interest to U/A  
1/23/90 F/B/O Mary E. Wilson &  
1#2 Interest to U/A  
1/23/90 F/B/O Raymond N. Wilson

All Topography and Proposed Right-of-Way  
Described from Line "A" unless otherwise noted.



TBM 3: Chiseled "X" on the ENE Bolt of a Fire Hydrant at the West Side of CR 900 E and 200' North of Hession Farms Blvd. Elev. = 891.28'

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

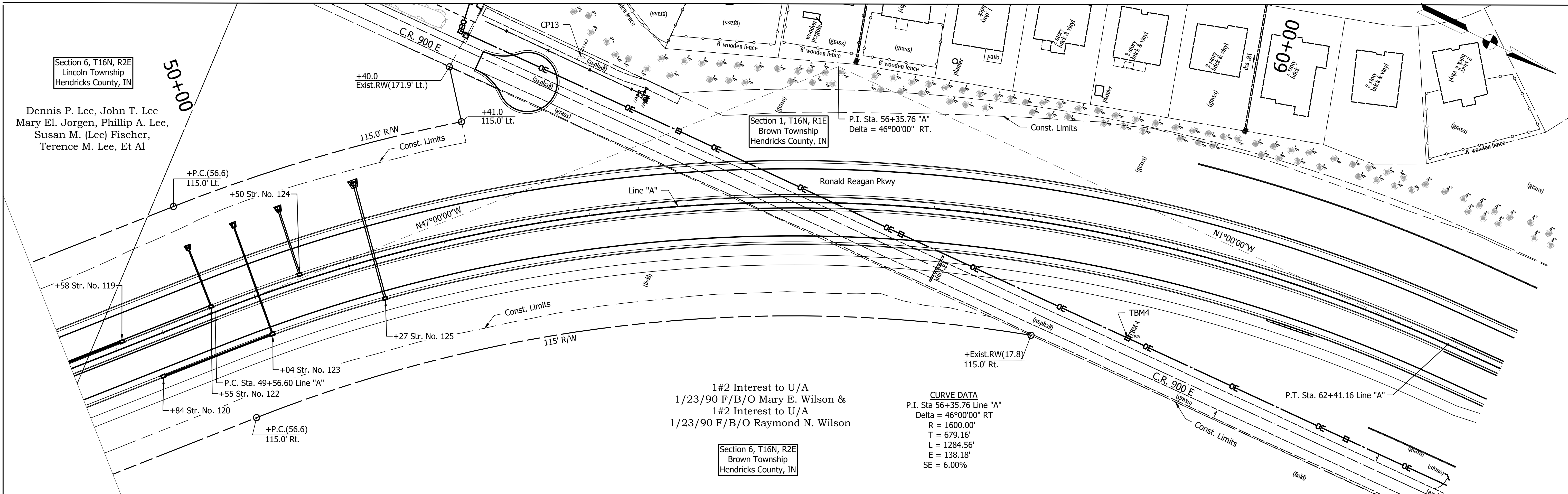
|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY

**PLAN AND PROFILE - LINE "A"**  
STA. 33+00 TO STA. 48+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 16 of 157                        |
| CONTRACT<br>####             | PROJECT<br>1602280               |

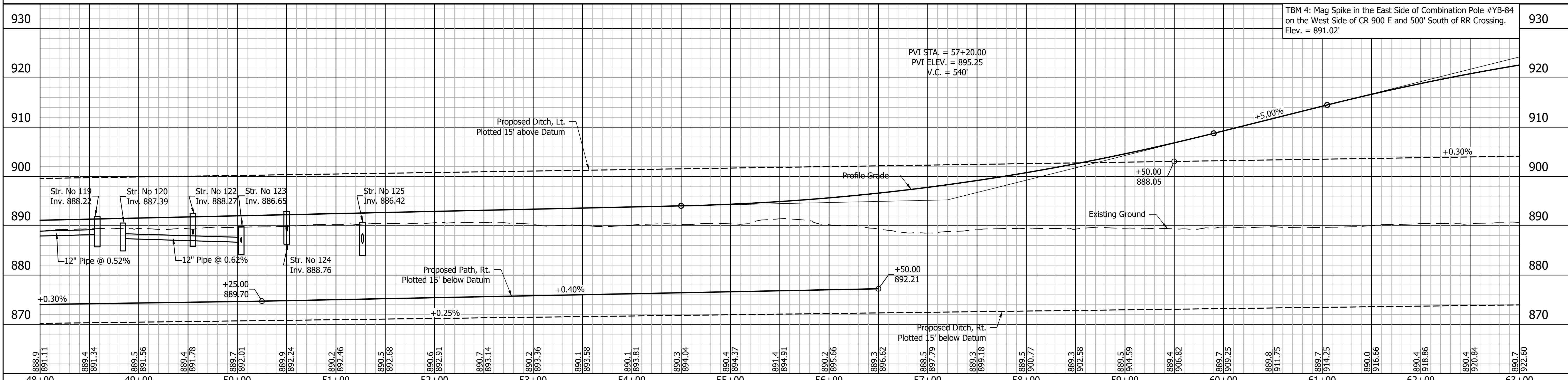
File Name: S:\\_2017\217-0005\Road\CO\PA\PA\_Line Andg Plot Date: 8/18/2017 Plotted By: Arterberry, Brian



1#2 Interest to U/A  
 1/23/90 F/B/O Mary E. Wilson &  
 1#2 Interest to U/A  
 1/23/90 F/B/O Raymond N. Wilson

**CURVE DATA**  
 P.I. Sta. 56+35.76 Line "A"  
 Delta = 46°00'00" RT  
 R = 1600.00'  
 T = 679.16'  
 L = 1284.56'  
 E = 138.18'  
 SE = 6.00%

All Topography and Proposed Right-of-Way  
 Described from Line "A" unless otherwise noted.



File Name: S:\\_2017\217-0005\Road\CO\PA\PA\_Line A.dwg Plot Date: 8/18/2017 Plotted By: Arberry, Brian

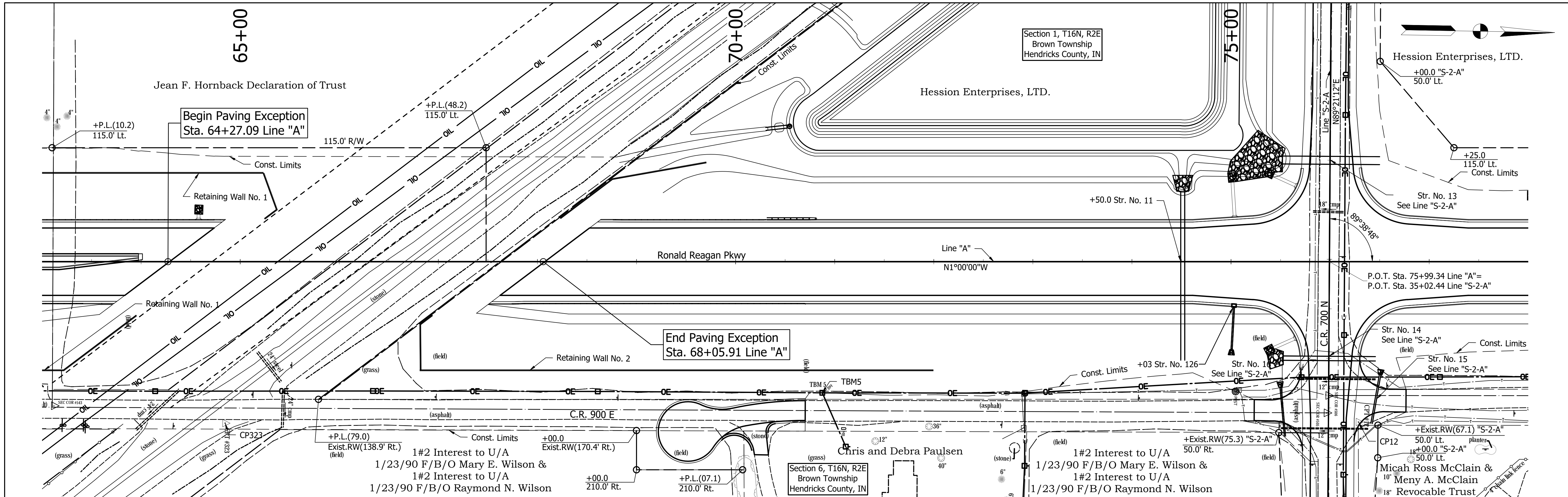
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

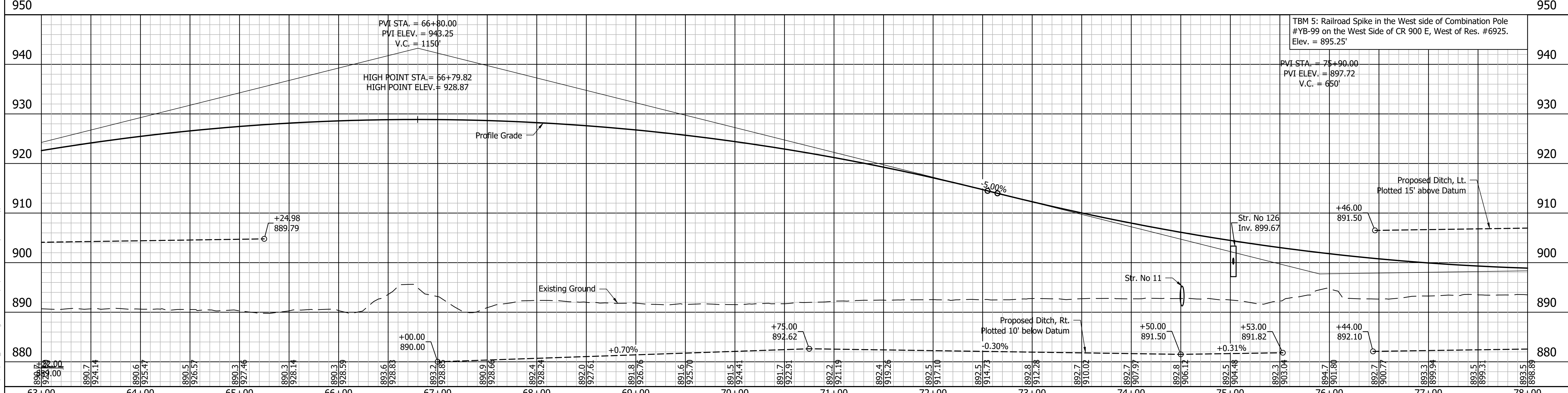
**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "A"**  
 STA. 48+00 TO STA. 63+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>17 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



|  |                          |                 |      |   |                              |                                  |
|--|--------------------------|-----------------|------|---|------------------------------|----------------------------------|
| <p>3502 Woodview Terrace, Suite 150<br/>Indianapolis, Indiana, 46268<br/>PHONE: 317.222.3880<br/>TOLL FREE: 888.830.6977</p> | RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE | <p>HENDRICKS COUNTY</p> <p>PLAN AND PROFILE - LINE "A"<br/>STA. 63+00 TO STA. 78+00</p> | HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
|  | DESIGNED: JNH            | DRAWN: MDV      |      |   | VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
|  | CHECKED: BKA             | CHECKED: BKA    |      |   | SURVEY BOOK                  | SHEETS                           |
|  |                          |                 |      |   | ELECTRONIC                   | 18 of 157                        |
|  |                          |                 |      | CONTRACT  | PROJECT                      |                                  |
|  |                          |                 |      | ####  | 1602280                      |                                  |

File Name: S:\\_2017\317-0005\Road\CO\PA\PA\_Line\_A.dwg Plot Date: 8/18/2017 Plotted By: Arberry, Brian

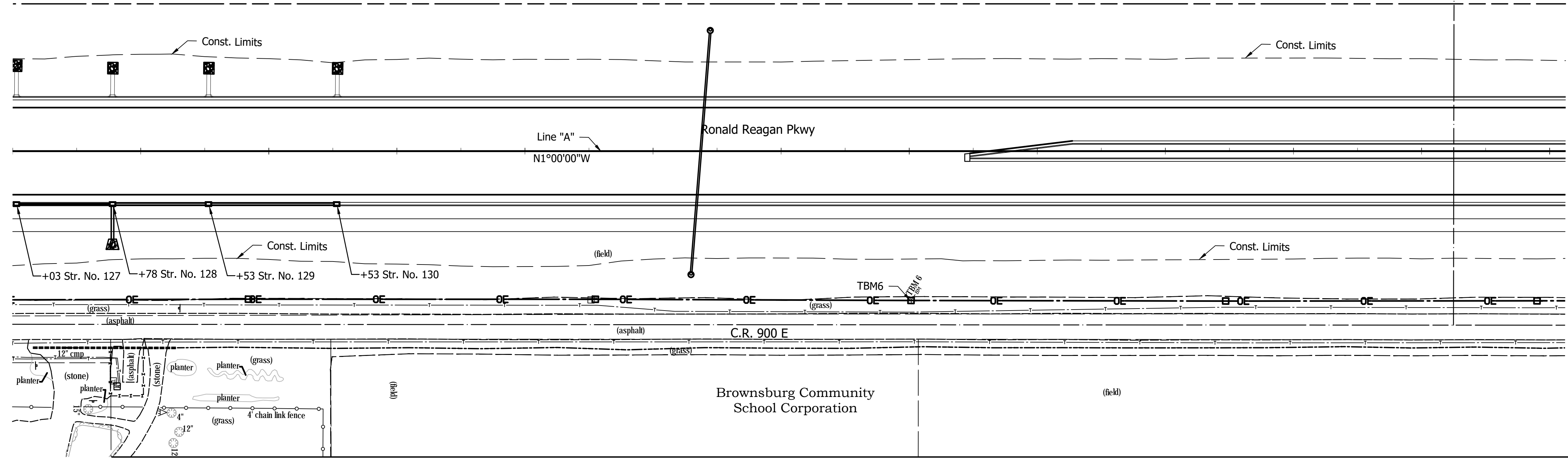
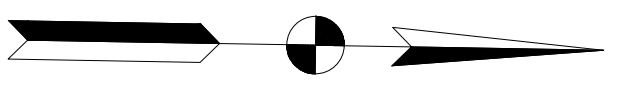
80+00

85+00

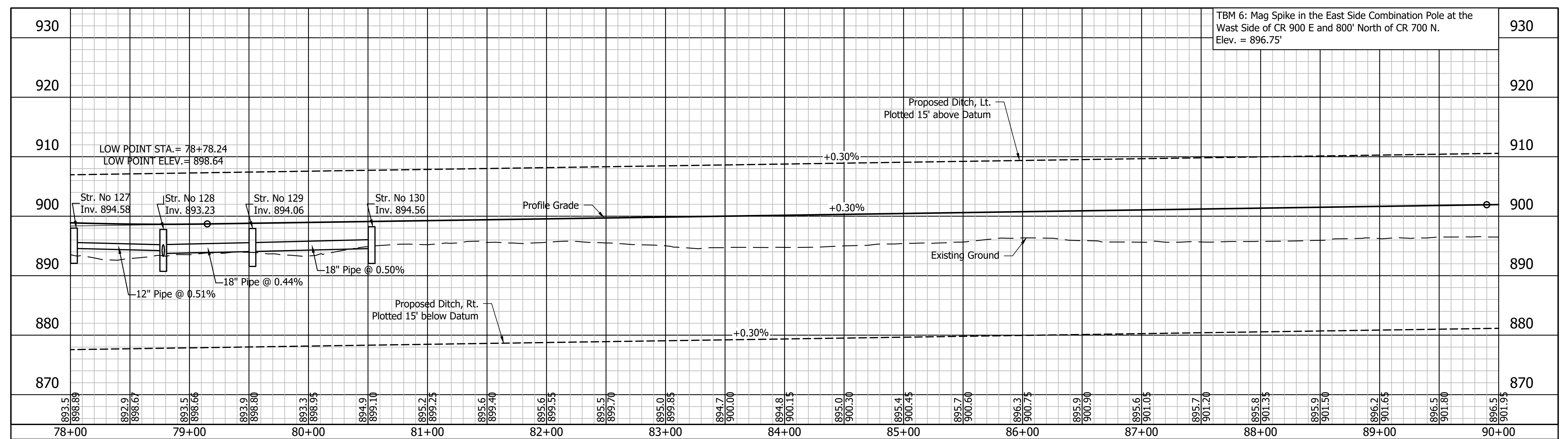
90+00

Section 36, T16N, R1E  
Brown Township  
Hendricks County, IN

Hession Enterprises, LLC



All Topography and Proposed Right-of-Way  
Described from Line "A" unless otherwise noted.



File Name: S:\\_2017\217-0005\Road\CO\19\19\19\_Line Advg Plc Date: 8/18/2017 Plotted By: Arberry, Brian

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

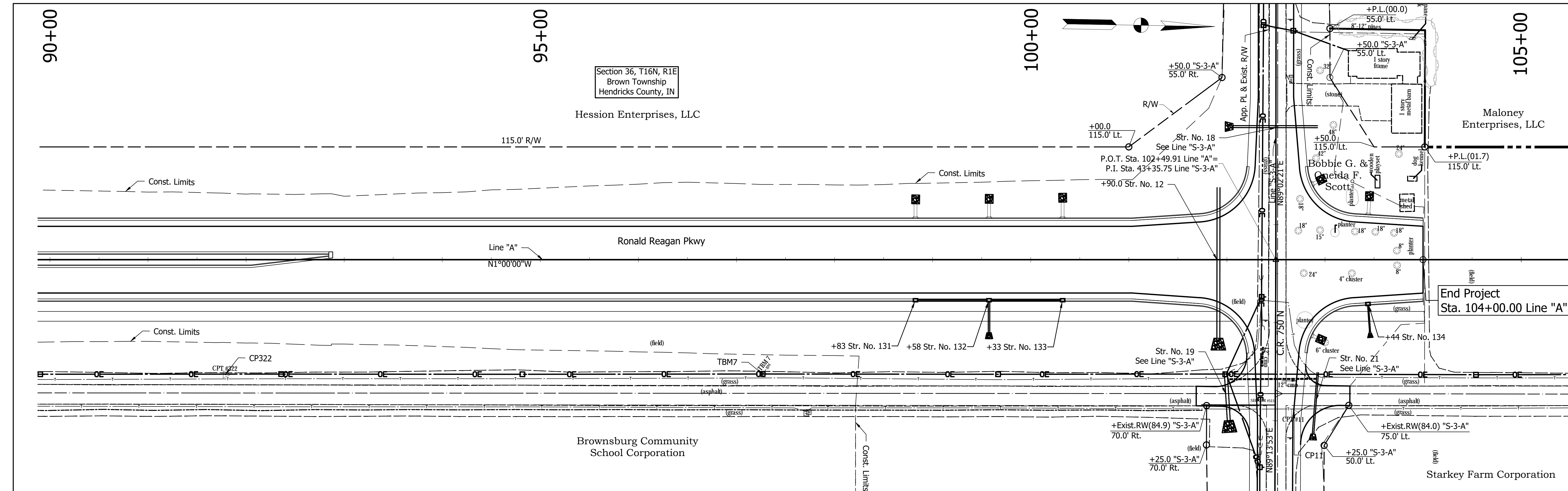
RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

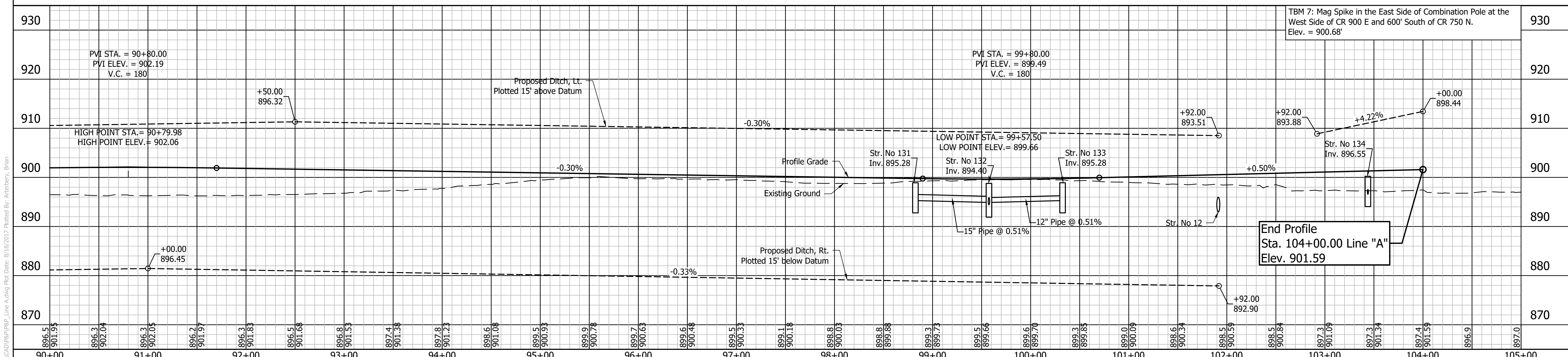
HENDRICKS COUNTY

PLAN AND PROFILE - LINE "A"  
STA. 78+00 TO STA. 90+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 19 of 157                        |
| CONTRACT<br>####             | PROJECT<br>1602280               |



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**

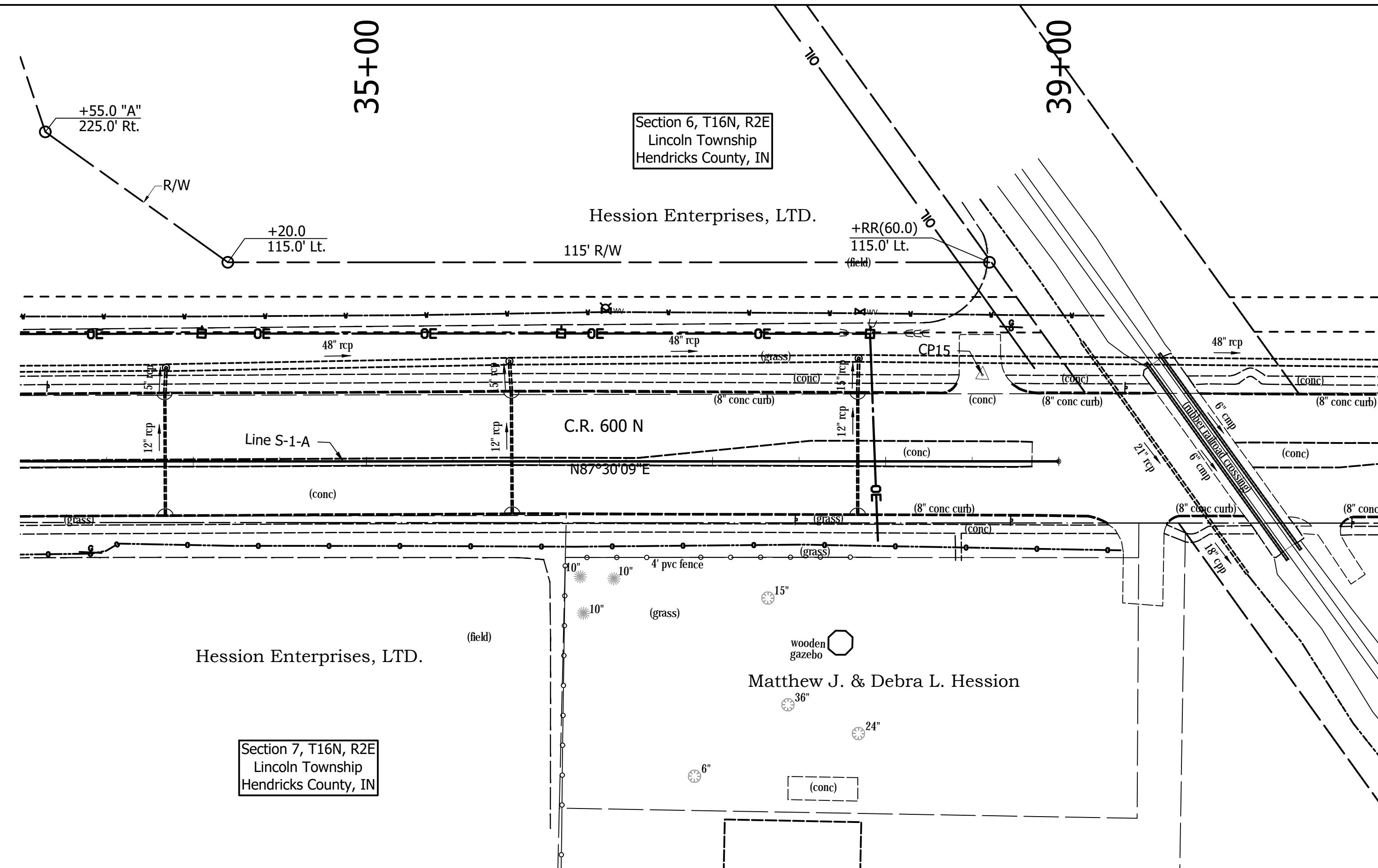
**PLAN AND PROFILE - LINE "A"**  
**STA. 90+00 TO STA. 105+00**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>20 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CR0\Plan\Profile\_Line A.dwg Plot Date: 8/18/2017 Plotted By: Anterbery, Brian







|     |   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|-----|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 920 | TBM 1: Chiseled "X" on the North Bolt of a Traffic Pole at the Southwest Corner of Ronald Reagan Pkwy and CR 600 N. Elev. = 884.84' |                 |                 |                 |                 |                 |                 |                 |                 |                 | 920             |                 |                 |
| 910 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 910             |                 |                 |
| 900 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 900             |                 |                 |
| 890 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 890             |                 |                 |
| 880 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 880             |                 |                 |
| 870 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 870             |                 |                 |
| 860 |   |                 |                 |                 |                 |                 |                 |                 |                 |                 | 860             |                 |                 |
|     | 883.2<br>883.19   | 883.3<br>883.33 | 883.5<br>883.48 | 883.8<br>883.79 | 884.4<br>884.41 | 884.6<br>884.57 | 884.8<br>884.77 | 885.0<br>884.97 | 885.3<br>885.26 | 885.7<br>885.69 | 886.0<br>886.04 | 886.4<br>886.36 | 885.9<br>885.93 |
|     | 33+00   | 34+00           | 35+00           | 36+00           | 37+00           | 38+00           | 39+00           | 40+00           |                 |                 |                 |                 |                 |

File Name: S:\\_2017\217-0005\Road\GIS\Map\Map\_Line S-1-A.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE \_\_\_\_\_

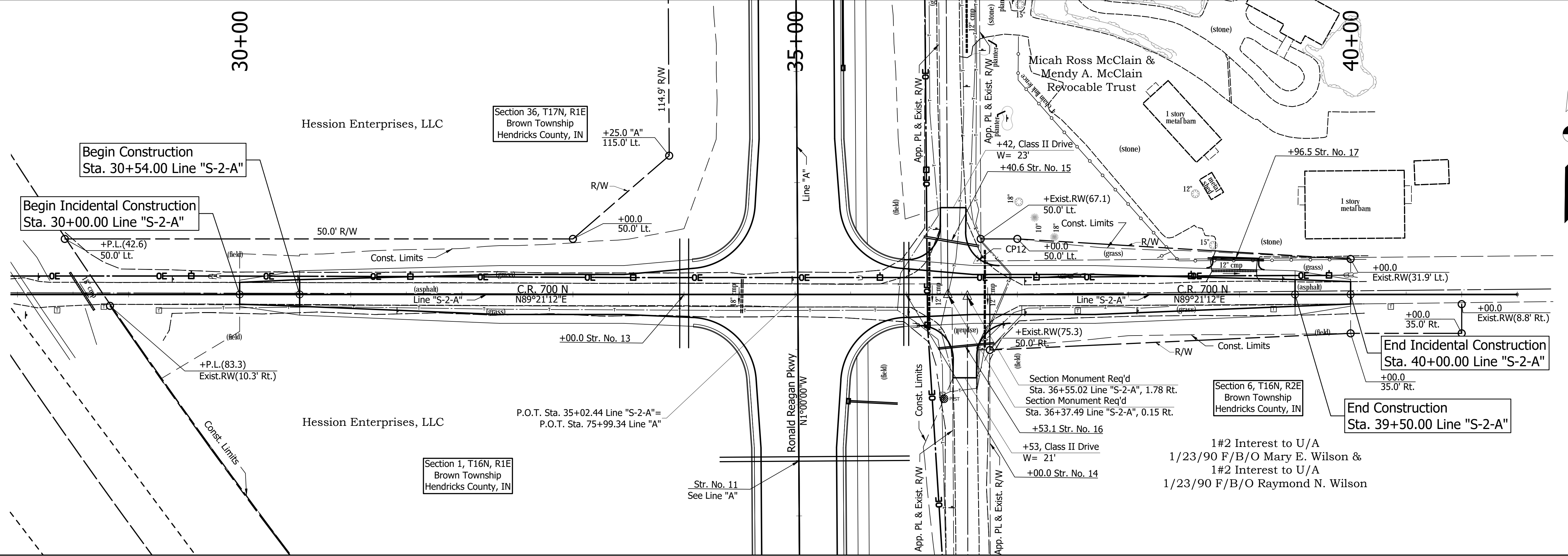
DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "S-1-A"**  
**STA. 33+00 TO STA. 40+00**

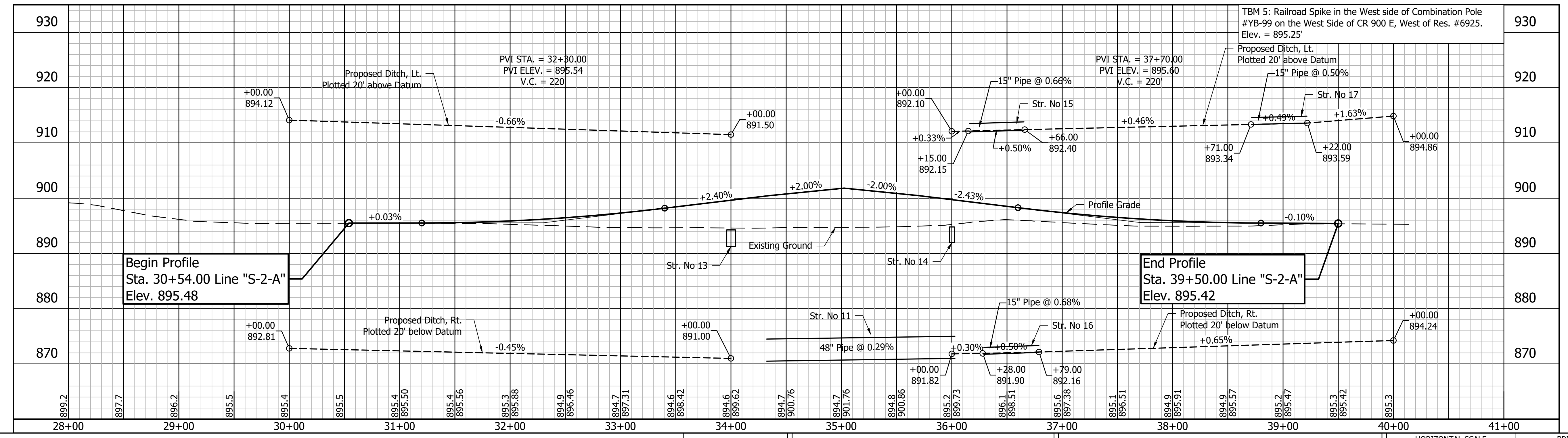
|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>22 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |





1#2 Interest to U/A  
 1/23/90 F/B/O Mary E. Wilson &  
 1#2 Interest to U/A  
 1/23/90 F/B/O Raymond N. Wilson

All Topography and Proposed Right-of-Way  
 Described from Line "S-2-A" unless otherwise noted.



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 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

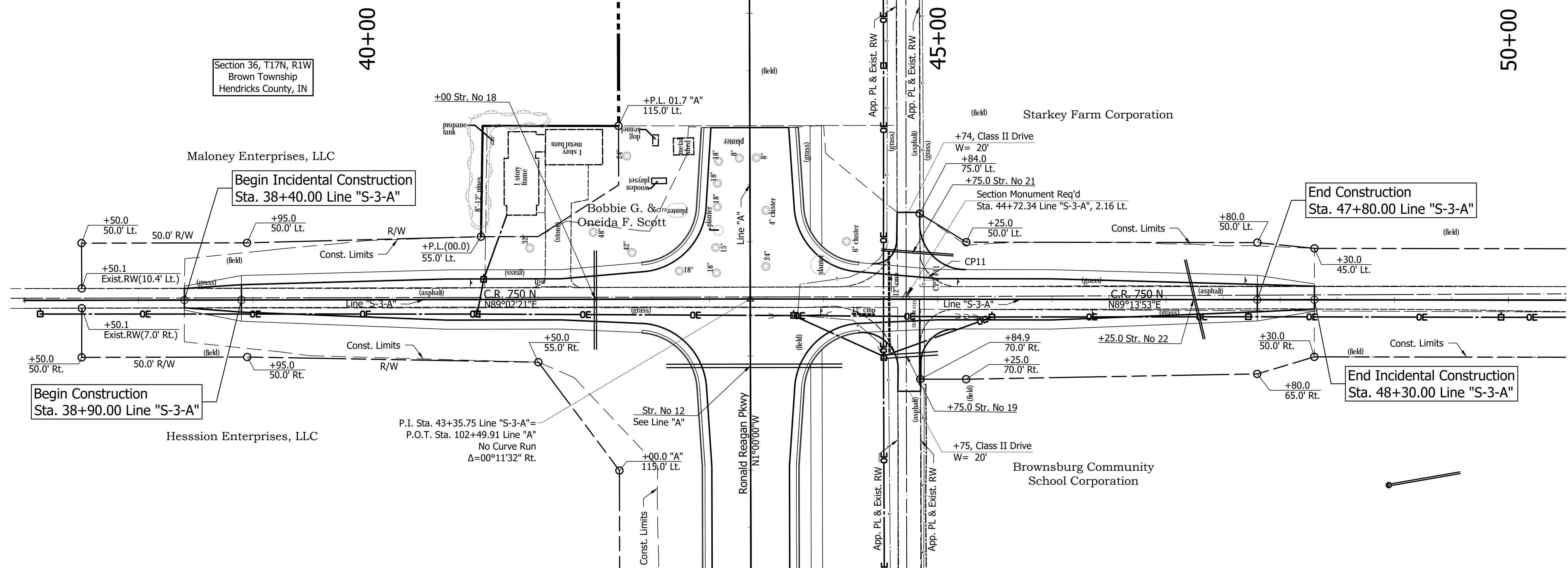
RECOMMENDED FOR APPROVAL \_\_\_\_\_  
 DESIGN ENGINEER DATE  
 DESIGNED: JNH DRAWN: MDV  
 CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY  
**PLAN AND PROFILE - LINE "S-2-A"**  
 STA. 28+00 TO STA. 41+00

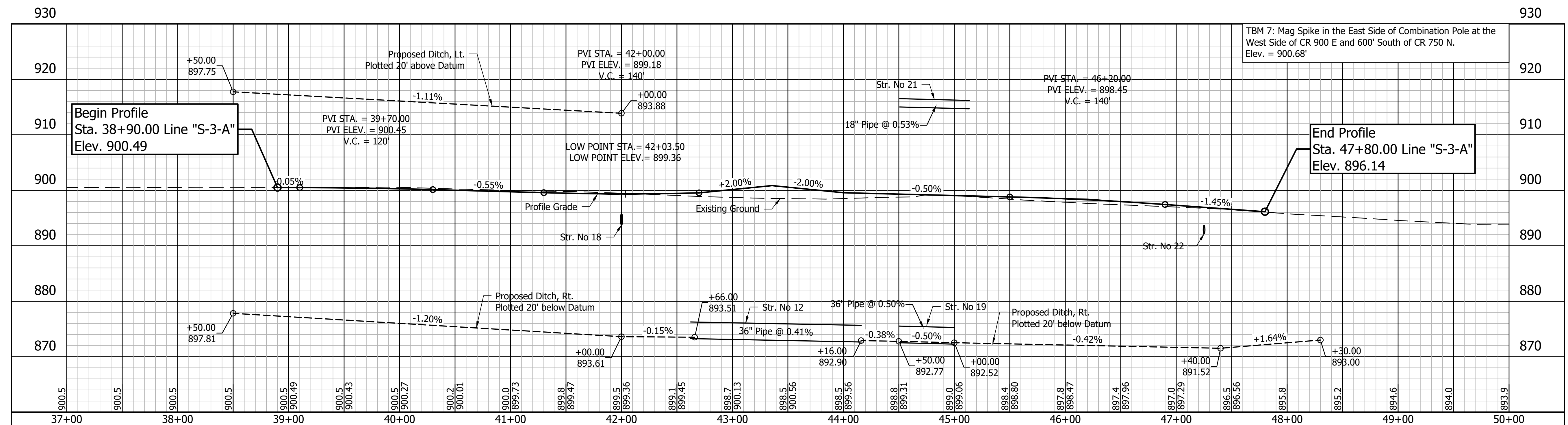
|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>23 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_2017\217-0005\Road\CO\PA\PA\Line S-2-A.dwg Plot Date: 8/17/2017 Plotted By: Anteberry, Brian

Section 36, T17N, R1W  
Brown Township  
Hendricks County, IN



All Topography and Proposed Right-of-Way  
Described from Line "S-3-A" unless otherwise noted.

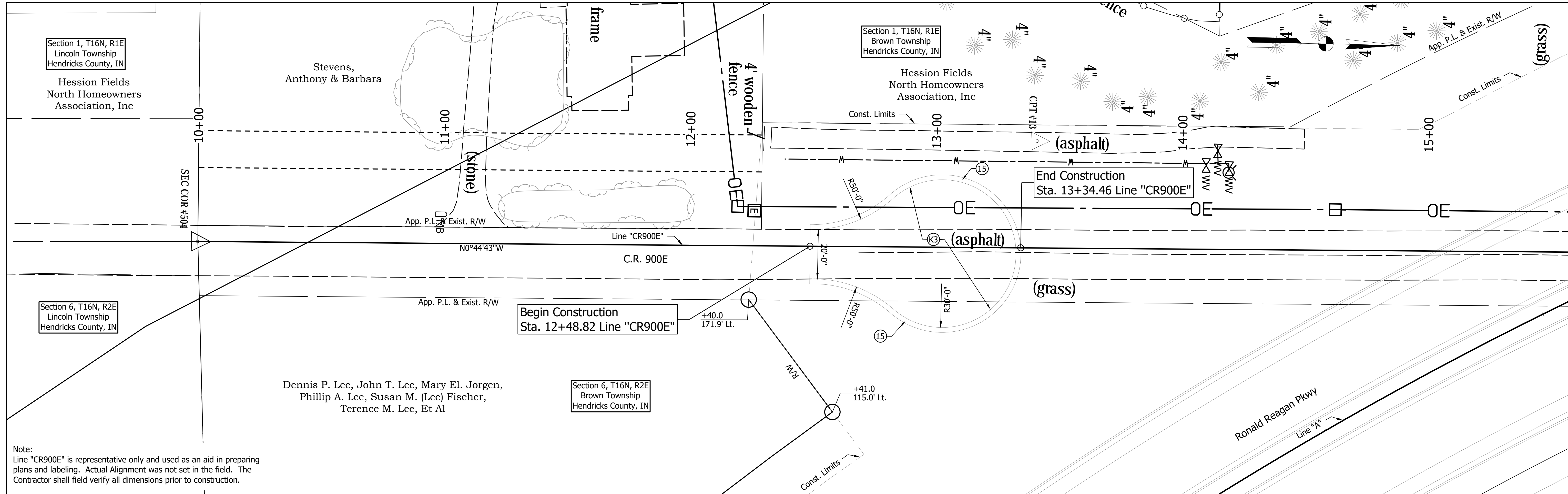


**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE  
DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY  
**PLAN AND PROFILE - LINE "S-3-A"**  
STA. 37+00 TO STA. 50+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>24 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

|     |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 |     |
|-----|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|-------|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|-----|
| 910 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 910 |
| 905 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 905 |
| 900 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 900 |
| 895 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 895 |
| 890 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 890 |
| 885 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 885 |
| 880 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 880 |
| 875 |                 |       |                 |       |                 |       |                 |       |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 875 |
|     | 890.7<br>890.72 |       | 891.2<br>891.16 |       | 891.5<br>891.50 |       | 891.6<br>891.63 |       | 891.8<br>891.76 |  | 892.0<br>891.98 |  | 891.8<br>891.85 |  | 891.7<br>891.74 |  | 891.6<br>891.62 |  | 891.5<br>891.54 |     |
|     |                 | 11+00 |                 | 12+00 |                 | 13+00 |                 | 14+00 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |     |

Existing Ground

- ③ 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on  
330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on  
3" Compacted Aggregate, No. 53, Base on  
Subgrade Treatment, Type IB
- ⑮ Curb and Gutter, B, Concrete

**LOCHMUELLER GROUP**  
3502 Woodview Terrace, Suite 150  
Indianapolis, Indiana, 46268  
PHONE: 317.222.3880  
TOLL FREE: 888.830.6977

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER DATE

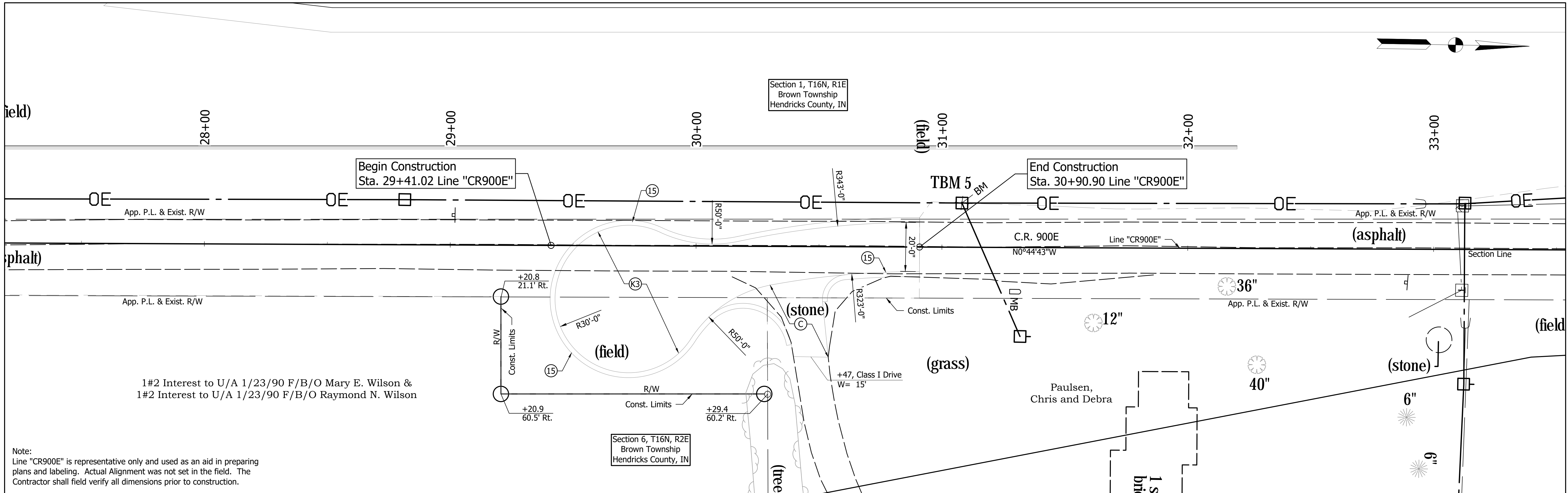
DESIGNED: JNH DRAWN: MDV  
CHECKED: BKA CHECKED: BKA

HENDRICKS COUNTY

**PLAN AND PROFILE**  
C.R. 900 CUL-DE-SAC

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 10' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>25 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CD\Visio\DWG\SH\_Cul-De-Sac.dwg Plot Date: 8/27/2017 Plotted By: Anteberry, Brian



Note:  
 Line "CR900E" is representative only and used as an aid in preparing plans and labeling. Actual Alignment was not set in the field. The Contractor shall field verify all dimensions prior to construction.

All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

|     |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |     |                 |     |
|-----|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|--|-----------------|-----|-----------------|-----|
| 910 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 910 |                 |     |
| 905 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 905 |                 |     |
| 900 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 900 |                 |     |
| 895 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 895 |                 |     |
| 890 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 890 |                 |     |
| 885 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 885 |                 |     |
| 880 |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 |  |                 | 880 |                 |     |
| 875 | 893.4<br>893.37 |  | 893.5<br>893.49 |  | 893.7<br>893.75 |  | 894.1<br>894.07 |  | 894.6<br>894.65 |  | 895.3<br>895.28 |  | 895.7<br>895.75 |  | 896.2<br>896.16 |  | 896.3<br>896.26 |  | 896.9<br>895.94 |     | 895.4<br>895.45 | 875 |
|     |                 |  |                 |  | 29+00           |  |                 |  | 30+00           |  |                 |  | 31+00           |  |                 |  |                 |  | 32+00           |     |                 |     |

TBM 5: Railroad Spike in the West side of Combination Pole #YB-99 on the West Side of CR 900 E, West of Res. #6925. Elev. = 895.25'

- ⓐ PCCP for Approaches, 8 IN
- ⓑ 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB
- ⓓ Curb and Gutter, B, Concrete



RECOMMENDED FOR APPROVAL \_\_\_\_\_

DESIGNED: JNH      DRAWN: MDV

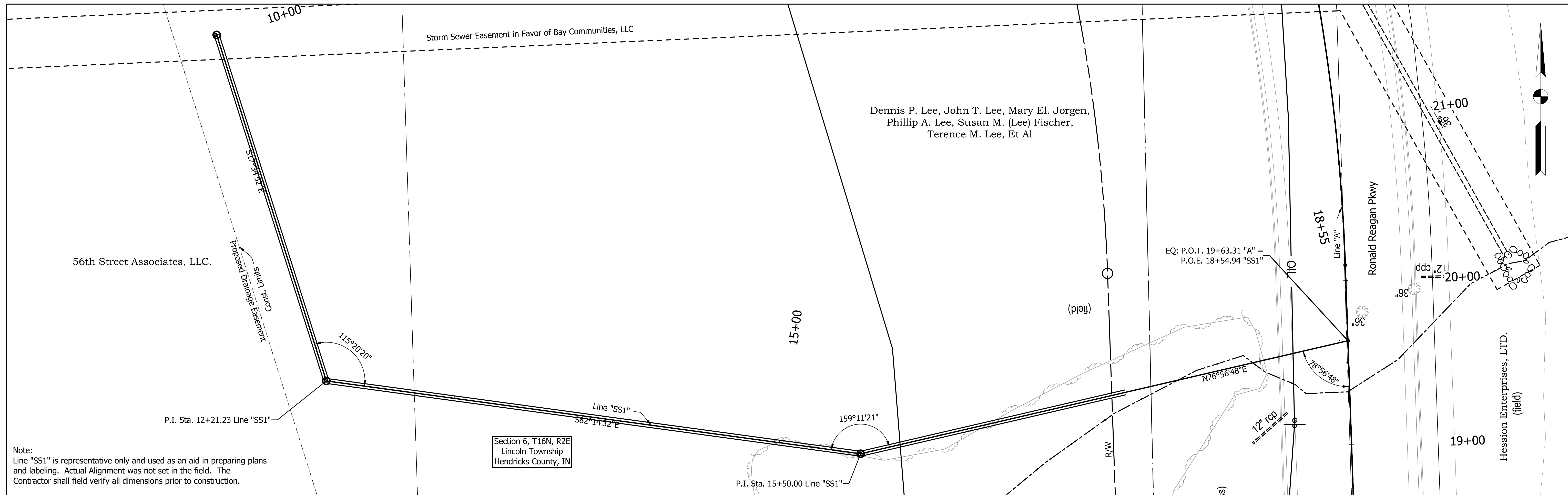
CHECKED: BKA      CHECKED: BKA

**HENDRICKS COUNTY**

**PLAN AND PROFILE**  
**C.R. 900 CUL-DE-SAC**

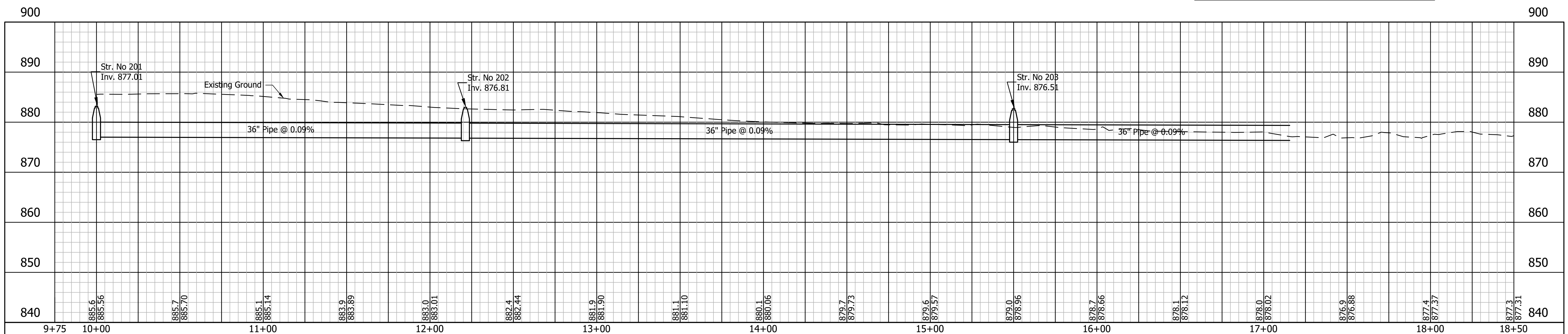
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|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 10' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>26 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\1\_2017\17-0005\Road\CAD\Misc\DWG\SH\_Cul-De-Sac.dwg Plot Date: 8/17/2017 Plotted By: Arambay, Brian



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.

TBM 1: Chiseled "X" on the North Bolt of a Traffic Pole at the Southwest Corner of Ronald Reagan Pkwy and CR600N.  
Elev. = 884.84'



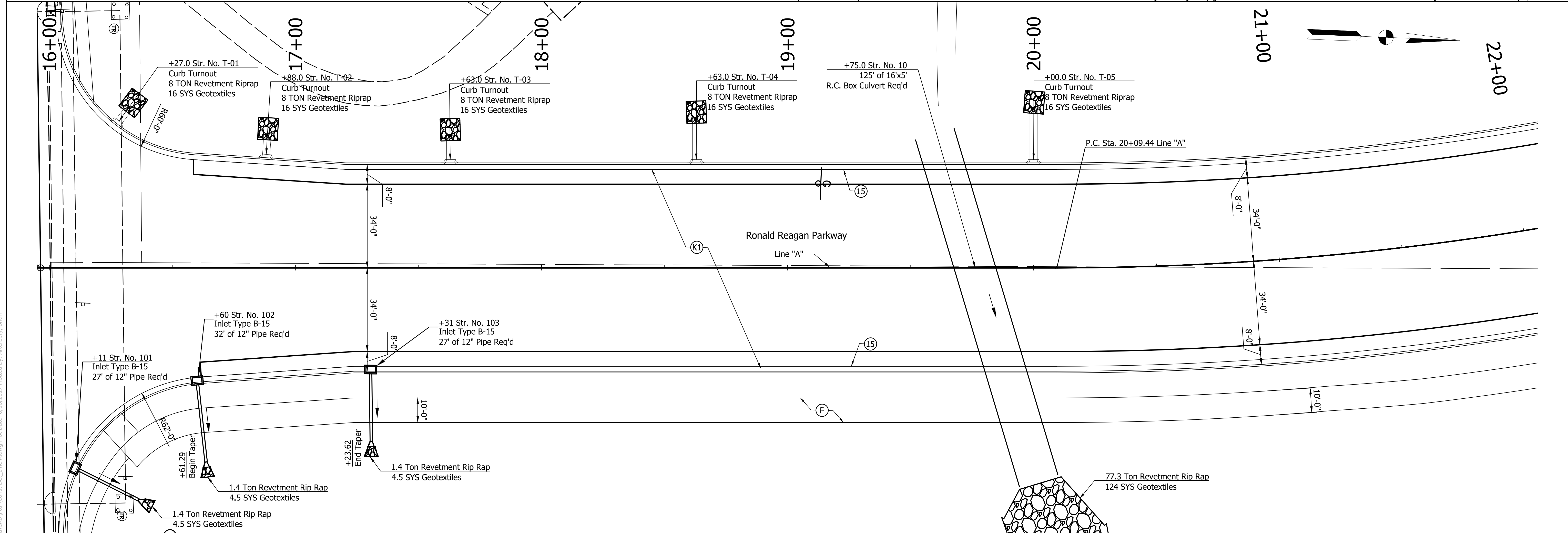
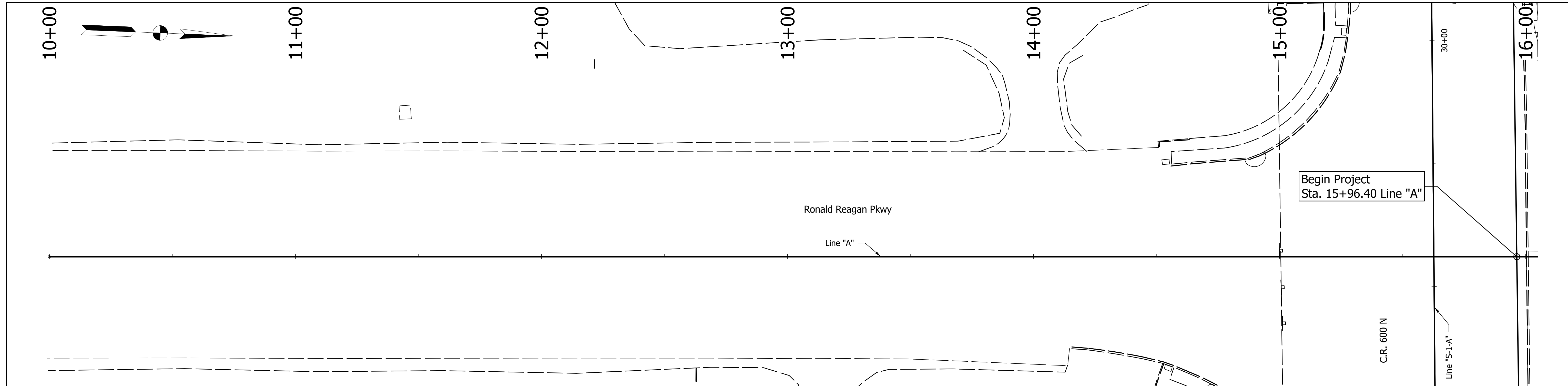
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|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY

PLAN AND PROFILE  
STORM SEWER REROUTE

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 30' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>27 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\\_2017\217-0005\Road\CR600N\_Storm\_Prf.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian



|      |   |
|------|---|
| (15) | Curb and Gutter, B, Concrete  |
| (F)  | 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III |

|      |  |
|------|--|
| (K1) | 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB |
|------|--|

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

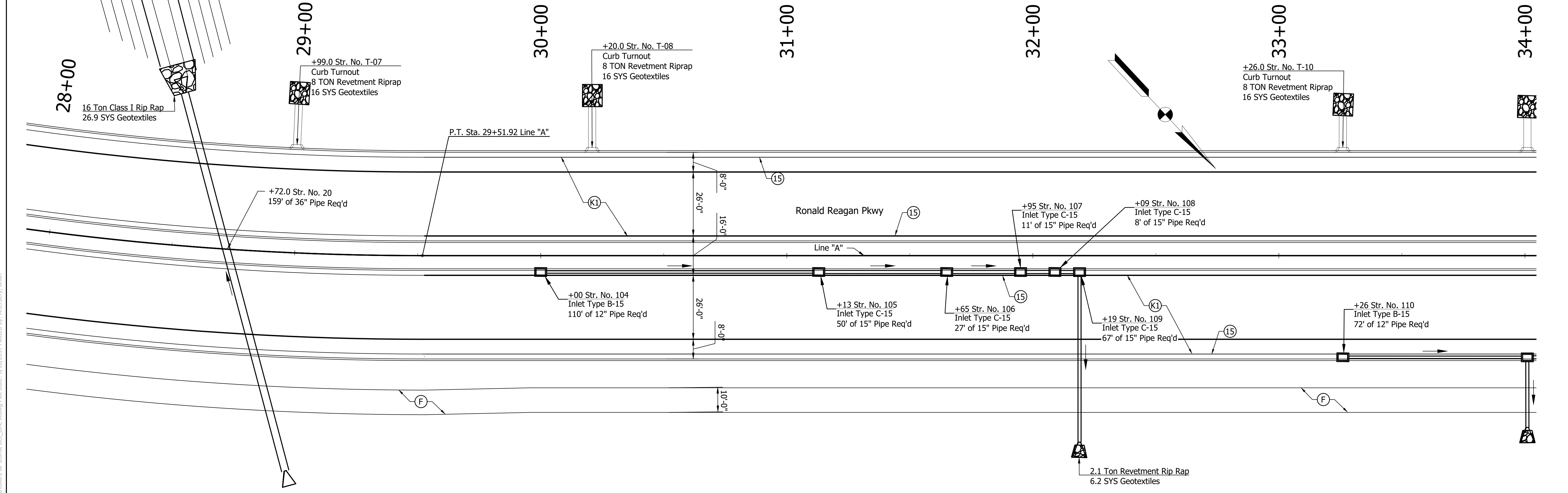
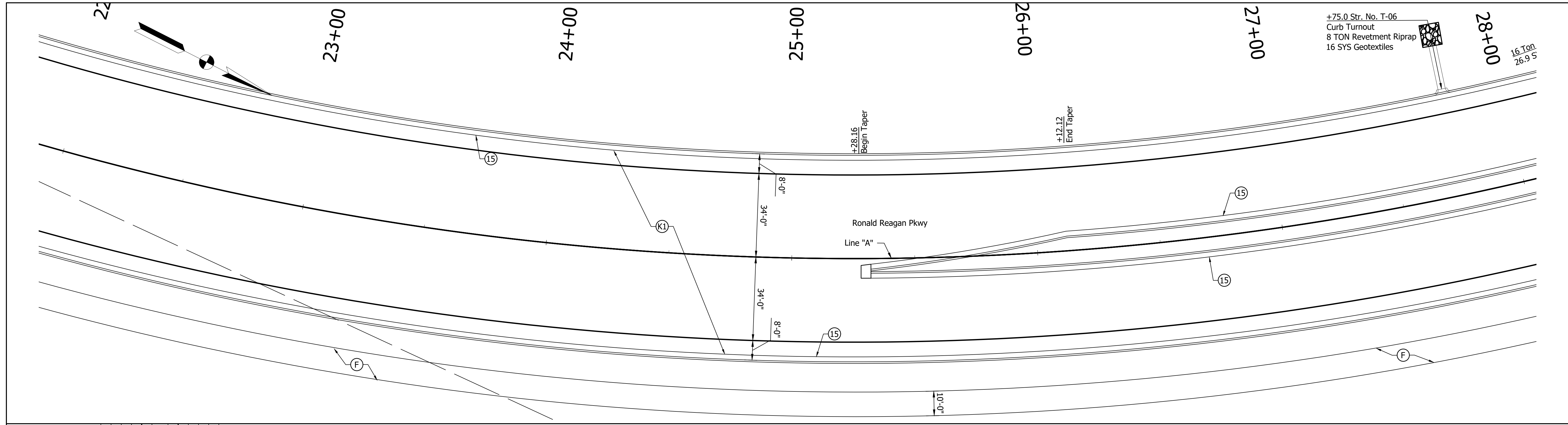
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 10+00 TO STA. 22+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 30 of 157         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\2017\217-0005\Road\CD\98\Comp Det\_Line Advng Plt.dwg Date: 8/19/2017 Plotted By: Arterberry, Brian





- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

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 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

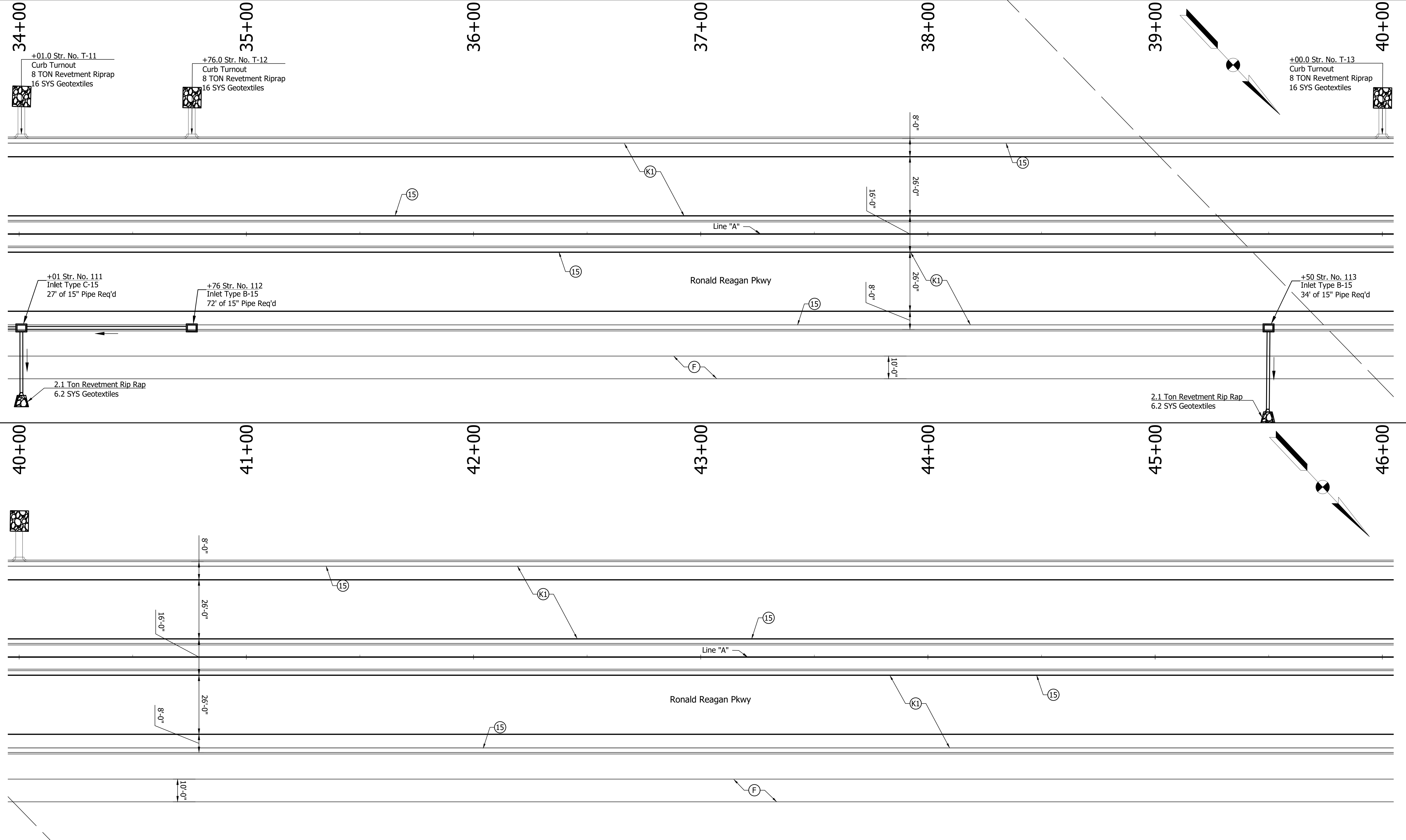
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 22+00 TO STA. 34+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 31 of 157         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\2017\217-0005\Road\CD\198\198\Constr Det\_Line Advng Plt.Dwg Date: 8/18/2017 Plotted By: Arterberry, Brian

File Name: S:\2017\217-0005\Road\CD\198\Const Det\_Line Advng Plt Date: 8/19/2017 Plotted By: Arterbery, Brian



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

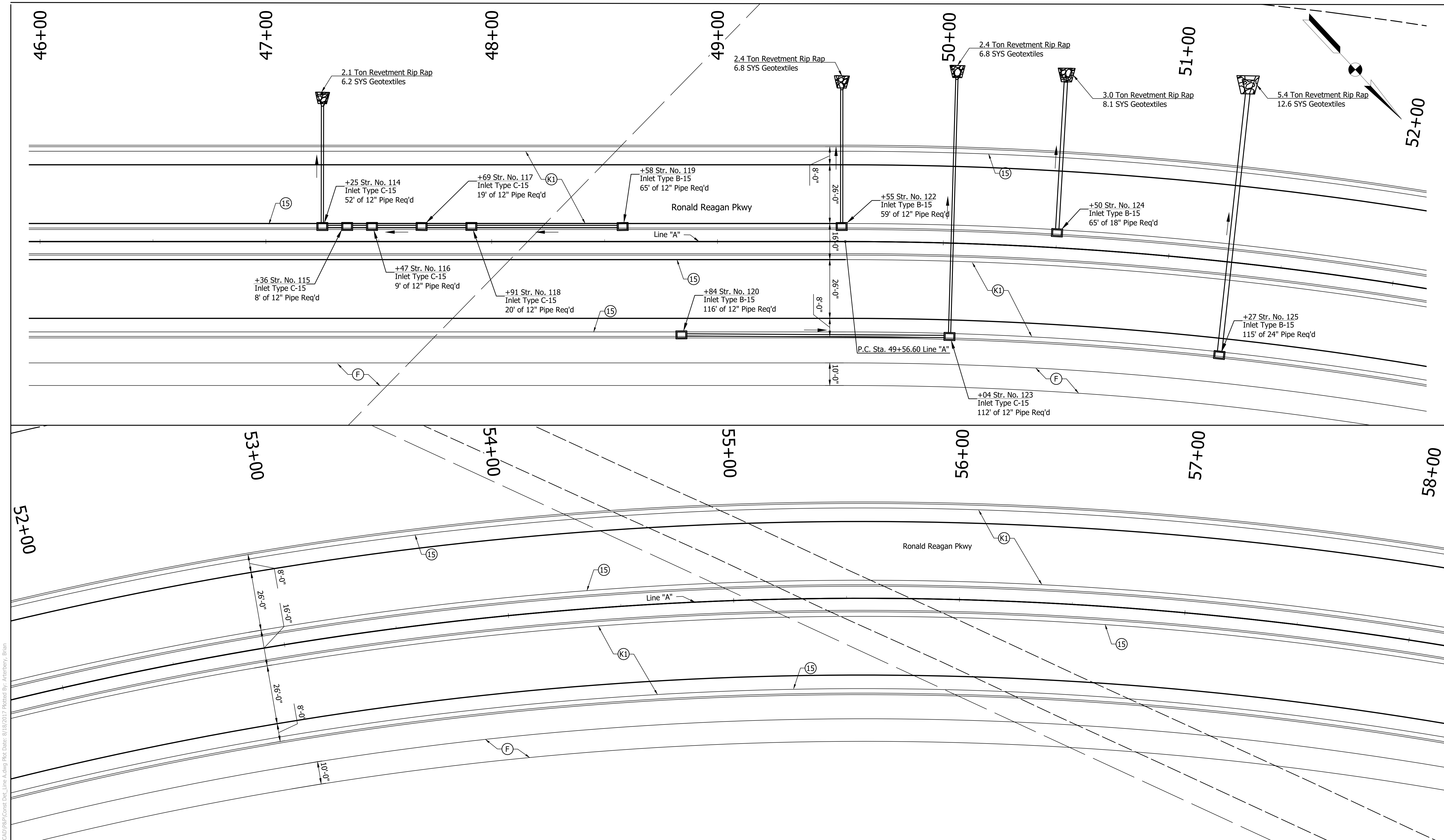
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |                       |            |
|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 34+00 TO STA. 46+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>32 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

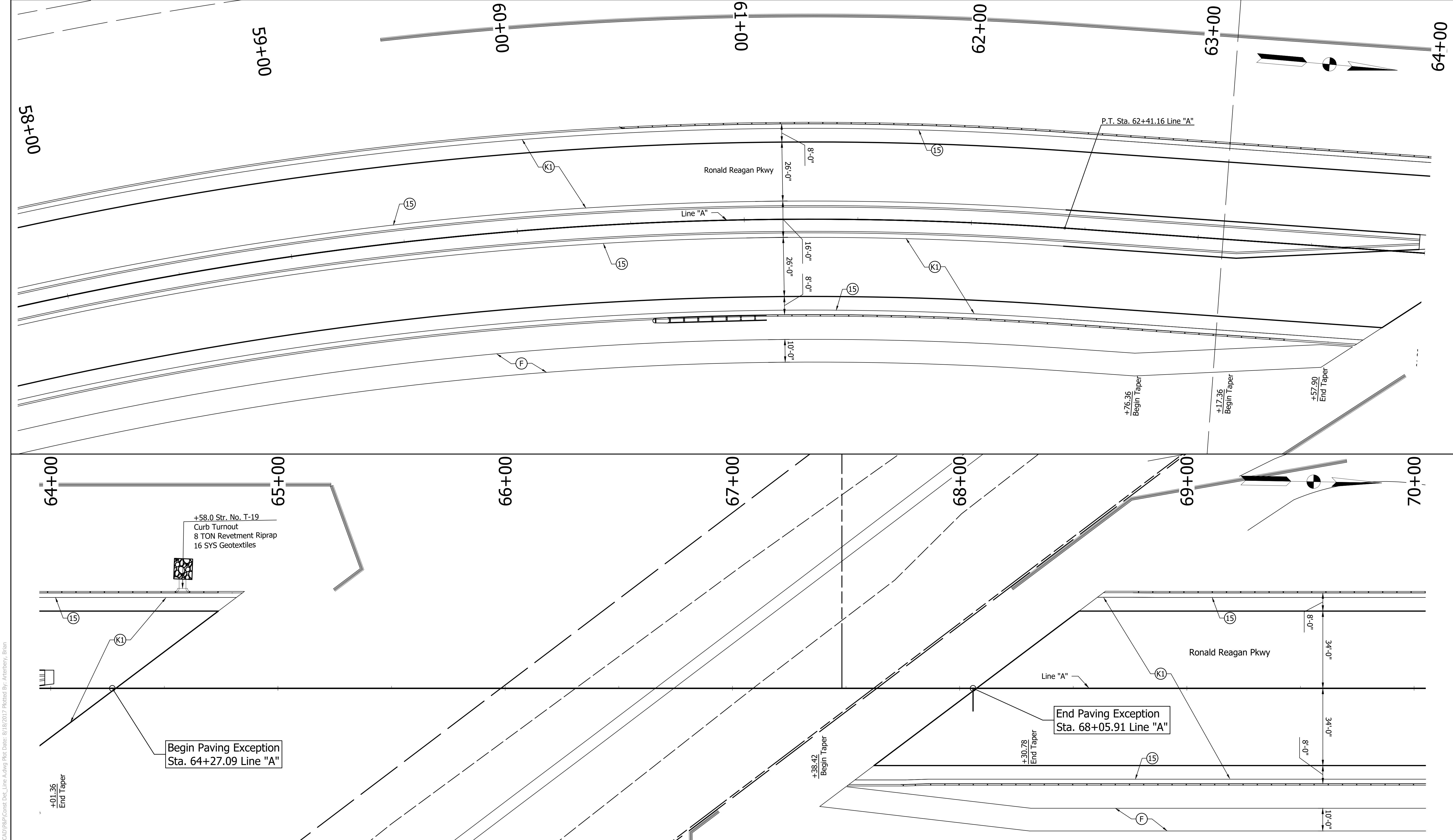
|                                |              |                       |            |
|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 46+00 TO STA. 58+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>33 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CD\1602280\Cons Det\_Line Advng Plt Date: 8/19/2017 Plotted By: Arterbery, Brian



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

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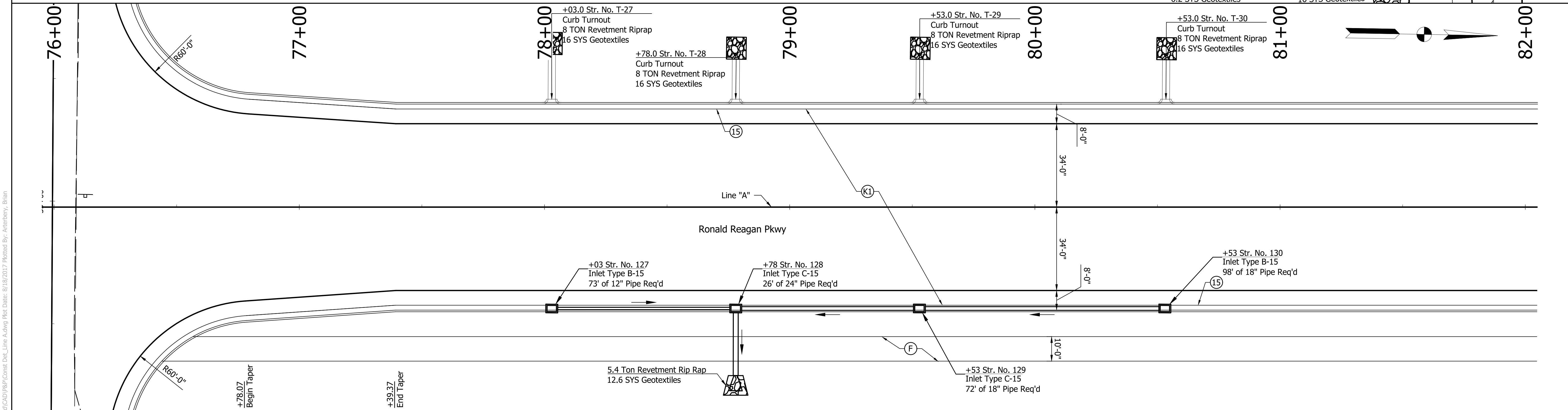
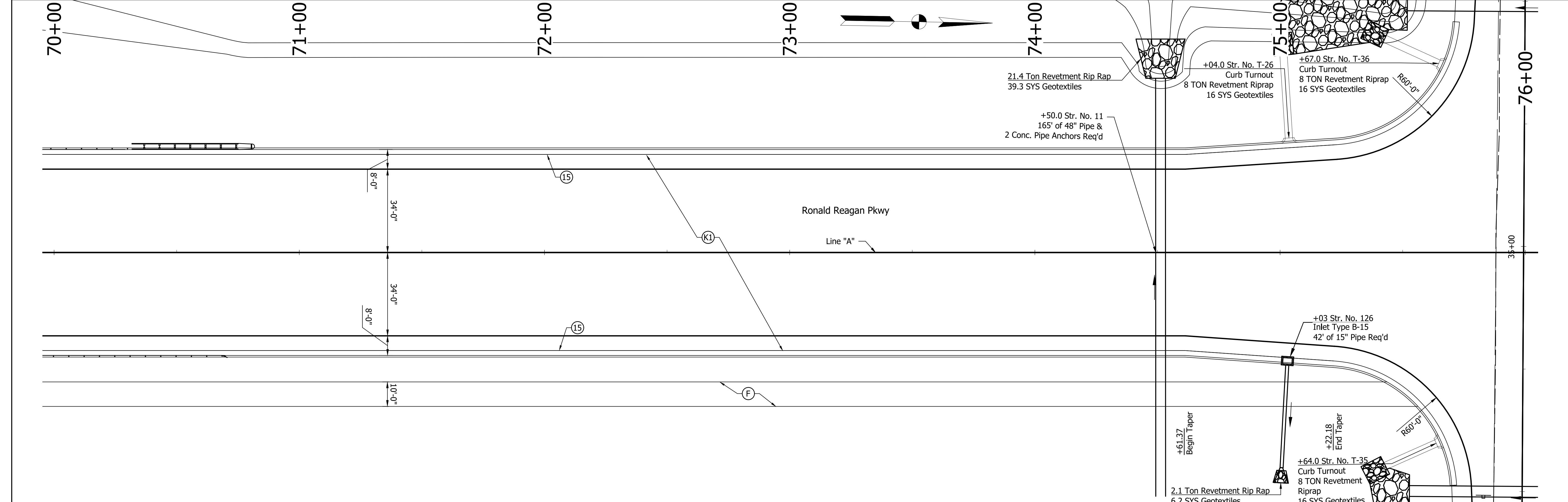
|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 58+00 TO STA. 70+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>34 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CD\1602280\Line Advng Plt.dwg Date: 8/19/2017 Plotted By: Arterberry, Brian



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on 250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on 330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on Subgrade Treatment, Type IB

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|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

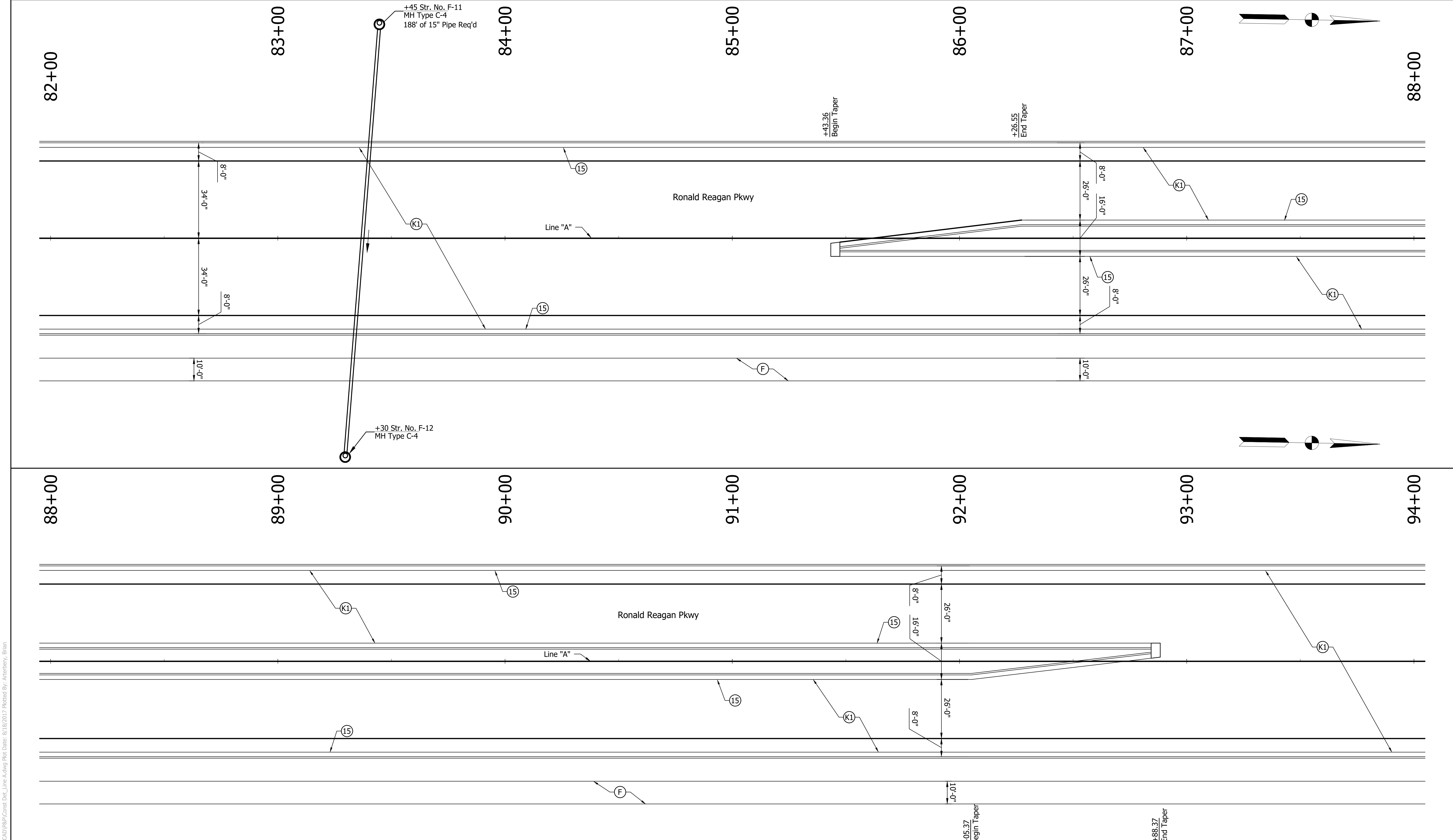
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 70+00 TO STA. 82+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 35 of 157         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\2017\17-0005\Road\CD\198\Comp Det\_Line Advng Plt Date: 8/19/2017 Plotted By: Arterbery, Brian

File Name: S:\2017\17-0005\Road\CD\169\Constr Det\_Line Advng Plt Date: 8/19/2017 Plotted By: Arterbery, Brian



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on  
220 LB/SYS HMA Intermediate, Type B on  
6" Compacted Aggregate, No. 53, Base on  
Subgrade Treatment, Type III

- (K1) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
250 LB/SYS QC/QA HMA Intermediate OG, 4, 76, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
Subgrade Treatment, Type IB

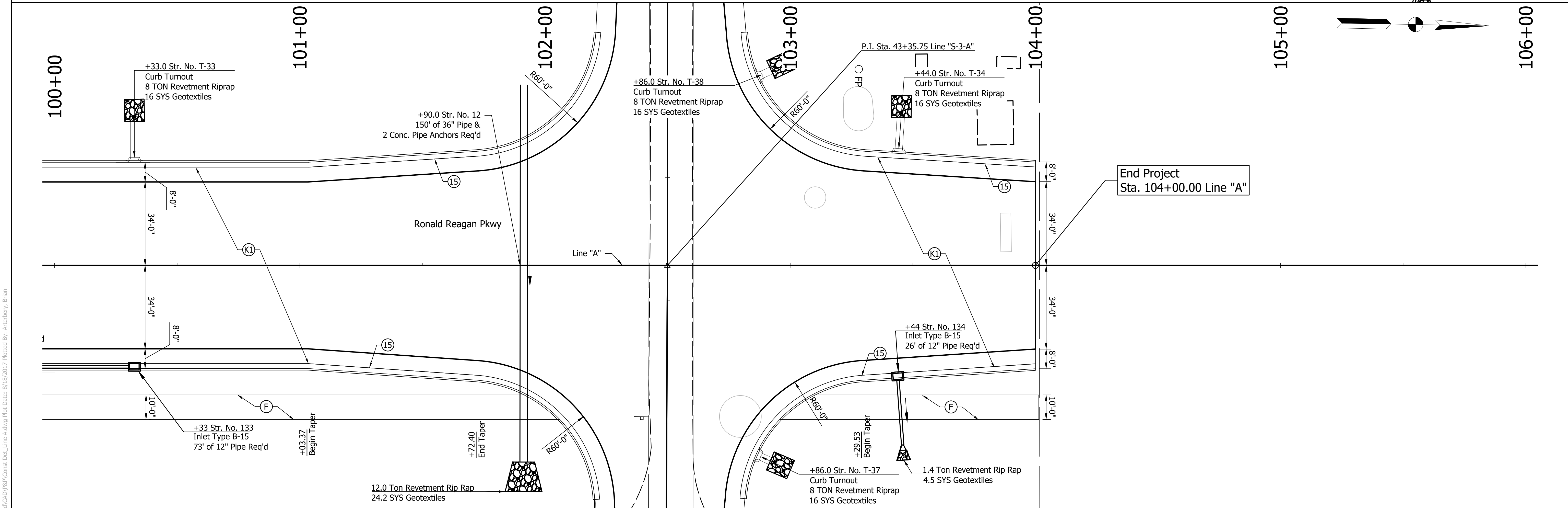
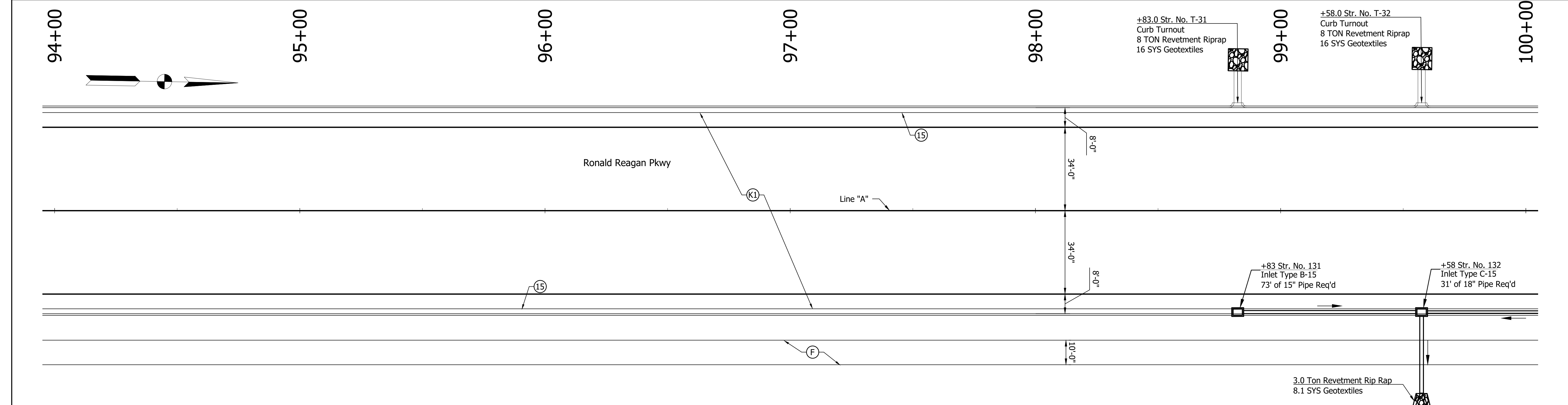
**LOCHMUELLER GROUP**  
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 Indianapolis, Indiana, 46268  
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 TOLL FREE: 888.830.6977

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|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
 STA. 82+00 TO STA. 94+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>36 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



- (15) Curb and Gutter, B, Concrete
- (F) 140 LB/SYS HMA Surface, Type B on 220 LB/SYS HMA Intermediate, Type B on 6" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type III

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|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

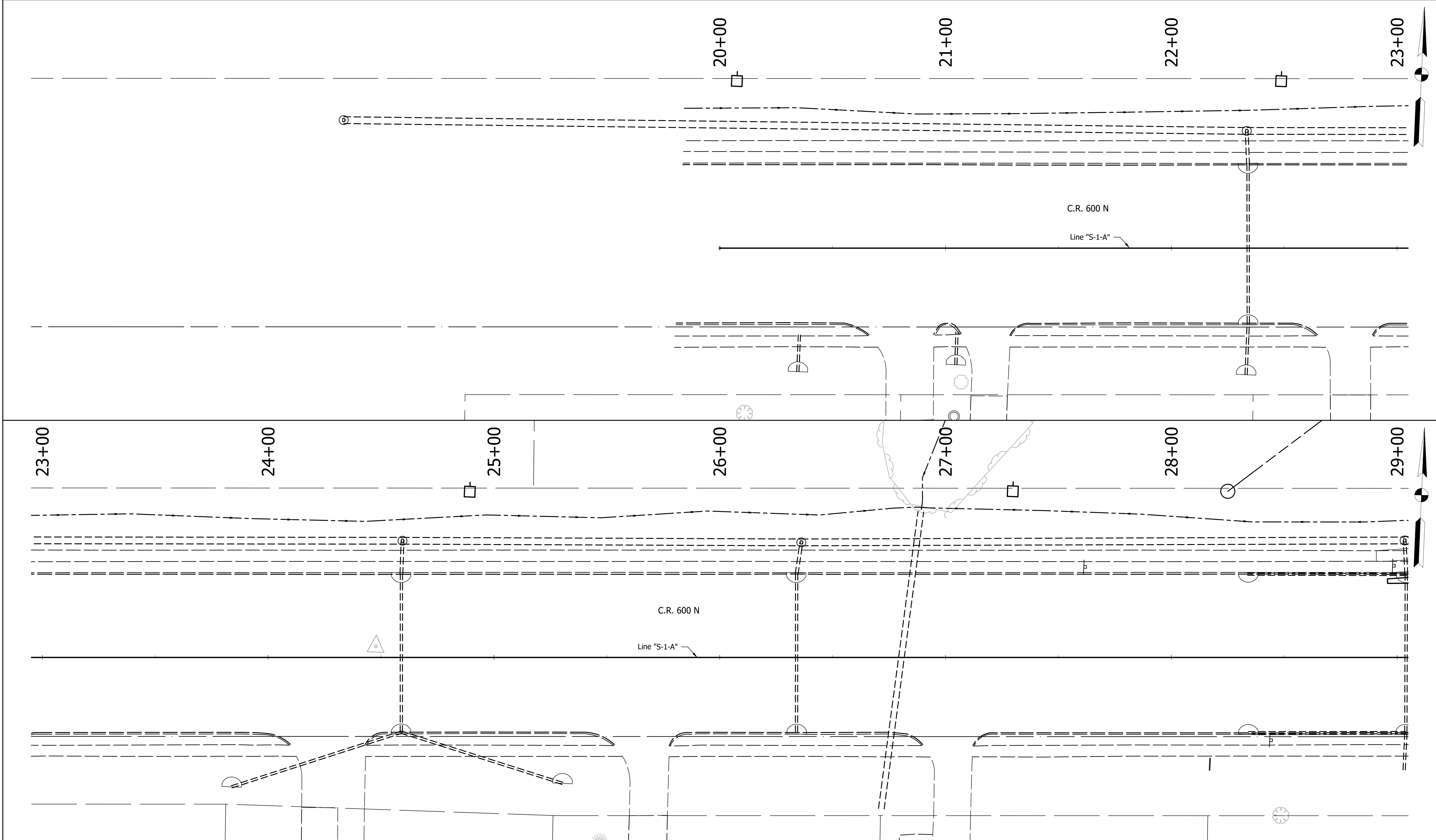
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "A"**  
**STA. 94+00 TO STA. 106+00**

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 20'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| N/A              | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 37 of 157         |
| CONTRACT         | PROJECT           |
| ####             | 1602280           |

File Name: S:\2017\217-0005\Road\CD\9499\Conet Det\_Line A.dwg Plot Date: 8/19/2017 Plotted By: Arterbery, Brian

File Name: S:\\_2017\217-0005\Road\CD\160\Const Det\_Line S-1-A.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian



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 TOLL FREE: 888.830.6977

|                                |              |
|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

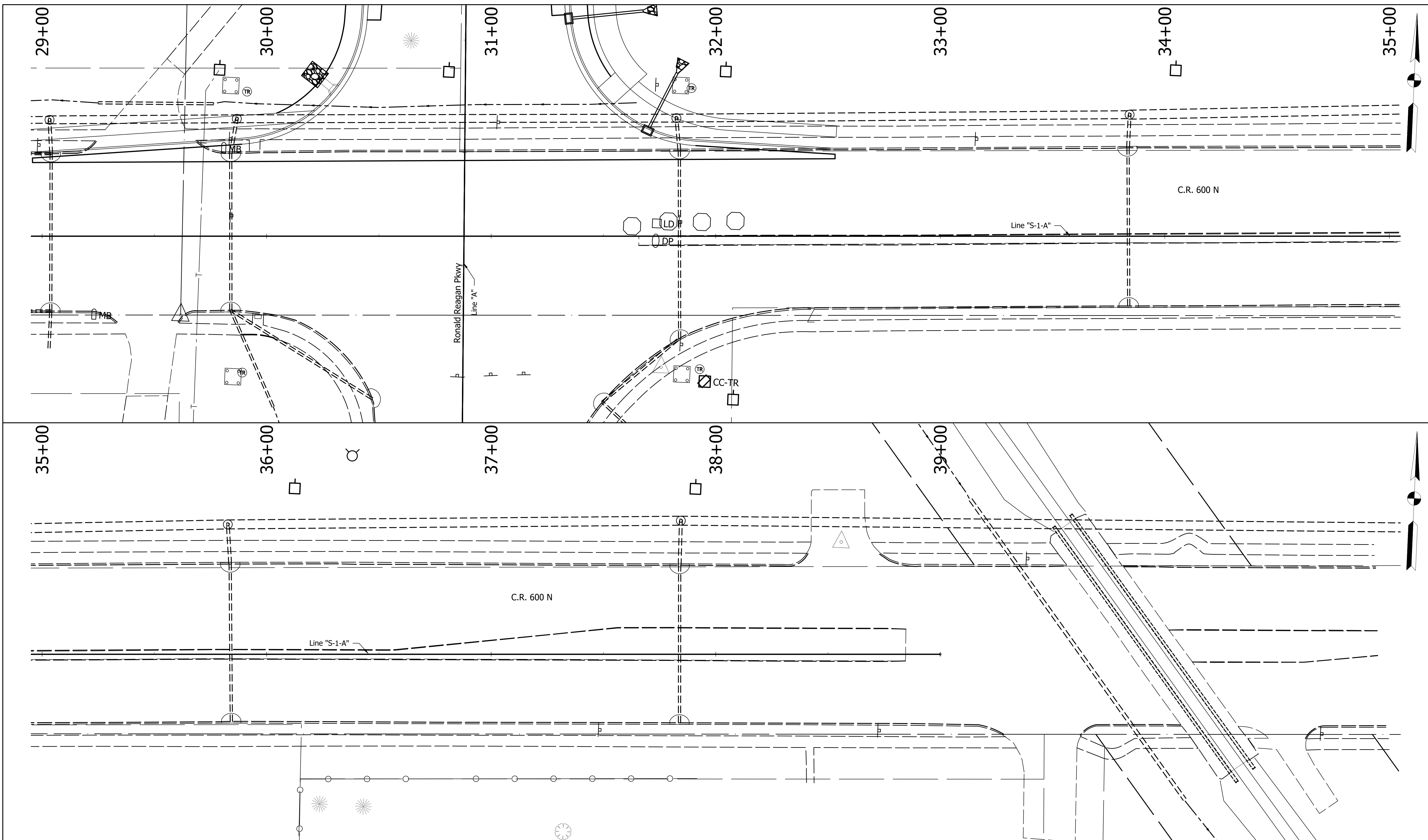
**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-1-A"**  
 STA. 17+00 TO STA. 29+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>38 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |



File Name: S:\\_2017\217-0005\Road\CD\168\Constr Det\_Line S-1-A.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian



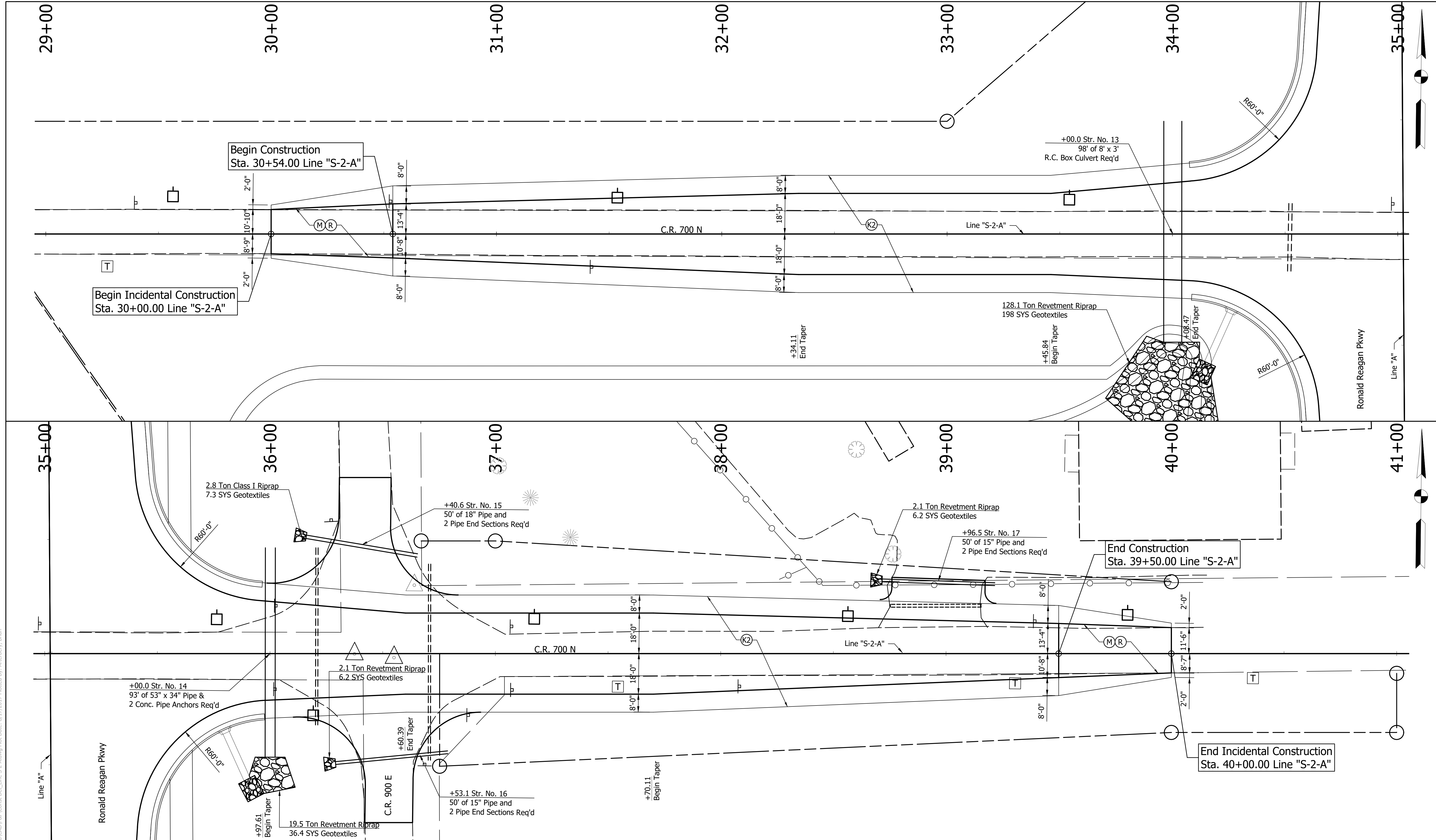
**LOCHMUELLER GROUP**  
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|--------------------------------|--------------|-----------------------|------------|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ | DATE _____ |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |            |
| CHECKED: BKA                   | CHECKED: BKA |                       |            |

**HENDRICKS COUNTY**

**CONSTRUCTION DETAILS - LINE "S-1-A"**  
 STA. 29+00 TO STA. 41+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>39 of 157              |
| CONTRACT<br>###              | PROJECT<br>1602280               |



File Name: S:\2017\217-0005\Road\CD\989\Consol Det\_Line S-2-A.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian

- (K) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm on  
275 LB/SYS QC/QA HMA Intermediate, 3, 70, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
330 LB/SYS QC/QA HMA Base, 3, 64, 19mm on  
Subgrade Treatment, Type IB
- (M) Milling, Asphalt, 1.5"
- (R) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm



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Indianapolis, Indiana, 46268  
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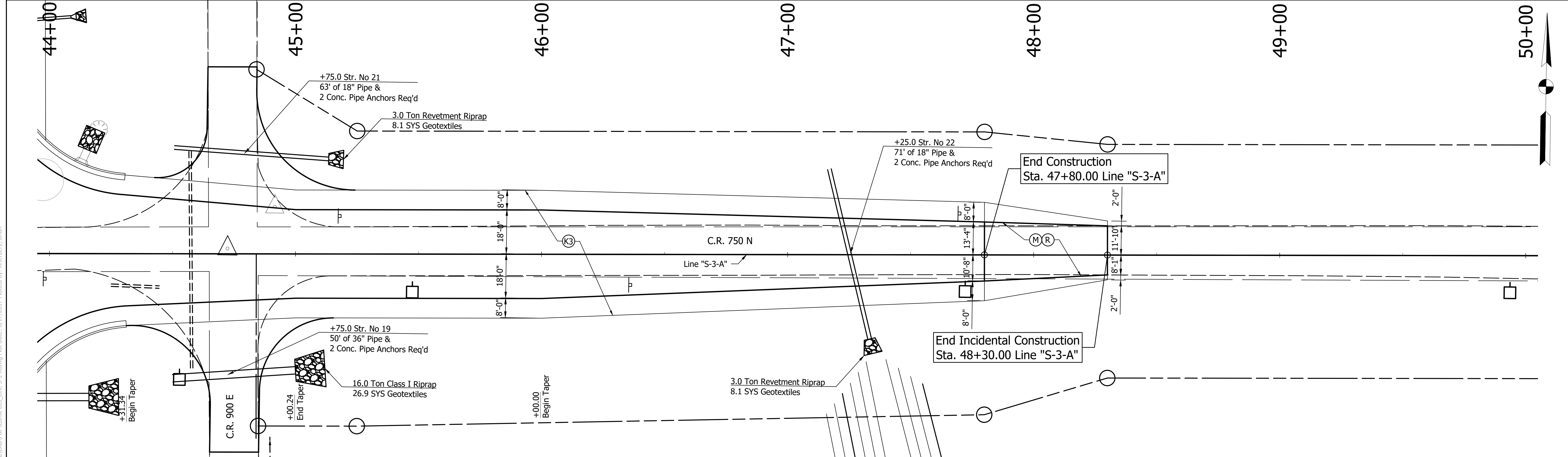
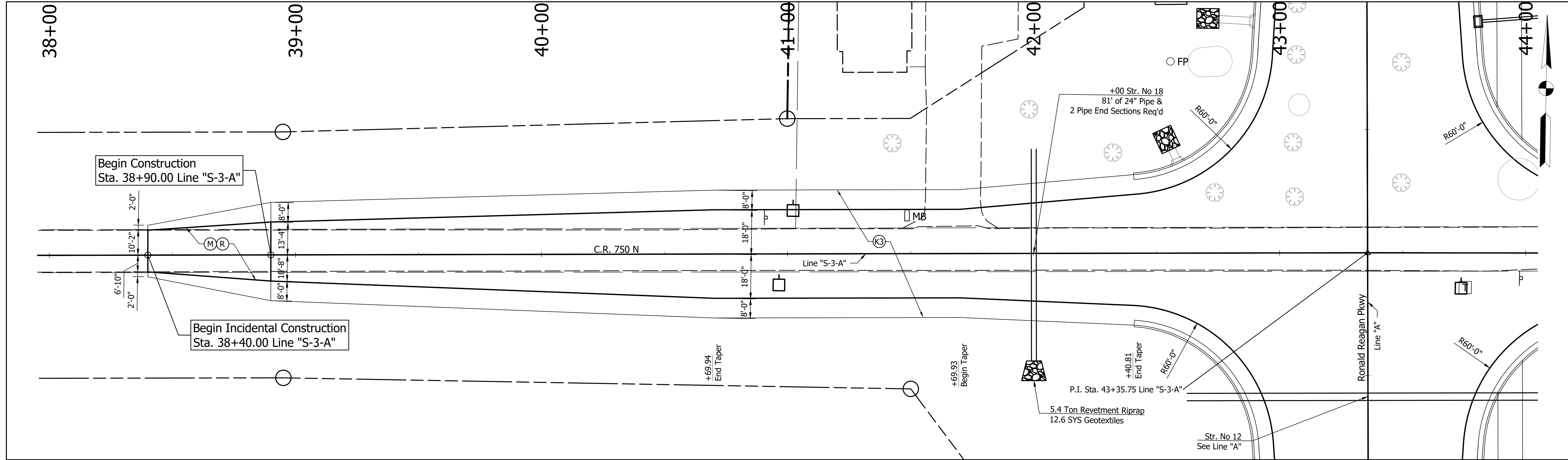
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|--------------------------------|--------------|
| RECOMMENDED FOR APPROVAL _____ |              |
| DESIGN ENGINEER                | DATE         |
| DESIGNED: JNH                  | DRAWN: MDV   |
| CHECKED: BKA                   | CHECKED: BKA |

HENDRICKS COUNTY

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**CONSTRUCTION DETAILS - LINE "S-2-A"**  
STA. 29+00 TO STA. 41+00

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK                  | SHEETS                           |
| ELECTRONIC                   | 40 of 157                        |
| CONTRACT<br>####             | PROJECT<br>1602280               |



- (K) 165 LB/SYS QC/QA HMA Surface, 2, 64, 9.5mm on 275 LB/SYS QC/QA HMA Intermediate, 2, 64, 19mm on 330 LB/SYS QC/QA HMA Base, 2, 64, 19mm on 3" Compacted Aggregate, No. 53, Base on Subgrade Treatment, Type IB
- (M) Milling, Asphalt, 1.5"
- (R) 165 LB/SYS QC/QA HMA Surface, 3, 70, 9.5mm

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|                                |              |                                  |  |
|--------------------------------|--------------|----------------------------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                                  |  |
| CHECKED: BKA                   | CHECKED: BKA |                                  |  |

|  |  |
|--|--|
| HENDRICKS COUNTY                           |  |
| <b>CONSTRUCTION DETAILS - LINE "S-3-A"</b> |  |
| STA. 38+00 TO STA. 50+00                   |  |

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 20' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>41 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CD\198\Comp Det\_Line S-3-A.dwg Plot Date: 8/17/2017 Plotted By: Arterberry, Brian

## Appendix C: Prior Section 106 Documentation

Note that the executed Memorandum of Agreement from 2009 was removed from this appendix; it is included within Appendix D: Correspondence as an attachment to a letter from Structurepoint dated November 22, 2017.

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018

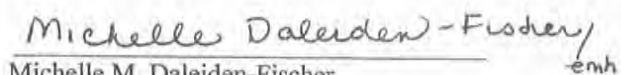
June 15, 2009

RE: Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65 in Perry Township, Boone County and Brown Township, Hendricks County, Indiana (Designation # 0710288; DHPA # 3540; EFI Global # 98510-01695).

In accordance with 36 C.F.R. Part 800, we concur with the attached eligibility determinations and adverse effect determination documentation prepared for the referenced project. As required by the Federal Highway Administration and Indiana Department of Transportation on March 1, 2007, we meet the Secretary of the Interiors Professional Qualification Standards (36 CFR Part 61, Appendix A) to produce Section 106 documentation.

  
Sue Becher Gilliam  
Historic Preservation Consultant

6/15/2009  
Date

  
Michelle M. Daleiden-Fischer  
Historic Preservation Consultant

6/15/09  
Date

**FEDERAL HIGHWAY ADMINISTRATION'S  
SECTION 4(F) COMPLIANCE REQUIREMENTS (FOR HISTORIC PROPERTIES) AND  
SECTION 106 FINDINGS AND DETERMINATIONS  
AREA OF POTENTIAL EFFECT  
ELIGIBILITY DETERMINATIONS  
EFFECT FINDINGS**

**EXTENSION OF THE RONALD REAGAN PARKWAY  
FROM C.R. 600 NORTH TO SR 267/I-65  
BOONE AND HENDRICKS COUNTIES  
DES. NO. 0710288**

**AREA OF POTENTIAL EFFECT  
(Pursuant to 36 CFR Section 800.4(a) (1))**

The APE is the area in which an undertaking may cause direct or indirect changes in character or use of a historic property. The boundary of the Area of Potential Effect (APE) is determined through the consideration of the effect of the undertaking in respect to visual intrusions, changes in traffic patterns and alterations in land use or public access. The APE was developed in regard to the scope of the project, which is new road construction on new alignment. The APE extends the length of the proposed project approximately 9.8 miles in length beginning at CR 600 North in Hendricks County and extending north to northwest to I-65 and SR 267 in Boone County. The APE is approximately 10,480 acres in size and surrounds the Ronald Reagan Parkway extension for the length of the project. The specific APE boundary is shown in the attached Appendix page A-5 to A-6.

**ELIGIBILITY DETERMINATIONS  
(Pursuant to 36 CFR 800.4(c) (2))**

The evaluation of the identified resources within the APE indicated that the following two sites meet criteria to be considered eligible for the National Register of Historic Places (NRHP).

| <b>Site #</b> | <b>Description</b> | <b>Rating</b> | <b>Location</b> | <b>County</b> |
|---------------|--------------------|---------------|-----------------|---------------|
| 063-699-00012 | I-house Farmstead  | Notable       | 8460 CR 1000 N  | Hendricks     |
| 011-205-45031 | Howard School      | Contributing  | 4555 CR 750 S   | Boone         |

**I-house Farmstead**

The I-house Farmstead, 8460 CR 1000 North (Site #063-699-00012, Notable) is a good example of a five bay central passage, masonry I-house. The structure is individually eligible for the NRHP under Criterion C and that the farmstead of which it is a part is also eligible for the NRHP under Criterion C, as properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

**Howard School**

The Howard School 4555 CR 750 South (Site #011-205-45031 Contributing) is the only known remaining building type, one room school house, of its kind in Boone County. The structure is eligible for the NRHP under Criterion A, properties that are associated with events that have made a significant contribution to the broad patterns of our history. The property is also eligible for the NRHP under Criteria A and C, properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

**EFFECT FINDING**

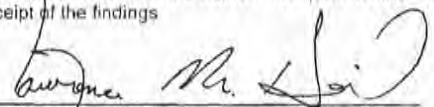
An assessment of effects indicates that the proposed project will impact the identified historic properties within the APE. There will be no direct physical effect on the location, design, materials, or workmanship of the I-house Farmstead or the Howard School. Pursuant to 36 CFR 800.5(a)(2)(iv) a change in character of the property's use or physical features within the property's setting that contribute its historic significance is applicable. Pursuant to 36 CFR 800.5(a)(2)(v) introduction of visual or atmospheric elements that diminish the integrity of the property's significant historic features also apply. The project would diminish the integrity of the rural setting or feeling for both locations. The Federal Highway Administration (FHWA) has determined an "Adverse Effect" finding is appropriate for this undertaking.

**SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)**

This undertaking will not convert any property from the I-house Farmstead or the Howard School, Section 4(f) historic properties, to a transportation use. The FHWA has determined the appropriate Section 106 finding is 'Adverse Effect'; therefore no Section 4(f) evaluation is required for the I-house Farmstead or the Howard School.

The FHWA, respectfully requests the Indiana State Historic Preservation Officer (SHPO) provide written concurrence with the Section 106 determination of "Adverse Effect".

Consulting parties will be provided a copy of FHWA's findings and determinations in accordance with INDOT and FHWA's Section 106 procedures. Comments will be accepted for 30-days upon receipt of the findings.



Robert F. Tally Jr., P.E.  
Administrator  
FHWA - Indiana Division

July 14, 2009  
Approved Date

**FEDERAL HIGHWAY ADMINISTRATION  
DOCUMENTATION OF SECTION 106 FINDING OF  
ADVERSE EFFECT  
SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER  
PURSUANT TO 36 CFR § 800.4(d) (1)**

**EXTENSION OF THE RONALD REAGAN PARKWAY  
FROM C.R. 600 NORTH TO SR 267/I-65  
BOONE AND HENDRICKS COUNTIES  
DES. NO. 0710288**

**1. DESCRIPTION OF THE UNDERTAKING**

The Hendricks County and Boone County Commissioners propose the extension of the Ronald Reagan Parkway with construction of a new roadway from CR 600 North in Hendricks County, north to I-65 at the existing I-65/SR 267 interchange in Boone County. The proposed project is located in Sections 1 and 6, Township 16 North, Range 1 East, Sections 13, 24, 25, 26, 35, and 36, Township 17 North, Range 1 East of Brown Township in Hendricks County and Sections 2, 11, and 12, Township 17 North, Range 1 East, Sections 27, 34, and 35, Township 18 North, Range 1 East of Perry Township in Boone County. The total length of the new roadway is approximately 9.8 miles. Project location maps, U.S.G.S. quadrangle map, and aerial photograph are attached (see Appendix pages A-1 to A-6).

The proposed project is an extension of the existing Ronald Reagan Parkway, which begins at I-70 and goes north to CR 600 North in Hendricks County. The environmental process and hearing requirements have been completed for the entire segment from I-70 to CR 600 North, approximately 12 miles.

The proposed extension of Ronald Reagan Parkway would function as a minor arterial with partially limited access. The roadway would be a continuation of the North/South Corridor segments that have been approved from I-70 to CR 600 North in Hendricks County. The design speed would be 55 mph. The proposed cross section would consist of two 12 ft. travel lanes in each direction separated by a 16 ft. flush median with shoulders and side ditches.

Structures would be required at the following waterway crossings: over Pump Run, Etter Ditch, and White Lick Creek (at three locations). At-grade intersections are anticipated for all existing public road crossings. Additional access points are anticipated at approximately 0.5 mile intervals. The proposed right-of-way would be maintained within a 230 ft. minimum corridor (115 ft. on either side of the proposed centerline). The majority of this additional right-of-way would be required from agricultural land. However, right-of-way would also be required from residential, industrial, and commercial areas.

**Area of Potential Effect**

This project would receive funding from the Federal Highway Administration (FHWA). Therefore, the FHWA would act as the lead Federal agency in the Section 106 undertaking. An Area of Potential Effect (APE) has been established for the proposed project. The APE is the area in which an undertaking may cause direct or indirect changes in character or use of a historic property. The boundary of the APE is determined through the consideration of the effect of the undertaking in respect to visual intrusions, changes in traffic patterns and alterations in land use or public access. The APE was developed in regard to the scope of the project, which is new road construction on new alignment. The APE includes the area encompassed by the maximum extent of the proposed right-of-way for the project. The APE is approximately 10,480 acres surrounding the Ronald Reagan Parkway extension for the length of the project. The specific APE boundary is shown in the attached aerial photograph; see Appendix page A-5 and A-6.



## 2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES

On May 10, 2007, the following agencies were invited to join the project as consulting parties. Those agency names in bold accepted this invitation to be a consulting party for the project.

Boone County Historian  
Boone County Historical Society  
Boone County Landmarks Preservation Inc.  
**City of Lebanon**  
Patrick Henry Sullivan Museum  
Zionsville Historical Society  
Sugar Creek Historical Society  
**Howard School Restoration Group**  
Tom Barker, Brownsburg Planning Director  
**Historic Landmarks Foundation of Indiana**

Hendricks County Historical Society  
**Hendricks County Historian**  
**Hendricks County Heritage Alliance**  
Hendricks County Genealogical Society  
Guilford Township Historical Society  
Fairfield Historic Preservation Society  
**Miami Tribe of Oklahoma**  
**Delaware Nation - Oklahoma**  
Jackson Township Historical Society

### Archaeological Resources

An archaeological literature review/records check was completed for the project area by Archaeological Consultants of Ossian on November 18, 2005. Portions of the report are included in the Appendix, pages A-7 to A-8. This records check indicated that the project area has a potential to contain prehistoric sites and historic sites. The presence of known archaeological resources documented near the project area combined with well drained soil types within the project area indicate that additional archaeological sites may exist within the area that is to be impacted by the road alignment. A Phase Ia archaeological reconnaissance was recommended for the proposed right-of-way. The literature review/records check was submitted to the SHPO for review and the SHPO concurred with the recommendation on December 6, 2005 (see the Appendix pages A-11 to A-12).

A Phase Ia Archaeological Reconnaissance was completed for the project area by Archaeological Consultants of Ossian on December 31, 2007. Portions of the report are included in the Appendix, pages A-9 to A-10. The reconnaissance identified 20 archaeological sites with a mixture of prehistoric and historic cultural resources. None of the sites documented were evaluated as significant. The report indicated that the proposed project would not affect any properties eligible for listing on the National Register of Historic Places (NRHP) and no additional archaeological work was warranted. The reconnaissance report was submitted to the SHPO for review and the SHPO concurred that no further archaeological investigations were necessary on February 8, 2008 (see the Appendix pages A-16 to A-17).

### Historic Resources

A Historic Properties Report is not required as this project had consultation under way before June 1, 2007, per INDOT directive. EFI Global established the limits of the Area of Potential Effect (APE) and evaluated the APE for historic resources. EFI Global conducted a site visit and literature review of project area within the APE. The National Register of Historic Places (NRHP), the Indiana Register of Historic Sites and Structures (IRHSS), the *Boone County and the Hendricks County interim reports*, and the *Indiana Historic Sites and Structures Inventory* were utilized to identify any previously inventoried historically significant properties within the APF.

EFI Global conducted an evaluation and analysis of properties within the APE to determine their eligibility for the NRHP. The following properties were evaluated within the project APE for Boone and Hendricks counties using the NRHP Criteria for Evaluation.

### Identified Resources for Hendricks County

| Site #        | Resource                                | Location                       | NRHP Eligibility |
|---------------|---|--------------------------------|------------------|
| 063-699-00012 | I-house Farmstead                       | 8460 CR 1000 North             | Eligible         |
| 063-117-40006 | House                                   | CR 600 North                   | Not Eligible     |
| 063-699-00006 | Hogan Farm                              | 9110 CR 1000 North             | Not Eligible     |
| 063-117-40002 | Lincoln Township School, District No. 1 | 5985 CR 1000 East/CR 600 North | Not Eligible     |
| 063-699-00007 | Dugan Farm                              | 10380 CR 900 East              | Not Eligible     |
| 063-699-00011 | Brown Township District No. 2 School    | 8475 CR 1000 North             | Not Eligible     |
| 063-699-00010 | Farm                                    | 8640 East CR 1000 North        | Not Eligible     |
| 063-699-00009 | House                                   | 8705 CR 1000 North             | Not Eligible     |
| 063-699-00008 | Farm                                    | 8700 CR 1000 North             | Not Eligible     |
| 063-699-00014 | Farm                                    | 8030 1000 North                | Not Eligible     |
| 063-699-00015 | Pennington House                        | 10563 CR 800 East              | Not Eligible     |

### Identified Resources for Boone County

| Site #        | Resource                                | Location                  | NRHP Eligibility |
|---------------|---|---------------------------|------------------|
| 011-205-45029 | Dr. Kemper Westfall House               | CR 750 South              | Not Eligible     |
| 011-205-45031 | Howard School                           | 4555 East CR 750 South    | Eligible         |
| 011-205-45030 | Howards Cemetery                        | CR 750 South – South Side | Not Eligible     |
| 011-205-45012 | House                                   | 5905 CR 475 East          | Not Eligible     |
| 011-205-45013 | Perry Central School                    | 3730 SR 267/CR 550 South  | Not Eligible     |
| 011-699-45027 | Historic Marker- William Sullivan House | CR 650 South              | Not Eligible     |

Note: Site 011-205-45010 - Charles A. Goehanour Farm - listed as Notable in the Boone County Interim Report. 1905. No longer exists. New commercial development has replaced this site.

The I-house Farmstead located at 8460 CR 1000 North (Site #063-699-00012) and the Howard School located at 4555 East CR 750 South (Site #011-205-45031) are considered eligible for the NRHP. None of the remaining buildings, structures or objects within the APE is considered to be eligible for the NRHP for the purposes of this undertaking.

### 3. DESCRIBE AFFECTED HISTORIC PROPERTIES

#### I-House Farmstead

The I-house Farmstead located at 8460 CR 1000 North (Site #063-699-00012) is a vernacular masonry farmhouse with a gable roof and on the front façade, in its current condition, there are five openings on the upper story and five openings on the lower story that include a central passage. Limestone sills and lintels appear above and below the original window openings without further decorative details such as segmental or flat arches. The central passage on the lower story appears to have a limestone keystone at the crown of a flat masonry arch. This architectural detail is obscured by the presence of a one-story porch that replaced an original two-story porch. Additionally, the central opening above the entry, which may have originally been another doorway with sidelights given the size and dimensions of the extant lintel, has been modified and changed to a window opening that is supported by another lintel. The masonry walls were formed using a Common Bond (a.k.a. American Bond) system. Vinyl one-over-one window sashes have been installed within existing wooden frames. Also, close-up views of the house show shadows of what may have once been Italianate brackets installed along the roofline, but which no longer exist. Additions to the rear ell of the property have been constructed and attic vents have been installed. The farmstead does contain three barns that are over fifty years old, as well as a wooded front yard with a looping driveway, which appears to be an early feature of the property. The site was listed as a notable resource in the Indiana Historic Sites and Structures Inventory.

The site is an outstanding example of five bay central passage masonry I-house and meets the criteria for inclusion in the NRHP. The I-House Farmstead is individually eligible for the NRHP under Criterion C and the farmstead, that the I-house is part of, is also eligible for the NRHP, both under Criterion C. Despite the modifications to the house, it remains a very good example of a five-bay, central passage, masonry I-house in the township. Furthermore, based on an analysis of other similar resources in Brown Township and its neighbors, the house and its collection of barns make the farmstead a good intact example of nineteenth century farm complex. Therefore, the I-House Farmstead is locally significant and is individually eligible for inclusion in the NRHP under Criterion C.

### **Howard School**

The Howard School located at 4555 East CR 750 South (Site #011-205-45031) is a vernacular one-room rectangular brick schoolhouse with a brick foundation as well as masonry walls in which three window openings penetrate both the east and west elevations. Decorative arches appear above each of the window openings. Above the windows, there is a frieze and the roof is made from cedar shake shingles. There is a single entrance in the north façade with a limestone threshold, the same material used for the sills at the window openings. The structure is currently under renovation by the Howard school Restoration Group.

The school was constructed in 1881 with state funds and exemplifies the district school system in Indiana at that time. The school was later closed in 1916 as a result of school consolidation. The site on which the school presently stands has been modified with the construction of a large new restroom building in a south easterly direction of the school building. Apart from the introduction of the restroom building to the site, the rural setting and the site of the Howard School remains largely intact, with open grassy areas and farm fields. The Howard School is eligible for the NRHP under Criteria A and C as a locally significant one-room school house in central Indiana and for its association with public education in Indiana in the late nineteenth century and early twentieth century.

## **4. DESCRIBE THE UNDERTAKING'S EFFECT ON HISTORIC PROPERTIES**

No permanent or temporary right-of-way will be acquired from the I-house Farmstead, 8460 CR 1000 North (Site #063-699-00012, Notable) or the Howard School 4555 CR 750 South (Site #011-205-45031 Contributing) as part of the project. There will be no direct physical effects on the location, design, materials, or workmanship of either the I-house Farmstead or the Howard School. However, the construction of the roadway and associated traffic would alter the relatively rural setting around both properties would introduce a visual element to both properties that will alter the feeling of the rural setting.

## **5. EXPLAIN APPLICATION OF CRITERIA OF ADVERSE EFFECT – INCLUDING CONDITIONS OR FUTURE ACTIONS TO AVOID, MINIMIZE OR MITIGATE ADVERSE EFFECTS**

The I-house Farmstead located at 8460 CR 1000 North (Site #063-699-00012) and the Howard School located at 4555 East CR 750 South (Site #011-205-45031) are both eligible for the NRHP. No permanent or temporary right-of-way will be acquired from either property. Given the low-scale and the elevation of the proposed new road, the road itself will not significantly alter the feeling of the rural setting. However, the introduction of traffic on the roadway will result in a greater degree of visual effect on the rural setting. The construction of the roadway and associated traffic would alter the relatively rural setting around both properties, would have a visual element to both properties that will alter the feeling of the rural setting and introduce an adverse effect to both structures as defined in 36 CFR 800.5(a)(2)(iv) and (v).

To mitigate the adverse effects of the proposed construction on the historic structures a draft Memorandum of Agreement has been developed based on input from the January 6, 2009 consulting party meeting (see Appendix A-30 to A-38)

## 6. SUMMARY OF CONSULTING PARTIES AND PUBLIC VIEWS

Coordination with the SHPO and consulting parties has been ongoing for the project. Early Coordination was initiated with the SHPO and consulting parties inviting their participation in the Section 106 process on May 16, 2006. The City of Lebanon, Hendricks County Heritage Alliance, Hendricks County Historian and the Historic Landmarks Foundation of Indiana, Central Regional Office accepted the invitation to participate. The Indiana State Historic Preservation Officer (SHPO), Federal Highway Administration (FHWA) and the Indiana Department of Transportation also participated as consulting parties.

On December 6, 2005 the Indiana SHPO provided correspondence indicating that the Dugan Farm c. 1900 on CR 900 East (Site # 063-699-00007) and the I-house Farmstead on CR 1000 North (Site # 063-699-00012), would meet the criteria for inclusion in the NRHP due to their historical and architectural significance (see Appendix pages A-11 to A-12).

Initially there were questions about the eligibility of the Howard School for the NRHP. The site was listed as a contributing resource in the Indiana Historic Sites and Structures Inventory, but an official determination of eligibility for the NRHP was sought from the National Park Service by the Howard School Restoration Group. The Indiana Department of Natural Resources provided copies of an email from the National Park Service dated July 17, 2007 indicating that the Howard School at 4555 East CR 750 South (Site #011-205-45031), meets the criteria to be considered eligible for inclusion in the NRHP (See Appendix pages A-12 to A-14). In a letter to BLN dated January 30, 2007, the Howard School Restoration Group indicated their desire to retain the historic character and integrity of the site where the school is located and wanted to be included as a consulting party for the project (see Appendix A-15)

Initially the Indiana SHPO had indicated that the Dugan Farm, CR 900 East (063-699-00007) and I-House Farmstead met criteria of eligibility for inclusion in the NRHP due to the historical and architectural significance. In a letter dated September 24, 2008 the SHPO indicated they had reevaluated their previous conclusions about eligibility of certain properties for the NRHP (see Appendix pages A-18 to A-19). The Indiana SHPO indicated that they did not believe that the Dugan Farm was eligible for the NRHP. The house was not an outstanding example of residential architecture and the farmstead does not have sufficient significance or integrity to be eligible for the NRHP. The Indiana SHPO also indicated that the I-House Farmstead, in addition to being an outstanding example of a five bay central passage masonry I-house, was also a NRHP-eligible farmstead under Criteria C, on the local level. They also indicated that the Howard School is eligible for the NRHP under Criteria A and C, on the local level.

The additional information from the Indiana SHPO was provided to EFI Global for review. EFI concurred with the Indiana SHPO on their evaluation of the Dugan Farm and the Howard School, however, EFI did not concur with the Indiana SHPO on the evaluation of the I-House Farmstead. Due to alterations and modifications to the house and property, they did not believe the I-house Farmstead met the criteria to be considered eligible for inclusion in the NRHP as a nineteenth century farmstead. After discussion with INDOT – Cultural Resources Section and EFI Global, a Consulting Party meeting was scheduled for January 6, 2009 to meet on-site and discuss the determination of the eligibility of the I-house Farmstead, Dugan Farm and Howard School for the NRHP and potential effects.

The Consulting Party meeting was held on-site and the I-house Farmstead, Dugan Farm and the Howard School sites were all visited. There was consensus among the consulting parties that the Dugan Farm was not a NRHP eligible property and the Howard School was eligible for the NRHP under Criteria A and C as a locally significant one room school house in central Indiana. Plan sheets of the proposed layout near the Howard School site indicated that the project would not be within 100 feet of the Howard Cemetery and a Cemetery Development plan would not be required.

There was extensive discussion between consulting parties concerning the eligibility of the I-house Farmstead and whether the house was an outstanding example of a five bay central passage masonry I-house, and if the property was also a NRHP-eligible farmstead. The Indiana SHPO and

the Historic Landmarks Foundation indicated their belief that the I-house was individually eligible for the NRHP and the farmstead is also eligible for the NRHP, both under Criterion C. EFI Global maintained that alterations have diminished the integrity of the property such that it no longer embodies the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. They were of the opinion that the I-house Farmstead did not retain sufficient integrity to adequately convey nineteenth century farming methods or practices and the I-house and farmstead were not eligible for the NRHP. The discussion concluded with the Indiana SHPO indicating they would again review the information and discuss internally before providing a determination of eligibility for the I-house and farmstead.

In a follow-up letter dated February 10, 2009 (see Appendix pages A-20 to A-21), the Indiana SHPO indicated that they believed the I-house at the I-House Farmstead was individually eligible for the NRHP under Criterion C and the farmstead, that the I-house is part of, is also eligible for the NRHP, both under Criterion C. Despite the modifications to the farmhouse, the I-house still appears to be a very good example of a five-bay, central passage, masonry I-house in the area. However, the I-house farmstead need not be the best or the only good example of a farmstead in order to meet NRHP eligibility.

Based on the evaluation of the properties conducted by EFI Global, Indiana SHPO and consulting parties, the I-house Farmstead, 8460 CR 1000 North (Site #063-699-00012, Notable) in Hendricks County and the Howard School 4555 CR 750 South (Site #011-205-45031 Contributing) in Boone County, meet the criteria to be considered eligible for the NRHP (See Appendix A-22 to A-29).

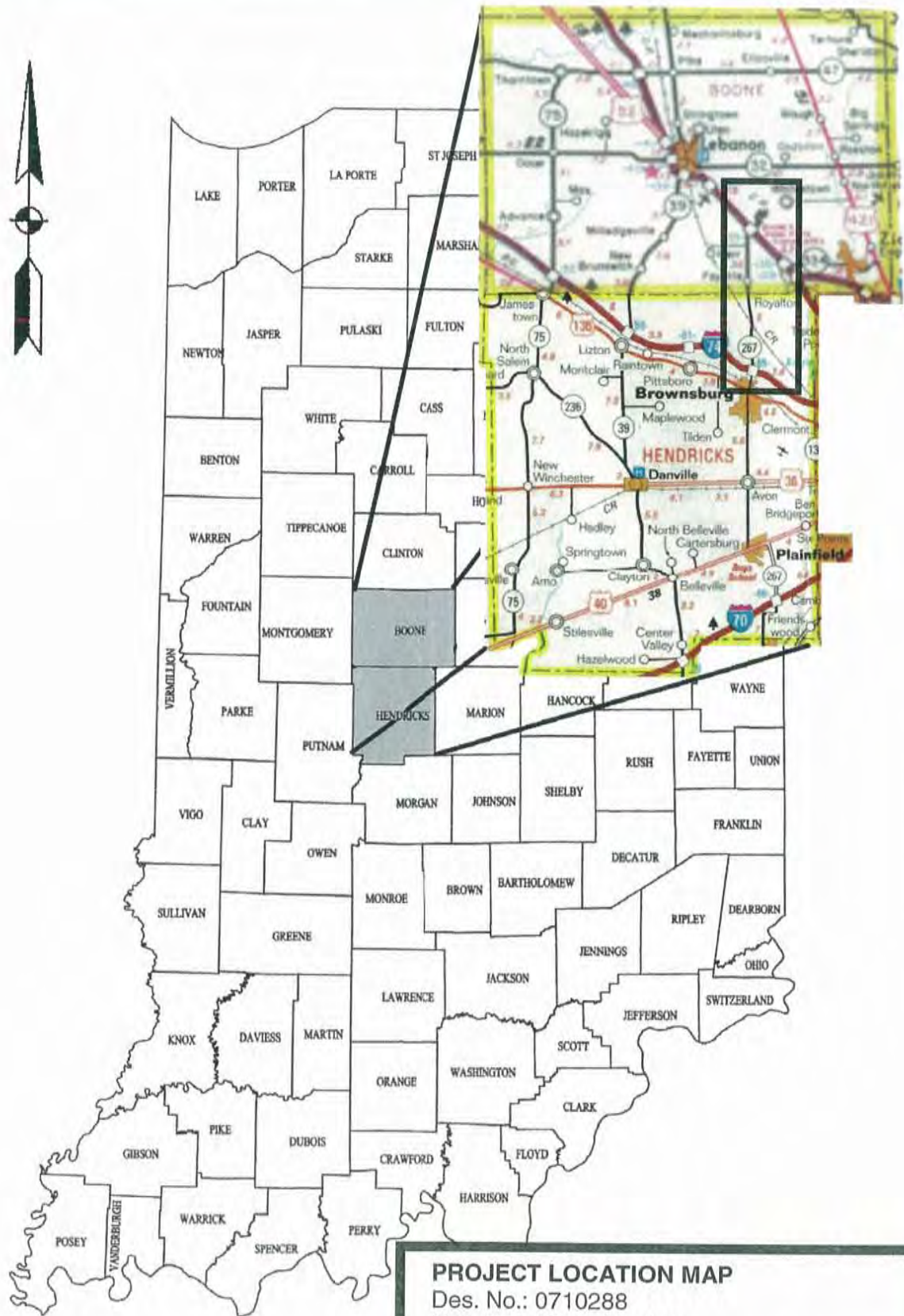
On July 16, 2009 the SHPO and consulting parties were provided a copy of the INDOT findings and determinations in accordance with Section 106 procedures. Consulting parties were also provided a copy of the draft MOA for review and comment. In addition, a public notice was placed in The Reporter in Boone County on July 21, 2009 and the Hendricks County Flyer on July 22, 2009 to provide comments on the "Adverse Effect" determination made by the FHWA (see Appendix A-39 to A-41). The comment period ended on August 20, 2009.

Comments on the "Adverse Effect" determination made by the FHWA and the draft MOA were received from the SHPO, Historic Landmarks Foundation and the Howard School Restoration Group. In a letter dated August 17, 2009 (see Appendix A-42 to A-43) the SHPO indicated they concurred with the Adverse Effect" determination finding made by FHWA. They also indicated they agreed with the intent of the MOA but had some additional comments on both Stipulation IA and IB in the document. They wanted the stipulation regarding the I-House Farmstead to read more specific about the mitigation commitment to include a combination of grass berm and tree plantings for the vegetated buffer. They also wanted the stipulation regarding the Howard School to be more specific in describing the property between the roadway and the cemetery. The SHPO letter also indicated that James Glass, Ph. D, Deputy State Historic Preservation officer, is authorized to sign the MOA.

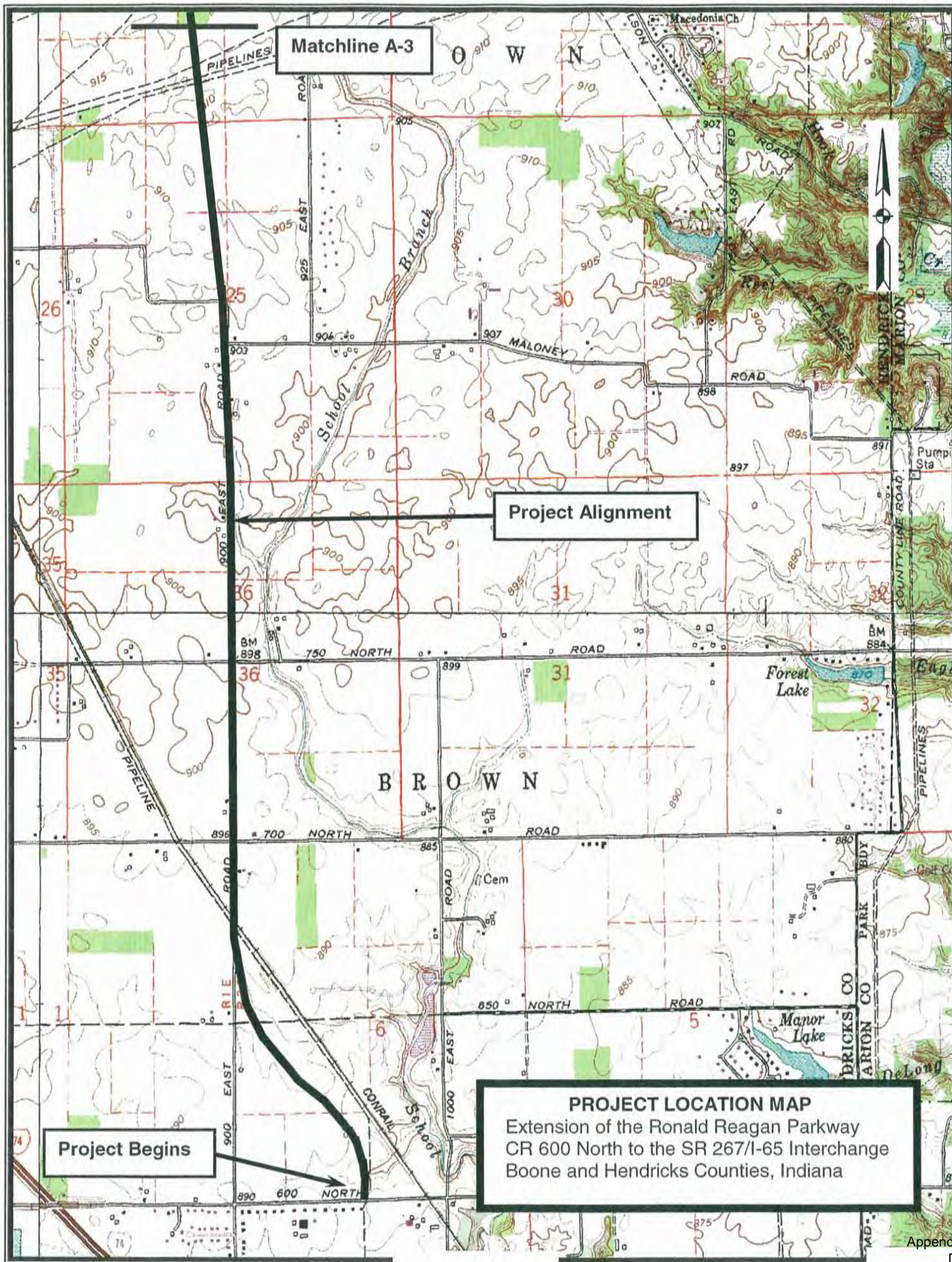
In a letter dated July 31, 2009 (see Appendix A-44), Historic Landmarks Foundation indicated that they agreed with the Adverse Effect" determination finding made by FHWA and the proposed mitigation for each site as proposed in the MOA. They also requested that the trees planted to shield each property be native conifers to offer year round visual screening.

In a letter dated August 5, 2009 (see Appendix A-45), the Howard School Restoration Group indicated they would like for Stipulation A to include that the property between the cemetery and roadway be acquired and deeded to the Howard School Restoration Group to maintain as a vegetated buffer for the property and prevent further development adjacent to the site. They also wanted the tree plantings to include specific native trees when the school was built (1881) including Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Butternut and Sweet Gum. They also indicated that Boone County now has a third county commissioner to add to the signature page. Copies of the response letters from the Howard School Restoration Group and Historic Landmarks Foundation were provide to the SHPO. The comments provided by the SHPO and consulting parties were incorporated into the MOA.

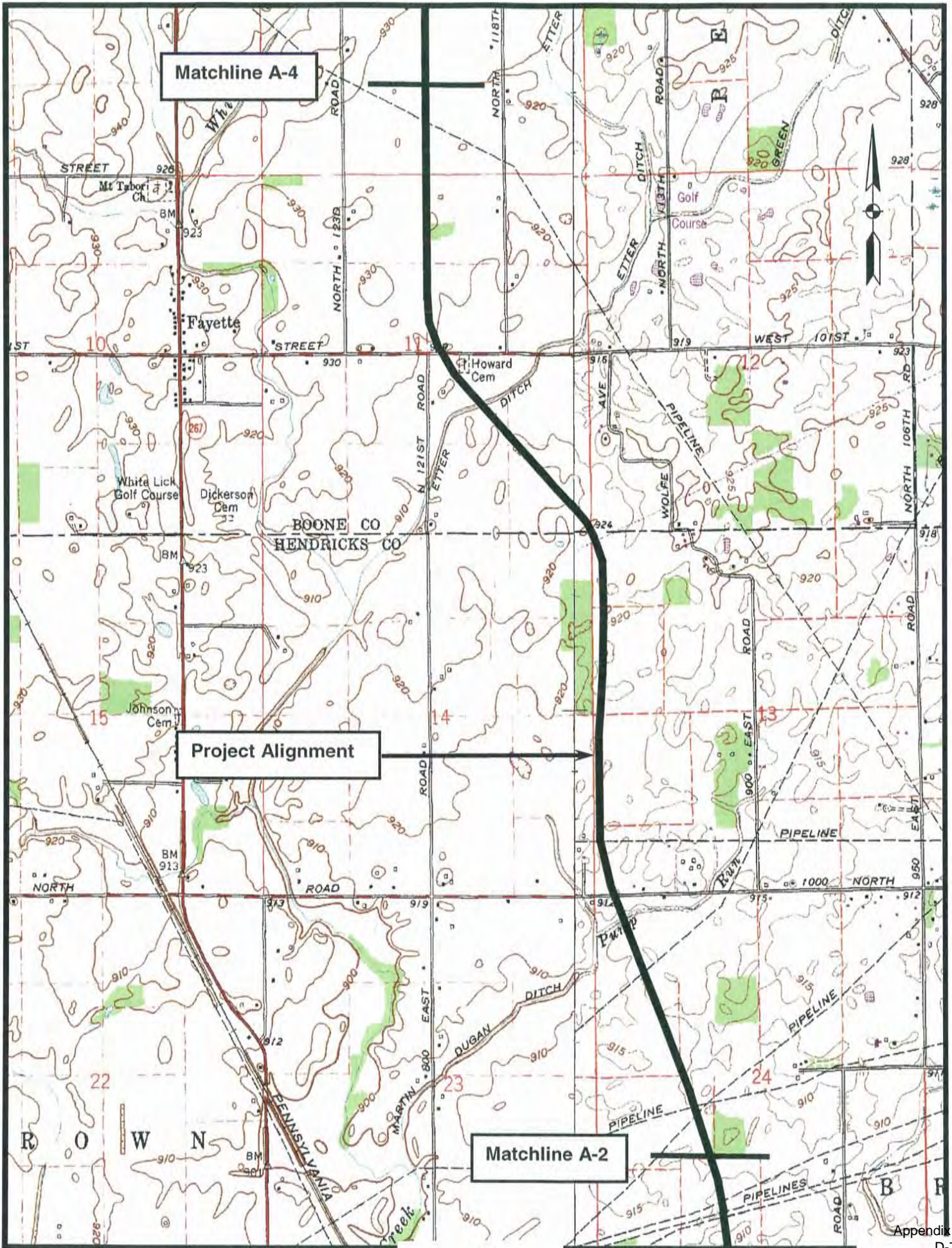
# APPENDIX



**PROJECT LOCATION MAP**  
Des. No.: 0710288  
New Road Construction  
Extension of the Ronald Reagan Parkway  
CR 600 North to the SR 267/I-65 Interchange  
Boone and Hendricks Counties, Indiana



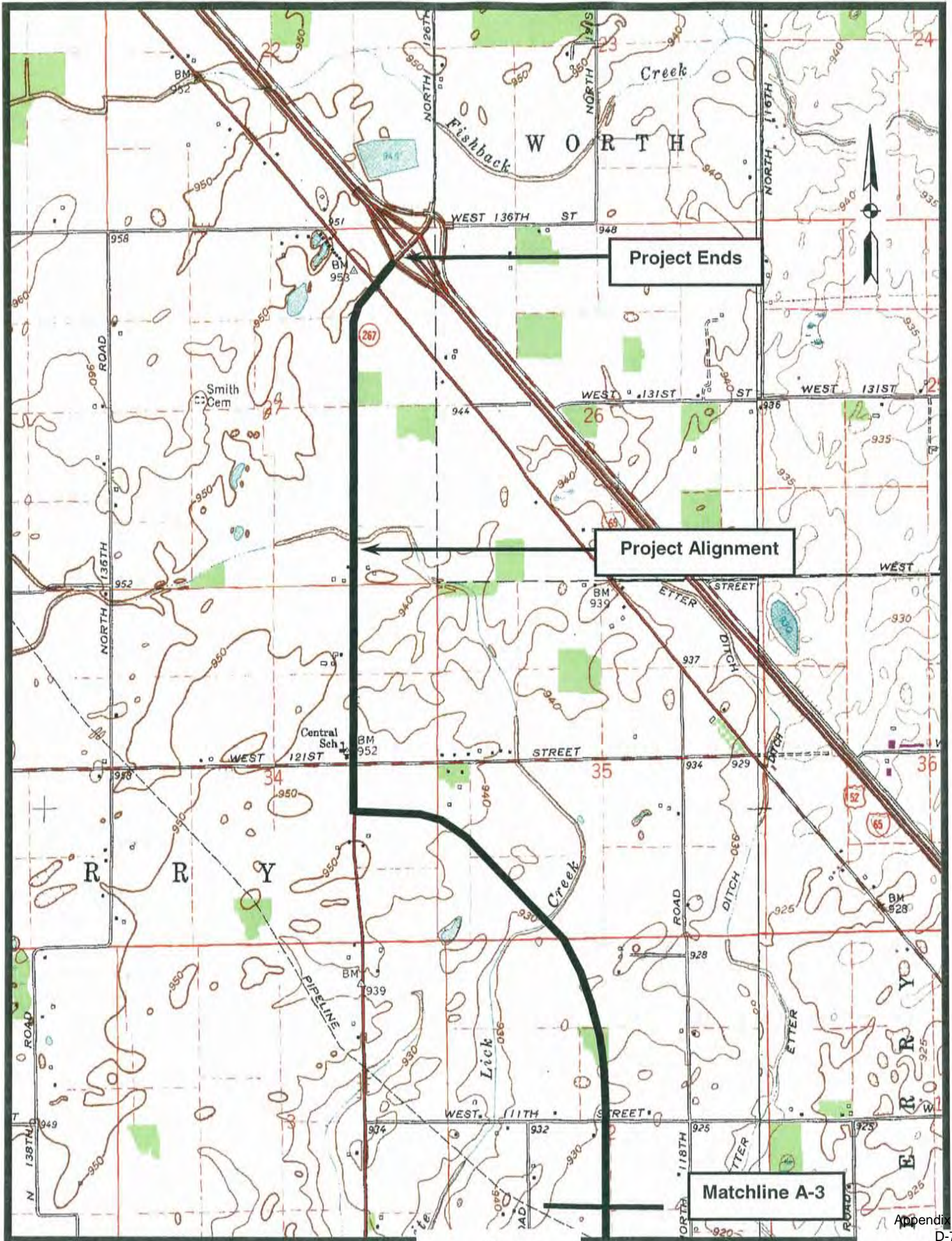


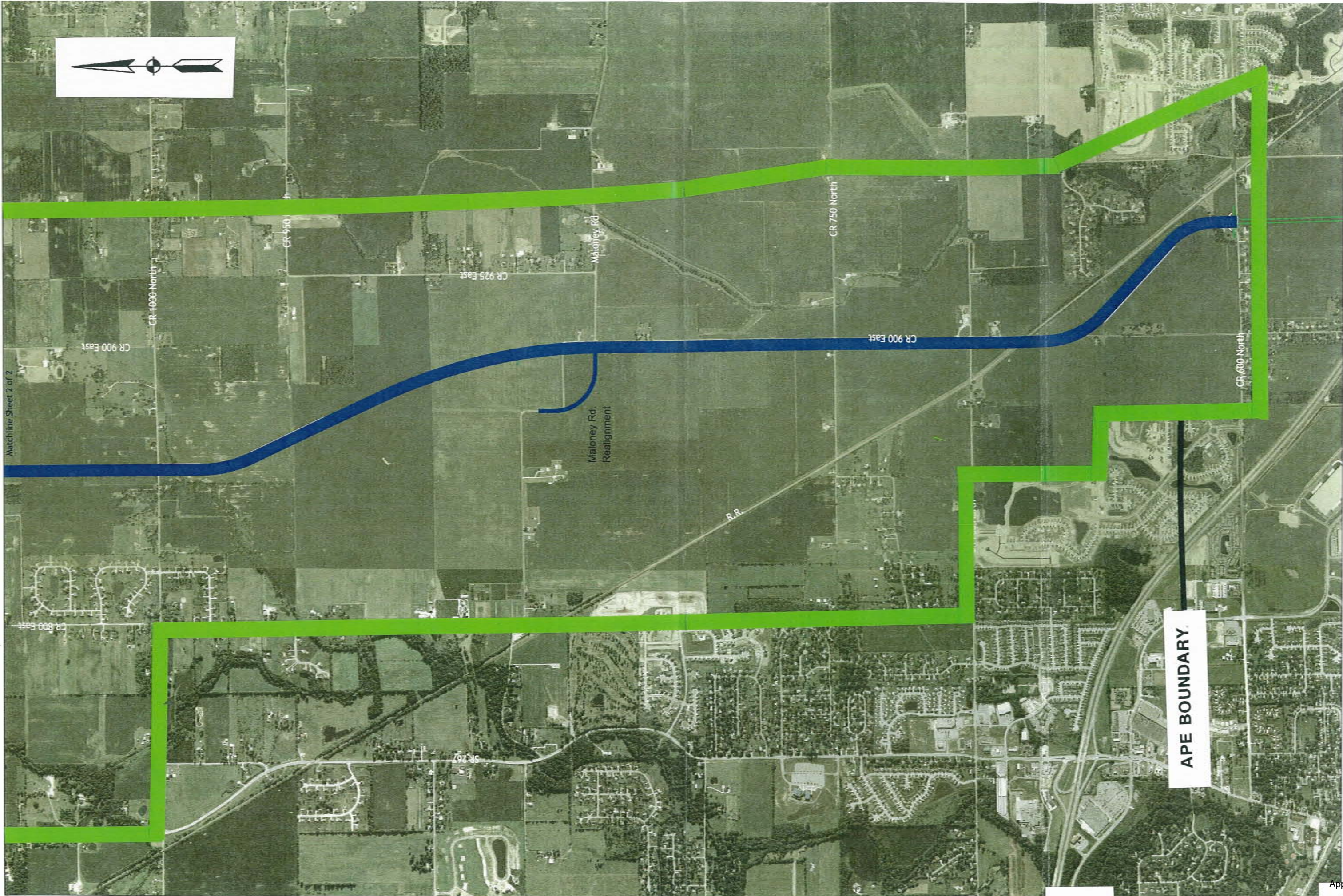
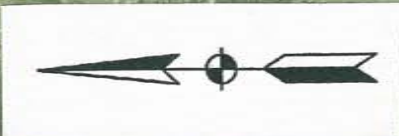


Matchline A-4

Project Alignment

Matchline A-2





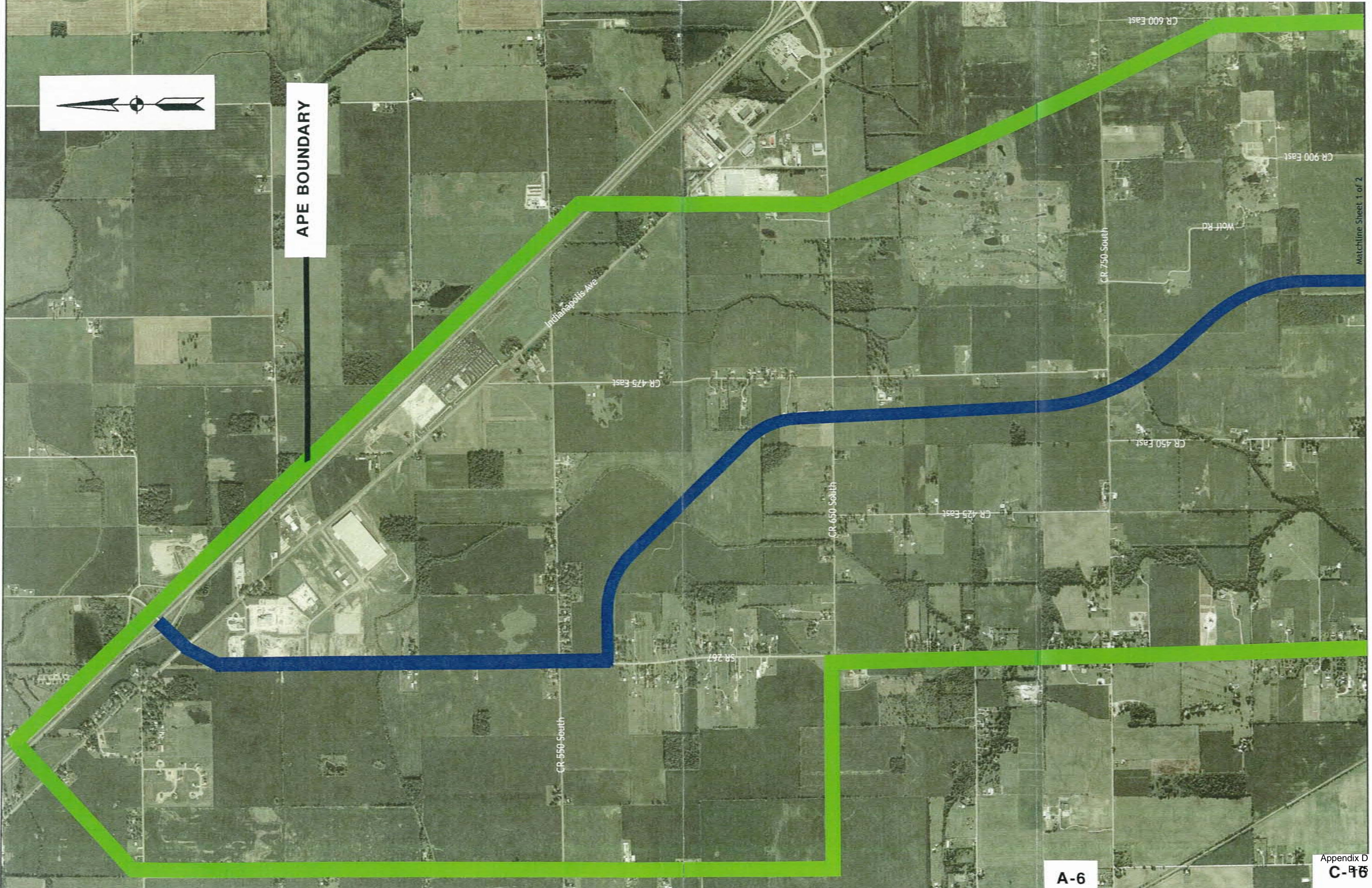
Matchline Sheet 2 of 2

Maloney Rd.  
Realignment

**APE BOUNDARY**



**APE BOUNDARY**



Matchline Sheet 1 of 2

**An Archaeological Literature Review of the Proposed Ronald Reagan Parkway  
Improvements in Hendricks and Boone Counties, Indiana**

by  
Larry N. Stillwell  
Principal Investigator

Submitted by:

**Archaeological Consultants of Ossian**  
P.O. Box 2374  
Muncie, IN 47307

Submitted to:

Beam, Longest & Neff, LLC  
Indianapolis, IN

November 18, 2005

Archaeological Consultants of Ossian *Cultural Resource Management Report 05LR246*

county today (Carmony 1966; Barnhart and Riker 1971; Lockridge 1980; Rudolph 1980).

The General Land Office survey notes for the township did not indicate any cultural resources present within the project area. Historic plat maps of Hendricks and Boone Counties (Anonymous 1876) revealed the presence of three cemeteries, eight schools, four churches, a house, and the Town of Fayette within a 1.0 mile radius of the project corridor. The Division of Historic Preservation cemetery records indicate that Howard Cemetery in Boone County could be potentially impacted by the project.

### **Conclusions and Recommendations**

The environmental data indicate that the project area has a potential to contain prehistoric sites and historic sites as demonstrated through regional/archival research. Additionally, the presence of known archaeological resources documented near the project area combined with well drained soil types within portions of the road improvement right-of-way which lie adjacent to a major stream channel (i.e. White Lick Creek) indicate that additional archaeological sites may exist within the area that is to be impacted by the road alignment. It is therefore recommended that a Phase I archaeological survey be conducted. Archaeological survey of the road improvement right-of-way will determine if significant cultural resources exist within the proposed construction limits.

**An Archaeological Field Reconnaissance of the Proposed Ronald Reagan  
Parkway Extension in Boone and Hendricks Counties, Indiana**

by  
Larry N. Stillwell  
Principal Investigator

Submitted by:

**Archaeological Consultants of Ossian**  
P.O. Box 2374  
Muncie, IN 47307

Submitted to:

Beam, Longest & Neff, LLC  
Indianapolis, IN

December 31, 2007

Archaeological Consultants of Ossian *Cultural Resource Management Report 07FR198*

## **Conclusions and Recommendations**

An archaeological field reconnaissance of the proposed Ronald Reagan Parkway extension in Boone and Hendricks Counties, Indiana located 20 archaeological sites. The sites consisted of a mixture of prehistoric and historic cultural resources. None of the sites documented during the survey were evaluated as significant. The field reconnaissance noted that over 95% of the project corridor was contained within actively farmed agricultural field. While little non-agricultural disturbance was noted during the survey, significant tracts of very poorly drained soils were identified within the project universe. Known cultural resources in the region range in size and significance from large artifact concentrations and habitation sites to smaller ephemeral lithic scatters of unknown prehistoric age as evidenced by McCord and Cochran (1994), and Stillwell (2003d, 2004a, 2004b). Because no significant archaeological sites recorded during the field survey, it is the opinion of the archaeologist that the proposed undertaking will not affect any properties eligible for listing on the National Register of Historic Places, and no further archaeological work is warranted. Project clearance is recommended. However, if any unanticipated artifact concentrations, burials, or features become apparent during construction of the project, work should be halted until the archaeologist in the Department of Natural Resources-Division of Historic Preservation and Archaeology is contacted.





December 6, 2005

Patricia S. Brower  
Beam, Longest, and Neff, LLC  
8126 Castleton Road  
Indianapolis, Indiana 46250

Federal Agency: Federal Highway Administration ("FHWA")

Re: Project information and archaeological literature review (Stillwell, 11/18/05) concerning the extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County

Dear Ms. Brower:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and 36 C.F.R. Part 800, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has conducted an analysis of the materials dated November 11 and December 1, 2005, and received on November 14 and December 2, 2005, for the above indicated project in Perry Township in Boone County and Brown & Lincoln townships in Hendricks County, Indiana.

Thank you for providing an archaeological literature review for the above indicated project. We concur with the recommendations of the literature review that the proposed project area is in an environmental setting that is suitable to contain archaeological resources, but has never been evaluated by a qualified archaeologist. Moreover, over 20 archaeological sites have already been recorded within one mile of the proposed project location.

Given the aforementioned factors, a reconnaissance level archaeological survey will be required to determine the presence or absence of archaeological resources. The survey must be done in accordance with the Secretary of the Interior's "Standards and Guidelines for Archaeology and Historic Preservation" (48 F.R. 44716). A description of the survey methods and results must be submitted to the Division of Historic Preservation and Archaeology for review before we can comment further (list of qualified archaeological contractors enclosed).

In regard to buildings and structures, we believe the following properties meet the criteria of eligibility for inclusion in the National Register of Historic Places due to their historical and architectural significance:

The Dugan Farm on CR 900 East (Site #063-699-00007 per the *Hendricks County Interim Report*) is an outstanding example of a 20th Century farmstead

The Farm on CR 1000 North (Site #063-699-00012) is an outstanding example of a five bay central passage masonry I-house.

Please note that once more information about the project becomes available, the information indicated below will be needed to facilitate the identification and analysis of historic properties in the project area:

- 1) Provide an overall description of the project and its location.
  - Include address, city, township, and county.
  - Detail any construction, demolition, and earthmoving activities.

> [Original Message]  
> From: Diebold, Paul <PDiebold@dnr.IN.gov>  
> To: Gilliam <gilliam@indy.net>  
> Date: 7/17/2007 11:50:58 AM  
> Subject: FW: Howard School, Boone county  
>

> -----Original Message-----

> From: Patrick\_Andrus@nps.gov [mailto:Patrick\_Andrus@nps.gov]=20  
> Sent: Tuesday, July 17, 2007 6:31 AM  
> To: Diebold, Paul  
> Subject: Re: Howard School, Boone county  
>

> Hi Paul: Regarding the one-room school house, I have reviewed the  
> pictures and your description of the rehabilitation work on the building  
> and I think that it retains integrity. Based on your explanation of the  
> rarity of the property type, it appears that it would be eligible for  
> the National Register (assuming that the rest of the rehabilitation work  
> meets your approval).

>  
> Patrick W. Andrus  
> Historian  
> National Register of Historic Places

>"Diebold, Paul"

>

To: Patrick\_Andrus@nps.gov>

> Subject: signatory authoriy and a school house

> 07/12/2007 12:27 PM AST

>

>

> Patrick,

>

> We here crossed things up a bit with Hampton Tucker and Tawana Jackson  
> regarding signatory authority; our letter of June 6 from Ron McAhron had  
> asked for Hampton to "share my signatory authority with Dr. Glass for  
> documents related to the business of the SHPO" until such time as we  
> could get another letter authorizing Glass to take McAhron's full  
> responsibilities. Somehow, then, the NPS response letter says "we  
> recognize Dr. Glass as Deputy SHPO," which seemed to us to give him  
> authority but then follows with "We look forward to receiving a  
> designation letter for Dr. Glass upon your return..." IN ANY CASE, a  
> letter is "down the hall" which I will fax to you "post-haste" before we  
all wind up in "a van down by the river."

>

>

> Now, to my other concern. Boone County, Indiana (Indy Metro area) has  
> Howard School, a little one room schoolhouse. The county has 2 other  
> 19th c. schoolhouses; both have horrendus ranch house additions on them  
> as well as interior changes that render them out of the NR question.  
> Little Howard School, c.1875, is therefore the only possible NR  
> contender in the county. > We do have a MPDF for Indiana schools - the  
registration requirements > for one room schools (beyond the usual integrity  
issues) discuss the > importance of original location; size, scale and  
placement of additions, and significance of the interior space, that it read  
as a single, > undivided classroom despite any changes in function.

>

> I'm sending "before" photos showing the condition of the school.

> Original wood shake roof, long beyond viability, has let the interior  
> gently decay. Floor joists have collapsed into the crawl space. A fair  
amount of bull's eye and grooved woodwork remains; this will be reinstalled  
to the extent possible. The good news is, a group has taken this on and is  
> going at it very nicely. The "after" or actually in-between photos show  
> the current state. The roof was rebuilt - the original rafters were too  
> deteriorated but served as templates, so although the roof is all new  
> wood framing and shingles, it replicates the original very closely.

> There was no cupola, just a tin flat deck on top, and this is being  
> fabricated. Exterior masonry was deteriorated and had become unstable in  
> several areas. The exterior was repointed and new bricks installed as  
> needed (mostly a few upper courses at principle corners where the roof  
> was failing). The masonry is 95% original with repointing. As for  
> interior, the current shot shows that new joists have been installed, so  
> at this point, with subfloor, we have a viable building that can be  
> entered. The woodwork will be reinstalled, and, the one "before" shot  
> shows an angled wall where an original closet was - trim materials from  
> this will be reinstalled and the angled wall rebuilt. A final item -  
> window sash were present in the form of highly deteriorated segments of  
> sash rails - these will serve as the basis for new real wood sash.

>

> The group is considering nomination at this point. While staff here  
> agrees that we have a viable building that is not a ruin, we cannot  
  
> agree on eligibility.

>

> Paul

**We Can Do It...**



**You Can Help!**

# Howard School Restoration Group

7380 S. 200 E. • Lebanon, IN 46052

January 30, 2007

Beam Longest & Ness  
8126 Castleton Road  
Indianapolis, IN 46250

Attention: Mr. Jeff Vlach

Re. Ronald Reagan Expressway

This letter is a follow up to our telephone conversation yesterday, January 29. As mentioned, your name and contact information was obtained from Shana Kelso at Indiana Department of Natural Resources Division of Preservation and Archeology.

Howard School Restoration Group is a not for profit, 501 c (3) community organization restoring for preservation and continued use by our community, the historic Howard School, a 19<sup>th</sup> Century one-room structure on county road 750 S. east of county road 450 E. in Boone County. Our group wants to retain the historic character and integrity of the site where the school is located. Accordingly, we wish to be considered a “**consulting party**” to discussions and meetings about the Ronald Reagan Expressway and its impact on the surrounding countryside in the vicinity of the school and the historic Howard Cemetery adjacent to it.

Questions about the school structure and property or HSRG can be directed to me. Contact information is indicated below and in the letterhead.

  
William A. Coan  
President  
Howard School Restoration Group, Inc.

765-482-1352  
Wacoan@sbcglobal.net



February 8, 2008

Christopher Koeppel  
Cultural Resources Section  
Indiana Department of Transportation  
100 North Senate Avenue, Room N642  
Indianapolis, Indiana 46204-2216

Federal Agency: Federal Highway Administration

Re: Archaeological field reconnaissance report (Stillwell, 12/31/07) for the proposed Ronald Reagan Parkway Extension (Des. No. 0400563; DHPA # 3540)

Dear Mr. Koeppel:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), 36 C.F.R. Part 800, and the "Programmatic Agreement among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation, the Indiana State Historic Preservation Officer regarding the implementation of the Federal Aid Highway Program in the State of Indiana," the staff of the Indiana State Historic Preservation Officer has conducted an analysis of the materials dated January 16, 2008 and received on January 18, 2008, for the above indicated project in Boone and Hendricks counties, Indiana.

Because various parties have been involved in this review since we were first asked to comment in November 2005, we have enclosed copies of our previous comment letters, dated December 6, 2005 and August 1, 2006.

Based upon the documentation available to the staff of the Indiana SHPO, we have not identified any archaeological resources listed in or eligible for inclusion in the National Register of Historic Places within the probable area of potential effects.

Our office concurs that no further archaeological investigations are necessary in the area surveyed by Archaeological Consultants of Ossian, and that the sites which were discovered (12Bo506- 12Bo51 and 12He359-366) are not eligible for the National Register of Historic Places. If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations.

It is noted that the proposed project activities may be within 100 feet of the Howard Cemetery. If this cemetery cannot be avoided by 100 feet by proposed project activities, then a cemetery development plan (Indiana Code 14-21-1-26.5) would be required.

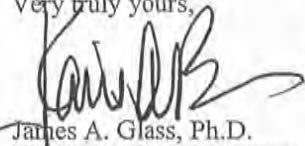
Please note that we still await the schematic site plans that we requested in our August 1, 2006 letter regarding the Dugan Farm on Hendricks County CR 900 East (survey #063-699-00007) and the farm on Hendricks County CR 1000 North (survey #063-699-00012). Once we receive those plans and any additional information that can be supplied regarding the project's impact on each of those two, historic farms, we will be glad to resume our review and share our comments on the project's likely effects on the historic properties. Please be aware that additional information may be requested in the future.

*A copy of the revised 36 C.F.R. Part 800 regulations that went into effect on August 5, 2004, may be found on the Internet at [www.achp.gov](http://www.achp.gov) for your reference. If you have questions about archaeological issues, please contact Amy Johnson, Senior Archaeologist, at (317) 232-6982 or [ajohnson@dnr.IN.gov](mailto:ajohnson@dnr.IN.gov). Questions about buildings or structures should be directed to John*

Christopher Koepfel  
February 8, 2008  
Page 2

Carr at (317) 233-1949 or jcarr@dnr.IN.gov. Additionally, in all future correspondence regarding the above-indicated project, please refer to DHPA # 3540.

Very truly yours,



James A. Glass, Ph.D.  
Deputy State Historic Preservation Officer

JAG:ALJ:JLC:jlc

Enclosures (2)

cc: Brian Shaw, Beam, Longest & Neff, LLC (with enclosures)

emc: Larry Stillwell, Archaeological Consultants of Ossian



September 24, 2008

Brian C. Shaw  
Environmental Analyst  
Beam, Longest and Neff, L.L.C.  
8126 Castleton Road  
Indianapolis, Indiana 46250

Federal Agency: Federal Highway Administration ("FHWA")

Re: Additional information about the proximity of three properties to the Extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County (Designation #0400563; DHPA #3540)

Dear Mr. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), 36 C.F.R. Part 800, and the "Programmatic Agreement among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation, the Indiana State Historic Preservation Officer regarding the implementation of the Federal Aid Highway Program in the State of Indiana," the staff of the Indiana State Historic Preservation Officer has conducted an analysis of the materials dated August 21, 2008 and received on August 22, for the above indicated project in Boone and Hendricks counties in Indiana.

We concur with the area of potential effects, as depicted on the marked aerial photographs that you provided.

Thank you for plotting the locations of the potentially historic properties on the aerial photographs and for providing site plans for the farmstead on Hendricks CR 1000 North (Hendricks County site #063-699-00012) and the Howard School on Boon CR 750 South (Boone County site #011-205-45031).

Having reexamined the information about historic properties that your firm had provided previously, and having considered more recent information found online on aerial photographs, we have reevaluated our earlier conclusions about the eligibility of certain properties for inclusion in the National Register of Historic Places.

We now do *not* believe that the Dugan Farm (Hendricks County site #063-699-00007), on the west side of CR 900 East, north of CR 1000 North, is eligible for the National Register. The house is not an outstanding example of residential architecture, but when we had first reviewed it in 2005 and 2006, we were impressed by the collection of significant outbuildings that also were found on that farmstead. It now appears, based on online aerial photography we have located (copy enclosed), that at least the three major outbuildings that had stood across CR 900 East from the farmhouse—and that were surveyed as part of this farm—no longer exist. It is difficult to tell how many of the outbuildings on the west side of the road remain, other than the barn directly south of the house, but we have observed that there is what appears to be a large, modern pole barn a short distance to the northwest of the house, which constitutes a major intrusion into the farmstead. Consequently, we have come to the conclusion that the Dugan Farm does not have sufficient significance or integrity as a farmstead to be eligible for the National Register.

We had earlier expressed the opinion that the farmhouse (Hendricks County site #063-699-00012) on CR 900, just west of the proposed Ronald Reagan Expressway Extension, is eligible for the National Register as an outstanding example of a five-bay, central passage, masonry I-house. We still believe that to be the case, but we also now believe that the house and its outbuildings constitute a National Register-eligible *farmstead* under Criterion C, on the local level. The long, tree-lined driveway, the arrangement of a respectable assortment of outbuildings, and the farmhouse together constitute a good example of a 19<sup>th</sup> century farmstead. Having compared the survey information on the property from our files with



an aerial photograph we obtained online, we have drawn a rough boundary of what we believe to be the historic property and have enclosed a copy.

As you are apparently aware, Howard School (Boone County site #011-205-45031), on the south side of Boone CR 750 South, just east of CR 450 East, was listed in the Indiana Register of Historic Sites and Structures on March 1, 2007. An application for nomination of Howard School to the National Register is under review in our office. Based on the State Register listing and the National Register application, we believe that Howard School is probably eligible for the National Register on the local level, under at least Criterion A for its association with public education in Indiana in the late nineteenth and early twentieth centuries.

We would encourage you to discuss National Register eligibility of the identified properties with the Cultural Resources Section of the Indiana Department of Transportation before proceeding with the assessment of adverse effects step of the Section 106 process. Before the effects assessment step of the Section 106 process is fully addressed, it would be important to ascertain with reasonable certainty which properties are eligible for the National Register.

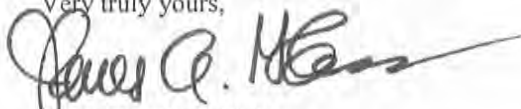
We will offer the further comment that, based on the information provided to our office, we believe that there probably will be effects on the characteristics of the farmstead on Hendricks CR 1000 North and on Howard School on Boone CR 750 South in Boone County that qualify them for inclusion in or eligibility for the National Register (*see* 36 C.F.R. § 800.16[i]). It does not appear that right-of-way would be acquired from either historic property, but it does appear likely that the proximity of the new roadway to the historic farmstead will have an adverse visual effect on the setting of the farmstead, and the highway may have an adverse visual effect on the setting of Howard School, as well. It also seems possible that there might be other kinds of effects, such as noise or vibration—at least from the construction of the highway, if not from its use by large vehicles—and we would appreciate your investigating any reasonably foreseeable effects. For visual effects, it would be helpful to have photographs showing at least the location of the nearest point on the proposed highway as seen from the historic properties.

As was mentioned in our previous correspondence, we have noted that the proposed project activities may be within 100 feet of the Howard Cemetery. If this cemetery cannot be avoided by 100 feet by proposed project activities, then a cemetery development plan (Indiana Code 14-21-1-26.5) would be required.

Furthermore, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations.

*A copy of the revised 36 C.F.R. Part 800 regulations that went into effect on August 5, 2004, may be found on the Internet at [www.achp.gov](http://www.achp.gov) for your reference.* If you have questions about archaeological issues, please contact Amy Johnson at (317) 232-6982 or [ajohnson@dnr.IN.gov](mailto:ajohnson@dnr.IN.gov). If you have questions about buildings or structures, please contact John Carr at (317) 233-1949 or [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov). Additionally, in all future correspondence regarding the above indicated project, please continue to refer to DHPA #3540.

Very truly yours,



James A. Glass, Ph.D.  
Deputy State Historic Preservation Officer

JAG:ALJ:JLC:jlc

cc: Christopher Koepfel, Indiana Department of Transportation

Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 - Indianapolis, IN 46204-2739  
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov



February 10, 2009

Brian C. Shaw  
Environmental Analyst  
Beam, Longest and Neff, L.L.C.  
8126 Castleton Road  
Indianapolis, Indiana 46250

Federal Agency: Federal Highway Administration ("FHWA")

Re: Additional information about the evaluation of the significance of properties and about the assessment of the effects of the extension of the Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County (Des. No. 0710288; DHPA #3540)

Dear Mr. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), 36 C.F.R. Part 800, and the "Programmatic Agreement among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer regarding the implementation of the Federal Aid Highway Program in the State of Indiana," the staff of the Indiana State Historic Preservation Officer has reviewed the reports submitted with your December 11, 2009 cover letter, which we received on December 17; your e-mail of January 21, 2009, responding to our request for a list of other farmsteads considered for comparison purposes; and minutes of the January 6, 2009 consulting parties meeting, along with plan sheets showing selected properties on CR 100 North in Hendricks County and on 750 South in Boone County, which we received on January 23, 2009—all regarding the aforementioned project in Boone and Hendricks counties in Indiana.

We continue to believe that the I-house (#063-699-00012) on Hendricks CR 1000 North is individually eligible for the National Register of Historic Places under Criterion C and that the farmstead of which it is a part is eligible for the National Register under Criterion C. Despite some unsympathetic modifications to the farmhouse, the I-house still appears to be a very good example of a five-bay, central passage, masonry I-house in the area. As the additional information you have provided points out, it does appear that a two-story porch was removed, a second story doorway to the porch was replaced with a window, and the replacement, single-story porch is likely wider than the original porch. Even so, the porch posts on the current porch appear quite old, and we would estimate that they probably have been in use longer than the original two-story porch had been. Although the I-house farmstead has undergone some modifications in recent decades, it still has three barns that are well over fifty years old, as well as the wooded front yard and the looping driveway, which appears to be an early feature of the property. The Harrison B. Garner Farm (#063-699-00041) to which we were referred, may also be a good example of a 19<sup>th</sup> to early 20<sup>th</sup> century farmstead, as may a few other farmsteads in Brown Township or other, nearby townships. However, the I-house farmstead need not be the best or the only good example of a farmstead in order to merit National Register eligibility.

We were asked also to offer an opinion on the effects of the project on the I-house farmstead. It appears to us that the roadway of the Ronald Reagan Parkway Extension would pass about 400 feet from the house, through what is now an open crop field to the east. The roadway, and especially the traffic that will use it, would significantly alter the relatively rural setting around the historic farmstead, especially by introducing a visual element out of keeping with that setting but also possibly by the introduction of vehicular noise on a scale not currently heard in that vicinity. Consequently, it appears to us that the introduction of the highway would have an adverse effect on the I-house Farmstead under 36 C.F.R. § 800.5(a)(2)(iv) and (v).

The suggestion was made at the consulting parties meeting that perhaps any adverse effect of the new highway on the I-house farmstead could be mitigated by planting a screen of trees between the house and the highway. That may be the

most effective means available of reducing somewhat the adverse effect, and we would encourage pursuing the tree screen proposal.

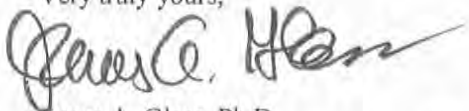
We also continue to believe that the Dugan Farm (#063-699-00007) is probably not eligible for the National Register. The farmhouse is not noteworthy architecturally, and it has undergone numerous alterations that have diminished its integrity over the years. The large, modern pole barn that has been constructed a short distance to the northwest of the farmhouse is a major intrusion on the setting of the farmstead. Although some outbuildings remain, a few others that had stood on the opposite side of Hendricks CR 900 East until recent years have clearly been demolished.

The Howard School (#011-205-45031), as we continue to believe and as you apparently agree, is eligible for inclusion in the National Register. We have been asked to comment on the project's effects on the historic one-room school. Even more so than is true of the I-house farmstead, the Howard School is still in an obviously rural setting. Only a few residences or other buildings are readily visible from the schoolhouse. Traffic noise from I-65 in the east is audible but is not a dominant or distracting aspect of the setting, and traffic on Boone CR 750 South CR 450 East still appears to be fairly light. The new roadway would approach the schoolhouse from the southeast and then cross CR 750 South headed in a north-northwesterly direction. According to the site plan you provided, the point of intersection of the new Ronald Reagan Parkway Extension and existing CR 750 S would be about 630 feet from the schoolhouse (slightly closer at just north of the intersection). The new roadway and especially the traffic on it likely would be clearly visible to the southeast, east, and north of the schoolhouse and would introduce visual and audible elements into the setting that are largely foreign to the Howard School at present. The new roadway's proposed distance of several hundred feet from the schoolhouse at the nearest point was mentioned at the consulting parties meeting as a factor that would reduce the project's impact on the schoolhouse. However, it occurs to us that such a distance probably will not appear to be as great as it sounds in the abstract, once the highway is in active use. In our opinion, the Ronald Reagan Parkway Extension would adversely effect the setting of the Howard School under 36 C.F.R. § 800.5(a)(2)(iv) and (v).

A tree screen might to some extent reduce the effect of the new highway on the Howard School. However, the new highway and traffic using it likely will be visible at the schoolhouse from a considerable distance and from various compass points, and the planting of a tree screen (or construction of a berm, as one consulting party suggested) might be of only limited benefit. Another suggestion made at the consulting parties meeting was that perhaps the oddly shaped wedge of real property that otherwise would be left between the highway right-of-way and the Howard Cemetery could be acquired and donated to a not-for-profit organization such as the Howard School Restoration Group, Inc. Then the new owner could plant or build whatever kind of barrier or screen it saw fit along a portion of the new highway as it passes to the east of the schoolhouse. Also, placing that parcel into the hands of the not-for-profit organization would help to ensure that commercial development did not occur between the Howard School and the new highway at that southwest quadrant of the proposed intersection of the new highway with CR 750 South. We recommend that the possibility of purchasing the parcel at that quadrant to prevent commercial development also be pursued as an appropriate mitigation measure.

If you have questions about buildings or structures, please contact John Carr at (317) 233-1949 or [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov). Questions about archaeological issues should be directed to Amy Johnson at (317) 232-6982 or [ajohnson@dnr.IN.gov](mailto:ajohnson@dnr.IN.gov). In all future correspondence regarding this project, please continue to refer to DHPA #3540.

Very truly yours,



James A. Glass, Ph.D.  
Deputy State Historic Preservation Officer

JAG:JLC:jlc

cc: Robert F. Tally, Jr., P.E., Federal Highway Administration  
Christopher Koepfel, Indiana Department of Transportation

March 11, 2009

Brian C. Shaw  
Beam, Longest, and Neff, LLC  
8126 Castleton Road  
Indianapolis, IN 46250

Federal Agency: Federal Highway Administration (“FHWA”)

RE: Extension of Ronald Reagan Parkway from CR 600 North to SR 267/I-65 in Perry Township, Boone County and Brown Township, Hendricks County, Indiana (Designation #0400563, DHPA #3540; EFI Global #98510-01695)

Dear Mr. Shaw:

In accordance with 36 C.F.R. Part 800.4 and 800.5, we have prepared the following documentation, analyses, and recommendations for consideration by the FHWA.

Based on documentation gathered, views shared by consulting parties at the consultation meeting held on January 6, 2009, and site visits to the Howard School, Dugan Farmstead and the Harrison B. Garner Farm at 8460 CR 1000 North, the Indiana State Historic Preservation Officer (“INSHPO”) believes that the Howard School and the Harrison B. Garner Farm at 8460 CR 1000 North meet the criteria to be considered eligible for inclusion in the National Register of Historic Places (“NRHP”) and the Dugan Farmstead no longer retains sufficient integrity to be considered eligible for inclusion in the NRHP. Historic preservation consultants, Sue Becher Gilliam and Michelle M. Daleiden-Fischer, recently expressed their professional opinion in a letter dated October 20, 2008, and reiterated those views at the January consultation meeting. Although professional opinions vary concerning the eligibility of the Harrison B. Garner Farm in particular, we urge the FHWA to consider the views of all consulting parties in addition to the background research and field investigation undertaken by the consultants. Both the passage of time and changing perceptions of significance necessitate that the FHWA now make a determination of eligibility concerning the three aforementioned properties in accordance with 36 C.F.R. § 800.4(d)(2). If the FHWA and the INSHPO do not agree, the FHWA shall obtain a determination of eligibility from the Secretary pursuant to 36 C.F.R. part 63. On the contrary, assuming that there is agreement regarding the eligibility of the properties, the FHWA may proceed with the assessment of effects. Given the views and sentiments expressed by consulting parties and members of the general public, we anticipate that the FHWA will determine both the Howard School and the Harrison B. Garner Farm at 8460 CR 1000 North eligible for inclusion in the NRHP, and, as such, it will be necessary to apply the criteria of adverse effect. Having already considered the views expressed by consulting parties and the public with regard to the two potentially historic properties at the consultation meeting on January 6, 2009, and via written correspondence, we recommend that the FHWA proceed with the notification of its determinations and findings and resolve identified adverse effects.

In anticipation of a finding of adverse effect, the following documentation has been gathered to support the finding of adverse effect and has been prepared to aid the FHWA in its responsibilities.

*(1) Description of the undertaking specifying Federal involvement*

A detailed description of the proposed undertaking was included among the materials presented by BLN in its letter to the Indiana SHPO dated January 29, 2008.

Also, as the INDOT has expressed interest in receiving engineering level drawings, where possible, to aid in defining the area of potential effects. This information is not only useful in defining the area of potential effects, but also in supporting the necessary determinations and findings for the section 106 review process. Therefore, we recommend that

the preliminary engineering drawings provided by BLN with its e-mail correspondence to Michelle M. Daleiden-Fischer and dated February 28, 2008, and the supplementary information including aerial map and narrative information forwarded via electronic mail on March 12, 2008, accompany the finding of effect and be detailed in this section as appropriate.

*And its area of potential effects*

The area of potential effects (“APE”), was presented by Beam, Longest and Neff’s (BLN) in its RFP dated March 9, 2007. Preservation consultants, Sue Becher Gilliam and Michelle M. Daleiden-Fischer concurred with the proposed boundaries. No objections were raised by other consulting parties with regard to the APE, and as such the details and visual images as proposed by BLN in March 2007 establish the boundaries of the APE.

The scope of work has not been modified from the early coordination packet, and, as such, there is no need to re-coordinate with all consulting parties to determine to what extent, if any, the APE needs to be re-examined. If the scope of work should change, then BLN with the assistance of its preservation consultants and communications with all consulting parties shall determine whether indeed modifications to the APE are warranted based on any proposed revisions.

*Including photographs, maps and drawings as necessary*

Please refer to the early coordination letter provided by the Boone County Engineer/Hendricks County Engineer dated May 15, 2006, and the materials presented in the electronic mail messages from BLN to EFI dated February 28, 2008, and March 12, 2008. Also, refer to the correspondence dated October 20, 2008, in which additional photographs taken by Sue Becher Gilliam were included.

*(2) A description of the steps taken to identify historic properties*

Preservation consultants, Michelle M. Daleiden-Fischer and Sue Becher Gilliam, recommended that information concerning detour routes be established when considering the APE. Also, where temporary detour routes will be established on existing routes, documentation concerning route placement is recommended prior to proposing a finding of effect to provide the level of detail necessary for justification for limiting the scope of identification efforts and support the findings of effect.

Via an electronic mail message from BLN dated February 28, 2008, Michelle M. Daleiden-Fischer and Sue Becher Gilliam were advised that INDOT – OES does not want detour routes included as part of the APE. Moreover, with regard to detour routes proposed on existing roadways, INDOT indicated to Michelle M. Daleiden-Fischer on August 31, 2007, via electronic mail that the “FHWA, the INSHPO, and the INDOT agree that detour routes should not be included in the APEs, because the detour itself would be temporary, and the potential affect of increased traffic (on a temporary basis) would not permanently adversely affect the aspects of a historic property that make a historic property eligible for the National Register.” Given these comments and the knowledge that no formal agreement has been prepared with regard to detour routes, the following comments are provided to help provide justification for limiting the scope of FHWA’s identification and evaluation efforts.

36 C.F.R. § 800.4(b)(1) indicates that the level of effort taken by the Federal Agency to identify and evaluate historic properties should take into account the nature and extent of potential effects on historic properties. For this undertaking, it is our understanding that there may not be a need for a detour route as the project involves new construction. Also, given our understanding that temporary detour routes, if necessary, *will utilize existing roadways*, the potential for the detour routes to affect any of the characteristics of a historic property that qualify that property for the National Register of Historic Places (“NRHP”) in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association is low. Consequently, detailed information concerning detour routes has not been included within the boundaries of the area of potential effects for this undertaking. Further questions or comments pertaining to potential detour routes for this project should be directed to BLN.

Having established the APE as documented above 36 C.F.R. 800.11(d)(1), the following sources were used to assist FHWA in its identification and evaluation efforts within the APE:

*Boone County Interim Report*

*Hendricks County Interim Report*

Site visit by representatives of BLN

Site visit by Ms. Sue Becher Gilliam, Historic Preservation Consultant, EFI Global on July 28, 2007

Records check completed by Ms. Sue Becher Gilliam at the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology

*Archaeological Literature Review* by Archaeological Consultants of Ossian (Stillwell, 11/18/2005)

*Archaeological Field Reconnaissance Survey* by Archaeological Consultants of Ossian (Stillwell, 12/31/2007)

Site visit by Ms. Sue Becher Gilliam, Historic Preservation consultant, EFI Global on October 9, 2008

Consultation meeting held on January 6, 2009, that included a site visit to the Dugan Farm, Howard School, and the Harrison B. Garner Farm

The Indiana State Historic Preservation Officer's letter dated December 6, 2005, to Patricia S. Bower of BLN indicated that the Dugan Farm, Site #063-699-00007, and the Farm at 8460 CR 1000 North, Site #063-699-00012, were considered eligible for inclusion in the NRHP. In a letter dated August 2, 2007, historic preservation consultants, Sue Becher Gilliam and Michelle M. Daleiden-Fischer, shared views on eligibility for those resources within the APE, including the two aforementioned properties. They concurred with the former assessments made by the INSHPO acknowledging that the identification and evaluation process had already been initiated and respecting the views formerly expressed. Therefore, in addition to the Howard School, only two other historic properties were identified within the APE. Nevertheless, given that sufficient time had passed since the initiation of the early coordination for this project, the identification and evaluation of historic properties was not believed to be complete as the integrity and changing perceptions necessitated the re-evaluation of the properties that would be affected.

With regard to the Dugan Farm, site #063-699-00007, in the INSHPO's correspondence dated September 24, 2008, the INSHPO staff made a decision to re-open the identification and evaluation step of this undertaking in order to consider the current integrity of the Dugan Farm, Site #063-699-00007, in particular. The information presented by the INSHPO in its correspondence dated September 24, 2008, coincided with the data that had been previously collected in the field by Sue Becher Gilliam on July 28, 2007. Because the INSHPO took the initiative to revise its former views on eligibility from December 6, 2005, Ms. Sue Becher Gilliam and Ms. Daleiden-Fischer similarly took the opportunity to gather and present additional historical information for each of the three properties that would be affected to the greatest extent by the undertaking. Refer to the correspondence dated October 20, 2008. Both the INSHPO staff and the preservation consultants agreed that the Dugan Farm did not retain sufficient integrity to be considered eligible for inclusion in the NRHP. In addition, during the consultation meeting held on January 6, 2009, all consulting parties were given another opportunity to comment on the significance of the Dugan Farm and view its present condition. No interest or new information was presented to demonstrate that the Dugan Farm meets the criteria to be considered eligible for inclusion in the NRHP. In conclusion, the documentation gathered evidences that the demolition of several outbuildings including two English barns, physical alterations to the extant farm buildings and the site, and the introduction of more modern buildings on the site including a residence and large pole barn have diminished the integrity of the Dugan Farm's significant historic features such that it no longer retains sufficient integrity to meet the criteria to be considered eligible for inclusion in the NRHP.

With regard to the Howard School, Site #011-205-45031, it has been listed in the Indiana Register of Historic Sites and Structures as of March 1, 2007. Also, upon request, Patrick Andrus of the National Park Service provided an official determination of eligibility of the school for the NRHP in an electronic mail message dated July 17, 2007, to Paul Diebold. A National Register nomination is currently in process and under substantive review for this property. Howard School is considered eligible for inclusion in the NRHP under criterion A and C as a locally significant one room school house in central Indiana. It is the only

known remaining building type of its kind in Boone County which retains good architectural integrity and has recently been renovated. In addition, the school is important for its association with public education in Indiana in the late nineteenth and early twentieth centuries. An historical boundary was proposed in the draft nomination; however, historic boundaries are still under consideration by the staff. For the purpose of this undertaking, the historic boundaries are as follows: the Howard School tract is a rectangular parcel measuring 350 feet wide by 140 feet deep with the shorter ends facing east and west. The north end is bounded by CR 750 South. The eastern end bounds the no longer active historic Howard Cemetery. The south and west side are bounded by unoccupied farmland planted in corn or grain without nearby construction. The rural setting contributes to the historic character of this property.

With regard to the Harrison B. Garner Farm at 8460 CR 1000 North, Site #063-699-00012, much consideration has been given as to whether or not the property meets the criteria to be considered eligible for inclusion in the NRHP. Initially, the INSHPO expressed its views in its correspondence to Ms. Patricia Bower of BLN dated December 6, 2005. "The farm on CR 1000 N is an outstanding example of a five bay central passage masonry I-house." Upon further analysis, historic preservation consultants, Sue Becher Gilliam and Michelle M. Daleiden-Fischer, presented documentation that the I-house has been modified with the removal of character-defining features and the construction of new additions on the property, and as such is no longer an "outstanding" example of its architectural style as previously characterized. Additionally, the consultants analyzed whether the property might be historically significant in conveying early farming in the area; however, it was concluded that the two outbuildings which appear to be at least fifty years old do not convey early nineteenth century farming methods and further modifications to the site diminished its integrity. Refer to the correspondence dated October 20, 2008 for further details. A consultation meeting was arranged to bring all consulting parties to the property in question to elicit further comments. The meeting minutes detail the public sentiment towards the preservation of the Harrison B. Garner Farm property, and were circulated to all consulting parties. In a follow-up letter dated February 10, 2009, the INSHPO's appeared to concede that the I-house is no longer an outstanding example of its architectural type, stating that the farm "is a very good example of a five-bay, central passage masonry I-house." Further the INSHPO stated that "a property need not be the best or only" one of its architectural type to be eligible for inclusion in the NRHP." Historic preservation consultants Michelle M. Daleiden-Fischer and Sue Becher Gilliam concur with the latter statement, but they still maintain that alterations have diminished the integrity of the property such that it no longer embodies the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Moreover, the consultants are of the opinion that the Harrison B. Garner Farm does not retain sufficient integrity to adequately convey nineteenth century farming methods or practices. Perhaps, the difference in professional opinions is a result of changing perceptions of the relative significance of early nineteenth century Indiana farmsteads, a resource that may be threatened by the introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features.

In any event, as it is the role of the FHWA for this undertaking to make the determinations and seek concurrence with the INSHPO, FHWA is urged by its preservation consultants to consider heavily the views already expressed by other consulting parties. If FHWA makes the determination that the farm is eligible under either criteria A or C, then the historic boundaries proposed by the INSHPO in its correspondence dated September 24, 2008, should be utilized when considering the effects of the undertaking on the historic property. Like the Howard School, the rural setting is a significant feature of the farmstead.

An archaeological reconnaissance survey was also conducted for the proposed undertaking by Archaeological Consultants of Ossian. It was recommended that the project proceed without additional archaeological assessment. For more detailed information, please refer to the *Archaeological Field Reconnaissance Survey*, (Stillwell, 12/31/2007). Also, in its September 24, 2008, correspondence, the INSHPO stated, "[a]s was mentioned in our previous correspondence, we have noted that the proposed project activities may be within 100 feet of the Howard Cemetery. If this cemetery cannot be avoided by 100 feet by proposed project activities, then a cemetery development plan (Indiana

Code 14-21-1-26.5) would be required.” BLN has confirmed that all work will be outside 100 feet of the Howard Cemetery, and consequently a cemetery plan has not been developed.

efforts to seek information pursuant to 36 C.F.R. § 800.4(b) are noted below

On FHWA’s behalf, the following parties were invited to participate in consultation and share their views concerning the presence of historic properties:

Boone County Historian  
Boone County Historical Society  
Boone County Landmarks Preservation, Inc.  
Mayor, City of Lebanon  
Patrick Henry Sullivan Museum  
Zionsville Historical Society  
Sugar Creek Historical Society  
Howard School Restoration Group  
Tom Barker, Brownsburg Planning Director  
Hendricks County Historical Society/Hendricks County Museum  
Hendricks County Historian  
Hendricks County Heritage Alliance, David Kroll, President  
Hendricks County Historian  
Hendricks County Genealogical Society  
Guilford Township Historical Society  
Fairfield Historic Preservation Society  
Miami Tribe of Oklahoma  
Delaware Nation – Oklahoma  
Jackson Township Historical Society  
*Mark Dollase, Central Regional Office, Historic Landmarks Foundation of Indiana*  
*Boone County Commissioners*  
*Hendricks County Commissioners*  
*Indiana Department of Transportation*

Also, the INSHPO was consulted throughout the process as noted below:

11/11/2005 – BLN to INSHPO early coordination information (referenced in 12/06/2005 INSHPO correspondence)  
12/01/2005 – BLN to INSHPO early coordination information (referenced in 12/06/2005 INSHPO correspondence)  
12/06/2005 – INSHPO correspondence to Beam, Longest and Neff (“BLN”) in response to early coordination  
05/15/2006 - Early Coordination information from the Boone County Engineer and Hendricks County Engineer for of the respective County Commissioners to the Indiana SHPO and authorization of BLN to submit information the Commissioners’ behalf.  
08/01/2006 – INSHPO correspondence to Boone County Engineer/Hendricks County Engineer, response to early coordination information  
01/16/2008 – INDOT correspondence to INSHPO, submission of Archaeological Field Reconnaissance survey and Literature Review  
02/08/2008 – INSHPO correspondence to INDOT, response to Archaeological Field Reconnaissance survey and Literature Review  
09/24/2008 – INSHPO correspondence to BLN concerning eligibility of potentially historic buildings and structures  
12/11/2008 – BLN correspondence to INSHPO providing plans and more detailed information concerning potential historic properties and effects on potential historic properties  
01/21/2009 – BLN e-mail correspondence to the INSHPO responding to an inquiry pertaining to farmsteads  
01/23/2009 – Meeting minutes from the January 6, 2009, consulting parties meeting  
02/10/2009 – INSHPO correspondence to BLN concerning eligibility and effects of historic buildings, structures and objects



3) *A description of the affected historic properties, including information on the characteristics that qualify them for the National Register;*

Howard School, Site #011-205-45031; as previously noted is considered to be eligible for inclusion in the NRHP for the purpose of this undertaking. It is the only known remaining building type of its kind in Boone County, and it has recently been renovated. It is a vernacular one-room rectangular brick schoolhouse situated at 4555 East CR 750 South. The building has a brick foundation as well as masonry walls in which three window openings penetrate both the east and west elevations. Decorative arches appear above each of the window openings. Above the windows, there is a frieze and the roof is made from cedar shake shingles. There is a single entrance in the north façade with a limestone threshold, the same material used for the sills at the window openings.

In addition, the school is important for its association with public education in Indiana in the late nineteenth century and early twentieth century. Constructed in 1881 with state funds, the school exemplifies the district school system in Indiana at that time. The school was later closed in 1916 as a result of school consolidation. More detailed historical information can be found by contacting the INSHPO as the National Register nomination is under review. The site on which the school presently stands has been modified with the construction of a large new restroom building in a south easterly direction of the school building. This outbuilding is not considered to be a contributing resource due to its recent construction. Apart from the introduction of this new building to the site, the rural setting and the site of the Howard School remains largely intact, with open grassy areas and farm fields. As noted above, the historic boundaries are as follows: the Howard School tract is a rectangular parcel measuring 350 feet wide by 140 feet deep with the shorter ends facing east and west. The north end is bounded by CR 750 South. The eastern end bounds the no longer active historic Howard Cemetery. The south and west side are bounded by unoccupied farmland planted in corn or grain without nearby construction.

Harrison B. Garner Farm at 8460 CR 1000 North, Site #063-699-00012, as previously noted is likely to be considered eligible for inclusion in the NRHP for the purpose of this undertaking. This vernacular masonry farmhouse has a gable roof. On the front façade in its current condition, there are five openings on the upper story and five openings on the lower story that include a central passage. Limestone sills and lintels appear above and below the original window openings without further decorative details such as segmental or flat arches. The central passage on the lower story appears to have a limestone keystone at the crown of a flat masonry arch. This architectural detail is obscured by the presence of a one-story porch that replaced an original two-story porch. Additionally, the central opening above the entry, which may have originally been another doorway with sidelights given the size and dimensions of the extant lintel, has been modified and changed to a window opening that is supported by another lintel. The masonry walls were formed using a Common Bond (a.k.a. American Bond) system. Vinyl one-over-one window sashes have been installed within existing wooden frames. Also, close-up views of the building show shadows of what may have once been Italianate brackets installed along the roofline of the property, but which no longer exist. Additions to the rear ell of the property have been constructed and attic vents have been installed. As noted by the Indiana SHPO, there are mature trees that exist on the property, and they may date to the period of significance. However, they are planted randomly and do not appear to be part of a planned landscape. In addition, a curvilinear driveway, whose original configuration can still be observed, has been modified with an extension leading to a nearby and newly constructed three car garage. There are three contributing buildings on the property that appear to be at least fifty years old, two barns and a privy formerly identified by surveyors. The site visit in January revealed that the privy indeed is still extant. Property historic boundaries have been proposed by the INSHPO in its correspondence dated September 24, 2008. The farm is surrounded by adjacent fields, large open spaces, and wooded areas in a rural area.

4) *A description of the undertakings effects on historic properties;*

There will be no direct physical effects on the location, design, materials, or workmanship of the Howard School. However, the rural setting will be affected with the construction of the nearby four-lane road, the Ronald Reagan Parkway extension. The proposed new segment of road will *not* be constructed along the front (north) side of the primary façade of the Howard School, but rather will be constructed east of the property. Consequently, the primary

visual site lines and view sheds will be maintained. However, the new roadway will be visible, in particular, from eastbound traffic on CR 750 South approaching the Howard School from the west. Just east of the Howard School sets the Howard Cemetery whose low-lying grave markers will not provide a significant visual barrier to the new road. However, the cemetery does provide some physical separation between the new roadway and the existing school. As currently proposed, the new road is to be constructed approximately 100' beyond the eastern edge of the cemetery property line, and efforts to shift the road away from the Howard School were initiated during the early planning stages of this project. Also, beyond the intersection with CR 750 South, as seen near the drainage ditch shown on the engineering drawings presented by BLN on August 21, 2008, the new road as planned will be gently curving southeast of the school, gradually moving further away from the school and further outside the scope of visual field east of the historic property. Given the low-scale and the elevation of the proposed new road, the road itself will not significantly alter the feeling of the rural setting. However, the introduction of traffic on the roadway will result in a greater degree of visual and audible effects on the rural setting. The estimated volume of daily traffic for the new roadway is not known at this time, nor is the estimated noise level; however, it is anticipated that the volume and noise levels will increase with future commercial or residential developments.

Currently, CR 750 South is not heavily used. CR 750 South takes you west to the small hamlet of Fayette on SR 267 and then east to old Indianapolis Road. As a result, primarily local residents generate most of the traffic along CR 250 South and the construction of the new roadway would not likely significantly change this traffic pattern, as it is not a route providing access to any major destinations or developments at this time. There are existing farm fields with "FOR SALE" signs on either side of the proposed Ronald Reagan Parkway which may be an indication that the existing land use is already changing in the area. However, at this time one cannot determine when or how the parcels may be used in the future. Furthermore, it is difficult to determine whether the roadway itself will indirectly bring about further development in the area beyond the already existing development forces including the continual use, growth or expansion of the neighboring communities.

There will be no direct physical effects on the location, design, materials, or workmanship of the Harrison B. Garner Farm at 8460 CR 1000 North, Site #063-699-00012. However, the rural setting will be affected with the construction of the nearby four-lane road, the Ronald Reagan Parkway extension. The proposed new segment of road will *not* be constructed along the front (south) side of the primary façade of the Harrison B. Garner Farm, but rather will be constructed east of the property. Consequently, the primary visual site lines and view sheds will be maintained. However, the new road will be visible, in particular, from eastbound traffic on CR 1000 North approaching the farm from the west. Immediately adjacent to and east of the farm sits another parcel under separate ownership. This parcel containing an open field has a low-lying landscape and will not provide a significant visual barrier to the new road. Moreover, the parcel does not provide a significant physical separation between the new road and the existing farm. As currently proposed, it appears that the new road will be constructed approximately 350' from the eastern edge of the Harrison B. Garner property line. Efforts to shift the road away from potential historic properties including the Howard School were initiated during the early planning stages of this project. Beyond the proposed new intersection with the RR Parkway and CR 1000 North, that is north and east of the Harrison B. Garner Farm, the new road as planned will continue northward. Given the low-scale and the elevation of the proposed new road, it will not significantly alter the feeling of the rural setting. However, the introduction of traffic on the roadway will result in a greater degree of visual and audible effects on the rural setting and thus likely affect the placid feeling of the property's agrarian setting. The estimated volume of daily traffic for the new roadway is not known at this time, nor is the estimated noise level; however, it is anticipated that the volume and noise levels will increase with future commercial or residential developments.

Currently, CR 1000 North is used moderately by local traffic and neighboring areas during the daytime and more heavily during peak traffic rush hours as it carries commuter traffic to and from the nearby interstate. CR 1000 North takes west bound traffic through Hendricks County, but it doesn't lead directly to any large metropolitan areas in the county. CR 1000 North leads east bound traffic to Marion County. It is difficult to project whether the construction of the new road would significantly change the existing traffic patterns though it is likely that this road will continue to have increased traffic as development continues in the area. At this time one cannot determine if, when or how the use of nearby parcels may change in the future. Furthermore, it is difficult to determine whether

the roadway itself will indirectly bring about further development in the area beyond the already existing development forces including the continual use, growth or expansion of the neighboring communities.

The INSHPO expressed concern over indirect visual and audible effects on the Howard School in its correspondence dated September 24, 2008, and again February 10, 2009, following the January consultation meeting. The INSHPO also expressed concerns in writing concerning the audible and visual effects on the Harrison B. Garner Farm.

5) *An explanation of why the criteria of adverse effect were found applicable or inapplicable*

Examples of adverse effects including those specified in 36 C.F.R. § 800.5(a)(2)(iv) change of the character of the property's use or physical features within the property's setting that contribute to its historic significance and 36 C.F.R. §800.5(a)(2)(v) [i]ntroduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features have found to be applicable as detailed above. As such, an adverse effect has been found, because the undertaking may alter, directly or indirectly characteristics of two historic properties (Howard School and the Harrison B. Garner Farm) that qualify the properties for inclusion in the NRHP in a manner that would diminish the integrity of the properties' setting or feeling.

Finally, it is our understanding that consulting parties will be provided a copy of the FHWA findings and determinations in accordance with Section 106 procedures. In addition, a public notice will be placed in a newspaper of general circulation. Comments will be accepted for thirty (30) days upon receipt of the findings. Appropriate revisions to this documentation will be made based upon those reviews. Enclosed is a copy of a draft memorandum of agreement in which agreed upon mitigation measures may be incorporated, as consultation has already been initiated to resolve the adverse effects.

Sincerely,

Sincerely,

Sue Becher Gilliam  
Historic Preservation Consultant

Michelle M. Daleiden-Fischer  
Historic Preservation Consultant

SBG:MMDf:sbg:mmdf

Emc: Kurt Gilliam, EFI Global

Enclosure (1)

#### Public Notice

The Boards of the Hendricks County Commissioners and Boone County Commissioners propose the extension of the Ronald Reagan Parkway from CR 600 North in Hendricks County to connect with the existing I-65/SR 267 interchange in Boone County. The Boards of the Hendricks County Commissioners and Boone County Commissioners are planning to undertake this project, funded, in part, by the Federal Highway Administration (FHWA). The proposed project is located in Brown Township in northeast Hendricks County and Perry Township in southeast Boone County.

The proposed extension of Ronald Reagan Parkway is on new alignment and would function as a minor arterial with partially limited access. The roadway would be a continuation of the North/South Corridor segments that have been approved from SR 67 to CR 600 North in Hendricks County. The proposed right-of-way would be maintained within a 230'-0" minimum corridor (115'-0" on either side of the proposed centerline). The proposed cross section will consist of two 12'-0" travel lanes in each direction with 11'-0" usable shoulders, 10'-0" paved, separated by a 16 ft. flush median. There will be side ditches bordering the roadway with 4:1 side slopes, 4'-0" flat ditches with 3:1 back slopes and a design speed of 55 mph.

The roadway will cross over CR 900 East approximately 0.50 miles north of CR 600 North in Hendricks County. At this point CR 900 East will dead end on each side of the Ronald Reagan Parkway. Access on CR 900 East will be maintained to both CR 600 North and CR 700 North and an at-grade crossing on the Ronald Reagan Parkway will be located at the railroad crossing south of CR 700 North. The roadway will travel north along the western edge of CR 900 East at the existing right-of-way limits. CR 900 East will function as an access road between CR 700 North and Maloney Road for residential dwellings.

The current configuration of Maloney Road will be realigned at the intersection with the Ronald Reagan Parkway. As Maloney Road approaches CR 900 East from the west the road follows a series of three "s" curves. With the construction of the Ronald Reagan Parkway, Maloney Road will be realigned to the southeast starting from the middle "s" curve to intersect the Ronald Reagan Parkway at a 90° angle and align with the eastern approach of Maloney Road.

The intersection with SR 267 will consist of a "T" configuration with the Ronald Reagan Parkway. As the Ronald Reagan Parkway approaches SR 267 from the east, the median will function as the left turn lane to southbound SR 267. The two northbound lanes will then function as right turn lanes to northbound SR 267. For southbound SR 267, as the roadway approaches the intersection with the Ronald Reagan Parkway there will be two left turn lanes and one southbound lane. The five lane cross-section will end at the intersection at Indianapolis Road, just west of the interchange with I-65. The roadway configuration will transition back to the existing SR 267 2-lane cross-section prior to the ramps for the interchange with I-65.

New structures would be required for stream crossings at the tributary to School Branch Creek and Pump Run in Hendricks County, and Etter Ditch, and White Lick Creek, between CR 650 South and CR 550 South in Boone County. The existing SR 267 bridge over White Lick Creek, approximately 0.65 mile north of CR 550 South will be extended to accommodate the additional travel lanes. The details of these structures would be refined as the project design advances. At-grade intersections are anticipated for all existing public road crossings. The county road crossings will include minor approach work approximately 150'-0" each way from the centerline of the Ronald Reagan Parkway. The county roads will remain with their existing 2-lane cross-section with just an expanded turning radius for turning movements.

The Federal Highway Administration (FHWA) has found that the I-house Farmstead located at 8460 CR 1000 North, in Hendricks County and the Howard School on CR 750 South in Boone County are within the Area of Potential Effect (APE). The I-house Farmstead contains a five-bay central passage masonry I-house that is considered individually eligible for the National Register of Historic Places (NRHP) under Criterion C and the farmstead of which the house is part of is considered eligible for the NRHP under Criterion C. The Howard School on CR 750 South in Boone County is considered eligible for the NRHP under Criterion A and C as a locally significant one room school house in central Indiana.

Additionally, as a result of the archaeological investigations, no archaeological sites that could qualify for inclusion on the NRHP were located within the project area. The FHWA has determined that an "Adverse Effect" finding is appropriate for this project. The effect finding was issued on July 14, 2009, in accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4). Pursuant to 36 CFR 800.6(a)(4), the documentation specified in 36 CFR 800.11(e) which serves as the basis for the "Adverse Effect" finding is available for public inspection at the office of Beam, Longest and Neff, L.L.C., 8126 Castleton Road, Indianapolis, Indiana 46250.

The views of the public on this finding are being sought. Please reply no later than August 20, 2009.

Mr. Brian C. Shaw  
Environmental Analyst  
Beam, Longest, and Neff, LLC  
8126 Castleton Road,  
Indianapolis, IN 46250  
Phone: (317) 849-5832  
Fax: (317) 841-4280  
bshaw@b-l-n.com  
HCF-508 July 22 #239218

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**Beam, Longest, and Neff**  
(Governmental Unit)  
Boone County, Indiana

To: The Lebanon Reporter  
117 E. Washington St  
Lebanon, IN 46052

**PUBLISHER'S CLAIM**

**LINE COUNT**

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) - number of equivalent lines \_\_\_\_\_  
Head - number of lines \_\_\_\_\_  
Body - number of lines \_\_\_\_\_  
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**COMPUTATION OF CHARGES**

85 lines, 2 columns wide equals \_\_\_\_\_  
170 equivalent lines at 0.386 cents per line \$ 65.62  
Additional charge for notices containing rule or tabular work (50 percent of above amount) \_\_\_\_\_  
Charge for extra proofs of publication (\$1.00 for each proof in excess of two) \_\_\_\_\_  
**Total Amount of Claim** \$ 65.62

**DATA FOR COMPUTING COST**

Width of single column in picas 9.9 Size of type 7 point  
Number of insertions 1

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 1 times. The dates of publication being as follows:  
**July 21, 2009**

Additionally, the statement checked below is true and correct:

- Newspaper does not have a Web site.
- Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.
- Newspaper has a Web site, but due to technical problem or error, publish notice was posted on \_\_\_\_\_
- Newspaper has a Web site but refuses to post the public notice.

*Amber Hieston*

Date: 7/21/2009

Title Amber Hieston-Legal Advertising Manager

To: The Hendricks County Flyer  
8109 Kingston St, Suite 500  
Avon, IN 46123

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Beam Longest & Neff (18724)  
(Governmental Unit)  
Hendricks County, Indiana

**PUBLISHER'S CLAIM**

**LINE COUNT**

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more than four solid lines of the type in which the body of the  
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Head - number of lines ..... \_\_\_\_\_  
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Tail - number of lines ..... \_\_\_\_\_  
Total number of lines in notice ..... \_\_\_\_\_

**COMPUTATION OF CHARGES**

85 lines, 2 columns wide equals  
170 equivalent lines at 0.386 cents per line \$ 65.62  
Additional charge for notices containing rule or tabular work \_\_\_\_\_  
(50 percent of above amount) \_\_\_\_\_  
Charge for extra proofs of publication \_\_\_\_\_  
(\$1.00 for each proof in excess of two) \_\_\_\_\_  
**Total Amount of Claim** \$ 65.62

**DATA FOR COMPUTING COST**

Width of single column in picas 9.9 Size of type 7 point.  
Number of insertions 1

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just  
and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has  
been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size,  
which was duly published in said paper 1 times. The dates of publication being as follows:

July 22, 2009

Additionally, the statement checked below is true and correct:

- Newspaper does not have a Web site.
- Newspaper has a Web site and this public notice was posted on the same day as it was  
published in the newspaper.
- Newspaper has a Web site, but due to technical problem or error, publish notice  
was posted on \_\_\_\_\_
- Newspaper has a Web site but refuses to post the public notice.

Date: July 28, 2009

  
GRETA E SANDERSON 11-29-14  
Title \_\_\_\_\_



Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739  
Phone 317-232-1646 • Fax 317-232-0693 • dhpa@dnr.IN.gov



August 17, 2009

Robert F. Tally, Jr., P.E.  
Division Administrator, Indiana Division  
Federal Highway Administration  
575 North Pennsylvania Street, Room 254  
Indianapolis, Indiana 46204

Federal Agency: Federal Highway Administration (“FHWA”)

Re: Notification of the Federal Highway Administration’s finding of “adverse effect” and draft memorandum of agreement concerning the extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County (Des. # 0710288; DHPA # 3540)

Dear Mr. Tally:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), 36 C.F.R. Part 800, and the “Programmatic Agreement Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation, the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer has conducted an analysis of the materials dated July 16, 2009 and received on July 17, 2009 for the above indicated project in Boone and Hendricks counties, Indiana.

We concur with the Federal Highway Administration’s July 14, 2009 finding that the effect of this undertaking, as a whole, is an “adverse effect” under Section 106. We also concur with the underlying findings and determinations with regard to the area of potential effects and specific properties.

Thank you for providing our office with a draft copy of the memorandum of agreement (“MOA”) to review. For the most part, we agree with the intent of the draft MOA. However, we offer the following comments regarding the draft MOA:

- ❖ Stipulation I.A. is not as clear as it might be with regard to what it would require. That stipulation also could read somewhat more affirmatively about the mitigation commitment it makes. We would suggest modifying the draft language of that stipulation to something along the following lines: “Regarding the Harrison B. Garner Farm at 8460 CR 1000 North (Site #063-699-00012), tree plantings or a combination of a grass berm and tree plantings will be introduced between the Farm and the new roadway of the Ronald Reagan Parkway extension to screen the Farm from the effects of the roadway.”
- ❖ Similarly, we recommend that Stipulation I.B. be modified along the following lines, in order to clarify the commitment: “Regarding the Howard School at 4555 East CR 750 South (Site #011-205-45031, the real property lying between the Howard Cemetery and the required, permanent right-of-way for the Ronald Reagan Parkway extension will be acquired and deeded to the Howard School Restoration Group to be maintained by that organization as a vegetated buffer between the Howard School and the roadway and to prevent future development of that particular parcel of real property.”
- ❖ We note that on Page 4 of 8 of the draft MOA, “Robert F. Talley, Jr., P.E.” should be “Robert F. Tally, Jr., P.E.”

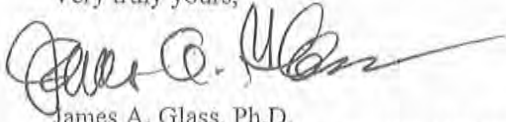
AUG 17 2009

- ❖ Regarding page 5 of 8 of the draft MOA, the State Historic Preservation Officer's full name is "Robert E. Carter, Jr." Alternatively, because I am authorized to sign MOAs, that signature line could read as follows: "James A. Glass, Ph.D., Deputy State Historic Preservation Officer."

We would appreciate being informed of other consulting parties' views and comments on the "adverse effect" finding or on the draft MOA before a final MOA is presented to us for signature.

If you have questions about archaeological issues, please contact Amy Johnson at (317) 232-6982 or [ajohnson@dnr.IN.gov](mailto:ajohnson@dnr.IN.gov). Please direct questions about buildings or structures to John Carr at (317) 233-1949 or [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov). In all future correspondence regarding this project, please continue to refer to DHPA # 3540.

Very truly yours,



James A. Glass, Ph.D.  
Deputy State Historic Preservation Officer

JAG:ALJ:JLC:jlc

cc: Staffan Peterson, Indiana Department of Transportation  
Brian C. Shaw, Beam, Longest and Neff, LLC





HISTORIC  
LANDMARKS  
FOUNDATION OF  
INDIANA

Central Regional Office  
1020 North Delaware Street  
Indianapolis, IN 46202  
317 639 4534 / 800 450 4534  
Fax: 317 639 6720

central@historiclandmarks.org  
www.historiclandmarks.org

July 31, 2009

Brian Shaw  
Environmental Analyst  
Beam, Longest, and Neff, LLC  
8126 Castleton Rd.  
Indianapolis, IN 46250

RE: Des. No. 0710288. Extension of the Ronald Reagan Parkway from CR 600 N  
to the SR 267/I-65 Interchange. Hendricks and Boone Counties, Indiana.

Dear Mr. Shaw:

Thank you for the opportunity to comment on the draft of the Memorandum of Agreement for the above mentioned project. Historic Landmarks Foundation of Indiana has read the provided packet and agrees that both Howard School (Site #011-205-45031) and the Harrison B. Garner Farm (Site #063-699-00012) will be adversely affected by the extension of the Ronald Reagan Parkway from CR 600 N to SR 267/I-65 Interchange.

Historic Landmarks Foundation of Indiana (HLFI) believes that the proposed mitigation for negative impacts on each site is adequate. However, to ensure the least amount of impact on each site, HLFI requests that the Memorandum of Agreement include the following additional measures:

- The trees planted to shield the Harrison B. Garner Farm shall be native, coniferous trees thereby offering a year round visual screen from the roadway.
- Native, coniferous trees shall also be planted to shield the school from both the roadway and future development.

Once the above items are added to the Memorandum of Agreement, Historic Landmarks Foundation of Indiana will be fully satisfied that the adverse affect on Howard School and the Garner Farm will be appropriately mitigated.

Thank you for the opportunity to comment.

Sincerely,

Rebecca Smith  
Community Preservation Specialist

cc: Bill Coan, Howard School Restoration Group  
David Kroll, Hendricks County Heritage Alliance  
ecc: Mark Dollase, Historic Landmarks Foundation of Indiana

**We Can Do It...**



**You Can Help!**

# Howard School Restoration Group

7380 S. 200 E. • Lebanon, IN 46052

Mr. Brian Shaw  
Environmental Analyst  
Beam, Longest and Neff, LLC  
8126 Castleton Rd.  
Indianapolis, IN 46250

August 05, 2009

Re: Des. No. 0710288. Extension of the Ronald Reagan Parkway from CR 600 N to the SR 267/I-65 Interchange. Hendricks and Boone Counties, Indiana.

Dear Mr. Shaw:

Howard School Restoration Group recently reviewed the draft of the Memorandum of Agreement for the subject project. We appreciate the steps being taken to minimize adverse impact from the extension of the parkway near the historic Howard School and the adjacent Howard Cemetery which predates the school. We also thank you for the opportunity to make further comment on the memorandum. Our comments are limited to conditions which effect the historic school and cemetery properties.

A. For Howard School (Site No. 011-205-45031) you say property between the cemetery and roadway be acquired and deeded to the Howard School Restoration Group to maintain and (sic) be maintained as a vegetated buffer for the property and prevent further development adjacent to the site. We agree the buffer can be maintained to shield the school and cemetery preventing further development. We believe the Memorandum should specifically state the property to be acquired and deeded extends from the southern boundary to at least the northern boundary the cemetery (CR 750 S). It would also be helpful to HSRG if you include a provision for acquisition and planting of specific trees native to the area and recommended by the Indiana Department of Public Instruction for school areas c. 1881 when the school was built. These included Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Butternut and Sweet Gum (Others were recommended but these are still fairly common).

B. Boone County has three commissioners. The Memorandum shows two as Invited Signatory. The third commissioner is Jeff Wolfe.

We agree with provisions of the memorandum as it has been prepared. However items mentioned in paragraph A will be helpful if they are included.

Sincerely,

William A. Coan  
President  
Howard School Restoration Group, Inc.  
7380 S. CR 200 E.  
Lebanon, IN 46052



*Preserving America's Heritage*

October 19, 2009

Larry Heil  
Federal Highway Administration  
Indiana Division  
575 North Pennsylvania St., Room 254  
Indianapolis, IN 46204

Ref: *Proposed Extension of Ronald Reagan Parkway from CR 600 North to SR 267/I-65  
Boone and Hendricks Counties, Indiana*

Dear Mr. Heil:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Indiana State Historic Preservation Office (SHPO) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require our further assistance, please contact Carol Legard at 202 606-8522 or via e-mail at [clegard@achp.gov](mailto:clegard@achp.gov).

Sincerely,

LaShavio Johnson  
Historic Preservation Technician  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

**Archaeological Field Reconnaissance  
Ronald Reagan Parkway Extension  
Readjustment in Hendricks County,  
Indiana (Des. No. 0710288)**

**PIONEER  
CONSULTING SERVICES**

*Prepared for:*

**Beam, Longest and Neff, LLC.  
8126 Castleton Road  
Indianapolis, Indiana 46250**

*Prepared by:* Brad King

---

Mitch Zoll

*Principal Investigator*

Pioneer Consulting Services, Inc.  
2620 West Kilgore Avenue  
Muncie, IN 47304  
Phone: (765) 284-0459  
Email: [mzoll2@gmail.com](mailto:mzoll2@gmail.com)

## Methodology

The author and Kyle DeWees surveyed the project area on Friday, December 31, 2010. The author used an Oakfield Soil Probe to determine the depth of the surface before shovel tests were used. An Oakfield Soil Probe was also used to determine the presence and depth of disturbed soils. Disturbed soils were identified by mixed soil horizons or evidence of grading.

The undisturbed areas with less than 30% visibility and under 20% (11°) slope were examined through shovel test probes spaced approximately fifteen meters apart. The undisturbed areas with more than 30% visibility and under 20% (11°) slope were examined through pedestrian survey with transects spaced approximately ten meters apart. Landforms with slope of 50% (26°) or greater were walked at the bottom for artifacts deposited by erosion and/or rock shelters. In areas where artifacts, features and/or preexisting sites were present, intervals were reduced to five meters apart. Shovel test probes were approximately 40cm in diameter and excavated into cultural sterile subsoil. Excavated soil was screen-sorted through a quarter-inch screen in an effort to locate cultural artifacts. Radial shovel test probes were placed 5 meters around positive shovel test probes. Shovel tests were then backfilled.

The author used a Magellan eXplorist 210 series handheld GPS unit to record project specifics. Digital photographs showing field conditions of the area were taken (Appendix A). An aerial photograph of the project area was made, noting the location of disturbed areas and transects (Figure 6).

## Results

The archaeological reconnaissance found no archaeological artifacts, features, or sites. Approximately 6 acres of land was investigated for this project. The project area was a tilled, agricultural field bisected with very lightly wooded fence lines with a surface visibility estimated to be approximately 80%. Contributing factors to the visibility of project area was crop residue. Topography was found to be nearly level with approximately 0% slope. The reconnaissance determined the soils in the project area were somewhat poorly drained. Portions of project area were previously disturbed by agricultural tilling. The project area contained no cultural resources.

## Conclusions/Recommendations

An archaeological field reconnaissance conducted for Beam, Longest and Neff, LLC. in Hendricks County, found no archaeological sites. It is our recommendation that the project be allowed to proceed without additional archaeological assessment. In the unlikely event that subsurface archaeological deposits are encountered during construction, the project must be halted and the Indiana Department of Transportation, Cultural Resources Section and the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology contacted for an evaluation before the project resumes.

Division of Historic Preservation & Archaeology 402 W. Washington Street, W274 Indianapolis, IN 46204-2739  
Phone 317-232-1646 Fax 317-232-0693 dhpa@dnr.IN.gov



February 21, 2011

Brian C. Shaw  
Environmental Analyst  
Beam, Longest and Neff, L.L.C.  
8126 Castleton Road  
Indianapolis, Indiana 46250

Federal Agency: Federal Highway Administration

Re: Revised archaeological field reconnaissance report (King and Zoll, 01/24/2011) regarding the extension of the Ronald Reagan Parkway (Designation #0710288; DHPA #3540)

Dear Mr. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f), 36 C.F.R. Part 800, and the "Programmatic Agreement among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation, the Indiana State Historic Preservation Officer regarding the implementation of the Federal Aid Highway Program in the State of Indiana," the staff of the Indiana State Historic Preservation Officer has conducted an analysis of the materials dated January 24, 2011, and received on January 25, 2011, for the above indicated project in Brown Township, Hendricks County, Indiana.

In regard to the revised archaeological field reconnaissance report (King and Zoll, 01/24/2011), based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we have not identified any currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places within the proposed project area as indicated in *Figure 2: Portion of USGS 7.5' Zionsville, Indiana Quadrangle showing the location of the project area*. It is our understanding that this section of the proposed project area was added to the original proposed project area after the initial archaeological survey (Stillwell, 12/31/2007) had been received and reviewed by this office.

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and 29 does not obviate the need to adhere to applicable federal statutes and regulations.

If you have questions about archaeological issues please contact Wade T. Tharp at (317) 232-1650 or wtharp1@dnr.IN.gov. If you have questions about buildings or structures please contact John Carr at (317) 233-1949 or jcarr@dnr.IN.gov. Additionally, in all future correspondence regarding the above indicated project, please refer to DHPA #3540.

Very truly yours,

James A. Glass, Ph.D.  
Deputy State Historic Preservation Officer

JAG:WTT:wt

emc: Staffan D. Peterson, Ph.D., Indiana Department of Transportation  
Melany Prather, Indiana Department of Transportation  
Mitchell K. Zoll, Pioneer Consulting Services, Inc.

## Appendix D: Correspondence

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018



----- Forwarded message -----

From: Sam Burgess <sburgess@indianalandmarks.org>  
To: "Maurovich, Mike" <MMAurovich@structurepoint.com>  
Cc:  
Bcc:  
Date: Thu, 27 Oct 2016 18:49:13 +0000  
Subject: RE: Proposed Extension of Ronald Reagan Parkway

Mr. Maurovich,

Thank you for the update. We are glad to know that the project team is aware of the memorandum of agreement concerning the Howard School, and we will look forward to being involved in future meetings regarding the project.

Sincerely,

Sam Burgess

.....

Sam Burgess

Community Preservation Specialist

.....

Indiana Landmarks

Central Regional Office

1201 Central Avenue

Indianapolis, IN 46202

Ph. 317-639-4534, 800-450-4534

Fax: 317-639-6734

[www.indianalandmarks.org](http://www.indianalandmarks.org)

---

From: Maurovich, Mike [mailto:[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)]

Sent: Wednesday, October 26, 2016 1:39 PM

To: Sam Burgess

Cc: Costa, Chad; Dave Pluckebaum

Subject: RE: Proposed Extension of Ronald Reagan Parkway

Mr. Burgess,

Thank you for reaching out. The information meeting was an update to show that we are now moving forward with the project again; although we are just getting started so design has not progressed much beyond the preliminary design that was completed as part of the Environmental Assessment. This is a public document that you can access at the below link (if you don't already have it).

C:\Users\mmaurovich\ShareFile\Shared Folders\Ronald Reagan Corridor\Environmental Assessment\EA 0710288.pdf

Included in the document is the MOA which includes mitigation for the Howard School, and will be implemented in this project. I have also attached a copy of the presentation from our information meeting for your information; and I will add your name to the contact list for the project so that you can be included on any additional public information about the project.

Please feel free to contact me if you have any further questions.

Thanks,

Mike

---

Mike Maurovich, PE  
Roadway Project Manager



7260 Shadeland Station

Indianapolis, IN 46256

t 317.547.5580 c 630.301.9313

e [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com) w [www.structurepoint.com](http://www.structurepoint.com)

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---

From: Sam Burgess [<mailto:sburgess@indianalandmarks.org>]

Sent: Friday, October 21, 2016 1:24 PM

To: Maurovich, Mike <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>

Subject: Proposed Extension of Ronald Reagan Parkway

Mr. Maurovich,

It has come to Indiana Landmarks' attention that there is a proposed extension of Ronald Reagan Parkway that will impact the historic Howard School property at 4555 E. County Road 750 S. in Perry Township, Boone County. Indiana Landmarks holds a protective easement on the aforementioned property and duly has a legal interest in the proposed project and its effects. Accordingly, Indiana Landmarks is considered a consulting party for the project and must be notified directly of any meetings regarding the extension of Ronald Reagan Parkway. Please provide Indiana Landmarks with requisite notice regarding any further meetings concerning the project in question. We would also appreciate an update as to any developments that occurred during the public meeting on October 19, 2016.

Thank you, and we look forward to being involved in the planning process for the proposed project.

Sincerely,

Sam Burgess

.....

Sam Burgess

Community Preservation Specialist

.....

Indiana Landmarks

Central Regional Office

1201 Central Avenue

Indianapolis, IN 46202

---

## Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

1 message

---

Costa, Chad <ccosta@structurepoint.com>

Thu, Mar 23, 2017 at 12:26 PM

To: "Costa, Chad" <ccosta@structurepoint.com>

Cc: "Del Real, Monica" <mdelreal@structurepoint.com>, "Maurovich, Mike" <MMAurovich@structurepoint.com>, Craig Parks <cparks@co.boone.in.us>, John Ayers <jayers@co.hendricks.in.us>, "Shaun Miller (smiller@indot.IN.gov)" <smiller@indot.in.gov>, "Kennedy, Mary" <MKENNEDY@indot.in.gov>, "Kumar, Anuradha" <akumar@indot.in.gov>, "Allen, Michelle (FHWA)" <michelle.allen@dot.gov>, Linda Weintraut <linda@weintrautinc.com>

Dear Prospective Consulting Party,

The Board of County Commissioners for Boone and Hendricks Counties are advancing a project to extend the Ronald Reagan Parkway from CR 600 North in Hendricks County to near the SR 267 and I-65 Interchange in Boone County. The Section 106 process for this project, which takes into consideration a Federal undertaking's potential to affect properties listed or determined eligible for inclusion in the National Register of Historic Places (NRHP), concluded in November of 2009 with the execution of a Memorandum of Agreement (MOA). American Structurepoint, Inc. is under contract with Hendricks and Boone Counties to serve as the Corridor Program Manager, and is responsible for beginning the preliminary design of the preferred alternative and re-evaluation of environmental impacts. Due to the passage of more than five years, the Section 106 process is being re-initiated. As such, we are re-evaluating properties within the APE to determine if there has been any changes in NRHP eligibility since the completion of the original Section 106 process. Whether you previously participated in the Section 106 process for this project, or are new to this project, we are requesting you to consider participating as a consulting party. The roles and responsibilities of a Section 106 consulting party are explained further in the attached letter. By returning a response to this email address indicating to the affirmative your participation, you will be included on all future distributions pertaining to the Section 106 process. Should you return a response to this email specifically declining to participate, or do not respond within 30-days of this email, you will not be included on future distributions pertaining to the Section 106 process.

To aid you in your decision on whether to participate as a consulting party, a Historic Properties Report (HPR) has been prepared by Weintraut & Associates, Inc. This report and the attached letter are posted to INDOT's online portal for Section 106 documents known as IN SCOPE. To retrieve this information simply click on the link <http://erms.indot.in.gov/Section106Documents/> and enter the project Des. No. provided in the subject line of this email.

Please don't hesitate to contact us should you have any questions regarding this project, or are experiencing problems retrieving project information from IN SCOPE. Your responses should be returned no later than April 24, 2017. Thank you in advance for your consideration and input!

Chad E. Costa

Project Manager, Environmental Services Group



7260 Shadeland Station, Indianapolis, Indiana 46256

t 317.547.5580 c 317.694.7657


e [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com) w [www.structurepoint.com](http://www.structurepoint.com)

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---

 RonaldReaganParkwayDes1602280\_Section106ECL\_2017-03-23.pdf  
6190K



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N642  
Indianapolis, Indiana 46204

PHONE: (317) 234-5168  
FAX: (317) 233-4929

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

March 23, 2017

Dear Section 106 Consulting Party:

The Hendricks and Boone County Commissioners are advancing a project, with the cooperation and oversight of the Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT), to extend Ronald Reagan Parkway (Current Des. No. 1602280, Previous Des. No. 0710288) in Hendricks and Boone County, Indiana. The project is approximately 9.8 miles long beginning at CR 600 N in Hendricks County, and extends northward to the intersection of State Road (SR) 267 and Indianapolis Road, just south of the I-65 interchange (Exit 133).

The purpose of the proposed project is to improve regional and local mobility by providing better local access to Hendricks and Boone County residents. The need for the project is demonstrated through a lack of adequate system linkage and the lack of access to areas of future annexation and growth.

On July 6, 2010, the Indiana Department of Transportation (INDOT), followed by the Federal Highway Administration (FHWA) on July 7, 2010 approved an Environmental Assessment (EA) prepared for this project. Following this approval, a public hearing was convened on August 2, 2010. On March 7, 2011, the FHWA issued a Finding of No Significant Impact (FONSI) for the project.

From this point forward, advancement of this undertaking is being done so under Des. No. 1602280. However, it should be noted this effort is intended to be an update to, and re-initiation of, the Section 106 consultation concluded under Des. No. 0710288 and DHPA No. 3540. That Des. No., which was purged from INDOT's programming due to the passage of time, included an "Adverse Effect" finding that was issued by FHWA on July 14, 2009, and the execution of a Memorandum of Agreement (MOA) on November 10, 2009. As part of this Section 106 update, the boundary of the Area of Potential Effect (APE) was re-evaluated due to the passage of more than five years since the original evaluation was completed. Contributing properties within the APE were re-evaluated for historical significance, a new effect finding will be issued, and, if needed, an update to the MOA will be made.

*Participation as a Section 106 Consulting Party:*

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties. In accordance with 36 CFR 800.2(c), you are hereby invited to be a consulting party to participate in the Section 106 process. This process involves efforts to identify historic properties potentially affected by the undertaking, assess the effects of the undertaking on historic properties, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information on Section 106 of the NHPA and the Section 106 review process, we recommend reviewing the Advisory Council on Historic Preservation's publication titled *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* which can be downloaded at <http://www.achp.gov/docs/CitizenGuide.pdf>.

The following parties have been invited to become consulting parties:

Indiana Landmarks, Central Regional Office  
Indianapolis Metropolitan Planning Organization  
Delaware Nation of Oklahoma  
Forest County Potawatomi Community  
Miami Tribe of Oklahoma  
Eastern Shawnee Tribe of Oklahoma  
Hendricks County Heritage Alliance  
Hendricks County Historian  
Fairfield Historic Preservation Society  
Town of Brownsburg Manager  
Town of Brownsburg Council  
Indiana National Road Association

Property Owner - Lawler Farmstead at 8460 E CR 1000 N (recommended eligible for the National Register of Historic Places (NRHP))  
Property Owner – Farmstead at 8030 E CR 1000 N (recommended NRHP-eligible)  
Property Owner – House at 8795 E CR 600 N (recommended NRHP-eligible)  
Property Owner – P.C. Hogan Farm at 9110 CR 1000 N (recommended NRHP-eligible)  
Howard School Restoration Group  
Patrick Henry Sullivan Museum  
City of Lebanon Mayor  
Boone County Historical Society  
Jackson Township Historical Society  
Sugar Creek Historical Society  
Zionsville Historical Society  
Boone County Historian  
Lebanon Historic Preservation Commission  
SullivanMunce Cultural Center  
Town of Whitestown Town Manager  
Town of Whitestown Town Council

If you are an individual representing one of the above parties, and are in receipt of this communication, please consider your participation as a consulting party in Section 106 process. If you're inclined to participate in this process, please respond to this correspondence via email or U.S. mail and state your acceptance as a consulting party. If you decline participation as a consulting party, or if you do not respond at all, you **will not** be included on the list of consulting parties for this project and you will not receive further information about the project unless the scope changes.

In addition, the following agencies are automatically be recognized as a consulting party for this undertaking and do not need to return the enclosed postcard:

FHWA  
INDOT, Cultural Resources Office (INDOT-CRO)  
Indiana State Historic Preservation Officer (SHPO)  
Board of Hendricks County Commissioners  
Board of Boone County Commissioners

Per 36 CFR 800.3(f), we hereby request the SHPO notify this office of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the subject undertaking.

We realize you and/or the party you represent may have participated as a consulting party in the original Section 106 process. However, due to the passage in time in development of the project we are looking to re-initiate the Section 106 process anew. This requires us to begin again with extending an invitation to potential consulting parties. Therefore, if you accepted this invitation before we simply request you respond with your intentions by email or U.S. mail to the project contact identified below.

*Re-Evaluation of Properties within the APE:*

Prior identification efforts completed during the original Section 106 process identified a Farmstead at 8460 CR 1000 N (aka the Lawler Farmstead) and the Howard School as resources eligible for inclusion in the National Register of Historic Places (NRHP). The Howard School has since been listed in the NRHP.

Qualified professionals from Weintraut & Associates, Inc., who satisfy the *Secretary of the Interior's Professional Qualification Standards* as per 36 CFR Part 61, re-evaluated contributing properties within an APE that was slightly modified from the original Section 106 process to include additional property along the northeast side of I-65. South of I-65, the APE remains the same as delineated in 2006. The results of the updated architectural survey are included in a Historic Properties Report (HPR). Those results identified three additional properties that are eligible for inclusion in the NRHP including, a Farmstead on 8030 E CR 1000 N, a House at 8795 E CR 600 N, and the P.C. Hogan Farm at 9110 CR 1000 N.

A copy of the HPR is now posted to the Indiana Department of Transportation's online portal for Section 106 documents, also known as IN SCOPE (<http://erms.indot.in.gov/Section106Documents/>), for your review and comment. Once you've accessed the portal you are able to search for the desired information by Des. No. Should you require a hard copy of the HPR, please contact this office and one will be mailed to you.

The archaeological investigations completed by Archaeological Consultants of Ossian on November 18, 2005 and on December 31, 2007, and by Pioneer Consulting Services on January 24, 2011 remain valid. These reports have been placed in IN SCOPE for review by the Tribes. The current Des. No. (Des. No. 1602280) is the most efficient search term to retrieve the documents. If any segment of the proposed project right-of-way extends beyond the footprint cleared during the original identification and evaluation effort, additional archaeological investigations may be warranted. The need for such supplemental investigations will be made in consultation with INDOT-CRO.

To facilitate the development of this project, you are asked to review this information and reply within **30 days** of receipt of this letter. At this time, we looking for you to respond on whether you're interested in being a consulting party for this undertaking (if not already recognized), and provide comments on the HPR. Your timely cooperation in the development of this project is appreciated.

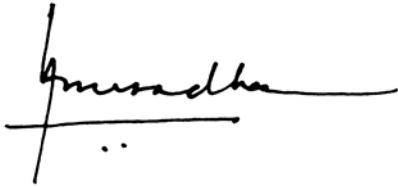
For questions regarding Section 106, Tribal representatives may contact Michelle Allen with FHWA at 317-226-7344 or by email at [Michelle.Allen@dot.gov](mailto:Michelle.Allen@dot.gov) or Shaun Miller at 317-233-6795 or by email at [smiller@indot.gov](mailto:smiller@indot.gov).

For questions concerning specific project details, you may contact Chad Costa of American Structurepoint, Inc. by phone at 317-547-5580 or email at [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com). All future responses regarding the proposed project should be forwarded to American Structurepoint at the following address:

Mr. Chad Costa  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)

Thank you for your time, consideration and feedback.

Sincerely,



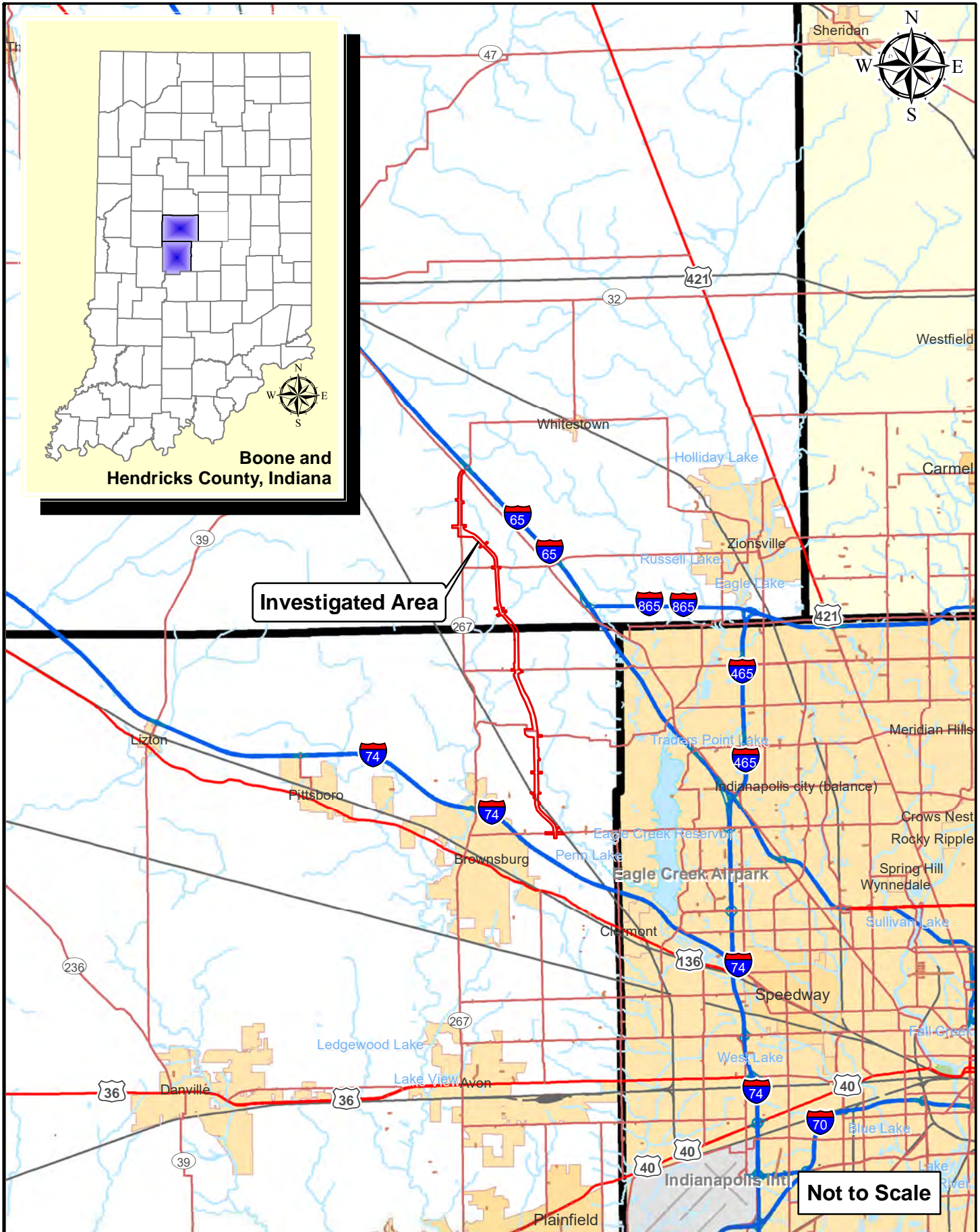
Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

AVK/MEK/mek

Enclosures  
Project Graphics

emc: Michelle Allen, FHWA  
Shaun Miller, INDOT-CRO  
Mary Kennedy, INDOT-CRO  
John Ayers, P.E., Hendricks County Engineer  
Craig Parks, P.E., Boone County Engineer  
Mike Maurovich, P.E., American Structurepoint, Inc.  
Linda Weintraut, Ph.D., Weintraut & Associates, Inc.





**Investigated Area**

**Not to Scale**

Path: P:\2011\00183\Drawings\Arc\ew\waters\2011.00183.EV\2016-11-2.Map.State.AEH.mxd Date:12/5/2016 User:ahammer

**AMERICAN  
STRUCTUREPOINT  
INC.**

**Project Location Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

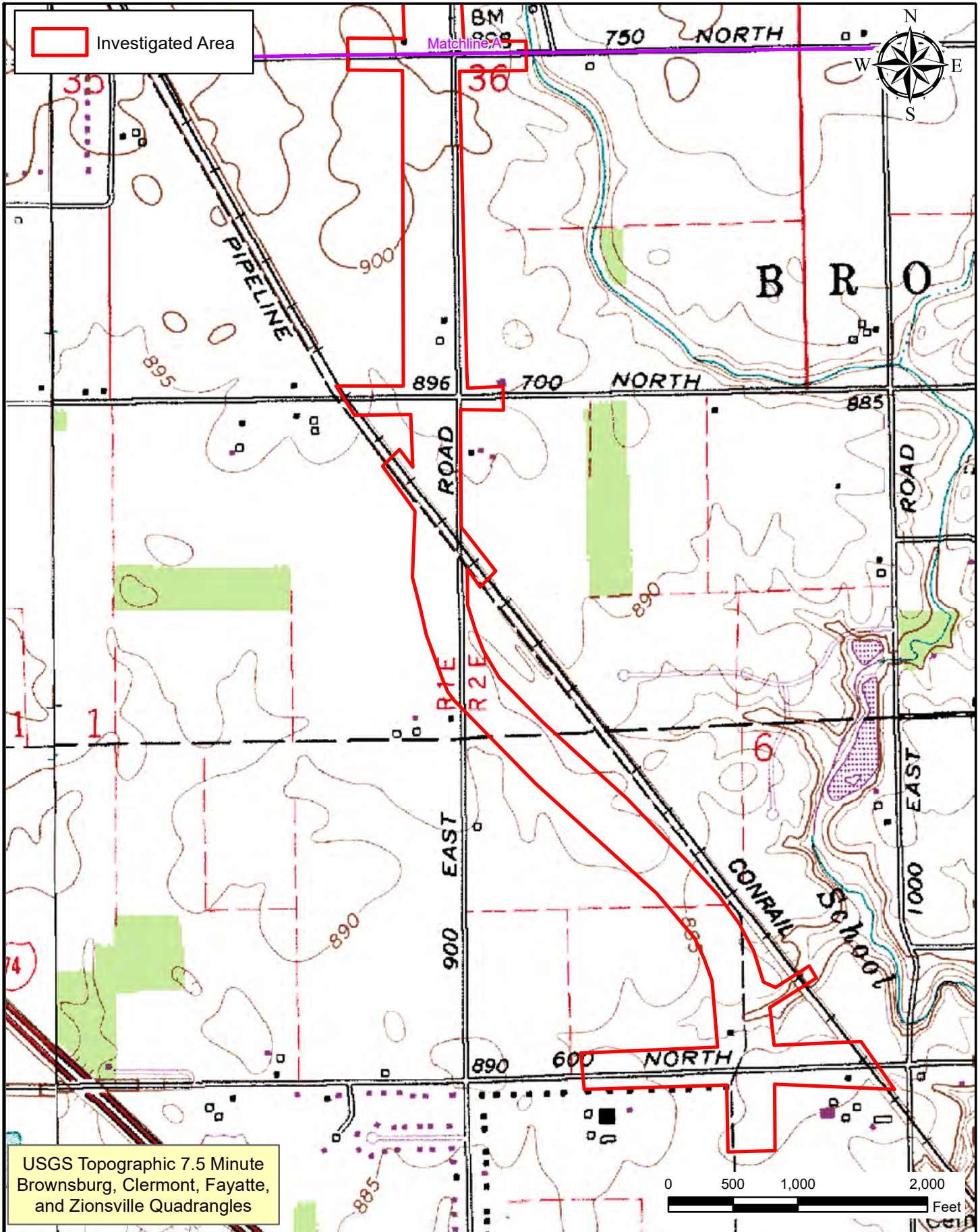
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Pery  
Counties: Boone and Hendricks  
State: Indiana

Appendix D  
D-120

Date: 11/02/2016

Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles

Path: P:\2011\1001\83\ID\_Drawings\Arc\lew\waters\Topo\2011\_001\83.EV\2016-09-23.Map.Topo1\_AEH.mxd Date: 12/2/2016 User: ahanner



**USGS Topographic Map**


|   |  |
|---|--|
| Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|---|--|

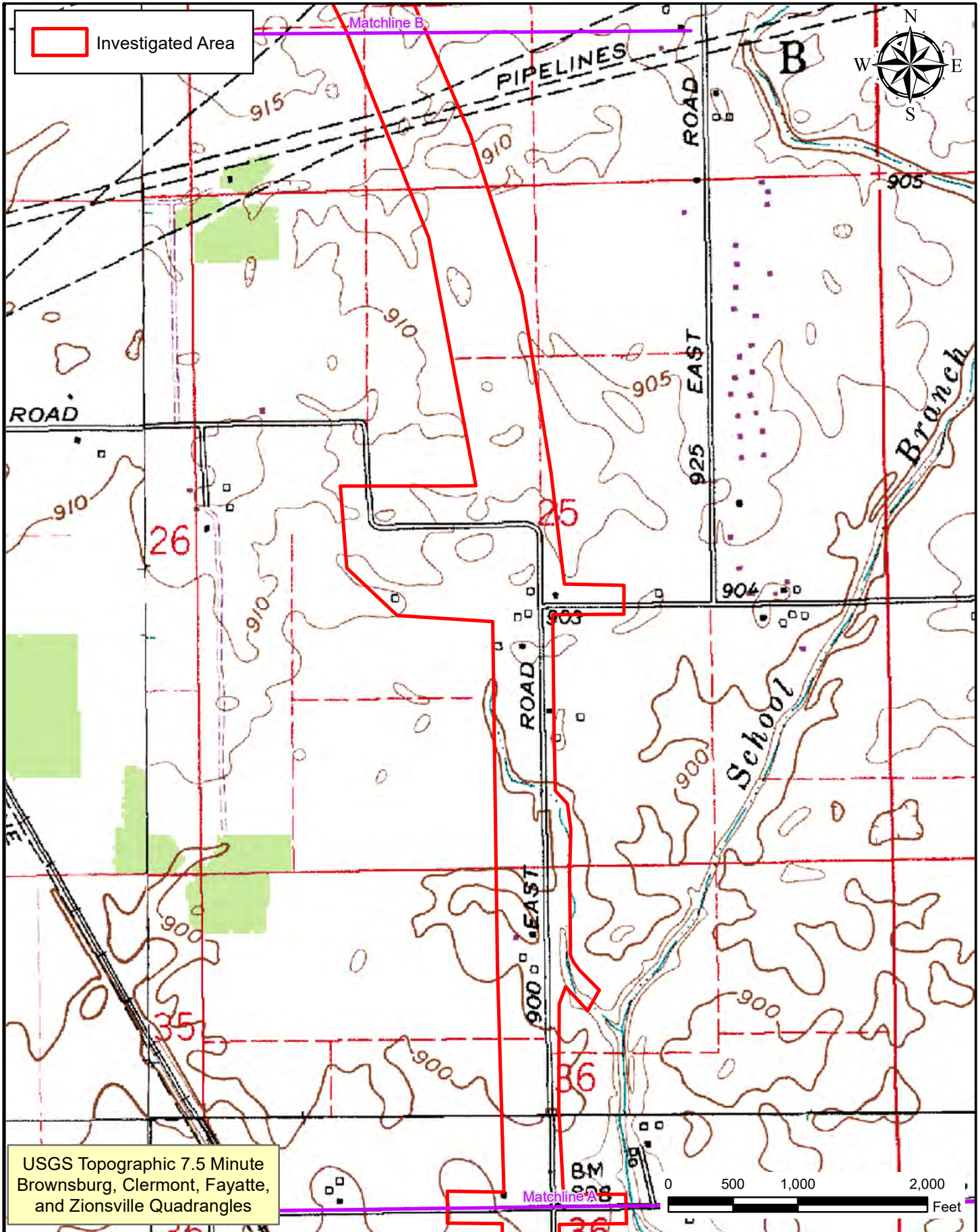
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

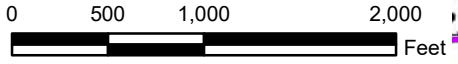
Date: 05/02/2016

Appendix D  
Page 21

 Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



Path: P:\2011\100183\Drawings\Arc\lew\Waters\Topo\2011\_00183\_EV\2016-09-23\_Map\_Top2\_AEH.mxd Date: 12/2/2016 User: ahanner



**USGS Topographic Map**

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|---|--|
| Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|---|--|

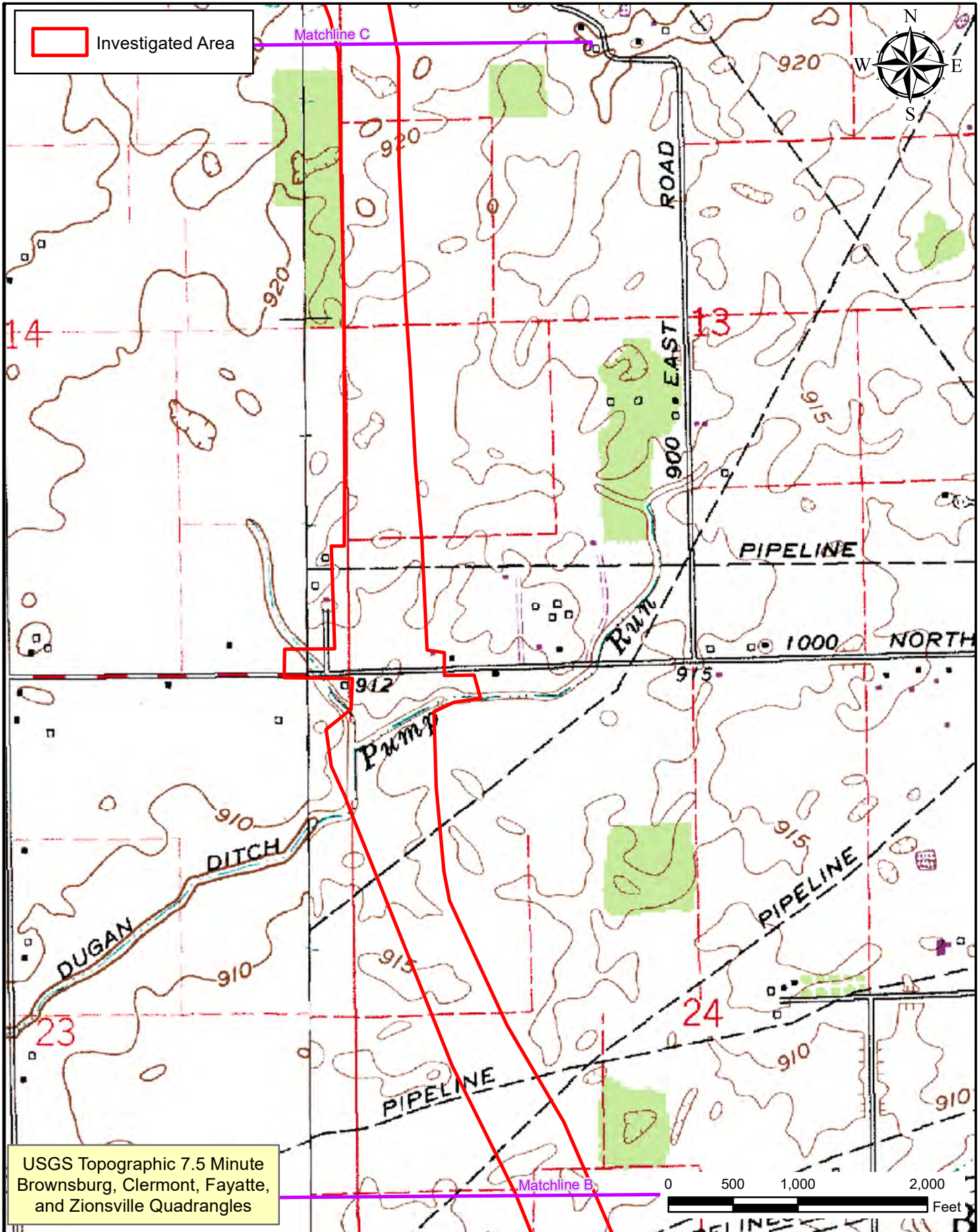
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

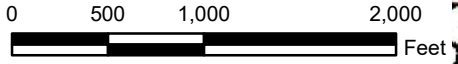
Date: 05/02/2016

Appendix D  
Page 2

Investigated Area



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



Path: P:\2011\100183\Drawings\ArcView\Waters\Topo\2011\_00183\_EV\2016-09-23\_Map\_Topos\_AEH.mxd Date: 12/2/2016 User: ahanner



**USGS Topographic Map**

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| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

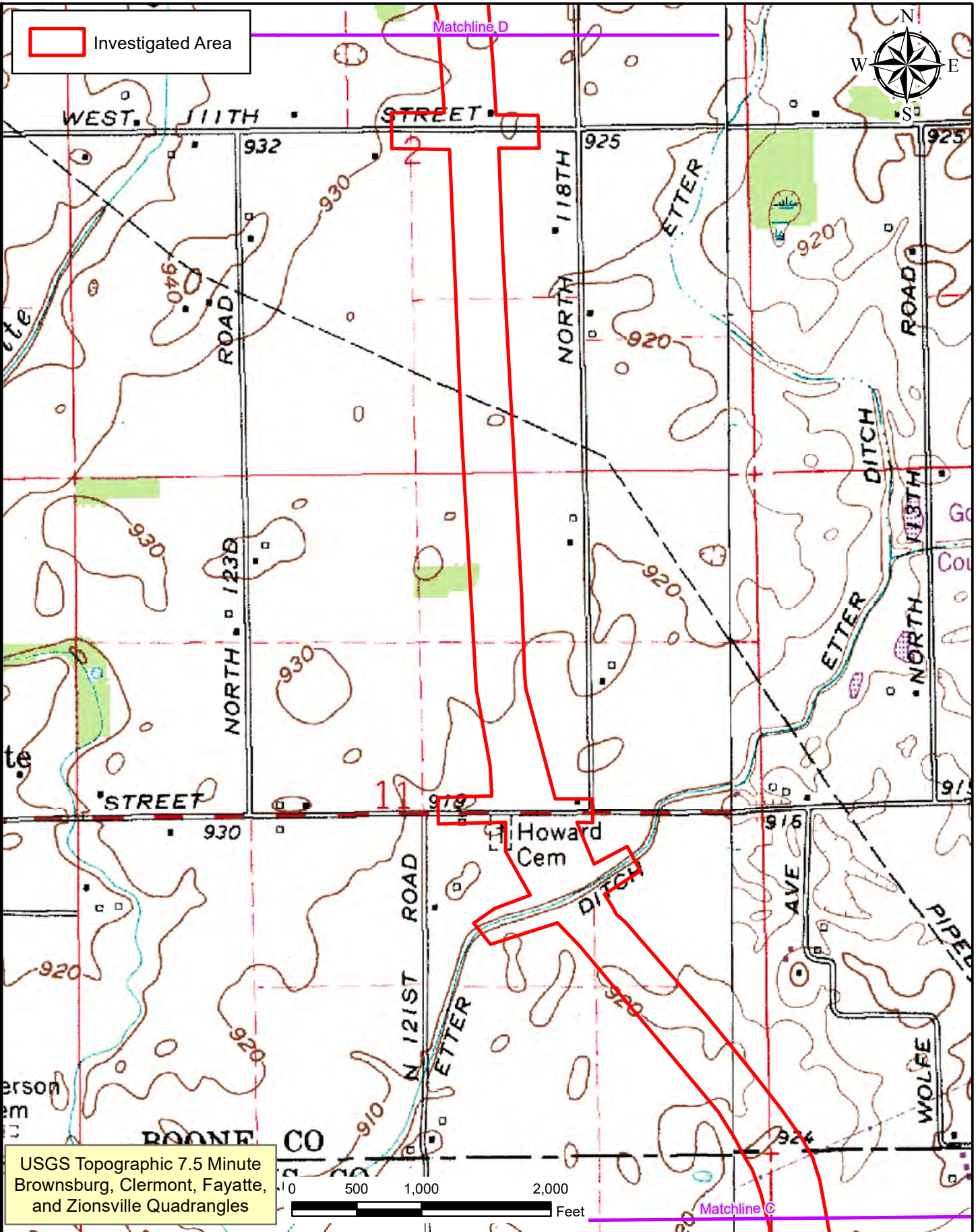
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

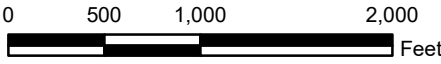
Appendix D  
Page 23

Investigated Area

Matchline D



USGS Topographic 7.5 Minute Brownsburg, Clermont, Fayette, and Zionsville Quadrangles



Matchline C

Path: P:\2011\100183\Drawings\ArcView\Waters\Topo\2011\_00183\_EV\2016-09-23\_Map\_Topod\_AEH.mxd Date: 12/2/2016 User: rahanner



**USGS Topographic Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

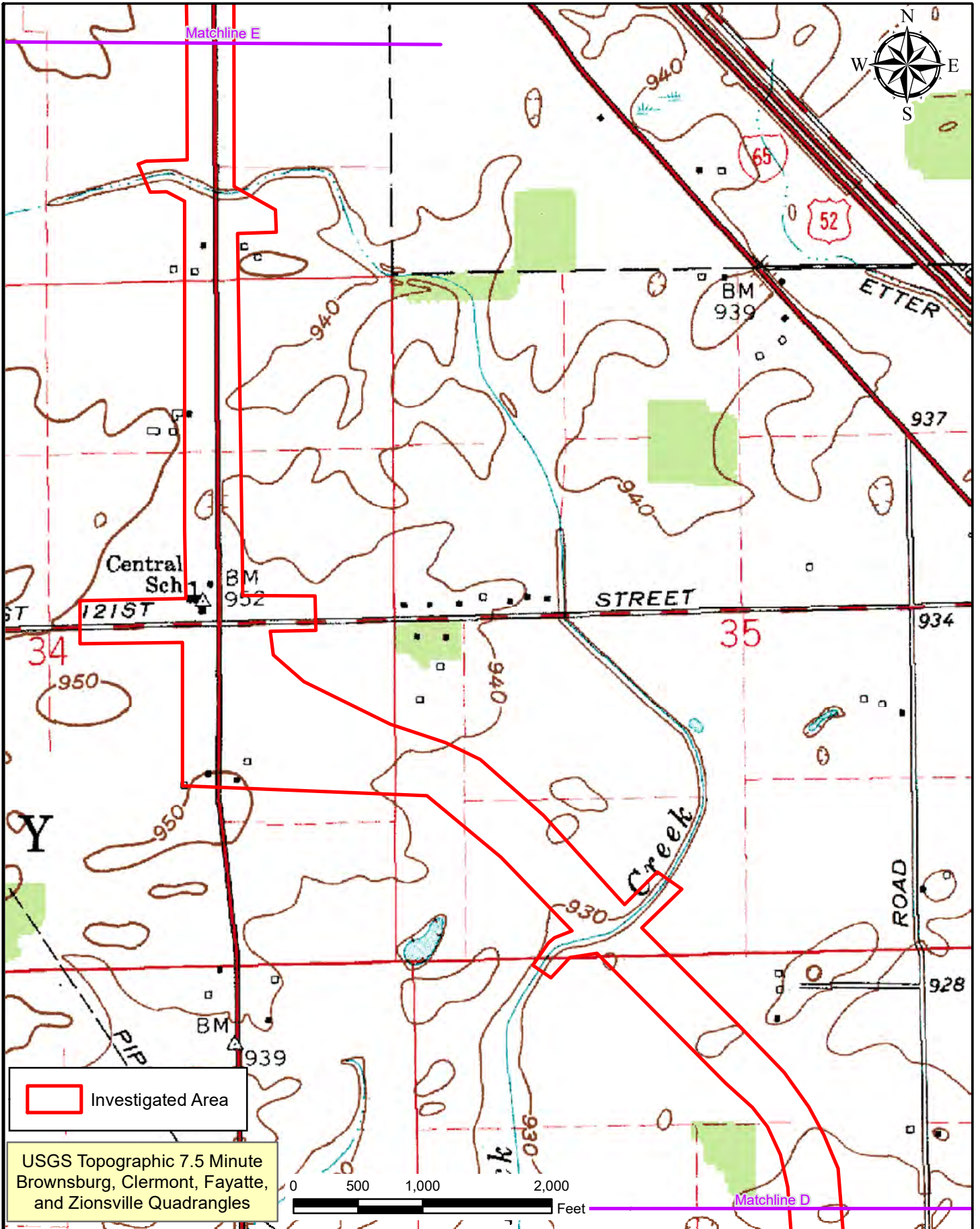
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

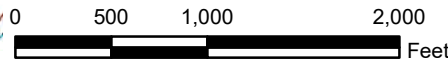


Matchline E



 Investigated Area

USGS Topographic 7.5 Minute  
Brownsburg, Clermont, Fayette,  
and Zionsville Quadrangles



Matchline D

Path: P:\2011\1001\83\Drawings\Arc\lew\Waters\Topo\2011\_00183.EV\2016-09-23.Map.Topo6.AEH.mxd Date: 12/2/2016 User: rahanner



AMERICAN  
**STRUCTUREPOINT**  
INC.

### USGS Topographic Map

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122


Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

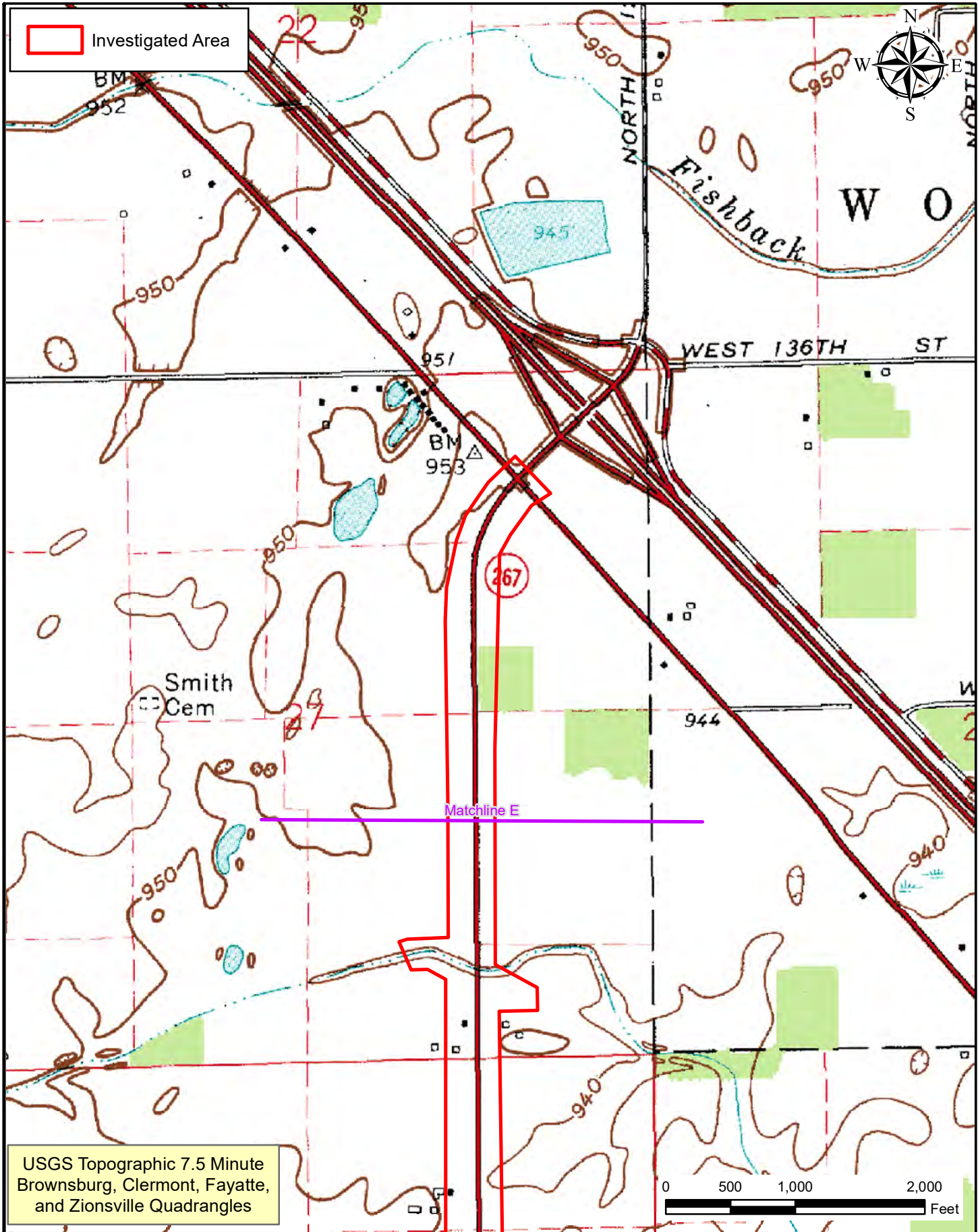
### Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

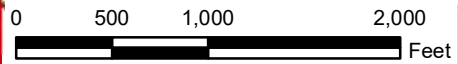
Date: 05/02/2016

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 Investigated Area



USGS Topographic 7.5 Minute  
Brownsburg, Clermont, Fayette,  
and Zionsville Quadrangles



Path: P:\2011\100183\Drawings\Arc\lew\Waters\Topo\2011\_00183\_EV\2016-09-23\_Map\_Topog6\_AEH.mxd Date: 12/2/2016 User: ahanner



**USGS Topographic Map**

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| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

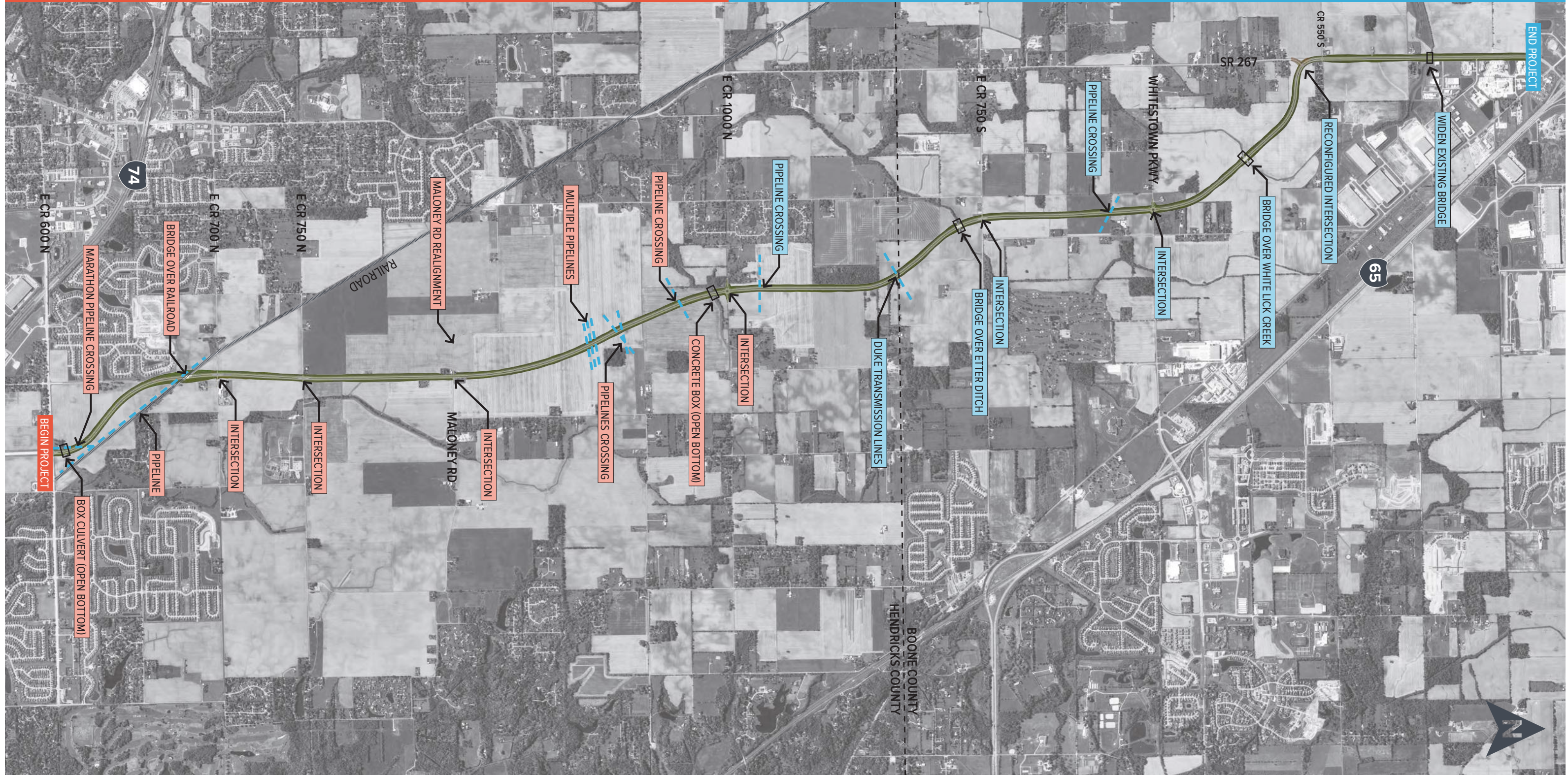
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

Appendix D  
Page 26

# SEGMENT 1

# SEGMENT 2



## Ronald Reagan Parkway Corridor Map



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[www.structurepoint.com](http://www.structurepoint.com)





---

From: Miller, Shaun (INDOT) [<mailto:smiller@indot.IN.gov>]  
Sent: Friday, March 24, 2017 11:46 AM  
To: Diane Hunter; [rdushane@estoo.net](mailto:rdushane@estoo.net); Michael LaRonge; Kimberly Penrod  
Cc: Costa, Chad; Kennedy, Mary; Allen, Michelle (FHWA)  
Subject: FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Dear Prospective Consulting Party,

The Board of County Commissioners for Boone and Hendricks Counties are advancing a project to extend the Ronald Reagan Parkway from CR 600 North in Hendricks County to near the SR 267 and I-65 Interchange in Boone County. The Section 106 process for this project, which takes into consideration a Federal undertaking's potential to affect properties listed or determined eligible for inclusion in the National Register of Historic Places (NRHP), concluded in November of 2009 with the execution of a Memorandum of Agreement (MOA). American Structurepoint, Inc. is under contract with Hendricks and Boone Counties to serve as the Corridor Program Manager, and is responsible for beginning the preliminary design of the preferred alternative and re-evaluation of environmental impacts. Due to the passage of more than five years, the Section 106 process is being re-initiated. As such, we are re-evaluating properties within the APE to determine if there has been any changes in NRHP eligibility since the completion of the original Section 106 process. Whether you previously participated in the Section 106 process for this project, or are new to this project, we are requesting you to consider participating as a consulting party. The roles and responsibilities of a Section 106 consulting party are explained further in the attached letter. By returning a response to this email address indicating to the affirmative your participation, you will be included on all future distributions pertaining to the Section 106 process. Should you return a response to this email specifically declining to participate, or do not respond within 30-days of this email, you will not be included on future distributions pertaining to the Section 106 process.

To aid you in your decision on whether to participate as a consulting party, a Historic Properties Report (HPR) has been prepared by Weintraut & Associates, Inc. This report and the attached letter are posted to INDOT's online portal for Section 106 documents known as IN SCOPE. To retrieve this information simply click on the link <http://erms.indot.in.gov/Section106Documents/> and enter the project Des. No. provided in the subject line of this email.

The archaeological investigations completed by Archaeological Consultants of Ossian on November 18, 2005 and on December 31, 2007, and by Pioneer Consulting Services on January 24, 2011 remain valid. These reports have been placed in IN SCOPE for review by the Tribes. The current Des. No. (Des. No. 1602280) is the most efficient search term to retrieve the documents. If any segment of the proposed project right-of-way extends beyond the footprint cleared during the original identification and evaluation effort, additional archaeological investigations may be warranted. The need for such supplemental investigations will be made in consultation with INDOT-CRO.

Please don't hesitate to contact us should you have any questions regarding this project, or are experiencing problems retrieving project information from IN SCOPE. Your responses should be returned no later than April 24, 2017 . Thank you in advance for your consideration and input!

Sincerely,

Shaun Miller

Archaeological Team Lead

INDOT, Cultural Resources Office

[smiller@indot.in.gov](mailto:smiller@indot.in.gov)

(317) 233-6795



Linda Weintraut <linda@weintrautinc.com>

---

**FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65**

1 message

---

Costa, Chad <ccosta@structurepoint.com>  
To: Linda Weintraut <linda@weintrautinc.com>  
Cc: "Del Real, Monica" <mdelreal@structurepoint.com>

Thu, Mar 30, 2017 at 2:26 PM

FYI

---

From: Miller, Shaun (INDOT) [mailto:[smiller@indot.IN.gov](mailto:smiller@indot.IN.gov)]  
Sent: Thursday, March 30, 2017 2:13 PM  
To: Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)>  
Cc: Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>  
Subject: FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Chad,

Please see the below response from the Delaware Nation.

Thank you,

Shaun Miller

Archaeological Team Lead

INDOT, Cultural Resources Office

[smiller@indot.in.gov](mailto:smiller@indot.in.gov)

(317) 233-6795

From: Kimberly Penrod [mailto:kpenrod@delawarenation.com]  
Sent: Tuesday, March 28, 2017 8:57 AM  
To: Miller, Shaun (INDOT) <smiller@indot.IN.gov>  
Cc: Kimberly Penrod <kpenrod@delawarenation.com>  
Subject: RE: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

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Shaun,

The protection of our tribal cultural resources and tribal trust resources will take all of us working together.

We look forward to working with you and your agency.

With the information you have submitted we can concur at present with this proposed plan.

As with any new project, we never know what may come to light until work begins.

The Delaware Nation asks that you keep us up to date on the progress of this project and if any discoveries arise please contact us immediately.

If you need anything additional from me please do not hesitate to contact me.

*Respectfully,*

*Kim Penrod*

*Delaware Nation*

*Director, Cultural Resources/*

*106, Archives, Library and Museum*

*(405)-247-2448 Ext. 1403 Office*

(405)-924-9485 Cell

kpenrod@delawarenation.com

---

From: Miller, Shaun (INDOT) [mailto:smiller@indot.IN.gov]  
Sent: Friday, March 24, 2017 11:46 AM  
To: Diane Hunter; rdushane@estoo.net; Michael LaRonge; Kimberly Penrod  
Cc: Costa, Chad; Kennedy, Mary; Allen, Michelle (FHWA)  
Subject: FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Dear Prospective Consulting Party,

The Board of County Commissioners for Boone and Hendricks Counties are advancing a project to extend the Ronald Reagan Parkway from CR 600 North in Hendricks County to near the SR 267 and I-65 Interchange in Boone County. The Section 106 process for this project, which takes into consideration a Federal undertaking's potential to affect properties listed or determined eligible for inclusion in the National Register of Historic Places (NRHP), concluded in November of 2009 with the execution of a Memorandum of Agreement (MOA). American Structurepoint, Inc. is under contract with Hendricks and Boone Counties to serve as the Corridor Program Manager, and is responsible for beginning the preliminary design of the preferred alternative and re-evaluation of environmental impacts. Due to the passage of more than five years, the Section 106 process is being re-initiated. As such, we are re-evaluating properties within the APE to determine if there has been any changes in NRHP eligibility since the completion of the original Section 106 process. Whether you previously participated in the Section 106 process for this project, or are new to this project, we are requesting you to consider participating as a consulting party. The roles and responsibilities of a Section 106 consulting party are explained further in the attached letter. By returning a response to this email address indicating to the affirmative your participation, you will be included on all future distributions pertaining to the Section 106 process. Should you return a response to this email specifically declining to participate, or do not respond within 30-days of this email, you will not be included on future distributions pertaining to the Section 106 process.

To aid you in your decision on whether to participate as a consulting party, a Historic Properties Report (HPR) has been prepared by Weintraut & Associates, Inc. This report and the attached letter are posted to INDOT's online portal for Section 106 documents known as IN SCOPE. To retrieve this information simply click on the link <http://erms.indot.in.gov/Section106Documents/> and enter the project Des. No. provided in the subject line of this email.

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Please don't hesitate to contact us should you have any questions regarding this project, or are experiencing problems retrieving project information from IN SCOPE. Your responses should be returned no later than April 24, 2017. Thank you in advance for your consideration and input!

Sincerely,

Shaun Miller

Archaeological Team Lead

INDOT, Cultural Resources Office

[smiller@indot.in.gov](mailto:smiller@indot.in.gov)

(317) 233-6795

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---

FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

1 message

---

From: Miller, Shaun (INDOT) [mailto:[smiller@indot.IN.gov](mailto:smiller@indot.IN.gov)]

Sent: Friday, March 31, 2017 7:50 AM

To: Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)>

Cc: Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>

Subject: FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Chad,

Please see the below response from the Miami Tribe accepting consulting party status.

Thank you,

Shaun Miller

Archaeological Team Lead

INDOT, Cultural Resources Office

[smiller@indot.in.gov](mailto:smiller@indot.in.gov)

(317) 233-6795

---

From: Allen, Michelle (FHWA) [<mailto:michelle.allen@dot.gov>]  
Sent: Friday, March 31, 2017 7:12 AM  
To: Miller, Shaun (INDOT) <[smiller@indot.IN.gov](mailto:smiller@indot.IN.gov)>  
Subject: FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

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---

Shaun,

Please pass on to the project team.

Thanks,

Michelle

---

From: Diane Hunter [<mailto:dhunter@miamination.com>]  
Sent: Thursday, March 30, 2017 4:37 PM  
To: Allen, Michelle (FHWA)  
Subject: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Dear Ms. Allen:

Aya, kikwehsitoole – I show you respect. My name is Diane Hunter, and I am the Tribal Historic Preservation Officer for the Federally Recognized Miami Tribe of Oklahoma. In this capacity, I am the Miami Tribe’s point of contact for all Section 106 issues.

The Miami Tribe offers no objection to the above-mentioned project at this time, as we are not currently aware of existing documentation directly linking a specific Miami cultural or historic site to the project site. However, as this site is within the aboriginal homelands of the Miami Tribe, if any human remains or Native



American cultural items falling under the Native American Graves Protection and Repatriation Act (NAGPRA) or archaeological evidence is discovered during any phase of this project, the Miami Tribe requests immediate consultation with the entity of jurisdiction for the location of discovery. In such a case, please contact me at 918-541-8966 or by email at [dhunter@miamination.com](mailto:dhunter@miamination.com) to initiate consultation.

The Miami Tribe accepts the invitation to serve as a consulting party to the proposed project. In my capacity as Tribal Historic Preservation Officer I am the point of contact for consultation.

Respectfully,

Diane Hunter

Tribal Historic Preservation Officer

Miami Tribe of Oklahoma

P.O. Box 1326

Miami, OK 74355

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Linda Weintraut <linda@weintrautinc.com>

---

**FW: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65**

1 message

---

Costa, Chad <ccosta@structurepoint.com>  
To: Linda Weintraut <linda@weintrautinc.com>  
Cc: "Del Real, Monica" <mdelreal@structurepoint.com>

Thu, Mar 30, 2017 at 2:30 PM

FYI

---

From: Costa, Chad  
Sent: Thursday, March 30, 2017 1:22 PM  
To: Eric Spall <hdulcimer@gmail.com>  
Subject: Re: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

April 24, 2017.

Thanks!

Sent from my iPhone

On Mar 30, 2017, at 11:35 AM, Eric Spall <hdulcimer@gmail.com> wrote:

Mr. Costa,

Please include me as a consulting party. What is the deadline for input?

Regards,

On Tue, Mar 28, 2017 at 12:22 PM, Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)> wrote:

Mr. Spall,

As a consulting party, we'd look for input from you and other consulting parties regarding information that has been prepared for the project pertaining to historical resources. At this point in the Section 106 process, we're looking for feedback on the modifications made to the Area of Potential Effect (APE) and the National Register eligibility determinations made by our Qualified Professional (QP) in the Historic Properties Report (HPR) that is posted to IN SCOPE (link provided in the original email). As of right now, we're not anticipating any meetings unless there is substantial concerns elicited by the consulting parties. So the time commitment would only be that time you put in to reviewing the information we provide.

Hope this helps. Thanks!

---

Chad E. Costa  
Project Manager, Environmental Services Group

<image001.jpg>

7260 Shadeland Station, Indianapolis, Indiana 46256

t 317.547.5580 c 317.694.7657

e [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com) w [www.structurepoint.com](http://www.structurepoint.com)

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<image004.jpg>



<image006.jpg>

From: Eric Spall [mailto:[hdulcimer@gmail.com](mailto:hdulcimer@gmail.com)]  
Sent: Tuesday, March 28, 2017 12:12 PM  
To: Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)>  
Subject: Re: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

Mr. Costa,

I've received your invitation to be a Section 106 consulting party. Before I make a decision to accept or decline, please advise me as to the responsibilities of a consulting party and the expected time commitment.

Regards,

Eric Spall

Boone County Historian

On Thu, Mar 23, 2017 at 12:26 PM, Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)> wrote:

Dear Prospective Consulting Party,

The Board of County Commissioners for Boone and Hendricks Counties are advancing a project to extend the Ronald Reagan Parkway from CR 600 North in Hendricks County to near the SR 267 and I-65 Interchange in Boone County. The Section 106 process for this project, which takes into consideration a Federal undertaking's potential to affect properties listed or determined eligible for inclusion in the National Register of Historic Places (NRHP), concluded in November of 2009 with the execution of a Memorandum of Agreement (MOA). American Structurepoint, Inc. is under contract with Hendricks and Boone Counties to serve as the Corridor Program Manager, and is responsible for beginning the preliminary design of the preferred alternative and re-evaluation of environmental impacts. Due to the passage of more than five years, the Section 106 process is being re-initiated. As such, we are re-evaluating properties within the APE to determine if there has been any changes in NRHP eligibility since the completion of the original Section 106 process. Whether you previously participated in the Section 106 process for this project, or are new to this project, we are requesting you to consider participating as a consulting party. The roles and responsibilities of a Section 106 consulting party are explained further in the attached letter. By returning a response to this email address indicating to the affirmative your participation, you will be included on all future distributions pertaining to the Section 106 process. Should you return a response to this email specifically declining to participate, or do not respond within 30-days of this email, you will not be included on future distributions pertaining to the Section 106 process.

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retrieve this information simply click on the link <http://erms.indot.in.gov/Section106Documents/> and enter the project Des. No. provided in the subject line of this email.

Please don't hesitate to contact us should you have any questions regarding this project, or are experiencing problems retrieving project information from IN SCOPE. Your responses should be returned no later than April 24, 2017. Thank you in advance for your consideration and input!

---

**Chad E. Costa**  
Project Manager, Environmental Services Group

<image001.jpg>

7260 Shadeland Station, Indianapolis, Indiana 46256

t 317.547.5580 c 317.694.7657

e [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com) w [www.structurepoint.com](http://www.structurepoint.com)

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<image004.jpg>



<image006.jpg>

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9 attachments



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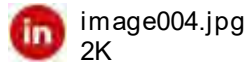


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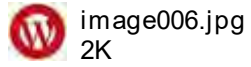


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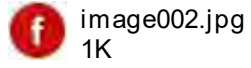


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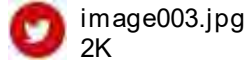


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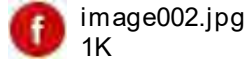


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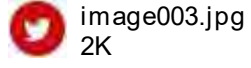


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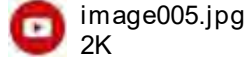


image005.jpg  
2K

-----Original Message-----

From: Wethington, Patrick C [mailto:[pwething@iupui.edu](mailto:pwething@iupui.edu)]

Sent: Tuesday, April 04, 2017 10:38 AM

To: Allen, Michelle (FHWA)

Subject: Ronald Reagan Section 106

I am the owner of P.C. Hogan Farm at 9110E CR 1000N Brownsburg. I accept the offer to be a consulting party for Section 106. I believe you spoke to Greg Frazee who called you on my behalf. Mr Frazee holds a lease on my farm and will assist me as we move forward. I would also consider your recommendation about NRHP if you would tell me how to proceed. Please mail to me a hard copy of the HPR, as my computer skills are quite limited. Also please advise what, if anything, I need to do next. Thank you. Pat Wethington: PC Hogan Farm

Sent from my iPad

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<http://www.structurepoint.com/>

-----Original Message-----

From: Costa, Chad

Sent: Monday, April 10, 2017 2:35 PM

To: [pwething@iupui.edu](mailto:pwething@iupui.edu)

Cc: Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Allen, Michelle (FHWA)

<[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>; Linda Weintraut

<[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>; Kumar, Anuradha <[akumar@indot.IN.gov](mailto:akumar@indot.IN.gov)>

Subject: FW: Ronald Reagan Section 106

Good morning Mr. Wethington,

Thank you for agreeing to participate as a Section 106 consulting party for the Ronald Reagan Parkway extension project. We have placed in today's mail a hard copy of the Historic Properties Report (HPR). As you are aware, our architectural historians at Weintraut & Associates identified your property as a resource that is considered eligible for inclusion in the National Register of Historic Places (NRHP). At the present time, we are simply trying to identify historic properties within a broad Area of Potential Effect (APE) that could be affected by the subject transportation project. Such properties are either those already listed in the NRHP, or those determined eligible for inclusion in the NRHP based on its association with persons, places or events. The HPR provided to prospective consulting parties on March 23, 2017 details the efforts taken to identify historic properties corridor-wide. We are looking to receive comments from consulting parties specifically on the APE, as illustrated in the HPR, and the recommendations made in the HPR. These comments are due by April 24, 2017 and should be sent to my attention.

After we identify all the historic properties, and afford consulting parties the opportunity to comment on the findings of the HPR, we'll begin looking at whether there will be any new adverse effects that result from the project that weren't previously identified. If there are new adverse effects, measures to mitigate the identified effects will be explored. Documentation supporting the updated finding will also be provided to consulting parties for review. If adverse effects to your property are found to occur, the likely mitigation measures to offset the impacts will be coordinated with you for comment before any agreement between the Indiana Department of Transportation and State Historic Preservation Officer is reached.

We understand the majority of questions you have are likely to pertain to your property. Should you have specific questions about what they noted on your property that warranted this recommendation, I welcome you to contact Dr. Linda Weintraut at [317-733-9770](tel:317-733-9770), or by email (I've copied her on this communication). However, should you have general project questions please feel free to reach out to me any time.

Thank you for your interest in this project.

---

Chad E. Costa



Project Manager, Environmental Services Group

7260 Shadeland Station, Indianapolis, Indiana 46256 t [317.547.5580](tel:317.547.5580) c [317.694.7657](tel:317.694.7657) e [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com) w [www.structurepoint.com](http://www.structurepoint.com)

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-----Original Message-----

From: Kennedy, Mary [mailto:[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)]  
Sent: Monday, April 10, 2017 8:22 AM  
To: Linda Weintraut <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>; Costa, Chad <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)>  
Cc: Kumar, Anuradha <[akumar@indot.IN.gov](mailto:akumar@indot.IN.gov)>; Miller, Shaun (INDOT) <[smiller@indot.IN.gov](mailto:smiller@indot.IN.gov)>; Allen, Michelle (FHWA) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>  
Subject: FW: Ronald Reagan Section 106

Linda & Chad,

Please see below. Please coordinate with Mr. Wethington and provide him the requested information.

Thank you!

Mary E. Kennedy  
Architectural Historian/History Team Lead Cultural Resources Office Environmental Services  
100 N. Senate Ave., Room N642  
Indianapolis, IN 46204  
Office: [\(317\) 232-5215](tel:317.232.5215)  
Email: [mkennedy@indot.in.gov](mailto:mkennedy@indot.in.gov)




## LETTER OF TRANSMITTAL

|  |   |                        |
|--|---|------------------------|
| <b>To:</b><br>Mr. Patrick Wethington<br>P.C. Hogan Farm<br>9110 E CR 1000 N<br>Brownsburg, Indiana 46112 | <b>Date:</b><br>April 10, 2017  | <b>Phase:</b><br>00200 |
|  | <b>Project Number:</b><br>2011.00183                                    | <b>Task:</b><br>00240  |
|  | <b>Project Description:</b><br>Ronald Reagan Parkway (Des. No. 1602280) |                        |

|                    |  |     |  |
|--------------------|--|-----|--|
| <b>Deliver by:</b> | <b>We are sending you:</b>                   |     |  |
| Time:              | <input checked="" type="checkbox"/> Enclosed | via | <input checked="" type="checkbox"/> Mail           |
| Date:              | <input type="checkbox"/> Separately          |     | <input type="checkbox"/> Messenger                 |
|                    |  |     | <input type="checkbox"/> Overnight                 |
|                    |  |     | <input checked="" type="checkbox"/> As Requested   |
|                    |  |     | <input type="checkbox"/> For Your Information      |
|                    |  |     | <input type="checkbox"/> For Your Review & Comment |

| Quantity: | Type:  | Description:  |
|-----------|--------|---|
| 1         | Report | Historic Property Report - Ronald Reagan Parkway - January 2017 |
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| <b>Remarks:</b> |
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|---|---------------|-------------------|------------|--|
| <b>Copies:</b>                                | <b>Trans:</b> | <b>Enclosure:</b> | <b>To:</b> | <b>Very truly yours,</b><br><b>American Structurepoint, Inc.</b><br><br>Monica Del Real |
|   |               |                   |            |  |
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|   |               |                   |            |  |
| <b>Please return 0 copies to this office.</b> |               |                   |            |  |

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## Fwd: Ronald Reagan Section 106

1 message

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From: Jerry <[jerry\\_marks@att.net](mailto:jerry_marks@att.net)<[mailto:jerry\\_marks@att.net](mailto:jerry_marks@att.net)>>  
Date: April 16, 2017 at 4:25:26 PM EDT  
To: [ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)<<mailto:ccosta@structurepoint.com>>  
Subject: Ronald Reagan Section 106  
Reply-To: Jerry <[jerry\\_marks@att.net](mailto:jerry_marks@att.net)<[mailto:jerry\\_marks@att.net](mailto:jerry_marks@att.net)>>

Chad...

....per recent correspondence, please accept this email as confirmation of being interested in being a Section 106 consulting party for Ronald Reagan Project Des.1602280...

Jerry Marks  
8030 E CR 1000 N  
Brownsburg, IN 46112-9662

[jerry\\_marks@att.net](mailto:jerry_marks@att.net)<[mailto:jerry\\_marks@att.net](mailto:jerry_marks@att.net)>  
Cell 317-605-7496

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## Fwd: Section 106 (P.C. Hogan Farm)

1 message

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From: "Wethington, Patrick C" <[pwething@iupui.edu](mailto:pwething@iupui.edu)<<mailto:pwething@iupui.edu>>>  
Date: April 16, 2017 at 6:35:54 PM EDT  
To: "[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)<<mailto:ccosta@structurepoint.com>>" <[ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)<[mai  
lto:ccosta@structurepoint.com](mailto:ccosta@structurepoint.com)>>  
Subject: Section 106 (P.C. Hogan Farm)

Thank you for sending me a copy of HRP. I have no suggestions at this time but I will correct a few minor errors in the report. The Dugan-Hogan farm was not divided in 1881. Martin Dugan and Patrick Hogan, as brothers in law, purchased 160 acres in 1891. They divided the farm in 1903. The land was not split east to west as the report indicates. Dugan took the north half and Hogan the south half. It was then that the Hogan house was moved to the southern end of the property. The Hogan farm included approximately 25 acres on the west side of 900E which is still intact today. Greg Frazee, owner of Brownsburg Landscape Co, holds a lease on 13 acres of that parcel for the Hogan Farms Pumpkin Patch and Corn Maze, which is open for business in September and October. Hopefully the new road will not have an impact on that venture. Please let me know if I can be of any further assistance. Pat Wethington; PC Hogan Farm

Sent from my iPad

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Response to Historic Properties Report Ronald Reagan Parkway Construction Report  
... DES No.: 1602280 prepared by Weintraut & Associates, Inc.

Eric Spall  
Boone County Historian

I have read the Historic Properties Report prepared by Weintraut & Associates, Inc. The only concerns I have involve their conclusions regarding the Mount Tabor Primitive Baptist Church (pp. 38-39), which they did not recommend as eligible for the National Register of Historic Places. My concerns are based on their dating of the structure and the site's historical significance.

First: This report asserts that the building was built in the 1890s, despite local sources claiming it was constructed in 1857. While I defer to the authors' expertise in historical architecture, I must point out that I have found no sources to corroborate this conclusion. Two histories of the church, one written in 1960, the other in 2013, both state that the present building was constructed in 1857. A major remodelling project was completed in 1915, and various changes were made over the course of the 20th century. The church's minutes from 1889-1900 do not mention construction of a new building. Some of the digital scans of the minute books available at the Lebanon Public Library were blurred, so I could not read every single entry for those years, but a search of newspaperARCHIVE (a newspaper database to which the Lebanon Public Library subscribes) did not turn up any articles from the 1880s or 1890s about constructing a new church for the congregation. Furthermore, remarks made in Lebanon newspapers at the time of the dedication of the 1915 remodel referred to the building as the "historical church" and the "old Mt. Tabor church;" it seems unlikely that these phrases would have been used had the building been built in the 1890s, making it less than 30 years old at the time of the remodel.<sup>1</sup>

Second: The Mount Tabor congregation became embroiled in a lawsuit that went to the Indiana Supreme Court (Smith et al. v. Pedigo et al., 1893). The issue involved a question of church doctrine; it revolved around the issue of predestination, the majority asserting that it was within man's power to affect redemption, while the minority maintained the more strict Calvinistic teaching that redemption was predetermined. The majority dismissed the minority, but the minority, maintaining that the majority had violated the church's charter by deviating from its established doctrine, claimed that they (the minority) were the authentic congregation and the rightful possessors of church property. The majority disagreed and forcibly took possession of the building. The Supreme Court ruled in favor of the minority. Reports of the case were published in papers around the country.<sup>2</sup>

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<sup>1</sup> Mrs. Elma Smith, *History of Mt. Tabor Church* (January 1960), 3; *Mount Tabor Primitive Baptist Church 1835-2013*; *Lebanon Pioneer*, 10/21/1915, 1, 11/04/1915, 12.

<sup>2</sup> Charles F. Remy, *Reports of Cases Argued and Determined in the Supreme Court of Judicature of the State of Indiana*, Vol. 145 (Indianapolis: Levey Bro's & Co., 1897), 361-425, accessed April 19, 2017,

The HPR does not mention this case, so I want to make sure the authors are aware of it. The fact that the present building, which from the sources I've seen is the same building, though remodelled, was the center of that dispute and the seemingly unusual circumstance of the state Supreme Court having to rule on matters of church doctrine (not which doctrine was true but which group was behaving in accordance with the church's established beliefs) may lend support to the site being considered historically significant under NRHP evaluation criteria A.

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<https://books.google.com/books?id=GLkDAAAAYAAJ&pg=PA380&lpg=PA380&dq=%22mount+tabor%22+indiana+%22supreme+court%22&source=bl&ots=rhI09OTNk0&sig=HuBjkEguFKR-rzNA7R-7C-u8sII&hl=en&sa=X&ved=0ahUKEwivnaCK-6HTAhVI74MKHeEYB1s4ChDoAQghMAI#v=onepage&q=%22mount%20tabor%22%20indiana%20%22supreme%20court%22&f=false>; for examples of reports of the case in other states, see *Ashville (NC) Daily Citizen*, 7/25/1891, 1, *Topeka State Journal*, 4/22/1897, 5.

---

**From:** Michael LaRonge <Michael.LaRonge@fcpotawatomi-nsn.gov>  
**Sent:** Thursday, April 20, 2017 5:35 PM  
**To:** Miller, Shaun (INDOT)  
**Subject:** RE: Des. No. 1602280 - Extension of Ronald Reagan Parkway from CR 600 N to SR 267 / I-65

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Re: IN-DOT Des No. 1602280, Ronald Regan Parkway (CR600 North in Hendricks County to SR 267 and I-65 Interchange in Boone County).

Dear Mr. Miller,

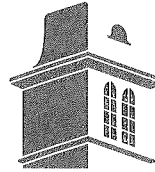
Pursuant to consultation under Section 106 of the National Historic Preservation Act (1966 as amended) the Forest County Potawatomi as a Federally Recognized Native American Tribe reserves the right to comment on Federal undertakings, as defined under the act. Thank you for your participation in the process.

This response is in regard to the project mentioned above. This entire project occurs within the current geographic area of interest of the Forest County Potawatomi Community. The Tribal Historic Preservation Office on behalf of the Forest County Potawatomi Community has reviewed the related archaeological survey report, and concurs with the finding of NO ADVERSE EFFECT with one provision. The Tribe requests that the project construction managers comply with Indiana State Archaeology Law (Indiana Code 14-21-1, all parts), and in addition the Tribe asks that you contact the Historic Preservation Office in the event there is an inadvertent discovery of human remains or archaeological material for consultation of treatment and handling prior to removal.

Your interest in protecting cultural and historic properties is appreciated. If you have any questions or concerns, please contact me by phone or via email listed below

Respectfully,

Michael LaRonge  
Tribal Historic Preservation Officer  
Natural Resources Department  
Forest County Potawatomi Community  
5320 Wensaut Lane  
P.O. Box 340  
Crandon, Wisconsin 54520  
Phone: 715-478-7354  
Fax: 715-478-7225  
Email: Michael.LaRonge@FCPotawatomi-nsn.gov



INDIANA LANDMARKS

1201 Central Avenue, Indianapolis, IN 46202  
317 639 4534 / 800 450 4534 / [www.indianalandmarks.org](http://www.indianalandmarks.org)

April 24, 2017

Mr. Chad Costa  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256

Re: Des. No. 1602280, Ronald Reagan Parkway Construction Project in Perry and Worth Townships,  
Boone County and Lincoln and Brown Townships, Hendricks County, Indiana

Dear Mr. Costa:

Indiana Landmarks would like to continue its role as a consulting party for the above project.

We concur with the historians' identification of NRHP-listed or eligible properties within the APE. We also concur with most of the historians' findings regarding the historic properties that are ineligible for the NRHP within the APE. However, there are two properties in the APE denoted as ineligible within the Historic Property Report that we believe should be examined more thoroughly before we accept the historians' assessment. Specifically, we believe that IHSSI #063-205-00014 appears to be a relatively intact historic farmstead, and we are not convinced that it is ineligible for the NRHP. The fact that there are other "eligible resources from the era with higher integrity nearby" does not necessarily negate the eligibility of this resource. In addition, while IHSSI #063-205-00015 (the Pennington House) has undergone some alterations since the most recent IHSSI interim report, the structure appears to retain many of its major character-defining features, including its original wood siding and most of its historic windows. Accordingly, we believe the above two properties warrant further investigation into their NRHP-eligibility – especially given that both are less than 3000 from the right-of-way of the new parkway.

Regarding the Howard School (NR-2123), we would like to ensure that all terms of the October 19, 2009 Memorandum of Agreement (MOA) are honored in the effort to mitigate the adverse effects of the undertaking on the resource. To this end, we would request a more explicit statement of FHWA's commitment to be the party responsible for purchasing and planting the trees intended to act as a buffer between the Howard School and the new parkway, as stipulated in Section I. A. of the MOA.

Thank you for the continued opportunity to comment on Des. No. 1602280. We look forward to remaining involved in the project.

Sincerely,

Sam Burgess  
Community Preservation Specialist



## Memorandum

**Date:** April 25, 2017

**To:** INDOT-Cultural Resources Office

**From:** Weintraut & Associates

**Regarding: Recommendations of Eligibility and Comments from Indiana Landmarks,  
Ronald Reagan Parkway Construction Project (Des. No.: 1602280)**

---

Indiana Landmarks, a consulting party, provided comments on the eligibility recommendations contained in the Historic Property Report for the above-referenced project in a letter dated April 24, 2017. The purpose of this memorandum is to consider and address those comments.

**Farmstead (063-205-00014)**  
**8030 E CR 1000 N**

*Comment:* Landmarks states “. . . we believe that IHSSI #063-205-00014 appears to be relatively intact historic farmstead, and we are not convinced it is ineligible for the NRHP. The fact that there are other ‘eligible resources from the era with higher integrity nearby’ does not necessarily negate the eligibility of that resource.”

*Response:* W&A recommended the Farmstead at 8030 E CR 1000 N (IHSSI #063-205-00014) eligible to listed in the NRHP in the Historic Property Report (see pages ii, 31-32, and 53).

The Properties Table (see page 74) entry for this resource carried an editing error that recommended this resource as not eligible for the NRHP. This error will be noted and corrected in the 800.11 documentation for this project.

**Pennington House (063-205-00015)**  
**10563 CR 800 E**

*Comment:* Landmarks states that while the Pennington House “has undergone some alternations since the most recent IHSSI interim report, the structure appears to retain many of its major character-defining features, including its original wood siding and most of its historic windows.”

*Response:* W&A scrutinized the Pennington House carefully during the field survey, and since receiving Landmarks’ letter, they have reconsidered this resource. The historians acknowledge that this resource contributes to the historic fabric of Boone County; however, they continue to believe that the house does not rise to a level of eligibility for the NRHP. In particular, historians believe that the removal of the asymmetrical wrap-around spindle work porch is an important character-defining element that is no longer extant. McAlester lists the wraparound porch as a primary “Identifying Feature” of the Queen Anne style in the revised edition of *A Field Guide to American Houses* (2013, see page 35). Further, fenestration changes have occurred through the replacement of the one-over-one windows with smaller two-over-two and three-over-three windows. (A second floor door was also replaced with a window since the IHSSI survey in

1989.) Due to the loss of the porch and fenestration changes, historians do not believe this resource is eligible for listing in the NRHP.

**West elevation  
1989**



**West elevation  
2016**





Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · [dhpa@dnr.IN.gov](mailto:dhpa@dnr.IN.gov) · [www.IN.gov/dnr/historic](http://www.IN.gov/dnr/historic)



April 26, 2017

Anuradha V. Kumar  
Manager, Cultural Resources Office  
Environmental Services  
Indiana Department of Transportation  
100 North Senate Avenue, Room N642  
Indianapolis, Indiana 46204

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration (“FHWA”)

Re: Update and re-initiation of the Section 106 review and historic property report (Natali, Molloy, and  
Fivecoat, 1/2017) for the extension of Ronald Reagan Parkway from Hendricks CR 600 N to the  
SR 267-Indianapolis Road intersection near I-65 in Boone County

Dear Ms. Kumar:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your letter dated March 23, 2017, with historic property report enclosed, which we received on March 27 for the aforementioned project in Lincoln and Brown townships in Hendricks County and Perry and Worth townships in Boone County, Indiana.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this project, beyond those whom you already have invited.

The area of potential effects (“APE”) proposed in the historic property report (“HPR”; Natali, Molloy, and Fivecoat, 1/2017) appears to be of ample size to encompass the area in which direct and indirect effects could occur.

We agree with the HPR that Howard School (Perry Township School No. 1; NR-2123; Indiana Historic Sites and Structures Inventory No. 011-205-45031) at 4555 CR 750 S in Boone County is listed in the National Register of Historic Places (“NRHP”) and remains eligible for the NRHP. John Carr of our staff recalls that he participated in a site visit to the school in about 2008 and that the interior retained reasonable integrity, prior to the completion of the restoration project.

To the best of our knowledge, no one on our staff or anyone representing the counties, INDOT, or FHWA has examined the interiors of the other buildings identified as NRHP-eligible in the HPR. However, based on the information provided in the HPR, we agree, for the purposes of the Section 106 review of this federal undertaking, that the following properties are eligible for inclusion in the NRHP and are the only other, above-ground properties, besides Howard School, within the APE that appear to be NRHP-eligible, for the reasons stated and with the approximate boundaries proposed in the HPR:

- Lawler Farmstead (IHSSI No. 063-699-00012) at 8460 E CR 1000 N in Hendricks County.
- Farmstead (IHSSI No. 063-205-00014) at 8030 E CR 1000 N in Hendricks County.
- House (IHSSI No. 063-117-40006) at 895 E CR 600 N in Hendricks County.
- P.C. Hogan Farm (063-699-00006) at 9110 CR 1000 N in Hendricks County.

In regard to archaeological resources in the proposed project area, it will be helpful to our identification efforts if you will provide an updated map indicating all areas that would be affected by project-related ground-disturbing activities.

Once the indicated information is received, the Indiana SHPO will resume identification and evaluation procedures for this project. Please keep in mind that additional information may be requested in the future.

Additionally, we note that portions of the proposed project area appear to lie within 100 feet of Howard Cemetery (CR-06-61 in the Indiana DHPA SHAARD database system). Please note that, if the proposed project area includes any areas within 100 feet of a cemetery, then a cemetery development plan may be necessary under IC 14-21-1-26.5. The aforementioned cemetery must be avoided by all project activities, and provisions of relevant state statutes regarding cemeteries (including IC 14-21-1 and IC 23-14) must be adhered to. Please also be aware of Indiana Code 23-14-44-1 and Indiana Code 23-14-44-2, regarding restrictions on roads and utility construction in cemeteries.

If you have questions about archaeological issues, please contact Wade Tharp at (317) 232-1650 or [wtharp1@dnr.IN.gov](mailto:wtharp1@dnr.IN.gov). Questions about buildings or structures should be directed to John Carr at (317) 233-1949 or [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov).

In all future correspondence regarding the extension of Ronald Reagan Parkway from Hendricks CR 600 N to the SR 267-Indianapolis Road intersection near I-65 in Boone County, please refer to DHPA No. 20841.

Very truly yours,



Christopher A. Smith  
Deputy Director  
Indiana Department of Natural Resources

CAS:JLC:WTT:wt

cc: Chad Costa, American Structurepoint, Inc.

emc: Michelle Allen, Federal Highway Administration, Indiana Division  
Anuradha Kumar, Indiana Department of Transportation  
Shaun Miller, Indiana Department of Transportation  
Mary Kennedy, Indiana Department of Transportation  
Shirley Clark, Indiana Department of Transportation  
Chad Costa, American Structurepoint, Inc.  
Linda Weintraut, Ph.D., Weintraut & Associates, Inc.  
Christopher A. Smith, Deputy Director, Indiana Department of Natural Resources  
Wade T. Tharp, Indiana Department of Natural Resources  
John Carr, Indiana Department of Natural Resources

## Memorandum

**Date:** May 1, 2017

**To:** INDOT-Cultural Resources Office

**From:** Weintraut & Associates

**Regarding: Recommendations of Eligibility and Comments from the Boone County Historian, Ronald Reagan Parkway Construction Project (Des. No.: 1602280)**

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The Boone County historian, a consulting party, provided comments on the eligibility recommendations contained in the Historic Property Report for the above-referenced project in a letter provided via email on April 19, 2017. The purpose of this memorandum is to consider and address those comments.

### **Mount Tabor Primitive Baptist Church and Cemetery (011-205-45026)**

#### ***Interim Report* rating: Contributing**

*Comment:* The Boone County Historian states: “. . . This report asserts that the building was built in the 1890s, despite local sources claiming it was constructed in 1857.”

*Response:* After reviewing the information provided by the Boone County Historian regarding the probable age of the Mount Tabor Primitive Baptist Church, W&A does not dispute that the building could have been constructed in 1857. With the alterations to the church, it is difficult to ascertain the age of the structure. In writing the report, the historians utilized the date provided on the IHSSI survey card as an approximate built date. However, even if the earlier build date is used, it will not alter the church’s potential eligibility for the National Register of Historic Places (NRHP) as the structure was already established as being more than fifty years of age. W&A, however, will correct this information in the 800.11 documentation.

*Comment:* The Boone County Historian states: “The Mount Tabor congregation became embroiled in a lawsuit that went to the Indiana Supreme Court (Smith et al. v. Pedigo et al., 1893) . . . The issue involved a question of church doctrine; it revolved around the issue of predestination, the majority asserting that it was within man’s power to affect redemption, while the minority maintained the more strict Calvinistic teaching that redemption was predetermined... The majority disagreed and forcibly took possession of the building. The Supreme Court ruled in favor of the minority. Reports of the case were published in papers around the country...The fact that the present building, which from the sources I’ve seen is the same building, though remodeled, was the center of that dispute and the seemingly unusual circumstance of the state Supreme Court having to rule on matters of church doctrine (not which doctrine was true but which group was behaving in accordance with the church’s established beliefs) may lend support to the site being considered historically significant under NRHP evaluation criteria A.”

*Response:* After receiving the letter from the Boone County Historian, W&A conducted additional research on the *Smith v. Pedigo* case and on other similar cases. After such research, W&A agrees that the resource contributes to the historic fabric of Boone County and has a

connection to a historic event as noted within the *Smith v. Pedigo* case, but does not believe that this event is of great enough historical significance, locally or nationally, to rise to the level of NRHP eligibility under Criterion A.

Resources may be eligible for the NRHP under Criterion A if they are “associated with one or more events important in the defined historic context” (or the broad patterns of local history). These events or trends “must clearly be important within the associated context” and the property “must have an important association with the event or historic trend...” However, “mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property’s specific association must be considered important as well.”<sup>1</sup>

W&A acknowledges that the Mount Tabor Primitive Baptist Church has an association with a historic Boone County event—a civil lawsuit to settle the rights to church-owned property after a change in religious doctrine split the congregation. However, after further research on *Smith v. Pedigo* and similar cases, historians do not believe this specific event meets the significance requirements under Criterion A.

The Indiana Supreme Court, in the *Smith v. Pedigo* opinion, suggests that this dispute is just one of many that were brought before courts at the state and national level in the late nineteenth century. The Court notes a large number of prior cases dealing with similar church property disputes, especially those relating to doctrinal schisms, including one from Pennsylvania (*Roshi’s Appeal*, 69 Pa. St. 462 [1871]) and one of their own cases from Hendricks County (*White Lick Quarterly Meeting of Friends v. White Lick Quarterly Meeting of Friends*, 89 Ind. 136 [1883]).<sup>2</sup> The court states that the law on this issue comes from “previous cases, a long line of which, both English and American, are cited in that case [*Roshi’s Appeal*] . . .” and notes that *Roshi’s Appeal* “has been so frequently cited with approval of American courts of last resort on questions of this kind that the principles announced therein may be regarded as settled law in this country.” This strongly points to the fact that *Roshi’s Appeal* was considered an important “landmark” case that was closely followed by state courts in cases of this type; while *Smith v. Pedigo*, like *White Lick Quarterly* before it, is another local example of such a church property case.

These types of church property cases, while not common, did occur throughout the late nineteenth century and still do. Federal and state courts deal with them using the principles espoused in cases like *Roshi’s Appeal* or the U.S. Supreme Court case, *Watson v. Jones* (80 U.S. 679 [1872]), which dealt with another church property dispute decades before the *Smith v. Pedigo* case. Similarly, Indiana courts dealt with several church property cases in the years prior to the Boone County case, including the previously mentioned *White Lick Quarterly Meeting of Friends v. White Lick Quarterly Meeting of Friends* (89 Ind. 136 [1883]), *Gaff v. Greer*, (88 Ind. 122 [1882]), and *Lamb v. Cain* (129 Ind. 486 [1891]).<sup>3</sup>

---

<sup>1</sup> National Park Service, “How to Apply the National Register Criteria for Evaluation,” National Register Bulletin 15 (1990, revised 1997), 12.

<sup>2</sup> *White Lick Quarterly Meeting of Friends v. White Lick Quarterly Meetings of Friends*, 89 Ind. 136 (1883).

<sup>3</sup> All cited in a later church property case, *Yanthis v. Kemp, et. al.*, 86 Ind. 451 (1908)

It is interesting that there is no mention of the *Smith v. Pedigo* case or any examination of the schism that rocked the Mount Tabor Baptist Church in its entry in Crist's *History of Boone County, Indiana*, which was published in 1914.<sup>4</sup>

As noted by the Boone County historian, the case was reported in some newspapers outside Indiana. Many interesting cases are reported in American newspapers but public interest alone does not establish historic significance.<sup>5</sup> For example, the similar *White Lick Quarterly Meeting* case, which occurred years before the *Smith v. Pedigo* case, was also publicized in papers across the nation and noted as being of particular interest to those affiliated with the Friends Church.<sup>6</sup>

Additionally, the *Smith v. Pedigo* case was published in national law reporters; but all non-memorandum decisions of the Indiana Supreme Court or Appeals Court are reported in national law reporters (like the Northeastern Reporter) so that other courts can use it as precedent for later decisions. While later cases do cite the *Smith v. Pedigo* decision, there is no evidence that the case was considered of particular importance or a "landmark" decision that changed the course of legal history. Instead, it appears to be one in a long line of similar cases across the nation.

The case was important to the factions battling over the Mount Tabor Baptist Church because it decided who would end up possessing the church property. However, the case does not appear to have had strong impact on other congregations in Boone County, the State of Indiana, or the nation.

As previously noted, to be eligible for the NRHP under Criterion A, a resource "must have an important association with the event or historic trend..." but a "mere association with historic events or trends is not enough...the property's specific association must be considered important as well."<sup>7</sup> W&A believes that the Mount Tabor Primitive Baptist Church's specific association, as a church that was subject to a lawsuit resulting from a property dispute over doctrine changes, does not rise to the level required to be eligible for the NRHP under Criterion A.

---

<sup>4</sup> L.M. Crist, *History of Boone County, Indiana: With biographical sketches or representative citizens and genealogical records of old families*, (Indianapolis: A.W. Bowen & Co., 1914), 106-107.

<sup>5</sup> Topeka State Journal's news story referenced in the Boone County Historian's response was a local interest story focused on a local Kansas churchman, Elder William Pence, who was testifying as an expert witness for the majority faction in the continuing legal actions involving the Mount Tabor church. The story provides quotes from Elder Pence but little coverage of the history of the dispute. *Topeka State Journal* (April 22, 1897), 5, accessed April 26, 2017, <http://chroniclingamerica.loc.gov/lccn/sn82016014/1897-04-22/ed-1/seq-5/>.

<sup>6</sup> Examples include: *The Kansas Daily Tribune* (Sept. 6, 1881), 2; *The Cincinnati Enquirer* (Sept. 22, 1881), 2; and *Memphis Daily Appeal* (August 30, 1881), 2.

<sup>7</sup> "How to Apply the National Register Criteria for Evaluation," 12.

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## Fwd: Des. No. 1602280; Extension of Ronald Reagan Parkway in Boone and Hendricks Counties

1 message

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----- Forwarded message -----

From: **Del Real, Monica** <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>

Date: Fri, Jul 21, 2017 at 8:24 AM

Subject: Des. No. 1602280; Extension of Ronald Reagan Parkway in Boone and Hendricks Counties

To: "Del Real, Monica" <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>

Cc: "Kennedy, Mary" <[MKENNEDY@indot.in.gov](mailto:MKENNEDY@indot.in.gov)>, Linda Weintraut <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>, "Allen, Michelle (FHWA)" <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>, John Ayers <[jayers@co.hendricks.in.us](mailto:jayers@co.hendricks.in.us)>, Craig Parks <[cparks@co.boone.in.us](mailto:cparks@co.boone.in.us)>, "Maurovich, Mike" <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>, "Hope, Briana" <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>

Dear Consulting Party,

Please find attached two memorandums addressing comments received on the Historic Properties Report for the referenced project. We would also like to clarify that the previous MOA will likely not be implemented since the project as approved at that time has changed and Section 106 has been reinitiated. A new or amended MOA would be executed following an assessment of effects as part of the current process.

Please don't hesitate to contact us should you have any questions regarding this project. The attached memorandums have also been uploaded to IN SCOPE for review. Thank you in advance for your consideration and input!

---

**Monica Del Real**

**Environmental Scientist**

7260 Shadeland Station

Indianapolis, Indiana 46256

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Zionsville, Indiana 46077  
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[www.weintrautinc.com](http://www.weintrautinc.com)

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**2 attachments**



**ReaganPrkwy\_Des1602280\_Memo\_2017-05-01.pdf**  
28K



**ReaganPrkwy\_Des1602280\_Memo\_2017-04-25.pdf**  
574K



Linda Weintraut &lt;linda@weintrautinc.com&gt;

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## FHWA Project: Des. No. 1602280; Extension of Ronald Reagan Parkway in Boone and Hendricks Counties-- Additional Info

1 message

Kennedy, Mary &lt;MKENNEDY@indot.in.gov&gt;

Fri, Jul 21, 2017 at 4:11 PM

To: Kimberly Penrod &lt;kpenrod@delawarenation.com&gt;, "dhunter@miamination.com" &lt;dhunter@miamination.com&gt;, "michael.laronge@fcpotawatomi-nsn.gov" &lt;michael.laronge@fcpotawatomi-nsn.gov&gt;

Cc: "Del Real, Monica" &lt;mdelreal@structurepoint.com&gt;, "Miller, Shaun (INDOT)" &lt;smiller@indot.in.gov&gt;, "michelle.allen@dot.gov" &lt;michelle.allen@dot.gov&gt;, Linda Weintraut &lt;linda@weintrautinc.com&gt;

Des. No. 1602280

Extension of Ronald Reagan Parkway

Boone and Hendricks Counties, Indiana

---

Dear Consulting Party,

Please find attached two memorandums addressing comments received on the Historic Properties Report for the referenced project. We would also like to clarify that the previous MOA will likely not be implemented since the project as approved at that time has changed and Section 106 has been reinitiated. A new or amended MOA would be executed following an assessment of effects as part of the current process.

Please don't hesitate to contact us should you have any questions regarding this project. The attached memorandums have also been uploaded to IN SCOPE for review: <http://erms.indot.in.gov/Section106Documents/>.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317- 233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Thank you in advance for your consideration and input,

**Mary E. Kennedy**

Architectural Historian/History Team Lead

7/21/2017

Weintraut Inc Mail - FHWA Project: Des. No. 1602280; Extension of Ronald Reagan Parkway in Boone and Hendricks Counties--Additional Info

Cultural Resources Office

Environmental Services

100 N. Senate Ave., Room N642

Indianapolis, IN 46204


Office: (317) 232-5215


Email: [mkennedy@indot.in.gov](mailto:mkennedy@indot.in.gov)



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2 attachments

 ReaganPrkwy\_Des1602280\_Memo\_2017-05-01.pdf  
28K

 ReaganPrkwy\_Des1602280\_Memo\_2017-04-25.pdf  
211K



Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov · www.IN.gov/dnr/historic



August 17, 2017

Chad E. Costa  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration (“FHWA”)

Re: Responses to consulting party comments about historic property identification and evaluation for the  
extension of Ronald Reagan Parkway from Hendricks CR 600 N to the SR 267-Indianapolis Road  
intersection near I-65 in Boone County

Dear Mr. Costa:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed Monica Del Real’s letter dated July 21, 2017, with Weintraut & Associates’ April 25, 2017, and May 1, 2017, memoranda enclosed, which we received on July 24.

For the reasons stated in the Weintraut & Associates memoranda, we agree that the Mount Tabor Primitive Baptist Church and Cemetery (IHSSI No. 011-205-45026) in Boone County and the Pennington House (IHSSI No. 063-205-0015) in Hendricks County are not eligible for inclusion in the National Register of Historic Places (“NRHP”). We also agree, as we previously had indicated in our April 26, 2017, letter, that the Farmstead at 8030 E CR 1000 N (IHSSI No. 063-205-00014) in Hendricks County should be considered eligible for the NRHP.

As we also commented in our April 26 letter, Howard School (Perry Township School No. 1; NR-2123; Indiana Historic Sites and Structures Inventory No. 011-205-45031) at 4555 CR 750 S in Boone County is listed in the NRHP and remains eligible for the NRHP, and the Lawler Farmstead (IHSSI No. 063-699-00012) at 8460 E CR 1000 N in Hendricks County, the house (IHSSI No. 063-117-40006) at 895 E CR 600 N in Hendricks County, and the P.C. Hogan Farm (063-699-00006) at 9110 CR 1000 N in Hendricks County should be considered eligible for the NRHP for the purposes of this Section 106 review.

Furthermore, as we said in our April 26 letter with regard to archaeological resources in the proposed project area, it will be helpful to our identification efforts if you will provide an updated map indicating all areas that would be affected by project-related ground-disturbing activities.

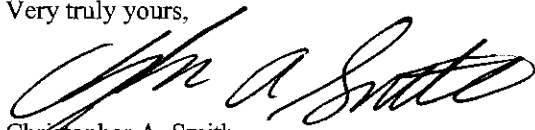
Additionally, we observed that portions of the proposed project area appear to lie within 100 feet of Howard Cemetery (CR-06-61 in the Indiana DHPA SHAARD database system). Please note that, if the proposed project area includes any areas within 100 feet of a cemetery, then a cemetery development plan may be necessary under IC 14-21-1-26.5. The aforementioned cemetery must be avoided by all project activities, and provisions of relevant state statutes regarding cemeteries (including IC 14-21-1 and IC 23-14) must be adhered to. Please also be aware of Indiana Code 23-14-44-1 and Indiana Code 23-14-44-2, regarding restrictions on roads and utility construction in cemeteries.

Although it does not appear at this point that any identified, above-ground historic properties will be directly affected by this project, there may be indirect effects, such as changes to the setting of a historic property or an increase in traffic noise audible at a historic property. As you apparently know, given the reference in Ms. Del Real's July 21 letter to the existing memorandum of agreement, FHWA found indirect adverse effects in a previous review of this project (Des. No. 0710288). Please provide further graphic and verbal information about the distance from the proposed roadway to each of the historic, above-ground properties and about the likelihood of indirect effects.

The Indiana SHPO staff archaeology reviewer for this project is Wade Tharp, and the structures reviewer is John Carr. If you have questions about the status of a review, the review process, or what to submit, please contact the staff person in the Cultural Resources Office at INDOT who is assigned to this project.

In all future correspondence regarding the extension of Ronald Reagan Parkway from Hendricks CR 600 N to the SR 267-Indianapolis Road intersection near I-65 in Boone County, please refer to DHPA No. 20841.

Very truly yours,



Christopher A. Smith  
Deputy Director  
Indiana Department of Natural Resources

CAS:JLC:jlc

emc: Michelle Allen, Federal Highway Administration, Indiana Division  
Robert Dirks, P.E., Federal Highway Administration, Indiana Division  
Anuradha Kumar, Indiana Department of Transportation  
Shaun Miller, Indiana Department of Transportation  
Mary Kennedy, Indiana Department of Transportation  
Shirley Clark, Indiana Department of Transportation  
Chad Costa, American Structurepoint, Inc.  
Monica Del Real, American Structurepoint, Inc.  
Linda Weintraut, Ph.D., Weintraut & Associates, Inc.  
Christopher A. Smith, Deputy Director, Indiana Department of Natural Resources  
Wade T. Tharp, Indiana Department of Natural Resources  
John Carr, Indiana Department of Natural Resources

---

## FHWA Project: Des. No. 1602280; Ronald Reagan Parkway , Boone and Hendricks County

1 message

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Del Real, Monica <mdelreal@structurepoint.com>

Wed, Nov 22, 2017 at 2:17 PM

To: "Carr, John" <JCarr@dnr.in.gov>, "Tharp, Wade" <WTharp1@dnr.in.gov>, "cslider@dnr.IN.gov" <cslider@dnr.in.gov>, "linda (linda@weintrautinc.com)" <linda@weintrautinc.com>, "Allen, Michelle (FHWA)" <michelle.allen@dot.gov>, "Kennedy, Mary" <MKENNEDY@indot.in.gov>, "jwolfe@co.boone.in.us" <jwolfe@co.boone.in.us>, Craig Parks <cparks@co.boone.in.us>, John Ayers <jayers@co.hendricks.in.us>, "howardschoolhouse@gmail.com" <howardschoolhouse@gmail.com>, "becky.j.robinson@gmail.com" <becky.j.robinson@gmail.com>  
Cc: "Hope, Briana" <bhope@structurepoint.com>, "Boits, Leah" <lboits@structurepoint.com>, "Maurovich, Mike" <MMaurovich@structurepoint.com>, "akumar@indot.IN.gov" <akumar@indot.in.gov>, "Miller, Shaun (INDOT)" <smiller@indot.in.gov>, "Coon, Matthew" <mcoon@indot.in.gov>

Des. No.: 1602280

Project Description: Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65

Location: Boone and Hendricks County

Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA) and administrative oversight from INDOT, propose to proceed with the Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65 (Des. No. 1602280/formerly Des. No. 0710288). American Structurepoint is under contract with Boone and Hendricks Counties to advance the environmental documentation for the referenced project.

This letter is to provide you with additional information pertaining to the project and to notify you that a Section 106 Consulting Party Meeting regarding this project has been scheduled for December 15, 2017 at 9am. The meeting will be held in Hendricks County Government Center (355 S Washington St, Danville, IN), Conference Room 3. Teleconferencing will be available for those unable to attend in person.

Please review the letter located in IN-SCOPE (same as attached) at (<http://erms.indot.in.gov/Section106Documents/>), for your review and comment. The Des. No. is the most efficient search term once in IN SCOPE. Should you require a hard copy of this information, please contact me at the contact listed below and one will be mailed to you.

Consulting parties have thirty (30 days) from receipt of this information to review and provide comment. If we do not receive a response from an invited consulting party in the time allotted, the project will proceed consistent with the proposed design.

We would also like to provide an update with regard to archaeological resources. Fieldwork has been completed and a report of the results is being finalized. As soon as the report has been approved by INDOT, a hard copy will be provided to the State Historic Preservation Officer (SHPO) for review, and it will be available for Tribes to review via IN SCOPE. A notice will be sent out at that time.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317- 233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Thank you in advance for your input,

---

Monica Del Real

Environmental Scientist

7260 Shadeland Station

Indianapolis, Indiana 46256

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765.237.1238 CELL

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2 attachments

-  Ronald Reagan Parkway Sect 106 Consulting Party Meeting.ics  
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-  ReaganPrkwy\_Des1602280\_CPMeeting\_2017-1 1-22.pdf  
4478K

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FW: FHWA Project: Des. No. 1602280; Ronald Reagan Parkway , Boone and Hendricks County

1 message

---

Del Real, Monica <mdelreal@structurepoint.com>

Wed, Nov 22, 2017 at 3:45 PM

To: "Boits, Leah" <lboits@structurepoint.com>, "linda (linda@weintrautinc.com)" <linda@weintrautinc.com>

FYI – Sent to tribes

---

Monica Del Real

Environmental Scientist

American Structurepoint

317.547.5580

---

From: Kumar, Anuradha [mailto:[akumar@indot.IN.gov](mailto:akumar@indot.IN.gov)]

Sent: Wednesday, November 22, 2017 3:38 PM

To: [nalligood@delawarenation.com](mailto:nalligood@delawarenation.com); [dhunter@miamination.com](mailto:dhunter@miamination.com); [Michael.laronge@fcpotawatomi-nsn.gov](mailto:Michael.laronge@fcpotawatomi-nsn.gov)

Cc: Allen, Michelle (FHWA) ([michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)) <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>; Dirks, Robert

<[Robert.Dirks@fhwa.dot.gov](mailto:Robert.Dirks@fhwa.dot.gov)>; Khan, Asfahan <[akhan@indot.IN.gov](mailto:akhan@indot.IN.gov)>; Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>

Subject: FW: FHWA Project: Des. No. 1602280; Ronald Reagan Parkway, Boone and Hendricks County

Des. No.: 1602280

Project Description: Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65

Location: Boone and Hendricks County

Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA) and administrative oversight from INDOT, propose to proceed with the Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65 (Des. No. 1602280/formerly Des. No. 0710288). American Structurepoint is under contract with Boone and Hendricks Counties to advance the environmental documentation for the referenced project.

This letter is to provide you with additional information pertaining to the project and to notify you that a Section 106 Consulting Party Meeting regarding this project has been scheduled for December 15, 2017 at 9am. The meeting will be held in Hendricks County Government Center ([355 S Washington St, Danville, IN](#)), Conference Room 3. Teleconferencing will be available for those unable to attend in person.

Please review the letter located in IN-SCOPE (same as attached) at (<http://erms.indot.in.gov/Section106Documents/>), for your review and comment. The Des. No. is the most efficient search term once in IN SCOPE. Should you require a hard copy of this information, please contact me at the contact listed below and one will be mailed to you.



Consulting parties have thirty (30 days) from receipt of this information to review and provide comment. If we do not receive a response from an invited consulting party in the time allotted, the project will proceed consistent with the proposed design.

We would also like to provide an update with regard to archaeological resources. Fieldwork has been completed and a report of the results is being finalized. As soon as the report has been approved by INDOT, a hard copy will be provided to the State Historic Preservation Officer (SHPO) for review, and it will be available for Tribes to review via IN SCOPE. A notice will be sent out at that time.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317- 233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Thank you in advance for your input,

DISCLAIMER: This message contains confidential information and is intended only for the individual named. If you are not the named addressee, you should not disseminate, distribute, utilize, or copy this e-mail. Please notify the sender immediately by e-mail if you have received this e-mail by mistake, and delete this e-mail from your system. No design changes or decisions made by e-mail shall be considered part of the contract documents unless otherwise specified, and all design changes and/or decisions made by e-mail must be submitted as an RFI or a submittal unless otherwise specified. All designs, plans, specifications and other contract documents (including all electronic files) prepared by the sender shall remain the property of the sender, and the sender retains all rights thereto, including but not limited to copyright, statutory and common-law rights thereto, unless otherwise specified by contract. E-mail transmission cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. The sender therefore does not accept liability for any errors or omissions in the contents of this message which arise as a result of e-mail transmission. If verification is required, please request a hard-copy version.  
<http://www.structurepoint.com/>

November 22, 2017

Dear Section 106 Consulting Party:

Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA) and administrative oversight from INDOT, propose to proceed with the Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65 (Des. No. 1602280/formerly Des. No. 0710288). American Structurepoint is under contract with Boone and Hendricks Counties to advance the environmental documentation for the referenced project.

This letter is to provide you with additional information pertaining to the Boone and Hendricks County project to extend Ronald Reagan Parkway from County Road (CR) 600 North to Interstate 65 (I-65) and to notify you that a Section 106 Consulting Parties Meeting regarding this project has been scheduled for December 15, 2017 at 9am. The meeting will be held in Hendricks County Government Center (355 S Washington St, Danville, IN), Conference Room 3. Teleconferencing will be available for those unable to attend in person.

An Environmental Assessment (EA) was approved for this project by the Federal Highway Administration (FHWA) on July 7, 2010 (Des. No. 0710288). As part of the original EA, a Memorandum of Agreement (MOA) was approved for this project on October 19, 2009. However due to the passage of time, FHWA has re-initiated Section 106 consultation, and additional National Register of Historic Places (NRHP) eligible resources have been identified within the area of potential effect (APE). Therefore, a new MOA is proposed to be drafted to supersede the October 19, 2009 MOA. Further information regarding the previous MOA, additional NRHP eligible resources, and anticipated effects are enclosed in this letter.

A Historic Properties Report (HPR) was not required for the project previously because project consultation was underway before June 1, 2007. EFI Global established the limits of the APE and evaluated the APE for historic resources. EFI Global identified the I-House Farmstead (063-699-00012) and Howard School (011-205-45031) as the only resources eligible for listing in the NRHP. The State Historic Preservation Officer (SHPO) agreed with this determination on February 10, 2009.

On July 16, 2009 the SHPO and participating consulting parties were provided a copy of the INDOT “Adverse Effect” determination. The SHPO and consulting parties agreed with the “Adverse Effect” determination made by the FHWA. A MOA was approved for this project on October 19, 2009.

Due to the passage of time and changes in the project, Section 106 was reinitiated for this project. A HPR was completed for the project in January 2017 by Weintraut & Associates, Inc. (W&A). W&A identified Howard School (011-205-45031) as being listed in the NRHP, the I-House Farmstead (063-699-00012) as being previously determined eligible for listing in the NRHP, and the House (063-117-40006), P.C. Hogan Farm (063-699-00006), and Farmstead (063-205-00014) as being properties recommended eligible for listing in the NRHP. The SHPO agreed with this determination on April 26, 2017 and again on August 17, 2017.

Since the 2010 approval of the EA for this project, the project has been modified and an additional information document will be prepared (Des. No. 1602280). The roadway is proposed to remain on the original alignment (covered under the October 19, 2009 MOA) near Howard School and is proposed to be shifted approximately 50-150 feet east, away from the I-House Farmstead as compared to the original alignment. A map depicting the previous roadway alignment and current roadway alignment can be found in the attachments. Due to a lack of significant change in the project surrounding the I-House Farmstead and Howard School, the mitigation stipulations in the October 19, 2009 MOA are proposed to remain as appropriate mitigation for the project. We welcome your comments regarding this mitigation. Due to the distance from the proposed roadway and topographic setting, “No Effect” is anticipated at the House (063-117-40006) and “No Adverse

Effect” is anticipated at the Farmstead (063-205-00014) and P.C. Hogan Farm (063-699-00006). Additional information regarding these properties can be found in the attachments.

The overall project is still expected to result in a finding of “Adverse Effect” due to the visual and auditory effects that would diminish the integrity of the properties’ setting on the I-House Farmstead and Howard School. However, no additional adverse impacts or mitigation measures are proposed for the remaining properties. Maps depicting the historic properties and proposed roadway can be found in the attachments.

The intention of this mailing is to provide additional information to consulting parties regarding the anticipated impacts the proposed project could have on the five identified historic properties and to notify you that a Section 106 Consulting Parties Meeting regarding this project has been scheduled for December 15, 2017. To facilitate the development of this project, you are asked to reply within 30 days of receipt of this letter. If no response is received by that date, it will be assumed you have no comments regarding the anticipated finding of “Adverse Effect.” Your timely cooperation in the development of this project will be appreciated.

A copy of this letter and its attachments is posted to INDOT’s online portal for Section 106 documents, IN SCOPE (<http://erms.indot.in.gov/Section106Documents/>), for your review and comment. The Des. No. is the most efficient search term once in IN SCOPE. Should you require a hard copy of this information, please contact American Structurepoint at the contact listed below and one will be mailed to you.

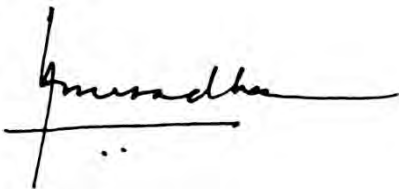
We would also like to provide an update with regard to archaeological resources. Fieldwork has been completed and a report of the results is being finalized. As soon as the report has been approved by INDOT, a hard copy will be provided to the State Historic Preservation Officer (SHPO) for review, and it will be available for Tribes to review via IN SCOPE. A notice will be sent out at that time.

For questions concerning specific project details, you may contact Monica Del Real of American Structurepoint at (317) 547-5580 or [mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com). All future responses regarding the proposed project should be forwarded to American Structurepoint at the following address:

Monica Del Real  
Environmental Scientist  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
(317) 547-5580  
[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317- 233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Sincerely,



Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

Enclosures

Memorandum of Agreement (October 9, 2009)  
Anticipated Effects on Additional Historic Properties  
Updated Roadway Alignment at Historic Properties

Distribution List

State Historic Preservation Officer (SHPO)  
Federal Highway Administration (FHWA)  
Indiana Department of Transportation, Cultural Resources Office (INDOT-CRO)  
Board of Hendricks County Commissioners  
Board of Boone County Commissioners  
Howard School Restoration Group  
Indiana Landmarks, Central Regional Office  
Farmstead 8030 E CR 1000 N  
P.C. Hogan Farm  
Boone County Historian  
Delaware Nation of Oklahoma  
Miami Tribe of Oklahoma  
Forest County Potawatomi Community

**MEMORANDUM OF AGREEMENT**  
**BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION AND**  
**THE INDIANA STATE HISTORIC PRESERVATION OFFICER**  
**SUBMITTED TO THE ADVISORY COUNCIL ON HISTORIC PRESERVATION**  
**PURSUANT TO 36 C.F.R. § 800.6(b)(iv)**  
**REGARDING THE EXTENSION OF RONALD REAGAN PARKWAY**  
**FROM CR 600 NORTH TO SR 267/I-65**  
**IN PERRY TOWNSHIP, BOONE COUNTY INDIANA**  
**BROWN TOWNSHIP, HENDRICKS COUNTY, INDIANA**

**OCTOBER 19, 2009**

**WHEREAS** the Federal Highway Administration (FHWA) proposes to provide federal funds for the extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65 (Designation #0710288, DHPA #3540; EFI Global #98510-01695) in Perry Township, Boone County and Brown Township, Hendricks County, Indiana; and

**WHEREAS** the FHWA, in consultation with the Indiana State Historic Preservation Officer (“Indiana SHPO”), has defined the area of potential effects, as the term is defined in 36 C.F.R. § 800.16(d), to encompass the area as illustrated on the aerial as attached in appendix A-1 of this document; and

**WHEREAS** the FHWA, in consultation with the Indiana SHPO, has found that the Howard School (a.k.a. Perry Township School No. 1) at 4555 East CR 750 South in Boone County and the I-house Farmstead at 8460 CR 1000 North in Hendricks County are within the undertaking’s area of potential effects; and

**WHEREAS** the FHWA, in consultation with the Indiana SHPO, has determined, pursuant to 36 C.F.R. § 800.4(c), that the Howard School at 4555 East CR 750 South in Boone County and the I-house Farmstead at 8460 CR 1000 North in Hendricks County are eligible for inclusion in the National Register of Historic Places;

**WHEREAS** the FHWA, in consultation with the Indiana SHPO, has determined, pursuant to 36 C.F.R. § 800.5(a), that the project will have an adverse effect on both the Howard School at 4555 East CR 750 South in Boone County and the I-house Farmstead at 8460 CR 1000 North in Hendricks County; and

**WHEREAS** the FHWA has consulted with the Indiana SHPO in accordance with Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) and its implementing regulations (36 C.F.R. Part 800) to resolve the adverse effects on the Howard School at 4555 East CR 750 South in Boone County and the I-house Farmstead at 8460 CR 1000 North in Hendricks County; and

**WHEREAS** the public was given an opportunity to comment on the undertaking’s adverse effect in a public notice published on July 21, 2009 in The Lebanon Reporter newspaper and July 22, 2009 in the Hendricks County Flyer newspaper; and

**WHEREAS** in correspondence dated September 9, 2009, the FHWA has notified the Advisory Council on Historic Preservation (“Council”) of the adverse effect and invited the Council’s participation in the project, pursuant to 36 CFR Section 800.6(a)(1); and

**WHEREAS** in correspondence dated October 19, 2009 the Council declined to participate in consultation; and

**WHEREAS** the FHWA, in consultation with the Indiana SHPO, has invited the Boone County Commissioners, the Hendricks County Commissioners, the Indiana Department of Transportation (“INDOT”) and the Howard School Restoration Group to participate in consultation and to become signatories to this memorandum of agreement; and

**WHEREAS** the FHWA, in consultation with the Indiana SHPO, has invited the Historic Landmarks Foundation of Indiana to participate in the consultation; and

**NOW, THEREFORE**, the FHWA and the Indiana SHPO agree that, upon the submission of a copy of this executed memorandum of agreement, as well as the documentation specified in 36 C.F.R. § 800.11(e) and (f), to the Advisory Council on Historic Preservation (“Council”) pursuant to 36 C.F.R. § 800.6[b][1][iv]) and upon the FHWA’s approval of the road extension project, the FHWA shall ensure that the following stipulations are implemented in order to take into account the effect of the road extension project on historic properties.

### STIPULATIONS

#### I. MITIGATION STIPULATIONS

- A. Regarding the Howard School located at 4555 East CR 750 South (Site #011-205-45031), the real property located between the Howard Cemetery and the required, permanent right-of-way for the Ronald Reagan Parkway extension will be acquired and deeded to the Howard School Restoration Group. This property is to be maintained by that organization as a vegetated buffer between the Howard School and the roadway to prevent future development of that parcel of real property. The deed will specify that the property between the Howard School and the roadway will remain as a vegetated buffer area and will not include any future development. The trees planted will be a combination of native coniferous trees and can also include Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Butternut and Sweet Gum. These plantings will offer a year round visual screen from the roadway.
- B. Regarding the I-house Farmstead located at 8460 CR 1000 North (Site #063-699-00012), tree plantings or a combination of a grass berm and tree plantings will be introduced between the Farmstead and the new roadway of the Ronald Reagan Parkway extension to screen the Farmstead from the effects of the roadway. The trees planted will be native coniferous trees to offer a year round visual screen from the roadway.

#### II. OBJECTION RESOLUTION PROVISION

Disagreements and misunderstanding about how this memorandum of agreement is or is not being implemented shall be resolved in the following manner:

- A. If the Indiana SHPO or any invited signatory to this memorandum of agreement should object in writing to the FHWA regarding any action carried out or proposed with respect to the road extension project or implementation of this memorandum of agreement, then the FHWA shall consult with the objecting party to resolve the objection. If after initiating such consultation the FHWA determines that the objection cannot be resolved through consultation, then the FHWA shall forward all documentation relevant to the objection to the Council, including the FHWA’s proposed response to the objection. Within 45 days after receipt of all pertinent documentation, the Council shall exercise one of the following options:
  1. Provide the FHWA with a staff-level recommendation, which the FHWA shall take into account in reaching a final decision regarding its response to the objection; or

2. Notify the FHWA that the objection will be referred for formal comment pursuant to 36 C.F.R. § 800.7(c), and proceed to refer the object and comment. The FHWA shall take into account the Council's comments in reaching a final decision regarding its response to the objection.
- B. If comments from the Council are provided in accordance with stipulation I (A and B) of this memorandum of agreement, then the FHWA shall take into account any Council comment provided in accordance with 36 C.F.R. § 800.7(a)(4) with reference only to the subject of the objection. The FHWA's responsibility to carry out all actions under this memorandum of agreement that are not the subjects of the objection shall remain unchanged.

### III. POST REVIEW DISCOVERY

In the event that one or more historic properties--other than the Howard School at 4555 East CR 750 South in Boone County and the I-house Farmstead at 8460 CR 1000 North in Hendricks County -- are discovered or that unanticipated effects on historic properties are found during the implementation of this memorandum of agreement, the FHWA shall follow the procedure specified in 36 C.F.R. § 800.13, as well as and IC 14-21-1-27 and IC 14-21-1-29, by stopping work in the immediate area and informing the Indiana SHPO and the INDOT Cultural Resources Section of such unanticipated discoveries or effects within two (2) business days. Any necessary archaeological investigations will be conducted according to the provisions of IC 14-21-1 and 312 IAC 21, and the most current *Guidebook for Indiana Historic Sites and Structures Inventory – Archaeological Sites*.

### IV. AMENDMENT

Any signatory to this memorandum of agreement may request that it be amended, whereupon the parties shall consult to consider the proposed amendment. 36 C.F.R. § 800.6(c)(7) shall govern the execution of any such amendment.

### V. TERMINATION

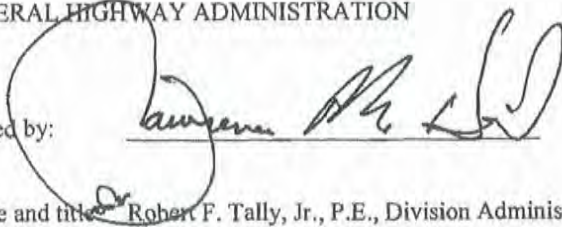
- A. If the terms of this memorandum of agreement have not been implemented by December 31, 2019, then this memorandum of agreement shall be considered null and void. In such an event, the FHWA shall so notify the parties to this memorandum of agreement and, if it chooses to continue with the road extension project, then it shall reinitiate review of the road extension project in accordance with 36 C.F.R. §§ 800.3 through 800.7.
- B. Any signatory to the memorandum of agreement may terminate it by providing thirty (30) days notice to the other parties, provided that the parties shall consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the FHWA shall comply with 36 C.F.R. §§ 800. 3 through 800.7 with regard to the review of the road project.
- C. In the event that the FHWA does not carry out the terms of this memorandum of agreement, the FHWA shall comply with 36 C.F.R. §§ 800.3 through 800.7 with regard to the review of the road extension project.

The execution of this memorandum of agreement by the FHWA, the Indiana SHPO, the INDOT, the Boone County Commissioners and the Hendricks County Commissioners, the submission of a copy of it to the Council with the appropriate documentation specified in 36 C.F.R. § 800.11(e) and (f), and the implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the road extension project and its effects on historic properties and that the FHWA has taken into account the effects of the road extension project on historic properties.

**SIGNATORY:**

FEDERAL HIGHWAY ADMINISTRATION

Signed by:

A handwritten signature in black ink, appearing to read "Robert F. Tally, Jr.", is written over a horizontal line. The signature is stylized and somewhat cursive.

Date: 10-26-2009

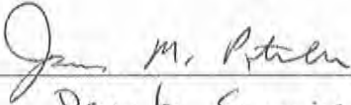
Name and title: Robert F. Tally, Jr., P.E., Division Administrator



**INVITED SIGNATORY:**

INDIANA DEPARTMENT OF TRANSPORTATION

Signed by:

  
Deputy Commissioner

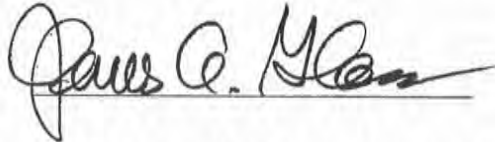
Date:

11/4/09

for Name and title: Michael W. Reed, Commissioner

**SIGNATORY:**

INDIANA STATE HISTORIC PRESERVATION OFFICER

Signed by: 

Date: 11/10/2009

Name and title: James A. Glass, Ph.D., Deputy State Historic Preservation Officer

**INVITED SIGNATORY:**

BOONE COUNTY COMMISSIONERS

Signed by: Charles H. Eaton Date: 2-1-10

Name and title: Charles Eaton, Commissioner

Signed by: Marc Applegate Date: 3-1-10

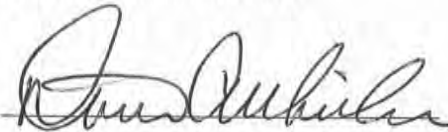
Name and title: Marc Applegate, Commissioner

Signed by: Jeff Wolfe Date: 2/1/10

Name and title: Jeff Wolfe, Commissioner

**INVITED SIGNATORY:**


HENDRICKS COUNTY COMMISSIONERS

Signed by:   
Name and title: David A. Whicker, President

Date: 11-3-09

Signed by: \_\_\_\_\_  
Name and title: Phyllis A. Palmer, Vice-President

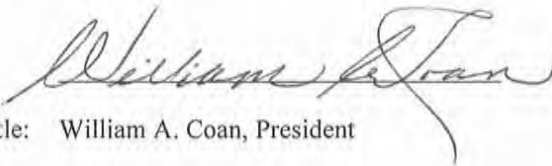
Date: \_\_\_\_\_

Signed by:   
Name and title: Eric L. Wathen, Commissioner

Date: 11/3/09

**INVITED SIGNATORY:**

HOWARD SCHOOL RESTORATION GROUP

Signed by: 

Date: October 18, 2009

Name and title: William A. Coan, President

## **Anticipated Effects on Additional Historic Properties**

### **House (063-117-40006)**

#### **8795 E CR 600 N**

The undertaking would be constructed approximately 2,900 feet east of the historic property boundary. There is no direct effect. CR 600 N is already a five-lane roadway classified as a Principal Arterial (INDOT Roadways, 2015, Indiana Map). While some traffic increases may be a “reasonably foreseeable effect” [36 CFR § 800.5(a)(1)] of the undertaking, those increases would likely not be noticeable on the already busy, five-lane roadway. Given the distance to the undertaking and the presence of the existing five-lane roadway, the House at 8795 E CR 600 N would not likely experience auditory, visual, or other impacts. Historians believe the undertaking would have “No Effect” on the House at 8795 E CR 600 N.

### **Farmstead (063-205-00014)**




#### **8030 E CR 1000 N**

The undertaking is located approximately 2,100 feet east of the Farmstead along CR 1000 N. There is no direct effect. Given the distance of the undertaking and the presence of an intervening modern subdivision to the north and east, the new roadway would likely not be visible from the Farmstead. CR 1000 N is a two-lane road classified as a Major Collection (INDOT Roadways, 2015, Indiana Map). Some traffic increases along this two-way roadway may be a “reasonably foreseeable effect” [36 CFR § 800.5(a)(1)] of the undertaking. The undertaking may have an effect on the Farmstead due to increased traffic, which is an indirect effect, but any traffic increase would not affect the qualities for which the Farmstead is eligible for listing in the NRHP. Historians believe the appropriate finding for the Farmstead is “No Adverse Effect.”

### **P.C. Hogan Farm (063-699-00006)**

#### **9110 CR 1000 N**

The undertaking is located approximately 1,300 feet east of the Farmstead along CR 1000 N. There is no direct effect. A large open field and only two residential properties are present between the P.C. Hogan Farm and the undertaking; it is likely the historic property will have a view to the undertaking. CR 1000 N is a two-lane county road classified as a Major Collection (INDOT Roadways, 2015, Indiana Map). Some traffic increases along this two-way roadway may be a “reasonably foreseeable effect” [36 CFR § 800.5(a)(1)] of the undertaking. The undertaking would likely result in a change of view and a change in traffic (indirect effects); however, those changes would not affect the qualities for which the P.C. Hogan Farm is eligible for listing in the NRHP. Historians believe the appropriate finding for the P.C. Hogan Farm is “No Adverse Effect.”

-  Historic Property
-  2007 Proposed ROW
-  Current Proposed ROW



Source: 2014 IndianaMap Aerial Photography

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**AMERICAN  
STRUCTUREPOINT  
INC.**

**063-117-40006**

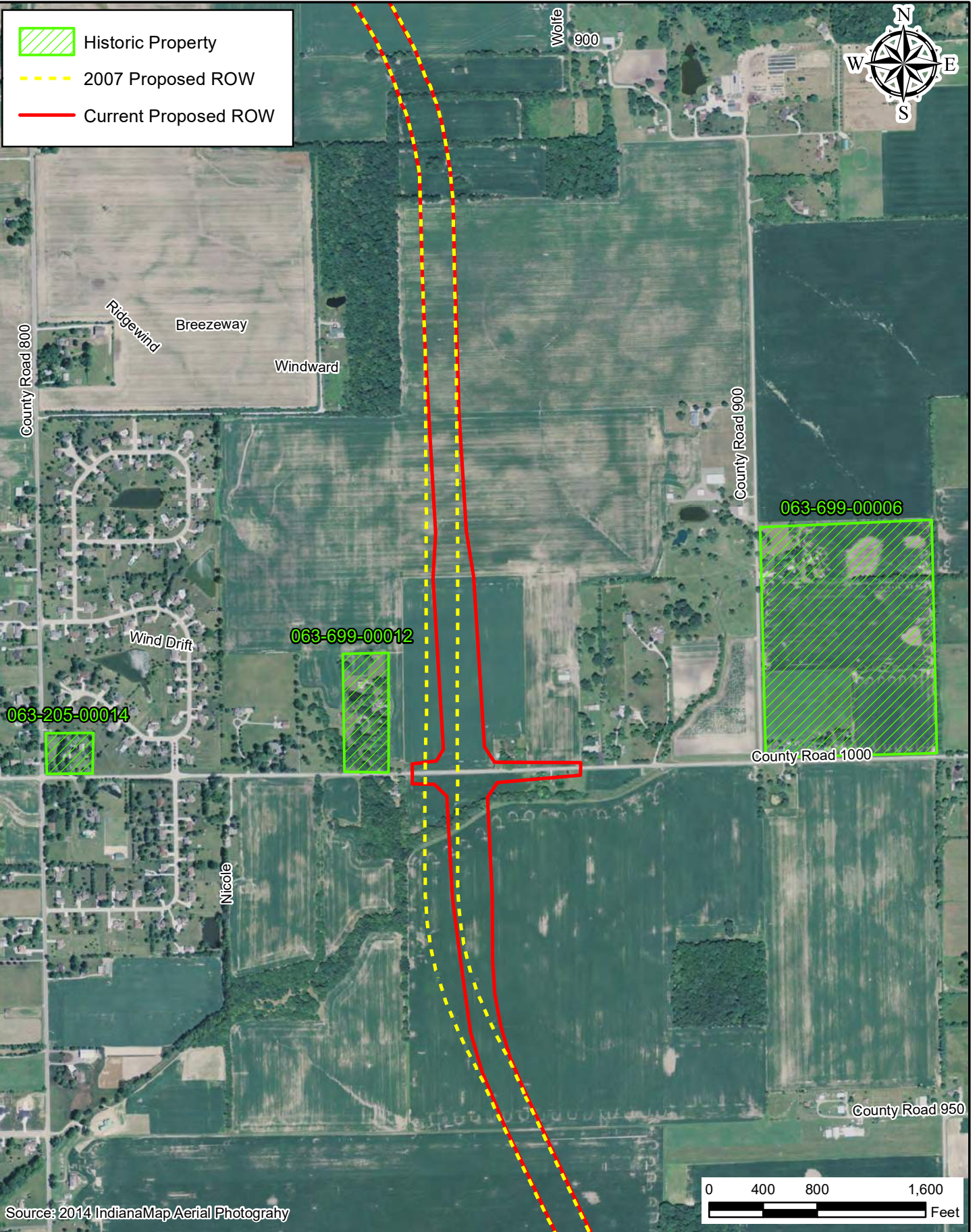
|  |   |
|--|---|
| <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County<br/>Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix D  
D-182

Date: 11/15/2017



Source: 2014 IndianaMap Aerial Photography

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**AMERICAN  
STRUCTUREPOINT  
INC.**

**063-205-00014, 063-699-00012,  
and 063-699-00006**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
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**Ronald Reagan Parkway**

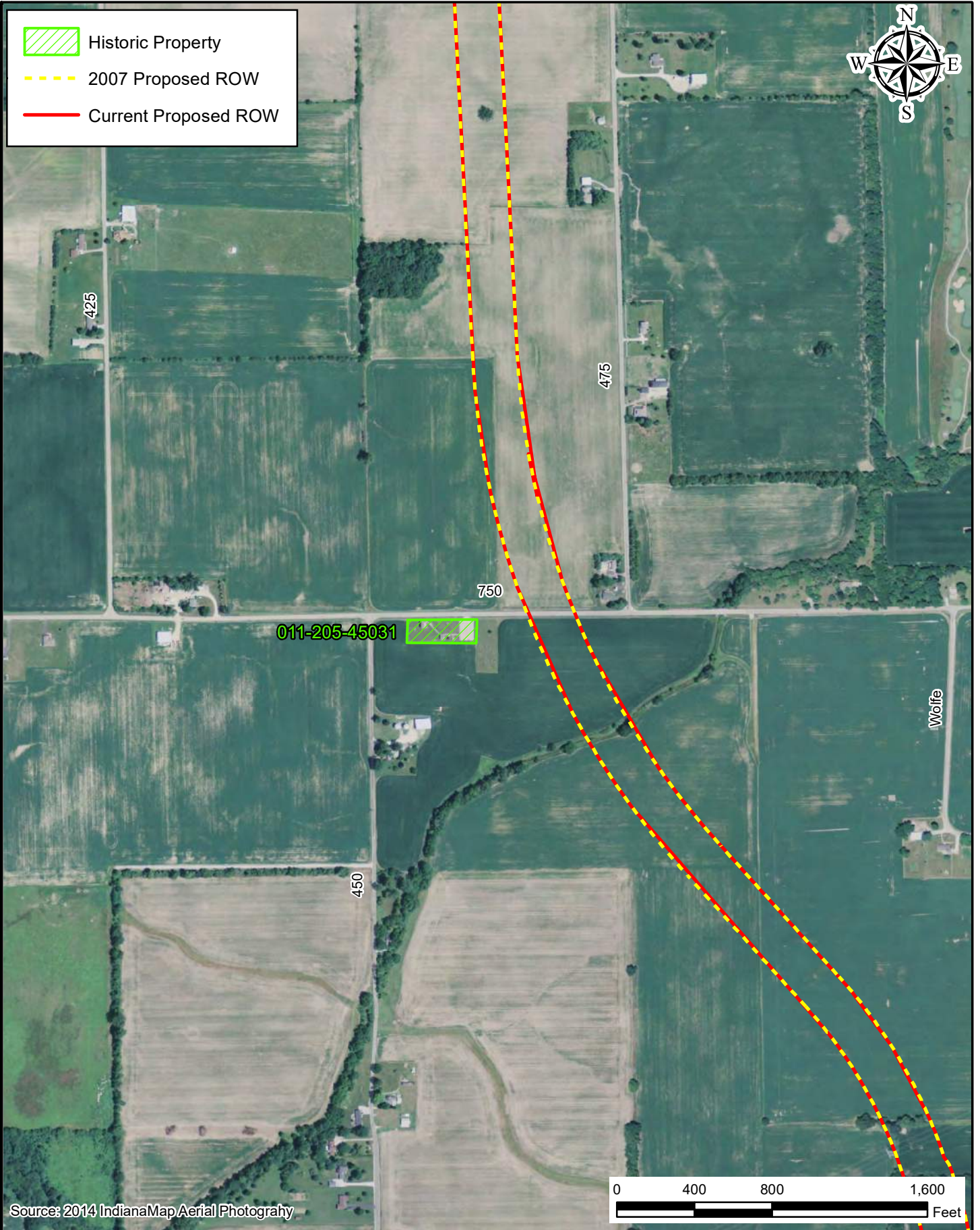
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix D  
D-183

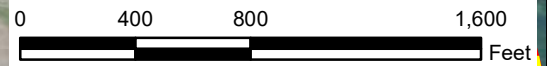
Date: 11/15/2017




-  Historic Property
-  2007 Proposed ROW
-  Current Proposed ROW



Source: 2014 IndianaMap Aerial Photography



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|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <b>011-205-45031</b>   |   | <b>Ronald Reagan Parkway</b>  |       |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 | Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |       |
|  |  | Appendix D  |   | D-184 |
|  |  | Date: 11/15/2017  |   |       |

**From:** Eric Spall [<mailto:hdulcimer@gmail.com>]

**Sent:** Friday, December 08, 2017 9:57 AM

**To:** Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>

**Subject:** Re: FHWA Project: Des. No. 1602280; Ronald Reagan Parkway, Boone and Hendricks County

Thank you for sending me letter with additional information on the Ronald Reagan Parkway extension project; I have reviewed it and have no comments to add to it. I will probably not be able to attend the meeting on December 15.

Regards,

Eric Spall

Boone County Historian

On Wed, Nov 22, 2017 at 2:21 PM, Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)> wrote:

**Des. No.: 1602280**

**Project Description: Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65**

**Location: Boone and Hendricks County**

Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA) and administrative oversight from INDOT, propose to proceed with the Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65 (Des. No. 1602280/formerly Des. No. 0710288). American Structurepoint is under contract with Boone and Hendricks Counties to advance the environmental documentation for the referenced project.

This letter is to provide you with additional information pertaining to the project and to notify you that a Section 106 Consulting Party Meeting regarding this project has been scheduled for December 15, 2017 at 9am. The meeting will be held in Hendricks County Government Center ([355 S Washington St, Danville, IN](#)), Conference Room 3. Teleconferencing will be available for those unable to attend in person.

Please review the letter located in IN-SCOPE (same as attached) at (<http://erms.indot.in.gov/Section106Documents/>), for your review and comment. The Des. No. is the most efficient search term once in IN SCOPE. Should you require a hard copy of this information, please contact me at the contact listed below and one will be mailed to you.

Consulting parties have thirty (30 days) from receipt of this information to review and provide comment. If we do not receive a response from an invited consulting party in the time allotted, the project will proceed consistent with the proposed design.

We would also like to provide an update with regard to archaeological resources. Fieldwork has been completed and a report of the results is being finalized. As soon as the report has been approved by INDOT, a hard copy will be provided to the State Historic Preservation Officer (SHPO) for review, and it will be available for Tribes to review via IN SCOPE. A notice will be sent out at that time.

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or [317- 233-6795](tel:317-233-6795) or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or [317-226-7344](tel:317-226-7344).

Thank you in advance for your input,

**Monica Del Real**  
**Environmental Scientist**

[7260 Shadeland Station](#)  
[Indianapolis, Indiana 46256](#)  
[317.547.5580](tel:317.547.5580) OFFICE  
[765.237.1238](tel:765.237.1238) CELL  
[structurepoint.com](http://structurepoint.com) WEB

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## Fwd: PC Hogan Farm

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----- Forwarded message -----

From: **Wethington, Patrick C** <[pwething@iupui.edu](mailto:pwething@iupui.edu)>  
Date: Sun, Dec 17, 2017 at 6:28 PM  
Subject: PC Hogan Farm  
To: "[Linda@weintrautinc.com](mailto:Linda@weintrautinc.com)" <[Linda@weintrautinc.com](mailto:Linda@weintrautinc.com)>

Hi Linda....It was nice to meet you Friday. I would like more information about the register of historic places so I can consider if that is something I want to pursue. Thank you. Pat Wethington:PC Hogan Farm

Sent from my iPad

--  
Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
PO Box 5034  
[4649 Northwestern Drive](#)  
[Zionsville, Indiana 46077](#)  
[317.733.9770 ext. 310](#)

[www.weintrautinc.com](http://www.weintrautinc.com)



Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · [dhpa@dnr.IN.gov](mailto:dhpa@dnr.IN.gov) · [www.IN.gov/dnr/historic](http://www.IN.gov/dnr/historic)



December 18, 2017

Monica Del Real  
Environmental Scientist  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration, Indiana Division (“FHWA”)

Re: Additional project information and December 15, 2017, consulting party meeting for  
the extension of Ronald Reagan Parkway from Hendricks CR 600 North to I-65 in Boone  
County, Indiana (Des. No. 1602280 [formerly Des No. 0710288]; DHPA No. 20841)

Dear Ms. Del Real:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed INDOT’s letter dated November 22, 2017, with enclosures, which we received the same day, for the project in Lincoln and Brown townships in Hendricks County and Perry and Worth townships in Boone County.

It is the understanding of John Carr of our staff that a meeting summary will be prepared and that the summary and written comments submitted by consulting parties by the December 22 deadline will be provided to the consulting parties.

We think that the proposed eastward shift of the alignment of the Ronald Reagan Parkway extension could reduce slightly—but not eliminate—the project’s adverse effect on the Lawler Farmstead (referred to as the I-House Farmstead in the 2009 memorandum of agreement [“MOA”]). We are unsure whether the field through which the highway would pass is under the same ownership as the Lawler Farmstead or is part of the next farm to the east, but we wonder whether the new alignment would make it any more difficult to farm that field than the original alignment would have made it. This might have been discussed during the December 15 meeting, but Mr. Carr was unable to hear some of the consulting parties’ comments.

Based on our understanding of the project at present, we do not disagree with the proposed effects assessments for the historic properties identified within the area of potential effects. However, we would like to review the meeting summary and any other consulting party comments before agreeing to sign a revised memorandum of agreement (“MOA”).

There seem to be enough aspects of the project that have changed since 2009 such that the revised MOA, in essence, would be a new agreement. If so, then we think it would be appropriate to state expressly in the preamble of the revised MOA that it supersedes the 2009 MOA. We recommend that the Advisory Council on Historic Preservation’s (“ACHP’s”) “Guidance on Agreement Documents” be followed in revising the 2009 MOA (please see <http://www.achp.gov/agreementdocguidance.html>, in general, and the paragraph on “Amendments,” <http://www.achp.gov/agreementdocguidance.html#ch6-5>, in particular).

According to the content checklist in the ACHP’s guidance on drafting an agreement documents (<http://www.achp.gov/agreementdocguidance.html#ch4-2>), all historic properties identified within the area of potential effects should be named, either in the preamble, in the stipulations, or in an appendix to the MOA. Now there are three additional historic properties to add to the revised MOA.

In some instances in the 2009 MOA, "shall" and "will" appear to be used interchangeably. It is our understanding that "shall" refers to a duty imposed on a party to an agreement and "will" refers to a contingent future event. We recommend reviewing the uses of those words in the 2009 MOA before circulating a revised MOA for comment.

Because the 2009 MOA's termination date in Stipulation V.A. is currently December 31, 2019, we think it would be advisable to establish a new termination date for the revised MOA that would be far enough in the future to allow both the project and the mitigation measures to be completed. We are not sure how such a termination date affects an ongoing commitment, such as that which in Stipulation I.A. the Howard School Restoration Group to maintain the vegetated buffer that will be deeded to it.

As we have commented in previous letters, it appears that the project will come fairly close to Howard Cemetery (CR-06-61 in the Indiana DHPA SHAARD database system), just east of Howard School. Please note that, if the proposed project area includes any areas within 100 feet of a cemetery, then a cemetery development plan may be necessary under IC 14-21-1-26.5. The aforementioned cemetery must be avoided by all project activities, and provisions of relevant state statutes regarding cemeteries (including IC 14-21-1 and IC 23-14) must be adhered to. Please also be aware of IC 23-14-44-1 and IC 23-14-44-2, regarding restrictions on roads and utility construction in cemeteries.

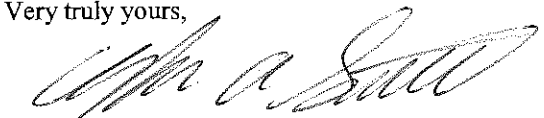
We look forward to receiving the updated archaeological report for this project. Unless the archaeological report indicates that further archaeological investigation is necessary, it would be advantageous for the participating tribes and the Indiana SHPO to have an opportunity to review and comment on that report before the revised MOA is put into final form for signature. That might eliminate the need to stipulate in the MOA that further archaeological investigations be conducted.

As always, if any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana Department of Natural Resources ("IDNR") within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff archaeology reviewer for this project is Wade Tharp, and the structures reviewer is John Carr. If you have questions about the status of a review, the review process, or what to submit, please contact the staff person in the Cultural Resources Office at INDOT who is assigned to this project.

In all future correspondence regarding the Extension of Ronald Reagan Parkway from Hendricks CR 600 North to I-65 in Boone County, please refer to DHPA No. 20841.

Very truly yours,



Christopher A. Smith  
Deputy Director  
Indiana Department of Natural Resources

CAS:JLC:jlc

emc: Michelle Allen, FHWA  
Robert Dirks, P.E., FHWA  
Anuradha Kumar, INDOT  
Shaun Miller, INDOT  
Mary Kennedy, INDOT  
Matthew Coon, Ph.D., INDOT  
Shirley Clark, INDOT  
Monica Del Real, American Structurepoint, Inc.  
Leah Boits, American Structurepoint, Inc.  
John Ayers, P.E., Hendricks County Engineer  
Jeff Wolfe, Board of Commissioners of Boone County  
Craig Parks, P.E., Boone County Engineer  
Howard School Restoration Group  
Becky Robinson  
Linda Weintraut, Ph.D., Weintraut & Associates, Inc.  
Wade T. Tharp, IDNR  
John Carr, IDNR

---

## Fwd: PC Hogan Farm

1 message

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----- Forwarded message -----

From: **Linda Weintraut** <linda@weintrautinc.com>

Date: Tue, Dec 19, 2017 at 9:43 AM

Subject: Re: PC Hogan Farm

To: "Wethington, Patrick C" <pwething@iupui.edu>

Cc: "Boits, Leah" <lboits@structurepoint.com>, "Kennedy, Mary" <mkennedy@indot.in.gov>

Mr. Wethington,

It was nice meeting you Friday as well.

You may find information about the National Register of Historic Places (NRHP) on the National Park Service website. Two publications that may be helpful are the "National Register of Historic Places" brochure poster ([https://www.nps.gov/nr/publications/bulletins/NR\\_Brochure\\_Poster/NR\\_Brochure\\_Poster.pdf](https://www.nps.gov/nr/publications/bulletins/NR_Brochure_Poster/NR_Brochure_Poster.pdf)) and the publication entitled "My Property is Important to America's Heritage: What does that Mean?" ([https://www.nps.gov/nr/publications/bulletins/myproperty/.](https://www.nps.gov/nr/publications/bulletins/myproperty/))

More specifically, National Register Bulletin 16 provides guidance on preparing the nomination form (<https://www.nps.gov/nr/publications/bulletins/nrb16a/>).

The Division of Historic Preservation and Archaeology (DHPA), which is part of the Indiana Department of Natural Resources (IDNR), oversees the review and maintenance of NRHP nominations for all properties within the State of Indiana. The Survey and Registration Staff at DHPA can provide information and answer questions about the NRHP application process, guidance on the application process, and/or a list of qualified professionals who can help guide you through the process. Paul Diebold, the Assistant Director of Preservation Services, may be reached at (317) 232-3493.

Please let me know if you have additional questions. Linda

On Sun, Dec 17, 2017 at 6:28 PM, Wethington, Patrick C <pwething@iupui.edu> wrote:

Hi Linda....It was nice to meet you Friday. I would like more information about the register of historic places so I can consider if that is something I want to pursue. Thank you. Pat Wethington:PC Hogan Farm

Sent from my iPad

--  
Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
PO Box 5034  
[4649 Northwestern Drive](#)  
[Zionsville, Indiana 46077](#)  
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317.733.9770 ext. 310

[www.weintrautinc.com](http://www.weintrautinc.com)



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## Fwd: FW: FHWA Project: Des. No. 1602280; Ronald Reagan Parkway, Boone and Hendricks County, Indiana

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----- Forwarded message -----

From: **Del Real, Monica** <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>

Date: Wed, Dec 20, 2017 at 10:59 AM

Subject: FW: FHWA Project: Des. No. 1602280; Ronald Reagan Parkway, Boone and Hendricks County, Indiana

To: "Boits, Leah" <[lboits@structurepoint.com](mailto:lboits@structurepoint.com)>, "linda ([linda@weintrautinc.com](mailto:linda@weintrautinc.com))" <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

FYI: Arch sent out to Tribes

---

**Monica Del Real**

**Environmental Scientist**

*American Structurepoint*

317.547.5580

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**From:** Coon, Matthew [mailto:[mcoon@indot.IN.gov](mailto:mcoon@indot.IN.gov)]

**Sent:** Wednesday, December 20, 2017 10:58 AM

**To:** 'kpenrod@delawarenation.com' <[kpenrod@delawarenation.com](mailto:kpenrod@delawarenation.com)>; 'dhunter@miamination.com'

<[dhunter@miamination.com](mailto:dhunter@miamination.com)>; 'Allison.Daniels@fcpotawatomi-nsn.gov' <[Allison.Daniels@fcpotawatomi-nsn.gov](mailto:Allison.Daniels@fcpotawatomi-nsn.gov)>

**Cc:** Del Real, Monica <[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)>; Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Miller, Shaun (INDOT) <[smiller@indot.IN.gov](mailto:smiller@indot.IN.gov)>; 'michelle.allen@dot.gov' <[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)>

**Subject:** FHWA Project: Des. No. 1602280; Ronald Reagan Parkway, Boone and Hendricks County, Indiana

**Des. No.: 1602280**

**Project Description: Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65**

**Location: Boone and Hendricks County, Indiana**

Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA) and administrative oversight from INDOT, propose to proceed with the Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65 (Des. No. 1602280/formerly Des. No. 0710288).

As part of Section 106 of the National Historic Preservation Act, an archaeology report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317-233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Thank you in advance for your input,

Matt Coon

*Archaeologist, Cultural Resources Office*

*INDOT Environmental Services*

*100 N. Senate Avenue, Room N642*

*Indianapolis, IN 46204*

*Phone: 317.233.2083*

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Linda Weintraut, Ph.D.  
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[317.733.9770 ext. 310](http://www.weintrautinc.com)

[www.weintrautinc.com](http://www.weintrautinc.com)

December 20, 2017

RE: Corby Boulevard, Ironwood Drive, and Rockne Drive Intersection Improvement  
Des. No. 1600074

Dear Mr. Zoll,

The Hendricks and Boone County Commissioners are advancing a project, with the cooperation and oversight of the Federal Highway Administration (FHWA) and the Indiana Department of Transportation (INDOT), to extend Ronald Reagan Parkway (Current Des. No. 1602280, Previous Des. No. 0710288) in Hendricks and Boone County, Indiana. The project is approximately 9.8 miles long beginning at CR 600 N in Hendricks County, and extends northward to the intersection of State Road (SR) 267 and Indianapolis Road, just south of the I-65 interchange (Exit 133). American Structurepoint, Inc. is under contract with the Boone and Hendricks County Commissioners to advance the environmental documentation for the referenced project.

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above DES Number and project description in your reply and your comments will be incorporated into the formal environmental study.

The purpose of the proposed project is to improve regional and local mobility by providing better local access to Hendricks and Boone County residents. The need for the project is demonstrated through a lack of adequate system linkage and the lack of access to areas of future annexation and growth.

On July 6, 2010, the Indiana Department of Transportation (INDOT), followed by the Federal Highway Administration (FHWA) on July 7, 2010 approved an Environmental Assessment (EA) prepared for this project. Following this approval, a public hearing was convened on August 2, 2010. On March 7, 2011, the FHWA issued a Finding of No Significant Impact (FONSI) for the project.

From this point forward, advancement of this undertaking is being done so under Des. No. 1602280. However, it should be noted this effort is intended to be an update to, and re-initiation of, the Section 106 consultation concluded under Des. No. 0710288 and DHPA No. 3540. That Des. No., which was purged from INDOT's programming due to the passage of time, included an "Adverse Effect" finding that was issued by FHWA on July 14, 2009, and the execution of a Memorandum of Agreement (MOA) on November 10, 2009.

With regards to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards, identified eleven sites within the project area. All eleven sites located during the Phase Ia survey do not appear to meet eligibility criterion and are recommended as not eligible for listing in the Indiana Register of Historic Sites and Structures (IRHSS) or National Register of Historic Places (NRHP). As a result of these efforts, no further work is recommended.

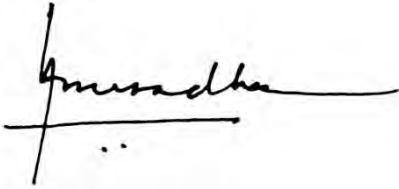
The Archaeology Report is available for review in IN SCOPE at <http://erns.indot.in.gov/Section106Documents/>; (the Des No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If you prefer a hard copy of this material, please respond to this email with your request within seven (7) days.

Please review the information and comment within thirty (30) calendar days of receipt. For questions concerning specific project details, you may contact Monica Del Real of American Structurepoint Inc. at 317-547-5580 or [mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com). All future responses regarding the proposed project should be forwarded to American Structurepoint, Inc. at the following address:

Monica Del Real  
Environmental Scientist  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)

Tribal contacts may contact Shaun Miller at [smiller@indot.in.gov](mailto:smiller@indot.in.gov) or 317- 233-6795 or Michelle Allen at FHWA at [michelle.allen@dot.gov](mailto:michelle.allen@dot.gov) or 317-226-7344.

Sincerely,

A handwritten signature in black ink, appearing to read "Anuradha", written over a horizontal line. There are two small dots below the line.

Anuradha V. Kumar, Manager  
Cultural Resources Office  
Environmental Services

Enclosures: Archaeology Report

January 4, 2018

Monica Del Real  
Environmental Scientist  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, IN 46256

Re: Des. No. 1602280 (Ronald Reagan Parkway construction project)

Ms. Del Real:

Indiana Landmarks has learned that there was a consulting parties meeting to discuss the Ronald Reagan Parkway project in Hendricks and Boone Counties on December 15, 2017. To the best of our knowledge, we did not receive an invitation to that meeting. As a reminder, we are to be included as a consulting party for all Section 106 projects in Indiana. In the case of Des. No. 1602280, we are also to be included as a consulting party insofar as we hold an easement on the Howard School at 4555 750 S. in Boone County. If there has been an error and there was an invitation for us to participate in the December 15 consulting parties meeting, please send documentation of the relevant correspondence.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sam Burgess", with a long horizontal flourish extending to the right.

Sam Burgess  
Community Preservation Specialist



Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739  
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov · www.IN.gov/dnr/historic



January 22, 2018

Anuradha V. Kumar  
Manager, Cultural Resources Office  
Environmental Services  
Indiana Department of Transportation  
100 North Senate Avenue, Room N642  
Indianapolis, Indiana 46204

Federal Agency: Indiana Department of Transportation (“INDOT”),  
on behalf of Federal Highway Administration (“FHWA”)

Re: Archaeological records check and Phase Ia archaeological reconnaissance survey report (Arnold, 11/2017), for the extension of Ronald Reagan Parkway from Hendricks CR 600 North to the SR 267-Indianapolis Road intersection near I-65 in Boone County (Des. No. 1602280; DHPA No. 20841) (related to Des. No. 07I0288; DHPA No. 3540)

Dear Ms. Kumar:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the “Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana,” the staff of the Indiana State Historic Preservation Officer (“Indiana SHPO”) has reviewed your cover letter dated December 20, 2017, together with the archaeological records check and Phase Ia archaeological reconnaissance survey report (Arnold, 11/2017), which we received on December 21, 2017, for the aforementioned project in Lincoln and Brown townships in Hendricks County, and Perry and Worth townships in Boone County, Indiana.

Based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we have not identified any currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places (“NRHP”) within the additional portions of the proposed project area that were included in the recent archaeological investigations; and we concur with the opinion of the archaeologist, as expressed in the archaeological records check and Phase Ia archaeological reconnaissance survey report (Arnold, 11/2017), that no further archaeological investigations are necessary in those areas. Additionally, we concur with the opinion of the archaeologist, as expressed in the report, that archaeological sites 12-He-0486, 12-He-0487, 12-He-0488, 12-He-0489, 12-He-0490, 12-He-0491, 12-He-0492, 12-He-0493, 12-He-0494, and 12-He-0495 (all of which were identified during the archaeological investigations); and archaeological site 12-He-0361 (which was resurveyed during the archaeological investigations); do not appear eligible for inclusion in the National Register of Historic Places (“NRHP”).

Additionally, thank you for submitting the archaeological site survey record forms for sites 12-He-0486, 12-He-0487, 12-He-0488, 12-He-0489, 12-He-0490, 12-He-0491, 12-He-0492, 12-He-0493, 12-He-0494, and 12-He-0495; and the archaeological site resurvey form for site 12-He-0361, to the Indiana DHPA SHAARD system database. They will be reviewed.

If any archaeological artifacts or features, or human remains, are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations.

As previously indicated, we note that portions of the proposed project area appear to lie within 100 feet of Howard Cemetery (CR-06-61 in the Indiana DHPA SHAARD database system). Please note that, if the proposed project area includes any areas within 100 feet of a cemetery, then a cemetery development plan may be necessary under IC 14-21-1-26.5. The aforementioned cemetery must be avoided by all project activities, and provisions of relevant state statutes regarding cemeteries (including IC 14-21-1 and IC 23-14) must be adhered to. Please also be aware of Indiana Code 23-14-44-1 and Indiana Code 23-14-44-2, regarding restrictions on roads and utility construction in cemeteries.

A copy of the revised 36 C.F.R. Part 800 that went into effect on August 5, 2004, may be found on the Internet at [www.achp.gov](http://www.achp.gov) for your reference. If you have questions about archaeological issues, please contact Wade Tharp at (317) 232-1650 or [wtharp1@dnr.IN.gov](mailto:wtharp1@dnr.IN.gov). Questions about buildings or structures should be directed to John Carr at (317) 233-1949 or [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov).

In all future correspondence regarding the extension of Ronald Reagan Parkway from Hendricks CR 600 N to the SR 267-Indianapolis Road intersection near I-65 in Boone County, please refer to DHPA No. 20841.

Very truly yours,



Christopher A. Smith  
Deputy Director  
Indiana Department of Natural Resources

CAS:WTT:wtt

emc: Michelle Allen, Federal Highway Administration, Indiana Division  
Anuradha Kumar, Indiana Department of Transportation  
Shaun Miller, Indiana Department of Transportation  
Mary Kennedy, Indiana Department of Transportation  
Shirley Clark, Indiana Department of Transportation  
Monica Del Real, American Structurepoint, Inc.  
Linda Weintraut, Ph.D., Weintraut & Associates, Inc.  
Christopher A. Smith, Deputy Director, Indiana Department of Natural Resources  
Wade T. Tharp, Indiana Department of Natural Resources  
John Carr, Indiana Department of Natural Resources

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## Fwd: Ronald Reagan Parkway (Des. No. 1602280)- Consulting Party Meeting Minutes, 12/15/2017

1 message

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Sent from my iPhone

Begin forwarded message:

**From:** "Boits, Leah" <lboits@structurepoint.com>

**Date:** January 29, 2018 at 8:30:07 AM EST

**To:** "pwething@iupui.edu" <pwething@iupui.edu>, "zachfrazee@gmail.com" <zachfrazee@gmail.com>, "Coan.william@yahoo.com" <Coan.william@yahoo.com>, "sburgess@indianalandmarks.org" <sburgess@indianalandmarks.org>

**Cc:** "michelle.allen@dot.gov" <michelle.allen@dot.gov>, "dimas.prasel-ya@dot.gov" <dimas.prasel-ya@dot.gov>, "Kennedy, Mary" <MKENNEDY@indot.IN.gov>, "bhickman@co.boone.in.us" <bhickman@co.boone.in.us>, "jayers@co.boone.in.us" <jayers@co.boone.in.us>, "Maurovich, Mike" <MMAurovich@structurepoint.com>, "Linda Weintraut (linda@weintrautinc.com)" <linda@weintrautinc.com>, "jayers@co.hendricks.in.us" <jayers@co.hendricks.in.us>, "bharvey@co.hendricks.in.us" <bharvey@co.hendricks.in.us>, "jcarr@dnr.in.gov" <jcarr@dnr.in.gov>, "Kumar, Anuradha" <akumar@indot.IN.gov>, "kpenrod@delawarenation.com" <kpenrod@delawarenation.com>, "Hope, Briana" <bhope@structurepoint.com>, "Iddings, Joshua" <Jlddings@structurepoint.com>

**Subject:** Ronald Reagan Parkway (Des. No. 1602280)- Consulting Party Meeting Minutes, 12/15/2017

Good Afternoon,

Please find attached the meeting minutes from the December 15, 2017 Consulting Party meeting. Due to slight changes in scope and the age of the previously approved Environmental Assessment (EA) document, an Additional Information/Re-Evaluation document is being prepared. The purpose of the meeting was to discuss anticipated effects on historic properties and mitigation measures for the Ronald Reagan Parkway project.

As part of the original EA, a Memorandum of Agreement (MOA) was signed on October 19, 2009. Mitigation stipulations in the 2009 MOA included the following:

- Howard School: the property located between the Howard Cemetery will be acquired as permanent right-of-way, deeded to the Howard School Restoration Group, and planted with trees.
- Lawler Farm: tree planting between farmstead and roadway

As discussed at the meeting, an updated MOA is being drafted due to the re-initiation of the Section 106 process, identification of additional historic properties, and updated standard language. The intent of the update is not to minimize the mitigation stipulations proposed in the original MOA. However, as part of the December 15, 2017 Consulting Party meeting comments were solicited from the group regarding potential changes to the new MOA



specifically regarding mitigation stipulations. Howard School representatives requested a mow-able berm be included as mitigation in the new MOA; Structurepoint staff is investigating the feasibility of a berm being constructed between the roadway and Howard School.

The attached minutes reflect our understanding of the discussions and decisions made at this meeting; all discussions were deliberative and pre-decisional. If you have any questions, additions, or comments, please contact me using the information below.

Thank you,

Leah

---

**LEAH S. BOITS**

**Project Manager**

7260 Shadeland Station

Indianapolis, Indiana 46256

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[574.850.7137](tel:574.850.7137) CELL

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## Fwd: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

---

----- Forwarded message -----

From: **Sam Burgess** <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>

Date: Mon, Jan 29, 2018 at 9:53 AM

Subject: RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

To: "Boits, Leah" <[lboits@structurepoint.com](mailto:lboits@structurepoint.com)>

Cc: "Kennedy, Mary" <[MKENNEDY@indot.in.gov](mailto:MKENNEDY@indot.in.gov)>, "Hope, Briana" <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>, "Iddings, Joshua" <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>, "Maurovich, Mike" <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>, "Linda Weintraut (linda@weintrautinc.com)" <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

Ms. Boits:

Thank you for your message. It should be noted that Indiana Landmarks also has no record of an invitation from StructurePoint to participate in the October 19, 2016 meeting concerning the Ronald Reagan Parkway project under a previous Des. Number. We are glad that we can expect to be included in all future communications intended for consulting parties for this undertaking. We will review the documents and let you know if we have any comments. How much time do we have to provide input?

Sincerely,

Sam Burgess

.....

**Sam Burgess**

Community Preservation Specialist

.....

**Indiana Landmarks**

Central Regional Office

[1201 Central Avenue](#)

[Indianapolis, IN 46202](#)

[Ph. 317-639-4534, 800-450-4534](#)

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[www.indianalandmarks.org](http://www.indianalandmarks.org)

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---

**From:** Boits, Leah [mailto:[lboits@structurepoint.com](mailto:lboits@structurepoint.com)]  
**Sent:** Monday, January 29, 2018 8:39 AM  
**To:** Sam Burgess <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>  
**Cc:** Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>; Maurovich, Mike <[MMAurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>; Linda Weintraut ([linda@weintrautinc.com](mailto:linda@weintrautinc.com)) <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>  
**Subject:** Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

Mr. Burgess,

Thank you for contacting us with regard to the Ronald Reagan Parkway Consulting Party meeting held on December 15, 2017. In your January 4, 2018 letter, you indicated that Indiana Landmarks did not receive an invitation to participate. We apologize for the inadvertent omission. In the November 20, 2017 invitation, Indiana Landmarks was listed on the Distribution list; however, we do not have records whether or not that letter was delivered to your office. We do consider you a consulting party and we greatly appreciate your participation in this process. Please find attached all of the materials that have been submitted to-date, including the invitation and the presentation from the December 15, 2017 meeting; the meeting minutes were included in a previous email. Please let us know if you have comments about the Consulting Party meeting or an updated MOA. Again, we apologize for the error, and we look forward to hearing back from you. Please feel free to call or email using the information below if you'd like to discuss further.

Thank you,

Leah

---

**LEAH S. BOITS**

**Project Manager**

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Indianapolis, Indiana 46256

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## Fwd: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

1 message

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----- Forwarded message -----

From: **Boits, Leah** <lboits@structurepoint.com>

Date: Tue, Jan 30, 2018 at 4:34 PM

Subject: RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

To: Sam Burgess <sburgess@indianalandmarks.org>

Cc: "Kennedy, Mary" <MKENNEDY@indot.in.gov>, "Hope, Briana" <bhope@structurepoint.com>, "Iddings, Joshua" <Jlddings@structurepoint.com>, "Maurovich, Mike" <MMAurovich@structurepoint.com>, "Linda Weintraut (linda@weintrautinc.com)" <linda@weintrautinc.com>

Mr. Burgess,

As discussed this afternoon, as a participating consulting party, Indiana Landmarks will be allotted the same review time as all other consulting parties (30 days from receipt of the information packet). However, if possible, we are requesting that your organization expedite your review and provide comments within two weeks (February 12, 2018). During the review period, please feel free to contact me for more information or to ask questions, if needed.

Thank you,

Leah

---

**From:** Sam Burgess [mailto:sburgess@indianalandmarks.org]

**Sent:** Monday, January 29, 2018 9:53 AM

**To:** Boits, Leah <lboits@structurepoint.com>

**Cc:** Kennedy, Mary <MKENNEDY@indot.IN.gov>; Hope, Briana <bhope@structurepoint.com>; Iddings, Joshua <Jlddings@structurepoint.com>; Maurovich, Mike <MMAurovich@structurepoint.com>; Linda Weintraut (linda@weintrautinc.com) <linda@weintrautinc.com>

**Subject:** RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

Ms. Boits:

Thank you for your message. It should be noted that Indiana Landmarks also has no record of an invitation from

StructurePoint to participate in the October 19, 2016 meeting concerning the Ronald Reagan Parkway project under a previous Des. Number. We are glad that we can expect to be included in all future communications intended for consulting parties for this undertaking. We will review the documents and let you know if we have any comments. How much time do we have to provide input?

Sincerely,

Sam Burgess

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**Sam Burgess**

Community Preservation Specialist

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**Sent:** Monday, January 29, 2018 8:39 AM  
**To:** Sam Burgess <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>  
**Cc:** Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>; Maurovich, Mike <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>; Linda Weintraut ([linda@weintrautinc.com](mailto:linda@weintrautinc.com)) <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>  
**Subject:** Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

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Thank you,

Leah

---

## LEAH S. BOITS

### Project Manager

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[317.733.9770 ext. 310](#)

[www.weintrautinc.com](http://www.weintrautinc.com)

February 21, 2018

Leah Boits  
Project Manager  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, IN 46256

Re: Des. No. 1602280, Ronald Reagan Parkway, December 15, 2017 Consulting Parties Meeting

Ms. Boits:

Indiana Landmarks submits the following comments regarding the minutes for the consulting parties meeting held on December 15, 2017.

Concerning the Howard School, we concur with the continued finding of adverse effect. We concur that the Federal Highway Administration (FHWA) should be required to purchase the land between the Howard Cemetery and the new Ronald Reagan Parkway right-of-way (ROW) and deed the land to the Howard School Restoration Group under the new Memorandum of Agreement (MOA). We further concur that the new MOA should still require the planting of a vegetated buffer of coniferous trees and approved deciduous trees on the land deeded to the Howard School Restoration Group as a mitigation measure for the undertaking's adverse effect on the Howard School. As noted in our letter of April 24, 2017, we believe it should be made more explicit in the new MOA that FHWA will be fully responsible for funding the purchase and installation of the trees. In addition, we concur with the Howard School Restoration Group's comment at the December 15, 2017 meeting that FHWA should also fund the construction of a mow-able earth berm between Howard Cemetery and the Ronald Reagan Parkway ROW to further mitigate the adverse effect.

Regarding the Lawler Farm, we continue to concur that the undertaking poses an adverse effect to the resource and that FHWA should be required under the new MOA to purchase and install trees as a vegetated buffer to mitigate the effect.

Had a representative of Indiana Landmarks been present at the December 15 meeting, we would have responded in person to the question from the owners of the P.C. Hogan Farm regarding the process for nominating properties to the NRHP. We would appreciate an update on Weintraut & Associates' efforts to communicate with the owners about the prospect of NRHP listing since the Consulting Parties Meeting, and we would like to know whether the owners seem amenable to the idea of a designation. We would also like to request contact information for the owners so we can have the opportunity to communicate with them directly about the process of achieving a listing in the NRHP, the implications of designation, and Indiana Landmarks' Partners in Preservation grant program.

Sincerely,



Sam Burgess  
Community Preservation Specialist

---

## Fwd: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

1 message

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----- Forwarded message -----

From: **Boits, Leah** <[lboits@structurepoint.com](mailto:lboits@structurepoint.com)>

Date: Tue, Feb 27, 2018 at 1:48 PM

Subject: RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

To: Sam Burgess <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>

Cc: "Kennedy, Mary" <[MKENNEDY@indot.in.gov](mailto:MKENNEDY@indot.in.gov)>, "Linda Weintraut ([linda@weintrautinc.com](mailto:linda@weintrautinc.com))" <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>, "Hope, Briana" <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>

Mr. Burgess,

Thank you for your response and comments regarding the Ronald Reagan Parkway (Des. No. 1602280) project. We have forwarded your letter and recommendations to our historian to include in the 800 documentation and new MOA.

As requested in your February 21, 2018 letter, I have attached the correspondence from Weintraut & Associates to representatives of P.C. Hogan Farm with regard to the process for nominating properties to the NRHP. Dr. Weintraut coordinated with Mr. Patrick Wethington, whose contact information is provided below:

Pat Wethington

P.C. Hogan Farm

9110 East 1000 North

Brownsburg, IN 46112

Email: [pwething@iupui.edu](mailto:pwething@iupui.edu)

Please let me know if you have trouble accessing the attached email or if you need any additional information regarding this project. Thank you for your time and input.

Sincerely,

Leah Boits

---

**From:** Sam Burgess [mailto:[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)]  
**Sent:** Wednesday, February 21, 2018 3:32 PM  
**To:** Boits, Leah <[lboits@structurepoint.com](mailto:lboits@structurepoint.com)>  
**Subject:** RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

Ms. Boits:

Attached is a letter containing Indiana Landmarks' comments on the minutes from the December 15, 2017 Consulting Parties Meeting concerning the Ronald Reagan Parkway (Des. No. 1602280).

Thanks,

Sam Burgess

.....

**Sam Burgess**

Community Preservation Specialist

.....

**Indiana Landmarks**

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1201 Central Avenue

Indianapolis, IN 46202

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**Sent:** Tuesday, January 30, 2018 4:35 PM

**To:** Sam Burgess <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>

**Cc:** Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>; Maurovich, Mike <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>; Linda Weintraut (<[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>) <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

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Thank you,

Leah

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**Subject:** RE: Ronald Reagan Parkway (Des. No. 1602280) - December 15, 2017 Consulting Party Meeting

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Sincerely,

Sam Burgess

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**Sam Burgess**

Community Preservation Specialist

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**Sent:** Monday, January 29, 2018 8:39 AM

**To:** Sam Burgess <[sburgess@indianalandmarks.org](mailto:sburgess@indianalandmarks.org)>

**Cc:** Kennedy, Mary <[MKENNEDY@indot.IN.gov](mailto:MKENNEDY@indot.IN.gov)>; Hope, Briana <[bhope@structurepoint.com](mailto:bhope@structurepoint.com)>; Iddings, Joshua <[Jlddings@structurepoint.com](mailto:Jlddings@structurepoint.com)>; Maurovich, Mike <[MMaurovich@structurepoint.com](mailto:MMaurovich@structurepoint.com)>; Linda Weintraut (<[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>) <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

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Thank you,

Leah

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**LEAH S. BOITS****Project Manager**

7260 Shadeland Station  
Indianapolis, Indiana 46256

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From: Linda Weintraut <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

To: "Wethington, Patrick C" <[pwething@iupui.edu](mailto:pwething@iupui.edu)>

Cc: "Boits, Leah" <[lboits@structurepoint.com](mailto:lboits@structurepoint.com)>, "Kennedy, Mary" <[mkenney@indot.in.gov](mailto:mkenney@indot.in.gov)>

Bcc:

Date: Tue, 19 Dec 2017 14:43:23 +0000

Subject: Re: PC Hogan Farm



Mr. Wethington,

It was nice meeting you Friday as well.

You may find information about the National Register of Historic Places (NRHP) on the National Park Service website. Two publications that may be helpful are the "National Register of Historic Places" brochure poster ([https://www.nps.gov/nr/publications/bulletins/NR\\_Brochure\\_Poster/NR\\_Brochure\\_Poster.pdf](https://www.nps.gov/nr/publications/bulletins/NR_Brochure_Poster/NR_Brochure_Poster.pdf)) and the publication entitled "My Property is Important to America's Heritage: What does that Mean?" (<https://www.nps.gov/nr/publications/bulletins/myproperty/>.)

More specifically, National Register Bulletin 16 provides guidance on preparing the nomination form (<https://www.nps.gov/nr/publications/bulletins/nrb16a/>).

The Division of Historic Preservation and Archaeology (DHPA), which is part of the Indiana Department of Natural Resources (IDNR), oversees the review and maintenance of NRHP nominations for all properties within the State of Indiana. The Survey and Registration Staff at DHPA can provide information and answer questions about the NRHP application process, guidance on the application process, and/or a list of qualified professionals who can help guide you through the process. Paul Diebold, the Assistant Director of Preservation Services, may be reached at (317) 232-3493.

Please let me know if you have additional questions. Linda

On Sun, Dec 17, 2017 at 6:28 PM, Wethington, Patrick C <[pwething@iupui.edu](mailto:pwething@iupui.edu)> wrote:

Hi Linda....It was nice to meet you Friday. I would like more information about the register of historic places so I can consider if that is something I want to pursue. Thank you. Pat Wethington:PC Hogan Farm

Sent from my iPad

--

Linda Weintraut, Ph.D.  
Weintraut & Associates, Inc.  
PO Box 5034  
4649 Northwestern Drive  
Zionsville, Indiana 46077  
[317.733.9770 ext. 310](tel:317.733.9770)

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--

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----- Forwarded message -----

From: Linda Weintraut <[linda@weintrautinc.com](mailto:linda@weintrautinc.com)>

To: "Wethington, Patrick C" <pwething@iupui.edu>  
Cc: "Boits, Leah" <lboits@structurepoint.com>, "Kennedy, Mary" <mkennedy@indot.in.gov>  
Bcc:  
Date: Tue, 19 Dec 2017 14:43:23 +0000  
Subject: Re: PC Hogan Farm

Mr. Wethington,

It was nice meeting you Friday as well.

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Sent from my iPad

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---

 **noname.eml**  
11K

## Appendix E: Photographs

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018

# Previously Surveyed Properties

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011\_205-45013\_3730 CR 550S\_NW.JPG



011-205-45009\_5021 Indpls Rd\_S and W Elev.JPG



011-205-45012\_5905 S CR 475 E.JPG



011-205-45014\_3260 CR 550S\_S and E Elevs.JPG



011-205-45015\_CR300 E\_5850 CR300 E\_S and E Elev.JPG



011-205-45026\_Mount Tabor Primitive Church\_East Elev.JPG



011-205-45026\_Mount Tabor Primitive Church\_West Elev.JPG



011-205-45030\_CR 750 S\_Howard Cemetery.JPG



011-205-45030\_4555 E CR750 S\_Howard School\_N and E Elevs.JPG



011-205-45030\_4555 E CR750 S\_Howard School\_N and W Elevs2.JPG





011-205-45032\_3800 E CR 750S\_South Elev.JPG



011-205-45033\_3820 E CR750 S Elev.JPG



011-699-45027\_Sullivan Marker\_at S 525 E.JPG



011-699-45029\_Kemper-Westfall House.jpeg



011-699-45029\_Kemper-Westfall House\_N and W Elev.JPG



063-117\_40006\_8795 E CR600 N\_Gothic Revival\_N Elev.JPG



063-117-40004\_5985 CR 600 N\_Walker School\_West Elev.JPG



063-117-40004\_5985 N CR1000 E\_Walker School.JPG



063-117-40006\_8795 CR600 S\_N and E Elevs.JPG



063-117-40006\_8795 CR600 S\_S Elev\_Zoom3.JPG



063-205-00013\_8245 CR 1000N\_N and W Elevs.JPG



063-205-00014\_8030 CR1000 N\_South Elev\_Zoom.JPG



063-205-00014\_CR1000 N\_8030 CR 1000N\_E Elev\_C.JPG



063-205-00014\_CR1000 N\_8030 CR 1000N\_Red Barn\_C.JPG



063-205-00014\_CR1000 N\_8030 CR 1000N\_Small Barn.JPG



063-205-00015\_10563 N CR800 E\_S Elev.JPG





063-205-00015\_10563 N CR800 E\_W and S Elevs.JPG



063-205-00016\_CR-32-4\_Looking SW.JPG



063-699-00004\_CR950 E\_10212 N CR950 E\_E Elev\_Breezeway.JPG



063-699-00004\_CR950 E\_10212 N CR950 E\_E Elev\_Close.JPG



063-699-00005\_CR950 E\_10293 N CR950 E\_N and W Elevs w Barn.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Cattle Barn and corral\_W.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Cattle Barn\_NJPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Cattle Shelter\_c1950\_N.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Chicken Coop\_c1950.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Hog Barn\_N and W Barn.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Hog Barn\_SW.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Horse barn\_Looking NW.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Horse Barn\_NE.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Leantos near Hog Barn\_E.JPG



063-699-00006\_9110 CR 1000N\_Hogan Farm\_Milk House\_SW.JPG



063-699-00006\_9110 CR 1000N\_S and W Elev.JPG





063-699-00007\_10380 N CR 900E\_Dugan Farm\_Eastern Barns\_Looking NW.JPG



063-699-00007\_10380 N CR 900E\_Dugan Farm\_House N and W Elev.JPG



063-699-00007\_10380 N CR 900E\_Dugan Farm\_House S and W Elev\_Close.JPG



063-699-00007\_CR900 E\_10380 N CR900 E\_Barn.JPG



063-699-00008\_CR1000 N\_8790 E CR1000 N\_S and E Elevs.JPG



063-699-00008\_CR1000 N\_8790 E CR1000 N\_S and W Elevs.JPG



063-699-00009\_CR 1000N\_N Elev2\_C.JPG



063-699-00010\_8640 E CR 1000N\_S and W Elev Close.JPG



063-699-00011\_8475 CR 1000N\_N Elev\_Zoom\_C.JPG



063-699-00012\_8460 CR 1000N\_Barns1\_C.JPG



063-699-00012\_8460 CR 1000N\_Lawler Farm\_Large Barn\_N.JPG



063-699-00012\_8460 CR 1000N\_Lawler Farm\_Rear Barn and Addition\_NE.JPG



063-699-00012\_8460 CR 1000N\_Lawler Farm\_South and East Elev.JPG



063-699-00029\_8525 CR 925E\_S and W Elevs.JPG



063-699-00030\_CR925 E\_9145 N CR925 E\_N Elev.JPG



CR 06-60\_Dickerson Cemetery\_Looking SE.JPG





CR 06-63\_Smith Cemetery Looking Southeast.JPG



CR 06-63\_Smith Cemetery Looking West\_Medium.JPG

# Surveyed Properties, Boone County

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WA-B1\_3559 S CR400 E\_Barns.JPG



WA-B1\_3559 S CR400 E\_Large Barn.JPG



WA-B2\_3720 Indpls Rd\_Front Elev.JPG



WA-B3\_3785 Indpls Rd\_SW elev.JPG



WA-B4\_3835 Indpls Rd.JPG



WA-B5\_4245 E Albert White Dr\_N elev.JPG



WA-B6\_3525 CR 400S.JPG



WA-B7\_4995 E CR450 S\_Barns\_N and E Elevs.JPG



WA-B7\_4995 E CR450 S\_N Elev.JPG



WA-B8\_4950 SR 267\_North and East Elev.JPG



WA-B8\_4950 SR 267\_Outbuildings3\_Looking Northwest.JPG



WA-B9\_4955 SR 267\_Outbuildings South and West Elev\_Zoom.JPG



WA-B9\_4955 SR 267\_West Elev.JPG



WA-B10\_5190 S SR267\_E Elev\_Zoom.JPG





WA-B11\_3925 CR 550S.JPG



WA-B12\_4025 CR 550S.JPG



WA-B13\_4075 CR 550S\_N and E Elevs.JPG



WA-B14\_5380 E CR550 S\_Old Grain Elevator\_Setting\_South and West Elevs.JPG



WA-B15\_5725 CR300 E\_N and W Elev.JPG



WA-B16\_5720 S SR267\_E Elev\_Looking W.JPG



WA-B17\_5725 S SR267\_House\_N and W elev.JPG



WA-B18\_6000 N SR267\_E Elev.JPG



WA-B19\_6075 S SR267\_N Elev.JPG



WA-B20\_6255 N SR267\_E Elev.JPG



WA-B21\_6255 S CR475 E\_W elev.JPG



WA-B22\_4100 E Whitestown Pkwy\_S and E Elevs.JPG



WA-B23\_4536 Whitestown Pkwy\_S and E Elev.JPG



WA-B24\_5220 E Whitestown Parkway\_House\_S and E elevs\_Close.JPG



WA-B25\_4245 E Whitestown Pkwy\_N and E Elevs.JPG



WA-B26\_6600 N SR267\_Barn.JPG





WA-B26\_6600 N SR267\_N Elev.JPG



WA-B27\_6795 N SR267\_N and W Elev.JPG



WA-B28\_SR267\_N of CR700 S\_NE.JPG



WA-B29\_7315 N SR267\_N and W Elevs.JPG



WA-B30\_7375 N SR267\_N and W Elevs.JPG



WA-B31\_7445 N SR267\_N and E Elevs.JPG



WA-B32\_3930 E CR750S\_ South Elev.JPG



WA-B33\_7470 S SR267\_Fire Station\_S and W Elevs\_1964.JPG



WA-B34 \_4310 E CR750S\_ West Elev.JPG



WA-B35\_5070 E CR750 S\_S Elev.JPG



WA-B36\_7506 SR267\_E Elev.JPG



WA-B37\_7575 N SR267\_N and W Elevs.JPG



WA-B38\_7626 SR267\_N and E Elev.JPG



WA-B39\_7646 SR267\_E Elev.JPG

# Surveyed Properties, Hendricks County

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WA-H1\_ 10685 SR 267\_N and W elevs.JPG



WA-H2\_ 10915 SR267\_S and W Elev.JPG





WA-H3\_10990 N CR 900 E\_N and E elevation.JPG



WA-H3\_10990 N CR900 E\_Barn.JPG



WA-H4\_10696 SR267\_E Elev.JPG



WA-H5\_10792 N CR800 E\_E Elev.JPG



WA-H6\_10645 SR267\_W elev.JPG



WA-H7\_10632 N CR 950 E\_E elevation.JPG



WA-H8\_10456 N SR267\_East Elev.JPG



WA-H9\_10386 N SR267\_N and E Elevs.JPG



WA-H10\_10275 N SR267\_S elev.JPG



WA-H11\_10286 N SR267\_E Elev.JPG



WA-H12\_7610 CR1000 N.JPG



WA-H13\_On Cr1000 N E of SR267\_Deck and North Elev.JPG



WA-H14\_9055 CR 1000N\_N and E Elevs.JPG



WA-H15\_9935 N CR950 E\_W Elev.JPG



WA-H16\_9900 CR950 E\_East Elev.JPG



WA-H17\_9855 N CR950 E\_Barns.JPG





WA-H18\_8810 CR 800E\_Barn.JPG



WA-H19\_8315 Maloney Road\_N and W Elev.JPG



WA-H20\_8515 Maloney Rd\_Barns.JPG



WA-H20\_8515 Maloney Rd\_N Elev.JPG



WA-H21\_Culvert\_S Elev\_East of CR900 E.JPG



WA-H22\_8320 CR 900E\_Barns.JPG



WA-H22\_8320 CR 900E\_E Elev.JPG



WA-H23\_7890 CR 900E\_E Elev.JPG



WA-H24\_9150 CR 750N\_S Elev.JPG



WA-H24\_9150 CR 750N\_Setting.JPG



WA-H25\_7365 N CR850 E\_W Elev.JPG



WA-H26\_8390 E CR700 N\_S and E Elev.JPG



WA-H27\_8705 E CR700 N\_Batz Farm\_Barn.JPG



WA-H27\_8705 E CR700 N\_N and W Elev.JPG



WA-H28\_7090 N CR1000 E\_Barns.JPG



WA-H29\_6740 N CR1000 E\_Barn\_E Elev.JPG





WA-H30\_Bridge North of CR600 W\_elev.JPG



WA-H31\_9190 E 600 N\_S and E elev.JPG



WA-H32\_9205 E CR600 N\_N Elev.JPG



WA-H33\_9825 CR 600S\_Hession Farm\_Setting\_looking W.JPG



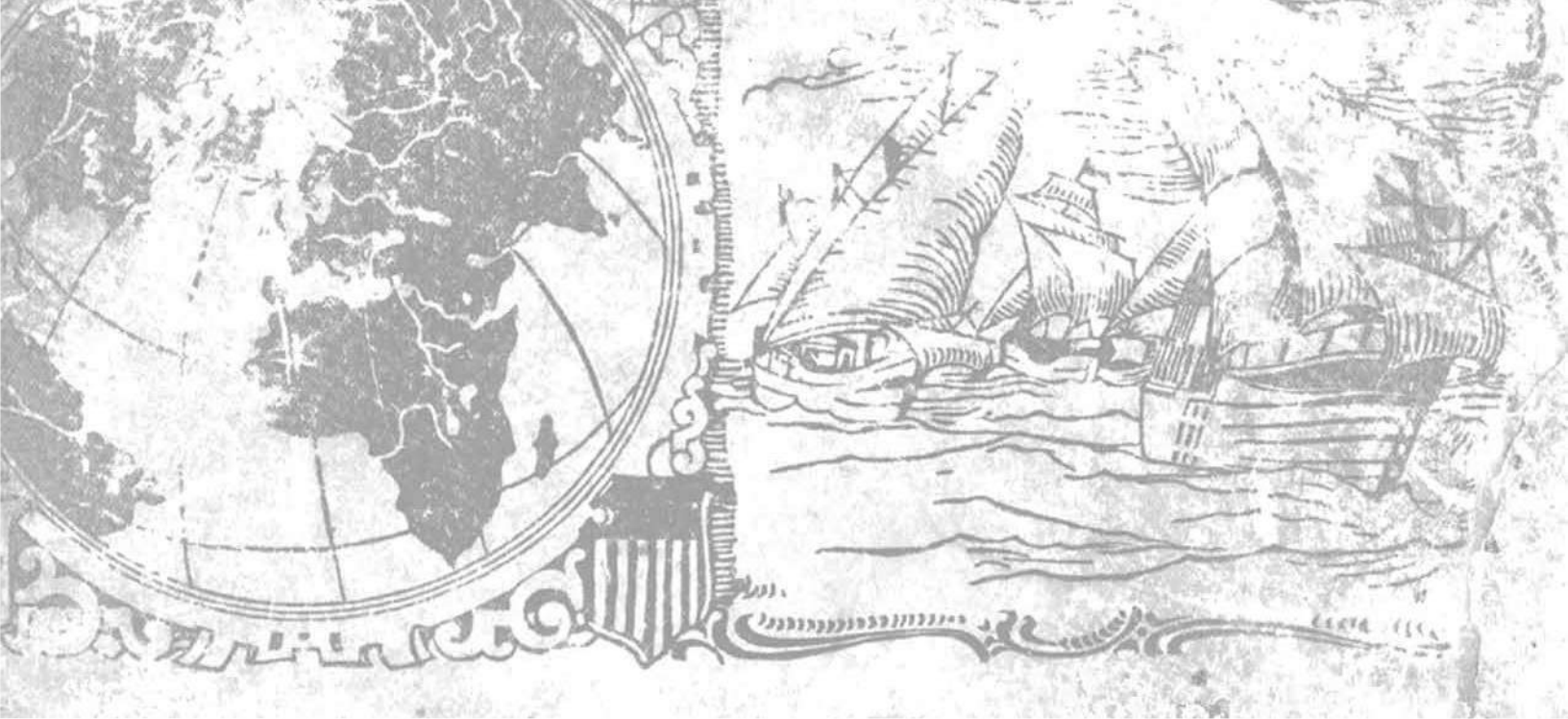
WA-H33\_9825 CR 600S\_Hession Farm\_West Elev.JPG



WA-H33\_9825 E CR600 N\_Hession Farm\_Close\_North Elev.JPG

## Appendix F: Report Summaries

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018



# **Historic Property Report**

**Ronald Reagan Parkway Construction Project  
In Perry and Worth Townships, Boone County and  
Lincoln and Brown Townships, Hendricks County, Indiana  
DES No.: 1602280**

**Prepared by  
WEINTRAUT & ASSOCIATES, INC.**

Principal Investigator: Dr. Linda Weintraut  
Authors: Bethany Natali, M.A., Kelly Molloy, M.A., and Douglas Fivecoat, M.A.  
P.O. Box 5034 | Zionsville, Indiana 46077 | 317.733.9770 | Linda@weintrautinc.com

January 2017

# Ronald Reagan Parkway Construction Project | In Perry and Worth Townships, Boone County and Brown Township, Hendricks County, Indiana | Des No.: 1602280 | Executive Summary:

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Boone and Hendricks Counties, with funding from the Federal Highway Administration (FHWA), is proposing the Ronald Reagan Parkway Construction Project in northern Hendricks County and southern Boone County. The proposed extension of Ronald Reagan Parkway begins at County Road (CR) 600 North in Hendricks County and extends north to Interstate 65 (I-65) in Boone County. The alignment is proposed to connect with I-65 at the existing I-65/SR 267 interchange.

The Area of Potential Effects (APE) is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist” [36 CFR § 800.16(d)]. The APE was generally drawn to include properties within a 1,000-foot buffer adjacent to the undertaking. (See Appendix 1: Maps.)

Project personnel for Weintraut & Associates, Inc. (W&A), who meet the Secretary of the Interior’s Professional Standards and who are historians listed as Qualified Professionals by the Indiana Department of Natural Resources (IDNR), Indiana Division of Historic Preservation & Archaeology (DHPA), identified and evaluated resources for this project.

As part of their investigations, historians identified 103 properties considered or rated Contributing or higher per the Indiana Historic

Sites and Structures Inventory (IHSSI). The Walker School (IHSSI No.: 063-117-40004) located at 5985 CR 600 N was listed in the Indiana State Register in 1989.

The following properties are listed, previously determined, or recommended eligible for listing in the National Register of Historic Places (NRHP):

- **Howard School (Perry Township No. 1, NR-2123, 011-205-45031)**
- **Lawler Farmstead (063-699-00012)**
- **Farmstead (063-205-00014)**
- **House (063-117-40006)**
- **P.C. Hogan Farm (063-699-00006)**

Please note, advancement of the Section 106 process for this undertaking is being done so under Des. No. 1602280. However, this effort is intended to be an update to, and re-initiation of, the Section 106 consultation concluded under Des. No. 0710288 and DHPA No. 3540. That Des. No. included an “Adverse Effect” finding that was issued on July 14, 2009, and the execution of a Memorandum of Agreement (MOA) on November 10, 2009. As part of this update the boundary of the area of potential effect (APE) was re-evaluated, Contributing properties were re-evaluated for historical significance, a new effect finding will be issued, and, if needed, an update to the MOA will be made.



**Archaeological Records Check and Phase Ia Reconnaissance:  
Ronald Reagan Parkway Construction Project  
in Boone and Hendricks County, Indiana  
Des. No. 1602280**

Prepared for  
**American Structurepoint, Inc. &  
The Boone County Commissioners/Hendricks County Commissioners**

Prepared by  
**WEINTRAUT & ASSOCIATES, INC.**



Principal Investigator: Craig R. Arnold  
Report Authors: Bethany Hughes, Craig R. Arnold and Jason Goldbach  
P.O. Box 5034 | Zionsville, Indiana | (317)733-9770 | (linda@weintrautinc.com)

November 2017

## Management Summary

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Boone and Hendricks Counties are proposing the completion of the final phase of the Ronald Reagan Parkway Construction Project in northern Hendricks County and southern Boone County, Indiana. Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties. Boone and Hendricks Counties intend to use federal funds; therefore, the federal involvement is anticipated funding from the Federal Highway Administration (FHWA). In response to a request from American Structurepoint, Inc. (Structurepoint), Weintraut & Associates, Inc. (W&A) archaeologists conducted a Phase Ia archaeological records check and field reconnaissance on additional survey areas of the Ronald Reagan Parkway Construction Project as part of compliance with Section 106 of the NHPA.

The Ronald Reagan Parkway Construction Project Area is located within portions of the Clermont, Fayette, and Zionsville, Indiana, 7.5' series USGS topographic quadrangle maps. The survey areas for the current Phase Ia records check and field reconnaissance are located in Section 1 (Township 16 North, Range 1 East); Sections 6 and 7 (Township 16 North, Range 2 East); and Section 36 (Township 17 North, Ranges 1 and 2 East) on the Clermont quadrangle; and Section 36 (Township 17 North, Ranges 1 and 2) on the Zions-

ville quadrangle. The final phase of the Ronald Reagan Parkway begins at County Road (CR) 600 North in Hendricks County and extends north to Interstate 65 (I-65) in Boone County. This corridor totals about 16.1 kilometers (km) (10.0 miles [mi]) in length and is proposed to connect with I-65 at the existing I-65/State Road (SR) 267 interchange. Portions of the Ronald Reagan Parkway Construction Project, including a corridor extending from CR 600 North to I-65, have been previously surveyed by professional archaeologists. The current area of W&A reconnaissance, which is outside the previously surveyed project area, are termed "survey areas" which consists of approximately 11 hectares (ha) or 26 acres (ac) of small, discontinuous parcels located in Hendricks County between CR 600 North and CR 750 North. Additional temporary and permanent right-of-way (ROW) may be required, but it remained unscoped at the completion of this report.

This Phase Ia investigation was conducted in accordance with Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (IDNR-DHPA) guidelines. The goals of the W&A Phase Ia reconnaissance were to: 1) identify and verify the presence or absence of cultural deposits within the project area; 2) assess the potential of any sites identified for inclusion in the Indiana Register of Historic Sites and Structures (IRHSS) or the



National Register of Historic Places (NRHP); and 3) collect sufficient information to identify the cultural affiliation of any sites located and their possible function(s).

Ten previously unidentified archaeological sites (12HE0486 to 12HE0495) were encountered during the Phase Ia archaeological field reconnaissance of the survey areas. In addition, one previously recorded archaeology site (12HE0361) was resurveyed during the current reconnaissance. All eleven sites located during this Phase Ia survey do not appear to meet eligibility criterion and are recommended as not eligible for listing in the IRHSS or NRHP. Therefore, no further archaeological work is recommended on these sites.

These recommendations are made with the understanding that if any previously unidentified intact archaeological deposits or human remains are uncovered during construction, demolition, or earthmoving activities, work within the area will stop and the IDNR-DHPA will be notified of the discovery within two (2) business days as required by Indiana Code 14-21-1-27 and 29.

## Appendix G: Consulting Parties

Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65,  
In Perry and Worth Townships, Boone County and  
Brown Township, Hendricks County, Indiana Des. No.: 1602280  
Version: May 7, 2018

**Consulting Party Invitation List**

|                 |                                 |
|-----------------|---------------------------------|
| Project Name:   | Ronald Reagan Parkway Extension |
| Route/Street:   | Ronald Reagan                   |
| DES No:         | 1602280 (0710288)               |
| Location:       | Boone and Hendricks County      |
| ASI Project No: | 2011.00183                      |

| Salu                                     | Name                | Title                                   | Attn | Agency/Company                                  | Address 1               | Address 2                    | City         | State   | Zip   | Method | Accepted | Email  | Notes   |
|--|---------------------|---|------|---|-------------------------|------------------------------|--------------|---------|-------|--------|----------|--|---|
| Mr. Dollase                              | Mr. Mark Dollase    | Vice President of Preservation Services |      | Indiana Landmarks, Central Regional Office      | 1201 Central Avenue     |                              | Indianapolis | Indiana | 46202 | Email  | YES      | <a href="mailto:mdollase@indianalandmarks.org">mdollase@indianalandmarks.org</a>               |   |
| Ms. Gremling                             | Ms. Anna Gremling   | Executive Director                      |      | Indianapolis Metropolitan Planning Organization | 200 E Washington St.    | Suite 1922 City/County Bldg. | Indianapolis | Indiana | 46204 | Email  |          | <a href="mailto:anna.gremling@indympo.org">anna.gremling@indympo.org</a>                       |   |
| <b>NATIVE AMERICAN TRIBES</b>            |                     |   |      |   |                         |                              |              |         |       |        |          |  |   |
| Ms. Alligood                             | Ms. Nekole Alligood |   |      | Delaware Nation of Oklahoma                     |                         |                              |              |         |       | Email  | YES      | <a href="mailto:nalligood@delawarenation.com">nalligood@delawarenation.com</a>                 | To be sent by INDOT   |
| Mr. LaRonge                              | Mr. Michael LaRonge |   |      | Forest County Potawatomi Community              |                         |                              |              |         |       | Email  | YES      | <a href="mailto:Michael.laronge@fcpotawatomi-nsn.gov">Michael.laronge@fcpotawatomi-nsn.gov</a> | To be sent by INDOT   |
| Ms. Hunter                               | Ms. Diane Hunter    |   |      | Miami Tribe of Oklahoma                         |                         |                              |              |         |       | Email  | YES      | <a href="mailto:dhunter@miamination.com">dhunter@miamination.com</a>                           | To be sent by INDOT   |
| Ms. Dushane                              | Ms. Robin Dushane   |   |      | Eastern Shawnee Tribe of Oklahoma               |                         |                              |              |         |       | Email  |          | <a href="mailto:rdushane@estoo.net">rdushane@estoo.net</a>                                     | To be sent by INDOT   |
| <b>HENDRICKS COUNTY</b>                  |                     |   |      |   |                         |                              |              |         |       |        |          |  |   |
| Mr. Kroll                                | Mr. David Kroll     | President                               |      | Hendricks County Heritage Alliance              | 49985 S. State Road 39  |                              | Clayton      | Indiana | 46118 | Email  |          | <a href="mailto:DKroll@ratiodesign.com">DKroll@ratiodesign.com</a>                             |   |
| Mr. Parsons                              | Mr. John Parsons    | Historian                               |      | Hendricks County Historian                      | 5676 S. 200 E           |                              | Clayton      | Indiana | 46118 | Email  |          | <a href="mailto:jparsons@co.hendricks.in.us">jparsons@co.hendricks.in.us</a>                   |   |
| Ms. Gladden                              | Ms. Phyllis Gladden | President                               |      | Fairfield Historic Preservation Society         | 2379 North CR 500 East  |                              | Avon         | Indiana | 46123 | Mail   |          | None provided  |   |
| Ms. Johnson                              | Ms. Nancy Johnson   | President                               |      | Hendricks County Historical Society/Museum      | 170 South Washington St |                              | Danville     | Indiana | 46122 | Mail   |          | None provided  |   |
| Originally asked - no recent information |                     |   |      | Guilford Township Historical Society            |                         |                              |              |         |       |        |          |  | To be removed - No longer listed on Indiana Landmarks or Indiana Historical Society |
| Originally asked - no recent information |                     |   |      | Hendricks County Genealogical Society           |                         |                              |              |         |       |        |          |  | To be removed - No longer listed on Indiana Landmarks or Indiana Historical Society |
| Mr. Kleinhenz                            | Mr. Grant Kleinhenz | Town Manager                            |      | Town of Brownsburg                              | 61 N. Green Street      |                              | Brownsburg   | Indiana | 46112 | Email  |          | <a href="mailto:gkleinhenz@brownsburg.org">gkleinhenz@brownsburg.org</a>                       |   |
| Mr. Dawes                                | Mr. Dennis Dawes    | Ward 1 Councilman                       |      | Brownsburg Town Council                         | 61 N. Green Street      |                              | Brownsburg   | Indiana | 46112 | Email  |          | <a href="mailto:ddawes@brownsburg.org">ddawes@brownsburg.org</a>                               |   |

|  |                             |                    |  |                        |                              |                |         |            |       |     |  |   |
|--|-----------------------------|--------------------|--|------------------------|------------------------------|----------------|---------|------------|-------|-----|--|---|
| Mr. Benham                               | Mr. Sean Benham             | Ward 5 Councilman  | Brownsburg Town Council                  | 61 N. Green Street     |                              | Brownsburg     | Indiana | 46112      | Email |     | <a href="mailto:sbenham@brownsburg.org">sbenham@brownsburg.org</a>                 |   |
| Mr. Flowers                              | Mr. Michael Flowers         |                    | Indiana National Road Association        | P.O. Box 284           |                              | Cambridge City | Indiana | 47327      | Email |     | <a href="mailto:mflowers@indianalandmarks.org">mflowers@indianalandmarks.org</a>   |   |
| Mr. Oles                                 | Mr. Micheal and Andrea Oles |                    | Lawler Farmstead                         | 8460 E CR 1000 N       |                              | Brownsburg     | Indiana | 46112      | Mail  |     | None provided  |   |
| Mr. Marks                                | Mr. Jerry and Shanon Marks  |                    | Farmstead                                | 8030 E CR 1000 N       |                              | Brownsburg     | Indiana | 46112      | Mail  | YES | None provided  |   |
| Mr. Flores                               | Mr. Jose Flores II          |                    | House                                    | 8795 E CR 600 N        |                              | Brownsburg     | Indiana | 46112      | Mail  |     | None provided  |   |
| Mr. Wethington                           | Mr. Patrick Wethington      |                    | P.C. Hogan Farm                          | 9110 E CR 1000 N       |                              | Brownsburg     | Indiana | 46112      | Mail  | YES | None provided  |   |
| <b>BOONE COUNTY</b>                      |                             |                    |  |                        |                              |                |         |            |       |     |  |   |
| Ms. Kincaid                              | Ms. Bonnie Kincaid          | President          | Howard School Restoration Group          | 4555 East CR 750 South |                              | Brownsburg     | Indiana | 46112      | Email | YES | <a href="mailto:owardSchoolhouse@gmail.com">owardSchoolhouse@gmail.com</a>         |   |
| Originally asked - no recent information |                             |                    | Boone County Landmarks Preservation      |                        |                              |                |         |            |       |     |  | To be removed - No longer listed on Indiana Landmarks or Indiana Historical Society |
| Ms. Walters                              | Ms. Andra Walters           | Executive Director | Patrick Henry Sullivan Museum            | 225 W. Hawthorne St    |                              | Zionsville     | Indiana | 46077      | Mail  |     | None provided  |   |
| Mr. Gentry                               | Mr. Matt Gentry             | Mayor              | City of Lebanon                          | 401 S Meridian St      |                              | Lebanon        | Indiana | 46052      | Email |     | <a href="mailto:mayorgentry@cityoflebanon.org">mayorgentry@cityoflebanon.org</a>   |   |
| Ms. Ridgeway-Titus                       | Ms. Linda Ridgeway-Titus    | President          | Boone County Historical Society          | P.O. Box 141           | Cragun House: 404 W. Main St | Lebanon        | Indiana | 46052      | Email |     | <a href="mailto:cragunhouse@mymetronet.net">cragunhouse@mymetronet.net</a>         |   |
| Ms. Kernoodle                            | Ms. Marilyn Kernoodle       | President          | Jackson Township Historical Society      | P.O. Box 297           |                              | Jamestown      | Indiana | 46147-0197 | Mail  |     | <a href="mailto:jths@countyhistory.com">jths@countyhistory.com</a>                 |   |
| Ms. Niemeyer                             | Ms. Karen Niemeyer          | President          | Sugar Creek Historical Society           | P.O. Box 23            |                              | Thorntown      | Indiana | 46071-0023 | Email |     | <a href="mailto:thm@countyhistory.com">thm@countyhistory.com</a>                   |   |
| Ms. Doyle                                | Ms. Marianne Doyle          | President          | Zionsville Historical Society            | 635 W Pine St          |                              | Zionsville     | Indiana | 46077      | Email |     | <a href="mailto:mhdoyle@indy.rr.com">mhdoyle@indy.rr.com</a>                       |   |
| Mr. Spall                                | Mr. Eric Spall              |                    | Boone County Historian                   | 502 Glendale Drive     |                              | Lebanon        | Indiana | 46052      | Email |     | <a href="mailto:hdulcimer@gmail.com">hdulcimer@gmail.com</a>                       |   |
| Mr. Warren                               | Mr. Derek Warren            | Administrator      | Lebanon Historic Preservation Commission | 401 S Meridian St      |                              | Lebanon        | Indiana | 46052      | Email |     | <a href="mailto:dwarren@cityoflebanon.org">dwarren@cityoflebanon.org</a>           |   |
| Ms. Young                                | Ms. Cynthia Young           | Executive Director | SullivanMunce Cultural Center            | 225 W. Hawthorne St    |                              | Zionsville     | Indiana | 46077-1620 | Email |     | <a href="mailto:cynthiayoung@sullivanmunce.org">cynthiayoung@sullivanmunce.org</a> |   |
| Mr. Norton                               | Mr. Dax Norton              | Town Manager       | Town of Whitestown                       | 6210 Veterans Drive    |                              | Whitestown     | Indiana | 46075      | Email |     | <a href="mailto:townmanager@whitestown.in.gov">townmanager@whitestown.in.gov</a>   |   |
| Mr. Miller                               | Mr. Eric Miller             | President          | Whitestown Town Council                  | 6210 Veterans Drive    |                              | Whitestown     | Indiana | 46075      | Email |     | <a href="mailto:emiller@whitestown.in.gov">emiller@whitestown.in.gov</a>           |   |



AMERICAN  
**STRUCTUREPOINT**  
INC.

# SIGN-IN SHEET

## SECTION 106 CONSULTING PARTY MEETING

Ronald Reagan Parkway  
December 15, 2017 / 9:00 AM  
Hendricks County Government Center, Conference Room 3

Before including your address, e-mail address, or other personal identifying information on the meeting Sign-In Sheet or on your comment submittal, be advised that your comment - including your personal identifying information - may be publicly available at any time. While you can ask us to withhold personal identifying information from public review, we cannot guarantee that we will be able to do so.

| Name           | Agency/Organization        | Mailing Address   | Email                        |
|----------------|----------------------------|---|------------------------------|
| PAT WETHINGTON | P.C. HOGAN FARM            | Address: 9110E 1000N<br>City: BROWNSBURG State: IN Zip: 46112             | Pwething@iupui.edu           |
| Zach Frazee    | P.C. Hogan Farm            | Address: 214 Osborne Ave<br>City: Pittsboro State: IN Zip: 46167          | Zachfrazee@gmail.com         |
| Mike Marovich  | Structurepoint             | Address:<br>City: State: Zip:   | mmarovich@structurepoint.com |
| Linda Weinstat | WHA                        | Address:<br>City: State: Zip:   | linda@weinfra.com            |
| Bryan Hickman  | Boone County Highway Dept. | Address: 1955 Indianapolis Ave<br>City: Lebanon State: IN Zip: 46052      | Bhickman@co.boone.in.us      |
| Dimas Prasetya | FHWA                       | Address: 575 N Pennsylvania St<br>City: Indianapolis State: IN Zip: 46204 | dimas.prasetya@dot.gov       |
| Mary Kennedy   | INDOT-CRO                  | Address: 100 N Senate Ave N642<br>City: Indpls State: IN Zip: 46201       | mkennedy@indot.in.gov        |
| John Aron      | Hendricks Co.              | Address:<br>City: State: Zip:   |                              |



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| Name           | Agency/Organization | Mailing Address  | Email                      |
|----------------|---------------------|--|----------------------------|
| Burt Hawley    | Hendricks County    | Address: 355 S. Washington St<br>City: Danville State: IN Zip: 46122 | bhawley@co.hendricks.in.us |
| Bill Coan      | Howard School       | Address: 7380 S. 200 E<br>City: Lebanon State: IN Zip: 46052         | coan.william@yahoo.com     |
| Jack Belcher   | Howard School       | Address: 6255 S St Rd 267<br>City: Lebanon State: IN Zip: 46052      |                            |
| Michelle Allen | FWA                 | Address: _____<br>City: _____ State: _____ Zip: _____                |                            |
|                |                     | Address: _____<br>City: _____ State: _____ Zip: _____                |                            |
|                |                     | Address: _____<br>City: _____ State: _____ Zip: _____                |                            |
|                |                     | Address: _____<br>City: _____ State: _____ Zip: _____                |                            |
|                |                     | Address: _____<br>City: _____ State: _____ Zip: _____                |                            |



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## SECTION 106 CONSULTING PARTY MEETING

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December 15, 2017 / 9:00 AM  
Hendricks County Government Center, Conference Room 3

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| Name                       | Agency/Organization | Mailing Address                                       | Email |
|----------------------------|---------------------|---|-------|
| <i>All-IN</i><br>John Carr | SHPO                | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
| *                          | Delaware Nation     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
| <del>Attn</del> Anu Kumar  | INDOT CRO           | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
|                            |                     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
|                            |                     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
|                            |                     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
|                            |                     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |
|                            |                     | Address: _____<br>City: _____ State: _____ Zip: _____ |       |

**AGENDA**  
**Consulting Parties Meeting**  
**Ronald Reagan Parkway from Hendricks County Road 600 North to Interstate 65**  
**Des. No. 1602280, formerly Des. No. 0710288**  
**Boone and Hendricks County, Indiana**

December 15, 2017

9:00 am

Hendricks County Government Center – Conference Room 3  
355 South Washington Street  
Danville, Indiana

1. Overview/Review of Proposed Project
  - a. Previous Environmental Assessment (2010)
    - i. 2011 FONSI
    - ii. Purpose and Need
  - b. Additional Information
    - i. Change in Scope of project
    - ii. Age of FONSI
2. Historic Properties
  - a. 2010 Eligible Properties
  - b. 2017 Historic Properties Report
3. Effects
  - a. 2010 Determined Effects
  - b. 2017 Anticipated Effects
4. Memorandum of Agreement
  - a. 2009 MOA / Mitigation Measures
  - b. Revised 2018 MOA
5. Next Steps/Schedule
  - a. Anticipated project schedule
  - b. Letter sent on November 22, 2017 regarding anticipated effects
    - i. Provide comments on letter by December 22, 2017
  - c. Finding and Revised MOA will be sent to Consulting Parties



# Ronald Reagan Parkway

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SECTION 106 CONSULTING PARTY MEETING

DECEMBER 15, 2017

## Welcome & Introductions

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### Project Team:

#### American Structurepoint:

- Mike Maurovich, Project Manager
- Leah Boits, Environmental Project Manager
- Monica Del Real, Environmental Scientist

#### Weintraut & Associates:

- Linda Weintraut, Historian

### Project Sponsors:

- Boone County Commissioners  
Craig Park, County Engineer
- Hendricks County Commissioners  
John Ayers, County Engineer

### Government Affiliations:

- Indiana Department of Transportation (INDOT)
- Federal Highway Administration (FHWA)

## Project Overview

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### 1) Purpose and Need

- Purpose is to improve regional and local mobility, improving local access and promoting future economic growth
- The need is demonstrated by a lack of adequate system linkage and the lack of access to areas of future annexation and growth

### 2) Previous Environmental Assessment

- Environmental Assessment (EA) was signed on July 7, 2010
- Finding of No Significant Impact (FONSI) was signed on March 7, 2011

### 3) Additional Document / Re-Evaluation Document

- Scope
- Age of FONSI

## Review of Eligible Historic Properties

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-Howard School (NR-2123, 011-205-45031)

-Lawler Farmstead (063-699-00012)

-Farmstead (063-205-00014)\*

-House (036-117-40006)\*

-P.C. Hogan Farm (063-699-00006)\*

*\*The Farmstead, House, and P.C. Hogan Farm were not determined eligible for listing in the NRHP in the original investigations under the 2011 FONSI*

## Howard School (011-205-45031)



-Previously listed in the National Register of Historic Places (NRHP) in 2009

## Lawler Farm (063-699-8460)



-Previously recommended eligible for the NRHP under Criterion C

## Farmstead (063-205-00014)



-Recommended eligible for the NRHP under Criteria A and C

## House (063-117-40006)



-Recommended eligible for the NRHP under Criterion A

## P.C. Hogan Farm (063-699-00006)



-Recommended eligible for the NRHP under Criteria A and C

## Anticipated Effects

| Property                                  | Anticipated Effect | Rational  |
|---|--------------------|---|
| Howard School<br>(NR-2123, 011-205-45031) | Adverse Effect     | -Approximately 550 feet from proposed roadway<br>-Significant visual and atmospheric impacts                      |
| Lawler Farmstead<br>(063-699-00012)       | Adverse Effect     | -Approximately 500 feet from proposed roadway<br>-Significant visual and atmospheric impacts                      |
| Farmstead<br>(063-205-00014)              | No Adverse Effect  | -Approximately 2,100 feet from proposed roadway<br>-Intervening modern subdivision would likely shield visibility |
| House<br>(036-117-40006)                  | No Effect          | -Approximately 2,900 feet from proposed roadway<br>-Already located along a 5-lane Principal Arterial roadway     |
| P.C. Hogan Farm<br>(063-699-00006)        | No Adverse Effect  | -Approximately 1,300 feet from proposed roadway<br>-Some change in view and local traffic likely                  |

## Memorandum of Agreement (MOA)

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- Previous MOA (October 19, 2009) addressed impacts to Howard School and the Lawler Farm
- Mitigation Stipulations in 2009 MOA
  - Howard School: The property located between the Howard Cemetery will be acquired as permanent right-of-way, deeded to the Howard School Restoration Group, and planted with trees (combination of coniferous trees and approved deciduous)
  - Lawler Farm (I-House): Tree plantings between farmstead and roadway (coniferous trees)
- No additional Mitigation Stipulations are recommended to be included in the amended MOA
- 2018 MOA Revisions

## Project Schedule

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- Project Schedule
- Phase 1A and 1B as early as summer/fall of 2018 (funding dependent)
  - Phase 2A and 2B currently have no timeline or money assigned

## Next Steps

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-Letter sent on November 22, 2017 addressed anticipated impacts to historic properties

- This meeting was held to help clarify information provided in this letter
- Please provide comments by December 22, 2017 to the contact information below:

Monica Del Real  
Environmental Scientist  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
(317) 547-5580  
[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)

-Finding and Revised MOA will be sent out to consulting parties for review and signature



**RONALD REAGAN PARKWAY SECTION 106 CONSULTING PARTY MEETING  
MEETING MINUTES**

**Location:** Hendricks County Government Center and Go-to Meeting  
**Date:** December 15, 2017  
**Project Name:** Ronald Reagan Parkway  
**Des. No.:** 1602280  
**Owner:** Boone and Hendricks County Commissioners  
**Minutes By:** Monica Del Real

**Attendees**

Michelle Allen  
Dimas Prasel-ya  
Mary Kennedy  
Pat Wethington  
Zach Frazee  
Bill Coan  
Jack Belcher  
Bryan Hickman  
John Ayers  
Bart Harvey  
Linda Weintraut  
Leah Boits  
Mike Maurovich  
Monica Del Real

**Representing**

FHWA  
FHWA  
INDOT - CRO  
P.C. Hogan Farm  
P.C. Hogan Farm  
Howard School  
Howard School  
Boone County  
Hendricks County  
Hendricks County  
Weintraut & Associates  
American Structurepoint  
American Structurepoint  
American Structurepoint

**Email**

[michelle.allen@dot.gov](mailto:michelle.allen@dot.gov)  
[dimas.prasel-ya@dot.gov](mailto:dimas.prasel-ya@dot.gov)  
[mkennedy@indot.IN.gov](mailto:mkennedy@indot.IN.gov)  
[pwething@iupui.edu](mailto:pwething@iupui.edu)  
[zachfrazee@gmail.com](mailto:zachfrazee@gmail.com)  
[Coan.william@yahoo.com](mailto:Coan.william@yahoo.com)  
N/A  
[bhickman@co.boone.in.us](mailto:bhickman@co.boone.in.us)  
[jayers@co.boone.in.us](mailto:jayers@co.boone.in.us)  
[bharvey@co.hendricks.in.us](mailto:bharvey@co.hendricks.in.us)  
[linda@weintrautinc.com](mailto:linda@weintrautinc.com)  
[lboits@structurepoint.com](mailto:lboits@structurepoint.com)  
[mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com)  
[mdelreal@structurepoint.com](mailto:mdelreal@structurepoint.com)

**Attendees via Go-to Meeting**

John Carr [jcarr@dnr.IN.gov](mailto:jcarr@dnr.IN.gov)  
Anu Kumar [akumar@indot.IN.gov](mailto:akumar@indot.IN.gov)  
Kimberly Penrod [kpenrod@delawarenation.com](mailto:kpenrod@delawarenation.com)

The following notes reflect our understanding of the discussions and decisions made at this meeting. All discussions were deliberative and pre-decisional. If you have any questions, additions, or comments, please contact the issuer of these minutes.

**ITEMS DISCUSSED:**

Introductions and Purpose (Leah Boits)

1. The meeting began at 9:00 a.m. with introductions.
2. The purpose of the meeting was to discuss anticipated effects on historic properties and mitigation measures for the Ronald Reagan Parkway project.

Overview/Review of proposed project (Leah Boits)

3. An Environmental Assessment (EA) was approved for this project by the Federal Highway Administration (FHWA) on July 7, 2010



4. A Finding of No Significant Impact (FONSI) was approved for this project by FHWA on March 7, 2011
5. An Additional Information/Re-Evaluation document is being prepared for this project due to slight changes in scope and the age of the previous EA

#### Review of Eligible Historic Properties and Anticipated Effects (Linda Weintraut)

6. Overview of Section 106 process
7. Explanation of each proposed eligible historic property and what criterion it meets
  - a. Howard School (011-205-45031)
  - b. Lawler Farm (063-699-8460)
  - c. Farmstead (063-205-00014)
  - d. House (063-117-40006)
  - e. P.C. Hogan Farm (063-699-00006)
8. Overview of anticipated effects on each historic property
  - a. Howard School – Adverse Effect
  - b. Lawler Farm – Adverse Effect
  - c. Farmstead – No Adverse Effect
  - d. House – No Effect
  - e. P.C. Hogan Farm – No Adverse Effect

#### Memorandum of Agreement (MOA) (Linda Weintraut)

9. A MOA was signed on October 19, 2009
10. Mitigation Stipulation in 2009 MOA
  - a. Howard School – The property located between the Howard Cemetery will be acquired as permanent right-of-way, deeded to the Howard School Restoration Group, and planted with trees (combination of coniferous trees and approved deciduous)
  - b. Lawler Farm – Tree planting between farmstead and roadway (coniferous trees)
11. Structurepoint is proposing no additional mitigation stipulations to be included in the amended MOA
12. An updated, 2018 MOA will be drafted due to updates in standard language and re-initiation of the Section 106 process
13. As part of the re-initiation of the Section 106 process, public comments concerning the amended MOA are being sought. Additional stipulations may be suggested by the public.

#### Project Schedule (Leah Boits)

14. Phase 1A and 1B construction as early as summer/fall of 2018 (funding dependent)
15. Phase 2A and 2B currently have no timeline or funding assigned

#### Next Steps (Leah Boits)

16. Structurepoint sent a letter on November 22, 2017, addressing anticipated impacts to historic properties
  - a. This meeting was held to help clarify information provided in this letter and to provide an opportunity for consulting parties to ask questions
  - b. Please provide comments by December 22, 2017 to Monica Del Real (contact information is included in the letter)
17. A Finding and revised MOA will be sent out to consulting parties for review

#### Comments

18. John Carr: The summary of this meeting should be documented as part of the Section 106 process and the public comments made today will become official comments for this project.
19. Howard School: Will the mitigation stipulations in the previous MOA still stand?
  - a. A new MOA is being drafted due to the re-initiation of the Section 106 process, identification of additional historic properties, and updated standard language, however the mitigation stipulations

proposed will not be scaled back in any way. At this point we are proposing that the mitigation stipulations remain the same, however we are here to receive comments if you would like something changed in the new MOA.

20. P.C. Hogan Farm: Why are the limits of the P.C. Hogan property where they are and do not include their property to the west?
  - a. Historians defined the historic property boundary to include the buildings and surrounding small fields which add to its historical significance. The limits do not follow the parcel limits since not all of that land contributes to the significance of this property.
21. P.C. Hogan Farm: What about the property to the west which contains their business? Why is this not included in the historic property boundary?
  - a. This property does not contain the small field patterns within the period of significance. The corn maze and pumpkin patch currently operated have been established in the past decade.
22. P.C. Hogan Farm: We would like to note that this parcel of land has been within the family for over 100 years.
23. Howard School: We would like for a berm to be included as mitigation. One that is mow-able.
  - a. **Mike Maurovich will investigate the feasibility of a berm between the roadway and Howard School.**
24. P.C. Hogan Farm: How do you get a property listed on the National Register of Historic Places?
  - a. **Linda Weintraut will send additional information to the attendees from P.C. Hogan Farm on this process.**
  
25. The meeting concluded at approximately 9:45 a.m.

**NEXT MEETING:**

TBD

cc: Attendees

Very truly yours,  
American Structurepoint, Inc.

Monica Del Real  
Environmental Scientist

**REVISED MEMORANDUM OF AGREEMENT  
BETWEEN FEDERAL HIGHWAY ADMINISTRATION  
AND THE INDIANA STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE EXTENSION OF RONALD REAGAN PARKWAY  
FROM COUNTY ROAD 600 NORTH TO STATE ROAD 267/INTERSTATE-65**

**IN PERRY TOWNSHIP, BOONE COUNTY, INDIANA and  
LINCOLN and BROWN TOWNSHIPS, HENDRICKS COUNTY, INDIANA**

WHEREAS, the original Memorandum of Agreement (“MOA”) for the Extension of the Ronald Reagan Parkway from County Road (“CR”) 600 to State Road (“SR”) 267/Interstate (“I”)-65 Project (formerly Designation No. [Des. No.]: 0710288) (“Project”) was executed on February 1, 2010; and

WHEREAS, nearly eight years have passed since the original MOA was executed and plans for the Project have changed; and

WHEREAS, parties to the original MOA agree that a revised and updated MOA should be produced and executed; and

WHEREAS, this revised MOA shall supersede the original MOA (dated October 19, 2009 and executed February 1, 2010); and

WHEREAS, the Federal Highway Administration (“FHWA”) plans to fund the Project, now being processed under Des. No.: 1602280, pursuant to Title 23 of the United States Code (23 U.S.C.); and

WHEREAS, the Project consists of a new terrain roadway extending the Ronald Reagan Parkway from CR 600 North to SR 267/I-65 through Hendricks and Boone Counties; and

WHEREAS, the Project will proceed in a phased fashion that consists of four individual phases designated 1A, 1B, 2A, and 2B as illustrated on the aerial photograph attached in Appendix A of this document; and

WHEREAS, the FHWA, in consultation with the Indiana State Historic Preservation Officer (“SHPO”), has defined the Project’s area of potential effects (“APE”) for Phase 1A, Phase 1B, Phase 2A, and Phase 2B of the Project, as the term is defined in 36 C.F.R. § 800.16(d), to encompass the area illustrated on the aerial photograph attached in Appendix B of this document; and

WHEREAS, the FHWA, in consultation with the Indiana SHPO, has defined the Project’s APE for archaeological resources (“Archaeological APE”) for Phase 1A, Phase 1B, Phase 2A, and Phase 2B of the Project, as the term is defined in 36 C.F.R. Section 800.16(d), to be the area within construction right-of-way as illustrated on the aerial photograph attached in Appendix A of this document; and

WHEREAS, the FHWA, in consultation with the SHPO, has determined that the APE contains one resource that is listed in the National Register of Historic Places (NRHP): the Howard School at 4555 East CR 750 South (NR-2123); and

WHEREAS, the FHWA, in consultation with the SHPO, has determined that the APE contains four resources that are eligible for listing in the National Register of Historic Places (NRHP): the Lawler

Farmstead at East 8460 CR 1000 North (IHSSI No.: 063-699-00012; formerly called the I-house Farmstead in Des. No.: 0710288), the Farmstead at 8030 East CR 1000 North (IHSSI No.: 063-205-00014), the House at 8795 East CR 600 North (IHSSI No.: 063-117-40006), and the P.C. Hogan Farm at 9110 East CR 1000 North (IHSSI No.: 063-699-00006); and

WHEREAS, the FHWA has determined that the Project will have an adverse effect on the Howard School at 4555 East CR 750 South in Boone County and the Lawler Farmstead at 8460 CR 1000 North in Hendricks County and has consulted with the SHPO pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f); and

WHEREAS, each county will assume responsibility for the construction and the implementation of mitigation for the Project within its borders or execute a legally binding agreement with any local entity that will assume responsibility for the construction and mitigation of the project; and

WHEREAS, the FHWA has consulted with the Indiana Department of Transportation (“INDOT”), the Boone County Commissioners, the Hendricks County Commissioners, and the Howard School Restoration Group regarding the effects of the Project on historic properties and has invited them to sign this MOA as invited signatories; and

WHEREAS, the FHWA has consulted with Indiana Landmarks, the Boone County Historian, and the owners of the following properties: Farmstead at 8030 East CR 1000 North, Lawler Farmstead at East 8460 CR 1000 North and P.C. Hogan Farm at 9110 East CR 1000 North, regarding the effects of the Project on historic properties and has invited them to sign this MOA as concurring parties; and

WHEREAS, the Delaware Tribe of Oklahoma, Forest County Potawatomi Community, Miami Tribe of Oklahoma and Eastern Shawnee Tribe of Oklahoma were invited to participate in consultation and the Delaware Tribe of Oklahoma, Forest County Potawatomi Community, and the Miami Tribe of Oklahoma have participated in consultation; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), the FHWA has notified the Advisory Council on Historic Preservation (“ACHP”) of its adverse effect determination with specified documentation in correspondence dated July 11, 2018, and the ACHP, in correspondence dated July 12, 2018, has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, the FHWA and the SHPO agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the effects of the Project on historic properties.

## **STIPULATIONS**

FHWA, in coordination with INDOT, shall ensure that the following measures are carried out:

### **I. PROFESSIONAL QUALIFICATIONS AND STANDARDS**

FHWA, in coordination with INDOT, shall ensure that work carried out pursuant to this MOA shall be done by or under the direct supervision of historic preservation professionals who meet the Secretary of the Interior’s Professional Qualifications Standards (“qualified professional”, As Amended and Annotated [[http://www.nps.gov/history/local-law/arch\\_stnds\\_9.htm](http://www.nps.gov/history/local-law/arch_stnds_9.htm)]). The FHWA and INDOT shall ensure that consultants retained for services pursuant to the MOA meet these standards.

*Extension of the Ronald Reagan Parkway from CR 600 to SR 267/I-65 Project (Des. No.: 1602280)  
Memorandum of Agreement, Version July 2, 2019  
Page 2 of 20*

## II. MITIGATION MEASURES

### A. The Howard School at 4555 East CR 750 South (within Phase 2A – Boone County)

1. Mitigation measures for this property shall begin during the construction of Phase 2A of the project.
2. The FHWA shall provide funding for the acquisition of the real property located between the Howard Cemetery and the required, permanent right-of-way for the Project, which it shall deed to the Howard School Restoration Group.
3. The Howard School Restoration Group shall maintain this property, including its trees and berm, as a vegetated buffer between the Howard Cemetery and the Project limits to provide a visual screen and to prevent future development of that parcel of real property.
4. The deed to the real property shall specify that the area between the Howard Cemetery and the Project limits will remain a vegetated buffer and will not include future development.
5. As part of the Project, FHWA shall fund the purchase of trees and all materials, equipment, and labor necessary for the planting of those trees in the area between the Howard Cemetery and the Project to provide a visual screen.
6. FHWA shall ensure that trees planted shall be a combination of native coniferous trees and may also include Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Butternut, and Sweet Gum.
7. As part of the Project, FHWA shall fund the materials, equipment, and labor necessary for the construction of an earthen berm between the Howard Cemetery and the Project limits to provide a visual screen.
8. The berm will be constructed of earth fill with a 3:1 maximum side slopes to the extent possible within the deeded property.
9. FHWA will plant a native grass or sedge ground-cover on the surface of the berm of a type that will require minimal maintenance.
10. As part of the Project, FHWA shall fund the research and writing of an historic marker application for the Howard School through the Indiana Historical Bureau's Indiana State Historic Marker Program.
11. If the historic marker application is approved by the Indiana Historical Bureau, FHWA shall fund the manufacture and installation of the marker on the Howard School property under the terms of the Indiana State Historic Marker Program.
12. The research and writing of the application and the drafting of proposed content for the marker will be conducted by individuals meeting the requirements under Stipulation I and will be subject to the approval of the Indiana Historical Bureau.
13. A draft of the application for the historic marker will be provided to the Indiana SHPO and consulting parties prior to submission to the Indiana Historical Bureau for review and comment. If the Indiana SHPO does not respond within thirty (30) days, acceptance will be assumed. If the Indiana SHPO responds with recommendations, a good faith effort to accommodate the recommendations will be made. FHWA will inform the Indiana SHPO and consulting parties of its response to such recommendations and provide any revisions to the

Indiana SHPO and consulting parties for their records before submitting the application to the Indiana Historical Bureau for consideration.

14. If the submitted marker application is denied by the Indiana Historical Bureau due to a lack of significance, as defined by the Indiana Historic Bureau, or as part of the competitive process for the limited markers available at the time of submission, FHWA will be considered to have completed this mitigation requirement and will have no further obligation to continue funding additional attempts to procure a marker.
15. FHWA will bear no responsibility for maintenance and/or repair of the historic marker once it is installed on the Howard School property.
16. The Howard School Restoration Group shall provide FHWA and INDOT or their contractors with a right of entry to the property during all mitigation implementation.

B. The Lawler Farmstead at 8460 CR 1000 North (within Phase 2A – Hendricks County)

1. Mitigation measures for this property shall begin during the construction of Phase 2A of the project.
2. FHWA or their representatives shall consult with the property owner of the Lawler Farmstead and, if appropriate and given consent by the property owner, FHWA will fund and install vegetative screening on this property as part of the Project.
3. If the property owner provides consent for the vegetative screen, the property owner shall provide FHWA and INDOT or their contractors with a right of entry to the property during mitigation implementation.
4. After the installation of the vegetative screening, maintenance of such screening on private property shall be the responsibility the property owner of the Lawler Farmstead.
5. FHWA shall ensure that trees planted will be native coniferous trees to offer a year round visual screen from the roadway.
6. FHWA may, at their discretion and with property owner permission, also install a grass berm in combination with the tree plantings between the Project limits and the Farmstead.

### III. TREATMENT OF ARCHAEOLOGICAL RESOURCES

A. Statutory and Regulatory Standards

1. The studies completed pursuant to Stipulation III.B. and E. shall demonstrate a level of effort consistent with the 36 C.F.R. part 800 regulations in effect on the date upon which the last of the required signatories has signed this MOA and provide FHWA with the information to determine, in consultation with the Indiana SHPO, which archaeological properties are eligible for inclusion in the NRHP. FHWA shall acknowledge and seek the special expertise of any federally recognized Indian Tribes which have previously entered into consultation in assessing the eligibility of historic properties that may possess religious and cultural significance to them.
2. In implementing Stipulation III.A through III.F., INDOT may consult with the consulting parties and others identified in accordance with the 36 C.F.R. part 800 regulations in effect on the date upon which this MOA is fully executed.

3. In accordance with Section 304 of the National Historic Preservation Act (NHPA) and the 36 C.F.R. part 800 regulations in effect on the date upon which this MOA is fully executed, INDOT and its consultants shall ensure that sensitive information regarding the nature and location of human remains and grave goods, and the location, character, and ownership of archaeological sites is kept confidential from the public.
4. In ensuring that any human remains and grave goods identified are treated in a sensitive, respectful, and careful manner, INDOT shall be guided by the Council's "Policy Statement Regarding Treatment of Human Remains and Grave Goods" (February 23, 2007) and the Native American Graves Protections and Repatriation Act ("NAGPRA") regulations set forth in 43 C.F.R. part 10, and other guidelines as appropriate.
5. If any human remains are encountered during the project, work shall cease within 100 feet of the discovery and the human remains left undisturbed. INDOT shall contact the county coroner and law enforcement officials immediately, and the discovery must be reported to the Indiana SHPO within two (2) business days. The discovery must be treated in accordance with Indiana Code ("IC") 14-21-1 and 312 Indiana Administrative Code ("IAC") 22. Work at this site shall not resume until a plan for the treatment of the human remains is developed and approved in consultation with the Indiana SHPO, the INDOT Cultural Resources Office, and any appropriate consulting parties.
6. Modification or modifications ("modifications") to the Project which fall outside of the Archaeological APE shall be subject to archaeological identification and evaluation and assessment per Stipulations III.B. and III.C. If FHWA determines that the modifications have the potential to cause adverse effects on archaeological resources, then FHWA shall treat the archaeological resource in accordance with Stipulation III.F.
7. Any dispute regarding the report(s) shall be resolved in accordance with Stipulation V.

#### B. Identification & Evaluation

1. INDOT shall proceed with additional archaeological investigations and evaluations in a series of phases (1A, 1B, 2A, and 2B) as provided on the map provided in Appendix A.
2. Before commencing ground-disturbing activities in the Project Archaeological APE, INDOT shall complete the identification and evaluation of archaeological properties within the project footprint in accordance with applicable Federal and State standards and guidelines listed in Stipulations I and III.A.
3. INDOT shall prepare final Identification and Evaluation reports in accordance with Stipulations I and III.A and distribute those reports to appropriate consulting parties for review and comment.
4. Upon completion of these evaluations, FHWA shall follow the procedures set forth in the 36 C.F.R. part 800 regulations in effect on the date upon which this MOA is fully executed which shall include updated documentation described in those regulations, if it is determined that no historic properties shall be affected.

#### C. Assessment of Effects

1. In consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom

FHWA deems appropriate, FHWA shall determine if the Project shall adversely affect archeological properties determined eligible for inclusion in the NRHP pursuant to the 36 C.F.R. part 800 regulations in effect on the date upon which this MOA is fully executed.

2. If, in consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom FHWA deems appropriate, FHWA determines the Project may adversely affect NRHP-eligible archeological properties, then FHWA shall make reasonable efforts to avoid or minimize the adverse effect. If, after this consultation, FHWA determines it is not possible to avoid or minimize adverse effects, then FHWA shall treat the archaeological resource in accordance with Stipulation III.G. of the MOA.
3. Any dispute regarding the determination of effects on NRHP-eligible archaeological properties shall be resolved in accordance with applicable Federal and State standards and guidelines listed in Stipulation V.

#### D. Avoidance

1. If future investigations discover archaeological sites that, after consultation with SHPO, are determined to require avoidance or to be subjected to additional archaeological investigations, INDOT shall investigate designs that avoid those sites.
2. If avoidance is not feasible, INDOT will submit plans for further archaeological investigations to SHPO for review and comment and follow the provisions in Stipulation III.E.

#### E. Additional Investigations

1. Where avoidance is not possible, all archaeological investigations shall be conducted according to applicable Federal and State standards and guidelines listed in Stipulations I and III.A.
2. To maximize the opportunity to avoid adverse effects, the required archaeological investigations shall be conducted as soon as practicable upon securing the appropriate rights to access property.
3. INDOT, in consultation with the Indiana SHPO, and other parties deemed appropriate by INDOT, shall take reasonable measures to avoid disinterment and disturbance to human remains and grave goods of religious and cultural significance to Native Americans, including investigations associated with modifications of the Project.

#### F. Treatment

If FHWA, in consultation with the Indiana SHPO, federally recognized Indian Tribes that may ascribe traditional cultural and religious significance to affected properties, and other parties whom FHWA deems appropriate, determines that the adverse effect cannot be avoided or minimized, then FHWA shall develop and implement a Treatment Plan(s), as part of the above consultation, to mitigate the adverse effects to an archeological resource on a site-by-site basis. The implementation of the Treatment Plan(s) must be completed for each site prior to the initiation of any Project construction activities that could affect that site.



#### IV. POST-REVIEW DISCOVERIES

- A. If properties—other than the Howard School at 4555 East CR 750 South, the Lawler Farmstead at East 8460 CR 1000 North, the Farmstead at 8030 East CR 1000 North, the House at 8795 East CR 600 North, and the P.C. Hogan Farm at 9110 East CR 1000 North—are discovered that may be historically significant or unanticipated effects on historic properties are found, the FHWA shall follow the procedure specified in 36 C.F.R. § 800.13.
- B. If human remains are discovered at any time during the implementation of the Project, the agency shall follow the procedure specified in 36 C.F.R. § 800.13 as well as the provisions of the Native American Graves Protection and Repatriation Act (25 USC § 3001) and IC 14-21-1-27 and IC 14-21-1-29, by stopping work within 100 feet of the discovery and informing the Indiana SHPO and the INDOT Cultural Resources Office of such unanticipated discoveries within two (2) business days.
- C. If the remains are found to be Native American, in accordance with applicable law, a treatment plan shall be developed by FHWA and SHPO in consultation with appropriate federally recognized Indian tribes. FHWA shall ensure that any treatment and reburial plan is fully implemented. If the remains are not Native American, the appropriate local authority shall be consulted to determine final disposition of the remains. Avoidance and preservation in place is the preferred option for treating human remains.
- D. Any necessary archaeological investigations will be conducted according to the provisions of IC 14-21-1, 312 IAC 21, 312 IAC 22; and the most current *Guidebook for Indiana Historic Sites and Structures Inventory – Archaeological Sites*.

#### V. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

#### VI. AMENDMENTS

*Extension of the Ronald Reagan Parkway from CR 600 to SR 267/I-65 Project (Des. No.: 1602280)*  
*Memorandum of Agreement, Version July 2, 2019*  
*Page 7 of 20*

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

## VII. DURATION

This MOA will expire if its terms are not carried out within fifteen (15) years from the date of its execution. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VI.

## VIII. TERMINATION

If any signatory (including Invited Signatories) to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VI, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the Project, FHWA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the FHWA and Indiana SHPO and implementation of its terms evidence that FHWA has taken into account the effects of this Project on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORY:

FEDERAL HIGHWAY ADMINISTRATION

Signed by: Michelle Allen Date October 1, 2019

Name and Title: Mayela Sosa, Division Administrator, FHWA-IN Division

SIGNATORY:

INDIANA STATE HISTORIC PRESERVATION OFFICER

Signed by: B.K. McCord Date 8-19-19

Name and Title: Beth McCord, Deputy State Historic Preservation Officer

INVITED SIGNATORY:


INDIANA DEPARTMENT OF TRANSPORTATION

Signed by:     *L.H.*     Date     8/5/2019    


Name and Title: Laura Hilden, Environmental Services Director

INVITED SIGNATORY:


BOONE COUNTY COMMISSIONERS

Signed by:  Date 9/3/19

Name and Title: Mr. Tom Santelli

Signed by:  Date 9-3-19

Name and Title: Mr. Don Lawson

Signed by:  Date 09/03/2019

Name and Title: Mr. Jeff Wolfe

INVITED SIGNATORY:

HENDRICKS COUNTY COMMISSIONERS

Signed by: Bob Gentry Date 8-27-19

Name and Title: Mr. Bob Gentry

Signed by: Matthew Whetstone Date 8-27-19

Name and Title: Mr. Matthew Whetstone

Signed by: Phyllis A. Palmer Date 8-27-19

Name and Title: Ms. Phyllis Palmer

INVITED SIGNATORY:

HOWARD SCHOOL RESTORATION GROUP

Signed by: Bonnie Kincaid, Pres. Date Sept. 27, 2019

Name and Title: Bonnie Kincaid, Pres.



CONCURRING PARTIES:

INDIANA LANDMARKS

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title:

CONCURRING PARTIES:

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title: Patrick Wethington, Owner of the P.C. Hogan Farm at 9110 East County Road 1000 North.

CONCURRING PARTIES:

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title: Michael Oles, Owner of the Lawler Farmstead at 8460 East County Road 1000 North.

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title: Andrea Oles, Owner of the Lawler Farmstead at 8460 East County Road 1000 North.

CONCURRING PARTIES:

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title: Jerry Marks, Owner of the Farmstead at 8030 East County Road 1000 North.

Signed by: \_\_\_\_\_ Date \_\_\_\_\_

Name and Title: Shannon Marks, Owner of the Farmstead at 8030 East County Road 1000 North.

## Appendix A

# NRHP Eligible Properties

— 2007 Proposed ROW  
— Current Proposed ROW

**Historic Properties**

- 2017 Additional Properties
- 2010 EA Identified Properties



Howard School  
011-205-45031  
NR-1910/NR2123

Farmstead  
063-205-00014

Lawler Farmstead  
063-699-00012

P.C. Hogan Farm  
063-699-00006

House  
036-117-40006

Boone County

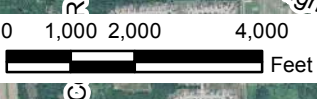
Hendricks County

Phase 2B

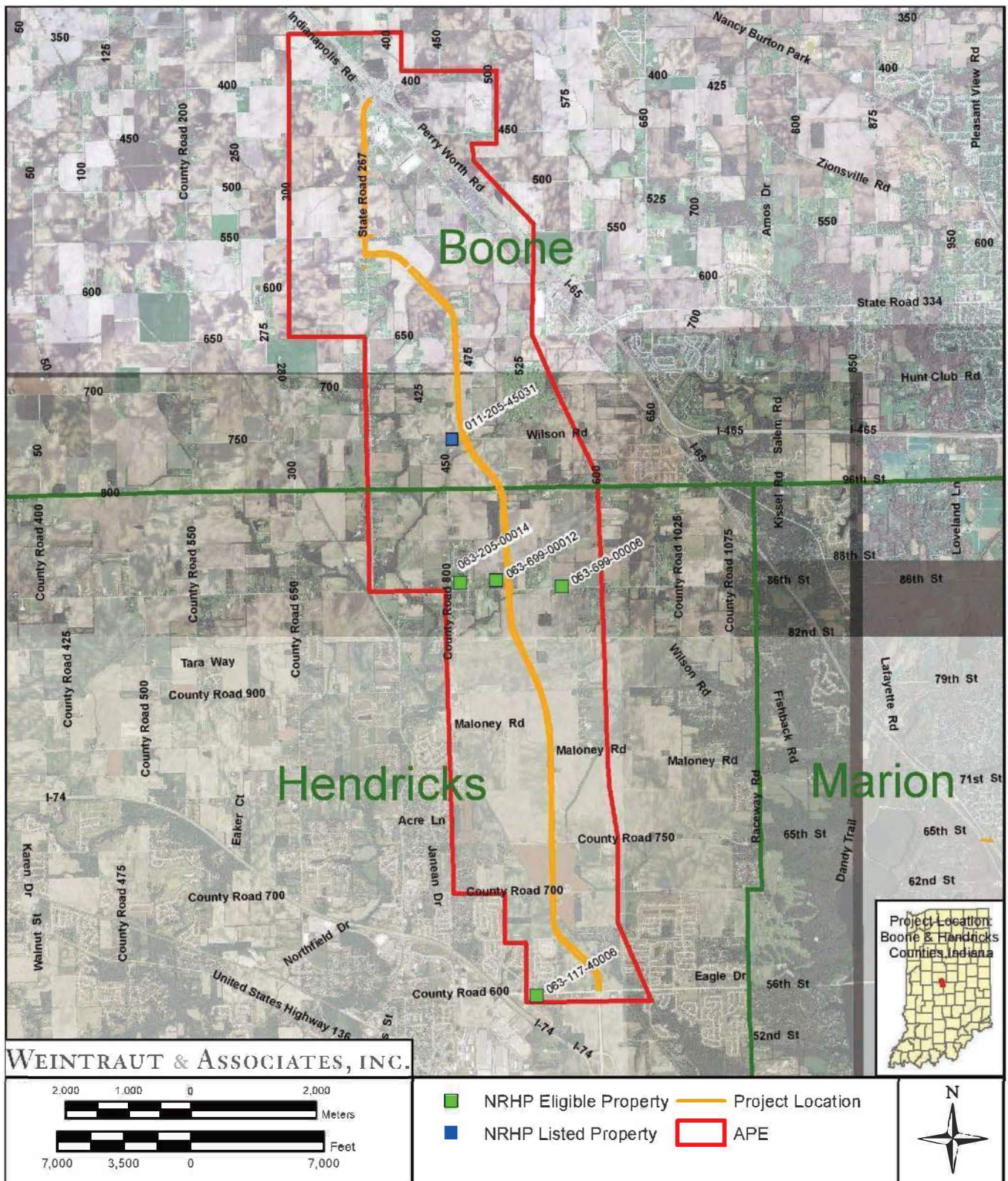
Phase 2A

Phase 1B

Phase 1A



## Appendix B



PROJECT AREA, APE, AND NRHP LISTED AND ELIGIBLE PROPERTIES SHOWN AN AERIAL PHOTOGRAPH.



The Indianapolis Star  
130 South Meridian Street  
Indianapolis, IN 46225  
Marion County, Indiana

AMERICAN STRUCTUREPOINT  
Federal Id: 06-1032273  
Account #:INI-36272  
Order #:0002993770  
Total Amount of Claim:\$94.41

AMERICAN STRUCTUREPOINT  
ATTN Nathan Horgan  
7260 SHADELAND STA  
INDIANAPOLIS, IN 46256

## PUBLISHER'S AFFIDAVIT

STATE OF WISCONSIN,  
County Of Brown } SS:

Personally appeared before me, a notary public in and for said county and state, the undersigned

I, being duly sworn, say that I am a clerk for THE INDIANAPOLIS NEWSPAPERS a DAILY STAR newspaper of general circulation printed and published in the English language in the city of INDIANAPOLIS in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 times., the dates of publication being as follows:

The insertion being on the 06/27/2018  
Newspaper has a website and this public notice was posted in the same day as it was published in the newspaper.

Pursuant to the provisions and penalties of Ch. 155, Acts 1953,

I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

Kazor J. Owe

Date: June 27, 2018 Title: Clerk

Subscribed and sworn to before me this 27 day of June, 2018

Tara Mondloch  
Notary Public

Notary Expires: Aug. 6. 2021

TARA MONDLOCH  
Notary Public  
State of Wisconsin

\_\_\_\_\_  
(Governmental Unit)

To INDIANAPOLIS STAR

\_\_\_\_\_ County, Indiana \_\_\_\_\_

**Indianapolis, IN**

**PUBLISHER'S CLAIM**

79 lines, 2 columns wide equals 158 equivalent lines at \$0.60 per line @ 1 days, **\$94.41**

Website Publication **\$0**

Acct # INI-36272  
Ad # 0002993770

Charge for proof(s) of publication **\$0.00**

DATA FOR COMPUTING COST

Width of single column 9.5 ems  
Number of insertions 1  
Size of type 7 point

TOTAL AMOUNT OF CLAIM **\$94.41**

Claim No. \_\_\_\_\_ Warrant No. \_\_\_\_\_

**IN FAVOR OF  
The Indianapolis Star  
Indianapolis, IN  
Marion County**

**130 S. Meridian St. Indianapolis, IN 46225**

I have examined the within claim and hereby certify as follows:

That it is in proper form.

This it is duly authenticated as required by law.

That it is based upon statutory authority.

That it is apparently (correct)  
(incorrect)

\$ \_\_\_\_\_  
On Account of Appropriation For

FED. ID  
#06-1032273

Allowed \_\_\_\_\_, 20 \_\_\_\_\_

In the sum of \$ \_\_\_\_\_

I certify that the within claim is true and correct; that the services there-in itemized and for which charge is made were ordered by me and were necessary to the public business.

**PUBLIC NOTICE**

Des. No. 1602280

The Hendricks County and Boone County Boards of Commissioners are planning to undertake the Ronald Reagan Parkway (Des. No. 1602280) extension construction project, funded in part by the Federal Highway Administration (FHWA). The roadway will extend the Ronald Reagan Parkway from County Road (CR) 600 North in Hendricks County approximately 9.8 miles north to the State Road (SR) 267/I-65 Interchange in Boone County.

The proposed extension of Ronald Reagan Parkway occurs mostly on new alignment and is approximately 9.8 miles in length. The proposed roadway will consist of two 12-foot wide travel lanes in each direction separated by a 16-foot wide flush median which will transition to a left turn lane approaching cross streets. The proposed extension would require 265.64 acres of permanent right-of-way and an additional 0.22 acre of temporary right-of-way. A total of six relocations are anticipated as part of the proposed project.

Properties listed in or eligible for the National Register of Historic Places (NRHP) located within the Area of Potential Effects (APE) include Howard School (Indiana Historic Sites and Structures Inventory [IHSSI] No. 011-205-45031), Lawler Farmstead (IHSSI No. 063-699-00012), House (IHSSI No. 063-117-40006), P.C. Hogan Farm (IHSSI No. 063-699-00006), and Farmstead (IHSSI No. 063-205-00014). The proposed action impacts properties listed in or eligible for the NRHP. FHWA has issued an "Adverse Effect" finding for the project because the project will diminish the integrity of the characteristics that qualify the Howard School and Lawler Farmstead for inclusion in the NRHP. The project was issued a finding of "No Adverse Effect" for the Farmstead and P.C. Hogan Farm and a finding of "No Effect" for the House.

In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4). Pursuant to 36 CFR 800.4(d)(2), the documentation specified in 36 CFR 800.11(e) is available for inspection at American Structurepoint, Inc. (7260 Shadeland Station, Indianapolis, Indiana 46256). Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website IN SCOPE at <http://erms.indot.in.gov/Section106Documents>. This documentation serves as the basis for the "Adverse Effect" finding. The views of the public on this effect finding are being sought. Comments must be received no later than July 27, 2018. Please direct any comments or questions to:

Mr. Josh Iddings  
Senior Environmental Scientist  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
(317) 547-5580  
Fax: (317) 543-0270

Email: [jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)

In accordance with the "Americans with Disabilities Act", if you have a disability for which American Structurepoint, Inc. needs to provide accessibility to the document(s) such as interpreters or readers, please contact Josh Iddings, American Structurepoint, Inc. at (317) 547-5580 or email at [jiddings@structurepoint.com](mailto:jiddings@structurepoint.com).

(S - 6/27/18 - 0002993770)

hsapxlp

AMERICAN STRUCTUREPOINT

To: The Lebanon Reporter
117 E. Washington St.
Lebanon, IN 46052

Boone County, Indiana

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) - number of equivalent lines
Head - number of lines
Body - number of lines
Tail - number of lines
Total number of lines in notice

COMPUTATION OF CHARGES

102 lines, 1 columns wide equals
102 equivalent lines at 0.475 cents per line \$ 48.41
(50 percent of above amount)
Charge for extra proofs of publication (\$1.00 for each proof in excess of two)
Total Amount of Claim \$ 48.41

DATA FOR COMPUTING COST

Width of single column in picas 9.9 Size of type 7 point.
Number of insertions 1

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 1 time. The date of publication being as follows:
June 27, 2018

Additionally, the statement checked below is true and correct:

- Newspaper does not have a Web site.
[X] Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.
Newspaper has a Web site, but due to technical problem or error, publish notice was posted on
Newspaper has a Web site but refuses to post the public notice.

Date: 6/27/2018
Title Legal Advertising Clerk

PUBLIC NOTICE
Des. No. 1602280
The Hendricks County and Boone County Boards of Commissioners are planning to undertake the Ronald Reagan Parkway (Des. No. 1602280) extension construction project, funded in part by the Federal Highway Administration (FHWA). The roadway will extend the Ronald Reagan Parkway from County Road (CR) 600 North in Hendricks County approximately 9.8 miles north to the State Road (SR) 267/I-65 interchange in Boone County.
The proposed extension of Ronald Reagan Parkway occurs mostly on new alignment and is approximately 9.8 miles in length. The proposed roadway will consist of two 12-foot wide travel lanes in each direction separated by a 16-foot wide flush median which will transition to a left turn lane approaching cross streets. The proposed extension would require 265.64 acres of permanent right-of-way and an additional 0.22 acre of temporary right-of-way. A total of six relocations are anticipated as part of the proposed project.
Properties listed in or eligible for the National Register of Historic Places (NRHP) located within the Area of Potential Effects (APE) include Howard School (Indiana Historic Sites and Structures Inventory [IHSSI] No. 071-205-45031), Lawyer Farmstead (IHSSI No. 063-699-00012), House (IHSSI No. 063-117-40006), P.C. Hogan Farm (IHSSI No. 063-699-00006), and Farmstead (IHSSI No. 063-205-00014). The proposed action impacts properties listed in or eligible for the NRHP. FHWA has issued an Adverse Effect finding for the project because the project will diminish the integrity of the characteristics that qualify the Howard School and Lawyer Farmstead for inclusion in the NRHP. The project was issued a finding of 2018. Please direct any comments or questions to:
Mr. Josh Iddings
Senior Environmental Scientist
American Structurepoint, Inc.
7260 Shadeland Station
Indianapolis, Indiana 46256
(317) 547-5580
Fax: (317) 543-0270
Email: jiddings@structurepoint.com
In accordance with the "Americans with Disabilities Act", if you have a disability for which American Structurepoint, Inc. needs to provide accessibility to the document(s) such as interpreters or readers, please contact Josh Iddings, American Structurepoint, Inc. at (317) 547-5580 or email at jiddings@structurepoint.com.
TLR-388 June 27 hspaxlp

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Claim No. .... Warrant No. ....

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**IN FAVOR OF  
THE BOONE COUNTY**

\$ . . . . .  
**On Account of Appropriation For**  
.....  
Appropriation No. ....

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Allowed .....  
In the sum of \$ .....  
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.....  
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I have examined the within claim and hereby  
certify as follows:

- That it is in proper form.
- That it is duly authenticated as required by law.
- That it is based upon statutory authority.  
(correct)
- That it is apparently  
(incorrect)

I certify that the within claim is true and correct;  
that the services there in itemized and for which  
charge is made were ordered by me and were  
necessary to the public business.

.....  
.....

Tax I.D. 63-1253950  
To: Hendricks County Flyer  
8109 Kingston St., Ste 500, Avon, IN 46123

American Structurepoint Inc  
(Governmental Unit)  
Hendricks County, Indiana

PUBLISHER'S CLAIM

HCF- 491  
Ad # 1456502

LINE COUNT

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I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 1 times. The dates of publication being as follows:

June 27, 2018

Additionally, the statement checked below is true and correct:

- Newspaper does not have a Web site.
- Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.
- Newspaper has a Web site, but due to technical problem or error, publish notice was posted on \_\_\_\_\_
- Newspaper has a Web site but refuses to post the public notice.

Lyla Turnes  
Title: Legal Advertising Clerk

Date: June 28, 2018

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## Public Notices

### PUBLIC NOTICE Des. No. 1602280

The Hendricks County and Boone County Boards of Commissioners are planning to undertake the Ronald Reagan Parkway (Des. No. 1602280) extension construction project, funded in part by the Federal Highway Administration (FHWA). The roadway will extend the Ronald Reagan Parkway from County Road (CR) 600 North in Hendricks County approximately 9.8 miles north to the State Road (SR) 267/I-65 Interchange in Boone County.

The proposed extension of Ronald Reagan Parkway occurs mostly on new alignment and is approximately 9.8 miles in length. The proposed roadway will consist of two 12-foot wide travel lanes in each direction separated by a 16-foot wide flush median which will transition to a left turn lane approaching cross streets. The proposed extension would require 265.64 acres of permanent right-of-way and an additional 0.22 acre of temporary right-of-way. A total of six relocations are anticipated as part of the proposed project.

Properties listed in or eligible for the National Register of Historic Places (NRHP) located within the Area of Potential Effects (APE) include Howard School (Indiana Historic Sites and Structures Inventory [IHSSI] No. 011-205-45031), Lawler Farmstead (IHSSI No. 063-699-00012), House (IHSSI No. 063-117-40006), P.C. Hogan Farm (IHSSI No. 063-699-00006), and Farmstead (IHSSI No. 063-205-00014). The proposed action impacts properties listed in or eligible for the NRHP. FHWA has issued an Adverse Effect finding for the project because the project will diminish the integrity of the characteristics that qualify the Howard School and Lawler Farmstead for inclusion in the NRHP. The project was issued a finding of "No Adverse Effect" for the Farmstead and P.C. Hogan Farm and a finding of "No Effect" for the House.

In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4). Pursuant to 36 CFR 800.4(d)(2), the documentation specified in 36 CFR 800.11(e) is available for inspection at American Structurepoint, Inc. (7260 Shadeland Station, Indianapolis, Indiana 46256). Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website IN SCOPE at <http://erms.indot.in.gov/Section106-Documents>. This documentation serves as the basis for the "Adverse Effect" finding. The views of the public on this effect finding are being sought. Comments must be received no later than July 27, 2018. Please direct any comments or questions to:

Mr. Josh Iddings  
Senior Environmental Scientist  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
(317) 547-5580  
Fax: (317) 543-0270  
Email:

[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)

In accordance with the "Americans with Disabilities Act", if you have a disability for which American Structurepoint, Inc. needs to provide accessibility to the document(s) such as interpreters or readers, please contact Josh Iddings, American Structurepoint, Inc. at (317) 547-5580 or email at [jiddings@structurepoint.com](mailto:jiddings@structurepoint.com).

HCF-491 June 27 hspaxlp

See table of legal rates in the applicable State Board of Accounts Bulletin

Claim No. \_\_\_\_\_ Warrant No. \_\_\_\_\_

I have examined the within claim and hereby certify as follows:

IN FAVOR OF

That it is in proper form.

That it is duly authenticated as required by law.

That it is based upon statutory authority.

\$ \_\_\_\_\_

That it is apparently

correct  
incorrect

ON ACCOUNT OF APPROPRIATION FOR

I certify that the within claim is true and correct; that the services there in itemized and for which charge is made were ordered by me and were necessary to the public business

Appropriation No. \_\_\_\_\_

ALLOWED \_\_\_\_\_

IN THE SUM OF \$ \_\_\_\_\_

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Attest





Preserving America's Heritage

October 21, 2019

Ms. Michelle Allen  
Planning & Environmental Specialist  
Federal Highway Administration  
Indiana Division  
575 North Pennsylvania Street, Rm. 254  
Indianapolis, IN 46204

Ref: *Proposed Extension of the Ronald Reagan Parkway from CR 600 North to SR 267/I-65  
Boone & Hendricks Counties, Indiana  
(Des No.: 1602280)  
ACHP Connect Log Number: 012936*

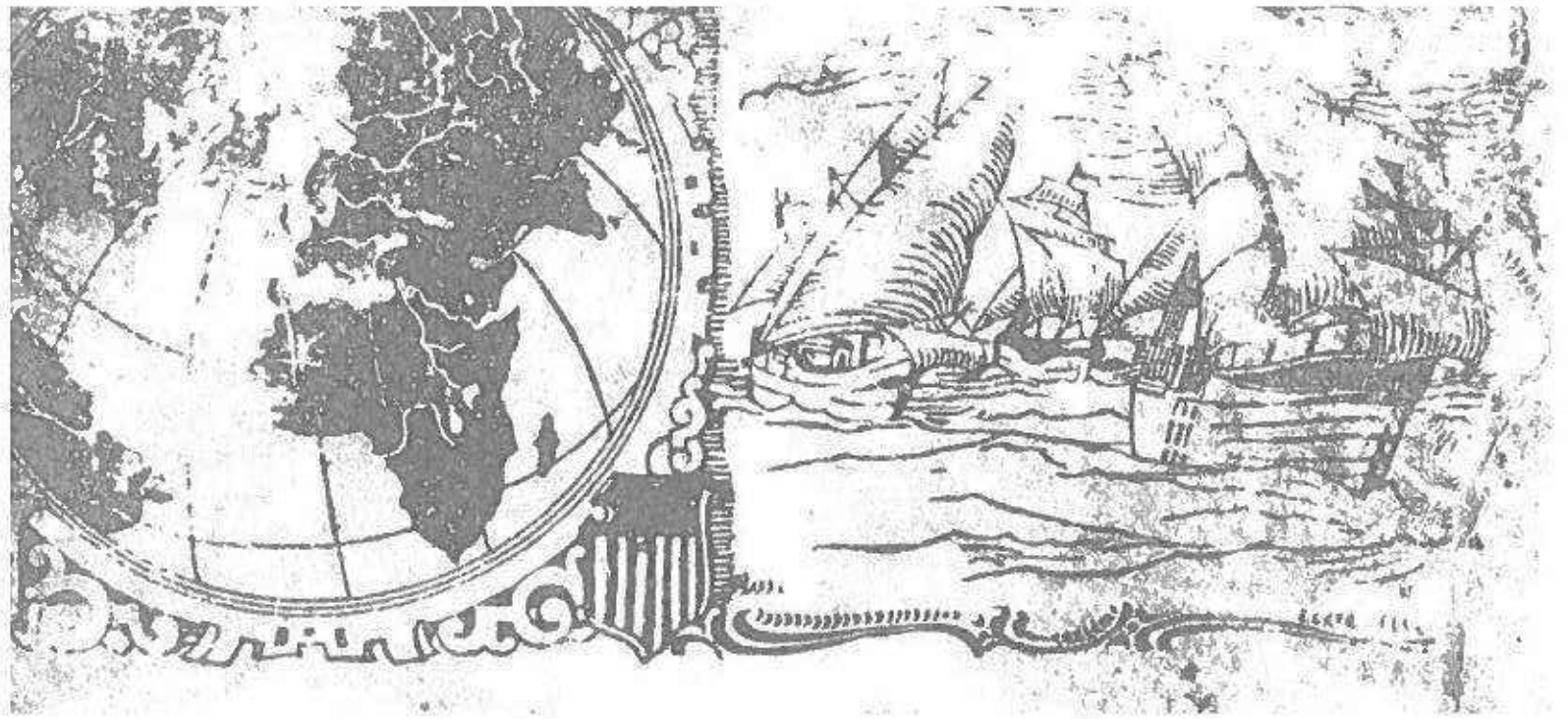
Dear Ms. Allen:

The Advisory Council on Historic Preservation (ACHP) has received a copy of the executed Section 106 agreement document (Agreement) for the referenced undertaking. In accordance with 36 CFR 800.6(b)(1)(iv) of the ACHP's regulations, the ACHP acknowledges receipt of the Agreement. The filing of the Agreement and implementation of its terms fulfills the requirements of Section 106 of the National Historic Preservation Act and the ACHP's regulations.

We appreciate receiving a copy of this Agreement for our records. Please ensure that all consulting parties are provided a copy of the executed Agreement in accordance with 36 CFR 800.6(c)(9). If you have any questions or require additional assistance, please contact Ms. Sarah Stokely at (202) 517-0224 or via e-mail at [sstokely@achp.gov](mailto:sstokely@achp.gov) and reference the ACHPConnect Log Number above.

Sincerely,

LaShavio Johnson  
Historic Preservation Technician  
Office of Federal Agency Programs



**Addendum No. 1: Phase Ia Archaeological Records Check  
and Field Reconnaissance of  
Ronald Reagan Parkway Construction Project in northern  
Hendricks County and southern Boone County, Indiana.**

**Des. No.: 1602280**

Prepared for:  
Federal Highway Administration/Indiana Department of Transportation

Prepared by:  
**WEINTRAUT & ASSOCIATES, INC.**  
Principal Investigator: Jason Goldbach, M.A.  
Author: Jason Goldbach, M.A.

P. O. Box 5034 | Zionsville, Indiana 46077 | 317.733.9770 | (Linda@weintrautinc.com)

August 21, 2019

## Management Summary

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In response to a request from American Structurepoint, Inc. (Structurepoint), Weintraut & Associates, Inc. (W&A) archaeologists conducted an archaeological records check and a Phase Ia investigation for a segment of the Ronald Reagan Parkway Construction Project in northern Hendricks County and southern Boone County, Indiana (Arnold 2017). Additional survey was undertaken after that report was submitted to the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology (IDNR/DHPA). This report, Addendum No. 1 to the Phase Ia Reconnaissance Report, has been prepared to document efforts to identify and evaluate archaeological resources within the expanded Area of Potential Effects (APE). The proposed extension of Ronald Reagan Parkway begins at East County Road (CR) 600 North in Hendricks County and extends north to Interstate 65 (I-65) in Boone County. This totals 16.1 kilometers (km) (10.0 miles [mi]) in length. The alignment is proposed to connect with I-65 at the existing I-65/State Road (SR) 267 interchange.

Three previous archaeological reconnaissance projects surveyed the majority of the proposed APE (Arnold 2017; King 2011; Stillwell 2007). The current W&A reconnaissance accounts for eight areas not previously surveyed. These total approximately 18.1 hectares (ha), or 44.7 acres

(ac) acres located between Hendricks East CR 1000 North and East CR 750 North. Additional right-of-way (ROW) may be required, but it remains unscoped at the time of the completion of this report. Any future expansions of the APE requiring archaeological surveys will be completed as subsequent addendums.

The project is located within portions of the Zionsville and Clermont, Indiana, 7.5' USGS topographic quadrangle maps. Specifically, within the Zionsville and Clermont quadrangles it is located in Sections 24, 25, and 36; Township 17 North, Range 1 East.

This investigation was conducted in accordance with IDNR/DHPA guidelines. The goals of the W&A Phase Ia reconnaissance were to identify and verify the presence or absence of cultural deposits within the project area; assess the potential of any sites identified for inclusion in the Indiana Register of Historic Sites and Structures (IRHSS) or the National Register of Historic Places (NRHP); and collect sufficient information to identify the cultural affiliation of any sites located and their possible function(s).

Four previously unidentified archaeological sites (12HE0511 to 12HE0514) were identified during the Phase Ia archaeological field reconnaissance. None of these sites are recommended eligible for listing in the IRHSS or NRHP,

and no further archaeological work is recommended.

However, these recommendations are made with the understanding that if any previously unidentified intact archaeological deposits or human remains are uncovered during construction, demolition, or earthmoving activities, work within the area will stop and the IDNR/DHPA will be notified of the discovery within two (2) business days as required by Indiana Code 14-21-1-27 and 29.

## Conclusions and Recommendations

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In response to a request from American Structurepoint, Inc., W&A archaeologists conducted an addendum archaeological records check and Phase Ia reconnaissance for the Ronald Reagan Parkway Construction Project in northern Hendricks County.

Four previously unidentified archaeological sites, 12HE0511 to 12HE0514, were encountered during the reconnaissance. All four sites located during the Phase Ia survey are recommended as not eligible for listing in either the IRHSS or NRHP as none of them appear to meet the eligibility criterion. Therefore, no further archaeological work appears warranted and project clearance is recommended for these sites.

However, these recommendations are made with the understanding that if any previously unidentified intact archaeological deposits or human remains are uncovered during construction, demolition, or earthmoving activities, work within the area will stop and the IDNR/DHPA will be notified of the discovery within two (2) business days as required by Indiana Code 14-21-1-27 and 29.

**Appendix E: Red Flag and Hazardous Materials**



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## R E D F L A G I N V E S T I G A T I O N

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DATE: January 21, 2020

TO: Hendricks County Commissioners  
355 South Washington Street  
Danville, IN 46122  
c/o John Ayers, County Engineer

Boone County Commissioners  
116 West Washington Street  
Lebanon, IN 46052  
c/o Craig Parks, County Engineer

FROM: Scott Farrell  
American Structurepoint, Inc.  
9025 River Road, Suite 200  
Indianapolis, Indiana 46240  
sfarrell@structurepoint.com

RE: RED FLAG INVESTIGATION  
Des. No. 1602280, Local Project  
Ronald Reagan Parkway Extension  
From Hendricks County Road 600 North to Interstate 65  
Boone and Hendricks Counties, Indiana

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### PROJECT DESCRIPTION

The Hendricks County and Boone County Board of Commissioners are developing a project to extend the Ronald Reagan Parkway, on mostly new alignment. In July of 2010, an Environmental Assessment (EA) was prepared for this project under Des. No. 0710288, which culminated with the Federal Highway Administration (FHWA) issuing a Finding of No Significant Impact (FONSI) on March 7, 2011. This Red Flag Investigation (RFI) is for the remaining Phases 1A, 1B, 2A, and 2B.

The proposed project area begins approximately 0.35 mile south of the Ronald Reagan Parkway and County Road (CR) 600 North intersection in Hendricks County, and extends generally north 9.8 miles to the Indianapolis Road and State Road (SR) 267 intersection, approximately 0.1 mile southwest of the I-65 interchange in Boone County. The project area is located in Perry Township in Boone County and Lincoln and Brown Townships in Hendricks Counties.

Proposed improvements include constructing two 12-foot wide travel lanes in each direction with 10-foot wide paved shoulders. The northbound and southbound lanes will be separated by a raised 16-foot wide median that transitions to designated 12-foot wide turn lanes with a 4-foot wide striped median approaching the intersections of cross streets. Side ditches will be utilized along the roadway for drainage. In addition, a grade separation is proposed at the CSX crossing that carries Ronald Reagan Parkway over the railroad on a new structure. Proposed permanent right-of-way will be generally maintained to a total width of 230 feet wide (115 feet wide either side of the proposed centerline). Locations of storm

water ponds for the project have only been determined for Phase 1A and 1B. Exact locations for the remaining storm water ponds will be determined as design development continues for the remaining phases. Proper coordination with INDOT regarding the Red Flag concerns in these locations will be provided in subsequent Additional Information documents.

Bridge and/or Culvert Project: Yes  No  Structure # 267-06-07899

If this is a bridge project, is the bridge Historical? Yes  No , Select  Non-Select

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Proposed right of way: Temporary  # Acres 0.22 Permanent  # Acres 302.86, Not Applicable

Type of excavation: Excavation depth of up to 10 feet will occur. Excavation activities including creation of storm water basins, tile and drainage work, and bridge work will be completed. The 10-foot maximum depth of excavation is expected to be limited to the storm water basin locations.

Maintenance of traffic: A majority of this project will be constructed along a new alignment and existing traffic will be maintained along existing roadways. Phase 1A (from CR 600 N to CR 750 N in Hendricks County) will consist of the use of detours which will route traffic around the closed portions of CR 900 E and the intersecting county roads of 700 N and 750 N. Phase 1B (from CR 750 N to CR 1000 N in Hendricks County) will consist of the use of a detour which will route traffic around the closed portion of CR 900 E, Maloney Road, and CR 1000 N. Currently an official detour has not been established for Phases 2A and 2B of the proposed project. Temporary closure of low volume local county roads is possible as construction develops.

Work in waterway: Yes  No  Below ordinary high water mark: Yes  No

State Project:  LPA:

Any other factors influencing recommendations: N/A



**INFRASTRUCTURE TABLE AND SUMMARY**

| <b>Infrastructure</b>  |     |                         |    |
|--|-----|-------------------------|----|
| Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A: |     |                         |    |
| Religious Facilities   | 1   | Recreational Facilities | 1  |
| Airports <sup>1</sup>  | 1   | Pipelines               | 13 |
| Cemeteries   | 3   | Railroads               | 1  |
| Hospitals  | N/A | Trails                  | 5  |
| Schools  | N/A | Managed Lands           | 1  |

<sup>1</sup>In order to complete the required airport review, a review of public airports within 3.8 miles (20,000 feet) is required.

**Explanation:**

**Religious Facilities:** One (1) religious facility is located within the 0.5 mile search radius. St. Malachy Catholic Church is located approximately 0.32 mile east of the project area. Traffic will be maintained through the use of a detour. Coordination with St. Malachy Catholic Church will occur.

**Airports:** One (1) airport is located within the 0.5 mile search radius. The airport, Fuller Field, is a private airport and is located approximately 0.14 mile east of the project area. Coordination with Fuller Field will occur.

**Cemeteries:** Three (3) cemeteries are located within the 0.5 mile search radius. Howard Cemetery is located within the project area. A Cemetery Development Plan (CDP) may be required since this project is within 100 feet of the cemetery. Coordination with Indiana Department of Transportation (INDOT) Cultural Resources is recommended.

**Recreational Facilities:** One (1) recreational facility is located within the 0.5 mile search radius. The facility, Boone Smith Pond State Fishing, is located approximately 0.13 mile north of the project area. No impact is expected.

**Pipelines:** Thirteen (13) pipeline segments are located within the 0.5 mile search radius. Twelve (12) pipeline segments cross the project area. Coordination with Marathon Pipeline Company; Indiana Farm Bureau Co-op Association; Indiana Gas Company, Incorporated; Shell Oil Company, Incorporated; Texas Eastern Transmission Corporation; and Panhandle Eastern Pipe Line Company will occur.

**Railroads:** One (1) railroad segment is located within the 0.5 mile search radius. The railroad segment crosses through the project area. Coordination with CSX should occur.

**Trails:** Five (5) trail segments are located within the 0.5 mile search radius. Three (3) potential trail segments cross through the project area.

- Connector Road North to County Line, associated with Ronald Reagan Parkway Corridor, is located within the project area. Coordination with the Hendricks County Planning and Building Commission will occur.
- White Lick Creek/Etter Ditch Corridor/SR 267, associated with the Whitestown Community Trail System, is located within the project area. Coordination with the Town of Whitestown will occur.
- County Line to Russel Road, associated with Ronald Reagan Parkway Corridor, is located within the project area. Coordination with Boone County Area Plan Commission will occur.

**Managed Lands:** One (1) managed land is located within the 0.5 mile search radius. The managed land, Boone Smith Pond State Fishing, is located approximately 0.13 mile north of the project area. No impact is expected.

**WATER RESOURCES TABLE AND SUMMARY**

| <b>Water Resources</b>   |     |                         |     |
|--|-----|-------------------------|-----|
| Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A: |     |                         |     |
| NWI - Points   | N/A | Canal Routes - Historic | N/A |
| Karst Springs  | N/A | NWI - Wetlands          | 71  |
| Canal Structures – Historic  | N/A | Lakes                   | 17  |
| NPS NRI Listed   | N/A | Floodplain - DFIRM      | 49  |
| NWI-Lines  | 21  | Cave Entrance Density   | N/A |
| IDEM 303d Listed Streams and Lakes (Impaired)  | 4   | Sinkhole Areas          | N/A |
| Rivers and Streams   | 23  | Sinking-Stream Basins   | N/A |

**Explanation:**

**NWI – Lines:** Twenty-one (21) National Wetland Inventory (NWI) line segments are located within the 0.5 mile search radius. Five (5) of the NWI line segments are located within the project area. A Waters of the US Report is recommended and coordination with the appropriate agency, if applicable, will occur.

**IDEM 303d Listed Streams and Lakes (Impaired):** Four (4) 303d Listed Stream segments are located within the 0.5 mile search radius. Three (3) stream segments are located within the project area. These segments, associated with Etter Ditch, Pump Run/Dugan Ditch, and School Branch, are listed for *Escherichia coli* (*E. coli*). Workers who are working in or near water with *E. coli* should take care to wear appropriate personal protection equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

**Rivers and Streams:** Twenty-three (23) stream segments are located within the 0.5 mile search radius. Ten (10) stream segments are located within the project area. These segments are associated with School Branch, Fishback Creek, Pump Run, Martin Dugan Ditch, Etter Ditch, and White Lick Creek. A Waters of the US Report is recommended and coordination with the appropriate agency, if applicable, will occur.

**NWI – Wetlands:** Seventy-one (71) NWI wetlands are located within the 0.5 mile search radius. Two (2) NWI wetlands are located within the project area. A Waters of the US Report is recommended and coordination with the appropriate agency, if applicable, will occur.

**Lakes:** Seventeen (17) lakes are located within the 0.5 mile search radius. The nearest lake is located approximately 0.06 mile southwest of the project area. No impact is expected.

**Floodplain – DFIRM:** Forty-nine (49) floodplain polygons are located within the 0.5 mile search radius. The project area is located within eleven (11) of the floodplain polygons. Coordination with the appropriate agency will occur.

**URBAN AREA BOUNDARY SUMMARY**

Urbanized Area Boundary (UAB): This project lies within the Indianapolis UAB. Post construction Storm Water Quality Best Management Practices (BMPs) may need to be considered. An early coordination letter with topographic and aerial maps showing the project area should be sent to the Hendricks County MS4 Coordinator at 355 South Washington Street, Suite 206, Danville, Indiana 46122, and the Town of Brownsburg MS4 Coordinator at 61 North Green Street, Brownsburg, Indiana 46112.

**MINING AND MINERAL EXPLORATION TABLE AND SUMMARY**

| <b>Mining/Mineral Exploration</b>  |     |                     |     |
|--|-----|---------------------|-----|
| Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A: |     |                     |     |
| Petroleum Wells  | 1   | Mineral Resources   | N/A |
| Mines – Surface  | N/A | Mines – Underground | N/A |

## Explanation:

Petroleum Wells: One (1) petroleum well is located within the 0.5 mile search radius. The petroleum well is located approximately 0.45 mile east of the project area. No impact is expected.

**HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY**

| <b>Hazardous Material Concerns</b>   |     |                                   |     |
|--|-----|-----------------------------------|-----|
| Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A: |     |                                   |     |
| Superfund  | N/A | Manufactured Gas Plant Sites      | N/A |
| RCRA Generator/ TSD  | N/A | Open Dump Waste Sites             | N/A |
| RCRA Corrective Action Sites   | N/A | Restricted Waste Sites            | N/A |
| State Cleanup Sites  | N/A | Waste Transfer Stations           | N/A |
| Septage Waste Sites  | N/A | Tire Waste Sites                  | N/A |
| Underground Storage Tank (UST) Sites   | 1   | Confined Feeding Operations (CFO) | N/A |
| Voluntary Remediation Program  | N/A | Brownfields                       | N/A |
| Construction Demolition Waste  | N/A | Institutional Controls            | 1   |
| Solid Waste Landfill   | N/A | NPDES Facilities                  | 18  |
| Infectious/Medical Waste Sites   | N/A | NPDES Pipe Locations              | N/A |
| Leaking Underground Storage (LUST) Sites   | 3   | Notice of Contamination Sites     | N/A |

**Explanation:**

Underground Storage Tanks (USTs): One (1) UST site is located within the 0.5 mile search radius. The site, Love's Travel Stop #459, 4155 South Indianapolis Road, Agency Interest (AI) ID 109636, is located within the project area. Based on documentation reviewed on the IDEM VFC, a LUST incident (#201506500) was reported for the site on May 27, 2015. A No Further Action (NFA) Letter dated October 12, 2017, stated that the impacted soil and groundwater do not extend off the property and that no soil constituents were above the commercial screening levels. IDEM conducted a UST Inspection on June 25, 2019 and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. Documentation indicates a release may have occurred. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with IDEM before further site activities occur.

Leaking Underground Storage Tank (LUST): Three (3) LUST sites are located within the 0.50 mile search radius. The nearest site, Blue & White Service Incorporated, 4500 South Indianapolis Road, AI #2047, is located approximately 0.32 mile east of the project area. Based on documentation reviewed on the IDEM VFC, a LUST incident (#199404214) was reported for the site on April 28, 1994. An NFA letter dated September 23, 2016 was reviewed and indicated that petroleum contamination remained on site and an Environmental Restrictive Covenant (ERC) was recorded for the site on December 15, 2015. The site and the associated ERC is further discussed in the Institutional Controls section below. No impact is expected.

Institutional Controls: One (1) institutional control site is located within the 0.5 mile search radius. The site, Blue & White Service Incorporated, 4500 South Indianapolis Road, AI #2047, is located approximately 0.32 mile east of the project area. An ERC was recorded for the site on December 15, 2015, that restricts the use of groundwater, post-excavation activities, and land use to non-residential/agricultural. No impact is expected.

NPDES Facilities: Eighteen (18) NPDES Facilities are located within the 0.5 mile search radius. One (1) NPDES Facility, Rinker Materials Concrete Pipe Division, Permit #INRM00431, 4360 Whitelick Drive, is located within the project area. No violations for the site were found. No impact is expected.

**ECOLOGICAL INFORMATION SUMMARY**

The Boone and Hendricks County listings of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. A review of the Indiana Natural Heritage Database by did not indicate the presence of endangered species. Coordination with U.S. Fish and Wildlife Services (USFWS) and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural area. The November, 14, 2019, inspection report for Bridge #267-06-07899 states that no evidence of bats was seen or heard under (or in) the bridge. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

An inquiry using the USFWS Information for Planning and Consultation (IPaC) website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble Bee, in or within 0.5 mile of the project area. No impact is expected.

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**RECOMMENDATIONS SECTION****INFRASTRUCTURE:**

Religious Facilities: St. Malachy Catholic Church is located approximately 0.32 mile east of the project area. Traffic will be maintained through the use of a detour. Coordination with St. Malachy Catholic Church will occur.

Airports: Fuller Field is a private airport that is located approximately 0.14 mile east of the project area. Coordination with Fuller Field will occur.

Cemeteries: One (1) cemetery is located within the project area. A Cemetery Development Plan (CDP) may be required. Coordination with INDOT Cultural Resources is recommended.

Railroads: One (1) railroad segment crosses the project area. Coordination with CSX should occur.

Pipelines: Twelve (12) pipeline segments cross the project area. Coordination with Marathon Pipeline Company; Indiana Farm Bureau Co-op Association; Indiana Gas Company, Incorporated; Shell Oil Company, Incorporated; Texas Eastern Transmission Corporation; and Panhandle Eastern Pipe Line Company will occur.

Trails: Three (3) potential trails cross the project area. Coordination with the Parks and Recreation Departments for the Town of Whitestown, Boone County Area Planning Commission, and the Hendricks County Planning and Building Commission will occur.

**WATER RESOURCES:** The presence of the following water resources will require the preparation of a Waters of the US Report and coordination with the appropriate agencies, if applicable, will occur:

- Five (5) NWI line segments flow through the project area.
- Ten (10) stream segments flow through the project area.
- Two (2) NWI wetlands are located within the project area.
- The project area is located within eleven (11) floodplain polygons.

Three (3) stream segments, impaired for *E. coli* are located within the project area. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

**URBAN AREA BOUNDARY:** This project lies within the Indianapolis UAB. Post construction Storm Water Quality BMPs may need to be considered. An early coordination letter with topographic and aerial maps showing the project area should be sent to the Hendricks County MS4 Coordinator at 355 South Washington Street, Suite 206, Danville, Indiana 46122, and the Town of Brownsburg MS4 Coordinator at 61 North Green Street, Brownsburg, Indiana 46112.

**MINING/MINERAL EXPLORATION:** N/A

**HAZMAT CONCERNS:** One (1) UST site is located within the 0.5 mile search radius. The site, Love's Travel Stop #459, 4155 South Indianapolis Road, Agency Interest (AI) ID 109636, is located within the project area. Based on documentation reviewed on the IDEM VFC, a LUST incident (#201506500) was reported for the site on May 27, 2015. A No Further Action (NFA) Letter dated October 12, 2017, stated that the impacted soil and groundwater do not extend off the property and that no soil constituents were above the commercial screening levels. IDEM conducted a UST Inspection on June 25, 2019 and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. Documentation indicates a release may have occurred. If excavation occurs in this area, it is likely that petroleum contamination will be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Coordination will be conducted with IDEM before further site activities occur.

ECOLOGICAL INFORMATION: Coordination with the USFWS and IDNR will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to “Using the USFWS’s IPaC System for Listed Bat Consultation for INDOT Projects”.

Prepared by:  
Scott Farrell  
Project Manager  
American Structurepoint, Inc.

**Graphics:**

SITE LOCATION: YES

INFRASTRUCTURE: YES

WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: YES

MINING/MINERAL EXPLORATION: YES

HAZMAT CONCERNS: YES

BOONE AND HENDRICKS COUNTY ETR LISTING: YES

\*Duplicate mapping removed to reduce file size. - For Project Location Map please see Appendix A, A-1- For USGS Topographic Mapping please see A-2 to A-8- For 2005 Aerial Photography please see A-10 to A-15

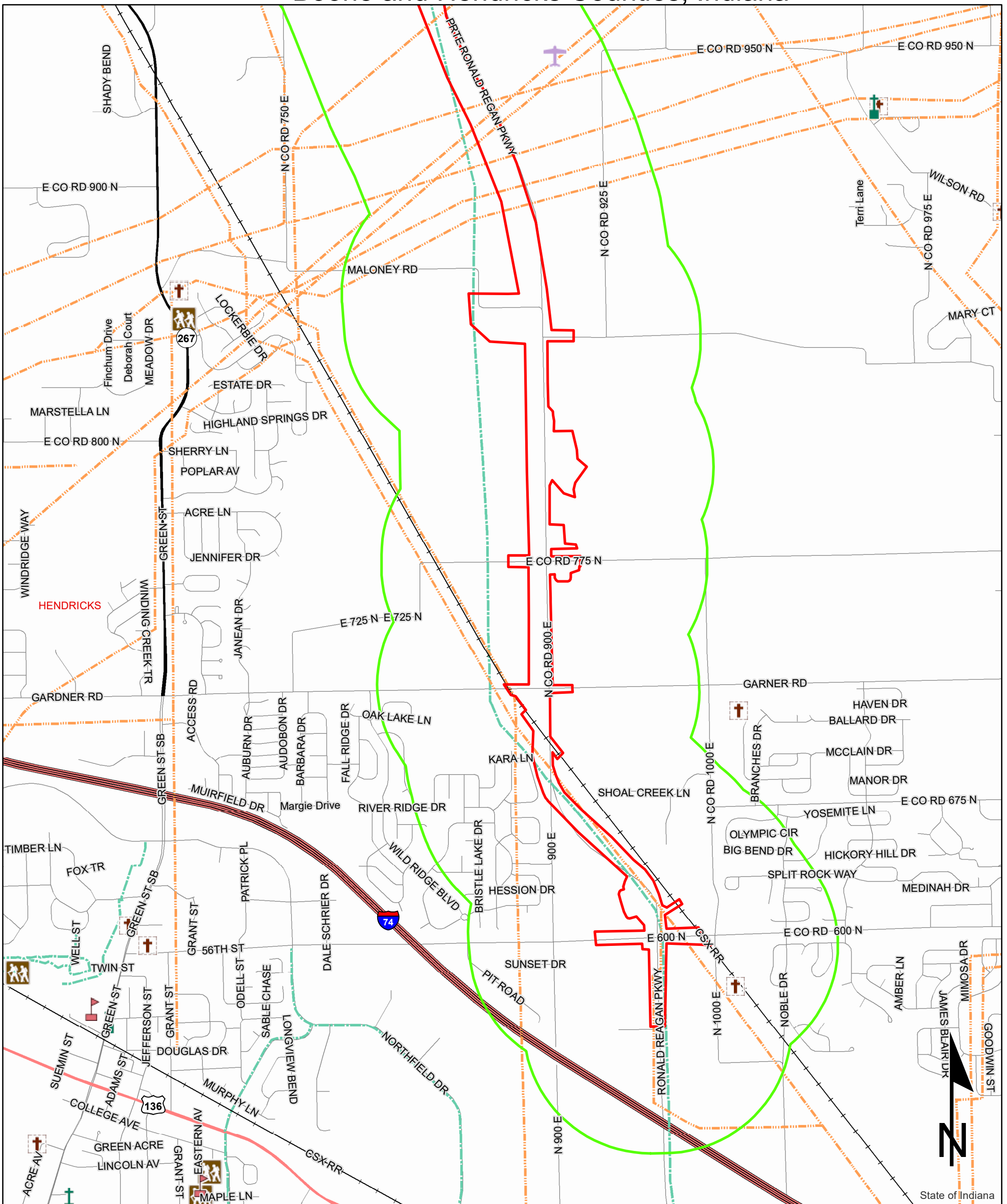
# Red Flag Investigation - Infrastructure Resources

## Ronald Reagan Parkway Extension

### Des. No. 1602280



















### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



**Sources:**  
**Non Orthophotography**  
**Data** - Obtained from the State of Indiana Geographical Information Office Library  
**Orthophotography** - Obtained from Indiana Map Framework Data ([www.indianamap.org](http://www.indianamap.org))  
**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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|  |                    |   |                     |   |                  |
|--|--------------------|---|---------------------|---|------------------|
|  | Religious Facility |  | Recreation Facility |  | Project Area     |
|  | Airport            |  | Pipeline            |  | Half Mile Radius |
|  | Cemeteries         |  | Railroad            |  | Toll             |
|  | Hospital           |  | Trails              |  | Interstate       |
|  | School             |  | Managed Lands       |  | State Route      |
|  |                    |  | County Boundary     |  | US Route         |
|  |                    |   |                     |  | Local Road       |

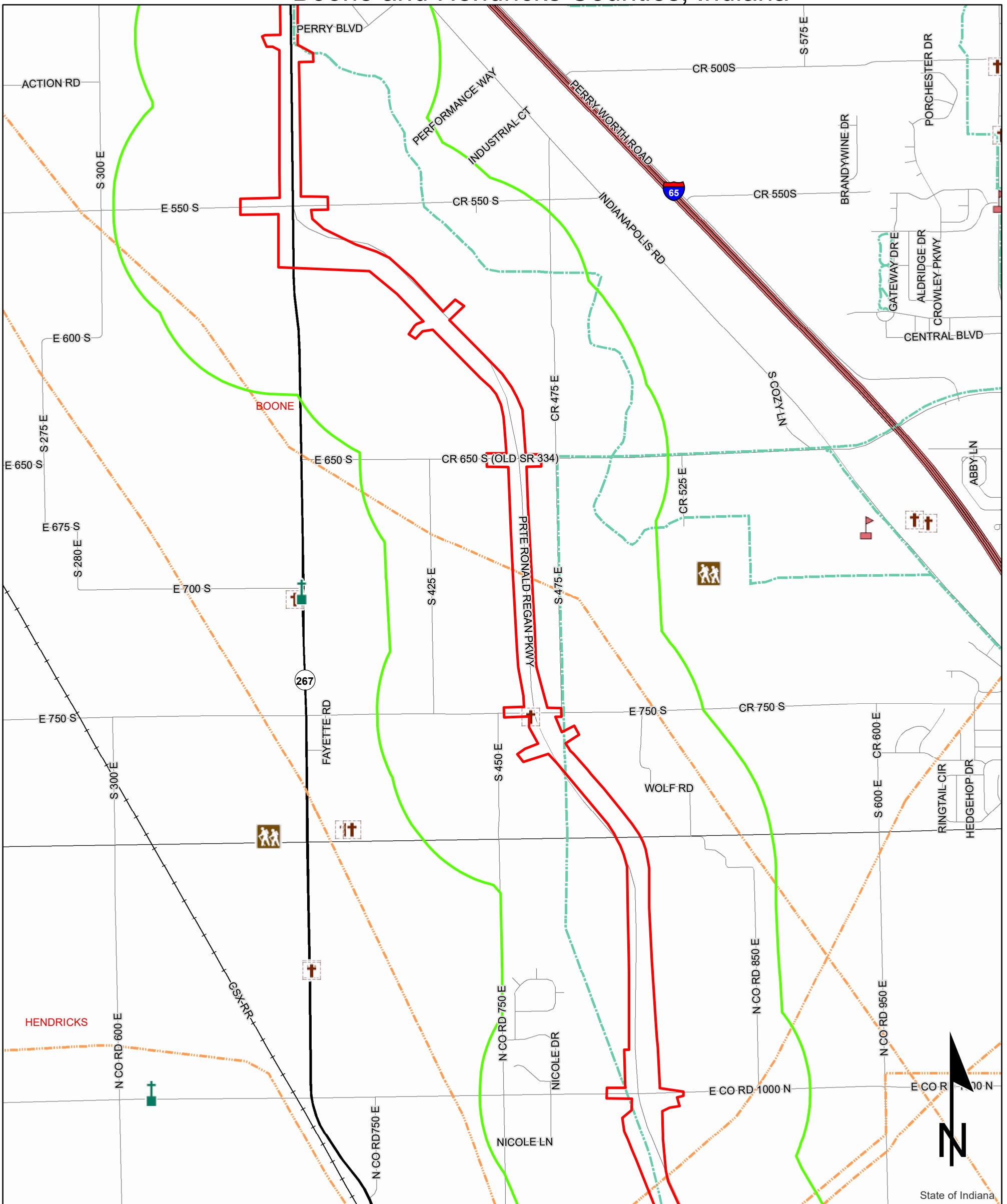
# Red Flag Investigation - Infrastructure Resources

## Ronald Reagan Parkway Extension

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





### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



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|  |                    |  | County Boundary     |  | US Route         |
|  |                    |   |                     |  | Local Road       |



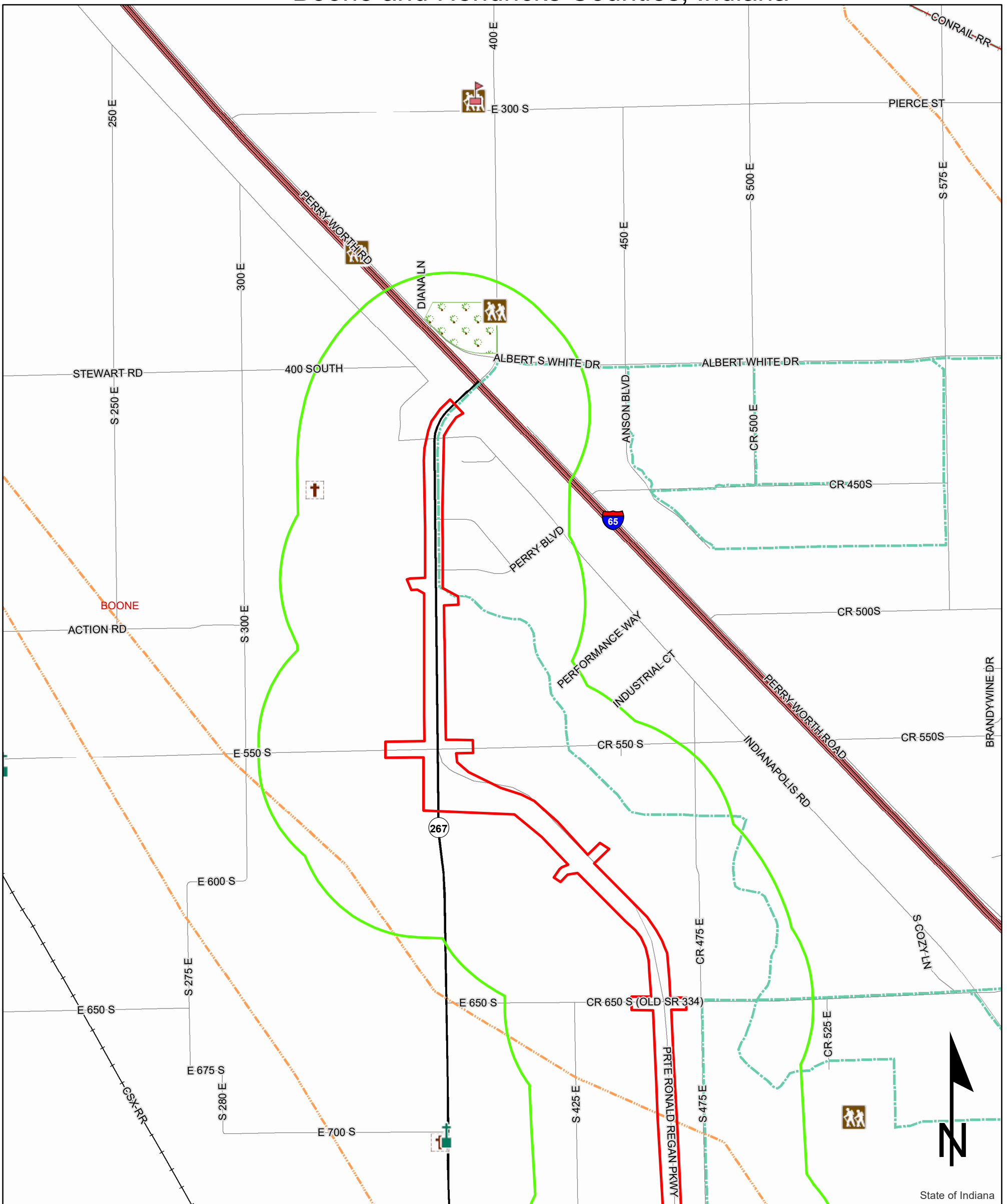
# Red Flag Investigation - Infrastructure Resources

## Ronald Reagan Parkway Extension

### Des. No. 1602280



















### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



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|  |                    |  | County Boundary     |  | US Route         |
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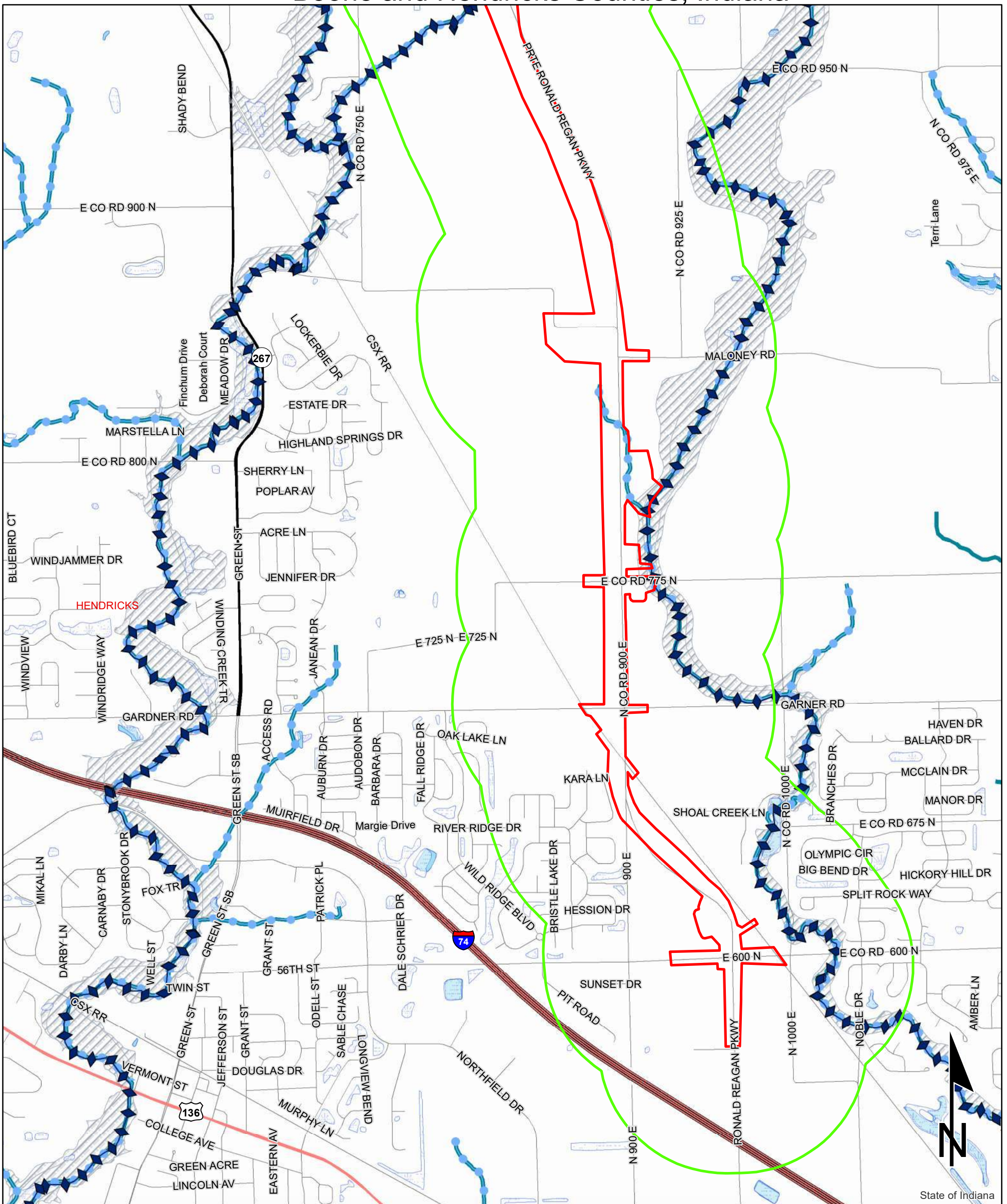
# Red Flag Investigation - Water Resources

## Ronald Reagan Parkway Extension

### Des. No. 1602280

### New Alignment - CR 600 N to I-65

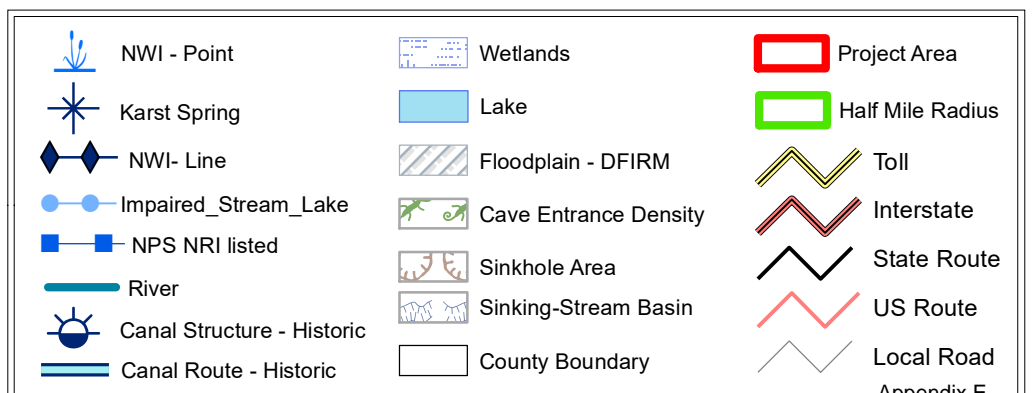
### Boone and Hendricks Counties, Indiana



Sources: 0.5 0.25 0 0.5 Miles

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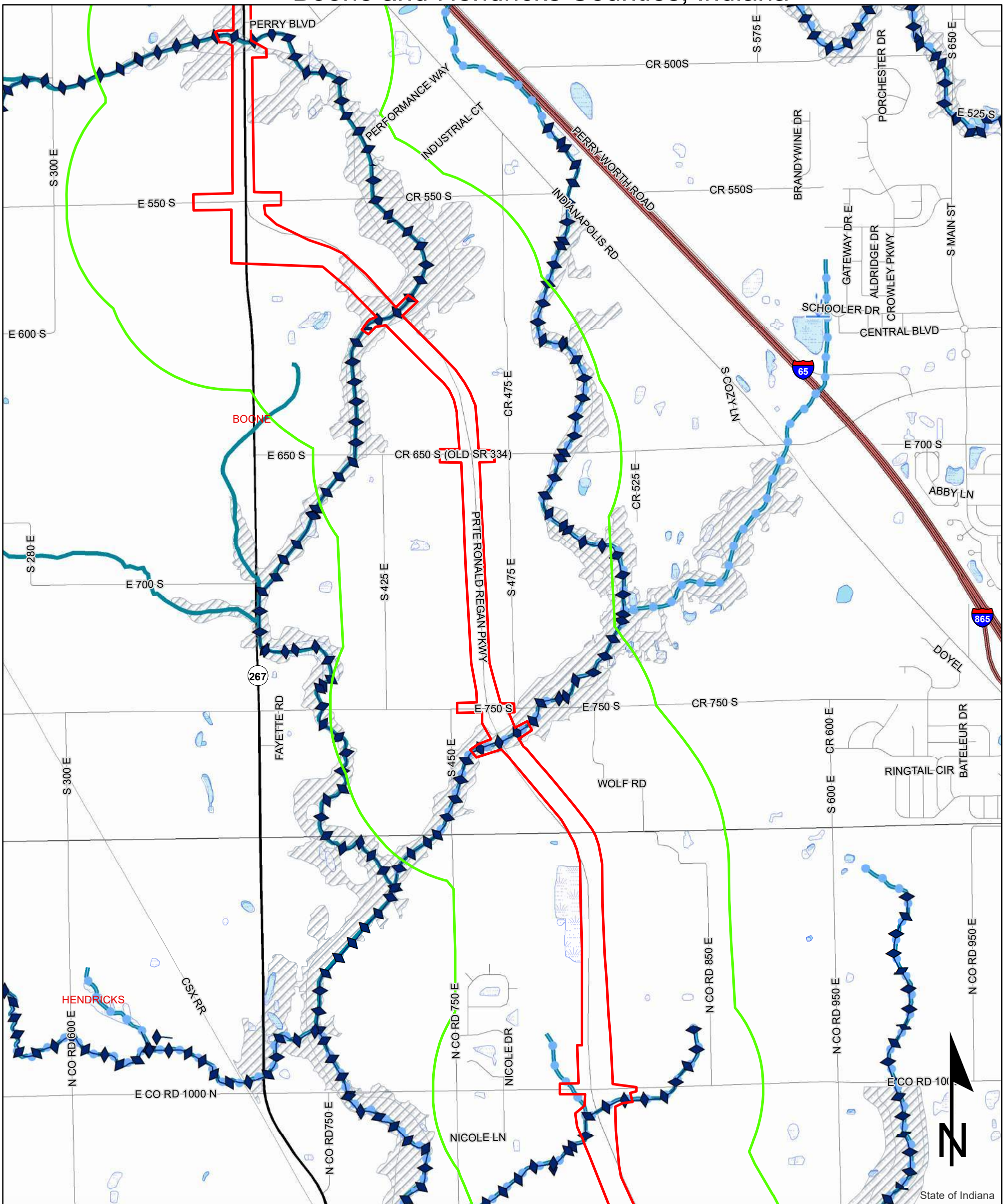
# Red Flag Investigation - Water Resources

## Ronald Reagan Parkway Extension

### Des. No. 1602280

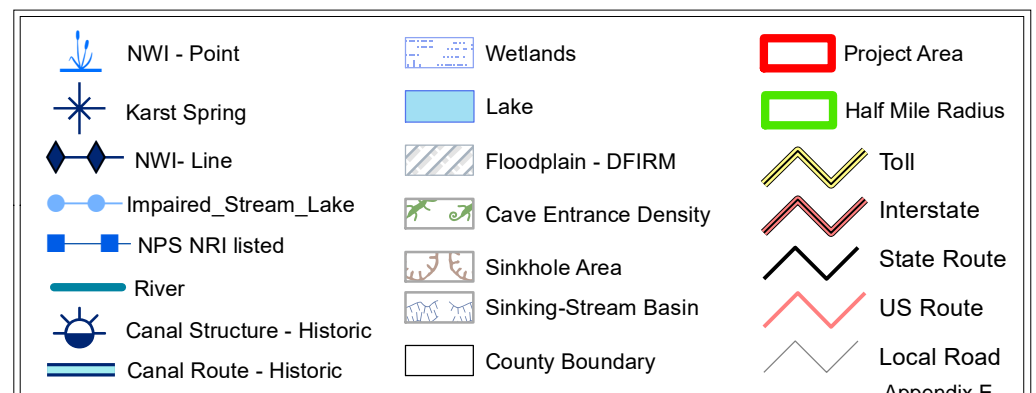
### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



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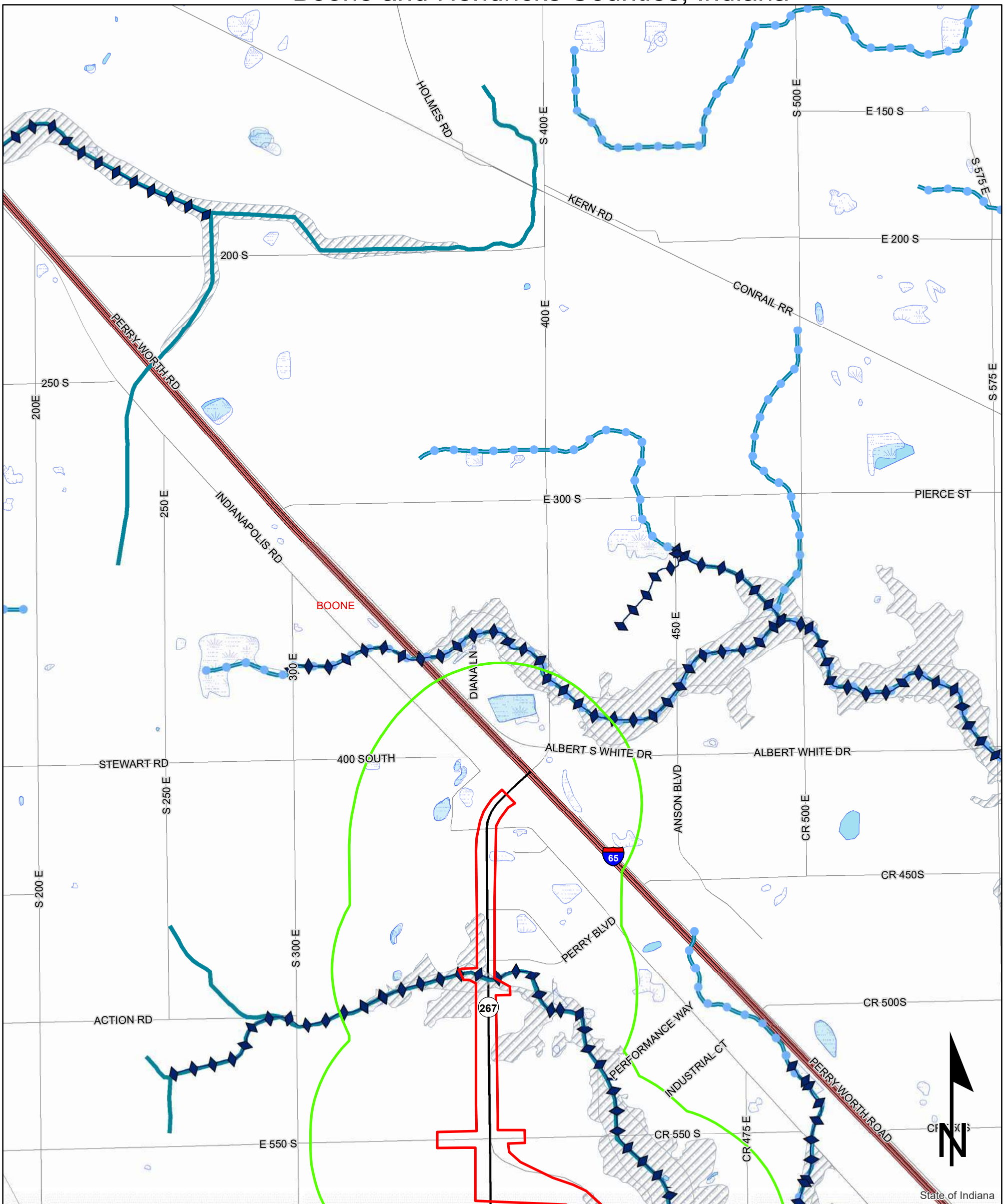
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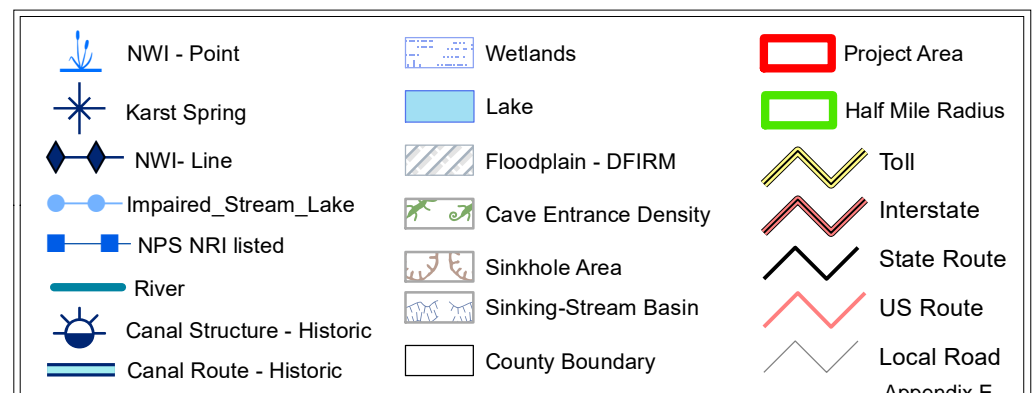
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### Boone and Hendricks Counties, Indiana



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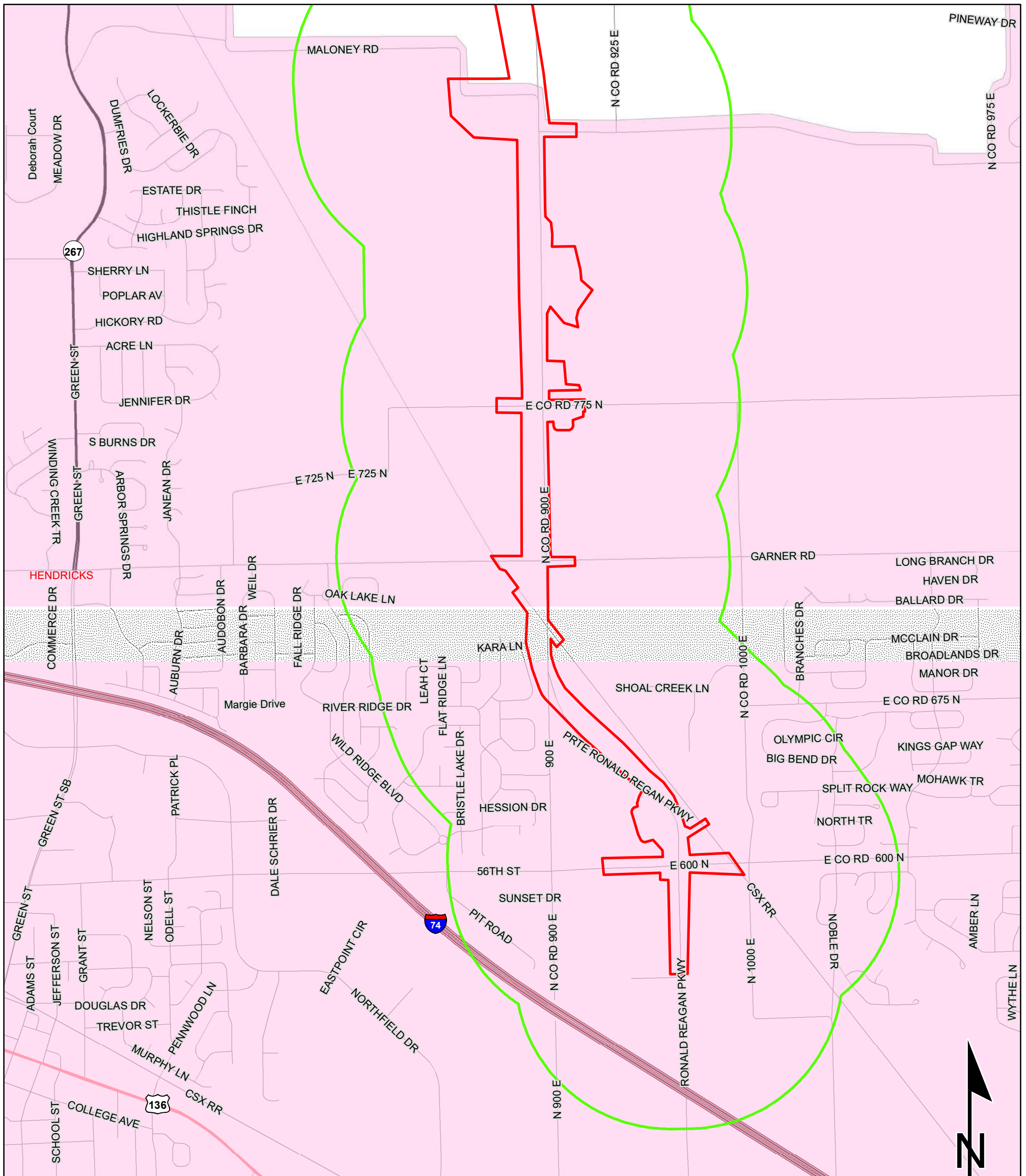
# Red Flag Investigation - Urbanized Area Boundary

## Ronald Reagan Parkway Extension

### Des. No. 1602280

### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



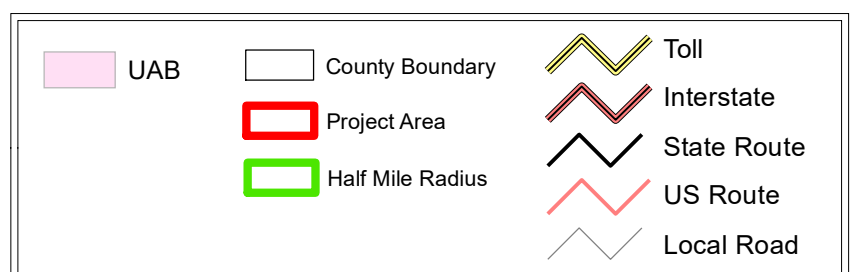
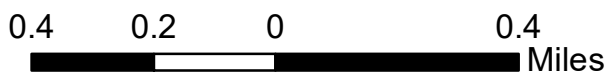
**Sources:**

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**Map Projection:** UTM Zone 16 N **Map Datum:** NAD83

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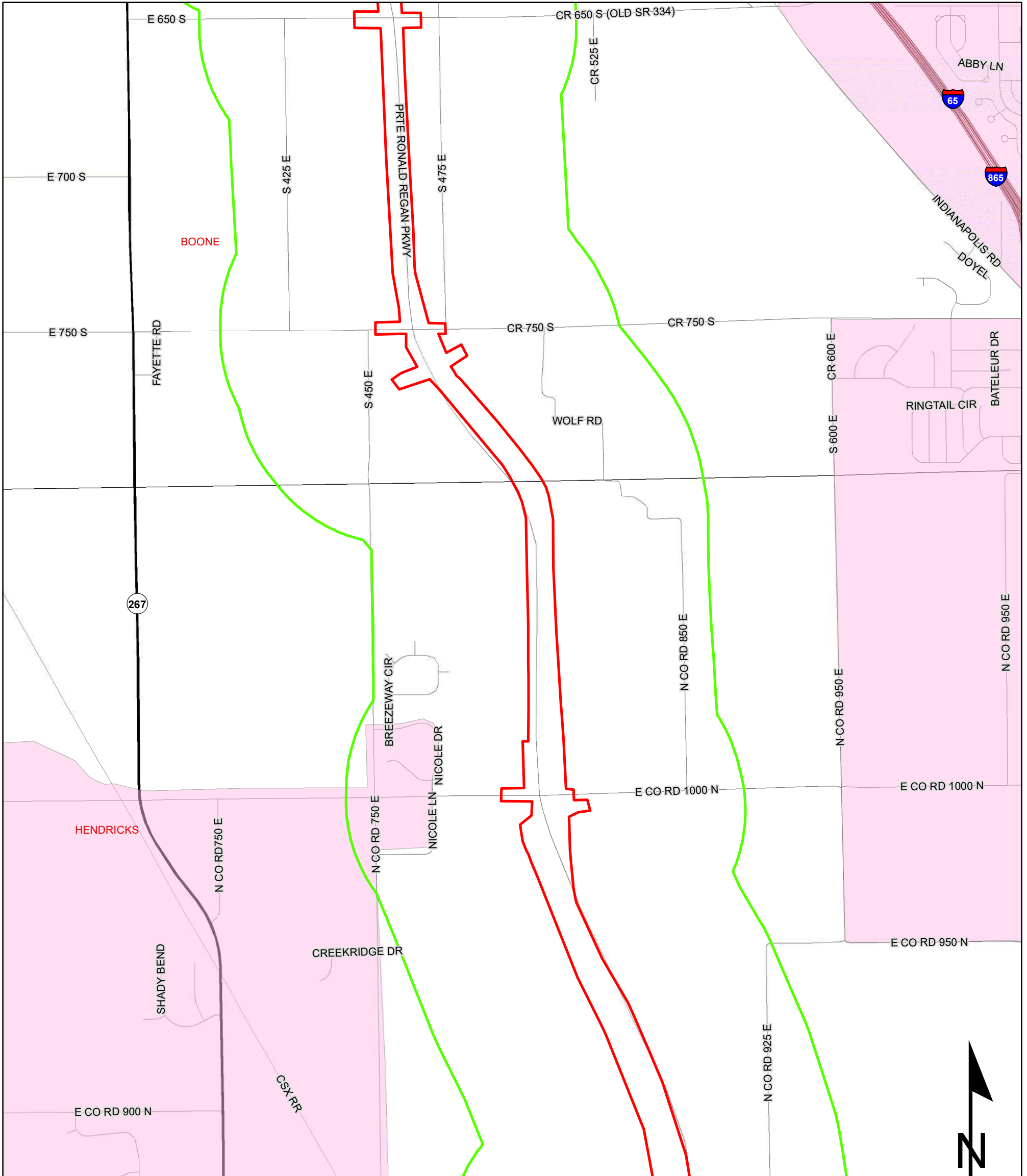
# Red Flag Investigation - Urbanized Area Boundary

## Ronald Reagan Parkway Extension

### Des. No. 1602280

#### New Alignment - CR 600 N to I-65

#### Boone and Hendricks Counties, Indiana



**Sources:**

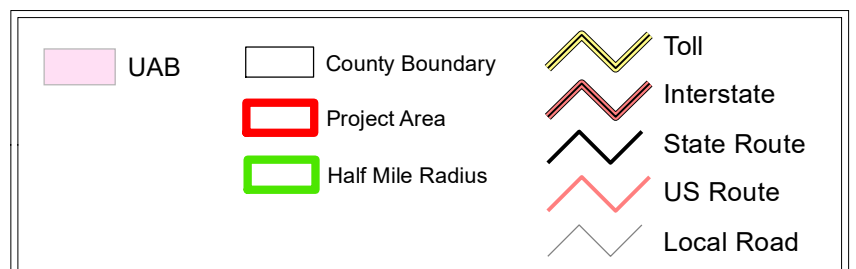
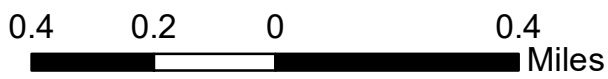
**Non Orthophotography**

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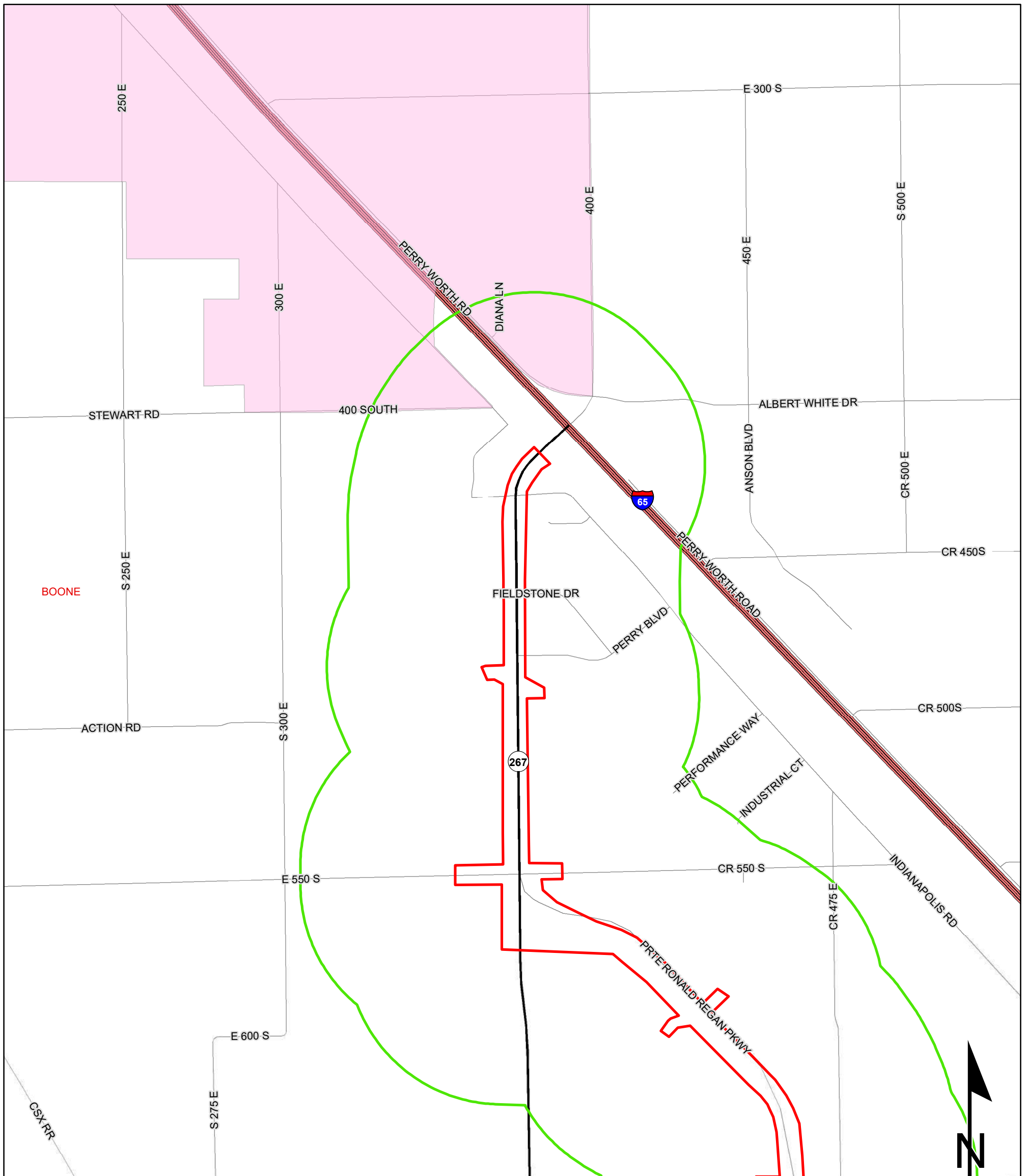
# Red Flag Investigation - Urbanized Area Boundary

## Ronald Reagan Parkway Extension

### Des. No. 1602280

### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



**Sources:**

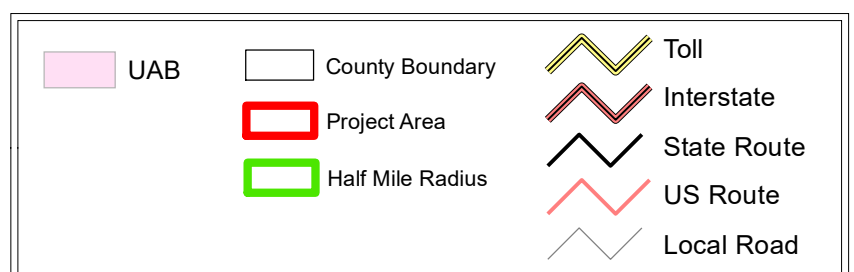
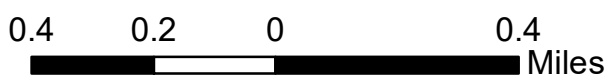
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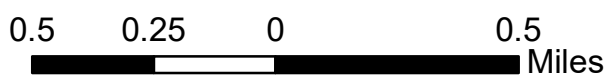
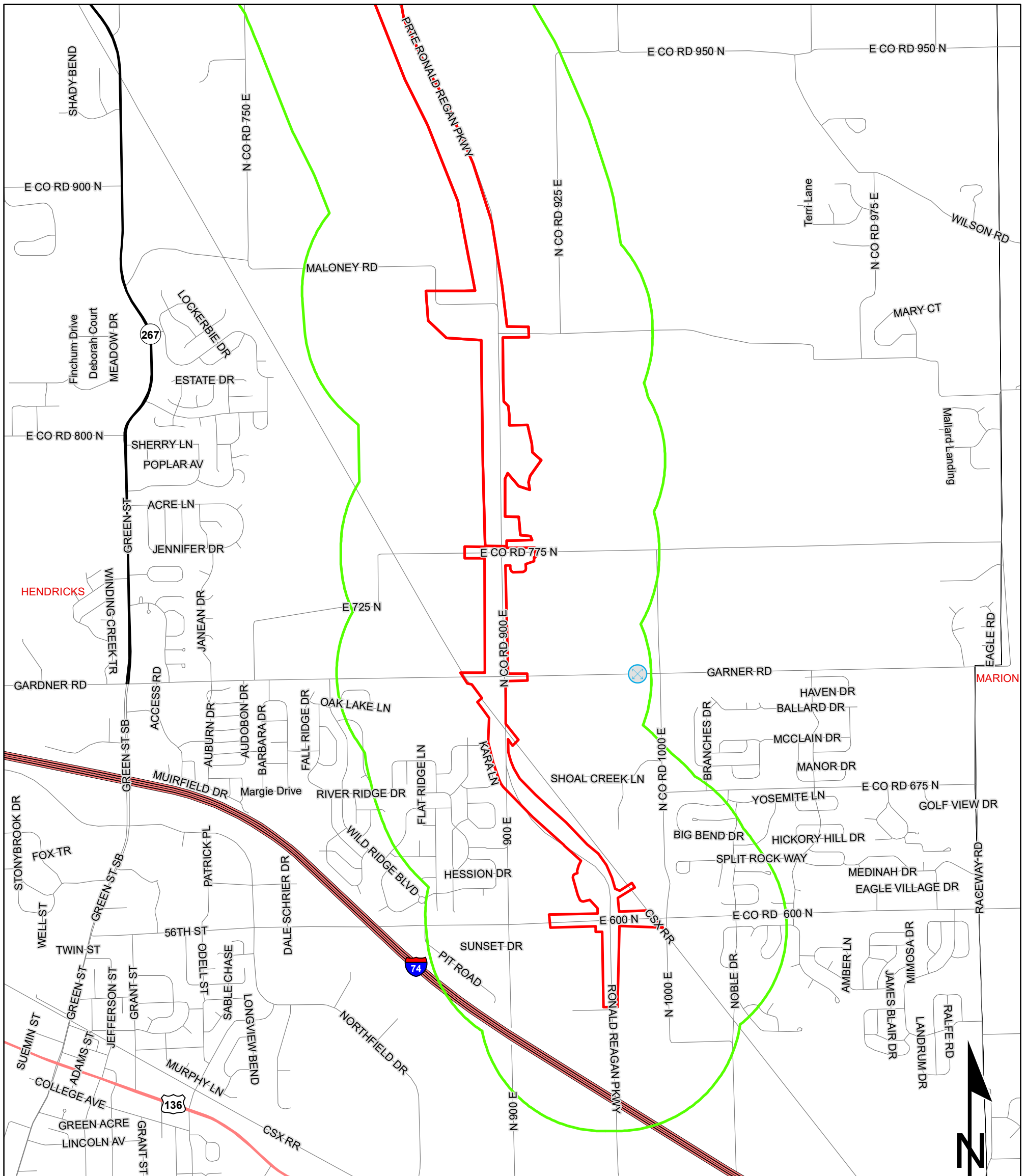
# Red Flag Investigation - Mining/Mineral Resources

## Ronald Reagan Parkway Extension

### Des. No. 1602280

### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



**Sources:**

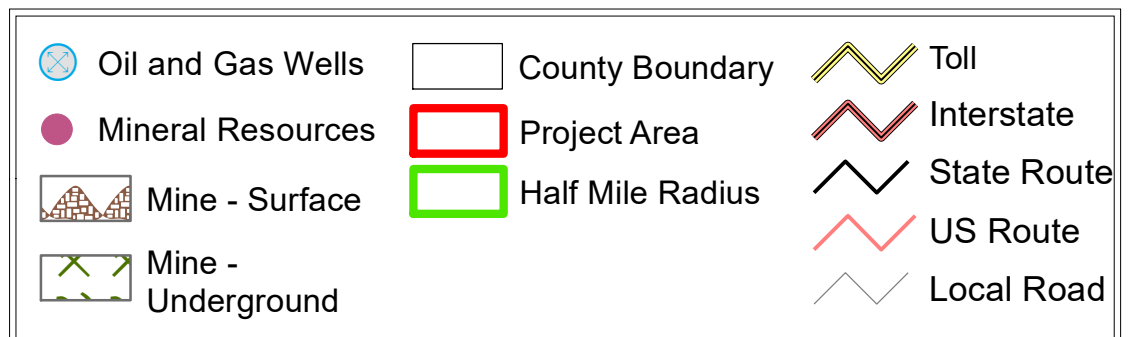
**Non Orthophotography**

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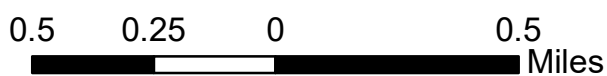
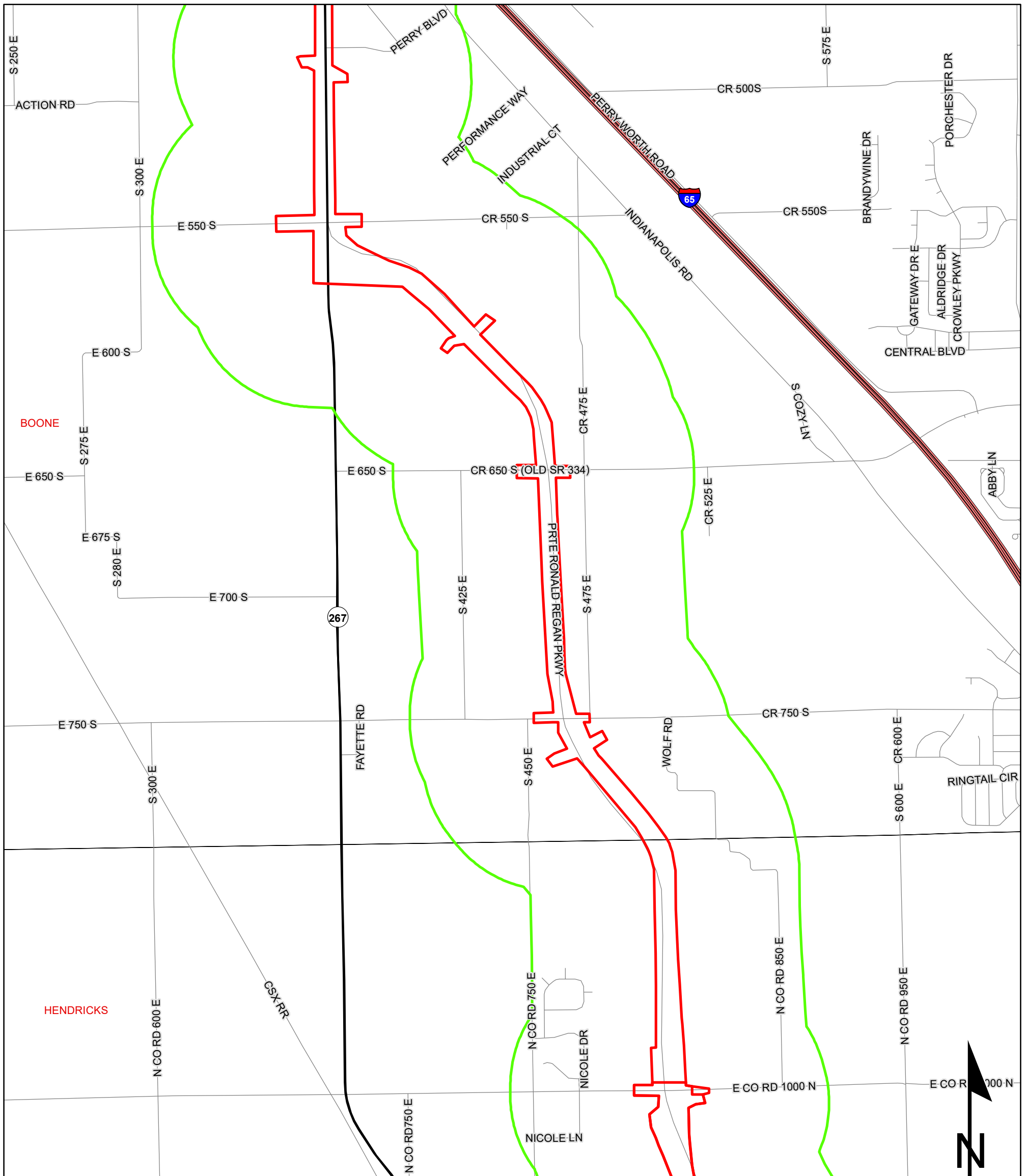
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## Ronald Reagan Parkway Extension

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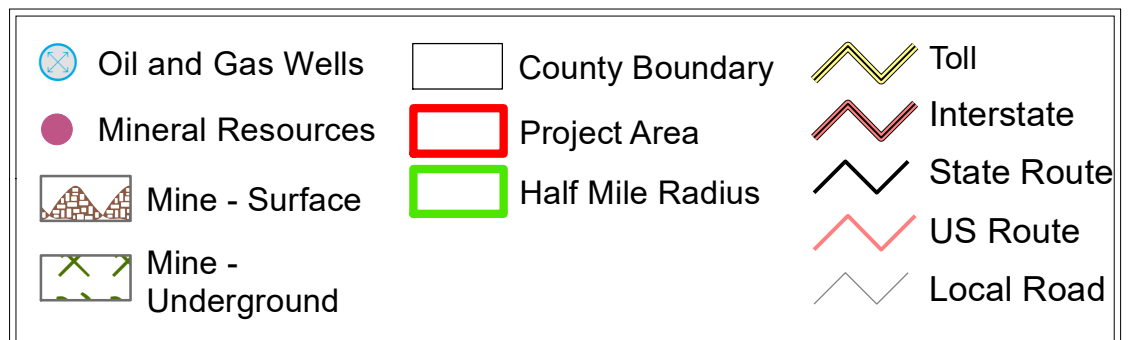
### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



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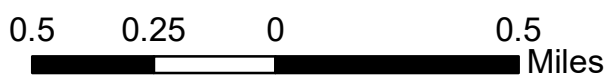
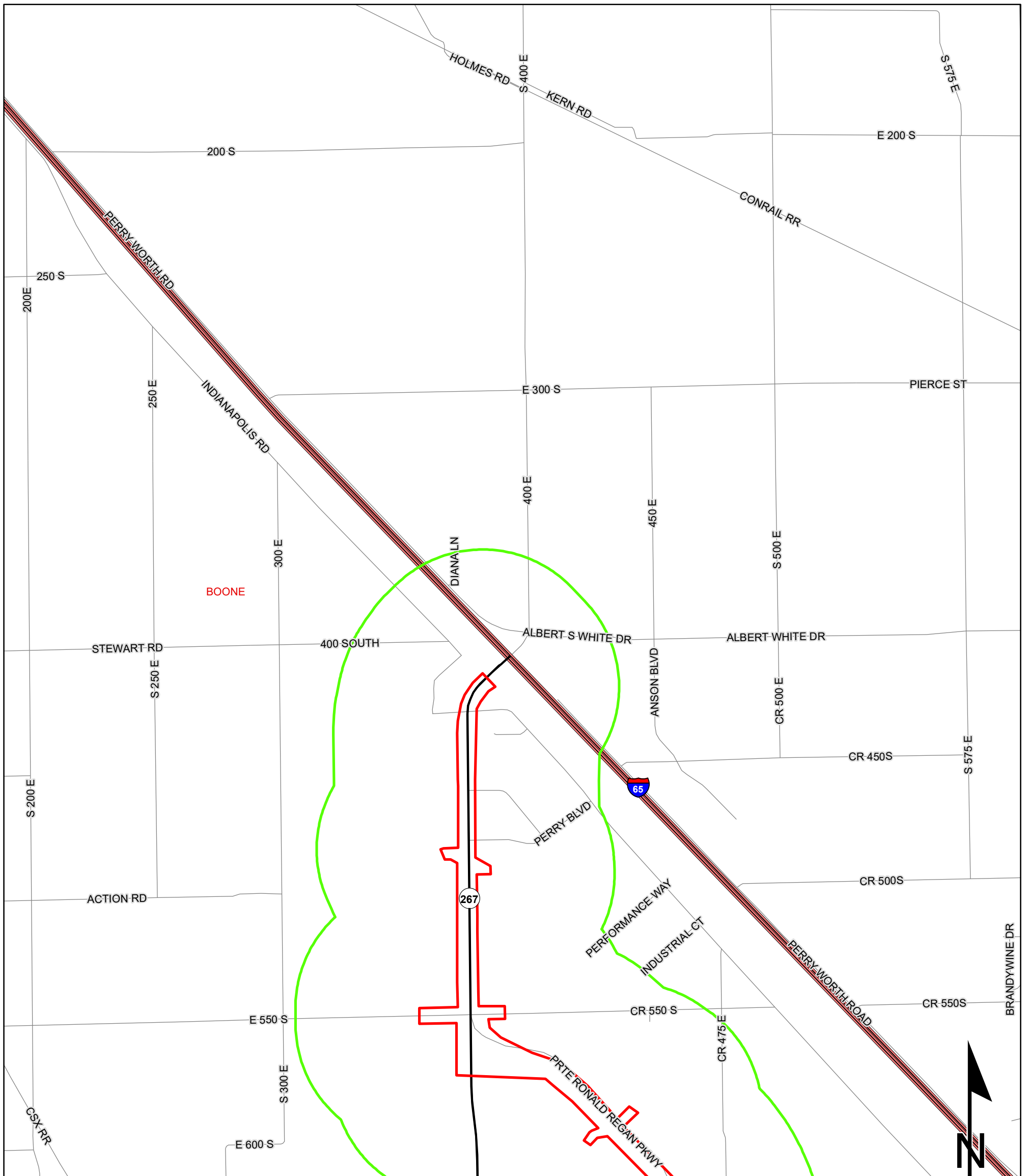
# Red Flag Investigation - Mining/Mineral Resources

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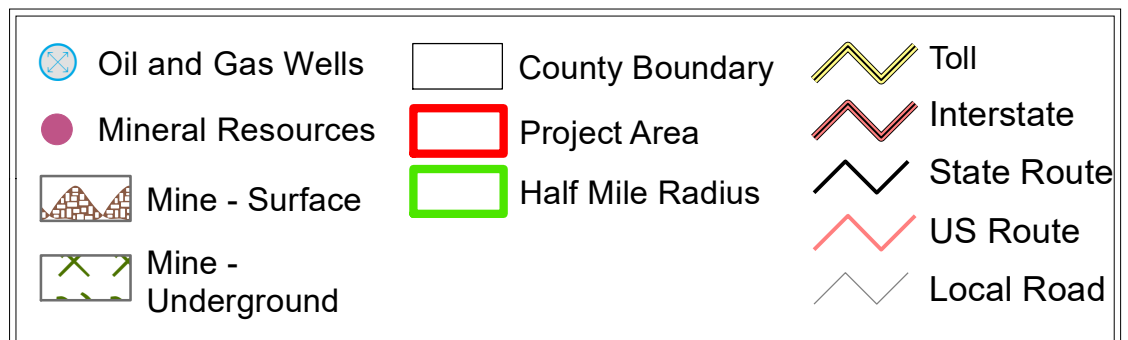
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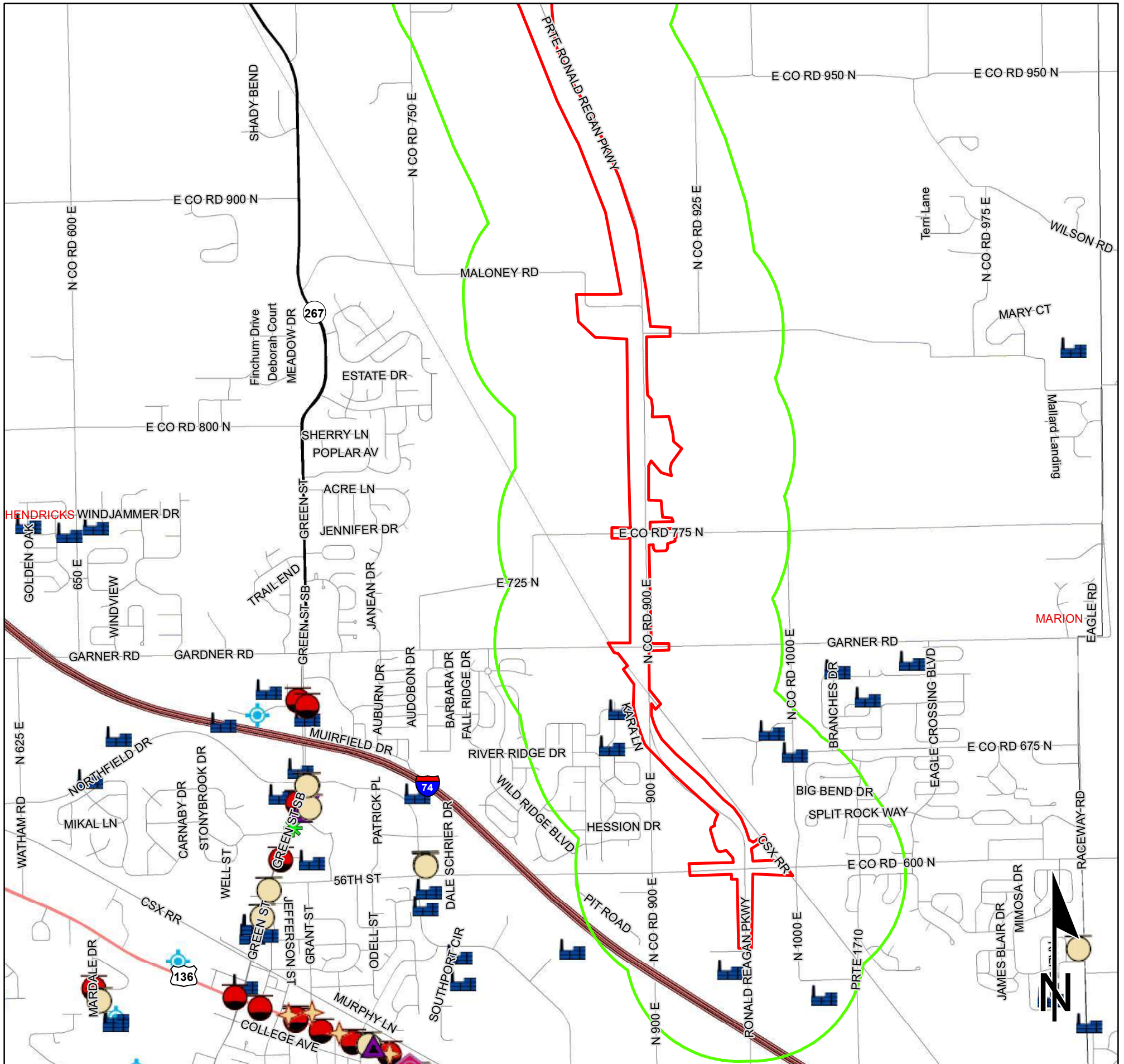
# Red Flag Investigation - Hazardous Materials Concerns Resources

## Ronald Reagan Parkway Extension

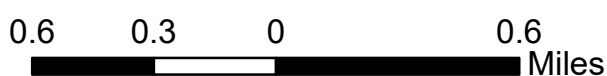
### Des. No. 1602280

### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



|  |                                  |  |                               |  |                        |
|--|----------------------------------|--|-------------------------------|--|------------------------|
|  | Brownfield                       |  | RCRA Generator/TSD            |  | Institutional Controls |
|  | RCRA Corrective Action Sites     |  | Restricted Waste Site         |  | County Boundary        |
|  | Confined Feeding Operation       |  | Septage Waste Site            |  | Project Area           |
|  | Notice_of_Contamination          |  | Solid Waste Landfill          |  | Half Mile Radius       |
|  | Construction/Demolition Site     |  | State Cleanup Site            |  | Toll                   |
|  | Infectious/Medical Waste Site    |  | Superfund                     |  | Interstate             |
|  | Leaking Underground Storage Tank |  | Tire Waste Site               |  | State Route            |
|  | Manufactured Gas Plant           |  | Underground Storage Tank      |  | US Route               |
|  | NPDES Facilities                 |  | Voluntary Remediation Program |  | Local Road             |
|  | NPDES Pipe Locations             |  | Waste Transfer Station        |  |                        |
|  | Open Dump Waste Site             |  |                               |  |                        |



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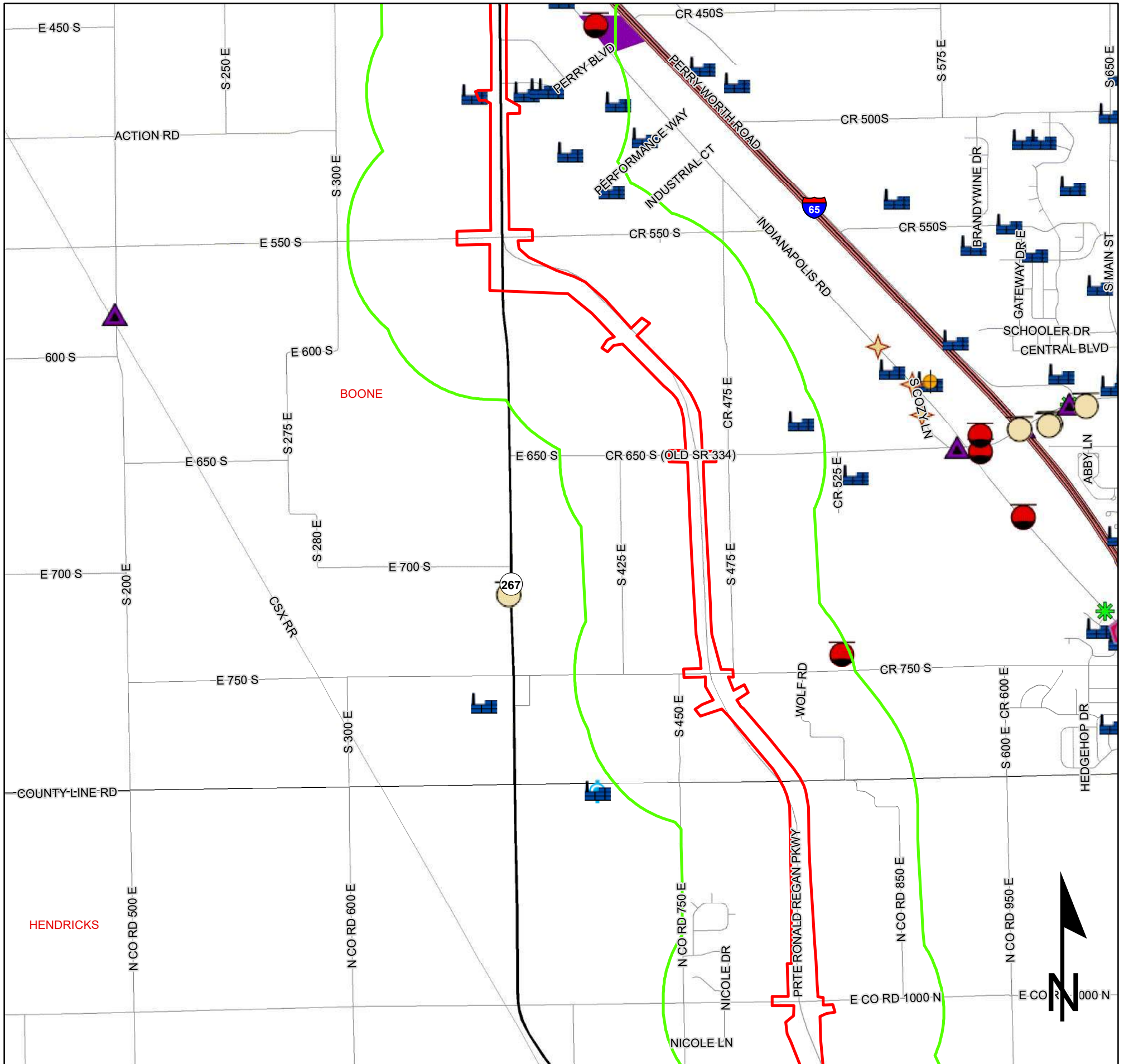
# Red Flag Investigation - Hazardous Materials Concerns Resources

## Ronald Reagan Parkway Extension

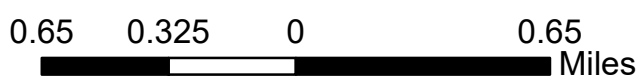
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### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



|  |                                  |  |                               |  |                        |
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|  | Manufactured Gas Plant           |  | Underground Storage Tank      |  | US Route               |
|  | NPDES Facilities                 |  | Voluntary Remediation Program |  | Local Road             |
|  | NPDES Pipe Locations             |  | Waste Transfer Station        |  |                        |
|  | Open Dump Waste Site             |  |                               |  |                        |



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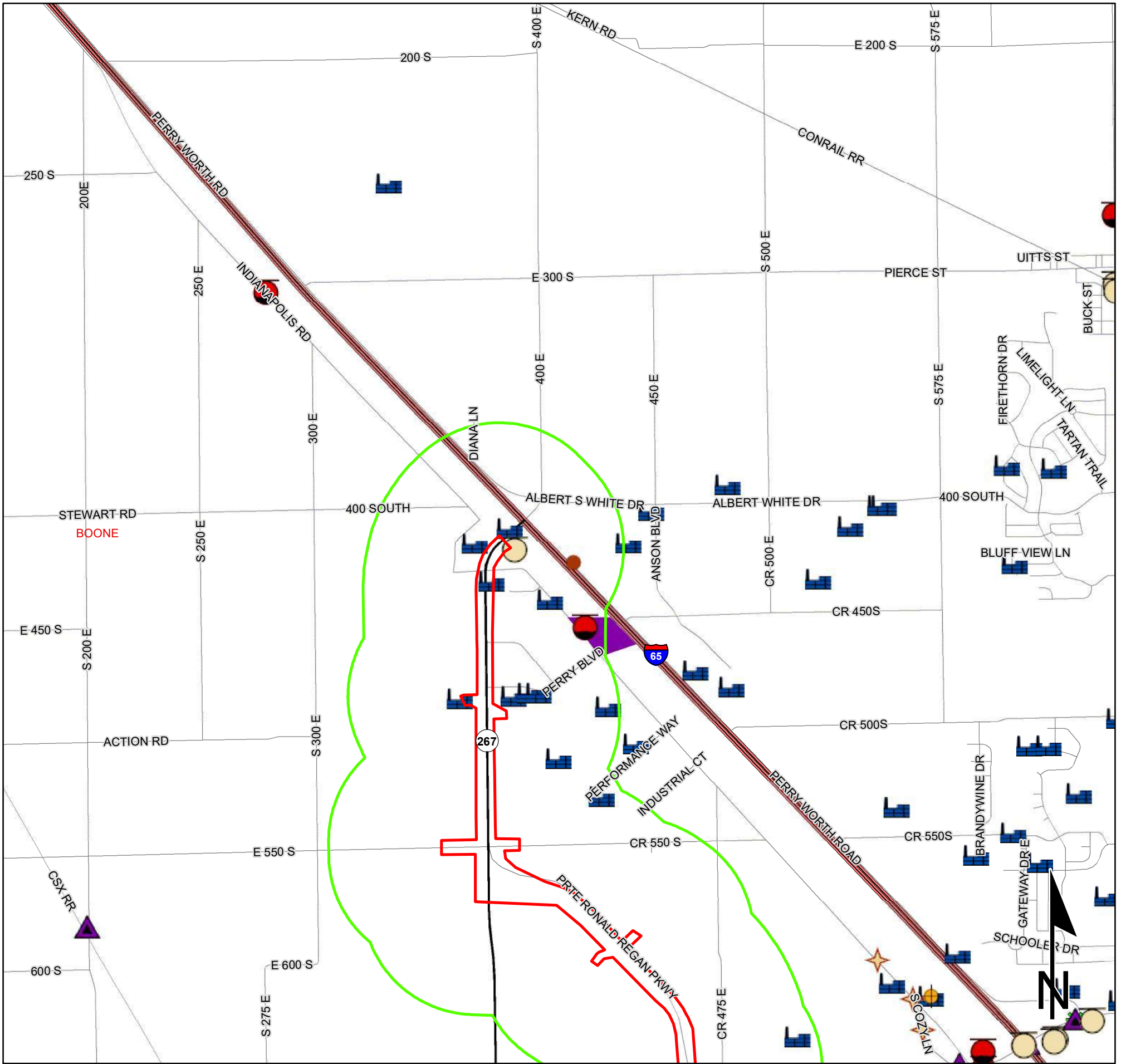
# Red Flag Investigation - Hazardous Materials Concerns Resources

## Ronald Reagan Parkway Extension

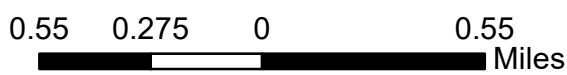
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### New Alignment - CR 600 N to I-65

### Boone and Hendricks Counties, Indiana



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 Map Projection: UTM Zone 16 N Map Datum: NAD83

# Indiana County Endangered, Threatened and Rare Species List

## County: Boone

| Species Name                          | Common Name                         | FED       | STATE     | GRANK        | SRANK      |
|---------------------------------------|-------------------------------------|-----------|-----------|--------------|------------|
| <b>Mollusk: Bivalvia (Mussels)</b>    |                                     |           |           |              |            |
| <b>Fusconaia subrotunda</b>           | <b>Longsolid</b>                    |           | <b>SE</b> | <b>G3</b>    | <b>SX</b>  |
| Lampsilis fasciola                    | Wavyrayed Lampmussel                |           | SSC       | G5           | S3         |
| Ptychobranchus fasciolaris            | Kidneyshell                         |           | SSC       | G4G5         | S2         |
| Toxolasma lividus                     | Purple Lilliput                     |           | SSC       | G3Q          | S2         |
| Villosa lienosa                       | Little Spectaclecase                |           | SSC       | G5           | S3         |
| <b>Amphibian</b>                      |                                     |           |           |              |            |
| Acris blanchardi                      | Northern Cricket Frog               |           | SSC       | G5           | S4         |
| Lithobates pipiens                    | Northern Leopard Frog               |           | SSC       | G5           | S2         |
| <b>Bird</b>                           |                                     |           |           |              |            |
| <b>Ammodramus henslowii</b>           | <b>Henslow's Sparrow</b>            |           | <b>SE</b> | <b>G4</b>    | <b>S3B</b> |
| <b>Bartramia longicauda</b>           | <b>Upland Sandpiper</b>             |           | <b>SE</b> | <b>G5</b>    | <b>S3B</b> |
| Buteo lineatus                        | Red-shouldered Hawk                 |           | SSC       | G5           | S3         |
| Chordeiles minor                      | Common Nighthawk                    |           | SSC       | G5           | S4B        |
| <b>Cistothorus palustris</b>          | <b>Marsh Wren</b>                   |           | <b>SE</b> | <b>G5</b>    | <b>S3B</b> |
| <b>Cistothorus platensis</b>          | <b>Sedge Wren</b>                   |           | <b>SE</b> | <b>G5</b>    | <b>S3B</b> |
| <b>Dendroica cerulea</b>              | <b>Cerulean Warbler</b>             |           | <b>SE</b> | <b>G4</b>    | <b>S3B</b> |
| Helmitheros vermivorus                | Worm-eating Warbler                 |           | SSC       | G5           | S3B        |
| <b>Ixobrychus exilis</b>              | <b>Least Bittern</b>                |           | <b>SE</b> | <b>G5</b>    | <b>S3B</b> |
| Mniotilta varia                       | Black-and-white Warbler             |           | SSC       | G5           | S1S2B      |
| <b>Nycticorax nycticorax</b>          | <b>Black-crowned Night-heron</b>    |           | <b>SE</b> | <b>G5</b>    | <b>S1B</b> |
| <b>Rallus elegans</b>                 | <b>King Rail</b>                    |           | <b>SE</b> | <b>G4</b>    | <b>S1B</b> |
| <b>Rallus limicola</b>                | <b>Virginia Rail</b>                |           | <b>SE</b> | <b>G5</b>    | <b>S3B</b> |
| Sturnella neglecta                    | Western Meadowlark                  |           | SSC       | G5           | S2B        |
| <b>Tyto alba</b>                      | <b>Barn Owl</b>                     |           | <b>SE</b> | <b>G5</b>    | <b>S2</b>  |
| Wilsonia citrina                      | Hooded Warbler                      |           | SSC       | G5           | S3B        |
| <b>Mammal</b>                         |                                     |           |           |              |            |
| Lasiurus borealis                     | Eastern Red Bat                     |           | SSC       | G5           | S4         |
| <b>Myotis sodalis</b>                 | <b>Indiana Bat or Social Myotis</b> | <b>LE</b> | <b>SE</b> | <b>G2</b>    | <b>S1</b>  |
| Taxidea taxus                         | American Badger                     |           | SSC       | G5           | S2         |
| <b>Vascular Plant</b>                 |                                     |           |           |              |            |
| <b>Crataegus grandis</b>              | <b>Grand Hawthorn</b>               |           | <b>SE</b> | <b>G3G5Q</b> | <b>S1</b>  |
| Juglans cinerea                       | Butternut                           |           | WL        | G4           | S3         |
| <b>Plantago cordata</b>               | <b>Heart-leaved Plantain</b>        |           | <b>SE</b> | <b>G4</b>    | <b>S1</b>  |
| <b>High Quality Natural Community</b> |                                     |           |           |              |            |
| Forest - flatwoods central till plain | Central Till Plain Flatwoods        |           | SG        | G3           | S2         |
| Forest - floodplain wet-mesic         | Wet-mesic Floodplain Forest         |           | SG        | G3?          | S3         |

Indiana Natural Heritage Data Center  
Division of Nature Preserves  
Indiana Department of Natural Resources  
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting  
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list  
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank  
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

## Indiana County Endangered, Threatened and Rare Species List

### County: Hendricks

| Species Name                          | Common Name                  | FED | STATE | GRANK   | SRANK |
|---------------------------------------|------------------------------|-----|-------|---------|-------|
| <b>Mollusk: Bivalvia (Mussels)</b>    |                              |     |       |         |       |
| Ptychobranchus fasciolaris            | Kidneyshell                  |     | SSC   | G4G5    | S2    |
| Villosa lienosa                       | Little Spectaclecase         |     | SSC   | G5      | S3    |
| <b>Insect: Odonata (Damselflies)</b>  |                              |     |       |         |       |
| Enallagma divagans                    | Turquoise Bluet              |     | SR    | G5      | S3    |
| <b>Reptile</b>                        |                              |     |       |         |       |
| Sistrurus catenatus catenatus         | Eastern Massasauga           | C   | SE    | G3G4T3Q | S2    |
| <b>Bird</b>                           |                              |     |       |         |       |
| Bartramia longicauda                  | Upland Sandpiper             |     | SE    | G5      | S3B   |
| Cistothorus platensis                 | Sedge Wren                   |     | SE    | G5      | S3B   |
| Dendroica cerulea                     | Cerulean Warbler             |     | SE    | G4      | S3B   |
| <b>Mammal</b>                         |                              |     |       |         |       |
| Myotis sodalis                        | Indiana Bat or Social Myotis | LE  | SE    | G2      | S1    |
| Nycticeius humeralis                  | Evening Bat                  |     | SE    | G5      | S1    |
| Taxidea taxus                         | American Badger              |     | SSC   | G5      | S2    |
| <b>Vascular Plant</b>                 |                              |     |       |         |       |
| Juglans cinerea                       | Butternut                    |     | WL    | G4      | S3    |
| Poa paludigena                        | Bog Bluegrass                |     | WL    | G3      | S3    |
| <b>High Quality Natural Community</b> |                              |     |       |         |       |
| Forest - flatwoods central till plain | Central Till Plain Flatwoods |     | SG    | G3      | S2    |
| Wetland - seep circumneutral          | Circumneutral Seep           |     | SG    | GU      | S1    |

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SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

**Appendix F: Water Resources and Ecological Information**





## WETLAND DELINEATION AND WATERS REPORT

RONALD REAGAN PARKWAY

FROM HENDRICKS COUNTY ROAD 600 NORTH TO INTERSTATE 65



Prepared for:

HENDRICKS COUNTY COMMISSIONERS  
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DANVILLE, INDIANA 46122

BOONE COUNTY COMMISSIONERS  
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November 16, 2017

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**Appendix A - Aquatic Resource Summary Tables**

**Appendix B - Routine Wetland Determination Data Forms**

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**Appendix D - Mapping**

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## 1.0 Introduction

American Structurepoint, Inc. was contracted by Boone and Hendricks County, to perform a wetland delineation on the Ronald Reagan Parkway extension. The project begins at Hendricks County Road (CR) 600 N and extends northerly to the Interstate 65 (I-65) interchange with State Road (SR) 267. The investigated area is of variable width between approximately 350 to 800 feet wide with intersection widths of approximately 1,200 to 2,300 feet. The study area is more specifically located on the Clermont, Fayette, and Zionsville USGS 7.5 Minute Quadrangle Map in Sections 6, 7, Township 16 North, Range 2 East and Section 1, Township 16 North, Range 1 East, Sections 2, 11, 12, 13, 14, 23, 24, 25, 36, Township 17 North, Range 1 East, and Sections 27, 34, 35, Township 18 North, Range 1 East. The location and approximate boundaries of the investigated area can be seen in the attached maps and aerial photographs (Appendix D).

Preliminary investigation of available data depicted the investigated area is predominantly agricultural rowcrops. The USGS Topographic Map, and the *1974 Hendricks County* and *1975 Boone County Soil Surveys* depicted School Branch, Pump Run, Martin-Dugan Ditch, Etter Ditch, and White Lick Creek within the investigated area. The USGS Topographic Map also depicted an unnamed tributary to School Branch north of Hendricks CR 750 N. The soil surveys depicted a different unnamed tributary to School Branch north of Hendricks CR 600 N and an unnamed tributary to Etter Ditch south of Boone CR 750 S. The National Wetland Inventory depicted two mapped wetlands within the investigated area. Three mapped Federal Emergency Management Agency 100-year floodplains are located within the investigated area. The floodplains are associated with School Branch, Etter Ditch and White Lick Creek. Fourteen legal drains are located within the investigated area, five within Hendricks County and nine within Boone County.

The predominant soil types on this site are Brookston silty clay loam, Crosby silt loam, Crosby-Miami silt loams, Cyclone silty clay loam, Fincastle silt loam, Fox loam, Mahalasville silty clay loam, Miami silt loam, Miami clay loam, Treaty silty clay loam, and Williamstown-Crosby silt loams. The Brookston silty clay loam, Cyclone silty clay loam, Mahalasville silty clay loam and the Treaty silty clay loam are mapped hydric soils.

American Structurepoint staff visited the site on October 10, 11 and 31, 2016, January 11, 2017, and June 3, 2017 to conduct a wetland delineation. The proposed project is located in Land Resource Region (LRR) M, as recognized by the US Department of Agriculture. As such, this wetland delineation was conducted in accordance with the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (U.S. Army Corps of Engineers, 2010).

Twenty-nine wetlands and nine streams were identified within the investigated areas. The total delineated wetland acreage within the investigated area is approximately 4.05 acres. Stream length within the investigated area totals approximately 7,897 linear feet and 1.424 acres. One retention pond was delineated within the investigated area, totaling 0.43 acre and 355 linear feet of shoreline. Nine streams, and thirteen wetlands (Wetland 6N-B to Wetland 6N-H, Wetland 6N-J, Wetland 9N-B, Wetland 9N-C, and Wetland 5S-A to Wetland 5S-C) are anticipated to be considered jurisdictional "waters of the US." A total of ten wetlands (Wetland 9N-A, Wetland 9N-D, Wetland 10N-A, Wetland 10N-B, Wetland 8S-A, Wetland 7S-A to Wetland 7S-C, Wetland 6S-A and Wetland 6S-B) did not have a hydrologic connection to a TNW. Therefore these ten wetlands would be considered an isolated "waters of the State." A total of six wetlands (Wetland 6N-A, Wetland 6N-I, Wetland 6N-K and Wetland 5S-D to Wetland 5S-F) were wholly contained within the ditchline

of roadside ditches and constructed in mapped hydric soils. Therefore, these six wetlands are anticipated to be considered jurisdictional “waters of the State.” The retention pond is a stormwater improvement best management practice created by adjacent development, therefore the pond is proposed to be exempt from the clean water act jurisdiction.

## 2.0 Definitions

### 2.1 “Waters of the US”

“Waters of the US” are within the jurisdiction of the US Department of the Army Corps of Engineers (USACE) under the Clean Water Act of 1972, Section 404. “Waters of the US” is a broad term that describes all interstate waters and any water that affects interstate traffic or commerce. Included are wetlands and tributaries adjacent to navigable “waters of the US” and other waters where degradation or destruction could affect interstate or foreign commerce. This includes rivers, streams, wetlands, and many ditches where permits are required for the discharge of dredged or fill material pursuant to Section 404 of the Clean Water Act.

### 2.2 “Waters of the State” and Isolated Wetlands

“Waters of the State” include all intrastate waters and wetlands that are not hydrologically connected or adjacent to interstate waters. “Waters of the State” include isolated wetlands determined not to be “waters of the US” or jurisdictional wetlands under the January 9, 2001, US Supreme Court ruling [see *Solid Waste Agency of Northern Cook County (SWANCC) v. US Army Corps of Engineers*]. Isolated wetlands refer to those non-tidal “waters of the US” that are not part of a surface tributary in interstate/navigable waters and are not adjacent to such tributary water bodies.

### 2.3 Wetlands

Wetlands are “waters of the US” or “waters of the State”. Section 404 of the Clean Water Act defines wetlands as those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal conditions do support a prevalence of vegetation typically adapted for life in saturated soil conditions.

### 2.4 Regulatory Authority and Requirements

The USACE regulates the nation's waters for navigation and the full public interest for both the protection and utilization of water resources. The regulatory authorities and responsibilities of the USACE are based on the following laws:

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) prohibits the obstruction or alteration of navigable waters of the United States without a permit from the USACE.
- Section 404 of the Clean Water Act (33 U.S.C. 1344). Section 301 of this Act prohibits the discharge of dredged or fill material into “waters of the US” without a permit from the USACE.
- Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended (33 U.S.C. 1413) authorizes the USACE to issue permits for the transportation of dredged material for the purpose of dumping it into ocean waters.

If filling or dredging operations are proposed to occur within the boundary of a “waters of the US” a Section 404 permit must be obtained from USACE before those activities are conducted. Three types of permits are issued by USACE within the State of Indiana: nationwide permits, the Regional General Permit for Indiana, and Individual Permits. Nationwide permits have been developed for projects meeting specific criteria and have a minimal impact to the regulated resources. Minimal impacts are generally classified as less than 0.5 acre of permanent impacts or temporary impacts depending on the activity to be undertaken. The Regional General Permit (RGP) for Indiana has been developed for projects meeting specific criteria and has

a minimal impact to the regulated resources within the State of Indiana. The RGP authorizes activities associated with any construction activities impacting less than one acre of wetlands or less than 1,500 linear feet of regulated waterway. Individual Section 404 Permits (site specific permits) are required for any construction activities impacting greater than one acre of regulated resources.

All activities that require a Section 404 Permit from USACE will also require a Section 401 Water Quality Certification (or a waiver) from the Indiana Department of Environmental Management (IDEM). On December 12, 2014 IDEM issued a Water Quality Certification for projects meeting specific criteria and conditions for the Indiana RGP and on April 5, 2012 IDEM issued a Water Quality Certification for projects meeting specific criteria and conditions for multiple Nationwide Permits. The specific conditions limit these Water Quality Certifications to projects with less than 0.1 acre and 300 linear feet of impacts to wetlands and waterways. An Individual Section 401 Water Quality Certification is required for projects impacting greater than 0.1 acre or 300 linear feet of wetlands or waterways.

Under the 2001 US Supreme Court Ruling (SWANCC), filling or dredging of isolated wetlands does not require notification of USACE. However, it is necessary to notify the IDEM for such projects and obtain a permit from the agency under State Wetland Law. All activities affecting “waters of the State” that are not considered to be “waters of the US” will require a State Wetland Permit under IC 13-18.

## 3.0 Methodology

The study area was analyzed using methods outlined in the Routine Determination, On-site Inspection Necessary procedure in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (U.S. Army Corps of Engineers, 2010). The 1987 USACE Manual and the Regional Supplemental Documents require wetland boundaries to be delineated using a 3-parameter approach: hydrophytic vegetation, hydric soils, and wetland hydrology.

### 3.1 Hydrophytic Vegetation

Hydrophytic vegetation criteria are met by the rapid test for hydrophytic vegetation, the dominance test, the prevalence index, or morphological adaptations.

The rapid test for hydrophytic vegetation is met if all dominated species across all strata are rated as obligate (OBL), or facultative wetland (FACW), or a combination based on a visual assessment.

The indicator status of plant species is based on the estimated probabilities of that species occurring in wetland conditions. The indicator status categories are defined as follows.

PLANT INDICATOR STATUS CATEGORIES  
(Environmental Laboratory, 1987)

| <u>INDICATOR<br/>CATEGORY</u> | <u>INDICATOR<br/>SYMBOL</u> | <u>DEFINITION</u>  |
|-------------------------------|-----------------------------|--|
| Obligate Wetland Plants       | OBL                         | Plants that occur almost always (probability >99 percent) in wetland under natural conditions. Species rarely occur in non-wetland (probability <1 percent). |
| Facultative Wetlands Plants   | FACW                        | Plants that usually occur in wetland (probability 67 to 99 percent) may also occur in non-wetland (probability 1 to 33 percent).                             |
| Facultative Plants            | FAC                         | Plants that are equally likely to occur in wetland or non-wetland (probability 33 to 67 percent).  |
| Facultative Upland Plants     | FACU                        | Plants that sometimes occur in wetland (probability 1 to 33 percent) but occur more often in non-wetland (probability 67 to 99 percent).                     |
| Upland Plants                 | UPL                         | Plants that occur almost always (probability >99 percent) in non-wetland under natural conditions. Species rarely occur in wetland (probability <1 percent). |

The dominance test for hydrophytic vegetation is met if more than 50 percent of the dominant plants species across all strata are rated OBL, FACW, or FAC.

If a community fails the Rapid Test and the Dominance Test, and both hydric soils and hydrology are present, then two additional wetland vegetation indicators should be assessed. These are the prevalence index and morphological adaptations. If either a prevalence of species noted in the sampling plot are hydrophytic or if morphological indicators are present, then the area is considered to have hydrophytic vegetation.

### 3.2 Hydric Soils

Hydric soils criteria are met with the presence of soils flooded for a long duration or very long duration during the growing season. Hydric soil indicators are formed predominately by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in saturated and anaerobic conditions. Anaerobic conditions created by repeated or prolonged saturation or flooding result in permanent changes in soil color and chemistry, which are used to determine the presence of hydric soils.

Soils on a particular site are analyzed to determine whether they meet the hydric criteria. In the absence of groundwater, this analysis is performed by looking for acceptable indicators that suggest the soil is saturated, flooded, or ponded for a duration long enough to support anaerobic conditions near the surface. Field indicators of hydric soils, such as gleyed matrix, depleted matrix, redox dark surface or depressions, or depleted dark surface, are common hydric soil indicators in Indiana.

### 3.3 Wetland Hydrology

Wetland hydrology criteria is met or assumed by the presence of soils inundated or saturated under normal circumstances for periods long enough to support a prevalence of wetland vegetation. Hydrology is

controlled by such factors as rainfall patterns, local geology and topography, soil type, local water table, and drainage. Primary indicators of wetland hydrology include inundation, soil saturation, watermarks, sediment deposits, sparse vegetation, and inundation visible on the aerial photography. Secondary indicators include cracked soils, crayfish burrows, drainage patterns, and FAC-neutral vegetation. A single primary indicator or two secondary indicators are necessary to determine the presence of wetland hydrology.

All three parameters must be present for a site to be considered “waters of the State” or “waters of the US.”

### **3.4 Stream Habitat**

The Qualitative Habitat Evaluation Index (QHEI) is used to determine existing stream impairments and aid in mitigating future impacts. The QHEI is composed of six metrics; substrate, in-stream cover, channel morphology, riparian zone and bank erosion, pool/glide and riffle run quality, and map gradient. Each metric is scored individually and then summed, resulting in a total QHEI score for the targeted reach of stream.

The primary Headwater Habitat Evaluation Index (HHEI) is used to determine existing impairments and aid in mitigating future impacts to primary headwater habitat streams. A primary headwater habitat stream is described as a jurisdictional surface water that has a defined bed and bank, with either continuous or periodical flowing water, with a watershed area less than or equal to one square mile, and maximum depth of water pools equal to or less than 40 cm. The HHEI is composed of three metrics: substrate, maximum pool depth, and bank full width. Each metric is scored individually, and then summed, resulting in a total HHEI score for the targeted reach of headwater stream.

Methodology described in the *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI) manual* (OhioEPA, Division of Surface Water, 2006)) was used for assessing streams. Additional methodology described in the *Field Evaluation Manual for Ohio’s Primary Headwater Habitat Streams* (Ohio EPA, Division of Surface Water, 2012) was used in assessing primary headwaters.



## 4.0 Site Characterization – Records Review

### 4.1 USGS Topographic Mapping

The 1:24,000-scale Topographic Quadrangle Map is the primary scale of topographic data produced by the United States Geological Survey (USGS). Since the late 19th century, the USGS has been producing topographic quadrangle maps that show shape and elevation of the land, transportation networks, drainage patterns, vegetation, and buildings. These maps are used for a variety of purposes, including industrial site selection, highway planning, and recreation, and they are also a valuable source for local history. Features such as vegetation (green), water (blue) and densely built-up areas (gray or red) are shown as shaded areas on the map. Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. Colors of the lines usually indicate similar classes of information: topographic contours (brown); lakes, streams, irrigation ditches, and other hydrographic features (blue); land grids and important roads (red); and other roads and trails, railroads, boundaries, and other cultural features (black). Various point symbols are used to depict features such as buildings, campgrounds, springs, water tanks, mines, survey control points, and wells. Names of places and features are shown in a color corresponding to the type of feature.

The Clermont, Fayette and Zionsville USGS quadrangle topographic maps were reviewed for the proposed project corridor. The topographic map depicts six streams within the investigated area, as shown in the table below.

| Stream Name                        | Flow Regime         | Flow Direction  | Tributary To  |
|------------------------------------|---------------------|---|---|
| Unnamed Tributary to School Branch | Intermittent Stream | East underneath Hendricks CR 900 East then south along east side of roadway             | School Branch to Eagle Creek to White River           |
| School Branch                      | Perennial Stream    | South underneath CR750 North, approximately 620 feet east of CR 900 East                | Eagle Creek to White River                            |
| Pump Run                           | Intermittent Stream | Southwest, approximately 400 feet south of Hendricks CR 1000 North                      | Martin Dugan Ditch to White Lick Creek to White River |
| Martin Dugan Ditch                 | Intermittent Stream | South underneath Hendricks CR 1000 North then along western investigated area limits    | White Lick Creek to White River                       |
| Etter Ditch                        | Perennial Stream    | Southwest, approximately 600 feet south of West 101 <sup>st</sup> Street <sup>1</sup>   | White Lick Creek to White River                       |
| White Lick Creek                   | Perennial Stream    | Southwest, approximately 2,000 feet west of North 118 <sup>th</sup> Street <sup>2</sup> | White River   |
| White Lick Creek (Second Crossing) | Intermittent Stream | West underneath State Road 267  | White River   |

1. West 101<sup>st</sup> Street is now known as Boone CR 550 South

2. North 18<sup>th</sup> Street is now known as Boone CR 475 East

A Conrail railroad is depicted running southeast-northwest through the project area, approximately 1,000 feet south of CR 700 North Road. Howard Cemetery is depicted just south of West 101<sup>st</sup> Street and

approximately 500 feet east of North 121<sup>st</sup> Road. Central School is depicted northwest of the West 121<sup>st</sup> Street and SR 267 intersection. The investigated area is relatively flat with little development throughout the area.

## 4.2 National Wetlands Inventory Mapping (NWI) Maps

For 25 years, the US Fish and Wildlife Service (USFWS) has provided federal and state agencies, the private sector, and citizens with scientific data on wetland location, extent, status, and trends. The USFWS’s National Wetlands Inventory (NWI) program works to complete baseline wetland mapping in the lower 48 states and Alaska. Most NWI maps were produced using photography from the 1980s. Maps for less than five percent of the nation were made using 1990s or more recent photography. Most NWI map products have not been field verified and are subject to regulatory review. However, these maps serve as a planning tool for service and non-profit wetland acquisition programs, fishery restoration, floodplain and watershed planning, endangered species recovery efforts, and to plan for energy resource and infrastructure development.

The NWI Mapping was reviewed for the proposed project corridor and two mapped NWI wetlands are located within the investigated area. A Palustrine, Forested, Broad Leaf Deciduous, Temporarily Flooded (PFO1A) is depicted along the western edge of the investigated area, approximately 2,700 feet north of Hendricks CR 1000 N. A Palustrine, Unconsolidated Bottom, Intermittently Exposed, Diked/Impounded (PUBGh) is depicted approximately 1,100 feet south of the northern boundary of the investigated area, along the eastern edge of the investigated area and associated with an excavated detention basin.

## 4.3 County Soil Survey

The Natural Resource Conservation Services (NRCS) has prepared soil survey and mapping for each county. Soil surveys furnish soil maps and interpretations necessary to provide technical assistance to farmers and ranchers to be utilized in planning and land management. Soil surveys generally contain mapping of unique or potential areas of concern such as areas of peat or muck, steep slopes, wetlands, and drainage lines. In addition to the published soils surveys, information, spatial data, and mapping of soils is available through the NRCS Soil Data Mart, which provides the most current data about the soils. Spatial data available through the Soil Data Mart often does not contain information regarding areas of concern. As such, both the published soil survey and the up-to-date data available from the Soil Data Mart are included for reference.

The *1974 Soil Survey of Hendricks County* and *1975 Soil Survey of Boone County* were reviewed to determine soil classification and potential drainage features within the study area. The *1974 Soil Survey of Hendricks County* depicted School Branch, Martin Dugan Ditch and Pump Run as described on the USGS topographic map. The soil survey did not depict the unnamed tributary to School Branch described on the USGS topographic map. The survey also depicts an unnamed tributary to School Branch approximately 430 feet north of Hendricks CR 600 N, delineated as UNT 1 during the site visit. The *1975 Soil Survey of Boone County* depicted Etter Ditch and White Lick Creek as described on the USGS topographic map. The soil survey also depicts an intermittent unnamed tributary running south from Howard Cemetery to Etter Ditch, which was not identified during field investigation. Soil types mapped within the proposed project right-of-way include:

| Soil Component                                 | Soil Symbol | Hydric or Non-Hydric |
|--|-------------|----------------------|
| Brookston silty clay loam                      | Bs          | Hydric               |
| Crosby silt loam, 0 to 3 percent slopes        | CrA         | Non-Hydric           |
| Crosby-Miami silt loams, 2 to 6 percent slopes | CsB2        | Non-Hydric           |

|  |       |            |
|--|-------|------------|
| Crosby silt loam, 0 to 2 percent slopes                  | CudA  | Non-Hydric |
| Cyclone silty clay loam, 0 to 1 percent slopes           | CxdA  | Hydric     |
| Fincastle silt loam, 0 to 2 percent slopes               | FdbA  | Non-Hydric |
| Fox loam, 2 to 6 percent slopes, eroded                  | FexB2 | Non-Hydric |
| Mahalasville silty clay loam                             | MamA  | Hydric     |
| Miami silt loam, 2 to 6 percent slopes, eroded           | MmB2  | Non-Hydric |
| Miami silt loam, 2 to 6 percent slopes, eroded           | MnpB2 | Non-Hydric |
| Miami clay loam, 6 to 12 percent slopes, severely eroded | MsC3  | Non-Hydric |
| Treaty silty clay loam, 0 to 1 percent slopes            | ThrA  | Hydric     |
| Water  | W     | N/A        |
| Williamstown-Crosby silt loams, 2 to 4 percent slopes    | WofB  | Non-Hydric |

#### 4.4 Aerial Photography

The Indiana Geographic Information Council (IGIC), in partnership with state and local agencies, sponsored a program that created high-resolution orthophotography for counties on a statewide basis to support homeland security, emergency management, and other business and government applications. Digital orthophotography provides all of the visual content of a photograph, while being as accurate as a map for measurements. These qualities allow for accurate distance measurements, area calculations, determination of feature shape, direction calculations, and determination of coordinates at a given location. Orthophotography provides a base map in a geographic information system (GIS) for emergency response planning and modeling, law enforcement, public health agencies, property management, census, tax assessment, flood mapping, planning, and economic development.

The 2005 and 2014 aerial photography were reviewed for the proposed project corridor. The 2005 and 2014 aerial photography show the project corridor as predominantly agricultural. The aerial photography depicts all of the streams shown on the USGS Topographic Map. The aerials also appear to show the locations of the delineated streams within the investigated area. The 2014 aerial photography shows the project area generally as it was observed during the October site visits.

#### 4.5 Floodways and Floodplains

A "Regulatory Floodway" is the channel of a river or other watercourse and the adjacent land that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. The Indiana Department of Natural Resources Division of Water regulates these floodways within the state. Mapping of the regulated floodway and the floodplain was completed by the Federal Emergency Management Agency (FEMA).

Three FEMA designated floodplains are located within the investigated area. The FEMA floodplain associated with School Branch is located within the project corridor, along Hendricks CR 750 N. The FEMA floodplain associated with Etter Ditch is located within the project corridor along Etter Ditch, approximately 830 feet south of Boone CR 750 S. The FEMA floodplain associated with White Lick Creek is located approximately 1,900 feet south of Boone CR 550 S.

## 4.6 Legal Drain

Some waterways in which the function of the channel is considered necessary to drain the landscape to protect the livelihood and safety of the general public are considered to be “legal drains.” These waterways often include a system of pipes and open ditches and are generally under the jurisdiction of the County Surveyor who is responsible for their continued maintenance and function. Funding for maintenance of legal drains is typically provided by assessments to the adjoining property owners.

The Hendricks County GIS website was checked (<https://beacon.schneidercorp.com/Application.aspx?AppID=327&LayerID=3469&PageTypeID=1&PageID=2307>) and five legal drains are depicted within the investigated area limits, William Hart, William Batz, Kate Lee, Martin Duggan, and Martin Duggan Arm #1. William Hart and Kate Lee are tiled legal drains, while the other three are open ditches. The three open ditches were verified during the site visit, as School Branch, Martin-Duggan Ditch and Pump Run. Kate Lee drain was observed as a grassed swale during field investigation, and no evidence for the presence of William Hart Drain was observed during field investigation.

The Boone County GIS website was checked (<http://50.73.115.85/boone/map.phtml>) and nine legal drains are located within the project corridor. Two legal drains are open channels and were field verified during the site visit, White Lick Creek, and Etter Ditch. Of the nine legal drains, seven are tiled, Schenck Drain, Farrell, Casserly, Fishback and three unnamed. Schenck Drain was observed as swale within an agricultural field that is actively farmed. No evidence for the presence of the three tiled drains near Boone CR 650 S, Farrell Drain and Fishback Drain were observed during field investigation. A culvert outletting Casserly drain into White Lick Creek was observed during field investigation.

## 5.0 Field Reconnaissance

Ronald Reagan Parkway was examined for the presence of wetlands and “waters of the US” on the site. Data points were strategically placed to identify appropriate boundaries of delineated wetlands and to determine the presence or absence of jurisdictional wetlands and “waters of the US.” Twenty-nine wetlands (Wetland 6N-A to Wetland 5S-F) totaling 4.05 acres, nine streams (School Branch, Pump Run, Martin-Dugan Ditch, Etter Ditch, White Lick Creek, and UNT 1 to UNT 4) totaling 7,897 linear feet, and one retention pond totaling 0.43 acre and 355 linear feet of shoreline were delineated within the investigated area. Data sheets and a map indicating the location of data points documenting the field investigation are included in the appendix.

### 5.1 Wetlands

#### 5.1.1 Wetland 6N-A

Wetland 6N-A is an emergent wetland that is located approximately 245 feet south of Hendricks CR 600 N and west of the existing Ronald Reagan Parkway. The wetland is associated with a poorly maintained section of a roadside ditch and does not extend beyond the confines of the ditchline. The wetland appears to continue south beyond the investigated area. The wetland is an incidental feature originating entirely within the roadway right-of-way, does not exhibit a defined bed and bank or a continuous OHWM, and is wholly confined to the ditchline. The wetland appears to drain south out of the investigated area into an unnamed tributary to School Branch, which drains to School Branch, which drains to Eagle Creek, which drains to the

White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, because it is wholly confined to the ditchline, it is anticipated that Wetland 6N-A would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Typha angustifolia* (OBL) and *Juncus tenuis* (FAC). Hydrologic indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Below Dark Surface (A11) and Depleted Matrix (F3). The wetland was delineated at 0.28 acre in size and would be considered a Palustrine, Emergent, Seasonally Flooded (PEMC) under the Cowardin Classification System. The wetland appears to be associated with a roadside ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-1 included in Appendix B. Data Point 6N-2 included in Appendix B is representative of the upland area surrounding Wetland 6N-A.

### **5.1.2 Wetland 6N-B**

Wetland 6N-B is an emergent wetland that is located approximately 330 feet north of Ronald Reagan Parkway. The wetland receives overbank flow from UNT 1 and a stormwater culvert located on the southwest edge of the wetland. The wetland is a fringe wetland around UNT 1. The wetland drains to UNT 1 which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-B would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Typha angustifolia* (OBL). Hydrologic indicators included Surface Water (A1), High Water Table (A2), Saturation (A3) and FAC-Neutral Test (D5). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.10 acre in size and would be considered a Palustrine, Emergent, Temporarily Flooded (PEMA) under the Cowardin Classification System. The wetland is dominated by the ruderal *Typha sp.*, but it is associated with an intermittent stream, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 6N-4 included in Appendix B. Data Point 6N-5 included in Appendix B is representative of the upland area surrounding Wetland 6N-B.

### **5.1.3 Wetland 6N-C**

Wetland 6N-C is an emergent wetland located approximately 570 feet north of the northern terminus of existing Ronald Reagan Parkway and northeast of the CSX Railroad. The wetland is located in a depression area associated with a grassed swale. UNT 1 is tiled at the southwestern edge of the wetland and the tile runs through the wetland. A berm is located northeast of the CSX railroad between the tile and the wetland. The wetland appears to extend northeast outside of the investigated area. The wetland drains to UNT 1 which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-C would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Carex vulpinoides* (FACW). Hydrologic indicators included High Water Table (A2), Saturation (A3) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.04 acre in size and would be considered a PEMA under the Cowardin Classification System. The wetland is associated with a depression area adjacent to a stream and would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point

6N-6 included in Appendix B. Data Point 6N-7 included in Appendix B is representative of the upland area surrounding Wetland 6N-C.

#### **5.1.4 Wetland 6N-D**

Wetland 6N-D is a forested wetland located approximately 230 feet north of the northern terminus of existing Ronald Reagan Parkway. The wetland is located in a depressional area to the north and south of UNT1. The wetland drains to UNT 1, which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-D would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Celtis occidentalis* (FAC), *Rubus argutus* (FAC), and *Elymus riparius* (FACW). Hydrologic indicators included Drainage Patterns (B10) and Geomorphic Position (D2). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.06 acre in size and would be considered a Palustrine, Forested, Broad Leaf Deciduous, Seasonally Flooded (PFO1C) under the Cowardin Classification System. The wetland is forested and is associated with a depressional area adjacent to a stream, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 6N-3 included in Appendix B. Data Point 6N-4 included in Appendix B is representative of the upland area surrounding Wetland 6N-D.

#### **5.1.5 Wetland 6N-E**

Wetland 6N-E is an emergent wetland that is located east of Hendricks CR 900 N and north of the CSX Railroad. The wetland is associated with a poorly maintained section of a railroad ditch and does extend beyond the confines of the ditchline. The wetland drains to UNT 2, which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-E would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Echinochloa crus-gali* (FACW). Hydrologic indicators included Surface Soil Cracks (B6), Drainage Patterns (B10), Crayfish Burrows (C8) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.04 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-8 included in Appendix B. Data Point 6N-9 included in Appendix B is representative of the upland area surrounding Wetland 6N-E.

#### **5.1.6 Wetland 6N-F**

Wetland 6N-F is an emergent wetland that is located west of Hendricks CR 900 N and north of the CSX Railroad. The wetland is associated with a poorly maintained section of a railroad ditch and extends beyond the confines of the ditchline. The wetland drains underneath Hendricks CR 900 N via a culvert to Wetland 6N-E, which drains to UNT 2, which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-F would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Echinochloa crus-gali* (FACW) and *Cyperus strigosus* (FACW). Hydrologic indicators included Sediment Deposits (B2) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.01 acre in size and would be considered a

PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-11 included in Appendix B. Data Point 6N-12 included in Appendix B is representative of the upland area surrounding Wetland 6N-F.

#### **5.1.7 Wetland 6N-G**

Wetland 6N-G is an emergent wetland that is located west of Hendricks CR 900 N and south of the CSX Railroad. The wetland is associated with a poorly maintained section of a railroad ditch and extends beyond the confines of the ditchline. The wetland drains underneath Hendricks CR 900 N via a culvert to Wetland 6N-H, which drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-G would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Hemerocallis fulva* (UPL), *Setaria pumila* (FAC) and *Panicum capillare* (OBL). Hydrologic indicators included Sediment Deposits (B2). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.02 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-10 included in Appendix B. Data Point 6N-12 included in Appendix B is representative of the upland area surrounding Wetland 6N-G.

#### **5.1.8 Wetland 6N-H**

Wetland 6N-H is an emergent wetland that is located east of Hendricks CR 900 N and south of the CSX Railroad. The wetland is associated with a poorly maintained section of a railroad ditch and extends beyond the confines of the ditchline. The wetland drains to School Branch, which drains to Eagle Creek, which drains into the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 6N-H would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Ambrosia trifida* (FAC). Hydrologic indicator included Sediment Deposits (B2). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.02 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-13 included in Appendix B. Data Point 6N-9 included in Appendix B is representative of the upland area surrounding Wetland 6N-H.

#### **5.1.9 Wetland 6N-I**

Wetland 6N-I is an emergent wetland that is located east of the CSX Railroad and north and south of Hendricks CR 700 N. The wetland is associated with a poorly maintained section of a railroad ditch and does not extend beyond the confines of the ditchline. The wetland appears to extend north outside of the investigated area and is located within a mapped hydric soil. The wetland appears to drain to School Branch, which drains to Eagle Creek, which drains to the White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, because it is wholly confined to the ditchline, it is anticipated that Wetland 6N-I would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW). Hydrologic indicators included Surface Soil Cracks (B6), Crayfish Burrows (C8) and FAC-Neutral Test (D5). The hydric soil indicators included

Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.03 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-14 included in Appendix B. Data Point 6N-15 included in Appendix B is representative of the upland area surrounding Wetland 6N-I.

#### **5.1.10 Wetland 6N-J**

Wetland 6N-J is an emergent wetland that is located west of the CSX Railroad and north and south of Hendricks CR 700 N. The wetland is associated with a poorly maintained section of a railroad ditch and does extend beyond the confines of the ditchline. The wetland appears to extend north and south outside of the investigated area and is located within a mapped hydric soil. The wetland appears to drain to School Branch, which drains to Eagle Creek, which drains to the White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, therefore it is anticipated that Wetland 6N-J would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Echinochloa crus-gali* (FACW). Hydrologic indicators included Surface Soil Cracks (B6) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.03 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a railroad ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 7N-1 included in Appendix B. Data Point 7N-2 included in Appendix B is representative of the upland area surrounding Wetland 6N-J.

#### **5.1.11 Wetland 6N-K**

Wetland 6N-K is an emergent wetland that is located approximately 690 feet south of Hendricks CR 600 N and east of the existing Ronald Reagan Parkway. The wetland is associated with a poorly maintained section of a roadside ditch and does not extend beyond the confines of the ditchline. The wetland appears to continue south beyond the investigated area. The wetland is an incidental feature originating entirely within the roadway right-of-way, does not exhibit a defined bed and bank or a continuous OHWM, and is wholly confined to the ditchline. The wetland appears to drain south out of the investigated area into an unnamed tributary to School Branch, which drains to School Branch, which drains to Eagle Creek, which drains to the White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, because it is wholly confined to the ditchline, it is anticipated that Wetland 6N-K would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Typha angustifolia* (OBL) and *Juncus tenuis* (FAC). Hydrologic indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Below Dark Surface (A11) and Depleted Matrix (F3). The wetland was delineated at 0.19 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland appears to be associated with a roadside ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6N-16 included in Appendix B. Data Point 6N-17 included in Appendix B is representative of the upland area surrounding Wetland 6N-K.



#### **5.1.12 Wetland 9N-A**

Wetland 9N-A is an emergent wetland located approximately 2,600 feet south of Hendricks CR 1000 N and approximately 2,900 feet west of Hendricks CR 925 E. The wetland appears to be a poorly drained depressional area and to receive water from the surrounding fields. The wetland does not appear to drain to a TNW. Therefore this wetland would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW) and *Poa pratensis* (FAC). Hydrologic indicators included Algal Mat or Crust (B4) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.08 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a grass drive between two agricultural fields, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 9N-7 included in Appendix B. Data Point 9N-8 included in Appendix B is representative of the upland area surrounding Wetland 9N-A.

#### **5.1.13 Wetland 9N-B**

Wetland 9N-B is an emergent located approximately 400 feet south of Hendricks CR 1000 N and northeast of the convergence of Pump Run and Martin-Dugan Ditch. The wetland drains to Martin-Dugan Ditch, which drains to White Lick Creek, which drains to the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 9N-B will be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Setaria viridis* (UPL) and *Echinochloa crus-galli* (FACW). Hydrologic indicators included Sediment Deposits (B2), Algal Mat and Crust (B4), Inundation Visible on Aerial Imagery (B8) and Geomorphic Position (D2). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.08 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is located along the edge of an agricultural field, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 9N-11 included in Appendix B. Data Point 9N-12 included in Appendix B is representative of the upland area surrounding Wetland 9N-B.

#### **5.1.14 Wetland 9N-C**

Wetland 9N-C is a forested wetland located south of Hendricks CR 1000 N and surrounding Martin-Dugan Ditch. The wetland drains to Martin Dugan Ditch, which drains to White Lick Creek, which drains to the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 9N-C would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Ulmus Americana* (FACW), *Acer negundo* (FAC), *Cornus drummondii* (FAC), *Celtis occidentalis* (FAC), *Persicaria virginica* (FAC), *Geum vernum* (FACU), and *Pilea pumila* (FACW). Hydrologic indicators included Sediment Deposits (B2), Drift Deposits (B3), Crayfish Burrows (C8) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.03 acre in size and would be considered a PFO1C under the Cowardin Classification System. The wetland appears to be associated with a stream, therefore this wetland would be considered a good quality wetland. For reference to the field data collected for this wetland see Data Point 9N-13 included in Appendix B. Data Point 9N-14 included in Appendix B is representative of the upland area surrounding Wetland 9N-C.

#### **5.1.15 Wetland 9N-D**

Wetland 9N-D is a forested wetland located approximately 400 feet south of Hendricks CR 1000 N and west of Martin-Dugan Ditch. The wetland is within a closed depression with no apparent outfall to a stream. Since the wetland has no hydrologic connection to a TNW, it is anticipated that Wetland 9N-D would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Celtis occidentalis* (FAC) and *Morus alba* (FAC). Hydrologic indicators included Sediment Deposits (B2), Sparsely Vegetated Concave Surface (B8) and Geomorphic Position (D2). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.01 acre in size and would be considered a PFO1C under the Cowardin Classification System. The wetland is associated with a forested area, therefore this wetland would be considered a good quality wetland. For reference to the field data collected for this wetland see Data Point 9N-16 included in Appendix B. Data Point 9N-15 included in Appendix B is representative of the upland area surrounding Wetland 9N-D.

#### **5.1.16 Wetland 10N-A**

Wetland 10N-A is located approximately 4,400 feet north of Hendricks CR 1000 N and approximately 2,200 feet west of CR 900 E. The middle portion of the wetland is open water with a forested section in the southeast corner. The open water is surrounded by an emergent fringe. A finger of emergent wetland extends to the northeast and into the adjacent agricultural field. The wetland receives water from the surrounding fields and forested area. No hydrology outfall was observed leading from this wetland. The wetland does not appear to drain to a TNW, therefore this wetland would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Setaria pumila* (FAC), *Echinochloa crus-gali* (FACW). Hydrologic indicators included Surface Water (A1), High Water Table (A2), Saturation (A3), Sediment Deposits (B2), Saturation Visible on Aerial Imagery (C9), and Geomorphic Position (D2). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 2.03 total acres in size with 0.86 acre of emergent, 0.23 acre of forested and 0.94 acre of open water. The wetland would be considered a PEMA, PFO1A, and Palustrine, Open Water, Intermittently Exposed (POWG) under the Cowardin Classification System. The wetland appears is associated with a depressional area which collects water from the nearby forest and fields and is of considerable size, therefore this wetland would be considered a good quality wetland. For reference to the field data collected for this wetland see Data Point 10N-4 included in Appendix B. Data Point 10N-5 included in Appendix B is representative of the upland area surrounding Wetland 10N-A.

#### **5.1.17 Wetland 10N-B**

Wetland 10N-B is located approximately 2,800 feet south of Boone CR 750 S and approximately 1,300 feet west of Hendricks CR 900 E. The wetland is located in a depressional area in the middle of the agricultural field. The wetland receives water from the surrounding fields. No hydrologic outfall was observed during field investigation. Since the wetland does not appear to have a hydrologic connection to a TNW, it is anticipated that Wetland 10N-B would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW), *Rumex crispus* (FAC), and *Zea mays* (UPL). Hydrologic indicators included Surface Soil Cracks (B6), Stunted or Stressed Plants (D1) and Geomorphic Position (D2). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.03 acre in size and would be considered a PEMC under the Cowardin Classification System.

The wetland is associated with a depression within an agricultural field therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 10N-7 included in Appendix B. Data Point 10N-8 included in Appendix B is representative of the upland area surrounding Wetland 10N-B.

#### **5.1.18 Wetland 8S-A**

Wetland 8S-A is an emergent wetland located approximately 1,800 feet north of Boone CR 750 S and approximately 870 feet west of Boone CR 475 E. The wetland appears to exist as a depressional area in the middle of an agricultural field. The wetland receives water from the surrounding fields. No hydrologic outfall was observed during field investigation. Since the wetland does not appear to have a hydrologic connection to a TNW, it is anticipated that Wetland 8S-A would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Xanthium strumarium* (FAC). Hydrologic indicators included Sediment Deposits (B2). The hydric soil indicator included Thick Dark Surface (A12). The wetland was delineated at 0.02 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with an agricultural field, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 8S-11 included in Appendix B. Data Point 8S-12 included in Appendix B is representative of the upland area surrounding Wetland 8S-A.

#### **5.1.19 Wetland 7S-A**

Wetland 7S-A is located approximately 700 feet north of Boone CR 650 S and approximately 950 feet west of Boone CR 475 E. The wetland is located in a depressional area in a maintained lawn. No hydrology outfall was observed leading from this wetland. Since the wetland has no hydrologic connection to a TNW, it is anticipated that Wetland 7S-A would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW) and *Poa pratensis* (FAC). Hydrologic indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.004 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a depressional area within a maintained lawn, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 7S-7 included in Appendix B. Data Point 7S-8 included in Appendix B is representative of the upland area surrounding Wetland 7S-A.

#### **5.1.20 Wetland 7S-B**

Wetland 7S-B is located approximately 700 feet north of Boone 650 S and approximately 900 feet west of Boone CR 475 E. The wetland is located in a depressional area in a maintained lawn. No hydrology outfall was observed leading from this wetland. Since the wetland has no hydrologic connection to a TNW, it is anticipated that Wetland 7S-B would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW) and *Poa pratensis* (FAC). Hydrologic indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.005 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a depressional area within a maintained lawn, therefore this wetland would be considered a poor quality wetland. For reference to the

field data collected for this wetland see Data Point 7S-8 included in Appendix B. Data Point 7S-9 included in Appendix B is representative of the upland area surrounding Wetland 7S-B.

#### **5.1.21 Wetland 7S-C**

Wetland 7S-C is located approximately 900 feet north of Boone CR 650 S and approximately 700 feet west of Boone CR 475 E. The wetland is a depressional area next to a tiled stream. Although a tile is located along the western boundary of the wetland, the outfall of the tile is not known. Since no hydrologic connection to a TNW was observed, it is anticipated that Wetland 7S-C would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Typha angustifolia* (OBL). Hydrologic indicators included Surface (A1), High Water Table (A2), Saturation (A3), Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.14 acre in size and would be considered a Palustrine, Emergent, Semipermanently Flooded (PEMF) under the Cowardin Classification System. The wetland appears to be associated with a depressional area collecting water, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 7S-10 included in Appendix B. Data Point 7S-11 included in Appendix B is representative of the upland area surrounding Wetland 7S-C.

#### **5.1.22 Wetland 6S-A**

Wetland 6S-A is located approximately 250 feet south of Boone CR 550 S and east of SR 267. The wetland is located in a depressional area in the corner of an agricultural field. The wetland appears to receive surface water runoff from the surrounding field. No hydrologic outfall was observed leading from this wetland, the wetland does not appear to drain to a TNW. Since the wetland does not appear to have a hydrologic connection to a TNW, it is anticipated that Wetland 6S-A would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Ammannia coccinea* (OBL). Hydrologic indicators included Algal Mat or Crust (B4), Surface Soil Cracks (B6), Stunted or Stressed Plants (D1), Geomorphic Position (D2), and FAC-Neutral Test (D5). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.13 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland appears to be associated with a depressional area in a field, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6S-1 included in Appendix B. Data Point 6S-2 included in Appendix B is representative of the upland area surrounding Wetland 6S-A.

#### **5.1.23 Wetland 6S-B**

Wetland 6S-B is located approximately 2,000 feet north of Boone CR 550 S and west of SR 267. The wetland appears to receive surface water runoff from the surrounding field. No hydrologic outfall was observed during the field investigation. Since the wetland does not appear to have a hydrologic connection to a TNW, it is anticipated that Wetland 6S-B would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW). Hydrologic indicators included Surface Soil Cracks (B6) and Stunted or Stressed Plants (D1). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.21 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a depressional area within an agricultural field.

therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 6S-4 included in Appendix B. Data Point 6S-5 included in Appendix B is representative of the upland area surrounding Wetland 6S-B.

#### **5.1.24 Wetland 5S-A**

Wetland 5S-A is located west of SR 267 and south of White Lick Creek. The wetland is located on a floodplain shelf next to the stream and is at a lower elevation than the surrounding land. The wetland is adjacent to and drains to White Lick Creek, which drains to the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 5S-A would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW). Hydrologic indicators included High Water Table (A2), Saturation (A3) and FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.01 acre in size and would be considered a PEMA under the Cowardin Classification System. The wetland is associated with a stream but is dominated poor quality species, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 5S-4 included in Appendix B. Data Point 5S-5 included in Appendix B is representative of the upland area surrounding Wetland 5S-A.

#### **5.1.25 Wetland 5S-B**

Wetland 5S-B is located approximately 250 feet west of SR 267 and south of White Lick Creek. The wetland is located within an apparent excavated swale between two fields. The wetland was developed as a mitigation site. The wetland appears to extend southwest outside of the investigated area. The wetland drains north to White Lick Creek, which drains to the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 5S-B would be considered a jurisdictional “waters of the US.”

The dominant vegetation consisted of *Salix nigra* (OBL), *Populus deltoides* (FAC), *Echinochloa crus-galli* (FACW) and *Symphotrichum pilosum* (FACU). Hydrologic indicators included High Water Table (A2), Saturation (A3), Geomorphic Position (D2), FAC-Neutral Test (D5). The hydric soil indicator included Depleted Matrix (F3). The wetland was delineated at 0.05 acre in size and would be considered a PEMA under the Cowardin Classification System. The wetland is associated with a depressional area leading to a stream and contains decent vegetation, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 5S-6 included in Appendix B. Data Point 5S-7 included in Appendix B is representative of the upland area surrounding Wetland 5S-B.

#### **5.1.26 Wetland 5S-C**

Wetland 5S-C is an emergent wetland located east of SR 267 and surrounding White Lick Creek. The wetland is located within the bankful shelf of White Lick Creek. The wetland was developed as a mitigation site. The wetland is adjacent to and drains to White Lick Creek, which drains to the White River, a TNW. Since the wetland has a hydrologic connection to a TNW, it is anticipated that Wetland 5S-C would be considered an isolated “waters of the US.”

The dominant vegetation consisted of *Echinochloa crus-galli* (FACW). Hydrologic indicators included Saturation (A3) and FAC-Neutral Test (D5). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.16 acre in size and would be considered a PEMA under the Cowardin

Classification System. The wetland exhibited fair quality vegetation and is a constructed wetland mitigation area, therefore this wetland would be considered a fair quality wetland. For reference to the field data collected for this wetland see Data Point 5S-8 included in Appendix B. Data Point 5S-9 included in Appendix B is representative of the upland area surrounding Wetland 5S-C.

#### **5.1.27 Wetland 5S-D**

Wetland 5S-D is located approximately 500 feet north of Fieldstone Drive and east of SR 267. The wetland is associated with a poorly maintained section of a roadside ditch and does not extend beyond the confines of the ditchline. The wetland appears to drain north to the retention pond. Since the wetland is wholly confined to the ditchline and within mapped hydric soils, it is anticipated that Wetland 5S-D would be considered a jurisdictional “waters of the State.”

The dominant vegetation consisted of *Typha angustifolia* (OBL). Hydrologic indicators included Geomorphic Position (D2) and FAC-Neutral Test (D5). The hydric soil indicator included Redox Dark Surface (F6). The wetland was delineated at 0.13 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a roadside ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 5S-10 included in Appendix B. Data Point 5S-11 included in Appendix B is representative of the upland area surrounding Wetland 5S-D.

#### **5.1.28 Wetland 5S-E**

Wetland 5S-E is located approximately 300 feet south of South Indianapolis Road and east of SR 267. The wetland is associated with a poorly maintained section of a roadside ditch and does not extend beyond the confines of the ditchline. The wetland appears to drain through a tile at the eastern corner of the wetland to an unnamed tributary outside of the investigated area, which ultimately drains to the White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, because it is wholly confined to the ditchline and within mapped hydric soils, it is anticipated that Wetland 5S-E would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Cyperus esculentus* (FACW). Hydrologic indicators included High Water Table (A2), Saturation (A3) and FAC-Neutral Test (D5). The hydric soil indicators included Depleted Matrix and Redox Dark Surface (F6). The wetland was delineated at 0.07 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland is associated with a roadside ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 5S-12 included in Appendix B. Data Point 5S-13 included in Appendix B is representative of the upland area surrounding Wetland 5S-E.

#### **5.1.29 Wetland 5S-F**

Wetland 5S-F is located approximately 650 feet north of Fieldstone Drive and west of SR 267. The wetland is associated with a poorly maintained section of a roadside ditch and does not extend beyond the confines of the ditchline. The wetland appears to drain south to White Lick Creek, which drains to the White River, a TNW. Although the wetland appears to have a hydrologic connection to a TNW, because it is wholly confined to the ditchline and partially within mapped hydric soils, it is anticipated that Wetland 5S-F would be considered an isolated “waters of the State.”

The dominant vegetation consisted of *Typha angustifolia* (OBL). Hydrologic indicators included Algal Mat or Crust (B4), Surface Soil Cracks (B6) and Geomorphic Position (B6). The hydric soil indicators included Depleted Matrix (F3) and Redox Dark Surface (F6). The wetland was delineated at 0.04 acre in size and would be considered a PEMC under the Cowardin Classification System. The wetland appears to be associated with a roadside ditch used for drainage, therefore this wetland would be considered a poor quality wetland. For reference to the field data collected for this wetland see Data Point 5S-14 included in Appendix B. Data Point 5S-15 included in Appendix B is representative of the upland area surrounding Wetland 5S-F.

## **5.2 Drainage Features, Streams, and Other Potential “Waters of the US”**

### **5.2.1 Unnamed Tributary to School Branch (UNT 1)**

The unnamed tributary to School Branch (UNT 1) is an intermittent stream that begins northwest of Wetland 6N-D at approximately the investigated area limits and continues east to flow through Wetland 6N-B. The stream continues northeast under the CSX railroad bridge into a tile inlet just east of the railroad. A stormwater outfall was noted leading into the stream approximately 200 feet west of the CSX rail line. The stream was delineated for approximately 675 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map. The stream is depicted on the 1974 *Hendricks County Soil Survey* map as an intermittent feature. Based on a review of the Hendricks county GIS data, the stream is not a regulated drain. UNT 1 is presumed to drain to School Branch, which eventually drains to the White River, a TNW.

The OHWM was approximately 10 inches deep and 2 feet wide at this location. The channel width at the top of bank was 2 feet. Bank height was 1 foot on the left bank and 1 foot on the right bank. The flow regime appears to be intermittent. Riffles and runs were present within this segment of the stream. The substrate was primarily silt and sand. Wetland 6N-B dominated both banks of the stream. This stream would be considered R4UBC under the Cowardin Classification System.

A QHEI (QHEI 1) was conducted for UNT 1 just west of the bridge carrying CSX railroad over UNT 1. The overall QHEI score was 40 out of 100. This is a poor narrative rating according to the manual.

### **5.2.2 Unnamed Tributary to School Branch 2 (UNT 2)**

Unnamed tributary to School Branch 2 (UNT 2) is an ephemeral stream that begins southeast of Wetland 6N-E and north of the CSX railroad tracks. The stream continues southeast outside of the investigated area. The stream was delineated for approximately 250 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the 1974 *Hendricks County Soil Survey* map. Based on a review of the Hendricks county GIS data, the stream is not a regulated drain. UNT 2 is presumed to drain to William Hart, which eventually drains to the White River, a TNW.

The OHWM was approximately 10 inches deep and 3 feet wide at this location. The channel width at the top of bank was 3 feet. Bank height was 1 foot on the left bank and 1 foot on the right bank. The flow regime appears to be ephemeral. The stream was dry at the time of sampling. The substrate was primarily Silt and Sand. Herbaceous vegetation with sparse trees dominated the left bank of the stream. Herbaceous vegetation dominated the right bank of the stream. This stream would be considered a R4UBC under the Cowardin Classification System.

A HHEI (HHEI 1) was conducted for UNT 2 just southeast of Wetland 6N-E. The overall HHEI score was 17 out of 100.

### **5.2.3 School Branch**

School Branch is a perennial stream that flows south underneath CR 750 N, approximately 620 feet east of CR 900 E. The stream continues south outside of the investigated area. The stream was delineated for approximately 210 linear feet within the investigated area. The stream is depicted on the USGS Topographic map as a perennial stream. The stream is depicted on the *1974 Hendricks County Soil Survey* as an intermittent stream. Based on a review of the Hendricks County GIS data, the stream is a regulated drain named William Batz. School Branch is presumed to drain to Eagle Creek, which eventually drains to the White River, a TNW.

The OHWM was approximately 2 feet deep and 15 feet wide at this location. The channel width at the top of bank was 20 feet. Bank height was 4 feet on the left bank and 8 feet on the right bank. The flow regime appears to be perennial. Riffles and runs were not present within this segment of the stream. The substrate was primarily sand and silt. Herbaceous vegetation dominated both banks of the stream. This stream would be considered a R2UBC under the Cowardin Classification System.

A QHEI (QHEI 2) was conducted for School Branch just north of CR 750 N. The overall QHEI score was 45 out of 100. This is a fair narrative rating according to the manual.

### **5.2.4 Unnamed Tributary to Martin-Dugan Ditch (UNT 3)**

Unnamed tributary to Martin-Dugan Ditch (UNT 3) would be considered an intermittent stream that begins approximately 1,800 feet south of Hendricks CR 1000 N. The stream is assumed captured in an agricultural tile and flows northwest underneath the agricultural field. The stream outlets via a 12-inch pipe at the edge of the field and then flows west outside of the investigated area. The stream was delineated for approximately 35 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1974 Hendricks County Soil Survey* map. Based on a review of the Hendricks county GIS data, the stream is not a regulated drain. UNT 3 drains to Martin Dugan Ditch, which eventually drains to the White River, a TNW.

The OHWM was approximately 10 inches deep and 5 feet wide at this location. The channel width at the top of bank was 5 feet. Bank height was 2 feet on the left bank and 2 feet on the right bank. The flow regime appears to be intermittent. Riffles and runs were present within this segment of the stream. The substrate was primarily silt and sand. Forested vegetation dominated both banks of the stream. This stream would be considered a R4UBC under the Cowardin Classification System.

A QHEI (QHEI 3) was conducted for UNT 3 just west of the tile outlet. The overall QHEI score was 57 out of 100. This is a good narrative rating according to the manual.

### **5.2.5 Pump Run**

Pump Run is an intermittent stream that enters the investigated area south of Hendricks CR 1000 N. The stream flows southwest into Martin-Dugan Ditch within the investigated area. Approximately 1,615 linear feet of Pump Run was delineated within the investigated area. The stream is depicted on the USGS Topographic map and the *1974 Hendricks County Soil Survey* map as an intermittent stream within the



investigated area. Based on a review of the Hendricks County GIS data, the stream is a regulated legal drain. Pump Run drains to Martin-Dugan Ditch, which eventually drain to the White River, a TNW.

The OHWM was approximately 2 feet deep and 5 feet wide at this location. The channel width at the top of bank was 15 feet. Bank height was 5 feet on the left bank and 5 feet on the right bank. The flow regime appears to be intermittent. Riffles and runs were not present within this segment of the stream. The substrate was primarily silt and sand. Forested vegetation is present along the north bank, but the southern bank is dominated by herbaceous vegetation. This stream would be considered Riverine, Intermittent, Unconsolidated Bottom, Seasonally Flooded (R4UBC) under the Cowardin Classification System.

A QHEI (QHEI 4) was conducted for Pump Run just south of Wetland 9N-B. The overall QHEI score was 46 out of 100. This is a fair narrative rating according to the manual.

### **5.2.6 Martin-Dugan Ditch**

Martin-Dugan Ditch is an intermittent stream that enters the investigated area from just north of Hendricks CR 1000 N. The stream flows southeast under Hendricks CR 1000 N and continues southeast outside of the investigated area then reenters the investigated area downstream of confluence with Pump Run, then continues west outside of the investigated area. The stream was delineated for approximately 535 linear feet within the investigated area. The stream is depicted on the USGS Topographic map and the *1974 Hendricks County Soil Survey* map as an intermittent stream within the investigated area. Based on a review of the Hendricks County GIS data, the stream is a regulated legal drain. Martin-Dugan Ditch drains to the White Lick Creek, which drains to the White River, a TNW.

The OHWM was approximately 1 foot deep and 10 feet wide at this location. The channel width at the top of bank was 13 feet. Bank height was 8 feet on the left bank and 8 feet on the right bank. The flow regime appears to be intermittent. Riffles and runs were present within this segment of the stream. The substrate was primarily sand and silt. Forested vegetation dominated both banks of the stream. This stream would be considered a R4UBC under the Cowardin Classification System.

A QHEI (QHEI 5) was conducted for Martin-Dugan Ditch just west of DP 9N-10. The overall QHEI score was 61 out of 100. This is a good narrative rating according to the manual.

### **5.2.7 Etter Ditch**

Etter Ditch is a perennial stream that enters the investigated area approximately 400 feet south of Boone CR 750 S. The stream flows southwest through the investigated area. The stream was delineated for approximately 1,325 linear feet within the investigated area. The stream is depicted on the USGS Topographic map and the *1975 Boone County Soil Survey* map as a perennial stream within the investigated area. Based on a review of the Boone County GIS data, the stream is a regulated legal drain. Etter Ditch drains to White Lick Creek, which eventually drain to the White River, a TNW.

The OHWM was approximately 2 feet deep and 10 feet wide at this location. The channel width at the top of bank was 13 feet. Bank height was 5 feet on the left bank and 5 feet on the right bank. The flow regime appears to be perennial. Riffles and runs were not present within this segment of the stream. The substrate was primarily sand and silt. Herbaceous vegetation dominated both banks of the stream. This stream would be considered a Riverine, Upper Perennial, Unconsolidated Bottom, Seasonally Flooded (R3UBC) under the Cowardin Classification System.

A QHEI (QHEI 6) was conducted for Etter Ditch just northwest of DP 8S-4. The overall QHEI score was 32 out of 100. This is a poor narrative rating according to the manual.

#### **5.2.8 White Lick Creek – First Crossing**

White Lick Creek at this location is a perennial stream that enters the investigated area approximately 2,000 feet south of Boone CR 550 S. The stream flows southwest through the investigated area. The stream was delineated for approximately 1,290 linear feet within the investigated area. The stream is depicted on the USGS Topographic map as a perennial feature. The stream is depicted on the *1975 Boone County Soil Survey* map as an intermittent stream within the investigated area. Based on a review of the Boone County GIS data, the stream is a regulated legal drain. White Lick Creek drains to the White River, a TNW.

The OHWM was approximately 2 feet deep and 12 feet wide at this location. The channel width at the top of bank was 15 feet. Bank height was 10 feet on the left bank and 10 feet on the right bank. The flow regime appears to be intermittent. Riffles and runs were present within this segment of the stream. The substrate was primarily silt and sand. Herbaceous vegetation dominated both banks of the stream. This stream would be considered a R3UBC under the Cowardin Classification System.

A QHEI (QHEI 7) was conducted for White Lick Creek approximately 100 feet southwest of the northeastern edge of the investigated area. The overall QHEI score was 46 out of 100. This is a fair narrative rating according to the manual.

#### **5.2.9 Unnamed Tributary to White Lick Creek (UNT 4)**

Unnamed tributary to White Lick Creek (UNT 4) would be considered an ephemeral stream that begins approximately 1,300 feet south of Boone CR 550 S. The stream exhibited a slight and discontinuous OHWM. The OHWM is likely impacted by annual farming activities. The stream was delineated for approximately 902 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey Map*. The stream is observable on the 2005, 2011 and 2014 aerial photography. Based on a review of the Boone county GIS data, the stream is not a regulated drain. UNT 4 drains to White Lick Creek, which eventually drains to the White River, a TNW.

The OHWM was approximately 7 inches deep and 1 foot wide at this location. The channel width at the top of bank was 1 foot. Bank height was 7 inches on the left bank and 7 inches on the right bank. The flow regime appears to be ephemeral. Riffles and runs were not present within this segment of the stream. The substrate was primarily silt. Agricultural fields dominated both banks of the stream. This stream would be considered a R5UBC under the Cowardin Classification System.

A QHEI (QHEI 8) was conducted for UNT 4 just north of the convergence with White Lick Creek. The overall QHEI score was 19 out of 100. This is a very poor narrative rating according to the manual.

#### **5.2.10 White Lick Creek – Second Crossing**

White Lick Creek at this location is a perennial stream that enters the investigated area approximately 550 feet west of SR 267. The stream flows southeast through the investigated area, underneath SR 267. The stream was delineated for approximately 1,120 linear feet within the investigated area. The stream is depicted on the USGS Topographic map and the *1975 Boone County Soil Survey* map as an intermittent stream within the investigated area. Based on a review of the Boone County GIS data, the stream is a regulated legal drain. White Lick Creek drains to the White River, a TNW.

The OHWM was approximately 1 foot deep and 5 feet wide at this location. The channel width at the top of bank was 7 feet. Bank height was 5 feet on the left bank and 5 feet on the right bank. The flow regime appears to be perennial. Riffles and runs were present within this segment of the stream. The substrate was primarily silt and sand. Herbaceous vegetation with sparse trees dominated both banks of the stream west of SR 267. Wetland 5S-C dominated the right bank of the stream, east of SR 267. Herbaceous vegetation dominated the left bank of the stream, east of SR 267. This stream would be considered a R3UBC under the Cowardin Classification System.

A QHEI (QHEI 9) was conducted for White Lick Creek approximately 300 feet southeast of SR 267. The overall QHEI score was 48 out of 100. This is a fair narrative rating according to the manual.

### **5.3 Non-Jurisdictional Features and Non-Wetland Data Points**

#### **5.3.1 William Hart (Tiled)**

William Hart is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 360 feet west of Hendricks CR 900 E and approximately 300 feet south of the CSX Railroad. The stream flows generally southeast then flows underneath County Road 900 East. The stream then flows east outside of the investigated area, where it becomes an open channel. The stream is mapped for approximately 1,110 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1974 Hendricks County Soil Survey* map. Based on a review of the Hendricks county GIS data, the stream is a regulated drain. William Hart is presumed to drain to School Branch, which eventually drains to the White River, a TNW.

#### **5.3.2 Kate Lee (Tiled)**

Kate Lee is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area north of Maloney Road. The stream flows south underneath Maloney Road then west underneath Hendricks CR 900 E. The stream flows south, with a portion outside of the investigated area and then flows east to cross underneath County Road 900 East again. The stream then flows south to an assumed confluence with School Branch. The stream is mapped for approximately 3,108 linear feet within the investigated area. A portion of the Kate Lee drain is visible as a grassed swale within the investigated area. The stream is depicted on the USGS Topographic Map as an intermittent stream. The stream is not depicted on the *1974 Hendricks County Soil Survey* map. Based on a review of the Hendricks county GIS data, the stream is a regulated drain. Kate Lee is presumed to drain to School Branch, which eventually drains to the White River, a TNW.

#### **5.3.3 Schenck (Tiled)**

Schenck is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 950 feet west of Boone CR 475 E. The stream flows northeast through the investigated area. The stream is mapped for approximately 384 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone County GIS data, the stream is a regulated drain. Schenck is presumed to drain to Etter Ditch, which eventually drains to the White River, a TNW.

#### **5.3.4 Legal Drain 1 (Tiled)**

Legal Drain 1 is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area south of Boone CR 650 S. The stream flows east through the investigated area. The stream is mapped for approximately 942 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone County GIS data, the stream is a regulated drain. Legal Drain 1 is presumed to drain to Etter Ditch, which eventually drains to the White River, a TNW.

#### **5.3.5 Legal Drain 2 (Tiled)**

Legal Drain 2 is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 1,900 feet north of Boone CR 650 S. The stream flows southeast through the project area. The stream is mapped for approximately 1,114 linear feet within the investigated area. . The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone County GIS data, the stream is a regulated drain. Legal drain 2 is presumed to drain to Etter Ditch, which eventually drains to the White River, a TNW.

#### **5.3.6 Legal Drain 3 (Tiled)**

Legal Drain 3 is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 1,200 feet north of Boone CR 650 S. The stream flows east through the project area. The stream is mapped for approximately 75 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone County GIS data, the stream is a regulated drain. Legal Drain 3 is presumed to drain to Legal Drain 2 which is presumed to drain to Etter Ditch, which eventually drains to the White River, a TNW.

#### **5.3.7 Farrell (Tiled)**

Farrell is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the project area south of 550 S and west of SR 267. The stream flows north underneath Boone CR 550 S and then flows east underneath SR 267. The stream is mapped for approximately 1,614 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone County GIS data, the stream is a regulated drain. Farrell is presumed to drain to White Lick Creek, which eventually drains to the White River, a TNW.

#### **5.3.8 Casserly (Tiled)**

Casserly is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 240 feet west of SR 267 and approximately 150 feet south of White Lick Creek. The stream flows northeast and outlets into White Lick Creek. The stream is mapped for approximately 184 linear feet within the investigated area. The stream is not depicted on the USGS Topographic Map nor on the *1975 Boone County Soil Survey* map. Based on a review of the Boone county GIS data, the stream is a regulated drain. Casserly is presumed to drain to White Lick Creek, which eventually drains to the White River, a TNW.

### **5.3.9 Fishback (Tiled)**

Fishback is a tiled legal drain whose location was based on county surveyor mapping. This encapsulated, assumed stream enters the investigated area approximately 2,000 feet south of Indianapolis Road and west of SR 267. The captured stream flows underneath SR 267 into the Retention Pond. The stream is not mapped on the USGS Topographic Map nor the 1974 *Boone County Soil Survey* map. The stream is mapped for approximately 414 linear feet. Fishback is presumed to drain to the White Lick Creek. Which drains to the White River, a TNW.

### **5.3.10 Retention Pond**

A retention pond is located approximately 50 feet east of SR 267 and approximately 450 feet south of Indianapolis Road. The pond was delineated for approximately 0.43 acre and 355 linear feet of shoreline within the investigated area. Riprap surrounds the edge of the pond. The pond is not depicted on the USGS Topographic Map nor the 1975 *Boone County Soil Survey* map. Wetland 5S-D drains into the pond from the south. The pond would be considered a Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx). Culverts are located along the eastern edge of the pond outside of the investigated area. A legal drain (Fishback) is mapped through the retention pond, draining the pond to the White Lick Creek. The pond may have a hydrologic connection to a TNW. The pond is a stormwater improvement best management practice created by adjacent development, and is therefore proposed to be exempt from Clean Water Act jurisdiction.

### **5.3.11 Non-Wetland Data Points**

Data point 7N-3 was collected north of Hendricks CR 750 N within the mapped 100-year floodplain of School Branch. The data point was collected to describe the upland conditions within the floodplain and the mapped hydric soils. The data point met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 7N-4 was collected east of Hendricks CR 900 N within the mapped 100-year floodplain of School Branch. The data point was collected within the grassed swale mapped as the Kate Lee tiled legal drain. The data point met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 8N-1 was collected east of CR 900 E. The data point was collected within mapped hydric soils within the grassed swale mapped as the Kate Lee tiled legal drain. The data point met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 8N-2 was collected west of CR 900 E. The data point was collected based on a review of multiple years of aerial photography. The data point did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data point 8N-3 was collected west of CR 900 E and south of Maloney Road. The data point was collected based on a review of multiple years of aerial photography. The data point met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 8N-4 was collected north of Maloney Road and west of CR 900 E. The data point was collected within mapped hydric soils and near the tiled legal drain, Kate Lee. The data point did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data points 8N-5 and 8N-6 were collected west of CR 900 E and south of Maloney Road. Data point 8N-5 was collected within mapped hydric soils. Data point 8N-6 was collected within mapped hydric soils and based on a review of multiple years of aerial photography. The data points did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data points 9N-1 to 9N-5 were collected north of Maloney Road and west of Hendricks CR 925 E. Data points 9N-1 and 9N-5 were collected within mapped hydric soils. Data points 9N-2, 9N-3 and 9N-4 were collected within mapped hydric soils and based on a review of multiple years of aerial photography. Data points 9N-1, 9N-2, 9N-3 and 9N-5 met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology. Data point 9N-4 met hydric soils and wetland hydrology, but did not meet hydrophytic vegetation.

Data points 9N-8 to 9N-10 were collected south of Hendricks CR 1000 N and east of Martin-Dugan Ditch. Data Point 9N-8 and 9N-9 were collected within mapped hydric soils. Data point 9N-10 was collected within mapped hydric soils and based on a review of multiple years of aerial photography. Data point 9N-8 met wetland hydrology but did not meet hydric soils or hydrophytic vegetation. Data Point 9N-9 did not meet hydrophytic vegetation, hydric soils, or wetland hydrology. Data Point 9N-10 met hydric soils and wetland hydrology, but did not meet hydrophytic vegetation.

Data points 10N-1 and 10N-2 were collected north of Hendricks CR 1000 N. Both data points were collected within mapped hydric soils, and based on a review of multiple years of aerial photography. Data points 10N-1 and 10N-2 met hydric soils and wetland hydrology, but did not meet hydrophytic vegetation.

Data point 10N-3 was collected north of Hendricks CR 1000 N, near Wetland 10N-A. Data Point 10N-3 was collected within mapped hydric soils and a mapped NWI wetland. Data point 10N-3 met hydric soils but did not meet hydrophytic vegetation or wetland hydrology.

Data point 10N-6 was collected north of Hendricks CR 1000 N, near Wetland 10N-A. Data point 10N-6 was collected within a forested buffer between two agricultural fields. Data point 10N-6 met hydrophytic vegetation but did not meet hydric soils or wetland hydrology.

Data points 8S-1, 8S-2 and 8S-3 were collected southeast of Etter Ditch. Data points 8S-1 to 8S-3 were collected within mapped hydric soils. Data point 8S-1 met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology. Data points 8S-2 and 8S-3 did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data points 8S-4, 8S-5 and 8S-6 were collected along Etter Ditch. All three data points were collected within mapped hydric soils. Data point 8S-4 met hydric soils, but did not meet hydrophytic vegetation. Data point 8S-5 met hydrophytic vegetation and hydric soils but did not meet wetland hydrology. Data Point 8S-6 did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data points 8S-7 to 8S-10 and 8S-13 were collected north of Boone CR 750 S. Data point 8S-7 was collected based on a review of multiple years of aerial photography. Data points 8S-8, 8S-9, and 8S-10 were collected within mapped hydric soils and based on a review of multiple years of aerial photography. Data point 8S-13 was collected in a herbaceous buffer between two fields. Data points 8S-7, 8S-8, 8S-9, 8S-10 and 8S-13 did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data point 7S-1 was collected south of Boone CR 650 S. Data point 7S-1 was collected based on a review of multiple years of aerial photography. Data point 7S-1 did not meet hydrophytic vegetation, hydric soils or wetland hydrology.

Data points 7S-2 and 7S-4 were collected south of Boone CR 650 S. Data points 7S-2 and 7S-4 were collected near an erosional feature observed on aerial photography. Data point 7S-2 met hydric soils and wetland hydrology, but did not meet hydrophytic vegetation. Data point 7S-4 met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 7S-3 was collected south of Boone CR 650 S. Data point 7S-3 was collected within mapped hydric soils. Data point 7S-3 met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data point 7S-5 was collected south of Boone CR 650 S. Data point 7S-5 was collected based on a review of multiple years of aerial photography. Data point 7S-5 met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data points 7S-6 and 7S-12 were collected north of Boone CR 650 S. Data point 7S-6 was collected to describe the upland scrub area north of the roadway. Data point 7S-12 was collected within mapped hydric soils and based on a review of multiple years of aerial photography. Data point 7S-6 did not meet hydrophytic vegetation, hydric soils or wetland hydrology. Data point 7S-12 met hydrophytic vegetation and hydric soils but did not meet wetland hydrology.

Data point 7S-13 was collected along White Lick Creek (first crossing). The data point was collected within mapped hydric soils. The data point met hydrophytic vegetation and hydric soils but did not meet wetland hydrology.

Data point 6S-3 was collected west of SR 267 and south of 550 S. The data point was collected within mapped hydric soils. The data point met hydric soils, but did not meet hydrophytic vegetation or wetland hydrology.

Data points 5S-1, 5S-2, and 5S-3 were collected along SR 267 north of White Lick Creek (second crossing). Data points 5S-2 and 5S-3 were collected within mapped hydric soils. Data point 5S-1 was collected within mapped hydric soils. Data point 5S-1, 5S-2 and 5S-3 did not meet hydrophytic vegetation, hydric soils, or wetland hydrology.

## 6.0 Conclusions

Twenty-nine wetlands and nine streams were identified within the investigated area. The total delineated wetland acreage within the investigated area is approximately 4.05 acres. Stream length within the investigated area totals approximately 7,897 linear feet and 1.424 acres. One retention pond was delineated within the investigated area, totaling 355 linear feet of shoreline. Nine streams and thirteen wetlands (Wetland 6N-B to Wetland 6N-H, Wetland 6N-J, Wetland 9N-B to Wetland 9N-C, and Wetland 5S-A to Wetland 5S-C) are anticipated to be considered jurisdictional “waters of the US.” A total of ten wetlands (Wetland 9N-A, Wetland 9N-D, Wetland 10N-A, Wetland 10N-B, Wetland 7S-A to Wetland 7S-C, Wetland 8S-A, Wetland 6S-A and Wetland 6S-B) did not have a hydrologic connection to a TNW. Therefore these ten wetlands would be considered an isolated “waters of the State.” A total of six wetlands (Wetland 6N-A, Wetland 6N-I, Wetland 6N-K, and Wetland 5S-D to Wetland 5S-F) were wholly contained within the ditchline

of roadside ditches and constructed in mapped hydric soils. Therefore, these six wetlands are anticipated to be considered jurisdictional “waters of the State.” The retention pond is a stormwater improvement best management practice created by adjacent development, therefore the pond is proposed to be exempt from Clean Water Act jurisdiction.

If impacts to any of these water resources are necessary, permits from the USACE and IDEM will be required. Mitigation may be a condition of receiving these permits. The final determination of jurisdictional waters is ultimately made by the USACE.

## **6.1 Jurisdictional Analysis**

Of the twenty-nine wetlands delineated within the investigated area, thirteen wetlands (Wetland 6N-B to Wetland 6N-H, Wetland 6N-J, Wetland 9N-B, Wetland 9N-C, and Wetland 5S-A to Wetland 5S-C) ultimately drain to the White River, A TNW, and extend beyond the confines of the ditchline. Therefore, these thirteen wetlands are anticipated to be considered jurisdictional “waters of the US.”

Of the twenty-nine wetlands delineated within the investigated areas, ten wetlands (Wetland 9N-A, Wetland 9N-D, Wetland 10N-A, Wetland 10N-B, Wetland 7S-A, Wetland 7S-B, Wetland 8S-A, Wetland 6S-A and Wetland 6S-B) do not ultimately drain to a TNW. Therefore, these ten wetlands are anticipated to be considered an isolated “waters of the State.”

Of the twenty-nine wetlands delineated within the investigated areas, six wetlands (Wetland 6N-A, Wetland 6N-I, Wetland 6N-K, and Wetland 5S-D to Wetland 5S-F) are wholly contained to the ditchline of the roadside ditches utilized for roadside drainage and are located within mapped hydric soils. Therefore, it is anticipated that these six wetlands will likely be considered a jurisdictional “waters of the State.”

Nine Streams (School Branch, Pump Run, Martin-Dugan Ditch, Etter Ditch, White Lick Creek, and UNT 1 to UNT 4) were delineated within the investigated area. All streams are open channel, exhibited a defined ordinary high water mark, exhibited a defined bed and bank, and ultimately drain to the White River, a TNW. Therefore these nine streams are anticipated to be considered a jurisdictional “waters of the US.”

One retention pond was delineated within the investigated area. A legal drain flowed through the pond, draining the pond to a TNW. However, the retention pond is a stormwater improvement best management practice created by adjacent development, therefore the pond is proposed to be exempt from the clean water act jurisdiction.

All jurisdictional “waters of the US” are under the regulatory authority of the USACE under Section 404 of the Clean Water Act. Impacts to less than one acre of wetland or 1,500 linear feet of stream are generally permitted under the RGP for Indiana. Impacts to the “waters of the US” and “waters of the State” are also under the regulatory authority of the IDEM under Section 401 of the Clean Water Act or the Indiana Isolated Wetlands Act (Indiana Code 13-18-22).

Impacts to the wetlands identified in this report would require a determination of jurisdictional status by the USACE. The final determination whether a “waters of the State” is considered exempt is determined by IDEM.



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## **Appendix A - Aquatic Resource Summary Tables**

**Table 1 – Data Points Summary**

| <b>Data Points Summary</b> |                   |                                  |                               |                     |                          |                         |
|----------------------------|-------------------|----------------------------------|-------------------------------|---------------------|--------------------------|-------------------------|
| <b>Photos</b>              | <b>Data Point</b> | <b>Associated Water Resource</b> | <b>Hydrophytic Vegetation</b> | <b>Hydric Soils</b> | <b>Wetland Hydrology</b> | <b>Within a Wetland</b> |
| 2-3                        | 6N-1              | Wetland 6N-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 4                          | 6N-2              | Wetland 6N-A                     | No                            | No                  | No                       | No                      |
| 12-13                      | 6N-3              | Wetland 6N-D                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 16-17                      | 6N-4              | Wetland 6N-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 18                         | 6N-5              | Wetland 6N-B and 6N-D            | No                            | Yes                 | No                       | No                      |
| 26                         | 6N-6              | Wetland 6N-C                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 27                         | 6N-7              | Wetland 6N-C                     | No                            | No                  | No                       | No                      |
| 35-36                      | 6N-8              | Wetland 6N-E                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 37                         | 6N-9              | Wetland 6N-E and 6N-H            | No                            | Yes                 | No                       | No                      |
| 40-41                      | 6N-10             | Wetland 6N-G                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 42-43                      | 6N-11             | Wetland 6N-F                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 44                         | 6N-12             | Wetland 6N-F and 6N-G            | No                            | Yes                 | No                       | No                      |
| 45                         | 6N-13             | Wetland 6N-H                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 46-47                      | 6N-14             | Wetland 6N-I                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 48                         | 6N-15             | Wetland 6N-I                     | No                            | Yes                 | No                       | No                      |
|                            | 6N-16             | Wetland 6N-K                     | Yes                           | Yes                 | Yes                      | Yes                     |
|                            | 6N-17             | Wetland 6N-K                     | No                            | No                  | No                       | No                      |
| 49                         | 7N-1              | Wetland 6N-J                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 50                         | 7N-2              | Wetland 6N-J                     | No                            | Yes                 | No                       | No                      |
| 54                         | 7N-3              | N/A                              | No                            | Yes                 | No                       | No                      |
| 58                         | 7N-4              | N/A                              | No                            | Yes                 | No                       | No                      |
| 60-61                      | 8N-1              | N/A                              | No                            | Yes                 | No                       | No                      |
| 63                         | 8N-2              | N/A                              | No                            | No                  | No                       | No                      |
| 64                         | 8N-3              | N/A                              | No                            | Yes                 | No                       | No                      |
| 65                         | 8N-4              | N/A                              | No                            | No                  | No                       | No                      |
| 66                         | 8N-5              | N/A                              | No                            | No                  | No                       | No                      |
| 67                         | 8N-6              | N/A                              | No                            | No                  | No                       | No                      |
| 69                         | 9N-1              | N/A                              | No                            | Yes                 | No                       | No                      |
| 70                         | 9N-2              | N/A                              | No                            | Yes                 | No                       | No                      |
| 71                         | 9N-3              | N/A                              | No                            | Yes                 | No                       | No                      |
| 72-73                      | 9N-4              | N/A                              | No                            | Yes                 | Yes                      | No                      |
| 74                         | 9N-5              | N/A                              | No                            | Yes                 | No                       | No                      |

| <b>Data Points Summary</b> |                   |                                  |                               |                     |                          |                         |
|----------------------------|-------------------|----------------------------------|-------------------------------|---------------------|--------------------------|-------------------------|
| <b>Photos</b>              | <b>Data Point</b> | <b>Associated Water Resource</b> | <b>Hydrophytic Vegetation</b> | <b>Hydric Soils</b> | <b>Wetland Hydrology</b> | <b>Within a Wetland</b> |
| 75-76                      | 9N-6              | Wetland 9N-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 77                         | 9N-7              | Wetland 9N-A                     | No                            | Yes                 | No                       | No                      |
| 78-79                      | 9N-8              | N/A                              | No                            | No                  | Yes                      | No                      |
| 83-84                      | 9N-9              | N/A                              | No                            | No                  | No                       | No                      |
| 85                         | 9N-10             | N/A                              | No                            | Yes                 | Yes                      | No                      |
| 93-94                      | 9N-11             | Wetland 9N-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 95                         | 9N-12             | Wetland 9N-B                     | No                            | No                  | No                       | No                      |
| 99-100                     | 9N-13             | Wetland 9N-C                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 101                        | 9N-14             | Wetland 9N-C                     | No                            | No                  | No                       | No                      |
| 102                        | 9N-15             | Wetland 9N-D                     | No                            | Yes                 | No                       | No                      |
| 103-104                    | 9N-16             | Wetland 9N-D                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 107                        | 10N-1             | N/A                              | No                            | Yes                 | Yes                      | No                      |
| 109                        | 10N-2             | N/A                              | No                            | Yes                 | Yes                      | No                      |
|                            | 10N-3             | N/A                              | No                            | Yes                 | No                       | No                      |
| 118-119                    | 10N-4             | Wetland 10N-A                    | Yes                           | Yes                 | Yes                      | Yes                     |
| 120                        | 10N-5             | Wetland 10N-A                    | Yes                           | Yes                 | No                       | No                      |
| 125-126                    | 10N-6             | N/A                              | Yes                           | No                  | No                       | No                      |
| 128-129                    | 10N-7             | Wetland 10N-B                    | Yes                           | Yes                 | Yes                      | Yes                     |
| 130                        | 10N-8             | Wetland 10N-B                    | No                            | Yes                 | No                       | No                      |
| 132                        | 8S-1              | N/A                              | No                            | Yes                 | No                       | No                      |
| 133                        | 8S-2              | N/A                              | No                            | No                  | No                       | No                      |
| 134                        | 8S-3              | N/A                              | No                            | No                  | No                       | No                      |
| 136                        | 8S-4              | N/A                              | No                            | Yes                 | No                       | No                      |
| 135                        | 8S-5              | N/A                              | Yes                           | Yes                 | No                       | No                      |
| 137                        | 8S-6              | N/A                              | No                            | No                  | No                       | No                      |
| 142                        | 8S-7              | N/A                              | No                            | No                  | No                       | No                      |
| 143                        | 8S-8              | N/A                              | No                            | No                  | No                       | No                      |
| 144                        | 8S-9              | N/A                              | No                            | No                  | No                       | No                      |
| 145                        | 8S-10             | N/A                              | No                            | No                  | No                       | No                      |
|                            | 8S-11             | Wetland 8S-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
|                            | 8S-12             | Wetland 8S-A                     | No                            | No                  | No                       | No                      |
| 146                        | 8S-13             | N/A                              | No                            | No                  | No                       | No                      |
| 148                        | 7S-1              | N/A                              | No                            | No                  | No                       | No                      |
| 150                        | 7S-2              | N/A                              | No                            | Yes                 | Yes                      | No                      |

| <b>Data Points Summary</b> |                   |                                  |                               |                     |                          |                         |
|----------------------------|-------------------|----------------------------------|-------------------------------|---------------------|--------------------------|-------------------------|
| <b>Photos</b>              | <b>Data Point</b> | <b>Associated Water Resource</b> | <b>Hydrophytic Vegetation</b> | <b>Hydric Soils</b> | <b>Wetland Hydrology</b> | <b>Within a Wetland</b> |
| 152                        | 7S-3              | N/A                              | No                            | Yes                 | No                       | No                      |
| 153                        | 7S-4              | N/A                              | No                            | Yes                 | No                       | No                      |
| 154                        | 7S-5              | N/A                              | No                            | Yes                 | No                       | No                      |
| 158-159                    | 7S-6              | N/A                              | No                            | No                  | No                       | No                      |
| 162                        | 7S-7              | Wetland 7S-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 163                        | 7S-8              | Wetland 7S-A                     | No                            | Yes                 | No                       | No                      |
| 164                        | 7S-9              | Wetland 7S-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 165                        | 7S-10             | Wetland 7S-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 166                        | 7S-11             | N/A                              | No                            | Yes                 | No                       | No                      |
| 168                        | 7S-12             | N/A                              | No                            | Yes                 | No                       | No                      |
| 172-173                    | 7S-13             | N/A                              | Yes                           | Yes                 | No                       | No                      |
| 187-188                    | 6S-1              | Wetland 6S-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 189                        | 6S-2              | Wetland 6S-A                     | No                            | Yes                 | No                       | No                      |
| 190                        | 6S-3              | N/A                              | No                            | Yes                 | No                       | No                      |
| 195-196                    | 6S-4              | Wetland 6S-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 197                        | 6S-5              | Wetland 6S-B                     | No                            | Yes                 | No                       | No                      |
| 216                        | 5S-1              | N/A                              | No                            | No                  | No                       | No                      |
| 217                        | 5S-2              | N/A                              | No                            | No                  | No                       | No                      |
| 215                        | 5S-3              | N/A                              | No                            | No                  | No                       | No                      |
| 199-200                    | 5S-4              | Wetland 5S-A                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 201                        | 5S-5              | Wetland 5S-A                     | No                            | Yes                 | No                       | No                      |
| 202-203                    | 5S-6              | Wetland 5S-B                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 204                        | 5S-7              | Wetland 5S-B                     | No                            | Yes                 | No                       | No                      |
| 205                        | 5S-8              | Wetland 5S-C                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 206                        | 5S-9              | Wetland 5S-C                     | No                            | No                  | No                       | No                      |
| 218-219                    | 5S-10             | Wetland 5S-D                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 220                        | 5S-11             | Wetland 5S-D                     | No                            | Yes                 | No                       | No                      |
| 223-224                    | 5S-12             | Wetland 5S-E                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 225                        | 5S-13             | Wetland 5S-E                     | No                            | No                  | No                       | No                      |
| 230-231                    | 5S-14             | Wetland 5S-F                     | Yes                           | Yes                 | Yes                      | Yes                     |
| 232                        | 5S-15             | Wetland 5S-F                     | No                            | Yes                 | No                       | No                      |

**Table 2 – Aquatic Resources Summary**

| <b>Aquatic Resources Summary: Wetlands</b> |                             |                        |                |                         |                                    |   |
|--|-----------------------------|------------------------|----------------|-------------------------|------------------------------------|---|
| <b>Delineated Resource</b>                 | <b>Photos</b>               | <b>Lat/ Long</b>       | <b>Quality</b> | <b>Cowardin Class</b>   | <b>Jurisdiction</b>                | <b>Total Acreage Within Investigated Area</b> |
| Wetland 6N-A                               | 2-4                         | 39.85025/-<br>86.35617 | Poor           | PEMC                    | “waters of the State” <sup>2</sup> | 0.28  |
| Wetland 6N-B                               | 16-19,<br>21, 23            | 39.85275/-<br>86.35578 | Fair           | PEMA                    | “waters of the US”                 | 0.10  |
| Wetland 6N-C                               | 25-27                       | 39.85347/-<br>86.35414 | Fair           | PEMA                    | “waters of the US”                 | 0.04  |
| Wetland 6N-D                               | 12-13                       | 39.85246/-<br>86.35654 | Fair           | PFO1C                   | “waters of the US”                 | 0.06  |
| Wetland 6N-E                               | 35-37                       | 39.86265/-<br>86.36359 | Poor           | PEMC                    | “waters of the US”                 | 0.04  |
| Wetland 6N-F                               | 42-44                       | 39.86294/-<br>86.36390 | Poor           | PEMC                    | “waters of the US”                 | 0.01  |
| Wetland 6N-G                               | 40-41                       | 39.86287/-<br>86.36416 | Poor           | PEMC                    | “waters of the US”                 | 0.02  |
| Wetland 6N-H                               | 45                          | 39.86220/-<br>86.36346 | Poor           | PEMC                    | “waters of the US”                 | 0.02  |
| Wetland 6N-I                               | 46-48                       | 39.86586/-<br>86.36675 | Poor           | PEMC                    | “waters of the State” <sup>2</sup> | 0.03  |
| Wetland 6N-J                               | 49-50                       | 39.86584/-<br>86.36703 | Poor           | PEMC                    | “waters of the US”                 | 0.03  |
| Wetland 6N-K                               | 235-<br>236                 | 39.84793/-<br>86.35560 | Poor           | PEMC                    | “waters of the State” <sup>2</sup> | 0.19  |
| Wetland 9N-A                               | 75-77                       | 39.90204/-<br>86.37043 | Poor           | PEMC                    | “waters of the State” <sup>3</sup> | 0.08  |
| Wetland 9N-B                               | 93-95                       | 39.90805/-<br>86.37350 | Poor           | PEMC                    | “waters of the US”                 | 0.08  |
| Wetland 9N-C                               | 99-101                      | 39.90912/-<br>86.37460 | Good           | PFO1C                   | “waters of the US”                 | 0.03  |
| Wetland 9N-D                               | 102-<br>104                 | 39.90806/-<br>86.37404 | Good           | PFO1C                   | “waters of the State” <sup>3</sup> | 0.01  |
| Wetland 10N-A                              | 115-<br>121,<br>123-<br>124 | 39.92177/-<br>86.37308 | Good           | PEMA,<br>PFO1A,<br>POWG | “waters of the State” <sup>3</sup> | 2.03  |

| Aquatic Resources Summary: Wetlands |                   |                    |         |                |                                    |  |
|-------------------------------------|-------------------|--------------------|---------|----------------|------------------------------------|--|
| Delineated Resource                 | Photos            | Lat/ Long          | Quality | Cowardin Class | Jurisdiction                       | Total Acreage Within Investigated Area |
| Wetland 10N-B                       | 128-130           | 39.92343/-86.37276 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.03                                   |
| Wetland 8S-A                        |                   | 39.93615/-86.38207 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.02                                   |
| Wetland 7S-A                        | 162               | 39.94756/-86.38268 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.004                                  |
| Wetland 7S-B                        | 164               | 39.94755/-86.38227 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.005                                  |
| Wetland 7S-C                        | 165-166           | 39.94816/-86.38275 | Fair    | PEMF           | "waters of the State" <sup>3</sup> | 0.14                                   |
| Wetland 6S-A                        | 187-189           | 39.95942/-86.39796 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.13                                   |
| Wetland 6S-B                        | 195-197           | 39.96592/-86.39883 | Poor    | PEMC           | "waters of the State" <sup>3</sup> | 0.21                                   |
| Wetland 5S-A                        | 199-200           | 39.96930/-86.39869 | Fair    | PEMA           | "waters of the US"                 | 0.01                                   |
| Wetland 5S-B                        | 202-204           | 39.9694/-86.39976  | Fair    | PEMA           | "waters of the US"                 | 0.05                                   |
| Wetland 5S-C                        | 205-206, 210, 213 | 39.96903/-86.39777 | Fair    | PEMA           | "waters of the US"                 | 0.16                                   |
| Wetland 5S-D                        | 218-220           | 39.97542/-86.39839 | Poor    | PEMC           | "waters of the State" <sup>2</sup> | 0.13                                   |
| Wetland 5S-E                        | 223-225           | 39.97854/-86.39776 | Poor    | PEMC           | "waters of the State" <sup>2</sup> | 0.07                                   |
| Wetland 5S-F                        | 230-231           | 39.97545/-86.39867 | Poor    | PEMC           | "waters of the State" <sup>2</sup> | 0.04                                   |
| <b>Total</b>                        |                   |                    |         |                |                                    | <b>4.05</b>                            |

1. Exempt "waters of the State." 2. Possible "waters of the State." 3. Isolated "waters of the State"



### Aquatic Resources Summary: Streams

| Delineated Resource                | Photos       | Lat/ Long              | USGS Blue Line | OHWL Width | OHWL Depth | Score/Narrative Quality | Riffle/Run Presence | Substrate     | Jurisdiction       | Total Linear Feet | Total Acres |
|------------------------------------|--------------|------------------------|----------------|------------|------------|-------------------------|---------------------|---------------|--------------------|-------------------|-------------|
| School Branch                      | 237-240      | 39.87297/<br>-86.36168 | Yes            | 15'        | 2'         | 45 - Fair               | No                  | Silt and San  | "waters of the US" | 210               | 0.07        |
| Pump Run                           | 89-91        | 39.90810/<br>-86.37263 | Yes            | 5'         | 2'         | 46 - Fair               | Yes                 | Silt and Sand | "waters of the US" | 1,615             | 0.34        |
| Martin-Dugan Ditch                 | 86-89, 96-98 | 39.90811/<br>-86.37377 | Yes            | 10'        | 1'         | 61 - Good               | Yes                 | Silt and Sand | "waters of the US" | 535               | 0.15        |
| Etter Ditch                        | 135, 138-140 | 39.92931/<br>-86.37947 | Yes            | 10'        | 2'         | 32 - Poor               | Yes                 | Silt and Sand | "waters of the US" | 1,325             | 0.30        |
| White Lick Creek (first crossing)  | 173-175, 177 | 39.95337/<br>-86.38776 | Yes            | 12'        | 2'         | 46 - Fair               | Yes                 | Sand and Silt | "waters of the US" | 1,290             | 0.36        |
| White Lick Creek (second crossing) | 207-210, 213 | 39.96937/<br>-86.39875 | Yes            | 5'         | 1'         | 48 - Fair               | Yes                 | Sand and Silt | "waters of the US" | 1,120             | 0.13        |
| UNT 1                              | 20-24, 28    | 39.85307/<br>-86.35491 | No             | 2'         | 10"        | 40 - Poor               | Yes                 | Silt and Sand | "waters of the US" | 675               | 0.03        |
| UNT 2                              | 38-39        | 39.86226/<br>-86.36318 | No             | 3'         | 10"        | 17 - Very Poor          | No                  | Silt and Sand | "waters of the US" | 250               | 0.02        |
| UNT 3                              | 80-82        | 39.90617/<br>-86.37379 | No             | 5'         | 10"        | 57 - Good               | Yes                 | Silt and Sand | "waters of the US" | 35                | 0.004       |

| Aquatic Resources Summary: Streams |              |                    |                |            |            |                         |                     |           |                    |                   |              |
|------------------------------------|--------------|--------------------|----------------|------------|------------|-------------------------|---------------------|-----------|--------------------|-------------------|--------------|
| Delineated Resource                | Photos       | Lat/ Long          | USGS Blue Line | OHWM Width | OHWM Depth | Score/Narrative Quality | Riffle/Run Presence | Substrate | Jurisdiction       | Total Linear Feet | Total Acres  |
| UNT 4                              | 178-180, 182 | 39.95341/-86.38909 | No             | 1'         | 7"         | 19 – Very Poor          | No                  | Silt      | “waters of the US” | 902               | 0.02         |
| <b>Total</b>                       |              |                    |                |            |            |                         |                     |           |                    | <b>7,897</b>      | <b>1.424</b> |

| Aquatic Resources Summary: Ponds |         |                    |                |                |              |   |             |
|----------------------------------|---------|--------------------|----------------|----------------|--------------|---|-------------|
| Delineated Resources             | Photos  | Lat/Long           | OHWM Elevation | Cowardin Class | Jurisdiction | Total Linear Feet of Shoreline within Investigated Area | Total acres |
| Retention Pond                   | 221-222 | 39.97638/-86.39809 | 937            | PUBGx          | Exempt       | 355   | 0.43        |
| <b>Grand Total</b>               |         |                    |                |                |              | <b>355</b>  | <b>0.43</b> |

| Aquatic Resources Summary |                   |                          |                  |
|---------------------------|-------------------|--------------------------|------------------|
| Resource                  | Wetlands          | Streams                  | Ponds            |
| <b>Grand Total</b>        | <b>4.05 acres</b> | <b>7,897 linear feet</b> | <b>0.43 acre</b> |

## **Appendix B - Routine Wetland Determination Data Forms**

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 1  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 7, T. 6 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8503 Long: -86.3562 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 3 Percent Slopes (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-A.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Typha angustifolia</u>                                  | 45               | Yes                      | OBL                      |   |
| 2. <u>Juncus tenuis</u>                                       | 45               | Yes                      | FAC                      |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 90 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-4            | 10YR 2/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 4-10           | 10YR 5/2      | 90  | 10YR 5/6       | 5  | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 2/1       | 5  | D                 | M                | Silty clay loam |         |
| 10-20          | 10YR 5/2      | 78  | 10YR 5/6       | 15 | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 2/1       | 7  | D                 | M                | Silty clay loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Data Point was taken at the toe of slope.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 2  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 7, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 2.0 Lat: 39.8503 Long: -86.3562 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 3 Percent Slopes (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <i>Schedonorus arundinaceus</i>                            | 40               | Yes                      | FACU                     |   |
| 2. <i>Poa pratensis</i>                                       | 30               | Yes                      | FAC                      |   |
| 3. <i>Trifolium pratense</i>                                  | 20               | Yes                      | FACU                     |   |
| 4. <i>Cirsium arvense</i>                                     | 5                | No                       | FACU                     |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 95 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 6N - 2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-2            | 10YR 4/3      | 100 |                |    |                   |                  | Silty clay loam |         |
| 2-9            | 10YR 4/3      | 93  | 10YR 3/2       | 7  | D                 | M                | Silty clay loam |         |
| 9-20           | 10YR 4/2      | 88  | 10YR 5/8       | 7  | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 3/1       | 15 | C                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                       |   |
|--|---|-----------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): _____ |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 3  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 9.0 Lat: 39.8524 Long: 86.3566 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Miami Clay Loam, 6 to 12 Percent Slopes (MsC3) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-D.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status |  |
|---|------------------|-------------------|------------------|--|
| 1. <u>Juglans nigra</u>                                       | 30               | Yes               | FACU             | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)   |
| 2. <u>Celtis occidentalis</u>                                 | 20               | Yes               | FAC              |  |
| 3. <u>Fraxinus pennsylvanica</u>                              | 10               | No                | FACW             |  |
| 4. <u>Platanus occidentalis</u>                               | 10               | No                | FACW             |  |
| 5. _____  | _____            | _____             | _____            |  |
|   |                  |                   | 70 = Total Cover | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |  |
| 1. <u>Rubus argutus</u>                                       | 15               | Yes               | FAC              |  |
| 2. _____  | _____            | _____             | _____            |  |
| 3. _____  | _____            | _____             | _____            |  |
| 4. _____  | _____            | _____             | _____            |  |
| 5. _____  | _____            | _____             | _____            |  |
|   |                  |                   | 15 = Total Cover |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |  |
| 1. <u>Elymus riparius</u>                                     | 35               | Yes               | FACW             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Solidago altissima</u>                                  | 25               | Yes               | FACU             |  |
| 3. <u>Toxicodendron radicans</u>                              | 10               | No                | FAC              |  |
| 4. <u>Symphytotrichum pilosum</u>                             | 7                | No                | FACU             |  |
| 5. <u>Parthenocissus quinquefolia</u>                         | 7                | No                | FACU             |  |
| 6. <u>Carex blanda</u>  | 7                | No                | FAC              |  |
| 7. _____  | _____            | _____             | _____            |  |
| 8. _____  | _____            | _____             | _____            |  |
| 9. _____  | _____            | _____             | _____            |  |
| 10. _____   | _____            | _____             | _____            |  |
|   |                  |                   | 91 = Total Cover |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |  |
| 1. _____  | _____            | _____             | _____            |  |
| 2. _____  | _____            | _____             | _____            |  |
|   |                  |                   | 0 = Total Cover  |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |  |



**SOIL**

Sampling Point: 6N - 3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/2      | 95 | 10YR 4/8       | 5 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input checked="" type="checkbox"/> Drainage Patterns (B10)        |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 4  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 9.0 Lat: 39.8526 Long: -86.3559 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Miami Clay Loam, 6 to 12 Percent Slopes (MsC3) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-B.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u><i>Typha angustifolia</i></u>                           | 90               | Yes                      | OBL                      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 2. <u><i>Solidago altissima</i></u>                           | 5                | No                       | FACU                     |  |
| 3. <u><i>Elymus riparius</i></u>                              | 3                | No                       | FACW                     |  |
| 4. <u><i>Symphotrichum lateriflorum</i></u>                   | 3                | No                       | FAC                      |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 101 = Total Cover   |                  |                          |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**SOIL**

Sampling Point: 6N - 4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 93 | 10YR 5/6       | 7 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input checked="" type="checkbox"/> Surface Water (A1)                       | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                          |   |
|--|---|--------------------------|---|
| Surface Water Present?                             | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>1</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>5</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 5  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 9.0 Lat: 39.8526 Long: -86.3559 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Miami Clay Loam, 6 to 12 Percent Slopes (MsC3) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-B and 6N-D.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   |                  | 0 = Total Cover          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   |                  | 0 = Total Cover          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <i>Schedonorus arundinaceus</i>                            | 100              | Yes                      | FACU                     | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Cirsium arvense</i>                                     | 3                | No                       | FACU                     |   |
| 3. <i>Heracleum maximum</i>                                   | 2                | No                       | FACW                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   |                  | 105 = Total Cover        |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   |                  | 0 = Total Cover          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-9            | 10YR 3/1      | 100 |                |   |                   |                  | Silty clay loam |         |
| 9-20           | 10YR 3/1      | 95  | 10YR 5/6       | 5 | C                 | M                | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 6  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Floodplains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8535 Long: -86.3542 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Genesee Silt Loam (Gn) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-C.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:   |
|---|------------------|------------------------------|-------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                              |                               | <b>Prevalence Index worksheet:</b>  |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Total % Cover of: _____ Multiply by: _____  |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | OBL species <u>35</u> x 1 = <u>35</u>   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | FACW species <u>50</u> x 2 = <u>100</u>   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | FAC species <u>0</u> x 3 = <u>0</u>   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | FACU species <u>25</u> x 4 = <u>100</u>   |
| 0 = Total Cover   |                  |                              |                               | UPL species <u>0</u> x 5 = <u>0</u>   |
|   |                  |                              |                               | Column Totals: <u>110</u> (A) <u>235</u> (B)  |
|   |                  |                              |                               | Prevalence Index = B/A = <u>2.14</u>  |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                              |                               | <b>Hydrophytic Vegetation Indicators:</b>   |
| 1. <u>Carex vulpinoides</u>                                   | <u>40</u>        | Yes <input type="checkbox"/> | FACW <input type="checkbox"/> | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |
| 2. <u>Schedonorus arundinaceus</u>                            | <u>25</u>        | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> | <input type="checkbox"/> 2 - Dominance Test is >50%   |
| 3. <u>Scirpus atrovirens</u>                                  | <u>20</u>        | No <input type="checkbox"/>  | OBL <input type="checkbox"/>  | <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>   |
| 4. <u>Typha angustifolia</u>                                  | <u>15</u>        | No <input type="checkbox"/>  | OBL <input type="checkbox"/>  | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 5. <u>Cyperus strigosus</u>                                   | <u>5</u>         | No <input type="checkbox"/>  | FACW <input type="checkbox"/> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
| 6. <u>Spartina pectinata</u>                                  | <u>5</u>         | No <input type="checkbox"/>  | FACW <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 110 = Total Cover   |                  |                              |                               | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                              |                               | Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>                                   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                               |   |

**SOIL**

Sampling Point: 6N - 6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-9            | 10YR 4/1      | 93 | 10YR 5/6       | 7 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Riprap  
 Depth (Inches): 9

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                              |   |
|--|---|------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>8</u>     |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>     |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 7  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Floodplains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.8534 Long: -86.3540 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Genesee Silt Loam (Gn) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-C.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Schedonorus arundinaceus</u>                            | 70               | Yes                      | FACU                     |   |
| 2. <u>Trifolium pratense</u>                                  | 15               | No                       | FACU                     |   |
| 3. <u>Poa pratensis</u>                                       | 15               | No                       | FAC                      |   |
| 4. <u>Cirsium arvense</u>                                     | 10               | No                       | FACU                     |   |
| 5. <u>Setaria faberi</u>                                      | 3                | No                       | FACU                     |   |
| 6. <u>Setaria pumila</u>                                      | 3                | No                       | FAC                      |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 116 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 6N - 7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/2      | 97 | 10YR 6/4       | 3 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

### WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 8  
 Investigator(s): Audrey Hanner and Monica Del Real Section, Township, Range: S. 6, T. 16 N, R 2 E  
 Landform (hillslope, terrace, etc.): Glacial Drainage Channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8627 Long: -86.3636 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-E.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Dominance Test worksheet:   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: _____ (B)   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | Prevalence Index worksheet:   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | Total % Cover of: _____ Multiply by: _____  |
| 1. <u>Echinochloa crus-galli</u>                              | 70               | Yes                      | FACW                     | OBL species _____ x 1 = _____   |
| 2. <u>Elymus riparius</u>                                     | 15               | No                       | FACW                     | FACW species _____ x 2 = _____  |
| 3. <u>Cyperus strigosus</u>                                   | 15               | No                       | FACW                     | FAC species _____ x 3 = _____   |
| 4. <u>Symphotrichum lanceolatum</u>                           | 5                | No                       | FAC                      | FACU species _____ x 4 = _____  |
| 5. <u>Rumex crispus</u>                                       | 5                | No                       | FAC                      | UPL species _____ x 5 = _____   |
| 6. <u>Scirpus atrovirens</u>                                  | 3                | No                       | OBL                      | Column Totals: <u>0</u> (A) <u>0</u> (B)  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Prevalence Index = B/A = _____  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 113 = Total Cover   |                  |                          |                          | Hydrophytic Vegetation Indicators:  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3/1      | 97 | 10YR 5/6       | 3  | C                 | M                | Silty clay loam |         |
| 6-20           | 10YR 4/1      | 60 | 10YR 5/8       | 40 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input checked="" type="checkbox"/> Drainage Patterns (B10)        |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input checked="" type="checkbox"/> Crayfish Burrows (C8)          |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/06  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 10  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 6, T. 16 N, R 2 E  
 Landform (hillslope, terrace, etc.): Glacial Drainage Channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8628 Long: -86.3640 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-G.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Hemerocallis fulva</u>                                  | 20               | Yes                      | UPL                      |   |
| 2. <u>Setaria pumila</u>                                      | 20               | Yes                      | FAC                      |   |
| 3. <u>Persicaria hydropiperoides</u>                          | 20               | Yes                      | OBL                      |   |
| 4. <u>Schedonorus arundinaceus</u>                            | 15               | No                       | FACU                     |   |
| 5. <u>Echinochloa crus-galli</u>                              | 7                | No                       | FACW                     |   |
| 6. <u>Setaria faberi</u>                                      | 2                | No                       | FACU                     |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 84 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 3/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 8-20           | 10YR 5/1      | 60  | 10YR 5/8       | 25 | C                 | M                | Clay loam       |         |
|                |               |     | 10YR 4/1       | 15 | D                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 11  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 1, T. 16 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Glacial Drainage Channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8629 Long: -86.3639 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-F.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|--|------------------|--------------------------|--------------------------|---|
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>   |                  |                          |                          |   |
| 1. <u>Echinochloa crus-galli</u>   | 30               | Yes                      | FACW                     |   |
| 2. <u>Cyperus strigosus</u>  | 10               | Yes                      | FACW                     |   |
| 3. <u>Setaria pumila</u>   | 3                | No                       | FAC                      |   |
| 4. <u>Thyrsanthella difformis</u>  | 2                | No                       | FACW                     |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 45 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                          |                          |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)  |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-2            | 10YR 3/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 2-5            | 10YR 5/1      | 75  | 10YR 5/8       | 20 | C                 | M                | Clay loam       |         |
|                |               |     | 10YR 3/1       | 5  | D                 | M                |                 |         |
| 5-12           | 10YR 4/1      | 70  | 10YR 5/8       | 15 | C                 | M                | Clay loam       |         |
|                |               |     | 10YR 3/1       | 15 | D                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Riprap  
 Depth (Inches): 12

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;12</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;12</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 12  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 1, T. 16 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Glacial Drainage Channels Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.8630 Long: -86.3639 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-F and 6N-G.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |   |  |
|---|------------------|--------------------------|--------------------------|---|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              | Absolute % Cover | Dominant Species?        | Indicator Status         |   |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 0 = Total Cover   |                  |                          |                          |   |  |
| Herb Stratum (Plot size: <u>5 ft</u> )                        | Absolute % Cover | Dominant Species?        | Indicator Status         |   |  |
| 1. <i>Schedonorus arundinaceus</i>                            | 60               | Yes                      | FACU                     | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |  |
| 2. <i>Setaria pumila</i>                                      | 30               | Yes                      | FAC                      |   |  |
| 3. <i>Taraxacum officinale</i>                                | 5                | No                       | FACU                     |   |  |
| 4. <i>Cirsium arvense</i>                                     | 3                | No                       | FACU                     |   |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 98 = Total Cover  |                  |                          |                          |   |  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 | Absolute % Cover | Dominant Species?        | Indicator Status         |   |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |  |
| 0 = Total Cover   |                  |                          |                          |   |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |  |



**SOIL**

Sampling Point: 6N - 12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-9            | 10YR 3/1      | 100 |                |   |                   |                  | Silty clay loam |         |
| 9-20           | 10YR 3/1      | 95  | 10YR 5/8       | 5 | C                 | M                | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                     |   |
|--|---|---------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <0  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/31/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 13  
 Investigator(s): Benjamin Harvey and Audrey Hanner Section, Township, Range: S. 6, T. 16 N, R 2 E  
 Landform (hillslope, terrace, etc.): Glacial Drainage Channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8622 Long: -86.3635 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-H.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Dominance Test worksheet:   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: _____ (B)   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | Prevalence Index worksheet:   |
| 1. <u>Ambrosia trifida</u>                                    | 30               | Yes                      | FAC                      | Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 30 = Total Cover  |                  |                          |                          | Hydrophytic Vegetation Indicators:  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 3/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 8-20           | 10YR 5/1      | 60  | 10YR 5/8       | 25 | C                 | M                | Clay loam       |         |
|                |               |     | 10YR 4/1       | 15 | D                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                     |   |
|--|---|---------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <0  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N-14  
 Investigator(s): Monica Del Real and Chad Costa Section, Township, Range: S. 1, T. 16N, R. 1E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8656 Long: 86.3665 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-I.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <i>Echinochloa crus-galli</i>                              | 40               | Yes                      | FACW                     |  |
| 2. <i>Schedonorus arundinaceus</i>                            | 5                | No                       | FACU                     |  |
| 3. <i>Cyperus esculentus</i>                                  | 5                | No                       | FACW                     |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 50 = Total Cover         |                          | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**SOIL**

Sampling Point: 6N-14

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-9            | 10YR 3/1      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 9-18           | 10YR 5/1      | 65  | 10YR 5/8       | 30 | C                 | M                | Clay Loam       |         |
|                |               |     | 10YR 3/1       | 5  | D                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input checked="" type="checkbox"/> Crayfish Burrows (C8)          |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): <0

Water Table Present? Yes  No  Depth (inches): >18

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >18

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N-15  
 Investigator(s): Monica Del Real and Chad Costa Section, Township, Range: S. 1, T. 16N, R. 1E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): convex  
 Slope (%): 1.0 Lat: 39.8656 Long: 86.3665 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-I.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|--|------------------|--------------------------|--------------------------|---|
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>   |                  |                          |                          |   |
| 1. <i>Schedonorus arundinaceus</i>   | 100              | Yes                      | FACU                     |   |
| 2. <i>Trifolium repens</i>   | 3                | No                       | FACU                     |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 103 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present. |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N-15

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-9            | 10YR 3/1      | 93 | 10YR 4/4       | 7  | C                 | M                | Silty Clay Loam |         |
| 9-18           | 10YR 4/1      | 80 | 10YR 5/8       | 15 | C                 | M                | Clay Loam       |         |
|                |               |    | 10YR 3/1       | 5  | D                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (Inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 1/11/17  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 16  
 Investigator(s): Audrey Hanner Section, Township, Range: S. 7, T. 6 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8492 Long: 86.3557 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-K.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Typha angustifolia</u>                                  | 45               | Yes                      | OBL                      |   |
| 2. <u>Juncus tenuis</u>                                       | 45               | Yes                      | FAC                      |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 90 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 6N - 16

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-4            | 10YR 2/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 4-10           | 10YR 5/2      | 90  | 10YR 5/6       | 5  | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 2/1       | 5  | D                 | M                | Silty clay loam |         |
| 10-20          | 10YR 5/2      | 78  | 10YR 5/6       | 15 | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 2/1       | 7  | D                 | M                | Silty clay loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |  |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                     |  |
|--|---|---------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <0  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data Point was taken at the toe of slope.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 1/11/17  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6N - 17  
 Investigator(s): Audrey Hanner Section, Township, Range: S. 7, T. 16 N, R. 2 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.8493 Long: 86.3556 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-K.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <i>Schedonorus arundinaceus</i>                            | 40               | Yes                      | FACU                     |   |
| 2. <i>Poa pratensis</i>                                       | 30               | Yes                      | FAC                      |   |
| 3. <i>Trifolium pratense</i>                                  | 20               | Yes                      | FACU                     |   |
| 4. <i>Cirsium arvense</i>                                     | 5                | No                       | FACU                     |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 95 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 6N - 17

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-2            | 10YR 4/3      | 100 |                |    |                   |                  | Silty clay loam |         |
| 2-9            | 10YR 4/3      | 93  | 10YR 3/2       | 7  | D                 | M                | Silty clay loam |         |
| 9-20           | 10YR 4/2      | 88  | 10YR 5/8       | 7  | C                 | M                | Silty clay loam |         |
|                |               |     | 10YR 3/1       | 15 | C                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7N-1  
 Investigator(s): Monica Deal Real and Chad Costa Section, Township, Range: S. 1, T. 16N, R. 1E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8659 Long: 86.3670 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby silt loam, 0 to 3 percent slopes (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6N-J.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Echinochloa crus-galii</u>                              | 45               | Yes                      | FACW                     |   |
| 2. <u>Cyperus esculentus</u>                                  | 10               | No                       | FACW                     |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 55 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 7N-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 3/1      | 95 | 10YR 4/6       | 5  | C                 | M                | Silty Clay Loam |         |
| 8-18           | 10YR 5/1      | 70 | 10YR 5/8       | 20 | C                 | M                | Clay Loam       |         |
|                |               |    | 10YR 4/2       | 10 | C                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7N-2  
 Investigator(s): Monica Deal Real and Chad Costa Section, Township, Range: S. 1, T. 16N, R. 1E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): convex  
 Slope (%): 1.0 Lat: 39.8658 Long: 86.3671 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby silt loam, 0 to 3 percent slopes (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6N-J.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:   |
|---|------------------|------------------------------|-------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                              |                               |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                              |                               |   |
| 1. <u>Schedonorus arundinaceus</u>  | 50               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 2. <u>Trifolium repens</u>  | 30               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 3. <u>Taraxacum officinale</u>  | 20               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 100 = Total Cover   |                  |                              |                               |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                              |                               |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                              |                               |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                  |                              |                               |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                  |                              |                               |   |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present.  |                  |                              |                               |   |

**SOIL**

Sampling Point: 7N-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 95 | 10YR 4/6       | 5 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7N-3  
 Investigator(s): Monica Deal Real and Chad Costa Section, Township, Range: S. 36, T. 17N, R. 1E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.8731 Long: 86.3619 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was taken to represent the area located within the mapped 100-year floodplain.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:   |
|--|------------------|------------------------------|-------------------------------|---|
| 1. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| <u>0</u> = Total Cover   |                  |                              |                               | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                              |                               |   |
| 1. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| <u>0</u> = Total Cover   |                  |                              |                               |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>   |                  |                              |                               |   |
| 1. <u>Trifolium repens</u>   | 65               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 2. <u>Taraxacum officinale</u>   | 10               | No <input type="checkbox"/>  | FACU <input type="checkbox"/> |   |
| 3. <u>Schedonorus arundinaceus</u>   | 10               | No <input type="checkbox"/>  | FACU <input type="checkbox"/> |   |
| 4. <u>Setaria pumila</u>   | 5                | No <input type="checkbox"/>  | FAC <input type="checkbox"/>  |   |
| 5. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 6. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 7. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 8. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 9. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 10. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| <u>90</u> = Total Cover  |                  |                              |                               |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                              |                               |   |
| 1. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| <u>0</u> = Total Cover   |                  |                              |                               |   |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present. |                  |                              |                               |   |



**SOIL**

Sampling Point: 7N-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 80 | 10YR 4/3       | 15 | C                 | M                | Silty Clay Loam |         |
|                |               |    | 10YR 2/1       | 5  | D                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7N-4  
 Investigator(s): Monica Deal Real and Chad Costa Section, Township, Range: S. 36, T. 17N, R. 1E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.8774 Long: 86.3628 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby silt loam, 0 to 3 percent slopes (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was taken to represent the area within the mapped 100-year floodplain.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|--|------------------|--------------------------|--------------------------|--|
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)  |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover  |                  |                          |                          |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )   |                  |                          |                          | Dominance Test worksheet:  |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: _____ (B)  |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover  |                  |                          |                          |  |
| Herb Stratum (Plot size: <u>5 ft</u> )   |                  |                          |                          | Prevalence Index worksheet:  |
| 1. <u>Schedonorus arundinaceus</u>   | 100              | Yes                      | FACU                     | Total % Cover of: _____ Multiply by: _____   |
| 2. <u>Cirsium arvense</u>  | 2                | No                       | FACU                     | OBL species _____ x 1 = _____  |
| 3. <u>Trifolium repens</u>   | 2                | No                       | FACU                     | FACW species _____ x 2 = _____   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | FAC species _____ x 3 = _____  |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | FACU species _____ x 4 = _____   |
| 6. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | UPL species _____ x 5 = _____  |
| 7. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Column Totals: <u>0</u> (A) <u>0</u> (B)   |
| 8. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Prevalence Index = B/A = _____   |
| 9. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 104 = Total Cover  |                  |                          |                          | Hydrophytic Vegetation Indicators:   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )  |                  |                          |                          | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover  |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present. |                  |                          |                          |  |

**SOIL**

Sampling Point: 7N-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks      |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|--------------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |              |
| 0-6            | 10YR 3/1      | 50 |                |    |                   |                  | Silty Clay Loam | Split Matrix |
|                | 10YR 4/2      | 50 |                |    |                   |                  |                 |              |
| 6-18           | 10YR 4/1      | 75 | 10YR 3/1       | 15 | D                 | M                | Silty Clay Loam |              |
|                |               |    | 5YR 3/4        | 10 | C                 | M                |                 |              |
|                |               |    |                |    |                   |                  |                 |              |
|                |               |    |                |    |                   |                  |                 |              |
|                |               |    |                |    |                   |                  |                 |              |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-1  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25, T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8811 Long: 86.3635 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a grassy swale.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Schedonorus arundinaceus</u>                            | 100              | Yes                      | FACU                     | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 8N-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)              | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                     | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)        |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 Depleted matrix assumed below 18", so A12 is checked.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-2  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25,T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8803 Long: 86.3641 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a mowed right-of-way adjacent to a corn field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Dominance Test worksheet:   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: _____ (B)   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | Prevalence Index worksheet:   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | Total % Cover of: _____ Multiply by: _____  |
| 1. <i>Schedonorus arundinaceus</i>                            | 25               | Yes                      | FACU                     | OBL species _____ x 1 = _____   |
| 2. <i>Setaria faberi</i>                                      | 25               | Yes                      | FACU                     | FACW species _____ x 2 = _____  |
| 3. <i>Cirsium arvense</i>                                     | 8                | No                       | FACU                     | FAC species _____ x 3 = _____   |
| 4. <i>Taraxacum officinale</i>                                | 5                | No                       | FACU                     | FACU species _____ x 4 = _____  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | UPL species _____ x 5 = _____   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Column Totals: <u>0</u> (A) <u>0</u> (B)  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Prevalence Index = B/A = _____  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Hydrophytic Vegetation Indicators:  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 2 - Dominance Test is >50%   |
| 63 = Total Cover  |                  |                          |                          | <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |
| 0 = Total Cover   |                  |                          |                          | Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>                                   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 8N-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-3  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25, T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8857 Long: 86.3639 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 80               | Yes                      | UPL                      |   |
| 2. <u>Setaria faberi</u>                                      | 10               | No                       | FACU                     |   |
| 3. <u>Panicum dichotomiflorum</u>                             | 10               | No                       | FACW                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 8N-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-18           | 10YR 3/1      | 100 |                |   |                   |                  | clay loam |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)              | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                     | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)        |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Depleted matrix below 18" assumed, so A12 is checked.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-4  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25, T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8860 Long: 86.3623 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Zea mays</u>  | 80               | Yes                      | UPL                      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. <u>Setaria faberi</u>                                      | 25               | Yes                      | FACU                     |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 105 = Total Cover   |                  |                          |                          |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 8N-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/2      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-5  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25, T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8856 Long: 86.3664 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  |                   |                  | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  |                   |                  | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Zea mays</u>  | 100              | Yes               | UPL              | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 100 = Total Cover   |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**SOIL**

Sampling Point: 8N-5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/2      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8N-6  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S25, T17N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.8875 Long: 86.3667 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Br) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?                       | Indicator Status                        | Dominance Test worksheet:   |
|---|------------------|---|---|---|
| 1. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 3. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 4. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 5. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 0 = Total Cover   |                  |   |   | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |   |   |   |
| 1. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 2. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 3. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 0 = Total Cover   |                  |   |   |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |   |   |   |
| 1. <u>Zea mays</u>  | 100              | Yes <input checked="" type="checkbox"/> | UPL <input checked="" type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 3. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 4. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 5. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 6. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 7. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 8. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 9. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 10. _____   |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 100 = Total Cover   |                  |   |   |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |   |   |   |
| 1. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 2. _____  |                  | <input type="checkbox"/>                | <input type="checkbox"/>                |   |
| 0 = Total Cover   |                  |   |   |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |   |   |   |

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 8N-6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/2      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 1  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.8952 Long: 86.3675 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Zea mays</u>  | 65               | Yes                      | UPL                      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. <u>Ambrosia trifida</u>                                    | 10               | No                       | FAC                      |   |
| 3. <u>Setaria faberi</u>                                      | 5                | No                       | FACU                     |   |
| 4. <u>Setaria pumila</u>                                      | 1                | No                       | FAC                      |   |
| 5. <u>Circaea canadensis</u>                                  | 1                | No                       | FACU                     |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 82 = Total Cover  |                  |                          |                          |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 9N 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 3/1      | 100 |                |    |                   |                  | Clay Loam       |         |
| 8-20           | 10YR 6/1      | 75  | 10YR 5/8       | 25 | D                 | M                | Silty Clay Loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 2  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.8970 Long: 86.3669 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 65               | Yes                      | UPL                      |   |
| 2. <u>Amaranthus powellii</u>                                 | 5                | No                       | UPL                      |   |
| 3. <u>Setaria pumila</u>                                      | 3                | No                       | FAC                      |   |
| 4. <u>Alliaria petiolata</u>                                  | 2                | No                       | FAC                      |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 75 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 9N 2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 4/1      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 8-20           | 10YR 5/1      | 80  | 10YR 7/8       | 20 | C                 | M                | Silty Clay Loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 3  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.8983 Long: 86.3687 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Zea mays</u>  | 65               | Yes                      | UPL                      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |
| 2. <u>Setaria pumila</u>                                      | 5                | No                       | FAC                      |   |
| 3. <u>Setaria faberi</u>                                      | 5                | No                       | FACU                     |   |
| 4. <u>Solanum carolinense</u>                                 | 2                | No                       | FACU                     |   |
| 5. <u>Amaranthus powellii</u>                                 | 2                | No                       | UPL                      |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 79 = Total Cover  |                  |                          |                          |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 9N 3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-8            | 10YR 3/1      | 100 |                |    |                   |                  | Clay Loam |         |
| 8-14           | 10YR 3/1      | 95  | 10YR 6/1       | 5  | D                 | M                | Clay Loam |         |
| 14-20          | 10YR 6/2      | 75  | 10YR 5/8       | 25 | C                 | M                | Clay Loam |         |
|                |               |     |                |    |                   |                  |           |         |
|                |               |     |                |    |                   |                  |           |         |
|                |               |     |                |    |                   |                  |           |         |
|                |               |     |                |    |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 4  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9006 Long: 86.3689 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped light spot over multiple years.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species <u>0</u> x 1 = <u>0</u><br>FACW species <u>10</u> x 2 = <u>20</u><br>FAC species <u>15</u> x 3 = <u>45</u><br>FACU species <u>75</u> x 4 = <u>300</u><br>UPL species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>100</u> (A) <u>365</u> (B)<br><br>Prevalence Index = B/A = <u>3.65</u> |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u>Setaria faberi</u>                                      | 60               | Yes                      | FACU                     |  |
| 2. <u>Setaria italica</u>                                     | 10               | No                       | FACU                     |  |
| 3. <u>Echinochloa crus-galli</u>                              | 10               | No                       | FACW                     |  |
| 4. <u>Ambrosia trifida</u>                                    | 10               | No                       | FAC                      |  |
| 5. <u>Amaranthus viridis</u>                                  | 5                | No                       | FAC                      |  |
| 6. <u>Amaranthus retroflexus</u>                              | 5                | No                       | FACU                     |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 100 = Total Cover   |                  |                          |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 9N 4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                                       |                                       | Texture         | Remarks |
|----------------|---------------|----|----------------|----|---------------------------------------|---------------------------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup>                     | Loc <sup>2</sup>                      |                 |         |
| 0-10           | 10YR 3/1      | 87 | 10YR 6/2       | 10 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Silty Clay Loam |         |
|                |               |    | 10YR 6/8       | 3  | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
| 10-20          | 10YR 3/1      | 85 | 10YR 6/2       | 5  | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Clay Loam       |         |
|                |               |    | 10YR 6/8       | 10 | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
|                |               |    |                |    | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |    | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)              | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                      |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)                  |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)              |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)              |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)                  |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input checked="" type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)                |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required: check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 5  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9005 Long: 86.3705 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 65               | Yes                      | UPL                      |   |
| 2. <u>Alliaria petiolata</u>                                  | 5                | No                       | FAC                      |   |
| 3. <u>Setaria italica</u>                                     | 2                | No                       | FACU                     |   |
| 4. <u>Poa pratensis</u>                                       | 2                | No                       | FAC                      |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 74 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 9N 5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3/1      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 5-12           | 10YR 3/1      | 96  | 10YR 6/2       | 2  | D                 | M                | Silty Clay Loam |         |
|                |               |     | 10YR 6/8       | 2  | C                 | M                |                 |         |
| 12-20          | 10YR 6/1      | 75  | 10YR 6/8       | 25 | C                 | M                | Silty Clay Loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 6  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9020 Long: 86.3706 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 9N-A.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Echinochloa crus-galli</u>                              | 30               | Yes                      | FACW                     |   |
| 2. <u>Poa pratensis</u>                                       | 10               | Yes                      | FAC                      |   |
| 3. <u>Setaria pumila</u>                                      | 5                | No                       | FAC                      |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 45 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 9N 6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-10           | 10YR 4/1      | 90 | 10YR 3/6       | 10 | C                 | M                | Silty Clay Loam |         |
| 10-20          | 10YR 5/1      | 90 | 10YR 5/6       | 10 | C                 | M                | Clay Loam       |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: DP 9N 7  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9020 Long: 86.3705 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding wetland 9N-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Trifolium pratense</u>                                  | 25               | Yes                      | FACU                     |   |
| 2. <u>Poa pratensis</u>                                       | 20               | Yes                      | FAC                      |   |
| 3. <u>Taraxacum officinale</u>                                | 15               | No                       | FACU                     |   |
| 4. <u>Setaria pumila</u>                                      | 10               | No                       | FAC                      |   |
| 5. <u>Zea mays</u>  | 10               | No                       | UPL                      |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 80 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: DP 9N 7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-10           | 10YR 3/2      | 95 | 10YR 3/6       | 5  | C                 | M                | Silty Clay Loam |         |
| 10-20          | 10YR 3/1      | 85 | 10YR 6/6       | 10 | C                 | M                | Silty Clay Loam |         |
|                |               |    | 10YR 5/3       | 5  | C                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: DP 9N 8  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9054 Long: 86.3732 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:   |
|---|------------------|------------------------------|-------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                              |                               |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                              |                               |   |
| 1. <u>Festuca rubra</u>   | 30               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 2. <u>Zea mays</u>  | 10               | Yes <input type="checkbox"/> | UPL <input type="checkbox"/>  |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 40 = Total Cover  |                  |                              |                               |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                              |                               |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                              |                               |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                  |                              |                               |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                  |                              |                               |   |
| Remarks: (Include photo numbers here or on a separate sheet.)   |                  |                              |                               |   |

**SOIL**

Sampling Point: DP 9N 8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-12           | 10YR 4/1      | 100 |                |    |                   |                  | Clay Loam       |         |
| 12-20          | 10YR 5/1      | 90  | 10YR 5/6       | 10 | C                 | M                | Silty Clay Loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input checked="" type="checkbox"/> Drainage Patterns (B10)        |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |  |
|--|---|--------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 9  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills Plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9063 Long: 86.3738 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status |   |
|---|------------------|-------------------|------------------|---|
| 1. <i>Celtis occidentalis</i>                                 | 35               | Yes               | FAC              | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)  |
| 2. <i>Prunus serotina</i>                                     | 3                | No                | FACU             |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 38 = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br>Prevalence Index = B/A = _____   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |   |
| 1. <i>Lonicera morrowii</i>                                   | 65               | Yes               | FACU             |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 65 = Total Cover  |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |   |
| 1. <i>Stellaria pubera</i>                                    | 10               | Yes               | UPL              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 2. <i>Lonicera morrowii</i>                                   | 5                | Yes               | FACU             |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 15 = Total Cover  |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |   |
| 1. _____  |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |



**SOIL**

Sampling Point: 9N 9

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-20           | 10YR 3/2      | 100 |                |   |                   |                  | Silt Loam |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |  |
|--|---|--|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |  |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |  |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |  |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |  |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |  |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |  |

**Field Observations:**

|  |   |                      |  |
|--|---|----------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): < 0  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): > 18 |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): > 18 |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 No apparent hydrology indicators. Adjacent to a ditch, but 10 feet above it.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 10  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Tills plain Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9067 Long: 86.3736 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                          |                          |   |
| 1. <u>Festuca rubra</u>   | 25               | Yes                      | FACU                     |   |
| 2. <u>Poa annua</u>   | 15               | Yes                      | FACU                     |   |
| 3. <u>Euphorbia spathulata</u>  | 10               | No                       | FACU                     |   |
| 4. <u>Sida spinosa</u>  | 2                | No                       | FACU                     |   |
| 5. <u>Salix nigra</u>   | 1                | No                       | OBL                      |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 53 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                          |                          |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)   |                  |                          |                          |   |

**SOIL**

Sampling Point: 9N 10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-4            | 10YR 4/1      | 100 |                |    |                   |                  | Clay Loam  |         |
| 4-15           | 10YR 4/1      | 85  | 10YR 3/4       | 15 | C                 | M                | Clay Loam  |         |
| 15-20          | 10YR 5/1      | 80  | 10YR 3/4       | 20 | C                 | M                | Sandy Loam |         |
|                |               |     |                |    |                   |                  |            |         |
|                |               |     |                |    |                   |                  |            |         |
|                |               |     |                |    |                   |                  |            |         |
|                |               |     |                |    |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 11  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9081 Long: 86.3735 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|--|------------------|--------------------------|--------------------------|---|
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>   |                  |                          |                          |   |
| 1. <u>Setaria pumila</u>   | 35               | Yes                      | FAC                      |   |
| 2. <u>Echinochloa crus-galli</u>   | 15               | Yes                      | FACW                     |   |
| 3. <u>Panicum virgatum</u>   | 5                | No                       | FAC                      |   |
| 4. <u>Matricaria discoidea</u>   | 3                | No                       | FACU                     |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 58 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                          |                          |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.   |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)  |                  |                          |                          |   |

**SOIL**

Sampling Point: 9N 11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-13           | 10YR 3/1      | 90 | 10YR 4/4       | 10 | C                 | M                | Silty Clay Loam |         |
| 13-20          | 10YR 5/1      | 75 | 10YR 5/8       | 20 | C                 | M                | Silty Clay Loam |         |
|                |               |    | 10YR 2/1       | 5  | D                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|   |   |  |
|---|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b>  |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                   | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                                | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                      | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                     | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                  | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                   | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)              | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 12  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 24, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9082 Long: 86.3735 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 65               | Yes                      | UPL                      |   |
| 2. <u>Poa annua</u>   | 20               | Yes                      | FACU                     |   |
| 3. <u>Cerastium arvense</u>                                   | 5                | No                       | FACU                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 90 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 9N 12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-12           | 10YR 3/2      | 100 |                |    |                   |                  | Silty Clay Loam |         |
| 12-20          | 10YR 3/1      | 85  | 10YR 2/1       | 5  | D                 | M                | Silty Clay Loam |         |
|                |               |     | 10YR 4/6       | 10 | C                 | M                |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |  |
|--|---|--------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 13  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 14, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9092 Long: 86.3747 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |                                      |                          |   |
|---|--------------------------------------|--------------------------|---|
| Hydrophytic Vegetation Present?   | Yes <input checked="" type="radio"/> | No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Hydric Soil Present?  | Yes <input type="radio"/>            | No <input type="radio"/> |   |
| Wetland Hydrology Present?  | Yes <input checked="" type="radio"/> | No <input type="radio"/> |   |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream. |                                      |                          |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |
|---|------------------|-------------------|------------------|--|
| 1. <i>Ulmus americana</i>                                     | 40               | Yes               | FACW             | Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>8</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>88</u> (A/B)   |
| 2. <i>Acer negundo</i>  | 35               | Yes               | FAC              |  |
| 3. <i>Fraxinus pennsylvanica</i>                              | 5                | No                | FACW             |  |
| 4. <i>Acer saccharum</i>                                      | 5                | No                | FACU             |  |
| 5. _____  |                  |                   |                  |  |
|   |                  |                   | 85 = Total Cover | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |  |
| 1. <i>Cornus drummondii</i>                                   | 55               | Yes               | FAC              |  |
| 2. <i>Lonicera morrowii</i>                                   | 5                | No                | FACU             |  |
| 3. <i>Cercis canadensis</i>                                   | 5                | No                | FACU             |  |
| 4. <i>Taxodium distichum</i>                                  | 5                | No                | OBL              |  |
| 5. _____  |                  |                   |                  |  |
|   |                  |                   | 70 = Total Cover |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |  |
| 1. <i>Cornus drummondii</i>                                   | 5                | Yes               | FAC              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Celtis occidentalis</i>                                 | 2                | Yes               | FAC              |  |
| 3. <i>Persicaria virginiana</i>                               | 2                | Yes               | FAC              |  |
| 4. <i>Geum vernum</i>   | 2                | Yes               | FACU             |  |
| 5. <i>Pilea pumila</i>  | 2                | Yes               | FACW             |  |
| 6. _____  |                  |                   |                  |  |
| 7. _____  |                  |                   |                  |  |
| 8. _____  |                  |                   |                  |  |
| 9. _____  |                  |                   |                  |  |
| 10. _____   |                  |                   |                  |  |
|   |                  |                   | 13 = Total Cover |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |  |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
|   |                  |                   | 0 = Total Cover  |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |  |



**SOIL**

Sampling Point: 9N 13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3/2      |    |                |    |                   |                  | Silty Clay Loam |         |
| 6-15           | 10YR 4/2      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty Clay Loam |         |
| 15-22          | 10YR 3/2      | 85 | 10YR 3/4       | 15 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |  |
|--|---|--|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |  |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |  |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |  |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input checked="" type="checkbox"/> Crayfish Burrows (C8)          |  |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |  |
| <input checked="" type="checkbox"/> Drift Deposits (B3)                      | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |  |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |  |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Adjacent to creek within floodplain.

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 14  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 14, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9091 Long: 86.3747 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. <i>Acer saccharum</i>                                      | 35               | Yes               | FACU             | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>6</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>17</u> (A/B)  |
| 2. <i>Morus rubra</i>   | 20               | Yes               | FACU             |   |
| 3. <i>Prunus serotina</i>                                     | 20               | Yes               | FACU             |   |
| 4. _____  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br>Prevalence Index = B/A = _____   |
| 5. _____  |                  |                   |                  |   |
| 75 = Total Cover  |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                   |                  |   |
| 1. <i>Lonicera morrowii</i>                                   | 15               | Yes               | FACU             |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 15 = Total Cover  |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                   |                  |   |
| 1. <i>Euonymus fortunei</i>                                   | 20               | Yes               | UPL              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Alliaria petiolata</i>                                  | 10               | Yes               | FAC              |   |
| 3. <i>Persicaria virginiana</i>                               | 5                | No                | FAC              |   |
| 4. <i>Geum vernum</i>   | 5                | No                | FACU             |   |
| 5. <i>Carex blanda</i>  | 5                | No                | FAC              |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 45 = Total Cover  |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**SOIL**

Sampling Point: 9N 14

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture    | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-8            | 10YR 3/2      |    |                |    |                   |                  | Silty Loam |         |
| 8-12           | 10YR 3/1      |    |                |    |                   |                  | Silty Loam |         |
| 12-18          | 10YR 4/1      | 85 | 10YR 5/8       | 15 | C                 |                  | Silty Loam |         |
|                |               |    |                |    |                   |                  |            |         |
|                |               |    |                |    |                   |                  |            |         |
|                |               |    |                |    |                   |                  |            |         |
|                |               |    |                |    |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 15  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 23, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9080 Long: 86.3740 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                | Absolute % Cover | Dominant Species? | Indicator Status |   |
|--|------------------|-------------------|------------------|---|
| 1. <i>Celtis occidentalis</i>                          | 75               | Yes               | FAC              | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 2. <i>Morus alba</i>                                   | 10               | No                | FAC              |   |
| 3. <i>Juglans nigra</i>                                | 10               | No                | FACU             |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
|  | 95               | = Total Cover     |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br>Prevalence Index = B/A = _____   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b> |                  |                   |                  |   |
| 1. <i>Lonicera morrowii</i>                            | 5                | Yes               | FACU             |   |
| 2. _____   |                  |                   |                  |   |
| 3. _____   |                  |                   |                  |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
|  | 5                | = Total Cover     |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>           |                  |                   |                  |   |
| 1. <i>Persicaria virginiana</i>                        | 40               | Yes               | FAC              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Sanicula canadensis</i>                          | 30               | Yes               | FACU             |   |
| 3. <i>Geum virginianum</i>                             | 10               | No                | FACU             |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
| 6. _____   |                  |                   |                  |   |
| 7. _____   |                  |                   |                  |   |
| 8. _____   |                  |                   |                  |   |
| 9. _____   |                  |                   |                  |   |
| 10. _____  |                  |                   |                  |   |
|  | 80               | = Total Cover     |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>    |                  |                   |                  |   |
| 1. _____   |                  |                   |                  |   |
| 2. _____   |                  |                   |                  |   |
|  | 0                | = Total Cover     |                  |   |

Remarks: (Include photo numbers here or on a separate sheet.)

Hydrophytic Vegetation Present? Yes  No

**SOIL**

Sampling Point: 9N 15

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-12           | 10YR 3/2      |    |                |    |                   |                  | Silt Loam       |         |
| 12-20          | 10YR 4/2      | 85 | 10YR 5/6       | 15 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 9N 16  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 23, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9081 Long: 86.3739 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils and a mapped stream.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|--|------------------|-------------------|------------------|---|
| 1. <i>Celtis occidentalis</i>                          | 45               | Yes               | FAC              | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. <i>Morus alba</i>                                   | 20               | Yes               | FAC              |   |
| 3. <i>Carya ovata</i>                                  | 15               | No                | FACU             |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
|  |                  |                   | 80 = Total Cover | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b> |                  |                   |                  |   |
| 1. <i>Lonicera morrowii</i>                            | 2                | No                | FACU             |   |
| 2. _____   |                  |                   |                  |   |
| 3. _____   |                  |                   |                  |   |
|  |                  |                   | 2 = Total Cover  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>           |                  |                   |                  |   |
| 1. _____   |                  |                   |                  |   |
| 2. _____   |                  |                   |                  |   |
| 3. _____   |                  |                   |                  |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
| 6. _____   |                  |                   |                  |   |
| 7. _____   |                  |                   |                  |   |
| 8. _____   |                  |                   |                  |   |
| 9. _____   |                  |                   |                  |   |
| 10. _____  |                  |                   |                  |   |
|  |                  |                   | 0 = Total Cover  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>    |                  |                   |                  |   |
| 1. _____   |                  |                   |                  |   |
| 2. _____   |                  |                   |                  |   |
|  |                  |                   | 0 = Total Cover  |   |

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: 9N 16

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 4/2      | 80 | 10YR 3/4       | 20 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)  | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N 1  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 13, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9125 Long: 86.3739 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u><i>Amaranthus retroflexus</i></u>                       | 20               | Yes                      | FACU                     |   |
| 2. <u><i>Amaranthus powellii</i></u>                          | 20               | Yes                      | UPL                      |   |
| 3. <u><i>Amaranthus hybridus</i></u>                          | 20               | Yes                      | UPL                      |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 60 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 10N 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-10           | 10YR 4/1      | 95 | 10YR 3/6       | 5  | C                 | M                | Silty Clay Loam |         |
| 10-20          | 10YR 3/1      | 85 | 10YR 3/6       | 15 | C                 | M                | Clay            |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N 2  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 13, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9143 Long: 86.3730 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to the presence of mapped hydric soils.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u><i>Amaranthus retroflexus</i></u>                       | 20               | Yes                      | FACU                     |   |
| 2. <u><i>Amaranthus powellii</i></u>                          | 20               | Yes                      | UPL                      |   |
| 3. <u><i>Amaranthus hybridus</i></u>                          | 20               | Yes                      | UPL                      |   |
| 4. <u><i>Solanum carolinense</i></u>                          | 2                | No                       | FACU                     |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 62 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 10N 2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-10           | 10YR 4/1      | 95 | 10YR 3/6       | 5  | C                 | M                | Silty Clay Loam |         |
| 10-20          | 10YR 3/1      | 85 | 10YR 3/6       | 15 | C                 | M                | Clay            |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N 3  
 Investigator(s): Ben Harvey and Katie Krejsa Section, Township, Range: Section 13, Township 17 North, Range 1 East  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 0.5 Lat: 39.9216 Long: 86.3739 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston Silty Clay Loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected due to mapped hydric soils and mapped wetlands nearby.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. <i>Celtis occidentalis</i>                                 | 45               | Yes               | FAC              | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>4</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25</u> (A/B)  |
| 2. <i>Carya ovata</i>   | 20               | Yes               | FACU             |   |
| 3. <i>Carpinus caroliniana</i>                                | 15               | No                | FAC              |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
|   |                  |                   | 80 = Total Cover | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |   |
| 1. <i>Parthenocissus quinquefolia</i>                         | 12               | Yes               | FACU             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Toxicodendron radicans</i>                              | 2                | No                | FAC              |   |
| 3. <i>Carex blanda</i>  | 2                | No                | FAC              |   |
| 4. <i>Persicaria virginiana</i>                               | 2                | No                | FAC              |   |
| 5. <i>Viola hirsutula</i>                                     | 2                | No                | FACU             |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 20 = Total Cover  |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |   |
| 1. <i>Parthenocissus quinquefolia</i>                         | 5                | Yes               | FACU             |   |
| 2. _____  |                  |                   |                  |   |
| 5 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**SOIL**

Sampling Point: 10N 3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture   | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-9            | 10YR 3/2      |    |                |    |                   |                  | Silt Loam |         |
| 9-18           | 10YR 6/2      | 85 | 10YR 4/6       | 15 | C                 | M                | Silt Loam |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |
|                |               |    |                |    |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                                |   |
|--|---|--------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt; 0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt; 18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N-4  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 13, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9218 Long: 86.3737 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 10N-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Setaria pumila</u>                                      | 20               | Yes                      | FAC                      |   |
| 2. <u>Echinochloa crus-galli</u>                              | 20               | Yes                      | FACW                     |   |
| 3. <u>Carex vulpinoidea</u>                                   | 15               | No                       | FACW                     |   |
| 4. <u>Panicum virgatum</u>                                    | 15               | No                       | FAC                      |   |
| 5. <u>Rumex crispus</u>                                       | 10               | No                       | FAC                      |   |
| 6. <u>Elymus virginicus</u>                                   | 10               | No                       | FAC                      |   |
| 7. <u>Platanus occidentalis</u>                               | 10               | No                       | FACW                     |   |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 10N-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10Yr 3/1      | 90 | 10YR 5/6       | 10 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |   |
|--|---|---|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>                         |
| <input checked="" type="checkbox"/> Surface Water (A1)                       | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                             |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                              |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)                          |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                                |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)                      |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                                |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |   |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |   |

**Field Observations:**

|  |   |                          |   |
|--|---|--------------------------|---|
| Surface Water Present?                             | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>5</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>7</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Standing water was adjacent to the soil pit, at approximately 5" deep.

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N-5  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 13, T. 17 N, R 1 E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9219 Long: 86.3738 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding 10N-A   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status |   |
|---|------------------|-------------------|------------------|---|
| 1. <i>Carpinus caroliniana</i>                                | 30               | Yes               | FAC              | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)  |
| 2. <i>Celtis occidentalis</i>                                 | 30               | Yes               | FAC              |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
|   | 60               | = Total Cover     |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
|   | 0                | = Total Cover     |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |   |
| 1. <i>Solidago canadensis</i>                                 | 45               | Yes               | FACU             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Juncus tenuis</i>                                       | 30               | Yes               | FAC              |   |
| 3. <i>Ambrosia trifida</i>                                    | 25               | Yes               | FAC              |   |
| 4. <i>Setaria pumila</i>                                      | 15               | No                | FAC              |   |
| 5. <i>Platanus occidentalis</i>                               | 5                | No                | FACW             |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
|   | 120              | = Total Cover     |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
|   | 0                | = Total Cover     |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |



**SOIL**

Sampling Point: 10N-5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 90 | 10YR 5/6       | 10 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N-6  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 13, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9226 Long: 86.3739 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby silt loam (CrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within a forested buffer between two agricultural fields.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status  | Dominance Test worksheet:  |
|---|------------------|-------------------|-------------------|--|
| 1. <i>Juglans nigra</i>                                       | 75               | Yes               | FACU              | Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80</u> (A/B)   |
| 2. <i>Carpinus caroliniana</i>                                | 20               | No                | FAC               |  |
| 3. <i>Acer saccharum</i>                                      | 15               | No                | FACU              |  |
| 4. <i>Fraxinus pennsylvanica</i>                              | 10               | No                | FACW              |  |
| 5. _____  |                  |                   |                   |  |
|   |                  |                   | 120 = Total Cover | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                   |  |
| 1. <i>Celtis occidentalis</i>                                 | 15               | Yes               | FAC               |  |
| 2. _____  |                  |                   |                   |  |
| 3. _____  |                  |                   |                   |  |
|   |                  |                   | 15 = Total Cover  |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                   |  |
| 1. <i>Elymus virginicus</i>                                   | 55               | Yes               | FACW              | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Toxicodendron radicans</i>                              | 15               | No                | FAC               |  |
| 3. <i>Parthenocissus quinquefolia</i>                         | 15               | No                | FACU              |  |
| 4. <i>Schedonorus arundinaceus</i>                            | 15               | No                | FACU              |  |
| 5. <i>Fraxinus pennsylvanica</i>                              | 3                | No                | FACW              |  |
| 6. _____  |                  |                   |                   |  |
| 7. _____  |                  |                   |                   |  |
| 8. _____  |                  |                   |                   |  |
| 9. _____  |                  |                   |                   |  |
| 10. _____   |                  |                   |                   |  |
|   |                  |                   | 103 = Total Cover |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                   |  |
| 1. <i>Vitis vulpina</i>                                       | 5                | Yes               | FAC               | <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |
| 2. <i>Toxicodendron radicans</i>                              | 5                | Yes               | FAC               |  |
|   |                  |                   | 10 = Total Cover  |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                   |  |

**SOIL**

Sampling Point: 10N-6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 4/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N-7  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 13, T. 17 N, R 1 E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9218 Long: 86.3738 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 10N-B.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|------------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                          |   |
| 1. <u>Echinochloa crus-galli</u>                              | 30               | Yes <input type="checkbox"/> | FACW                     |   |
| 2. <u>Rumex crispus</u>                                       | 20               | Yes <input type="checkbox"/> | FAC                      |   |
| 3. <u>Zea mays</u>  | 20               | Yes <input type="checkbox"/> | UPL                      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 70 = Total Cover  |                  |                              |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                          |   |

**SOIL**

Sampling Point: 10N-7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 95 | 10YR 5/6       | 5 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |   |
|--|---|---|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>               |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)        |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                    |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)                |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                      |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)        |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                      |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |   |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |   |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Hendricks County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 10N-8  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 13, T. 17 N, R 1 E  
 Landform (hillslope, terrace, etc.): Glacial drainage channels Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9233 Long: 86.3727 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 10N-B.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status             | Dominance Test worksheet:   |
|---|------------------|------------------------------|------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                              |   |
| 1. <u>Zea mays</u>  | 55               | Yes <input type="checkbox"/> | UPL <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 55 = Total Cover  |                  |                              |                              |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                              |   |

**SOIL**

Sampling Point: 10N-8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 95 | 10YR 5/6       | 5 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-1  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9255 Long: 86.3745 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Fincastle silt loam (FdbA) NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is within a wetland.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Cerastium fontanum</u>                                  | 85               | Yes                      | FACU                     |   |
| 2. <u>Glycine max</u>   | 15               | No                       | UPL                      |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 8S-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/2      | 90 | 10YR 5/6       | 10 | C                 | PL               | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-2  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9264 Long: 86.3766 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is within an agricultural field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )          | Absolute % Cover | Dominant Species? | Indicator Status |   |
|--|------------------|-------------------|------------------|---|
| 1. _____   |                  |                   |                  | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____   |                  |                   |                  |   |
| 3. _____   |                  |                   |                  |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
| <u>0</u> = Total Cover                           |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> ) | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. _____   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| 2. _____   |                  |                   |                  |   |
| 3. _____   |                  |                   |                  |   |
| 4. _____   |                  |                   |                  |   |
| 5. _____   |                  |                   |                  |   |
| <u>0</u> = Total Cover                           |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>5 ft</u> )           | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. <i>Setaria faberi</i>                         | 85               | Yes               | FACU             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <i>Panicum dichotomiflorum</i>                | 10               | No                | FACW             |   |
| 3. <i>Echinochloa crus-galli</i>                 | 5                | No                | FACW             |   |
| 4. <i>Rumex crispus</i>                          | 5                | No                | FAC              |   |
| 5. _____   |                  |                   |                  |   |
| 6. _____   |                  |                   |                  |   |
| 7. _____   |                  |                   |                  |   |
| 8. _____   |                  |                   |                  |   |
| 9. _____   |                  |                   |                  |   |
| 10. _____  |                  |                   |                  |   |
| <u>105</u> = Total Cover                         |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )    | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. _____   |                  |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____   |                  |                   |                  |   |
| <u>0</u> = Total Cover                           |                  |                   |                  |   |

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: 8S-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-3  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9279 Long: 86.3782 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is within an agricultural field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |
|---|------------------|-------------------|------------------|--|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FACU species _____ x 3 = _____<br>UPL species _____ x 4 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                   |                  |  |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                   |                  |  |
| 1. <u>Glycine max</u>   | 100              | Yes               | UPL              |  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 6. _____  |                  |                   |                  |  |
| 7. _____  |                  |                   |                  |  |
| 8. _____  |                  |                   |                  |  |
| 9. _____  |                  |                   |                  |  |
| 10. _____   |                  |                   |                  |  |
| 100 = Total Cover   |                  |                   |                  |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                   |                  |  |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  |  |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>This sample point doesn't meet any of the hydrophytic vegetation indicators. |                  |                   |                  |  |

**SOIL**

Sampling Point: 8S-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-4  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): convex  
 Slope (%): 2.0 Lat: 39.9300 Long: 86.3778 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of an area adjacent to Etter Ditch.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:  |
|---|------------------|------------------------------|-------------------------------|--|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 0 = Total Cover   |                  |                              |                               | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species <u>40</u> x 2 = <u>80</u><br>FAC species _____ x 3 = _____<br>FACU species <u>70</u> x 4 = <u>280</u><br>UPL species _____ x 5 = _____<br>Column Totals: <u>110</u> (A) <u>360</u> (B)<br>Prevalence Index = B/A = <u>3.30</u> |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                               |  |
| 1. <i>Malus sp</i>  | 20               | Yes <input type="checkbox"/> | UPL <input type="checkbox"/>  |  |
| 2. <i>Fraxinus americana</i>                                  | 20               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 40 = Total Cover  |                  |                              |                               |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                               |  |
| 1. <i>Solidago altissima</i>                                  | 45               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |  |
| 2. <i>Phalaris arundinacea</i>                                | 40               | Yes <input type="checkbox"/> | FACW <input type="checkbox"/> |  |
| 3. <i>Cirsium arvense</i>                                     | 5                | No <input type="checkbox"/>  | FACU <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 90 = Total Cover  |                  |                              |                               |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                               |  |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 0 = Total Cover   |                  |                              |                               |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                               |  |

**SOIL**

Sampling Point: 8S-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-18           | 10YR 3/1      | 100 |                |   |                   |                  | clay loam |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)              | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                     | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)        |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Depleted matrix below 18" assumed, so A12 is checked.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> |   | <u>Secondary Indicators (minimum of two required)</u>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-5  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): convex  
 Slope (%): 2.0 Lat: 39.9290 Long: 86.3805 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is located along a stream.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <i>Phalaris arundinacea</i>                                | 40               | Yes                      | FACW                     |   |
| 2. <i>Elymus virginicus</i>                                   | 30               | Yes                      | FACW                     |   |
| 3. <i>Panicum dichotomiflorum</i>                             | 20               | Yes                      | FACW                     |   |
| 4. <i>Schoenoplectus tabernaemontani</i>                      | 10               | No                       | OBL                      |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 8S-5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture   | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |           |         |
| 0-18           | 10YR 3/1      | 100 |                |   |                   |                  | clay loam |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |
|                |               |     |                |   |                   |                  |           |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)              | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                     | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)        |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Depleted matrix below 18" assumed, so A12 is checked.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> |   | <u>Secondary Indicators (minimum of two required)</u>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-7  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): stream terrace Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9289 Long: 86.3814 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is between an agricultural field and Etter Ditch.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species <u>15</u> x 2 = <u>30</u><br>FAC species <u>65</u> x 3 = <u>195</u><br>FACU species <u>20</u> x 4 = <u>80</u><br>UPL species _____ x 5 = _____<br>Column Totals: <u>100</u> (A) <u>305</u> (B)<br><br>Prevalence Index = B/A = <u>3.05</u> |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u>Poa pratensis</u>                                       | 65               | Yes                      | FAC                      |  |
| 2. <u>Schedonorus arundinaceus</u>                            | 20               | Yes                      | FACU                     |  |
| 3. <u>Elymus virginicus</u>                                   | 15               | No                       | FACW                     |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 100 = Total Cover   |                  |                          |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 8S-7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-18           | 10YR 3/2      | 100 |                |   |                   |                  | Silty loam |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-7  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9312 Long: 86.3819 Datum: D\_WGS\_1984  
 Soil Map Unit Name: CudA (Cyclone silty clay loam) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:  |
|---|------------------|-------------------|------------------|--|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FACU species _____ x 3 = _____<br>UPL species _____ x 4 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |  |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |  |
| 1. <u>Zea mays</u>  | 100              | Yes               | UPL              |  |
| 2. _____  |                  |                   |                  |  |
| 3. _____  |                  |                   |                  |  |
| 4. _____  |                  |                   |                  |  |
| 5. _____  |                  |                   |                  |  |
| 6. _____  |                  |                   |                  |  |
| 7. _____  |                  |                   |                  |  |
| 8. _____  |                  |                   |                  |  |
| 9. _____  |                  |                   |                  |  |
| 10. _____   |                  |                   |                  |  |
| 100 = Total Cover   |                  |                   |                  |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |  |
| 1. _____  |                  |                   |                  |  |
| 2. _____  |                  |                   |                  |  |
| 0 = Total Cover   |                  |                   |                  |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |  |

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 8S-7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-8  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9323 Long: 86.3803 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a soybean field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |   |
| 1. <u>Glycine max</u>   | 100              | Yes               | UPL              |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 100 = Total Cover   |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 8S-8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-9  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9346 Long: 86.3815 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a corn field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  |                   |                  | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  |                   |                  | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Zea mays</u>  | 100              | Yes               | UPL              | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 100 = Total Cover   |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |



**SOIL**

Sampling Point: 8S-9

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-10  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9354 Long: 86.3812 Datum: D\_WGS\_1984  
 Soil Map Unit Name: CudA (Cyclone silty clay loam) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a soybean field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Glycine max</u>   | 100              | Yes                      | UPL                      | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 8S-10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/3      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-11  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9361 Long: 86.3820 Datum: D\_WGS\_1984  
 Soil Map Unit Name: CudA (Cyclone silty clay loam) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This sample point is within Wetland 8S-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____  |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |
| 1. <u>Xanthium strumarium</u>                                 | 100              | Yes                      | FAC                      | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.<br><br><b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 100 = Total Cover   |                  |                          |                          |  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          |  |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**SOIL**

Sampling Point: 8S-11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 100 |                |   |                   |                  | Silty clay loam |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |
|                |               |     |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                       | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                   | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)               | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)              | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                     | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11)   | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input checked="" type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)            | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)        |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:  
 Depleted matrix below 18" assumed, so A12 is checked.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> |   | <u>Secondary Indicators (minimum of two required)</u>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-12  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9362 Long: 86.3821 Datum: D\_WGS\_1984  
 Soil Map Unit Name: CudA (Cyclone silty clay loam) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a soybean field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Dominance Test worksheet:   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: _____ (B)   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | Prevalence Index worksheet:   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | Total % Cover of: _____ Multiply by: _____  |
| 1. <u>Glycine max</u>   | 100              | Yes                      | UPL                      | OBL species _____ x 1 = _____   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FACW species _____ x 2 = _____  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FAC species _____ x 3 = _____   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FACU species _____ x 4 = _____  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | UPL species _____ x 5 = _____   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Column Totals: <u>0</u> (A) <u>0</u> (B)  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Prevalence Index = B/A = _____  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Hydrophytic Vegetation Indicators:  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 2 - Dominance Test is >50%   |
| 100 = Total Cover   |                  |                          |                          | <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |
| 0 = Total Cover   |                  |                          |                          | Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>                                   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 8S-12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-18           | 2.5Y 4/3      | 100 |                |   |                   |                  | Silty loam |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 8S-13  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S11, T7N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9366 Long: 86.3813 Datum: D\_WGS\_1984  
 Soil Map Unit Name: CudA (Cyclone silty clay loam) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of a herbaceous strip between agricultural fields.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Rumex crispus</u>                                       | 55               | Yes                      | FAC                      |   |
| 2. <u>Setaria faberi</u>                                      | 45               | Yes                      | FACU                     |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 8S-13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty loam |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 1  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2. T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9392 Long: -86.3820 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within suspicious vegetation within the agricultural field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Glycine max</u>   | 30               | Yes                      | UPL                      |   |
| 2. <u>Amaranthus biltoides</u>                                | 25               | Yes                      | FACU                     |   |
| 3. <u>Setaria faberi</u>                                      | 5                | No                       | FACU                     |   |
| 4. <u>Chenopodium album</u>                                   | 3                | No                       | FACU                     |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 63 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 7S - 1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-12           | 10YR 4/3      | 95 | 10YR 4/6       | 5  | C                 | M                | Silty clay loam |         |
| 12-20          | 10YR 6/1      | 70 | 10YR 4/2       | 15 | D                 | M                | Clay loam       |         |
|                |               |    | 10YR 5/8       | 15 | C                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S -2  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9410 Long: -86.3813 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within a swale in the middle of an agricultural field.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Glycine max</u>   | 10               | Yes                      | UPL                      |   |
| 2. <u>Amaranthus powelii</u>                                  | 10               | Yes                      | UPL                      |   |
| 3. <u>Echinochloa crus-galli</u>                              | 5                | No                       | FACW                     |   |
| 4. <u>Taraxacum officinale</u>                                | 3                | No                       | FACU                     |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 28 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 7S -2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                                       |                                       | Texture         | Remarks |
|----------------|---------------|----|----------------|----|---------------------------------------|---------------------------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup>                     | Loc <sup>2</sup>                      |                 |         |
| 0-10           | 10YR 4/1      | 82 | 10YR 2/1       | 15 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Silty clay loam |         |
|                |               |    | 10YR 5/6       | 3  | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
| 10-20          | 10YR 4/1      | 75 | 10YR 2/1       | 15 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Clay loam       |         |
|                |               |    | 10YR 5/6       | 10 | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
|                |               |    |                |    | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   |                 |         |
|                |               |    |                |    | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   |                 |         |
|                |               |    |                |    | <input checked="" type="checkbox"/>   | <input checked="" type="checkbox"/>   |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input checked="" type="checkbox"/> Sediment Deposits (B2)                   | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 3  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9429 Long: -86.3823 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within mapped hydric soils.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status             | Dominance Test worksheet:   |
|---|------------------|------------------------------|------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                              |   |
| 1. <u>Zea mays</u>  | 79               | Yes <input type="checkbox"/> | UPL <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 79 = Total Cover  |                  |                              |                              |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                              |   |

**SOIL**

Sampling Point: 7S - 3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                                       |                                       | Texture         | Remarks |
|----------------|---------------|----|----------------|----|---------------------------------------|---------------------------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup>                     | Loc <sup>2</sup>                      |                 |         |
| 0-10           | 10YR 4/1      | 88 | 10YR 2/1       | 15 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Silty clay loam |         |
|                |               |    | 10YR 5/6       | 3  | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
| 10-20          | 10YR 4/1      | 75 | 10YR 2/1       | 15 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Clay loam       |         |
|                |               |    | 10YR 5/6       | 10 | <input checked="" type="checkbox"/> C | <input checked="" type="checkbox"/> M |                 |         |
|                |               |    |                |    | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |    | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |    | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): <0

Water Table Present? Yes  No  Depth (inches): >20

Saturation Present? (includes capillary fringe) Yes  No  Depth (inches): >20

Wetland Hydrology Present? Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 4  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9432 Long: -86.3816 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within an agricultural field.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 40               | Yes                      | UPL                      |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 40 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 7S - 4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-8            | 10YR 3/2      | 97 | 10YR 3/6       | 3  | C                 | M                | Silty Clay Loam |         |
| 8-11           | 10YR 3/2      | 88 | 10YR 5/1       | 7  | D                 | M                | Silty Clay Loam |         |
|                |               |    | 10YR 5/8       | 5  | C                 | M                |                 |         |
| 11-18          | 10YR 4/2      |    | 10YR 2/1       | 15 | D                 | M                | Silty Clay Loam |         |
|                |               |    | 10YR 5/8       | 10 | C                 | M                |                 |         |
|                |               |    | 10YR 6/2       | 10 | D                 | M                |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 5  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9440 Long: -86.3823 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within a suspicious spot over multiple aerial photographs.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status             | Dominance Test worksheet:   |
|---|------------------|------------------------------|------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                              |   |
| 1. <u>Zea mays</u>  | 40               | Yes <input type="checkbox"/> | UPL <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 40 = Total Cover  |                  |                              |                              |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                              |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                              |   |

**SOIL**

Sampling Point: 7S - 5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 4/1      | 93 | 10YR 5/8       | 7 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 6  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9458 Long: -86.3808 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area north of the roadway.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. <u>Morus alba</u>  | 15               | Yes               | FAC              | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>6</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)  |
| 2. <u>Juniperus virginiana</u>                                | 7                | Yes               | FACU             |   |
| 3. <u>Ulmus pumila</u>  | 3                | No                | UPL              |   |
| 4. _____  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| 5. _____  |                  |                   |                  |   |
| <u>25</u> = Total Cover                                       |                  |                   |                  |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. <u>Juglans nigra</u>                                       | 5                | Yes               | FACU             |   |
| 2. <u>Morus alba</u>  | 5                | Yes               | FAC              |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| <u>10</u> = Total Cover                                       |                  |                   |                  |   |
| Herb Stratum (Plot size: <u>5 ft</u> )                        | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. <u>Bromus inermis</u>                                      | 45               | Yes               | FACU             | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Solidago altissima</u>                                  | 15               | Yes               | FACU             |   |
| 3. <u>Cirsium arvense</u>                                     | 10               | No                | FACU             |   |
| 4. <u>Asclepias syriaca</u>                                   | 3                | No                | FACU             |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| <u>73</u> = Total Cover                                       |                  |                   |                  |   |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 | Absolute % Cover | Dominant Species? | Indicator Status |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| <u>0</u> = Total Cover  |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**SOIL**

Sampling Point: 7S - 6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                                       |                                       | Texture         | Remarks |
|----------------|---------------|----|----------------|---|---------------------------------------|---------------------------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup>                     | Loc <sup>2</sup>                      |                 |         |
| 0-10           | 10YR 3/2      | 99 | 10YR 5/2       | 1 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Silty Clay Loam |         |
| 10-20          | 10YR 3/2      | 95 | 10YR 5/2       | 5 | <input checked="" type="checkbox"/> D | <input checked="" type="checkbox"/> M | Silty Clay Loam |         |
|                |               |    |                |   | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |   | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |   | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |   | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |
|                |               |    |                |   | <input type="checkbox"/>              | <input type="checkbox"/>              |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (Inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 7  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9476 Long: -86.3827 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 7S-A.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|------------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                          |   |
| 1. <u>Echinochloa crus-galli</u>                              | 35               | Yes <input type="checkbox"/> | FACW                     |   |
| 2. <u>Poa pratensis</u>                                       | 10               | Yes <input type="checkbox"/> | FAC                      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 45 = Total Cover  |                  |                              |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                          |   |

**SOIL**

Sampling Point: 7S - 7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3/1      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
| 5-10           | 10YR 4/1      | 75 | 10YR 5/8       | 25 | C                 | M                | Clay loam       |         |
| 10-20          | 10YR 5/1      | 65 | 0YR 5/8        | 35 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 8  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9476 Long: -86.3825 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 7S-A and Wetland 7S-B.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Schedonorus arundinaceus</u>                            | 90               | Yes                      | FACU                     |   |
| 2. <u>Poa pratensis</u>                                       | 5                | No                       | FAC                      |   |
| 3. <u>Taraxacum officinale</u>                                | 2                | No                       | FACU                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 97 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |



**SOIL**

Sampling Point: 7S - 8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3/2      | 100 |                |    |                   |                  | Silty clay loam |         |
| 6-8            | 10YR 3/1      | 95  | 10YR 3/4       | 5  | D                 | M                | Silty clay loam |         |
| 8-10           | 10YR 3/1      | 95  | 10YR 4/6       | 5  | C                 | M                | Silty clay loam |         |
| 10-20          | 10YR 5/1      | 75  | 10YR 5/8       | 25 | C                 | M                | Clay loam       |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 9  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9476 Long: -86.3822 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 7S-B.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|------------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                          |   |
| 1. <u>Echinochloa crus-galli</u>                              | 40               | Yes <input type="checkbox"/> | FACW                     |   |
| 2. <u>Poa pratensis</u>                                       | 10               | Yes <input type="checkbox"/> | FAC                      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 50 = Total Cover  |                  |                              |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                          |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                              |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                          |   |

**SOIL**

Sampling Point: 7S - 9

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-3            | 10YR 3/1      | 95 | 10YR 5/8       | 5  | C                 | M                | Silty clay loam |         |
| 3-20           | 10YR 4/1      | 85 | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Comissioners State: IN Sampling Point: 7S - 10  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9481 Long: -86.3827 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 7S-C.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status             | Dominance Test worksheet:   |
|---|------------------|------------------------------|------------------------------|---|
| 1. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                              |   |
| 1. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                              |   |
| 1. <u>Typha angustifolia</u>                                  | 100              | Yes <input type="checkbox"/> | OBL <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 3. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 4. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 5. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 6. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 7. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 8. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 9. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 10. _____   | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 100 = Total Cover   |                  |                              |                              |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                              |   |
| 1. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 2. _____  | _____            | <input type="checkbox"/>     | <input type="checkbox"/>     |   |
| 0 = Total Cover   |                  |                              |                              |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                              |   |

**SOIL**

Sampling Point: 7S - 10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks    |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|------------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |            |
| 0-4            | 10YR 3/1      | 93 | 10YR 5/8       | 7  | C                 | M                | Silty clay loam |            |
| 4-12           | 10YR 4/1      | 82 | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |            |
|                |               |    | 10YR 2/1       | 3  | D                 | M                |                 |            |
| 12-20          | 10YR 5/1      | 80 | 10YR 6/8       | 20 | C                 | M                | Silty clay loam | 20% gravel |
|                |               |    |                |    |                   |                  |                 |            |
|                |               |    |                |    |                   |                  |                 |            |
|                |               |    |                |    |                   |                  |                 |            |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input checked="" type="checkbox"/> Surface Water (A1)                       | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                           |  |
|--|---|---------------------------|--|
| Surface Water Present?                             | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>2</u>  | Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>10</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>  |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 11  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9481 Long: -86.3826 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 7S-C.  |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Schedonorus arundinaceus</u>                            | 95               | Yes                      | FACU                     |   |
| 2. <u>Poa pratensis</u>                                       | 10               | No                       | FAC                      |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 105 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 7S - 11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3/1      | 100 |                |    |                   |                  | Silty clay loam |         |
| 6-12           | 10YR 3/1      | 85  | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |         |
| 12-20          | 10YR 4/1      | 85  | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Histosol (A1)                                | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)                         | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                            | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)                        | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)                       | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                              | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)                     | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)                     | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)                 |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 12  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9489 Long: -86.3821 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point was collected within mapped hydric soils.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Amaranthus biltoides</u>                                | 40               | Yes                      | FACU                     |   |
| 2. <u>Echinochloa crus-galli</u>                              | 5                | No                       | FACW                     |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 45 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No



**SOIL**

Sampling Point: 7S - 12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3/1      | 95 | 10YR 6/8       | 5 | C                 | M                | Silty clay loam |         |
| 5-20           | 10YR 3/1      | 95 | 10YR 4/1       | 2 | D                 | M                | Silty clay loam |         |
|                |               |    | 10YR 6/8       | 3 | C                 | M                |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 7S - 13  
 Investigator(s): Leah Boits and Audrey Hanner Section, Township, Range: S. 2, T. 17 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9527 Long: -86.3896 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the vegetation along White Lick Creek.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u><i>Equisetum hyemale</i></u>                            | 65               | Yes                      | FACW                     |   |
| 2. <u><i>Lysimachia nummularia</i></u>                        | 50               | Yes                      | FACW                     |   |
| 3. <u><i>Erigeron canadensis</i></u>                          | 20               | No                       | FACU                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 135 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 7S - 13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-6            | 10YR 3/2      | 95 | 10YR 3/6       | 5 | C                 | M                | Silty clay loam |         |
| 6-20           | 10YR 4/2      | 97 | 10YR 3/6       | 3 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> |   | <u>Secondary Indicators (minimum of two required)</u>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                     |   |
|--|---|---------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <0  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6S-1  
 Investigator(s): Monica Del Real and Chad Costa Section, Township, Range: S. 34, R. 18 N, T. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9595 Long: 86.3980 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam, 0 to 1 percent slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 6S-A.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by:<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: 0 (A) 0 (B)<br><br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u><i>Ammannia coccinea</i></u>                            | 15               | Yes                      | OBL                      | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u><i>Xanthium strumarium</i></u>                          | 10               | Yes                      | FAC                      |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 25 = Total Cover         |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**SOIL**

Sampling Point: 6S-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 95 | 10YR 4/6       | 5 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |   |
|--|---|---|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>               |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)        |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                    |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)                |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                      |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)  |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input checked="" type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)        |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)           |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |   |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |   |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6S-2  
 Investigator(s): Monica Del Real and Chad Costa Section, Township, Range: S. 34, R. 18 N, T. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): convex  
 Slope (%): 2.0 Lat: 39.9595 Long: 86.3982 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam, 0 to 1 percent slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 6S-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                          |                          |   |
| 1. <u>Zea mays</u>  | 100              | Yes                      | UPL                      |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                          |                          |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                  |                          |                          |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present.  |                  |                          |                          |   |

**SOIL**

Sampling Point: 6S-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 95 | 10YR 4/6       | 5 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 6S-3  
 Investigator(s): Monica Del Real and Chad Costa Section, Township, Range: S. 34, R. 18 N, T. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9600 Long: 86.3986 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty silty clay loam, 0 to 1 percent slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point was taken to represent the roadside ditches along SR 267 and 550 S.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|--|------------------|--------------------------|--------------------------|---|
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>   |                  |                          |                          |   |
| 1. <i>Spartina pectinata</i>   | 45               | Yes                      | FACW                     |   |
| 2. <i>Schedonorus arundinaceus</i>   | 45               | Yes                      | FACU                     |   |
| 3. <i>Cirsium arvense</i>  | 10               | No                       | FACU                     |   |
| 4. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                          |                          |   |
| 1. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover  |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.)<br>The prevalence index was not completed because wetland hydrology was not present. |                  |                          |                          |   |



**SOIL**

Sampling Point: 6S-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-18           | 10YR 3/1      | 98 | 10YR 4/6       | 2 | C                 | M                | Silty Clay Loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S-1  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S27, T18N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9711 Long: 86.3983 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville silty clay loam (MamA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of mowed right-of-way near a commercial area.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Schedonorus arundinaceus</u>                            | 85               | Yes                      | FACU                     |   |
| 2. <u>Trifolium hybridum</u>                                  | 15               | No                       | FACU                     |   |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 5S-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks                   |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------------------------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |                           |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty loam | disturbed with mixed fill |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |
|                |               |     |                |   |                   |                  |            |                           |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S-2  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S27,&18N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9712 Long: 86.3989 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville silty clay loam (MamA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of mowed right-of-way near a commercial area.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Poa pratensis</u>                                       | 50               | Yes                      | FAC                      |   |
| 2. <u>Trifolium hybridum</u>                                  | 40               | Yes                      | FACU                     |   |
| 3. <u>Taraxacum officinale</u>                                | 10               | No                       | FACU                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty loam |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/10/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S-3  
 Investigator(s): Rick Paul, Amanda Meyer Section, Township, Range: S27, T18N, R1E  
 Landform (hillslope, terrace, etc.): till plain Local relief (concave, convex, none): concave  
 Slope (%): 2.0 Lat: 39.9697 Long: 86.3989 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville silty clay loam (MamA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This sample point is representative of mowed right-of-way near a commercial area.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                   |                  |   |
| 1. <u>Trifolium hybridum</u>                                  | 90               | Yes               | FACU             |   |
| 2. <u>Schedonorus srundinaceus</u>                            | 10               | No                | FACU             |   |
| 3. <u>Taraxacum officinale</u>                                | 2                | No                | FACU             |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| 102 = Total Cover   |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| 0 = Total Cover   |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                   |                  |   |

**Hydrophytic Vegetation Indicators:**

1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: 5S-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |   |                   |                  | Texture    | Remarks |
|----------------|---------------|-----|----------------|---|-------------------|------------------|------------|---------|
|                | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |            |         |
| 0-18           | 10YR 4/3      | 100 |                |   |                   |                  | Silty loam |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |
|                |               |     |                |   |                   |                  |            |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;18</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 4  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9693 Long: -86.3987 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-A.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u>Echinochloa crus-galli</u>                              | 55               | Yes                      | FACW                     | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Panicum capillare</u>                                   | 20               | No                       | FAC                      |  |
| 3. <u>Persicaria maculosa</u>                                 | 15               | No                       | FACW                     |  |
| 4. <u>Leersia virginica</u>                                   | 10               | No                       | FACW                     |  |
| 5. <u>Phalaris arundinacea</u>                                | 10               | No                       | FACW                     |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 110 = Total Cover   |                  |                          |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |



**SOIL**

Sampling Point: 5S - 4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |     | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|-----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %   | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | Gley 2.5/N    | 100 |                |    |                   |                  | Silty clay loam |         |
| 5-20           | 10YR 4/1      | 80  | 10YR 5/8       | 20 | C                 | M                | Silty clay loam |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |
|                |               |     |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                              |   |
|--|---|------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>7</u>     |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>     |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 5  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9692 Long: -86.3987 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-A.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )   | Absolute % Cover | Dominant Species? | Indicator Status | Dominance Test worksheet:   |
|---|------------------|-------------------|------------------|---|
| 1. _____  |                  |                   |                  | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)  |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| <u>0</u> = Total Cover  |                  |                   |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>  |                  |                   |                  |   |
| 1. <u>Morus alba</u>  | 15               | Yes               | FAC              |   |
| 2. _____  |                  |                   |                  |   |
| 3. _____  |                  |                   |                  |   |
| <u>15</u> = Total Cover   |                  |                   |                  |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>  |                  |                   |                  |   |
| 1. <u>Schedonorus arundinaceus</u>  | 70               | Yes               | FACU             |   |
| 2. <u>Securigera varia</u>  | 25               | Yes               | UPL              |   |
| 3. <u>Cirsium arvense</u>   | 10               | No                | FACU             |   |
| 4. _____  |                  |                   |                  |   |
| 5. _____  |                  |                   |                  |   |
| 6. _____  |                  |                   |                  |   |
| 7. _____  |                  |                   |                  |   |
| 8. _____  |                  |                   |                  |   |
| 9. _____  |                  |                   |                  |   |
| 10. _____   |                  |                   |                  |   |
| <u>105</u> = Total Cover  |                  |                   |                  |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>   |                  |                   |                  |   |
| 1. _____  |                  |                   |                  |   |
| 2. _____  |                  |                   |                  |   |
| <u>0</u> = Total Cover  |                  |                   |                  |   |
| <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) |                  |                   |                  |   |
| <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                  |                   |                  |   |
| <b>Hydrophytic Vegetation Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/>  |                  |                   |                  |   |
| Remarks: (Include photo numbers here or on a separate sheet.)   |                  |                   |                  |   |

**SOIL**

Sampling Point: 5S - 5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-15           | 10YR 4/1      | 85 | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Riprap  
 Depth (Inches): 15

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;15</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;15</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 6  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9693 Long: -86.3998 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-B.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )          | Absolute % Cover | Dominant Species?            | Indicator Status              |  |
|--|------------------|------------------------------|-------------------------------|--|
| 1. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 2. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 3. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 4. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 5. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 0 = Total Cover                                  |                  |                              |                               |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> ) | Absolute % Cover | Dominant Species?            | Indicator Status              |  |
| 1. <u>Salix nigra</u>                            | 35               | Yes <input type="checkbox"/> | OBL <input type="checkbox"/>  |  |
| 2. <u>Populus deltoides</u>                      | 25               | Yes <input type="checkbox"/> | FAC <input type="checkbox"/>  |  |
| 3. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 4. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 5. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 60 = Total Cover                                 |                  |                              |                               |  |
| Herb Stratum (Plot size: <u>5 ft</u> )           | Absolute % Cover | Dominant Species?            | Indicator Status              |  |
| 1. <u>Echinochloa crus-galli</u>                 | 30               | Yes <input type="checkbox"/> | FACW <input type="checkbox"/> |  |
| 2. <u>Symphotrichum pilosum</u>                  | 25               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |  |
| 3. <u>Carex blanda</u>                           | 20               | No <input type="checkbox"/>  | FAC <input type="checkbox"/>  |  |
| 4. <u>Typha angustifolia</u>                     | 15               | No <input type="checkbox"/>  | OBL <input type="checkbox"/>  |  |
| 5. <u>Scirpus atrovirens</u>                     | 15               | No <input type="checkbox"/>  | OBL <input type="checkbox"/>  |  |
| 6. <u>Rumex crispus</u>                          | 5                | No <input type="checkbox"/>  | FAC <input type="checkbox"/>  |  |
| 7. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 8. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 9. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 10. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 110 = Total Cover                                |                  |                              |                               |  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )    | Absolute % Cover | Dominant Species?            | Indicator Status              |  |
| 1. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 2. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |  |
| 0 = Total Cover                                  |                  |                              |                               |  |

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
 1 - Rapid Test for Hydrophytic Vegetation  
 2 - Dominance Test is >50%  
 3 - Prevalence Index is ≤3.0<sup>1</sup>  
 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: 5S - 6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-3            | 10YR 3/1      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
| 3-20           | 10YR 5/1      | 60 | 10YR 5/8       | 40 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                              |   |
|--|---|------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>5</u>     |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>     |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 7  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9693 Long: -86.3998 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-B.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Glycine max</u>   | 30               | Yes                      | UPL                      |   |
| 2. <u>Cirsium arvense</u>                                     | 15               | Yes                      | FACU                     |   |
| 3. <u>Taraxacum officinale</u>                                | 15               | Yes                      | FACU                     |   |
| 4. <u>Solidago canadensis</u>                                 | 10               | No                       | FACU                     |   |
| 5. <u>Daucus carota</u>                                       | 5                | No                       | UPL                      |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 75 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S - 7

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 97 | 10YR 5/8       | 3 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 8  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9693 Long: -86.3984 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-C.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>1</u> (B)   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Prevalence Index worksheet:<br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 97 = Total Cover  |                  |                          |                          |  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |



**SOIL**

Sampling Point: 5S - 8

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks  |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|----------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |          |
| 0-6            | 10YR 3/1      | 85 | 10YR 5/6       | 15 | C                 | M                | Sandy clay loam | 20% fill |
| 6-20           | 10YR 3/1      | 97 | 10YR 5/6       | 3  | C                 | M                | Sandy clay loam |          |
|                |               |    |                |    |                   |                  |                 |          |
|                |               |    |                |    |                   |                  |                 |          |
|                |               |    |                |    |                   |                  |                 |          |
|                |               |    |                |    |                   |                  |                 |          |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                              |   |
|--|---|------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>17</u>    |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>     |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone Countyks Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 9  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R. 1 E  
 Landform (hillslope, terrace, etc.): Flats on Outwash Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9693 Long: -86.3984 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Mahalasville Silty Clay Loam, 0 to 1 Percent Slopes (Mama) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-C.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Total Number of Dominant Species Across All Strata: <u>2</u> (B)  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   | 0                | = Total Cover            |                          |   |
| Sapling/Shrub Stratum (Plot size: <u>15 ft</u> )              |                  |                          |                          | Prevalence Index worksheet:   |
| 1. <i>Lonicera morrowii</i>                                   | 90               | Yes                      | FACU                     | Total % Cover of: _____ Multiply by: _____  |
| 2. <i>Fraxinus pennsylvanica</i>                              | 5                | No                       | FACW                     | OBL species _____ x 1 = _____   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FACW species _____ x 2 = _____  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FAC species _____ x 3 = _____   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | FACU species _____ x 4 = _____  |
|   | 95               | = Total Cover            |                          | UPL species _____ x 5 = _____   |
|   |                  |                          |                          | Column Totals: <u>0</u> (A) <u>0</u> (B)  |
|   |                  |                          |                          | Prevalence Index = B/A = _____  |
| Herb Stratum (Plot size: <u>5 ft</u> )                        |                  |                          |                          | Hydrophytic Vegetation Indicators:  |
| 1. <i>Schedonorus arundinaceus</i>                            | 80               | Yes                      | FACW                     | <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 2 - Dominance Test is >50%   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup>  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   | 80               | = Total Cover            |                          | <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.                  |
| Woody Vine Stratum (Plot size: <u>15 ft</u> )                 |                  |                          |                          | Hydrophytic Vegetation Present?   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Yes <input type="radio"/> No <input checked="" type="radio"/>   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
|   | 0                | = Total Cover            |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S - 9

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/2      | 97 | 10YR 5/6       | 3 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |  |
|--|---|-------------------------------|--|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |  |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 10  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9748 Long: -86.3984 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-D.   |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Typha angustifolia</u>                                  | 85               | Yes                      | OBL                      |   |
| 2. <u>Echinochloa crus-galli</u>                              | 10               | No                       | FACW                     |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 95 = Total Cover  |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S - 10

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-4            | 10YR 3/1      | 85 | 10YR 5/8       | 15 | C                 | M                | Silty clay loam |         |
| 4-20           | 10YR 3/1      | 87 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
|                |               |    | 10YR 2/1       | 3  | D                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 11  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9748 Long: -86.3984 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-D.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Schedonorus arundinaceus</u>                            | 90               | Yes                      | FACU                     |   |
| 2. <u>Taraxacum officinale</u>                                | 10               | No                       | FACU                     |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 100 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S - 11

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 3/1      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)               |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                     |   |
|--|---|---------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <0  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): >20 |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 12  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9782 Long: -86.3981 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-E.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         |  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u>Cyperus esculentus</u>                                  | 60               | Yes                      | FACW                     | <b>Hydrophytic Vegetation Indicators:</b><br><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input checked="" type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Typha angustifolia</u>                                  | 15               | No                       | OBL                      |  |
| 3. <u>Echinochloa crus-galli</u>                              | 10               | No                       | FACW                     |  |
| 4. <u>Juncus torreyi</u>                                      | 5                | No                       | FACW                     |  |
| 5. <u>Setaria pumila</u>                                      | 3                | No                       | FAC                      |  |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 93 = Total Cover         |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |  |
|   |                  | 0 = Total Cover          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |



**SOIL**

Sampling Point: 5S - 12

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3/1      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
| 5-20           | 10YR 4/1      | 65 | 10YR 5/8       | 30 | C                 | M                | Silty clay loam |         |
|                |               |    | 10YR 2/1       | 5  | D                 | M                |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)                    | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" type="checkbox"/> Saturation (A3)                          | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                              |   |
|--|---|------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u> | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>7</u>     |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input checked="" type="radio"/> No <input type="radio"/> | Depth (inches): <u>0</u>     |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 13  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Flats on Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9782 Long: -86.3981 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Treaty Silty Clay Loam, 0 to 1 Percent Slopes (ThrA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-E.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:   |
|---|------------------|--------------------------|--------------------------|---|
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |   |
| 1. <u>Taraxacum officinale</u>                                | 40               | Yes                      | FACU                     |   |
| 2. <u>Trifolium pratense</u>                                  | 35               | Yes                      | FACU                     |   |
| 3. <u>Schedonorus arundinaceus</u>                            | 30               | Yes                      | FACU                     |   |
| 4. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 5. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 6. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 7. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 8. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 9. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 10. _____   |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 105 = Total Cover   |                  |                          |                          |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |   |
| 1. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 2. _____  |                  | <input type="checkbox"/> | <input type="checkbox"/> |   |
| 0 = Total Cover   |                  |                          |                          |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |   |

**SOIL**

Sampling Point: 5S - 13

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |   | Redox Features |   |                   |                  | Texture         | Remarks  |
|----------------|---------------|---|----------------|---|-------------------|------------------|-----------------|----------|
|                | Color (moist) | % | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |          |
| 0-3            | 10YR 4/3      |   |                |   |                   |                  | Silty clay loam | 30% Fill |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |
|                |               |   |                |   |                   |                  |                 |          |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)   | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)           |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)       |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)   |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Depleted Matrix (F3)       |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

Coast Prairie Redox (A16)  
 Dark Surface (S7)  
 Iron-Manganese Masses (F12)  
 Very Shallow Dark Surface (TF12)  
 Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: Fill  
 Depth (Inches): 3

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required: check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 14  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): concave  
 Slope (%): 1.0 Lat: 39.9752 Long: -86.3987 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|  |   |
|--|---|
| Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks:<br>This data point is representative of Wetland 5S-F.   |   |

**VEGETATION – Use scientific names of plants.**

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?        | Indicator Status         | Dominance Test worksheet:  |
|---|------------------|--------------------------|--------------------------|--|
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> | Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)<br><br>Total Number of Dominant Species Across All Strata: _____ (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)   |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <sup>0</sup> _____ (A) <sup>0</sup> _____ (B)<br><br>Prevalence Index = B/A = _____  |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                          |                          |  |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                          |                          |  |
| 1. <u>Typha angustifolia</u>                                  | 40               | Yes                      | OBL                      | <b>Hydrophytic Vegetation Indicators:</b><br><input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation<br><input type="checkbox"/> 2 - Dominance Test is >50%<br><input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. |
| 2. <u>Echinochloa crus-galli</u>                              | 40               | Yes                      | FACW                     |  |
| 3. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 4. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 5. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. _____   | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 80 = Total Cover  |                  |                          |                          |  |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                          |                          |  |
| 1. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 2. _____  | _____            | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 0 = Total Cover   |                  |                          |                          |  |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                          |                          |  |

**SOIL**

Sampling Point: 5S - 14

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |    |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|----|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-5            | 10YR 3/1      | 90 | 10YR 5/8       | 10 | C                 | M                | Silty clay loam |         |
| 5-20           | 10YR 5/1      | 70 | 10YR 5/8       | 30 | C                 | M                | Silty clay loam |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |
|                |               |    |                |    |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)           | <input type="checkbox"/> Coast Prairie Redox (A16)        |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                   | <input type="checkbox"/> Dark Surface (S7)                |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)               | <input type="checkbox"/> Iron-Manganese Masses (F12)      |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)           | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)           | <input type="checkbox"/> Other (Explain in Remarks)       |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)         |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)             |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |   |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway City/County: Boone County Sampling Date: 10/11/16  
 Applicant/Owner: Hendricks and Boone County Commissioners State: IN Sampling Point: 5S - 15  
 Investigator(s): Rick Paul and Audrey Hanner Section, Township, Range: S. 27, T. 18 N, R 1 E  
 Landform (hillslope, terrace, etc.): Till Plains Local relief (concave, convex, none): none  
 Slope (%): 1.0 Lat: 39.9751 Long: -86.3987 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby Silt Loam, 0 to 2 Percent Slopes (CudA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation , Soil , or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |   |
|---|---|
| Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Remarks:<br>This data point is representative of the upland area surrounding Wetland 5S-F.  |   |

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: <u>30 ft</u> )                       | Absolute % Cover | Dominant Species?            | Indicator Status              | Dominance Test worksheet:   |
|---|------------------|------------------------------|-------------------------------|---|
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      | Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br><br>Total Number of Dominant Species Across All Strata: <u>2</u> (B)<br><br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               | <b>Prevalence Index worksheet:</b><br>Total % Cover of: _____ Multiply by: _____<br>OBL species _____ x 1 = _____<br>FACW species _____ x 2 = _____<br>FAC species _____ x 3 = _____<br>FACU species _____ x 4 = _____<br>UPL species _____ x 5 = _____<br>Column Totals: <u>0</u> (A) <u>0</u> (B)<br><br>Prevalence Index = B/A = _____ |
| <b>Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)</b>        |                  |                              |                               |   |
| 1. <i>Lonicera morrowii</i>                                   | 15               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 2. <i>Morus alba</i>  | 5                | No <input type="checkbox"/>  | FAC <input type="checkbox"/>  |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 20 = Total Cover  |                  |                              |                               |   |
| <b>Herb Stratum (Plot size: <u>5 ft</u>)</b>                  |                  |                              |                               |   |
| 1. <i>Schedonorus arundinaceus</i>                            | 80               | Yes <input type="checkbox"/> | FACU <input type="checkbox"/> |   |
| 2. <i>Echinochloa crus-galli</i>                              | 15               | No <input type="checkbox"/>  | FACW <input type="checkbox"/> |   |
| 3. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 4. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 5. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 6. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 7. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 8. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 9. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 10. _____   |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 95 = Total Cover  |                  |                              |                               |   |
| <b>Woody Vine Stratum (Plot size: <u>15 ft</u>)</b>           |                  |                              |                               |   |
| 1. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 2. _____  |                  | <input type="checkbox"/>     | <input type="checkbox"/>      |   |
| 0 = Total Cover   |                  |                              |                               |   |
| Remarks: (Include photo numbers here or on a separate sheet.) |                  |                              |                               |   |

**SOIL**

Sampling Point: 5S - 15

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix        |    | Redox Features |   |                   |                  | Texture         | Remarks |
|----------------|---------------|----|----------------|---|-------------------|------------------|-----------------|---------|
|                | Color (moist) | %  | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |                 |         |
| 0-20           | 10YR 4/2      | 97 | 10YR 5/6       | 3 | C                 | M                | Silty clay loam |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |
|                |               |    |                |   |                   |                  |                 |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                |   |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            |   |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Mucky Mineral (F1)        |   |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |   |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input checked="" type="checkbox"/> Depleted Matrix (F3) |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6)         |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Redox Depressions (F8)          |   |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      |  |   |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

|  |   |  |
|--|---|--|
| <b>Primary Indicators (minimum of one is required; check all that apply)</b> |   | <b>Secondary Indicators (minimum of two required)</b>              |
| <input type="checkbox"/> Surface Water (A1)                                  | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                               | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                                     | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                                    | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                              | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                                 | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input type="checkbox"/> Algal Mat or Crust (B4)                             | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Iron Deposits (B5)                                  | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)           | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)             | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

|  |   |                               |   |
|--|---|-------------------------------|---|
| Surface Water Present?                             | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&lt;0</u>  | <b>Wetland Hydrology Present?</b> Yes <input type="radio"/> No <input checked="" type="radio"/> |
| Water Table Present?                               | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |
| Saturation Present?<br>(includes capillary fringe) | Yes <input type="radio"/> No <input checked="" type="radio"/> | Depth (inches): <u>&gt;20</u> |   |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## **Appendix C - Quality Assessment Forms**

**QHEI**

**HHEI**





**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

**DISTANCE**

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

**CLARITY**

- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

**CANOPY**

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

**C) RECREATION**

AREA DEPTH  
POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
Date of last precipitation was 10/1/2016 at 0.04 inches

**B) AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**D) MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

**E) ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**F) MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone x<sup>2</sup> width
- entrench. ratio
- Legacy Tree:

**Stream Drawing:**





# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **45**

Stream & Location: School Branch, Hendricks County, Indiana RM: \_\_\_\_\_ Date: 1 / 11 / 17

Audrey Hanner Scorers Full Name & Affiliation: American Structurepoint

River Code: - - - STORET #: \_\_\_\_\_ Lat./ Long.: 39 . 87297 186 . 36168 Office verified location

1) **SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

|   |                    |  |                    |   |  |
|---|--------------------|--|--------------------|---|--|
| <b>BEST TYPES</b>   | <b>POOL RIFFLE</b> | <b>OTHER TYPES</b>                           | <b>POOL RIFFLE</b> | <b>ORIGIN</b>                                 | <b>QUALITY</b>                                 |
| <input type="checkbox"/> BLDR /SLABS [10]   | _____              | <input type="checkbox"/> HARDPAN [4]         | _____              | <input type="checkbox"/> LIMESTONE [1]        | <input type="checkbox"/> HEAVY [-2]            |
| <input type="checkbox"/> BOULDER [9]  | _____              | <input type="checkbox"/> DETRITUS [3]        | _____              | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> MODERATE [-1]         |
| <input type="checkbox"/> COBBLE [8]   | 10                 | <input type="checkbox"/> MUCK [2]            | _____              | <input type="checkbox"/> WETLANDS [0]         | <input checked="" type="checkbox"/> NORMAL [0] |
| <input type="checkbox"/> GRAVEL [7]   | _____              | <input checked="" type="checkbox"/> SILT [2] | 45                 | <input type="checkbox"/> HARDPAN [0]          | <input type="checkbox"/> FREE [1]              |
| <input checked="" type="checkbox"/> SAND [6]  | 40                 | <input type="checkbox"/> ARTIFICIAL [0]      | 5                  | <input type="checkbox"/> SANDSTONE [0]        | <input type="checkbox"/> EXTENSIVE [-2]        |
| <input type="checkbox"/> BEDROCK [5]  | _____              | (Score natural substrates; ignore)           |                    | <input type="checkbox"/> RIP/RAP [0]          | <input type="checkbox"/> MODERATE [-1]         |
| <b>NUMBER OF BEST TYPES:</b> <input type="checkbox"/> 4 or more [2] sludge from point-sources |                    |  |                    | <input type="checkbox"/> LACUSTURINE [0]      | <input checked="" type="checkbox"/> NORMAL [0] |
| <b>Comments</b> <input checked="" type="checkbox"/> 3 or less [0]                             |                    |  |                    | <input type="checkbox"/> SHALE [-1]           | <input type="checkbox"/> NONE [1]              |
|   |                    |  |                    | <input type="checkbox"/> COAL FINES [-2]      |  |

Substrate Maximum 20 **9**

2) **INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|   |                            |
|---|----------------------------|
| <b>AMOUNT</b>   | Check ONE (Or 2 & average) |
| <input type="checkbox"/> EXTENSIVE >75% [11]          |                            |
| <input type="checkbox"/> MODERATE 25-75% [7]          |                            |
| <input checked="" type="checkbox"/> SPARSE 5-<25% [3] |                            |
| <input type="checkbox"/> NEARLY ABSENT <5% [1]        |                            |

1 UNDERCUT BANKS [1] POOLS > 70cm [2] OXBOWS, BACKWATERS [1]

1 OVERHANGING VEGETATION [1] ROOTWADS [1] AQUATIC MACROPHYTES [1]

SHALLOWS (IN SLOW WATER) [1] BOULDERS [1] LOGS OR WOODY DEBRIS [1]

ROOTMATS [1]

Cover Maximum 20 **5**

3) **CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|   |  |  |  |
|---|--|--|--|
| <b>SINUOSITY</b>                            | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                                 |
| <input type="checkbox"/> HIGH [4]           | <input type="checkbox"/> EXCELLENT [7]       | <input type="checkbox"/> NONE [6]                  | <input type="checkbox"/> HIGH [3]                |
| <input type="checkbox"/> MODERATE [3]       | <input type="checkbox"/> GOOD [5]            | <input type="checkbox"/> RECOVERED [4]             | <input checked="" type="checkbox"/> MODERATE [2] |
| <input checked="" type="checkbox"/> LOW [2] | <input checked="" type="checkbox"/> FAIR [3] | <input checked="" type="checkbox"/> RECOVERING [3] | <input type="checkbox"/> LOW [1]                 |
| <input type="checkbox"/> NONE [1]           | <input type="checkbox"/> POOR [1]            | <input type="checkbox"/> RECENT OR NO RECOVERY [1] |  |

Channel Maximum 20 **10**

4) **BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|  |   |  |  |
|--|---|--|--|
| <b>EROSION</b>                                   | <b>RIPARIAN WIDTH</b>                                   | <b>FLOOD PLAIN QUALITY</b>   | <b>CONSERVATION TILLAGE</b>                        |
| <input type="checkbox"/> NONE / LITTLE [3]       | <input checked="" type="checkbox"/> WIDE > 50m [4]      | <input type="checkbox"/> FOREST, SWAMP [3]                           | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
| <input checked="" type="checkbox"/> MODERATE [2] | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input type="checkbox"/> SHRUB OR OLD FIELD [2]                      | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
| <input type="checkbox"/> HEAVY / SEVERE [1]      | <input type="checkbox"/> NARROW 5-10m [2]               | <input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] |  |
|  | <input type="checkbox"/> VERY NARROW < 5m [1]           | <input type="checkbox"/> FENCED PASTURE [1]                          |  |
|  | <input type="checkbox"/> NONE [0]                       | <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0]        |  |

Indicate predominant land use(s) past 100m riparian. Riparian Maximum 10 **6**

5) **POOL / GLIDE AND RIFFLE / RUN QUALITY**

|   |   |  |   |
|---|---|--|---|
| <b>MAXIMUM DEPTH</b>                            | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                    | <b>Recreation Potential</b><br>Primary Contact<br>Secondary Contact<br>(circle one and comment on back) |
| Check ONE (ONLY!)                               | Check ONE (Or 2 & average)  | Check ALL that apply                       |   |
| <input type="checkbox"/> > 1m [6]               | <input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] | <input type="checkbox"/> TORRENTIAL [-1]   | Pool / Current Maximum 12 <b>7</b>  |
| <input checked="" type="checkbox"/> 0.7-<1m [4] | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input type="checkbox"/> SLOW [1]          |   |
| <input type="checkbox"/> 0.4-<0.7m [2]          | <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]            | <input type="checkbox"/> VERY FAST [1]     |   |
| <input type="checkbox"/> 0.2-<0.4m [1]          |   | <input type="checkbox"/> INTERSTITIAL [-1] |   |
| <input type="checkbox"/> < 0.2m [0]             |   | <input type="checkbox"/> INTERMITTENT [-2] |   |

Indicate for reach - pools and riffles.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

|  |   |   |   |
|--|---|---|---|
| <b>RIFFLE DEPTH</b>                                  | <b>RUN DEPTH</b>                            | <b>RIFFLE / RUN SUBSTRATE</b>                                   | <b>RIFFLE / RUN EMBEDDEDNESS</b>        |
| <input type="checkbox"/> BEST AREAS > 10cm [2]       | <input type="checkbox"/> MAXIMUM > 50cm [2] | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]     | <input type="checkbox"/> NONE [2]       |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]       | <input type="checkbox"/> MAXIMUM < 50cm [1] | <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]   | <input type="checkbox"/> LOW [1]        |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0] |   | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <input type="checkbox"/> MODERATE [0]   |
|  |   |   | <input type="checkbox"/> EXTENSIVE [-1] |

Riffle / Run Maximum 8 **0**

6) **GRADIENT** ( 10.2 ft/mi)  VERY LOW - LOW [2-4] %POOL: 0 %GLIDE: 0

**DRAINAGE AREA** ( 8.06 mi<sup>2</sup>)  MODERATE [6-10] %RUN: 100 %RIFFLE: 0

HIGH - VERY HIGH [10-6] Gradient Maximum 10 **8**

**AJ SAMPLED REACH**

Check ALL that apply

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Date of last precipitation was 10/1/2016 at 0.04 inches

**METHOD**

BOAT      1st -sample pass- 2nd

WADE       HIGH     

L. LINE     UP     

OTHER       NORMAL

LOW     

DRY     

**DISTANCE**

0.5 Km

0.2 Km

0.15 Km

0.12 Km

OTHER

\_\_\_\_\_ meters

**CANOPY**

> 85%- OPEN

55%-<85%

30%-<55%

10%-<30%

<10%- CLOSED

**CLARITY**

1st --sample pass-- 2nd

< 20 cm     

20-<40 cm   

40-70 cm     

> 70 cm/ CTB

SECCHI DEPTH

**CJ RECREATION**      AREA DEPTH

POOL:  >100ft<sup>2</sup>  >3ft

**BJAESTHETICS**

NUISANCE ALGAE

INVASIVE MACROPHYTES

EXCESS TURBIDITY

DISCOLORATION

FOAM / SCUM

OIL SHEEN

TRASH / LITTER

NUISANCE ODOR

SLUDGE DEPOSITS

CSOs/SSOs/OUTFALLS

**DJ MAINTENANCE**      Circle some & COMMENT

PUBLIC / PRIVATE / BOTH / NA

ACTIVE / HISTORIC / BOTH / NA

YOUNG-SUCCESSION-OLD

SPRAY / SNAG / REMOVED

MODIFIED / DIPPED OUT / NA

LEVEED / ONE SIDED

RELOCATED / CUTOFFS

MOVING-BEDLOAD-STABLE

ARMOURED / SLUMPS

ISLANDS / SCOURED

IMPOUNDED / DESICCATED

FLOOD CONTROL / DRAINAGE

**EJ ISSUES**

WWTP / CSO / NPDES / INDUSTRY

HARDENED / URBAN / DIRT&GRIME

CONTAMINATED / LANDFILL

BMPs-CONSTRUCTION-SEDIMENT

LOGGING / IRRIGATION / COOLING

BANK / EROSION / SURFACE

FALSE BANK / MANURE / LAGOON

WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE

ACID / MINE / QUARRY / FLOW

NATURAL / WETLAND / STAGNANT

PARK / GOLF / LAWN / HOME

ATMOSPHERE / DATA PAUCITY

**FJ MEASUREMENTS**

$\bar{x}$  width

$\bar{x}$  depth

max. depth

$\bar{x}$  bankfull width

bankfull  $\bar{x}$  depth

W/D ratio

bankfull max. depth

floodprone x<sup>2</sup> width

entrench. ratio

Legacy Tree:

**Stream Drawing:**





# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **57**

Stream & Location: UNT 3 - Ronald Reagan Parkway RM:     Date: 10/ 10 / 16

Audrey Hanner and Katie Krejsa Scorers Full Name & Affiliation: American Structurepoint

River Code:     STORET #:     Lat./ Long.: 39.90617 186.37379 Office verified location

**1) SUBSTRATE** Check **ONLY** Two substrate **TYPE BOXES**; estimate % or note every type present

|   |                                      |  |  |   |  |   |   |
|---|--------------------------------------|--|--|---|--|---|---|
| <b>BEST TYPES</b>   |                                      | <b>OTHER TYPES</b>                           |  | <b>ORIGIN</b>                                     |  | <b>QUALITY</b>                          |   |
| <input type="checkbox"/> BLDR /SLABS [10]   | <input type="checkbox"/> POOL RIFFLE | <input type="checkbox"/> HARDPAN [4]         | <input type="checkbox"/> POOL RIFFLE                         | <input checked="" type="checkbox"/> LIMESTONE [1] | <input type="checkbox"/> SILT          | <input type="checkbox"/> HEAVY [-2]     | 9 |
| <input type="checkbox"/> BOULDER [9]  | <input type="checkbox"/> COBBLE [8]  | <input type="checkbox"/> DETRITUS [3]        | <input type="checkbox"/> MUCK [2]                            | <input type="checkbox"/> TILLS [1]                | <input type="checkbox"/> WETLANDS [0]  | <input type="checkbox"/> MODERATE [-1]  |   |
| <input type="checkbox"/> GRAVEL [7]   | <input type="checkbox"/> SAND [6]    | <input checked="" type="checkbox"/> SILT [2] | <input type="checkbox"/> ARTIFICIAL [0]                      | <input type="checkbox"/> HARDPAN [0]              | <input type="checkbox"/> SANDSTONE [0] | <input type="checkbox"/> NORMAL [0]     |   |
| <input type="checkbox"/> BEDROCK [5]  |                                      |  | (Score natural substrates; ignore sludge from point-sources) | <input type="checkbox"/> SANDSTONE [0]            | <input type="checkbox"/> RIP/RAP [0]   | <input type="checkbox"/> EXTENSIVE [-2] |   |
| <b>NUMBER OF BEST TYPES:</b> <input type="checkbox"/> 4 or more [2] <input checked="" type="checkbox"/> 3 or less [0] |                                      |  |  | <input type="checkbox"/> LACUSTURINE [0]          | <input type="checkbox"/> SHALE [-1]    | <input type="checkbox"/> MODERATE [-1]  |   |
| <b>Comments</b>   |                                      |  |  | <input type="checkbox"/> COAL FINES [-2]          | <input type="checkbox"/> NONE [1]      | <input type="checkbox"/> NONE [1]       |   |

**2) INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|   |                             |                                     |    |
|---|-----------------------------|-------------------------------------|----|
| <u>1</u> UNDERCUT BANKS [1]             | <u>   </u> POOLS > 70cm [2] | <u>   </u> OXBOWS, BACKWATERS [1]   | 11 |
| <u>3</u> OVERHANGING VEGETATION [1]     | <u>   </u> ROOTWADS [1]     | <u>   </u> AQUATIC MACROPHYTES [1]  |    |
| <u>   </u> SHALLOWS (IN SLOW WATER) [1] | <u>   </u> BOULDERS [1]     | <u>   </u> LOGS OR WOODY DEBRIS [1] |    |
| <u>2</u> ROOTMATS [1]                   |                             |                                     |    |

**Comments**

**3) CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|  |  |  |  |    |
|--|--|--|--|----|
| <b>SINUOSITY</b>                                 | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                                 | 11 |
| <input type="checkbox"/> HIGH [4]                | <input type="checkbox"/> EXCELLENT [7]       | <input type="checkbox"/> NONE [6]                  | <input type="checkbox"/> HIGH [3]                |    |
| <input checked="" type="checkbox"/> MODERATE [3] | <input type="checkbox"/> GOOD [5]            | <input type="checkbox"/> RECOVERED [4]             | <input checked="" type="checkbox"/> MODERATE [2] |    |
| <input type="checkbox"/> LOW [2]                 | <input checked="" type="checkbox"/> FAIR [3] | <input checked="" type="checkbox"/> RECOVERING [3] | <input type="checkbox"/> LOW [1]                 |    |

**Comments**

**4) BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|  |  |   |   |   |  |
|--|--|---|---|---|--|
| <b>EROSION</b>   |  | <b>RIPARIAN WIDTH</b>                                     |   | <b>FLOOD PLAIN QUALITY</b>                            |  |
| <input type="checkbox"/> NONE / LITTLE [3]             | <input checked="" type="checkbox"/> MODERATE [2] | <input checked="" type="checkbox"/> WIDE > 50m [4]        | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input checked="" type="checkbox"/> FOREST, SWAMP [3] | <input type="checkbox"/> CONSERVATION TILLAGE [1]  |
| <input checked="" type="checkbox"/> HEAVY / SEVERE [1] | <input type="checkbox"/> MODERATE [2]            | <input type="checkbox"/> NARROW 5-10m [2]                 | <input type="checkbox"/> VERY NARROW < 5m [1]           | <input type="checkbox"/> SHRUB OR OLD FIELD [2]       | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
|  | <input type="checkbox"/> NONE [0]                | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] | <input type="checkbox"/> FENCED PASTURE [1]             | <input type="checkbox"/> OPEN PASTURE, ROWCROP [0]    | <input type="checkbox"/> MINING / CONSTRUCTION [0] |

**Comments**

**5) POOL / GLIDE AND RIFFLE / RUN QUALITY**

|                                      |   |  |   |
|--------------------------------------|---|--|---|
| <b>MAXIMUM DEPTH</b>                 | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                  | 4 |
| Check ONE (ONLY!)                    | Check ONE (Or 2 & average)  | Check ALL that apply                     |   |
| <input type="checkbox"/> > 1m [6]    | <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]            | <input type="checkbox"/> TORRENTIAL [-1] |   |
| <input type="checkbox"/> 0.7-<1m [4] | <input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] | <input type="checkbox"/> SLOW [1]        |   |

**Comments**

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average)  NO RIFFLE [metric=0]

|   |  |  |   |
|---|--|--|---|
| <b>RIFFLE DEPTH</b>                                       | <b>RUN DEPTH</b>                                       | <b>RIFFLE / RUN SUBSTRATE</b>  | <b>RIFFLE / RUN EMBEDDEDNESS</b>            |
| <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] | <input type="checkbox"/> MAXIMUM > 50cm [2]            | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]              | <input type="checkbox"/> NONE [2]           |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]            | <input checked="" type="checkbox"/> MAXIMUM < 50cm [1] | <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input checked="" type="checkbox"/> LOW [1] |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0]      |  | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]          | <input type="checkbox"/> MODERATE [0]       |

**Comments**

|  |   |                  |                    |    |
|--|---|------------------|--------------------|----|
| <b>6) GRADIENT</b> ( 17.6 ft/mi)               | <input type="checkbox"/> VERY LOW - LOW [2-4]       | %POOL: <u>15</u> | %GLIDE: <u>   </u> | 10 |
| <b>DRAINAGE AREA</b> ( 0.096 mi <sup>2</sup> ) | <input checked="" type="checkbox"/> MODERATE [6-10] | %RUN: <u>65</u>  | %RIFFLE: <u>20</u> |    |

**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT      1st -sample pass- 2nd
- WADE       HIGH
- L. LINE     UP
- OTHER       NORMAL
- LOW
- DRY

- DISTANCE**
- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER
- \_\_\_\_\_ meters

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
- 20-<40 cm
- 40-70 cm
- > 70 cm/ CTB
- SECCHI DEPTH

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Date of last precipitation was 10/1/2016 at 0.04 inches

- B) AESTHETICS**
- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

- D) MAINTENANCE**
- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

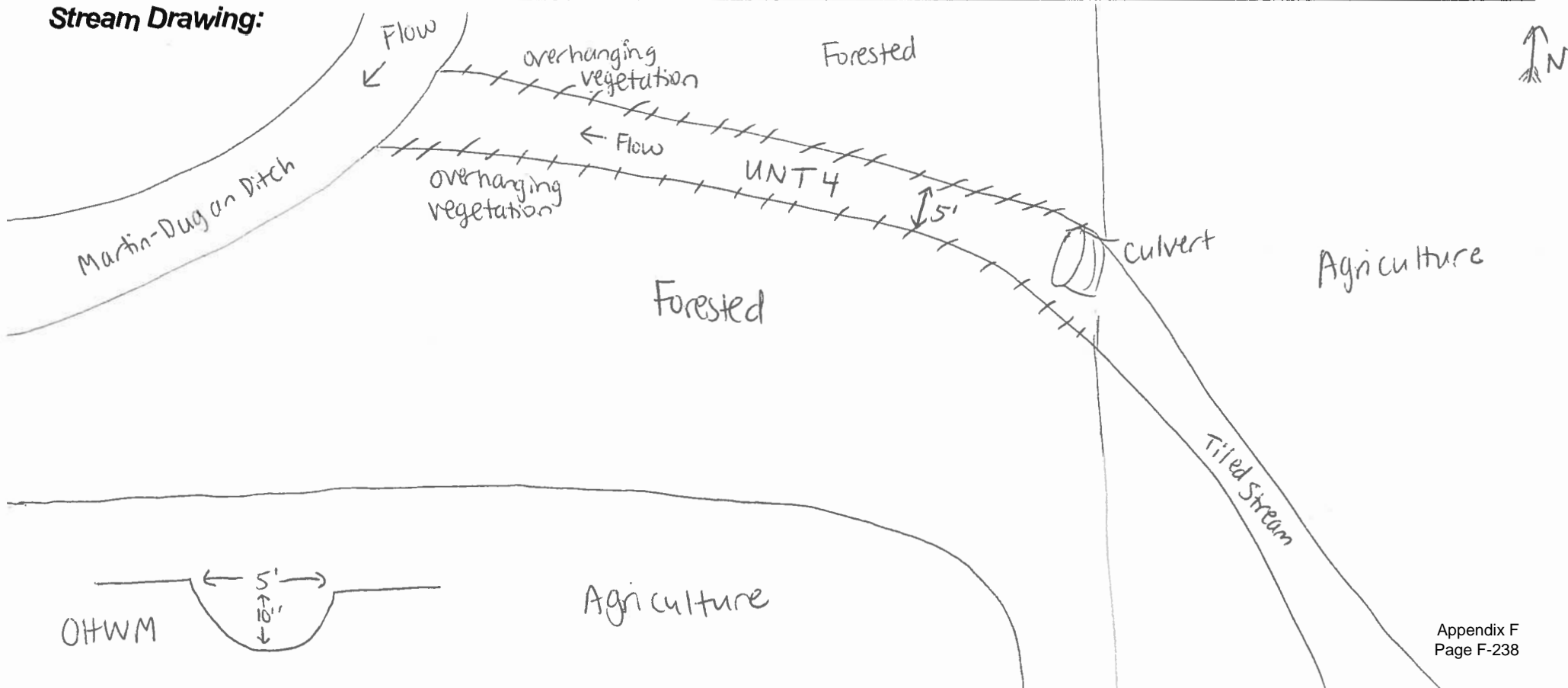
Circle some & COMMENT

- E) ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

- F) MEASUREMENTS**
- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone x<sup>2</sup> width
- entrench. ratio
- Legacy Tree:

- C) RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

**Stream Drawing:**





# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **46**

Stream & Location: Pump Run - Ronald Reagan Parkway RM: \_\_\_ Date: 10/ 10/ 16

Audrey Hanner and Katie Krejsa Scorers Full Name & Affiliation: American Structurepoint

River Code: - - - STORET #: Lat./ Long.: 39 . 186 . Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

|  |       |  |  |   |                    |   |  |   |  |
|--|-------|--|--|---|--------------------|---|--|---|--|
| <b>BEST TYPES</b>                            |       | <b>POOL RIFFLE</b>                     | <b>OTHER TYPES</b>   |   | <b>POOL RIFFLE</b> | <b>ORIGIN</b>                                     |  | <b>QUALITY</b>                                |  |
| <input type="checkbox"/> BLDR /SLABS [10]    | _____ | _____                                  | <input type="checkbox"/> HARDPAN [4]                         | _____   | _____              | <input checked="" type="checkbox"/> LIMESTONE [1] | <input type="checkbox"/> HEAVY [-2]            | <b>Substrate</b><br><b>9</b><br>Maximum 20    |  |
| <input type="checkbox"/> BOULDER [9]         | _____ | _____                                  | <input type="checkbox"/> DETRITUS [3]                        | _____   | _____              | <input type="checkbox"/> TILLS [1]                | <input type="checkbox"/> MODERATE [-1]         |   |  |
| <input type="checkbox"/> COBBLE [8]          | 5     | _____                                  | <input type="checkbox"/> MUCK [2]                            | _____   | _____              | <input type="checkbox"/> WETLANDS [0]             | <input checked="" type="checkbox"/> NORMAL [0] | <b>EMBEDDEDNESS</b><br><b>0</b><br>Maximum 20 |  |
| <input type="checkbox"/> GRAVEL [7]          | 20    | _____                                  | <input checked="" type="checkbox"/> SILT [2]                 | 40  | _____              | <input type="checkbox"/> HARDPAN [0]              | <input type="checkbox"/> FREE [1]              |   |  |
| <input checked="" type="checkbox"/> SAND [6] | 35    | _____                                  | <input type="checkbox"/> ARTIFICIAL [0]                      | _____   | _____              | <input type="checkbox"/> SANDSTONE [0]            | <input type="checkbox"/> EXTENSIVE [-2]        | <b>Channel</b><br><b>12</b><br>Maximum 20     |  |
| <input type="checkbox"/> BEDROCK [5]         | _____ | _____                                  | (Score natural substrates; ignore sludge from point-sources) |   |                    | <input type="checkbox"/> RIP/RAP [0]              | <input type="checkbox"/> MODERATE [-1]         |   |  |
| <b>NUMBER OF BEST TYPES:</b>                 |       | <input type="checkbox"/> 4 or more [2] |  | <input checked="" type="checkbox"/> 3 or less [0] |                    | <input type="checkbox"/> LACUSTURINE [0]          | <input type="checkbox"/> NORMAL [0]            | <b>Cover</b><br><b>5</b><br>Maximum 20        |  |
| <b>Comments</b>                              |       |  |  |   |                    | <input type="checkbox"/> SHALE [-1]               | <input type="checkbox"/> NONE [1]              |   |  |
|  |       |  |  |   |                    | <input type="checkbox"/> COAL FINES [-2]          |  |   |  |

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|                                     |                            |                                 |   |   |
|-------------------------------------|----------------------------|---------------------------------|---|---|
| <b>UNDERCUT BANKS [1]</b>           | <b>POOLS &gt; 70cm [2]</b> | <b>OXBOWS, BACKWATERS [1]</b>   | <b>AMOUNT</b><br>Check ONE (Or 2 & average)           |   |
| 1                                   | _____                      | _____                           | <input type="checkbox"/> EXTENSIVE >75% [11]          | <b>Channel</b><br><b>12</b><br>Maximum 20 |
| <b>OVERHANGING VEGETATION [1]</b>   | <b>ROOTWADS [1]</b>        | <b>AQUATIC MACROPHYTES [1]</b>  | <input type="checkbox"/> MODERATE 25-75% [7]          |   |
| <b>SHALLOWS (IN SLOW WATER) [1]</b> | <b>BOULDERS [1]</b>        | <b>LOGS OR WOODY DEBRIS [1]</b> | <input checked="" type="checkbox"/> SPARSE 5-<25% [3] | <b>Cover</b><br><b>5</b><br>Maximum 20    |
| <b>ROOTMATS [1]</b>                 | _____                      | _____                           | <input type="checkbox"/> NEARLY ABSENT <5% [1]        |   |
| <b>Comments</b>                     |                            |                                 |   |   |

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

|   |  |  |  |   |
|---|--|--|--|---|
| <b>SINUOSITY</b>                            | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                                 | <b>Channel</b><br><b>12</b><br>Maximum 20 |
| <input type="checkbox"/> HIGH [4]           | <input type="checkbox"/> EXCELLENT [7]       | <input type="checkbox"/> NONE [6]                  | <input type="checkbox"/> HIGH [3]                |   |
| <input type="checkbox"/> MODERATE [3]       | <input checked="" type="checkbox"/> GOOD [5] | <input type="checkbox"/> RECOVERED [4]             | <input checked="" type="checkbox"/> MODERATE [2] | <b>Channel</b><br><b>12</b><br>Maximum 20 |
| <input checked="" type="checkbox"/> LOW [2] | <input type="checkbox"/> FAIR [3]            | <input checked="" type="checkbox"/> RECOVERING [3] | <input type="checkbox"/> LOW [1]                 |   |
| <input type="checkbox"/> NONE [1]           | <input type="checkbox"/> POOR [1]            | <input type="checkbox"/> RECENT OR NO RECOVERY [1] |  |   |
| <b>Comments</b>                             |  |  |  |   |

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

|   |  |  |   |   |  |
|---|--|--|---|---|--|
| <b>EROSION</b>  |  | <b>RIPARIAN WIDTH</b>                              |   | <b>FLOOD PLAIN QUALITY</b>                                    |  |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input checked="" type="checkbox"/> MODERATE [2] | <input checked="" type="checkbox"/> WIDE > 50m [4] | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input checked="" type="checkbox"/> FOREST, SWAMP [3]         | <input type="checkbox"/> CONSERVATION TILLAGE [1]  |
| <input type="checkbox"/> MODERATE [2]                 | <input type="checkbox"/> HEAVY / SEVERE [1]      | <input type="checkbox"/> NARROW 5-10m [2]          | <input type="checkbox"/> VERY NARROW < 5m [1]           | <input type="checkbox"/> SHRUB OR OLD FIELD [2]               | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
| <input type="checkbox"/> NONE [1]                     |  | <input type="checkbox"/> NONE [0]                  |   | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]     | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
| <b>Comments</b>                                       |  |  |   | <b>Riparian</b><br><b>8</b><br>Maximum 10                     |  |
|   |  |  |   | <b>Indicate predominant land use(s) past 100m riparian.</b>   |  |
|   |  |  |   | <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0] |  |

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

|   |   |  |   |
|---|---|--|---|
| <b>MAXIMUM DEPTH</b><br>Check ONE (ONLY!)         | <b>CHANNEL WIDTH</b><br>Check ONE (Or 2 & average)                | <b>CURRENT VELOCITY</b><br>Check ALL that apply  | <b>Recreation Potential</b><br><b>Primary Contact</b><br><b>Secondary Contact</b><br>(circle one and comment on back) |
| <input type="checkbox"/> > 1m [6]                 | <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]            | <input type="checkbox"/> TORRENTIAL [-1]         |   |
| <input type="checkbox"/> 0.7-<1m [4]              | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input type="checkbox"/> VERY FAST [1]           | <b>Pool / Current</b><br><b>3</b><br>Maximum 12   |
| <input checked="" type="checkbox"/> 0.4-<0.7m [2] | <input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0] | <input type="checkbox"/> SLOW [1]                |   |
| <input type="checkbox"/> 0.2-<0.4m [1]            |   | <input type="checkbox"/> INTERSTITIAL [-1]       |   |
| <input type="checkbox"/> < 0.2m [0]               |   | <input checked="" type="checkbox"/> FAST [1]     |   |
| <b>Comments</b>                                   |   | <input checked="" type="checkbox"/> MODERATE [1] |   |
|   |   | <input type="checkbox"/> INTERMITTENT [-2]       |   |
|   |   | <input type="checkbox"/> EDDIES [1]              |   |
|   |   | <b>Indicate for reach - pools and riffles.</b>   |   |

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

|   |  |  |  |
|---|--|--|--|
| <b>RIFFLE DEPTH</b>                                       | <b>RUN DEPTH</b>                                       | <b>RIFFLE / RUN SUBSTRATE</b>  | <b>RIFFLE / RUN EMBEDDEDNESS</b>                 |
| <input type="checkbox"/> BEST AREAS > 10cm [2]            | <input type="checkbox"/> MAXIMUM > 50cm [2]            | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]              | <input type="checkbox"/> NONE [2]                |
| <input checked="" type="checkbox"/> BEST AREAS 5-10cm [1] | <input checked="" type="checkbox"/> MAXIMUM < 50cm [1] | <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input type="checkbox"/> LOW [1]                 |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0]      |  | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]          | <input checked="" type="checkbox"/> MODERATE [0] |
| <b>Comments</b>   |  |  | <b>Riffle / Run</b><br><b>3</b><br>Maximum 8     |
|   |  |  |  |
|   |  |  |  |

|   |   |           |             |   |
|---|---|-----------|-------------|---|
| 6] GRADIENT ( 7.3 ft/mi)                | <input type="checkbox"/> VERY LOW - LOW [2-4]       | %POOL: 15 | %GLIDE: 0   | <b>Gradient</b><br><b>6</b><br>Maximum 10 |
| DRAINAGE AREA ( 0.888 mi <sup>2</sup> ) | <input checked="" type="checkbox"/> MODERATE [6-10] | %RUN: 65  | %RIFFLE: 20 |   |
|   | <input type="checkbox"/> HIGH - VERY HIGH [10-6]    |           |             |   |

**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

**DISTANCE**

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

**CLARITY**

- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

**CANOPY**

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

**C) RECREATION**

- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
Date of last precipitation was 10/1/2016 at 0.04 inches

**B) AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**D) MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMOURED / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

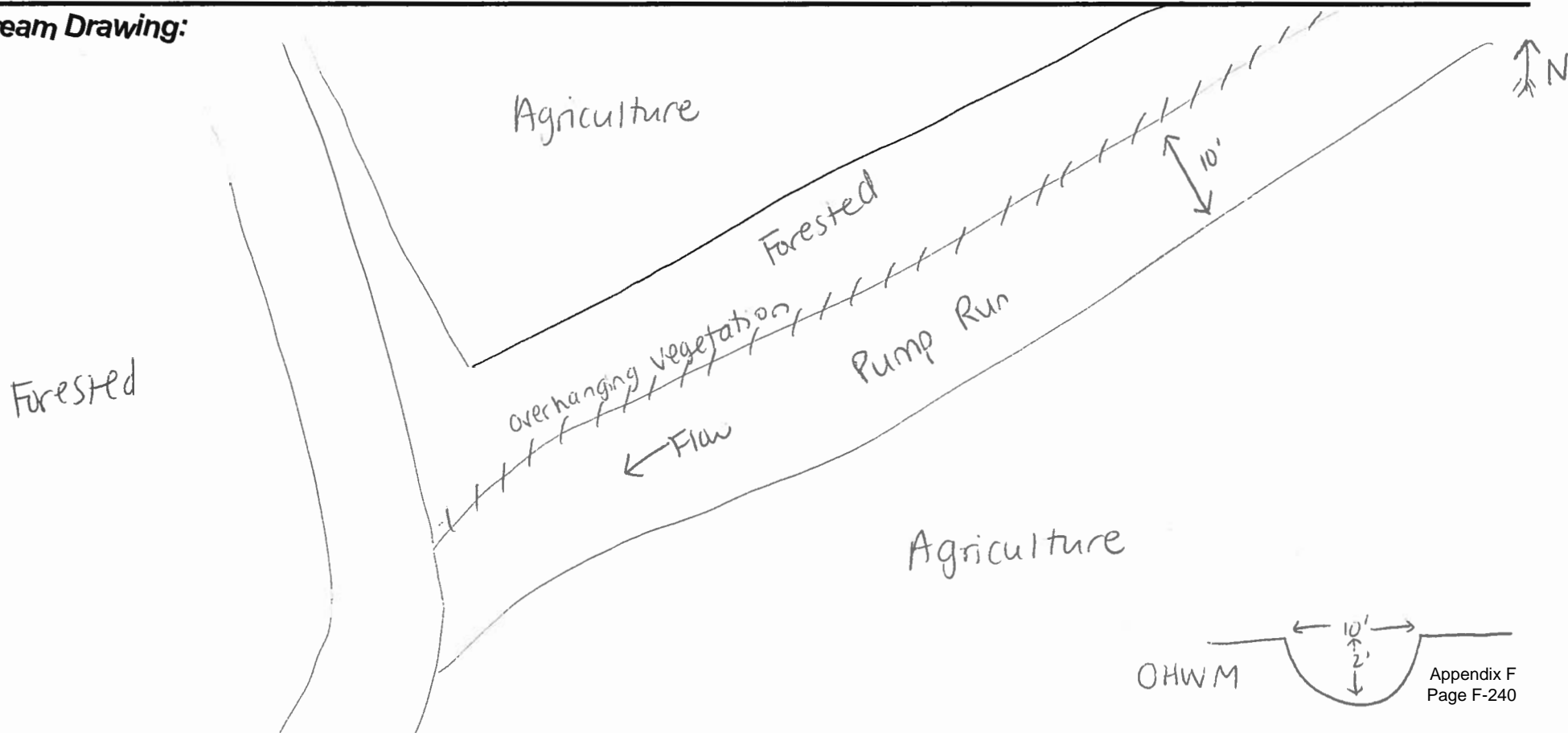
**E) ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**F) MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone x<sup>2</sup> width
- entrench. ratio
- Legacy Tree:

**Stream Drawing:**







Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 61

Stream & Location: Martin-Dugan Ditch

RM: Date: 10/10/16

Audrey Hanner and Katie Krejsa

Scorers Full Name & Affiliation: American Structurepoint

River Code: STORET #: Lat./Long.: 39.90811 186.37377 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment form including categories: BEST TYPES, OTHER TYPES, ORIGIN, and QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, HARDPAN, DETRITUS, MUCK, SILT, ARTIFICIAL, LIMESTONE, TILLS, WETLANDS, SANDSTONE, RIP/RAP, LACUSTURINE, SHALE, COAL FINES, HEAVY, MODERATE, NORMAL, FREE, EXTENSIVE, and NONE. Includes a score of 11 and a maximum of 20.

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment form including categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS (IN SLOW WATER), ROOTMATS, POOLS > 70cm, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes for EXTENSIVE, MODERATE, SPARSE, and NEARLY ABSENT. Includes a score of 12 and a maximum of 20.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment form including categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, and STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, NONE, RECOVERED, RECOVERING, RECENT OR NO RECOVERY, HIGH, MODERATE, and LOW. Includes a score of 14 and a maximum of 20.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment form including categories: EROSION, RIPARIAN WIDTH, and FLOOD PLAIN QUALITY. Includes checkboxes for NONE/LITTLE, MODERATE, HEAVY/SEVERE, WIDE, MODERATE, NARROW, VERY NARROW, NONE, FOREST/SWAMP, SHRUB OR OLD FIELD, RESIDENTIAL, PARK, NEW FIELD, FENCED PASTURE, OPEN PASTURE, ROWCROP, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, and MINING/CONSTRUCTION. Includes a score of 8 and a maximum of 10.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment form including categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, and Recreation Potential. Includes checkboxes for > 1m, 0.7-1m, 0.4-0.7m, 0.2-0.4m, < 0.2m, POOL WIDTH > RIFFLE WIDTH, POOL WIDTH = RIFFLE WIDTH, POOL WIDTH < RIFFLE WIDTH, TORRENTIAL, VERY FAST, FAST, MODERATE, SLOW, INTERSTITIAL, INTERMITTENT, EDDIES. Includes a score of 4 and a maximum of 12.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Check ONE (Or 2 & average)

NO RIFFLE [metric=0]

Riffle / Run Quality assessment form including categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, and RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for BEST AREAS > 10cm, BEST AREAS 5-10cm, BEST AREAS < 5cm, MAXIMUM > 50cm, MAXIMUM < 50cm, STABLE, MOD. STABLE, UNSTABLE, NONE, LOW, MODERATE, and EXTENSIVE. Includes a score of 6 and a maximum of 8.

6] GRADIENT ( 7.19 ft/mi) DRAINAGE AREA ( 1.635 mi²) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

%POOL: 20 %GLIDE: %RUN: 60 %RIFFLE: 20

Gradient Maximum 10

**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER

- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

- C) RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Date of last precipitation was 10/1/2016 at 0.04 inches

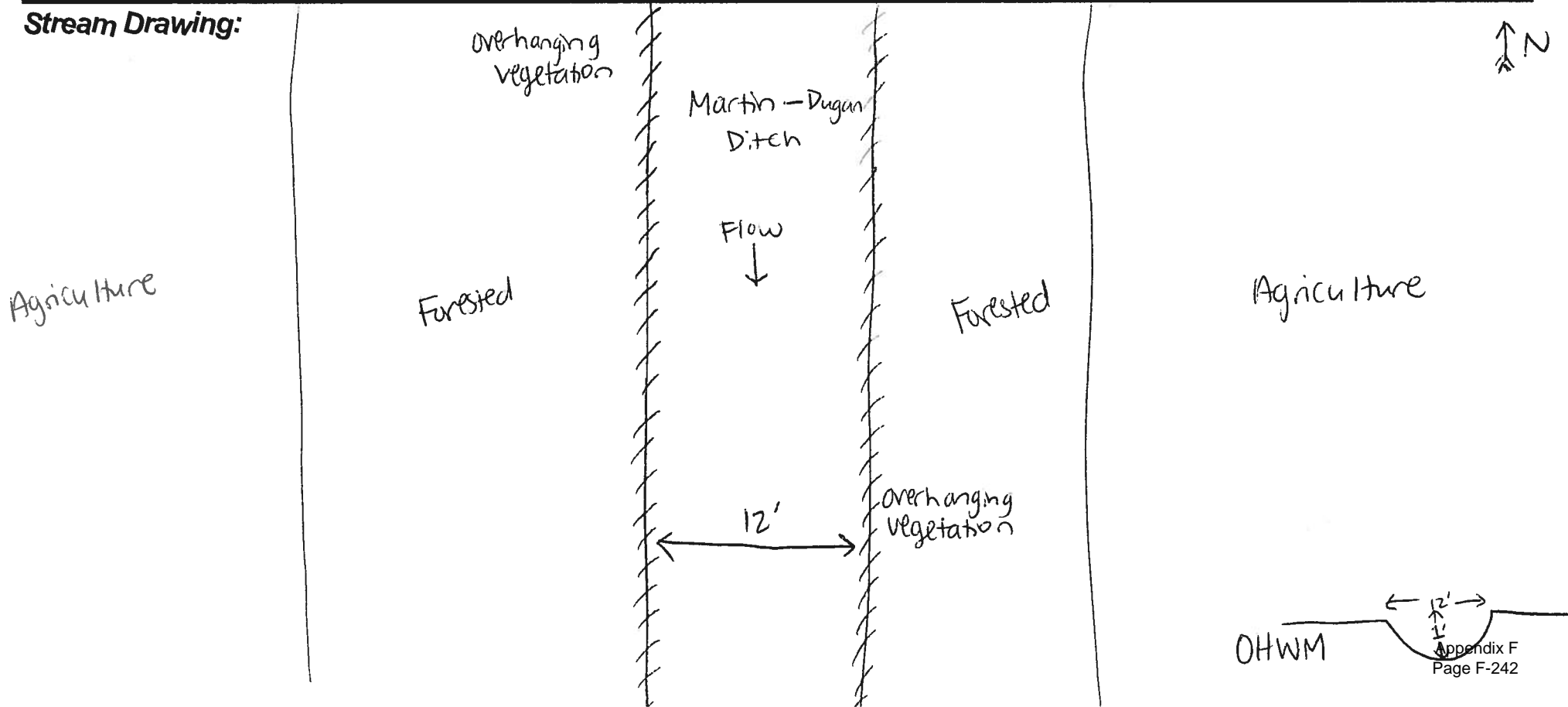
- B) AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

- D) MAINTENANCE**
- Circle some & COMMENT
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

- E) ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
  - HARDENED / URBAN / DIRT&GRIME
  - CONTAMINATED / LANDFILL
  - BMPs-CONSTRUCTION-SEDIMENT
  - LOGGING / IRRIGATION / COOLING
  - BANK / EROSION / SURFACE
  - FALSE BANK / MANURE / LAGOON
  - WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- F) MEASUREMENTS**
- $\bar{x}$  width
  - $\bar{x}$  depth
  - max. depth
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio
  - bankfull max. depth
  - floodprone x<sup>2</sup> width
  - entrench. ratio
  - Legacy Tree:

**Stream Drawing:**



OHWM



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 32

Stream & Location: Etter Ditch

RM: Date: 16 / 10 / 16

Rick Paul

Scorers Full Name & Affiliation: American Structurepoint

River Code: STORET #: Lat./ Long.: 39.9291 / 86.3806 Office verified location

1) SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, QUALITY. Includes checkboxes for various substrate types and a score of 2.

2) INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts

Check ONE (Or 2 & average)

Instream Cover assessment table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a score of 7.

3) CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a score of 9.

4) BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes checkboxes and a score of 3.

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes checkboxes and a score of 3.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Riffle / Run Quality assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a score of 2.

6) GRADIENT (9.01 ft/mi) DRAINAGE AREA (5.4 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH. Includes % POOL, % GLIDE, % RUN, % RIFFLE and a score of 6.

**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER

- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
 Reach is very typical of the stream. It's located in a large agricultural area, with drain tiles emptying into the stream.

Date of last precipitation was 10/1/2016 at 0.04 inches

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm

- CANOPY**
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

- C) RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

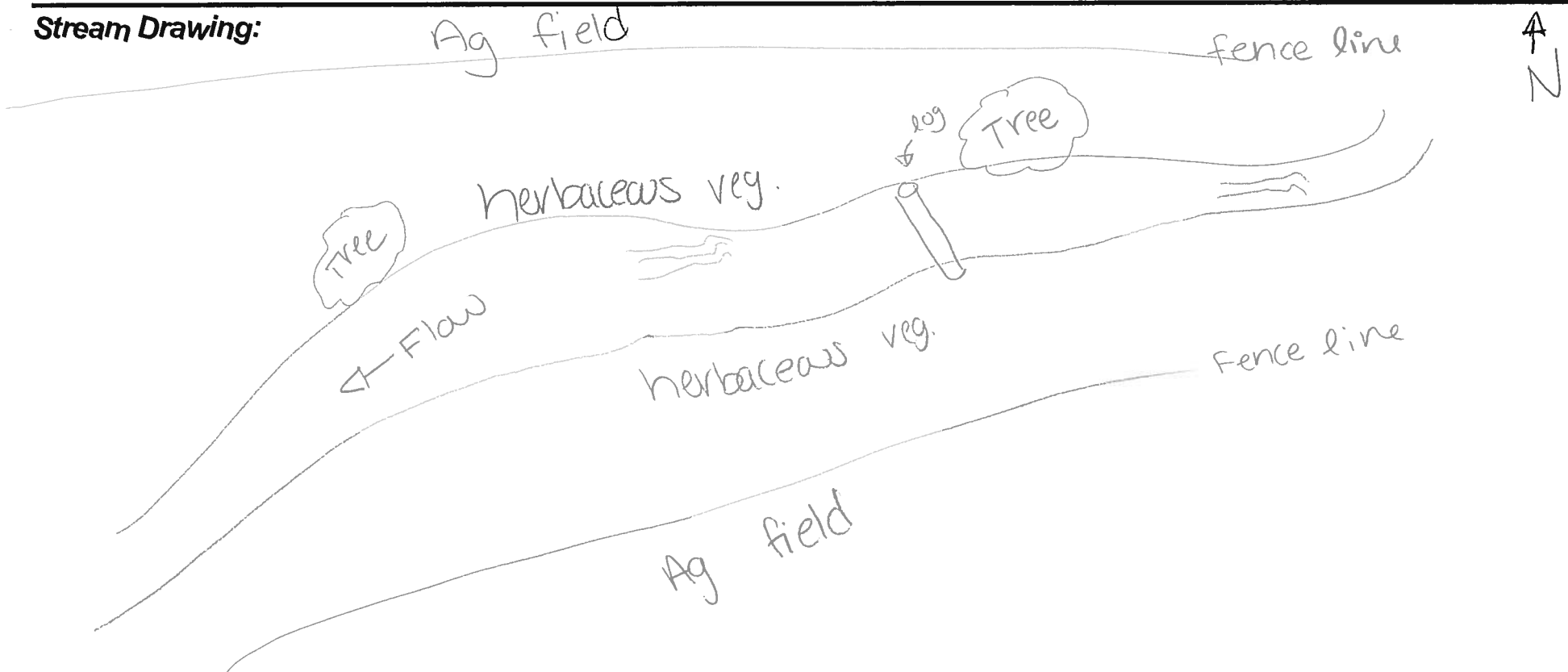
- B) AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

- D) MAINTENANCE**
- Circle some & COMMENT
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

- E) ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
  - HARDENED / URBAN / DIRT&GRIME
  - CONTAMINATED / LANDFILL
  - BMPs-CONSTRUCTION-SEDIMENT
  - LOGGING / IRRIGATION / COOLING
  - BANK / EROSION / SURFACE
  - FALSE BANK / MANURE / LAGOON
  - WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- F) MEASUREMENTS**
- $\bar{x}$  width
  - $\bar{x}$  depth
  - max. depth
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio
  - bankfull max. depth
  - floodprone  $x^2$  width
  - entrench. ratio
  - Legacy Tree:

**Stream Drawing:**





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 48

Stream & Location: White Lick Creek 1 Hendricks County, Indiana RM: Date: 16/ 11/ 16

Audrey Hanner Scorers Full Name & Affiliation: American Structurepoint

River Code: STORET #: Lat./ Long.: 39 . 96937 186 . 39875 Office verified location

1) SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Substrate assessment section with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, QUALITY. Includes checkboxes for various substrate types and a score of 9.

2) INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

Instream Cover assessment section with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a score of 10.

3) CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment section with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a score of 10.

4) BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment section with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes and a score of 6.

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment section with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes checkboxes and a score of 4.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Riffle / Run Quality assessment section with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a score of 3.

6) GRADIENT ( 8.44 ft/mi) DRAINAGE AREA ( 2.354 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH. Includes % POOL, % GLIDE, % RUN, % RIFFLE and a score of 6.

**A) SAMPLED REACH**

Check ALL that apply

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
Date of last precipitation was 10/1/2016 at 0.04 inches

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY
- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH
- \_\_\_\_\_ meters

- CANOPY**
- 1st \_\_\_\_\_ cm
- pass
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

- C) RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

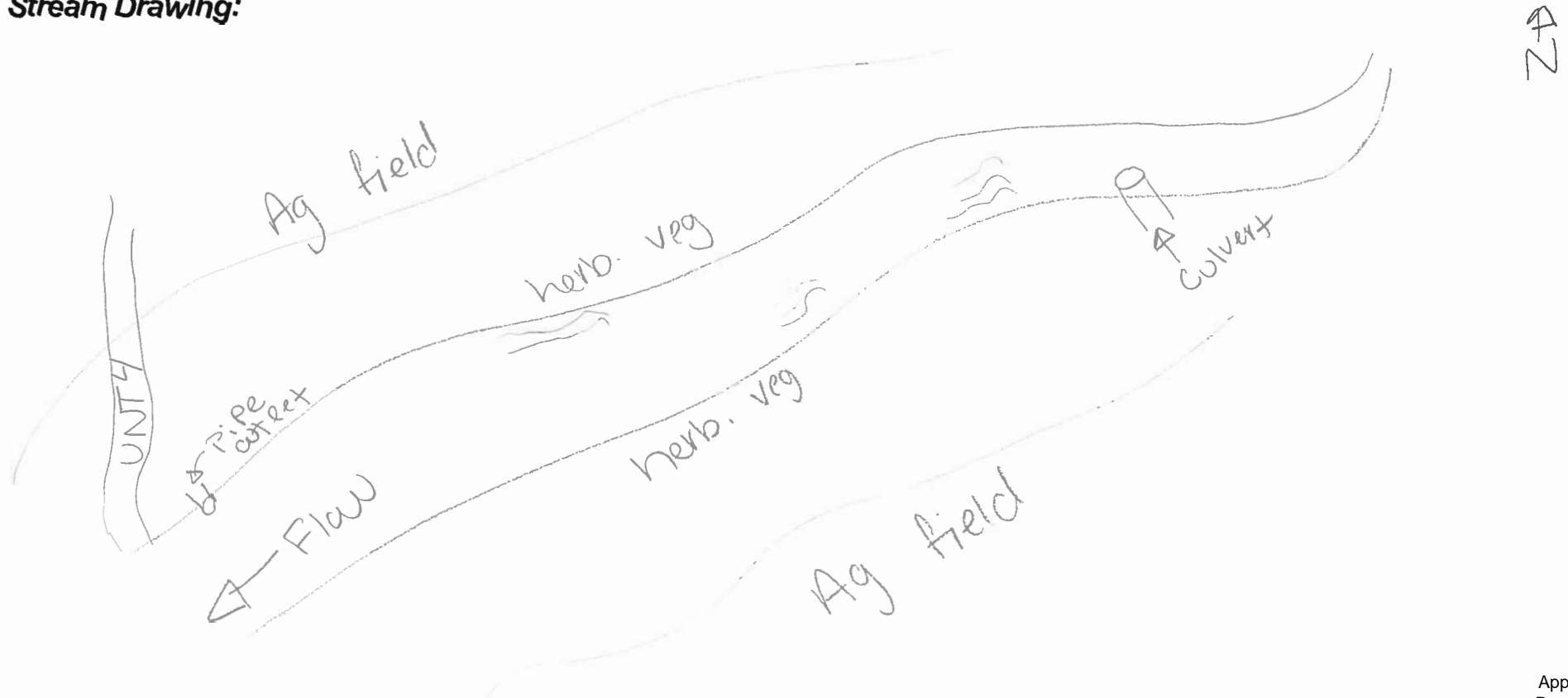
- B) AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

- D) MAINTENANCE**
- Circle some & COMMENT
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

- E) ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
  - HARDENED / URBAN / DIRT&GRIME
  - CONTAMINATED / LANDFILL
  - BMPs-CONSTRUCTION-SEDIMENT
  - LOGGING / IRRIGATION / COOLING
  - BANK / EROSION / SURFACE
  - FALSE BANK / MANURE / LAGOON
  - WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- F) MEASUREMENTS**
- $\bar{x}$  width
  - $\bar{x}$  depth
  - max. depth
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio
  - bankfull max. depth
  - floodprone x<sup>2</sup> width
  - entrench. ratio
  - Legacy Tree:

**Stream Drawing:**





# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **19**

Stream & Location: UNT 4 - Ronald Reagan Parkway

RM: \_\_\_\_\_ Date: 10/ 10 / 16

Audrey Hanner

Scorers Full Name & Affiliation: American Structurepoint

River Code: \_\_\_\_\_

STORET #: \_\_\_\_\_

Lat./ Long.: 39 . 95341 186 . 38909

Office verified location

1) **SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

|   |                                      |                                     |                                     |                                   |                                      |                                      |                                       |                                   |  |  |   |  |   |                                       |                                      |  |                                      |  |                                     |  |  |  |                                     |                                   |   |   |                                     |
|---|--------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|-----------------------------------|--|--|---|--|---|---------------------------------------|--------------------------------------|--|--------------------------------------|--|-------------------------------------|--|--|--|-------------------------------------|-----------------------------------|---|---|-------------------------------------|
| <b>BEST TYPES</b>                         |                                      | <b>POOL RIFFLE</b>                  | <b>OTHER TYPES</b>                  |                                   | <b>POOL RIFFLE</b>                   | <b>ORIGIN</b>                        |                                       | <b>QUALITY</b>                    |  | 0<br><small>Substrate<br/>Maximum<br/>20</small> |   |  |   |                                       |                                      |  |                                      |  |                                     |  |  |  |                                     |                                   |   |   |                                     |
| <input type="checkbox"/> BLDR /SLABS [10] | <input type="checkbox"/> BOULDER [9] | <input type="checkbox"/> COBBLE [8] | <input type="checkbox"/> GRAVEL [7] | <input type="checkbox"/> SAND [6] | <input type="checkbox"/> BEDROCK [5] | <input type="checkbox"/> HARDPAN [4] | <input type="checkbox"/> DETRITUS [3] | <input type="checkbox"/> MUCK [2] | <input checked="" type="checkbox"/> SILT [2] |  | <input type="checkbox"/> ARTIFICIAL [0] | <input type="checkbox"/> LIMESTONE [1] | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> WETLANDS [0] | <input type="checkbox"/> HARDPAN [0] | <input type="checkbox"/> SANDSTONE [0] | <input type="checkbox"/> RIP/RAP [0] | <input type="checkbox"/> LACUSTURINE [0] | <input type="checkbox"/> SHALE [-1] | <input type="checkbox"/> COAL FINES [-2] | <input checked="" type="checkbox"/> HEAVY [-2] | <input type="checkbox"/> MODERATE [-1] | <input type="checkbox"/> NORMAL [0] | <input type="checkbox"/> FREE [1] | <input type="checkbox"/> EXTENSIVE [-2] | <input checked="" type="checkbox"/> MODERATE [-1] | <input type="checkbox"/> NORMAL [0] |

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments \_\_\_\_\_

2) **INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.)

**AMOUNT**

Check ONE (Or 2 & average)

|   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> UNDERCUT BANKS [1]           | <input type="checkbox"/> POOLS > 70cm [2] | <input type="checkbox"/> OXBOWS, BACKWATERS [1]   | <input type="checkbox"/> EXTENSIVE >75% [11]              |
| <input type="checkbox"/> OVERHANGING VEGETATION [1]   | <input type="checkbox"/> ROOTWADS [1]     | <input type="checkbox"/> AQUATIC MACROPHYTES [1]  | <input type="checkbox"/> MODERATE 25-75% [7]              |
| <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] | <input type="checkbox"/> BOULDERS [1]     | <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] | <input type="checkbox"/> SPARSE 5-<25% [3]                |
| <input type="checkbox"/> ROOTMATS [1]                 |   |   | <input checked="" type="checkbox"/> NEARLY ABSENT <5% [1] |

Comments \_\_\_\_\_

Cover Maximum 20 **1**

3) **CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|  |  |   |   |  |
|--|--|---|---|--|
| <b>SINUOSITY</b>                                 | <b>DEVELOPMENT</b>                     | <b>CHANNELIZATION</b>                   | <b>STABILITY</b>                            | 6<br><small>Channel<br/>Maximum<br/>20</small> |
| <input type="checkbox"/> HIGH [4]                | <input type="checkbox"/> EXCELLENT [7] | <input type="checkbox"/> NONE [6]       | <input type="checkbox"/> HIGH [3]           |  |
| <input checked="" type="checkbox"/> MODERATE [3] | <input type="checkbox"/> GOOD [5]      | <input type="checkbox"/> RECOVERED [4]  | <input type="checkbox"/> MODERATE [2]       |  |
| <input type="checkbox"/> LOW [2]                 | <input type="checkbox"/> FAIR [3]      | <input type="checkbox"/> RECOVERING [3] | <input checked="" type="checkbox"/> LOW [1] |  |

Comments \_\_\_\_\_

4) **BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|  |  |  |   |   |   |   |  |
|--|--|--|---|---|---|---|--|
| <b>EROSION</b>   |  | <b>RIPARIAN WIDTH</b>                              |   | <b>FLOOD PLAIN QUALITY</b>                                    |   | 4<br><small>Riparian<br/>Maximum<br/>10</small> |  |
| <input type="checkbox"/> NONE / LITTLE [3]             | <input checked="" type="checkbox"/> MODERATE [2] | <input checked="" type="checkbox"/> WIDE > 50m [4] | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input type="checkbox"/> FOREST, SWAMP [3]                    | <input type="checkbox"/> SHRUB OR OLD FIELD [2] |   | <input type="checkbox"/> CONSERVATION TILLAGE [1]  |
| <input checked="" type="checkbox"/> HEAVY / SEVERE [1] | <input type="checkbox"/> MODERATE [2]            | <input type="checkbox"/> NARROW 5-10m [2]          | <input type="checkbox"/> VERY NARROW < 5m [1]           | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]     | <input type="checkbox"/> FENCED PASTURE [1]     |   | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
|  | <input type="checkbox"/> NONE [0]                | <input type="checkbox"/> NONE [0]                  | <input type="checkbox"/> NONE [0]                       | <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0] |   |   | <input type="checkbox"/> MINING / CONSTRUCTION [0] |

Comments \_\_\_\_\_

5) **POOL / GLIDE AND RIFFLE / RUN QUALITY**

|                                      |  |  |  |
|--------------------------------------|--|--|--|
| <b>MAXIMUM DEPTH</b>                 | <b>CHANNEL WIDTH</b>                                   | <b>CURRENT VELOCITY</b>                      | <b>Recreation Potential</b><br><b>Primary Contact</b><br><b>Secondary Contact</b><br><small>(circle one and comment on back)</small> |
| Check ONE (ONLY!)                    | Check ONE (Or 2 & average)                             | Check ALL that apply                         |  |
| <input type="checkbox"/> > 1m [6]    | <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] | <input type="checkbox"/> TORRENTIAL [-1]     |  |
| <input type="checkbox"/> 0.7-<1m [4] | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] | <input checked="" type="checkbox"/> SLOW [1] |  |

Comments \_\_\_\_\_

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

|  |   |   |                                       |  |
|--|---|---|---------------------------------------|--|
| <b>RIFFLE DEPTH</b>                                  | <b>RUN DEPTH</b>                            | <b>RIFFLE / RUN SUBSTRATE</b>                                   | <b>RIFFLE / RUN EMBEDDEDNESS</b>      | 0<br><small>Riffle / Run<br/>Maximum<br/>8</small> |
| <input type="checkbox"/> BEST AREAS > 10cm [2]       | <input type="checkbox"/> MAXIMUM > 50cm [2] | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]     | <input type="checkbox"/> NONE [2]     |  |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]       | <input type="checkbox"/> MAXIMUM < 50cm [1] | <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]   | <input type="checkbox"/> LOW [1]      |  |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0] |   | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <input type="checkbox"/> MODERATE [0] |  |

Comments \_\_\_\_\_

|  |   |                     |                        |   |
|--|---|---------------------|------------------------|---|
| <b>6) GRADIENT</b> ( 30.9 ft/mi)               | <input type="checkbox"/> VERY LOW - LOW [2-4] | % POOL: <b>10</b>   | % GLIDE: <b>90</b>     | 8<br><small>Gradient<br/>Maximum<br/>10</small> |
| <b>DRAINAGE AREA</b> ( 0.095 mi <sup>2</sup> ) | <input type="checkbox"/> MODERATE [6-10]      | % RUN: <b>_____</b> | % RIFFLE: <b>_____</b> |   |

**A) SAMPLED REACH**

Check ALL that apply

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

Date of last precipitation was 10/1/2016 at 0.04 inches

**METHOD**

- BOAT
- WADE
- L. LINE
- OTHER

**STAGE**

- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

**DISTANCE**

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

**CLARITY**

- 1st --sample pass-- 2nd
- < 20 cm
  - 20-40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

**CANOPY**

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

**C) RECREATION**

AREA DEPTH  
POOL:  >100ft<sup>2</sup>  >3ft

**B) AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**D) MAINTENANCE**

- Circle some & COMMENT
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

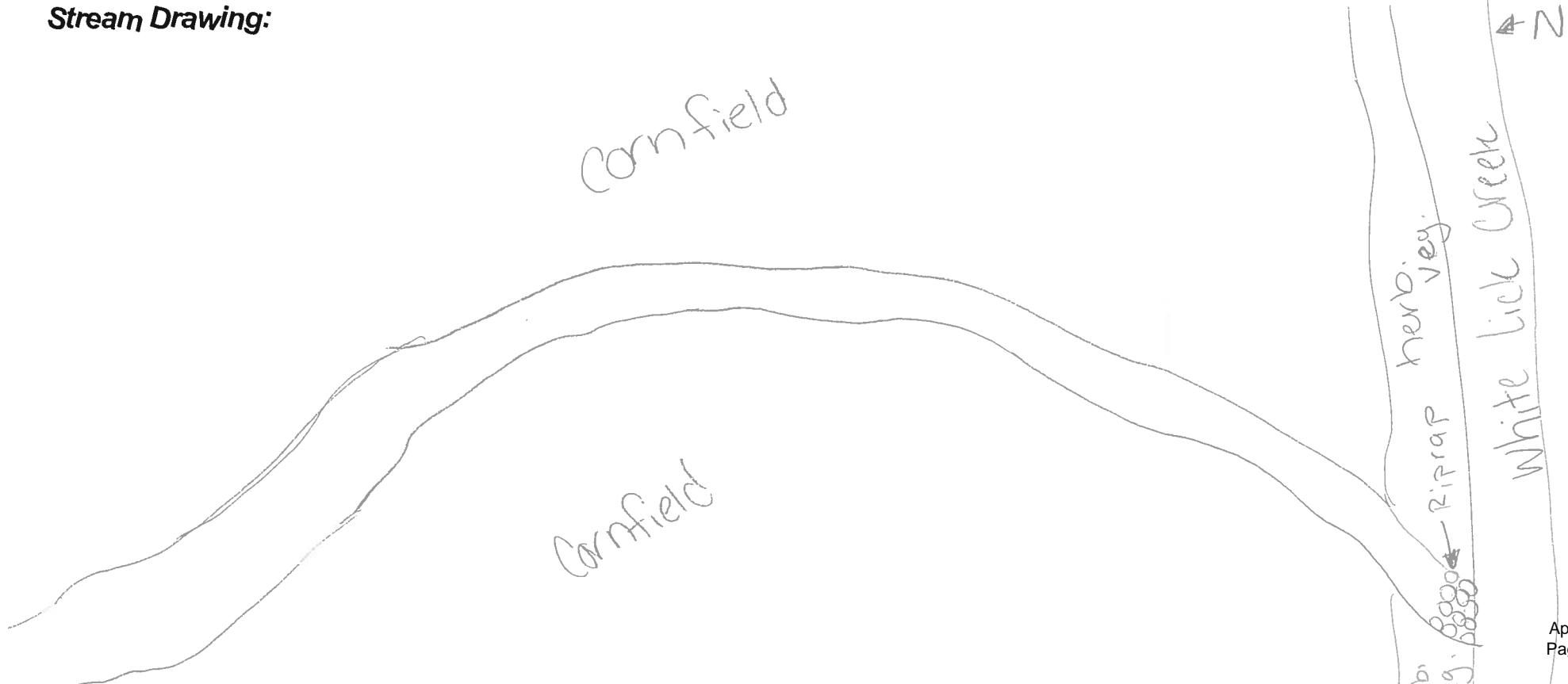
**E) ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**F) MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $\bar{x}^2$  width
- entrench. ratio
- Legacy Tree:

**Stream Drawing:**







# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **46**

Stream & Location: White Lick Creek 2, Hendricks County, Indiana RM: \_\_\_\_\_ Date: 10/11/16

Audrey Hanner Scorers Full Name & Affiliation: American Structurepoint

River Code: \_\_\_\_\_ STORET #: \_\_\_\_\_ Lat./ Long.: 39.9540 186.3867 Office verified location

**1) SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

|  |                                    |  |                            |   |  |
|--|------------------------------------|--|----------------------------|---|--|
| <b>BEST TYPES</b>                            | <b>POOL RIFFLE</b>                 | <b>OTHER TYPES</b>   | <b>POOL RIFFLE</b>         | <b>ORIGIN</b>                                 | <b>QUALITY</b>                                 |
| <input type="checkbox"/> BLDR /SLABS [10]    | _____                              | <input type="checkbox"/> HARDPAN [4]                         | _____                      | <input type="checkbox"/> LIMESTONE [1]        | <input type="checkbox"/> HEAVY [-2]            |
| <input type="checkbox"/> BOULDER [9]         | _____                              | <input type="checkbox"/> DETRITUS [3]                        | _____                      | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> MODERATE [-1]         |
| <input type="checkbox"/> COBBLE [8]          | 20                                 | <input type="checkbox"/> MUCK [2]                            | _____                      | <input type="checkbox"/> WETLANDS [0]         | <input checked="" type="checkbox"/> NORMAL [0] |
| <input type="checkbox"/> GRAVEL [7]          | _____                              | <input checked="" type="checkbox"/> SILT [2]                 | 35                         | <input type="checkbox"/> SANDSTONE [0]        | <input type="checkbox"/> FREE [1]              |
| <input checked="" type="checkbox"/> SAND [6] | 40                                 | <input type="checkbox"/> ARTIFICIAL [0]                      | 5                          | <input type="checkbox"/> RIP/RAP [0]          | <input type="checkbox"/> EXTENSIVE [-2]        |
| <input type="checkbox"/> BEDROCK [5]         | _____                              | (Score natural substrates; ignore sludge from point-sources) |                            | <input type="checkbox"/> LACUSTURINE [0]      | <input type="checkbox"/> MODERATE [-1]         |
| <b>NUMBER OF BEST TYPES:</b>                 | <input type="checkbox"/> 4 or more | <input checked="" type="checkbox"/> 3 or less                | <input type="checkbox"/> 2 | <input type="checkbox"/> SHALE [-1]           | <input type="checkbox"/> NONE [1]              |

Check ONE (Or 2 & average)

**Comments**

Substrate **9**  
Maximum 20

**2) INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> UNDERCUT BANKS [1]           | <input type="checkbox"/> POOLS > 70cm [2] | <input type="checkbox"/> OXBOWS, BACKWATERS [1]   | <b>AMOUNT</b>   |
| <input type="checkbox"/> OVERHANGING VEGETATION [1]   | <input type="checkbox"/> ROOTWADS [1]     | <input type="checkbox"/> AQUATIC MACROPHYTES [1]  | Check ONE (Or 2 & average)                                |
| <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] | <input type="checkbox"/> BOULDERS [1]     | <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] | <input type="checkbox"/> EXTENSIVE >75% [11]              |
| <input type="checkbox"/> ROOTMATS [1]                 |   |   | <input type="checkbox"/> MODERATE 25-75% [7]              |
|   |   |   | <input type="checkbox"/> SPARSE 5-<25% [3]                |
|   |   |   | <input checked="" type="checkbox"/> NEARLY ABSENT <5% [1] |

**Comments**

Cover **6**  
Maximum 20

**3) CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|   |  |  |  |
|---|--|--|--|
| <b>SINUOSITY</b>                            | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                                 |
| <input type="checkbox"/> HIGH [4]           | <input type="checkbox"/> EXCELLENT [7]       | <input type="checkbox"/> NONE [6]                  | <input type="checkbox"/> HIGH [3]                |
| <input type="checkbox"/> MODERATE [3]       | <input type="checkbox"/> GOOD [5]            | <input type="checkbox"/> RECOVERED [4]             | <input checked="" type="checkbox"/> MODERATE [2] |
| <input checked="" type="checkbox"/> LOW [2] | <input checked="" type="checkbox"/> FAIR [3] | <input checked="" type="checkbox"/> RECOVERING [3] | <input type="checkbox"/> LOW [1]                 |
| <input type="checkbox"/> NONE [1]           | <input type="checkbox"/> POOR [1]            | <input type="checkbox"/> RECENT OR NO RECOVERY [1] |  |

**Comments**

Channel **10**  
Maximum 20

**4) BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|  |   |   |  |
|--|---|---|--|
| <b>EROSION</b>                                   | <b>RIPARIAN WIDTH</b>                         | <b>FLOOD PLAIN QUALITY</b>                                    | <b>CONSERVATION TILLAGE</b>                        |
| <input type="checkbox"/> NONE / LITTLE [3]       | <input type="checkbox"/> WIDE > 50m [4]       | <input type="checkbox"/> FOREST, SWAMP [3]                    | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
| <input checked="" type="checkbox"/> MODERATE [2] | <input type="checkbox"/> MODERATE 10-50m [3]  | <input type="checkbox"/> SHRUB OR OLD FIELD [2]               | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
| <input type="checkbox"/> HEAVY / SEVERE [1]      | <input type="checkbox"/> NARROW 5-10m [2]     | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]     |  |
|  | <input type="checkbox"/> VERY NARROW < 5m [1] | <input type="checkbox"/> FENCED PASTURE [1]                   |  |
|  | <input type="checkbox"/> NONE [0]             | <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0] |  |

Indicate predominant land use(s) past 100m riparian.

**Comments**

Riparian **5**  
Maximum 10

**5) POOL / GLIDE AND RIFFLE / RUN QUALITY**

|   |   |  |                                  |
|---|---|--|----------------------------------|
| <b>MAXIMUM DEPTH</b>                            | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                          | <b>Recreation Potential</b>      |
| Check ONE (ONLY!)                               | Check ONE (Or 2 & average)  | Check ALL that apply                             | <b>Primary Contact</b>           |
| <input type="checkbox"/> > 1m [6]               | <input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] | <input type="checkbox"/> TORRENTIAL [-1]         | <b>Secondary Contact</b>         |
| <input checked="" type="checkbox"/> 0.7-<1m [4] | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input type="checkbox"/> SLOW [1]                | (circle one and comment on bank) |
| <input type="checkbox"/> 0.4-<0.7m [2]          | <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]            | <input type="checkbox"/> VERY FAST [1]           |                                  |
| <input type="checkbox"/> 0.2-<0.4m [1]          |   | <input type="checkbox"/> FAST [1]                |                                  |
| <input type="checkbox"/> < 0.2m [0]             |   | <input checked="" type="checkbox"/> MODERATE [1] |                                  |
|   |   | <input type="checkbox"/> INTERSTITIAL [-1]       |                                  |
|   |   | <input type="checkbox"/> INTERMITTENT [-2]       |                                  |
|   |   | <input checked="" type="checkbox"/> EDDIES [1]   |                                  |
|   |   | Indicate for reach - pools and riffles.          |                                  |

**Comments**

Pool / Current **7**  
Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:  NO RIFFLE [metric=0]

|   |  |  |  |
|---|--|--|--|
| <b>RIFFLE DEPTH</b>                                       | <b>RUN DEPTH</b>                                       | <b>RIFFLE / RUN SUBSTRATE</b>  | <b>RIFFLE / RUN EMBEDDEDNESS</b>                 |
| <input type="checkbox"/> BEST AREAS > 10cm [2]            | <input type="checkbox"/> MAXIMUM > 50cm [2]            | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]                | <input type="checkbox"/> NONE [2]                |
| <input checked="" type="checkbox"/> BEST AREAS 5-10cm [1] | <input checked="" type="checkbox"/> MAXIMUM < 50cm [1] | <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]   | <input type="checkbox"/> LOW [1]                 |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0]      |  | <input checked="" type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <input checked="" type="checkbox"/> MODERATE [0] |
|   |  |  | <input type="checkbox"/> EXTENSIVE [-1]          |

**Comments**

Riffle / Run **3**  
Maximum 8

**6) GRADIENT** (6.1 ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (7.957 mi<sup>2</sup>)

**% POOL:** 20 **% GLIDE:** 0 **% RUN:** 60 **% RIFFLE:** 20

**Comments**

Gradient **6**  
Maximum 10

**A) SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH
- \_\_\_\_\_ meters

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

- C) RECREATION** AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.  
Date of last precipitation was 10/1/2016 at 0.04 inches

**B) AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**D) MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

**E) ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**F) MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $x^2$  width
- entrench. ratio
- Legacy Tree:

**Stream Drawing:**

Ag field

lawn



Tree line

Flow →

Tree line



Wetland SS-B



Wetland SS-C

Wetland SS-C

Ag field

lawn



Primary Headwater Habitat Evaluation Form

17

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **UNT 2 - Ronald Reagan Parkway**

SITE NUMBER \_\_\_\_\_ RIVER BASIN \_\_\_\_\_ DRAINAGE AREA (mi<sup>2</sup>) \_\_\_\_\_

LENGTH OF STREAM REACH (ft) \_\_\_\_\_ LAT. **39.86226** LONG. \_\_\_\_\_ RIVER CODE \_\_\_\_\_ RIVER MILE \_\_\_\_\_

DATE **10/10/16** SCORER **AEH** COMMENTS \_\_\_\_\_

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS:  NONE / NATURAL CHANNEL  RECOVERED  RECOVERING  RECENT OR NO RECOVERY

**1. SUBSTRATE** (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.)

| TYPE  | PERCENT | TYPE   | PERCENT |
|---|---------|--|---------|
| <input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]             | 0%      | <input checked="" type="checkbox"/> <input type="checkbox"/> SILT [3 pt]         | 50%     |
| <input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]      | 0%      | <input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts] | 10%     |
| <input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]                 | 0%      | <input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]          | 0%      |
| <input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]     | 0%      | <input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]         | 0%      |
| <input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]        | 0%      | <input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]                   | 0%      |
| <input type="checkbox"/> <input checked="" type="checkbox"/> SAND (<2 mm) [6 pts] | 40%     | <input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]             | 0%      |

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A) 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9** TOTAL NUMBER OF SUBSTRATE TYPES: **3**

**2. Maximum Pool Depth** (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):

|  |   |
|--|---|
| <input type="checkbox"/> > 30 centimeters [20 pts] | <input type="checkbox"/> > 5 cm - 10 cm [15 pts]                      |
| <input type="checkbox"/> > 22.5 - 30 cm [30 pts]   | <input type="checkbox"/> < 5 cm [5 pts]                               |
| <input type="checkbox"/> > 10 - 22.5 cm [25 pts]   | <input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts] |

COMMENTS \_\_\_\_\_ MAXIMUM POOL DEPTH (centimeters): \_\_\_\_\_

**3. BANK FULL WIDTH** (Measured as the average of 3-4 measurements) (Check ONLY one box):

|   |   |
|---|---|
| <input type="checkbox"/> > 4.0 meters (> 13') [30 pts]              | <input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] |
| <input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]   | <input checked="" type="checkbox"/> ≤ 1.0 m (<= 3' 3") [5 pts]      |
| <input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts] |   |

COMMENTS \_\_\_\_\_ AVERAGE BANKFULL WIDTH (meters): **0.40**

**HHEI Metric Points**

Substrate Max = 40

12

A + B

Pool Depth Max = 30

0

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

| RIPARIAN WIDTH                      |                                     | FLOODPLAIN QUALITY                  |                          |                                     |                                     |
|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|
| L                                   | R                                   | L                                   | R                        | L                                   | R                                   |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Wide >10m                           |                                     | Mature Forest, Wetland              |                          | Conservation Tillage                |                                     |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Moderate 5-10m                      |                                     | Immature Forest, Shrub or Old Field |                          | Urban or Industrial                 |                                     |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Narrow <5m                          |                                     | Residential, Park, New Field        |                          | Open Pasture, Row Crop              |                                     |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| None                                |                                     | Fenced Pasture                      |                          | Mining or Construction              |                                     |

COMMENTS \_\_\_\_\_

**FLOW REGIME** (At Time of Evaluation) (Check ONLY one box):

|   |  |
|---|--|
| <input type="checkbox"/> Stream Flowing                                     | <input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent) |
| <input type="checkbox"/> Subsurface flow with isolated pools (Interstitial) | <input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)          |

COMMENTS \_\_\_\_\_

**SINUOSITY** (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

|  |                              |                              |                              |
|--|------------------------------|------------------------------|------------------------------|
| <input checked="" type="checkbox"/> None | <input type="checkbox"/> 1.0 | <input type="checkbox"/> 2.0 | <input type="checkbox"/> 3.0 |
| <input type="checkbox"/> 0.5             | <input type="checkbox"/> 1.5 | <input type="checkbox"/> 2.5 | <input type="checkbox"/> >3  |

**STREAM GRADIENT ESTIMATE**

Flat (0.5 ft/100 ft)  Flat to Moderate  Moderate (2 ft/100 ft)  Moderate to Severe  Severe (10 ft/100 ft)

October 24, 2002 Revision

PHWH Form Page - 1

Appendix F  
Page F-251

**ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):**

QHEI PERFORMED? -  Yes  No QHEI Score  (If Yes, Attach Completed QHEI Form)

**DOWNSTREAM DESIGNATED USE(S)**

|   |  |
|---|--|
| <input type="checkbox"/> WWH Name: <input type="text"/> | Distance from Evaluated Stream: <input type="text"/> |
| <input type="checkbox"/> CWH Name: <input type="text"/> | Distance from Evaluated Stream: <input type="text"/> |
| <input type="checkbox"/> EWH Name: <input type="text"/> | Distance from Evaluated Stream: <input type="text"/> |

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION**

USGS Quadrangle Name:  NRCS Soil Map Page:  NRCS Soil Map Stream Order:

County:  Township / City:

**MISCELLANEOUS**

Base Flow Conditions? (Y/N):  Y Date of last precipitation:  Quantity:

Photograph Information:

Elevated Turbidity? (Y/N):  N Canopy (% open):

Were samples collected for water chemistry? (Y/N):  N (Note lab sample no. or id. and attach results) Lab Number:

Field Measures: Temp (°C)  Dissolved Oxygen (mg/l)  pH (S.U.)  Conductivity (µmhos/cm)

Is the sampling reach representative of the stream (Y/N)  Y If not, please explain:

Additional comments/description of pollution impacts:

**BIOTIC EVALUATION**

Performed? (Y/N):  N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

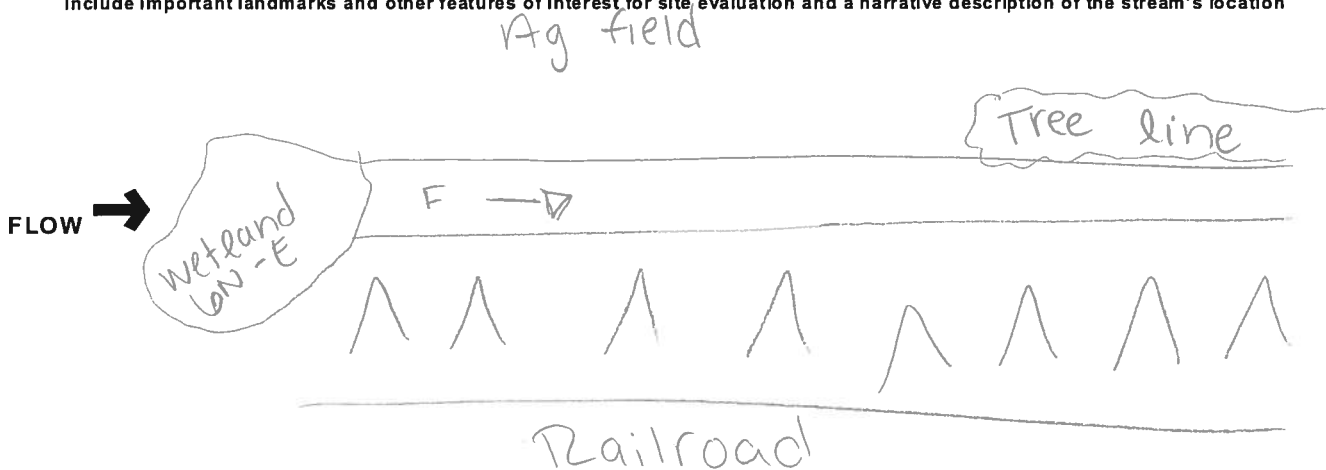
Fish Observed? (Y/N)  Y Voucher? (Y/N)  Y Salamanders Observed? (Y/N)  Y Voucher? (Y/N)  Y

Frogs or Tadpoles Observed? (Y/N)  Y Voucher? (Y/N)  Y Aquatic Macroinvertebrates Observed? (Y/N)  Y Voucher? (Y/N)  Y

Comments Regarding Biology:

**DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):**

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



## **Appendix D - Mapping**

**Figure 1 – Project Location Map**

**Figure 2 – USGS Topographic Mapping**

**Figure 3 – 1975 Boone and 1974 Hendricks County Soil Survey**

**Figure 4 – Boone and Hendricks County Mapped Soils - SURRGO**

**Figure 5 – National Wetland Inventory and FEMA 100-Year Floodplain Mapping**

**Figure 6 – 2005 Aerial Photography**

**Figure 7– Data Points and Photo Location Map**

**Figure 8 – Legal Drains Map**

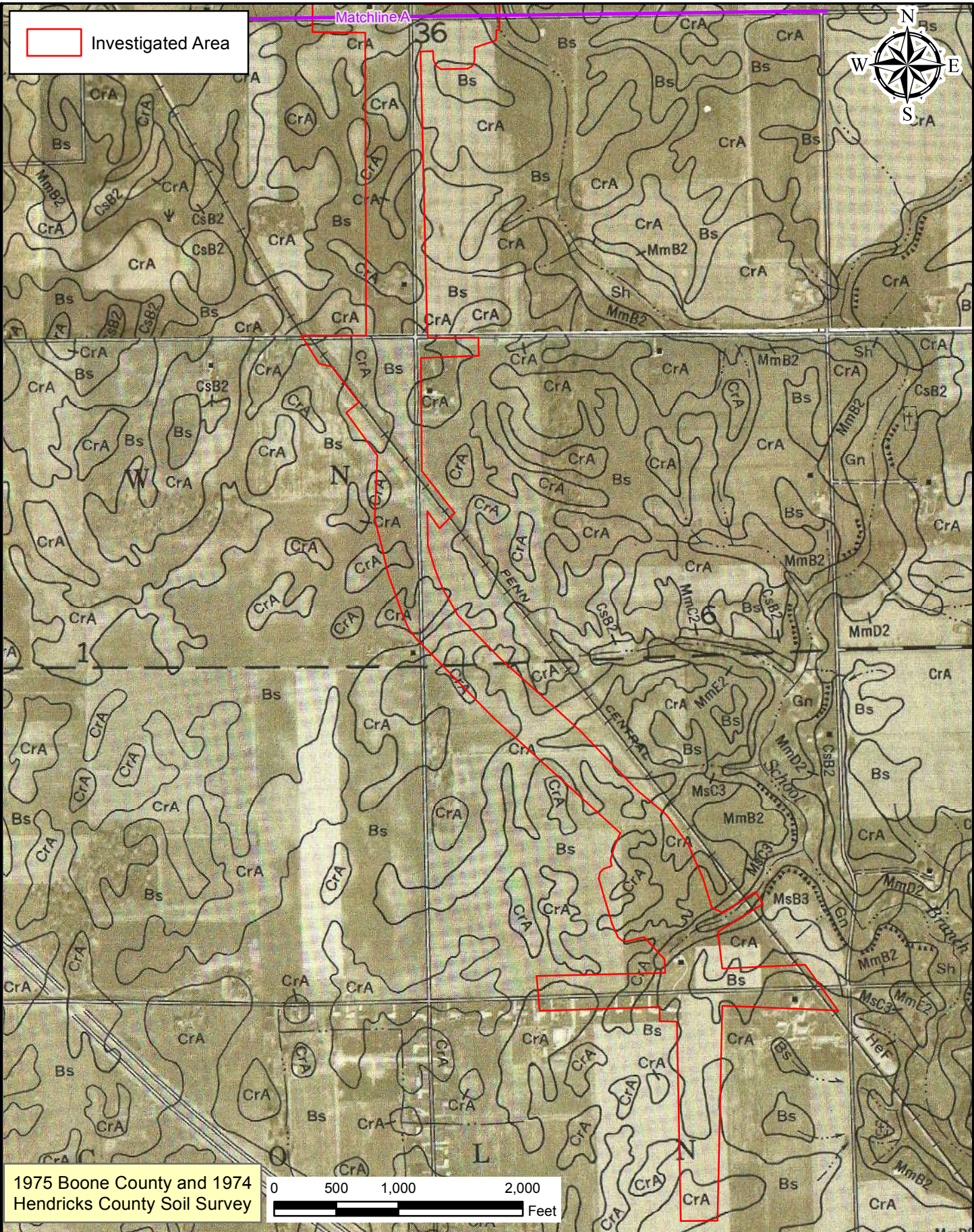
**Figure 9 – Naming System Map**

**Figure 10 – Regional Supplement Map**

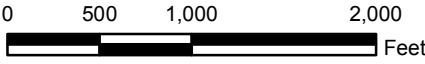
**\*Duplicate mapping removed to reduce file size.**

- For Project Location Map please see Appendix A, A-1**
- For USGS Topographic Mapping please see A-2 to A-8**
- For 2005 Aerial Photography please see A-10 to A-15**

Investigated Area



1975 Boone County and 1974 Hendricks County Soil Survey



Path: P:\2011\1001\831D\_Drawings\ArcView\Waters\HistoricSoilSurvey\2011.00183.EV.2016-09-23.Map.SoilSurvey1\_AEH.mxd Date: 8/16/2017 User: modelreal

Figure 3: Soil Survey Map

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana

Date: 05/02/2016



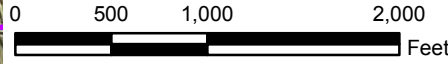
Investigated Area



Matchline B

Matchline A

1975 Boone County and 1974 Hendricks County Soil Survey



Path: P:\2011\00183\Drawings\ArcView\Waters\HistoricSoilSurvey2011\_00183.EV.2016-09-23.Map.SoilSurvey2\_AEH.mxd Date: 1/12/2017 User:ahamer



AMERICAN STRUCTUREPOINT INC.

Figure 3: Soil Survey Map

Hendricks County Commissioners 355 S. Washington St. Danville, IN 46122

Boone County Commissioners 116 W. Washington St. Lebanon, IN 46052

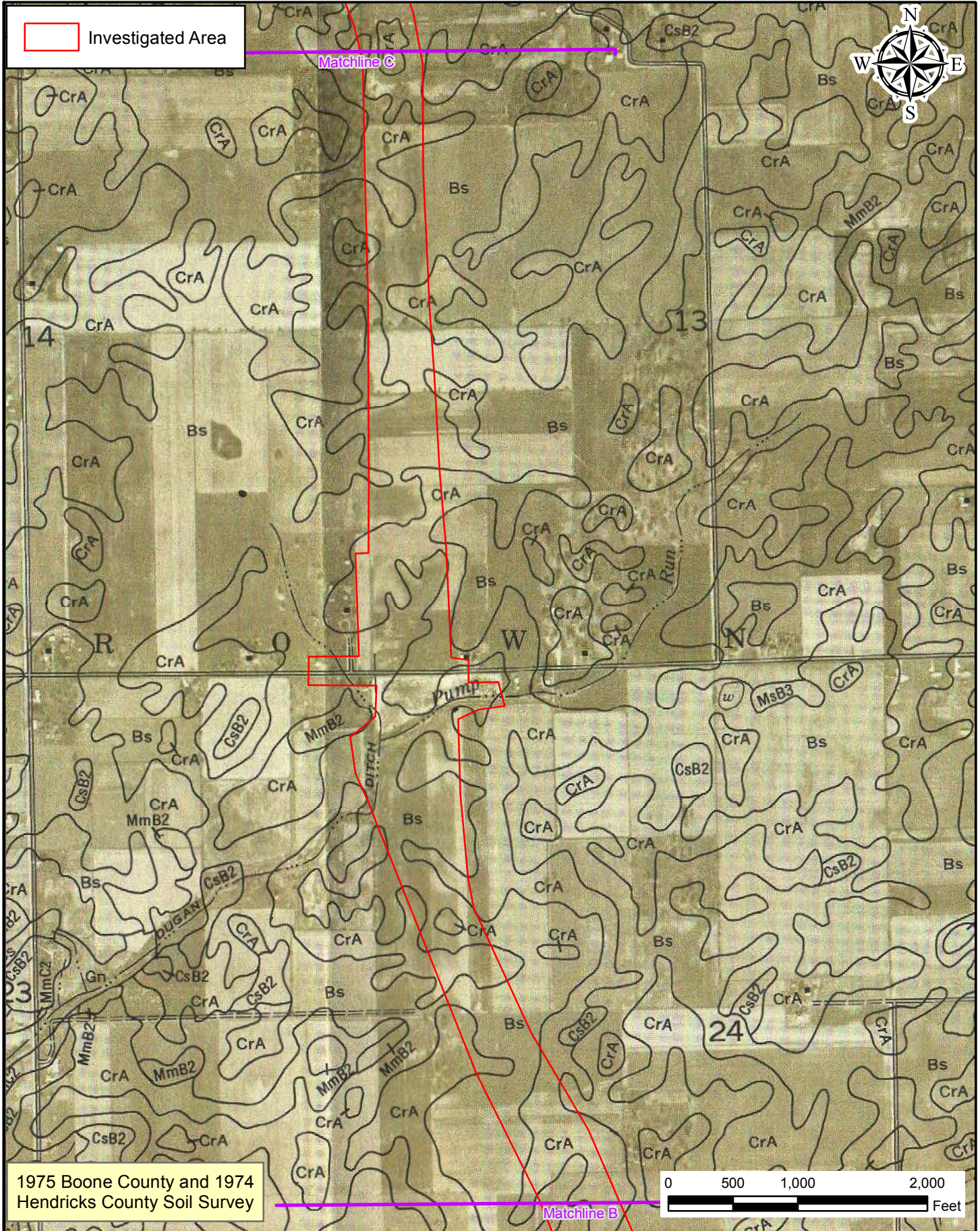
Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana  
Date: 11/02/2016  
Page F-255

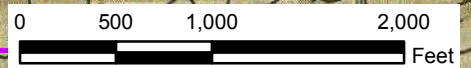
Investigated Area



Matchline C



1975 Boone County and 1974 Hendricks County Soil Survey



Matchline B

Path: P:\2011\00183\Drawings\Arc\lew\Waters\HistoricSoilSurvey2011\_00183.EV.2016-09-23.Map.SoilSurvey3.AEH.mxd Date:12/5/2016 User:ahamer



AMERICAN STRUCTUREPOINT INC.

Figure 3: Soil Survey Map

Hendricks County Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

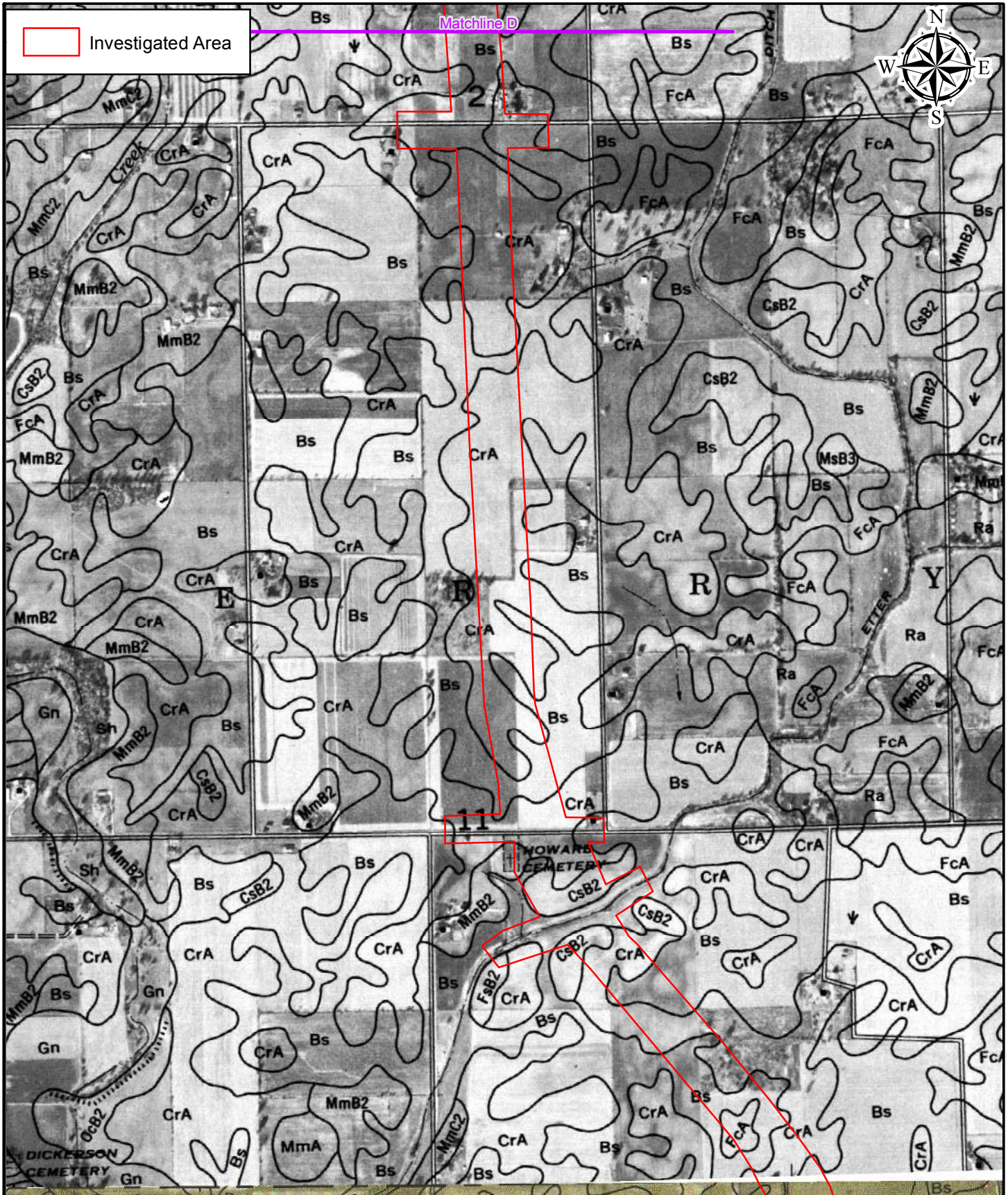
Date: 11/02/2016

Appendix F  
Page F-256

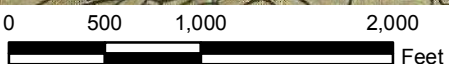


Investigated Area

Matchline D



1975 Boone County and 1974 Hendricks County Soil Survey



Matchline C

Path: P:\2011\00183D\_Drawings\Arc\lew\Waters\HistoricSoilSurvey2011\_00183.EV.2016-09-23.Map.SoilSurvey4\_AEH.mxd Date: 12/5/2016 User: ahammer



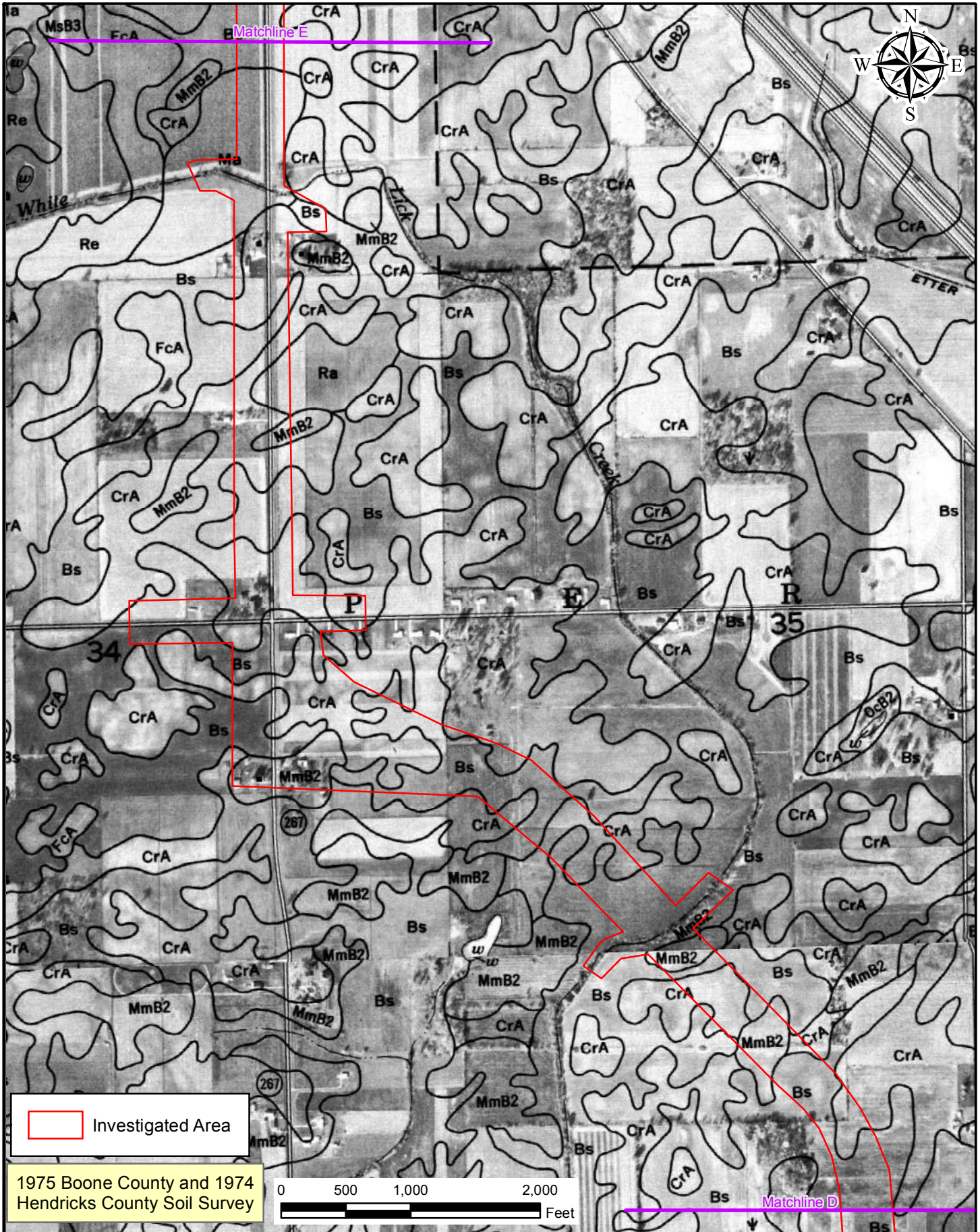
**Figure 3: Soil Survey Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|


**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016



Path: P:\2011\00183\Drawings\ArcView\Waters\HistoricSoilSurvey2011\_00183.EV.2016-09-23.Map.SoilSurvey5.AEH.mxd Date:12/5/2016 User:ahamer

 Investigated Area

1975 Boone County and 1974  
Hendricks County Soil Survey

0 500 1,000 2,000  
Feet



**Figure 3: Soil Survey Map**

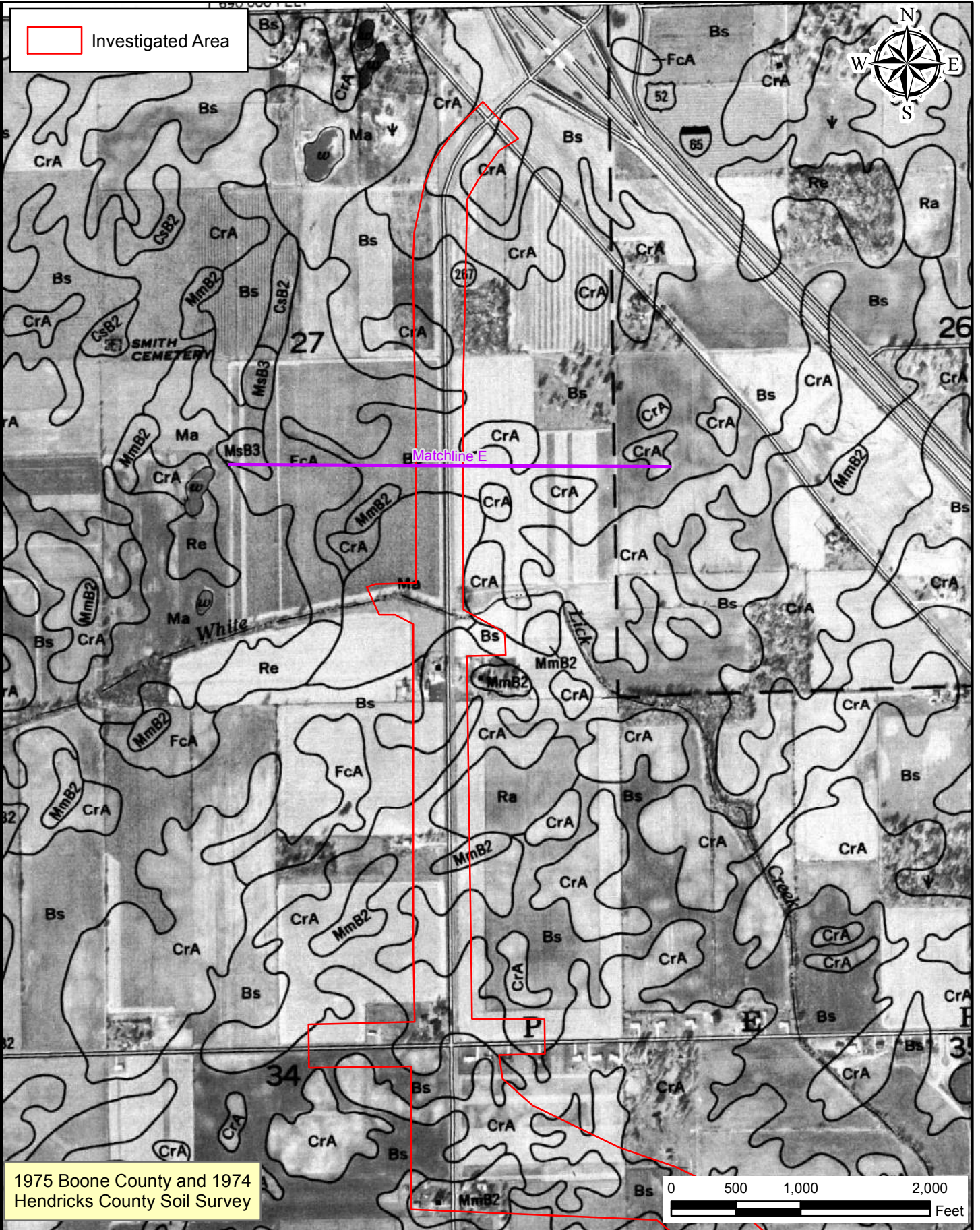
|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

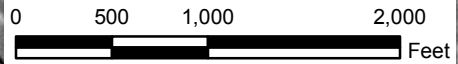
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016

Investigated Area



1975 Boone County and 1974 Hendricks County Soil Survey



Path: P:\2011\00183ID\_Drawings\Arc\lew\Waters\HistoricSoilSurvey2011\_00183.EV.2016-09-23.Map.SoilSurvey6\_AEH.mxd Date: 12/5/2016 User: ahamer

Figure 3: Soil Survey Map

Ronald Reagan Parkway

Hendricks County Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana  
Date: 11/02/2016  
Page F-259





Source: Boone and Hendricks County Mapped Soils

0 300 600 1,200 Feet

Figure 4: SSURGO Map

Hendricks County Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

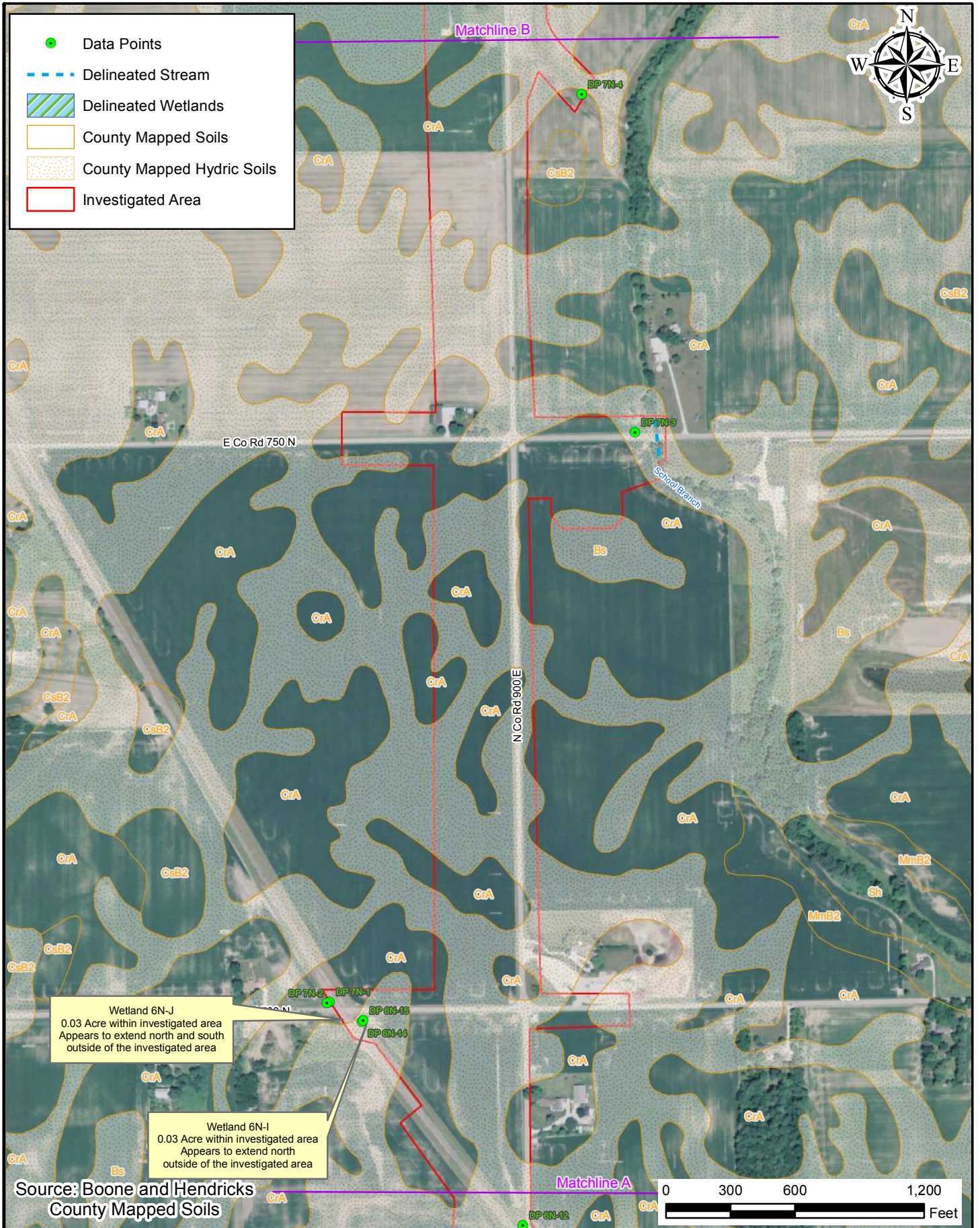
Ronald Reagan Parkway

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016



Path: P:\2011\100183\10.D. Drawings\ArcView\Waters\SSURGO\2011\_00183\_EV\2016-09-23\_Map\_SSURGO2\_AEH.mxd Date: 8/16/2017 User: mdelreal



Wetland 6N-J  
0.03 Acre within investigated area  
Appears to extend north and south  
outside of the investigated area

Wetland 6N-I  
0.03 Acre within investigated area  
Appears to extend north  
outside of the investigated area

Source: Boone and Hendricks  
County Mapped Soils

Figure 4: SSURGO Map

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway

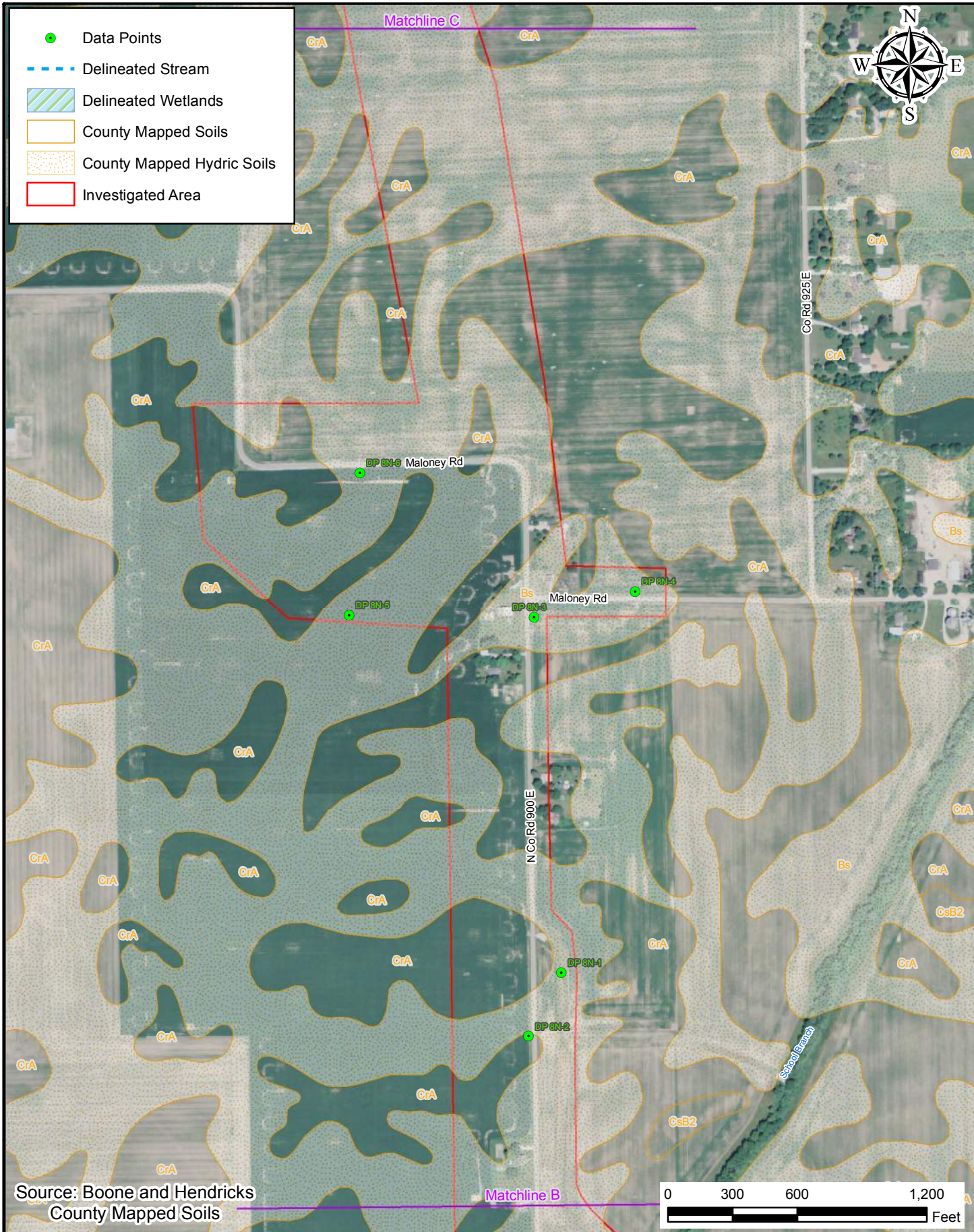
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

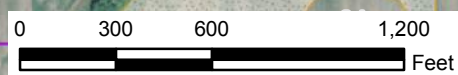
Appendix F  
Page F-261



- Data Points
- Delineated Stream
- Delineated Wetlands
- County Mapped Soils
- County Mapped Hydric Soils
- Investigated Area



Source: Boone and Hendricks  
County Mapped Soils



Path: P:\2011\01\83\ID\_Drawings\Arc\lew\Waters\SSURGO\2011\_00183\_EV\_2016-09-23\_Map\_SSURGO3\_AEH.mxd Date: 12/5/2016 User: ahanner



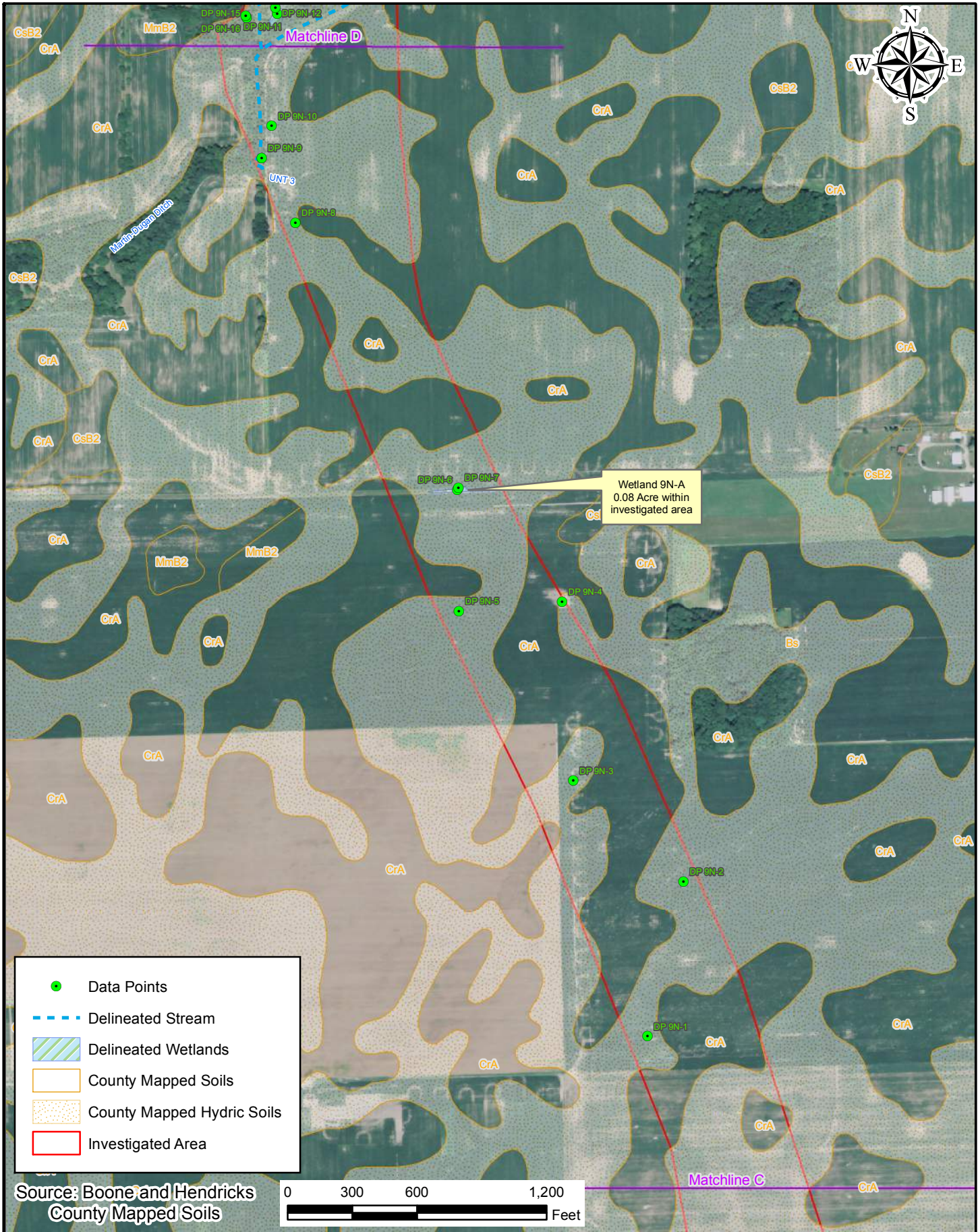
**Figure 4: SSURGO Map**

|  |   |
|--|---|
| <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County<br/>Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

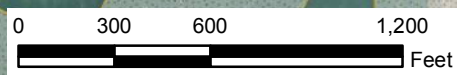
Date: 11/02/2016




Wetland 9N-A  
0.08 Acre within  
investigated area

- Data Points
- Delineated Stream
- Delineated Wetlands
- County Mapped Soils
- County Mapped Hydric Soils
- Investigated Area

Source: Boone and Hendricks  
County Mapped Soils



Path: P:\2011\001\83\ID\_Drawings\ArcView\Waters\SSURGO\2011\_001\83\_EV\_2016-09-23\_Map\_SSURGO4\_AEH.mxd Date: 12/5/2016 User: ahanner

|   |  |   |   |
|---|--|---|---|
|  | <b>Figure 4: SSURGO Map</b>  |   | <b>Ronald Reagan Parkway</b>  |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 | Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   |  |   | Appendix F<br>Page F-263  |
|   |  |   | Date: 11/02/2016  |





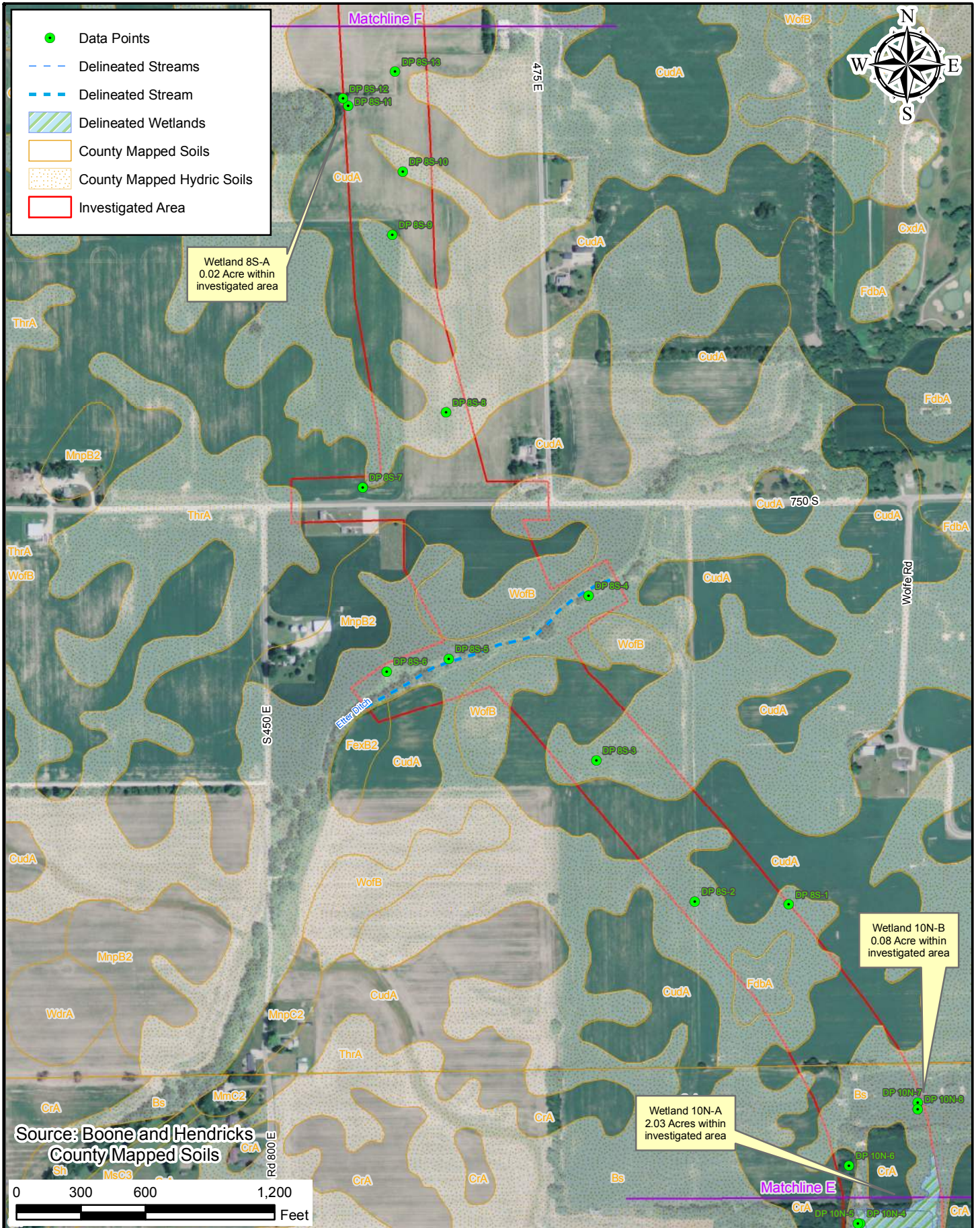


Figure 4: SSURGO Map

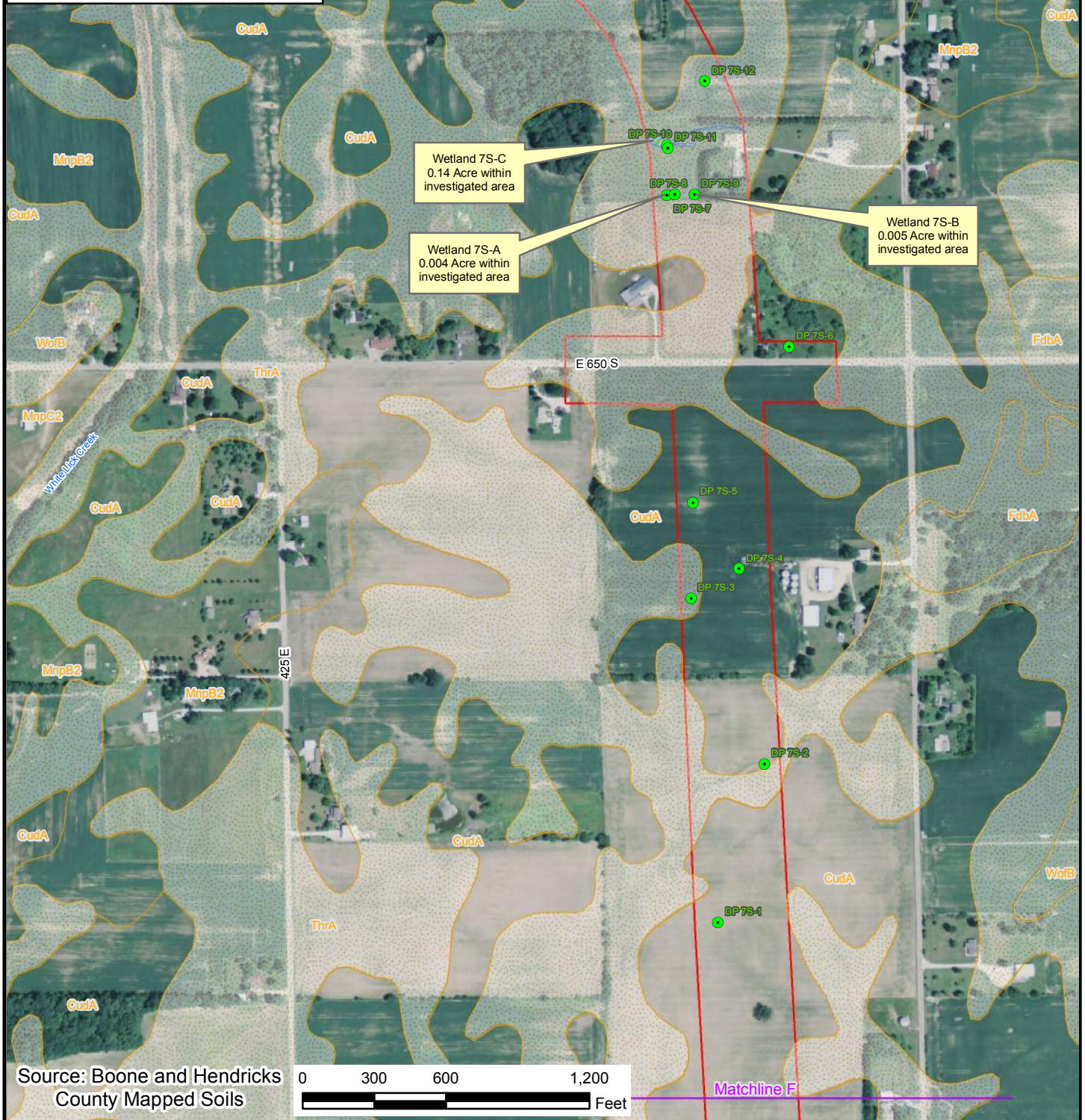
Hendricks County Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana  
Date: 11/02/2016  
Page F-265



- Data Points
- Delineated Stream
- Delineated Wetlands
- County Mapped Soils
- County Mapped Hydric Soils
- Investigated Area



Wetland 7S-C  
0.14 Acre within  
investigated area

Wetland 7S-A  
0.004 Acre within  
investigated area

Wetland 7S-B  
0.005 Acre within  
investigated area

Source: Boone and Hendricks  
County Mapped Soils



Path: P:\2011\001\83\ID\_Drawings\Arc\lew\Waters\SSURGO\2011\_00183\_EV\_2016-09-23\_Map\_SSURGO7\_AEH.mxd Date: 12/5/2016 User: ahanner



**Figure 4: SSURGO Map**

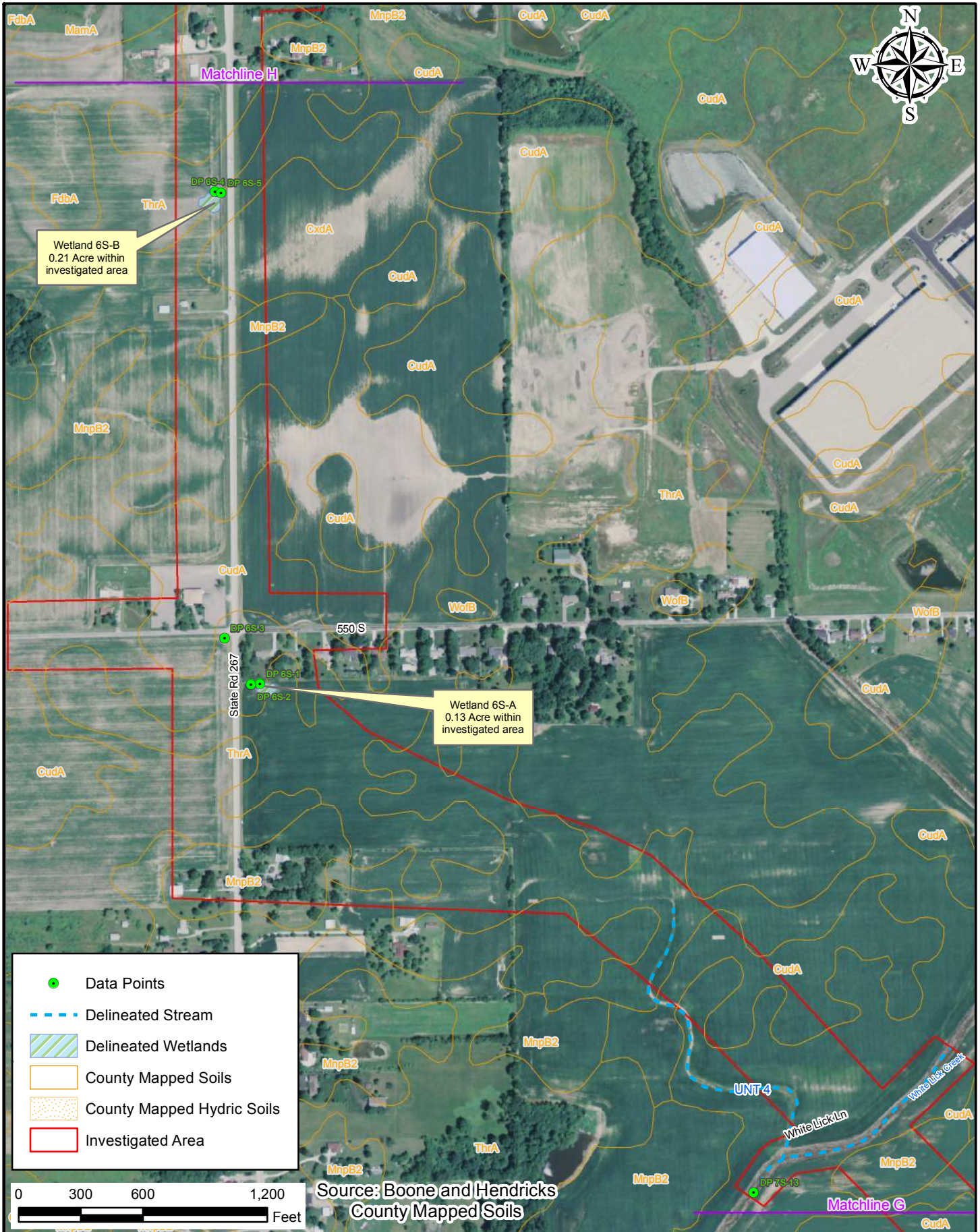
|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix F  
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Date: 11/02/2016



- Data Points
- - - Delineated Stream
- Delineated Wetlands
- County Mapped Soils
- County Mapped Hydic Soils
- Investigated Area

0 300 600 1,200  
Feet

Source: Boone and Hendricks  
County Mapped Soils

Path: P:\2011\1001\83\10.D Drawings\ArcView\Waters\SSURGO\2011\_00183\_EV\2016-09-23\_Map\_SSRGO8\_AEH.mxd Date: 8/16/2017 User: mdelreal



**Figure 4: SSURGO Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix F  
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Date: 11/02/2016



Source: Boone and Hendricks County Mapped Soils

Path: P:\2011\001\83\3D Drawings\Arc\lew\Waters\SSURGO\2011\_00183\_EV\_2016-09-23\_Map\_SSRGO9\_AEH.mxd Date: 11/12/2017 User: ahanner



**Figure 4: SSURGO Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix F  
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Date: 11/02/2016

# Map Unit Legend

Boone County, Indiana

| Map symbol | Map unit name   |
|------------|---|
| CbaA       | Camden silt loam, 0 to 2 percent slopes   |
| CudA       | Crosby silt loam, 0 to 2 percent slopes   |
| CxdA       | Cyclone silty clay loam, 0 to 1 percent slopes  |
| EdeAW      | Eel and Beckville soils, 0 to 2 percent slopes, occasionally flooded, very brief duration |
| FdbA       | Fincastle silt loam, 0 to 2 percent slopes  |
| FdhA       | Fincastle-Crosby silt loams, 0 to 2 percent slopes  |
| FexB2      | Fox loam, 2 to 6 percent slopes, eroded   |
| FexC2      | Fox loam, 6 to 12 percent slopes, eroded  |
| MamA       | Mahalasville silty clay loam, 0 to 1 percent slopes                                       |
| MaoA       | Mahalaland silty clay loam, 0 to 1 percent slopes   |
| MjkAH      | Medway and Beckville soils, 0 to 2 percent slopes, frequently flooded, brief duration     |
| MmoB3      | Miami clay loam, 2 to 6 percent slopes, severely eroded                                   |
| MmoC3      | Miami clay loam, 6 to 12 percent slopes, severely eroded                                  |
| MmoD3      | Miami clay loam, 12 to 18 percent slopes, severely eroded                                 |
| MnpB2      | Miami silt loam, 2 to 6 percent slopes, eroded  |
| MnpC2      | Miami silt loam, 6 to 12 percent slopes, eroded   |
| MnpD2      | Miami silt loam, 12 to 18 percent slopes, eroded  |
| ObxA       | Ockley silt loam, 0 to 2 percent slopes   |
| ObxB2      | Ockley silt loam, 2 to 6 percent slopes, eroded   |
| Ppu        | Pits, sand and gravel   |
| RqpG       | Rodman-Rock outcrop complex, 35 to 70 percent slopes                                      |
| RtuAH      | Rosburg and Landes soils, 0 to 2 percent slopes, frequently flooded, brief duration       |
| SigE2      | Senachwine silt loam, 18 to 25 percent slopes, eroded                                     |
| SldAH      | Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration               |
| SldAW      | Shoals silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration        |
| SngA       | Sleeth silt loam, 0 to 2 percent slopes   |
| SnlAP      | Southwest silt loam, 0 to 1 percent slopes, ponded, brief duration                        |
| SocAH      | Sloan silty clay loam, 0 to 1 percent slopes, frequently flooded, brief duration          |
| SocAW      | Sloan silty clay loam, 0 to 1 percent slopes, occasionally flooded, very brief duration   |
| SteA       | Starks silt loam, 0 to 2 percent slopes   |
| StjA       | Starks-Crosby silt loams, 0 to 2 percent slopes   |
| SvqG       | Strawn loam, 25 to 70 percent slopes  |
| SvzG       | Strawn-Rock outcrop complex, 35 to 70 percent slopes                                      |
| ThrA       | Treaty silty clay loam, 0 to 1 percent slopes   |
| Uaz        | Udorthents, sandy   |
| Uby        | Udorthents, loamy   |
| UfnA       | Urban land-Crosby complex, 0 to 2 percent slopes  |
| UfoA       | Urban land-Cyclone complex, 0 to 1 percent slopes   |
| UfxA       | Urban land-Fincastle complex, 0 to 2 percent slopes                                       |
| UhuA       | Urban land-Mahalasville complex, 0 to 1 percent slopes                                    |
| UkbB       | Urban land-Miami complex, 2 to 6 percent slopes   |
| UkbC       | Urban land-Miami complex, 6 to 12 percent slopes  |
| UkbD       | Urban land-Miami complex, 12 to 18 percent slopes   |
| UkpA       | Urban land-Ockley complex, 0 to 2 percent slopes  |
| UkpB       | Urban land-Ockley complex, 2 to 6 percent slopes  |
| UmyA       | Urban land-Treaty complex, 0 to 1 percent slopes  |
| UnhA       | Urban land-Wawaka complex, 0 to 2 percent slopes  |
| UnuA       | Urban land-Whitaker complex, 0 to 2 percent slopes  |
| UnvB       | Urban land-Williamstown-Crosby complex, 2 to 4 percent slopes                             |

# Map Unit Legend

Boone County, Indiana

| Map symbol | Map unit name  |
|------------|--|
| Usl        | Udorthents, rubbish                                      |
| W          | Water  |
| WdrA       | Wawaka silt loam, 0 to 2 percent slopes                  |
| WdrB2      | Wawaka silt loam, 2 to 6 percent slopes, eroded          |
| WdrC2      | Wawaka silt loam, 6 to 12 percent slopes, eroded         |
| WdrD2      | Wawaka silt loam, 12 to 18 percent slopes, eroded        |
| WmnA       | Waynetown silt loam, 0 to 2 percent slopes               |
| WofB       | Williamstown-Crosby silt loams, 2 to 4 percent slopes    |
| WqvA       | Westland silty clay loam, 0 to 1 percent slopes          |
| WtaA       | Whitaker silt loam, 0 to 2 percent slopes                |
| XfuB2      | Miami-Rainsville complex, 2 to 6 percent slopes, eroded  |
| XfuC2      | Miami-Rainsville complex, 6 to 12 percent slopes, eroded |

# Map Unit Legend

Hendricks County, Indiana

| Map symbol | Map unit name   |
|------------|---|
| Br         | Brookston silt loam, overwash                                     |
| Bs         | Brookston silty clay loam   |
| CrA        | Crosby silt loam, 0 to 3 percent slopes                           |
| CsB2       | Crosby-Miami silt loams, 2 to 6 percent slopes, eroded            |
| FcA        | Fincastle silt loam, 0 to 3 percent slopes                        |
| FoA        | Fox loam, 0 to 2 percent slopes                                   |
| FoB2       | Fox loam, 2 to 6 percent slopes, eroded                           |
| FoC2       | Fox loam, 6 to 12 percent slopes, eroded                          |
| FxC3       | Fox clay loam, 6 to 12 percent slopes, severely eroded            |
| Gn         | Genesee silt loam   |
| Gs         | Genesee sandy loam, sandy substratum                              |
| HeF        | Hennepin loam, 25 to 50 percent slopes                            |
| Mc         | Mahalasville silty clay loam, clayey subsoil                      |
| MeA        | Martinsville loam, 0 to 2 percent slopes                          |
| MeB2       | Martinsville loam, 2 to 6 percent slopes, eroded                  |
| MmB2       | Miami silt loam, 2 to 6 percent slopes, eroded                    |
| MmC2       | Miami silt loam, 6 to 12 percent slopes, eroded                   |
| MmD2       | Miami silt loam, 12 to 18 percent slopes, eroded                  |
| MmE2       | Miami silt loam, 18 to 25 percent slopes, eroded                  |
| MsB3       | Miami clay loam, 2 to 6 percent slopes, severely eroded           |
| MsC3       | Miami clay loam, 6 to 12 percent slopes, severely eroded          |
| MsD3       | Miami clay loam, 12 to 18 percent slopes, severely eroded         |
| OcA        | Ockley silt loam, 0 to 2 percent slopes                           |
| OcB2       | Ockley silt loam, 2 to 6 percent slopes, eroded                   |
| OsA        | Ockley silt loam, loamy substratum, 0 to 2 percent slopes         |
| OsB2       | Ockley silt loam, loamy substratum, 2 to 6 percent slopes, eroded |
| Pmg        | Pits, gravel  |
| Ra         | Ragsdale silty clay loam  |
| Rn         | Rensselaer clay loam  |
| RuB2       | Russell silt loam, 2 to 6 percent slopes, eroded                  |
| RuC2       | Russell silt loam, 6 to 12 percent slopes, eroded                 |
| Sh         | Shoals silt loam  |
| W          | Water   |
| Wh         | Whitaker silt loam  |
| XeA        | Xenia silt loam, 0 to 2 percent slopes                            |
| XeB2       | Xenia silt loam, 2 to 6 percent slopes, eroded                    |

Path: P:\2011\100183\10.D Drawings\ArcView\Waters\NW\FEMA\2011\_00183.EV.2016-09-23.Map.NW\FEMA1\_AEH.mxd Date:8/16/2017 User:mdeireal



Source: 2016 Statewide NWI and Federal Emergency Management Agency



**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

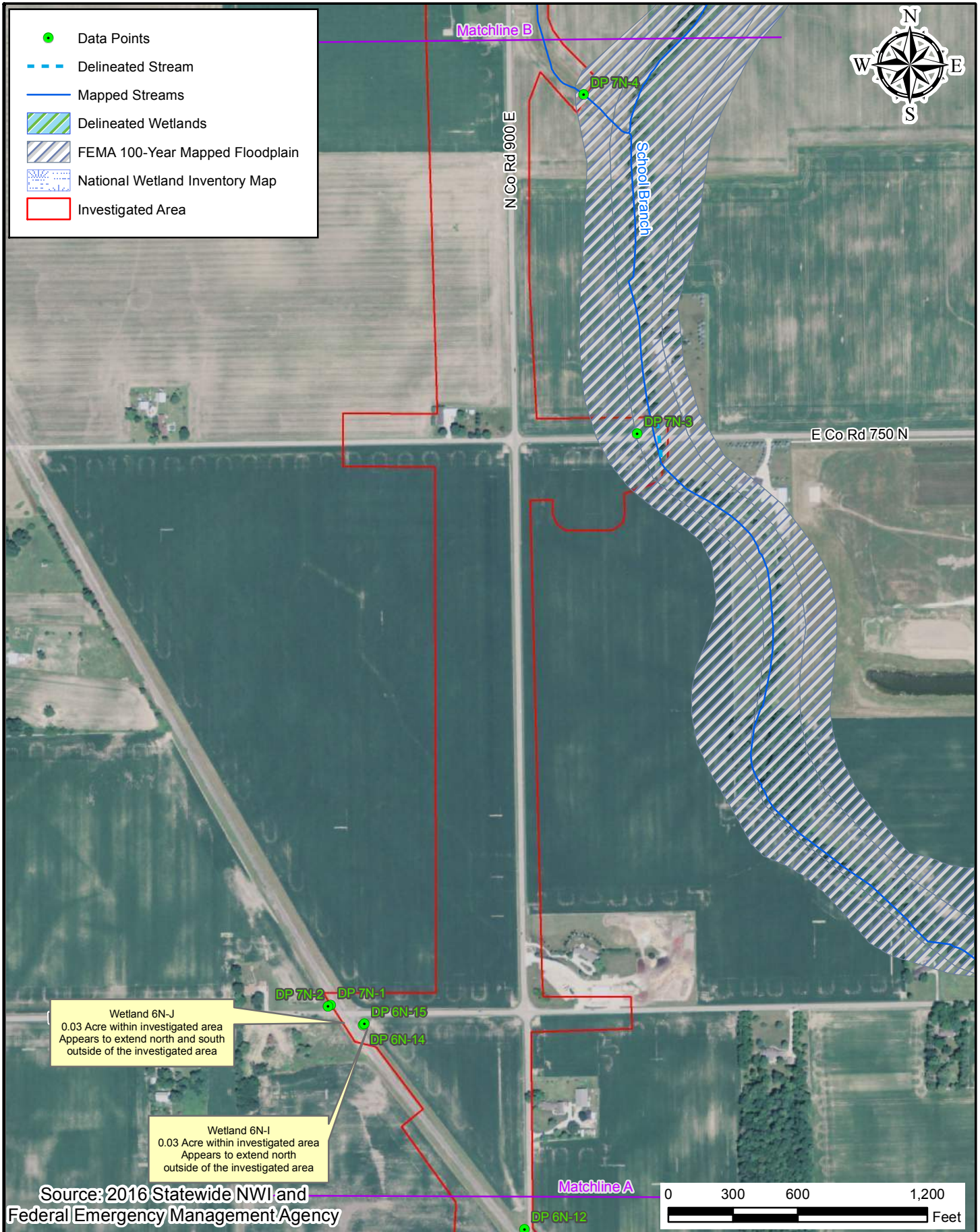
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016

Appendix F  
Page F-272



- Data Points
- - - Delineated Stream
- Mapped Streams
- ▨ Delineated Wetlands
- ▧ FEMA 100-Year Mapped Floodplain
- ▤ National Wetland Inventory Map
- ▭ Investigated Area



Wetland 6N-J  
0.03 Acre within investigated area  
Appears to extend north and south  
outside of the investigated area

Wetland 6N-I  
0.03 Acre within investigated area  
Appears to extend north  
outside of the investigated area

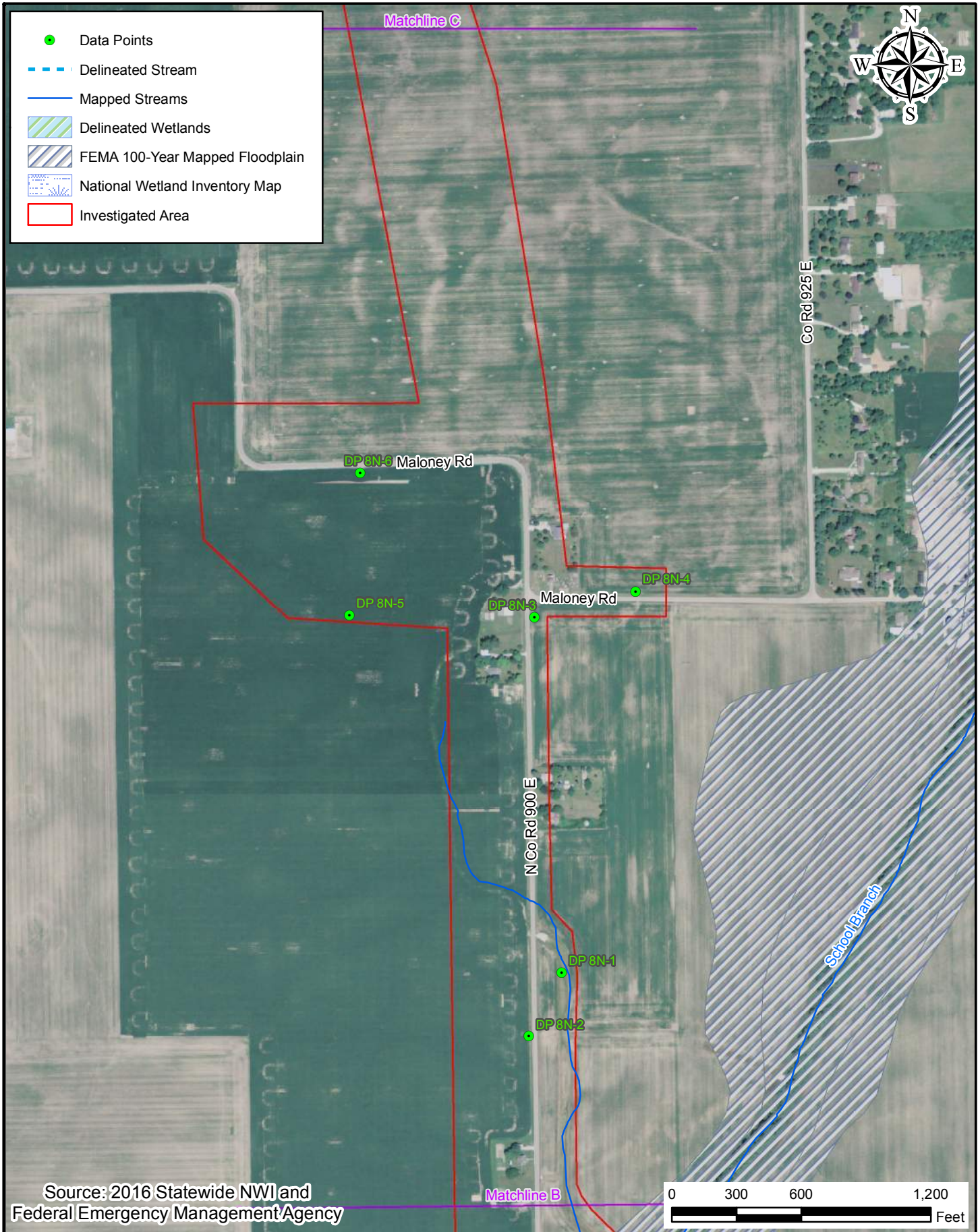
Source: 2016 Statewide NWI and  
Federal Emergency Management Agency



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|  |  |   |   |  |
|--|--|---|---|--|
|  | <b>Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map</b>     |   | <b>Ronald Reagan Parkway</b>  |  |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 | Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |  |
|  |  | Date: 11/02/2016  |   |  |

- Data Points
- Delineated Stream
- Mapped Streams
- Delineated Wetlands
- FEMA 100-Year Mapped Floodplain
- National Wetland Inventory Map
- Investigated Area



Source: 2016 Statewide NWI and Federal Emergency Management Agency



Path: P:\2011\100183\ID Drawings\Arc\lew\Waters\NW\FEMA\2011\_00183.EV\2016-09-23\_Map.NWI-FEMA3\_AEH.mxd Date: 12/5/2016 User:rahmer

**AMERICAN  
STRUCTUREPOINT  
INC.**

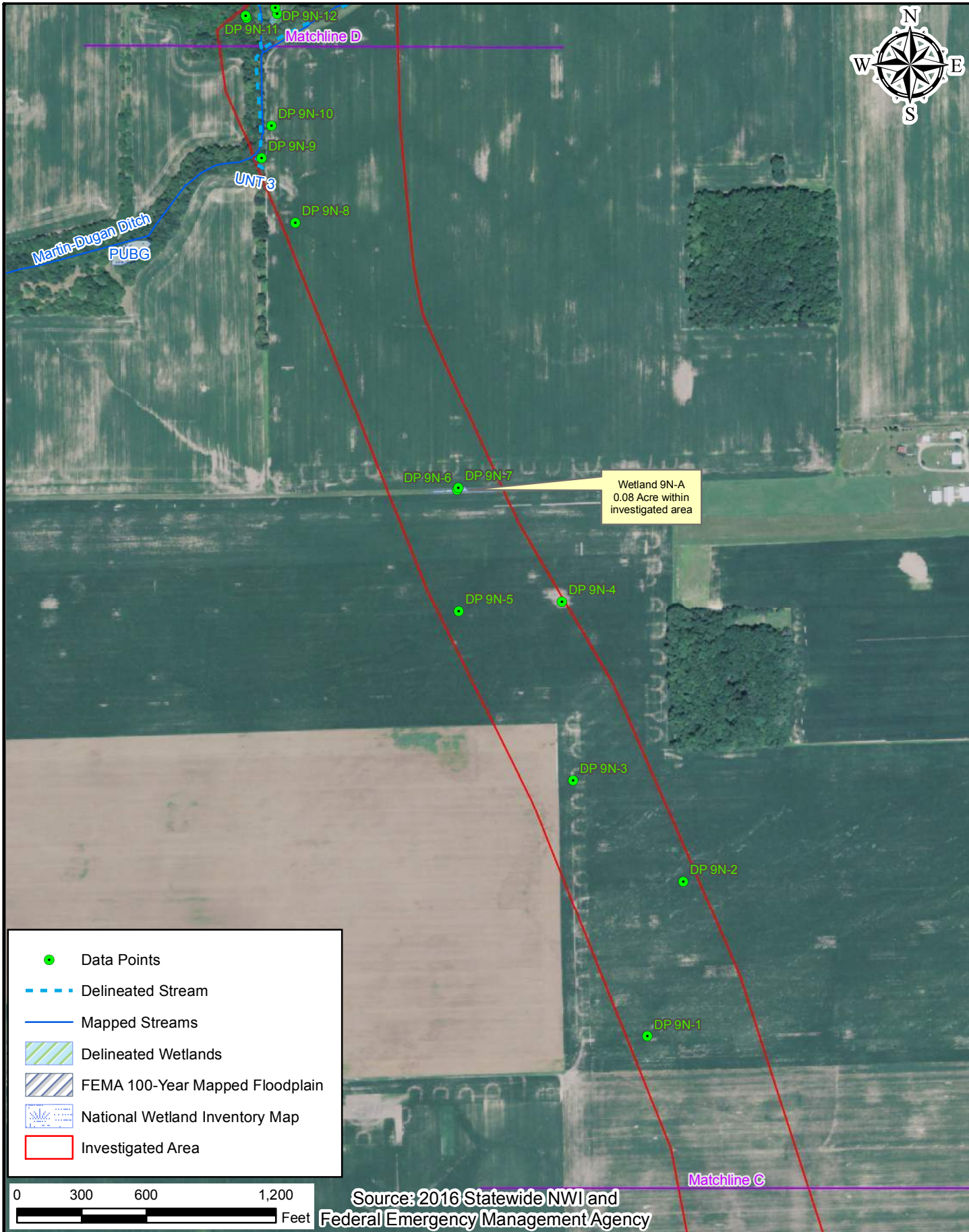
**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016



Path: P:\2011\00183\ID\_Drawings\Arc\lew\Waters\NWI-FEMA\2011\_00183\_EV\2016-09-23\_Map\NWI-FEMA4\_AEH.mxd Date: 12/5/2016 User: rahammer

- Data Points
- - - Delineated Stream
- Mapped Streams
- Delineated Wetlands
- FEMA 100-Year Mapped Floodplain
- National Wetland Inventory Map
- Investigated Area

0 300 600 1,200 Feet

Source: 2016 Statewide NWI and Federal Emergency Management Agency



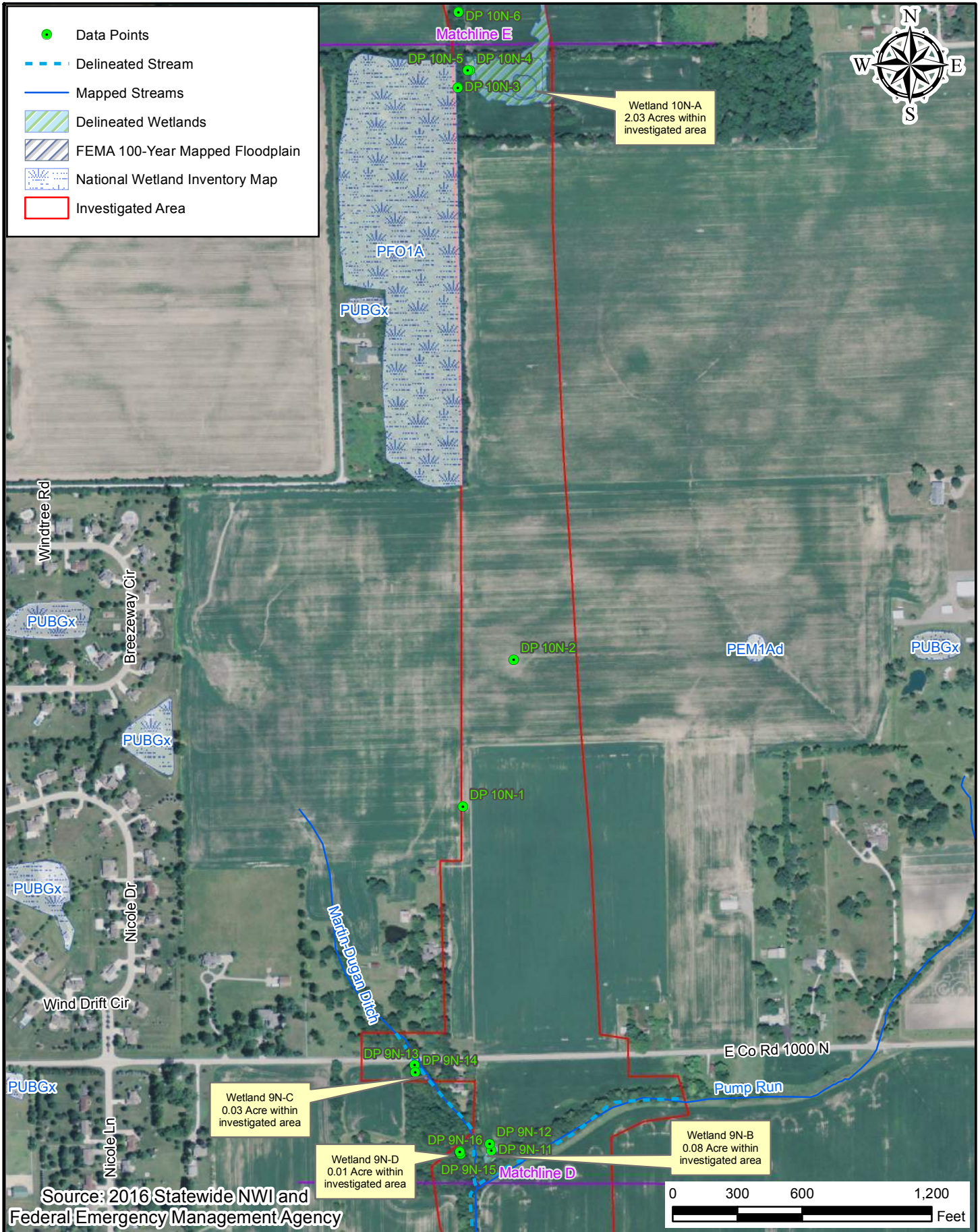
**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

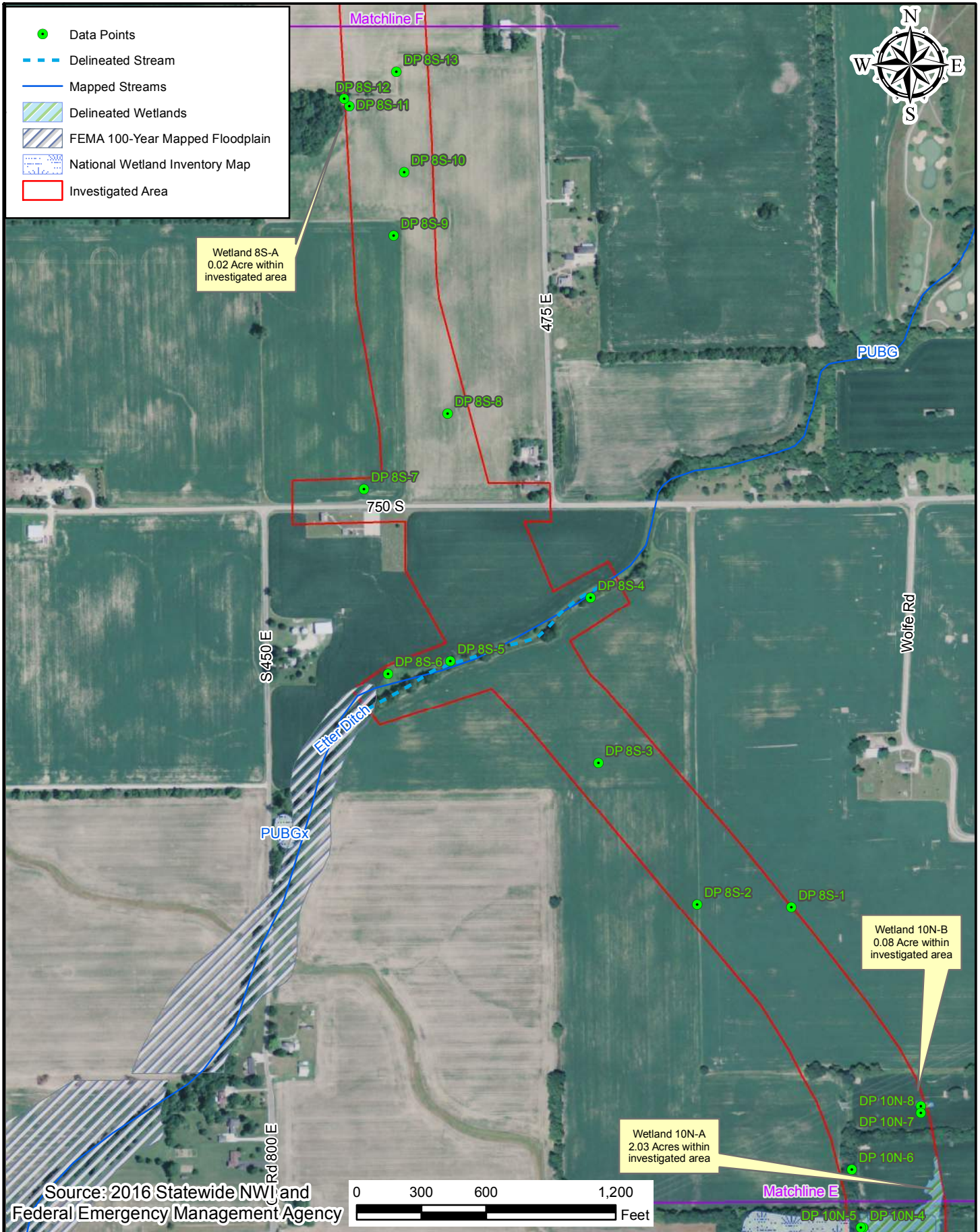
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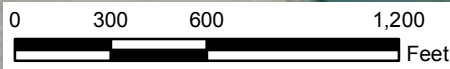
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Source: 2016 Statewide NWI and Federal Emergency Management Agency

|                                       |  |   |   |                                  |
|---------------------------------------|--|---|---|----------------------------------|
| <p><b>STRUCTUREPOINT</b><br/>INC.</p> | <p><b>Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map</b></p>    |   | <p><b>Ronald Reagan Parkway</b></p>   |                                  |
|                                       | <p>Hendricks County Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> | <p>Location: Hendricks CR 600 N to I-65<br/>Townships: Brown and Perry<br/>Counties: Boone and Hendricks<br/>State: Indiana</p> | <p>Appendix F<br/>Page F-276</p> |



Source: 2016 Statewide NWI and Federal Emergency Management Agency



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**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

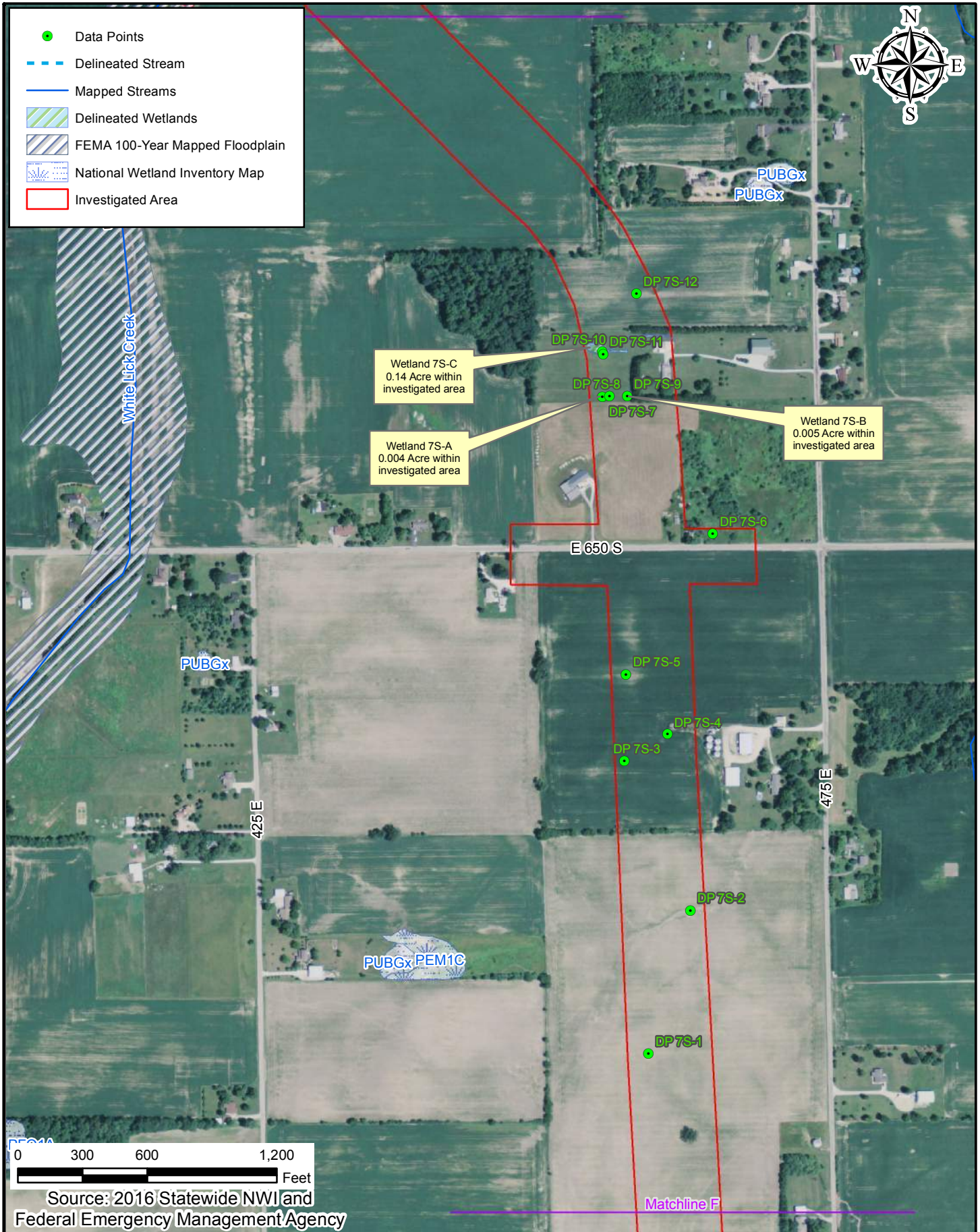
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|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016

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- Data Points
- Delineated Stream
- Mapped Streams
- Delineated Wetlands
- FEMA 100-Year Mapped Floodplain
- National Wetland Inventory Map
- Investigated Area



0 300 600 1,200  
Feet

Source: 2016 Statewide NWI and Federal Emergency Management Agency

Path: P:\2011\00183\ID\_Drawings\Arc\ew\Waters\NW\FEMA\2011\_00183\_EV\2016-09-23\_Map\NWI-FEMA7\_AEH.mxd Date: 12/5/2016 User: rhammer

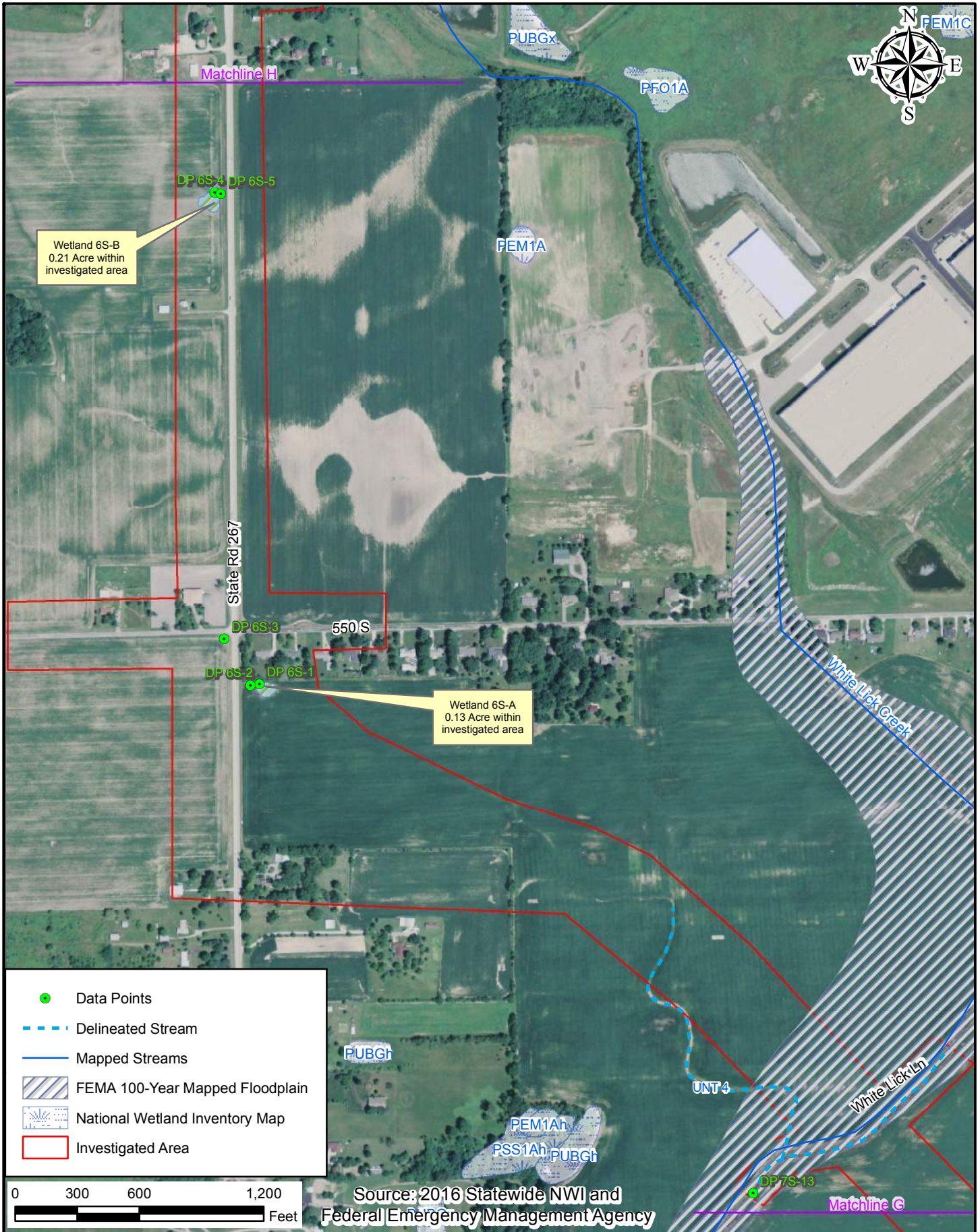


**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**  
 Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana

Date: 11/02/2016



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**Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

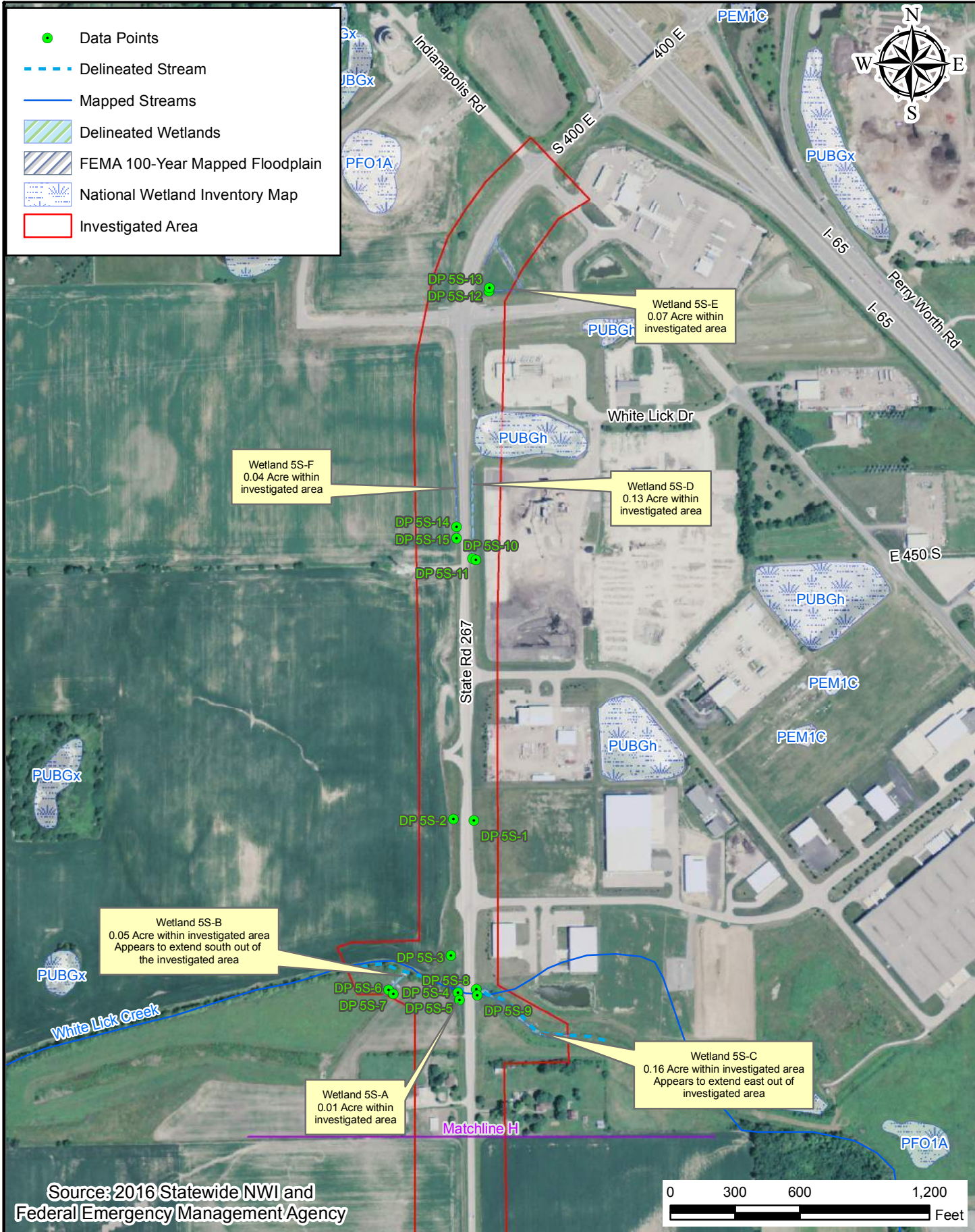
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016

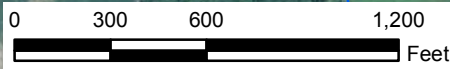
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- Data Points
- - - Delineated Stream
- Mapped Streams
- Delineated Wetlands
- FEMA 100-Year Mapped Floodplain
- National Wetland Inventory Map
- Investigated Area



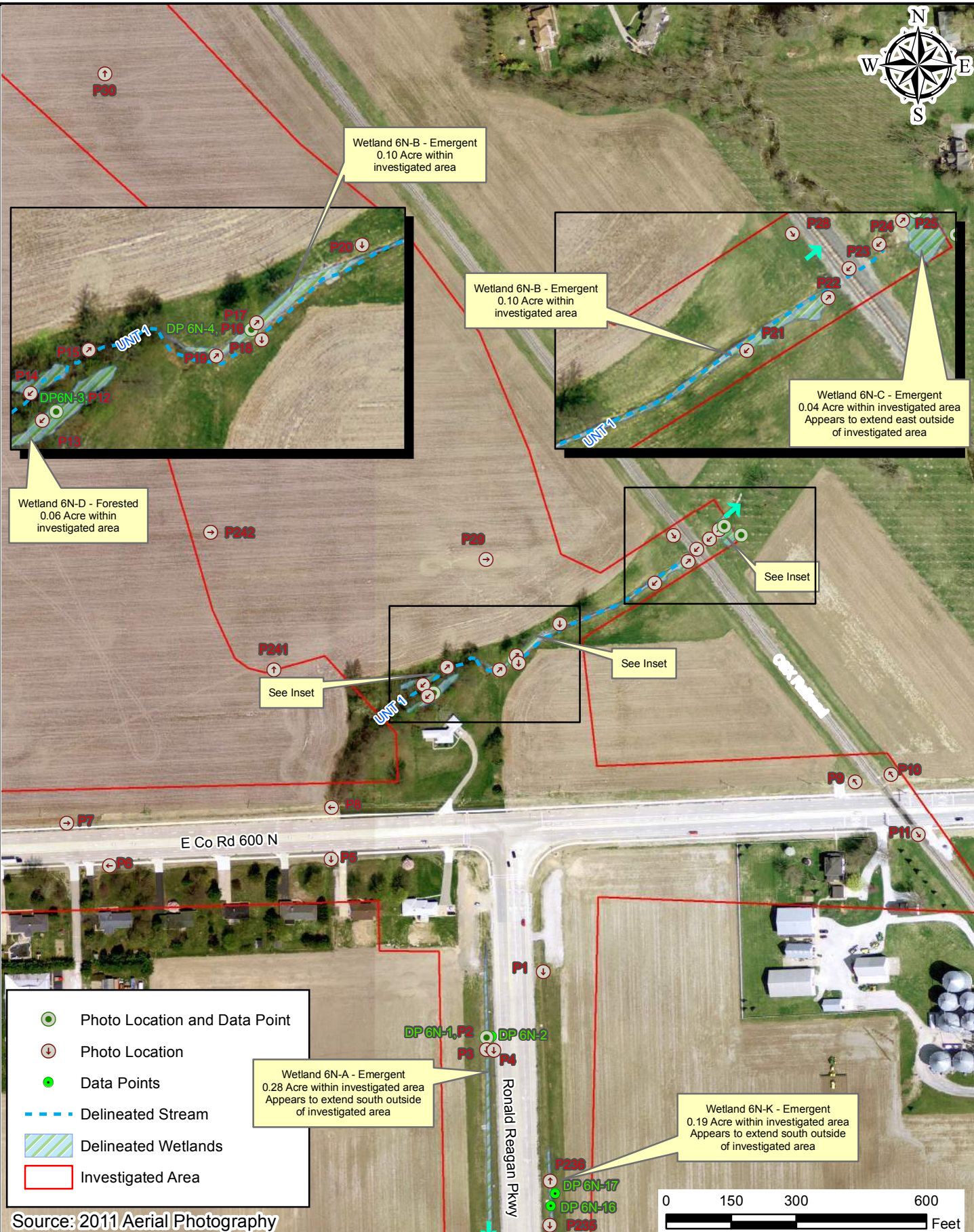
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Source: 2016 Statewide NWI and Federal Emergency Management Agency



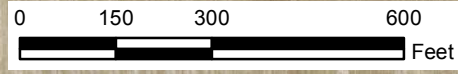
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|--|--|---|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <p><b>Figure 5: National Wetland Inventory and 100-Year FEMA Floodplain Map</b></p> <p>Hendricks County Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> <p>Boone County Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> | <p><b>Ronald Reagan Parkway</b></p> <p>Location: Hendricks CR 600 N to I-65<br/>Townships: Brown and Perry<br/>Counties: Boone and Hendricks<br/>State: Indiana</p> <p>Date: 11/02/2016</p> |
|  |  | <p>Appendix F<br/>Page F-280</p>  |





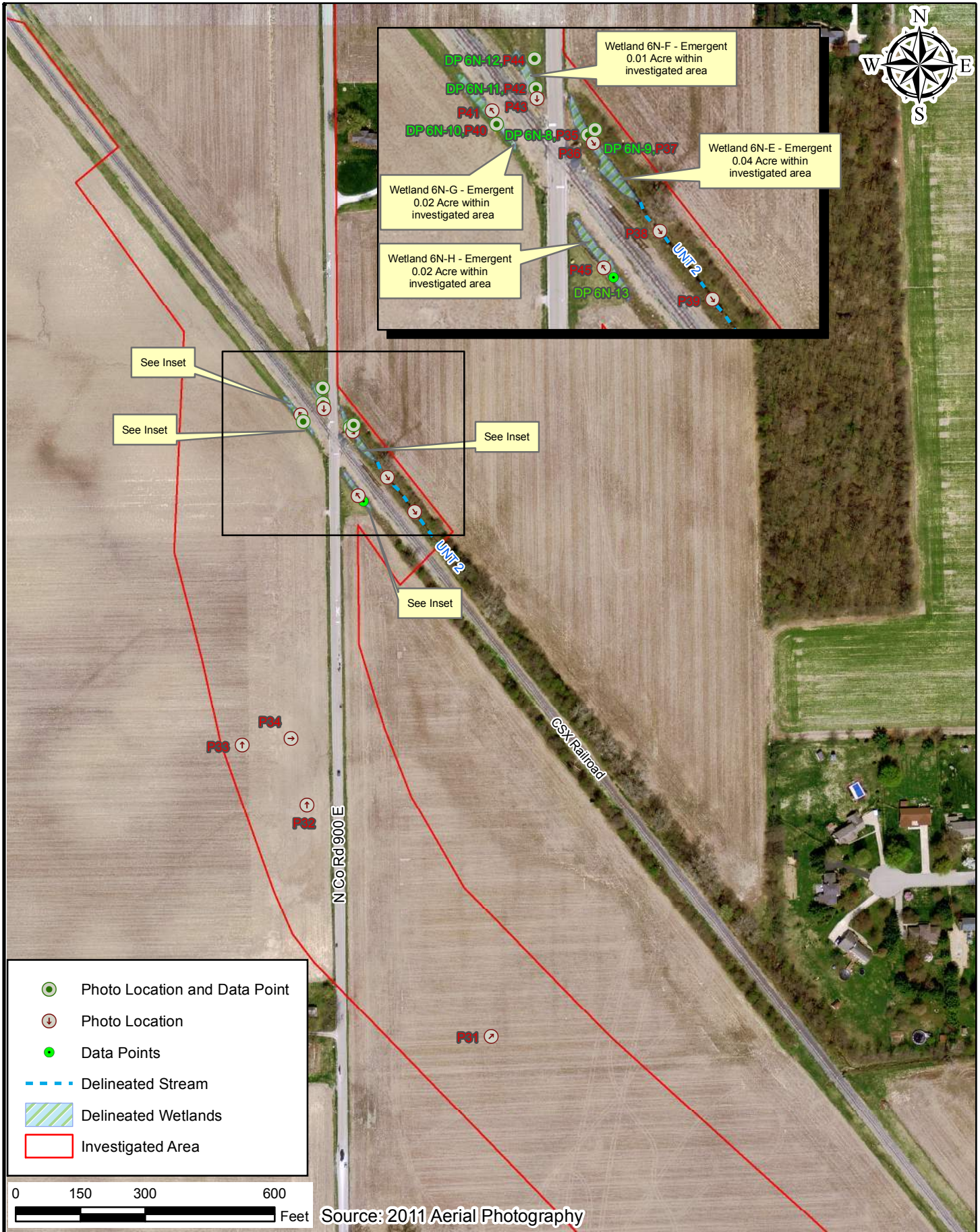
- Photo Location and Data Point
- ⊙ Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area

Source: 2011 Aerial Photography



Path: P:\2011\100183\100183.D Drawings\ArcView\Waters\Photo2011.00183.EV\2016-09-23\Map\_Photol1.AEH.mxd Date: 11/16/2017 User:mdelreal

|  |   |  |   |
|--|---|--|---|
|  | <b>Data Points and Photo Location Map</b>                                     |  | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  | Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |



Wetland 6N-F - Emergent  
0.01 Acre within investigated area

Wetland 6N-E - Emergent  
0.04 Acre within investigated area

Wetland 6N-G - Emergent  
0.02 Acre within investigated area

Wetland 6N-H - Emergent  
0.02 Acre within investigated area

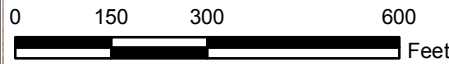
See Inset

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- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



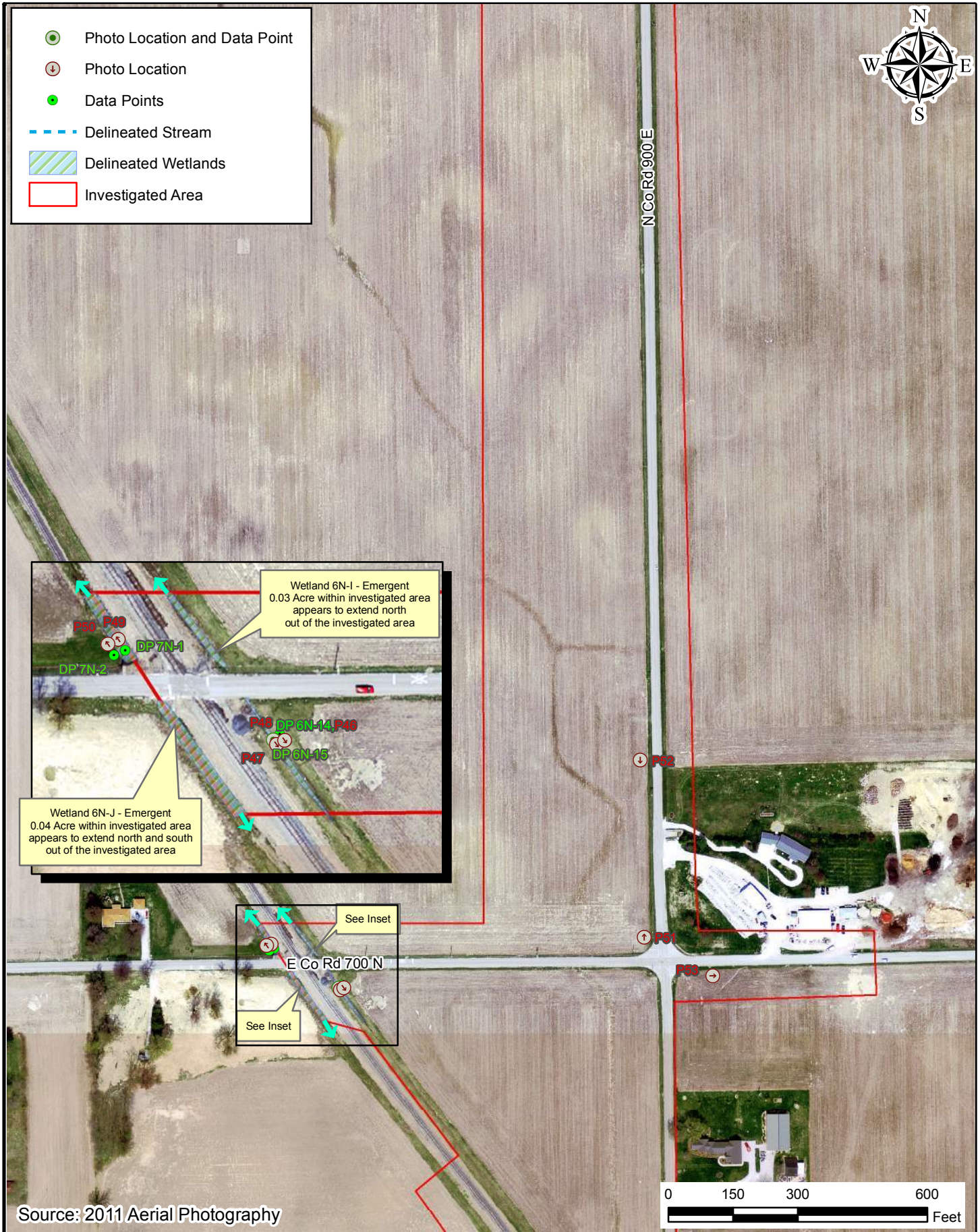
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|  |  |   |   |
|--|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Wetland 6N-I - Emergent  
0.03 Acre within investigated area  
appears to extend north  
out of the investigated area

Wetland 6N-J - Emergent  
0.04 Acre within investigated area  
appears to extend north and south  
out of the investigated area

See Inset

E Co Rd 700 N







See Inset

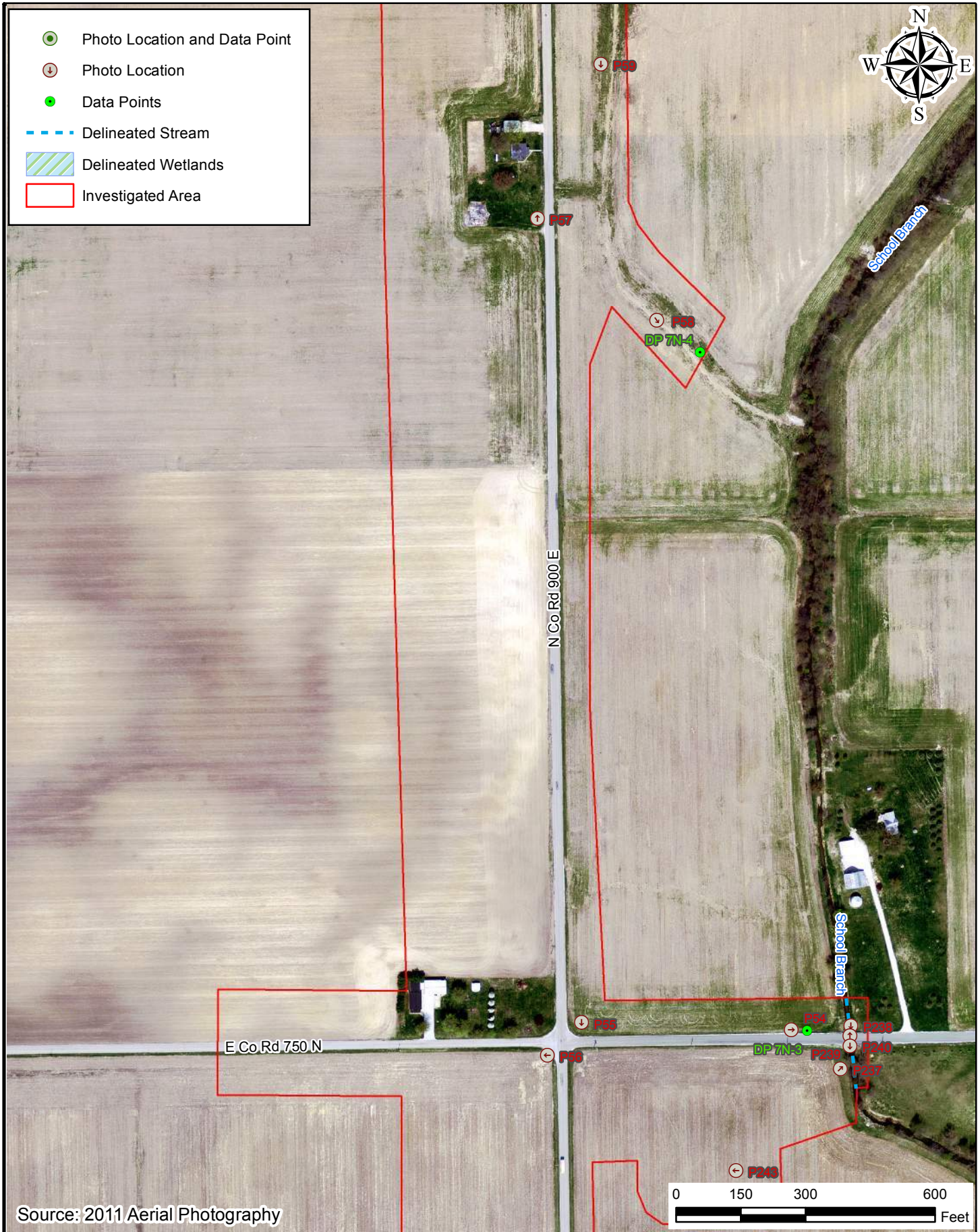
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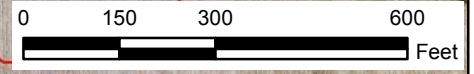
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|--|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |


-  Photo Location and Data Point
-  Photo Location
-  Data Points
-  Delineated Stream
-  Delineated Wetlands
-  Investigated Area

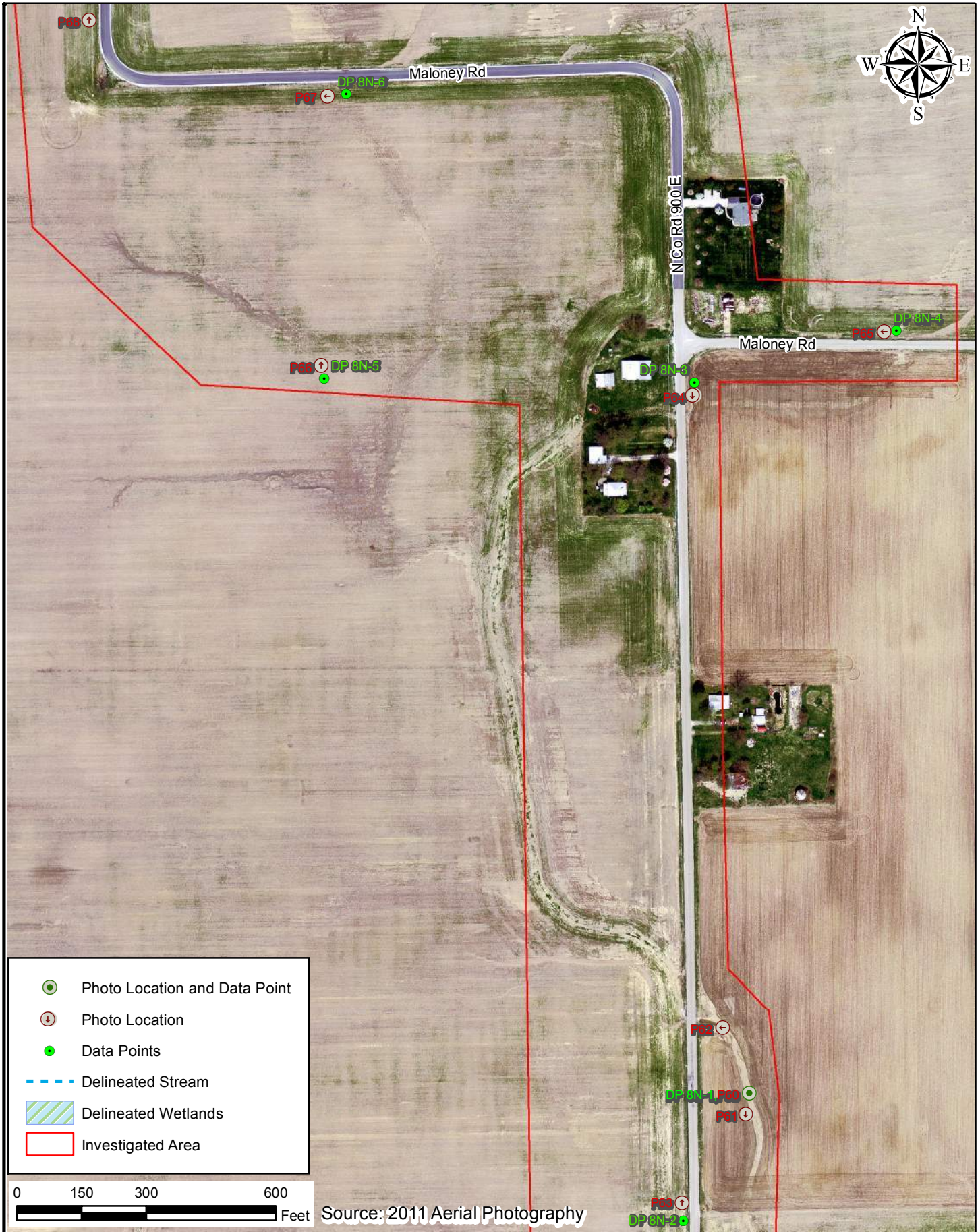


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Source: 2011 Aerial Photography



|   |  |   |   |
|---|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |
|   |  |   | Date: 11/02/2016  |



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area

0 150 300 600  
 Feet

Source: 2011 Aerial Photography

Path: P:\2011\00183\ID\_Drawings\ArcView\Waters\Photo\2011\_00183\_EV\2016-09-23\_Map\_Photo5.AEH.mxd Date: 11/28/2016 User: ahamer



**Data Points and Photo Location Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway  
 Des. No. 1602280**

Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana

Date: 11/02/2016 Appendix F  
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Wetland 9N-A - Emergent  
0.08 Acre within  
investigated area

PT6 DP9N-7,PT7  
DP9N-6,PT5

DP 9N-6,PT4

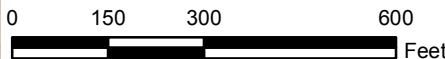
PT8 DP9N-4,PT2

PT1  
DP 9N-3

PT9 DP 9N-2

PT8 DP 9N-1

- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Source: 2011 Aerial Photography

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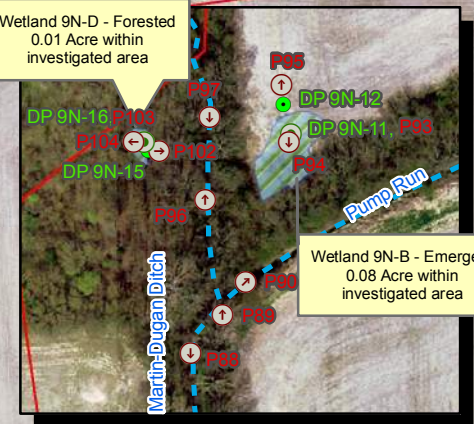
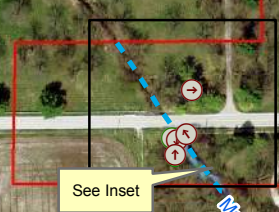
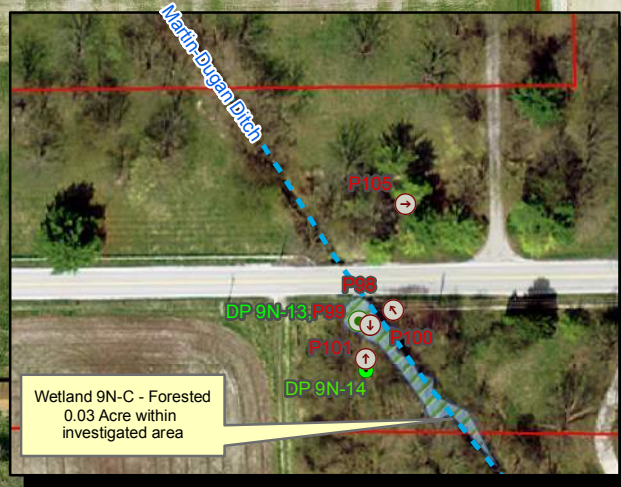
### Data Points and Photo Location Map

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

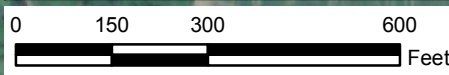
Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

Ronald Reagan Parkway  
Des. No. 1602280  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 11/02/2016



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Source: 2011 Aerial Photography

Path: P:\2011\100183\Drawings\Arc\ew\Waters\Photo\2011.00183.EV\2016-09-23\_Map\_Phot07\_AEH.mxd Date: 11/2/2017 User: ahanner



**Data Points and Photo Location Map**







|  |   |
|--|---|
| <p>Hendricks County Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |
|--|---|

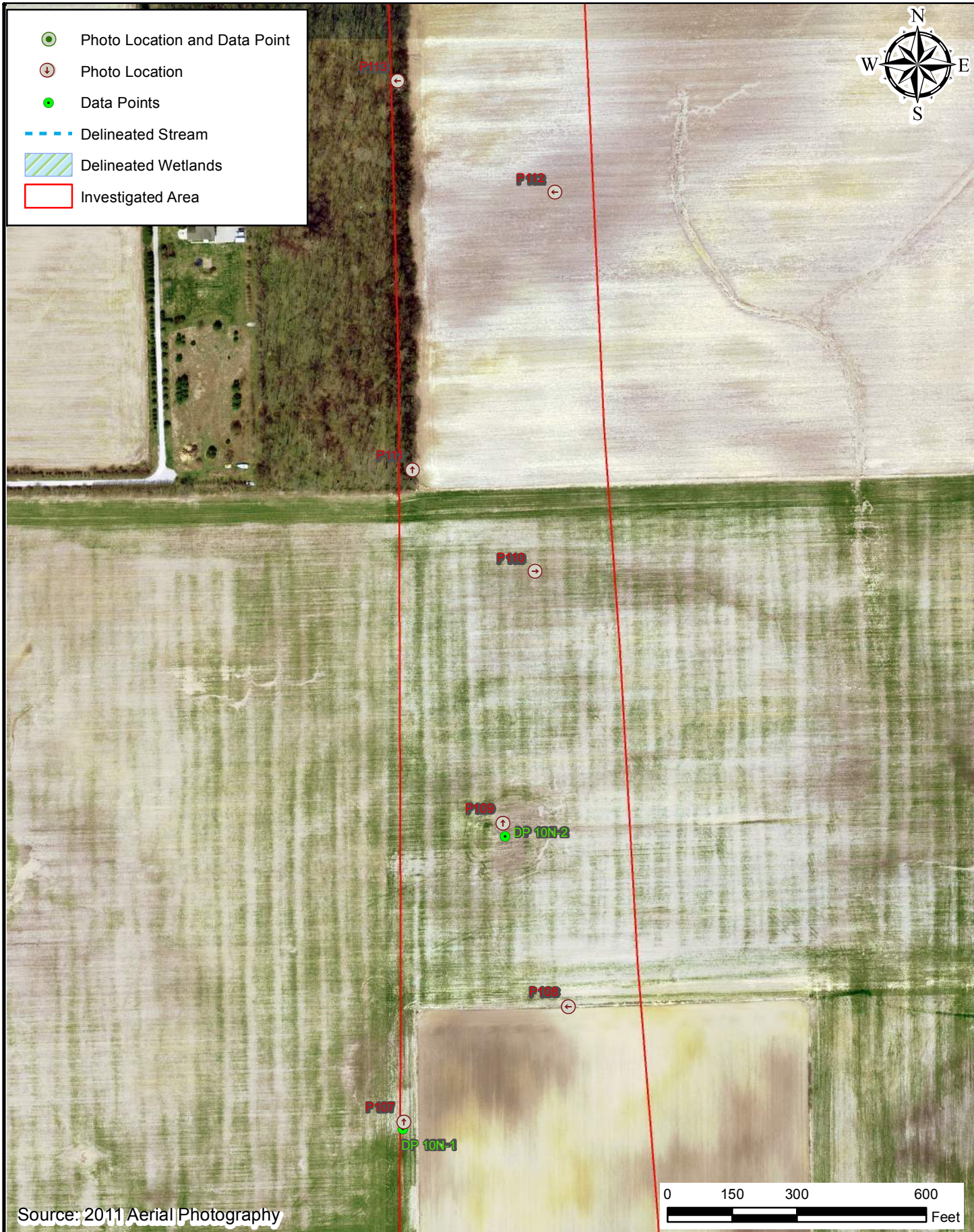
**Ronald Reagan Parkway  
Des. No. 1602280**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks

Date: 11/02/2016 State: Indiana




-  Photo Location and Data Point
-  Photo Location
-  Data Points
-  Delineated Stream
-  Delineated Wetlands
-  Investigated Area

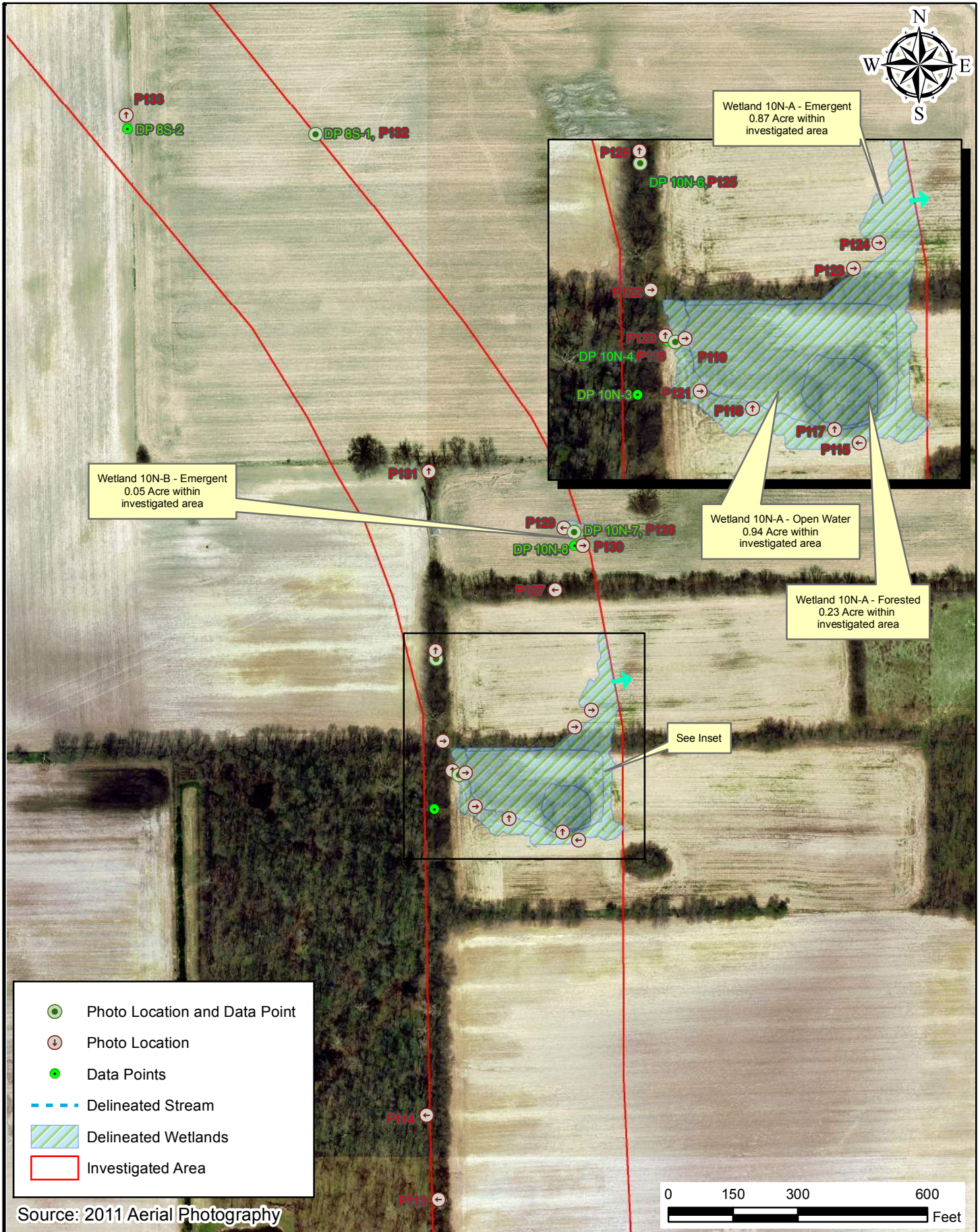


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|--|--|---|---|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <b>Data Points and Photo Location Map</b>  |   | <p><b>Ronald Reagan Parkway</b><br/>Des. No. 1602280<br/>Location: Hendricks CR 600 N to I-65<br/>Townships: Brown and Perry<br/>Counties: Boone and Hendricks<br/>State: Indiana</p> |
|  | <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County<br/>Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |   |





Wetland 10N-B - Emergent  
0.05 Acre within  
investigated area

Wetland 10N-A - Emergent  
0.87 Acre within  
investigated area

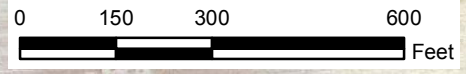
Wetland 10N-A - Open Water  
0.94 Acre within  
investigated area

Wetland 10N-A - Forested  
0.23 Acre within  
investigated area



See Inset

- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



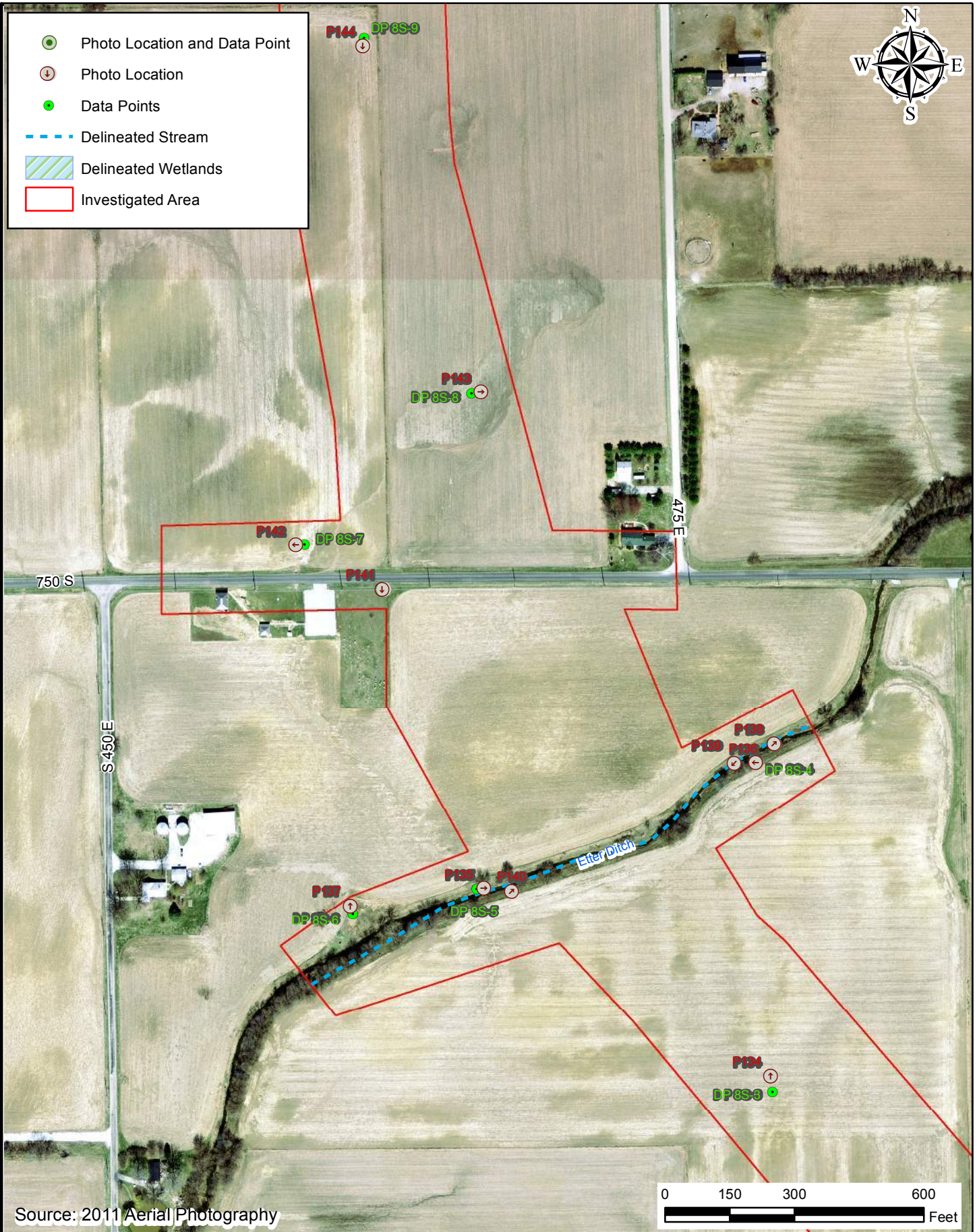
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|  |  |   |   |
|--|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Source: 2011 Aerial Photography

Path: P:\2011\001\83\10.D Drawings\ArcView\Waters\Photo\2011\_00183\_EV\2016-09-23\Map\_Photo10\_AEH.mxd Date: 11/28/2016 User: ahanner

**AMERICAN  
STRUCTUREPOINT  
INC.**

**Data Points and Photo  
Location Map**







|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

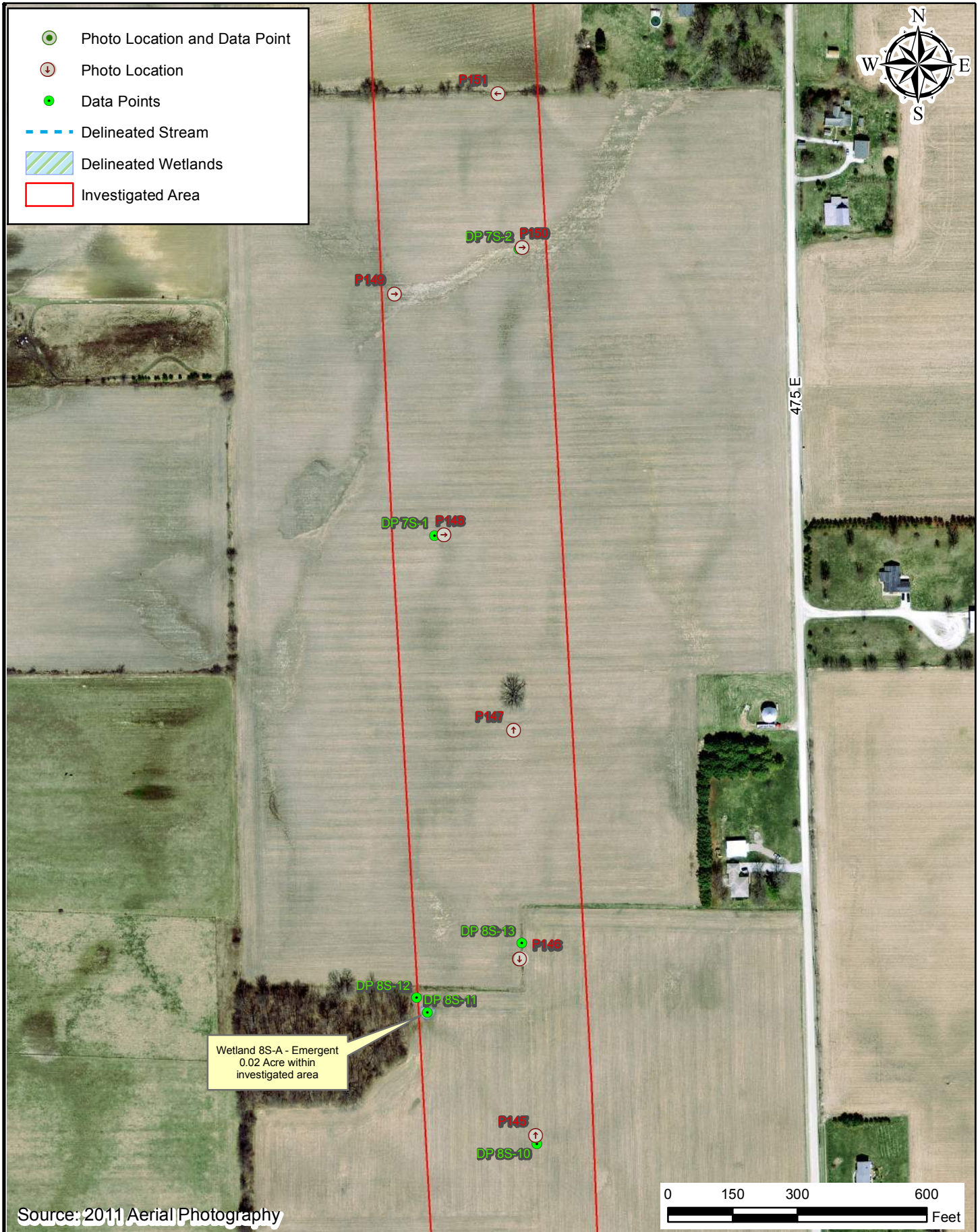
**Ronald Reagan Parkway  
Des. No. 1602280**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks

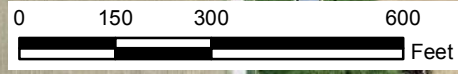
Appendix F  
State: Indiana Page F-290

Date: 11/02/2016

-  Photo Location and Data Point
-  Photo Location
-  Data Points
-  Delineated Stream
-  Delineated Wetlands
-  Investigated Area




Wetland 8S-A - Emergent  
0.02 Acre within  
investigated area

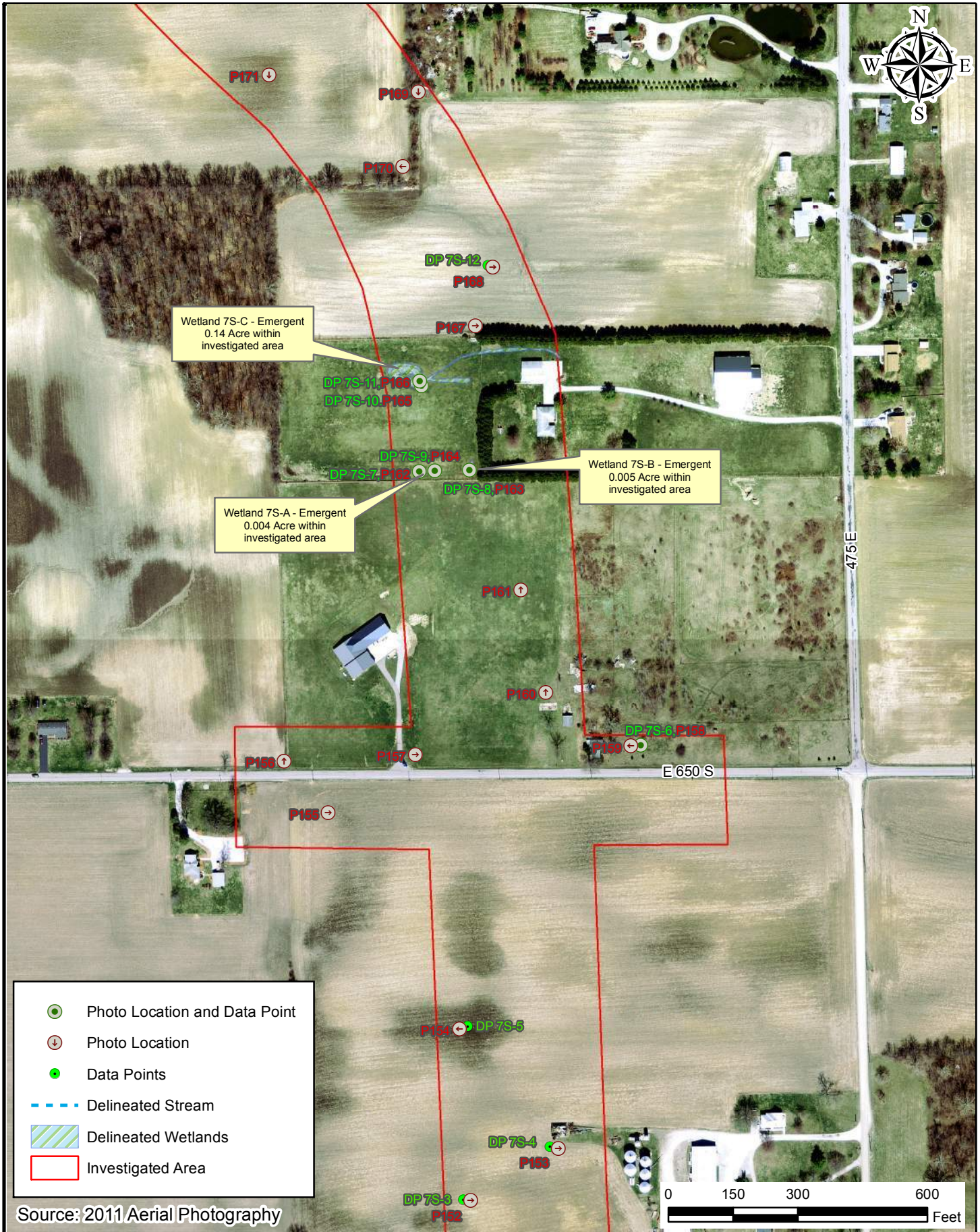


Source: 2011 Aerial Photography

Path: P:\2011\00183\01.Drawings\ArcView\Waters\Photo\2011.00183.EV.2016-09-23.Map.Photo11.AEH.mxd Date:11/28/2016 User:rahanner


|   |  |   |   |
|---|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |

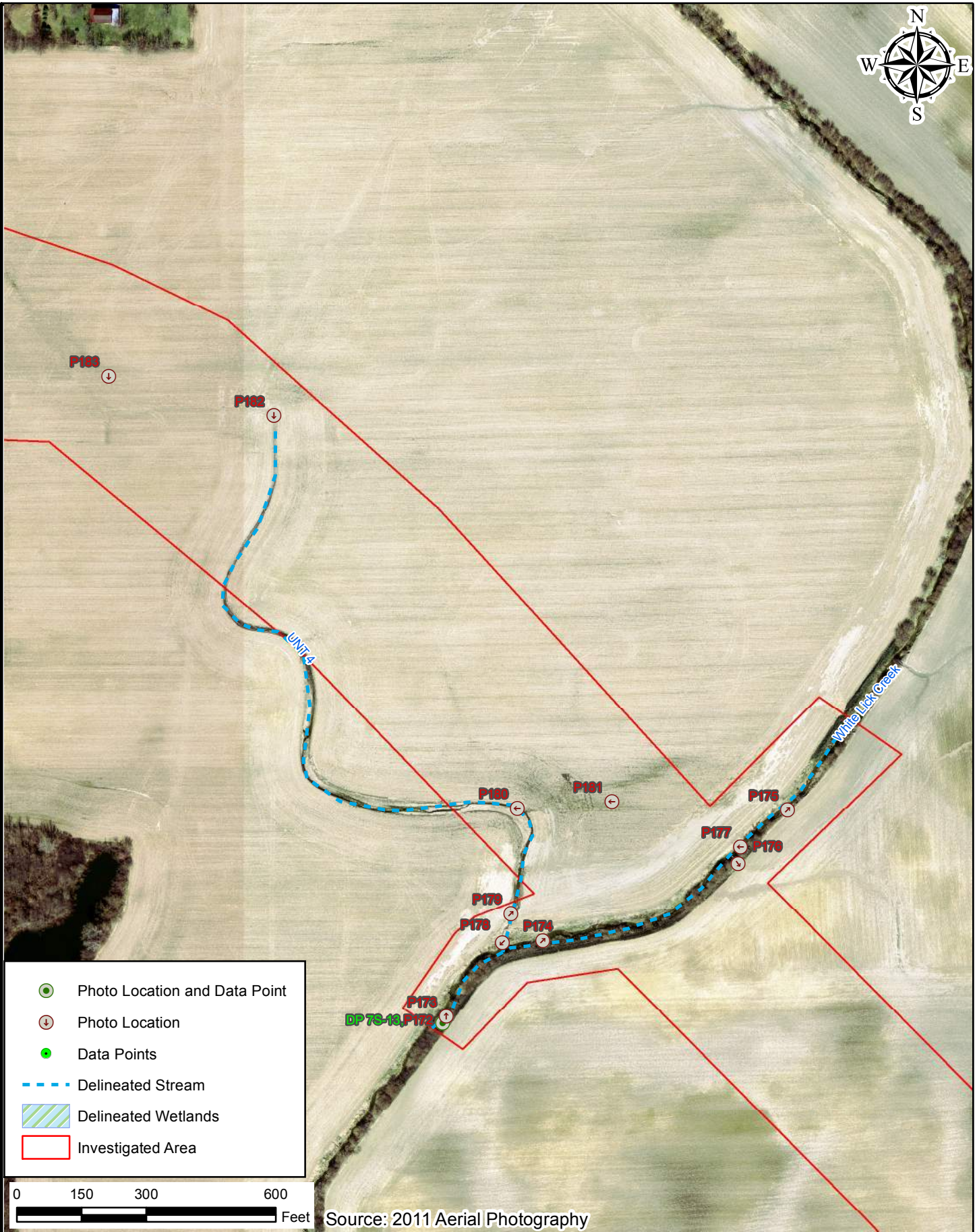
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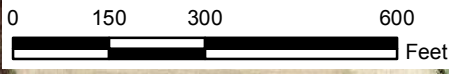
- Photo Location and Data Point
- ⊕ Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area

Source: 2011 Aerial Photography

|   |   |  |   |
|---|---|--|---|
|  | <b>Data Points and Photo Location Map</b>                                     |  | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Source: 2011 Aerial Photography

Path: P:\2011\100183\100183.D Drawings\ArcView\Waters\Photo2011.00183.EV.2016-09-23.Map.Photo13.AEH.mxd Date:12/7/2016 User:rahamer



**Data Points and Photo Location Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

Ronald Reagan Parkway  
Des. No. 1602280  
Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Appendix F  
Page F-293

Date: 11/02/2016




- Photo Location and Data Point
- ⊕ Photo Location
- Data Points
- - - Delineated Stream
- ▨ Delineated Wetlands
- ▭ Investigated Area







Path: P:\2011\100183\100183.D Drawings\ArcView\Waters\Photo\2011.00183.EV\2016-09-23\Map\Photo14\_AEH.mxd Date:12/13/2016 User:ahammer

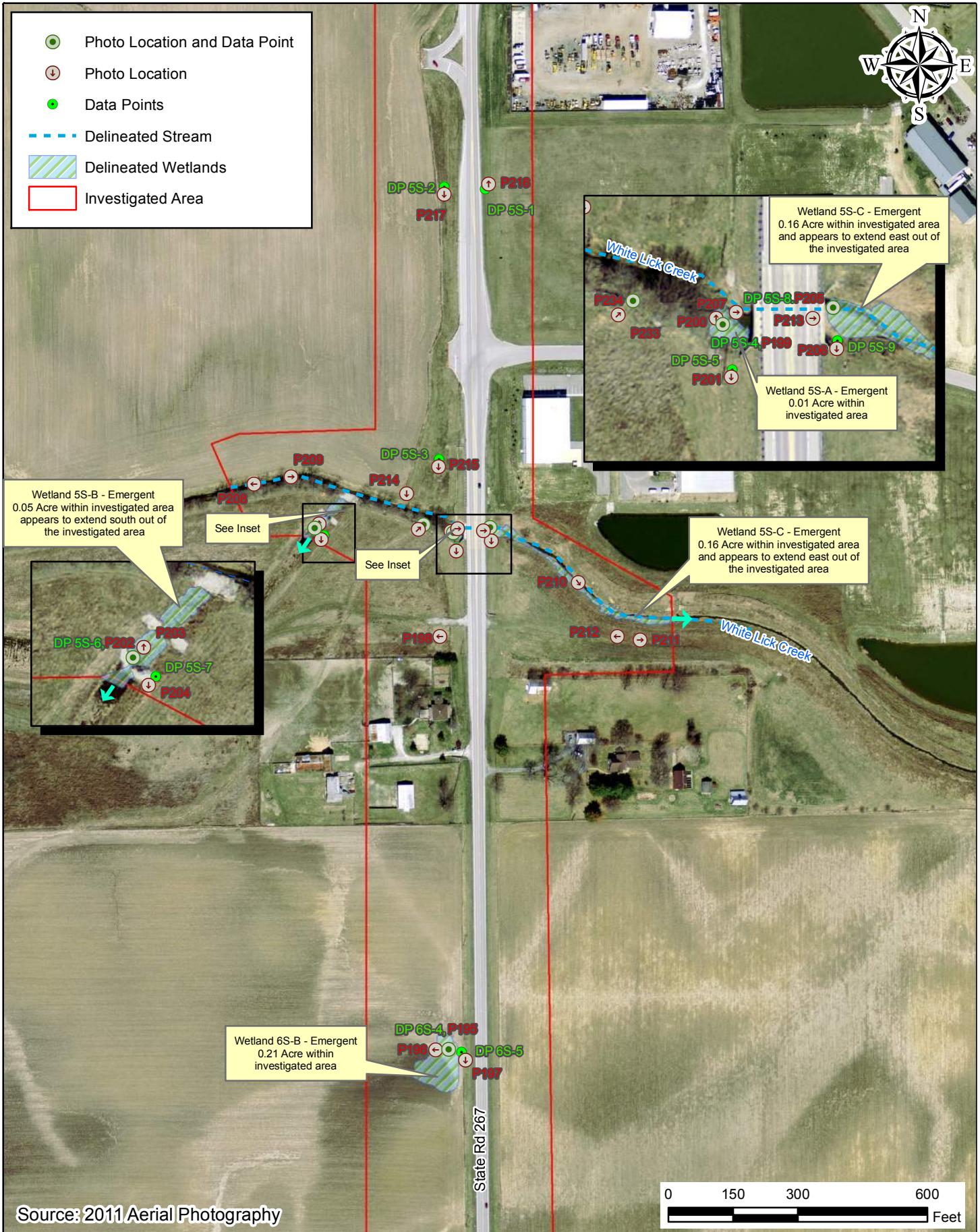
Source: 2011 Aerial Photography



|   |  |   |  |
|---|--|---|--|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway<br/>Des. No. 1602280</b><br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |  |


Date: 11/02/2016

-  Photo Location and Data Point
-  Photo Location
-  Data Points
-  Delineated Stream
-  Delineated Wetlands
-  Investigated Area



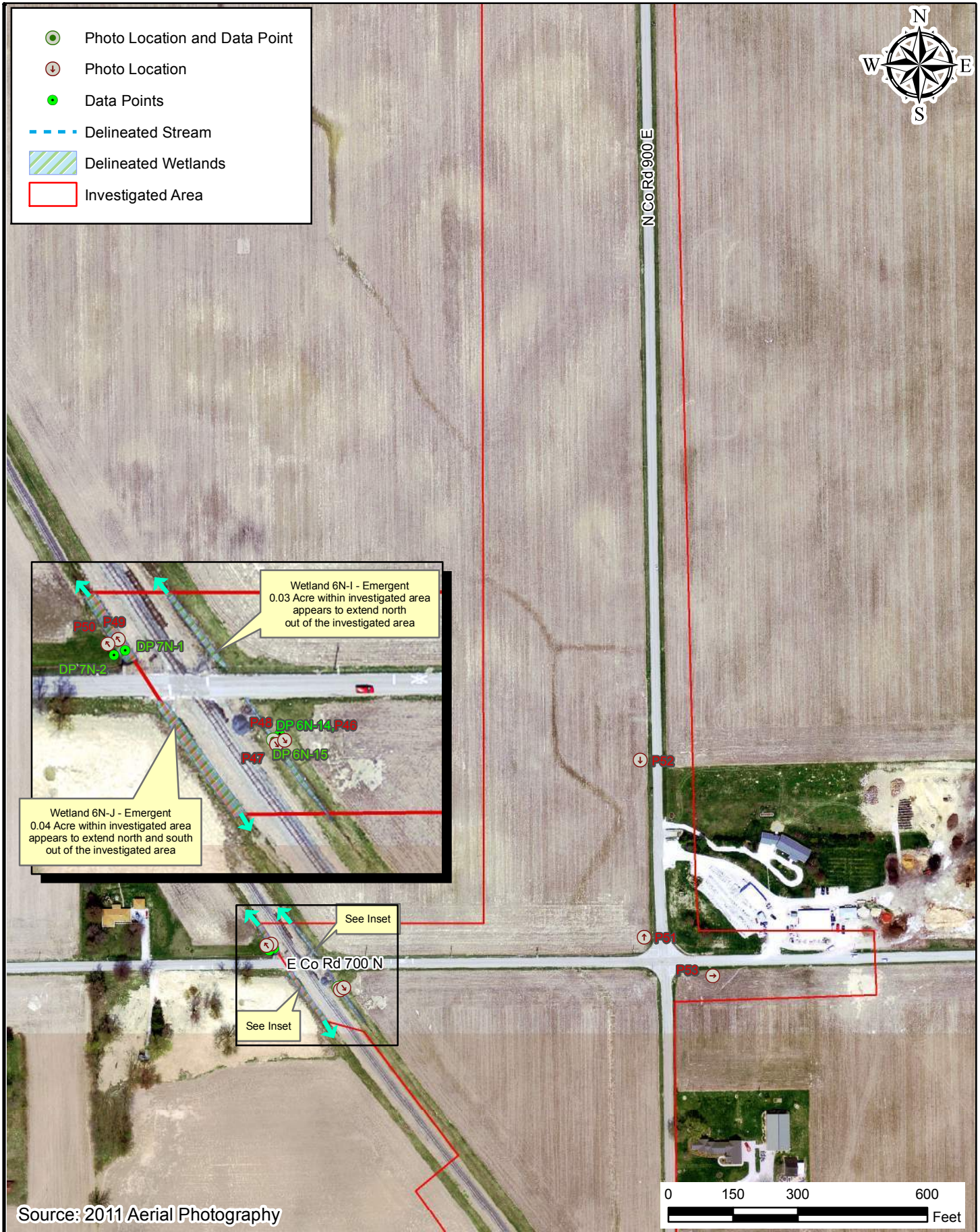
Source: 2011 Aerial Photography

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|   |  |   |   |
|---|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |



- Photo Location and Data Point
- Photo Location
- Data Points
- Delineated Stream
- Delineated Wetlands
- Investigated Area



Wetland 6N-I - Emergent  
0.03 Acre within investigated area  
appears to extend north  
out of the investigated area

Wetland 6N-J - Emergent  
0.04 Acre within investigated area  
appears to extend north and south  
out of the investigated area

See Inset

E Co Rd 700 N

See Inset







Source: 2011 Aerial Photography

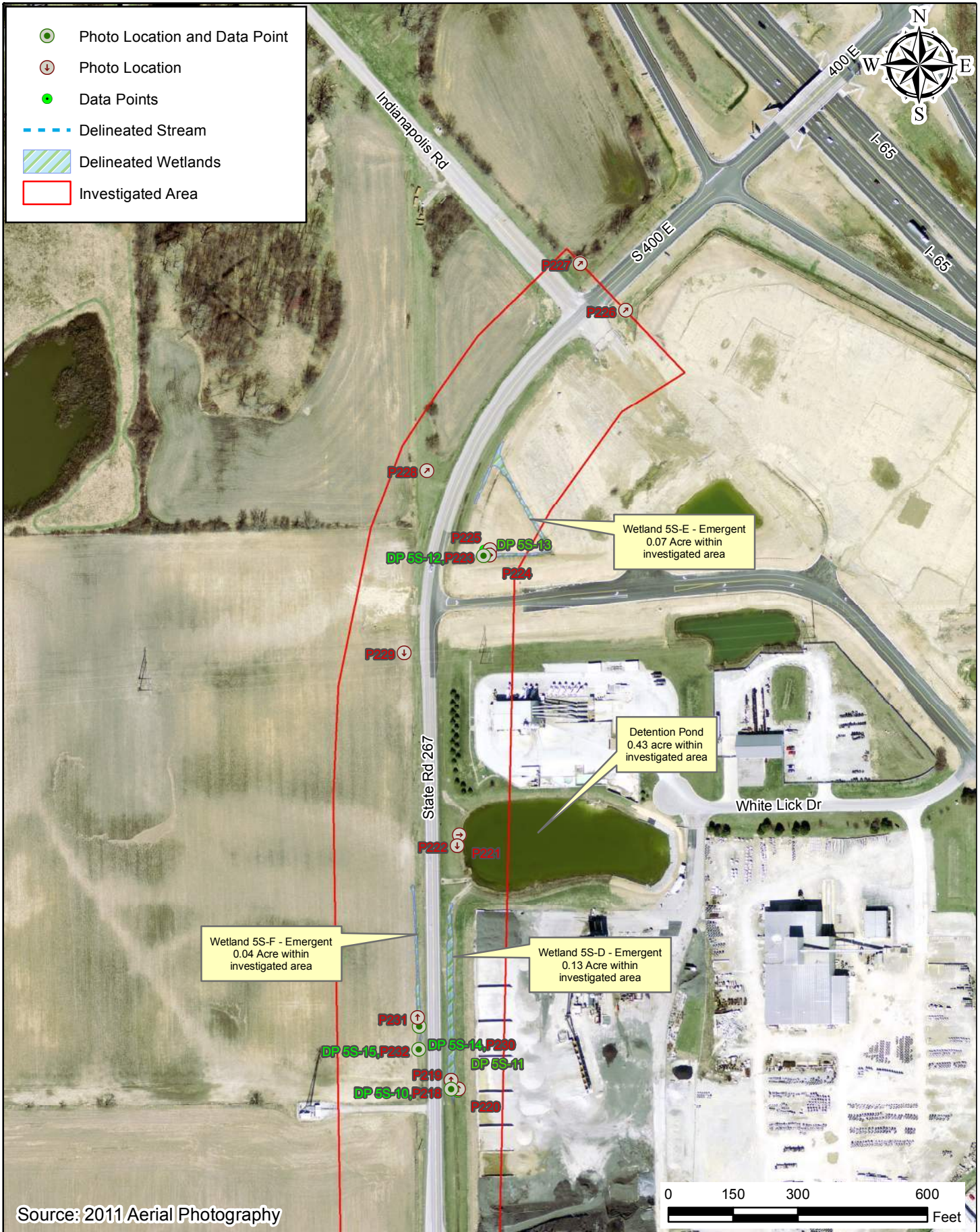
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|  |  |   |   |
|--|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |

Date: 11/02/2016

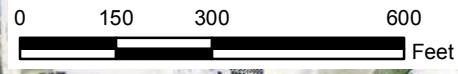



-  Photo Location and Data Point
-  Photo Location
-  Data Points
-  Delineated Stream
-  Delineated Wetlands
-  Investigated Area



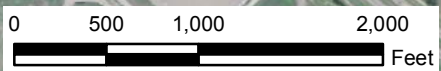
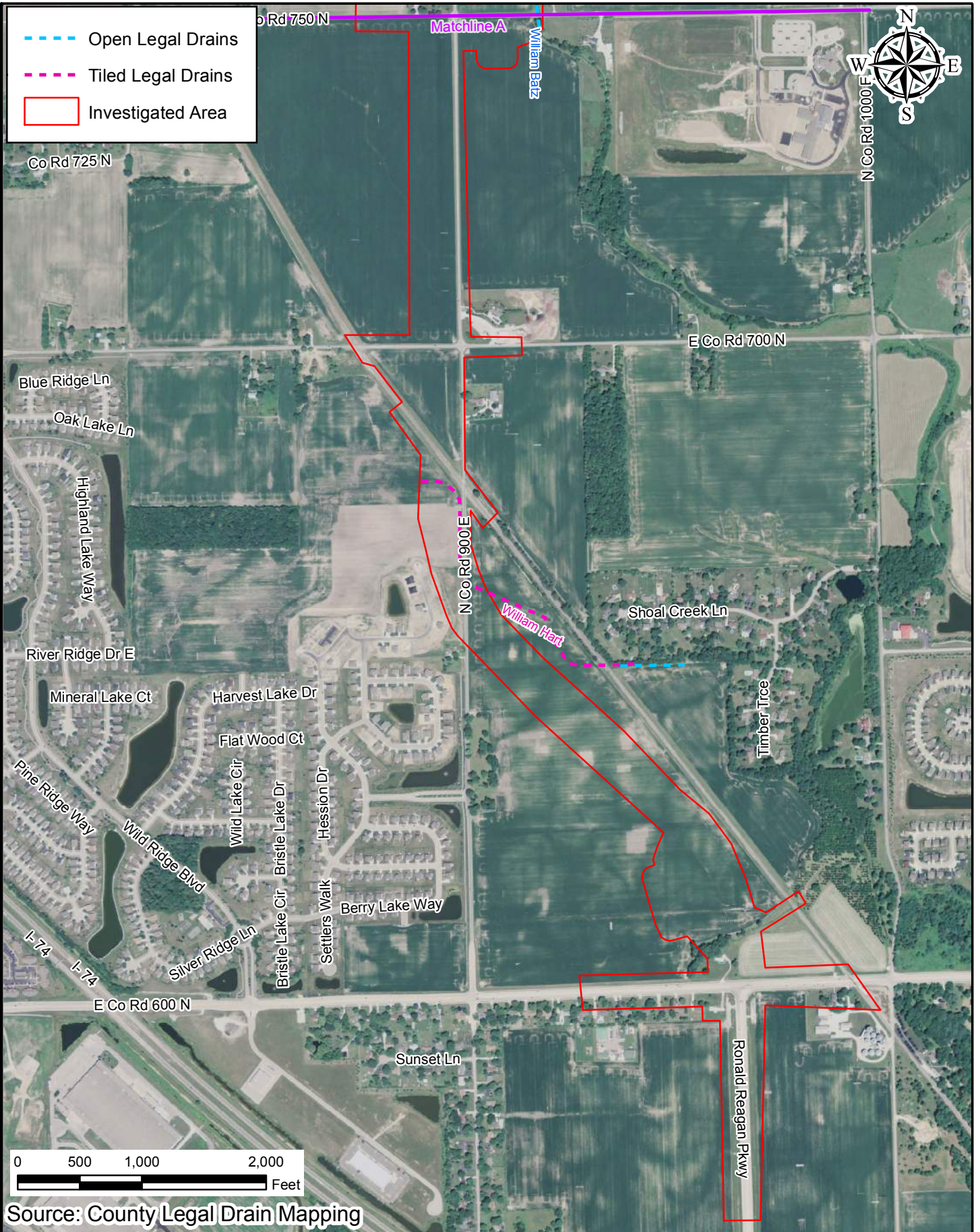
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Source: 2011 Aerial Photography



|   |  |   |   |
|---|--|---|---|
|  | <b>Data Points and Photo Location Map</b>  |   | <b>Ronald Reagan Parkway</b><br>Des. No. 1602280<br>Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |   |

- - - Open Legal Drains
- - - Tiled Legal Drains
- Investigated Area



Source: County Legal Drain Mapping

Path: P:\2011\001\83\101\Drawings\ArcView\Waters\LegalDrains\2011\_001\_83\_101\_Map\_LegalDrains\_1\_AEH.mxd Date: 8/16/2017 User:mdelreal



**AMERICAN  
STRUCTUREPOINT  
INC.**

**Figure 8: Legal Drains Map**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Boone County  
Commissioners  
116 W. Washington St.  
Lebanon, IN 46052

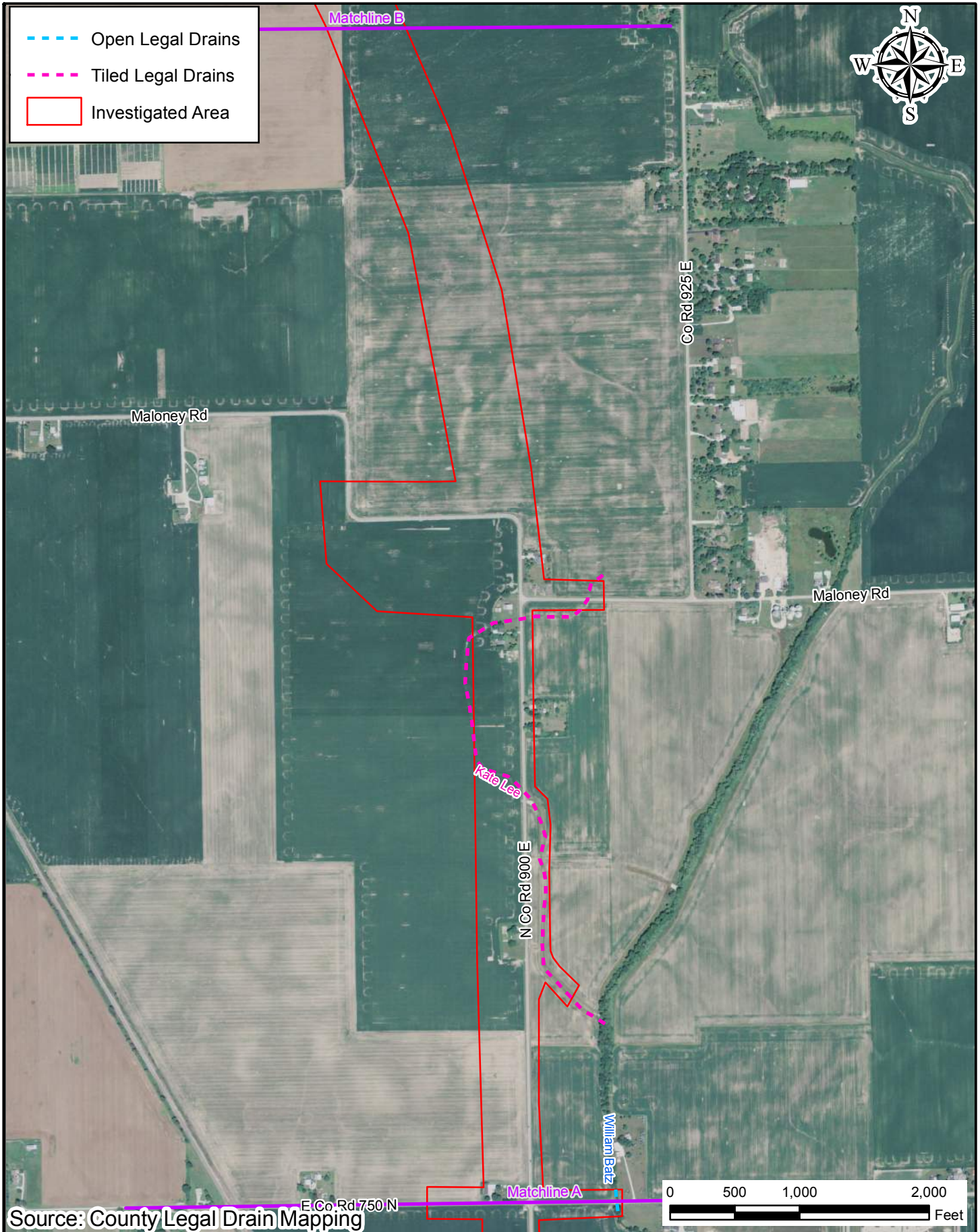
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016

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Path: P:\2011\100183\ID Drawings\Arc\lew\Waters\Legal Drains\2011.00183.EV\2016-09-23.Map.LegalDrains2.AEH.mxd Date: 1/12/2017 User: ahammer



Source: County Legal Drain Mapping






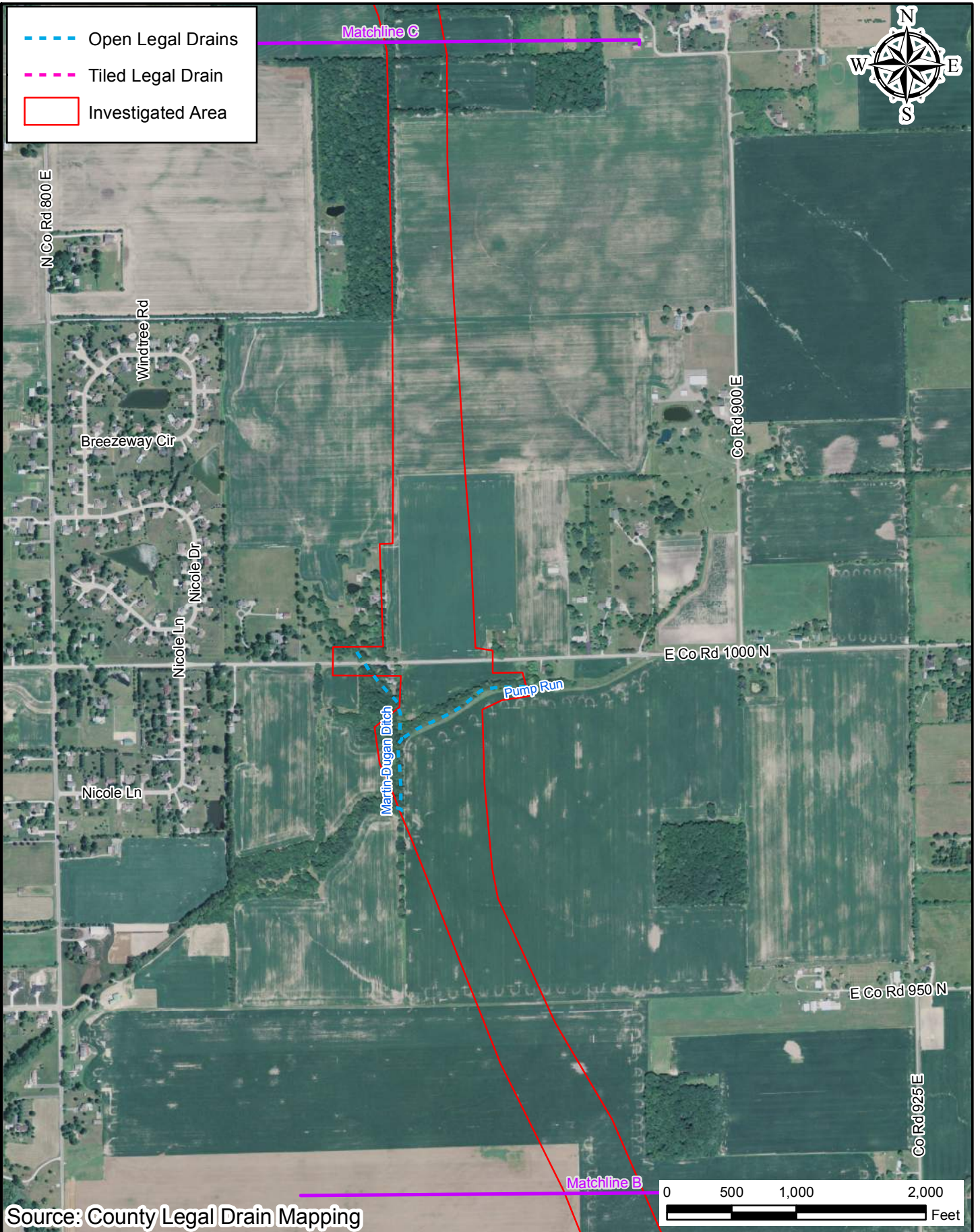
**Figure 8: Legal Drains Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**  
 Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana


Date: 05/02/2016

-  Open Legal Drains
-  Tiled Legal Drain
-  Investigated Area

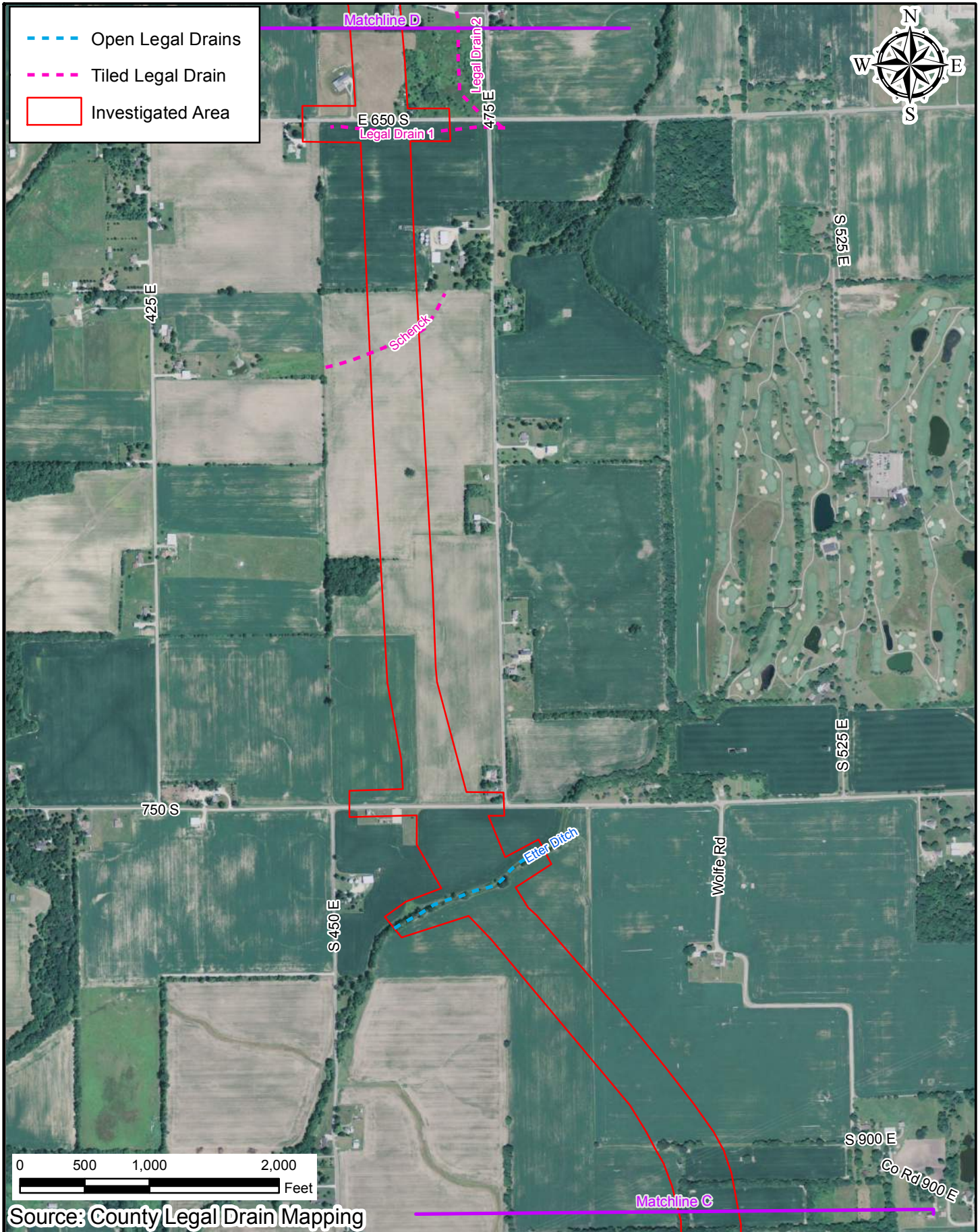


Source: County Legal Drain Mapping

Path: P:\2011\00183\ID Drawings\ArcView\Waters\Legal Drains\2011.00183.EV.2016-09-23.Map.LegalDrains3.AEH.mxd Date: 1/5/2017 User: ahammer

|  |  |   |   |  |
|--|--|---|---|--|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <b>Figure 8: Legal Drains Map</b>  |   | <b>Ronald Reagan Parkway</b>  |  |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 | Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |  |
|  |  | Date: 05/02/2016  | Appendix F<br>Page F-300  |  |

Path: P:\2011\00183\1D\_Drawings\ArcView\Waters\Legal Drains\2011.00183.EV\2016-09-23\_Map\_LegalDrains4.AEH.mxd Date: 1/5/2017 User: ahammer



Source: County Legal Drain Mapping



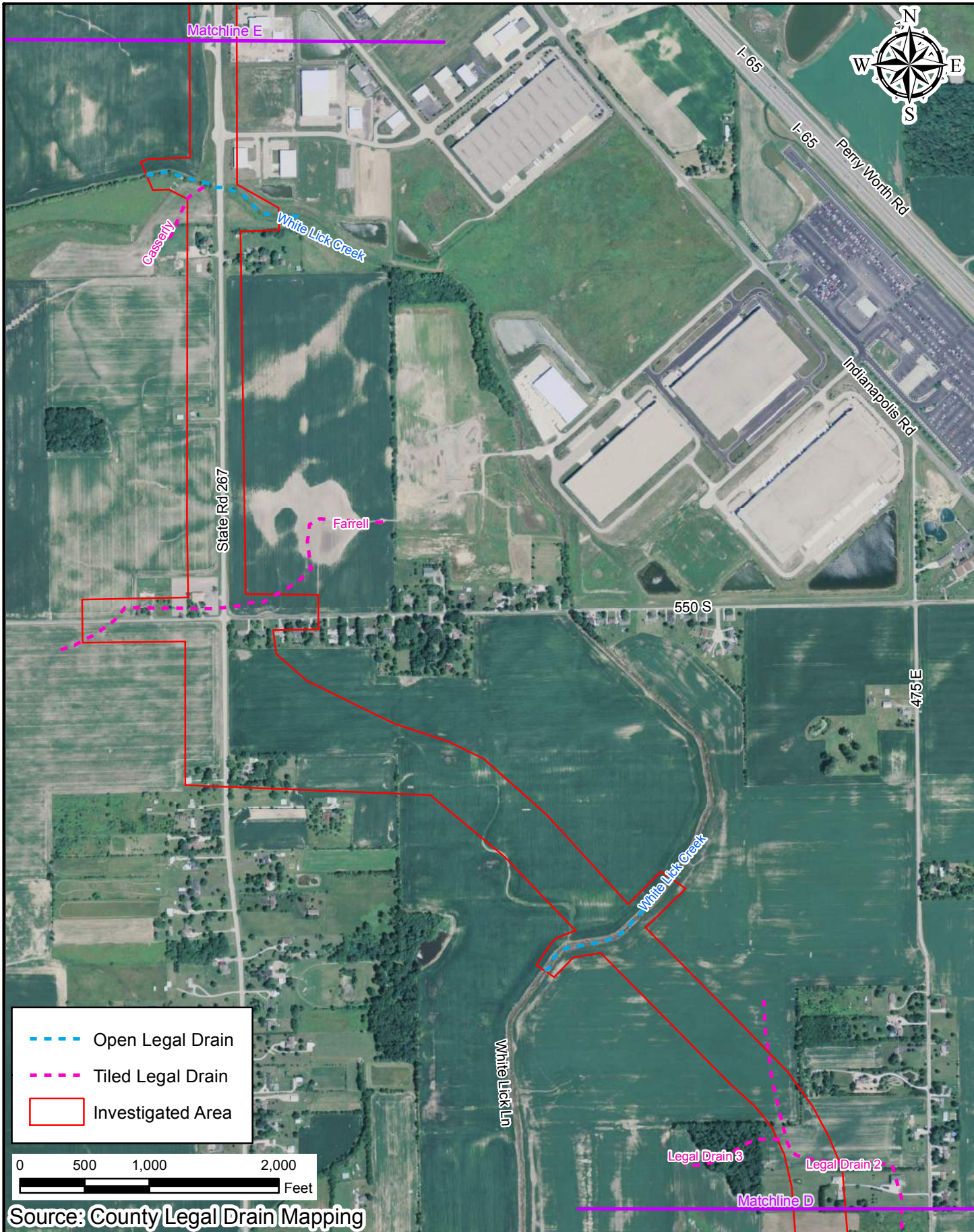
**Figure 8: Legal Drains Map**

|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

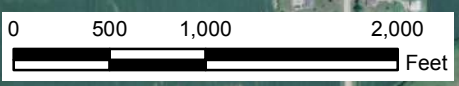
**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Perry  
Counties: Boone and Hendricks  
State: Indiana

Date: 05/02/2016




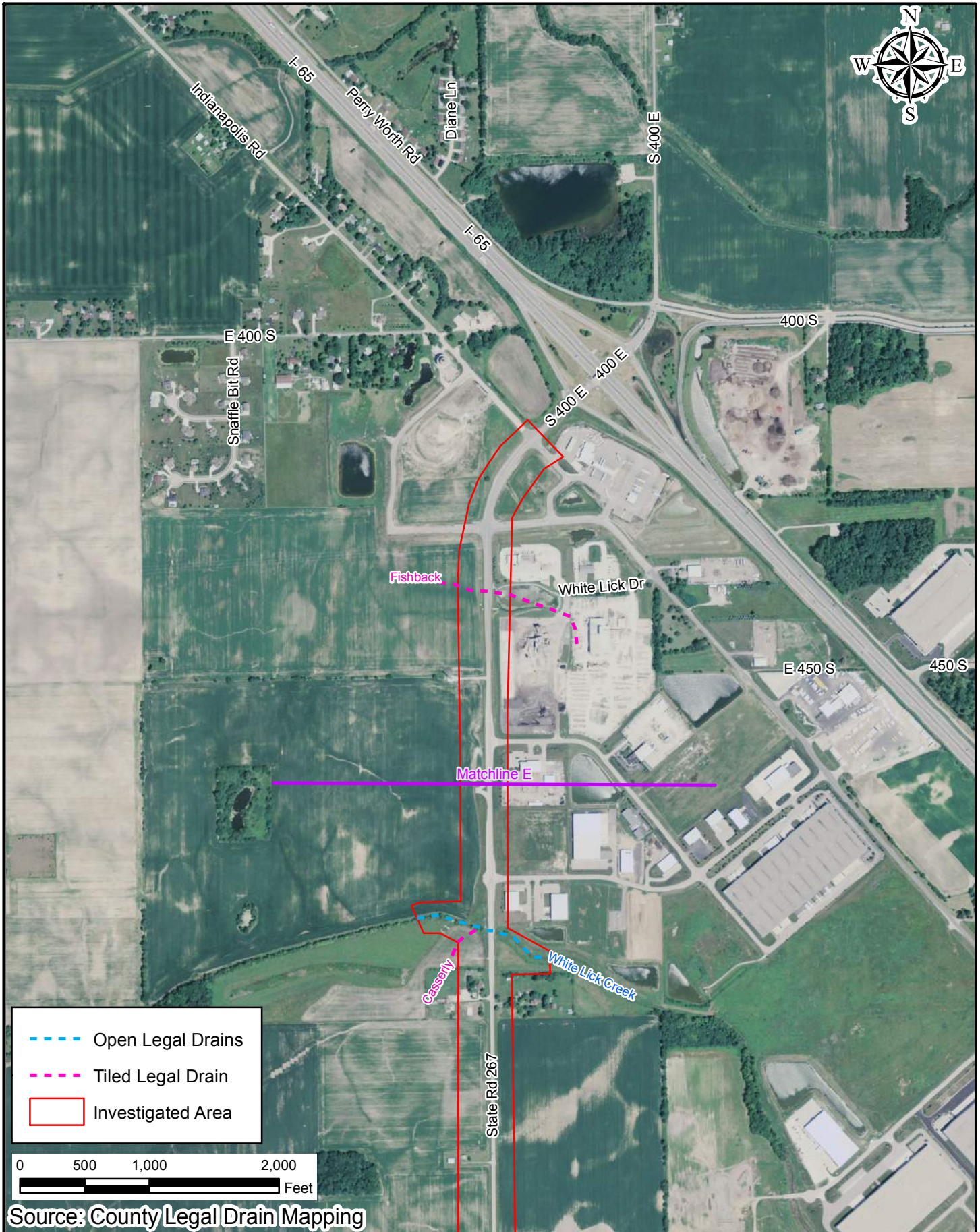
- - - Open Legal Drain
- - - Tiled Legal Drain
- Investigated Area



Source: County Legal Drain Mapping

Path: P:\2011\00183\ID\_Drawings\ArcView\Waters\Legal Drains\2011\_00183\_EV\_2016-09-23\_Map\_LegalDrains5.AEH.mxd Date: 1/5/2017 User: ahammer

|  |  |   |   |
|--|--|---|---|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <b>Figure 8: Legal Drains Map</b>  |   | <b>Ronald Reagan Parkway</b>  |
|  | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 | Location: Hendricks CR 600 N to I-65<br>Townships: Brown and Perry<br>Counties: Boone and Hendricks<br>State: Indiana |
|  |  | Date: 05/02/2016  | Page F-302  |



Path: P:\2011\00183\ID\_Drawings\ArcView\Waters\Legal Drains\2011.00183.EV.2016-09-23.Map.LegalDrains6.AEH.mxd Date: 1/5/2017 User: ahammer

- Open Legal Drains
- Tiled Legal Drain
- Investigated Area

0 500 1,000 2,000 Feet

Source: County Legal Drain Mapping



**Figure 8: Legal Drains Map**

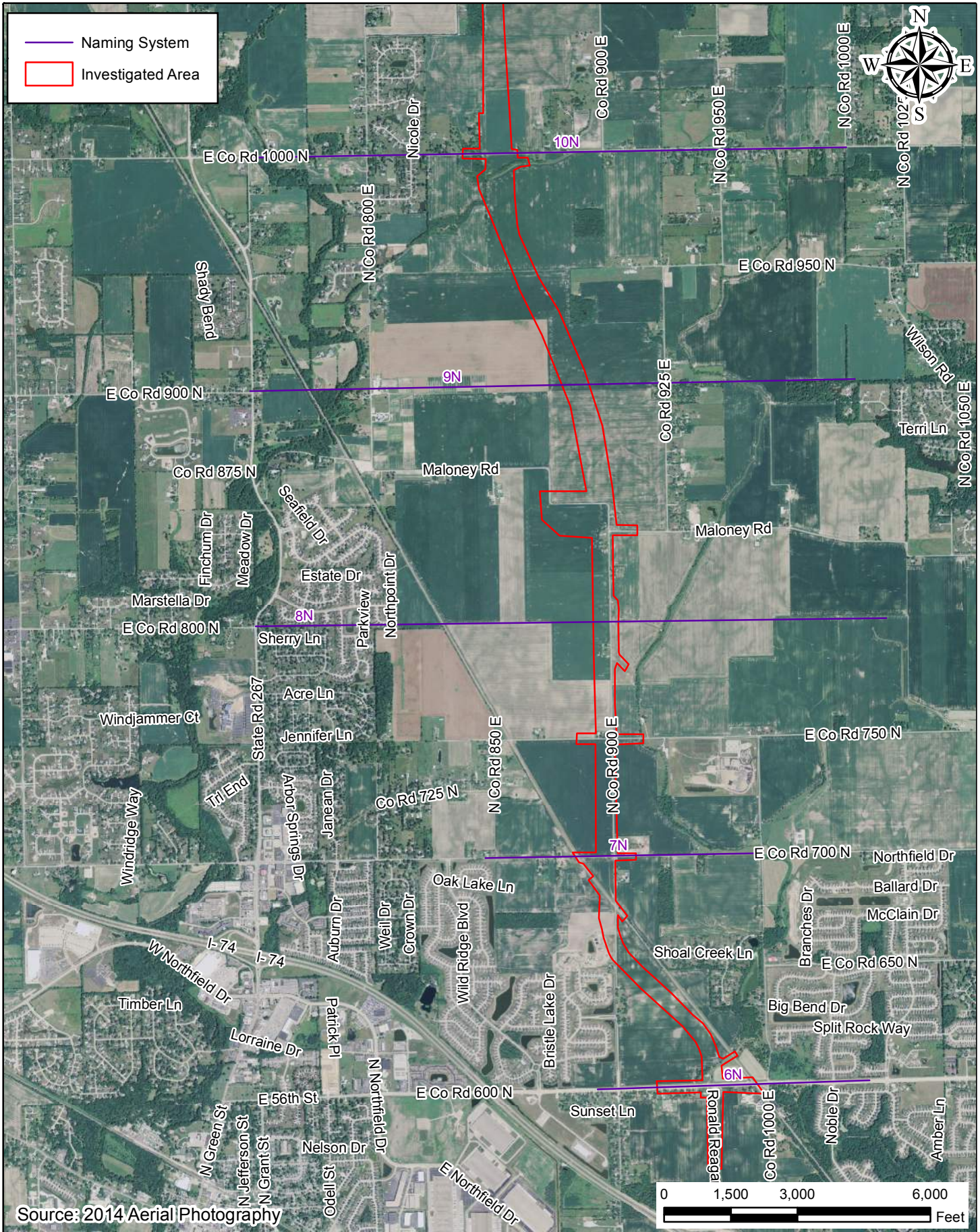
|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana

Date: 05/02/2016 Appendix F  
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Path: P:\2011\001\83\101\Drawings\ArcView\Waters\2011.001\83.EV\2016-09-23.Map.NamingConvention.AEH.mxd Date: 11/12/2017 User: ahanner



Source: 2014 Aerial Photography



**Figure 9: Naming System Map**

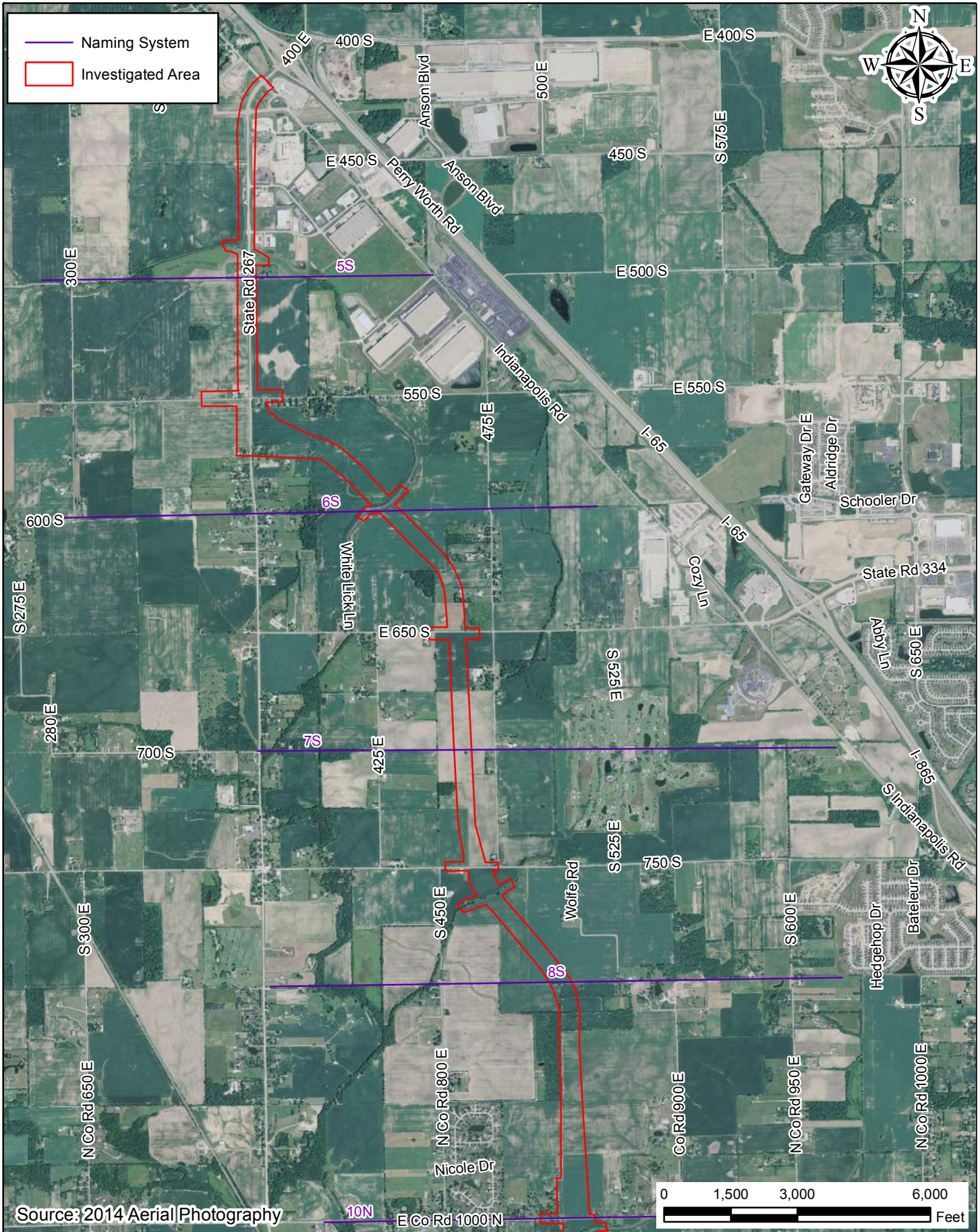
|  |   |
|--|---|
| Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Boone County<br>Commissioners<br>116 W. Washington St.<br>Lebanon, IN 46052 |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks County CR 600 N to I-65  
 Townships: Brown and Perry  
 Counties: Boone and Hendricks  
 State: Indiana

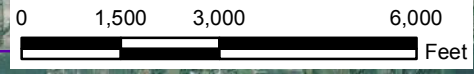
Date: 11/02/2016 Appendix F  
Page F-304




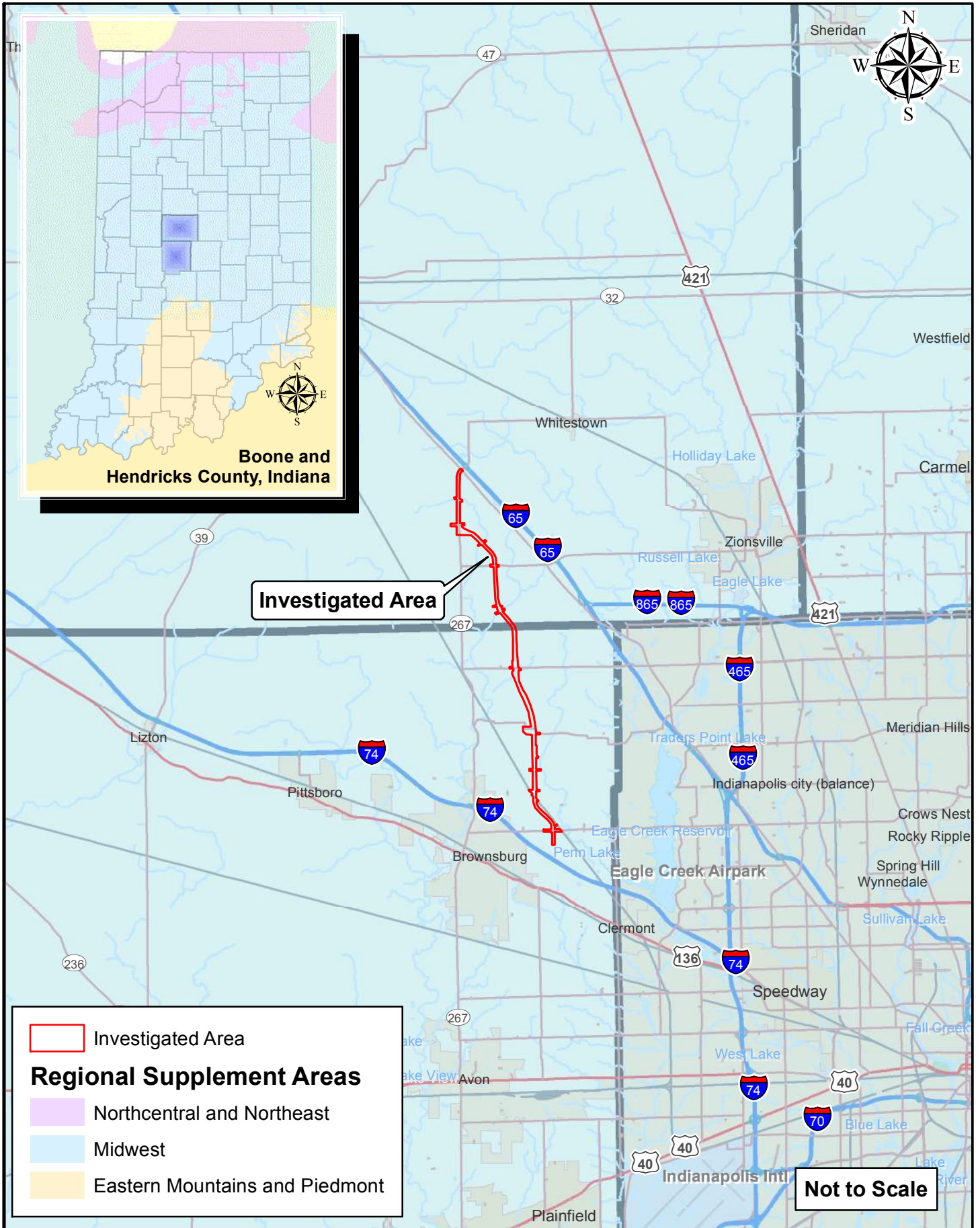


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Source: 2014 Aerial Photography



|  |  |   |  |                      |
|--|--|---|--|----------------------|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <b>Figure 9: Naming System Map</b>   |   | <b>Ronald Reagan Parkway</b>   |                      |
|  | <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County<br/>Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> | <p>Location: Hendricks County CR 600 N to I-65<br/>Townships: Brown and Perry<br/>Counties: Boone and Hendricks<br/>State: Indiana</p> |                      |
|  |  | Date: 11/02/2016  |  | Page F-305<br>Page 2 |



Path: P:\2011\00183\ID\_Drawings\ArcView\Waters\2011.00183.EV\2016-11-2.Map.LRR.AEH.mxd Date: 1/12/2017 User: ahanner

Investigated Area

**Regional Supplement Areas**

Northcentral and Northeast

Midwest

Eastern Mountains and Piedmont

**Figure 10: Regional Supplement Map**

|  |   |
|--|---|
| <p>Hendricks County Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |
|--|---|

**Ronald Reagan Parkway**

Location: Hendricks CR 600 N to I-65  
Townships: Brown and Pery  
Counties: Boone and Hendricks  
State: Indiana

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Date: 11/02/2016

**Not to Scale**

## **Appendix E - Photographs**

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



1. Looking south along eastern edge of existing Ronald Reagan Parkway, south of Hendricks CR 600 N



3. Looking south from DP 6N-1 at Wetland 6N-A



4. Looking south from DP 6N-2 at upland area surrounding Wetland 6N-A, west of existing Ronald Reagan Parkway



5. Looking south at culvert south of Hendricks CR 600 N



6. Looking west along south side of Hendricks CR 600 N, west of existing Ronald Reagan Parkway's northern terminus

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



7. Looking east along north side of Hendricks CR 600 N, west of existing Ronald Reagan Parkway's northern terminus



9. Looking northwest along west side of CSX Railroad, north of Hendricks CR 600 N



10. Looking northwest along east side of CSX Railroad north of Hendricks CR 600 N



11. Looking southeast along CSX railroad south of Hendricks CR 600 N



12. Looking at DP 6N-3 and Wetland 6N-D

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



13. Looking southwest from DP 6N-3 at Wetland 6N-D



15. Looking northeast along UNT 1



16. Looking at DP 6N-4 within Wetland 6N-B



17. Looking northeast from DP 6N-4 at Wetland 6N-B



18. Looking south from DP 6N-5 at upland area surrounding Wetland 6N-B

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



19. Looking northeast at culvert draining into Wetland 6N-B



21. Looking southwest at UNT 1 and Wetland 6N-B



22. Looking northeast at bridge carrying UNT 1 under CSX Railroad



23. Looking southwest at UNT 1 and Wetland 6N-B from CSX Railroad



24. Looking southwest at bridge carrying UNT 1 under CSX Railroad

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



25. Looking northeast at Wetland 6N-C



27. Looking at DP 6N-7 and upland area surrounding Wetland 6N-C



28. Looking southeast at ditch along southern edge of CSX Railroad leading into UNT 1



29. Looking east at manhole and vegetation in middle of a cornfield, conveys storm sewer to UNT 1



30. Looking north at agricultural field north of Hendricks CR 600 N, representative of surrounding area



Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



31. Looking northeast at agricultural field north of Hendricks CR 600 N, representative of surrounding area



33. Looking north along grassed swale east of housing development west of Hendricks CR 900 E



34. Looking east at culvert underneath Hendricks CR 900 E



35. Looking at DP 6N-8 within Wetland 6N-E



36. Looking southeast from DP 6N- 8 at Wetland 6N-E

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



37. Looking at DP 6N-9 and upland area surrounding Wetland 6N-E



39. Looking southeast at UNT 2 (downstream)



40. Looking at DP 6N-10 within Wetland 6N-G



41. Looking northwest from DP 6N-10 at Wetland 6N-G



42. Looking at DP 6N-11 within Wetland 6N-F

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



43. Looking south from DP 6N-11 at Wetland 6N-F



45. Looking northwest from DP 6N-13 at Wetland 6N-H



46. Looking at DP 6N-14 within Wetland 6N-I



47. Looking southeast from DP 6N-14 at Wetland 6N-I



48. Looking southeast from DP 6N-15 at upland area surrounding Wetland 6N-I

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



49. Looking northwest from DP 7N-1 at Wetland 6N-J



51. Looking north along Hendricks CR 900 E at the roadside ditches



52. Looking south along Hendricks CR 900 E at the roadside ditches



53. Looking east along Hendricks CR 700 N at the roadside ditches



54. Looking east from DP 7N-3

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



55. Looking south along Hendricks CR 900 E at CR 750 N



57. Looking north along Hendricks CR 900 E at the roadside ditches



58. Looking southeast from DP 7N-4 at grassed swale designated as Hendricks County legal drain Kate Lee



59. Looking south along grassed swale, designated as Hendricks County legal drain Kate Lee



60. Looking at DP 8N-1

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



61. Looking south from 8N-1 along grassed swale designated as Hendricks County legal drain Kate Lee



63. Looking north from DP 8N-2



64. Looking south from DP 8N-3



65. Looking west from DP 8N-4



66. Looking north from DP 8N-5

Ronald Reagan Parkway Extension  
Boone and Hendricks County  
October 10, 2016



67. Looking west from DP 8N-6



69. Looking east from DP 9N-1



70. Looking east from DP 9N-2



71. Looking east from DP 9N-3



72. Looking at DP 9N-4



73. Looking west from DP 9N-4



74. Looking at DP 9N-5



75. Looking at DP 9N-6 within Wetland 9N-A



76. Looking west from DP 9N-6 at Wetland 9N-A



77. Looking at DP 9N-7 at upland area surrounding Wetland 9N-A



78. Looking at DP 9N-8





79. Looking east from DP 9N-8



80. Looking east a tile outlet, starting point of UNT 3 (upstream)



81. Looking east along UNT 3 (upstream)



82. Looking west along UNT 3 (downstream)



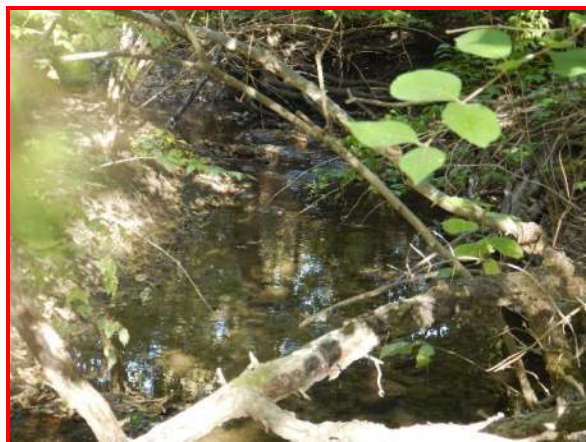
83. Looking at DP 9N-9



84. Looking north from DP 9N-9



85. Looking north from DP 9N-10



86. Looking south along Martin-Dugan Ditch (downstream)



87. Looking south along Martin-Dugan Ditch (downstream)



88. Looking south along Martin-Dugan Ditch (downstream)



89. Looking north at confluence of Pump Run and Martin-Dugan Ditch



90. Looking northeast along Pump Run (upstream)



91. Looking northeast along Pump Run (upstream)



92. Looking north at pipe outfall underneath Hendricks CR 1000 N



93. Looking at DP 9N-11 within Wetland 9N-B



94. Looking south from DP 9N-11 at Wetland 9N-B



95. Looking north from DP 9N-12 at upland area surrounding Wetland 9N-B



96. Looking north along Martin-Duggan Ditch (upstream), near the confluence with Pump Run



97. Looking south along Martin-Duggan Ditch (downstream)



98. Looking northwest at bridge carrying Hendricks CR 1000 N over Martin-Dugan Ditch



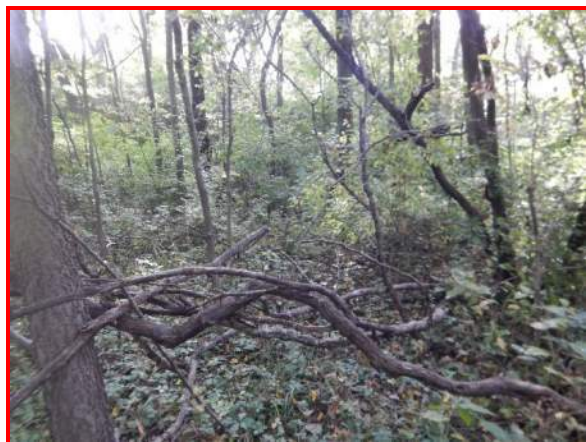
99. Looking at DP 9N-13 within Wetland 9N-C



100. Looking south from DP 9N-13 at Wetland 9N-C



101. Looking north from DP 9N-14 at upland area surrounding Wetland 9N-C



102. Looking east from DP 9N-15 at upland area surrounding Wetland 9N-D



103. Looking at DP 9N-16 within Wetland 9N-D



104. Looking west from DP 9N-16 at Wetland 9N-D



105. Looking east at upland area north of Hendricks CR 1000 N



106. Looking north at agricultural field north of Hendricks CR 1000 N



107. Looking north from DP 10N-1



108. Looking west at mown grass access drive in between two cornfields



109. Looking north from DP 10N-2



110. Looking east at area within agricultural field



111. Looking north along forested area west of investigated area



112. Looking west within agricultural field north of Hendricks CR 1000 N



113. Looking west at area west of investigated area



114. Looking west at area west of investigated area



115. Looking west at Wetland 10N-A



116. Looking north at open water section of Wetland 10N-A



117. Looking north at forest section of Wetland 10N-A



118. Looking at DP 10N-4 within Wetland 10N-A



119. Looking east from DP 10N-4 within Wetland 10N-A



120. Looking north from DP 10N-5 at upland area surrounding Wetland 10N-A



121. Looking east at Wetland 10N-A



122. Looking east at forested strip south of cornfield



123. Looking east at emergent section of Wetland 10N-A



124. Looking east at emergent section of Wetland 10N-A



125. Looking at DP 10N-6



126. Looking north from DP 10N-6





127. Looking west at upland forested strip between two agricultural fields



128. Looking at DP 10N-7 within Wetland 10N-B



129. Looking west from 10N-7 at Wetland 10N-B



130. Looking east from DP 10N-8 at upland area surrounding Wetland 10N-B



131. Looking north at upland forested strip between agricultural fields



132. Looking at DP 8S-1



133. Looking north from DP 8S-2



134. Looking north from DP 8S-3



135. Looking east from DP 8S-5 along Etter Ditch



136. Looking west from DP 8S-4



137. Looking north from DP 8S-6



138. Looking northeast along Etter Ditch (upstream)



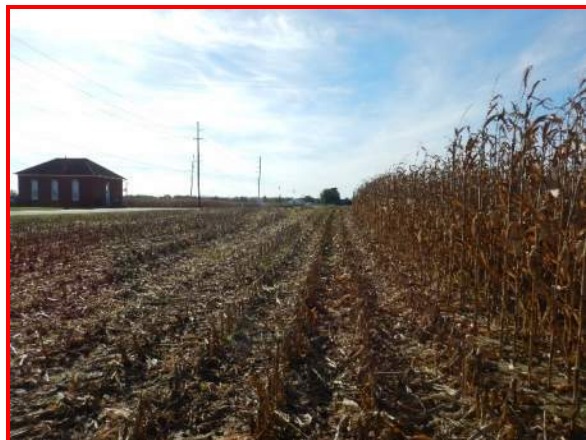
139. Looking southwest along Etter Ditch (downstream)



140. Looking northeast along Etter Ditch (upstream)



141. Looking south at Howards Cemetery



142. Looking west from DP 8S-7



143. Looking east from DP 8S-8



144. Looking south from DP 8S-9



145. Looking north from DP 8S-10



146. Looking south from DP 8S-13



147. Looking north at lone tree in field



148. Looking east from DP 7S-1



149. Looking east at agricultural field designated as Boone County legal drain Schenck



150. Looking east from DP 7S-2



151. Looking west at upland tree line between agricultural fields



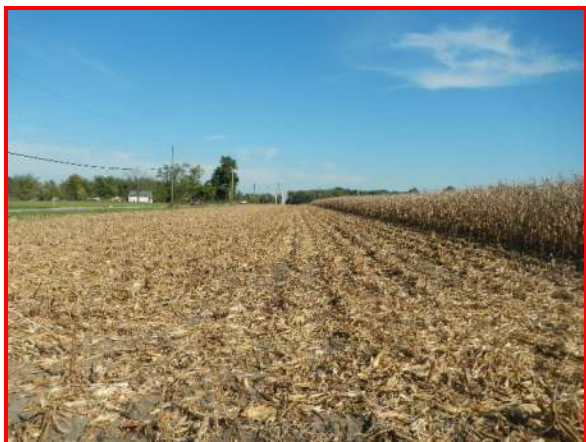
152. Looking east from DP 75-3



153. Looking east from DP 75-4



154. Looking west from DP 75-5



155. Looking east south of Boone CR 650 S



156. Looking north along property line, north of Boone CR 650 S



157. Looking east along Boone CR 650 S



158. Looking at DP 7S-6



159. Looking west from DP 7S-6



160. Looking north along mowed vegetation within maintained residential lawn



161. Looking north at maintained residential lawn



162. Looking at DP 7S-7 within Wetland 7S-A



163. Looking at DP 7S-8



164. Looking at DP 7S-9 within Wetland 7S-B



165. Looking at DP 7S-10 within Wetland 7S-C



166. Looking at DP 7S-11 and upland area surrounding Wetland 7S-C



167. Looking east along tree line south of agricultural field



168. Looking east from DP 7S-12



169. Looking south along tree line between agricultural fields



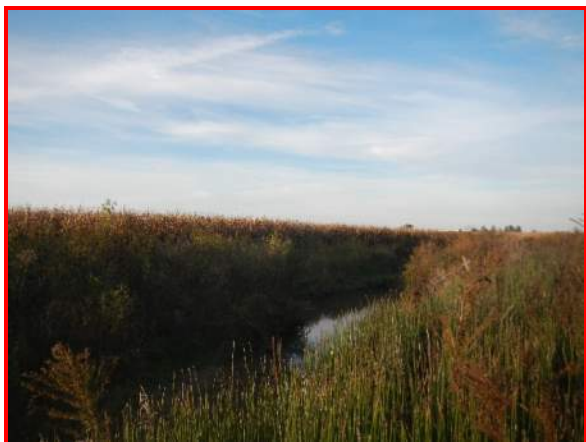
170. Looking west at agricultural field north of Boone CR 650 S



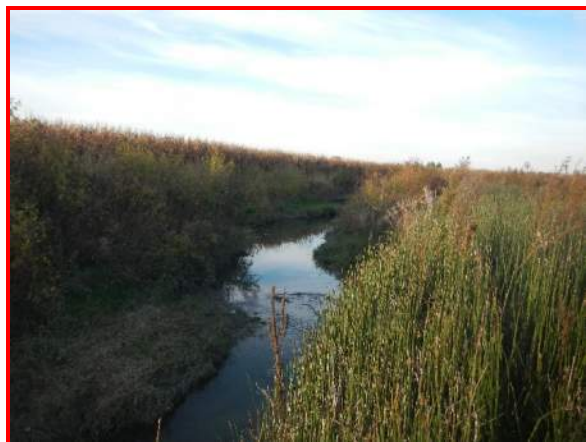
171. Looking south at agricultural field north of Boone CR 650 S



172. Looking at DP 75-13



173. Looking north from DP 75-13 at White Lick Creek (upstream)



174. Looking northeast along White Lick Creek (upstream)

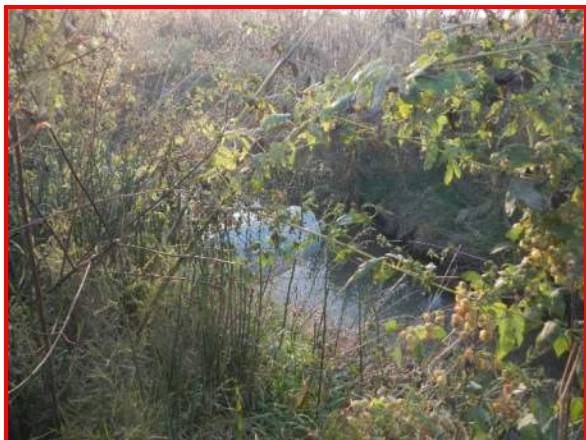




175. Looking northeast along White Lick Creek (upstream)



176. Looking southeast along UNT 4



177. Looking west at tile outfall into White Lick Creek



178. Looking southwest at UNT 4 leading into White Lick Creek



179. Looking northeast along UNT 4



180. Looking west at location where erosional feature was observed on aerial photography



181. Looking west at agricultural field adjacent to White Lick Creek



182. Looking south along erosional feature observed on aerial photography



183. Looking south at agricultural field east of SR 267



184. Looking east within agricultural field east of SR 267



185. Looking south along the west side of SR 267 south of Boone CR 550 S



186. Looking west along tree line north of agricultural field



187. Looking south from DP 6S-1 at Wetland 6S-A



188. Looking east from DP 6S-1 at Wetland 6S-A



189. Looking east from DP 6S-2 at upland area surrounding Wetland 6S-A



190. Looking west from DP 6S-3



191. Looking east along south side Boone CR 550 S west of SR 267



192. Looking west along north side of Boone CR 550 S east of SR 267



193. Looking north along west side of SR 267 north of Boone CR 550 S



194. Looking east at culvert underneath SR 267



195. Looking at DP 6S-4 within Wetland 6S-B



196. Looking west from DP 6S-4 at Wetland 6S-B



197. Looking south from DP 6S-5 at upland area surrounding Wetland 6S-B



198. Looking west towards field from near SR 267



199. Looking at DP 5S-4 within Wetland 5S-A



200. Looking north from DP 5S-4 at Wetland 5S-A



201. Looking south from DP 5S-5 and upland area surrounding Wetland 5S-A



202. Looking at DP 5S-6 within Wetland 5S-B



203. Looking north from DP 5S-6 at Wetland 5S-B



204. Looking south from DP 5S-7 at upland area surrounding Wetland 5S-B



205. Looking at DP 5S-8 within Wetland 5S-C



206. Looking south from DP 5S-9 at upland area surrounding Wetland 5S-C



207. Looking east at bridge carrying SR 267 over White Lick Creek (downstream)



208. Looking west along White Lick Creek (upstream)



209. Looking east along White Lick Creek (downstream)



210. Looking southeast along White Lick Creek (downstream) at Wetland 5S- C



211. Looking east along berm east of SR 267



212. Looking west along berm east of SR 267



213. Looking east along White Lick Creek (downstream) at Wetland 5S-C from SR 267



214. Looking south where erosional feature flows into White Lick Creek



215. Looking south from DP 5S-3 toward White Lick Creek



216. Looking north along the east side of SR 267 from DP 5S-1



217. Looking south along the west side of SR 267 from DP 5S-2



218. Looking at DP 5S-10 within Wetland 5S-D



219. Looking north from DP 5S-10 at Wetland 5S-D



220. Looking north from DP 5S-11 at upland area surrounding Wetland 5S-D, east of SR 267



221. Looking east at detention pond along SR 267



222. Looking south along the east side of SR 267 and the detention pond





223. Looking at DP 5S-12 within Wetland 5S-E



224. Looking east from DP 5S-12 at Wetland 5S-E



225. Looking east from DP 5S-13 at upland area surrounding Wetland 5S-E



226. Looking northeast along the east side of SR 267, south of I-65



227. Looking northeast along the west side of SR 267, south of I-65



228. Looking northeast along the west side of SR 267 south of Indianapolis Road



229. Looking south along the west side of SR 267, south of Indianapolis Road



230. Looking at DP 5S-14 within Wetland 5S-F



231. Looking north from DP 5S-14 and Wetland 5S-F



232. Looking at DP 5S-15



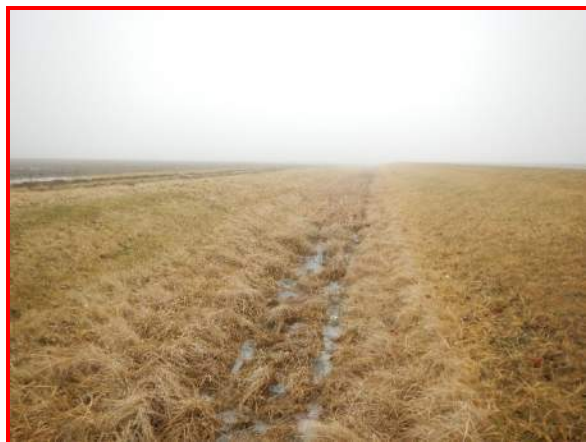
233. Looking northeast at concrete weir, spillway adjacent to White Lick Creek



234. Looking down at tile outlet into White Lick Creek



235. Looking south along Wetland 6N-K



236. Looking north along Wetland 6N-K



237. Looking northeast at bridge carrying CR 750 over School Branch



238. Looking south along School Branch, north of CR 750



239. Looking north at School Branch from CR 750



240. Looking south at School Branch from CR 750



241. Looking north across the project area



242. Looking east across the project area



243. Looking west across the project area toward  
CR 900 E



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## M E M O R A N D U M

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Date: February 18, 2019

To: Ms. Deborah Snyder  
U.S. Army Corps of Engineers, Louisville District  
Indianapolis Regulatory Field Office  
8902 Otis Avenue, Suite S106B  
Indianapolis, Indiana 46216

Ms. Janelle Kozelichki  
Indiana Department of Environmental Management  
Office of Water Quality/Surface Water, Operations & Enforcement  
100 North Senate Avenue IGCN 1255  
Indianapolis, Indiana 46204

From: Josh Iddings  
American Structurepoint, Inc.  
7260 Shadeland Station  
Indianapolis, Indiana 46256  
[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)

Re: Wetland Delineation and Waters Report Addendum  
Project: Ronald Reagan Parkway  
IDEM No.: 2017-905-32-JMK-A  
COE No.: LRL-2017-1185  
County: Hendricks  
ASI Project No.: 2011.00183

Ms. Snyder and Ms. Kozelichki,

### INTRODUCTION

American Structurepoint, Inc. is pleased to provide an Addendum to the Wetland Delineation Report that was submitted to your office on November 16, 2017. Based upon the site visit, we have investigated an additional three areas (Investigated Areas 1-3) located immediately east of the original investigated area. American Structurepoint, Inc. staff visited the sites on October 29, 2018 to conduct this additional

field work. This wetland delineation was conducted in accordance with the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (U.S. Army Corps of Engineers, 2010). This additional site investigation followed the same methodology described in the November 2017 report.

The location of the additional investigated areas and data points can be viewed in the attached mapping provided in Appendix A. Two new wetland determination data forms (Data Points 1 and 2) and two Qualitative Habitat Evaluation Index (QHEI) forms (School Branch) are provided in Appendix B. Additionally, photos of the investigated areas can be found in Appendix C.

## FIELD INVESTIGATION

### A. Investigated Area 1

#### A1. Introduction

Investigated Area 1 is a 0.91 acre parcel located immediately east of the 2017 investigated area along County Road 1000. The investigated area is more specifically located on the Zionsville USGS 7.5 Minute Quadrangle Maps in Section 13 and 24, Township 17 North, and Range 1 East. The location and approximate boundaries of the study area can be seen in the attached maps and aerial photographs (Appendix D).

#### A2. Site Characterization-Records Review

A preliminary investigation of available data from the National Wetland Inventory (NWI) mapping revealed no mapped wetlands within the investigated area. No FEMA-designated 100-year floodplains are mapped within the investigated area. The USGS Topographic mapping depicts County Road 1000 running through the study area with two structures bordering the investigated area to the northwest and southeast. The topography is also shown as being flat within the site.

The predominant soil types mapped within the investigated area are Brookston silty clay loam (Bs) and Crosby silt loam (CrA). The Brookston silty clay loam is a mapped hydric soil. The 1974 *Hendricks County Soil Survey* shows Investigated Area 1 consisting primarily of open land with County Road 1000 located near the northern limits of the investigated area. The survey does not depict any other features within the investigated area.

The 2005 and 2016 IndianaMap aeriels were reviewed for Investigated Area 1. The 2005 and 2016 aerial photography depict County Road 1000 near the northern boundary of the site. The southern half of the investigated area consists primarily of agricultural land with a narrow tree line separating the field from mowed lawn associated with a residential property. The investigated area also includes a small portion of residential lawn and another agricultural field to the north of County Road 1000. The 2005 and 2016 aeriels show the investigated area as it was observed during the October 29, 2018 site visit, however the house just beyond the southeastern investigated area limits had been demolished.

The Hendricks County GIS was accessed on December 6, 2018 and used to determine the presence or absence of legal drains in the investigated area. Upon review, no legal drains appear to be located within the investigated area.

#### A3. Field Reconnaissance

Investigated Area 1 was examined for the presence of wetlands and “waters of the US” on the site. It was determined that no wetlands nor “waters of the US” were present within the investigated area. Photographs of the site and a map indicating the location of photographs can be found within the appendices.

## **B. Investigated Area 2**

### *B1. Introduction*

Investigated Area 2 is a 13.23 acre parcel located immediately east of the 2017 investigated area approximately 0.38 mile southeast of the County Road 900 and Maloney Road intersection. The investigated area is more specifically located on the Zionsville USGS 7.5 Minute Quadrangle Maps in Sections 25 and 36, Township 17 North, and Range 1 East. The location and approximate boundaries of the study area can be seen in the attached maps and aerial photographs (Appendix D).

### *B2. Site Characterization-Records Review*

A preliminary investigation of available data from the National Wetland Inventory (NWI) mapping revealed no mapped wetlands within the investigated area. The FEMA-designated 100-year floodplain associated with School Branch runs through the southeastern portion of the investigated area. The USGS Topographic mapping depicts Investigated Area 2 consisting primarily of undeveloped land with two intermittent streams, including School Branch, reaching a confluence toward the southern limits of the investigated area. The second intermittent stream was field verified to be a tiled legal drain under the name Kate Lee. The topography shows a high point toward the center of the site. The site slopes downward from this point toward the two valleys associated with two intermittent streams within the investigated area.

The predominant soil types mapped within the investigated area are Brookston silty clay loam (Bs), Crosby silt loam (CrA), and Crosby-Miami silt loam (CsB2). The Brookston silty clay loam is a mapped hydric soil. The *1974 Hendricks County Soil Survey* shows Investigated Area 2 consisting entirely of open land with School Branch depicted along the southeastern limits of the investigated area. The survey depicts School Branch as an intermittent stream within the investigated area, located approximately 0.37 mile north of County Road 750.

The 2005 and 2016 IndianaMap aeriels were reviewed for Investigated Area 2. The 2005 and 2016 aerial photography depict the site as primarily agricultural land with a forested riparian corridor associated with School Branch located along the southeastern limits of the site. Additionally, a grassed area associated with the Kate Lee tile drain enters the investigated area near the southwestern limits and reaches a confluence with School Branch where the tile outlet is located just north of the southern limits of the investigated area. The 2005 and 2016 aeriels show the investigated area as it was observed during the October 29, 2018 site visit.

The Hendricks County GIS was accessed on December 6, 2018 and used to determine the presence or absence of legal drains in the investigated area. Upon review, two legal drains under the names Kate Lee and William Batz are located within Investigated Area 2. The Kate Lee tile drain flows southeast into the investigated area approximately 0.29 miles north of County Road 750. The legal drain outlets into School Branch toward the southeastern limits of the investigated area. School Branch is recognized as the William Batz legal drain.

### *B3. Field Reconnaissance*

Investigated Area 2 was examined for the presence of wetlands and “waters of the US” on the site. Data points were strategically placed to identify appropriate boundaries of delineated wetlands and to determine the presence or absence of jurisdictional wetlands and “waters of the US.”

### *B3i. School Branch*

School Branch enters the investigated area through the southeastern limits, approximately 0.31 mile north of County Road 750 and 0.12 mile east of County Road 900. School Branch flows southwest along most of the southeastern limits of the investigated area, however the stream does not enter the site until it reaches a small meander flowing southwest before turning south and exiting Investigated Area 2. The stream was delineated for approximately 181 linear feet within the investigated area. The stream is depicted on the USGS Topographic Map and 1974 Hendricks County Soil Survey map as an intermittent stream. School Branch drains in Eagle Creek, which drains to the White River, a TNW. Therefore, it is anticipated that School Branch would be considered a jurisdictional "waters of the US."

The ordinary high water mark (OHWM) was 1.4 feet deep and 13.2 feet wide at the assessment location. The flow regime appears to be perennial. Riffles and runs were present within this segment of the stream. The substrate was primarily sand and gravel with some cobble and silt. A narrow corridor of forested vegetation dominated both banks of the stream followed on either side by agricultural fields within the investigated area. This stream would be considered a Riverine, Lower Perennial, Unconsolidated Bottom, Sand (R2UB2) under the Cowardin Classification System.

A QHEI (QHEI 1) was conducted for School Branch along a relatively straight segment just northeast of where the stream flows into the investigated area. The overall QHEI score was 46 out of 100. This is a fair narrative rating according to the manual. The stream scored highest for Substrate (14/20) and lowest for Pool/Current Quality (3/12).

### *B3ii. Data Point (DP) 1*

DP 1 was taken within Investigated Area 2. DP 1 was taken due to the presence of algal crusts and its location within the swale associated with the Kate Lee tile drain. DP 1 did not exhibit hydrophytic vegetation necessary for a positive wetland determination. Data sheets and a map indicating the location of DP1 are included in the appendices.

## **C. Investigated Area 3**

### *C1. Introduction*

Investigated Area 3 is a 3.99 acre parcel located immediately east of the 2017 investigated area approximately 0.04 mile northeast of the County Road 900 and County Road 750 intersection. The investigated area is more specifically located on the Clermont USGS 7.5 Minute Quadrangle Maps in Section 36, Township 17 North, and Range 1 East. The location and approximate boundaries of the study area can be seen in the attached maps and aerial photographs (Appendix D).

### *C2. Site Characterization-Records Review*

A preliminary investigation of available data from the National Wetland Inventory (NWI) mapping revealed no mapped wetlands within the investigated area. The FEMA-designated 100-year floodplain associated with School Branch runs through the eastern portion of the investigated area. The USGS Topographic mapping depicts Investigated Area 3 consisting primarily of undeveloped land with one perennial stream (School Branch) located along the easternmost limits of the investigated area. The topography is depicted as generally being flat with the site sloping downward toward a small valley associated with School Branch.

The predominant soil types mapped within the investigated area are Brookston silty clay loam (Bs) and Crosby silt loam (CrA). The Brookston silty clay loam is a mapped hydric soil. The 1974 *Hendricks County Soil Survey* shows Investigated Area 3 consisting entirely of open land with



School Branch depicted along the easternmost limits of the investigated area. The survey depicts School Branch as an intermittent stream within the investigated area, located approximately 0.07 mile north of County Road 750.

The 2005 and 2016 IndianaMap arials were reviewed for Investigated Area 3. The 2005 and 2016 aerial photography depict the site as primarily agricultural land with a narrow strip of riparian corridor associated with School Branch located along the easternmost limits of the site. The 2005 and 2016 arials show the investigated area as it was observed during the October 29, 2018 site visit.

The Hendricks County GIS was accessed on December 6, 2018 and used to determine the presence or absence of legal drains in the investigated area. Upon review, the segment of School Branch within the investigated area is recognized as the William Batz legal drain. No other legal drains were identified within Investigated Area 3.

### *C3. Field Reconnaissance*

Investigated Area 3 was examined for the presence of wetlands and “waters of the US” on the site. Data points were strategically placed to identify appropriate boundaries of delineated wetlands and to determine the presence or absence of jurisdictional wetlands and “waters of the US.”

#### *C3i. School Branch*

School Branch is enters the investigated area through the easternmost limits, approximately 0.06 mile north of County Road 750 and 0.12 mile east of County Road 900. School Branch flows south into the investigated area and continues south until it exits the investigated area. The stream was delineated for approximately 102 linear feet within the investigated area. The stream is depicted on the USGS Topographic Map as a perennial stream while the 1974 *Hendricks County Soil Survey* map shows School Branch as an intermittent stream. School Branch drains in Eagle Creek, which drains to the White River, a TNW. Therefore, it is anticipated that School Branch would be considered a jurisdictional “waters of the US.”

The ordinary high water mark (OHWM) was 1.6 feet deep and 12 feet wide at the assessment location. The flow regime appears to be perennial. No riffles nor runs were present within this segment of the stream. The substrate was primarily sand and gravel with some cobble and boulders. A narrow corridor of primarily scrub vegetation with scattered tree cover dominated the right bank followed by the agricultural field within the investigated area. The left bank consisted entirely of mowed lawn associated with the residential property immediately adjacent to the stream. This stream would be considered a Riverine, Lower Perennial, Unconsolidated Bottom, Sand (R2UB2) under the Cowardin Classification System.

A QHEI (QHEI 2) was conducted for School Branch along a relatively straight segment near the northern limits of the investigated area along School Branch. The overall QHEI score was 37.5 out of 100. This is a poor narrative rating according to the manual. The stream scored highest for Substrate (16/20) and lowest for Riffle/Run Quality (0/12).

#### *C3ii. DP2*

DP 2 was taken within Investigated Area 3. DP 2 was taken to show the general conditions along the riparian corridor situated between the agricultural field and School Branch. DP 2 did not exhibit hydrophytic vegetation, hydric soil, nor hydrology necessary for a positive wetland determination. Data sheets and a map indicating the location of DP 2 are included in the appendices.

## CONCLUSIONS

Two streams totaling approximately 283 linear feet were recorded within Investigated Areas 2 and 3. Both stream segments recorded within the investigated areas are a part of School Branch, which drains in Eagle Creek, which drains to the White River, a TNW. Therefore, it is anticipated that School Branch would be considered a jurisdictional “waters of the US.”

If impacts to any of these water resources are necessary, permits from IDEM and an Approved Corps Jurisdictional Determination from the USACE will be required. Mitigation may be a condition of receiving the permits. The final determination of jurisdictional waters is ultimately made by the USACE.

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## Appendix A - Aquatic Resource Summary Tables

**Table 1 – Data Points Summary**

| <b>Data Points Summary</b> |               |                       |                               |                     |                          |                         |
|----------------------------|---------------|-----------------------|-------------------------------|---------------------|--------------------------|-------------------------|
| <b>Data Point</b>          | <b>Photos</b> | <b>Water Resource</b> | <b>Wetland Indicators</b>     |                     |                          |                         |
|                            |               |                       | <b>Hydrophytic Vegetation</b> | <b>Hydric Soils</b> | <b>Wetland Hydrology</b> | <b>Within a Wetland</b> |
| 1                          | 14-16         | N/A                   | No                            | Yes                 | Yes                      | No                      |
| 2                          | 24-25         | N/A                   | No                            | No                  | No                       | No                      |

**Table 2 – Aquatic Resources Summary**

| <b>Aquatic Resources Summary: Streams</b>  |                      |                       |                   |                   |                          |                     |   |
|--|----------------------|-----------------------|-------------------|-------------------|--------------------------|---------------------|---|
| <b>Delineated Resource</b>                 | <b>Lat/ Long</b>     | <b>USGS Blue Line</b> | <b>OHWL Width</b> | <b>OHWL Depth</b> | <b>Narrative Quality</b> | <b>Jurisdiction</b> | <b>Total Linear Feet within the Investigated Area</b> |
| School Branch (within Investigated Area 2) | 39.8777/<br>-86.3615 | Yes (intermittent)    | 13.2              | 1.4               | Fair                     | “waters of the US”  | 181   |
| School Branch (within Investigated Area 3) | 39.8739/<br>-86.3617 | Yes (perennial)       | 12                | 1.6               | Poor                     | “waters of the US”  | 102   |
| <b>Total</b>                               |                      |                       |                   |                   |                          |                     | <b>283</b>  |

| <b>Aquatic Resources Summary</b> |                        |
|----------------------------------|------------------------|
| <b>Resource</b>                  | <b>Streams</b>         |
| <b>Grand Total</b>               | <b>283 linear feet</b> |

## Appendix B – Routine Wetland Determination Data Forms

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Ronald Reagan Parkway Des. No. 1602280 Phase 1B City/County: Brownsburg/Hendricks Sampling Date: 10/29/18  
 Applicant/Owner: Hendricks County Commissioners State: IN Sampling Point: DP 1  
 Investigator(s): Josh Iddings & Kerri Rogers Section, Township, Range: Section 36, T 17N, R 1E  
 Landform (hillside, terrace, etc.): Till Plain Local relief (concave, convex, none): Concave  
 Slope (%): 1 Lat: 39.877092 Long: -86.362256 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Brookston silty clay loam, 0-2% (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

|   |  |
|---|--|
| Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> | <b>Is the Sampled Area<br/>within a Wetland?</b> Yes <u>    </u> No <u>X</u> |
| Hydric Soil Present? Yes <u>X</u> No <u>    </u>            |  |
| Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>      |  |

**Remarks:**

This data point is representative of a grassy swale located west of School Branch within Investigated Area 2. This data point was taken due to the presence of algal crust and its location within a swale.

**VEGETATION – Use scientific names of plants.**

| Tree Stratum                         | (Plot size: <u>30 ft</u> ) | Absolute % Cover       | Dominant Species? | Indicator Status | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>1</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
|--------------------------------------|----------------------------|------------------------|-------------------|------------------|---|-------------------|--------------|----------------------|----------------|-----------------------|----------------|----------------------|----------------|------------------------|------------------|----------------------|----------------|------------------------------|----------------|--------------------------------------|--|
| 1.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 2.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 3.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 4.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 5.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
|                                      |                            | =Total Cover           |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| Sapling/Shrub Stratum                | (Plot size: <u>15 ft</u> ) |                        |                   |                  | <b>Prevalence Index worksheet:</b><br><table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>88</u> (A)</td> <td><u>349</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.97</u></td> </tr> </table> | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>3</u> | x 3 = <u>9</u> | FACU species <u>85</u> | x 4 = <u>340</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>88</u> (A) | <u>349</u> (B) | Prevalence Index = B/A = <u>3.97</u> |  |
| Total % Cover of:                    | Multiply by:               |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| OBL species <u>0</u>                 | x 1 = <u>0</u>             |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| FACW species <u>0</u>                | x 2 = <u>0</u>             |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| FAC species <u>3</u>                 | x 3 = <u>9</u>             |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| FACU species <u>85</u>               | x 4 = <u>340</u>           |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| UPL species <u>0</u>                 | x 5 = <u>0</u>             |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| Column Totals: <u>88</u> (A)         | <u>349</u> (B)             |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| Prevalence Index = B/A = <u>3.97</u> |                            |                        |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 1.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 2.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 3.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 4.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 5.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
|                                      |                            | =Total Cover           |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| Herb Stratum                         | (Plot size: <u>5 ft</u> )  |                        |                   |                  | <b>Hydrophytic Vegetation Indicators:</b><br>___ 1 - Rapid Test for Hydrophytic Vegetation<br>___ 2 - Dominance Test is >50%<br>___ 3 - Prevalence Index is ≤3.0 <sup>1</sup><br>___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br>___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 1.                                   | <u>Festuca arundinacea</u> | <u>75</u>              | <u>Yes</u>        | <u>FACU</u>      |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 2.                                   | <u>Trifolium pratense</u>  | <u>10</u>              | <u>No</u>         | <u>FACU</u>      |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 3.                                   | <u>Setaria pumila</u>      | <u>3</u>               | <u>No</u>         | <u>FAC</u>       |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 4.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 5.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 6.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 7.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 8.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 9.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 10.                                  | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
|                                      |                            | <u>88</u> =Total Cover |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| Woody Vine Stratum                   | (Plot size: <u>30 ft</u> ) |                        |                   |                  | <b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>  |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 1.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
| 2.                                   | _____                      | _____                  | _____             | _____            |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |
|                                      |                            | =Total Cover           |                   |                  |   |                   |              |                      |                |                       |                |                      |                |                        |                  |                      |                |                              |                |                                      |  |

Remarks: (Include photo numbers here or on a separate sheet.)



**SOIL**

Sampling Point: DP 1

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |    |                |    |                   |                  |              |                                |
|---|---------------|----|----------------|----|-------------------|------------------|--------------|--------------------------------|
| Depth<br>(inches)   | Matrix        |    | Redox Features |    |                   |                  | Texture      | Remarks                        |
|   | Color (moist) | %  | Color (moist)  | %  | Type <sup>1</sup> | Loc <sup>2</sup> |              |                                |
| 0-7   | 10YR 4/1      | 95 | 10YR 5/6       | 5  | C                 | M                | Loamy/Clayey | Prominent redox concentrations |
| 7-16  | 10YR 4/2      | 85 | 10YR 5/8       | 15 | C                 | M                | Loamy/Clayey |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |
|   |               |    |                |    |                   |                  |              |                                |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

| Hydric Soil Indicators:                                    |  |  | Indicators for Problematic Hydric Soils <sup>3</sup> : |  |  |
|--|--|--|--|--|--|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Gleyed Matrix (S4)        | <input type="checkbox"/> Coast Prairie Redox (A16)       |  |  |  |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Sandy Redox (S5)                | <input type="checkbox"/> Iron-Manganese Masses (F12)     |  |  |  |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Stripped Matrix (S6)            | <input type="checkbox"/> Red Parent Material (F21)       |  |  |  |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Dark Surface (S7)               | <input type="checkbox"/> Very Shallow Dark Surface (F22) |  |  |  |
| <input type="checkbox"/> Stratified Layers (A5)            | <input type="checkbox"/> Loamy Mucky Mineral (F1)        | <input type="checkbox"/> Other (Explain in Remarks)      |  |  |  |
| <input type="checkbox"/> 2 cm Muck (A10)                   | <input type="checkbox"/> Loamy Gleyed Matrix (F2)        |  |  |  |  |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |  |  |  |  |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Dark Surface (F6)         |  |  |  |  |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Depleted Dark Surface (F7)      |  |  |  |  |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)      | <input type="checkbox"/> Redox Depressions (F8)          |  |  |  |  |

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

| Wetland Hydrology Indicators:   |   |  |
|---|---|--|
| Primary Indicators (minimum of one is required; check all that apply) | Secondary Indicators (minimum of two required)                      |  |
| <input type="checkbox"/> Surface Water (A1)                           | <input type="checkbox"/> Water-Stained Leaves (B9)                  | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input type="checkbox"/> High Water Table (A2)                        | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Saturation (A3)                              | <input type="checkbox"/> True Aquatic Plants (B14)                  | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Water Marks (B1)                             | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Sediment Deposits (B2)                       | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3)                          | <input type="checkbox"/> Presence of Reduced Iron (C4)              | <input type="checkbox"/> Stunted or Stressed Plants (D1)           |
| <input checked="" type="checkbox"/> Algal Mat or Crust (B4)           | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                           | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)    | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)      | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Ronald Reagan Parkway Des. No. 1602280 Phase 1B City/County: Brownsburg/Hendricks Sampling Date: 10/29/18  
 Applicant/Owner: Hendricks County Commissioners State: IN Sampling Point: DP 2  
 Investigator(s): Josh Iddings & Kerri Rogers Section, Township, Range: Section 36, T 17N, R 1E  
 Landform (hillside, terrace, etc.): Till Plain Local relief (concave, convex, none): Convex  
 Slope (%): 2 Lat: 39.873917 Long: -86.361753 Datum: D\_WGS\_1984  
 Soil Map Unit Name: Crosby silt loam, fine-loamy subsoil, 0-2% (Bs) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

|   |  |
|---|--|
| Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u><br>Hydric Soil Present? Yes <u>    </u> No <u>X</u><br>Wetland Hydrology Present? Yes <u>    </u> No <u>X</u> | <b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u> |
|---|--|

**Remarks:**

This data point is representative of an agricultural field located west of School Branch. This data point was taken to show the general conditions of the agricultural field that spans the entirety of Investigated Area 3.

### VEGETATION – Use scientific names of plants.

| Tree Stratum                         | (Plot size: <u>30 ft</u> )  | Absolute % Cover | Dominant Species? | Indicator Status |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
|--------------------------------------|-----------------------------|------------------|-------------------|------------------|---|--|-------------------|--------------|----------------------|----------------|-----------------------|----------------|-----------------------|-----------------|------------------------|------------------|----------------------|----------------|-------------------------------|----------------|--------------------------------------|--|
| 1.                                   | _____                       | _____            | _____             | _____            | <b>Dominance Test worksheet:</b><br>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>3</u> (B)<br>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 2.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 3.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 4.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 5.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
|                                      |                             |                  |                   | =Total Cover     |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| Sapling/Shrub Stratum                | (Plot size: <u>15 ft</u> )  |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 1.                                   | _____                       | _____            | _____             | _____            | <b>Prevalence Index worksheet:</b><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>380</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.80</u></td> </tr> </table> |  | Total % Cover of: | Multiply by: | OBL species <u>0</u> | x 1 = <u>0</u> | FACW species <u>0</u> | x 2 = <u>0</u> | FAC species <u>20</u> | x 3 = <u>60</u> | FACU species <u>80</u> | x 4 = <u>320</u> | UPL species <u>0</u> | x 5 = <u>0</u> | Column Totals: <u>100</u> (A) | <u>380</u> (B) | Prevalence Index = B/A = <u>3.80</u> |  |
| Total % Cover of:                    | Multiply by:                |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| OBL species <u>0</u>                 | x 1 = <u>0</u>              |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| FACW species <u>0</u>                | x 2 = <u>0</u>              |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| FAC species <u>20</u>                | x 3 = <u>60</u>             |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| FACU species <u>80</u>               | x 4 = <u>320</u>            |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| UPL species <u>0</u>                 | x 5 = <u>0</u>              |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| Column Totals: <u>100</u> (A)        | <u>380</u> (B)              |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| Prevalence Index = B/A = <u>3.80</u> |                             |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 2.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 3.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 4.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 5.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
|                                      |                             |                  |                   | =Total Cover     |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| Herb Stratum                         | (Plot size: <u>5 ft</u> )   |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 1.                                   | <u>Festuca arundinacea</u>  | <u>40</u>        | <u>Yes</u>        | <u>FACU</u>      | <b>Hydrophytic Vegetation Indicators:</b><br><u>    </u> 1 - Rapid Test for Hydrophytic Vegetation<br><u>    </u> 2 - Dominance Test is >50%<br><u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup><br><u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)<br><u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)<br><sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 2.                                   | <u>Digitaria ischaemum</u>  | <u>20</u>        | <u>Yes</u>        | <u>FACU</u>      |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 3.                                   | <u>Setaria pumila</u>       | <u>20</u>        | <u>Yes</u>        | <u>FAC</u>       |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 4.                                   | <u>Festuca arundinacea</u>  | <u>18</u>        | <u>No</u>         | <u>FACU</u>      |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 5.                                   | <u>Taraxacum officinale</u> | <u>2</u>         | <u>No</u>         | <u>FACU</u>      |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 6.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 7.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 8.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 9.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 10.                                  | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
|                                      |                             |                  |                   | 100 =Total Cover |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| Woody Vine Stratum                   | (Plot size: <u>30 ft</u> )  |                  |                   |                  |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 1.                                   | _____                       | _____            | _____             | _____            | <b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>  |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
| 2.                                   | _____                       | _____            | _____             | _____            |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |
|                                      |                             |                  |                   | =Total Cover     |   |  |                   |              |                      |                |                       |                |                       |                 |                        |                  |                      |                |                               |                |                                      |  |

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: DP 2

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) |               |     |                |   |                   |                  |              |         |
|---|---------------|-----|----------------|---|-------------------|------------------|--------------|---------|
| Depth<br>(inches)   | Matrix        |     | Redox Features |   |                   |                  | Texture      | Remarks |
|   | Color (moist) | %   | Color (moist)  | % | Type <sup>1</sup> | Loc <sup>2</sup> |              |         |
| 0-18  | 2.5Y 3/2      | 100 |                |   |                   |                  | Loamy/Clayey |         |
|   |               |     |                |   |                   |                  |              |         |
|   |               |     |                |   |                   |                  |              |         |
|   |               |     |                |   |                   |                  |              |         |
|   |               |     |                |   |                   |                  |              |         |
|   |               |     |                |   |                   |                  |              |         |
|   |               |     |                |   |                   |                  |              |         |

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

|  |   |   |
|--|---|---|
| <p><b>Hydric Soil Indicators:</b></p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p> | <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> | <p><b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b></p> <p><input type="checkbox"/> Coast Prairie Redox (A16)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12)</p> <p><input type="checkbox"/> Red Parent Material (F21)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (F22)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> |
|--|---|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

|  |  |
|--|--|
| <p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p> | <p><b>Hydric Soil Present?</b>      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/></p> |
|--|--|

Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

|   |   |
|---|---|
| <p><b>Wetland Hydrology Indicators:</b></p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> | <p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> |
|---|---|

|  |  |
|--|--|
| <p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water Table Present?      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/>      Depth (inches): _____</p> <p>Saturation Present?        Yes <input type="checkbox"/>        No <input checked="" type="checkbox"/>        Depth (inches): _____</p> <p>(includes capillary fringe)</p> | <p><b>Wetland Hydrology Present?</b>    Yes <input type="checkbox"/>    No <input checked="" type="checkbox"/></p> |
|--|--|

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

## Appendix C – Quality Assessment Forms

QHEI

**Stream & Location:** School Branch - Brownsburg, IN **RM:**      **Date:** 10/29/18

Tosh Iddings + Kent Rogers **Scorers Full Name & Affiliation:** American Structurepoint

**River Code:**      **STORET #:**      **Lat./ Long.:** 39.8777 186.3615 (NAD 83 - decimal °) **Office Verified location**

**1] SUBSTRATE** Check **ONLY** Two substrate **TYPE BOXES**; estimate % or note every type present

|  |   |  |
|--|---|--|
| <p><b>BEST TYPES</b></p> <input type="checkbox"/> BLDR /SLABS [10] <input type="checkbox"/> BOULDER [9] <input type="checkbox"/> COBBLE [8] <input checked="" type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/> SAND [6] <input type="checkbox"/> BEDROCK [5] | <p><b>POOL RIFFLE</b></p> <p>_____ 5%<br/>_____ 10%<br/>_____ 80%</p> | <p><b>OTHER TYPES</b></p> <input type="checkbox"/> HARDPAN [4] <input type="checkbox"/> DETRITUS [3] <input type="checkbox"/> MUCK [2] <input type="checkbox"/> SILT [2] <input type="checkbox"/> ARTIFICIAL [0] |
|--|---|--|

Check ONE (Or 2 & average)

|  |   |   |
|--|---|---|
| <p><b>ORIGIN</b></p> <input type="checkbox"/> LIMESTONE [1] <input checked="" type="checkbox"/> TILLS [1] <input type="checkbox"/> WETLANDS [0] <input type="checkbox"/> HARDPAN [0] <input type="checkbox"/> SANDSTONE [0] <input type="checkbox"/> RIP/RAP [0] <input type="checkbox"/> LACUSTURINE [0] <input type="checkbox"/> SHALE [-1] <input type="checkbox"/> COAL FINES [-2] | <p><b>QUALITY</b></p> <input type="checkbox"/> HEAVY [-2] <input type="checkbox"/> MODERATE [-1] <input checked="" type="checkbox"/> NORMAL [0] <input type="checkbox"/> FREE [1] <input type="checkbox"/> EXTENSIVE [-2] <input type="checkbox"/> MODERATE [-1] <input checked="" type="checkbox"/> NORMAL [0] <input type="checkbox"/> NONE [1] | <p><b>SILT</b></p> <p><b>EMBEDDEDNESS</b></p> |
|--|---|---|

**NUMBER OF BEST TYPES:**  4 or more [2]  3 or less [0] (Score natural substrates; ignore sludge from point-sources)

**Comments**

4  
Substrate  
Maximum  
20

**2] INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> UNDERCUT BANKS [1] <input type="checkbox"/> OVERHANGING VEGETATION [1] <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] <input type="checkbox"/> ROOTMATS [1] | <input type="checkbox"/> POOLS > 70cm [2] <input type="checkbox"/> ROOTWADS [1] <input type="checkbox"/> BOULDERS [1] | <input type="checkbox"/> OXBOWS, BACKWATERS [1] <input type="checkbox"/> AQUATIC MACROPHYTES [1] <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] |
|--|---|--|

Check ONE (Or 2 & average)

|   |                      |                        |
|---|----------------------|------------------------|
| <input type="checkbox"/> EXTENSIVE >75% [1] <input type="checkbox"/> MODERATE 25-75% [7] <input checked="" type="checkbox"/> SPARSE 5-<25% [3] <input type="checkbox"/> NEARLY ABSENT <5% [1] | <p><b>AMOUNT</b></p> | <p><b>Comments</b></p> |
|---|----------------------|------------------------|

6  
Cover  
Maximum  
20

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|   |   |   |   |
|---|---|---|---|
| <p><b>SINUOSITY</b></p> <input type="checkbox"/> HIGH [4] <input type="checkbox"/> MODERATE [3] <input checked="" type="checkbox"/> LOW [2] <input type="checkbox"/> NONE [1] | <p><b>DEVELOPMENT</b></p> <input type="checkbox"/> EXCELLENT [7] <input type="checkbox"/> GOOD [5] <input checked="" type="checkbox"/> FAIR [3] <input type="checkbox"/> POOR [1] | <p><b>CHANNELIZATION</b></p> <input type="checkbox"/> NONE [6] <input type="checkbox"/> RECOVERED [4] <input checked="" type="checkbox"/> RECOVERING [3] <input type="checkbox"/> RECENT OR NO RECOVERY [1] | <p><b>STABILITY</b></p> <input type="checkbox"/> HIGH [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> LOW [1] |
|---|---|---|---|

**Comments**

10  
Channel  
Maximum  
20

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for **EACH BANK** (Or 2 per bank & average)

River right looking downstream

|   |  |
|---|--|
| <p><b>EROSION</b></p> <input type="checkbox"/> NONE / LITTLE [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> HEAVY / SEVERE [1] | <p><b>RIPARIAN WIDTH</b></p> <input checked="" type="checkbox"/> WIDE > 50m [4] <input type="checkbox"/> MODERATE 10-50m [3] <input type="checkbox"/> NARROW 5-10m [2] <input type="checkbox"/> VERY NARROW < 5m [1] <input type="checkbox"/> NONE [0] |
|---|--|

|  |  |
|--|--|
| <p><b>FLOOD PLAIN QUALITY</b></p> <input type="checkbox"/> FOREST, SWAMP [3] <input type="checkbox"/> SHRUB OR OLD FIELD [2] <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] <input type="checkbox"/> FENCED PASTURE [1] <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0] | <p><b>CONSERVATION TILLAGE</b></p> <input type="checkbox"/> CONSERVATION TILLAGE [1] <input type="checkbox"/> URBAN OR INDUSTRIAL [0] <input type="checkbox"/> MINING / CONSTRUCTION [0] |
|--|--|

Indicate predominant land use(s) past 100m riparian.

**Comments**

6  
Riparian  
Maximum  
10

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

|  |  |  |
|--|--|--|
| <p><b>MAXIMUM DEPTH</b> Check ONE (ONLY)</p> <input type="checkbox"/> > 1m [6] <input type="checkbox"/> 0.7-<1m [4] <input checked="" type="checkbox"/> 0.4-<0.7m [2] <input type="checkbox"/> 0.2-<0.4m [1] <input type="checkbox"/> < 0.2m [0] | <p><b>CHANNEL WIDTH</b> Check ONE (Or 2 &amp; average)</p> <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] <input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0] | <p><b>CURRENT VELOCITY</b> Check ALL that apply</p> <input type="checkbox"/> TORRENTIAL [-1] <input checked="" type="checkbox"/> SLOW [1] <input type="checkbox"/> VERY FAST [1] <input type="checkbox"/> INTERSTITIAL [-1] <input type="checkbox"/> FAST [1] <input type="checkbox"/> INTERMITTENT [-2] <input type="checkbox"/> MODERATE [1] <input type="checkbox"/> EDDIES [1] |
|--|--|--|

Indicate for reach - pools and riffles.

**Recreation Potential**

**Primary Contact**

**Secondary Contact**

(circle one and comment on back)

3  
Pool /  
Current  
Maximum  
12

**Comments**

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

|  |  |   |   |
|--|--|---|---|
| <p><b>RIFFLE DEPTH</b></p> <input type="checkbox"/> BEST AREAS > 10cm [2] <input checked="" type="checkbox"/> BEST AREAS 5-10cm [1] <input type="checkbox"/> BEST AREAS < 5cm [metric=0] | <p><b>RUN DEPTH</b></p> <input type="checkbox"/> MAXIMUM > 50cm [2] <input checked="" type="checkbox"/> MAXIMUM < 50cm [1] | <p><b>RIFFLE / RUN SUBSTRATE</b></p> <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2] <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] <input checked="" type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <p><b>RIFFLE / RUN EMBEDDEDNESS</b></p> <input type="checkbox"/> NONE [2] <input checked="" type="checkbox"/> LOW [1] <input type="checkbox"/> MODERATE [0] <input type="checkbox"/> EXTENSIVE [-1] |
|--|--|---|---|

**Comments**

3  
Riffle /  
Run  
Maximum  
8

**6] GRADIENT** (ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (4.42 mi<sup>2</sup>)

**%POOL:** 0 **%GLIDE:** 30 **%RUN:** 45 **%RIFFLE:** 25

**Comments**

4  
Gradient  
Maximum  
12

**AJ SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st -sample pass- 2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- \_\_\_\_\_ meters
- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

Comment RE: Reach consistency/Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

OHWL width: 13.2'

OHWL depth: 1.4'

TOB width: 30'

TOB depth: 8'

**BJ AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**DJ MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

**EJ ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

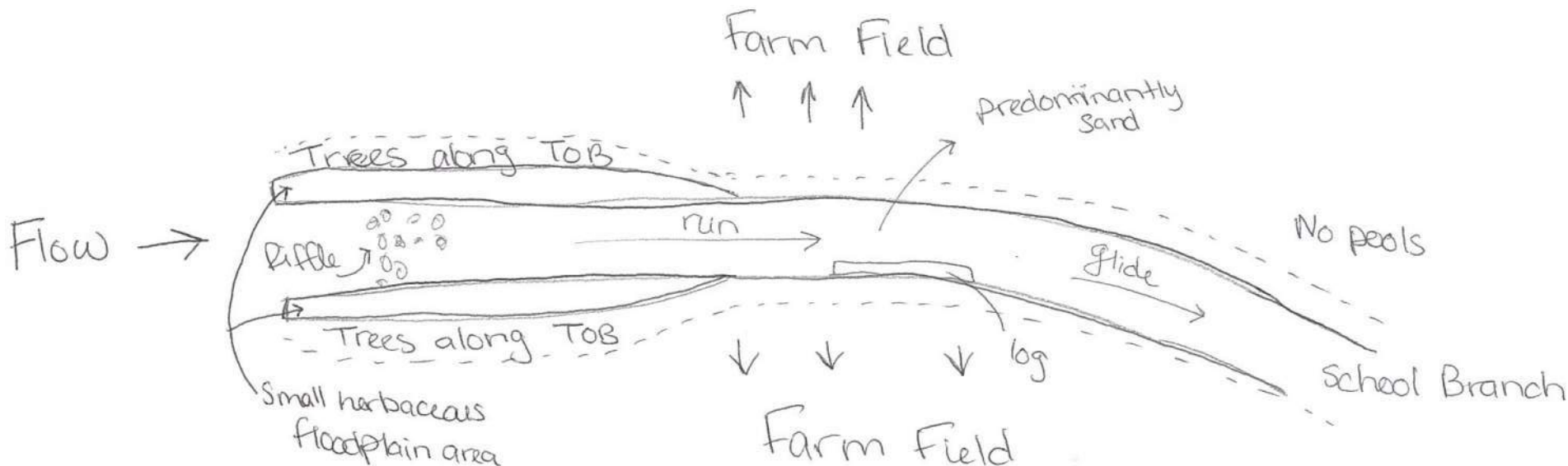
**FJ MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $x^2$  width
- entrench. ratio

Legacy Tree:

- CJ RECREATION**
- AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

**Stream Drawing:**



QHEI 2



# Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **37.5**

Stream & Location: School Branch - Brownsburg, IN RM:      Date: 10/29/18

Josh Iddings & Kern Rogers Scorers Full Name & Affiliation: American Structurepoint

River Code: - - STORET #:      Lat./ Long.: 39.8739 186.3617 Office verified location

**1] SUBSTRATE** Check **ONLY** Two substrate TYPE BOXES; estimate % or note every type present

|   |                          |   |                          |   |  |
|---|--------------------------|---|--------------------------|---|--|
| <b>BEST TYPES</b>                                       | <b>POOL RIFFLE</b>       | <b>OTHER TYPES</b>                      | <b>POOL RIFFLE</b>       | <b>ORIGIN</b>                                 | <b>QUALITY</b>                                 |
| <input type="checkbox"/> BLDR /SLABS [10]               | <input type="checkbox"/> | <input type="checkbox"/> HARDPAN [4]    | <input type="checkbox"/> | <input type="checkbox"/> LIMESTONE [1]        | <input type="checkbox"/> HEAVY [-2]            |
| <input type="checkbox"/> BOULDER [9] <u>2%</u>          | <input type="checkbox"/> | <input type="checkbox"/> DETRITUS [3]   | <input type="checkbox"/> | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> MODERATE [-1]         |
| <input type="checkbox"/> COBBLE [8] <u>5%</u>           | <input type="checkbox"/> | <input type="checkbox"/> MUCK [2]       | <input type="checkbox"/> | <input type="checkbox"/> WETLANDS [0]         | <input checked="" type="checkbox"/> NORMAL [0] |
| <input type="checkbox"/> GRAVEL [7] <u>18%</u>          | <input type="checkbox"/> | <input type="checkbox"/> SILT [2]       | <input type="checkbox"/> | <input type="checkbox"/> HARDPAN [0]          | <input type="checkbox"/> FREE [1]              |
| <input checked="" type="checkbox"/> SAND [6] <u>75%</u> | <input type="checkbox"/> | <input type="checkbox"/> ARTIFICIAL [0] | <input type="checkbox"/> | <input type="checkbox"/> SANDSTONE [0]        | <input type="checkbox"/> EXTENSIVE [-2]        |
| <input type="checkbox"/> BEDROCK [5]                    | <input type="checkbox"/> |   |                          | <input type="checkbox"/> RIP/RAP [0]          | <input type="checkbox"/> MODERATE [-1]         |

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments:     

Substrate Maximum 20 **16**

**2] INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

|   |   |   |   |
|---|---|---|---|
| <input type="checkbox"/> UNDERCUT BANKS [1]           | <input type="checkbox"/> POOLS > 70cm [2] | <input type="checkbox"/> OXBOWS, BACKWATERS [1]   | <b>AMOUNT</b>   |
| <input type="checkbox"/> OVERHANGING VEGETATION [1]   | <input type="checkbox"/> ROOTWADS [1]     | <input type="checkbox"/> AQUATIC MACROPHYTES [1]  | Check ONE (Or 2 & average)                                |
| <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] | <input type="checkbox"/> BOULDERS [1]     | <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] | <input type="checkbox"/> EXTENSIVE >75% [11]              |
| <input type="checkbox"/> ROOTMATS [1]                 |   |   | <input type="checkbox"/> MODERATE 25-75% [7]              |
|   |   |   | <input type="checkbox"/> SPARSE 5-<25% [3]                |
|   |   |   | <input checked="" type="checkbox"/> NEARLY ABSENT <5% [1] |

Comments:     

Cover Maximum 20 **3**

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|  |  |   |  |
|--|--|---|--|
| <b>SINUOSITY</b>                             | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>   | <b>STABILITY</b>                                 |
| <input type="checkbox"/> HIGH [4]            | <input type="checkbox"/> EXCELLENT [7]       | <input type="checkbox"/> NONE [6]                             | <input type="checkbox"/> HIGH [3]                |
| <input type="checkbox"/> MODERATE [3]        | <input type="checkbox"/> GOOD [5]            | <input type="checkbox"/> RECOVERED [4]                        | <input checked="" type="checkbox"/> MODERATE [2] |
| <input type="checkbox"/> LOW [2]             | <input type="checkbox"/> FAIR [3]            | <input type="checkbox"/> RECOVERING [3]                       | <input type="checkbox"/> LOW [1]                 |
| <input checked="" type="checkbox"/> NONE [1] | <input checked="" type="checkbox"/> POOR [1] | <input checked="" type="checkbox"/> RECENT OR NO RECOVERY [1] |  |

Comments:     

Channel Maximum 20 **5**

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|   |  |   |  |
|---|--|---|--|
| <b>EROSION</b>  | <b>RIPARIAN WIDTH</b>                                | <b>FLOOD PLAIN QUALITY</b>                                    | <b>CONSERVATION</b>                                |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input type="checkbox"/> WIDE > 50m [4]              | <input type="checkbox"/> FOREST, SWAMP [3]                    | <input type="checkbox"/> CONSERVATION TILLAGE [1]  |
| <input type="checkbox"/> MODERATE [2]                 | <input type="checkbox"/> MODERATE 10-50m [3]         | <input type="checkbox"/> SHRUB OR OLD FIELD [2]               | <input type="checkbox"/> URBAN OR INDUSTRIAL [0]   |
| <input type="checkbox"/> HEAVY / SEVERE [1]           | <input checked="" type="checkbox"/> NARROW 5-10m [2] | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]     | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
|   | <input type="checkbox"/> VERY NARROW < 5m [1]        | <input type="checkbox"/> FENCED PASTURE [1]                   |  |
|   | <input type="checkbox"/> NONE [0]                    | <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0] |  |

Comments:     

Riparian Maximum 10 **6.5**

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

|   |   |  |                                  |
|---|---|--|----------------------------------|
| <b>MAXIMUM DEPTH</b>                              | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                    | <b>Recreation Potential</b>      |
| Check ONE (ONLY)                                  | Check ONE (Or 2 & average)  | Check ALL that apply                       | <b>Primary Contact</b>           |
| <input type="checkbox"/> > 1m [6]                 | <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]            | <input type="checkbox"/> TORRENTIAL [-1]   | <b>Secondary Contact</b>         |
| <input type="checkbox"/> 0.7-<1m [4]              | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input type="checkbox"/> VERY FAST [1]     | (circle one and comment on back) |
| <input checked="" type="checkbox"/> 0.4-<0.7m [2] | <input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0] | <input type="checkbox"/> FAST [1]          |                                  |
| <input type="checkbox"/> 0.2-<0.4m [1]            |   | <input type="checkbox"/> MODERATE [1]      |                                  |
| <input type="checkbox"/> < 0.2m [0]               |   | <input type="checkbox"/> INTERSTITIAL [-1] |                                  |
|   |   | <input type="checkbox"/> INTERMITTENT [-2] |                                  |
|   |   | <input type="checkbox"/> EDDIES [1]        |                                  |

Comments:     

Pool / Current Maximum 12 **3**

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:  NO RIFFLE [metric=0]

|  |   |   |   |
|--|---|---|---|
| <b>RIFFLE DEPTH</b>                                  | <b>RUN DEPTH</b>                            | <b>RIFFLE / RUN SUBSTRATE</b>                                   | <b>RIFFLE / RUN EMBEDDEDNESS</b>        |
| <input type="checkbox"/> BEST AREAS > 10cm [2]       | <input type="checkbox"/> MAXIMUM > 50cm [2] | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]     | <input type="checkbox"/> NONE [2]       |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]       | <input type="checkbox"/> MAXIMUM < 50cm [1] | <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]   | <input type="checkbox"/> LOW [1]        |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0] |   | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <input type="checkbox"/> MODERATE [0]   |
|  |   |   | <input type="checkbox"/> EXTENSIVE [-1] |

Comments:     

Riffle / Run Maximum 8 **0**

**6] GRADIENT** (5.4 ft/mi)  VERY LOW - LOW [2-4] % POOL: **6** % GLIDE: **100**

**DRAINAGE AREA** (4.73 mi<sup>2</sup>)  MODERATE [6-10] % RUN: **0** % RIFFLE: **0**

HIGH - VERY HIGH [10-6] Gradient Maximum 10 **4**

**AJ SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- STAGE**
- 1st-sample pass-2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER
- \_\_\_\_\_ meters
- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH

- CANOPY**
- 1st \_\_\_\_\_ cm
- 2nd \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

OHWM width - 12 ft

OHWM depth - 1.6 ft

- BJ AESTHETICS**
- NUISANCE ALGAE
  - INVASIVE MACROPHYTES
  - EXCESS TURBIDITY
  - DISCOLORATION
  - FOAM / SCUM
  - OIL SHEEN
  - TRASH / LITTER
  - NUISANCE ODOR
  - SLUDGE DEPOSITS
  - CSOs/SSOs/OUTFALLS

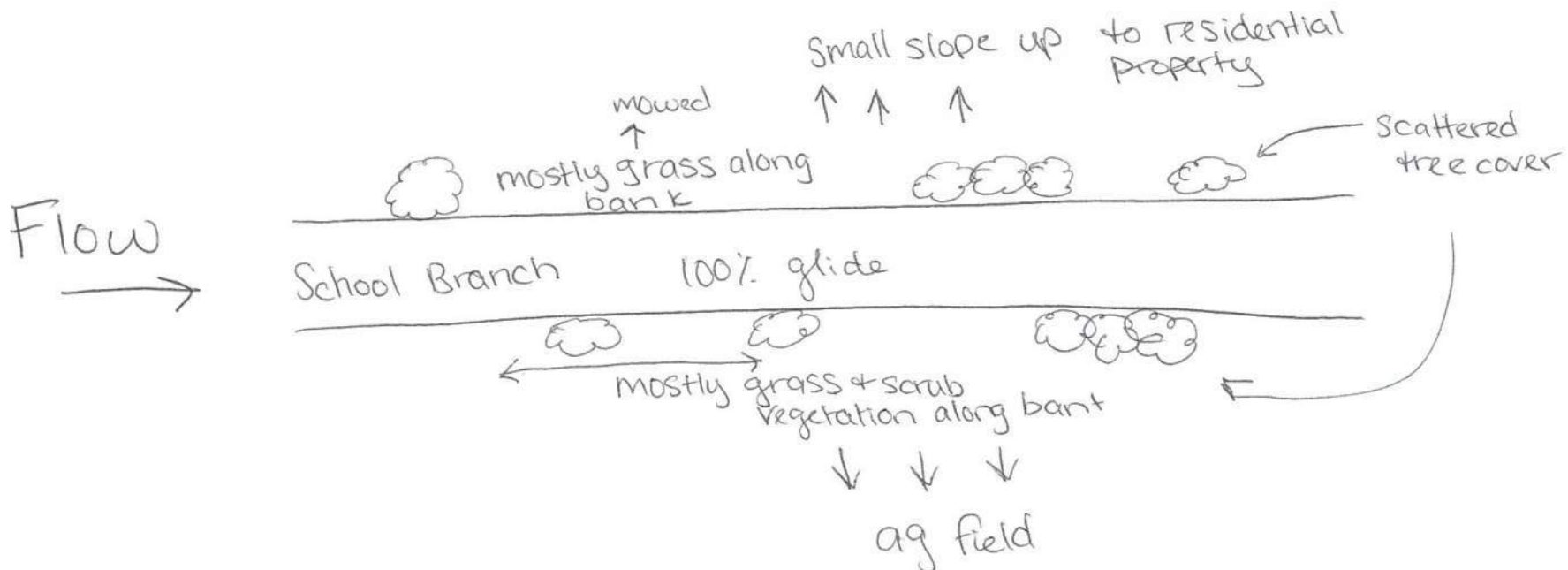
- DJ MAINTENANCE** Circle some & COMMENT
- PUBLIC / PRIVATE / BOTH / NA
  - ACTIVE / HISTORIC / BOTH / NA
  - YOUNG-SUCCESSION-OLD
  - SPRAY / SNAG / REMOVED
  - MODIFIED / DIPPED OUT / NA
  - LEVEED / ONE SIDED
  - RELOCATED / CUTOFFS
  - MOVING-BEDLOAD-STABLE
  - ARMOURED / SLUMPS
  - ISLANDS / SCOURED
  - IMPOUNDED / DESICCATED
  - FLOOD CONTROL / DRAINAGE

- EJ ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
  - HARDENED / URBAN / DIRT&GRIME
  - CONTAMINATED / LANDFILL
  - BMPs-CONSTRUCTION-SEDIMENT
  - LOGGING / IRRIGATION / COOLING
  - BANK / EROSION / SURFACE
  - FALSE BANK / MANURE / LAGOON
  - WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
  - ACID / MINE / QUARRY / FLOW
  - NATURAL / WETLAND / STAGNANT
  - PARK / GOLF / LAWN / HOME
  - ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**
- $\bar{x}$  width
  - $\bar{x}$  depth
  - max. depth
  - $\bar{x}$  bankfull width
  - bankfull  $\bar{x}$  depth
  - W/D ratio
  - bankfull max. depth
  - floodprone  $x^2$  width
  - entrench. ratio
- Legacy Tree:

- CJ RECREATION** AREA DEPTH
- POOL:  >100ft<sup>2</sup>  >3ft

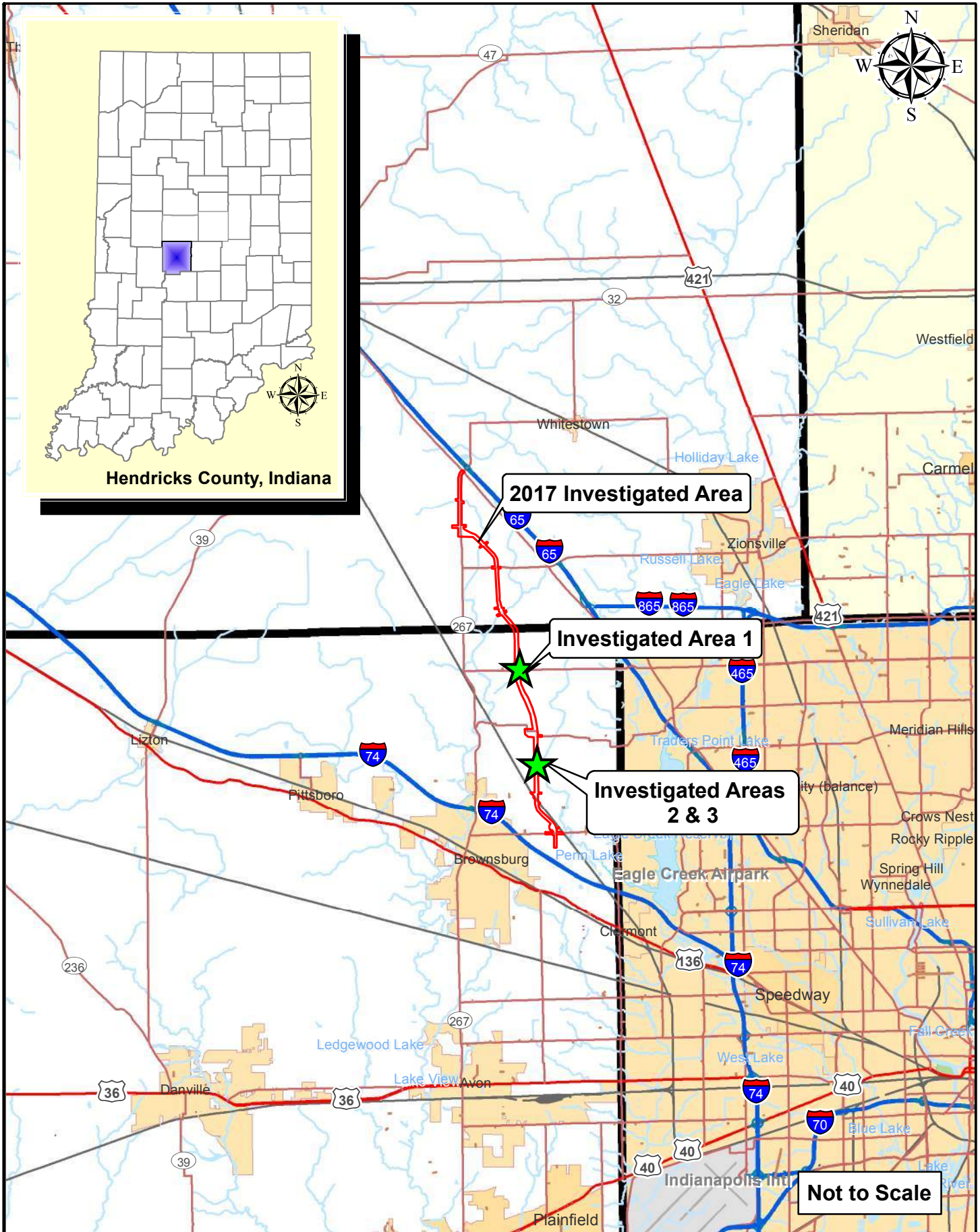
**Stream Drawing:**





## **Appendix D – Mapping**

- Figure 1 – Indiana State Highway Map
- Figure 2 – USGS Topographic Mapping
- Figure 3 – 1974 Hendricks County Soil Survey
- Figure 4 – Hendricks County Mapped Soils - SURRGO
- Figure 5 – NWI and FEMA Floodplain Mapping
- Figure 6 – 2005 Aerial Photography
- Figure 7– Field Investigation and Photo Location Map
- Figure 8 – Regional Supplement Map



Path: P:\2011\00183\Drawings\ArcView\Phase 1B\Wetland Delineation\2011.00183.EV.2018-12-05.Map.State.kar.mxd Date:12/5/2018 User:KRogers

**AMERICAN  
STRUCTUREPOINT  
INC.**

**Project Location Map**

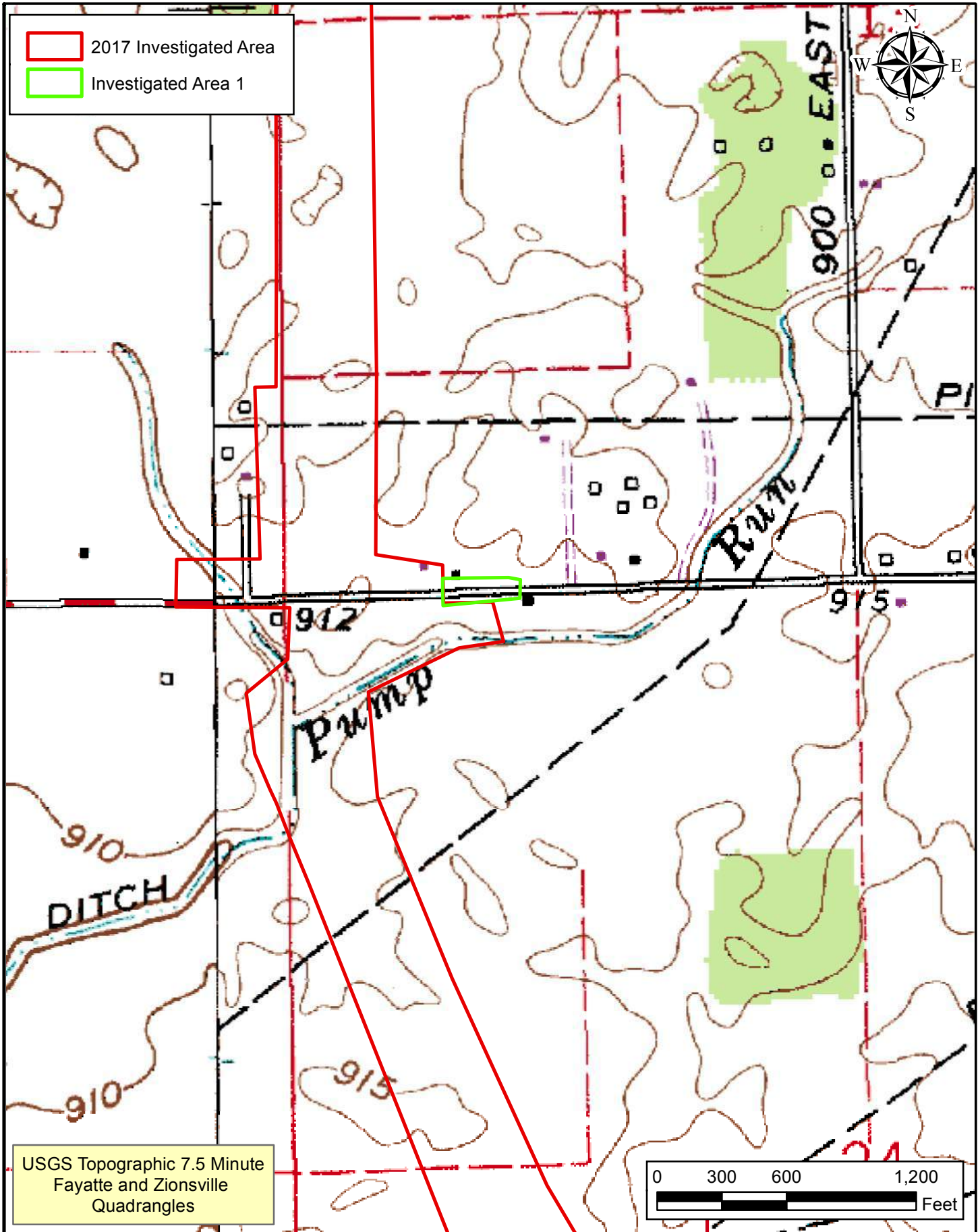
Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B**  
Des. No. 1602280  
Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

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Date: 12/05/2018

Path: P:\2011\00183\0\_Drawings\ArcView\Phase 1\BW\Wetland Delineation\2011.00183.EV.2018-12-05.Map.Inv1.Topo.kar.mxd Date:12/6/2018 User:krogers



USGS Topographic 7.5 Minute  
Fayette and Zionsville  
Quadrangles

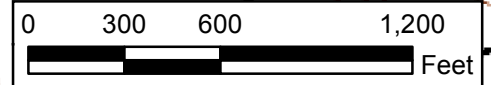
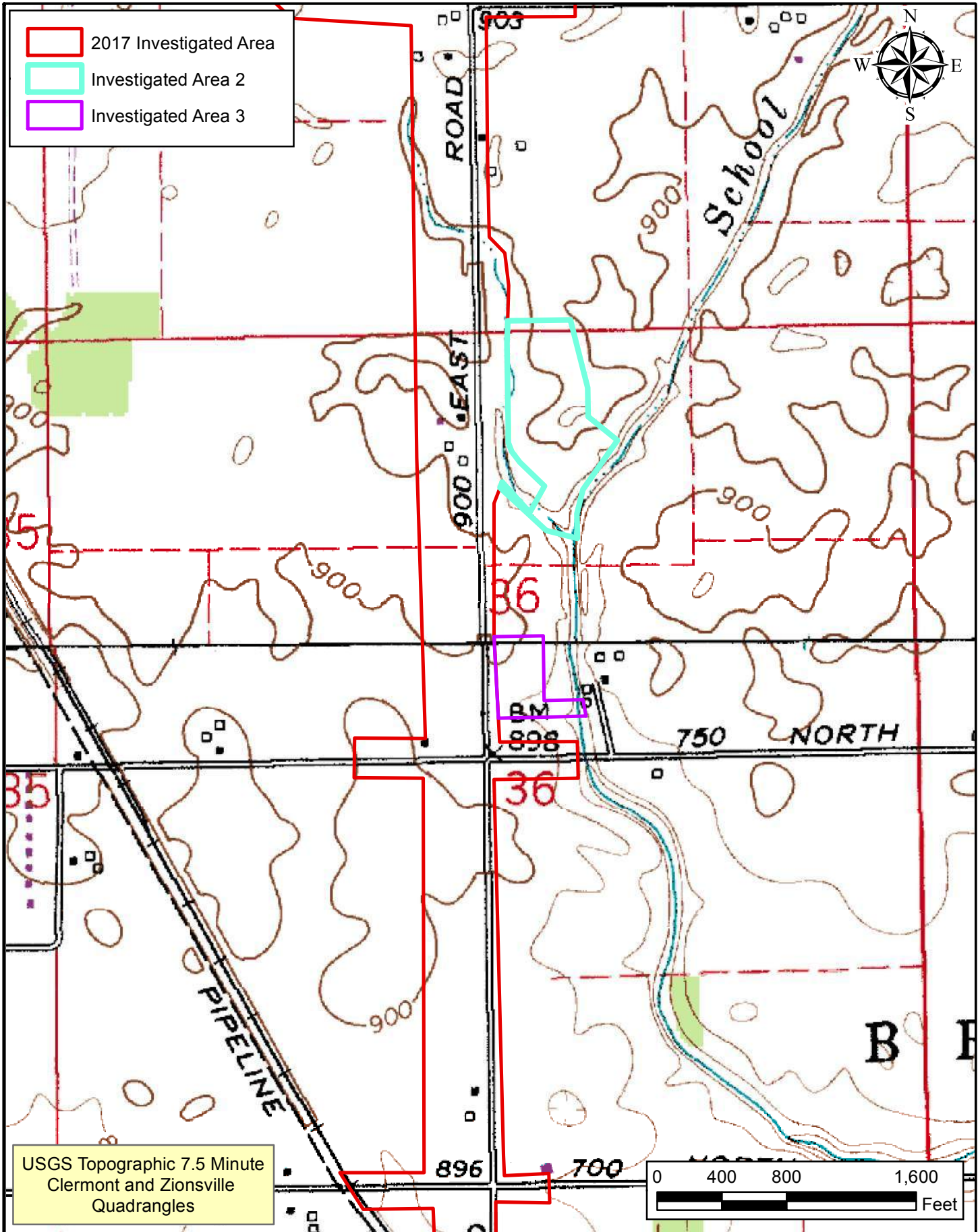


Figure 2: USGS Topographic Map  
Investigated Area 1

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280  
Location: Brownsburg  
Township: Brown  
Counties: Hendricks  
State: Indiana  
Date: 12/05/2018  
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Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1\BWWelland Delineation\2011.00183\_EV.2018-12-05.Map.Inv2+3.Topo.kar.mxd Date:2/13/2019 User:rkrogers



USGS Topographic 7.5 Minute  
Clermont and Zionsville  
Quadrangles

Figure 2: USGS Topographic Map  
Investigated Areas 2 & 3

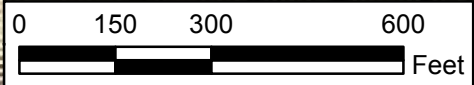
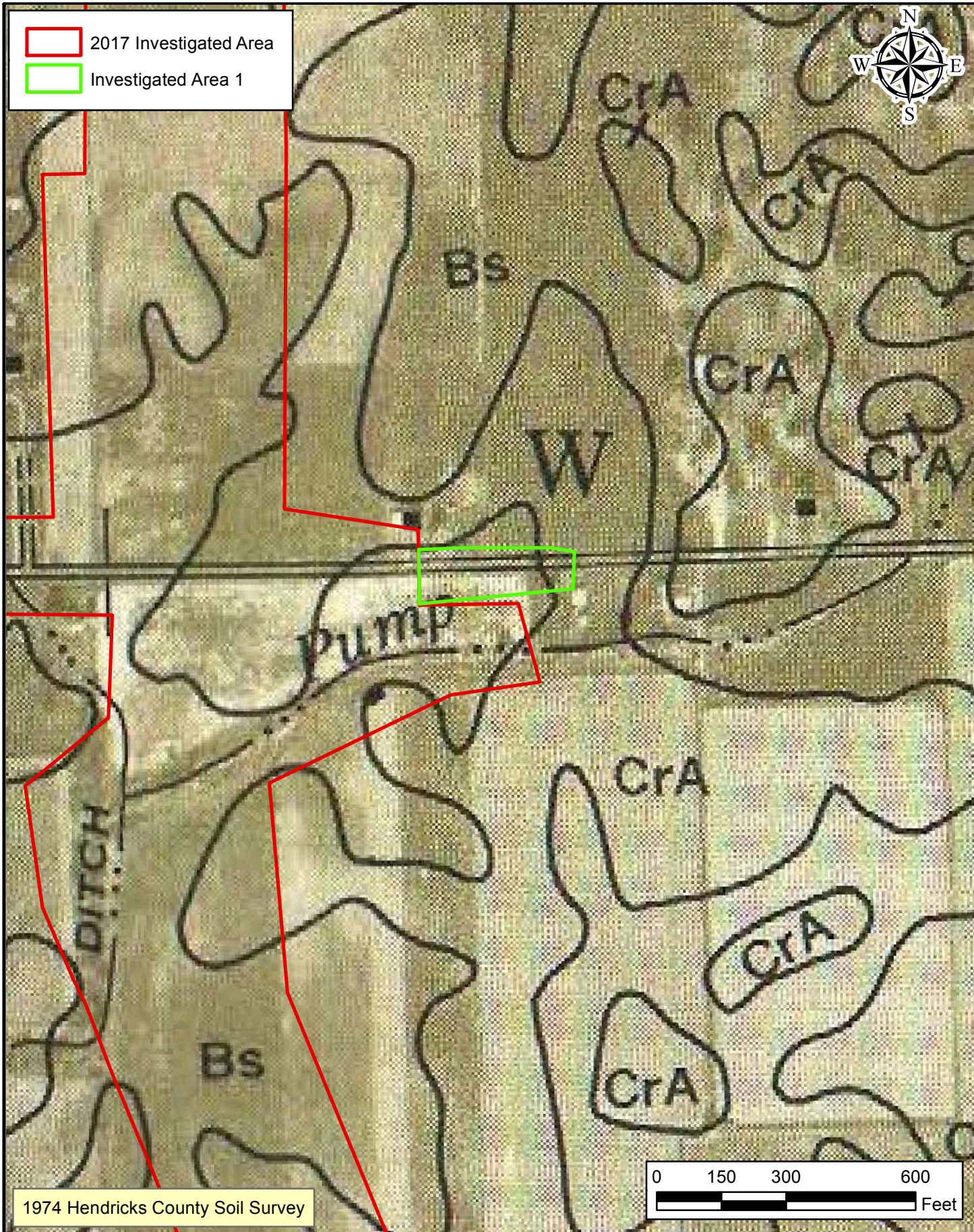
Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280  
Location: Brownsburg  
Township: Brown  
Counties: Hendricks  
State: Indiana  
Date: 12/05/2018  
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2017 Investigated Area  
 Investigated Area 1



1974 Hendricks County Soil Survey

Path: P:\2011\00183\ID\_Drawings\ArcView\Phase 1BWetland Delineation\2011.00183\_EV.2018-12-05.Map.Inv.1.Historical Soils.kar.mxd Date: 12/6/2018 User: krogers



**Figure 3: Soil Survey Map**  
**Investigated Area 1**

Hendricks County  
 Commissioners  
 355 S. Washington St.  
 Danville, IN 46122

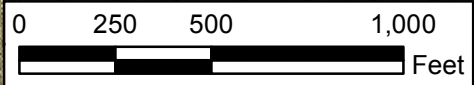
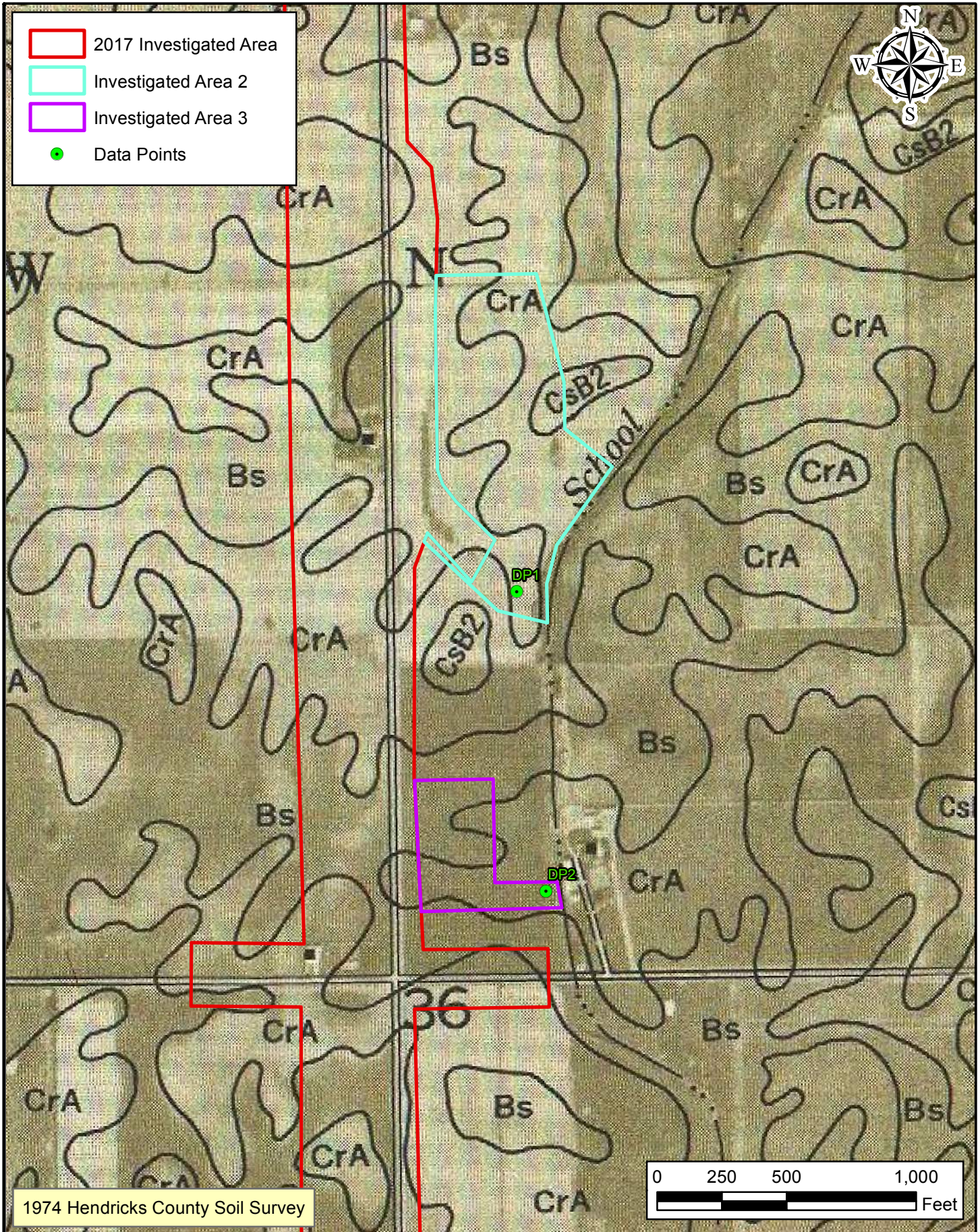
**Ronald Reagan Parkway: Phase 1B**  
 Des. No. 1602280

Location: Brownsburg  
 Townships: Brown  
 Counties: Hendricks  
 State: Indiana

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Date: 12/05/2018

- 2017 Investigated Area
- Investigated Area 2
- Investigated Area 3
- Data Points



1974 Hendricks County Soil Survey

Path: P:\2011\00183\Drawings\ArcView\Phase 1B\Wetland Delineation\2011.00183.EV.2018-12-05.Map.Inv2+3.Historical Soils.kar.mxd Date: 2/13/2019 User: krogers



**Figure 3: Soil Survey Map**  
**Investigated Areas 2 & 3**

Hendricks County  
 Commissioners  
 355 S. Washington St.  
 Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B**  
**Des. No. 1602280**

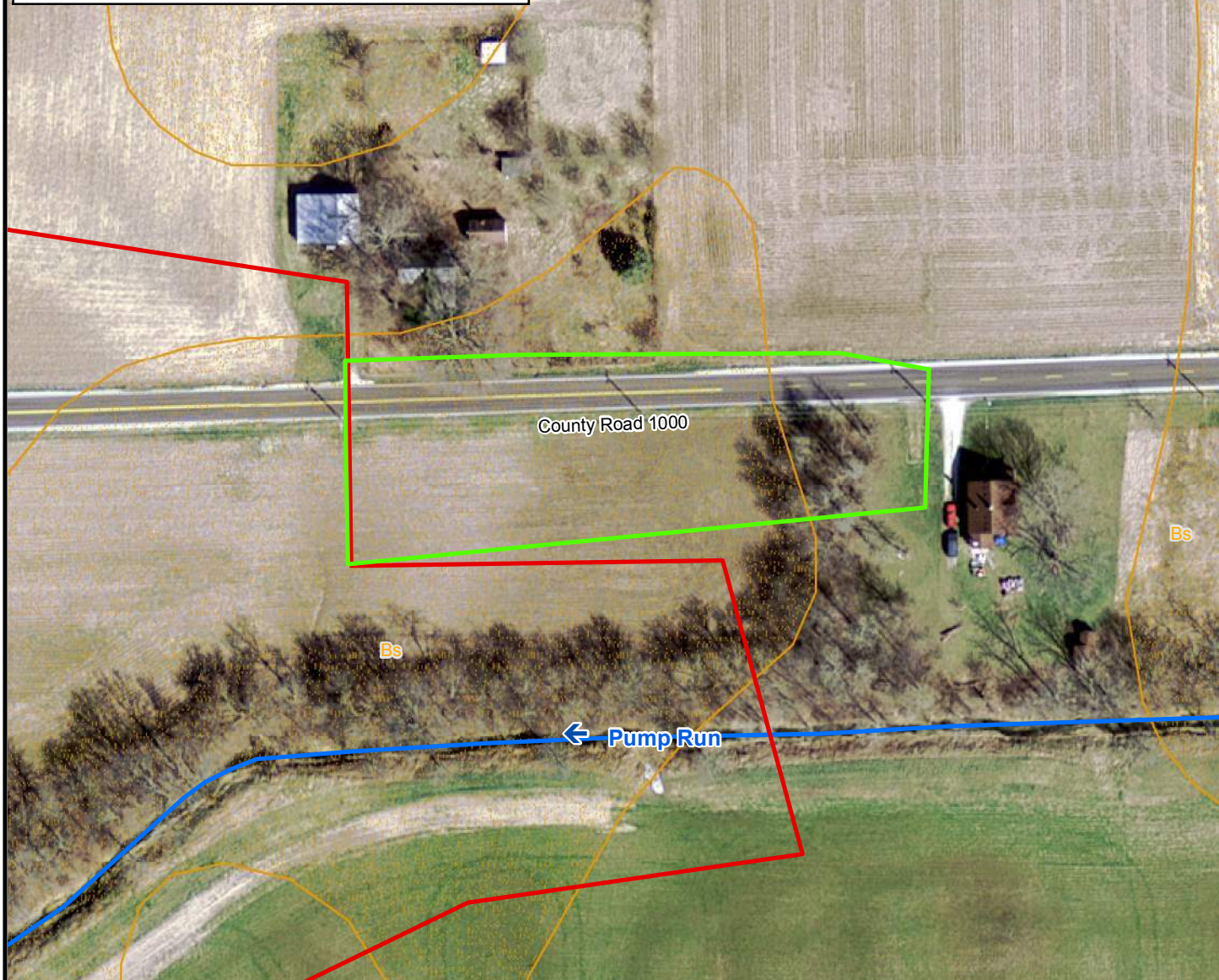
Location: Brownburg  
 Townships: Brown  
 Counties: Hendricks  
 State: Indiana

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Date: 12/05/2018

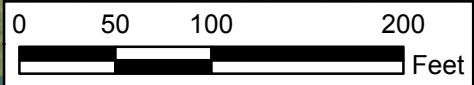


Investigated Area 1  
 2017 Investigated Area  
 Delineated Streams  
 Hendricks County Mapped Soils  
 Hendricks County Mapped Hydric Soils



Summary by Map Unit — Hendricks County, Indiana (IN063)

| Summary by Map Unit — Hendricks County, Indiana (IN063) |   |        |              |                |
|---|---|--------|--------------|----------------|
| Map unit symbol   | Map unit name   | Rating | Acres in AOI | Percent of AOI |
| Bs  | Brookston silty clay loam, 0 to 2 percent slopes            | 95     | 0.7          | 77.9%          |
| CrA   | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 2      | 0.2          | 22.1%          |
| <b>Totals for Area of Interest</b>                      |   |        | <b>0.9</b>   | <b>100.0%</b>  |



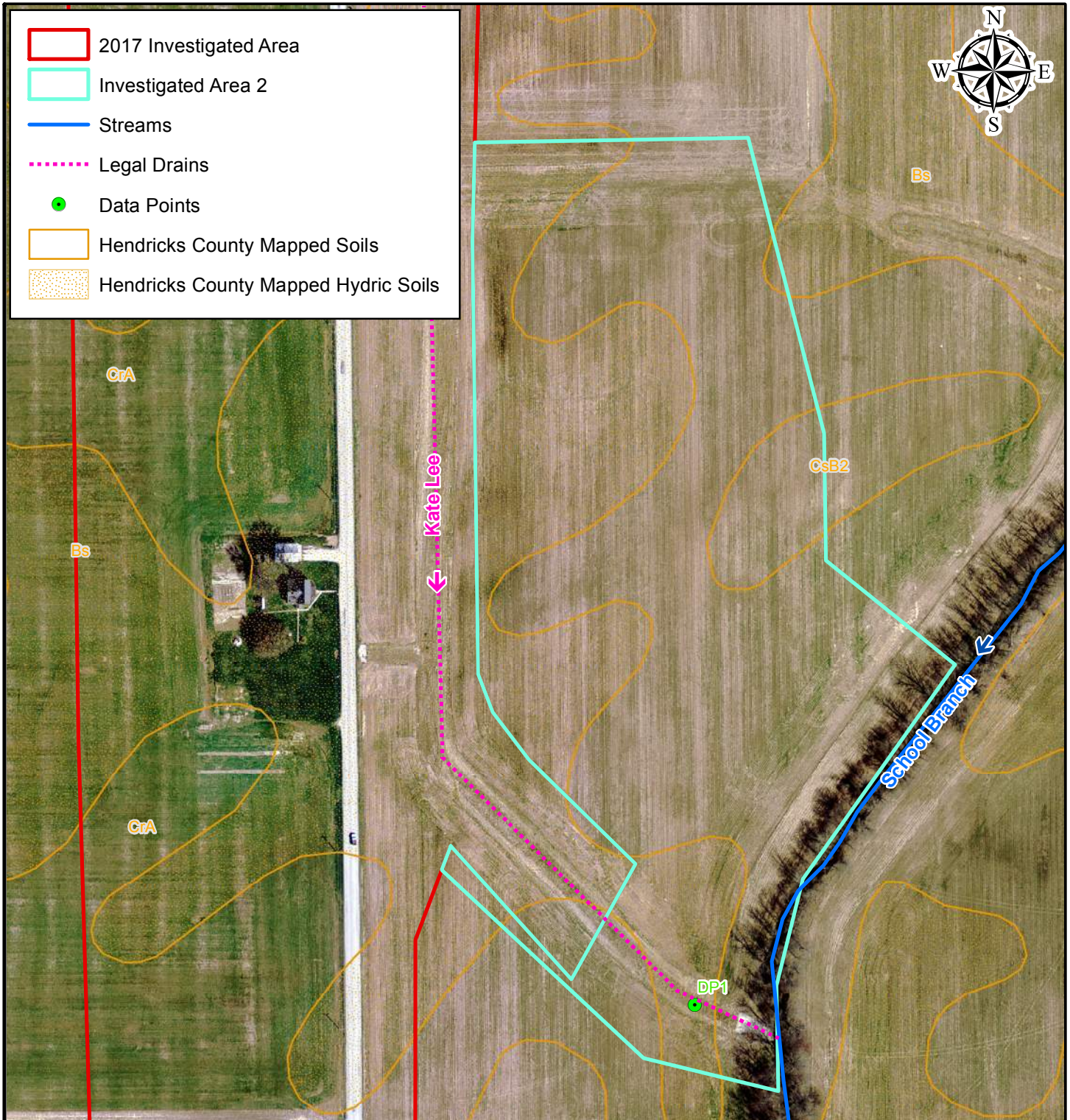
Source: Hendricks County SSURGO Soils Map

Path: P:\2011\00183\1D\_Drawings\ArcV\ew\Phase 1B\Wetland Delineation\2011.00183.EV.2018-12-05.Map.Inv.1.SSURGO.kar.mxd Date:12/13/2018 User:rkrogers

|   |  |   |
|---|--|---|
|  | <b>Figure 4: SSURGO Soils Map<br/>Investigated Area 1</b>                        | <b>Ronald Reagan Parkway: Phase 1B<br/>Des. No. 1602280</b>                       |
|   | Hendricks County<br>Commissioners<br>355 S. Washington St.<br>Danville, IN 46122 | Location: Brownsburg<br>Townships: Brown<br>Counties: Hendricks<br>State: Indiana |

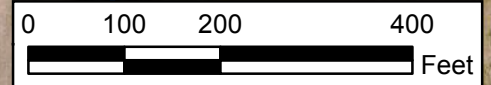
Date: 12/05/2018

Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1\BWetland Delineation\2011.00183.EV.2018-12-05.Map.Inv2.SSURGO.kar.mxd Date:12/13/2018 User:rkrogers



Summary by Map Unit — Hendricks County, Indiana (IN063)

| Map unit symbol                    | Map unit name   | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------|--------------|----------------|
| Bs                                 | Brookston silty clay loam, 0 to 2 percent slopes            | 95     | 4.5          | 33.8%          |
| CrA                                | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 2      | 8.1          | 61.3%          |
| CsB2                               | Crosby-Miami silt loams, 2 to 4 percent slopes, eroded      | 3      | 0.7          | 5.0%           |
| <b>Totals for Area of Interest</b> |   |        | <b>13.2</b>  | <b>100.0%</b>  |



Source: Hendricks County SSURGO Soils Map

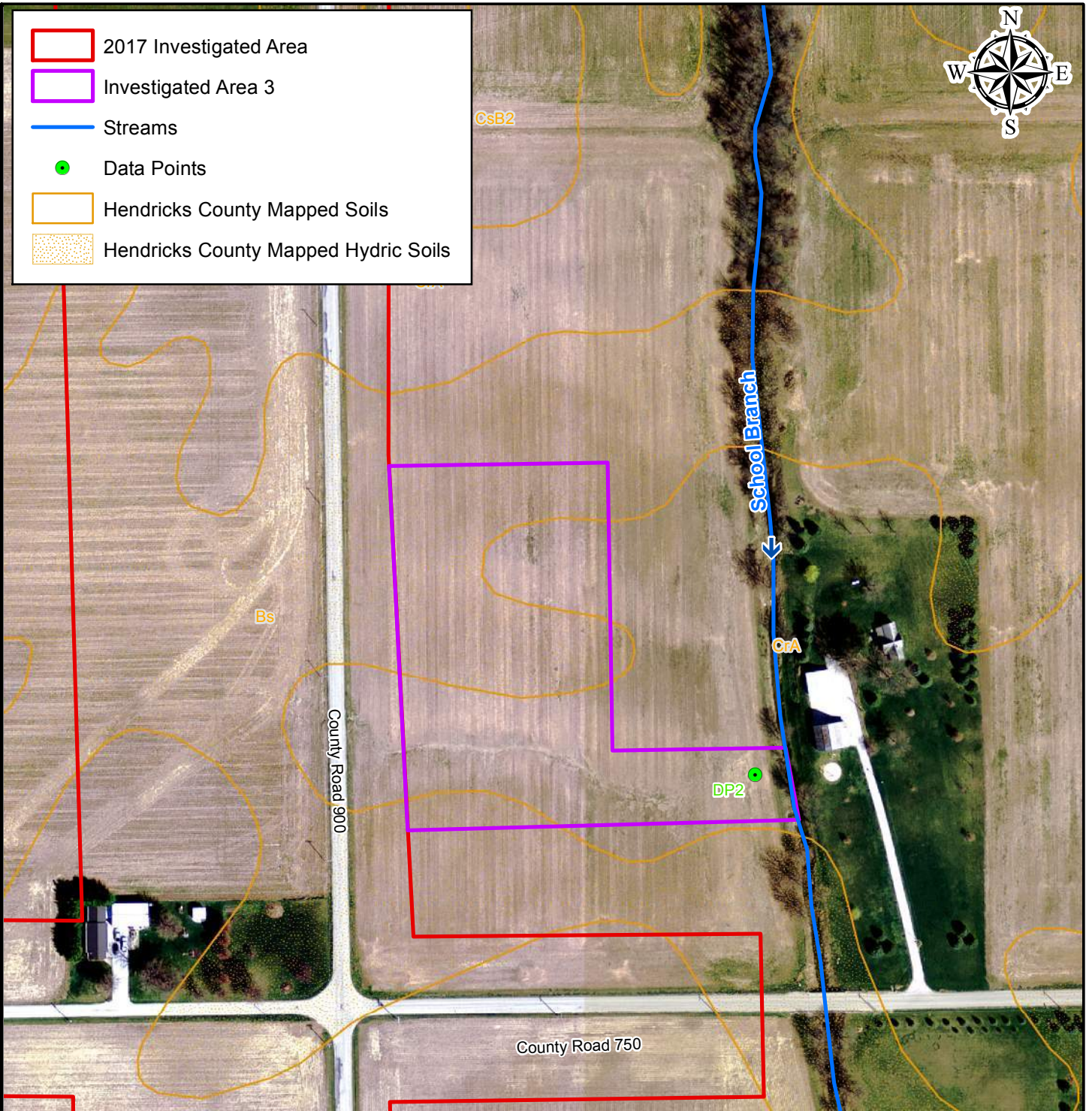
|  |  |   |
|--|--|---|
|  | <p><b>Figure 4: SSURGO Soils Map</b><br/>Investigated Area 2</p>                           | <p>Ronald Reagan Parkway: Phase 1B<br/>Des. No. 1602280</p>                                 |
|  | <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Location: Brownsburg<br/>Townships: Brown<br/>Counties: Hendricks<br/>State: Indiana</p> |

Date: 12/05/2018

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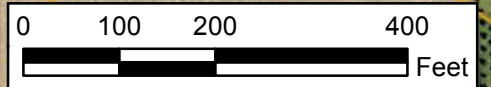


- 2017 Investigated Area
- Investigated Area 3
- Streams
- Data Points
- Hendricks County Mapped Soils
- Hendricks County Mapped Hydric Soils



Summary by Map Unit — Hendricks County, Indiana (IN063)

| Map unit symbol                    | Map unit name   | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|---|--------|--------------|----------------|
| Bs                                 | Brookston silty clay loam, 0 to 2 percent slopes            | 95     | 1.9          | 46.7%          |
| CrA                                | Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes | 2      | 2.1          | 53.3%          |
| <b>Totals for Area of Interest</b> |   |        | <b>4.0</b>   | <b>100.0%</b>  |



Source: Hendricks County SSURGO Soils Map

Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1B\Wetland Delineation\2011.00183.EV.2018-12-05.Map.Inv.3.SSURGO.kar.mxd Date:12/13/2018 User:rkrogers



### Figure 4: SSURGO Soils Map Investigated Area 3

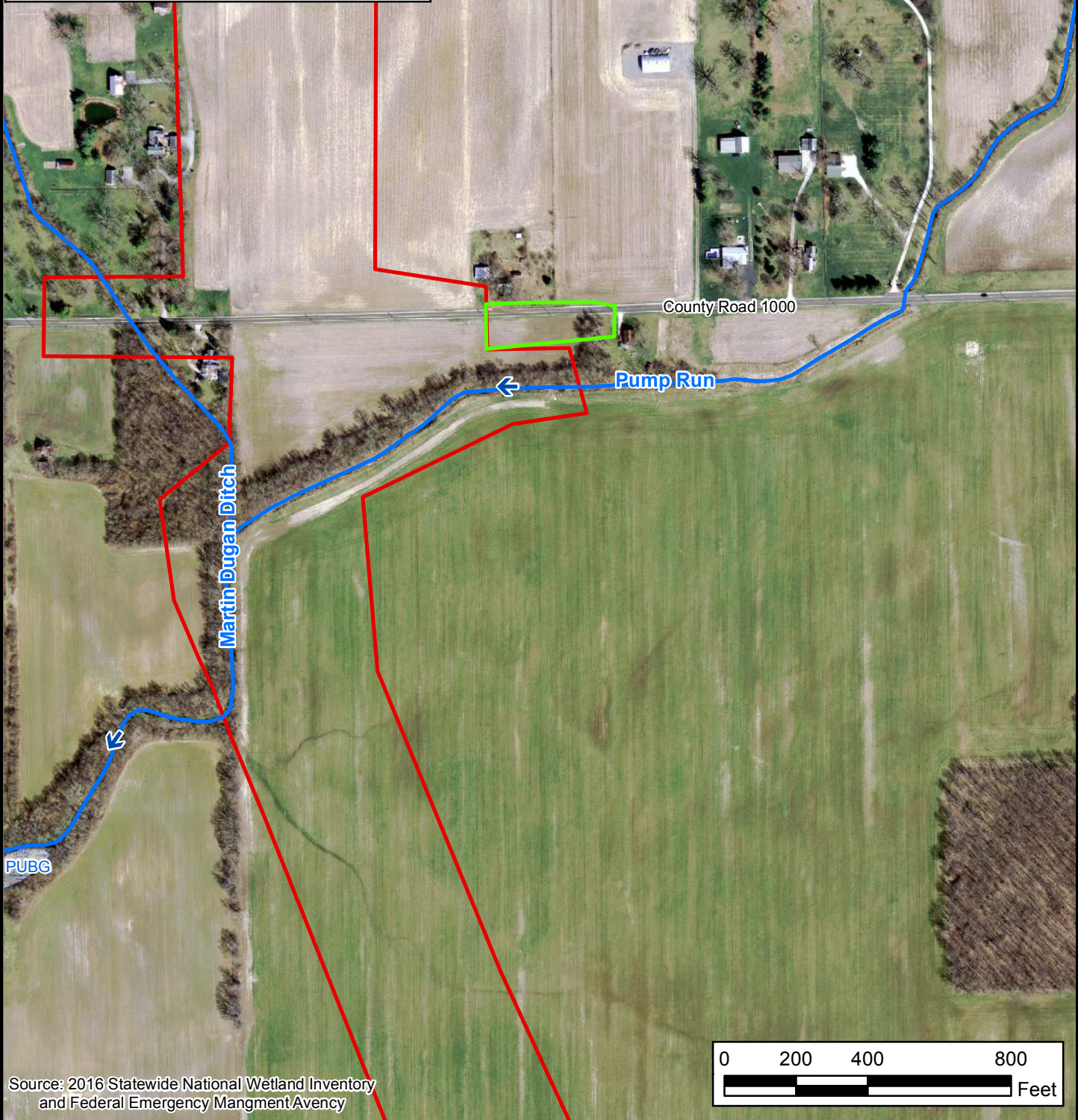
Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280

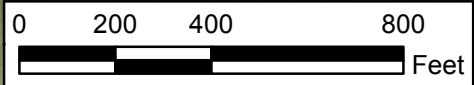
Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana  
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Date: 12/05/2018

- Investigated Area 1
- 2017 Investigated Area
- Streams
- National Wetland Inventory Map
- FEMA 100-Year Mapped Floodplain



Source: 2016 Statewide National Wetland Inventory and Federal Emergency Management Agency



Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1BWetland Delineation\2011.00183.EV.2018-12-05.Map.Inv.1.NWI+FEMA.kar.mxd Date: 12/13/2018 User: krugers



**Figure 5: NWI and FEMA Map  
Investigated Area 1**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

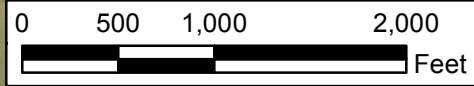
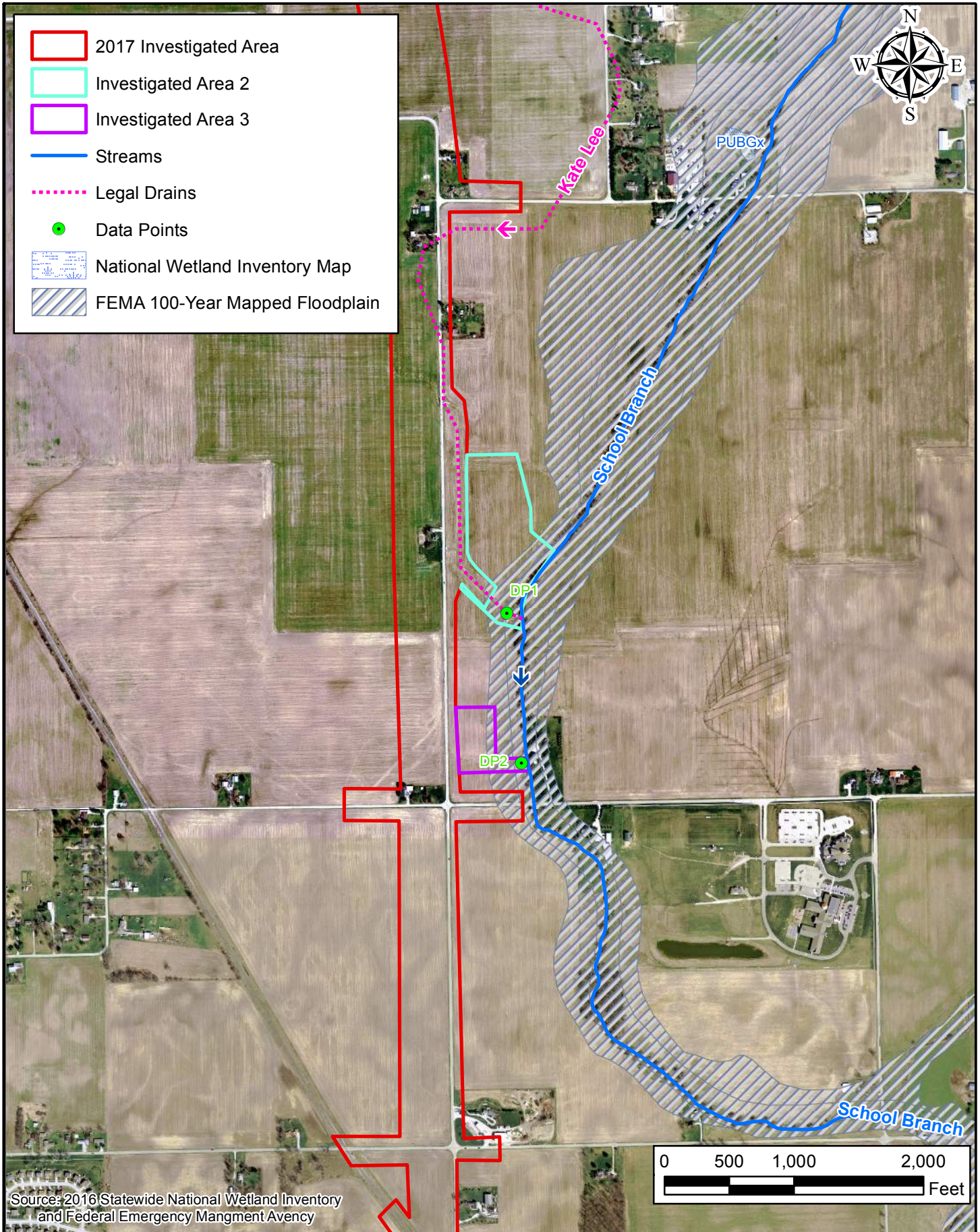
**Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280**

Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

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Date: 12/05/2018

- 2017 Investigated Area
- Investigated Area 2
- Investigated Area 3
- Streams
- Legal Drains
- Data Points
- National Wetland Inventory Map
- FEMA 100-Year Mapped Floodplain



Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1B\Wetland Delineation\2011.00183.EV.2018-12-05.Map.Inv283.NWI+FEMA.kar.mxd Date:12/13/2018 User:krogers



**Figure 5: NWI and FEMA Map  
Investigated Areas 2 & 3**



Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280**

Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

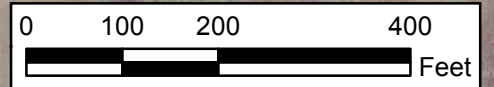
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Date: 12/05/2018

 Investigated Area 1  
 2017 Investigated Area



County Road 1000



Source: 2005 IndianaMap Aerial Photography

Path: P:\2011\00183\ID\_Drawings\ArcV\ew\Phase 1B\Wetland Delineation\2011\00183\_EV\2018-12-05\_Map\_Inv\1\_2005Aerial.kar.mxd Date: 12/6/2018 User: ktrogers



**Figure 6: 2005 Aerial Photography Investigated Area 1**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280**

Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana  
Appendix F  
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Date: 12/05/2018

- Investigated Area 2
- Investigated Area 3
- 2017 Investigated Area



Source: 2005 IndianaMap Aerial Photography

Path: P:\2011\00183\ID Drawings\ArcView\Phase 1\BW\Wetland Delineation\2011\00183.EV\2018-12-05.Map.Inv\283.2005Aerial.kair.mxd Date: 12/6/2018 User: krugers



**Figure 6: 2005 Aerial Photography  
Investigated Areas 2 & 3**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B  
Des. No. 1602280**

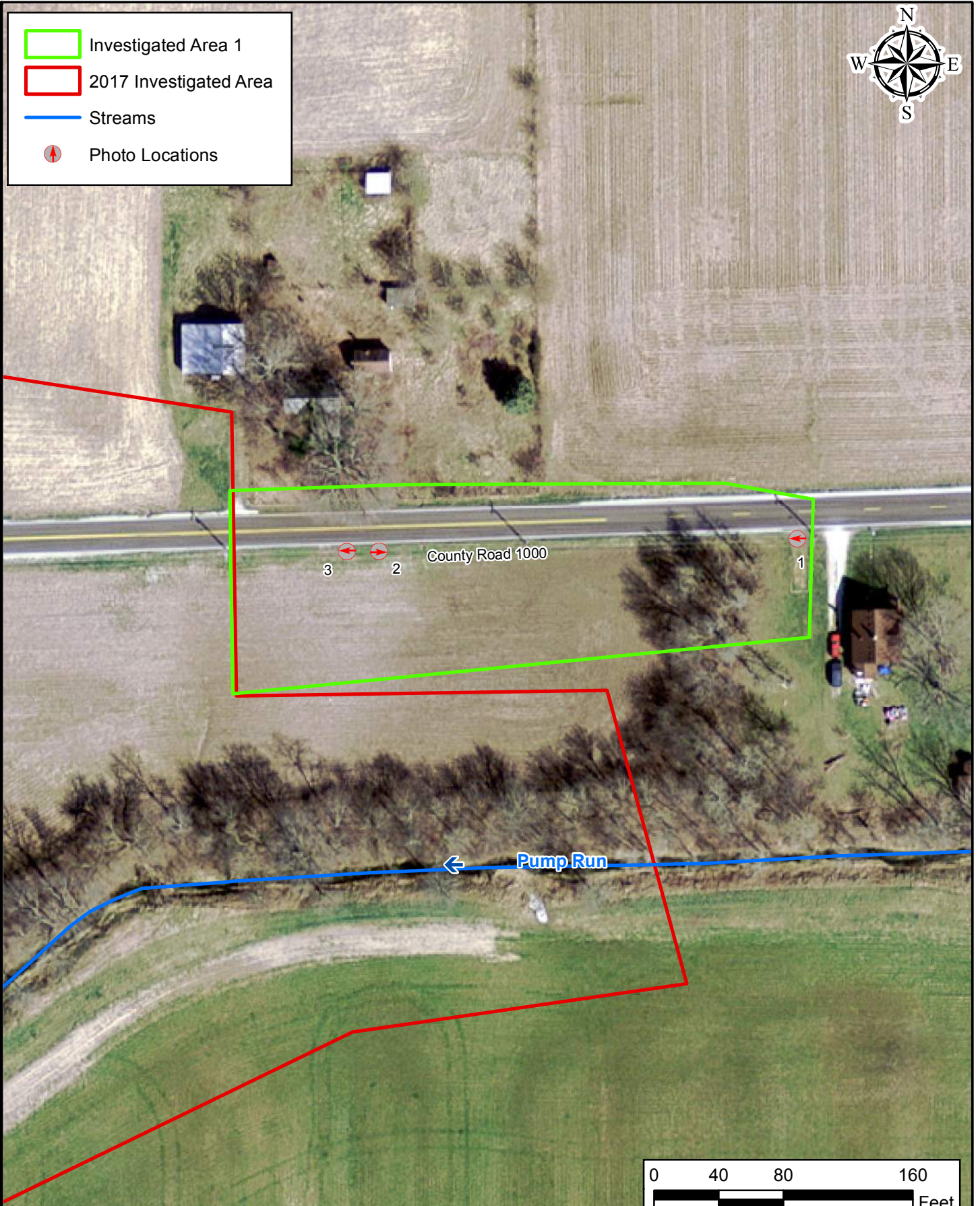
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Townships: Brown  
Counties: Hendricks  
State: Indiana

Date: 12/05/2018

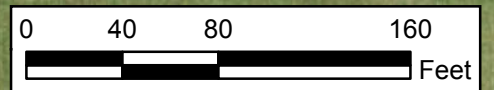
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Investigated Area 1  
 2017 Investigated Area  
— Streams  
⬆ Photo Locations



Source: 2016 IndianaMap Aerial Photography



Path: P:\2011\00183\ID\_Drawings\ArcV\ew\Phase 1BWetland Delineation\2011.00183.EV.2018-12-05.Map.Inv.1.Field+Photo.kar.mxd Date: 12/13/2018 User: krugers



**Figure 7: Field Investigation and Photo Location Map (Inv. Area 1)**

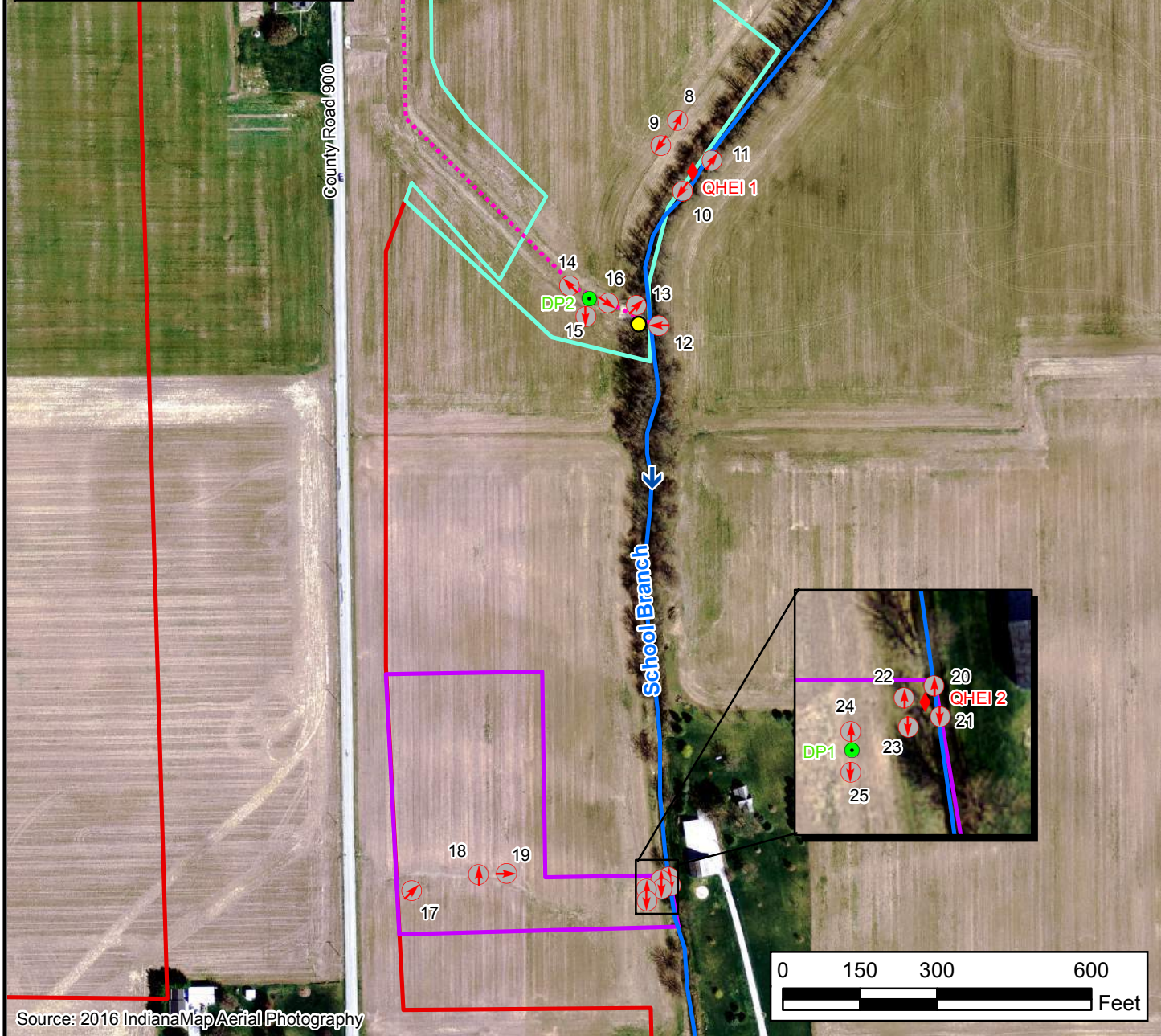
Hendricks County  
 Commissioners  
 355 S. Washington St.  
 Danville, IN 46122

Ronald Reagan Parkway: Phase 1B  
 Des. No. 1602280

Location: Brownsburg  
 Townships: Brown  
 Counties: Hendricks  
 State: Indiana  
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Date: 12/05/2018

- 2017 Investigated Area
- Investigated Area 2
- Investigated Area 3
- Streams
- Legal Drains
- Kate Lee Tile Outlet
- ◆ QHEI
- Data Points
- ⬇ Photo Locations



Source: 2016 IndianaMap/Aerial Photography

Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1BWetland Delineation\2011.00183.EV.2018-12-05.Map.Inv2+3.Field+Photo.kar.mxd Date: 12/13/2018 User: krogers



**Figure 7: Field Investigation and Photo Location Map (Inv. Areas 2 & 3)**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B**  
Des. No. 1602280

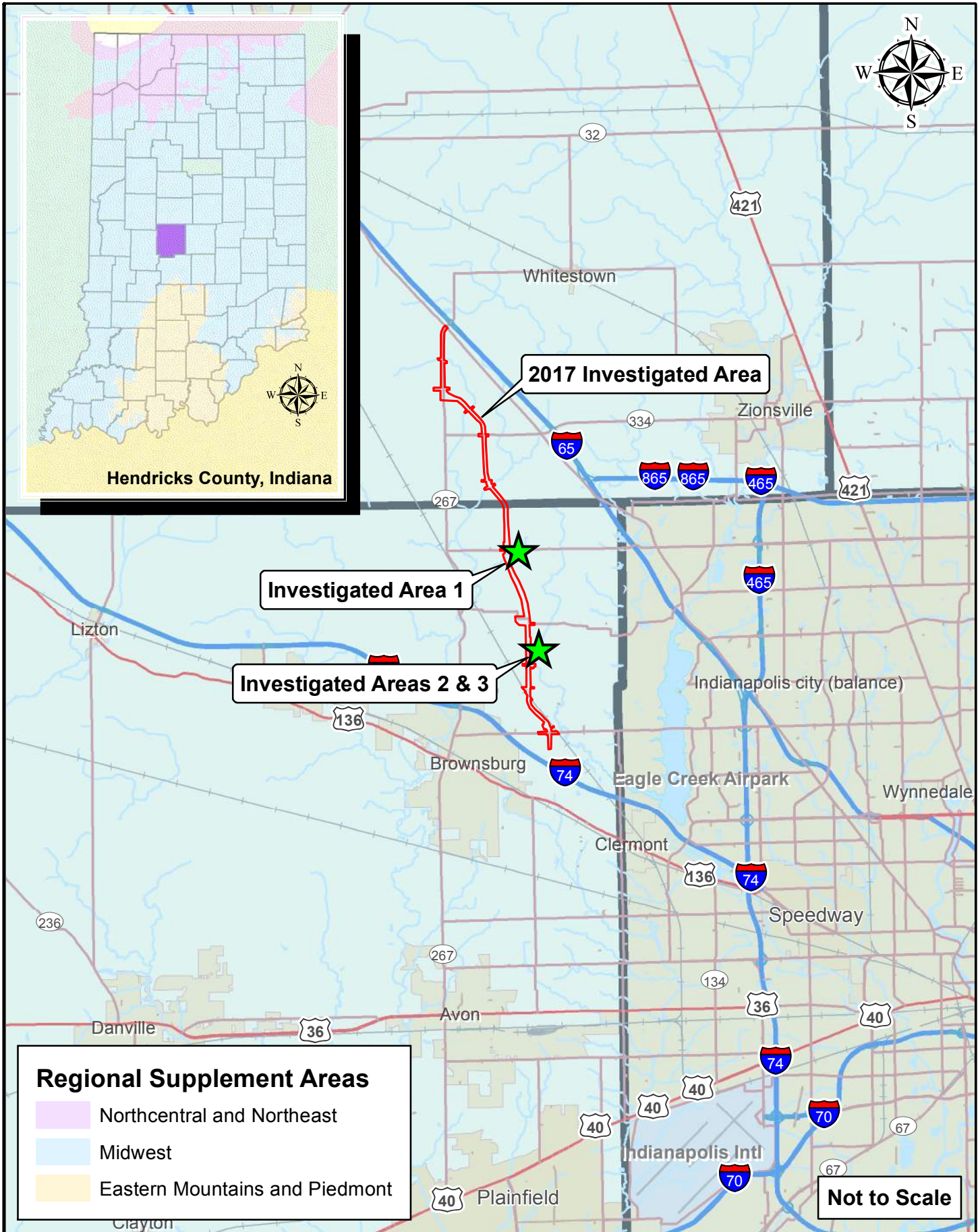
Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

Appendix F  
Page F-383

Date: 12/05/2018



Hendricks County, Indiana



**Regional Supplement Areas**

- Northcentral and Northeast
- Midwest
- Eastern Mountains and Piedmont

Not to Scale

Path: P:\2011\00183\1D\_Drawings\ArcView\Phase 1\BW\Wetland Delineation\2011.00183.EV.2018-12-05.MAP.RegionalSupp.kar.mxd Date:12/7/2018 User:krogers



**Figure 8: Regional Supplement Map**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

**Ronald Reagan Parkway: Phase 1B**  
Des. No. 1602280

Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

Appendix F  
Page F-384

Date: 12/07/2018



## Appendix E – Photographs

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 1. Looking west within Investigated Area 1 along County Road 1000.



Photo 2. Looking east within Investigated Area 1 along County Road 1000.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 3. Looking west at Investigated Area 1 along County Road 1000.



Photo 4. Looking southeast across Investigated Area 2.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 5. Looking south near the center of Investigated Area 2.



Photo 6. Looking west near the center of Investigated Area 2.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 7. Looking north near the center of Investigated Area 2.



Photo 8. Looking northeast across a grassy area within Investigated Area 2,  
just west of School Branch.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 9. Looking southwest across a grassy area within Investigated Area 2, just west of School Branch.



Photo 10. Looking southwest (downstream) at School Branch where QHEI 1 was conducted within Investigated Area 2.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 11. Looking northeast (upstream) at School Branch where QHEI 1 was conducted within Investigated Area 2.



Photo 12. Looking west at the Kate Lee tile outlet which drains into School Branch within Investigated Area 2.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 13. Looking northeast (upstream) at School Branch where the Kate Lee tile outlet drains within Investigated Area 2.



Photo 14. Looking northwest at a grassy swale associated with the Kate Lee tile drain from DP 1 within Investigated Area 2.



**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 15. Looking south from DP1 within Investigated Area 2.



Photo 16. Looking southeast from DP1 where the Kate Lee tile drain flows toward School Branch with Investigated Area 2.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 17. Looking northwest across Investigated Area 3.



Photo 18. Looking north across Investigated Area 3.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 19. Looking east across Investigated Area 3.



Photo 20. Looking north (upstream) at School Branch where QHEI 2 was conducted within Investigated Area 3.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 21. Looking south (downstream) at School Branch where QHEI 2 was conducted within Investigated Area 3.



Photo 22. Looking north along the top of bank of School Branch along the limits of Investigated Area 3.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 23. Looking south along the top of bank of School Branch along the limits of Investigated Area 3.



Photo 24. Looking north from DP 2 within Investigated Area 3.

**Ronald Reagan Parkway: Phase 1B  
Des. Nos. 1602280  
Brownsburg, Brownsburg County, Indiana  
October 29, 2018**



Photo 25. Looking at south from DP 2 within Investigated Area 3.

**Appendix G: Public Involvement**

September 23, 2016

**Example Survey Letter**

«First\_Name» «Last\_Name»

«Attention»

«Address»

«City», «State» «Zip\_code»

Re: Notice of Survey and Study

Dear Property Owner:

Property Address:

American Structurepoint, Inc., has been retained by Hendricks County to perform a survey for the proposed extension of Ronald Reagan Parkway. The limits of the survey are as follows:

- An area in the fields north of CR 600N, southwest of the railroad and east of CR 900E
- An area south of CR 750N between CR 900E and the William Batz Ditch
- An area bounded by CR 900E on the east, CR 700N on the north and by the railroad on the southwest
- An area in the fields east of CR 900E between CR 750N and Maloney Road

Our information indicates you either own or occupy property near this proposed improvement project. Our employees will begin conducting topographic and environmental surveys of the project area in the near future and may continue for several months. It may be necessary for us to enter your property (exterior only) to complete this work. Our employees have been instructed to identify themselves to you, if you are available, before they enter your property. If you no longer own this property, or it is currently occupied by someone other than yourself, please let us know the name and/or address of the new owner or occupant so we may contact them about the survey.

The work may include, but is not limited to: geotechnical investigation; topographic survey, including mapping the location of features, such as buildings, trees, fences, drives, and obtaining ground elevations; and environmental surveys for completion of environmental documentation. The information we obtain from the above-mentioned work is necessary for the planning of this transportation project.

Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any issues do occur, please contact our field crew or me at the office at (317) 547-5580.

Very truly yours,  
American Structurepoint, Inc.

Michael Maurovich, PE  
Project Manager



February 6, 2018

HESSION ENRERPRISES LP  
9825 E COUNTY ROAD 600 N  
BROWNSBURG , IN 46112

Re: Notice of Survey and Study

Dear Property Owner:

Property Address: 9825 E COUNTY ROAD 600 N, BROWNSBURG, IN

American Structurepoint, Inc., has been retained by Hendricks County to perform a survey for the proposed extension of Ronald Reagan Parkway. The limits of the survey are as follows:

- An area in the fields north of CR 600N, southwest of the railroad and east of CR 900E
- An area south of CR 750N between CR 900E and the William Batz Ditch
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- An area in the fields east of CR 900E between CR 750N and Maloney Road

Our information indicates you either own or occupy property near this proposed improvement project. Our employees will begin conducting topographic and environmental surveys of the project area in the near future and may continue for several months. It may be necessary for us to enter your property (exterior only) to complete this work. Our employees have been instructed to identify themselves to you, if you are available, before they enter your property. If you no longer own this property, or it is currently occupied by someone other than yourself, please let us know the name and/or address of the new owner or occupant so we may contact them about the survey.

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Very truly yours,  
American Structurepoint, Inc.

Michael Maurovich, PE  
Project Manager

## NOTICE OF PUBLIC MEETING

The Boards of the Hendricks County Commissioners and Boone County Commissioners will hold an Open House from 6:00 PM – 9:00 PM on Wednesday, October 19, 2016 at the Whitestown Public Hall (6210 Veterans Drive, Whitestown, Indiana, 46075) regarding the proposed extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to the I-65/SR 267 interchange in Boone County. The purpose of this Open House is to offer the public an opportunity to learn about the project, the estimated schedule of upcoming events and ask questions of the Project Team. There will be a brief presentation regarding the project beginning at 6:30 PM.

The purpose of the proposed project is to improve regional and local mobility by providing better local access to Hendricks and Boone County residents through an alternative route and promoting future economic growth. The need for the proposed action is a result of the lack of connection of existing roadways.

The proposed extension of Ronald Reagan Parkway occurs mostly on new alignment and is approximately 9.8 miles in length. The proposed roadway will consist of two 12 foot travel lanes in each direction separated by a median.

In accordance with the “Americans with Disabilities Act”, if you have a disability for which the County Commissioners would need to provide accommodations pertaining to the accessibility to participation at the public meeting, or if you are a persons of Limited English Proficiency (LEP) requiring assistance pertaining to participating at the public meeting venue, contact Mr. Mike Maurovich of American Structurepoint, Inc. using the contact information below.

This notice is published in compliance with Title 23, Code of Federal Regulations, Section 771.111(h) entitled “Early Coordination, Public Involvement and Project Development,” and the *INDOT Public Involvement Policies and Procedures Manual*, approved by the Federal Highway Administration, US Department of Transportation, on August 16, 2012.

Please direct any questions or comments concerning this project to Mr. Mike Maurovich, American Structurepoint, Inc., 7260 Shadeland Station, Indianapolis, Indiana 46256 or at (317) 547-5580, or by email at [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

To: Hendricks Co. Flyer  
8109 Kingston St. Ste 500  
Avon, IN 46123

AMERICAN STRUCTUREPOINT INC

Hendricks County, Indiana

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) - number of equivalent lines \_\_\_\_\_

Head - number of lines \_\_\_\_\_

Body - number of lines \_\_\_\_\_

Tail - number of lines \_\_\_\_\_

Total number of lines in notice \_\_\_\_\_

COMPUTATION OF CHARGES

72 lines, 1 columns wide equals

72 equivalent lines at 0.451 cents per line

\$ 32.45

(50 percent of above amount)

Charge for extra proofs of publication

(\$1.00 for each proof in excess of two)

Total Amount of Claim

\$ 32.45

DATA FOR COMPUTING COST

Width of single column in picas 9.9 Size of type 7 point.

Number of insertions 1

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same column width and type size, which was duly published in said paper 1 times. The dates of publication being as follows:

October 12, 2016

Additionally, the statement checked below is true and correct:

- Newspaper does not have a Web site.
- Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.
- Newspaper has a Web site, but due to technical problem or error, publish notice was posted on \_\_\_\_\_
- Newspaper has a Web site but refuses to post the public notice

Date: 10/12/2016

Title Legal Advertising Clerk

Public Notices

NOTICE OF PUBLIC MEETING

The Boards of the Hendricks County Commissioners and Boone County Commissioners will hold an Open House from 6:00 PM - 9:00 PM on Wednesday, October 19, 2016 at the Whitestown Public Hall (6210 Veterans Drive, Whitestown, Indiana, 46075) regarding the proposed extension of Ronald Reagan Parkway from CR 600 North in Hendricks County to the I-65/SR 267 interchange in Boone County. The purpose of this Open House is to offer the public an opportunity to learn about the project, the estimated schedule of upcoming events and ask questions of the Project Team. There will be a brief presentation regarding the project beginning at 6:30 PM.

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The proposed extension of Ronald Reagan Parkway occurs mostly on new alignment and is approximately 9.8 miles in length. The proposed roadway will consist of two 12 foot travel lanes in each direction separated by a median. In accordance with the "Americans with Disabilities Act", if you have a disability for which the County Commissioners would need to provide accommodations pertaining to the accessibility to participation at the public meeting, or if you are a person of Limited English Proficiency (LEP) requiring assistance pertaining to participating at the public meeting, venue, contact Mr. Mike Maurovich of American Structurepoint, Inc. using the contact information below.

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Please direct any questions or comments concerning this project to Mr. Mike Maurovich, American Structurepoint, Inc., 7260 Shadeland Station, Indianapolis, Indiana 46256 or at (317) 547-5580, or by email at mmaurovich@structurepoint.com.

HCF-814 Oct. 12 hspaxlp

ATTACH COPY OF ADVERTISMENT HERE

American Structurepoint Inc.

Boone County, Indiana

To: The Lebanon Reporter  
117 E. Washington St  
Lebanon, IN 46052

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) - number of equivalent lines  
Head - number of lines .....  
Body - number of lines .....  
Tail - number of lines .....  
Total number of lines in notice .....

COMPUTATION OF CHARGES

Table with 3 columns: Description, Rate, Total. Row 1: 72 lines, 1 column wide equals 72 equivalent lines at 0.451 cents per line, \$ 32.45. Row 2: (50 percent of above amount) Charge for extra proofs of publication (\$1.00 for each proof in excess of two) Total Amount of Claim \$ 32.45.

DATA FOR COMPUTING COST

Width of single column in picas 9.9 Size of type 7 point.  
Number of insertions 1

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

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October 12, 2016

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- \_\_\_ Newspaper does not have a Web site.
\_\_\_ [checked] Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.
\_\_\_ Newspaper has a Web site, but due to technical problem or error, publish notice was posted on
\_\_\_ Newspaper has a Web site but refuses to post the public notice.

Date: 10/13/2016

[Signature: Kerry Suchotta]
Title Legal Advertising Clerk

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TLR-551 Oct. 12 hspaxlp

**The Indianapolis Star**

130 South Meridian Street  
Indianapolis, IN 46225  
Marion County, Indiana

**AMERICAN STRUCTUREPOINT**

Federal Id: 06-1032273

Account #:INI-36272  
Order #:0001648337  
Total Amount of Claim:\$69.04

**Please Mail Payments To: The Indianapolis Star - 130 South Meridian Street - Indianapolis, IN 46225**

AMERICAN STRUCTUREPOINT  
ATTN CHAD COSTA  
7260 SHADELAND STA  
INDIANAPOLIS, IN 46256

**PUBLISHER'S AFFIDAVIT**

STATE OF INDIANA, }  
County Of Marion } SS:

Personally appeared before me, a notary public in and for said county and state, the undersigned

I, being duly sworn, say that I am a clerk for **THE INDIANAPOLIS NEWSPAPERS** a **DAILY STAR** newspaper of general circulation printed and published in the English language in the city of **INDIANAPOLIS** in state and county aforesaid, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 times., the dates of publication being as follows:

The insertion being on the 10/12/2016  
Newspaper has a website and this public notice was posted in the same day as it was published in the newspaper.

Pursuant to the provisions and penalties of Ch. 155, Acts 1953,

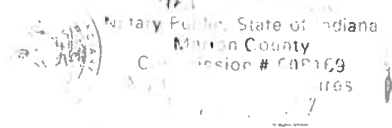
I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

Amanda K. Wolf

Date: 10/13, 2016 Title: Clerk

Subscribed and sworn to before me this 13 day of October, 2016

[Signature]  
Notary Public



\_\_\_\_\_  
(Governmental Unit)

To: **INDIANAPOLIS STAR**

\_\_\_\_\_  
County, Indiana

**Indianapolis, IN**

**PUBLISHER'S CLAIM**

**COMPUTATION OF CHARGES**

61 lines, 2 columns wide equals 122 equivalent lines at \$0.57 per line @ 1 days, **\$69.04**

Website Publication **\$0**

Charge for proof(s) of publication **\$0.00**

**TOTAL AMOUNT OF CLAIM \$69.04**

Acct #:INI-36272  
Ad #: 0001648337

DATA FOR COMPUTING COST  
Width of single column 9.5 ems  
Number of insertions 1  
Size of type 7 point

Claim No. \_\_\_\_\_ Warrant No. \_\_\_\_\_  
**IN FAVOR OF**  
**The Indianapolis Star**  
Indianapolis, IN  
Marion County  
130 S. Meridian St. Indianapolis, IN 46225

I have examined the within claim and hereby certify as follows:

That it is in proper form.

This it is duly authenticated as required by law.

That it is based upon statutory authority.

That it is apparently (correct)

~~incorrect~~

\$ \_\_\_\_\_

On Account of Appropriation For

FED. ID  
#06-1032273

Allowed \_\_\_\_\_, 20\_\_\_\_

In the sum of \$ \_\_\_\_\_

I certify that the within claim is true and correct; that the services there-in itemized and for which charge is made were ordered by me and were necessary to the public business.

\_\_\_\_\_, 20\_\_\_\_

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(LIC-10/12/16-0001648337)

# Ronald Reagan Parkway



Wednesday, October 19, 2016

Whitestown Public Hall

6:00 p.m.



# Welcome

- Purpose of public meeting
  - Informal Project Update
- Public meeting format
  - Short Presentation
  - Open House
- Sign-in table
- Public comments
  - 15 Day comment period
- Informal Q & A following presentation

# Project Stakeholders

- Hendricks County
- Boone County
- Brownsburg
- Lebanon
- Whitestown
- Zionsville
- CSX Railroad
- Utility Companies
- Local Farmers, Businesses, and Industry
- Public Officials
- Community residents and local citizens
- Emergency Services
- Commuters
- Trucking Industry
- Schools

# Introductions

- Hendricks County
- Boone County
- Recognition of Public Officials
- Corridor Manager

# Corridor Management Team

- Prime Consultant
  - American Structurepoint, Inc.
    - Corridor Management, Survey, Traffic Study, Preliminary Design, Environmental Document Updates
- Subconsultants
  - BLN
    - Land Acquisition
  - Corradino
    - Kitchen Table Meetings
  - Banning
    - Preliminary Design, Survey
  - PCS
    - Preliminary Design, Survey
  - DB Engineering
    - Preliminary Design
  - Earth Exploration
    - Geotechnical



# Presentation Outline

- Brief Project History
- Project Description
- Kitchen Table Meetings
- Desired Project Schedule
- Project Funding

# Corridor History

- 1983
  - First studies along Raceway Road
  - Project Coordination meetings began
- 1995-1996
  - First Construction from US 36 to CR 100 N
- 2003
  - Interchange at I-70 Constructed
- 2008
  - Interchange at I-74 Constructed
- 2015
  - Construction began on final segment to complete connection from I-70 to I-74
  - From CR 300 N to I-74 Interchange

# Project History

- 2006
  - Preliminary Engineering efforts began
  - Project Coordination meetings began
- 2007
  - Public Information Meeting
- 2006 – 2008
  - Community Advisory Committee Meetings
- 2010
  - Preferred Alternative Selected
  - Public Hearing
  - Environmental Assessment Completed

# Project History

- July 7<sup>th</sup>, 2010
  - Environmental Assessment approved by Federal Highway Administration (FHWA)
    - The FHWA has determined that this project, as identified in the Environmental Assessment, will have no significant impact on the natural and human environment.



# Project Description

- Project Purpose and Need
  - Continue Ronald Reagan Parkway to connect I-70 to I-65
  - Improve regional and local mobility access to Hendricks and Boone county through an alternative route
  - Promote economic growth
  - Provide improved access between commercial and transportation facilities including the Indianapolis International Airport, CSX Big Four Rail Yard, Airtech Business Park and the Perry Industrial Park.
  - Provide access to northwest Indiana

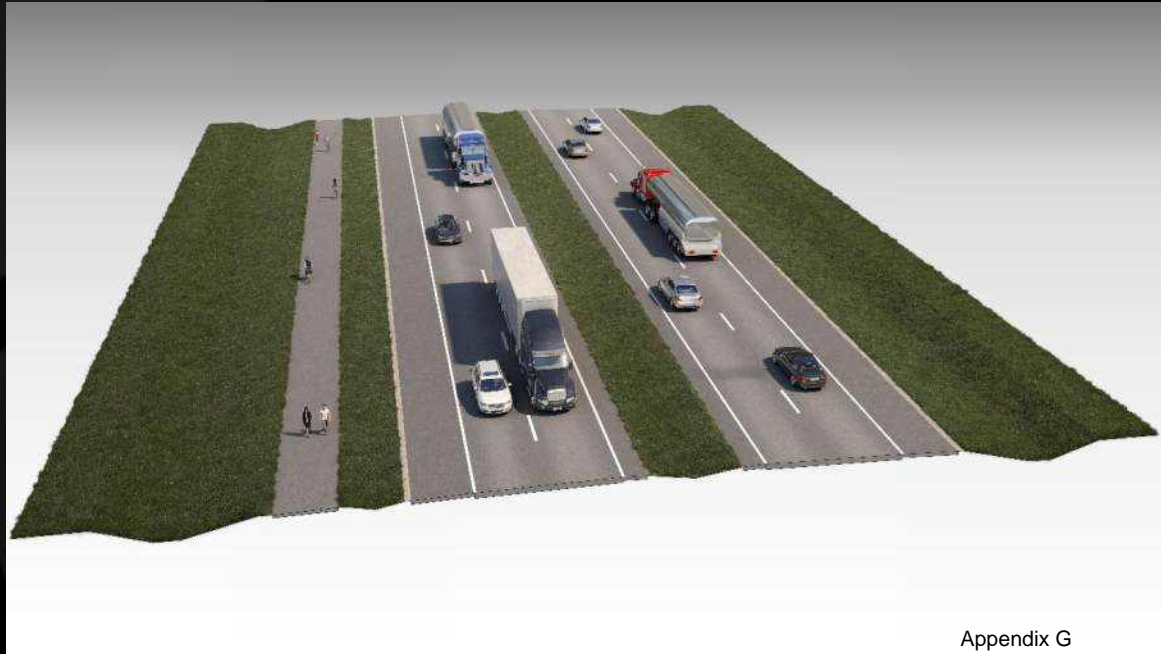
# Project Description

- Project Limits:
  - CR 600 N (Hendricks County) to SR 267/I-65 Interchange (Boone County)
  - 230' Right-of Way Corridor



# Project Description

- Preliminary Typical Roadway Section
  - Four (4) travel lanes
  - Median
  - Shoulders
  - Side Ditches for drainage



# Project Description

- Anticipated project phasing
  - Segment 1
    - 1A - CR 600 N to CR 750 N (1.2 mi)
    - 1B - CR 750 N to CR 1000 N (3.1 mi)
  - Segment 2
    - 2A - CR 1000 N to Whitestown Parkway (2.7 mi)
    - 2B - Whitestown Parkway to SR 267/I-65 Interchange (2.8 mi)

# Kitchen Table Meetings

- We are offering to meet with each affected property owner and discuss how the project affects your property.
  - Project mapping that is specific to your property will be provided.
  - Project activities that will take place over the next few years will be discussed.
- We are also interested in gathering information about your property.
  - The information will be given to the engineers and other project team members to be considered during preliminary and final design.
  - Example: Location of field tiles

# Desired Project Schedule

- June 2016
  - Corridor Management Team Selected
- September 2016
  - Began Survey and Environmental Investigations
- October 2016
  - Began Kitchen Table Meetings
- November 2016
  - Begin Preliminary Design
- Winter 2016
  - Geotechnical Investigation

# Desired Project Schedule

- Spring 2017
  - Complete preliminary design
  - Select final design consultants
- Summer/Fall 2017
  - Begin Final Design
  - Earliest date to begin construction
- Winter 2020
  - Earliest Date for Construction Complete

# Project Funding

- Project is expected to be funded from a combination of local and federal funds.
  - Project team is currently seeking additional funding sources
  - Phases and schedule will depend upon available funds
- Anticipated Corridor Cost = \$84.8 Million
  - Includes corridor management, design, land acquisition, construction



# Public Comments

- Submit public comments using the options described in 1<sup>st</sup> page of information packet
  - Public Comment Form
  - Via e-mail
- Project team respectfully requests comments be submitted by November 3, 2016 to Mike Maurovich
- E-mail: [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com)

# Thank You

- Please visit with project team
- Project Open House
  - Project maps, displays, public comments table
  - Project team available for informal Q & A
- Thank you for your attendance this evening!





# SIGN-IN / MAILING LIST

## PUBLIC INFORMATION MEETING

**Ronald Reagan Parkway  
October 19, 2016 / 6:00 PM  
Whitestown Public Hall**

*Before including your address, phone number, e-mail address, or other personal identifying information on the meeting Sign-In Sheet or on your comment submittal, be advised that your comment - including your personal identifying information - may be publicly available at any time. While you can ask us to withhold personal identifying information from public review, we cannot guarantee that we will be able to do so.*

| Name               | Mailing Address   | Email |
|--------------------|---|-------|
| Richard<br>Daupert | Address: <u>4400 Whitestown Parkway</u><br>City: <u>Bellevue</u> State: <u>In</u> Zip: <u>46052</u> |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |
|                    | Address: _____<br>City: _____ State: _____ Zip: _____   |       |



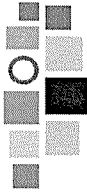
# SIGN-IN / MAILING LIST

## PUBLIC INFORMATION MEETING

Ronald Reagan Parkway  
October 19, 2016 / 6:00 PM  
Whitestown Public Hall

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| Name   | Mailing Address   | Email                  |
|--|---|------------------------|
| Tyler Everett                                    | Address: 5010 S. 300 E.<br>City: Lebanon State: IN Zip: 46052           | farmboy135@atm.co      |
| <del>David &amp; Erin</del><br>David & Erin Herr | Address: 2525 E 5505<br>City: Lebanon State: IN Zip: 46052              | deemherrhouse@aol.com  |
| Jeff Starkey<br>Starkey Farms                    | Address: 10132 E Co. Rd. 700 W<br>City: Brownsburg State: In Zip: 46112 | starkeyfarms@ymail.com |
|  | Address: _____<br>City: _____ State: _____ Zip: _____                   |                        |
|  | Address: _____<br>City: _____ State: _____ Zip: _____                   |                        |
|  | Address: _____<br>City: _____ State: _____ Zip: _____                   |                        |
|  | Address: _____<br>City: _____ State: _____ Zip: _____                   |                        |



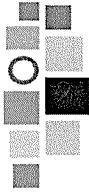
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| Name                  | Mailing Address  | Email                          |
|-----------------------|--|--------------------------------|
| Kay Seymour           | Address: 10333 N County Rd. 650 E<br>City: Brownsburg State: In Zip: 46112 | kseeamore@tds.net<br>kseeamore |
| Jeff Thompson         | Address: 6001 N. St. Rd 39<br>City: Lebanon State: IN Zip: 46149           | jeffthompson28@gmail.com       |
| Gary Maloney          | Address: 8085 E. Maloney Rd<br>City: Brownsburg State: In Zip: 46112       | newwinv@tds.net                |
| Tim + Susan Plunkett  | Address: 4955 S SR 267<br>City: Lebanon State: Zip: 46052                  | tsplunkett@tds.net             |
| Garen Carnes          | Address: 9550 Edgewater Ct<br>City: Brownsburg State: IN Zip: 46112        |                                |
| DANIEL + CINDY WEAVER | Address: 6350 S 475 E<br>City: LEBANON State: IN Zip: 46052                | dwchumbay@tds.net              |
| Donna Williams        | Address: 5855 So. SR 267<br>City: Lebanon State: IN Zip: 46052             |                                |



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| Name                      | Mailing Address  | Email                         |
|---------------------------|--|-------------------------------|
| DENNIS<br>KATHY Giles     | Address: <u>6250 S. ST. Rd. 267</u><br>City: <u>Lebanon</u> State: <u>IN</u> Zip: <u>46052</u>       |                               |
| Ed Harper                 | Address: <u>7775 Melbourne Rd</u><br>City: <u>Indpls</u> State: <u>IN</u> Zip: <u>46268</u>          |                               |
| LARRY HOWARD              | Address: <u>7356 OAKVIEW DR</u><br>City: <u>AVON</u> State: <u>IN</u> Zip: <u>46123</u>              | LARRYHOWARD3531@<br>YAHOO.COM |
| Dwayne & Dally<br>Jenkins | Address: <u>5720 S. ST. RD 267</u><br>City: <u>Lebanon</u> State: <u>IN</u> Zip: <u>46052</u>        |                               |
| Peter UdRASOLS            | Address: <u>10990 N. 900 E</u><br>City: <u>BROWNSBURG</u> State: <u>IN</u> Zip: <u>46112</u>         |                               |
| Bob & Lu<br>STORMS        | Address: <u>10515 N CR 800 E</u><br>City: <u>Burg</u> State: Zip: <u>46112</u>                       |                               |
| Sam & Jean Hill           | Address: <u>5725 South State Road 267</u><br>City: <u>lebanon</u> State: <u>IN</u> Zip: <u>46052</u> | devteam@gmx.net               |



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| Name                 | Mailing Address   | Email                      |
|----------------------|---|----------------------------|
| Ken WASHBURN         | Address: P.O. Box 128<br>City: Walcott State: IA Zip: 52773                 | kc/Washburn Jr@gmail.com   |
| J A Abbott           | Address: 2400 E 750 S<br>City: Lebanon State: IN Zip: 46052                 |                            |
| Tim + Kathy Matchett | Address: 8437 N. County Rd. 900 E.<br>City: Brownsburg State: IN Zip: 46112 |                            |
| DAVID ROGERS         | Address: 4060 W 400 S<br>City: Lebanon State: IN Zip: 46052                 |                            |
| Lucinda Youne        | Address: 6901 S 425 E<br>City: Lebanon State: IN Zip: _____                 | edwardwardstom77@yahoo.com |
| ANDREW HENTHORN      | Address: 3855 E 550 S<br>City: LEBANON State: IN Zip: 46052                 |                            |
| ROSE/DARREN SMITH    | Address: 3775 EAST 550 SOUTH<br>City: LEBANON State: IN Zip: 46052          | MrVideo85@yahoo.com        |



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| Name                                   | Mailing Address   | Email                 |
|--|---|-----------------------|
| John P. MALONEY<br>Little Ireland Farm | Address: 8810 N Co. Rd 800 E<br>City: Brownsburg State: IN Zip: 46112 | jmaloney@ijmco.com    |
| Jean Hornbeck                          | Address: 8521 Green Praes S Dr<br>City: Indpls State: IN Zip: 46234   | JLHornbeck@gmail.com  |
| Karyn & Paul Seppel                    | Address: 6175 South 267<br>City: Lebanon State: IN Zip: 46052         | seppelnon@hotmail.com |
| Don Fisher                             | Address: 8500 Graytown Rd<br>City: Indy State: Zip: 46068             | donjfisherAOL         |
| Doug Everett                           | Address: 4077 S 250 E<br>City: Leb State: IN Zip: 46052               | dae642@aol.com        |
| Frank Bymaster                         | Address: 8545 N CR 650 E<br>City: Brownsburg State: IN Zip: 46112     | FRANKBYMASTER@aol.com |
|  | Address:<br>City: State: Zip:   |                       |





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| Name                               | Mailing Address   | Email                        |
|------------------------------------|---|------------------------------|
| Rebecca Merritt                    | Address: 250E-700 S.<br>City: Lebanon State: IN Zip: 46052          |                              |
| Daniel Kurtz                       | Address: 949 E. 84th St.<br>City: INDIANAPOLIS State: IN Zip: 46240 |                              |
| Dawn + Debra Giles                 | Address: 6730 S. 475 E.<br>City: Lebanon State: IN Zip: 46052       |                              |
| DEBRICK + HEIDI ROGERS             | Address: 4950 S. STATE RD 267<br>City: LEBANON State: IN Zip: 46052 |                              |
| LJ JERNSTADT<br><del>SUSAN A</del> | Address: 505 LINVILLE AVE<br>City: Whitestown State: IN Zip: 46075  | Lsmc@TDS.NET                 |
| SUSAN AUSTIN                       | Address: 601 E PIERCE ST<br>City: Whitestown State: IN Zip: 46075   | smaustin@TDS.NET             |
| Joshua Allen                       | Address: 800 Penny Court<br>City: Pittsboro State: IN Zip: 46167    | josh.allen030179@hotmail.com |



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| Name                              | Mailing Address  | Email                                |
|-----------------------------------|--|--------------------------------------|
| BOB SCOTT<br>ONEIDA SCOTT         | Address: 8950 E. 750 N<br>City: BROWNSBURG State: IN Zip: 46112              | bob.scott@millerpipelinc.com         |
| Emmericus Hamsta<br>Dennis Hamsta | Address: 9395 N 800 E<br>City: Brownsburg State: IN Zip: 46112               | Dennis-Hamsta@ACHSONTRANSMISSION.COM |
| Elaine Dieckerson                 | Address: 6995 S. St. Rd 267<br>City: Lebanon State: IN Zip: 46052            | Elaine.Dieckerson@aol.com            |
| John & Natalie<br>Bymaster        | Address: 4435 E. Whitestown Parkway<br>City: Lebanon State: IN Zip: 46052    | j & nataliebymasters@gmail.com       |
| Ryan Baker<br>Cushman & Wakefield | Address: One American Square Suite 1300<br>City: Indpls State: IN Zip: 46282 | ryan.baker@cushwake.com              |
| WEEKS                             | Address: 4536 WHITESTOWN PKWY<br>City: LEBANON State: IN Zip: 46052          |                                      |
| Dan Giles                         | Address: 6490 S. ST. Rd<br>City: Lebanon State: IN Zip: 46052                |                                      |



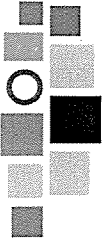
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| Name              | Mailing Address   | Email   |
|-------------------|---|---|
| R Laides          | Address: <u>42855 MAIN ST</u><br>City: <u>Whitestown</u> State: <u>IN</u> Zip: <u>46075</u>             |   |
| Rashed Cunningham | Address: <u>32 Piccadilly Rd</u><br>City: <u>Brownsburg</u> State: <u>IN</u> Zip: <u>46112</u>          | minister Rashed Cunningham@smc1.com<br>Rashed@churchontherockDO.com |
| Jan Lowe          | Address: <u>963 Glenmore Trail</u><br>City: <u>Brownsburg</u> State: <u>IN</u> Zip: <u>46112</u>        | jon@circlecitychurchplanting.com                                    |
| Tim McCormack     | Address: <u>5950 South state Rd 267</u><br>City: <u>LEBANON</u> State: <u>IN</u> Zip: <u>46052-8153</u> | tim t048@hitmed.com   |
| Justin Strinka    | Address: <u>8126 Castleton Rd</u><br>City: <u>Indianapolis</u> State: <u>IN</u> Zip: <u>46250</u>       | jstrinka@B-L-N.com  |
| Bill Coan         | Address: <u>7380 S. 700 E</u><br>City: <u>Lebanon</u> State: <u>IN</u> Zip: <u>46052</u>                | coan,william@yahoo.com  |
| Ramona Seymour    | Address: <u>4100 Whitestown Hwy</u><br>City: <u>Lebanon</u> State: <u>IN</u> Zip: <u>46052</u>          | reverettseymour@aol.com   |



## PUBLIC COMMENT FORM

To be assured that your comment will be included in the official project record, please submit to American Structurepoint, Inc. by **November 3<sup>rd</sup>, 2016**.

**Meeting Date:** October 19, 2016

**Project:** Ronald Reagan Parkway  
From CR 600 N to SR 267/I-65 Interchange  
Hendricks and Boone Counties

Name (Please Print): Donna Williams

Address: 5855 So. SR 267  
Lebanon IN 46052

Comments: Please send a copy of  
the map showing the location  
of the Parkway

Signature: \_\_\_\_\_

Comments can be mailed to American Structurepoint at 7260 Shadeland Station, Indianapolis, Indiana, faxed to (317) 543-0270 or emailed to [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

*(Attach additional sheets, if necessary)*





**P U B L I C   C O M M E N T   F O R M**

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**Meeting Date:** October 19, 2016

**Project:** Ronald Reagan Parkway  
From CR 600 N to SR 267/I-65 Interchange  
Hendricks and Boone Counties

Name (Please Print): GAREN CARNES Email: CARNESGE@yqhoz.com  
Address: 9550 Edgemoor Ct  
Brownsville, IN 46112

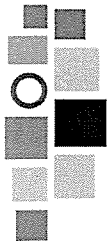
Comments: Some where a long consider I want a giant monument to Reagan. It would only be proper, whether that's a billboard or statue and Monument. I can't imagine there'd be much political opposition, everybody loves ol' Ronnie here.  
I still think a new I-65 interchange at MM 131.5 would be the best in long run.  
I would like a map mailed to me or a PDF emailed of the proposed route.  
Biggest request from me is, <sup>please</sup> get it started ~~now~~ now, I'mo you can't build it soon enough. Thank you for presentation.

P.S. You should have Craig Swayer head up a bunch of this project. He's a good, smart, accountable dude.

Signature: Garen Carnes

Comments can be mailed to American Structurepoint at 7260 Shadeland Station, Indianapolis, Indiana, faxed to (317) 543-0270 or emailed to [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

(Attach additional sheets, if necessary)



AMERICAN  
**STRUCTUREPOINT**  
INC.

7260 Shadeland Station, Indianapolis, Indiana 46256  
TEL 317.547.5580 FAX 317.543.0270

www.structurepoint.com

**P U B L I C   C O M M E N T   F O R M**

To be assured that your comment will be included in the official project record, please submit to American Structurepoint, Inc. by **November 3<sup>rd</sup>, 2016**.

**Meeting Date:** October 19, 2016  
**Project:** Ronald Reagan Parkway  
From CR 600 N to SR 267/I-65 Interchange  
Hendricks and Boone Counties

Name (Please Print): Peter Udrasols  
Address: 10990 N. 900 E.  
Brownsburg, IN 46112

Comments: IF I END UP WITH PROPERTY ON BOTH SIDES OF ROAD  
WILL YOU PROVIDE ACCESS TO IT?

Signature:

Comments can be mailed to American Structurepoint at 7260 Shadeland Station, Indianapolis, Indiana, faxed to (317) 543-0270 or emailed to [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

*(Attach additional sheets, if necessary)*



---

**P U B L I C   C O M M E N T   F O R M**

---

To be assured that your comment will be included in the official project record, please submit to American Structurepoint, Inc. by **November 3<sup>rd</sup>, 2016.**

**Meeting Date:**            October 19, 2016

**Project:**                    Ronald Reagan Parkway  
From CR 600 N to SR 267/I-65 Interchange  
Hendricks and Boone Counties

Name (Please Print): Frank Bymaster  
Address:                    8545 N CR 650 E  
                                     Brownsville, IN 46117

Comments: Please consider adding a pedestrian  
bike walkway

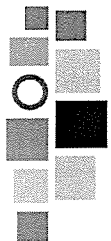
Signature: Frank Bymaster

Comments can be mailed to American Structurepoint at 7260 Shadeland Station, Indianapolis, Indiana, faxed to (317) 543-0270 or emailed to [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

---

*(Attach additional sheets, if necessary)*





**P U B L I C   C O M M E N T   F O R M**

To be assured that your comment will be included in the official project record, please submit to American Structurepoint, Inc. by **November 3<sup>rd</sup>, 2016**.

**Meeting Date:** October 19, 2016  
**Project:** Ronald Reagan Parkway  
From CR 600 N to SR 267/I-65 Interchange  
Hendricks and Boone Counties

Name (Please Print): John Bymaster 317-294-7362  
Address: 4435 E. Whitestown Parkway john@bymasterlaw.com  
Lebanon, IN 46052

Comments: We talked with a couple structurepoint Reps  
about how 4435 E. Whitestown Parkway drains east  
under the Reagan Parkway proposed site. Our House  
location there is very low and serves as the "gutter"  
of the entire field its located on.

We are concerned that house will be flooded if the  
tile / the drain system that currently would go under  
the Reagan Parkway was not replaced and/or was  
compromised during the Reagan Parkway construction.

Signature: John F. Bymaster

Comments can be mailed to American Structurepoint at 7260 Shadeland Station, Indianapolis, Indiana, faxed to (317) 543-0270 or emailed to [mmaurovich@structurepoint.com](mailto:mmaurovich@structurepoint.com).

(Attach additional sheets, if necessary)

## Appendix H: Air Quality



Planning the Transportation Future for the Indianapolis Region

**Project Overview** | Funding History | Amendment History

<< Go Back

**Ronald Reagan Pkwy. from CR 600 N to I-65 (1602280)**

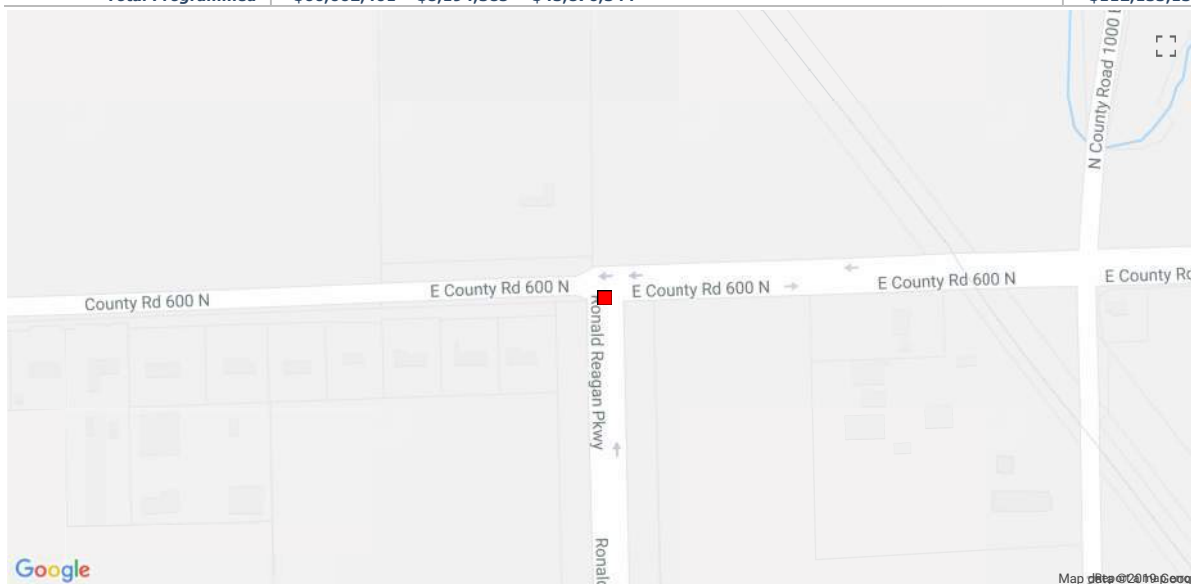
|                     |                       |                      |                       |                                  |                          |                               |                         |
|---------------------|-----------------------|----------------------|-----------------------|----------------------------------|--------------------------|-------------------------------|-------------------------|
| <i>Des Number</i>   | 1602280               | <i>Amendment</i>     | 20-00 TIP             | <i>Exempt Category</i>           | Non-Exempt               | <i>Est Total Project Cost</i> | \$112,133,130           |
| <i>Lead Agency</i>  | Hendricks County      | <i>Contact (ERC)</i> | John Ayers 3177459236 | <i>INDOT District</i>            | Crawfordsville           | <i>County</i>                 | Hendricks Hendricks Co. |
| <i>Project Type</i> | New Road Construction | <i>Letting Date</i>  | /                     | <i>Functional Classification</i> | Other Principal Arterial | <i>Bike/Ped Component(s)</i>  | No                      |

*Title* Ronald Reagan Pkwy. from CR 600 N to I-65

*Limits* From 600N to I-65 of Distance (mile) 6.87

*Description* Ronald Reagan Pkwy., from current northern terminus at Hendricks CR 600N to I-65 in Boone Co., new 4 lane roadway on new alignment

| Phase | Fund Source                           | Prior SFY           | SFY2020            | SFY2021             | SFY2022 | SFY2023 | SFY2024 | Future SFY | Total                |
|-------|---------------------------------------|---------------------|--------------------|---------------------|---------|---------|---------|------------|----------------------|
| PE    | LOCAL - Other                         | \$8,479,702         | \$4,630,385        | -                   | -       | -       | -       | -          | \$13,110,087         |
|       | <i>Total Preliminary Engineering</i>  | \$8,479,702         | \$4,630,385        | -                   | -       | -       | -       | -          | \$13,110,087         |
| RW    | LOCAL - Other                         | \$3,349,636         | \$3,564,000        | -                   | -       | -       | -       | -          | \$6,913,636          |
|       | <i>Total Right of Way</i>             | \$3,349,636         | \$3,564,000        | -                   | -       | -       | -       | -          | \$6,913,636          |
| CN    | LOCAL - Other                         | \$42,873,834        | -                  | \$40,088,000        | -       | -       | -       | -          | \$82,961,834         |
|       | <i>Total Construction</i>             | \$42,873,834        | -                  | \$40,088,000        | -       | -       | -       | -          | \$82,961,834         |
| CE    | LOCAL - Other                         | \$5,359,229         | -                  | \$3,788,344         | -       | -       | -       | -          | \$9,147,573          |
|       | <i>Total Construction Engineering</i> | \$5,359,229         | -                  | \$3,788,344         | -       | -       | -       | -          | \$9,147,573          |
|       | <b>Total Programmed</b>               | <b>\$60,062,401</b> | <b>\$8,194,385</b> | <b>\$43,876,344</b> | -       | -       | -       | -          | <b>\$112,133,130</b> |



| Phase  | 2020 Construction Cost | Construction Engineering (10%) | Reimbursable Utility Engineering Cost | Reimbrusable Utility Construction Cost | Total 2020 Cost      |
|--------|------------------------|--------------------------------|---------------------------------------|--|----------------------|
| 1A     | \$ 23,855,000          | \$ 2,385,500                   | \$ 50,000                             | \$ 2,333,980                           | \$ 28,624,480        |
| 1B     | \$ 23,258,000          | \$ 2,325,800                   | \$ 317,500                            | \$ 6,444,000                           | \$ 32,345,300        |
| TOTALS | \$ 47,113,000          | \$ 4,711,300                   | \$ 367,500                            | \$ 8,777,980                           | \$ 60,969,780        |
|        |                        |                                |                                       | <i>Project Contingency</i>             | <i>5%</i>            |
|        |                        |                                |                                       | <b>Grand Total:</b>                    | <b>\$ 64,018,269</b> |

See email below  
for right of way  
costs (App H, H-3)

## Farrell, Scott

---

**From:** Murphy, Nicholas  
**Sent:** Thursday, December 12, 2019 3:40 PM  
**To:** Maurovich, Mike; Farrell, Scott  
**Cc:** Iddings, Joshua  
**Subject:** RE: Funding breakdown- Ronald Reagan-2011.00183 DES 1602280

### Phase 1A

- Land Acquisition Cost = \$3,130,171

### Phase 1B

- Land Acquisition Cost = \$2,370,900

---

### Nicholas R. Murphy, P.E.

9025 River Road, Suite 200, Indianapolis, IN 46240

T 317.547.5580 E [nmurphy@structurepoint.com](mailto:nmurphy@structurepoint.com)

F 317.543.0270 W [www.structurepoint.com](http://www.structurepoint.com)

---

**From:** Maurovich, Mike  
**Sent:** Thursday, December 12, 2019 1:26 PM  
**To:** Farrell, Scott <[sfarrell@structurepoint.com](mailto:sfarrell@structurepoint.com)>; Murphy, Nicholas <[nmurphy@structurepoint.com](mailto:nmurphy@structurepoint.com)>  
**Cc:** Iddings, Joshua <[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)>  
**Subject:** RE: Funding breakdown- Ronald Reagan-2011.00183 DES 1602280

RW was not included and the funds are all for 2020 100% local now.

Nick – can you pull Skip’s latest RW report and verify the RW funds?

Thanks

---

**From:** Farrell, Scott  
**Sent:** Thursday, December 12, 2019 12:05 PM  
**To:** Maurovich, Mike <[MMAurovich@structurepoint.com](mailto:MMAurovich@structurepoint.com)>; Murphy, Nicholas <[nmurphy@structurepoint.com](mailto:nmurphy@structurepoint.com)>  
**Cc:** Iddings, Joshua <[jiddings@structurepoint.com](mailto:jiddings@structurepoint.com)>  
**Subject:** RE: Funding breakdown- Ronald Reagan-2011.00183 DES 1602280

Mike,

Are the updated costs you sent me all 2020 money? Also, the TIP has funding broken down for 2020/2021 Engineering, R/W, and Construction. The estimate you provided lists Construction, Engineering and Utility Construction and Utility Engineering. I assume R/W is included in the estimate that you provided, is that correct? Do you happen to have a breakdown for R/W?

Thanks again, Mike.

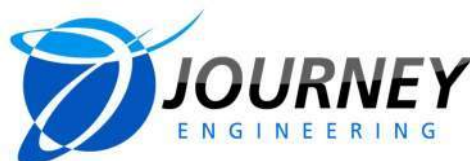
**Appendix I: Noise Analysis and Report**

Noise Analysis & Report  
Ronald Reagan Parkway – Phase 1a  
Hendricks County, Indiana  
INDOT DES. #1602280



Prepared by: Kurt Fowerbaugh, P.E.

Date: July 13, 2018



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## Executive Summary

The Ronald Reagan Parkway project is located in northern Hendricks County and southern Boone County. The proposed extension of Ronald Reagan Parkway begins at CR 600 North in Hendricks County and extends north to Interstate 65 in Boone County. Phase 1a of the project extends Ronald Reagan Parkway from Hendricks CR 600N north to Hendricks CR 750N. The main proposed scope items on this project include construction of Ronald Reagan Parkway on new terrain alignments, building a bridge to carry Ronald Reagan Parkway over CSX Railroad, improving intersecting roads with dedicated left turn lanes at Ronald Reagan Parkway, and constructing cul-de-sacs for portions of CR 900E that are intercepted by new Ronald Reagan Parkway alignments. Refer to Figure 1 for a comprehensive project site map.

Due to the construction of new terrain roadways, the proposed project improvements are categorized as a Type I project from criteria set forth by the FHWA and INDOT. Therefore, in accordance with 23 CFR Part 772-*Procedures for Abatement of Highway Noise* and the INDOT Traffic Noise Policy approved by FHWA effective July 1, 2017, a noise impact analysis is required as part of project development.

All receptors of noise (dwelling, office, commercial building, undeveloped lands, etc.) within 500 feet of the proposed construction of Phase 1a of Ronald Reagan Parkway were identified and classified according to land uses and applicable noise abatement criteria (NAC). Identified receptors were incorporated into the project's traffic noise model as generated by the Federal Highway Administration Traffic Noise Model, Version 2.5 (FHWA-TNM). Existing noise levels were generated from present traffic volumes (2018) and existing roadway alignments. Future noise levels were generated from projected traffic volumes (2038) and proposed edges of pavement for the developed Ronald Reagan Parkway alignment.

If future noise levels impact identified receptors, possible abatement of traffic noise impacts will be evaluated to accomplish specific noise reduction goals. FHWA defines highway traffic noise impacts as: 1) projected traffic noise levels approach or exceed the NAC specified, or 2) projected traffic noise levels substantially exceed existing traffic noise levels in an area. INDOT further defines a substantial noise level growth as an increase of at least 15.0 dB(A) between existing and future noise levels.

One of the goals of any proposed noise abatement measure is to satisfy what has been defined by INDOT as the "Noise Reduction Design Goal". For Type I projects, INDOT states this Noise Reduction Design Goal as reducing noise levels at least 7 dB(A) for a majority (> 50%) of benefited first row receptors. Furthermore, first row receptors have been defined as the first parcel that exhibits the qualities of a receptor that is directly adjacent to the roadway. This design goal is considered part of the evaluation for reasonableness of noise abatement measures per INDOT policy.

Noise abatement measures incorporated into Type I projects must be both *feasible* and *reasonable*. There are two components to a feasible determination; acoustic feasibility and engineering feasibility. To satisfy the acoustic feasibility benchmarks, INDOT requires proposed noise barriers provide at least a 5.0 dB(A) reduction in future traffic noise levels for a majority of the impacted receptors. To meet engineering feasibility criteria, the physical location and geometry of noise barriers including offsets, heights, and lengths are considered for optimum noise absorption performance.

The reasonableness of noise abatement measures is firstly based on cost effectiveness of construction. INDOT considers proposed noise abatement measures reasonable if the construction year cost of the proposed noise barriers is no more than \$30,000 per benefited receptor for which a majority (more than 50%) of the receptors were in place prior to the initial construction of the roadway in its current state (functional classification). Results from opinion surveys of benefited receptors (residents and property owners) can also factor into the final determination of reasonableness for any proposed noise barriers.

This project's traffic noise model identified fifty (50) receptors within 500 feet of the proposed Ronald Reagan Parkway alignment. Of the total identified study area receptors, two (2) are planned for relocations as part of the project construction. A summary of project receptors is included in Table 2. Of the forty-eight (48) remaining receptors, one is expected to experience future traffic noise impacts. This receptor is classified as residential and is predicted to experience a future traffic noise level equal to 67.4 dB(A). This future noise level is above the NAC defined value of 67.0 dB(A) for Activity Category B.

All developed land uses and activities near the project site will be affected by noise generated from the contractor's equipment during construction of Phase 1a of Ronald Reagan Parkway. To minimize these temporary noise impacts, the contractor should operate and maintain all equipment in compliance with all Federal, state and local applicable rules and regulations.

For the impacted receptor remaining after construction is complete the issue of feasibility was examined with potential noise barrier wall geometry for each impacted receptor. The impacted receptor does not achieve engineering feasibility due to multiple driveway access points along CR 600E and a field entrance at Ronald Reagan Parkway.

In summary, noise abatement measures in the form of a single noise barrier for the potential benefit of the single impacted receptor does not meet the threshold for engineering feasibility due to the presence of multiple existing access points that prohibit long, interrupted segments of noise barrier. We do *not* recommend noise barriers be constructed as a part of this project.

## Project Background

### Environmental Assessment (EA) Overview

The Ronald Reagan Parkway project is located in northern Hendricks County and southern Boone County. The proposed extension of Ronald Reagan Parkway begins at CR 600 North in Hendricks County and extends north to Interstate 65 in Boone County. The alignment is proposed to connect with Interstate 65 at the existing I-65/SR 267 interchange. Specifically, the project is located in Sections 1 and 6, Township 16 North, Range 1 East, Sections 13, 24, 25, 26, 35, and 36, Township 17 North, Range 1 East of Brown Township in Hendricks County and Sections 2, 11, and 12, Township 17 North, Range 1 East, Sections 27, 34, and 35, Township 18 North, Range 1 East of Perry Township in Boone County.

The proposed project is included on the 2030 Indianapolis Regional Transportation Plan, the Hendricks County Master Thoroughfare Plan, and the Boone County Master Thoroughfare Plan. The Federal Highway Administration (FHWA) and INDOT approved the EA in July 2010. The EA received its Certification of Public Involvement on September 2, 2010. Finally, a Finding of No Significant Impact (FONSI) for the project was approved by FHWA on March 7, 2011.

This analysis covers Phase 1a of the proposed Ronald Reagan Parkway project. Phase 1a of the project extends Ronald Reagan Parkway from Hendricks CR 600N north to Hendricks CR 750N. The extent of this analysis is represented in Figure 1.

### Intent of the Reevaluation

The intent of this reevaluation is to amend the noise analysis that was completed as part of the EA approved in July 2010 due to extenuating factors. The factors necessitating the reevaluation are discussed in detail below.

This reevaluation took into consideration the current design information available for Ronald Reagan Parkway. Advancement through the design process has resulted in adjustments to the horizontal alignments and vertical profiles. Consequently, these changes have been reflected in the current noise model prepared using FHWA's *Traffic Noise Model, Version 2.5* (TNM-2.5).

At the time the original EA was completed in 2010, a noise policy was in place that has since been superseded by INDOT's current Traffic Noise Analysis Procedure (2017). Since construction plans had not been finalized prior to the publication of INDOT's 2017 traffic noise policy this reevaluation shall follow the guidelines and procedures set forth by INDOT's current policy.



Figure 1: Project Location Map

Criteria set forth by FHWA and INDOT results in a classification as a Type I project as defined the construction of a highway on a new location per 23 CFR 772.5. As such, a noise analysis and report must be performed as part of the environmental documentation on the project.

The purpose of the noise analysis and report is to quantify existing noise levels and predict future traffic noise levels. The noise analysis will identify receptors within the study area and evaluate traffic noise levels at each receptor and the appropriateness of noise abatement measures for impacted receptors. Noise (unwanted sound) as perceived by the human ear, is the result of sound pressure exerted on the eardrum. Sound pressure is the sensory mechanism by which the human ear perceives loudness. As sound pressure reduces, loudness (as perceived by the ear) decreases.

In accordance with 23 CFR Part 772-*Procedures for Abatement of Highway Noise* and the INDOT Traffic Noise Policy approved by FHWA effective July 1, 2017, this noise analysis and report will accomplish the following tasks:

- Measure existing ambient noise levels at representative locations with an integrating Sound Level Meter to validate existing noise levels using FHWA-TNM and current traffic volumes
- Estimate future traffic noise levels at each receptor using FHWA-TNM and forecast traffic volumes
- Classify receptors within the study area according to NAC
- Identify impacted receptors based on FHWA and INDOT definitions of highway traffic noise impact
- Assess the feasibility and reasonability of noise abatement measures for impacted receptors

## Traffic Noise Calculations

This noise analysis and report quantifies traffic noise levels to sound receptors (dwellings, offices, commercial buildings, etc.) within the study area. Existing ambient noise levels are measured in accordance with FHWA guidance for “Existing Noise Measurements in the Vicinity of Highways” and future traffic noise levels are predicted within the model from forecast traffic volumes. Existing ambient noise levels and future traffic noise levels for each receptor are evaluated to determine if there are traffic noise impacts. As defined by FHWA, a highway traffic noise impact occurs when the projected highway traffic noise levels approach or exceed the noise abatement criteria in 23 CFR 772, or the projected highway traffic noise levels substantially exceed existing ambient noise levels in the study area. Current INDOT traffic noise policy defines traffic impact criteria more precisely as: 1) within or exceeding 1.0 dB(A) of the prescribed NAC value for the receptor studied or, 2) future noise values at least 15.0 dB(A) higher than existing noise values as modeled with existing and future traffic volumes.

The FHWA-TNM is required for use in all highway traffic noise analysis projects on federally funded projects. Any numeric modeling effort is inherently limited to the assumptions and inputted values and represents a simplification of actual environments. The modeling results are affected by the internal calculations used to solve noise equations and the accuracy of inputted values such as receptor elevations, traffic data, and surrounding terrain characteristics.

## Traffic Data

Future traffic data splits for Ronald Reagan Parkway came from forecasted traffic volumes in 2038 as shown on the title sheet of the proposed construction plans and a project traffic data memo. Hourly traffic volumes input into FHWA-TNM are separated into automobiles, heavy and medium trucks, buses, and motorcycles. Existing and future traffic data splits for intersecting County roads were also provided by American Structurepoint and utilized for existing and future traffic noise levels. The FHWA-TNM input values for this project attributed to automobiles and heavy trucks were determined by calculating the Design Hourly Volume (DHV) with a K-factor of 10% applied to the Average Daily Traffic (ADT) values

provided. A summary of each roadway’s traffic count data is presented in Appendix B. Intersecting roads within the study area are Hendricks CR 600N, Hendricks CR 700N, Hendricks CR 750N, and Hendricks CR 900E.

## Classification of Receptors

Based on FHWA’s descriptions of land use activity for potential receptors, an NAC value is assigned to each receptor identified within the study area. Table 1 includes a complete description of activity categories. The study area extends 500 feet from proposed edges of pavement of Ronald Reagan Parkway or intersecting roads and includes fifty (50) total receptors. Land use in the study area includes residential and undeveloped lands. Due to construction of Ronald Reagan Parkway on a new terrain alignment, some existing receptors are planned for relocation as part of the construction project. A summary of receptors by activity category is included in Table 2.

| Activity Category | NAC              | Activity Description   |
|-------------------|------------------|--|
| A                 | 57<br>(exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.  |
| B                 | 67<br>(exterior) | Residential  |
| C                 | 67<br>(exterior) | Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. |
| D                 | 52<br>(interior) | Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.  |
| E                 | 72<br>(exterior) | Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in Activity Category A, B, C, D or F.  |
| F                 | -                | Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.   |
| G                 | -                | Undeveloped lands that are not permitted.  |

Table 1: Noise Abatement Criteria (NAC)

A single family residence is evaluated as a single receptor regardless of the number of occupants. A commercial or office building is considered a single receptor notwithstanding the size or business type. Undeveloped lands within the study area were confirmed to be without permitting or foundations in place and were not evaluated for noise impacts since there is no NAC established for these parcels. There are no public parks, trails, or multiple occupancy dwellings such as apartments or hotels within the study area. A complete, detailed listing of study area receptors is included in Appendix C.

| Activity Category | Total # of Receptors |        |
|-------------------|----------------------|--------|
|                   | Existing             | Future |
| A                 | 0                    | 0      |
| B                 | 50                   | 48     |
| C                 | 0                    | 0      |
| D                 | 0                    | 0      |
| E                 | 0                    | 0      |
| F                 | 0                    | 0      |
| G                 | 0                    | 0      |
|                   | 50                   | 48     |

*Table 2: Summary of Study Area Receptors*

Two existing receptors will be relocated as part of the Ronald Reagan Parkway - Phase 1a project. A residence located on the north side of CR 600N where Ronald Reagan Parkway is being extended north from its current terminus will be relocated to accommodate roadway construction. A second residence at the northwest corner of CR 900E and CR 750N will also be relocated to accommodate construction of Ronald Reagan Parkway. These residences are within the study area but have not been included in the noise modeling.

### Determination of Existing Noise Levels

For this analysis a Larson Davis Class 1 Integrating Sound Level Meter (SLM)/Analyzer 831 was used to obtain short-term field measurements of ambient noise levels at representative receptors in the analysis area. The field measurements were taken by personnel of American Structurepoint on February 22, 2017, March 2, 2017, and March 14, 2017. Short term measurements were collected for durations of 15 minutes at seven sites. The field data sheets for each measurement taken are included in Appendix E of this report. Prior to use, the SLM was calibrated to 94 dB(A) and 114 dB(A) using the appropriate calibrator for this model. The Certificate of Calibration for this SLM is also included in Appendix E. During the sampling time atmospheric conditions and any unanticipated noise events were noted.

Short-term field measurements are typically collected and used to validate the constructed *TNM 2.5* model prepared for the existing conditions. In such cases, existing noise levels are generated from a baseline condition model, where field observed traffic counts over the 15 minute sampling period are multiplied times four for a *Leq(h)* volume equivalent and entered into the model. Sites are considered to be validated when the field measured reading is found to be within 3 dB(A) (+/-) of the modeled values.

In the case of this analysis, which involves the construction of a road on mostly new terrain, the measurements collected were used to establish the baseline noise levels for all assessed receptors. The results of the validation effort are illustrated in Table 3 below.

| Location                     | Noise Levels (dB(A)) |         |            | Validated                           |
|------------------------------|----------------------|---------|------------|-------------------------------------|
|                              | Measured             | Modeled | Difference |                                     |
| RS5) 9265 East CR 600 North  | 65.0                 | 61.3    | -3.7       | No, wind & airplane traffic present |
| RS6) 9297 Shoal Creek Lane   | 46.0                 | 39.2    | N/A        | > 800 feet from existing roadway    |
| RS15) 6589 Kara Kane         | 48.8                 | 51.7    | 2.9        | Yes                                 |
| RS23) 6709 Kara Lane         | 49.7                 | 46.7    | -3.0       | Yes                                 |
| RS35) 6680 Kara Lane         | 45.3                 | 43.0    | -2.3       | Yes                                 |
| RS46) 8780 East CR 700 North | 59.9                 | 61.8    | 1.9        | Yes                                 |
| RS47) 9215 East CR 750 North | 54.4                 | 55.0    | 0.6        | Yes                                 |

*Table 3: Ambient Noise Measurements*

As noted in Table 3, five of the seven sites modeled were validated, one receptor was unable to be validated because it was not within 800 feet of a modeled roadway, and one receptor fell outside the 3 dB(A) threshold needed for validation. The presence of the single invalid receptor does not invalidate the entire model or noise analysis, but rather provides the analyst with a perspective of the accuracy between the modeled conditions and actual ambient conditions. It is an indication to the analyst that the observations and data collected during the sampling period and the model parameters should be checked to ensure there are no significant discrepancies contributing to the variations. A model having a majority or all of its receptors invalidated without a logical explanation, for instance, would suggest severe flaws in the model parameters requiring correction.

In the case of monitored sites, the field collected measurements were found to be slightly above or below the modeled measurements. Factors determined to contribute to the invalidation of the site along CR 600N included the presence of additional noise sources such as higher wind speeds and airplanes in approach or departure patterns for Indianapolis International Airport. Despite the presence of an invalidated receptor, the model was found to be acceptable using the inputted parameters such as road elevations, receptor elevation, ground zones, and building row height and density, to determine the existing ambient levels at all modeled receptors.

This noise analysis is developed as part of the National Environmental Policy Act (NEPA) environmental documentation for the project. In accordance with 23 Code of Federal Regulations (CFR) Part 772,



FHWAs Highway *Traffic Noise: Analysis and Abatement Guidance (December 2011)* and the INDOT *Traffic Noise Analysis Procedure (2017)*, design year (2038) noise exposure levels were predicted using FHWA's approved noise modeling software, *TNM 2.5*.

## Prediction of Future Noise Levels

Future traffic noise levels were calculated with FHWA-TNM for each identified receptor with proposed edges of pavement, proposed profile grades, projected traffic volumes, design speeds, and receptor elevations inputted into the traffic noise model. The future traffic noise levels calculated by FHWA-TNM are listed by receptor in Appendix C and the actual output from FHWA-TNM is contained in Appendix D. Appendix C also tabulates noise level increases for each receptor that were considered to determine if any receptors experience future noise level increases at or above 15 dB(A), INDOT's definition of substantial noise increase.

This analysis determined there are no receptors within the study area predicted to experience substantial noise increases at or above 15 dB(A). The analysis did reveal a single (1) residential receptor within the study area predicted to experience future traffic noise levels within 1.0 dB(A) or above the prescribed NAC value of 67.0 dB(A). The impacted receptor (RS2) has a predicted future noise level of 67.4 dB(A).

## Noise Abatement Measures

The most common form of traffic noise abatement specified by INDOT is the construction of noise barriers. Other forms of abatement measures such as buffering land, berms or vegetation are evaluated on a case by case basis. Given the proximity of existing residences to impacted receptors, buffering land is not realistic. Also, current project right-of-way limits and project topography don't offer enough sufficient areas to construct berms or plant satisfactory vegetation to effectively screen impacted receptors.

Noise abatement measures incorporated into Type I projects must be both *feasible* and *reasonable*. There are two components to a feasible determination; acoustic feasibility and engineering feasibility. To meet engineering feasibility criteria, the physical location and geometry of noise barriers including offsets, heights, and lengths are considered for optimum noise absorption performance. To satisfy the acoustic feasibility benchmarks, INDOT requires proposed noise barriers provide at least a 5 dB(A) reduction in future traffic noise levels for a majority of the impacted receptors.

INDOT defines the reasonableness of noise abatement measures by both the Noise Reduction Design Goal and the cost effectiveness of construction. The Noise Reduction Design Goal is stated as reducing noise levels at least 7 dB(A) for a majority (> 50%) of benefited first row receptors. For cost

effectiveness INDOT considers proposed noise abatement measures reasonable if the construction year cost of the proposed noise barriers is no more than \$30,000 per benefited receptor for which a majority (more than 50%) of the receptors were in place prior to the initial construction of the roadway in its current state (functional classification). Results from opinion surveys of benefited receptors (residents and property owners) can also play a role in the determination of reasonableness for proposed noise barriers.

On this project, the geometry of proposed noise barriers for impacted receptors on the project was first evaluated for engineering feasibility. The impacted receptor located along CR 600N immediately west of the intersection with Ronald Reagan Parkway includes individual driveways for residences along CR 600N that prohibits construction of an uninterrupted segment of noise barrier. There is also an existing field entrance on Ronald Reagan Parkway that provides access to agricultural property. This field entrance will remain after construction is complete and further limits the ability to construct an uninterrupted segment of noise barrier along Ronald Reagan Parkway for the benefit of impacted receptors. Therefore, a noise barrier does not meet engineering feasibility requirements for RS2.

## Recommendations

In accordance with INDOT's Traffic Noise Policy, Journey Engineering has conducted a traffic noise analysis and report for Ronald Reagan Parkway - Phase 1a in northeast Hendricks County, Indiana. Based on the results of the traffic noise model and in agreement with INDOT's Traffic Noise Policy, Journey Engineering does not recommend construction of noise abatement measures as a part of this project.

### *Statement of Likelihood<sup>1</sup>*

Based on the studies thus far accomplished, Hendricks County, the project sponsor, has not identified any locations where noise abatement is likely. Noise abatement measures that were studied at these locations were based upon preliminary design costs and design criteria. Noise abatement has not been found to be feasible based on existing parcel access prohibiting engineering feasibility for the single impacted receptor. A reevaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installment of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.

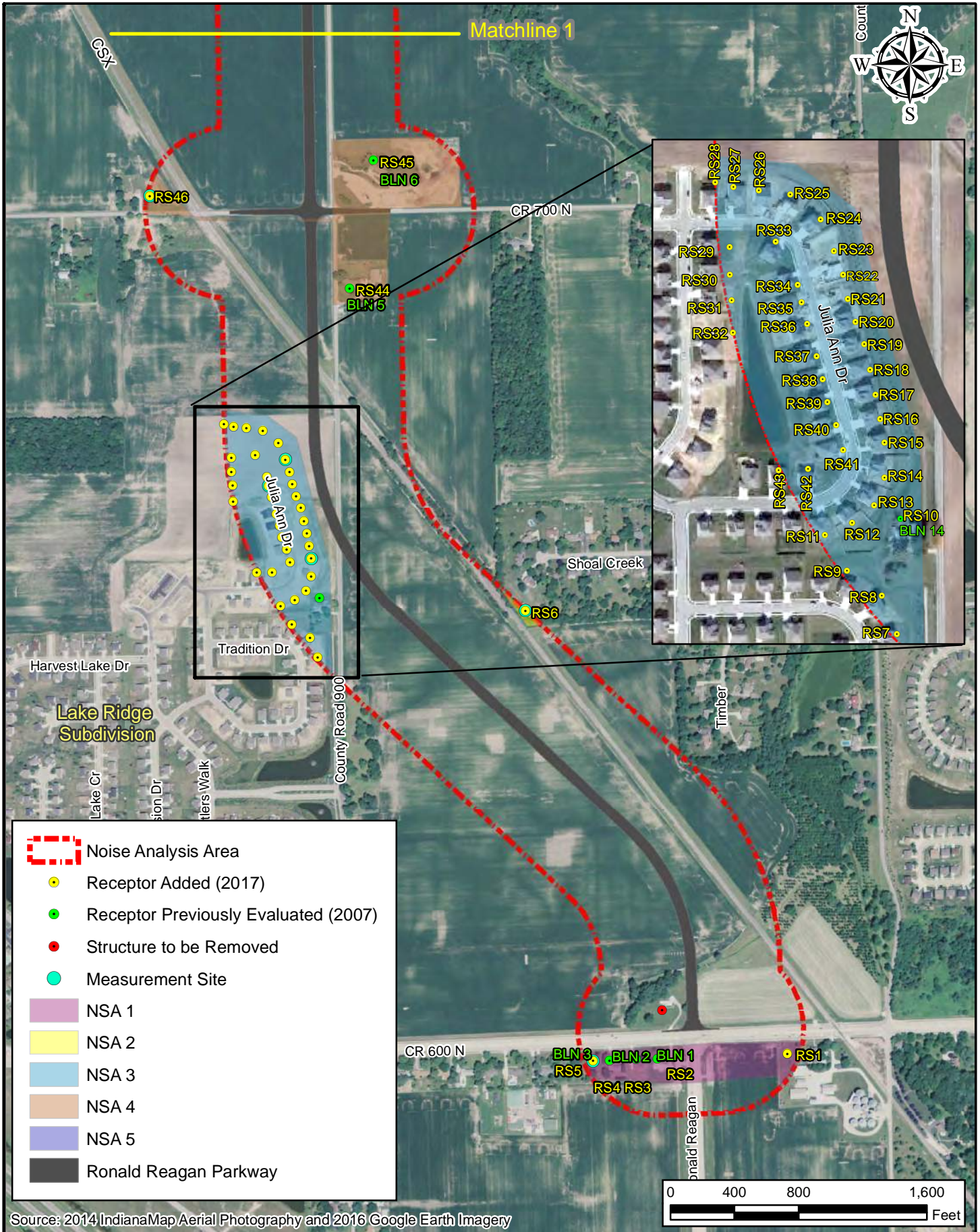
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<sup>1</sup> INDOT Traffic Noise Analysis Procedure, July 2017, page 9



## Appendix A

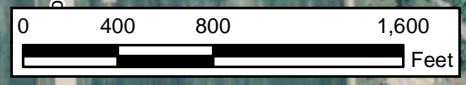
# Site Maps with Receptors




**Legend**

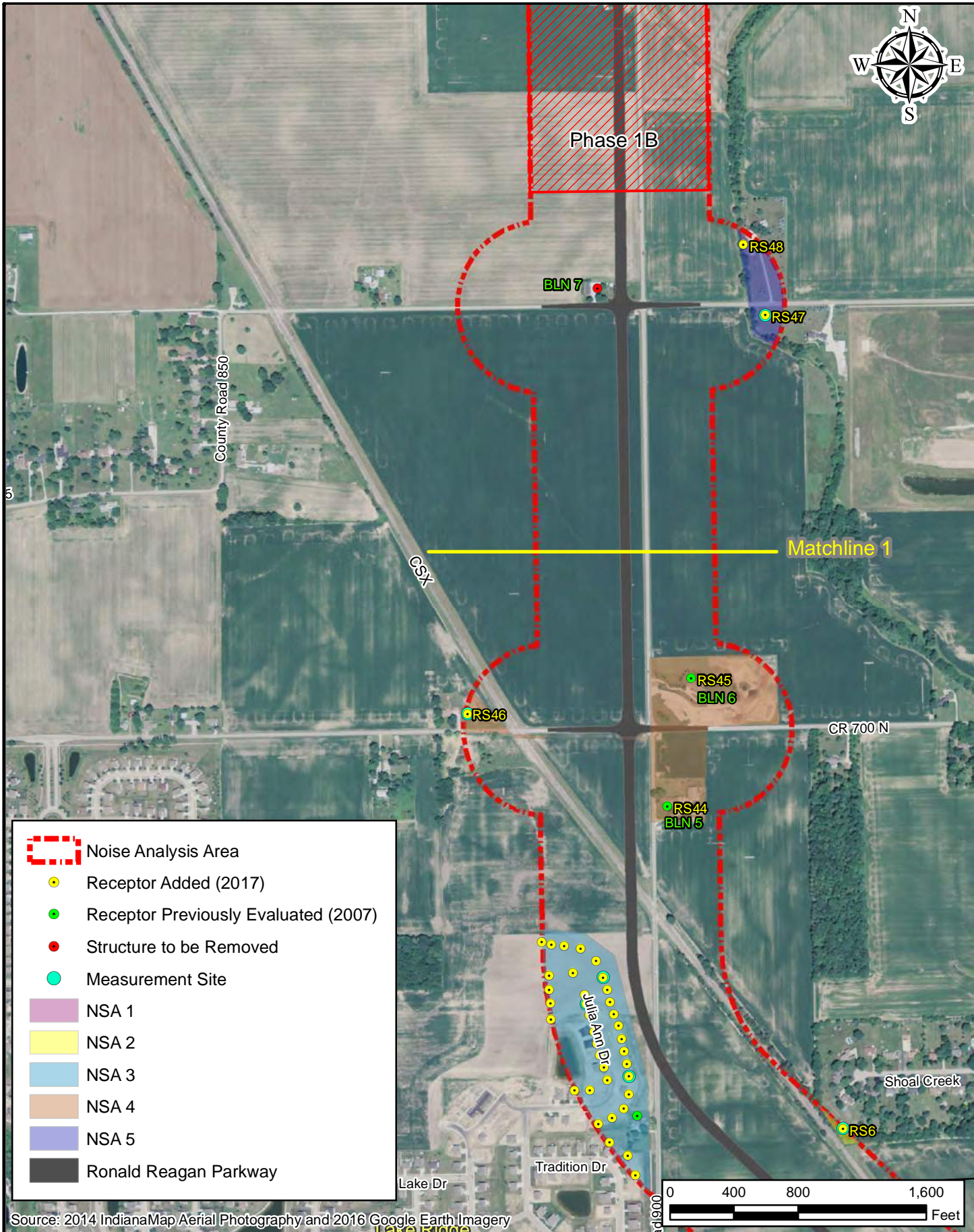
- Noise Analysis Area
- Receptor Added (2017)
- Receptor Previously Evaluated (2007)
- Structure to be Removed
- Measurement Site
- NSA 1
- NSA 2
- NSA 3
- NSA 4
- NSA 5
- Ronald Reagan Parkway

Source: 2014 IndianaMap Aerial Photography and 2016 Google Earth Imagery



Path: P:\2011\00183\10183.D Drawings\Environmental\Noise\2011\_00183.E.V.2017-01-11.Map.NoiseBase.mxd Date: 9/26/2017 User: mdlreal

|   |  |  |
|---|--|--|
|  | <p><b>Noise Re-Evaluation Phase 1a</b><br/><b>Map 1 of 2</b></p> <p>Hendricks County Commissioners<br/>355 S. Washington Street // Danville, IN 46122<br/>and<br/>Boone County Commissioners<br/>116 W. Washington Street // Lebanon, IN 46052</p> | <p><b>Ronald Reagan Parkway Extension -</b><br/><b>CR 600 N to SR 267 / I-65</b></p> <p>Location: Brownsburg / Whitestown<br/>Township: Brown and Perry<br/>County: Hendricks and Boone<br/>State: Indiana</p> <p>Date: 01/16/2017</p> |
|   |  | <p>Appendix I<br/>Page I-15</p>  |



|  |                                      |
|--|--------------------------------------|
|  | Noise Analysis Area                  |
|  | Receptor Added (2017)                |
|  | Receptor Previously Evaluated (2007) |
|  | Structure to be Removed              |
|  | Measurement Site                     |
|  | NSA 1                                |
|  | NSA 2                                |
|  | NSA 3                                |
|  | NSA 4                                |
|  | NSA 5                                |
|  | Ronald Reagan Parkway                |

Source: 2014 IndianaMap Aerial Photography and 2016 Google Earth Imagery

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|  |  |   |
|--|--|---|
|  | <b>Noise Re-Evaluation Phase 1a</b><br><b>Map 2 of 2</b>   | <b>Ronald Reagan Parkway Extension -</b><br><b>CR 600 N to SR 267 / I-65</b>                                    |
|  | Hendricks County Commissioners<br>355 S. Washington Street // Danville, IN 46122<br>and<br>Boone County Commissioners<br>116 W. Washington Street // Lebanon, IN 46052 | Location: Brownsburg / Whitestown<br>Township: Brown and Perry<br>County: Hendricks and Boone<br>State: Indiana |
|  | Date: 01/16/2017   | Appendix I<br>Page I-16   |



## Appendix B

# Roadway Traffic Data

| TRAFFIC DATA              | Ronald Reagan Pkwy             | C.R. 600 N                     |
|---------------------------|--------------------------------|--------------------------------|
| A.A.D.T. (2018)           | 9,070 V.P.D.                   | 15,150 V.P.D.                  |
| A.A.D.T. (2038)           | 29,210 V.P.D.                  | 25,930 V.P.D.                  |
| D.H.V (2038)              | 2,921 V.P.H.                   | 2,593 V.P.H.                   |
| DIRECTIONAL DISTRIBUTION  | 50 %                           | 50 %                           |
| TRUCKS                    | 4% A.A.D.T.                    | 4% A.A.D.T.                    |
|                           | 2% D.H.V.                      | 2% D.H.V.                      |
| DESIGN DATA               |                                |                                |
| DESIGN SPEED              | 45 M.P.H.                      | 45 M.P.H.                      |
| PROJECT DESIGN CRITERIA   | New Construction (Non-Freeway) | New Construction (Non-Freeway) |
| FUNCTIONAL CLASSIFICATION | Principal Arterial             | Local Agency Collector         |
| RURAL/URBAN               | Urban (Suburban)               | Rural                          |
| TERRAIN                   | Level                          | Level                          |
| ACCESS CONTROL            | Partial                        | None                           |

| TRAFFIC DATA              | C.R. 700 N                     | C.R. 750 N                     |
|---------------------------|--------------------------------|--------------------------------|
| A.A.D.T. (2018)           | 3,660 V.P.D.                   | 1,020 V.P.D.                   |
| A.A.D.T. (2038)           | 11,840 V.P.D.                  | 2,710 V.P.D.                   |
| D.H.V (2038)              | 1,184 V.P.H.                   | 271 V.P.H.                     |
| DIRECTIONAL DISTRIBUTION  | 50 %                           | 50 %                           |
| TRUCKS                    | 4% A.A.D.T.                    | 4% A.A.D.T.                    |
|                           | 2% D.H.V.                      | 2% D.H.V.                      |
| DESIGN DATA               |                                |                                |
| DESIGN SPEED              | 40 M.P.H.                      | 40 M.P.H.                      |
| PROJECT DESIGN CRITERIA   | New Construction (Non-Freeway) | New Construction (Non-Freeway) |
| FUNCTIONAL CLASSIFICATION | Local Agency Collector         | Local Agency Collector         |
| RURAL/URBAN               | Rural                          | Rural                          |
| TERRAIN                   | Level                          | Level                          |
| ACCESS CONTROL            | None                           | None                           |

from Title Sheet - Stage 3 Road Plans

\* Roadway design is considering 2038 traffic volumes at 50% build-out scenario as shown on the following pages



Ronald Reagan Parkway - Design Level Traffic Data

| Roadway            | Endpoint 1                | Endpoint 2                | 2018 AADT | 2028 AADT (50%) | 2038 AADT (150%) | 2038 AADT (100%) | 2013 DRHV | 2028 DRHV (50%) | 2038 DRHV (50%) | 2038 DRHV (100%) | AAADT HV % | DHV HV % | D-Factor |
|--------------------|---------------------------|---------------------------|-----------|-----------------|------------------|------------------|-----------|-----------------|-----------------|------------------|------------|----------|----------|
| Ronald Reagan Pkwy | I-74                      | CR 600N                   | 9,070     | 28,150          | 29,210           | 45,530           | 907       | 2,815           | 2,921           | 4,553            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 800N                   | CR 700N                   | 2,640     | 19,570          | 19,840           | 36,480           | 264       | 1,957           | 1,984           | 3,648            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 700N                   | CR 750N                   | 2,840     | 22,720          | 23,010           | 42,610           | 284       | 2,272           | 2,301           | 4,261            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 750 N                  | Maloney Rd                | 2,000     | 22,440          | 22,650           | 42,890           | 200       | 2,244           | 2,265           | 4,289            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 1000N                  | Maloney Rd                | 1,910     | 19,950          | 20,130           | 37,990           | 191       | 1,995           | 2,013           | 3,799            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 1000N                  | CR 750S                   | 1,520     | 17,720          | 17,860           | 33,940           | 152       | 1,772           | 1,786           | 3,394            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 750S                   | Whitestown Pkwy           | 1,610     | 17,810          | 17,960           | 33,960           | 161       | 1,781           | 1,796           | 3,396            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | Whitestown Pkwy           | SR 267                    | 1,110     | 10,740          | 10,840           | 20,380           | 111       | 1,074           | 1,084           | 2,038            | 4%         | 2%       | 55%      |
| Ronald Reagan Pkwy | SR 267                    | CR 550S                   | 4,960     | 17,720          | 18,210           | 30,490           | 496       | 1,772           | 1,821           | 3,049            | 4%         | 2%       | 55%      |
| CR 600N            | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 15,150    | 24,430          | 25,930           | 33,730           | 1,515     | 2,443           | 2,593           | 3,373            | 4%         | 2%       | 55%      |
| CR 600N            | E of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 14,200    | 24,030          | 25,440           | 33,880           | 1,420     | 2,403           | 2,544           | 3,388            | 4%         | 2%       | 55%      |
| CR 700N            | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 3,660     | 11,480          | 11,840           | 19,270           | 366       | 1,148           | 1,184           | 1,927            | 4%         | 2%       | 55%      |
| CR 700N            | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 2,570     | 7,480           | 7,740            | 12,410           | 257       | 748             | 774             | 1,241            | 4%         | 2%       | 55%      |
| CR 750N            | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 200       | 2,400           | 2,410            | 4,550            | 20        | 240             | 241             | 455              | 4%         | 2%       | 55%      |
| CR 750N            | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 1,020     | 2,610           | 2,710            | 4,210            | 102       | 261             | 271             | 421              | 4%         | 2%       | 55%      |
| Maloney Rd         | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 630       | 6,140           | 6,200            | 11,630           | 63        | 614             | 620             | 1,163            | 4%         | 2%       | 55%      |
| Maloney Rd         | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 630       | 6,420           | 6,480            | 12,190           | 63        | 642             | 648             | 1,219            | 4%         | 2%       | 55%      |
| CR 1000N           | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 2,090     | 10,960          | 11,180           | 19,860           | 209       | 1,096           | 1,118           | 1,986            | 4%         | 2%       | 55%      |
| CR 1000N           | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 2,030     | 9,320           | 9,520            | 16,600           | 203       | 932             | 952             | 1,660            | 4%         | 2%       | 55%      |
| CR 750S            | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 520       | 4,150           | 4,200            | 7,800            | 52        | 415             | 420             | 780              | 4%         | 2%       | 55%      |
| CR 750S            | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 500       | 5,310           | 5,350            | 10,110           | 50        | 531             | 535             | 1,011            | 4%         | 2%       | 55%      |
| Whitestown Pkwy    | W of Ronald Reagan Pkwy   | W of Ronald Reagan Pkwy   | 2,530     | 7,980           | 8,200            | 13,380           | 253       | 798             | 820             | 1,338            | 4%         | 2%       | 55%      |
| Whitestown Pkwy    | E of Ronald Reagan Pkwy   | E of Ronald Reagan Pkwy   | 2,910     | 13,610          | 13,880           | 24,320           | 291       | 1,361           | 1,388           | 2,432            | 4%         | 2%       | 55%      |
| SR 267             | S/W of Ronald Reagan Pkwy | S/W of Ronald Reagan Pkwy | 4,070     | 7,420           | 7,810            | 10,750           | 407       | 742             | 781             | 1,075            | 4%         | 2%       | 55%      |

NOTES

- 2018 represents the opening year traffic
- 2028 represents the interim year 50% build traffic
- 2038 represents the design year 100% full-build traffic

Percentage of left turn (% LT) traffic out of total approaching traffic is as follows:

| Intersection            | Approach | % LT |
|-------------------------|----------|------|
| Ronald Reagan & CR 600N | EB       | 25%  |
|                         | WB       | 32%  |
| Ronald Reagan & CR 700N | EB       | 46%  |
|                         | WB       | 21%  |
| Ronald Reagan & CR 750N | EB       | 46%  |
|                         | WB       | 45%  |

Ronald Reagan Parkway - south of CR 600N

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 9,070    |       | AADT                                | 29,210 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

FHWA-TNM inputs (for each of 4 lanes of traffic)

| 2018         |     |     | 2038         |       |     |
|--------------|-----|-----|--------------|-------|-----|
| DHV          | 907 |     | DHV          | 2,921 |     |
| Auto         | 222 | 98% | Auto         | 716   | 98% |
| Medium truck | 0   | 0%  | Medium truck | 0     | 0%  |
| Heavy truck  | 5   | 2%  | Heavy truck  | 15    | 2%  |
| Bus          | 0   | 0%  | Bus          | 0     | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle   | 0     | 0%  |

Ronald Reagan Parkway - north of CR 600N

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 2,640    |       | AADT                                | 19,840 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

FHWA-TNM inputs (2 lanes)

| 2018         |     |     |
|--------------|-----|-----|
| DHV          | 264 |     |
| Auto         | 129 | 98% |
| Medium truck | 0   | 0%  |
| Heavy truck  | 3   | 2%  |
| Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  |

FHWA-TNM inputs (4 lanes)

| 2038         |       |     |
|--------------|-------|-----|
| DHV          | 1,984 |     |
| Auto         | 486   | 98% |
| Medium truck | 0     | 0%  |
| Heavy truck  | 10    | 2%  |
| Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  |

Ronald Reagan Parkway - south of CR 700N

**2018 traffic data (06/19/2017 memo)**

|                 |          |       |
|-----------------|----------|-------|
| AADT            | 2,640    |       |
| DHV             | K factor | 10.0% |
| Directional     | 50%      |       |
| % trucks (2018) | 4.0%     |       |

**2038 traffic data (06/19/2017 memo)**

|                |        |
|----------------|--------|
| AADT           | 19,840 |
| DHV (+20)      |        |
| Directional    | 50%    |
| % trucks (+20) | 4.0%   |

FHWA-TNM inputs (2 lanes)

2018

|              |     |     |
|--------------|-----|-----|
| DHV          | 264 |     |
| Auto         | 129 | 98% |
| Medium truck | 0   | 0%  |
| Heavy truck  | 3   | 2%  |
| Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  |

FHWA-TNM inputs (4 lanes)

2038

|              |       |     |
|--------------|-------|-----|
| DHV          | 1,984 |     |
| Auto         | 486   | 98% |
| Medium truck | 0     | 0%  |
| Heavy truck  | 10    | 2%  |
| Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  |

Ronald Reagan Parkway - north of CR 700N

**2018 traffic data (06/19/2017 memo)**

|                 |          |       |
|-----------------|----------|-------|
| AADT            | 2,840    |       |
| DHV             | K factor | 10.0% |
| Directional     | 50%      |       |
| % trucks (2018) | 4.0%     |       |

**2038 traffic data (06/19/2017 memo)**

|                |        |
|----------------|--------|
| AADT           | 23,010 |
| DHV (+20)      |        |
| Directional    | 50%    |
| % trucks (+20) | 4.0%   |

FHWA-TNM inputs (2 lanes)

2018

|              |     |     |
|--------------|-----|-----|
| DHV          | 284 |     |
| Auto         | 139 | 98% |
| Medium truck | 0   | 0%  |
| Heavy truck  | 3   | 2%  |
| Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  |

FHWA-TNM inputs (4 lanes)

2038

|              |       |     |
|--------------|-------|-----|
| DHV          | 2,301 |     |
| Auto         | 564   | 98% |
| Medium truck | 0     | 0%  |
| Heavy truck  | 12    | 2%  |
| Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  |

Ronald Reagan Parkway - south of CR 750N

**2018 traffic data (06/19/2017 memo)**

|                 |          |       |
|-----------------|----------|-------|
| AADT            | 2,840    |       |
| DHV             | K factor | 10.0% |
| Directional     | 50%      |       |
| % trucks (2018) | 4.0%     |       |

**2038 traffic data (06/19/2017 memo)**

|                |        |
|----------------|--------|
| AADT           | 23,010 |
| DHV (+20)      |        |
| Directional    | 50%    |
| % trucks (+20) | 4.0%   |

FHWA-TNM inputs (2 lanes)

2018

|              |     |     |
|--------------|-----|-----|
| DHV          | 284 |     |
| Auto         | 139 | 98% |
| Medium truck | 0   | 0%  |
| Heavy truck  | 3   | 2%  |
| Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  |

FHWA-TNM inputs (4 lanes)

2038

|              |       |     |
|--------------|-------|-----|
| DHV          | 2,301 |     |
| Auto         | 564   | 98% |
| Medium truck | 0     | 0%  |
| Heavy truck  | 12    | 2%  |
| Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  |

Ronald Reagan Parkway - north of CR 750N

**2018 traffic data (06/19/2017 memo)**

|                 |          |       |
|-----------------|----------|-------|
| AADT            | 2,000    |       |
| DHV             | K factor | 10.0% |
| Directional     | 50%      |       |
| % trucks (2018) | 4.0%     |       |

**2038 traffic data (06/19/2017 memo)**

|                |        |
|----------------|--------|
| AADT           | 22,650 |
| DHV (+20)      |        |
| Directional    | 50%    |
| % trucks (+20) | 4.0%   |

FHWA-TNM inputs (2 lanes)

2018

|              |     |     |
|--------------|-----|-----|
| DHV          | 200 |     |
| Auto         | 98  | 98% |
| Medium truck | 0   | 0%  |
| Heavy truck  | 2   | 2%  |
| Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  |

FHWA-TNM inputs (4 lanes)

2038

|              |       |     |
|--------------|-------|-----|
| DHV          | 2,265 |     |
| Auto         | 555   | 98% |
| Medium truck | 0     | 0%  |
| Heavy truck  | 11    | 2%  |
| Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  |

**CR 600N - east of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 15,150   |       | AADT                                | 25,440 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

**FHWA-TNM inputs (for each lane of EB traffic)**

| 2018         |       |     | 2038         |       |     |
|--------------|-------|-----|--------------|-------|-----|
| DHV          | 1,515 |     | DHV          | 1,272 |     |
| Auto         | 371   | 98% | Auto         | 623   | 98% |
| Medium truck | 0     | 0%  | Medium truck | 0     | 0%  |
| Heavy truck  | 8     | 2%  | Heavy truck  | 13    | 2%  |
| Bus          | 0     | 0%  | Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  | Motorcycle   | 0     | 0%  |

**CR 600N - east of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 14,200   |       | AADT                                | 25,440 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

**FHWA-TNM inputs (for each lane of WB traffic including LT lane)**

| 2018         |       |     | 2038                          |       |     |
|--------------|-------|-----|-------------------------------|-------|-----|
| DHV          | 1,420 |     | DHV                           | 1,272 |     |
| Auto         | 348   | 98% | Auto                          | 424   | 98% |
| Medium truck | 0     | 0%  | Medium truck                  | 0     | 0%  |
| Heavy truck  | 7     | 2%  | Heavy truck                   | 9     | 2%  |
| Bus          | 0     | 0%  | Bus                           | 0     | 0%  |
| Motorcycle   | 0     | 0%  | Motorcycle                    | 0     | 0%  |
|              |       |     | WB left turn lane heavy truck | 399   | 32% |
|              |       |     |                               | 8     |     |

CR 600N - west of Ronald Reagan Parkway

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 15,150   |       | AADT                                | 25,930 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

FHWA-TNM inputs (for each lane of EB traffic including LT lane)

| 2018         |       |     | 2038                          |       |     |
|--------------|-------|-----|-------------------------------|-------|-----|
| DHV          | 1,515 |     | DHV                           | 1,297 |     |
| Auto         | 371   | 98% | Auto                          | 476   | 98% |
| Medium truck | 0     | 0%  | Medium truck                  | 0     | 0%  |
| Heavy truck  | 8     | 2%  | Heavy truck                   | 10    | 2%  |
| Bus          | 0     | 0%  | Bus                           | 0     | 0%  |
| Motorcycle   | 0     | 0%  | Motorcycle                    | 0     | 0%  |
|              |       |     | EB left turn lane heavy truck | 318   | 25% |
|              |       |     |                               | 6     |     |

CR 600N - west of Ronald Reagan Parkway

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 14,200   |       | AADT                                | 25,930 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

FHWA-TNM inputs (for each lane of WB traffic)

| 2018         |       |     | 2038         |       |     |
|--------------|-------|-----|--------------|-------|-----|
| DHV          | 1,420 |     | DHV          | 1,297 |     |
| Auto         | 348   | 98% | Auto         | 635   | 98% |
| Medium truck | 0     | 0%  | Medium truck | 0     | 0%  |
| Heavy truck  | 7     | 2%  | Heavy truck  | 13    | 2%  |
| Bus          | 0     | 0%  | Bus          | 0     | 0%  |
| Motorcycle   | 0     | 0%  | Motorcycle   | 0     | 0%  |

CR 700N - east of Ronald Reagan Parkway

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 3,660    |       | AADT                                | 7,740 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

FHWA-TNM inputs (for EB traffic)

| 2018         |     |     | 2038         |     |     |
|--------------|-----|-----|--------------|-----|-----|
| DHV          | 366 |     | DHV          | 774 |     |
| Auto         | 179 | 98% | Auto         | 379 | 98% |
| Medium truck | 0   | 0%  | Medium truck | 0   | 0%  |
| Heavy truck  | 4   | 2%  | Heavy truck  | 8   | 2%  |
| Bus          | 0   | 0%  | Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle   | 0   | 0%  |

CR 700N - east of Ronald Reagan Parkway

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 2,570    |       | AADT                                | 7,740 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

FHWA-TNM inputs (for WB traffic)

| 2018         |     |     | 2038              |     |     |
|--------------|-----|-----|-------------------|-----|-----|
| DHV          | 257 |     | DHV               | 774 |     |
| Auto         | 126 | 98% | Auto              | 220 | 98% |
| Medium truck | 0   | 0%  | Medium truck      | 0   | 0%  |
| Heavy truck  | 3   | 2%  | Heavy truck       | 4   | 2%  |
| Bus          | 0   | 0%  | Bus               | 0   | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle        | 0   | 0%  |
|              |     |     | WB left turn lane | 163 | 21% |

**CR 700N - west of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 3,660    |       | AADT                                | 11,840 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

**FHWA-TNM inputs (for EB traffic)**

| 2018         |     |     | 2038              |       |     |
|--------------|-----|-----|-------------------|-------|-----|
| DHV          | 366 |     | DHV               | 1,184 |     |
| Auto         | 179 | 98% | Auto              | 46    | 98% |
| Medium truck | 0   | 0%  | Medium truck      | 0     | 0%  |
| Heavy truck  | 4   | 2%  | Heavy truck       | 1     | 2%  |
| Bus          | 0   | 0%  | Bus               | 0     | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle        | 0     | 0%  |
|              |     |     | EB left turn lane | 545   | 46% |

**CR 700N - west of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |        |
|-------------------------------------|----------|-------|-------------------------------------|--------|
| AADT                                | 2,570    |       | AADT                                | 11,840 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |        |
| Directional                         | 50%      |       | Directional                         | 50%    |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%   |

**FHWA-TNM inputs (for WB traffic)**

| 2018         |     |     | 2038         |       |     |
|--------------|-----|-----|--------------|-------|-----|
| DHV          | 257 |     | DHV          | 1,184 |     |
| Auto         | 126 | 98% | Auto         | 580   | 98% |
| Medium truck | 0   | 0%  | Medium truck | 0     | 0%  |
| Heavy truck  | 3   | 2%  | Heavy truck  | 12    | 2%  |
| Bus          | 0   | 0%  | Bus          | 0     | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle   | 0     | 0%  |



**CR 750N - east of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 200      |       | AADT                                | 2,710 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

**FHWA-TNM inputs (for EB traffic)**

| 2018         |    |     | 2038         |     |     |
|--------------|----|-----|--------------|-----|-----|
| DHV          | 20 |     | DHV          | 271 |     |
| Auto         | 10 | 98% | Auto         | 133 | 98% |
| Medium truck | 0  | 0%  | Medium truck | 0   | 0%  |
| Heavy truck  | 0  | 2%  | Heavy truck  | 3   | 2%  |
| Bus          | 0  | 0%  | Bus          | 0   | 0%  |
| Motorcycle   | 0  | 0%  | Motorcycle   | 0   | 0%  |

**CR 750N - east of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 1,020    |       | AADT                                | 2,710 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

**FHWA-TNM inputs (for WB traffic)**

| 2018         |     |     | 2038              |     |     |
|--------------|-----|-----|-------------------|-----|-----|
| DHV          | 102 |     | DHV               | 271 |     |
| Auto         | 50  | 98% | Auto              | 13  | 98% |
| Medium truck | 0   | 0%  | Medium truck      | 0   | 0%  |
| Heavy truck  | 1   | 2%  | Heavy truck       | 0   | 2%  |
| Bus          | 0   | 0%  | Bus               | 0   | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle        | 0   | 0%  |
|              |     |     | WB left turn lane | 122 | 45% |

**CR 750N - west of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 200      |       | AADT                                | 2,410 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

**FHWA-TNM inputs (for EB traffic)**

| 2018         |    |     | 2038              |     |     |
|--------------|----|-----|-------------------|-----|-----|
| DHV          | 20 |     | DHV               | 241 |     |
| Auto         | 10 | 98% | Auto              | 9   | 98% |
| Medium truck | 0  | 0%  | Medium truck      | 0   | 0%  |
| Heavy truck  | 0  | 2%  | Heavy truck       | 0   | 2%  |
| Bus          | 0  | 0%  | Bus               | 0   | 0%  |
| Motorcycle   | 0  | 0%  | Motorcycle        | 0   | 0%  |
|              |    |     | EB left turn lane | 111 | 46% |

**CR 750N - west of Ronald Reagan Parkway**

| 2018 traffic data (06/19/2017 memo) |          |       | 2038 traffic data (06/19/2017 memo) |       |
|-------------------------------------|----------|-------|-------------------------------------|-------|
| AADT                                | 1,020    |       | AADT                                | 2,410 |
| DHV                                 | K factor | 10.0% | DHV (+20)                           |       |
| Directional                         | 50%      |       | Directional                         | 50%   |
| % trucks (2018)                     | 4.0%     |       | % trucks (+20)                      | 4.0%  |

**FHWA-TNM inputs (for WB traffic)**

| 2018         |     |     | 2038         |     |     |
|--------------|-----|-----|--------------|-----|-----|
| DHV          | 102 |     | DHV          | 241 |     |
| Auto         | 50  | 98% | Auto         | 118 | 98% |
| Medium truck | 0   | 0%  | Medium truck | 0   | 0%  |
| Heavy truck  | 1   | 2%  | Heavy truck  | 2   | 2%  |
| Bus          | 0   | 0%  | Bus          | 0   | 0%  |
| Motorcycle   | 0   | 0%  | Motorcycle   | 0   | 0%  |



## Appendix C

# Detailed Receptors Summary

| RECEPTOR ID |     |               |  | COMPARISON OF NOISE LEVELS      |                   |                      |                                |                   |             |                        |
|-------------|-----|---------------|--|---------------------------------|-------------------|----------------------|--------------------------------|-------------------|-------------|------------------------|
| Receptor    | CNE | NAC<br>Leq(h) | Distance<br>to EOP<br>(Ft.) <sup>4</sup> | Existing                        |                   |                      | Future                         | Noise<br>Increase | Impact Type | Front Row<br>receptor? |
|             |     |               |  | Measured<br>(2017) <sup>1</sup> | Modeled<br>(2018) | Applied <sup>2</sup> | Modeled<br>(2038) <sup>3</sup> |                   |             |                        |
| RS1         | 1   | 67.0          | 460                                      |                                 | 61.8              | 61.8                 | 64.7                           | 2.9               | None        | Yes                    |
| RS2         | 1   | 67.0          | 230                                      |                                 | 63.9              | 63.9                 | 67.4                           | 3.5               | Exceeds NAC | Yes                    |
| RS3         | 1   | 67.0          | 327                                      |                                 | 62.5              | 62.5                 | 65.9                           | 3.4               | None        | Yes                    |
| RS4         | 1   | 67.0          | 475                                      |                                 | 61.5              | 61.5                 | 65.1                           | 3.6               | None        | Yes                    |
| RS5         | 1   | 67.0          | 490                                      | 65.0 *                          | 61.3              | 61.3                 | 65.0                           | 3.7               | None        | Yes                    |
| RS6         | 2   | 67.0          | 500                                      | 46.0 *                          | 39.1              | 39.1                 | 49.8                           | 10.7              | None        | Yes                    |
| RS7         | 3   | 67.0          | 500                                      |                                 | 53.7              | 53.7                 | 50.9                           | -2.8              | None        | Yes                    |
| RS8         | 3   | 67.0          | 465                                      |                                 | 51.1              | 51.1                 | 51.7                           | 0.6               | None        | Yes                    |
| RS9         | 3   | 67.0          | 500                                      |                                 | 46.8              | 46.8                 | 50.7                           | 3.9               | None        | Yes                    |
| RS10        | 3   | 67.0          | 270                                      |                                 | 55.1              | 55.1                 | 55.7                           | 0.6               | None        | Yes                    |
| RS11        | 3   | 67.0          | 500                                      |                                 | 44.1              | 44.1                 | 49.7                           | 5.6               | None        | No                     |
| RS12        | 3   | 67.0          | 408                                      |                                 | 47.2              | 47.2                 | 52.5                           | 5.3               | None        | No                     |
| RS13        | 3   | 67.0          | 314                                      |                                 | 50.0              | 50.0                 | 55.0                           | 5.0               | None        | No                     |
| RS14        | 3   | 67.0          | 239                                      |                                 | 51.4              | 51.4                 | 56.7                           | 5.3               | None        | Yes                    |
| RS15        | 3   | 67.0          | 184                                      | 48.8 *                          | 51.7              | 51.7                 | 58.8                           | 7.1               | None        | Yes                    |
| RS16        | 3   | 67.0          | 164                                      |                                 | 50.6              | 50.6                 | 59.1                           | 8.5               | None        | Yes                    |
| RS17        | 3   | 67.0          | 146                                      |                                 | 49.8              | 49.8                 | 59.7                           | 9.9               | None        | Yes                    |
| RS18        | 3   | 67.0          | 133                                      |                                 | 49.3              | 49.3                 | 60.7                           | 11.4              | None        | Yes                    |
| RS19        | 3   | 67.0          | 126                                      |                                 | 48.2              | 48.2                 | 60.1                           | 11.9              | None        | Yes                    |
| RS20        | 3   | 67.0          | 133                                      |                                 | 47.7              | 47.7                 | 59.8                           | 12.1              | None        | Yes                    |
| RS21        | 3   | 67.0          | 141                                      |                                 | 47.3              | 47.3                 | 59.2                           | 11.9              | None        | Yes                    |
| RS22        | 3   | 67.0          | 141                                      |                                 | 47.2              | 47.2                 | 59.1                           | 11.9              | None        | Yes                    |
| RS23        | 3   | 67.0          | 157                                      | 49.7 *                          | 46.7              | 46.7                 | 58.5                           | 11.8              | None        | Yes                    |
| RS24        | 3   | 67.0          | 190                                      |                                 | 46.0              | 46.0                 | 57.7                           | 11.7              | None        | Yes                    |
| RS25        | 3   | 67.0          | 285                                      |                                 | 44.5              | 44.5                 | 56.1                           | 11.6              | None        | Yes                    |
| RS26        | 3   | 67.0          | 386                                      |                                 | 43.1              | 43.1                 | 54.5                           | 11.4              | None        | No                     |
| RS27        | 3   | 67.0          | 467                                      |                                 | 41.6              | 41.6                 | 52.6                           | 11.0              | None        | No                     |
| RS28        | 3   | 67.0          | 500                                      |                                 | 41.1              | 41.1                 | 51.9                           | 10.8              | None        | No                     |
| RS29        | 3   | 67.0          | 485                                      |                                 | 39.7              | 39.7                 | 51.3                           | 11.6              | None        | No                     |
| RS30        | 3   | 67.0          | 490                                      |                                 | 39.4              | 39.4                 | 49.5                           | 10.1              | None        | No                     |
| RS31        | 3   | 67.0          | 500                                      |                                 | 39.5              | 39.5                 | 49.8                           | 10.3              | None        | No                     |
| RS32        | 3   | 67.0          | 500                                      |                                 | 39.5              | 39.5                 | 49.7                           | 10.2              | None        | No                     |
| RS33        | 3   | 67.0          | 398                                      |                                 | 42.6              | 42.6                 | 53.8                           | 11.2              | None        | No                     |
| RS34        | 3   | 67.0          | 396                                      |                                 | 42.9              | 42.9                 | 54.1                           | 11.2              | None        | No                     |
| RS35        | 3   | 67.0          | 396                                      | 45.3 *                          | 43.0              | 43.0                 | 54.3                           | 11.3              | None        | No                     |
| RS36        | 3   | 67.0          | 379                                      |                                 | 43.1              | 43.1                 | 54.3                           | 11.2              | None        | No                     |
| RS37        | 3   | 67.0          | 401                                      |                                 | 43.3              | 43.3                 | 54.2                           | 10.9              | None        | No                     |
| RS38        | 3   | 67.0          | 395                                      |                                 | 43.6              | 43.6                 | 54.1                           | 10.5              | None        | No                     |
| RS39        | 3   | 67.0          | 393                                      |                                 | 43.9              | 43.9                 | 53.8                           | 9.9               | None        | No                     |
| RS40        | 3   | 67.0          | 412                                      |                                 | 44.1              | 44.1                 | 53.5                           | 9.4               | None        | No                     |
| RS41        | 3   | 67.0          | 419                                      |                                 | 44.4              | 44.4                 | 53.1                           | 8.7               | None        | No                     |
| RS42        | 3   | 67.0          | 470                                      |                                 | 43.1              | 43.1                 | 51.0                           | 7.9               | None        | No                     |
| RS43        | 3   | 67.0          | 500                                      |                                 | 41.5              | 41.5                 | 48.6                           | 7.1               | None        | No                     |
| RS44        | 4   | 67.0          | 205                                      |                                 | 60.4              | 60.4                 | 59.5                           | -0.9              | None        | Yes                    |
| RS45        | 4   | 67.0          | 302                                      |                                 | 51.7              | 51.7                 | 59.2                           | 7.5               | None        | Yes                    |
| RS46        | 4   | 67.0          | 485                                      | 59.9 *                          | 61.8              | 61.8                 | 65.2                           | 3.4               | None        | Yes                    |
| RS47        | 5   | 67.0          | 413                                      | 54.4 *                          | 55.0              | 55.0                 | 57.2                           | 2.2               | None        | Yes                    |
| RS48        | 5   | 67.0          | 454                                      |                                 | 42.7              | 42.7                 | 49.0                           | 6.3               | None        | Yes                    |

- 1) Values are short-term field measurements collected at those receptors denoted with an '\*' and then assigned to adjacent receptors determined to have similar environment.
- 2) The applied existing noise levels used for this analysis are the results from "2018 Base (Modeled)."
- 3) Modeled future noise includes Ronald Reagan Parkway, as well as major ancillary roads that affect analyzed noise environments.
- 4) The measured distance is from the modeled receptor to the nearest edge of proposed pavement.

| RECEPTOR ID |     | ADDRESS               |                      | COMPARISON OF NOISE LEVELS |              |                |             |
|-------------|-----|-----------------------|----------------------|----------------------------|--------------|----------------|-------------|
| Receptor    | CNE |                       |                      | Existing Noise             | Future Noise | Noise Increase | Impact Type |
| RS1         | 1   | 9828 E CR 600N        | Brownsburg, IN 46112 | 61.8                       | 64.7         | 2.9            | None        |
| RS2         | 1   | 9345 E CR 600N        | Brownsburg, IN 46112 | 63.9                       | 67.4         | 3.5            | Exceeds NAC |
| RS3         | 1   | 9315 E CR 600N        | Brownsburg, IN 46112 | 62.5                       | 65.9         | 3.4            | None        |
| RS4         | 1   | 9295 E CR 600N        | Brownsburg, IN 46112 | 61.5                       | 65.1         | 3.6            | None        |
| RS5         | 1   | 9265 E CR 600N        | Brownsburg, IN 46112 | 61.3                       | 65.0         | 3.7            | None        |
| RS6         | 2   | 9297 Shoal Creek Lane | Brownsburg, IN 46112 | 39.1                       | 49.8         | 10.7           | None        |
| RS7         | 3   | 6473 Tradition Drive  | Brownsburg, IN 46112 | 53.7                       | 50.9         | -2.8           | None        |
| RS8         | 3   | 6485 Tradition Drive  | Brownsburg, IN 46112 | 51.1                       | 51.7         | 0.6            | None        |
| RS9         | 3   | 8940 Homewood Drive   | Brownsburg, IN 46112 | 46.8                       | 50.7         | 3.9            | None        |
| RS10        | 3   | 6540 N CR 900E        | Brownsburg, IN 46112 | 55.1                       | 55.7         | 0.6            | None        |
| RS11        | 3   | 8927 Julia Ann Drive  | Brownsburg, IN 46112 | 44.1                       | 49.7         | 5.6            | None        |
| RS12        | 3   | 8939 Julia Ann Drive  | Brownsburg, IN 46112 | 47.2                       | 52.5         | 5.3            | None        |
| RS13        | 3   | 6567 Kara Lane        | Brownsburg, IN 46112 | 50.0                       | 55.0         | 5.0            | None        |
| RS14        | 3   | 6577 Kara Lane        | Brownsburg, IN 46112 | 51.4                       | 56.7         | 5.3            | None        |
| RS15        | 3   | 6589 Kara Lane        | Brownsburg, IN 46112 | 51.7                       | 58.8         | 7.1            | None        |
| RS16        | 3   | 6603 Kara Lane        | Brownsburg, IN 46112 | 50.6                       | 59.1         | 8.5            | None        |
| RS17        | 3   | 6617 Kara Lane        | Brownsburg, IN 46112 | 49.8                       | 59.7         | 9.9            | None        |
| RS18        | 3   | 6633 Kara Lane        | Brownsburg, IN 46112 | 49.3                       | 60.7         | 11.4           | None        |
| RS19        | 3   | 6647 Kara Lane        | Brownsburg, IN 46112 | 48.2                       | 60.1         | 11.9           | None        |
| RS20        | 3   | 6663 Kara Lane        | Brownsburg, IN 46112 | 47.7                       | 59.8         | 12.1           | None        |
| RS21        | 3   | 6679 Kara Lane        | Brownsburg, IN 46112 | 47.3                       | 59.2         | 11.9           | None        |
| RS22        | 3   | 6693 Kara Lane        | Brownsburg, IN 46112 | 47.2                       | 59.1         | 11.9           | None        |
| RS23        | 3   | 6709 Kara Lane        | Brownsburg, IN 46112 | 46.7                       | 58.5         | 11.8           | None        |
| RS24        | 3   | 6721 Kara Lane        | Brownsburg, IN 46112 | 46.0                       | 57.7         | 11.7           | None        |
| RS25        | 3   | 6731 Kara Lane        | Brownsburg, IN 46112 | 44.5                       | 56.1         | 11.6           | None        |
| RS26        | 3   | 6743 Kara Lane        | Brownsburg, IN 46112 | 43.1                       | 54.5         | 11.4           | None        |
| RS27        | 3   | 6757 Kara Lane        | Brownsburg, IN 46112 | 41.6                       | 52.6         | 11.0           | None        |
| RS28        | 3   | 6775 Kara Lane        | Brownsburg, IN 46112 | 41.1                       | 51.9         | 10.8           | None        |
| RS29        | 3   | 6737 Karleigh Drive   | Brownsburg, IN 46112 | 39.7                       | 51.3         | 11.6           | None        |
| RS30        | 3   | 6723 Karleigh Drive   | Brownsburg, IN 46112 | 39.4                       | 49.5         | 10.1           | None        |
| RS31        | 3   | 6707 Karleigh Drive   | Brownsburg, IN 46112 | 39.5                       | 49.8         | 10.3           | None        |
| RS32        | 3   | 6691 Karleigh Drive   | Brownsburg, IN 46112 | 39.5                       | 49.7         | 10.2           | None        |
| RS33        | 3   | 6728 Kara Lane        | Brownsburg, IN 46112 | 42.6                       | 53.8         | 11.2           | None        |
| RS34        | 3   | 6696 Kara Lane        | Brownsburg, IN 46112 | 42.9                       | 54.1         | 11.2           | None        |
| RS35        | 3   | 6680 Kara Lane        | Brownsburg, IN 46112 | 43.0                       | 54.3         | 11.3           | None        |
| RS36        | 3   | 6664 Kara Lane        | Brownsburg, IN 46112 | 43.1                       | 54.3         | 11.2           | None        |
| RS37        | 3   | 6650 Kara Lane        | Brownsburg, IN 46112 | 43.3                       | 54.2         | 10.9           | None        |
| RS38        | 3   | 6636 Kara Lane        | Brownsburg, IN 46112 | 43.6                       | 54.1         | 10.5           | None        |
| RS39        | 3   | 6620 Kara Lane        | Brownsburg, IN 46112 | 43.9                       | 53.8         | 9.9            | None        |
| RS40        | 3   | 6606 Kara Lane        | Brownsburg, IN 46112 | 44.1                       | 53.5         | 9.4            | None        |
| RS41        | 3   | 6578 Kara Lane        | Brownsburg, IN 46112 | 44.4                       | 53.1         | 8.7            | None        |
| RS42        | 3   | 8928 Julia Ann Drive  | Brownsburg, IN 46112 | 43.1                       | 51.0         | 7.9            | None        |
| RS43        | 3   | 8902 Julia Ann Drive  | Brownsburg, IN 46112 | 41.5                       | 48.6         | 7.1            | None        |
| RS44        | 4   | 6925 N CR 900E        | Brownsburg, IN 46112 | 60.4                       | 59.5         | -0.9           | None        |
| RS45        | 4   | 7085 N CR 900E        | Brownsburg, IN 46112 | 51.7                       | 59.2         | 7.5            | None        |
| RS46        | 4   | 8780 E CR 700N        | Brownsburg, IN 46112 | 61.8                       | 65.2         | 3.4            | None        |
| RS47        | 5   | 9215 E CR 750N        | Brownsburg, IN 46112 | 55.0                       | 57.2         | 2.2            | None        |
| RS48        | 5   | 9150 E CR 750N        | Brownsburg, IN 46112 | 42.7                       | 49.0         | 6.3            | None        |



## Appendix D

# FHWA-TNM Input/Output



**INPUT: RECEIVERS**

**R. Reagan Parkway**

|      |    |   |          |           |        |      |       |    |      |     |   |
|------|----|---|----------|-----------|--------|------|-------|----|------|-----|---|
| RS23 | 29 | 1 | 54,417.6 | 681,083.6 | 892.23 | 4.92 | 46.70 | 66 | 15.0 | 7.0 | Y |
| RS24 | 30 | 1 | 54,372.6 | 681,162.1 | 892.23 | 4.92 | 46.00 | 66 | 15.0 | 7.0 | Y |
| RS25 | 31 | 1 | 54,284.8 | 681,219.0 | 892.23 | 4.92 | 44.50 | 66 | 15.0 | 7.0 | Y |
| RS26 | 32 | 1 | 54,173.7 | 681,274.9 | 892.23 | 4.92 | 43.10 | 66 | 15.0 | 7.0 | Y |
| RS27 | 33 | 1 | 54,059.7 | 681,268.1 | 892.23 | 4.92 | 41.60 | 66 | 15.0 | 7.0 | Y |
| RS28 | 34 | 1 | 54,013.0 | 681,268.5 | 892.23 | 4.92 | 41.10 | 66 | 15.0 | 7.0 | Y |
| RS29 | 35 | 1 | 54,038.1 | 681,096.6 | 892.23 | 4.92 | 39.70 | 66 | 15.0 | 7.0 | Y |
| RS30 | 36 | 1 | 54,049.4 | 680,982.4 | 892.23 | 4.92 | 39.40 | 66 | 15.0 | 7.0 | Y |
| RS31 | 37 | 1 | 54,064.4 | 680,905.8 | 892.23 | 4.92 | 39.50 | 66 | 15.0 | 7.0 | Y |
| RS32 | 38 | 1 | 54,070.6 | 680,848.4 | 892.23 | 4.92 | 39.50 | 66 | 15.0 | 7.0 | Y |
| RS33 | 39 | 1 | 54,264.6 | 681,054.9 | 892.23 | 4.92 | 42.60 | 66 | 15.0 | 7.0 | Y |
| RS34 | 40 | 1 | 54,294.3 | 680,967.7 | 892.23 | 4.92 | 42.90 | 66 | 15.0 | 7.0 | Y |
| RS35 | 41 | 1 | 54,314.8 | 680,910.8 | 892.23 | 4.92 | 43.00 | 66 | 15.0 | 7.0 | Y |
| RS36 | 42 | 1 | 54,333.6 | 680,797.8 | 892.23 | 4.92 | 43.10 | 66 | 15.0 | 7.0 | Y |
| RS37 | 43 | 1 | 54,347.6 | 680,732.4 | 892.23 | 4.92 | 43.30 | 66 | 15.0 | 7.0 | Y |
| RS38 | 44 | 1 | 54,374.0 | 680,653.8 | 892.23 | 4.92 | 43.60 | 66 | 15.0 | 7.0 | Y |
| RS39 | 45 | 1 | 54,394.0 | 680,585.0 | 892.23 | 4.92 | 43.90 | 66 | 15.0 | 7.0 | Y |
| RS40 | 46 | 1 | 54,409.2 | 680,523.8 | 892.23 | 4.92 | 44.10 | 66 | 15.0 | 7.0 |   |
| RS41 | 47 | 1 | 54,429.6 | 680,445.6 | 892.23 | 4.92 | 44.40 | 66 | 15.0 | 7.0 |   |
| RS42 | 49 | 1 | 54,370.2 | 680,339.8 | 892.23 | 4.92 | 43.10 | 66 | 15.0 | 7.0 |   |
| RS43 | 53 | 1 | 54,276.5 | 680,292.2 | 892.23 | 4.92 | 41.50 | 66 | 15.0 | 7.0 |   |
| RS44 | 54 | 1 | 54,780.5 | 682,139.5 | 895.23 | 4.92 | 60.40 | 66 | 15.0 | 7.0 |   |
| RS45 | 55 | 1 | 54,924.6 | 682,881.3 | 896.23 | 4.92 | 51.70 | 66 | 15.0 | 7.0 |   |
| RS46 | 57 | 1 | 53,523.2 | 682,662.5 | 896.23 | 4.92 | 61.80 | 66 | 15.0 | 7.0 |   |
| RS47 | 58 | 1 | 55,437.9 | 685,186.8 | 892.23 | 4.92 | 55.00 | 66 | 15.0 | 7.0 |   |
| RS48 | 59 | 1 | 55,389.3 | 685,653.9 | 896.23 | 4.92 | 42.70 | 66 | 15.0 | 7.0 |   |



INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|                                   |                           |     |         |     |         |     |         |     |        |     |             |     |  |
|-----------------------------------|---------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|--|
| Journey Engineering               |                           |     |         |     |         |     |         |     |        |     |             |     |  |
| Kurt Fowerbaugh                   |                           |     |         |     |         |     |         |     |        |     |             |     |  |
|                                   |                           |     |         |     |         |     |         |     |        |     |             |     |  |
| INPUT: TRAFFIC FOR LAeq1h Volumes |                           |     |         |     |         |     |         |     |        |     |             |     |  |
| PROJECT/CONTRACT:                 | R. Reagan Parkway         |     |         |     |         |     |         |     |        |     |             |     |  |
| RUN:                              | RRP Phase 1a - 2038 build |     |         |     |         |     |         |     |        |     |             |     |  |
| Roadway                           | Points                    |     |         |     |         |     |         |     |        |     |             |     |  |
| Name                              | Name                      | No. | Segment |     |         |     |         |     |        |     |             |     |  |
|                                   |                           |     | Autos   |     | MTrucks |     | HTrucks |     | Buses  |     | Motorcycles |     |  |
|                                   |                           |     | V       | S   | V       | S   | V       | S   | V      | S   | V           | S   |  |
|                                   |                           |     | veh/hr  | mph | veh/hr  | mph | veh/hr  | mph | veh/hr | mph | veh/hr      | mph |  |
| Reagan SB 1 -1                    | point1                    | 1   | 555     | 45  | 0       | 0   | 11      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point633                  | 633 | 555     | 45  | 0       | 0   | 11      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point634                  | 634 |         |     |         |     |         |     |        |     |             |     |  |
| Reagan SB 2                       | point109                  | 109 | 555     | 45  | 0       | 0   | 11      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point631                  | 631 | 555     | 45  | 0       | 0   | 11      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point632                  | 632 |         |     |         |     |         |     |        |     |             |     |  |
| Reagan NB 1                       | point527                  | 527 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point528                  | 528 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point529                  | 529 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point524                  | 524 |         |     |         |     |         |     |        |     |             |     |  |
| Reagan NB 2                       | point325                  | 325 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point538                  | 538 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point536                  | 536 | 716     | 45  | 0       | 0   | 15      | 45  | 0      | 0   | 0           | 0   |  |
|                                   | point537                  | 537 |         |     |         |     |         |     |        |     |             |     |  |
| CR 750 N - WBL                    | point433                  | 433 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point615                  | 615 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point616                  | 616 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point617                  | 617 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point434                  | 434 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point435                  | 435 | 133     | 40  | 0       | 0   | 3       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point436                  | 436 |         |     |         |     |         |     |        |     |             |     |  |
| CR 750 N - EBL 1                  | point442                  | 442 | 118     | 40  | 0       | 0   | 2       | 40  | 0      | 0   | 0           | 0   |  |
|                                   | point624                  | 624 | 118     | 40  | 0       | 0   | 2       | 40  | 0      | 0   | 0           | 0   |  |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                 |          |     |     |    |   |   |    |    |   |   |   |   |
|-----------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                 | point625 | 625 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                 | point626 | 626 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                 | point443 | 443 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                 | point444 | 444 |     |    |   |   |    |    |   |   |   |   |
| CR 750 EBL Turn | point464 | 464 | 111 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point465 | 465 | 111 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point466 | 466 |     |    |   |   |    |    |   |   |   |   |
| CR 750 WBL Turn | point467 | 467 | 122 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point468 | 468 | 122 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point469 | 469 |     |    |   |   |    |    |   |   |   |   |
| CR 700 WBL      | point480 | 480 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                 | point606 | 606 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                 | point607 | 607 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                 | point608 | 608 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                 | point481 | 481 |     |    |   |   |    |    |   |   |   |   |
| CR 700 EBL      | point488 | 488 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                 | point609 | 609 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                 | point610 | 610 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                 | point611 | 611 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                 | point489 | 489 |     |    |   |   |    |    |   |   |   |   |
| CR 700 EBL Turn | point496 | 496 | 545 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point497 | 497 | 545 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point498 | 498 |     |    |   |   |    |    |   |   |   |   |
| CR 700 WBL Turn | point499 | 499 | 163 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point500 | 500 | 163 | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                 | point501 | 501 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB1       | point539 | 539 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point540 | 540 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point541 | 541 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point542 | 542 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point543 | 543 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point544 | 544 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB2       | point555 | 555 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point556 | 556 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point557 | 557 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                 | point558 | 558 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                         |          |     |     |    |   |   |    |    |   |   |   |   |
|-------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                         | point559 | 559 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                         | point560 | 560 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB1               | point571 | 571 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point572 | 572 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point573 | 573 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point574 | 574 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB2               | point587 | 587 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point588 | 588 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point589 | 589 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                         | point590 | 590 |     |    |   |   |    |    |   |   |   |   |
| CR 700 EBL-Onramp       | point635 | 635 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                         | point491 | 491 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                         | point492 | 492 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                         | point493 | 493 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                         | point494 | 494 |     |    |   |   |    |    |   |   |   |   |
| CR 700 EBL-Signal 700 N | point636 | 636 | 46  | 40 | 0 | 0 | 1  | 40 | 0 | 0 | 0 | 0 |
|                         | point490 | 490 |     |    |   |   |    |    |   |   |   |   |
| CR 700 WBL-2-onramp     | point637 | 637 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point483 | 483 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point484 | 484 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point485 | 485 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point486 | 486 |     |    |   |   |    |    |   |   |   |   |
| CR 700 WBL-2-2          | point638 | 638 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point612 | 612 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point613 | 613 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point614 | 614 | 580 | 40 | 0 | 0 | 12 | 40 | 0 | 0 | 0 | 0 |
|                         | point487 | 487 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - EBL-Onramp   | point639 | 639 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                         | point453 | 453 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                         | point458 | 458 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                         | point447 | 447 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                         | point448 | 448 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - EBL-Signal   | point640 | 640 | 9   | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                         | point445 | 445 | 9   | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                         | point446 | 446 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - EBL-2        | point641 | 641 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                           |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                           | point449 | 449 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                           | point450 | 450 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                           | point618 | 618 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                           | point619 | 619 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                           | point620 | 620 | 133 | 40 | 0 | 0 | 3  | 40 | 0 | 0 | 0 | 0 |
|                           | point451 | 451 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - WBL-2-signal   | point642 | 642 | 13  | 40 | 0 | 0 | 0  | 0  | 0 | 0 | 0 | 0 |
|                           | point437 | 437 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - WBL-2-2        | point643 | 643 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point457 | 457 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point456 | 456 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point438 | 438 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point439 | 439 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point440 | 440 |     |    |   |   |    |    |   |   |   |   |
| CR 750 N - WBL-2-2-2      | point644 | 644 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point621 | 621 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point622 | 622 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point623 | 623 | 118 | 40 | 0 | 0 | 2  | 40 | 0 | 0 | 0 | 0 |
|                           | point441 | 441 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2- Signal 750 N | point645 | 645 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point110 | 110 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point111 | 111 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1- Signal 750 N | point646 | 646 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point2   | 2   | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point3   | 3   |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2- Onramp 750 N | point647 | 647 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point455 | 455 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point112 | 112 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point113 | 113 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1- Onramp 750 N | point648 | 648 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point470 | 470 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point454 | 454 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point4   | 4   | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point5   | 5   |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-2-2-2         | point649 | 649 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point114 | 114 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                   |          |     |     |    |   |   |    |    |   |   |   |   |
|-------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                   | point115 | 115 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point116 | 116 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point117 | 117 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point118 | 118 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point119 | 119 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point120 | 120 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point121 | 121 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point122 | 122 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point123 | 123 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point124 | 124 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point125 | 125 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point126 | 126 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point127 | 127 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point128 | 128 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point129 | 129 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point130 | 130 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point131 | 131 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point132 | 132 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point133 | 133 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point134 | 134 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point135 | 135 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point136 | 136 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-2-2-2 | point650 | 650 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point6   | 6   | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point7   | 7   | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point8   | 8   | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point9   | 9   | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point10  | 10  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point11  | 11  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point12  | 12  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point13  | 13  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point14  | 14  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point15  | 15  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point16  | 16  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point17  | 17  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                   | point18  | 18  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                           |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                           | point19  | 19  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point20  | 20  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point21  | 21  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point22  | 22  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point23  | 23  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point24  | 24  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point25  | 25  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point26  | 26  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point27  | 27  | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point28  | 28  |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-Signal 750N   | point651 | 651 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point429 | 429 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point430 | 430 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1- Signal 750 N | point652 | 652 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point321 | 321 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point322 | 322 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-Onramp 750 N  | point653 | 653 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point471 | 471 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point460 | 460 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point431 | 431 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point627 | 627 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1- Onramp 750 N | point654 | 654 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point459 | 459 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point323 | 323 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point629 | 629 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-2-2-2         | point655 | 655 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point628 | 628 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point432 | 432 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-2-2-2         | point656 | 656 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point630 | 630 | 555 | 45 | 0 | 0 | 11 | 45 | 0 | 0 | 0 | 0 |
|                           | point324 | 324 |     |    |   |   |    |    |   |   |   |   |
| CR 700 EBL-2-2            | point658 | 658 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                           | point603 | 603 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                           | point604 | 604 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                           | point605 | 605 | 379 | 40 | 0 | 0 | 8  | 40 | 0 | 0 | 0 | 0 |
|                           | point495 | 495 |     |    |   |   |    |    |   |   |   |   |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                          |          |     |     |    |   |   |    |    |   |   |   |   |
|--------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
| CR 700 WBL-Signal 700 N  | point660 | 660 | 220 | 40 | 0 | 0 | 4  | 40 | 0 | 0 | 0 | 0 |
|                          | point482 | 482 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-Signal 700 N | point661 | 661 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                          | point29  | 29  |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-Signal 700 N | point662 | 662 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                          | point137 | 137 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-Onramp 700 N | point663 | 663 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point472 | 472 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point473 | 473 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point30  | 30  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point31  | 31  |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-Onramp 700 N | point664 | 664 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point474 | 474 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point475 | 475 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point138 | 138 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point139 | 139 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-2-2-2-2-2    | point665 | 665 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point140 | 140 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point141 | 141 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point142 | 142 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point143 | 143 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point144 | 144 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point145 | 145 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point146 | 146 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point147 | 147 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point148 | 148 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point149 | 149 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point150 | 150 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point151 | 151 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point152 | 152 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point153 | 153 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point154 | 154 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point155 | 155 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point156 | 156 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point157 | 157 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                          | point158 | 158 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|  |          |     |     |    |   |   |    |    |   |   |   |   |
|--|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|  | point159 | 159 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point160 | 160 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point161 | 161 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point162 | 162 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point163 | 163 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point164 | 164 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point165 | 165 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point166 | 166 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point167 | 167 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point168 | 168 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point169 | 169 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point170 | 170 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point171 | 171 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point172 | 172 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point173 | 173 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point174 | 174 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point175 | 175 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point176 | 176 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point177 | 177 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point178 | 178 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point179 | 179 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point180 | 180 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point181 | 181 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point182 | 182 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point183 | 183 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point184 | 184 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point185 | 185 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point186 | 186 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point187 | 187 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point188 | 188 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point189 | 189 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point190 | 190 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point191 | 191 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point192 | 192 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point193 | 193 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point194 | 194 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                       |          |     |     |    |   |   |    |    |   |   |   |   |
|-----------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                       | point195 | 195 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point196 | 196 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point197 | 197 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point198 | 198 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point199 | 199 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point200 | 200 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point201 | 201 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point202 | 202 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point203 | 203 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point204 | 204 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point205 | 205 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point206 | 206 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point207 | 207 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point208 | 208 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point209 | 209 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point210 | 210 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point211 | 211 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point212 | 212 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point213 | 213 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point214 | 214 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point215 | 215 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-2-2-2-2-2 | point666 | 666 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point32  | 32  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point33  | 33  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point34  | 34  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point35  | 35  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point36  | 36  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point37  | 37  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point38  | 38  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point39  | 39  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point40  | 40  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point41  | 41  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point42  | 42  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point43  | 43  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point44  | 44  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                       | point45  | 45  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|  |         |    |     |    |   |   |    |    |   |   |   |   |
|--|---------|----|-----|----|---|---|----|----|---|---|---|---|
|  | point46 | 46 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point47 | 47 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point48 | 48 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point49 | 49 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point50 | 50 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point51 | 51 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point52 | 52 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point53 | 53 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point54 | 54 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point55 | 55 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point56 | 56 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point57 | 57 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point58 | 58 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point59 | 59 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point60 | 60 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point61 | 61 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point62 | 62 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point63 | 63 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point64 | 64 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point65 | 65 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point66 | 66 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point67 | 67 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point68 | 68 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point69 | 69 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point70 | 70 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point71 | 71 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point72 | 72 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point73 | 73 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point74 | 74 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point75 | 75 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point76 | 76 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point77 | 77 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point78 | 78 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point79 | 79 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point80 | 80 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point81 | 81 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|               |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|               | point82  | 82  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point83  | 83  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point84  | 84  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point85  | 85  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point86  | 86  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point87  | 87  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point88  | 88  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point89  | 89  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point90  | 90  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point91  | 91  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point92  | 92  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point93  | 93  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point94  | 94  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point95  | 95  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point96  | 96  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point97  | 97  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point98  | 98  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point99  | 99  | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point100 | 100 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point101 | 101 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point102 | 102 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point103 | 103 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point104 | 104 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point105 | 105 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point106 | 106 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|               | point107 | 107 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-2 | point667 | 667 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point406 | 406 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point407 | 407 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point408 | 408 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point409 | 409 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point410 | 410 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point411 | 411 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point412 | 412 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point413 | 413 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point414 | 414 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|               |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|               | point415 | 415 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point416 | 416 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point417 | 417 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point418 | 418 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point419 | 419 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point420 | 420 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point421 | 421 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point422 | 422 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point423 | 423 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point424 | 424 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point425 | 425 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point426 | 426 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point427 | 427 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point428 | 428 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-2 | point668 | 668 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point298 | 298 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point299 | 299 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point300 | 300 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point301 | 301 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point302 | 302 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point303 | 303 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point304 | 304 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point305 | 305 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point306 | 306 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point307 | 307 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point308 | 308 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point309 | 309 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point310 | 310 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point311 | 311 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point312 | 312 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point313 | 313 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point314 | 314 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point315 | 315 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point316 | 316 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point317 | 317 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|               | point318 | 318 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                           |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                           | point319 | 319 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point320 | 320 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-Onramp 700 N  | point669 | 669 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point479 | 479 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point404 | 404 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point405 | 405 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-Onramp 700 N  | point670 | 670 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point477 | 477 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point296 | 296 | 564 | 45 | 0 | 0 | 12 | 45 | 0 | 0 | 0 | 0 |
|                           | point297 | 297 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-Signal 700 N  | point671 | 671 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point403 | 403 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point478 | 478 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-Signal 700 N  | point672 | 672 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point295 | 295 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point476 | 476 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-Signal 600 N  | point673 | 673 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point502 | 502 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point503 | 503 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-Signal 600 N  | point674 | 674 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point511 | 511 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point512 | 512 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-Onramp 600 N  | point675 | 675 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point504 | 504 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point717 | 717 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point505 | 505 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point506 | 506 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point507 | 507 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-Onramp 600 N  | point676 | 676 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point513 | 513 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point514 | 514 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point515 | 515 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point516 | 516 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-CR600N-Onramp | point677 | 677 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point517 | 517 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-CR600N-Onramp | point678 | 678 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                   |          |     |     |    |   |   |    |    |   |   |   |   |
|-------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                   | point508 | 508 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB2-Signal  | point679 | 679 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point561 | 561 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point562 | 562 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB1-Signal  | point680 | 680 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point545 | 545 | 476 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point546 | 546 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB2-Onramp  | point681 | 681 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point563 | 563 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point564 | 564 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point565 | 565 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point566 | 566 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB1-Onramp  | point682 | 682 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point547 | 547 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point548 | 548 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point549 | 549 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point550 | 550 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB2-2-2-2   | point683 | 683 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point567 | 567 |     |    |   |   |    |    |   |   |   |   |
| CR600 E1-2-2-2    | point684 | 684 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point551 | 551 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB2-2       | point685 | 685 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point598 | 598 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point599 | 599 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point600 | 600 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point601 | 601 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point602 | 602 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB1-2       | point686 | 686 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point582 | 582 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point583 | 583 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point584 | 584 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point585 | 585 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point586 | 586 |     |    |   |   |    |    |   |   |   |   |
| CR 600 WB2-Onramp | point687 | 687 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point593 | 593 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                   | point594 | 594 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                           |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                           | point595 | 595 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point596 | 596 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point597 | 597 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB1-Onramp          | point688 | 688 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point577 | 577 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point578 | 578 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point579 | 579 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point580 | 580 | 635 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point581 | 581 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB 2-Signal         | point689 | 689 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                           | point591 | 591 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                           | point592 | 592 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB1-Signal          | point690 | 690 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                           | point575 | 575 | 424 | 45 | 0 | 0 | 9  | 45 | 0 | 0 | 0 | 0 |
|                           | point576 | 576 |     |    |   |   |    |    |   |   |   |   |
| CR600 E1-2-2-2-2          | point691 | 691 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point552 | 552 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point553 | 553 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point554 | 554 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB2-2-2-2-2         | point692 | 692 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point568 | 568 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point569 | 569 | 623 | 45 | 0 | 0 | 13 | 45 | 0 | 0 | 0 | 0 |
|                           | point570 | 570 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-CR600N-Signal | point693 | 693 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point533 | 533 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point534 | 534 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-CR600N-Signal | point694 | 694 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point525 | 525 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                           | point526 | 526 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-CR600N-Onramp | point695 | 695 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point535 | 535 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point707 | 707 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point530 | 530 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point531 | 531 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point532 | 532 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point326 | 326 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                           |          |     |     |    |   |   |    |    |   |   |   |   |
|---------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                           | point327 | 327 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-CR600N-Onramp | point696 | 696 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point520 | 520 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point521 | 521 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point522 | 522 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point523 | 523 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point218 | 218 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point219 | 219 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 2-2-2-2         | point697 | 697 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point328 | 328 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point329 | 329 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point330 | 330 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point331 | 331 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point332 | 332 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point333 | 333 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point334 | 334 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point335 | 335 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point336 | 336 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point337 | 337 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point338 | 338 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point339 | 339 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point340 | 340 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point341 | 341 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point342 | 342 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point343 | 343 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point344 | 344 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point345 | 345 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point346 | 346 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point347 | 347 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point348 | 348 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point349 | 349 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point350 | 350 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point351 | 351 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point352 | 352 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point353 | 353 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                           | point354 | 354 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |



**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|  |          |     |     |    |   |   |    |    |   |   |   |   |
|--|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|  | point355 | 355 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point356 | 356 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point357 | 357 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point358 | 358 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point359 | 359 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point360 | 360 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point361 | 361 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point362 | 362 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point363 | 363 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point364 | 364 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point365 | 365 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point366 | 366 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point367 | 367 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point368 | 368 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point369 | 369 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point370 | 370 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point371 | 371 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point372 | 372 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point373 | 373 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point374 | 374 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point375 | 375 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point376 | 376 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point377 | 377 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point378 | 378 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point379 | 379 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point380 | 380 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point381 | 381 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point382 | 382 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point383 | 383 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point384 | 384 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point385 | 385 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point386 | 386 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point387 | 387 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point388 | 388 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point389 | 389 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point390 | 390 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|                   |          |     |     |    |   |   |    |    |   |   |   |   |
|-------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                   | point391 | 391 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point392 | 392 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point393 | 393 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point394 | 394 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point395 | 395 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point396 | 396 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point397 | 397 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point398 | 398 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point399 | 399 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point400 | 400 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point401 | 401 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point402 | 402 |     |    |   |   |    |    |   |   |   |   |
| Reagan NB 1-2-2-2 | point698 | 698 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point220 | 220 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point221 | 221 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point222 | 222 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point223 | 223 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point224 | 224 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point225 | 225 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point226 | 226 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point227 | 227 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point228 | 228 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point229 | 229 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point230 | 230 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point231 | 231 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point232 | 232 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point233 | 233 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point234 | 234 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point235 | 235 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point236 | 236 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point237 | 237 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point238 | 238 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point239 | 239 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point240 | 240 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point241 | 241 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                   | point242 | 242 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

R. Reagan Parkway

|  |          |     |     |    |   |   |    |    |   |   |   |   |
|--|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|  | point243 | 243 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point244 | 244 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point245 | 245 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point246 | 246 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point247 | 247 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point248 | 248 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point249 | 249 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point250 | 250 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point251 | 251 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point252 | 252 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point253 | 253 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point254 | 254 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point255 | 255 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point256 | 256 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point257 | 257 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point258 | 258 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point259 | 259 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point260 | 260 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point261 | 261 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point262 | 262 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point263 | 263 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point264 | 264 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point265 | 265 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point266 | 266 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point267 | 267 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point268 | 268 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point269 | 269 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point270 | 270 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point271 | 271 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point272 | 272 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point273 | 273 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point274 | 274 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point275 | 275 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point276 | 276 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point277 | 277 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|  | point278 | 278 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes**

**R. Reagan Parkway**

|                               |          |     |     |    |   |   |    |    |   |   |   |   |
|-------------------------------|----------|-----|-----|----|---|---|----|----|---|---|---|---|
|                               | point279 | 279 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point280 | 280 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point281 | 281 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point282 | 282 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point283 | 283 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point284 | 284 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point285 | 285 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point286 | 286 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point287 | 287 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point288 | 288 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point289 | 289 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point290 | 290 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point291 | 291 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point292 | 292 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point293 | 293 | 486 | 45 | 0 | 0 | 10 | 45 | 0 | 0 | 0 | 0 |
|                               | point294 | 294 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 2-2-2-2-2-2-2-2-2-2 | point699 | 699 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point518 | 518 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point519 | 519 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point216 | 216 |     |    |   |   |    |    |   |   |   |   |
| Reagan SB 1-2-2-2-2-2-2-2-2-2 | point700 | 700 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point509 | 509 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point510 | 510 | 716 | 45 | 0 | 0 | 15 | 45 | 0 | 0 | 0 | 0 |
|                               | point108 | 108 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB Turn                 | point701 | 701 | 399 | 45 | 0 | 0 | 8  | 45 | 0 | 0 | 0 | 0 |
|                               | point702 | 702 | 399 | 45 | 0 | 0 | 8  | 45 | 0 | 0 | 0 | 0 |
|                               | point703 | 703 | 399 | 45 | 0 | 0 | 8  | 45 | 0 | 0 | 0 | 0 |
|                               | point704 | 704 | 399 | 45 | 0 | 0 | 8  | 45 | 0 | 0 | 0 | 0 |
|                               | point705 | 705 |     |    |   |   |    |    |   |   |   |   |
| CR600 WB Turn - Signal        | point708 | 708 | 399 | 45 | 0 | 0 | 8  | 45 | 0 | 0 | 0 | 0 |
|                               | point706 | 706 |     |    |   |   |    |    |   |   |   |   |
| CR600 EB Turn                 | point709 | 709 | 318 | 45 | 0 | 0 | 6  | 45 | 0 | 0 | 0 | 0 |
|                               | point710 | 710 | 318 | 45 | 0 | 0 | 6  | 45 | 0 | 0 | 0 | 0 |
|                               | point711 | 711 | 318 | 45 | 0 | 0 | 6  | 45 | 0 | 0 | 0 | 0 |
|                               | point712 | 712 | 318 | 45 | 0 | 0 | 6  | 45 | 0 | 0 | 0 | 0 |
|                               | point713 | 713 | 318 | 45 | 0 | 0 | 6  | 45 | 0 | 0 | 0 | 0 |

**INPUT: TRAFFIC FOR LAeq1h Volumes****R. Reagan Parkway**

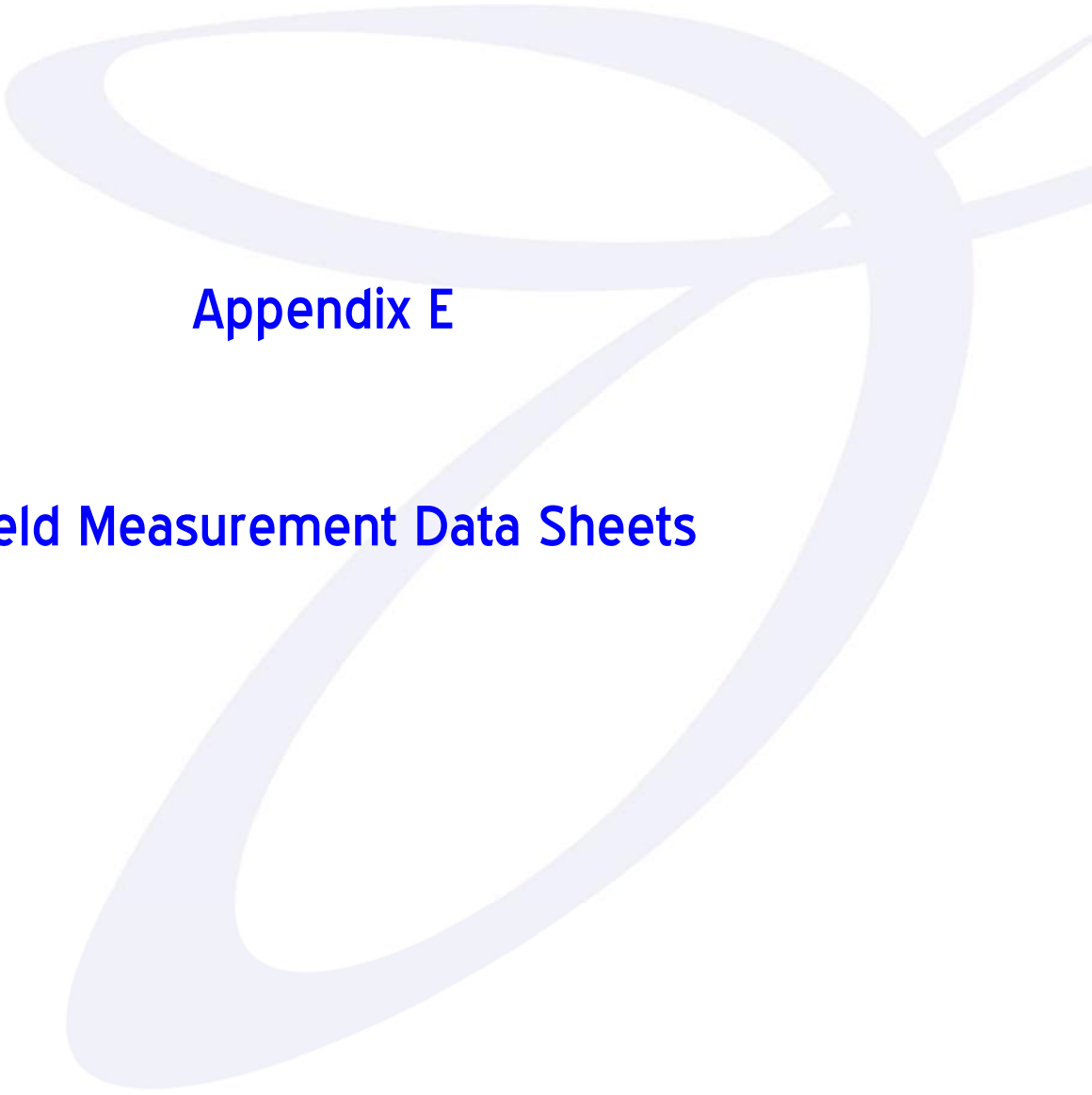
|                        |          |     |     |    |   |   |   |    |   |   |   |   |
|------------------------|----------|-----|-----|----|---|---|---|----|---|---|---|---|
|                        | point714 | 714 | 318 | 45 | 0 | 0 | 6 | 45 | 0 | 0 | 0 | 0 |
|                        | point715 | 715 |     |    |   |   |   |    |   |   |   |   |
| CR600 EB Turn - Signal | point718 | 718 | 318 | 45 | 0 | 0 | 6 | 45 | 0 | 0 | 0 | 0 |
|                        | point716 | 716 |     |    |   |   |   |    |   |   |   |   |



**RESULTS: SOUND LEVELS**

**R. Reagan Parkway**

|                       |    |              |                        |            |            |      |    |      |      |     |   |      |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|------|------|-----|---|------|
| RS25                  | 31 | 1            | 44.5                   | 56.1       | 66         | 11.6 | 15 | ---- | 56.1 | 0.0 | 7 | -7.0 |
| RS26                  | 32 | 1            | 43.1                   | 54.5       | 66         | 11.4 | 15 | ---- | 54.5 | 0.0 | 7 | -7.0 |
| RS27                  | 33 | 1            | 41.6                   | 52.6       | 66         | 11.0 | 15 | ---- | 52.6 | 0.0 | 7 | -7.0 |
| RS28                  | 34 | 1            | 41.1                   | 51.9       | 66         | 10.8 | 15 | ---- | 51.9 | 0.0 | 7 | -7.0 |
| RS29                  | 35 | 1            | 39.7                   | 51.3       | 66         | 11.6 | 15 | ---- | 51.3 | 0.0 | 7 | -7.0 |
| RS30                  | 36 | 1            | 39.4                   | 49.5       | 66         | 10.1 | 15 | ---- | 49.5 | 0.0 | 7 | -7.0 |
| RS31                  | 37 | 1            | 39.5                   | 49.8       | 66         | 10.3 | 15 | ---- | 49.8 | 0.0 | 7 | -7.0 |
| RS32                  | 38 | 1            | 39.5                   | 49.7       | 66         | 10.2 | 15 | ---- | 49.7 | 0.0 | 7 | -7.0 |
| RS33                  | 39 | 1            | 42.6                   | 53.8       | 66         | 11.2 | 15 | ---- | 53.8 | 0.0 | 7 | -7.0 |
| RS34                  | 40 | 1            | 42.9                   | 54.1       | 66         | 11.2 | 15 | ---- | 54.1 | 0.0 | 7 | -7.0 |
| RS35                  | 41 | 1            | 43.0                   | 54.3       | 66         | 11.3 | 15 | ---- | 54.3 | 0.0 | 7 | -7.0 |
| RS36                  | 42 | 1            | 43.1                   | 54.3       | 66         | 11.2 | 15 | ---- | 54.3 | 0.0 | 7 | -7.0 |
| RS37                  | 43 | 1            | 43.3                   | 54.2       | 66         | 10.9 | 15 | ---- | 54.2 | 0.0 | 7 | -7.0 |
| RS38                  | 44 | 1            | 43.6                   | 54.1       | 66         | 10.5 | 15 | ---- | 54.1 | 0.0 | 7 | -7.0 |
| RS39                  | 45 | 1            | 43.9                   | 53.8       | 66         | 9.9  | 15 | ---- | 53.8 | 0.0 | 7 | -7.0 |
| RS40                  | 46 | 1            | 44.1                   | 53.5       | 66         | 9.4  | 15 | ---- | 53.5 | 0.0 | 7 | -7.0 |
| RS41                  | 47 | 1            | 44.4                   | 53.1       | 66         | 8.7  | 15 | ---- | 53.1 | 0.0 | 7 | -7.0 |
| RS42                  | 49 | 1            | 43.1                   | 51.0       | 66         | 7.9  | 15 | ---- | 51.0 | 0.0 | 7 | -7.0 |
| RS43                  | 53 | 1            | 41.5                   | 48.6       | 66         | 7.1  | 15 | ---- | 48.6 | 0.0 | 7 | -7.0 |
| RS44                  | 54 | 1            | 60.4                   | 59.5       | 66         | -0.9 | 15 | ---- | 59.5 | 0.0 | 7 | -7.0 |
| RS45                  | 55 | 1            | 51.7                   | 59.2       | 66         | 7.5  | 15 | ---- | 59.2 | 0.0 | 7 | -7.0 |
| RS46                  | 57 | 1            | 61.8                   | 65.2       | 66         | 3.4  | 15 | ---- | 65.2 | 0.0 | 7 | -7.0 |
| RS47                  | 58 | 1            | 55.0                   | 57.2       | 66         | 2.2  | 15 | ---- | 57.2 | 0.0 | 7 | -7.0 |
| RS48                  | 59 | 1            | 42.7                   | 49.0       | 66         | 6.3  | 15 | ---- | 49.0 | 0.0 | 7 | -7.0 |
| <b>Dwelling Units</b> |    | <b># DUs</b> | <b>Noise Reduction</b> |            |            |      |    |      |      |     |   |      |
|                       |    |              | <b>Min</b>             | <b>Avg</b> | <b>Max</b> |      |    |      |      |     |   |      |
|                       |    |              | <b>dB</b>              | <b>dB</b>  | <b>dB</b>  |      |    |      |      |     |   |      |
| All Selected          |    | 48           | 0.0                    | 0.0        | 0.0        |      |    |      |      |     |   |      |
| All Impacted          |    | 1            | 0.0                    | 0.0        | 0.0        |      |    |      |      |     |   |      |
| All that meet NR Goal |    | 0            | 0.0                    | 0.0        | 0.0        |      |    |      |      |     |   |      |



# Appendix E

## Field Measurement Data Sheets



# NOISE FIELD MEASUREMENT DATA SHEET

|                       |  |           |                                       |                           |  |         |                     |     |              |
|-----------------------|--|-----------|---------------------------------------|---------------------------|--|---------|---------------------|-----|--------------|
| Job No.:              | 2011.00138   | Des. No.: | 1602280                               | Location (City / County): | Brownsburg/Hendricks   | AM / PM | Site:               | RS5 |              |
| Date:                 | 2/22/2017  |           | Project:                              |                           | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia  |         | Atmospheric Cond.   |     |              |
| Instrument:           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |           | Temp:                                 |                           | 67 F   |         | Weather:            |     | Partly Sunny |
| Calibrator:           | Model CAL200 Calibrator  |           | Calibrated:                           |                           | <input checked="" type="checkbox"/> 94 dBA <input checked="" type="checkbox"/> 114 dBA   |         | Relative Humidity:  |     | 63.00%       |
| Measurement Location: | RS 5   |           | Receptors Represented:                |                           | RS 5   |         | Avg. Windspd.:      |     | 9 mph S      |
| Major Noise Source:   | CR 600 N   |           | Pavement:                             |                           | Dry / Wet  |         | Other Observations: |     |              |
| Secondary Source:     | N/A  |           | Land Use Cat. (Select All Applicable) |                           | A - 57 dBA Serene Areas<br><b>B - 67 dBA Residential</b><br>C - 67 dBA Hosp/Parks/Schls/Church/Cem/Trail/Historic/Day Care<br>E - 72 dBA Hotels/Offices /Rest.<br>F - N/A Ag/Manuf/Maint./Retail<br>G - NA Undev. Land Not Permit. |         | Windy               |     |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 4          | 12               | 0                  | 45           | 45             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |              |                  |                |                  |
|-------------------|--------------|------------------|----------------|------------------|
| Test Time         | Start:       | 3:30             | Finish:        | 3:45             |
| Measured dBA      | 65           | L <sub>Aeq</sub> | 74.8           | L <sub>max</sub> |
| Unexpected Events | Plane        |                  |                |                  |
| Traffic Volumes   | Primary Road |                  | Secondary Road |                  |
|                   | NB/EB        | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 205          | 233              | N/A            | N/A              |
| Med. Trucks       | 1            | 5                | N/A            | N/A              |
| Heavy Trucks      | 0            | 4                | N/A            | N/A              |
| Buses             | 0            | 8                | N/A            | N/A              |
| Motorcycles       | 0            | 0                | N/A            | N/A              |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |  |                                       |  |   |           |              |
|---------------------------------------|--|---|---|--|---------------------------------------|--|---|-----------|--------------|
|                                       |  |   |   |  |                                       | AM / PM                                    | Site: RS6                                   |           |              |
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):              |                                       | Brownsburg/Hendricks                       | Date:                                       | 2/22/2017 |              |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia          |   |   |  |                                       |  | Atmospheric Cond.                           |           |              |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |  |                                       |  | Temp:                                       | 67 F      |              |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |  |                                       | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:  | Partly Sunny |
| Measurement Location:                 | RS6  |   |   |  |                                       |  | Relative Humidity:                          | 63.00%    |              |
| Receptors Represented:                | RS6  |   |   |  |                                       |  | Avg. Windspd.:                              | 9 mph S   |              |
| Major Noise Source:                   | N/A  |   |   |  |                                       |  | Pavement:                                   | Dry / Wet |              |
| Secondary Source:                     | N/A  |   |   |  |                                       |  | Other Observations:                         |           |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail | G - NA<br>Undev. Land<br>Not Permit.       | Windy                                       |           |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | N/A        | N/A              | N/A                | N/A          | N/A            |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |              |                  |                |                  |
|-------------------|--------------|------------------|----------------|------------------|
| Test Time         | Start:       | 3:03             | Finish:        | 3:18             |
| Measured dBA      | 46           | L <sub>Aeq</sub> | 56.7           | L <sub>max</sub> |
| Unexpected Events | N/A          |                  |                |                  |
| Traffic Volumes   | Primary Road |                  | Secondary Road |                  |
|                   | NB/EB        | SB/WB            | NB/EB          | SB/WB            |
| Cars              | N/A          | N/A              | N/A            | N/A              |
| Med. Trucks       | N/A          | N/A              | N/A            | N/A              |
| Heavy Trucks      | N/A          | N/A              | N/A            | N/A              |
| Buses             | N/A          | N/A              | N/A            | N/A              |
| Motorcycles       | N/A          | N/A              | N/A            | N/A              |

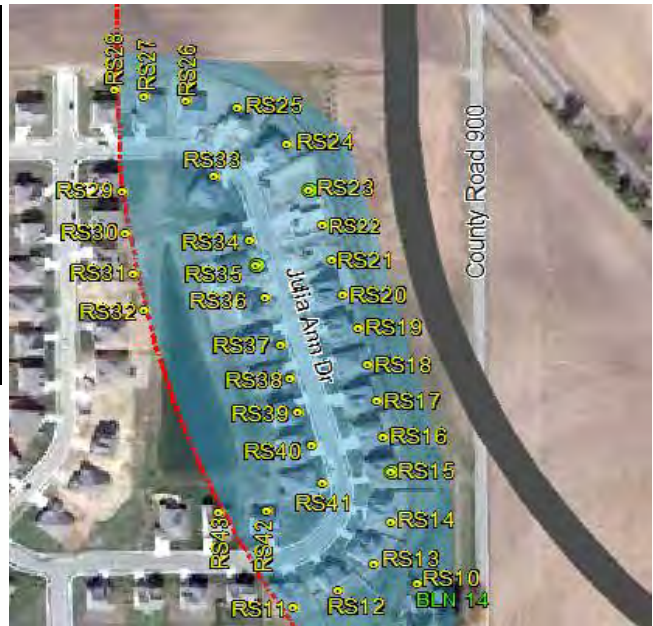


# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |  |                                       |  |   |             |              |
|---------------------------------------|--|---|---|--|---------------------------------------|--|---|-------------|--------------|
|                                       |  |   |   |  |                                       | AM / PM                                    | Site: RS15                                  |             |              |
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):              |                                       | Brownsburg/Hendricks                       | Date:                                       | 2/22/2017   |              |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia          |   |   |  |                                       |  | Atmospheric Cond.                           |             |              |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |  |                                       |  | Temp:                                       | 63 F        |              |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |  |                                       | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:    | Partly Sunny |
| Measurement Location:                 | RS15   |   |   |  |                                       |  | Relative Humidity:                          | 73.00%      |              |
| Receptors Represented:                | RS15   |   |   |  |                                       |  | Avg. Windspd.:                              | 12 mph S/SW |              |
| Major Noise Source:                   | CR 900 E   |   |   |  |                                       |  | Pavement:                                   | Dry / Wet   |              |
| Secondary Source:                     | N/A  |   |   |  |                                       |  | Other Observations:                         |             |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail | G - NA<br>Undev. Land<br>Not Permit.       | Windy                                       |             |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 40           | 40             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |              |                  |                |                  |
|-------------------|--------------|------------------|----------------|------------------|
| Test Time         | Start:       | 2:25             | Finish:        | 2:40             |
| Measured dBA      | 48.8         | L <sub>Aeq</sub> | 67.2           | L <sub>max</sub> |
| Unexpected Events | N/A          |                  |                |                  |
| Traffic Volumes   | Primary Road |                  | Secondary Road |                  |
|                   | NB/EB        | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 13           | 26               | N/A            | N/A              |
| Med. Trucks       | 0            | 1                | N/A            | N/A              |
| Heavy Trucks      | 0            | 0                | N/A            | N/A              |
| Buses             | 0            | 0                | N/A            | N/A              |
| Motorcycles       | 1            | 0                | N/A            | N/A              |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |                            |  |   |  |   |  |       |       |              |
|---------------------------------------|----------------------------|--|---|--|---|--|-------|-------|--------------|
| Job No.:                              | 2011.00138                 | Des. No.:  | 1602280   | Location (City / County):              | Brownsburg/Hendricks  | AM / PM  | Site: | RS23  |              |
| Date:                                 | 2/22/2017                  |  | Project:  |  | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia |  |       |       |              |
| Instrument:                           |                            | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |  |   | Atmospheric Cond.  |       |       |              |
| Calibrator:                           |                            | Model CAL200 Calibrator  |   | Calibrated:                            |   | <input checked="" type="checkbox"/> 94 dBA <input checked="" type="checkbox"/> 114 dBA |       | Temp: | 67 F         |
| Measurement Location:                 |                            | RS23   |   |  |   | Weather:   |       |       | Partly Sunny |
| Receptors Represented:                |                            | RS23   |   |  |   | Relative Humidity:   |       |       | 63.00%       |
| Major Noise Source:                   |                            | CR 900 E   |   |  |   | Avg. Windspd.:   |       |       | 7 mph S      |
| Secondary Source:                     |                            | N/A  |   |  |   | Pavement:  |       |       | Dry / Wet    |
| Other Observations:                   |                            |  |   |  |   |  |       |       |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas | <b>B - 67 dBA</b><br><b>Residential</b>                                      | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail                               | G - NA<br>Undev. Land<br>Not Permit.   |       |       |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 40           | 40             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |   |           |                |           |
|-------------------|---|-----------|----------------|-----------|
| Test Time         | Start:  | 4:34      | Finish:        | 4:49      |
| Measured dBA      | 49.7  | $L_{Aeq}$ | 65.6           | $L_{max}$ |
| Unexpected Events | Ambulance in distance, construction in distance, dogs barking |           |                |           |
| Traffic Volumes   | Primary Road  |           | Secondary Road |           |
|                   | NB/EB   | SB/WB     | NB/EB          | SB/WB     |
| Cars              | 41  | 34        | N/A            | N/A       |
| Med. Trucks       | 0   | 0         | N/A            | N/A       |
| Heavy Trucks      | 0   | 0         | N/A            | N/A       |
| Buses             | 0   | 1         | N/A            | N/A       |
| Motorcycles       | 0   | 0         | N/A            | N/A       |

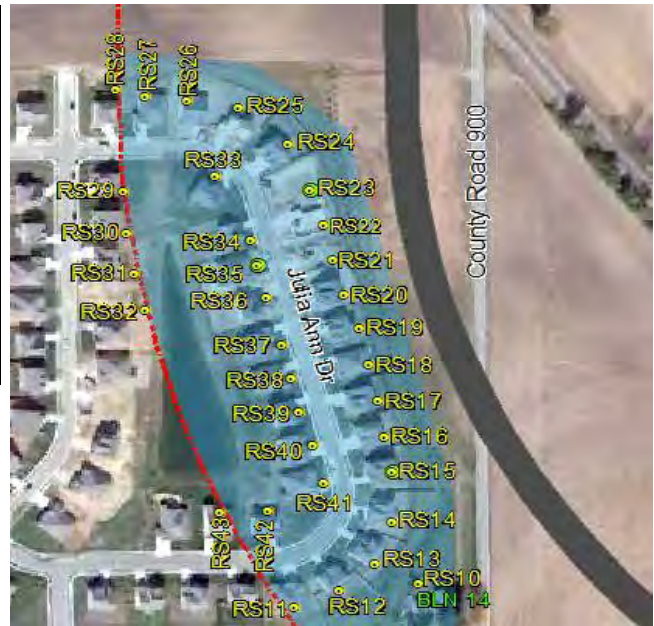


# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |  |                                       |  |   |           |              |
|---------------------------------------|--|---|---|--|---------------------------------------|--|---|-----------|--------------|
|                                       |  |   |   |  |                                       | AM / PM                                    | Site: RS35                                  |           |              |
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):              |                                       | Brownsburg/Hendricks                       | Date:                                       | 2/22/2017 |              |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia          |   |   |  |                                       |  | Atmospheric Cond.                           |           |              |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |  |                                       |  | Temp:                                       | 67 F      |              |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |  |                                       | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:  | Partly Sunny |
| Measurement Location:                 | RS35,  |   |   |  |                                       |  | Relative Humidity:                          | 63.00%    |              |
| Receptors Represented:                | RS35   |   |   |  |                                       |  | Avg. Windspd.:                              | 7 mph S   |              |
| Major Noise Source:                   | CR 900 E   |   |   |  |                                       |  | Pavement:                                   | Dry / Wet |              |
| Secondary Source:                     | N/A  |   |   |  |                                       |  | Other Observations:                         |           |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail | G - NA<br>Undev. Land<br>Not Permit.       |   |           |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 40           | 40             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |                                    |           |                |           |
|-------------------|------------------------------------|-----------|----------------|-----------|
| Test Time         | Start:                             | 4:52      | Finish:        | 5:07      |
| Measured dBA      | 45.3                               | $L_{Aeq}$ | 63.8           | $L_{max}$ |
| Unexpected Events | Dogs barking, children out playing |           |                |           |
| Traffic Volumes   | Primary Road                       |           | Secondary Road |           |
|                   | NB/EB                              | SB/WB     | NB/EB          | SB/WB     |
| Cars              | 33                                 | 53        | N/A            | N/A       |
| Med. Trucks       | 0                                  | 0         | N/A            | N/A       |
| Heavy Trucks      | 0                                  | 0         | N/A            | N/A       |
| Buses             | 0                                  | 0         | N/A            | N/A       |
| Motorcycles       | 0                                  | 0         | N/A            | N/A       |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |  |                                       |  |   |           |              |
|---------------------------------------|--|---|---|--|---------------------------------------|--|---|-----------|--------------|
|                                       |  |   |   |  |                                       | AM / PM                                    | Site: RS46                                  |           |              |
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):              |                                       | Brownsburg/Hendricks                       | Date:                                       | 2/22/2017 |              |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia          |   |   |  |                                       |  | Atmospheric Cond.                           |           |              |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |  |                                       |  | Temp:                                       | 67 F      |              |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |  |                                       | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:  | Partly Sunny |
| Measurement Location:                 | RS 46  |   |   |  |                                       |  | Relative Humidity:                          | 63.00%    |              |
| Receptors Represented:                | RS 46  |   |   |  |                                       |  | Avg. Windspd.:                              | 9 mph S   |              |
| Major Noise Source:                   | CR 700 N   |   |   |  |                                       |  | Pavement:                                   | Dry / Wet |              |
| Secondary Source:                     | N/A  |   |   |  |                                       |  | Other Observations:                         |           |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail | G - NA<br>Undev. Land<br>Not Permit.       | Windy                                       |           |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 40           | 40             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |                      |                  |                |                  |
|-------------------|----------------------|------------------|----------------|------------------|
| Test Time         | Start:               | 4:05             | Finish:        | 4:20             |
| Measured dBA      | 59.9                 | L <sub>Aeq</sub> | 72.9           | L <sub>max</sub> |
| Unexpected Events | Crows in nearby tree |                  |                |                  |
| Traffic Volumes   | Primary Road         |                  | Secondary Road |                  |
|                   | NB/EB                | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 24                   | 41               | N/A            | N/A              |
| Med. Trucks       | 1                    | 1                | N/A            | N/A              |
| Heavy Trucks      | 1                    | 0                | N/A            | N/A              |
| Buses             | 0                    | 0                | N/A            | N/A              |
| Motorcycles       | 0                    | 0                | N/A            | N/A              |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |  |                                       |  |   |           |               |
|---------------------------------------|--|---|---|--|---------------------------------------|--|---|-----------|---------------|
|                                       |  |   |   |  |                                       | AM / PM                                    | Site: RS47                                  |           |               |
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):              |                                       | Brownsburg/Hendricks                       | Date:                                       | 3/2/2017  |               |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ia          |   |   |  |                                       |  | Atmospheric Cond.                           |           |               |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |  |                                       |  | Temp:                                       | 33 F      |               |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |  |                                       | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:  | Partly Cloudy |
| Measurement Location:                 | RS47   |   |   |  |                                       |  | Relative Humidity:                          | 71.00%    |               |
| Receptors Represented:                | RS47   |   |   |  |                                       |  | Avg. Windspd.:                              | 13 mph W  |               |
| Major Noise Source:                   | CR 750 N   |   |   |  |                                       |  | Pavement:                                   | Dry / Wet |               |
| Secondary Source:                     | N/A  |   |   |  |                                       |  | Other Observations:                         |           |               |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices<br>/Rest. | F - N/A<br>Ag/Manuf/Mai<br>nt./Retail | G - NA<br>Undev. Land<br>Not Permit.       | Windy                                       |           |               |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 40           | 40             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |                           |                  |                |                  |
|-------------------|---------------------------|------------------|----------------|------------------|
| Test Time         | Start:                    | 6:54             | Finish:        | 7:09             |
| Measured dBA      | 54.4                      | L <sub>Aeq</sub> | 67.2           | L <sub>max</sub> |
| Unexpected Events | Car stopped to talk to us |                  |                |                  |
| Traffic Volumes   | Primary Road              |                  | Secondary Road |                  |
|                   | NB/EB                     | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 20                        | 3                | N/A            | N/A              |
| Med. Trucks       | 0                         | 0                | N/A            | N/A              |
| Heavy Trucks      | 0                         | 0                | N/A            | N/A              |
| Buses             | 0                         | 0                | N/A            | N/A              |
| Motorcycles       | 0                         | 0                | N/A            | N/A              |



## Iddings, Joshua

---

**From:** Miller, Brandon <BraMiller1@indot.IN.gov>  
**Sent:** Thursday, August 09, 2018 8:39 AM  
**To:** Boits, Leah  
**Cc:** Bales, Ronald; Maurovich, Mike; Johnson, Paul; Kurt Fowerbaugh; Iddings, Joshua  
**Subject:** Ronald Reagan Parkway, Hendricks County, Indiana Des No 1602280 (July 24, 2018 Submission)

INDOT Environmental Services Division (ES) has reviewed the noise study for the above-referenced project and found it to be technically sufficient. As you are aware, INDOT no longer comments on recommendations provided in noise studies for local agency projects. However, it is our assessment that the study has been completed in accordance with federal guidelines and state policy.

### **Brandon Miller**

#### ***NEPA Team Lead***

#### ***INDOT Environmental Services***

100 N. Senate Ave., Rm. 642

Indianapolis, IN 46204

**Office:** (317) 234-5108

**Email:** bramiller1@indot.in.gov





# NOISE ANALYSIS REPORT

RONALD REAGAN PARKWAY – PHASE 1B  
HENDRICKS COUNTY  
BROWNSBURG, INDIANA

DES. NO. 1602280



Prepared for:

HENDRICKS COUNTY COMMISSIONERS  
355 SOUTH WASHINGTON STREET  
DANVILLE, INDIANA 46122

Prepared by:

AMERICAN STRUCTUREPOINT, INC.

A handwritten signature in black ink, appearing to read 'Monica Del Real'.

Monica Del Real, Environmental Specialist

August 16, 2019



AMERICAN  
**STRUCTUREPOINT**  
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317.547.5580

[www.structurepoint.com](http://www.structurepoint.com)

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**Appendix A – Project Mapping**

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**Appendix G – Traffic Data**

## Executive Summary

This analysis was developed to determine the traffic noise levels and traffic noise impacts associated with the proposed construction of a new road, Ronald Reagan Parkway, from CR 600 North in Hendricks County, extending north to I-65 in Boone County. The alignment is proposed to connect with I-65 at the existing I-65/SR 267 interchange and is being completed in phases. This analysis covers Phase 1B of the proposed Ronald Reagan Parkway project. Phase 1B of the project begins north of CR 750 North, where Phase 1A terminates, and continues north and west to CR 1000 North on new alignment. The total length of Phase 1B is approximately 2.58 miles.

The proposed project is considered a Type I Project as it involves the construction of a roadway on new location. As defined in 23 CFR 772.5, Type I projects are all Federal or Federal-aid highway projects involving: 1) the construction of a highway on new location, 2) the physical alteration of an existing highway where the horizontal or vertical alignment is substantially modified (distance between the traffic noise source and receptor is halved), 3) the addition of through lanes, 4) the addition of auxiliary lanes, 5) the addition or relocation of interchange lanes or ramps, 6) Re-stripping existing pavement to include additional through lanes, and 7) the addition of a new or substantial alteration of a weigh station. Once determined to be a Type I project, the completion of a noise analysis is required.

This noise analysis was prepared in accordance with the guidance in the Federal Highway Administration's (FHWA's) *Highway Traffic Noise: Analysis and Abatement Guidance (December 2011)*, and the Indiana Department of Transportation's (INDOT's) *Traffic Noise Analysis Procedure (July 1, 2017)*.

The FHWA has developed Noise Abatement Criteria (NAC) that INDOT has adopted in their *Traffic Noise Analysis Procedure (Table 3-1, Section 3.1)*. These criteria define when noise impacts occur for specific types of land uses. Residential receptors fall into Activity Category B. The applicable noise criterion for this form of land use is 67 dBA, defined in terms of the one-hour equivalent noise level, expressed as Leq (1h). Recreational areas, cemeteries, schools, hospitals, public and non-profit institutions and recording studios fall under Activity Category C, which has the same NAC criterion of 67 dBA. Because Part 772 of 23 CFR defines potential impacts in terms of noise levels approaching or exceeding the NAC and INDOT's *Traffic Noise Analysis Procedure* defines approaching as one decibel, the effective value for impact analysis in Indiana for Activity Categories B and C is 66 dBA, rather than 67 dBA. Commercial uses, including motels and restaurants, fall into NAC activity Category E, with an effective criterion of 71 dBA, rather than 72 dBA. Retail uses, together with industrial and trucking/logistics/warehousing, and agriculture are in NAC activity Category F, for which there is no noise impact criterion. Once impacts to receptors falling under one or more of these activity categories are identified, mitigation is considered and a determination of feasibility and reasonableness is made.

The existing year (2020) noise levels, as well as the design year (2040) noise levels were predicted using Federal Highway Administration's (FHWA) approved noise predicting program, *Traffic Noise Model, Version 2.5 (TNM 2.5)*. To validate the model, short-term (15 minute) field measurements were taken at 3 sites within the analysis area; all 3 of the sites were validated.

A total of eight receptors were identified within 500 feet of the proposed edge of pavement. Of the eight receptors analyzed, all are classified as single family residential units (Activity Category B). The analysis area also includes undeveloped land that, at the time of this analysis, was not permitted for future development (i.e., new subdivision or commercial building that has been platted). These areas are considered to be Activity Category G land use types for which there is no NAC criteria. While receptors were not placed in the Activity Category G areas, an approximate contour representing the area likely to experience noise exposure levels of 66 dBA has



been defined (**Section 7**). This will assist planning officials responsible for the permitting of future development in ensuring incompatible land use types do not encroach upon this contour.

The INDOT *Traffic Noise Analysis Procedures (2017)* defines a traffic noise impact as occurring if one of the following criteria is found to be true:

- Predicted dBA levels approach (within at least 1 dBA) or exceed the NAC identified in **Table 3-1**, or
- Predicted dBA levels substantially exceed the existing ambient levels (at least 15 dBA above the existing conditions).

The results of this analysis did identify one receptor, RS 54, as approaching the NAC as a result of the proposed project. Noise abatement measures were considered, however due to the presence of a single impacted receptor and existing access which prohibits long, uninterrupted noise barrier segments, a noise barrier is not recommended to be constructed for this project.

## 1.0 Introduction

The Hendricks County Commissioners are advancing a federal-aid project to construct Ronald Reagan Parkway from CR 600 North in Hendricks County to I-65 in Boone County (Des. No. 1602280). The current phase of the project, Phase 1B, begins north of CR 750 North, where Phase 1A terminates, and continues north and west to CR 1000 North. The total length of Phase 1B is approximately 2.58 miles.

### 1.1 Purpose of Analysis

The purpose of this noise analysis is to assess existing and future traffic noise levels associated with Phase 1B of the proposed Ronald Reagan Parkway, identify impacted receptors within common noise environments (CNEs) and evaluate potential abatement solutions for feasibility and reasonableness if impacted receptors are present. The analysis was performed in accordance with the current Indiana Department of Transportation's (INDOT's) *Traffic Noise Analysis Procedure (July 1, 2017)*.

### 1.2 Project Description

The proposed project corridor is located near Brownsburg, Hendricks County, Indiana. The general cross section of the proposed Ronald Reagan Parkway will include two 12 foot wide travel lanes in each direction with 11 foot useable shoulder. The travel lanes will be separated by a 16 foot flush median, which will transition to a 12 foot left turn lane with a 4 foot striped median approaching cross streets. Intended design speed is 45 miles-per-hour.

Two residential displacements along CR 900 E, south of Maloney Road, are associated with this project and identified on the mapping in Appendix A. These residences were therefore not included as receptors within this report.

## 2.0 Existing Noise Environments

In accordance with the INDOT *Traffic Noise Analysis Procedure (July 1, 2017)*, potential receptors were identified within the analysis area, which is roughly defined as the area 500 feet of the proposed edge of pavement (**Appendix F**). A total of eight receptors were identified within the analysis area and evaluated as part of this noise impact analysis. Of the eight receptors identified and analyzed, all were classified as Activity Category B land uses. **Section 2.1** below provides a more comprehensive description of each modeled receptor.

### 2.1 Common Noise Environments

The overall land use within the analysis area is largely agricultural, with some scattered residential properties. The analysis area defined for this project is divided into three Common Noise Environments (CNEs) (**Appendix F**). This division between the CNEs was primarily made based upon similar topography and noise sources. A description of each CNE follows this section. The agricultural fields located within the analysis area are undeveloped lands that, at the time of this analysis, were not permitted for future development (i.e., new subdivision or commercial building that has been platted), and therefore, are considered to be Activity Category G land use types.

#### 2.1.1 Common Noise Environment 1

CNE 1 is comprised of RS 49, a single family residence, NAC activity Category B. The surrounding topography is generally flat with elevations of 904 to 907 feet above mean sea level (MSL), which is 2-5 feet above the grade of the proposed roadway. CR 900 E is the primary existing traffic noise source for this receptor.



**2.1.2 Common Noise Environment 2**

CNE 2 is comprised of RS 50, a single family residence, NAC activity Category B. The surrounding topography is generally flat with elevations of 905 to 906 feet above MSL, which is 3-5 feet below the grade of the proposed roadway. CR 900 E and Maloney Road are the primary existing traffic noise sources for this receptor.

**2.1.3 Common Noise Environment 3**

CNE 3 is comprised of six single family residences, RS 51 to RS 56, NAC activity Category B. The surrounding topography is generally flat with elevations ranging between 912 to 916 feet above MSL, which is 0-3 feet below the grade of the proposed roadway. CR 1000 E is the primary existing traffic noise source for these receptors.

**2.2 Field Measurements and Validation**

For this analysis a Larson Davis Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 was used to obtain short-term field measurements of ambient noise levels at representative receptors in the analysis area. The field measurements were taken by personnel of American Structurepoint, Inc. on March 2, 2017. Short term measurements were collected for a duration of 15 minutes at 3 sites. The field data sheets for each measurement taken are included in **Appendix B** of this analysis. Prior to use, the SLM was calibrated to 94 dBA and 114 dBA using the appropriate calibrator for this model. The Certificate of Calibration for this SLM is included in **Appendix C**.

Short-term field measurements are typically collected and used to validate the constructed *TNM 2.5* model prepared for the existing conditions. In such cases, existing noise levels are generated from a baseline condition model, where field observed traffic counts over the 15 minute sampling period are multiplied times four for a Leq(h) volume equivalent and entered into the model. Sites are considered to be validated when the field measured reading is found to be within 3 dBA (+/-) of the modeled reading.

During the sampling time atmospheric conditions and any unanticipated noise events were noted. Due to ambient temperatures at freezing (32°F) and measurements being taken in the morning (7:22 A.M. and 7:54 A.M. respectively); the default ground type was input as hard soil for the RS 49 and RS 50 validation models to better represent the field conditions. The results of the validation effort are illustrated in **Table 2-4** below.

**TABLE 2-4 – MODEL VALIDATION**

| Site No. | Receptor No. | CNE No. | Measured Level (dBA) | Modeled Level (dBA) | Difference | Validated |
|----------|--------------|---------|----------------------|---------------------|------------|-----------|
| 1        | RS 49        | 1       | 66.7                 | 64.8                | -1.9       | Yes       |
| 2        | RS 50        | 2       | 52.2                 | 52.7                | 0.5        | Yes       |
| 3        | RS 52        | 3       | 47.6                 | 45.1                | -2.5       | Yes       |

As noted in **Table 2-4**, all 3 of the sites modeled were validated. Therefore, the noise model developed for this analysis is considered to be valid.

## 3.0 Methodology and Assumptions

This noise analysis is developed as part of the National Environmental Policy Act (NEPA) environmental documentation for the project. In accordance with 23 Code of Federal Regulations (CFR) Part 772, FHWA's Highway Traffic Noise: Analysis and Abatement Guidance (December 2011) and the INDOT Traffic Noise Analysis Procedure (July 1, 2017), design year (2040) noise exposure levels were predicted using FHWA's approved noise modeling software, TNM 2.5.

### 3.1 Noise Abatement Criteria

The FHWA has developed NAC that INDOT has adopted in their *Traffic Noise Analysis Procedure* (**Table 3-1**). These criteria define when noise impacts occur for specific types of land uses. Residential receptors fall into Activity Category B. The applicable noise criterion for this form of land use is 67 dBA, defined in terms of the one-hour equivalent noise level, expressed as Leq (1h).

Because Part 772 of 23 CFR defines potential impacts in terms of noise levels approaching or exceeding the NAC and INDOT's *Traffic Noise Analysis Procedure* defines approaching as one decibel, the effective value for impact analysis in Indiana for Activity Categories B and C is 66 dBA, rather than 67 dBA. Commercial uses including motels and restaurants having exterior functionalities such as, patios/decks, picnic benches or outdoor pools, fall into NAC activity Category E, which has an effective criterion of 71 dBA. Retail uses, together with industrial and trucking/logistics/warehousing, and agriculture are in NAC activity Category F, for which there is no noise impact criterion. It should be noted this definition of "approach" does not apply to Activity Category D land uses.

**TABLE 3-1 - FHWA NAC LAND USES**

| Activity Category | Activity Criteria Leq(h) | Evaluation Location | Activity Description  |
|-------------------|--------------------------|---------------------|---|
| A                 | 57 dBA                   | Exterior            | Land uses on which serenity and quiet are of extraordinary significance and serve an important public need. The preservation of those qualities is essential if the area is to continue to serve its intended purpose.  |
| B                 | 67 dBA                   | Exterior            | Residential   |
| C                 | 67 dBA                   | Exterior            | Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. |
| D                 | 52 dBA                   | Interior            | Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.  |
| E                 | 72 dBA                   | Exterior            | Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.  |

| Activity Category | Activity Criteria Leq(h) | Evaluation Location | Activity Description   |
|-------------------|--------------------------|---------------------|--|
| F                 | --                       |                     | Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing. |
| G                 | --                       |                     | Undeveloped lands that are not permitted.  |

Source: FHWA Highway Traffic Noise: Analysis and Abatement Guidance (December 2011)

For this analysis, Activity Category B, F, and G land uses were identified within the analysis area.

### 3.2 Traffic Volumes

Design hourly volumes (DHV) for the Ronald Reagan Parkway corridor began with a review of the comprehensive plans from the surrounding communities and roadway improvement project expected to occur within the next twenty years on the cross streets. The April 7, 2017 *Ronald Reagan Parkway Corridor Alternatives Analysis* and June 19, 2017 *Ronald Reagan Parkway Traffic Report - Stage 1 Review Comments Response*, established the existing (2018) DHVs and the design year (2038) DHVs anticipating a 50% Buildup of the corridor. These values were adjusted in a June 27, 2019 *Ronald Reagan Parkway - Design Traffic Data Memorandum* to reflect the updated construction year of 2020.

The volumes are illustrated in **Appendix G** of this report.

### 3.3 Model Assumptions

The following model assumptions were incorporated into the analysis of this project:

- The modeling of noise impacts was completed using an assumed DHV factored to be 10% of the Average Annual Daily Traffic (AADT). The projected DHV for the Design Year (2040) was inflated assuming a 50% Buildup of the project corridor.
- Traffic volumes were assigned to the appropriate TNM vehicle classifications. For the purposes of this analysis, automobiles and heavy trucks were designated the appropriate vehicle classifications. Assignments were not made to the medium truck, motorcycle or bus classifications for the existing and built *TNM 2.5* models.
- The percent heavy vehicles used in *TNM 2.5* was 2%.
- A constant vehicle speed of 45 miles per hour (mph) was used for both automobiles and heavy trucks along Ronald Reagan Parkway, 45 mph along CR 1000 N, 35 to 50 mph along Maloney Road, and 35 to 50 mph along CR 900 E.
- No traffic was assumed along CR 900 E for the Design Year (2040) due to the assumption of traffic shifting to Ronald Reagan Parkway.
- Hard soil was utilized as the default ground type for the RS 49 and RS 50 validation models.

This action is a Type I Project as it includes the construction of a roadway on new location. As such, a formal noise analysis was performed using FHWA's *TNM 2.5*. *TNM 2.5* was utilized to generate the worst-case set of dBA levels over a one hour period, referred to as the Leq(h). This analysis intended to identify potential impacts to noise sensitive receptors along the proposed facility and consider potential mitigation strategies, where applicable.



## 4.0 Impact Assessment

The analysis of the proposed Ronald Reagan Parkway Phase 1B was completed using the FHWA's approved model for predicting noise levels associated with highway projects, *TNM 2.5*. TNM generated noise emission levels for the project, which are reported in dBA, and compared against the NAC thresholds identified in **Table 3-1** to determine whether a receptor is impacted. As defined in the *INDOT Traffic Noise Analysis Procedures (2017)*, a traffic noise impact occurs if one of the following criteria is found to be true:

- Predicted dBA levels approach (within at least 1 dBA) or exceed the NAC identified in **Table 3-1**, or
- Predicted dBA levels substantially exceed the existing ambient levels (at least 15 dBA above the existing conditions).

FHWA assesses noise impacts based upon the  $Leq(h)$ . That is, a receptors cumulative noise exposure from all events over a one hour period. The one hour period used for highway projects is identified as the peak travel hour, or busiest hour of the day.

The analysis identified one residential receptor, RS 54, with predicted future traffic noise levels approaching or exceeding the NAC of 67.0 dBA. The impacted receptor, RS 54, has a predicted future noise level of 66.6 dBA. The analysis did not identify any receptors with predicted future traffic noise levels substantially exceeding the existing ambient levels.

## 5.0 Noise Abatement

Consideration of measures to mitigate or abate traffic noise impacts must be afforded if impacted receptors have been identified in the analysis area. In order for abatement to be considered and implemented into the project it must undergo scrutiny to determine if it is both feasible and reasonable to construct. The definition of feasible and reasonable is identified in the *INDOT Traffic Noise Analysis Procedures (2017)*, but is summarized below.

Noise abatement is **feasible** if it meets all of the following conditions:

### *Engineering Feasibility:*

- Engineering considerations to determine if a particular form of abatement can actually have an effect on the traffic noise levels at a receptor. These considerations include topography, drainage, barrier height, utilities, safety and access / maintenance needs control.

### *Acoustic Feasibility:*

- A majority (greater than 50%) of the impacted receptors achieve a 5 dBA reduction in noise.

The **reasonableness** of noise abatement is based on a measured design goal for noise abatement, cost effectiveness and views of impacted receptors:

### *Design Goal:*

- A majority of the impacted first row receptors achieve at least a 7 dBA reduction in noise.

#### *Cost Effectiveness:*

- The estimated cost of constructing a noise barrier does not exceed \$25,000 per benefited receptor. In those cases where a majority of the development (more than 50%) was in place prior to construction of the highway, a barrier is considered cost effective if the estimated cost does not exceed \$30,000 per benefited receptor.

#### *Views of the Impacted and/or Benefited Receptors:*

- A majority (more than 50%) of the impacted or benefited receptors must affirm support for the prescribed mitigation.

## **5.1 Traffic Noise Barriers**

The construction of noise barriers is often viewed as an effective way to shield or deflect the noise exposure path between the source (i.e., road) and the impacted receptors. Traditionally, constructed noise barriers are either a post and panel system or an earthen berm. With the post and panel wall, steel posts are driven into the ground followed by the installation of several noise absorbing panels between the posts. Earthen berms are often more aesthetically appealing to communities, but depending on the height, can occupy vast amounts of property in order to accommodate the slope back to the existing grade. Several factors weigh into determining the feasibility of a barrier. Both barrier types need to be allowed to extend uninterrupted (i.e., no drive access points, utility crossings) the length of area it is intended to shield. Additionally, the barrier length needs to extend at either end at least four times the distance between the noise source and receptor to adequately deflect noise that spills around the end of the barrier. The barrier should also avoid interference with the line of sight at intersections, which could affect a driver's ability to see approaching traffic and create an unsafe condition to enter roadway. The inability to address these factors weighs heavily in the consideration of barrier abatement as a feasible measure of mitigation.

The analysis completed for this phase of Ronald Reagan Parkway identified one impacted receptor, RS 54, within CNE 3. It was determined that a majority of the 2040 predicted traffic noise for RS 54 comes from CR 1000 N and the noise level without traffic along Ronald Reagan Parkway is 66.5 dBA (0.1 dBA less than the predicted noise level with traffic along Ronald Reagan Parkway). Therefore a noise barrier is not acoustically feasible along Ronald Reagan Parkway. Due to the existing access along CR 1000 N which prohibits long, uninterrupted noise barrier segments, a noise barrier is not feasible along CR 1000 N. Therefore a noise barrier is not recommended to be constructed for this project.

## **5.2 Additional Forms of Noise Abatement**

Additional forms of noise abatement, including alteration of vertical and horizontal alignment, buffering zones, and installation of berms or vegetation were evaluated for this phase of Ronald Reagan Parkway. Due to the proximity of RS 54 to the CR 1000 N roadway and current project right-of-way limits, there is not sufficient area to construct berms or plant vegetation to effectively screen the impacted receptor. Due to the presence of residential receptors to the north of CR 1000 N, alteration of the roadway alignment is not reasonable.

## **6.0 Construction Noise**

The identified receptors will be affected by the noise generated from power-operated equipment utilized during construction. This equipment will be operated intermittently and will likely produce noise in the range of 70-98 dBA, with louder experiences occurring at those receptors closest to the construction limits. To minimize these impacts, construction equipment should be operated in compliance with all applicable local noise ordinances and



regulations pertaining to construction noise. Also, restricting construction activities to daytime working hours may help minimize construction noise impacts during nighttime hours. The project plans and specifications should include provisions requiring the contractor to make every reasonable effort to minimize construction noise through abatement measures such as work-hour controls and maintenance of muffler systems. If such measures are applied, the temporary effects to the nearby receptors should be minimized.

## 7.0 Coordination with Local Officials

Conflicts with future development along the proposed corridor are able to be minimized with appropriate noise compatible planning. This effort starts with knowledge about a project's specific noise impacts being shared with those local officials having the decision-making authority over the planning and zoning status of land within the analysis area. In accordance with the INDOT *Traffic Noise Analysis Procedure (July 1, 2017)* and 23 CFR 772.15 this report will be provided to the Hendricks County Plan Commission and Indianapolis Metropolitan Planning Organization following the completion of the environmental document. This is typically done to allow the local government planning branches to protect incompatible land use types, such as Activity Categories B and C, from developing within the approximate 66 dBA contour.

The 66 dBA contour is the best estimation of the future receptor impact zone following construction of the project. The 66 dBA contour for the proposed typical cross section of Ronald Reagan Parkway Phase 1B is estimated to occur 100 to 115 feet from the center of the roadway, varying slightly depending on topography, roadway geometry, and traffic volumes. Since this contour is predicted to occur within the proposed right-of-way that is to be acquired, there should be no limitations in the types of land use adjacent to the Ronald Reagan Parkway typical section.

## 8.0 Conclusion

A total of eight receptors were identified within 500 feet of the proposed edge of pavement, representing one NAC land use activity category, Activity Category B. The results of this analysis identify one receptor, RS 54, as approaching/exceeding the NAC as a result of the proposed project.

Based on the studies thus far accomplished, the Hendricks County Board of Commissioners has not identified any locations where noise abatement is likely. Noise abatement at these locations is based upon preliminary design costs and design criteria. Noise abatement has not been found to be feasible based on the presence of a single impacted receptor and access points along the roadway. A reevaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final design and the public involvement processes.



## 9.0 References

Environmental Protection Agency Publication EPAPB 206717, December 1971, *Noise from Construction Equipment and Operations*.

Federal Highway Program Manual, Volume 7, Section 3, August 9, 1982.

23 CFR 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, July 13, 2010.

FHWA *Highway Traffic Noise: Analysis and Abatement Guidance*, December 2011.

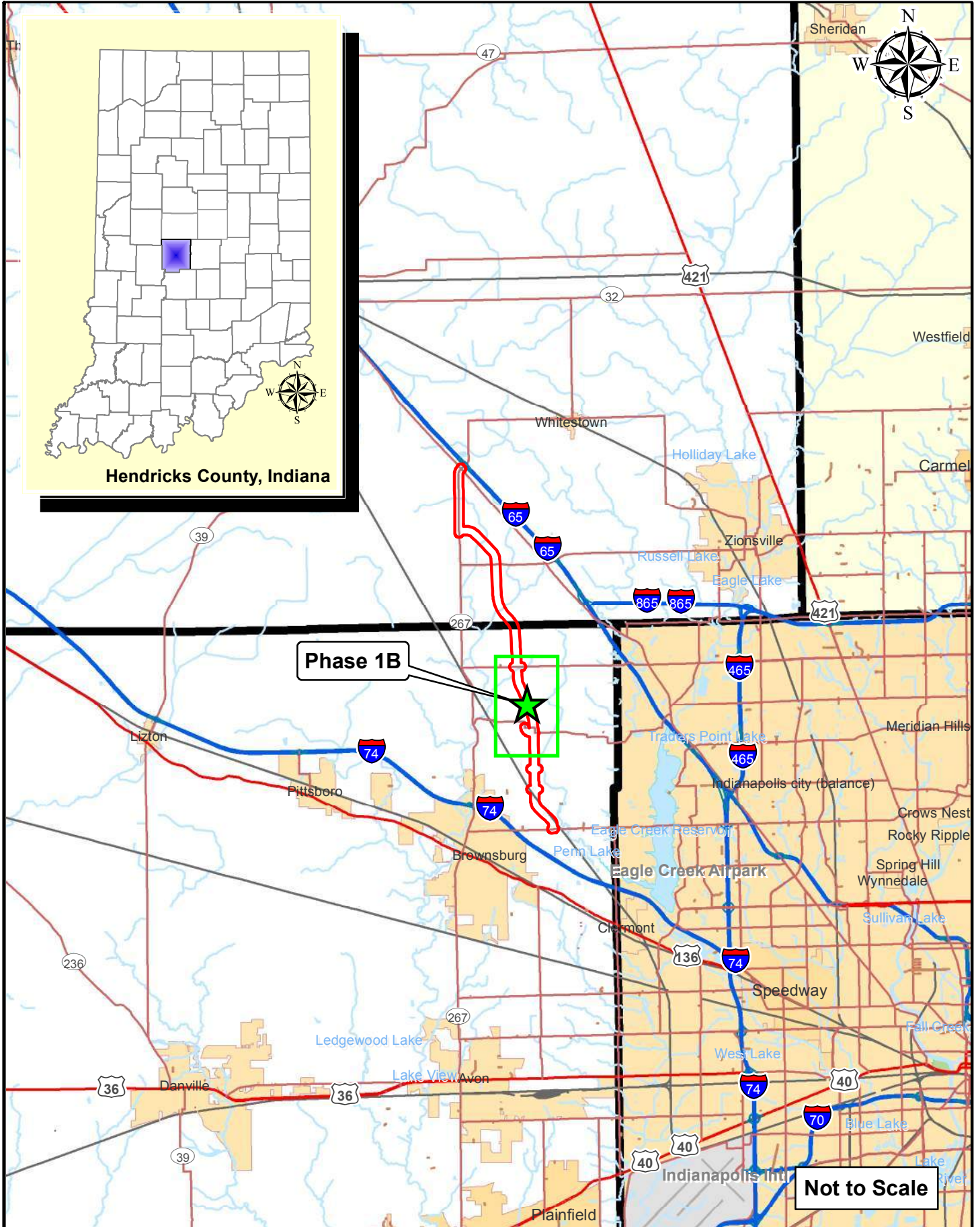
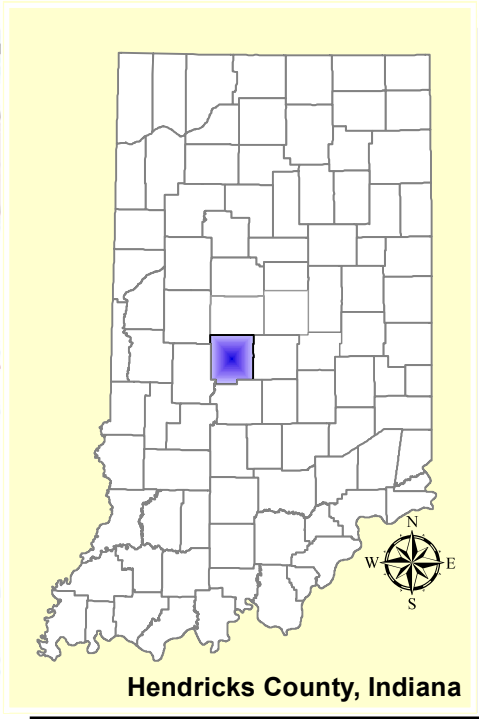
Federal Highway Administration, *Federal Lands Highway Project Development and Design Manual*, February 8, 2008.

INDOT *Traffic Noise Analysis Procedure*, July 1, 2017.

Indiana University Orthophotography – Aerial photographs

Google Earth, Professional Version – Aerial photographs (via American Structurepoint's purchased license)

# Appendix A – Project Mapping



**Not to Scale**

Path: P:\2011\00183\Drawings\ArcView\Phase 1B\2011\_00183.EV\2019-06-26\_Map.State.mxd Date: 6/26/2019 User:mdelreal



**Project Location Map**

Hendricks County  
Commissioners  
355 S. Washington St.  
Danville, IN 46122

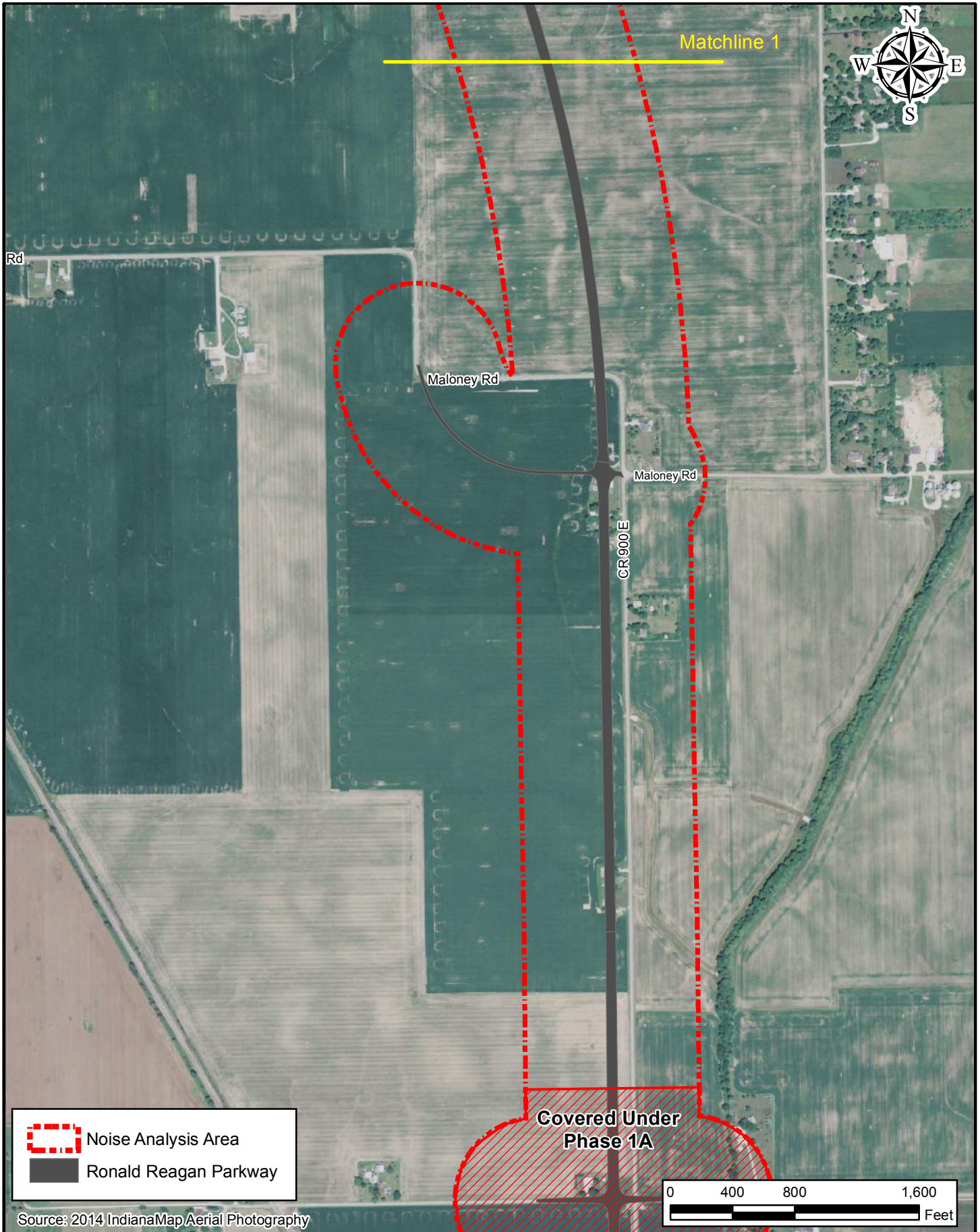
**Ronald Reagan Parkway: Phase 1B**



Des. No. 1602280  
Location: Brownsburg  
Townships: Brown  
Counties: Hendricks  
State: Indiana

Date: 06/25/2019

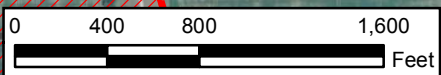
Appendix I  
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Path: P:\2011\00183\1D\_Drawings\Environmental\Noise\Phase1B\2011.00183.EV.2019-05-07.Map.Phase1b Receivers.mxd Date:6/26/2019 User:mdelreal



 Noise Analysis Area  
 Ronald Reagan Parkway

Source: 2014 IndianaMap/Aerial Photography



|  |  |   |
|--|--|---|
|  <p><b>AMERICAN<br/>STRUCTUREPOINT<br/>INC.</b></p> | <p align="center"><b>Noise Study Area - Phase 1B<br/>Map 1 of 2</b></p> <p align="center">Hendricks County Commissioners<br/>355 S. Washington Street // Danville, IN 46122<br/>and<br/>Boone County Commissioners<br/>116 W. Washington Street // Lebanon, IN 46052</p> | <p align="center"><b>Ronald Reagan Parkway Extension -<br/>CR 600 N to SR 267 / I-65</b></p> <p align="center">Location: Brownsburg / Whitestown<br/>Township: Brown and Perry<br/>County: Hendricks and Boone<br/>State: Indiana</p> <p>Date: 05/16/2019</p> <p align="right">Appendix I<br/>Page I-81</p> |
|--|--|---|



To Be Covered Under Phase 2A


Wind Drift


ECR 1000 N

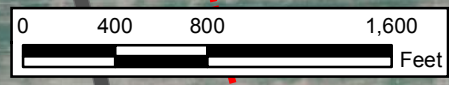
Nicole

E County Road

Matchline 1

 Noise Analysis Area

 Ronald Reagan Parkway



Source: 2014 IndianaMap/Aerial Photography

Path: P:\2011\00183\100183.EV.2019-05-07.Map.Phase1b.Receivers.mxd Date:6/26/2019 User:mdelreal



**Noise Study Area - Phase 1B**  
**Map 2 of 2**

Hendricks County Commissioners  
 355 S. Washington Street // Danville, IN 46122  
 and  
 Boone County Commissioners  
 116 W. Washington Street // Lebanon, IN 46052

**Ronald Reagan Parkway Extension -**  
**CR 600 N to SR 267 / I-65**

Location: Brownsburg / Whitestown  
 Township: Brown and Perry  
 County: Hendricks and Boone  
 State: Indiana

Date: 05/16/2019

Appendix I  
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## Appendix B – Field Measurement Data Sheets

# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |                                     |   |   |                     |               |      |
|---------------------------------------|--|---|---|-------------------------------------|---|---|---------------------|---------------|------|
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):           | Brownsburg/Hendricks  |   | AM / PM             | Site:         | RS49 |
| Date:                                 | 3/2/2017   |   | Project:  |                                     | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase Ib |   | Atmospheric Cond.   |               |      |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |                                     |   |   | Temp:               | 32 F          |      |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |                                     | <input checked="" type="checkbox"/> 94 dBA                          | <input checked="" type="checkbox"/> 114 dBA | Weather:            | Partly Cloudy |      |
| Measurement Location:                 | RS49   |   |   |                                     |   |   | Relative Humidity:  | 73.00%        |      |
| Receptors Represented:                | RS49   |   |   |                                     |   |   | Avg. Windspd.:      | 11 mph W      |      |
| Major Noise Source:                   | CR 900 E   |   |   |                                     |   |   | Pavement:           | Dry / Wet     |      |
| Secondary Source:                     | N/A  |   |   |                                     |   |   | Other Observations: |               |      |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices /Rest. | F - N/A<br>Ag/Manuf/Maint./Retail                                   | G - NA<br>Undev. Land Not Permit.           | Windy               |               |      |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 50           | 50             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |              |                  |                |                  |
|-------------------|--------------|------------------|----------------|------------------|
| Test Time         | Start:       | 7:22             | Finish:        | 7:37             |
| Measured dBA      | 66.7         | L <sub>Aeq</sub> | 76.7           | L <sub>max</sub> |
| Unexpected Events | N/A          |                  |                |                  |
| Traffic Volumes   | Primary Road |                  | Secondary Road |                  |
|                   | NB/EB        | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 53           | 38               | N/A            | N/A              |
| Med. Trucks       | 0            | 0                | N/A            | N/A              |
| Heavy Trucks      | 0            | 0                | N/A            | N/A              |
| Buses             | 1            | 0                | N/A            | N/A              |
| Motorcycles       | 0            | 0                | N/A            | N/A              |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |   |   |                                     |                                   |  |   |                   |                  |              |
|---------------------------------------|--|---|---|-------------------------------------|-----------------------------------|--|---|-------------------|------------------|--------------|
| Job No.:                              | 2011.00138   | Des. No.:                               | 1602280   | Location (City / County):           |                                   |  | Brownsburg/Hendricks                        | AM / PM           | Site:            | RS50         |
| Date:                                 | 3/2/2017   |   |   | Project:                            |                                   |  |   | Atmospheric Cond. |                  |              |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |   |   |                                     |                                   |  | Temp:                                       | 32 F              |                  |              |
| Calibrator:                           | Model CAL200 Calibrator  |   | Calibrated:   |                                     |                                   | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA | Weather:          |                  | Partly Sunny |
| Measurement Location:                 | RS50   |   |   |                                     |                                   |  | Relative Humidity:                          | 74.00%            |                  |              |
| Receptors Represented:                | RS50   |   |   |                                     |                                   |  | Avg. Windspd.:                              | 12 mph W          |                  |              |
| Major Noise Source:                   | CR 900 E   |   |   |                                     |                                   |  | Pavement:                                   |                   | <b>Dry / Wet</b> |              |
| Secondary Source:                     | Maloney Road   |   |   |                                     |                                   |  | Other Observations:                         |                   |                  |              |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br><b>Residential</b> | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices /Rest. | F - N/A<br>Ag/Manuf/Maint./Retail | G - NA<br>Undev. Land Not Permit.          | Windy, Curve in Road to NW                  |                   |                  |              |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 10               | 0                  | 50           | 35 to 50       |
| Secondary Road: | 2          | 10               | 0                  | 40           | 35 to 50       |

|                   |                         |                  |                |                  |
|-------------------|-------------------------|------------------|----------------|------------------|
| Test Time         | Start:                  | 7:54             | Finish:        | 8:09             |
| Measured dBA      | 52.2                    | L <sub>Aeq</sub> | 56.5           | L <sub>max</sub> |
| Unexpected Events | Birding chirping nearby |                  |                |                  |
| Traffic Volumes   | Primary Road            |                  | Secondary Road |                  |
|                   | NB/EB                   | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 1                       | 9                | 33             | 7                |
| Med. Trucks       | 0                       | 0                | 0              | 0                |
| Heavy Trucks      | 0                       | 0                | 0              | 0                |
| Buses             | 0                       | 1                | 0              | 0                |
| Motorcycles       | 0                       | 0                | 0              | 0                |



# NOISE FIELD MEASUREMENT DATA SHEET

|                                       |  |                                  |   |                                     |                                   |  |   |           |
|---------------------------------------|--|----------------------------------|---|-------------------------------------|-----------------------------------|--|---|-----------|
|                                       |  |                                  |   |                                     |                                   | AM / PM                                    | Site: RS52                                  |           |
| Job No.:                              | 2011.00138   | Des. No.:                        | 1602280   | Location (City / County):           |                                   | Brownsburg/Hendricks                       |   |           |
| Date:                                 | 3/2/2017   |                                  |   |                                     |                                   |  | Atmospheric Cond.                           |           |
| Project:                              | Ronald Reagan Parkway Extension - CR 600 N to SR 267/I-65, Phase 1b          |                                  |   |                                     |                                   |  | Temp:                                       | 34 F      |
| Instrument:                           | Larson Davis (LD) Class 1 Integrating Sound Level Meter (SLM) / Analyzer 831 |                                  |   |                                     |                                   |  | Weather:                                    | Overcast  |
| Calibrator:                           | Model CAL200 Calibrator  |                                  | Calibrated:   |                                     |                                   | <input checked="" type="checkbox"/> 94 dBA | <input checked="" type="checkbox"/> 114 dBA |           |
| Measurement Location:                 | RS52   |                                  |   |                                     |                                   |  | Relative Humidity:                          | 71.00%    |
| Receptors Represented:                | RS51 thru RS56   |                                  |   |                                     |                                   |  | Avg. Windspd.:                              | 9 mph NW  |
| Major Noise Source:                   | E CR 1000 N  |                                  |   |                                     |                                   |  | Pavement:                                   | Dry / Wet |
| Secondary Source:                     | N/A  |                                  |   |                                     |                                   |  | Other Observations:                         |           |
| Land Use Cat. (Select All Applicable) | A - 57 dBA<br>Serene Areas   | <b>B - 67 dBA</b><br>Residential | C - 67 dBA<br>Hosp/Parks/Schls/Church/<br>Cem/Trail/Historic/Day Care | E - 72 dBA<br>Hotels/Offices /Rest. | F - N/A<br>Ag/Manuf/Maint./Retail | G - NA<br>Undev. Land Not Permit.          | Windy                                       |           |

| Road Config.:   | # of Lanes | Lane Width (ft.) | Median Width (ft.) | Posted Speed | Observed Speed |
|-----------------|------------|------------------|--------------------|--------------|----------------|
| Primary Road:   | 2          | 11               | 0                  | 40           | 45             |
| Secondary Road: | N/A        | N/A              | N/A                | N/A          | N/A            |

|                   |              |                  |                |                  |
|-------------------|--------------|------------------|----------------|------------------|
| Test Time         | Start:       | 4:46             | Finish:        | 5:01             |
| Measured dBA      | 47.6         | L <sub>Aeq</sub> | 79.1           | L <sub>max</sub> |
| Unexpected Events | Dog barking  |                  |                |                  |
| Traffic Volumes   | Primary Road |                  | Secondary Road |                  |
|                   | NB/EB        | SB/WB            | NB/EB          | SB/WB            |
| Cars              | 27           | 100              | N/A            | N/A              |
| Med. Trucks       | 1            | 1                | N/A            | N/A              |
| Heavy Trucks      | 0            | 0                | N/A            | N/A              |
| Buses             | 0            | 1                | N/A            | N/A              |
| Motorcycles       | 0            | 0                | N/A            | N/A              |



# Appendix C – Sound Level Meter Calibration Certificates

# Certificate of Calibration and Conformance

This document certifies that the instrument referenced below meets published specifications per Procedure PRD-P263; ANSI S1.4-1983 (R 2006) Type 1; S1.4A-1985; S1.43-1997 Type 1; S1.11-2004 Octave Band Class 0; S1.25-1991; IEC 61672-2002 Class 1; 60651-2001 Type 1; 60804-2000 Type 1; 61260-2001 Class 0; 61252-2002.

|                |                   |                |       |       |
|----------------|-------------------|----------------|-------|-------|
| Manufacturer:  | Larson Davis      | Temperature:   | 74.2  | °F    |
| Model Number:  | 831               |                | 23.44 | °C    |
| Serial Number: | 2985              | Rel. Humidity: | 45.4  | %     |
| Customer:      | TMS Rental        | Pressure:      | 995.4 | mbars |
| Description:   | Sound Level Meter |                | 995.4 | hPa   |

Note: As Found / As Left: In Tolerance

Upon receipt for testing, this instrument was found to be:

Within the Stated tolerance of the manufacturer's specification

Calibration Date: 11-Jan-17

Calibration Due:

## Calibration Standards Used:

| Manufacturer              | Model | Serial Number | Cal Due   |
|---------------------------|-------|---------------|-----------|
| Stanford Research Systems | DS360 | 123270        | 4/19/2017 |
| Larson Davis              | 2239  | 109           | 4/22/2017 |

This Certificate attests that this instrument has been calibrated under the stated conditions with Measurement and Test Equipment (M&TE) Standards traceable to the National Institute of Standards and Technology (NIST). All of the Measurement Standards have been calibrated to their manufacturers' specified accuracy / uncertainty. Evidence of traceability and accuracy is on file at The Modal Shop and/or Larson Davis Corporate Headquarters. An acceptable accuracy ratio between the Standard(s) and the item calibrated has been maintained. This instrument meets or exceeds the manufacturer's published specification unless noted.

This calibration complies with ISO 17025 and ANSI Z540. The collective uncertainty of the Measurement Standard used does not exceed 25% of the applicable tolerance for each characteristic calibrated unless otherwise noted.

The results documented in this certificate relate only to the item(s) calibrated or tested. Calibration interval assignment and adjustment are the responsibility of the end user. This certificate may not be reproduced, except in full, without the written approval of The Modal Shop.

Technician: Andy McGuire

Signature:



3149 East Kemper Road Cincinnati, OH. 45241  
Phone: (513) 351-9919  
(800) 860-4867 www.modalshop.com

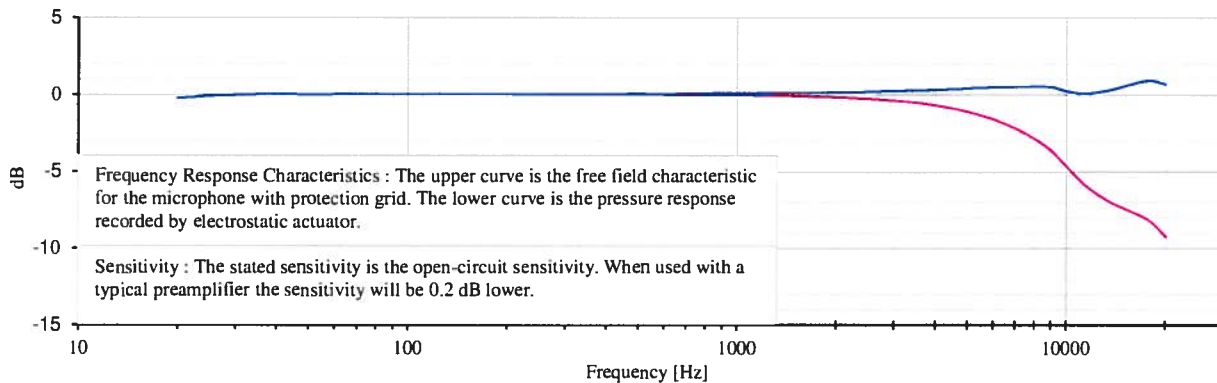


# ~Certificate of Calibration~

3149 East Kemper Rd.  
Cincinnati, OH 45241  
Ph : 513-351-9919  
Fax: 513-458-2172  
www.modalshop.com

|   |   |
|---|---|
| <b>Manufacturer:</b> PCB<br><b>Model Number:</b> 377B02<br><b>Serial Number:</b> 151258<br><b>Asset ID:</b> 55744<br><b>Description:</b> Free-Field Microphone<br><br><b>Sensitivity:</b> <b>250 Hz</b> <b>1 kHz</b><br>-26.39     -26.44     dB re. 1V/Pa<br>47.90     47.64     mV/Pa | <b>Customer:</b> TMS Rental<br><b>Address:</b><br><br><b>Calibration Date:</b> Aug 12, 2016 10:23:51<br><b>Due Date:</b><br><br><b>Temperature:</b> 74 (23) °F (°C)<br><b>Humidity:</b> 50 %<br><b>Ambient Pressure:</b> 992.6 mbar<br><br><b>Polarization Voltage:</b> 0 VDC |
|---|---|

**Cal. Results:** In Tolerance



**Traceability:** The calibration is traceable through 683/281764-2.

**Notes:** Calibration results relate only to the items calibrated.  
 This certificate may not be reproduced, except in full, without written permission.  
 This calibration is performed in compliance with ISO 9001, ISO 17025 and ANSI Z540.  
 Measurement uncertainty (250 Hz sensitivity calibration) at 95% confidence level: 0.30 dB.  
 Calibrated per procedure PRD-P204.

**User Note:** As Found/As Left In Tolerance

| Frequency Response with reference to level at 250 Hz |            |                |            |                |            |                |            |
|--|------------|----------------|------------|----------------|------------|----------------|------------|
| Frequency (Hz)                                       | Upper (dB) | Frequency (Hz) | Upper (dB) | Frequency (Hz) | Upper (dB) | Frequency (Hz) | Upper (dB) |
| 20   | -0.26      | 630            | 0.02       | 4500           | 0.34       |                |            |
| 25   | -0.12      | 800            | 0.06       | 5000           | 0.39       |                |            |
| 31.5   | -0.04      | 1000           | 0.07       | 5600           | 0.44       |                |            |
| 40   | 0.04       | 1120           | 0.08       | 6300           | 0.48       |                |            |
| 50   | -0.01      | 1250           | 0.09       | 7100           | 0.49       |                |            |
| 63   | 0.01       | 1400           | 0.10       | 8000           | 0.51       |                |            |
| 80   | 0.01       | 1600           | 0.10       | 9000           | 0.47       |                |            |
| 100  | 0.01       | 1800           | 0.11       | 10000          | 0.21       |                |            |
| 125  | 0.01       | 2000           | 0.14       | 11200          | 0.05       |                |            |
| 160  | 0.00       | 2240           | 0.15       | 12500          | 0.15       |                |            |
| 200  | 0.00       | 2500           | 0.18       | 14000          | 0.36       |                |            |
| 250  | 0.00       | 2800           | 0.20       | 16000          | 0.70       |                |            |
| 315  | 0.01       | 3150           | 0.24       | 18000          | 0.89       |                |            |
| 400  | 0.00       | 3550           | 0.26       | 20000          | 0.66       |                |            |
| 500  | 0.03       | 4000           | 0.29       |                |            |                |            |

**Technician:** Wayne Underwood

**Approval:**

**Reference Equipment Used:**

| Manuf. | Model | Serial | Cal. Date | Due Date |
|--------|-------|--------|-----------|----------|
| GRAS   | 40AG  | 9542   | 9/1/2015  | 9/1/2016 |



Calibration Lab

CALIBRATION CERT 2649.01

Page 1 of 1

# Calibration Certificate

Certificate Number 2016006715

**Customer:**

The Modal Shop  
3149 East Kemper Road  
Cincinnati, OH 45241, United States

|                          |   |                         |                   |
|--------------------------|---|-------------------------|-------------------|
| <b>Model Number</b>      | CAL200                                  | <b>Procedure Number</b> | D0001.8386        |
| <b>Serial Number</b>     | 13267                                   | <b>Technician</b>       | Scott Montgomery  |
| <b>Test Results</b>      | Pass                                    | <b>Calibration Date</b> | 26 Jul 2016       |
| <b>Initial Condition</b> | As Manufactured                         | <b>Calibration Due</b>  |                   |
| <b>Description</b>       | Larson Davis CAL200 Acoustic Calibrator | <b>Temperature</b>      | 24 °C ± 0.3 °C    |
|                          |   | <b>Humidity</b>         | 33 %RH ± 3 %RH    |
|                          |   | <b>Static Pressure</b>  | 101.3 kPa ± 1 kPa |

**Evaluation Method** The data is acquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

**Compliance Standards** Compliant to Manufacturer Specifications per D0001.8190 and the following standards:  
IEC 60942:2003 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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| Standards Used                            |            |            |              |
|---|------------|------------|--------------|
| Description                               | Cal Date   | Cal Due    | Cal Standard |
| Agilent 34401A DMM                        | 09/04/2015 | 09/04/2016 | 001021       |
| Sound Level Meter / Real Time Analyzer    | 04/07/2016 | 04/07/2017 | 001051       |
| Microphone Calibration System             | 08/20/2015 | 08/20/2016 | 005446       |
| 1/2" Preamplifier                         | 10/09/2015 | 10/09/2016 | 006506       |
| Larson Davis 1/2" Preamplifier 7-pin LEMO | 08/20/2015 | 08/20/2016 | 006507       |
| 1/2 inch Microphone - RI - 200V           | 08/17/2015 | 08/17/2016 | 006511       |
| Pressure Transducer                       | 10/12/2015 | 10/12/2016 | 007204       |

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Provo, UT 84601, United States  
716-684-0001





## Output Level

| Nominal Level [dB] | Pressure [kPa] | Test Result [dB] | Lower limit [dB] | Upper limit [dB] | Expanded Uncertainty [dB] | Result |
|--------------------|----------------|------------------|------------------|------------------|---------------------------|--------|
| 94                 | 101.3          | 94.00            | 93.80            | 94.20            | 0.14                      | Pass   |
| 114                | 101.5          | 114.00           | 113.80           | 114.20           | 0.13                      | Pass   |

-- End of measurement results--

## Frequency

| Nominal Level [dB] | Pressure [kPa] | Test Result [Hz] | Lower limit [Hz] | Upper limit [Hz] | Expanded Uncertainty [Hz] | Result |
|--------------------|----------------|------------------|------------------|------------------|---------------------------|--------|
| 94                 | 101.3          | 1,000.22         | 990.00           | 1,010.00         | 0.20                      | Pass   |
| 114                | 101.5          | 1,000.22         | 990.00           | 1,010.00         | 0.20                      | Pass   |

-- End of measurement results--

## Total Harmonic Distortion + Noise (THD+N)

| Nominal Level [dB] | Pressure [kPa] | Test Result [%] | Lower limit [%] | Upper limit [%] | Expanded Uncertainty [%] | Result |
|--------------------|----------------|-----------------|-----------------|-----------------|--------------------------|--------|
| 94                 | 101.3          | 0.36            | 0.00            | 2.00            | 0.25                     | Pass   |
| 114                | 101.5          | 0.26            | 0.00            | 2.00            | 0.25                     | Pass   |

-- End of measurement results--

## Level Change Over Pressure

Tested at: 114 dB, 24 °C, 41 %RH

| Nominal Pressure [kPa] | Pressure [kPa] | Test Result [dB] | Lower limit [dB] | Upper limit [dB] | Expanded Uncertainty [dB] | Result |
|------------------------|----------------|------------------|------------------|------------------|---------------------------|--------|
| 101.3                  | 101.2          | 0.00             | -0.30            | 0.30             | 0.04 ‡                    | Pass   |
| 65.0                   | 65.2           | -0.20            | -0.30            | 0.30             | 0.04 ‡                    | Pass   |
| 108.0                  | 108.0          | -0.05            | -0.30            | 0.30             | 0.04 ‡                    | Pass   |
| 92.0                   | 92.0           | 0.04             | -0.30            | 0.30             | 0.04 ‡                    | Pass   |
| 83.0                   | 83.1           | 0.04             | -0.30            | 0.30             | 0.04 ‡                    | Pass   |
| 74.0                   | 74.2           | -0.03            | -0.30            | 0.30             | 0.04 ‡                    | Pass   |

-- End of measurement results--

## Frequency Change Over Pressure

Tested at: 114 dB, 24 °C, 41 %RH

| Nominal Pressure [kPa] | Pressure [kPa] | Test Result [Hz] | Lower limit [Hz] | Upper limit [Hz] | Expanded Uncertainty [Hz] | Result |
|------------------------|----------------|------------------|------------------|------------------|---------------------------|--------|
| 108.0                  | 108.0          | 0.00             | -10.00           | 10.00            | 0.20 ‡                    | Pass   |
| 101.3                  | 101.2          | 0.00             | -10.00           | 10.00            | 0.20 ‡                    | Pass   |
| 92.0                   | 92.0           | 0.00             | -10.00           | 10.00            | 0.20 ‡                    | Pass   |
| 83.0                   | 83.1           | 0.00             | -10.00           | 10.00            | 0.20 ‡                    | Pass   |
| 65.0                   | 65.2           | 0.00             | -10.00           | 10.00            | 0.20 ‡                    | Pass   |
| 74.0                   | 74.2           | -0.01            | -10.00           | 10.00            | 0.20 ‡                    | Pass   |

-- End of measurement results--

**Total Harmonic Distortion + Noise (THD+N) Over Pressure**

Tested at: 114 dB, 24 °C, 41 %RH

| Nominal Pressure<br>[kPa] | Pressure<br>[kPa] | Test Result<br>[%] | Lower limit<br>[%] | Upper limit<br>[%] | Expanded Uncertainty<br>[%] | Result |
|---------------------------|-------------------|--------------------|--------------------|--------------------|-----------------------------|--------|
| 108.0                     | 108.0             | 0.26               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |
| 101.3                     | 101.2             | 0.25               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |
| 92.0                      | 92.0              | 0.25               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |
| 83.0                      | 83.1              | 0.25               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |
| 74.0                      | 74.2              | 0.26               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |
| 65.0                      | 65.2              | 0.27               | 0.00               | 2.00               | 0.25 ‡                      | Pass   |

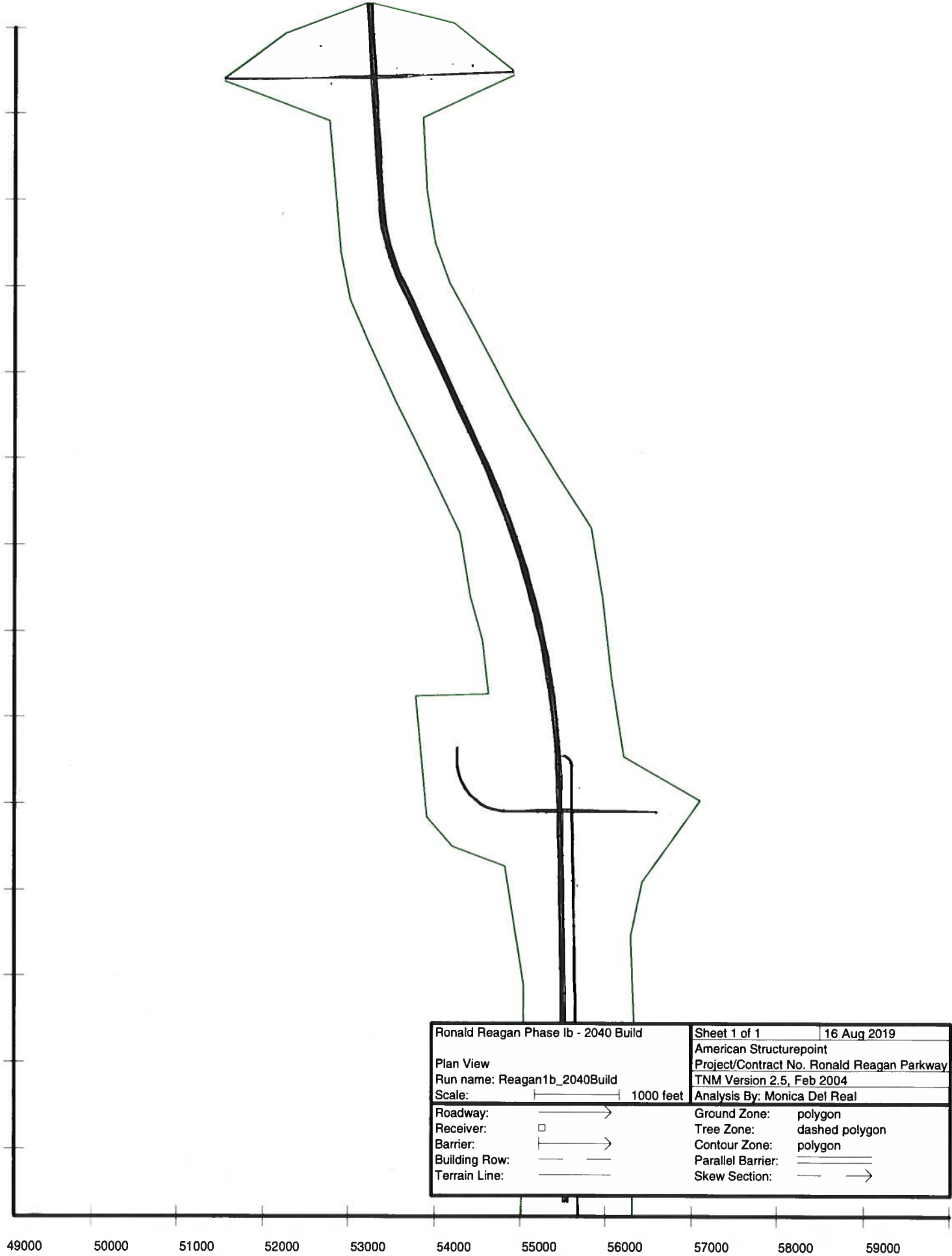
-- End of measurement results--

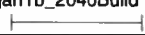







Signatory: Scott Montgomery

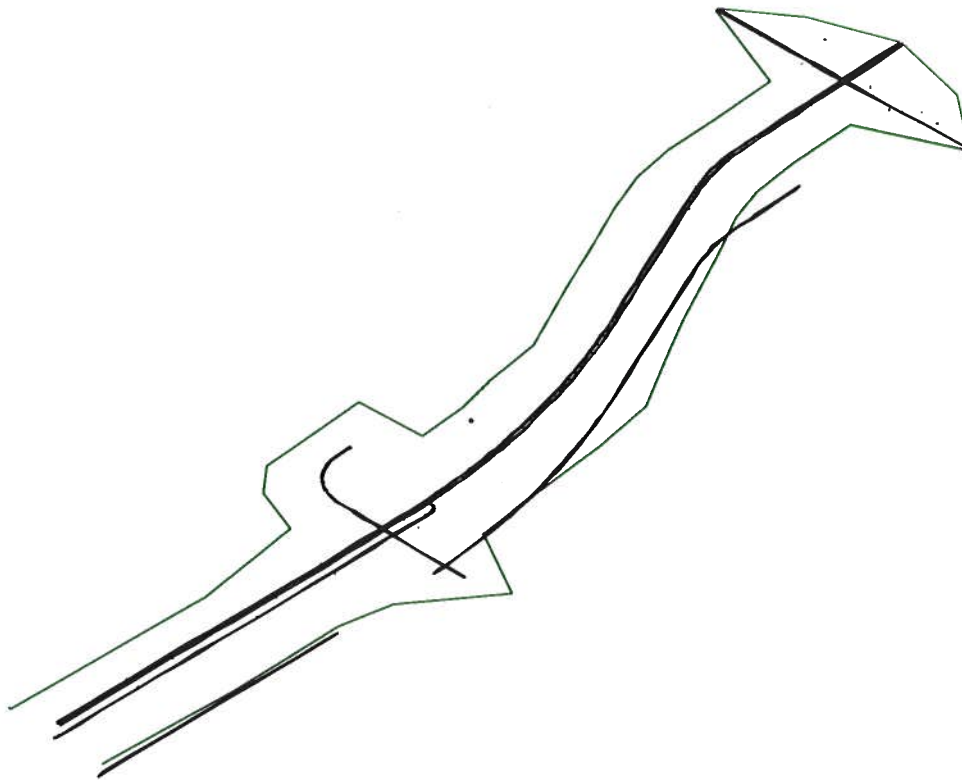
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## Appendix D – TNM 2.5 Input



|   |  |  |  |
|---|--|--|--|
| Ronald Reagan Phase Ib - 2040 Build   |  | Sheet 1 of 1                               | 16 Aug 2019  |
| Plan View   |  | American Structurepoint                    |  |
| Run name: Reagan1b_2040Build  |  | Project/Contract No. Ronald Reagan Parkway |  |
| Scale:  1000 feet |  | TNM Version 2.5, Feb 2004                  |  |
| Analysis By: Monica Del Real  |  |  |  |
| Roadway:  |  | Ground Zone:                               | polygon  |
| Receiver:   |   | Tree Zone:                                 | dashed polygon   |
| Barrier:  |  | Contour Zone:                              | polygon  |
| Building Row:   |  | Parallel Barrier:                          |  |
| Terrain Line:   |  | Skew Section:                              |  |



|                                     |           |  |                |
|-------------------------------------|-----------|--|----------------|
| Ronald Reagan Phase Ib - 2040 Build |           | Sheet 1 of 1                               | 16 Aug 2019    |
| Perspective View                    |           | American Structurepoint                    |                |
| Run name: Reagan1b_2040Build        |           | Project/Contract No. Ronald Reagan Parkway |                |
| Scale: <DNA - due to perspective>   |           | TNM Version 2.5, Feb 2004                  |                |
|                                     |           | Analysis By: Monica Del Real               |                |
| Roadway:                            | —————>    | Ground Zone:                               | polygon        |
| Receiver:                           | □         | Tree Zone:                                 | dashed polygon |
| Barrier:                            | ┆—————>   | Contour Zone:                              | polygon        |
| Building Row:                       | — — — — — | Parallel Barrier:                          | —————          |
| Terrain Line:                       | —————     | Skew Section:                              | — — — — —>     |

**INPUT: RECEIVERS**

**Ronald Reagan Parkway**

American Structurepoint  
Monica Del Real

16 August 2019  
TNM 2.5

**INPUT: RECEIVERS**

**PROJECT/CONTRACT:**

**Ronald Reagan Parkway**

**RUN:**

**Ronald Reagan Phase Ib - 2040 Build**

**Receiver**

| Name | No. | #DUs | Coordinates (ground) |           |        | Height<br>above<br>Ground | Input Sound Levels and Criteria |                           |       |            | Active<br>in<br>Calc. |
|------|-----|------|----------------------|-----------|--------|---------------------------|---------------------------------|---------------------------|-------|------------|-----------------------|
|      |     |      | X                    | Y         | Z      |                           | Existing<br>LAeq1h              | Impact Criteria<br>LAeq1h | Sub'l | NR<br>Goal |                       |
|      |     |      | ft                   | ft        | ft     |                           | dBA                             | dBA                       | dB    | dB         |                       |
| RS49 | 1   | 1    | 54,643.7             | 689,071.8 | 905.00 | 4.92                      | 62.30                           | 66                        | 15.0  | 7.0        | Y                     |
| RS50 | 2   | 1    | 54,673.7             | 690,202.4 | 905.00 | 4.92                      | 51.70                           | 66                        | 15.0  | 7.0        | Y                     |
| RS52 | 4   | 1    | 51,644.1             | 698,801.1 | 916.00 | 4.92                      | 43.00                           | 66                        | 15.0  | 7.0        | Y                     |
| RS51 | 5   | 1    | 51,767.5             | 698,361.8 | 912.00 | 4.92                      | 56.90                           | 66                        | 15.0  | 7.0        | Y                     |
| RS53 | 6   | 1    | 52,519.3             | 698,547.1 | 913.00 | 4.92                      | 55.90                           | 66                        | 15.0  | 7.0        | Y                     |
| RS54 | 7   | 1    | 52,925.6             | 698,415.3 | 913.00 | 4.92                      | 59.50                           | 66                        | 15.0  | 7.0        | Y                     |
| RS55 | 8   | 1    | 53,171.4             | 698,597.0 | 915.00 | 4.92                      | 54.20                           | 66                        | 15.0  | 7.0        | Y                     |
| RS56 | 9   | 1    | 53,406.6             | 698,579.2 | 916.00 | 4.92                      | 55.30                           | 66                        | 15.0  | 7.0        | Y                     |

## Appendix E – TNM 2.5 Output

**RESULTS: SOUND LEVELS**

**Ronald Reagan Parkway Phase 1B**

American Structurepoint, Inc.  
Monica Del Real

16 August 2019  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** Ronald Reagan Parkway Phase 1B

**RUN:** RS 49 Validation

**BARRIER DESIGN:** INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

**ATMOSPHERICS:** 32 deg F, 73% RH

**Receiver**

| Name  | No. | #DUs | Existing LAeq1h<br>dBA | No Barrier           |               |                                      | With Barrier        |                |                      |                               |      |                             |
|-------|-----|------|------------------------|----------------------|---------------|--------------------------------------|---------------------|----------------|----------------------|-------------------------------|------|-----------------------------|
|       |     |      |                        | LAeq1h<br>Calculated | Crit'n<br>dBA | Increase over existing<br>Calculated | Crit'n<br>Sub'l Inc | Type<br>Impact | Calculated<br>LAeq1h | Noise Reduction<br>Calculated | Goal | Calculated<br>minus<br>Goal |
| RS 49 | 1   | 1    | 66.7                   | 64.8                 | 66            | -1.9                                 | 3                   | ----           | 64.8                 | 0.0                           | 8    | -8.0                        |

| Dwelling Units        | # DUs | Noise Reduction |     |     |
|-----------------------|-------|-----------------|-----|-----|
|                       |       | Min             | Avg | Max |
|                       |       | dB              | dB  | dB  |
| All Selected          | 1     | 0.0             | 0.0 | 0.0 |
| All Impacted          | 0     | 0.0             | 0.0 | 0.0 |
| All that meet NR Goal | 0     | 0.0             | 0.0 | 0.0 |



**RESULTS: SOUND LEVELS**

**Ronald Reagan Parkway Phase 1B**

American Structurepoint, Inc.  
Monica Del Real

16 August 2019  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** Ronald Reagan Parkway Phase 1B  
**RUN:** RS 50 Validation  
**BARRIER DESIGN:** INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

**ATMOSPHERICS:** 32 deg F, 74% RH

**Receiver**

| Name                  | No. | #DUs         | Existing               |            | No Barrier             |      |            | With Barrier    |        |                       |            |      |
|-----------------------|-----|--------------|------------------------|------------|------------------------|------|------------|-----------------|--------|-----------------------|------------|------|
|                       |     |              | LAeq1h                 | LAeq1h     | Increase over existing | Type | Calculated | Noise Reduction |        | Calculated minus Goal |            |      |
|                       |     |              | Calculated             | Crit'n     |                        |      |            | Calculated      | Crit'n |                       | Calculated | Goal |
|                       |     |              | dB                     | dB         | dB                     | dB   | dB         | dB              | dB     | dB                    | dB         | dB   |
| RS 50                 | 2   | 1            | 52.2                   | 52.7       | 66                     | 0.5  | 3          | ----            | 52.7   | 0.0                   | 8          | -8.0 |
| <b>Dwelling Units</b> |     | <b># DUs</b> | <b>Noise Reduction</b> |            |                        |      |            |                 |        |                       |            |      |
|                       |     |              | <b>Min</b>             | <b>Avg</b> | <b>Max</b>             |      |            |                 |        |                       |            |      |
|                       |     |              | <b>dB</b>              | <b>dB</b>  | <b>dB</b>              |      |            |                 |        |                       |            |      |
| All Selected          |     | 1            | 0.0                    | 0.0        | 0.0                    |      |            |                 |        |                       |            |      |
| All Impacted          |     | 0            | 0.0                    | 0.0        | 0.0                    |      |            |                 |        |                       |            |      |
| All that meet NR Goal |     | 0            | 0.0                    | 0.0        | 0.0                    |      |            |                 |        |                       |            |      |

**RESULTS: SOUND LEVELS**

**Ronald Reagan Parkway Phase 1B**

American Structurepoint, Inc.  
Monica Del Real

16 August 2019  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** Ronald Reagan Parkway Phase 1B

**RUN:** RS 52 Validation

**BARRIER DESIGN:** INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

**ATMOSPHERICS:** 34 deg F, 71% RH

**Receiver**

| Name  | No. | #DUs | Existing           |            |        | No Barrier         |            |        | With Barrier           |      |            |                 |      |                       |
|-------|-----|------|--------------------|------------|--------|--------------------|------------|--------|------------------------|------|------------|-----------------|------|-----------------------|
|       |     |      | L <sub>Aeq1h</sub> | Calculated | Crit'n | L <sub>Aeq1h</sub> | Calculated | Crit'n | Increase over existing | Type | Calculated | Noise Reduction | Goal | Calculated minus Goal |
|       |     |      | dBA                | dBA        | dBA    | dBA                | dBA        | dB     | dB                     | dB   | dB         | dB              | dB   | dB                    |
| RS 52 | 4   | 1    | 47.6               | 45.1       | 66     | 45.1               | 45.1       | -2.5   | 3                      | ---- | 45.1       | 0.0             | 8    | -8.0                  |

| Dwelling Units        | # DUs | Noise Reduction |     |     |
|-----------------------|-------|-----------------|-----|-----|
|                       |       | Min             | Avg | Max |
|                       |       | dB              | dB  | dB  |
| All Selected          | 1     | 0.0             | 0.0 | 0.0 |
| All Impacted          | 0     | 0.0             | 0.0 | 0.0 |
| All that meet NR Goal | 0     | 0.0             | 0.0 | 0.0 |

**RESULTS: SOUND LEVELS**

**Ronald Reagan Parkway-Phase 1B**

American Structurepoint  
Monica Del Real

16 August 2019  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** Ronald Reagan Parkway-Phase 1B  
**RUN:** Reagan1B\_Existing2020  
**BARRIER DESIGN:** INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

**ATMOSPHERICS:** 68 deg F, 50% RH

**Receiver**

| Name  | No. | #DUs | Existing LAeq1h<br>dBA | No Barrier    |               |  | With Barrier              |                   |                  | Type Impact | Calculated LAeq1h<br>dBA | Noise Reduction |            | Calculated minus Goal<br>dB |
|-------|-----|------|------------------------|---------------|---------------|--|---------------------------|-------------------|------------------|-------------|--------------------------|-----------------|------------|-----------------------------|
|       |     |      |                        | LAeq1h<br>dBA | Crit'n<br>dBA | Increase over existing<br>Calculated<br>dB | Crit'n<br>Sub'l Inc<br>dB | Calculated<br>dBA | Calculated<br>dB |             |                          | Goal<br>dB      |            |                             |
|       |     |      |                        |               |               |  |                           |                   |                  |             |                          |                 | Goal<br>dB |                             |
| RS 49 | 1   | 1    | 0.0                    | 62.3          | 66            | 62.3                                       | 10                        | ----              | 62.3             | 0.0         | 8                        | -8.0            |            |                             |
| RS 50 | 2   | 1    | 0.0                    | 51.7          | 66            | 51.7                                       | 10                        | ----              | 51.7             | 0.0         | 8                        | -8.0            |            |                             |
| RS52  | 4   | 1    | 0.0                    | 43.0          | 66            | 43.0                                       | 10                        | ----              | 43.0             | 0.0         | 8                        | -8.0            |            |                             |
| RS51  | 5   | 1    | 0.0                    | 56.9          | 66            | 56.9                                       | 10                        | ----              | 56.9             | 0.0         | 8                        | -8.0            |            |                             |
| RS53  | 6   | 1    | 0.0                    | 55.9          | 66            | 55.9                                       | 10                        | ----              | 55.9             | 0.0         | 8                        | -8.0            |            |                             |
| RS54  | 7   | 1    | 0.0                    | 59.5          | 66            | 59.5                                       | 10                        | ----              | 59.5             | 0.0         | 8                        | -8.0            |            |                             |
| RS55  | 8   | 1    | 0.0                    | 54.2          | 66            | 54.2                                       | 10                        | ----              | 54.2             | 0.0         | 8                        | -8.0            |            |                             |
| RS56  | 9   | 1    | 0.0                    | 55.3          | 66            | 55.3                                       | 10                        | ----              | 55.3             | 0.0         | 8                        | -8.0            |            |                             |

| Dwelling Units        | # DUs | Noise Reduction |     |     |
|-----------------------|-------|-----------------|-----|-----|
|                       |       | Min             | Avg | Max |
|                       |       | dB              | dB  | dB  |
| All Selected          | 8     | 0.0             | 0.0 | 0.0 |
| All Impacted          | 0     | 0.0             | 0.0 | 0.0 |
| All that meet NR Goal | 0     | 0.0             | 0.0 | 0.0 |

**RESULTS: SOUND LEVELS**

**Ronald Reagan Parkway**

American Structurepoint  
Monica Del Real

16 August 2019  
TNM 2.5  
Calculated with TNM 2.5

**RESULTS: SOUND LEVELS**

**PROJECT/CONTRACT:** Ronald Reagan Parkway  
**RUN:** Ronald Reagan Phase Ib - 2040 Build  
**BARRIER DESIGN:** INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

**ATMOSPHERICS:** 68 deg F, 50% RH

**Receiver**

| Name | No. | #DUs | No Barrier      |            |        |                        |        |             |                   | With Barrier    |      |                       |  |
|------|-----|------|-----------------|------------|--------|------------------------|--------|-------------|-------------------|-----------------|------|-----------------------|--|
|      |     |      | Existing LAeq1h | LAeq1h     |        | Increase over existing |        | Type Impact | Calculated LAeq1h | Noise Reduction |      | Calculated minus Goal |  |
|      |     |      |                 | Calculated | Crit'n | Calculated             | Crit'n |             |                   | Calculated      | Goal |                       |  |
|      |     |      | dBA             | dBA        | dBA    | dB                     | dB     |             | dBA               | dB              | dB   | dB                    |  |
| RS49 | 1   | 1    | 62.3            | 63.0       | 66     | 0.7                    | 15     | ----        | 63.0              | 0.0             | 7    | -7.0                  |  |
| RS50 | 2   | 1    | 51.7            | 60.9       | 66     | 9.2                    | 15     | ----        | 60.9              | 0.0             | 7    | -7.0                  |  |
| RS52 | 4   | 1    | 43.0            | 54.3       | 66     | 11.3                   | 15     | ----        | 54.3              | 0.0             | 7    | -7.0                  |  |
| RS51 | 5   | 1    | 56.9            | 64.9       | 66     | 8.0                    | 15     | ----        | 64.9              | 0.0             | 7    | -7.0                  |  |
| RS53 | 6   | 1    | 55.9            | 64.0       | 66     | 8.1                    | 15     | ----        | 64.0              | 0.0             | 7    | -7.0                  |  |
| RS54 | 7   | 1    | 59.5            | 66.6       | 66     | 7.1                    | 15     | Snd Lvl     | 66.6              | 0.0             | 7    | -7.0                  |  |
| RS55 | 8   | 1    | 54.2            | 59.2       | 66     | 5.0                    | 15     | ----        | 59.2              | 0.0             | 7    | -7.0                  |  |
| RS56 | 9   | 1    | 55.3            | 61.1       | 66     | 5.8                    | 15     | ----        | 61.1              | 0.0             | 7    | -7.0                  |  |

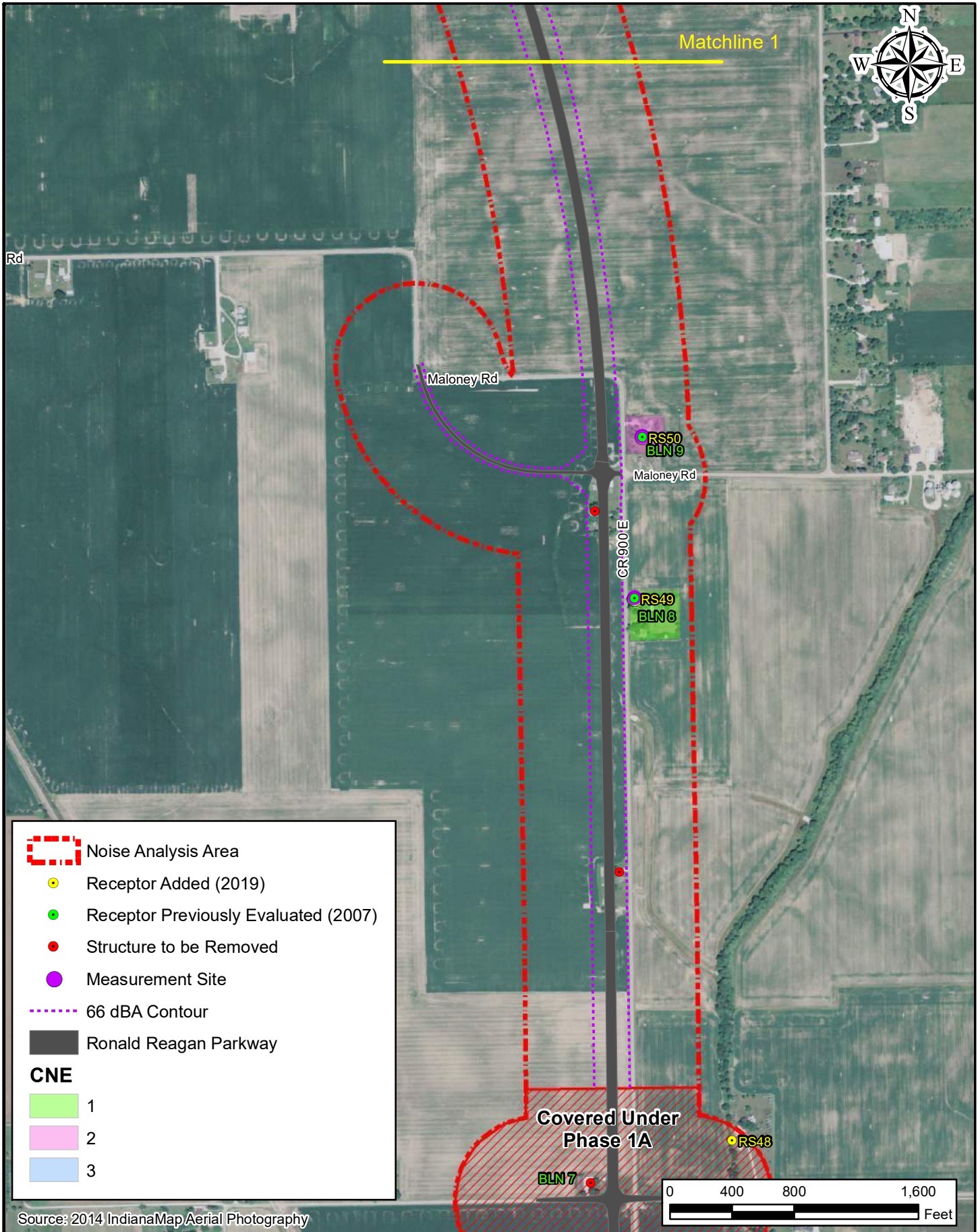
| Dwelling Units        | # DUs | Noise Reduction |     |     |
|-----------------------|-------|-----------------|-----|-----|
|                       |       | Min             | Avg | Max |
|                       |       | dB              | dB  | dB  |
| All Selected          | 8     | 0.0             | 0.0 | 0.0 |
| All Impacted          | 1     | 0.0             | 0.0 | 0.0 |
| All that meet NR Goal | 0     | 0.0             | 0.0 | 0.0 |

# Appendix F – Noise Impact Summary Table & Mapping

**NOISE IMPACT SUMMARY**  
*(All Noise Levels are Reported in dBA Leq(h))*

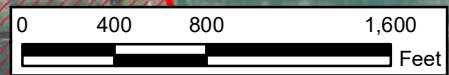
| RECEPTOR ID |     |               | MODELED NOISE LEVELS               |                                    |                          |   |                     |
|-------------|-----|---------------|------------------------------------|------------------------------------|--------------------------|---|---------------------|
| Receptor    | CNE | NAC<br>Leq(h) | Existing<br>2020 Base<br>(Modeled) | Design Year<br>2040 Base (Modeled) | Approaching NAC<br>Value | Predicted Noise Level<br>Increase (Design Year -<br>Exisitng) | Impact Type         |
| RS 49       | 1   | 67            | 62.3                               | 63.0                               | 66                       | 0.7   | None                |
| RS 50       | 2   | 67            | 51.7                               | 60.9                               | 66                       | 9.2   | None                |
| RS 51       | 3   | 67            | 56.9                               | 64.9                               | 66                       | 8.0   | None                |
| RS 52       | 3   | 67            | 43.0                               | 54.3                               | 66                       | 11.3  | None                |
| RS 53       | 3   | 67            | 55.9                               | 64.0                               | 66                       | 8.1   | None                |
| RS 54       | 3   | 67            | 59.5                               | <b>66.6</b>                        | 66                       | 7.1   | <b>Approach NAC</b> |
| RS 55       | 3   | 67            | 54.2                               | 59.2                               | 66                       | 5.0   | None                |
| RS 56       | 3   | 67            | 55.3                               | 61.1                               | 66                       | 5.8   | None                |

Path: P:\2011\001831D\_Drawings\Environmental\Noise\Phase 1B\2011.00183.EV\2019-05-07\_Map\_Phase1b\_Receiver.mxd Date:8/16/2019 User:mdelreal



|            |                                      |
|------------|--------------------------------------|
|            | Noise Analysis Area                  |
|            | Receptor Added (2019)                |
|            | Receptor Previously Evaluated (2007) |
|            | Structure to be Removed              |
|            | Measurement Site                     |
|            | 66 dBA Contour                       |
|            | Ronald Reagan Parkway                |
| <b>CNE</b> |                                      |
|            | 1                                    |
|            | 2                                    |
|            | 3                                    |

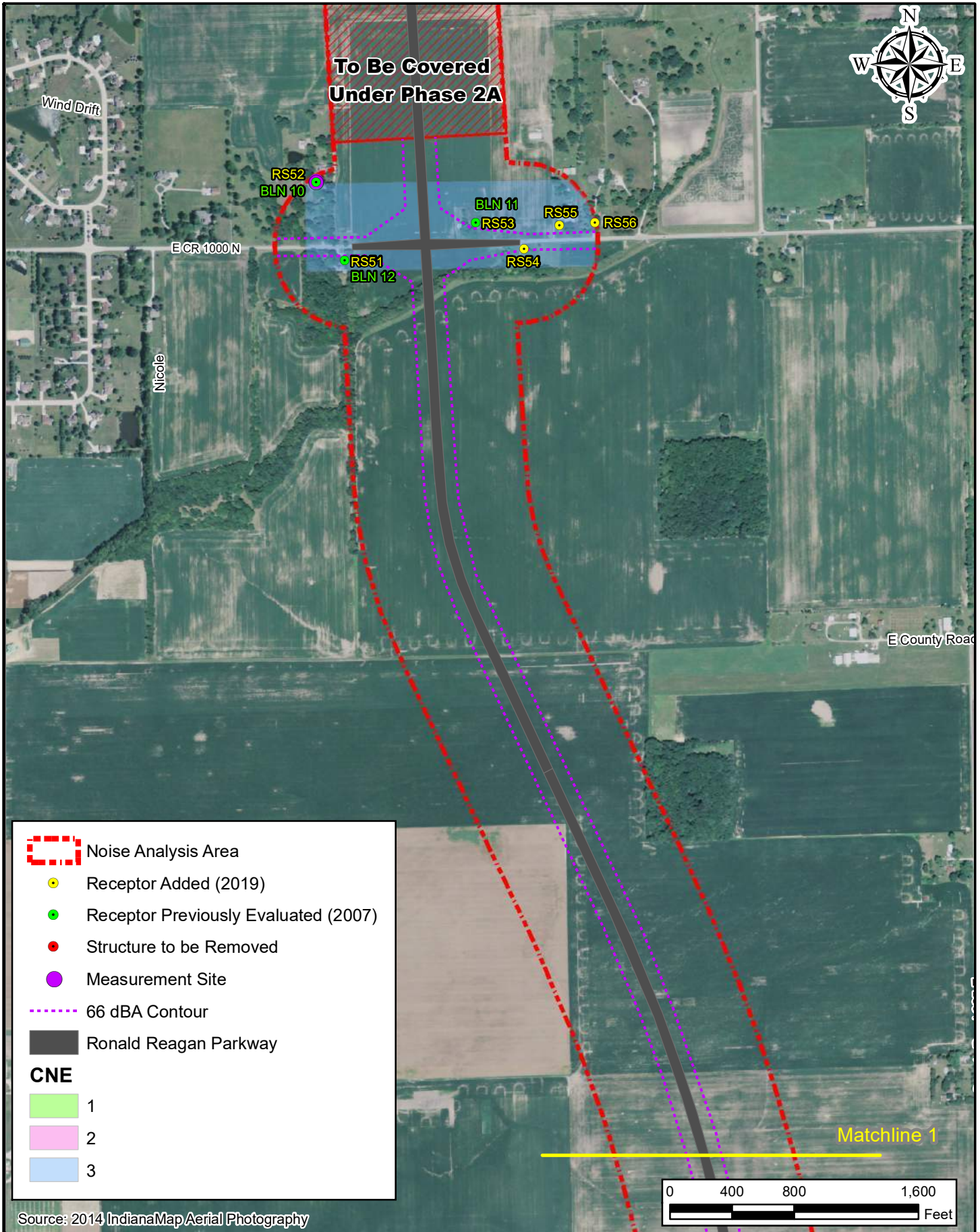
Source: 2014 IndianaMap/Aerial Photography



|                  |  |   |
|------------------|--|---|
|                  | <b>Noise Re-Evaluation Phase 1B</b><br>Map 1 of 2  | Ronald Reagan Parkway Extension -<br>CR 600 N to SR 267 / I-65  |
|                  | Hendricks County Commissioners<br>355 S. Washington Street // Danville, IN 46122<br>and<br>Boone County Commissioners<br>116 W. Washington Street // Lebanon, IN 46052 | Location: Brownsburg / Whitestown<br>Township: Brown and Perry<br>County: Hendricks and Boone<br>State: Indiana |
| Date: 08/16/2019 |  | Appendix I<br>Page I-105  |



To Be Covered Under Phase 2A



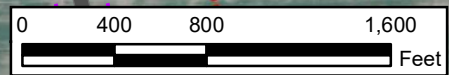
**Legend**

- Noise Analysis Area
- Receptor Added (2019)
- Receptor Previously Evaluated (2007)
- Structure to be Removed
- Measurement Site
- 66 dBA Contour
- Ronald Reagan Parkway

**CNE**

- 1
- 2
- 3

Matchline 1



Source: 2014 IndianaMap/Aerial Photography

Path: P:\2011\001831D\_Drawings\Environmental\Noise\Phase 1B\2011.00183.EV.2019-05-07.Map.Phase 1b Receivers.mxd Date: 8/16/2019 User: mdelreal

|                         |  |  |
|-------------------------|--|--|
|                         | <p align="center"><b>Noise Re-Evaluation Phase 1B</b><br/>Map 2 of 2</p>   | <p align="center"><b>Ronald Reagan Parkway Extension -</b><br/>CR 600 N to SR 267 / I-65</p>   |
|                         | <p align="center">Hendricks County Commissioners<br/>355 S. Washington Street // Danville, IN 46122<br/>and<br/>Boone County Commissioners<br/>116 W. Washington Street // Lebanon, IN 46052</p> | <p align="center">Location: Brownsburg / Whitestown<br/>Township: Brown and Perry<br/>County: Hendricks and Boone<br/>State: Indiana</p> |
| <p>Date: 08/16/2019</p> |  | <p align="right">Appendix I<br/>Page I-106</p>   |



## Appendix G – Traffic Data

Ronald Reagan Parkway - Design Level Traffic Data

| Roadway            | Endpoint 1                | Endpoint 2      | 2020 AADT | 2030 AADT (50%) | 2040 AADT (50%) | 2040 AADT (100%) | 2020 DHV | 2030 DHV (50%) | 2040 DHV (50%) | 2040 DHV (100%) | AADT HV % | DHV HV % | D-Factor |
|--------------------|---------------------------|-----------------|-----------|-----------------|-----------------|------------------|----------|----------------|----------------|-----------------|-----------|----------|----------|
| Ronald Reagan Pkwy | I-74                      | CR 600N         | 9,250     | 28,360          | 29,410          | 45,730           | 925      | 2,836          | 2,941          | 4,573           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 600N                   | CR 700N         | 2,690     | 19,620          | 19,870          | 36,510           | 269      | 1,962          | 1,987          | 3,651           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 700N                   | CR 750N         | 2,890     | 22,790          | 23,070          | 42,670           | 289      | 2,279          | 2,307          | 4,267           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 750 N                  | Maloney Rd      | 2,040     | 22,500          | 22,680          | 42,920           | 204      | 2,250          | 2,268          | 4,292           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | Maloney Rd                | CR 1000N        | 1,940     | 19,990          | 20,150          | 38,010           | 194      | 1,999          | 2,015          | 3,801           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 1000N                  | CR 750S         | 1,550     | 17,750          | 17,890          | 33,970           | 155      | 1,775          | 1,789          | 3,397           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | CR 750S                   | Whitestown Pkwy | 1,640     | 17,850          | 18,000          | 34,000           | 164      | 1,785          | 1,800          | 3,400           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | Whitestown Pkwy           | SR 267          | 1,130     | 10,760          | 10,860          | 20,400           | 113      | 1,076          | 1,086          | 2,040           | 4%        | 2%       | 55%      |
| Ronald Reagan Pkwy | SR 267                    | CR 550S         | 5,050     | 17,820          | 18,310          | 30,590           | 505      | 1,782          | 1,831          | 3,059           | 4%        | 2%       | 55%      |
| CR 600N            | W of Ronald Reagan Pkwy   |                 | 15,440    | 24,730          | 26,220          | 34,020           | 1,544    | 2,473          | 2,622          | 3,402           | 4%        | 2%       | 55%      |
| CR 600N            | E of Ronald Reagan Pkwy   |                 | 14,480    | 24,310          | 25,700          | 34,140           | 1,448    | 2,431          | 2,570          | 3,414           | 4%        | 2%       | 55%      |
| CR 700N            | W of Ronald Reagan Pkwy   |                 | 3,730     | 11,560          | 11,910          | 19,340           | 373      | 1,156          | 1,191          | 1,934           | 4%        | 2%       | 55%      |
| CR 700N            | E of Ronald Reagan Pkwy   |                 | 2,620     | 7,540           | 7,790           | 12,460           | 262      | 754            | 779            | 1,246           | 4%        | 2%       | 55%      |
| CR 750N            | W of Ronald Reagan Pkwy   |                 | 210       | 2,410           | 2,420           | 4,560            | 21       | 241            | 242            | 456             | 4%        | 2%       | 55%      |
| CR 750N            | E of Ronald Reagan Pkwy   |                 | 1,040     | 2,640           | 2,740           | 4,240            | 104      | 264            | 274            | 424             | 4%        | 2%       | 55%      |
| Maloney Rd         | W of Ronald Reagan Pkwy   |                 | 640       | 6,160           | 6,200           | 11,630           | 64       | 616            | 620            | 1,163           | 4%        | 2%       | 55%      |
| Maloney Rd         | E of Ronald Reagan Pkwy   |                 | 640       | 6,440           | 6,480           | 12,190           | 64       | 644            | 648            | 1,219           | 4%        | 2%       | 55%      |
| CR 1000N           | W of Ronald Reagan Pkwy   |                 | 2,130     | 11,010          | 11,220          | 19,900           | 213      | 1,101          | 1,122          | 1,990           | 4%        | 2%       | 55%      |
| CR 1000N           | E of Ronald Reagan Pkwy   |                 | 2,070     | 9,360           | 9,560           | 16,640           | 207      | 936            | 956            | 1,664           | 4%        | 2%       | 55%      |
| CR 750S            | W of Ronald Reagan Pkwy   |                 | 530       | 4,150           | 4,210           | 7,810            | 53       | 415            | 421            | 781             | 4%        | 2%       | 55%      |
| CR 750S            | E of Ronald Reagan Pkwy   |                 | 510       | 5,310           | 5,360           | 10,120           | 51       | 531            | 536            | 1,012           | 4%        | 2%       | 55%      |
| Whitestown Pkwy    | W of Ronald Reagan Pkwy   |                 | 2,580     | 8,010           | 8,250           | 13,430           | 258      | 801            | 825            | 1,343           | 4%        | 2%       | 55%      |
| Whitestown Pkwy    | E of Ronald Reagan Pkwy   |                 | 2,960     | 13,660          | 13,950          | 24,390           | 296      | 1,366          | 1,395          | 2,439           | 4%        | 2%       | 55%      |
| SR 267             | S/W of Ronald Reagan Pkwy |                 | 4,150     | 7,500           | 7,890           | 10,830           | 415      | 750            | 789            | 1,083           | 4%        | 2%       | 55%      |

Notes

- 2020 represents the opening year traffic
- 2030 represents the interim year 50% build traffic
- 2040 represents the design year 100% full-build traffic

Source: Ronald Reagan Parkway - Design Traffic Data Memorandum - June 27, 2019



## Iddings, Joshua

---

**From:** Bales, Ronald <rbales@indot.IN.gov>  
**Sent:** Tuesday, September 03, 2019 3:32 PM  
**To:** Del Real, Monica; Miller, Brandon  
**Cc:** Iddings, Joshua; Maurovich, Mike  
**Subject:** RE: Des. 1602280 - Ronald Reagan Parkway Phase 1B - Noise Analysis Report

INDOT Environmental Services Division (ES) has reviewed the noise study for the above-referenced project and found it to be technically sufficient. As you are aware, INDOT no longer comments on recommendations provided in noise studies for local agency projects. However, it is our assessment that the study has been completed in accordance with federal guidelines and state policy.

### Ron Bales

INDOT-Environmental Services Division

**Office:** (317) 234-4916

**Email:** [rbales@indot.in.gov](mailto:rbales@indot.in.gov)

---

**From:** Del Real, Monica [mailto:mdelreal@structurepoint.com]  
**Sent:** Friday, August 16, 2019 3:58 PM  
**To:** Miller, Brandon <BraMiller1@indot.IN.gov>; Bales, Ronald <rbales@indot.IN.gov>  
**Cc:** Iddings, Joshua <Jiddings@structurepoint.com>; Maurovich, Mike <MMAurovich@structurepoint.com>  
**Subject:** RE: Des. 1602280 - Ronald Reagan Parkway Phase 1B - Noise Analysis Report

\*\*\*\* This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. \*\*\*\*

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Brandon and Ron,

The updated Noise Analysis Report and TNM files can be downloaded at the ProjectWise link below:  
[Phase 1B Noise Analysis 8-16-19](#)

All comments have been addressed. The only other update made was with the RS 49 and RS 50 validation models. Because these 2 readings were taken in the morning with 32F temperatures, I updated the default ground type to be hard soil to better represent the field conditions (and a discussion of this is added into Sect. 2.2 of the report). This had a minimal effect on RS 49 but did lead to the validation of RS 50. Please let me know if you have any questions as you begin to review.

Thank you and have a great weekend,

---

### Monica Del Real

Environmental Specialist

**American Structurepoint, Inc.**

317.547.5580 OFFICE

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**From:** Miller, Brandon [mailto: BraMiller1@indot.IN.gov]  
**Sent:** Friday, July 19, 2019 8:05 AM

**Appendix J: Additional Information**

**NEW ROAD CONSTRUCTION  
EXTENSION OF THE RONALD REAGAN PARKWAY  
FROM CR 600 N TO THE SR 267/I-65 INTERCHANGE  
HENDRICKS AND BOONE COUNTIES, INDIANA**

---

**ENVIRONMENTAL ASSESSMENT  
DES. NO. 0710288**

**PREPARED FOR THE  
HENDRICKS COUNTY COMMISSIONERS  
BOONE COUNTY COMMISSIONERS**



Prepared by:

**Beam, Longest and Neff, L.L.C.**

Consulting Engineers & Land Surveyors

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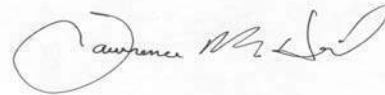


FEDERAL HIGHWAY ADMINISTRATION  
FINDING OF NO SIGNIFICANT IMPACT  
For  
Indiana Project  
Des. No. 0710288

Extension of Ronald Reagan Parkway from County Road 600 North to  
the SR 267/I-65 Interchange, Hendricks & Boone County, Indiana

An environmental assessment was approved by the Federal Highway Administration (FHWA) on July 7, 2010, and a Public Hearing was held on August 5, 2010. This 9.8 mile extension of the Ronald Reagan Parkway will function as a minor arterial with partially limited access. The extension is a continuation of the previously approved North/South Corridor between SR 67 and CR 600 North in Hendricks County. The proposed cross section will consist of two 12-foot travel lanes in each direction with 11-foot shoulders, separated by a 16-foot flush median. There will be side ditches bordering the roadway with 4:1 side slopes, 4-foot flat ditches with 3:1 back slopes and a design speed of 55 mph. A Section 106 Memorandum of Agreement has been executed which supports implementation of the proposed improvements. The project will require 241 acres of permanent right-of-way and five residential relocations. There are no 4(f) or wetland impacts.

The FHWA has determined that this project, as identified in the Environmental Assessment, will have no significant impact on the natural and human environment. This Finding of No Significant Impact (FONSI) is based on the environmental assessment and Public Hearing transcript that have been independently evaluated by the FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. These documents provide sufficient evidence and analysis for determining that an environmental impact statement is not required. The FHWA takes full responsibility for the accuracy, scope and content of these documents.



March 7, 2011

\_\_\_\_\_

Date

\_\_\_\_\_

for Robert F. Tally, Jr., P.E.  
Division Administrator

**Indiana Department of Transportation**

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

**FHWA-Indiana Environmental Document CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM  
GENERAL PROJECT INFORMATION**

|                                     |  |
|-------------------------------------|--|
| <b>Road No./County:</b>             | <b>Ronald Reagan Parkway</b>   |
| <b>Designation Number:</b>          | <b>0710288</b>   |
| <b>Project Description/Termini:</b> | <b>Extension of Ronald Reagan Parkway on New Alignment from CR 600 North in Hendricks County to the SR 267/I-65 interchange in Boone County.</b> |

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

|                                     |  |
|-------------------------------------|--|
| <input type="checkbox"/>            | <b>Categorical Exclusion, Level 2</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager). |
| <input type="checkbox"/>            | <b>Categorical Exclusion, Level 3</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, OES.                            |
| <input type="checkbox"/>            | <b>Categorical Exclusion, Level 4</b> – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, OES, FHWA.                      |
| <input checked="" type="checkbox"/> | <b>Environmental Assessment (EA)</b> – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: OES, FHWA.              |

Approval \_\_\_\_\_ Date 7-6-10  
 \_\_\_\_\_ Date \_\_\_\_\_  
 ESM Signature \_\_\_\_\_ OES Signature \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 FHWA Signature \_\_\_\_\_ Date 7-7-2010

Release for Public Involvement \_\_\_\_\_ Date \_\_\_\_\_  
 \_\_\_\_\_ Date \_\_\_\_\_  
 ESM Initials \_\_\_\_\_ OES Initials \_\_\_\_\_

Certification of Public Involvement \_\_\_\_\_ Date 9/2/10  
Mary Wright  
 EXAMINER Manager, Public Hearings Signature \_\_\_\_\_

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

Reviewer Signature \_\_\_\_\_ Date 7-6-10

Name and organization of CE/EA Preparer: Brian C. Shaw – Beam, Longest and Neff, L.L.C.

This is page 1 of 30. Project name: Extension of the Ronald Reagan Parkway Date: July 1, 2010

Form version: March 2009  
Attachment 2

**Indiana Department of Transportation**

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

**Part I - PUBLIC INVOLVEMENT**

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

Discuss what public involvement activities (legal notices, letters to affected property owners and residents, meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Remarks:

A Notice of Survey letter was sent to local property owners and residents on August 18, 2006, prior to conducting any field surveys. A copy of the letter is attached in Appendix B (see page B-35).

The following Project Coordination Team, Public Information and Community Advisory Committee (CAC) meetings were held for the project:

Project Coordination Team Meetings  
 March 16, 2006  
 March 19, 2007

Public Information Meeting  
 May 23, 2007

Community Advisory Committee Meetings  
 September 7, 2006  
 March 22, 2007  
 February 13, 2008.

In accordance with 36 CFR 800.2(d), 800.3(e), and 800.6(a) (4), the views of the public were sought regarding the "Adverse Effect" determination by FHWA and draft Memorandum of Agreement (MOA). A Public Notice was advertised in the Hendricks County Flyer on July 22, 2009 and The Reporter on July 21, 2009 with a 30-day public comment period ending on August 20, 2009.

A public hearing was held for the project on Thursday August 2, 2010 at the Zionsville West Middle School. The legal notice of public hearing was published in the July 21, 2010 and the July 28, 2010 issues of The Hendricks County Flyer and The Lebanon Reporter (see Appendix J, page J-1 to J-5). In addition to the publication, the legal notice was also mailed to affected property owners notifying them of the hearing.

The established deadline for comments was August 19, 2010 and additional comments were received. These comments were reviewed, summarized and addressed as part of the environmental document. On September 2, 2010 INDOT issued certification for public involvement for the project (see signed cover page). Copies of the public hearing documentation, is included as Appendix J.

**Public Controversy on Environmental Grounds**

Will the project involve substantial controversy concerning community and/or natural resource impacts?

|                          |                                     |
|--------------------------|-------------------------------------|
| Yes                      | No                                  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

A series of public information meetings and community advisory committee meetings and a formal public hearing were held for the project. In addition, a corridor screening process was conducted to evaluate and avoid environmental and historic resources within the project area. No public controversy is anticipated as a result of the proposed project.

|   |  |
|---|--|
| Opportunity to hold Public Hearing not Required |  |
|---|--|

This is page 2 of 32. Project name: Extension of the Ronald Reagan Parkway Date: February 24, 2011

Indiana Department of Transportation

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: Hendricks and Boone Counties INDOT District: Crawfordsville
Local Name of the Facility: Ronald Reagan Parkway

Funding Source: 80% Federal 20% Local Private

PURPOSE AND NEED:

Describe the problem that the project will address.

The purpose and need for the proposed project is based upon improving regional and local mobility by providing better local access to Hendricks and Boone county residents through an alternative route, linkage of existing roadways, improving local access and promoting future economic growth.

Presently, vehicles traveling within the eastern portion of Hendricks County and southeastern Boone County are limited to using SR 267 and the western leg of I-465 as the primary north-south routes between I-65 and I-70. The overall need for the project is based upon the following:

- Improving the regional and local mobility in Hendricks and Boone Counties including connectivity with major roadways including SR 67, I-70 (new interchange), US 40, US 36, US 136, I-74 (new interchange), and I-65.
Providing improved access to and between the communities of Plainfield, Avon, and Brownsburg
Providing continuity of roadways by extending from the northern terminus of the currently constructed section of Reagan Parkway at CR 600 North to the existing I-65 access point at SR 267.
Promoting economic growth in both counties by providing improved access between commercial and transportation facilities including the Indianapolis International Airport, CSX Big Four Rail Yard, Airtech Business Park and the Perry Industrial Park. The Reagan Parkway would also provide access to northwest Indiana by connecting traffic west of Indianapolis with I-65.

The proposed project is included on the 2030 Indianapolis Regional Transportation Plan, the Hendricks County Master Thoroughfare Plan and the Boone County Master Thoroughfare Plan.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Hendricks and Boone
Municipality: The project is located within the Indianapolis Metropolitan Area

Limits of Proposed Work:
Total Work Length: 9.8 mi

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?
If yes, when did the FHWA grant a conditional approval for this project?

Yes No
Date: X

1If an IMS or IJS is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IMS/IJS.

In the Remarks box below, describe in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

## Indiana Department of Transportation

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

The proposed project is located in northern Hendricks County and southern Boone County. The proposed extension of Ronald Reagan Parkway begins at CR 600 North in Hendricks County and extends north to I-65 in Boone County. The alignment is proposed to connect with I-65 at the existing I-65/SR 267 interchange. Specifically, the project is located in Sections 1 and 6, Township 16 North, Range 1 East, Sections 13, 24, 25, 26, 35, and 36, Township 17 North, Range 1 East of Brown Township in Hendricks County and Sections 2, 11, and 12, Township 17 North, Range 1 East, Sections 27, 34, and 35, Township 18 North, Range 1 East of Perry Township in Boone County. An illustration of the project location and proposed corridor is provided on the attached site map and U.S.G.S. quadrangle maps (See Appendix pages A-1 to A-4).

### **EXISTING CONDITIONS**

The proposed project is an extension of the existing Ronald Reagan Parkway, on new alignment beginning at I-70 in Hendricks County. The environmental process and hearing requirements have been completed for the entire segment from I-70 north to Hendricks CR 600 North, approximately 12 miles.

The status of each of the project's segments from I-70 to Hendricks CR 600 North is as follows:

- Interchange at I-70 – constructed
- CR 450 South to US 40 – under construction
- US 40 to CR 100 South – development of construction plans has not begun
- CR 100 South to US 36 – construction plans being developed
- US 36 to CR 300 North – constructed
- CR 300 North to north of US 136 – construction plans being developed
- North of US 136 to CR 600 North – construction plans being developed as an INDOT Design/Build project.

Alternate 1D/1B-b was selected as the preferred alternate by the Boone and Hendricks County Commissioners (see appendix A-8 to A-9). Land use within the area of the proposed extension of the proposed extension of Ronald Reagan Parkway is primarily agricultural. The corridor passes through agricultural fields north of Hendricks CR 600 North before crossing the CSX Railroad. A commercial property, Cross Roads Feed Barn, is located at Hendricks CR 900 East and Hendricks CR 700 North. Scattered residential parcels exist along Hendricks CR 900 East.

As the corridor travels north through agricultural and residential property, it crosses Maloney Road and then crosses Pump Run (Martin Dugan Drain), a legal drain, south of Hendricks CR 1000 North. The corridor also passes near a designated Indiana Department of Natural Resources (IDNR) conservation area north of Hendricks CR 1000 North, east of Hendricks CR 800 East. The project corridor crosses the Hendricks/Boone County line and continues north across Etter Ditch, a legal drain, south of CR 750 South in Boone County.

The project corridor traverses a forested area north of Boone CR 750 South, west of Boone CR 475 East. A new commercial property is under construction on the north side of Boone CR 650 South within the project corridor. A forested area is located north of this structure within the agricultural field and a pond is located north of Boone CR 650 South, west of Boone CR 475 East. The corridor crosses White Lick Creek, a legal drain, south of Boone CR 550 South. Fayette Nursery exists in the northwest quadrant of SR 267 and Boone CR 550 South. Residential property exists along both sides of Boone CR 550 South, east of SR 267. The corridor crosses White Lick Creek again as the proposed Reagan Parkway travels north along existing SR 267, north of Boone CR 550 South.

Perry Industrial Park is located along the east side of SR 267, south of the I-65 interchange in Boone County. A cell tower is located on the west side of SR 267 across from Perry Industrial Park in Boone County. The Perry Industrial Park is a commercial/industrial development approximately 450 acres in size and includes the area between SR 267 and Indianapolis Road, north of CR 550 South. Ground level photographs of the project corridor are located in Appendix A (see pages A-10 to A-19).

### **HENDRICKS COUNTY**

#### **CR 600 North**

The roadway is currently under construction with a new cross section consisting of (4) four 12-foot travel lanes with a 14-foot flush median from Raceway Road (Marion/Hendricks County Line) east to CR 900 East. There are plans to extend the 5-lane cross-section on CR 600 North, east through Brownsburg to SR 267. The intersection with the existing Ronald Reagan Parkway is signalized.

This is page 4 of 32. Project name: Extension of the Ronald Reagan Parkway Date: February 24, 2011

## Indiana Department of Transportation

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

There is a turn lane for eastbound Cr 600 North to the northbound Ronald Reagan Parkway. With the construction activities there are no posted speed limit signs in the project area. The posted speed limit on CR 600 North is typically 40 mph in the project limits.

### CR 900 East – CR 700 North – CR 750 North – Maloney Road

These roadways are rural county roads consisting of the same typical cross-section of two 10-foot asphalt travel lanes with no shoulders and small open grass-lined side ditches. There is minimal signing and pavement markings with speed limits of 40 mph.

### CR 1000 North

This roadway is classified as a rural major collector consisting of a typical cross-section of two 10-foot asphalt travel lanes with no shoulders and small open grass-lined side ditches. There is minimal signing and pavement markings with a speed limit of 40 mph.

## **BOONE COUNTY**

### CR 750 South

This roadway is classified as a rural minor collector consisting of a typical cross-section of two 10-foot asphalt travel lanes with no shoulders and small open grass-lined side ditches. There is minimal signing and pavement markings with a speed limit of 40 mph.

### CR 650 South – CR 550 North

These roadways are classified as a rural major collectors consisting of a typical cross-section of two 10-foot asphalt travel lanes with no shoulders and small open grass-lined side ditches. There is minimal signing and pavement markings with a speed limit of 40 mph.

### Indianapolis Road

This roadway has a functional classification as a rural major collector. At the intersection with SR 267 the roadway consists of two 15-foot concrete travel lanes, with 10-foot asphalt shoulders and grass-lined side ditches. This cross-section goes approximately 350 feet southeast on the roadway and then transitions to a typical cross-section of two 12-foot asphalt travel lanes, with 1-foot paved shoulders. There is minimal signing and pavement markings with a speed limit of 40 mph.

### SR 267

This roadway has a functional classification as a rural minor arterial consisting of a typical cross-section of two 12-foot asphalt travel lanes, with 5-foot shoulders, 2-foot paved, and grass-lined side ditches. There are signing and pavement markings with a speed limit of 55 mph. The intersection with Indianapolis Road is not signalized and traffic on Indianapolis Road crossing SR 267 has to stop with posted signing.

Copies of the Boone and Hendricks counties functional classification maps are included in Appendix (see page A-22 to A-23)

### **Proposed Improvement**

The proposed extension of Ronald Reagan Parkway would function as a minor arterial with partially limited access (see Appendix A pages A-22 to A-23). The roadway would be a continuation of the North/South Corridor segments that have been approved from SR 67 to CR 600 North in Hendricks County. The proposed right-of-way would be maintained within a 230 foot minimum corridor (115-feet on either side of the proposed centerline). The proposed cross section will consist of two 12-foot travel lanes in each direction with 11-foot usable shoulders, 10-foot paved, separated by a 16 foot flush median. There will be side ditches bordering the roadway with 4:1 side slopes, 4-foot flat ditches with 3:1 back slopes and a design speed of 55 mph.

This is page 5 of 32. Project name: Extension of the Ronald Reagan Parkway Date: February 24, 2011

**Indiana Department of Transportation**

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

The roadway will cross over CR 900 East approximately 0.56 miles north of CR 600 North in Hendricks County. At this point CR 900 north will dead-end with a cul-de-sac on each side of Ronald Reagan Parkway. The remaining portions of CR 900 North, from CR 600 North to the Ronald Reagan Parkway (0.56 mile) and north of the railroad crossing, south of County Road 700 North, to the intersection of Maloney Road (1.58 miles), will remain as a frontage road to provide access to the residences along the roadway.

**OTHER ALTERNATIVES CONSIDERED:**

*Describe alternatives considered, including the Do-Nothing Alternative and an explanation of why each non-preferred alternative was not selected.*

The following alternatives were considered for the proposed project. Those alternatives not satisfying the identified purpose and need of the overall project were dismissed from further evaluation.

**No Build Alternatives**

The Do-Nothing Alternative

The "Do Nothing" alternative was considered as an alternate for the proposed project. This alternative proposed utilization of the existing facilities with no expenditure of capital funds or development of the roadway. The "Do Nothing" alternative would not have addressed the overall purpose of the project, which is improved regional and local mobility, system linkage and the promotion of future economic growth. For the stated reasons, the "Do Nothing" alternative was not determined to be feasible or prudent and was not considered further.

Transportation System Management (TSM)

The TSM alternative included those activities that maximize the efficiency of the present system, such as fringe parking, ridesharing, high occupancy vehicle (HOV) lanes and traffic signal optimization. This alternative is usually relevant in highly urbanized areas where traffic congestion warrants improvements. Additionally this alternative does not meet the identified purpose and need of the project. Therefore, the TSM alternate was not determined to be reasonable or feasible and was not considered further.

**Build Alternatives**

The project study corridor included five alternate locations between CR 600 North in Hendricks County and SR 267 at the I-65 interchange in Boone County. Those alternates were identified as Alternate 1C; Alternate 1D, Alternate 1A, Alternate 1B-b and Alternate 2B. Each alternative evaluated, originated at a common origin on CR 600 North and end at the SR 267 and I-65 interchange at the intersection with Indianapolis Road.

All the alternatives considered would construct the Ronald Reagan Parkway extension as a five lane facility with two-12-foot travel lanes in each direction with an 11-foot usable shoulder, 10-foot paved, and 16-foot flush median. The five alternatives evaluated for the project are based on two main alignments, ID and 1C. All the alignments begin at the terminus point for the existing Reagan Parkway at CR 600 North and terminate at the intersection of SR 267. An aerial indicating the location of each alternate is located in Appendix A (see pages A-5 to A-6). An aerial indicating the preferred alternative is located in Appendix A (see pages A-8 to A-9).

Evaluation of the alternates was reviewed by impacts per alignment. An impact evaluation matrix was developed for the project and is included in Appendix A (see page A-7). Overall the project impacts and costs were similar between alternates. Alternate 1D/1B-b was the preferred alternate by the Boone and Hendricks County Commissioners. This alternate has fewer relocations, a lower amount of residential right-of-way required and is included as part of the alignments identified by USFWS to result in the fewest impacts to fish and wildlife resources. This alternate also has a construction cost that is within the budget constraints for the project.

**The Do Nothing Alternative is not feasible, prudent or practicable because (Mark all that apply):**

- It would not correct existing capacity deficiencies;
- It would not correct existing safety hazards;
- It would not correct the existing roadway geometric deficiencies:

|  |
|--|
|  |
|  |
|  |

This is page 6 of 32. Project name: Extension of the Ronald Reagan Parkway Date: February 24, 2011

## Indiana Department of Transportation

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

It would not correct existing deteriorated conditions and maintenance problems, or  
 It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe) The Do nothing alternate would not address the overall purpose of the project, which is to  
 Improve regional and local mobility and provide for future economic growth in the area.

|          |
|----------|
|          |
| <b>X</b> |
| <b>X</b> |

### ROADWAY CHARACTER:

Functional Classification: Rural Minor Arterial  
 Current ADT: VPD 2010 N/A Design Year ADT: VPD 2030 24,108  
 Current Year DHV N/A Trucks (%) N/A Design Year DHV 2,411 Trucks (%) 20  
 Designed Speed (mph): 55 Legal Speed (mph): 55

|                  | Existing | Proposed             |
|------------------|----------|----------------------|
| Number of Lanes: | N/A      | 4                    |
| Type of Lanes:   | N/A      | Through Travel Lanes |
| Pavement Width:  | N/A ft.  | 48 ft.               |
| Shoulder Width:  | N/A ft.  | 20 ft.               |
| Median Width:    | N/A ft.  | 16 ft.               |
| Sidewalk Width:  | N/A ft.  | N/A ft.              |

Setting:  Urban  Suburban  Rural  
 Topography:  Level  Rolling  Hilly

### DESIGN CRITERIA FOR BRIDGES:

Structure Number(s): Tributary to School Branch Creek Sufficiency Rating: N/A

|                           | Existing | Proposed             |
|---------------------------|----------|----------------------|
| Bridge Type:              | N/A      | Concrete Box Culvert |
| Number of Spans:          | N/A      | 1                    |
| Weight Restrictions:      | N/A ton  | Pending ton          |
| Height Restrictions:      | N/A ft.  | None ft.             |
| Curb to Curb Width:       | N/A ft.  | 87-4 ft.             |
| Outside to Outside Width: | N/A ft.  | 90-4 ft.             |
| Shoulder Width:           | N/A ft.  | 11-8 ft.             |
| Length of Channel Work:   | N/A ft.  | 300 ft.              |

*Describe bridges and structures; provide specific location information for small structures.*

Remarks: The crossing of the Tributary to School Branch Creek will require construction of a new structure. The box culvert will be designed to current standards (HL-93). Channel work will be approximately 100 feet outside the structure limits upstream and downstream. The specific design details of the culvert will be refined as the project design advances. Ground level photographs of the crossing location are located in Appendix A (see page A-20).

Will the structure be rehabilitated or replaced as part of the project?  Yes  No

Structure Number(s): Pump Run (Martin Dugan Drain) Sufficiency Rating: NA

|                           | NA      | Concrete Box Culvert |
|---------------------------|---------|----------------------|
| Bridge Type:              | NA      | Concrete Box Culvert |
| Number of Spans:          | 1       | 1                    |
| Weight Restrictions:      | N/A ton | Pending ton          |
| Height Restrictions:      | N/A ft. | None ft.             |
| Curb to Curb Width:       | N/A ft. | 87-4 ft.             |
| Outside to Outside Width: | N/A ft. | 90-4 ft.             |

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Shoulder Width: N/A ft. 11-8 ft.  
 Length of Channel Work: N/A ft. 300 ft.

*Describe bridges and structures; provide specific location for small structures.*

Remarks: The crossing of pump run (Martin Dugan Drain) will require construction of a new concrete box structure just south of CR 1000 North in Hendricks County. Channel work will be approximately 100 feet outside the structure limits upstream and downstream. The specific design details of this structure will be refined as the project design advances. A ground level photograph of the crossing location is located in Appendix A (see page A-20).

Will the structure be rehabilitated or replaced as part of the project? Yes  No

Structure Number(s): Etter Ditch Sufficiency Rating: NA

|                           |                |                                      |
|---------------------------|----------------|--------------------------------------|
| Bridge Type:              | <u>NA</u>      | <u>Reinforced Concrete Structure</u> |
| Number of Spans:          | <u>1</u>       | <u>Pending</u>                       |
| Weight Restrictions:      | <u>N/A</u> ton | <u>Pending</u> ton                   |
| Height Restrictions:      | <u>N/A</u> ft. | <u>None</u> ft.                      |
| Curb to Curb Width:       | <u>N/A</u> ft. | <u>87-4</u> ft.                      |
| Outside to Outside Width: | <u>N/A</u> ft. | <u>90-4</u> ft.                      |
| Shoulder Width:           | <u>N/A</u> ft. | <u>11-8</u> ft.                      |
| Length of Channel Work:   | <u>N/A</u> ft. | <u>300</u> ft.                       |

*Describe bridges and structures; provide specific location for small structures.*

Remarks: The crossing of Etter Ditch will require construction of a new structure. The bridge will be approximately 70 '-0" in length and will be designed to current standards (HL-93). Channel work will be 100 feet outside the structure limits upstream and downstream. The specific design details of this structure will be refined as the project design advances. A ground level photograph of the crossing location is located in Appendix A (see page A-21).

Will the structure be rehabilitated or replaced as part of the project? Yes  No

Structure Number(s): White Lick Creek – New Structure Sufficiency Rating: N/A

|                           |                |                                      |
|---------------------------|----------------|--------------------------------------|
| Bridge Type:              | <u>N/A</u>     | <u>Reinforced Concrete Structure</u> |
| Number of Spans:          | <u>N/A</u>     | <u>1</u>                             |
| Weight Restrictions:      | <u>N/A</u> ton | <u>Pending</u> ton                   |
| Height Restrictions:      | <u>N/A</u> ft. | <u>None</u> ft.                      |
| Curb to Curb Width:       | <u>N/A</u> ft. | <u>87-4</u> ft.                      |
| Outside to Outside Width: | <u>N/A</u> ft. | <u>90-4</u> ft.                      |
| Shoulder Width:           | <u>N/A</u> ft. | <u>11-8</u> ft.                      |
| Length of Channel Work:   | <u>N/A</u> ft. | <u>300</u> ft.                       |

*Describe bridges and structures; provide specific location for small structures*

Remarks: The crossing of White Lick Creek will require construction of a new structure approximately 0.5 mile south of C.R. 550 South and approximately 0.5 mile east of S.R. 267 in Boone County. The bridge will be approximately 105 '-0" in length and will be designed to current standards (HL-93). Channel work will be 100 feet outside the structure limits upstream and downstream. The specific design details of this structure will be refined as the project design advances. A Ground level photograph of the crossing is located in Appendix A (see page A-21).

Will the structure be rehabilitated or replaced as part of the project? Yes  No

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|                      |                              |                     |     |
|----------------------|------------------------------|---------------------|-----|
| Structure Number(s): | White Lick Creek – Extension | Sufficiency Rating: | N/A |
|----------------------|------------------------------|---------------------|-----|

| Bridge Type:              | Precast Concrete Slab |     | Precast Concrete Slab |     |
|---------------------------|-----------------------|-----|-----------------------|-----|
| Number of Spans:          | 1                     |     | 1                     |     |
| Weight Restrictions:      | NP                    | ton | Pending               | ton |
| Height Restrictions:      | None                  | ft. | None                  | ft. |
| Curb to Curb Width:       | 43-3                  | ft. | 87-4                  | ft. |
| Outside to Outside Width: | 46-3                  | ft. | 90-4                  | ft. |
| Shoulder Width:           | N/A                   | ft. | 11-8                  | ft. |
| Length of Channel Work:   | N/A                   | ft. | 300                   | ft. |

*Describe bridges and structures; provide specific location for small structures.*

Remarks: The crossing of White Lick Creek will require the extension of an existing structure approximately 0.6 mile north of C.R. 550 South in Boone County. The structure is located on existing S.R. 267 near the Perry Industrial Park. The structure will be 105 '-0" in length and will be designed to current standards (HL-93). Channel work will be 100 feet outside the structure limits upstream and downstream. The specific design details of this structure will be refined as the project design advances. A Ground level photograph of the crossing is located in Appendix A (see page A-21).

Will the structure be rehabilitated or replaced as part of the project? 

|                          |                                     |
|--------------------------|-------------------------------------|
| Yes                      | No                                  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

|   | Yes                                 | No                                  |
|---|-------------------------------------|-------------------------------------|
| Is a temporary bridge proposed?   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Is a temporary roadway proposed?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Will the project involve the use of a detour or require a ramp closure? (describe in remarks) | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Provisions will be made for access by local traffic and so posted.                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Provisions will be made for through-traffic dependent businesses.                             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Provisions will be made to accommodate any local special events or festivals.                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Will the proposed MOT substantially change the environmental consequences of the action?      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Is there substantial controversy associated with the proposed method for MOT?                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Remarks: A majority of this project would be constructed along a new alignment and existing traffic would be maintained along existing roadways. Traffic will be maintained on existing county roads intersecting the corridor during construction with temporary pavement widening. The portion of the proposed roadway that utilizes existing SR 267 from just south of CR 550 South to the interchange at I-65 will be widened with an additional two lanes that will be constructed while maintaining traffic on the existing roadway. Currently an official detour would not be established for the proposed project. Temporary closure of low volume local county roads is possible as construction develops. All signs, lights and barricades utilized for traffic maintenance or detour during construction would be in accordance with current INDOT standards and the Uniform Traffic Control Manual.

### ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 3,195,415 (2010) Right-of-Way: \$ 7,100,000 (2010) Construction: \$ 75,248,200 (2010)

Anticipated Start Date of Construction: 2012

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### RIGHT OF WAY:

| Land Use Impacts | Amount (acres) |             |
|------------------|----------------|-------------|
|                  | Permanent      | Temporary   |
| Residential      | 13.76          | 0.00        |
| Commercial       | 5.33           | 0.00        |
| Agricultural     | 217.77         | 0.00        |
| Forest           | 0.44           | 0.00        |
| Wetlands         | 0.00           | 0.00        |
| Other:           | 3.70           | 0.00        |
| Other:           | 0.00           | 0.00        |
| Other:           | 0.00           | 0.00        |
| <b>TOTAL</b>     | <b>241.00</b>  | <b>0.00</b> |

Remarks: To complete the proposed project approximately 241.00 acres of additional permanent right-of-way would be required. The proposed typical right-of-way width would be approximately 230 ft. (115 ft. on either side of the proposed centerline. The majority of this additional right-of-way would be required from agricultural land. However, right-of-way would also be required from residential and commercial areas. The roadway will be constructed with partially limited access. Access will be approved by Boone or Hendricks County with restriction to individual drive construction for residences. Approved access would be for new road construction for larger commercial or residential development, with the developer constructing the access road. No temporary right-of-way would be acquired as grading and placement of drainage structures will be included within the permanent right-of-way limits.

## Part III – Identification and Evaluation of Impacts of the Proposed Action

### SECTION A – ECOLOGICAL RESOURCES

|   | <u>Presence</u>                     |                                     | <u>Impacts</u>                      |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
|   | Yes                                 | No                                  | Yes                                 | No                                  |
| <b>Streams, Rivers, Watercourses &amp; Jurisdictional Ditches</b> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| State Wild, Scenic or Recreational River                          | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Remarks:

**Pump Run (Martin Dugan Drain):**  
 The Pump Run channel will cross the proposed corridor approximately 0.10 mile south of C.R. 1000 North in northern Hendricks County. The Pump Run channel is an intermittent stream that also serves as a field drain. The channel begins just east of CR 900 East and flows southwest across C.R. 1000 and the proposed roadway to converge with the White Lick Creek channel just west of CR 800 East. The crossing of the channel will require the construction of a new structure at this location. Channel work would be required along Pump Run to accommodate the new structure. The length of channel work upstream and downstream of the proposed structure limits will be determined during the design phase for this structure. Channel work could include channel shaping, vegetation clearing and bank stabilization. No channel relocation is anticipated.

**Etter Ditch:**  
 The Etter Ditch channel will cross the proposed corridor approximately 0.13 mile south of C.R. 750 South and 1.13 mile east of C.R. 450 East in southern Boone County. The Etter Ditch channel is a perennial stream that also serves as a field drain. The channel begins just east of I-65 north of CR 550 South and flows south - southwest across C.R. 750 South and the proposed roadway and then southwest across CR 450 South to converge with the White Lick Creek channel just south of the Boone County line. The crossing of the channel will require the construction of a new structure approximately 70 feet in length at this location. Channel work would be required along the Etter Ditch channel to accommodate the new structure. The length of channel work upstream and downstream of the proposed structure limits will be determined during the design phase for this structure. Channel work could include channel shaping, vegetation clearing and bank stabilization. No channel relocation is anticipated.

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**White Lick Creek**

The White Lick Creek channel will cross the proposed corridor at two separate locations in southern Boone County. The first location will require the construction of a new structure on the proposed roadway between SR 267 and CR 475 East approximately 0.50 mile south of CR 550 South. The second location will include new construction on an existing structure on S.R. 267 between C.R. 550 South and I-65, near the Perry Industrial Park.

The White Lick Creek channel is a perennial stream that also serves as a field drain. The channel begins north of the project area and flows south-southwest out of the project area south of C.R. 1000 North in northern Hendricks County. At the location of the new structure a structure approximately 105 feet in length will be required. Channel work would be required along the White Lick Creek channel to accommodate the new structure. The length of channel work upstream and downstream of the proposed structure limits will be determined during the design phase for this structure. Channel work could include channel shaping, vegetation clearing and bank stabilization. No channel relocation is anticipated.

At the location of the existing structure on S.R. 267 the project will extend the existing structure by 50 feet on each side or 100 feet total. Channel work would be required along the White Lick Creek channel to accommodate the new structure. The length of channel work will be determined during the design phase for this structure. Channel work could include channel shaping, vegetation clearing and bank stabilization. No channel relocation is anticipated.

**Unnamed Tributary to School Branch Creek**

The channel for the unnamed tributary to School Branch Creek crosses the proposed corridor approximately 0.10 mile north of C.R. 600 North at the south end of the project in northern Hendricks County. The channel is an intermittent stream that also serves as a field drain for agricultural fields. The channel begins just south of C.R. 600 North and flows northwest across the proposed roadway and then converges with the School Branch Creek channel approximately 0.15 mile east of the CSX railroad line.

The crossing of the channel will require the construction of a new a pipe or culvert at this location. Channel work would be required along the Unnamed Tributary to School Branch Creek channel to accommodate the new structure. The length of channel work upstream and downstream of the proposed structure limits will be determined during the design phase for this structure. Channel work could include channel shaping, vegetation clearing and bank stabilization. No channel relocation is anticipated.

**Jurisdictional Determination:**

The Early Coordination letter from the US Army Corps of Engineers, Louisville District indicated that the following waterways are under their jurisdiction and are considered to be jurisdictional waterways: Unnamed Tributary to School Branch Creek, Pump Run, Etter Ditch, Lick Creek and any tributaries to these waterways (see Appendix B-3). Authorization pursuant to Section 404 is required for the placement of dredged or fill material into waters of the U.S. including these waterways and their tributaries. The impacts to these channels will be permitted in accordance with Sections 401 and 404 of the Clean Water Act during the final design phase of the project.

**Other Surface Waters**

- Reservoirs
- Lakes
- Farm Ponds
- Detention Basins
- Storm Water Management Facilities
- Other: \_\_\_\_\_

|                                   | <u>Presence</u> |           | <u>Impacts</u> |           |
|-----------------------------------|-----------------|-----------|----------------|-----------|
|                                   | <u>Yes</u>      | <u>No</u> | <u>Yes</u>     | <u>No</u> |
| Reservoirs                        | X               |           |                | X         |
| Lakes                             |                 | X         |                |           |
| Farm Ponds                        | X               |           |                | X         |
| Detention Basins                  | X               |           |                | X         |
| Storm Water Management Facilities |                 | X         |                |           |
| Other:                            |                 | X         |                |           |

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Remarks: The Eagle Creek Reservoir is located approximately 2.5 mile east of the proposed roadway at CR 600 North. The reservoir is outside of the proposed project limits and will not be impacted. There are also farm ponds and detention basins located along the entire length of the proposed roadway. The evaluation of the various alternatives allowed for the selection of an alternative with construction limits that avoids impacting those water bodies along the roadway.

| Wetlands | <u>Presence</u>                     |                          | <u>Impacts</u>           |                                     |
|----------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
|          | Yes                                 | No                       | Yes                      | No                                  |
|          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Total wetland area: 0 acre(s) Total wetland area impacted: 0 acre(s)  
 (If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

| Wetland No. | Classification | Total Size (Acres) | Impacted Acres | Comments |
|-------------|----------------|--------------------|----------------|----------|
| N/A         | N/A            | N/A                | N/A            | N/A      |

| Wetlands                            | <u>Documentation</u>     |                                     | <u>OES Approval Dates</u> |
|-------------------------------------|--------------------------|-------------------------------------|---------------------------|
|                                     | Yes                      | No                                  |                           |
| Wetland Determination               | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                           |
| Wetland Delineation Report          | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                           |
| USACE Isolated Waters Determination | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                           |
| Mitigation Plan                     | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                           |

| Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain): | <u>Individual Wetland Finding</u> |                                     |
|--|-----------------------------------|-------------------------------------|
|  | Yes                               | No                                  |
| Substantial adverse impacts to adjacent homes, business or other improved properties;  | <input type="checkbox"/>          | <input checked="" type="checkbox"/> |
| Substantially increased project costs;   | <input type="checkbox"/>          | <input checked="" type="checkbox"/> |
| Unique engineering, traffic, maintenance, or safety problems;  | <input type="checkbox"/>          | <input checked="" type="checkbox"/> |
| Substantial adverse social, economic, or environmental impacts, or   | <input type="checkbox"/>          | <input checked="" type="checkbox"/> |
| The project not meeting the identified needs.  | <input type="checkbox"/>          | <input checked="" type="checkbox"/> |

*Measures to avoid, minimize and mitigate wetland impacts need to be discussed in the remarks section*

Remarks: The National Wetland Inventory (NWI) map and the Indiana Geologic Information System (Indiana GIS) Atlas were reviewed for the presence of potential jurisdictional wetlands in the project area (Appendix A-5 to A-6). The NWI mapping identified the following NWI classifications for the impacted stream channels.

| Waterbody Name  | NWI Classification  |
|---|---|
| School Branch Creek                                     | R2UBH - riverine, lower perennial, unconsolidated bottom, permanently flooded<br>R4SBC - riverine, intermittent, stream bed, seasonally flooded |
| Pump Run  | R4SBC - riverine, intermittent, stream bed, seasonally flooded  |
| Etter Ditch   | R2UBH - riverine, lower perennial, unconsolidated bottom, permanently flooded   |
| White Lick Creek  | R2UBH - riverine, lower perennial, unconsolidated bottom, permanently flooded   |
| Private Land in DNR Wildlife Habitat Cost-Share Program | PFO1A - palustrine, forested, broad-leaved deciduous, temporarily flooded   |

The NWI map also identified other potential palustrine, forested and palustrine emergent wetland areas along the project corridor.

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A field investigation of the project area was conducted in May 2006 and October 2007 to visually confirm the location of those wetlands identified on the NWI mapping, verify that no additional wetlands exist within the project area and determine if there were any wetland areas adjacent to the identified stream corridors. The evaluation of alternatives allowed for a corridor alignment that avoided impacting wetland areas beyond those stream channels requiring structures for the roadway crossing. No other wetland areas will be impacted by the project. The impacts to these channels will be permitted in accordance with Sections 401 and 404 of the Clean Water Act during the final design phase of the project.

There is a private classified wildlife habitat area located in Hendricks County between CR 800 East and the roadway corridor and is located within a 30-acre private parcel. The classified wildlife area is approximately 27 acres of forested land surrounding a 3-acre residential site. The area is part of the Indiana Department of Natural Resources (IDNR) Wildlife Habitat Cost-Share Program. The USFWS NWI mapping identified this area as a palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland. This area was not field delineated as the evaluation of alternates avoided impacting the site.

To limit impacts to the stream channels at the roadway crossings the following measures will be implemented:

1. Do not clear trees or understory vegetation outside the construction boundaries.
2. Restrict below low-water work to placement of piers, pilings and /or footings, shaping of the spill slopes around bridge abutments and placement of riprap.
3. Minimize the extent of artificial bank stabilization.
4. Implement temporary erosion and siltation control devices such as placement of riprap, check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control matting or straw, and grading slopes to retain runoff in basins.

**Terrestrial Habitat**

|                                     |                          |                                     |                          |
|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <u>Presence</u>                     |                          | <u>Impacts</u>                      |                          |
| Yes                                 | No                       | Yes                                 | No                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

*Use the remarks table to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).*

Remarks:

The project area is located on the western edge of the Indianapolis Urbanized Area and the existing land use is primarily farmland and residential grassland. However, the landscape is interspersed with isolated forested areas. The project corridor consists of agricultural fields, pastureland, residential and commercial development. Approximately 217.77 acres of right-of-way would be acquired from the identified agricultural fields, 13.76 acres from residential land, 5.33 acres from commercial development, 3.70 from floodplains and 0.44 acre from forest.

Little natural vegetation remains within the project corridor. The project area provides some scattered woodlots, open agricultural fields, residential lawns and brushy fencerows and roadside grasses to provide some wildlife habitat. Isolated wooded areas within the agricultural fields were typically avoided as they provide habitat sites for wildlife in the area. Typical wildlife in the project area includes deer, squirrel, raccoon, opossum, rabbit, skunk, song birds, and reptiles. Waterways in the project area along the corridor include an Unnamed Tributary to School Branch Creek, Pump Run, Etter Ditch and White Lick Creek. These streams are a combination of perennial and intermittent waterways.

The Unnamed Tributary to School Branch Creek is an intermittent stream that also serves as a field drain for agricultural fields. This channel has a minimal riparian corridor and has limited in-stream habitat. The Pump Run channel is an intermittent stream that also serves as a field drain. This channel has a narrow, forested riparian corridor and limited in-stream habitat. The Etter Ditch channel is a perennial stream that also serves as a field drain. This channel has a minimal riparian corridor and limited in-stream habitat. The White Lick Creek is a perennial stream that also serves as a field drain. This channel has a narrow, forested riparian corridor along the stream and limited in-stream habitat.

The stream banks contain limited amounts of woody vegetation and grasses that provide some wildlife habitat and help with erosion control. The proposed project is not anticipated to cause extensive impacts to the identified habitat.

Impacts to the stream channels will be limited to placement of the structures for the road crossings. The impacts to these channels and any necessary mitigation will be permitted in accordance with Sections 401 and 404 of the Clean Water Act during the final design phase of the project.

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The project area includes a private classified wildlife habitat area located in Hendricks County. The area is located between CR 800 East and the roadway corridor and is located within a 30-acre private parcel. The classified wildlife area is approximately 27 acres of forested land surrounding a 3-acre residential site. The area is part of the Indiana Department of Natural Resources (IDNR) Wildlife Habitat Cost-Share Program. This program encourages landowners to develop wildlife habitat by reducing the cost of the development and management. The evaluation of the roadway corridor allowed for the placement of the roadway to avoid impacting the site. The site is surrounded by open agricultural fields with the Austin Woods subdivision located approximately 0.15 mile west of the property. The open agricultural fields, scattered woodlots, and brushy fencerows around the area allow for animal movement. During the design phase for this specific segment of the roadway, there should be coordination with IDNR and INDOT to determine if utilizing wildlife crossings as part of the roadway design is appropriate.

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

|  | <u>Presence</u>          |                                     | <u>Impacts</u>           |                                     |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
|  | Yes                      | No                                  | Yes                      | No                                  |
| <b>Karst</b>   |                          |                                     |                          |                                     |
| Does the proposed project involve the Karst Region of Indiana? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Use the remarks table to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: The project is located outside of the designated karst area of the state as identified in the October 13, 1993 Memorandum of Understanding (MOU) between the Indiana Department of Transportation (INDOT), Indiana Department of Natural Resources (IDNR), Indiana Department of Environmental Management (IDEM) and the U.S. Fish and Wildlife Service (USFWS). No karst features were observed or are known to exist within or adjacent to the proposed project area.

|   | <u>Presence</u>                     |                                     | <u>Impacts</u>           |                                     |
|---|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|
|   | Yes                                 | No                                  | Yes                      | No                                  |
| <b>Threatened or Endangered Species</b>                                   |                                     |                                     |                          |                                     |
| Within the known range of any federal species?                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Any critical habitat identified within project area?                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Federal species found in project area (based upon informal consultation)? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| State species found in project area (based upon consultation with IDNR)?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Is Section 7 formal consultation required for this action?                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

Remarks: The US Fish and Wildlife Service (USFWS), Bloomington Field Office, was contacted as part of early coordination. On June 5, 2006, the USFWS indicated that the proposed project is within the range of the federally endangered Indiana Bat (*Myotis sodalis*).

The proposed project is within the range of the Bald Eagle. On June 28, 2007 the bald eagle (*Haliaeetus leucocephalus*) was removed from the list of threatened and endangered species by the US Department of the Interior. The bald eagle is still protected under the Bald and Golden Eagle Protection Act of 1940. This law provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. The proposed project is not likely to adversely affect the Bald Eagle.

The Indiana Department of Natural Resources (IDNR) was also contacted as part of early coordination. On October 17, 2006 the IDNR indicated that no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity (see Appendix B-11). The USFWS concurred that the proposed project is not likely to adversely affect either the Indiana Bat or the Bald Eagle. (see Appendix B-1 through B-4). The IDNR and USFWS correspondence referenced measures to minimize impacts on fish, and wildlife resources as a result of the proposed project. These and other recommendations and mitigation requirements are included in the Summary of Environmental Commitments section of this report.

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**SECTION B – OTHER RESOURCES**

|  | <u>Presence</u> |           | <u>Impacts</u> |           |
|--|-----------------|-----------|----------------|-----------|
|  | <u>Yes</u>      | <u>No</u> | <u>Yes</u>     | <u>No</u> |
| <b>Drinking Water Resources</b>                  |                 |           |                |           |
| Sole Source Aquifer (SSA)                        |                 | X         |                | X         |
| Is the Project in the St. Joseph Aquifer System? |                 | X         |                | X         |
| Is the FHWA/EPA SSA MOU Applicable?              |                 | X         |                | X         |
| Initial Groundwater Assessment Required?         |                 | X         |                | X         |
| Detailed Groundwater Assessment Required?        |                 | X         |                | X         |
| Source Water Protection Area(s)                  |                 | X         |                | X         |
| Public Water System(s)                           | X               |           |                | X         |
| Residential Well(s)                              | X               |           |                | X         |
| Wellhead Protection Area                         |                 | X         |                | X         |

Remarks:

Drinking water within the project area is supplied by either public water supplies or by private wells. For portions of southeastern Boone County and parts of eastern Hendricks County, water is supplied by the Indianapolis Water Company. The Indianapolis Water Company uses surface water from the Eagle Creek Reservoir, Fall Creek, and the White River and ground water primarily from wells outside of Boone County. The source for drinking water for a majority of the project area is supplied by private wells. Impacts to drinking water resources are anticipated to be minimal.

The project is not located within the legally designated St. Joseph Aquifer System, the known sole source aquifer in the state of Indiana. The IDEM Groundwater Section was contacted to determine if the proposed project is located in a wellhead protection area. IDEM responded indicating that the project is not located within a wellhead protection area. (see Appendix B-19).

|  | <u>Presence</u> |           | <u>Impacts</u> |           |
|--|-----------------|-----------|----------------|-----------|
|  | <u>Yes</u>      | <u>No</u> | <u>Yes</u>     | <u>No</u> |
| <b>Flood Plains</b>  |                 |           |                |           |
| Longitudinal Encroachment  | X               |           | X              |           |
| Transverse Encroachment  | X               |           | X              |           |
| Is the project located in a FEMA designated floodplain?              | X               |           | X              |           |
| Homes located in floodplain within 1000' up/downstream from project. |                 | X         |                |           |

*Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".*

Remarks:

The Federal Emergency Management Agency (FEMA) website was reviewed for Flood Insurance Rate maps (FIRM) of the project area. The preferred alignment crosses the White Lick Creek flood plain between C.R. 650 South and C.R. 550 South in southeastern Boone County (see Appendix page A-6). The crossing is within Zone A as described by the Federal Emergency Management Agency (FEMA), Federal Insurance Administration. Zone A defines an area corresponding to areas subject to inundation by 100 year flooding for which no base flood elevations are established. No base flood elevation or depths are shown within this zone.

The White Lick Creek crossing falls under a Category 4 Action. Therefore, a Risk Assessment has been performed to determine the potential flood risk at the project site. The assessment found that zero homes are located within the base floodplain within 1,000' upstream, and 1,000' downstream. However, the proposed structure would have an effective capacity such that backwater surface elevations are not expected to significantly increase. As a result, there would be no significant adverse impacts on natural and beneficial floodplain values; no significant change in flood risks; and no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.



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A hydraulic design study that addresses various structure size alternates will be completed during the preliminary design phase for the bridge design. Formal approval by the Indiana Department of Natural Resources under the regulatory programs administered by the Division of Water is required for this project.

|                                 | <u>Presence</u> |    | <u>Impacts</u> |    |
|---------------------------------|-----------------|----|----------------|----|
|                                 | Yes             | No | Yes            | No |
| <b>Farmland</b>                 |                 |    |                |    |
| Agricultural Lands              | <b>X</b>        |    | <b>X</b>       |    |
| Prime Farmland (per NRCS)       | <b>X</b>        |    | <b>X</b>       |    |
| NRCS Form AD-1006 scored ≥ 160? | <b>X</b>        |    | <b>X</b>       |    |

Provide the NRCS Form AD-1006 score and state whether there is a significant loss of farmland as a result of the project in the remarks section.

Remarks:

As required by the Farmland Protection Policy Act, the Natural Resources Conservation Service (NRCS) has been coordinated with and the Form CPA-106 has been completed (Appendix B-10). The preferred alternative for the project will cause a conversion of approximately 217.77 acres of farmland for right-of way. The farmland was identified to be of statewide importance. The project exceeded the total point value of 160 points that indicates the project could receive further consideration for mitigation to reduce impacts on farmland.

The project evaluated four different build alternatives within the proposed study area and there was not a significant difference in the amount of agricultural land converted for right-of-way acquisition between the four alternatives. Additional coordination took place with the NCRS Indianapolis office in July 2009. With no significant differences in the amount of r-o-w acquired between the various alternates, the alternate with the least amount of farm acreage was chosen. No additional mitigation measures were necessary.

### SECTION C – CULTURAL RESOURCES

|                             | <u>Category</u> | <u>Type</u> | <u>INDOT Approval Dates</u> |
|-----------------------------|-----------------|-------------|-----------------------------|
| Minor Projects PA Clearance |                 |             |                             |

**Eligible and/or Listed Resource Present**

|                        | Yes      | No       |
|------------------------|----------|----------|
| Archaeology            |          | <b>X</b> |
| History/Architecture   |          | <b>X</b> |
| NRHP Buildings/Site(s) | <b>X</b> |          |
| NRHP District(s)       |          | <b>X</b> |
| NRHP Bridge(s)         |          | <b>X</b> |

|                                 | Yes      | Not Applicable | <u>SHPO/OES/FHWA Approval Dates</u>                         |
|---------------------------------|----------|----------------|---|
| No Historic Properties Affected |          | <b>X</b>       |   |
| No Adverse Effect               |          | <b>X</b>       |   |
| Adverse Effect                  | <b>X</b> |                | <b>FHWA – July 14, 2009</b><br><b>SHPO- August 17, 2009</b> |

**Documentation Prepared**

|                                      | Yes      | Not Applicable | <u>SHPO/OES/FHWA Approval Dates</u> |
|--------------------------------------|----------|----------------|-------------------------------------|
| Historic Properties Short Report     |          | <b>X</b>       |                                     |
| Historic Property Report             |          | <b>X</b>       |                                     |
| Archaeological Records Check/ Review | <b>X</b> |                | <b>SHPO – December 6, 2005</b>      |

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|  |   |   |   |
|--|---|---|---|
| Archaeological Phase Ia Survey Report        | X |   | SHPO – February 8, 2008<br>SHPO – February 21, 2011                         |
| Archaeological Phase Ic Survey Report        |   | X |   |
| Archaeological Phase II Investigation Report |   | X |   |
| Archaeological Phase III Data Recovery       |   | X |   |
| APE, Eligibility and Effect Determination    | X |   | FHWA – July 14, 2009  |
| 800.11 Documentation                         | X |   | FHWA – July 14, 2009  |
| Memorandum of Agreement                      | X |   | FHWA- October 26, 2009<br>INDOT- November 4, 2009<br>SHPO– November 10,2009 |

Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks:

**Coordination with Consulting Parties:** Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties. In accordance with 36 CFR 800.2(c), consulting parties were invited to participate in efforts to identify historic properties potentially affected by the undertaking, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Each organization was sent a copy of the early coordination packet and formally invited to become a consulting party.

The following agencies were invited on May 16, 2006 to become consulting parties for the project. Those organizations that responded are in bold print. Those organizations that accepted the invitation are identified in bold print; no additional return invitations or comments from the remaining organizations were received.

|   |  |
|---|--|
| <p><b><u>Boone County Consulting Parties</u></b><br/>                 Boone County Landmarks Preservation<br/>                 Patrick Henry Sullivan Museum<br/>                 Boone County Historical Society<br/>                 Jackson Township Historical Society, Inc.<br/>                 Sugar Creek Historical Society, Inc.<br/>                 Zionsville Historical Society<br/>                 Boone County Historian<br/> <b>City of Lebanon</b><br/> <b>Howard School Restoration Group, Inc.</b></p> | <p><b><u>Hendricks County Consulting Parties</u></b><br/>                 Fairfield Historic Preservation Society<br/> <b>Hendricks County Heritage Alliance</b><br/>                 Hendricks County Historical Society/Museum<br/>                 Guilford Township Historical Society<br/>                 Hendricks County Genealogical Society<br/> <b>Hendricks County Historian</b><br/>                 Town of Brownsburg</p> |
|---|--|

**State Historic Preservation Officer (SHPO)**  
**INDOT, Office of Environmental Services**  
**Indiana Landmarks, Central Regional Office**

For Indiana projects involving the construction of a road on a new alignment, all federally recognized Native American tribes with land claims in the area affected by the project must be invited to participate in Section 106 consultation. The following recognized Native American tribes were invited to participate in Nation-to-Nation coordination on May 16, 2006. However, no responses were received from the identified tribes by the established deadlines.

**Delaware Nation and Miami Tribe of Oklahoma**

**Area of Potential Effect (APE):** An Area of Potential Effect (APE) was established for the proposed project as part of the Early Coordination information prepared and submitted to the IDNR Division of Historic Preservation and Archaeology in May 15, 2006. The APE is the area in which an undertaking may cause direct or indirect changes in character or use of a historic property. The boundary of the APE is determined through the consideration of the effect of the undertaking in respect to visual and audible intrusions, changes in traffic patterns and alterations in land use or public access. The preliminary APE was developed in regard to the scope of the project, which is new road construction on new and existing alignment. The preliminary APE extends the length of the proposed project, approximately 9.8 miles beginning at CR 600 North in Hendricks County and extending north to I-65 and SR 267 in Boone County. The specific APE boundary is approximately 10,480 acres in size and surrounds the Ronald Reagan Parkway for the length of the project. (See Appendix page C-15 to C-16).

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**Archaeology:** An archaeological literature review/records check was completed for the project area by Archaeological Consultants of Ossian on November 18, 2005, see Appendix C-17 to C-18. This records check indicated that the project area has a potential to contain prehistoric sites and historic sites. The presence of known archaeological resources documented near the project area combined with well drained soil types within the project area indicate that additional archaeological sites may exist within the area that is to be impacted by the road alignment. A Phase Ia archaeological reconnaissance was recommended for the proposed right-of-way.

A Phase Ia Archaeological Reconnaissance was completed for the project area by Archaeological Consultants of Ossian on December 31, 2007, (see Appendix C-19 to C-20) The reconnaissance identified 20 archaeological sites with a mixture of prehistoric and historic cultural resources. None of the sites documented were evaluated as significant. The report indicated that the proposed project would not affect any properties eligible for listing on the National Register of Historic Places (NRHP) and no additional archaeological work was warranted. The reconnaissance report was submitted to the SHPO for review and the SHPO concurred that no further archaeological investigations were necessary on February 8, 2008. (see Appendix C-26 to C-27)

**Historic Properties:** On March 1, 2007 the FHWA and INDOT established a policy of only accepting Section 106 documentation prepared by qualified professionals meeting the *Secretary of Interior's Professional Qualification Standards*. As such, EFI Global was subcontracted to evaluate the APE for historic resources. EFI Global evaluated the historic properties within the APE and any additional properties in the vicinity of the project area. A Historic Properties Report is not required as this project had consultation under way before June 1, 2007, per INDOT directive.

EFI Global conducted a site visit and literature review of project area within the APE. The National Register of Historic Places (NRHP) database, the Indiana Register of Historic Sites and Structures (State Register) Inventory, the *Boone County Interim Report and the Hendricks County Interim Report*, a records check at IDNR, Division of Historic Preservation and Archaeology, an archaeological literature review/records check by Archaeological Consultants of Ossian and a Phase Ia Archaeological Reconnaissance by Archaeological Consultants of Ossian were utilized to identify any previously inventoried historically significant properties within the (APE). An assessment of effects for resources within the APE was provided by EFI in March 2008.

The evaluation of the identified resources within the APE are listed below:

### Identified Resources for Hendricks County

| Site #        | Description   | Eligibility  |
|---------------|---|--------------|
| 063-699-00012 | I-house Farmstead - 8460 CR 1000 North                                      | Eligible     |
| 063-117-40006 | House c.1860 - CR 600 North – South Side                                    | Not Eligible |
| 063-699-00006 | Hogan Farm c. 1900 - 9110 CR 1000 North                                     | Not Eligible |
| 063-117-40002 | Lincoln Township School, District No. 1 (1895) - 5985 CR 1000 East/CR 600 N | Not Eligible |
| 063-699-00007 | Dugan Farm c. 1900 - 10380 CR 900 East                                      | Not Eligible |
| 063-699-00011 | Brown Township District No. 2 School c. 1900 - 8475 CR 1000 North           | Not Eligible |
| 063-699-00010 | Farm c.1900 - 8640 East CR 1000 North                                       | Not Eligible |
| 063-699-00009 | House c. 1900 - 8705 CR 1000 North  | Not Eligible |
| 063-699-00008 | Farm c. 1884 - 8700 CR 1000 North   | Not Eligible |
| 063-699-00014 | Farm c.1890/1920 - 8030 1000 North  | Not Eligible |
| 063-699-00015 | Pennington House c.1890   | Not Eligible |

### Identified Resources for Boone County

| Site #        | Description   | Eligibility  |
|---------------|---|--------------|
| 011-205-45029 | Dr. Kemper Westfall House - CR 750 South                | Not Eligible |
| 011-205-45031 | Howard School c. 1885 - 4555 East CR 750 South          | Eligible     |
| 011-205-45030 | Howards Cemetery c. 1890 - CR 750 South – South Side    | Not Eligible |
| 011-205-45012 | House c. 1840 - 5905 CR 475 East                        | Not Eligible |
| 011-205-45013 | Perry Central School c. 1916 - 3730 SR 267/CR 550 South | Not Eligible |
| 011-699-45027 | Historic Marker- William Sullivan House - CR 650 South  | Not Eligible |

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The I-house Farmstead, 8460 CR 1000 North contains a five-bay central passage masonry I-house that is considered as individually eligible for the NRHP under Criterion C and the farmstead of which the house is part of is considered eligible for the NRHP under Criterion C.

The Howard School on CR 750 South is considered eligible for the NRHP under Criterion A and C as a locally significant one room school house in central Indiana. The structure retains good architectural integrity and has been recently renovated. The school is important for its association with public education in Indiana in the late nineteenth and early twentieth century. A National Register nomination is currently in process and substantive review for this property.

No permanent or temporary right-of-way will be acquired from the I-house Farmstead, 8460 CR 1000 North or the Howard School 4555 CR 750 South as part of the project. There will be no direct physical effects on the location, design, materials, or workmanship of either the I-house Farmstead or the Howard School.

However, the construction of the roadway and associated traffic would alter the relatively rural setting around both properties and would introduce a visual and audible element to both properties that will alter the feeling of the rural setting. On January 16, 2009 a consulting party meeting was held on-site to discuss impacts to the historic properties and identify mitigation within a Memorandum of Agreement (MOA).

**Documentation, Findings:** On July 14, 2009, the FHWA approved the APE and issued an "Adverse Effect" determination for this project (Appendix C-1 to C-3).

**Public Involvement:** In accordance with 36 CFR 800.2(d), 800.3(e), and 800.6(a) (4), the views of the public were sought regarding the effect of the proposed project. The "Adverse Effect" finding was submitted to the SHPO and consulting parties for a 30-day review and comment period on July 16, 2009. An advertisement was placed in the local news media on July 22, 2009 (Hendricks County Flyer) and July 21, 2009 (The Reporter) to provide comments on the "Adverse Effect" determination made by the FHWA and the draft MOA (see appendix C-40 to C-51). The established deadline for comments on the "Adverse Effect" finding and draft MOA was August 20, 2009.

In a letter dated August 17, 2009 (see Appendix C-52 to C-53) the SHPO indicated they concurred with the effect finding made by FHWA and the underlying findings and determinations with regard to the APE and special properties.

The SHPO also indicated they agreed with the intent of the MOA but had some additional comments on both Stipulation IA and IB in the document. They wanted the stipulation regarding the I-House Farmstead to read more specific about the mitigation commitment to include a combination of grass berm and tree plantings for the vegetated buffer. They also wanted the stipulation regarding the Howard School to be more specific in describing the property between the roadway and the cemetery. The SHPO letter also indicated that James Glass, Ph. D, Deputy State Historic Preservation officer, is authorized to sign the MOA.

In a letter dated July 31, 2009 (see Appendix C-54), Historic Landmarks Foundation indicated that they agreed with the Adverse Effect" determination finding made by FHWA and the proposed mitigation for each site as proposed in the MOA. They also requested that the trees planted to shield each property be native conifers to offer year round visual screening.

In a letter dated August 5, 2009 (see Appendix C-55), the Howard School Restoration Group indicated they would like for Stipulation A to include that the property between the cemetery and roadway be acquired and deeded to the Howard School Restoration Group to maintain as a vegetated buffer for the property and prevent further development adjacent to the site. They also wanted the tree plantings to include specific native trees when the school was built (1881) including Scarlet Oak, Scarlet Maple, Catalpa, Silver Maple, Yellow Poplar, Bitternut and Sweet Gum. They also indicated that Boone County now has a third county commissioner to add to the signature page. Copies of the response letters from the Howard School Restoration Group and Historic Landmarks Foundation were provide to the SHPO. The comments provided by the SHPO and consulting parties were incorporated into the MOA.

The 800.11(e) documentation and MOA were sent to the Advisory Council on Historic Preservation (ACHP) on September 9, 2009 for invitation to join the consultation. On October 19, 2009 the ACHP declined participation in the consultation to resolve the adverse effects (see page C-56). Copies of the MOA were

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submitted to Boone County, Hendricks County, SHPO, FHWA and INDOT for signature. A copy of the signed MOA is included as part of the Appendix see pages C-40 to C-48. The responsibilities of the FHWA under Section 106 have been fulfilled.

**Additional Archaeology:**

As a result of comments received at the public hearing, there was a slight shift in alignment for the roadway in Hendricks County near CR 1000 North. A local property owner in Hendricks County requested to adjust the roadway location approximately 50 feet to the east, from CR 1000 North to the Hendricks-Boone County line, approximately 1.0 mile in length. The corridor is shifting to the east to allow adequate area on each side of the roadway for possible future development near CR 1000 North.

This shift in alignment is well within the existing Area of Potential Affect (APE) for the project so the previous finding of "Adverse Effect" approved by the FHWA on July 14, 2009 is still valid, requiring no additional Section 106 consultation. An additional archaeological field reconnaissance was conducted to address the slight shift in alignment. The archaeological reconnaissance found no archaeological artifacts, features, or sites. The project area contained no cultural resources and no additional archaeological assessment was necessary (see Appendix pages C-57 to C-59). The reconnaissance report was submitted to the SHPO for review and approval on January 25, 2011. The SHPO concurred that no further archaeological investigations were necessary on February 21, 2011 (see Appendix C-60).

### SECTION D – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

**Section 4(f) Involvement**

|  | <u>Presence</u>          |                                     | <u>Use</u>               |                          | <u>FHWA / OES<br/>Approval/dates</u> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------------------|
|  | Yes                      | No                                  | Yes                      | No                       |                                      |
| <b>Parks &amp; Other Recreational Land</b>           |                          |                                     |                          |                          |                                      |
| Publicly owned park                                  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |
| Publicly owned recreation area                       | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |
| Programmatic Section 4(f) Evaluation                 | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |                                      |
| Individual Section 4(f)                              | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |                                      |
| Other (school, state/national forest, bikeway, etc.) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |
| "De minimis" Impact                                  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |

|  | <u>Presence</u>          |                                     | <u>Use</u>               |                          | <u>FHWA / OES<br/>Approval/dates</u> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------------------|
|  | Yes                      | No                                  | Yes                      | No                       |                                      |
| <b>Wildlife &amp; Waterfowl Refuges</b>                      |                          |                                     |                          |                          |                                      |
| Federal  |                          |                                     |                          |                          |                                      |
| National Wildlife Refuge                                     | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |
| State  |                          |                                     |                          |                          |                                      |
| State Fish & Wildlife Area – recreation or refuge areas only | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |                                      |
| Programmatic Section 4(f)                                    | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |                                      |
| Individual Section 4(f) Evaluation                           | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |                                      |
| "De minimis" Impact  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |                                      |

|  | <u>Presence</u>                     |                                     | <u>Use</u>               |                                     | <u>FHWA / OES<br/>approval/dates</u> |
|--|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------------------|
|  | Yes                                 | No                                  | Yes                      | No                                  |                                      |
| <b>Historic Properties</b>               |                                     |                                     |                          |                                     |                                      |
| Sites eligible and/or listed on the NRHP | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                      |
| Programmatic Section 4(f)                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                          |                                     |                                      |
| Individual Section 4(f) Evaluation       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                          |                                     |                                      |
| "De minimis" Impact                      | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                          |                                     |                                      |

*Discuss Programmatic Section 4 (f) and De minimis Section 4(f) impacts in the remarks section below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, De minimis and Individual Section 4(f) documents please refer to the "Procedural Manual for the Preparation of Environmental Studies". Discuss proposed alternatives that satisfy the requirements of Section 4(f).*

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Remarks: There are no federal national wildlife refuges, state fish and wildlife areas, schools, public parks or recreation areas within the project area. There were two historic properties eligible for the National Register of Historic Places (NRHP) within the project area that are considered as Section 4(f) resources.

**HISTORIC PROPERTIES**

**I-House Farmstead**

The I-house Farmstead is located at 8460 CR 1000 North in Hendricks County and is a good example of a five bay central passage, masonry I-house. The structure is individually eligible for the National Register of Historic Places (NRHP) under Criterion C and the farmstead of which it is a part is also eligible for the NRHP under Criterion C, as properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

**Howard School**

The Howard School 4555 CR 750 South is the only known remaining building type, one room school house, of its kind in Boone County. The structure is eligible for the NRHP under Criterion A, properties that are associated with events that have made a significant contribution to the broad patterns of our history. The property is also eligible for the NRHP under Criteria C, properties that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values or that represent a significant and distinguishable entity whose components may lack individual distinction.

These two historic properties are located along the project corridor. The alternative screening process determined a corridor alignment that will avoid any right-of-way acquisition. The project will not result in the direct or constructive use of the Section 4(f) resources. There will be no impact on Section 4(f) resources.

**Section 6(f) Involvement**

| <u>Presence</u>          |                                     | <u>Use</u>               |                          |
|--------------------------|-------------------------------------|--------------------------|--------------------------|
| Yes                      | No                                  | Yes                      | No                       |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Section 6(f) Property**

*Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.*

Remarks:

The Early coordination response letter from the U.S. Department of the Interior (see Appendix B-5 to B-6) indicated that Williams Park is located within the study area. The facility was developed with assistance from the Land and Water Conservation Fund program grant (18-00540). Williams Park is located at 940 South Locust Lane in Brownsburg, Indiana. The park is located approximately 1.0 mile southwest of the intersection of US 136 and SR 267 in Brownsburg and will not be impacted by the project.

The Indiana Department of Natural Resources Division of Outdoor Recreation responded in their Early coordination letter dated October 17, 2006 (see Appendix B-11 to B-13) that no Section 6(f) resources were identified. The project will not involve any properties acquired by or improved with assistance from the Land and Water Conservation Fund.

**SECTION E – Air Quality**

**Conformity Status of the Project**

|  | Yes                                 | No                                  |
|--|-------------------------------------|-------------------------------------|
| Is the project in an air quality non-attainment or maintenance area? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| If YES, then:  |                                     |                                     |
| Is the project in the most current MPO TIP?                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Is the project exempt from conformity?                               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| If the project is NOT exempt from conformity, then:                  |                                     |                                     |
| Is the project in the Transportation Plan (TP)?                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

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- Is a hot spot analysis required (CO/PM)?
- Is an MSAT level 1a Analysis required?
- Is an MSAT level 1b Analysis required?
- Is an MSAT level 2 Analysis required?
- Is an MSAT level 3 Analysis required?
- Is an MSAT level 4 Analysis required?
- Is an MSAT level 5 Analysis required?

|                          |                                     |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Remarks:

The project is in Hendricks and Boone Counties and is included in the nine-county area of Central Indiana that is part of the Indianapolis Metropolitan Planning Organization (MPO) boundary. Hendricks County is currently designated as non-attainment area for particulate matter (PM 2.5) and a maintenance area for ozone. Boone County is currently designated as a maintenance area for ozone. This project is not included on the list of projects exempt from air quality conformity in accordance with 40 CFR 93.126 Table 2.

The project is accurately reflected in the Indianapolis MPO 2030 Indianapolis Regional Transportation Plan. The project was included as part of the 2009 Air Conformity Analysis and conforms to the State Implementation Plan (Appendix D-1 to D-2). The project is not considered to be regionally significant and it can therefore be concluded that the project will have no significant impact on air quality. Therefore, the conformity requirements of 40 CFR 93 have been met.

**SECTION F - NOISE**

**Noise**

Is a noise analysis required in accordance with FHWA regulations and INDOT's noise policy?

|                                     |                          |
|-------------------------------------|--------------------------|
| <b>Yes</b>                          | <b>No</b>                |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

|                                       | No                       | Yes/ Date     |
|---------------------------------------|--------------------------|---------------|
| <b>OES Approval of Noise Analysis</b> | <input type="checkbox"/> | June 30, 2010 |

Remarks:

This action is a Type I Project as it proposes the construction of new roadway on new alignment with the extension of the existing Ronald Reagan Parkway. Therefore, in accordance with 23 CFR 772 and the INDOT Traffic Noise Policy (February 2007), this action does require a formal noise analysis. This analysis was developed to determine the traffic noise levels, noise impacts and the feasibility of potential noise mitigation measures associated with the proposed construction of the extension of the Ronald Reagan Parkway from CR 600 North to the SR 267 – I-65 interchange in Hendricks and Boone Counties, Indiana. Ronald Reagan Parkway would consist of four-12 foot travel lanes (two in each direction) with 11-foot usable outside shoulders. The travel lanes will be separated by a 16-foot paved flush median with a 55 mph design speed.

Existing and future year traffic noise levels were determined in accordance with 23 Code of Federal Regulations (CFR) Part 772- *Procedures for Abatement of Highway Noise and Construction Noise* and the INDOT *Traffic Noise Policy* (February 2007). Existing noise levels were determined by conducting field measurements at each of the receiver locations at a point of frequent human activity. The design year noise levels were predicted with a formal noise analysis using the Federal Highway Administration (FHWA) Traffic Noise Modeling Version 2.5 (TNM 2.5) computer software program.

The existing noise levels for the 31 identified receivers along the corridor range from 47.5 dBA to 68.9 dBA. The design year (2030) build noise levels range from 61.2 dBA to 73.8 dBA. Of the receivers analyzed along the Ronald Reagan Parkway, there were 19 receivers that approach or exceed the FHWA Noise Abatement Criteria (NAC). Of those 19 receivers that approach or exceed the NAC, all are residential dwellings. The project does have traffic noise impacts. As such, noise abatement measures were evaluated including traffic noise barriers, traffic management measures (truck restrictions), alteration of vertical and horizontal alignments, acquisition of property for buffer zones and insulation of public buildings or non-profit institutional structures.

The project was found to have traffic noise impacts and noise mitigation was considered. The traffic noise analysis indicated that there are no substantial increases in traffic noise with dBA exceeding the NAC by

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greater than 15 dBA, as defined by the INDOT *Traffic Noise Policy*. Barrier abatement for Receivers 1, 2, 3, 5, 6, 7, 9, 10, 12, 18, 20, 21, 22, 23, 24, 25, 29 and 30 are not feasible due to the lack of access control and not having the necessary dBA reductions for first row receiver locations in the design year. Barrier abatement for Receiver 8 is not reasonable as the cost is not within the \$30,000 per benefitted receiver limit and is not considered as cost effective.

The other forms of traffic noise abatement measures including traffic management measures, the alteration of vertical or horizontal alignments and the acquisition of adjacent property to create buffer zones were determined not to be reasonable for this project. There was one public use or non-profit institutional structure, the Howard School, located in Boone County, along the project corridor. The exterior NAC is not exceeded and the structure is not impacted and noise abatement is not necessary and will not be addressed further. The insulation of public use or non-profit institutional structures as a traffic noise abatement measure was not applicable for this project.

The identified land uses and activities adjacent to the project corridor will be affected by the noise generated from power-operated equipment utilized during construction. To minimize these noise impacts, construction equipment should be operated in compliance with all applicable local ordinances and regulations pertaining to construction noise. Also, restricting construction activities to daytime working hours may help minimize construction noise impacts during sleeping hours.

The results of the noise analysis will be provided to local government officials that have jurisdiction over the land use in the project area. The noise analysis report was determined to be technically sufficient in accord with the INDOT standards and INDOT Traffic Noise Policy on June 30, 2010, see Appendix I, page 23. The entire noise analysis report is included in Appendix I.

**SECTION G – COMMUNITY IMPACTS**

**Regional, Community & Neighborhood Factors**

- Will the proposed action comply with the local/regional development patterns for the area?
- Will the proposed action result in substantial impacts to community cohesion?
- Will the proposed action result in substantial impacts to local tax base or property values?
- Will construction activities impact community events (festivals, fairs, etc.)?

| Yes      | No       |
|----------|----------|
| <b>X</b> |          |
|          | <b>X</b> |
|          | <b>X</b> |
|          | <b>X</b> |

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Remarks:

The proposed project is located in northeastern Hendricks County and southeastern Boone County and is within the Indianapolis Metropolitan Area. Land use within the project area is currently primarily agricultural but is in transition to a combination use with residential development, and some commercial development.

There will be temporary inconvenience associated with construction activities, including increased travel times, delays, disruptions of normal travel patterns, possible utility interruptions and impacts from construction noise and fugitive dust. There may be some impact to community events by disruption of the existing roadways in the project area. These disruptions will be temporary and impacts can be reduced by coordination between the project contractors and local officials and implementing the Maintenance of Traffic (MOT) plan for the project.

The project is included as part of the Indianapolis MPO 2030 Indianapolis Regional Transportation Plan, Boone County Master Thoroughfare Plan, Hendricks County Master Thoroughfare Plan and Town of Brownsburg Ronald Reagan Corridor Master Plan. The project complies with existing and planned local/regional development for Boone and Hendricks Counties.

The project area contains scattered individual residential dwellings, farmsteads and some residential developments. The general openness of the project area has not allowed for the development of extensive communities in the area, therefore impacts to community cohesion are not substantial. The anticipated changes in land use will lead to more residential development in larger tracts. The development of the project at this time will allow for better planning and placement of residential communities to develop cohesion without future disruption.

Loss of property tax base in the area, due to right-of-way acquisition for the project is expected. Overall the additional development that is anticipated to take place as a result of the project is expected to increase the overall tax base in the area. The continued growth in commercial and residential development along the roadway will provide additional positive economic impact and an increasing tax base for both Boone and Hendricks counties.

**Indirect and Cumulative Impacts**

Will the proposed action result in substantial indirect or cumulative impacts?

|                                     |                          |
|-------------------------------------|--------------------------|
| Yes                                 | No                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Remarks:

The evaluation of the alternates for the project reduced the overall impacts to the project area. The US Fish and Wildlife Service indicated that the area has comparatively few remaining fish and wildlife resources so indirect impacts to the natural environment will be minimal. However the project could have an indirect impact on how quickly portions of existing farmland are converted to non-farming uses in the area. This area within Hendricks and Boone Counties generally has a rural setting but the expanding suburban growth from both Brownsburg and Indianapolis is changing the overall feeling and setting of the area.

Due to the location of project area within the western Indianapolis Metropolitan Area, land use changes are currently in progress east of SR 267 and around the I-65/SR 267 interchange. The All Points at Anson Commercial Park, north of I-65 and the Perry Industrial Park south of I-65 are established commercial/industrial developments and both of these developments will continue to expand. The area is already in transition from a rural agricultural area into a combination of agriculture, residential and commercial development.

The project will also improve the local mobility and access in northern Hendricks and southern Boone Counties and help address some of the anticipated land use changes and facilitate the flow of traffic through the corridor. The project will complement the continuing changes in land use in this northeastern Hendricks and southeastern Boone counties.

**Public Facilities & Services**

Will the proposed action result in substantial impacts on health and educational facilities, public utilities, fire, police, emergency services, religious institutions, public transportation or pedestrian and bicycle facilities? Discuss the maintenance of traffic, and how that will affect public facilities and services.

|                          |                                     |
|--------------------------|-------------------------------------|
| Yes                      | No                                  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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**Remarks:**

The proposed project may have temporary inconveniences associated with construction such as increased travel times through the construction area, utility interruptions due to relocations, vehicular operating costs, and construction noise and fugitive dust in and around the construction area. A majority of this project would be constructed along a new alignment and existing traffic would be maintained along existing roadways. Traffic will be maintained on existing county roads intersecting the Ronald Reagan Parkway during construction with temporary pavement widening.

Currently, there are no health or educational facilities located along the project corridor. The St. Malachy Catholic Church is located in the southwest quadrant of the intersection of CR 750 North and CR 1000 East in Hendricks County. There are future plans for expansion of the site to develop a parish elementary school. The facility is located approximately 0.25 mile east of the corridor. The project should provide improved access to the location. No additional religious institutions are within the project area. The Brownsburg Community School Corporation has property along the east side of existing CR 900 East between CR 700 North and CR 750 in Hendricks County. There is potential for future development of the site for a school facility. The Ronald Reagan Parkway corridor is located to the west of the property and will not impact that location. Existing CR 900 East will be maintained as a frontage road for residences along the roadway. CR 900 East will provide access to the Brownsburg Community School Corporation property between CR 700 North and CR 750 North. Additional access to the Ronald Reagan Parkway from the intersections with both CR 750 North and CR 700 North will be provided.

There is currently no public transportation system operating within the project area for both Boone and Hendricks Counties. There are combination pedestrian/bicycle facilities (trails) within both Boone and Hendricks Counties. The Farm Heritage Trail in Boone County and the B & O Trail and National Heritage trails in Hendricks County are in various stages of planning or development. All of these trails are outside the project area and will not cross this segment of the Ronald Reagan Parkway.

Overall the project will provide improved mobility and unobstructed access to the project area for public utilities, fire, police and other emergency service providers. No substantial or permanent impacts on health and educational facilities, public utilities, fire, police, emergency services, religious institutions, public transportation or pedestrian and bicycle facilities are anticipated.

**Environmental Justice (EJ)** (Presidential EO 12898)

During the development of the project were EJ issues identified?

Are any EJ populations located within the project area?

Will the project result in adversely high or disproportionate impacts to the EJ population?

| Yes                      | No                                  |
|--------------------------|-------------------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Remarks:**

Environmental Justice  
Under Title VI, this project is required to ensure that no person on the grounds of race, color, or natural origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under this activity. Under Executive Order (EO) 12898, this project must identify and address, as appropriate, disproportionately high and adverse human or environmental effects on any known minority populations and low-income populations.

The Indiana Categorical Exclusion Manual (March 2009) prepared by the INDOT indicates that a full analysis to identify minority and low income populations, or environmental justice populations, is warranted if a project involves 0.5 acre or more of right-of-way or two or more relocations. As proposed, the project will require the acquisition of 241 acres of permanent right-of-way and include five (5) Residential relocations. Therefore, in an attempt to identify minority and low income populations in the project area, demographic data from the US Census Bureau's 2000 Census was compiled. The detailed data tables obtained from the 2000 dicentennial Census data is contained in Appendix E.

To assess the data and determine the presence of environmental justice populations the following criteria was applied per the Indiana Categorical Exclusion Manual (March 2009). Affected communities (AC) that consist of more than 50% minority or low populations income were designated as environmental justice populations. All other affected communities were designated an environmental justice population if the low income or minority population was 25% higher than the population in the community of comparison (COC).

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Data acquired from the U.S. Census Bureau was utilized to determine the demographics of the study area and the surrounding community. Environmental justice populations were presumed to be present if the AC values exceeded the threshold. The project and the affected community are located within the boundary for Census Tract No. 8107 in Boone County, Indiana and Census Tract No. 2101.01 and No. 2101.02 in Hendricks County, Indiana. The community of concern population is Boone and Hendricks Counties. The analysis will review data to see if the local population will differ from the referenced population by 25% or more to generate potential EJ issues for the project.

| Minority By Race                | Census Tract 8107 A.C. | Boone County C.O.C | Census Tract 2101.01 A.C. | Census Tract 2101.02 A.C. | Hendricks County C.O.C |
|---------------------------------|------------------------|--------------------|---------------------------|---------------------------|------------------------|
| Total Population                | 4,603                  | 46,107             | 8,142                     | 7,823                     | 104,093                |
| Hispanic/Latino                 | 43                     | 534                | 70                        | 58                        | 1,162                  |
| Asian                           | 6                      | 210                | 66                        | 66                        | 674                    |
| American Indian & Alaska Native | 2                      | 99                 | 13                        | 34                        | 235                    |
| Native Hawaiian                 | 0                      | 5                  | 6                         | 3                         | 32                     |
| Black or African American       | 9                      | 157                | 19                        | 41                        | 1,143                  |
| Some Other Race                 | 0                      | 18                 | 10                        | 4                         | 61                     |
| Two or More Races               | 20                     | 237                | 40                        | 79                        | 808                    |
| <b>Poverty Status</b>           |                        |                    |                           |                           |                        |
| Population                      | 4,567                  | 45,218             | 8,125                     | 7,800                     | 100,678                |
| Income Below Poverty Level      | 267                    | 2,337              | 224                       | 269                       | 3,665                  |
| <b>Elevated Populations</b>     |                        |                    |                           |                           |                        |
| <b>Percent Minority</b>         | 1.74                   | 2.73               | 2.75                      | 3.64                      | 3.95                   |
| Minority: 125% of C.O.C.        | 3.41                   | 3.41               | 4.94                      | 4.94                      | 4.94                   |
| A.C. > 125% of C.O.C.           | No                     | N/A                | No                        | No                        | N/A                    |
| <b>Percent Low Income</b>       |                        |                    |                           |                           |                        |
| Low Income: 125% of C.O.C.      | 6.46                   | 6.46               | 4.55                      | 4.55                      | 4.55                   |
| AC>125% of C.O.C.               | No                     | N/A                | No                        | No                        | N/A                    |

No categories have a value that meet or exceeds the threshold level of concern. The project would not have a disproportionately high and adverse human health or environmental effect on any minority or low-income population.

**Relocation of People, Businesses or Farms:**

Will the proposed action result in the relocation people, businesses or farms?  
Is a business needs survey required?

| Yes | No |
|-----|----|
| X   |    |
|     | X  |

Number of relocations: Residences: 5 Businesses: 0 Farms: 0 Other: 0

If a business information survey or Conceptual Stage Report is required, discuss the results in the Remarks section.

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Remarks: The evaluation of the roadway corridor allowed for the placement of the roadway to avoid impacts to commercial and residential properties whenever possible. The preferred alternative will require five (5) relocations. There are no commercial relocations associated with the project so a formal Business Information Survey is not necessary, as there are less than ten (10) relocations involved with the preferred alternate. A Conceptual Stage Relocation plan to address the residential and business relocations will not be completed as part of the right-of-way acquisition.

The acquisition and relocation program will be conducted in accordance with 49 CFR 24 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Relocation resources are available to all residential and business relocates without discrimination. No person displaced by this project will be required to move from a displaced dwelling unless comparable replacement housing is available to that person.

### SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

|   | <u>Documentation</u> |          |
|---|----------------------|----------|
|   | Yes                  | No       |
| Red Flag Investigation                          | <b>X</b>             |          |
| Hazardous Materials Site Assessment Form        | <b>X</b>             |          |
| Phase I Initial Site Assessment (ISA)           |                      | <b>X</b> |
| Phase II Preliminary Site Investigation (PSI)   |                      | <b>X</b> |
| Design/Specifications for Remediation required? |                      | <b>X</b> |

**No      Yes/ Date**

|                                     |          |  |
|-------------------------------------|----------|--|
| <b>OES Review of Investigations</b> | <b>X</b> |  |
|-------------------------------------|----------|--|

Include a summary of findings for each investigation.

Remarks: The Indiana GIS Atlas was reviewed and a Red Flag Survey was conducted as required by INDOT (Appendix F-1 to F-5). The results of the survey indicated that no hazardous materials concerns are located within the project boundaries. However, sites were located in the vicinity of the project area but are not anticipated to impact the project.

A separate Environmental Site Information report was conducted by First Search Technology Corporation in November 2005 (Appendix G-1 to G-16). The report was conducted for additional information on potential hazardous material sites along the corridor but was not completed as part of the INDOT Red Flag Survey.

The First Search report reviewed existing state and federal databases for existing sites within 0.25 miles of the proposed roadway. The report indicated three locations within that 0.25 mile radius. These locations were all within Boone County at the north end of the project in the vicinity of the I-65 – SR 267 interchange and the Perry Industrial Park. There was a 120 gallon diesel fuel spill on I-65 near the SR 267 Interchange in 1996 as part of an accident on the roadway (#1). The release was secured and soil was excavated and treated. The site is outside the project limits. A Blue & White Service Station site was located approximately 0.14 mile northeast of the I-65 - SR 267 interchange in Boone County. The station contained nine leaking underground storage tanks containing petroleum free product. The station is permanently out of service and the tanks were removed in 2000. It appears that the site is currently being developed as a commercial park and is outside the project area. The Milestone facility within the Perry Industrial Park is identified as a conditionally exempt small quantity generator. The facility generates less than 100 kg/month of hazardous waste. The facility is located west of SR 267 and will not be impacted by the project. Hazardous Materials Site Visit Forms have been completed for parcels along the project corridor (see Appendix H-1 to H-56).

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|                                      |
|--------------------------------------|
| <b>SECTION I – PERMITS CHECKLIST</b> |
|--------------------------------------|

|   | <u>Required</u>                     | <u>Not Required</u>                 |
|---|-------------------------------------|-------------------------------------|
| <b>Army Corps of Engineers (404/Section10 Permit)</b>       |                                     |                                     |
| Individual Permit (IP)                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Nationwide Permit (NWP)                                     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Regional General Permit (RGP)                               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Pre-Construction Notification (PCN)                         | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Other   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Wetland Mitigation required                                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>IDEM</b>   |                                     |                                     |
| Section 401 WQC   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Isolated Wetlands determination                             | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Rule 5  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Other   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Wetland Mitigation required                                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Stream Mitigation required                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>IDNR</b>   |                                     |                                     |
| Construction in a Floodway                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| Navigable Waterway Permit                                   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Lake Preservation Permit                                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Other   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| Mitigation Required   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>US Coast Guard Section 9 Bridge Permit</b>               | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>Others (Please discuss in the Remarks section below)</b> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Remarks:

The following permits will be required for the proposed project:

A Section 404 Permit – U.S. Army Corps of Engineers and a Section 401 Water Quality Certification – Indiana Department of Environmental Management will be required for the structures over a tributary to School Branch Creek, Pump Run, Etter Ditch and White Lick Creek.

An IDNR Construction in a Floodway Permit is required for the structures over a tributary to School Branch Creek, Pump Run, Etter Ditch and White Lick Creek.

A NPDES General Permit for Erosion Control (Rule 5) will be required, as greater than one acre of land would be disturbed. This permit will be obtained prior to the initiation of construction.

School Branch Creek Pump Run, Etter Ditch and White Lick Creek are considered as legal drains. No formal permit from Hendricks or Boone Counties is required. Both Boone and Hendricks County review of the plans will serve as the approval for impacts to these waterways.

It is the responsibility of Boone and Hendricks County or their agent (Beam, Longest and Neff, L.L.C.) to obtain the required permits for this project.

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## SECTION J- ENVIRONMENTAL COMMITMENTS

Information below must be included on Commitments Summary Form. List all commitments, indicating which are firm and which are optional.

Remarks:

1. Post DO NOT DISTURB signs at the construction zone boundaries and do not clear trees or understory vegetation outside the boundaries. (USFWS 6-5-06) (FIRM)
2. Minimize impacts to stream channels by restricting below low-water work to placement of piers, pilings and /or footings, shaping of the spill slopes around bridge abutments and placement of riprap.(USFWS 6-5-06) (FIRM)
3. Culverts should span the active stream channel, be sunk or embedded except where the stream is at or near bedrock, in which an arch pipe or open arch culvert is preferable and be installed where practicable on an essentially flat slope. (USFWS 6-5-06) (FIRM)
4. Bridge openings should allow for the passage of terrestrial species, including deer under the bridge between the abutments and the stream channel. USFWS 6-5-06) (FIRM)
5. Minimize the extent of artificial bank stabilization. If riprap is utilized for bank stabilization, extend it below the low-water elevation to provide aquatic habitat. (USFWS 6-5-06) (FIRM)
6. Implement temporary erosion and siltation control devices such as placement of riprap, check dams in drainage ways and ditches, installation of silt fences, covering exposed areas with erosion control matting or straw, and grading slopes to retain runoff in basins. (USFWS 6-5-06) (FIRM)
7. Revegetate all disturbed soil areas immediately upon project completion. Avoid the use of invasive species. (USFWS 6-5-06) (FIRM)
8. Evaluate the installation of a depressed, native vegetated median to address stormwater implications of the project. (USFWS 6-5-06) (FIRM)
9. Avoid channel work during the fish spawning season from April 1 through June 30. (USFWS 6-5-06 and DNR 10-17-06) (FIRM)
10. Do not cut any trees suitable for Indiana bat roosting (greater than 3 inches in diameter, living or dead, with loose hanging bark) from April 1 through September 30. (IDNR 10-17-06) (Firm)
11. For all proposed stream crossings, use bridges in place of culverts where possible. Bridges allow for longer spans across floodway and floodplain habitat.(DNR 10-17-06) (FIRM)
12. Use three-side culverts in place of pipe or box culverts to maintain a more natural substrate and offer fewer barriers to the movement of aquatic and terrestrial wildlife.(DNR 10-17-06) (FIRM)
13. Avoid impacts to wooded areas to the greatest extent possible. (DNR 10-17-06) (FIRM)
14. No open burning of construction wastes will be permitted without proper open burning variance from IDEM. (IDEM July 2009) (FIRM)
15. Vegetative wastes may be removed to a registered yard waste composting facility or may be chipped or shredded with composting on site. The finished compost can then be used as a mulch or soil amendment. However, IDEM must be contacted if more than 2,000 pounds is to be composted. Vegetative wastes (leaves, twigs, branches, limbs, tree trunks, and stumps) can also be buried onsite. (IDEM July 2009) (FIRM)
16. Fugitive dust emissions from construction and demolition activities must be minimized by proper wetting, chemical stabilizers, or wind barriers. Dirt tracked onto paved roads from unpaved areas should be minimized. (IDEM July 2009) (FIRM)
17. The use of cutback asphalt or asphalt emulsion containing more than 7% oil distillate is prohibited during the months of April through October. (IDEM July 2009) (FIRM)
18. All demolition projects will be reported to the Office of Air Management at least 10 days prior to demolition and must be submitted on State Form 44593 (1-91). The following rules as found in 326 of the Indiana Administrative Code (IAC) apply: 326 IAC 14-2 Emission Standards for Asbestos; 327 IAC 14-10 Emission Standards for Asbestos; Demolition and Renovation Operations and 326 IAC 18-1 and 18-3 Asbestos Personnel Accreditation Rules. (IDEM July 2009) (FIRM)
19. If construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures must be taken to avoid an outbreak of histoplasmosis. (IDEM July 2009) (FIRM)
20. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. (IDEM July 2009) (FIRM)
21. If an underground storage tank is removed as part of the project or contamination from an underground storage tank is involved, IDEM Underground Storage Tank program must be contacted. (IDEM 10-24-08) (FIRM)
22. If permanent or temporary right of way amounts change, the Office of Environmental Services will be contacted immediately. (Standard commitment per OES) (FIRM)

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- 23. If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al.) and State Law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within two (2) business days. (Standard commitment per OES) (FIRM)
- 24. Any work in a wetland area within LPA's right-of-way or borrow/waste areas is prohibited unless specifically allowed in the US Army Corps of Engineers or IDEM permit. (Standard commitment per OES) (FIRM)
- 25. If any potential hazardous materials are discovered during construction the IDEM Spill Line should be notified with details of the discovery within 24 hours. (Standard commitment per OES) (FIRM)

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### SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received.

Remarks:

Early coordination was initiated on May 3, 2006 with applicable federal, state, and local agencies. Review comments from those agencies that returned a reply have been incorporated into this study, as appropriate. The agencies contacted and the date on which they replied is identified below.

| AGENCY  | RESPONSE RECEIVED              | APPENDIX PAGE |
|---|--------------------------------|---------------|
| USFWS, Bloomington Field Office                   | June 5, 2006                   | B-1 to B- 4   |
| US Department of Interior, National Parks Service | June 19, 2006                  | B-5 to B- 6   |
| US Army Corps of Engineers                        | June 8, 2006                   | B-7 to B- 8   |
| Natural Resources Conservation Service            | July 25, 2006                  | B-9 to B-10   |
| IDNR Environmental Unit, Division of Water        | October 17, 2006               | B-11 to B-13  |
| IDEM – Environmental Review                       | June 17, 2009                  | B-14 to B-18  |
| IDEM – Drinking Water Branch                      | June 17, 2009                  | B-19          |
| INDOT - Office of Aviation                        | July 7, 2006                   | B-20          |
| Indiana Geological Survey                         | June 12, 2006                  | B-21          |
| Indianapolis Metropolitan Planning Organization   | No Response                    | N/A           |
| Early Coordination Letter                         | Jan. 24, 2008 – April 10, 2007 | B-22 to B-27  |

The following organizations were invited on May 15, 2006 to become consulting parties during early coordination to become consulting parties in the Section 106 process for the project. The Howard School Restoration Group was identified at a later date and was invited to participate on February 14, 2007.

| CONSULTING PARTY                           | RESPONSE RECEIVED | APPENDIX PAGE |
|--|-------------------|---------------|
| <b>City of Lebanon</b>                     | May 30, 2006      | B-28          |
| <b>Hendricks County Heritage Alliance</b>  | May 30, 2006      | B-29          |
| <b>Hendricks County Historian</b>          | June 1, 2006      | B-30          |
| <b>Howard School Restoration Group</b>     | February 27, 2007 | B-31          |
| Indiana Landmarks, Central Regional Office | June 1, 2006      | B-32          |
| Delaware Nation                            | June 26, 2006     | B-33          |
| Miami Tribe of Oklahoma                    | May 30, 2006      | B-34          |
| Boone County Historian                     | No Response       |               |
| Boone County Historical Society            | No Response       |               |
| Boone County Landmarks Preservation        | No Response       |               |
| Patrick Henry Sullivan Museum              | No Response       |               |
| Sugar Creek Historical Society             | No Response       |               |
| Zionsville Historical Society              | No Response       |               |
| Jackson Township Historical Society        | No Response       |               |
| Fairfield Historic Preservation Society    | No Response       |               |
| Guilford Township Historical Society       | No Response       |               |
| Hendricks County Historical Society        | No Response       |               |
| Hendricks County Genealogical Society      | No Response       |               |
| Town of Brownsburg                         | No Response       |               |

The following agencies are participants as consulting parties for the project:

**Federal Highway Administration    INDOT, Office of Environmental Services – Cultural Resource**  
**INDOT, Crawfordsville District    IDNR- Division of Historic Preservation and Archaeology**



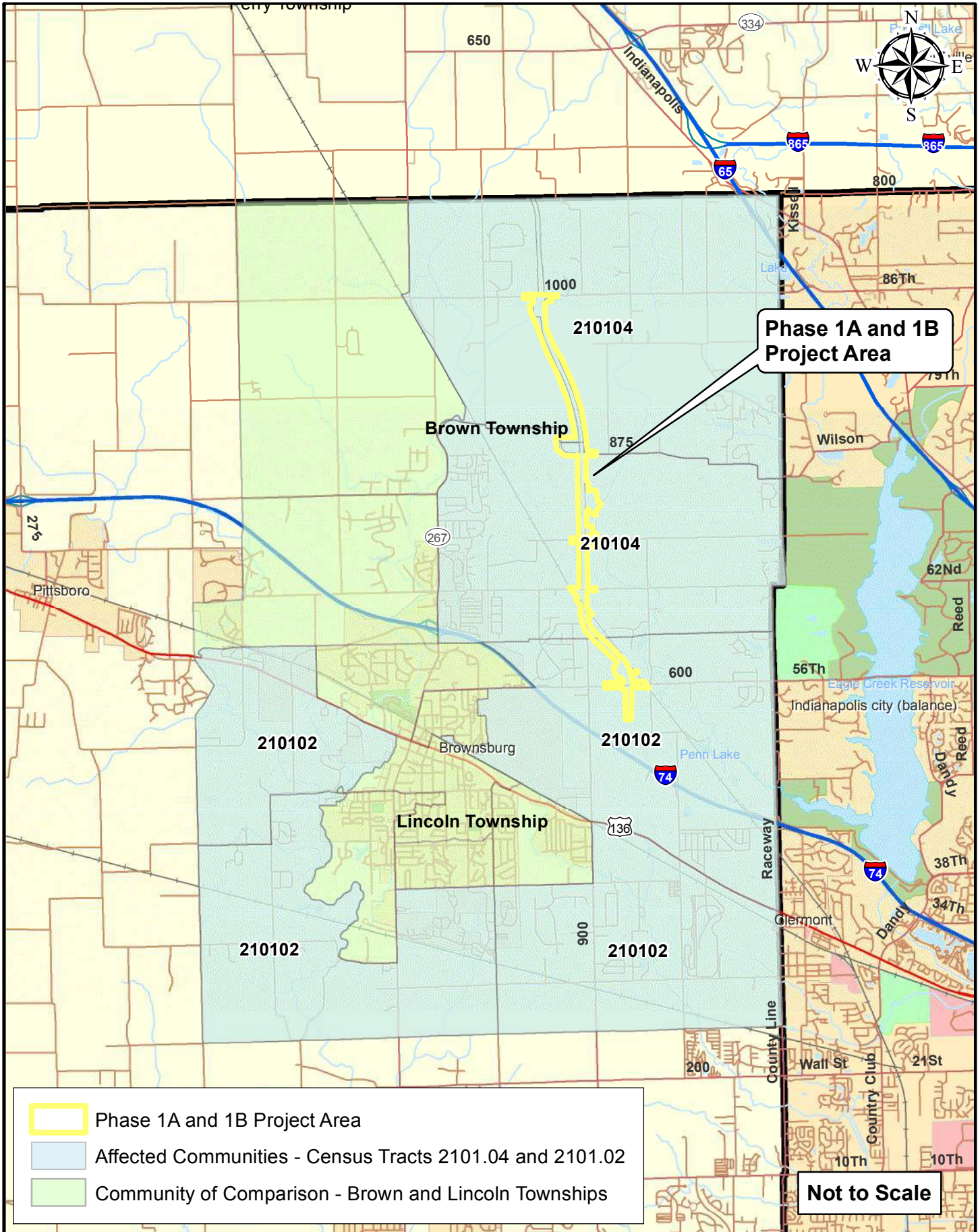
**Indiana Department of Transportation**

County Hendricks-Boone Route Ronald Reagan Parkway Des. No. 0710288 Project No. 0710288

- \* If the resource is not present, the remainder of this subject section will not be completed*
- \*\* If the resource is present but no impacts are anticipated, the reason why is described under Remarks.*
- \*\*\* Any impacts, mitigation, and agency coordination are described under Remarks and coordination letters are attached.*
- \*\*\*\* If "no", discuss in the Remarks details how this determination was made.*
- \*\*\*\*\* If the proposed action has multiple wetlands, this section should be filled out for each wetland.*

This is page 32 of 32. Project name: Extension of the Ronald Reagan Parkway Date: February 24, 2011

**Appendix K: Additional Studies**



**Phase 1A and 1B  
Project Area**

- Phase 1A and 1B Project Area
- Affected Communities - Census Tracts 2101.04 and 2101.02
- Community of Comparison - Brown and Lincoln Townships

**Not to Scale**

Path: P:\2011\00183\10.D Drawings\ArcView\CE\2011\_00183.EV\2018-03-13.MAP.PRAI.EJ.Census.jdi.mxd Date: 1/21/2020 User:jiddings



**Environmental Justice Map**

|  |   |
|--|---|
| <p>Hendricks County<br/>Commissioners<br/>355 S. Washington St.<br/>Danville, IN 46122</p> | <p>Boone County<br/>Commissioners<br/>116 W. Washington St.<br/>Lebanon, IN 46052</p> |
|--|---|

**Ronald Reagan Parkway  
Des. No. 1602280**

Townships: Lincoln, Brown, Perry  
Counties: Hendricks and Boone  
State: Indiana

Date: 03/26/2018



B03002

HISPANIC OR LATINO ORIGIN BY RACE

Universe: Total population  
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

|  | Census Tract 2101.02, Hendricks County, Indiana |                 | Census Tract 2101.03, Hendricks County, Indiana |                 | Census Tract 2101.04, Hendricks County, Indiana |
|--|---|-----------------|---|-----------------|---|
|  | Estimate  | Margin of Error | Estimate  | Margin of Error | Estimate  |
| Total:   | 18,450  | +/-921          | 3,808   | +/-228          | 8,551   |
| Not Hispanic or Latino:                                      | 18,274  | +/-1,022        | 3,675   | +/-245          | 8,517   |
| White alone  | 15,287  | +/-1,289        | 3,611   | +/-261          | 6,732   |
| Black or African American alone                              | 1,748   | +/-500          | 53  | +/-74           | 904   |
| American Indian and Alaska Native alone                      | 0   | +/-18           | 0   | +/-11           | 0   |
| Asian alone  | 499   | +/-225          | 11  | +/-19           | 692   |
| Native Hawaiian and Other Pacific Islander alone             | 0   | +/-18           | 0   | +/-11           | 0   |
| Some other race alone  | 397   | +/-405          | 0   | +/-11           | 14  |
| Two or more races:   | 343   | +/-212          | 0   | +/-11           | 175   |
| Two races including Some other race                          | 68  | +/-125          | 0   | +/-11           | 0   |
| Two races excluding Some other race, and three or more races | 275   | +/-157          | 0   | +/-11           | 175   |
| Hispanic or Latino:  | 176   | +/-193          | 133   | +/-99           | 34  |
| White alone  | 0   | +/-18           | 54  | +/-73           | 0   |
| Black or African American alone                              | 0   | +/-18           | 0   | +/-11           | 0   |
| American Indian and Alaska Native alone                      | 0   | +/-18           | 23  | +/-36           | 0   |
| Asian alone  | 0   | +/-18           | 0   | +/-11           | 0   |
| Native Hawaiian and Other Pacific Islander alone             | 0   | +/-18           | 0   | +/-11           | 0   |
| Some other race alone  | 176   | +/-193          | 14  | +/-23           | 0   |
| Two or more races:   | 0   | +/-18           | 42  | +/-40           | 34  |
| Two races including Some other race                          | 0   | +/-18           | 17  | +/-28           | 0   |
| Two races excluding Some other race, and three or more races | 0   | +/-18           | 25  | +/-42           | 34  |

|  | Census Tract 2101.04, Hendricks County, Indiana | Census Tract 2102.01, Hendricks County, Indiana |                 | Census Tract 2102.02, Hendricks County, Indiana |                 |
|--|---|---|-----------------|---|-----------------|
|  | Margin of Error                                 | Estimate  | Margin of Error | Estimate  | Margin of Error |
| Total:   | +/-223  | 3,809   | +/-472          | 9,023   | +/-802          |
| Not Hispanic or Latino:                                      | +/-216  | 3,522   | +/-487          | 8,580   | +/-772          |
| White alone  | +/-428  | 3,334   | +/-456          | 8,190   | +/-819          |
| Black or African American alone                              | +/-179  | 114   | +/-163          | 200   | +/-188          |
| American Indian and Alaska Native alone                      | +/-16   | 6   | +/-10           | 35  | +/-49           |
| Asian alone  | +/-481  | 45  | +/-71           | 108   | +/-167          |
| Native Hawaiian and Other Pacific Islander alone             | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Some other race alone  | +/-22   | 0   | +/-11           | 0   | +/-16           |
| Two or more races:   | +/-133  | 23  | +/-32           | 47  | +/-58           |
| Two races including Some other race                          | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Two races excluding Some other race, and three or more races | +/-133  | 23  | +/-32           | 47  | +/-58           |
| Hispanic or Latino:  | +/-54   | 287   | +/-194          | 443   | +/-278          |
| White alone  | +/-16   | 245   | +/-185          | 186   | +/-131          |
| Black or African American alone                              | +/-16   | 0   | +/-11           | 61  | +/-91           |
| American Indian and Alaska Native alone                      | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Asian alone  | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Native Hawaiian and Other Pacific Islander alone             | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Some other race alone  | +/-16   | 42  | +/-66           | 196   | +/-253          |
| Two or more races:   | +/-54   | 0   | +/-11           | 0   | +/-16           |
| Two races including Some other race                          | +/-16   | 0   | +/-11           | 0   | +/-16           |
| Two races excluding Some other race, and three or more races | +/-54   | 0   | +/-11           | 0   | +/-16           |

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '\*\*\*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '\*\*\*\*' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '\*\*\*\*\*' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.



B17001

**POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE**

Universe: Population for whom poverty status is determined  
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

|   | Census Tract 2101.02, Hendricks County, Indiana |                 | Census Tract 2101.03, Hendricks County, Indiana |                 | Census Tract 2101.04, Hendricks County, Indiana |
|---|---|-----------------|---|-----------------|---|
|   | Estimate  | Margin of Error | Estimate  | Margin of Error | Estimate  |
| Total:  | 18,404  | +/-910          | 3,795   | +/-229          | 8,551   |
| Income in the past 12 months below poverty level:       | 235   | +/-174          | 8   | +/-12           | 143   |
| Male:   | 34  | +/-54           | 0   | +/-11           | 60  |
| Under 5 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 5 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 6 to 11 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 12 to 14 years  | 0   | +/-18           | 0   | +/-11           | 0   |
| 15 years  | 0   | +/-18           | 0   | +/-11           | 0   |
| 16 and 17 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 18 to 24 years  | 0   | +/-18           | 0   | +/-11           | 19  |
| 25 to 34 years  | 0   | +/-18           | 0   | +/-11           | 0   |
| 35 to 44 years  | 0   | +/-18           | 0   | +/-11           | 15  |
| 45 to 54 years  | 0   | +/-18           | 0   | +/-11           | 0   |
| 55 to 64 years  | 34  | +/-54           | 0   | +/-11           | 11  |
| 65 to 74 years  | 0   | +/-18           | 0   | +/-11           | 15  |
| 75 years and over                                       | 0   | +/-18           | 0   | +/-11           | 0   |
| Female:   | 201   | +/-157          | 8   | +/-12           | 83  |
| Under 5 years   | 0   | +/-18           | 0   | +/-11           | 17  |
| 5 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 6 to 11 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 12 to 14 years  | 0   | +/-18           | 0   | +/-11           | 17  |
| 15 years  | 0   | +/-18           | 0   | +/-11           | 0   |
| 16 and 17 years   | 0   | +/-18           | 0   | +/-11           | 0   |
| 18 to 24 years  | 58  | +/-83           | 0   | +/-11           | 0   |
| 25 to 34 years  | 83  | +/-119          | 0   | +/-11           | 0   |
| 35 to 44 years  | 31  | +/-58           | 0   | +/-11           | 15  |
| 45 to 54 years  | 0   | +/-18           | 0   | +/-11           | 11  |
| 55 to 64 years  | 0   | +/-18           | 0   | +/-11           | 11  |
| 65 to 74 years  | 29  | +/-46           | 8   | +/-12           | 0   |
| 75 years and over                                       | 0   | +/-18           | 0   | +/-11           | 12  |
| Income in the past 12 months at or above poverty level: | 18,169  | +/-939          | 3,787   | +/-230          | 8,408   |
| Male:   | 9,149   | +/-734          | 2,046   | +/-180          | 4,252   |

|                   | Census Tract 2101.02, Hendricks County, Indiana |                 | Census Tract 2101.03, Hendricks County, Indiana |                 | Census Tract 2101.04, Hendricks County, Indiana |
|-------------------|---|-----------------|---|-----------------|---|
|                   | Estimate  | Margin of Error | Estimate  | Margin of Error | Estimate  |
| Under 5 years     | 623   | +/-260          | 109   | +/-59           | 384   |
| 5 years           | 278   | +/-187          | 20  | +/-16           | 40  |
| 6 to 11 years     | 898   | +/-407          | 264   | +/-84           | 472   |
| 12 to 14 years    | 409   | +/-185          | 119   | +/-53           | 200   |
| 15 years          | 39  | +/-46           | 61  | +/-47           | 46  |
| 16 and 17 years   | 355   | +/-202          | 21  | +/-21           | 258   |
| 18 to 24 years    | 609   | +/-306          | 146   | +/-64           | 262   |
| 25 to 34 years    | 1,287   | +/-401          | 262   | +/-102          | 430   |
| 35 to 44 years    | 1,660   | +/-365          | 211   | +/-58           | 819   |
| 45 to 54 years    | 1,250   | +/-276          | 369   | +/-73           | 508   |
| 55 to 64 years    | 1,074   | +/-242          | 270   | +/-67           | 493   |
| 65 to 74 years    | 382   | +/-197          | 140   | +/-39           | 252   |
| 75 years and over | 285   | +/-191          | 54  | +/-31           | 88  |
| Female:           | 9,020   | +/-756          | 1,741   | +/-144          | 4,156   |
| Under 5 years     | 503   | +/-262          | 74  | +/-37           | 249   |
| 5 years           | 152   | +/-158          | 13  | +/-14           | 105   |
| 6 to 11 years     | 673   | +/-299          | 178   | +/-68           | 546   |
| 12 to 14 years    | 666   | +/-289          | 67  | +/-29           | 273   |
| 15 years          | 172   | +/-144          | 0   | +/-11           | 88  |
| 16 and 17 years   | 248   | +/-306          | 69  | +/-46           | 86  |
| 18 to 24 years    | 558   | +/-248          | 174   | +/-90           | 311   |
| 25 to 34 years    | 1,018   | +/-325          | 155   | +/-63           | 509   |
| 35 to 44 years    | 1,737   | +/-275          | 244   | +/-52           | 650   |
| 45 to 54 years    | 1,445   | +/-357          | 281   | +/-67           | 569   |
| 55 to 64 years    | 1,019   | +/-295          | 318   | +/-74           | 402   |
| 65 to 74 years    | 558   | +/-209          | 117   | +/-30           | 293   |
| 75 years and over | 271   | +/-181          | 51  | +/-37           | 75  |

|   | Census Tract<br>2101.04,<br>Hendricks<br>County, Indiana | Census Tract 2102.01, Hendricks<br>County, Indiana |                 | Census Tract 2102.02, Hendricks<br>County, Indiana |                 |
|---|--|--|-----------------|--|-----------------|
|   | Margin of Error  | Estimate   | Margin of Error | Estimate   | Margin of Error |
| Total:  | +/-223   | 3,799  | +/-472          | 8,741  | +/-804          |
| Income in the past 12 months below poverty level:       | +/-120   | 288  | +/-200          | 268  | +/-173          |
| Male:   | +/-48  | 158  | +/-97           | 117  | +/-88           |
| Under 5 years   | +/-16  | 0  | +/-11           | 0  | +/-16           |
| 5 years   | +/-16  | 7  | +/-11           | 0  | +/-16           |
| 6 to 11 years   | +/-16  | 0  | +/-11           | 9  | +/-14           |
| 12 to 14 years  | +/-16  | 22   | +/-36           | 0  | +/-16           |
| 15 years  | +/-16  | 0  | +/-11           | 10   | +/-15           |
| 16 and 17 years   | +/-16  | 0  | +/-11           | 0  | +/-16           |
| 18 to 24 years  | +/-31  | 41   | +/-26           | 38   | +/-57           |
| 25 to 34 years  | +/-16  | 30   | +/-41           | 3  | +/-6            |
| 35 to 44 years  | +/-26  | 50   | +/-53           | 54   | +/-59           |
| 45 to 54 years  | +/-16  | 0  | +/-11           | 3  | +/-6            |
| 55 to 64 years  | +/-17  | 0  | +/-11           | 0  | +/-16           |
| 65 to 74 years  | +/-23  | 8  | +/-13           | 0  | +/-16           |
| 75 years and over                                       | +/-16  | 0  | +/-11           | 0  | +/-16           |
| Female:   | +/-87  | 130  | +/-119          | 151  | +/-98           |
| Under 5 years   | +/-28  | 10   | +/-16           | 10   | +/-17           |
| 5 years   | +/-16  | 0  | +/-11           | 0  | +/-16           |
| 6 to 11 years   | +/-16  | 0  | +/-11           | 10   | +/-16           |
| 12 to 14 years  | +/-28  | 26   | +/-41           | 0  | +/-16           |
| 15 years  | +/-16  | 0  | +/-11           | 0  | +/-16           |
| 16 and 17 years   | +/-16  | 23   | +/-37           | 0  | +/-16           |
| 18 to 24 years  | +/-16  | 0  | +/-11           | 21   | +/-34           |
| 25 to 34 years  | +/-16  | 9  | +/-15           | 61   | +/-55           |
| 35 to 44 years  | +/-24  | 23   | +/-36           | 0  | +/-16           |
| 45 to 54 years  | +/-17  | 10   | +/-15           | 0  | +/-16           |
| 55 to 64 years  | +/-18  | 0  | +/-11           | 0  | +/-16           |
| 65 to 74 years  | +/-16  | 29   | +/-33           | 20   | +/-31           |
| 75 years and over                                       | +/-19  | 0  | +/-11           | 29   | +/-33           |
| Income in the past 12 months at or above poverty level: | +/-258   | 3,511  | +/-466          | 8,473  | +/-793          |
| Male:   | +/-302   | 1,744  | +/-311          | 4,151  | +/-473          |
| Under 5 years   | +/-157   | 113  | +/-80           | 221  | +/-117          |
| 5 years   | +/-38  | 30   | +/-24           | 93   | +/-76           |
| 6 to 11 years   | +/-136   | 94   | +/-68           | 341  | +/-145          |
| 12 to 14 years  | +/-157   | 170  | +/-107          | 109  | +/-78           |
| 15 years  | +/-42  | 85   | +/-61           | 0  | +/-16           |
| 16 and 17 years   | +/-115   | 47   | +/-49           | 98   | +/-59           |
| 18 to 24 years  | +/-138   | 105  | +/-90           | 323  | +/-150          |
| 25 to 34 years  | +/-134   | 195  | +/-72           | 645  | +/-209          |
| 35 to 44 years  | +/-219   | 288  | +/-114          | 558  | +/-166          |
| 45 to 54 years  | +/-121   | 206  | +/-85           | 462  | +/-155          |
| 55 to 64 years  | +/-127   | 245  | +/-62           | 668  | +/-161          |
| 65 to 74 years  | +/-95  | 98   | +/-44           | 351  | +/-104          |
| 75 years and over                                       | +/-54  | 68   | +/-44           | 282  | +/-88           |
| Female:   | +/-278   | 1,767  | +/-256          | 4,322  | +/-459          |
| Under 5 years   | +/-89  | 109  | +/-54           | 229  | +/-97           |
| 5 years   | +/-89  | 9  | +/-15           | 72   | +/-74           |
| 6 to 11 years   | +/-159   | 88   | +/-52           | 228  | +/-112          |
| 12 to 14 years  | +/-119   | 121  | +/-72           | 129  | +/-97           |
| 15 years  | +/-72  | 37   | +/-37           | 42   | +/-38           |
| 16 and 17 years   | +/-52  | 9  | +/-15           | 32   | +/-37           |
| 18 to 24 years  | +/-128   | 189  | +/-97           | 335  | +/-169          |
| 25 to 34 years  | +/-137   | 237  | +/-99           | 675  | +/-175          |
| 35 to 44 years  | +/-120   | 193  | +/-80           | 438  | +/-132          |
| 45 to 54 years  | +/-114   | 298  | +/-96           | 609  | +/-152          |
| 55 to 64 years  | +/-121   | 215  | +/-70           | 619  | +/-162          |



|                   | Census Tract 2101.04, Hendricks County, Indiana | Census Tract 2102.01, Hendricks County, Indiana |                 | Census Tract 2102.02, Hendricks County, Indiana |                 |
|-------------------|---|---|-----------------|---|-----------------|
|                   | Margin of Error                                 | Estimate  | Margin of Error | Estimate  | Margin of Error |
| 65 to 74 years    | +/-75   | 77  | +/-35           | 557   | +/-139          |
| 75 years and over | +/-52   | 185   | +/-62           | 357   | +/-125          |

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '\*\*\*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-.' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '.+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '\*\*\*\*' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '\*\*\*\*\*' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

2007 Proposed Right of Way  
Current Proposed Right of Way



Relocation 6

Relocation 5

Relocation 4

Relocation 3

Relocation 2  
(Previously Unidentified)

Relocation 1

Ronald Reagan Parkway  
Des. No. 1602280  
Relocation Location Map

Phase 2B

Phase 2A

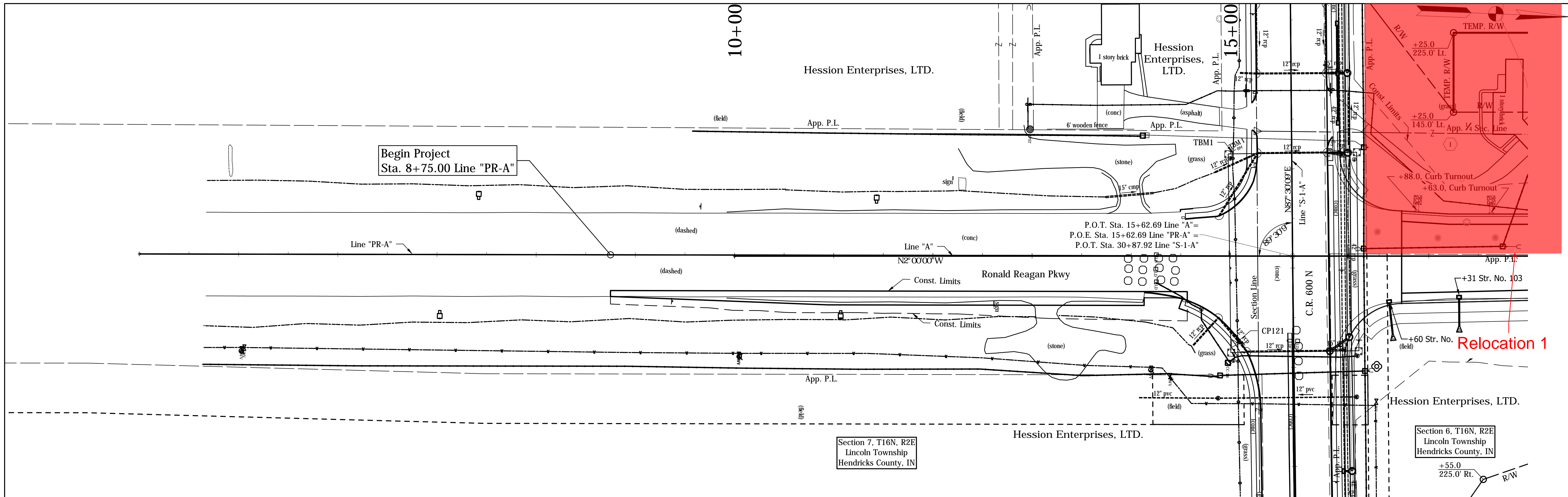
Phase 1B

Phase 1A

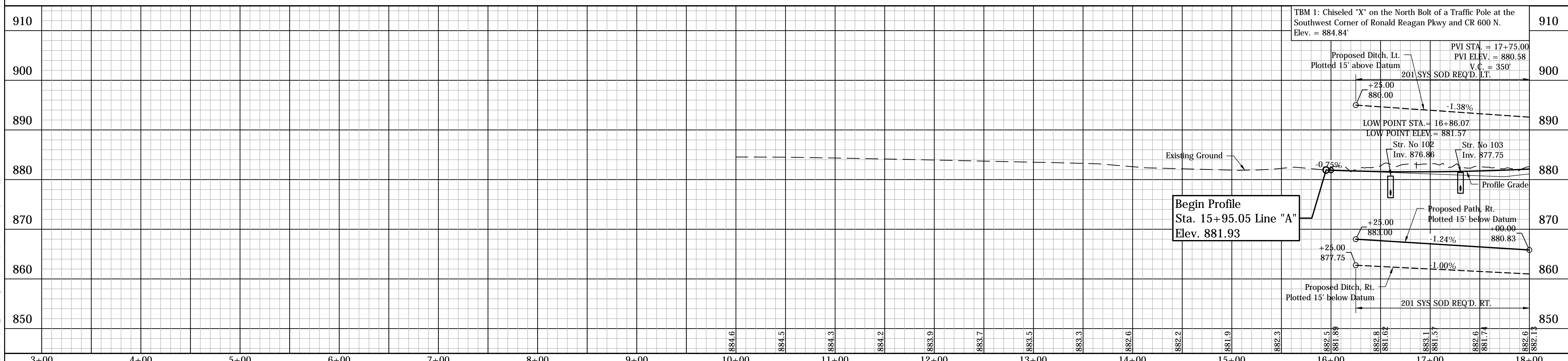
Boone County

Hendricks County

0 1,500 3,000 6,000 Feet



All Topography and Proposed Right-of-Way Described from Line "A" unless otherwise noted.



File Name: S:\2017\217-0005\Road\CO\198\PR-A\_Line A.dwg Plot Date: 2/22/2018 Plotted By: Hawley, Jessica

**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

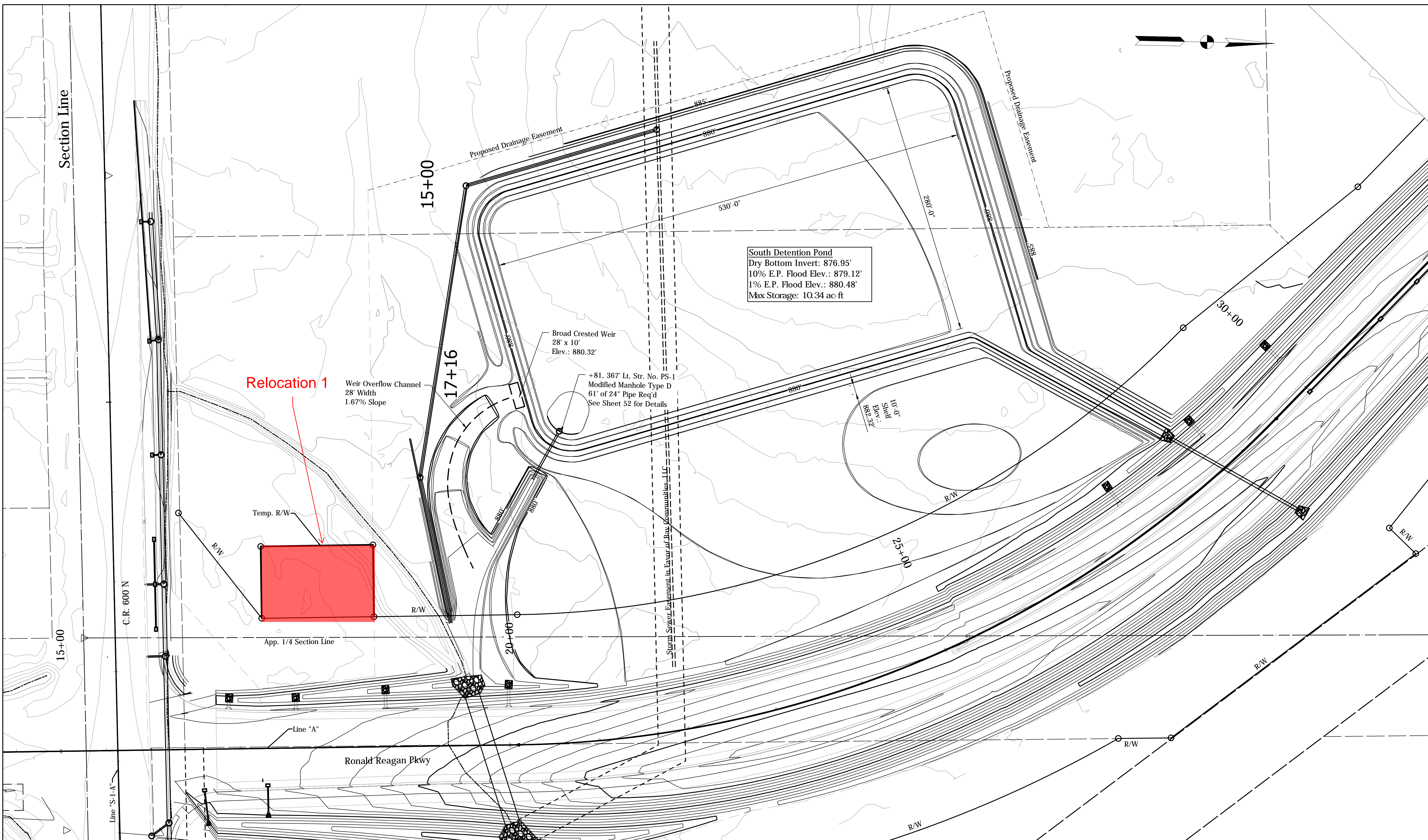
|                          |              |                 |  |      |
|--------------------------|--------------|-----------------|--|------|
| RECOMMENDED FOR APPROVAL |              | DESIGN ENGINEER |  | DATE |
| DESIGNED: JNH            | DRAWN: MDV   |                 |  |      |
| CHECKED: BKA             | CHECKED: BKA |                 |  |      |

**HENDRICKS COUNTY**

**PLAN AND PROFILE - LINE "A" & LINE "PR-A"**  
 STA. 10+00 TO STA. 18+00

|                  |                   |
|------------------|-------------------|
| HORIZONTAL SCALE | BRIDGE FILE       |
| 1" = 50'         | HENDRICKS BR00089 |
| VERTICAL SCALE   | DESIGNATION       |
| 1" = 10'         | 1602280           |
| SURVEY BOOK      | SHEETS            |
| ELECTRONIC       | 14 of 157         |
| CONTRACT         | PROJECT           |
| ###              | 1602280           |

File Name: S:\\_2017\217-0005\Road\CD\Yves\DWG\SH\_Grading Plan.dwg Plot Date: 2/22/2018 Plotted By: Hawley, Jessica



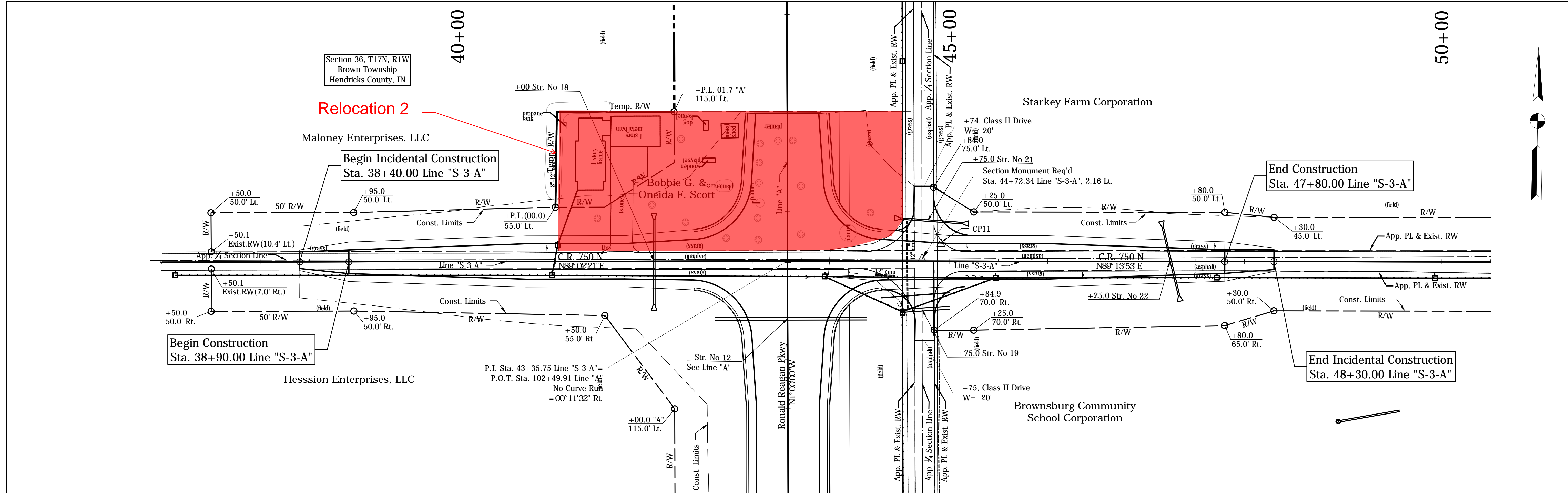
**LOCHMUELLER GROUP**  
 3502 Woodview Terrace, Suite 150  
 Indianapolis, Indiana, 46268  
 PHONE: 317.222.3880  
 TOLL FREE: 888.830.6977

|                                |              |                       |  |            |  |
|--------------------------------|--------------|-----------------------|--|------------|--|
| RECOMMENDED FOR APPROVAL _____ |              | DESIGN ENGINEER _____ |  | DATE _____ |  |
| DESIGNED: JNH                  | DRAWN: MDV   |                       |  |            |  |
| CHECKED: BKA                   | CHECKED: BKA |                       |  |            |  |

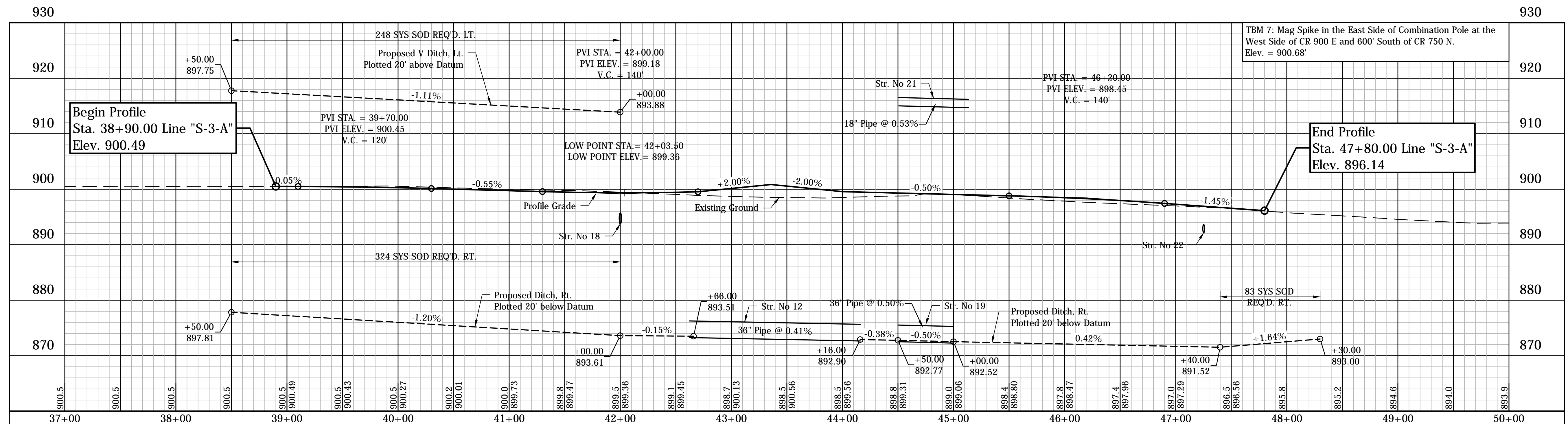
**HENDRICKS COUNTY**

**GRADING PLAN**

|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>N/A        | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>48 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |



All Topography and Proposed Right-of-Way Described from Line "S-3-A" unless otherwise noted.

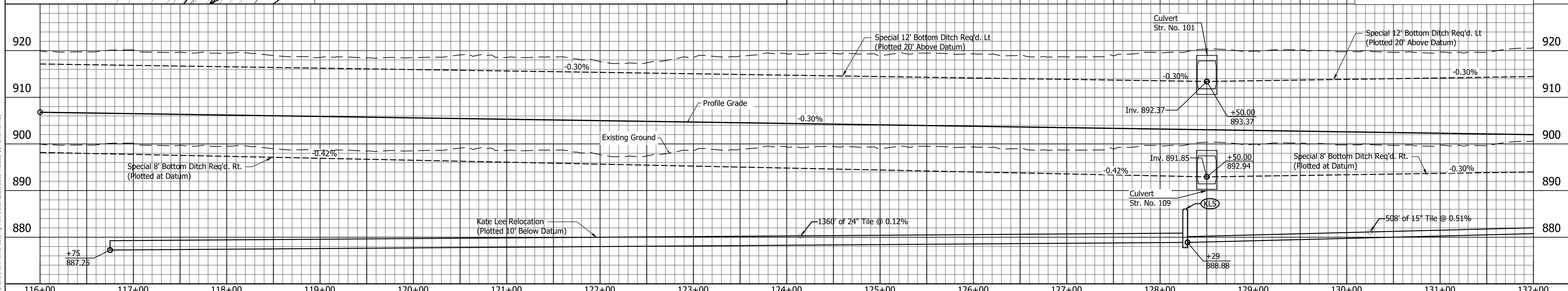
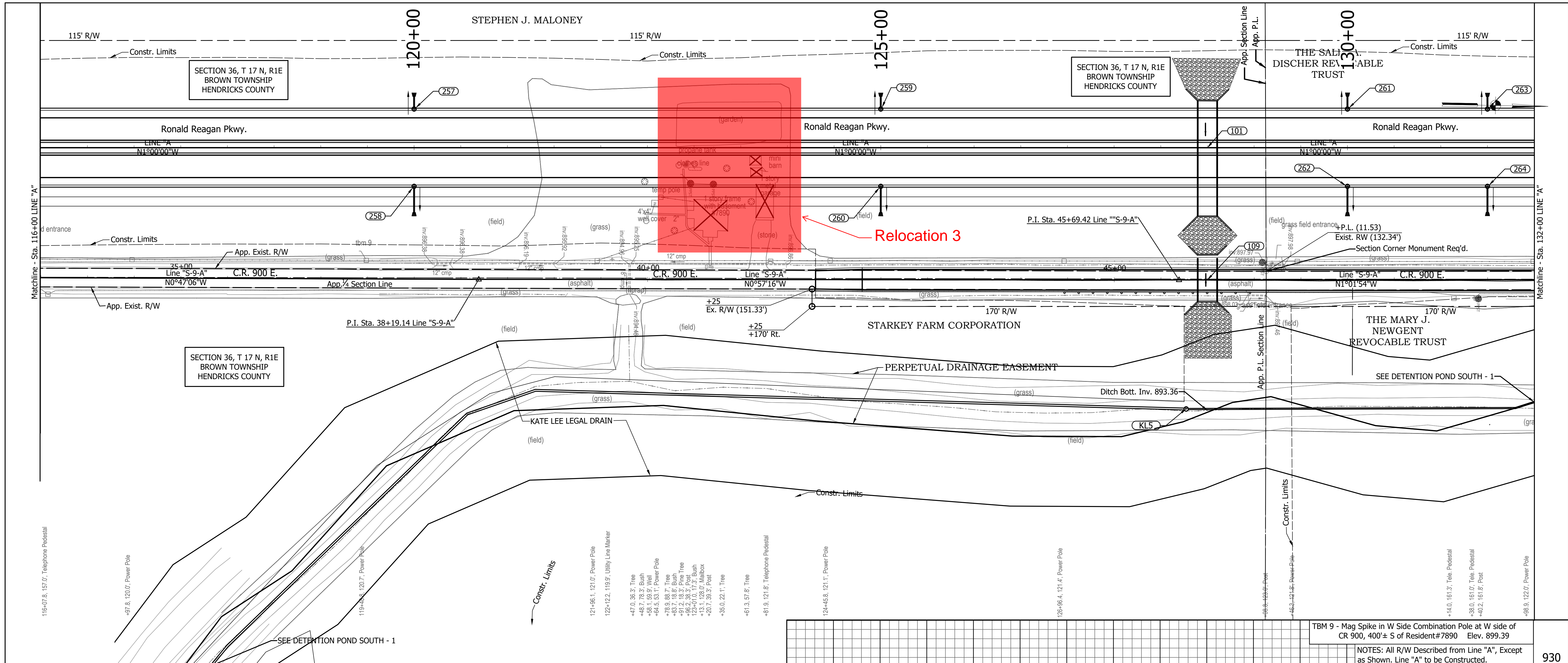



|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: JNH            | DRAWN: MDV      |      |
| CHECKED: BKA             | CHECKED: BKA    |      |

HENDRICKS COUNTY  
**PLAN AND PROFILE - LINE "S-3-A"**  
 STA. 37+00 TO STA. 50+00

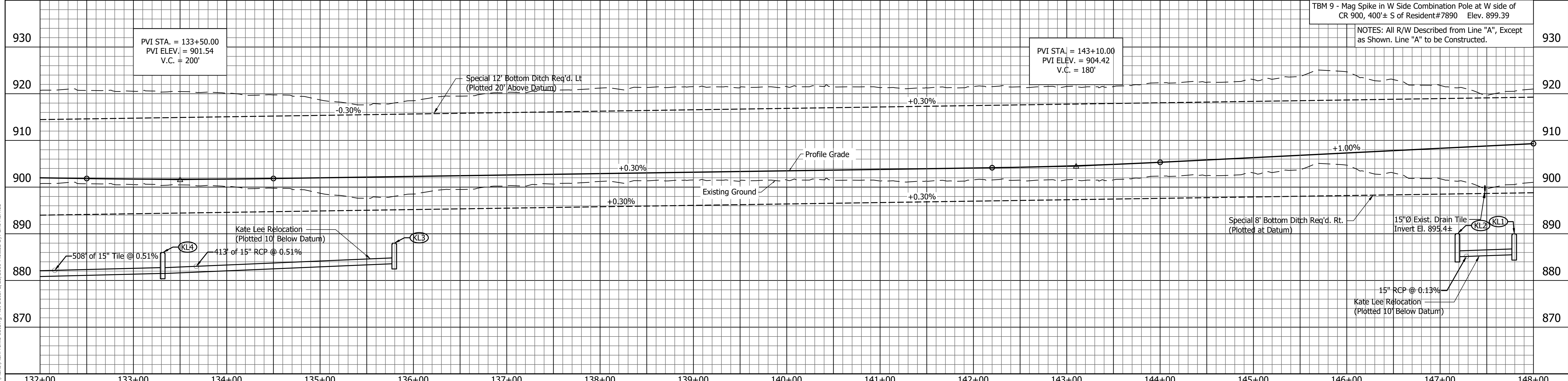
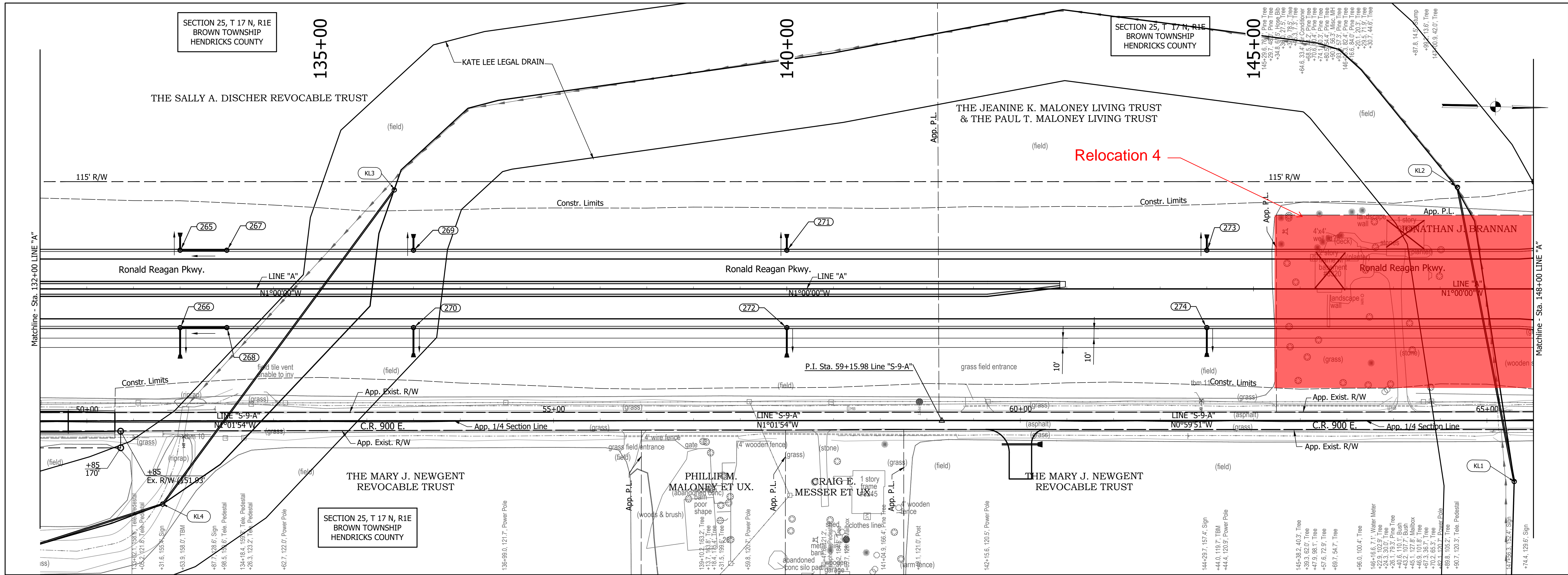
|                              |                                  |
|------------------------------|----------------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>HENDRICKS BR00089 |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280           |
| SURVEY BOOK<br>ELECTRONIC    | SHEETS<br>24 of 157              |
| CONTRACT<br>####             | PROJECT<br>1602280               |

File Name: S:\2017\217-0005\Road\CO\PA\PA\_Line S-3-A.dwg Plot Date: 2/22/2018 Plotted By: Hawley, Jessica



|  |  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
|--|--|--|---|---|------------------|-------------|----------|------|----------------|-------------|----------|---------|-------------|--------|-----|-----------|----------|---------|-----|---------|
|  <p><b>UNITED</b><br/>Consulting</p> | <p>8440 Allison Pointe Boulevard, Suite 200<br/>Indianapolis, IN 46250<br/>Phone 317-895-2585<br/>www.ucindy.com</p> | <p>RECOMMENDED FOR APPROVAL _____</p> <p>DESIGN ENGINEER _____ DATE _____</p> <p>DESIGNED: BEA DRAWN: VAD</p> <p>CHECKED: JAR CHECKED: JAR</p> | <p><b>HENDRICKS COUNTY</b></p> <p><b>PLAN AND PROFILE</b><br/><b>LINE "A"</b></p> | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE</td> <td>BRIDGE FILE</td> </tr> <tr> <td>1" = 50'</td> <td>----</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>DESIGNATION</td> </tr> <tr> <td>1" = 10'</td> <td>1602280</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEETS</td> </tr> <tr> <td>---</td> <td>11 of 211</td> </tr> <tr> <td>CONTRACT</td> <td>PROJECT</td> </tr> <tr> <td>---</td> <td>1602280</td> </tr> </table> | HORIZONTAL SCALE | BRIDGE FILE | 1" = 50' | ---- | VERTICAL SCALE | DESIGNATION | 1" = 10' | 1602280 | SURVEY BOOK | SHEETS | --- | 11 of 211 | CONTRACT | PROJECT | --- | 1602280 |
| HORIZONTAL SCALE   | BRIDGE FILE  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| 1" = 50'   | ----   |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| VERTICAL SCALE   | DESIGNATION  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| 1" = 10'   | 1602280  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| SURVEY BOOK  | SHEETS   |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| ---  | 11 of 211  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| CONTRACT   | PROJECT  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |
| ---  | 1602280  |  |   |   |                  |             |          |      |                |             |          |         |             |        |     |           |          |         |     |         |

File Name: P:\CADD\17-405\Road\Drawings\PlanProfile - 1B.dwg Plot Date: 2/25/2019 Plotted By: Eric Harned



Matchline - Sta. 132+00 LINE "A"  
 Matchline - Sta. 148+00 LINE "A"

**UNITED Consulting**  
 8440 Allison Pointe Boulevard, Suite 200  
 Indianapolis, IN 46250  
 Phone 317-895-2585  
 www.ucindy.com

|                          |                 |      |
|--------------------------|-----------------|------|
| RECOMMENDED FOR APPROVAL | DESIGN ENGINEER | DATE |
| DESIGNED: BEA            | DRAWN: VAD      |      |
| CHECKED: JAR             | CHECKED: JAR    |      |

**HENDRICKS COUNTY**  
**PLAN AND PROFILE**  
**LINE "A"**

|                              |                        |
|------------------------------|------------------------|
| HORIZONTAL SCALE<br>1" = 50' | BRIDGE FILE<br>----    |
| VERTICAL SCALE<br>1" = 10'   | DESIGNATION<br>1602280 |
| SURVEY BOOK<br>---           | SHEETS<br>12 of 211    |
| CONTRACT<br>---              | PROJECT<br>1602280     |

File Name: P:\CADD\17-005\Road\Drawings\Plan\Profile - 1B.dwg Plot Date: 2/25/2019 Plotted By: Eric Harned

| objectid | State   | County    | Grant ID El | Type | Grant Element Title | Grant Sponsor                  | Fiscal Year | Amount |
|----------|---------|-----------|-------------|------|---------------------|--------------------------------|-------------|--------|
| 47679    | Indiana | Hendricks | 463         | C    | AVON COMMUNITY PARK | WASHINGTON TOWNSHIP PARK BOARD | 1988        | 100000 |
| 51412    | Indiana | HENDRICKS | 521         | C    | McCLOUD NATURE PARK | HENDRICKS COUNTY PARK BOARD    | 2002        | 200000 |
| 60801    | Indiana | HENDRICKS | 540         | D    | WILLIAMS PARK       | BROWNSBURG PARK BOARD          | 2003        | 75900  |



| objectid | State   | County | Grant ID Element | Type | Grant Element Title          | Grant Sponsor             | Fiscal Year | Amount |
|----------|---------|--------|------------------|------|------------------------------|---------------------------|-------------|--------|
| 47710    | Indiana | Boone  | 573              | C    | ZIONSVILLE PARK              | ZIONSVILLE PARK BOARD     | 2011        | 200000 |
| 47719    | Indiana | BOONE  | 604              | D    | OVERLY-WORMAN PARK           | ZUINSVILLE PARK BOARD     | 2018        | 0      |
| 51430    | Indiana | Boone  | 607              | C    | ANSON PARK                   | WHITESTOWN PARK AUTHORITY | 2018        | 0      |
| 78981    | Indiana | BOONE  | 485              | C    | D/NANCY BURTON MEMORIAL PARK | ZIONSVILLE PARK BOARD     | 1992        | 59700  |
| 78989    | Indiana | BOONE  | 520              | C    | D/ZION PARK NATURE SANCTUARY | ZIONSVILLE PARK BOARD     | 2000        | 200000 |