FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION LEVEL 1 FORM

GENERAL PROJECT INFORMATION

Road No./County:	SR 16, Miami County
Designation Number(s):	Des. 1800016
Project Description/Termini:	SR 16 Sm. Structure Project over UNT to Eel River, 3.36 miles east of SR 19

[X] **CE Level 1 documentation for exempted projects**

[ ] **Additional Information to CE Level 1**

Approval: _____
INDOT DE/ESD Signature and Date

Release for Public Involvement: KMW 6/18/2021
INDOT DE/ESD Initials and Date

Certification of Public involvement: _____
INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer: Arianna Pappadakis 5/6/21; 6/16/21
Signature and Date

CE Preparer: Tamra Reece and Alison Whitehead, Hanson Professional Services Inc. (Hanson)
Name and Organization

GENERAL PROJECT INFORMATION, DESCRIPTION, AND DESIGN INFORMATION	
Purpose and Need:	**Need**: The need for this project is evidenced by the structural deficiencies of the existing reinforced concrete box structure that carries SR 16 over the Unnamed Tributary (UNT) to Eel River (CV 016-052-82.45). The existing structure is a 5-foot by 4.2-foot four-sided box culvert. Based on an INDOT Culvert Inspection Report dated April 2, 2019 (Appendix I, pages 3 and 4), there are two sets of wide cracks on the top and sides of the structure with efflorescence and wetness. Additionally, several spalls with exposed rebar, extensive honeycomb, and cold joints on the side walls were observed. Both head and wing walls have minor surface scaling. The culvert was given a rating of five (5) meaning moderate to major deterioration or disintegration. The UNT is prone to flash flooding, which has caused scouring, giving the channel an overall rating of five (5). **Purpose**: The purpose of the project is to address the structural deficiencies of the existing small structure to perpetuate vehicular crossings at this location, while also improving its hydraulic characteristics.
Project Description (Preferred Alternative):	**Location** The project is located on SR 16 over the UNT to Eel River, approximately 3.36 miles east of SR 19, Perry Township, Sections 33 and 34, Township 29 North, Range 5 East, and Richland Township, Sections 3 and 4, Township 28 North, Range 5 East, in Miami County, Indiana (Appendix B, page 2). **Existing Conditions** SR 16 at the project location is a Major Collector in a rural area. The surrounding features consist of woods and agricultural fields. The existing structure over the UNT to Eel River is a four-sided box culvert with a 4.2-foot rise and 5-foot span. The existing culvert has cracks throughout the structure and has spalling with exposed rebar. The culvert is unsupported on the south end and there is a large scour hole at the outlet of the structure. Additionally, there are nontraversable 1.5:1 side slopes at the structure with no guardrail protection. The existing roadway profile consists of two 10-foot lanes with a 2-foot usable shoulder. **Preferred Alternative** Work includes replacement of the existing structure with a 6-foot diameter smooth pipe with a 12-inch sump. Riprap will be placed at the outlet of the pipe for scour protection. The work will also involve pavement removal and replacement at the east and west approaches of the structure. Additionally, side slopes will be graded to a 3:1 slope within the project limits and approaches (Appendix B, pages 8 to 15). The logical termini of the project are restricted to the location of the existing structure and adjacent roadway approaches approximately 50 feet east and 75 feet west of the structure. The project meets the purpose and need by replacing the existing deteriorating structure to improve hydraulic characteristics and to perpetuate vehicular crossings at the project location. The project has independent utility because the intent is to maintain an existing roadway crossing of a stream and is not dependent upon other roadway improvements.

	The preferred traffic maintenance during construction of the SR 16 project will involve a full closure with access to local traffic with an official detour route. The official detour route would be SR 19 to SR 114 to SR 15 for a total detour length of approximately 24 miles (Appendix B, pages 11 and 12).
Other Alternatives Considered:	Two other alternatives were considered: 5-foot by 5-foot Reinforced Concrete Box Alternative with 12-inch Sump The 5-foot by 5-foot Reinforced Concrete Box Alternative consists of replacing the existing structure with a 5-foot by 5-foot reinforced concrete box with a 12-inch sump. This alternative would meet the hydraulic recommendation as determined by the scoping report and hydraulic review. While this alternative does meet the project need and purpose by replacing the deteriorating structure and improving hydraulic characteristics, this alternative was discarded as it was not as cost effective as the preferred alternative (Appendix I, pages 5 to 9). No Build Alternative The No Build Alternative consists of leaving the existing deteriorated structure in place. Eventually, this would result in failure of the structure and ultimate collapse. The No Build Alternative was discarded because it would not meet the purpose and need of addressing the deficiencies of the structure to perpetuate vehicular crossings and to improve hydraulic characteristics.
Funding Source(s):	[X] Federal [X] State [ ] Local [ ] Other
Project Sponsor:	INDOT Fort Wayne District
Estimated Cost:	$588,744 — **Project Length:** 0.013 mile
Public Involvement:	No: / Yes: X
Notice of Entry letters were mailed to potentially affected property owners near the project area on October 15, 2018, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter and recipient list is included in Appendix G, pages 2 and 3. The project does not meet any of the conditions set by the current *Indiana Department of Transportation (INDOT) Public Involvement Manual* that require formal public involvement. However, because the proposed right-of-way (ROW) needed for the project (0.48 acre) is close to the 0.5-acre threshold for requiring formal public involvement, the project sponsor will offer the public an opportunity to submit comments and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.	
Right-of-Way:	No: / Yes: X
The existing ROW was found to be the edge of pavement. The existing ROW width is 22 feet. The project requires approximately 0.48 acre of permanent ROW: 0.17 acre to the north of SR 16 and 0.31 acre to the south of SR 16. The current land use of the proposed ROW is forest. No temporary ROW is required for the project.	

If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.		
Maintenance of Traffic (MOT) During Construction:	No:	Yes: X
The MOT for the project will require a full closure with access to local traffic with an official detour route. The official detour route would be SR 19 to SR 114 to SR 15, for a total detour length of approximately 24 miles (Appendix B, pages 11 and 12). The closures/lane restrictions will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences and delays will cease upon project completion.		
Bridge(s) and/or Small Structure(s) (include structure number(s)):	No:	Yes: X
The existing structure carrying SR 16 over the UNT to Eel River (CV 016-052-82.45) is a reinforced concrete box with a 4.2-foot rise and 5-foot span. This deteriorated structure would be replaced by the project. The existing structure is not historic.		

IDENTIFICATION AND EVALUATION OF IMPACTS

Early Coordination:

Early coordination letters were sent on May 11, 2020 (Appendix C, pages 2 to 4).

Agency	Date Sent	Date Response Received	Appendix
Federal Highway Administration	May 11, 2020	No response received	N/A
U.S. Fish and Wildlife Service	May 11, 2020	June 9, 2020	Appendix C, pages 18 and 19
Indiana Geological and Water Survey	May 11, 2020	May 11, 2020	Appendix C, pages 14 to 16
Natural Resources Conservation Service	May 11, 2020	May 18, 2020	Appendix C, page 17
Indiana Department of Natural Resources Division of Fish and Wildlife	May 11, 2020	June 10, 2020	Appendix C, pages 12 and 13
U.S. Army Corps of Engineers	May 11, 2020	No response received	N/A
Indiana Department of Environmental Management	May 11, 2020	May 11, 2020	Appendix C, pages 5 to 11
Miami County Emergency Management	May 11, 2020	No response received	N/A
Indiana Department of Transportation (INDOT)	May 11, 2020	No response received	N/A
Miami County Surveyor	May 11, 2020	No response received	N/A

U.S. Department of Housing & Urban Development	May 11, 2020	No response received	N/A
Miami County Highway Department	May 11, 2020	No response received	N/A
National Park Service	May 11, 2020	No response received	N/A
North Miami Community Schools	May 11, 2020	No response received	N/A
INDOT – Fort Wayne District Environmental Section	May 11, 2020	No response received	N/A
Miami County Sheriff	May 11, 2020	No response received	N/A

All applicable recommendations are included in the Environmental Commitments section of this CE document.

Streams, Rivers, and Other Jurisdictional Features Impacted:	No:	Yes: X

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E), there are twenty-four (24) rivers and streams within the 0.5 mile search radius. That number was confirmed by the site visit on May 29, 2020 by Hanson. There is one (1) stream present within the project area. An unnamed tributary (UNT) of Eel River is located within the project area.

A Waters of the U.S. Determination / Wetland Delineation Report was approved by the INDOT Ecology and Waterway Permitting Office on November 24, 2020. Please refer to Appendix F for the Waters of the U.S. Determination / Wetland Delineation Report. It was determined that one jurisdictional stream, the UNT to Eel River is present in the project area. Replacement of the existing structure will impact approximately 140 feet of the stream, most of which is currently encapsulated within the current structure. These impacts would be permanent due to replacing the existing structure with a longer structure and installing riprap at the southern end of the structure. Installation of a dewatering system during construction would be a temporary impact to the stream. The project will likely require a Section 404 permit and Section 401 Water Quality Certification for work within the UNT to Eel River. Mitigation for stream impacts is not anticipated because the loss of waters will not be greater than 300 linear feet or 0.10 acre. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

There are no Federal, Wild and Scenic Rivers; State Natural, Scenic and Recreational Rivers; Outstanding Rivers for Indiana; navigable waterways or National Rivers Inventory waterways present in the project area.

The UNT is listed as impaired for E. coli and PCBs in fish tissue. 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. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT Site Assessment and Management (SAM) will occur prior to any work.

The U.S. Fish and Wildlife Service (USFWS) responded on June 9, 2020 with recommendations to implement strict erosion control measures to protect the UNT to Eel River and Eel River (Appendix C, pages 18 and 19). The Indiana Department of Natural Resources Division of Fish and Wildlife (IDNR-DFW) responded on June 10, 2020 with recommendations to avoid or minimize impacts to the UNT to

Eel River (Appendix C, pages 12 and 13). An early coordination environmental review was requested from the Indiana Department of Environmental Management (IDEM) through the automatic website (http://www.in.gov/idem/5284.htm) on May 11, 2020 (Appendix C, pages 5 to 11). Applicable recommendations from the Proposed Roadway Letter include limiting stream disturbance and coordinating with the appropriate permitting agencies. All applicable recommendations are included in the Environmental Commitments section of this CE document.		
Open Water Feature(s):	No: X	Yes:
Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E) there are three (3) lakes within the 0.5 mile search radius. That number was confirmed by the site visit on May 29, 2020 by Hanson. No open water features are present within or adjacent to the project area, therefore no impacts are expected.		
Wetlands:	No: X	Yes:
Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E) there are two (2) wetlands located within the 0.5 mile search radius. That number was confirmed by the site visit on May 29, 2020 by Hanson. No wetlands are present within or adjacent to the project area, therefore, no impacts are expected. A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by the INDOT Ecology and Waterway Permitting Office on November 24, 2020. Please refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no wetlands are present in the project area. The USACE makes all final determinations regarding jurisdiction.		
Terrestrial Habitat:	No:	Yes: X
Based on a desktop review, a site visit on May 29, 2020 by Hanson and the aerial map of the project area (Appendix B, page 4), there are woodlands present at all quadrants of the project area. Approximately 29 trees will be removed with a total tree cover of 0.243 acre (see plan sheet with areas indicated in Appendix B, page 13). Tree removal will only occur within the construction limits; tree removal will be a maximum of 87 feet to the south of the existing roadway and 75 feet to the north of the existing roadway. Dominant tree species (spp.) include maple (*Acer* spp.) and hickory (*Carya* spp.). The contractor will remove trees during the offseason between October 1, 2023 and March 31, 2024. Avoidance alternatives would not be practicable because it would not meet the purpose and need of addressing the structural deficiencies of the existing structure. Tree removal Avoidance and Minimization Measures (AMMs) were accepted as part of the IPaC coordination. Tree mitigation is not required for this project. However, the IDNR recommended tree mitigation of a 1:1 ratio for impacts to a non-wetland forest in a rural area (Appendix C, page 13). This recommendation will be considered and is included in the Environmental Commitments section of this CE document. The USFWS responded on June 9, 2020 (Appendix C, pages 18 and 19) and the IDNR-DFW responded on June 10, 2020 (Appendix C, pages 12 and 13) with recommendations regarding to tree and understory clearing and sediment and erosion control measures. An early coordination environmental review was requested from the IDEM through the automatic website (http://www.in.gov/idem/5284.htm) on May 11, 2020 (Appendix C, pages 5 to 11). Applicable recommendations from the Proposed Roadway Letter include sediment and erosion control measures (Appendix C, page 5). All applicable recommendations are included in the Environmental Commitments section of this CE document.		

Protected Species:	No: X	Yes:

Based on a desktop review and the RFI report (Appendix E) completed by Hanson on June 24, 2020, the IDNR Miami County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated June 10, 2020 (Appendix C, page 12), the Natural Heritage Program's Database has been checked and the following species have been documented in the Eel River within a 0.5-mile of the project area: greater redhorse (*Moxostoma valenciennesi*), clubshell (*Pleurobema clava*), rabbitsfoot (*Theliderma cylindrica*), round hickorynut (*Obovaria subrotunda*), wavyrayed lampmussel (*Lampsilis fasciola),* and purple lilliput (*Toxolasma lividum*). As long as standard sediment and erosion control measures are implemented, the IDNR-DFW does not foresee any impacts to the mussel or fish species as a result of this project.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages 34 to 39). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). Other species were generated in the IPaC species list along with the Indiana bat and norther long-eared bat. Refer to paragraph below.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. A culvert inspection occurred on May 29, 2020 and bats or evidence of bats was observed in the culvert. An effect determination key was completed on March 24, 2021, and based on the responses provided, the project was found to *not likely to adversely affect* the Indiana bat and/or the NLEB (Appendix C, pages 20 to 33). INDOT reviewed and verified this effect finding on March 25, 2021, and request USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document.

The official species list generated from IPaC indicated one other species present within the project area. Rabbitsfoot (*Quadrula cylindrica cylindrica)* is a threatened species that may occur in the project area. The project does not qualify for the USFWS Interim Policy. Therefore, further coordination with the USFWS was required. In an early coordination letter from USFWS dated June 9, 2020 (Appendix C, pages 18 and 19), it was stated that strict erosion control measures will be needed at the site including a spill avoidance/remediation plan, stationing of emergency response equipment at the project site, and the designation of contained fueling and fuel storage areas at least 150 feet away from the UNT to Eel River and the Eel River. With these erosion control measures in place the project is *not likely to adversely affect* the threatened rabbitsfoot mussel.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

Geological and Mineral Resources:	No: X	Yes:

Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Karst Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, page 3) and the RFI report (Appendix E) there are no karst features identified within or adjacent to the project area. In the early coordination response on May 11, 2020, the Indiana Geological and Water Survey (IGWS) did not indicate that karst features exist in the project area (Appendix C, page 14). IGWS indicated that there is moderate liquefaction potential and one percent annual chance flood hazard as well as a high potential for bedrock resource and sand and

gravel resource. No active or abandoned mineral resources extraction sites are documented in the area. Response from IGWS has been communicated with the designer on May 11, 2020. No impacts are expected.		
Drinking Water Resources:	No: X	Yes:
The project is located in Miami 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 MOU is not applicable to this project, a detailed groundwater assessment is not needed, and no impacts are expected. The IDEM's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on August 13, 2020 by Hanson. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected. The IDNR Water Well Record Database website (https://www.in.gov/dnr/water/3595.htm) was accessed on December 28, 2020 by Hanson. The nearest well is approximately 0.11 mile northeast of the project area. The features will not be affected because of the distance to the project area and the project excavation depths are anticipated to be shallow enough to not affect groundwater adversely. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells. Based on a desktop review of the INDOT MS4 website (https://entapps.indot.in.gov/MS4/) by Hanson on August 13, 2020, and the RFI report (Appendix E); this project is not located in an Urban Area Boundary location. No impacts are expected. Based on a desktop review, a site visit on May 29, 2020 by Hanson, and the aerial map of the project area (Appendix B, page 4), no public water systems were identified. Therefore, no impacts are expected.		
Floodplains:	No: X	Yes:
The IDNR Indiana Floodplain Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on August 13, 2020 by Hanson. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix I, page 12). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.		
Farmland:	No: X	Yes:
Based on a desktop review, a site visit on May 29, 2020 by Hanson, and the aerial map of the project area (Appendix B, page 4), there is no land that meets the definition of farmland under the Farmland Protection Policy Act (FPPA) within or adjacent to the project area. The requirements of the FPPA do not apply to this project; therefore, no impacts are expected. An early coordination letter was sent on May 11, 2020, to Natural Resources Conservation Services (NRCS). NRCS responded on May 18, 2020 and determined that the project would not cause a conversion of prime farmland (Appendix C, page 17).		
Cultural Resources:	No: X	Yes:
On March 22, 2021, the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Type 9 under the Minor Projects Programmatic Agreement (Appendix D, pages 3 to 5). Type 9 projects involve the installation, replacement, repair, lining, or extension of		

culverts and other drainage structures when work does not involve the installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, and the structure exhibits no wood, stone, or brick structures or parts therein. Additionally, this project falls within the guidelines of Category A, Type 9 under the Minor Projects Programmatic Agreement for riprap placement for scour protection (Appendix D, page 2). Type 9 projects involve the installation, repair, or replacement or erosion control measures along roadways, waterways and bridge piers within previously disturbed soils. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

Section 4(f) and Section 6(f) Resources:	No: X	Yes:

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 regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, the aerial map of the project area (Appendix B, page 4), and the RFI report (Appendix E), there are no 4(f) resources located within the 0.5 mile search radius. According to the site visit on May 29, 2020 by Hanson, there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

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 6(f) properties on the INDOT ESD website revealed a total of seven (7) properties in Miami County (Appendix I, page 2). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

Air Quality:	No: X	Yes:

This project is included in the Fiscal Year (FY) 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H, page 2).

This project is located in Miami County, which is currently in attainment for all criteria pollutants according to IDEM's Current and Historical List of Nonattainment Areas by County. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

Community Impacts:	No: X	Yes:

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. This project will have no relocations and will require less than 0.5 acre of additional permanent ROW; therefore, an EJ analysis is not required per the current INDOT Categorical Exclusion Manual.

Indirect impacts are effects which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate. Cumulative impacts affect the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.

The project will not cause any indirect or cumulative impacts because the proposed replacement of the structure will maintain the continued transportation land use of SR 16. No induced growth effects or changes in land use are anticipated as a result of this project; nor is the project anticipated to result in incremental impacts with other past, present and reasonably foreseeable future actions.

Public Facilities and Services (e.g. schools, emergency services):	No: X	Yes:

Based on a desktop review, the aerial map of the project area (Appendix B, page 4), and the RFI report (Appendix E) there are no public facilities within the 0.5 mile search radius. That number was confirmed by the site visit on May 29, 2020 by Hanson. There are no public facilities within or adjacent to the project area, therefore, no impacts are expected. Access to all properties will be maintained during construction.

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.

Hazardous Materials and Regulated Substances:	No: X	Yes:

Based on a review of GIS and available public records, a RFI was completed on June 24, 2020 by Hanson and approved on June 25, 2020 by INDOT SAM (Appendix E). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified in or within 0.5 mile of the project area. Further investigation for hazardous material concerns or regulated substances is not required at this time.

Permits:	No:	Yes: X

A Section 404 permit and Section 401 Water Quality Certification will likely be required due to work within the UNT to Eel River. Mitigation is not anticipated to be required because the impact to the stream would be less than 300 linear feet and 0.1 acre.

Applicable recommendations from DNR and USFWS 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 required permits.

ENVIRONMENTAL COMMITMENTS:

Firm:

1) 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. (INDOT ESD and INDOT District)
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) USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after May 29, 2022, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT ESD)
4) General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
5) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
6) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g. temporary work areas, alignments) to avoid tree removal. (USFWS)
7) Tree Removal AMM 2: Apply time of year restrictions (tree removal is scheduled for the off-season from October 1, 2023 to March 31, 2024) for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergency survey must be conducted with no bats observed. (USFWS)
8) Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
9) Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or documented foraging habitat any time of year. (USFWS)
10) A spill avoidance/remediation plan needs to be developed, utilizing the most effective prevention and remediation practices to prevent hazardous materials (e.g. epoxy, petroleum products, solvents, paints, etc.) from entering the unnamed tributary and Eel River or from contaminating soils or waters within the project area. Such measures should include stationing of emergency response equipment at the project site and the designation of contained fueling and fuel storage areas at least 150 feet away from the creek and Eel River. (USFWS)
11) An UNT of Eel River is located within the project area. The UNT is listed as impaired for E. coli and PCBs in fish tissue. 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. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT Site Assessment and Management (SAM) will occur prior to any work. (INDOT SAM)

For Consideration:

12) If box or pipe culverts are used, the bottoms should be buried to 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, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. (IDNR-DFW)

13) 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 inches dbh or greater (5:1 mitigation based on the number of large trees), or by using the 1:1 replacement ratio based on area depending on the type or habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal or habitat supporting a tree canopy, woody understory, and herbaceous layer). (IDNR-DFW)

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APPENDIX A

INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4[1]
Section 106	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement[2]
Stream Impacts[3]	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	USACE Individual 404 Permit[4]
Wetland Impacts[3]	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way[5]	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)*	"No Effect", "Not likely to Adversely Affect" (With select AMMs[6])	"Not likely to Adversely Affect" (With any AMMs or commitments)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic[7]
Threatened/Endangered Species (Any other species)*	Falls within guidelines of USFWS 2013 Interim Policy or "No Effect"	"Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential[8]
Sole Source Aquifer	No Detailed Groundwater Assessment	-	-	-	Detailed Groundwater Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Section 4(f) Impacts	None	-	-	-	Any[9]
Section 6(f) Impacts	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes[10]
Approval Level • **District Env. (DE)** • **Env. Serv. Div. (ESD)** • **FHWA**	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA

[1] Coordinate with INDOT Environmental Services Division. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2] Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3] Total permanent impacts to streams (linear feet) and wetlands (acres).
[4] US Army Corps of Engineers Individual 404 Permit
[5] Total permanent and temporary right-of-way. This does not include reacquisition of existing apparent right-of-way.
[6] Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.
[7] Projects that do not fall under a Species Specific Programmatic and results in a "Likely to Adversely Affect". Other findings can be processed as a lower level CE.
[8] Potential for causing a disproportionately high and adverse impact.
[9] Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.
[10] Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.
* Includes the threatened/endangered species critical habitat
Note: Substantial public or agency controversy may require a higher-level NEPA document.

APPENDIX B

Graphics

Figure 1 Project Location

Figure 2 USGS Topographic Map

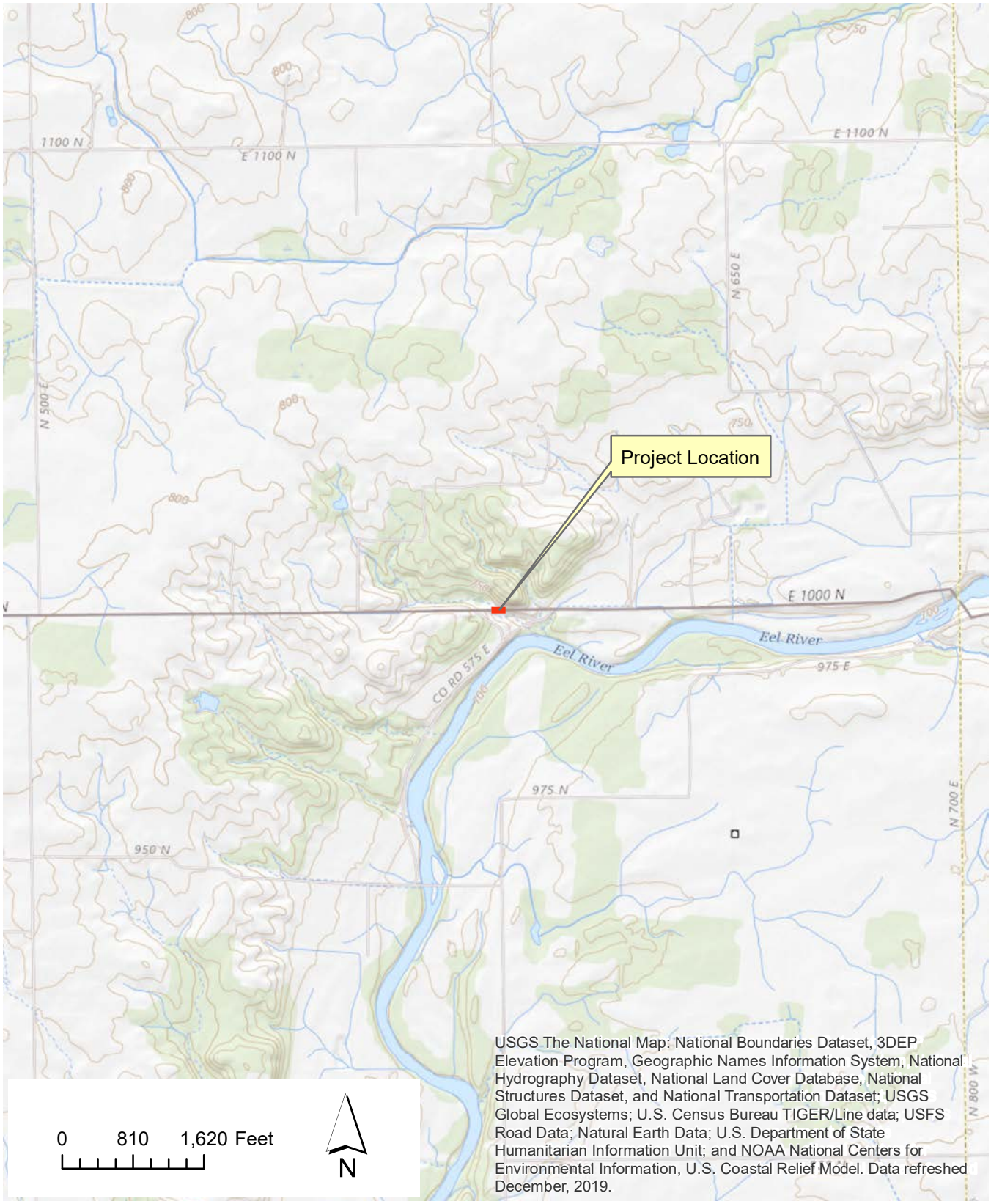


Figure 3 Aerial Map and Photo Locations

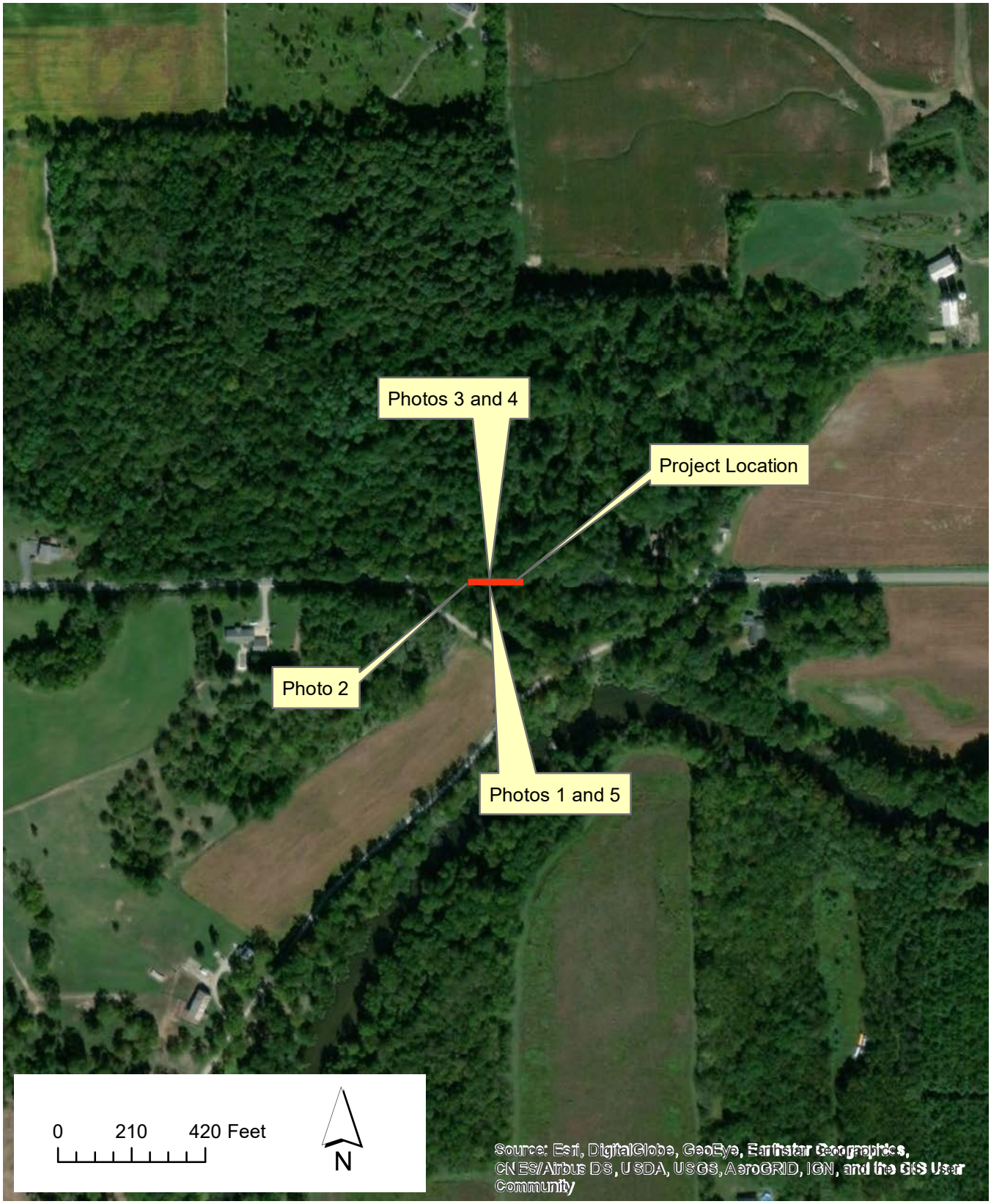


Photo 1. Small Structure, viewing north, 12/05/2019

Photo 2. SR 16, viewing east, 12/05/2019

Photo 3. Small Structure, viewing south, 12/05/2019

Photo 4. Small Structure, viewing south, 12/05/2019

Photo 5. Small Structure, viewing northeast, 12/05/2019

PROJECT	DESIGNATION
1800016	1800016
CONTRACT	
B 42369	

STRUCTURE INFORMATION				
STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
CV 016-052-82.45	Type 1 Smooth Pipe	SPAN: 6'-0" SKEW: 13.8°	U.N.T. TO EEL RIVER	15+06.20 LINE "A"

KIN DESIGNATION NUMBERS	
DES. NO.	DESCRIPTION

ADDITIONAL RIGHT OF WAY REQUIRED FOR THIS PROJECT

R/W PLANS
NOV. 11, 2020

INDIANA DEPARTMENT OF TRANSPORTATION

ROAD PLANS

ROUTE: SR 16 AT: RP 82+4

PROJECT NO. 1800016 P.E.
1800016 R/W
1800016 CONST.

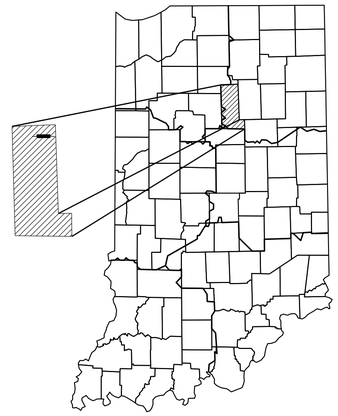
SMALL STRUCTURE REPLACEMENT ON SR 16 OVER UNT TO EEL RIVER
LOCATED APPROXIMATELY 3.36 MILES EAST OF SR 19
IN SECTIONS 33, 34, T29N, R5E PERRY TOWNSHIP, IN SECTIONS 3, 4, T28N, R5E RICHLAND TOWNSHIP,
MIAMI COUNTY, INDIANA

PROJECT LOCATION
Begin Project Sta. 14+85.00 "A"
End Project Sta. 15+25.00 "A"

SCALE: 1" = 2000'

TRAFFIC DATA		
A.A.D.T.	(2023)	753 V.P.D.
A.A.D.T.	(2043)	803 V.P.D.
D.H.V	(2043)	81 V.P.D.
DIRECTIONAL DISTRIBUTION		45.66%
TRUCKS		16.13% A.A.D.T.
		18.92% D.H.V.

DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	STATE COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



PROJECT LOCATION SHOWN BY
MIAMI COUNTY

LATITUDE: 40°54'49.06" N LONGITUDE: 85°57'47.70" W

BRIDGE LENGTH:	0.000	MI.
ROADWAY LENGTH:	0.013	MI.
TOTAL LENGTH:	0.013	MI.
MAX. GRADE:	1.36%	%

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2020 TO
BE USED WITH THESE PLANS.

PLANS PREPARED BY: HANSON (317)293-9024 PHONE NUMBER

CERTIFIED BY: 10/20/2020 DATE

APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

BRIDGE FILE	
N/A	
DESIGNATION	
1800016	

SURVEY BOOK	SHEETS		
	1	of	14
CONTRACT	PROJECT		
B 42369	1800016		

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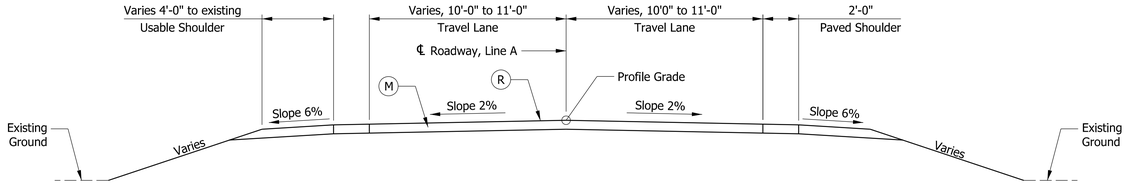
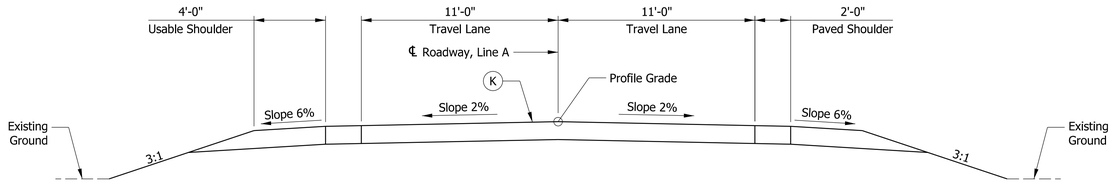
REVIEWER NOTE:

The pavement design for 1800016 was submitted to INDOT on 08/06/2020. The design will be implemented once received



TYPICAL SECTION - INCIDENTAL CONSTRUCTION

Sta. 14+30.00 "A" to Sta. 14+85.00 "A"
Sta. 15+25.00 "A" to Sta. 15+56.00 "A"



TYPICAL SECTION

Sta. 14+85.00 "A" to Sta. 15+25.00 "A"

LEGEND

- (K) Full Depth HMA Pavement
- (R) 165 LB/SYD QC/QA-HMA, 3, 64, Surface 9.5mm, on 275 LB/SYD QC/QA-HMA, 3, 64 Intermediate 19.0mm, on 1.5" Asphalt Milling
- (M) Milling, Asphalt, 1.5"

DATE	REVISION

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 10/20/2020 DATE

DESIGNED: AW | DRAWN: MH

CHECKED: JR | CHECKED: AW

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL
CROSS SECTIONS

	BRIDGE FILE
	N/A
SCALE	DESIGNATION
1/4" = 1'-0"	1800016
SURVEY BOOK	SHEETS
	3 of 14
CONTRACT	PROJECT
B 42369	1800016

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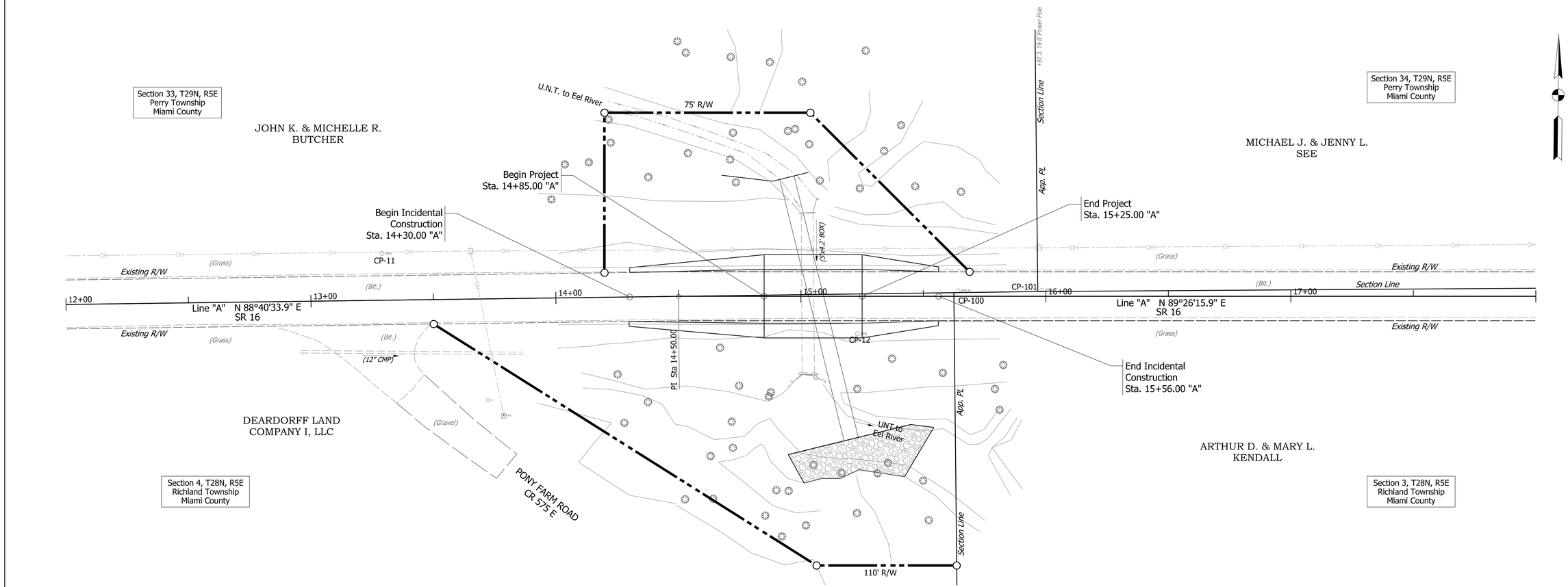

10	11	12	13	100	101
NORTHING: 323,441.1998 EASTING: 838,431.7220	NORTHING: 323,455.7203 EASTING: 838,810.7482	NORTHING: 323,424.8011 EASTING: 839,005.1014	NORTHING: 323,429.4513 EASTING: 839,296.4589	NORTHING: 323,443.4304 EASTING: 839,080.2647	NORTHING: 323,442.8586 EASTING: 839,046.0027
A = BENCHMARK NAIL, S FACE, PWP #400-70, 0.05' E, 0.05' S, ⌀ = MAG NAIL, S FACE, PWP #400-70, 0.05' S, 0.05' W, C = MAG NAIL, E FACE, PWP #400-70.1 L, 78.18' (SLOPE), AL=-157°	A = MAG NAIL, S FACE, PWP #400-69, 190.88', AL=-90°, B = MAG NAIL, S FACE, PWP #400-68, 35.43', AL=-90°, C = BENCHMARK NAIL, N FACE, PWP, 83.87', AL=-140°	A = MAG NAIL, S FACE, PWP #400-66, 162.38', AL=-90°, B = MAG NAIL, S FACE, PWP #400-67, 81.26', AL=-90°	A = MAG NAIL, S FACE, PWP #400-65, 223.18', AL=-90°, B = MAG NAIL, S FACE, PWP #400-66, 35.63', AL=-90°, C = ℄ PAVEMENT, 15.0', AL=0°	S = MCSO MONUMENT, 34.28', AL=-170°, ⌀ = PKG NAIL, S FACE, PWP, 17.09', AL=-90°, D = DEEP ONE MAGNET, ORANGE, BURIED 6" DEEP IN ROAD EDGE, 21.09', AL=-115°	S = MCSO MONUMENT, 34.28', AL=-37.66°, ⌀ = PKG NAIL, S FACE, PWP, 51', AL=-90°, D = DEEP ONE MAGNET, ORANGE, BURIED 6" DEEP IN ROAD EDGE, 25.34', AL=-135°
#5 REBAR w/ "STRAND ASSOC" I.D. CAP SET AT GRADE	#5 REBAR w/ "STRAND ASSOC" I.D. CAP SET AT GRADE	#5 REBAR w/ "STRAND ASSOC" I.D. CAP SET AT GRADE	#5 REBAR w/ "STRAND ASSOC" I.D. CAP SET AT GRADE	SE COR, SEC 33, T-29-N, R-5-E 1-1/4" IRON PIN FOUND (AT GRADE)	NE COR, SEC 4, T-28-N, R-5-E 1-1/4" IRON PIN FOUND (AT GRADE)

RECOMMENDED FOR APPROVAL _____ 10/20/2020
DESIGN ENGINEER DATE

DESIGNED: AW | DRAWN: MH
CHECKED: JR | CHECKED: AW

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

	BRIDGE FILE
	N/A
SCALE	DESIGNATION
1" = 20' H 1" = 5' V	1800016
SURVEY BOOK	SHEETS
	4 of 14
CONTRACT	PROJECT
B 42369	1800016

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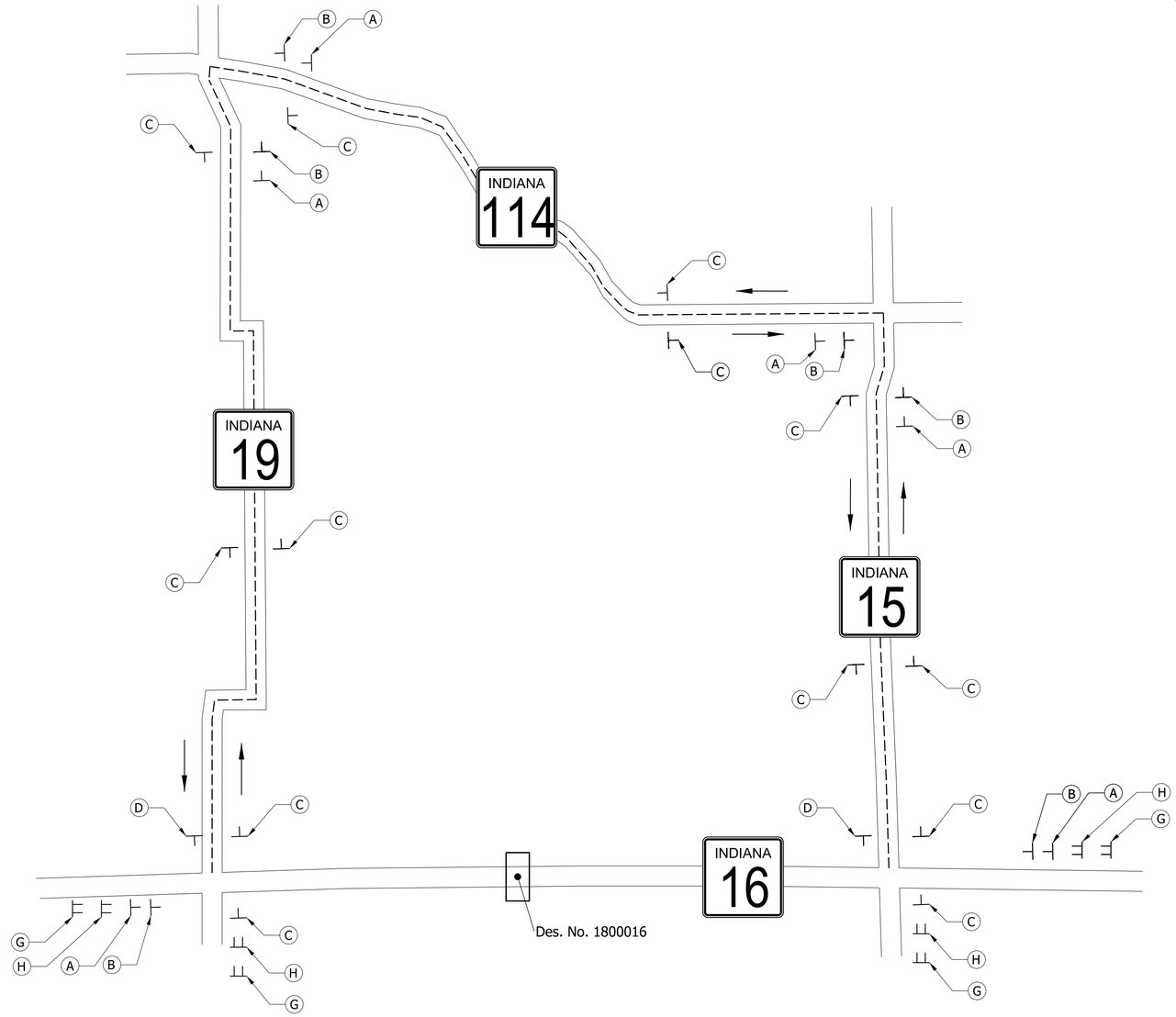
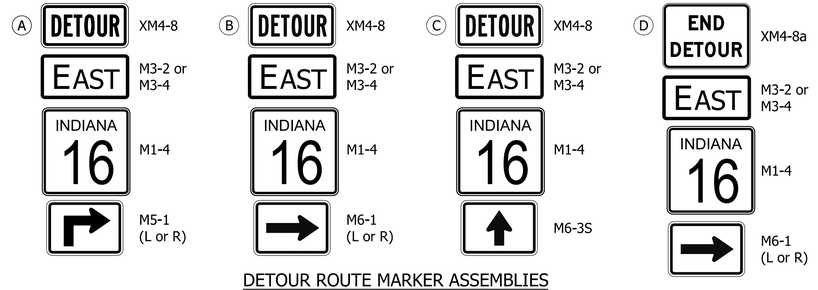
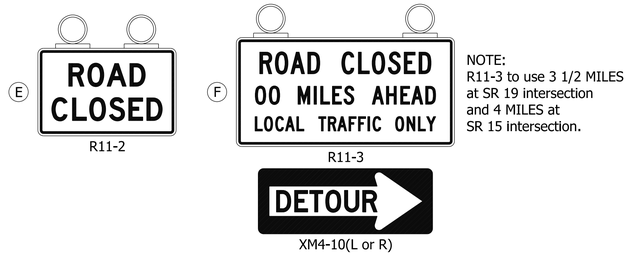


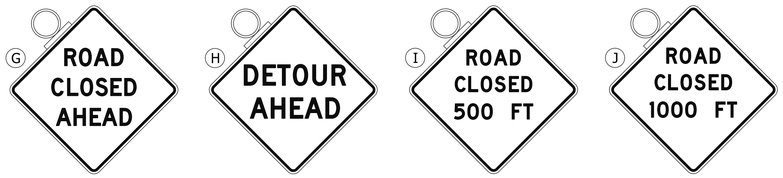


DETOUR ROUTE MARKER ASSEMBLIES



NOTE:
R11-3 to use 3 1/2 MILES at SR 19 intersection and 4 MILES at SR 15 intersection.

ROAD CLOSURE SIGN ASSEMBLIES



CONSTRUCTION SIGNS TYPE "A"

NOTE:
XW2-6 to be placed 100 feet in advance of the first ROAD CLOSED AHEAD sign in each direction of mainline travel.

CONSTRUCTION SIGN TYPE "C"

LEGEND

- Detour Route
- Detour Route Marker Assembly
- Road Closure Assembly
- Construction Sign and Supports
- Barricade Type III-B

NOTE:
Refer to INDOT Standard Drawings E801-TCDT-01 and E801-TCDT-04 for Sign Spacing (Typ.)

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 10/20/2020 DATE	INDIANA DEPARTMENT OF TRANSPORTATION	BRIDGE FILE: N/A
DESIGNED: AW / DRAWN: MH / CHECKED: JR / CHECKED: AW	MAINTENANCE OF TRAFFIC DETOUR ROUTE	SCALE: NOT TO SCALE; DESIGNATION: 1800016; SURVEY BOOK; SHEETS: 5 of 14; CONTRACT: B 42369; PROJECT: 1800016

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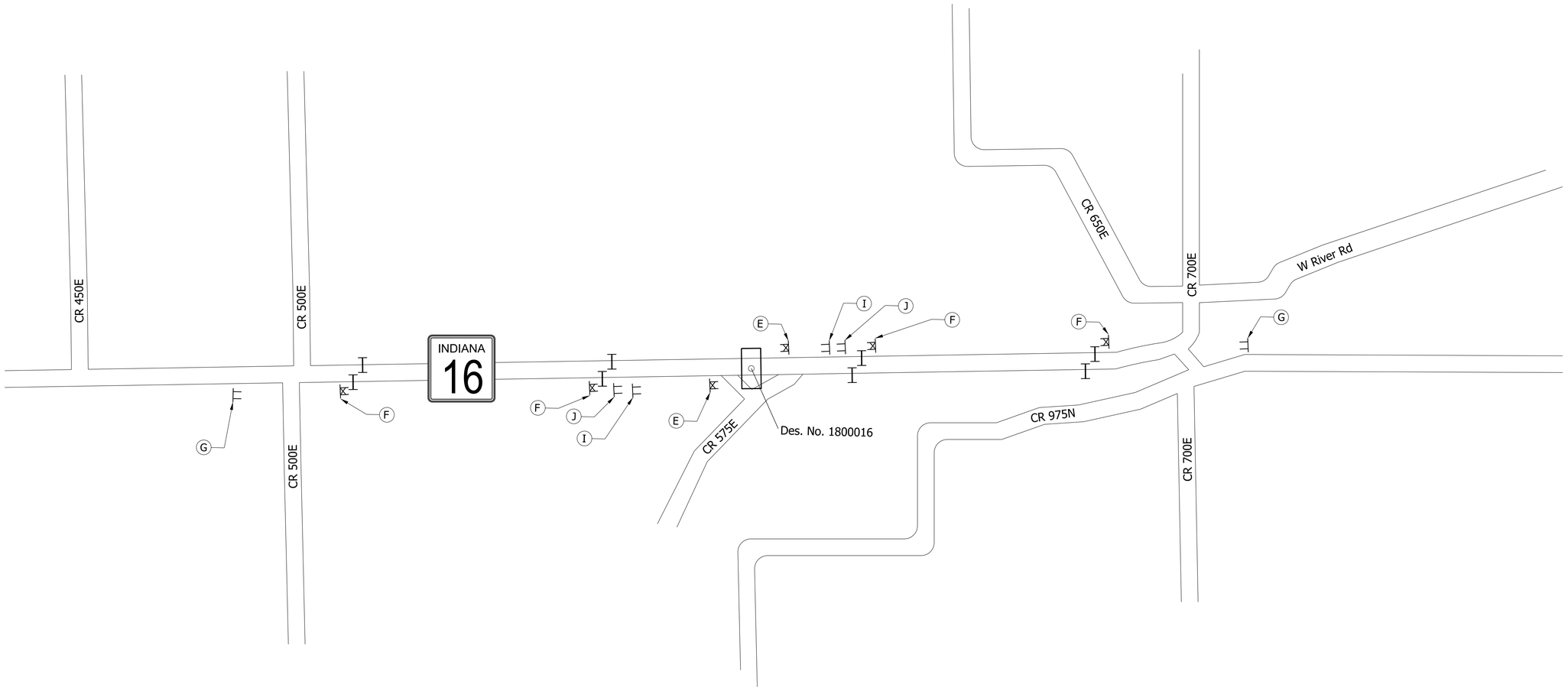
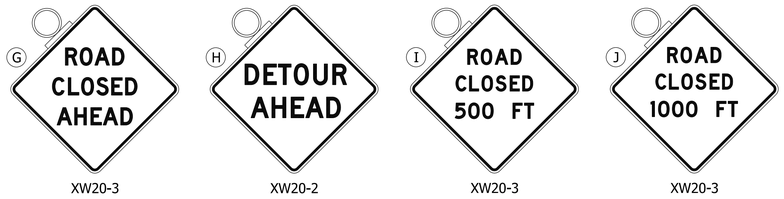


ROAD CLOSURE SIGN ASSEMBLIES



CONSTRUCTION SIGNS TYPE "A"

LEGEND

- Detour Route
- Detour Route Marker Assembly
- Road Closure Assembly
- Construction Sign and Supports
- Barricade Type III-B

NOTE:
Refer to INDOT Standard Drawings
E801-TCDT-01 and E801-TCDT-04
for Sign Spacing (Typ.)

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER 10/20/2020 DATE		INDIANA DEPARTMENT OF TRANSPORTATION	BRIDGE FILE: N/A
DESIGNED: AW	DRAWN: MH	MAINTENANCE OF TRAFFIC	SCALE: NOT TO SCALE; DESIGNATION: 1800016
CHECKED: JR	CHECKED: AW		SURVEY BOOK; SHEETS: 6 of 14
			CONTRACT: B 42369; PROJECT: 1800016

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Section 33, T29N, R5E
Perry Township
Miami County

JOHN K. & MICHELLE R.
BUTCHER

Section 34, T29N, R5E
Perry Township
Miami County

MICHAEL J. & JENNY L.
SEE

Section 4, T28N, R5E
Richland Township
Miami County

DEARDORFF LAND
COMPANY I, LLC

ARTHUR D. & MARY L.
KENDALL

Section 3, T28N, R5E
Richland Township
Miami County

U.N.T. to Eel River

PONY FARM ROAD
CR 575 E

Structure No. 1
CV 016-052-82.45
Sta. 15+06.20 "A"
110 Lft. 6' Pipe Req'd

Tree Removal Area: 0.045 acre

Tree Removal Area: 0.198 acre

Begin Project
Sta. 14+85.00 "A"

End Project
Sta. 15+25.00 "A"

Begin Incidental
Construction
Sta. 14+30.00 "A"

End Incidental
Construction
Sta. 15+56.00 "A"

Construction Limits

75' R/W

110' R/W

R/W

App. PL

Section Line

Existing R/W

(Grass)

(Bit.)

(Gravel)

(12" CMP)

(5'x4.2' BOX)

CP-11

CP-12

CP-100

CP-101

TBM-2

Line "A" N 88°40'33.9" E
SR 16

Line "A" N 89°26'15.9" E
SR 16

PI Sta 14+50.00

CURVE DATA
PI = 14+50.00
Delta = 0° 45' 41.97" RT.
No Curve Run

xx.x Tons Revetment Riprap over
xx.x Sys Geotextile Fabric

BENCHMARK DATA:
TBM 1: Benchmark Nail, South Face of Power Pole No. 400-66
Sta. 9+26.5 "A", 21.7' LT, El. 756.81

TBM 2: Benchmark Nail, North Face of Power Pole
Sta. 13+76.6 "A", 48.2' RT, El. 737.47

TBM 3: Benchmark Nail, North Face of Power Pole
Sta. 21+22.8 "A", 20.0' RT, El. 718.54

Inv. El. 711.2
(Plotted 20' Above Datum)

0.4%

-1.36%

Proposed Profile

Existing Profile Grade

Q100 El. 715.79

Inv. El. 708.9

Note: Proposed Profile to Match Existing.

745.0 741.1 737.2 733.6 730.8 729.0 728.0 727.7 728.0 728.6 729.4 729.3

10 NORTHING: 323,441.1998 EASTING: 838,431.7220
A = BENCHMARK NAIL, S FACE, PWP #400-70, 32.82', Az.=281°, B = MAG NAIL, S FACE, PWP #400-69, 185.95', Az.=48°
C = MAG NAIL, S FACE, PWP #400-70.1 L, 76.18' (SUPPL. Az.=287°
#5 REBAR w/ "STRAND ASSOC" LD. CAP SET AT GRADE

11 NORTHING: 323,455.7207 EASTING: 838,810.7482
A = MAG NAIL, S FACE, PWP #400-68, 190.88', Az.=270°
B = MAG NAIL, S FACE, PWP #400-68, 35.43', Az.=90°
C = BENCHMARK NAIL, N FACE, PWP, 83.87', Az.=146°
#5 REBAR w/ "STRAND ASSOC" LD. CAP SET AT GRADE

12 NORTHING: 323,424.8011 EASTING: 839,005.1014
A = MAG NAIL, S FACE, PWP #400-68, 162.97', Az.=266°
B = MAG NAIL, S FACE, PWP #400-67, 81.26', Az.=90°
#5 REBAR w/ "STRAND ASSOC" LD. CAP SET AT GRADE

13 NORTHING: 323,429.4913 EASTING: 839,296.4589
A = MAG NAIL, PWP #400-65, 223.10', Az.=75°
B = MAG NAIL, S FACE, PWP #400-66, 35.63', Az.=90°
C = ℄ PAVEMENT, 15.0', Az.=0°
#5 REBAR w/ "STRAND ASSOC" LD. CAP SET AT GRADE

100 NORTHING: 323,443.4304 EASTING: 839,080.2647
A = MCSO MONUMENT, 34.28', Az.=270°
B = MAG NAIL, S FACE, PWP, 17.09', Az.=350°
C = DEEP ONE MAGNET, ORANGE, BURIED 6" DEEP IN ROAD EDGE, 21.08', Az.=235°
SE COR, SEC 33, T-29-N, R-5-E
1-1/4" IRON PIN FOUND (AT GRADE)

101 NORTHING: 323,442.8580 EASTING: 839,046.0027
A = MAG NAIL, S FACE, PWP, 51', Az.=216°
B = MCSO MONUMENT, 34.28', Az.=90°
C = DEEP ONE MAGNET, ORANGE, BURIED 6" DEEP IN ROAD EDGE, 25.24', Az.=130°
NE COR, SEC 4, T-28-N, R-5-E
1-1/4" IRON PIN FOUND (AT GRADE)

RECOMMENDED FOR APPROVAL _____ 10/20/2020
DESIGN ENGINEER DATE

DESIGNED: AW DRAWN: MH

CHECKED: JR CHECKED: AW

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
STA. 12+00 "A" TO STA.18+00 "A"

	BRIDGE FILE
	N/A
SCALE	DESIGNATION
1" = 20' H 1" = 5' V	1800016
SURVEY BOOK	SHEETS
	7 of 14
CONTRACT	PROJECT
B 42369	1800016

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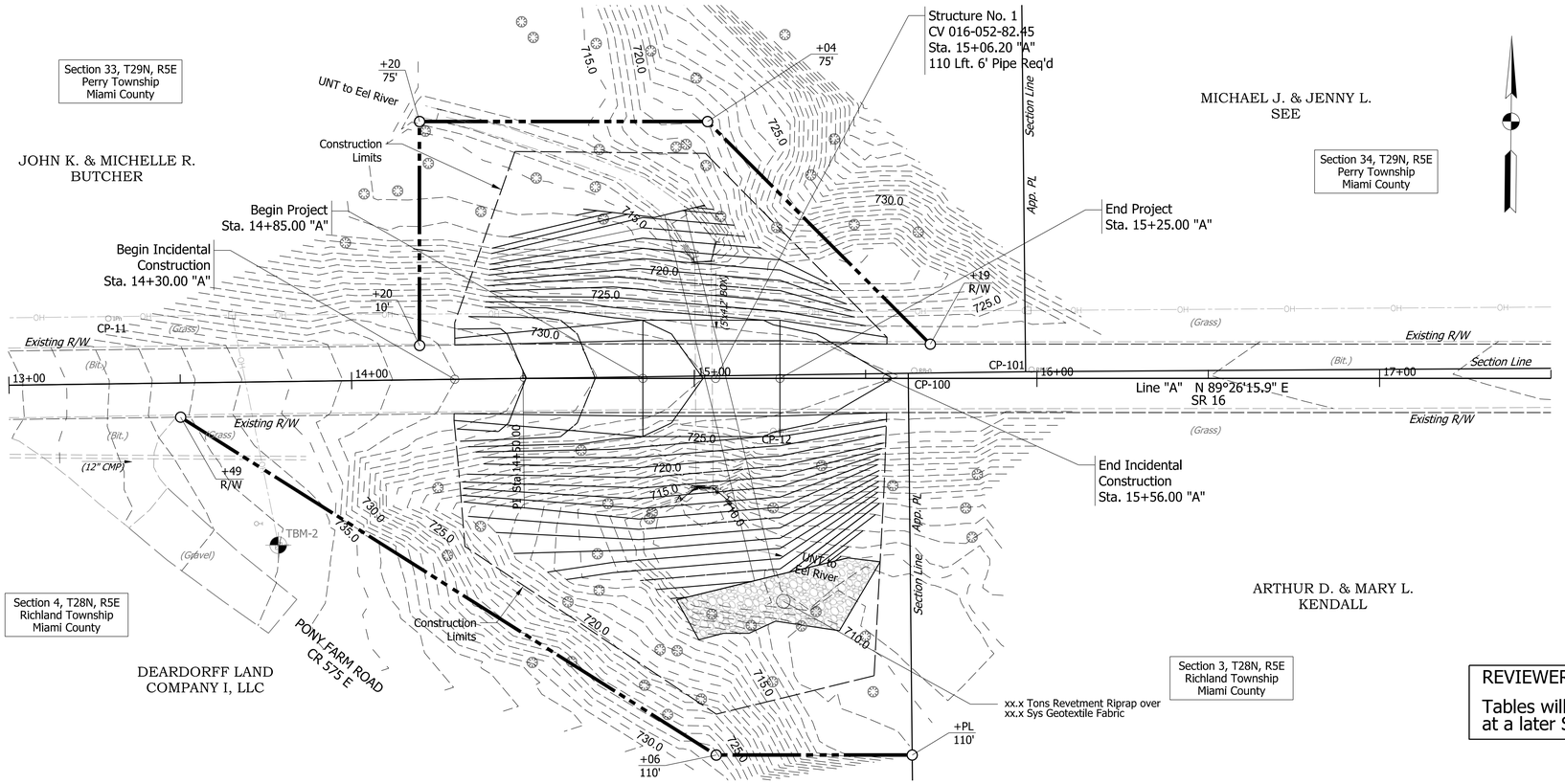
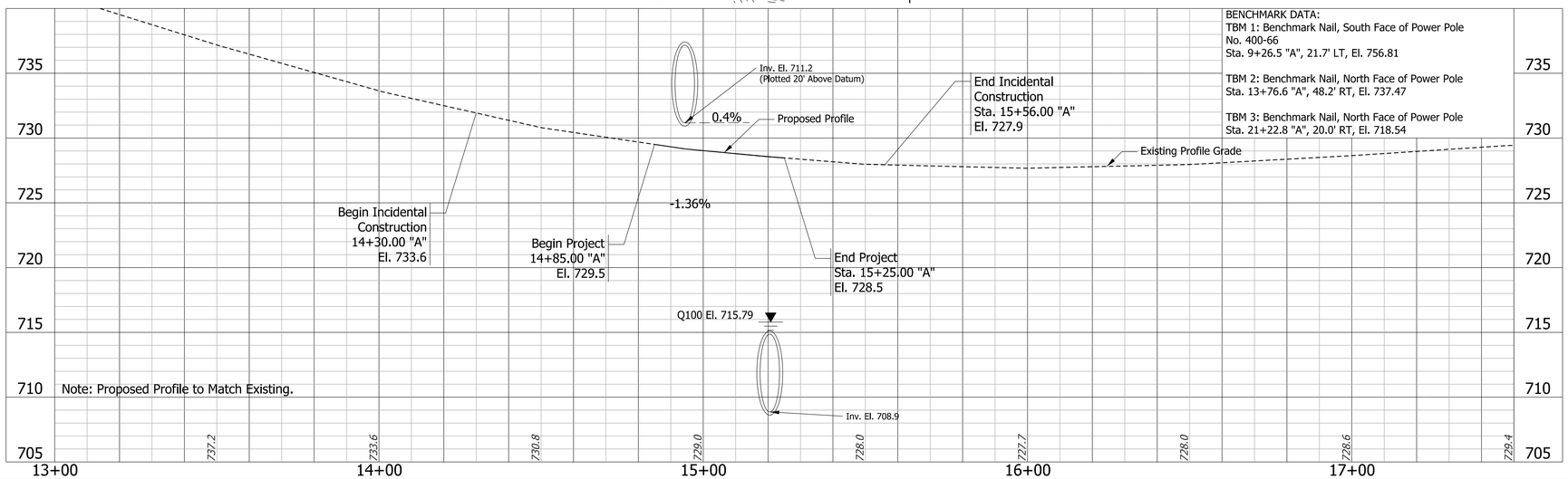




EXISTING STRUCTURE

The Existing Culvert is a 5 foot x 4.2 foot
Reinforced Concrete Box.
Existing Structure is to be removed.

REVIEWER NOTE:

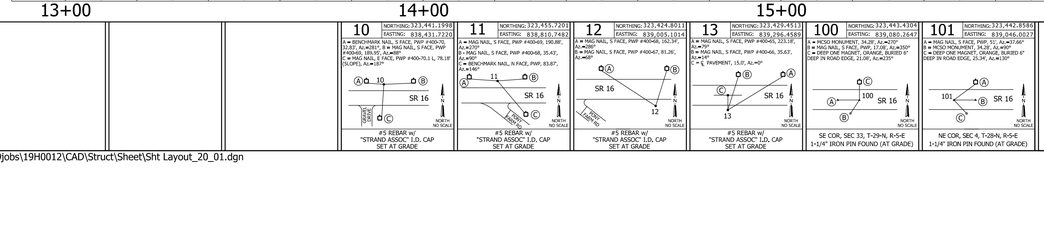
Tables will be completed at a later Stage.

EARTHWORK SUMMARY	
Common Excavation (CYS)	___

HYDRAULIC DATA	
Drainage Area	0.17 SQ. MI.
Design Discharge Q100	127.60 CFS
Q100 Elevation	715.23 FT
Q100 Velocity	9.72 FPS
Backwater at Q100	2.11 FT
Waterway Area Over Road	_ SFT
Skew	16.7°
Existing Q100 Velocity	11.46 FPS
Existing Backwater	2.31 FT
Existing Waterway Area Over Road	_ SFT
Existing Low Structure Elevation	___.__ FT

LAYOUT

TYPE 1 SMOOTH PIPE
SPAN: 6'-0"
26'-0" CLEAR ROADWAY SKEW: 13.8°
SR 16 OVER UNT TO EEL RIVER
MIAMI COUNTY



RECOMMENDED FOR APPROVAL _____ 10/20/2020
DESIGN ENGINEER DATE

DESIGNED: AW DRAWN: MH

CHECKED: JR CHECKED: AW

INDIANA
DEPARTMENT OF TRANSPORTATION

LAYOUT
LINE "A"

	BRIDGE FILE
	N/A
SCALE	DESIGNATION
1" = 20' H 1" = 5' V	1800016
SURVEY BOOK	SHEETS
	8 of 14
CONTRACT	PROJECT
B 42369	1800016

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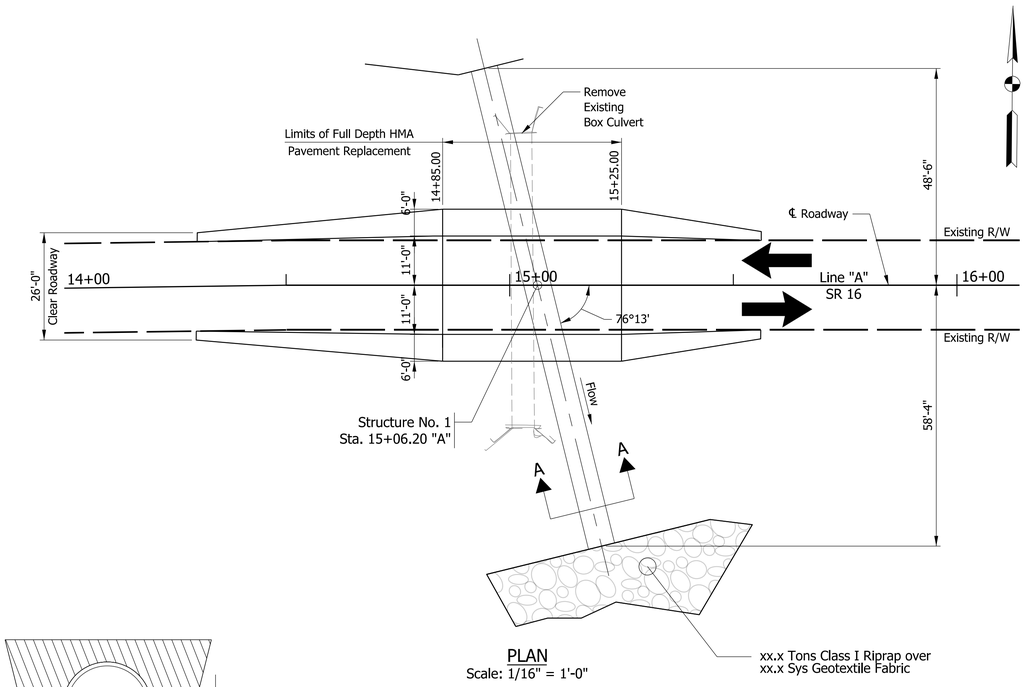
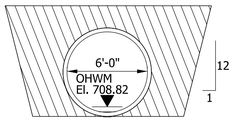
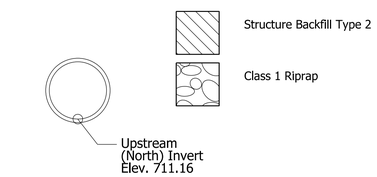


PLAN
Scale: 1/16" = 1'-0"



Backfill to be in accordance
with Standard Drawing No.
E 715-BKFL-03

SECTION A-A
Scale: 3/16" = 1'-0"



END DETAIL
NOT TO SCALE

GENERAL NOTES

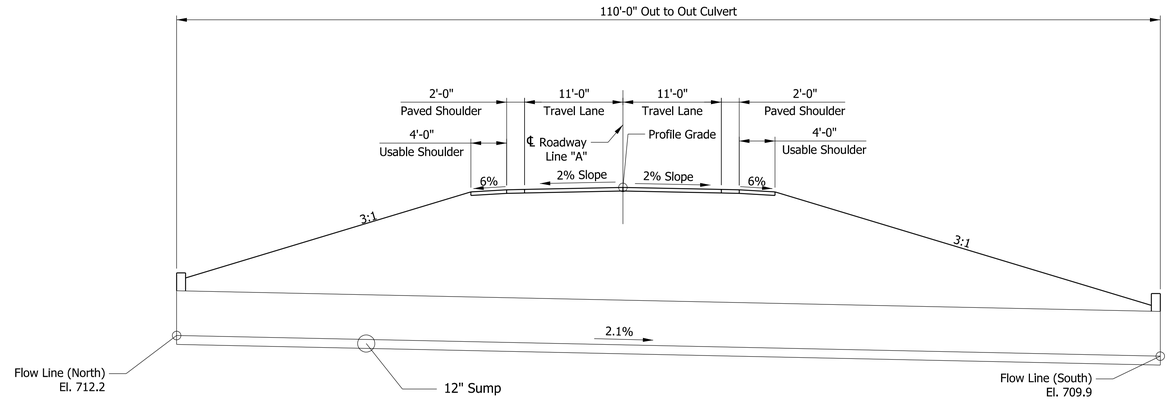
An Alternate 6' Corrugated or Semi-smooth Pipe with a 12" Sump may be substitued for the Structure indicated.

An Alternate 5' Span x 5' Rise Reinforced Concrete Box with 12" Sump may be substitued for the Structure indicated.

See INDOT Standard Drawing E723-CCSP-02 for Details of Riprap.

Contractor shall verify the Existing Flow Line Elevation to set the appropriate Sump Depth.

REVIEWER NOTE:
Data tables to be completed at a later stage.



TYPICAL SECTION
Scale: 1/8" = 1'-0"
Shown at Skew

GENERAL PLAN

TYPE 1 SMOOTH PIPE
SPAN: 6'-0"
26'-0" CLEAR ROADWAY SKEW: 33.6°
SR 16 OVER UNT TO EEL RIVER
MIAMI COUNTY

DATE	REVISION

RECOMMENDED FOR APPROVAL _____ 10/20/2020
DESIGN ENGINEER DATE

DESIGNED: AW | DRAWN: MH
CHECKED: JR | CHECKED: AW

INDIANA
DEPARTMENT OF TRANSPORTATION

PROPOSED
GENERAL PLAN

	BRIDGE FILE
	N/A
SCALE	DESIGNATION
AS NOTED	1800016
SURVEY BOOK	SHEETS
	9 of 14
CONTRACT	PROJECT
B 42369	1800016

I:\19jobs\19H0012\CAD\Struct\Sheet\Sht General Plan_01.dgn

APPENDIX C

Early Coordination

Sample Early Coordination Letter

HANSON
Engineering | Planning | Allied Services

Hanson Professional Services Inc.
6510 Telecom Drive
Suite 210
Indianapolis, IN 46278
(317) 293-9024
Fax: (317) 293-9566
www.hanson-inc.com

May 11, 2020

Name
Title
Agency
Street
City, State Zip

Re: **Des. No.:1800016,** Small structure replacement of SR 16 over an unnamed tributary (UNT) to Eel River, approximately 3.36 miles east of SR 19 in Miami County, Indiana.

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving the aforementioned small structure replacement in Miami County. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above designation number and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

The proposed project is located on SR 16 over UNT to Eel River, approximately 3.36 miles east of SR 19, Section 33, Township 29 North, Range 5 East, Miami County, Indiana. This section of SR 16 is a two lane Rural Major Collector. The project will be using federal and state funds.

Proposed work includes replacement of an existing reinforced concrete box culvert under SR 16 with a smooth 6-foot diameter type 1 pipe with 12-inch sump which will eliminate drainage issues at this location. The work will also involve the production of side slopes on the north and south sides of SR 16.

The purpose of this project is to replace the existing small structure to perpetuate vehicular crossings at this location, while also improving its hydraulic characteristics. The need for this project is evidenced by the structural deficiencies of the existing reinforced concrete box structure including wide cracks, efflorescence, and exposed rebar.

The project is anticipated to require an Indiana Department of Environmental Management (IDEM) Section 401 water quality certification, and a U.S. Army Corps of Engineers (USACE) Section 404 permit under a Regional General Permit (RGP) No. 001. Coordination with each of the permitting agencies will occur during the environmental process.

The required permanent and temporary right-of-way limits will be determined after the preliminary design is complete. At the time of this letter the land acquisition is anticipated to be less than a half-acre. The preferred maintenance of traffic is a full closure of SR 16. The official detour route will consist of SR 19, SR 114, and SR 15.

Land use within the vicinity of the project is primarily rural. The ecology, water and wetland, and biological assessment reports will be conducted by Hanson Professional Services and coordinated through INDOT Ecology & Permits Office for determination of ecological resources that may be present. This project qualifies for the application of the U.S. Fish and Wildlife Service (USFWS) range-wide programmatic informal consultation for the Indiana bat and northern long-eared bat and USFWS project information form will be provided to USFWS for review separately. The INDOT Cultural Resources Office will be consulted for applicability of the project under the Minor Projects Programmatic Agreement (MPPA) for archaeological and historical resources for compliance with Section 106.

Should we not receive your response **within thirty (30) calendar days** from the date of this letter, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. However,

should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Jason Rowley P.E, Senior Project Manager, Hanson Professional Services Inc., *jrowley@hanson-inc.com*, (317) 803-8960, or, Matthew Yarian, INDOT Project Manager, *myarian@indot.in.gov*, (260) 969-8234. Thank you in advance for your input.

Sincerely,

Jason Rowley, P.E.
Senior Project Manager
Hanson Professional Services, Inc.

Attachment –
Maps (Location, Aerial, Topographic)
Photographs
Attachments included in Appendix B

The following agencies received early coordination letters:

Kari Carmany-George Federal Highway Administration Federal Office Building, Room 254 575 North Pennsylvania Street Indianapolis, Indiana 46204 k.carmanygeorge@dot.gov	Elizabeth McCloskey U. S. Fish and Wildlife Service Northern Indiana Suboffice P.O. Box 2616 Chesterton, IN 46304 elizabeth_mccloskey@fws.gov
Indiana Geological Survey 611 North Walnut Grove Bloomington, IN 47405 https://igs.indiana.edu/eAssessment	Rick Neilson State Conservationist Natural Resources Conservation Service 6013 Lakeside Boulevard Indianapolis, Indiana 46278 rick.neilson@in.usda.gov
Environmental Coordinator Indiana Department of Natural Resources Division of Fish and Wildlife 402 West Washington Street, Rm. W273 Indianapolis, IN 46204 environmentalreview@dnr.in.gov	Chief, Environmental Resources Department of the Army Chicago District Corps of Engineers 231 S. LaSalle St., Suite 1500 Chicago, IL 60604 chicagorequests@usace.army.mil
Indiana Department of Environmental Management (Automatic website early coordination) http://www.in.gov/idem/5284.htm	Executive Director Miami County Emergency Management 78 McKinstry Avenue Peru, IN 46970 kmarks@miamicountyin.gov
Ricky Clark Manager, Public Hearings Indiana Department of Transportation 100 N. Senate Avenue, Rm. 642 Indianapolis, IN 46204 rclark@indot.in.gov	Gregg Wilkinson Surveyor Miami County 25 N Broadway, Room 104 Peru, IN 46970 gwilkinson@miamicountyin.gov
Paul Lehmann Field Environmental Officer Chicago Regional Office US Department of Housing & Urban Development Metcalf Fed. Bldg. 77 W. Jackson Blvd. Room 2401 Chicago, IL 60604 Paul.J.Lehmann@hud.gov	Kerry Worl Superintendent Miami County Highway Department 2180 N Mexico Rd Peru, IN 46970 kworl@miamicountyin.gov
Chris Buczko Regional Environmental Coordinator Midwest Regional Office National Park Service 601 Riverfront Drive Omaha, Nebraska 68102 chris_buczko@nps.gov	Kenneth Hanson Superintendent North Miami Community Schools 394 E 900 N Denver, IN 46926 khanson@nmcs.k12.in.us
Karen Novak INDOT – Fort Wayne District Environmental Section 5333 Hatfield Rd Fort Wayne, IN 46808 knovak@indot.in.gov	Timothy S Hunter Miami County Sheriff 1104 W 200 N Peru, IN 46970 thunter@miamicountyin.gov

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

INDOT

5333 Hatfield Road
Fort Wayne , IN 46808

Hanson Professional Services
Jason Rowley
6510 Telecom Drive
Suite 210
Indianapolis , IN 46278

Date

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The proposed project is located on SR 16 over UNT to Eel River, approximately 3.36 miles east of SR 19, Section 33, Township 29 North, Range 5 East, Miami County, Indiana. This section of SR 16 is a two lane Rural Major Collector. The project will be using federal and state funds. Proposed work includes replacement of an existing reinforced concrete box culvert under SR 16 with a smooth 6-foot diameter type 1 pipe with 12-inch sump which will eliminate drainage issues at this location. The work will also invoive the production of side slopes on the north and south sides of SR 16. The purpose of this project is to replace the existing small structure to perpetuate vehicular crossings at this location, while also improving its hydraulic characteristics. The need for this project is evidenced by the structural deficiencies of the existing reinforced concrete box structure including wide cracks, efflorescence, and exposed rebar.

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 (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 (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, Kosciosko, 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 Wetlands Program. To learn more about the Wetlands 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 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 (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 follow statutes:
    - IC 14-26-2 Lakes Preservation Act 312 IAC 11
    - IC 14-26-5 Lowering of Ten Acre Lakes Act No related code

- IC 14-28-1 Flood Control Act 310 IAC 6-1
- IC 14-29-1 Navigable Waterways Act 312 IAC 6
- IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
- 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 (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 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.

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 addition 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 (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 (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/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).

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 (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 (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 (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 (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 (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 (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 (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 (http://www.in.gov/idem/5284.htm), is used.

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

The proposed project is located on SR 16 over UNT to Eel River, approximately 3.36 miles east of SR 19, Section 33, Township 29 North, Range 5 East, Miami County, Indiana. This section of SR 16 is a two lane Rural Major Collector. The project will be using federal and state funds. Proposed work includes replacement of an existing reinforced concrete box culvert under SR 16 with a smooth 6-foot diameter type 1 pipe with 12-inch sump which will eliminate drainage issues at this location. The work will also involve the production of side slopes on the north and south sides of SR 16. The purpose of this project is to replace the existing small structure to perpetuate vehicular crossings at this location, while also improving its hydraulic characteristics. The need for this project is evidenced by the structural deficiencies of the existing reinforced concrete box structure including wide cracks, efflorescence, and exposed rebar.

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: 6/11/2020

Signature of the INDOT
Project Engineer or Other Responsible Agent Matthew Sparks

Date: 6/11/2020

Signature of the
For Hire Consultant Jason J Rowley

Jason Rowley

THIS IS NOT A PERMIT

State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife
Early Coordination/Environmental Assessment

DNR #: ER-22537 **Request Received:** May 11, 2020

Requestor: Hanson Professional Services Inc.
Jason Rowley
7820 Innovation Boulevard, Suite 200
Indianapolis, IN 46278

Project: SR 16 small structure replacement over UNT Eel River, about 3.36 miles east of SR 19; Des #1800016

County/Site info: Miami

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: Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

Natural Heritage Database: The Natural Heritage Program's data have been checked.
The species below have been documented in the Eel River within 1/2 mile of the project area.
A) FISH: Greater Redhorse (Moxostoma valenciennesi); state endangered
B) MUSSELS:
1. Clubshell (Pleurobema clava); federal & state endangered
2. Rabbitsfoot (Theliderma cylindrica); federally threatened & state endangered
3. Round Hickorynut (Obovaria subrotunda); state endangered
4. Wavyrayed Lampmussel (Lampsilis fasciola); state special concern
5. Purple Lilliput (Toxolasma lividum); state special concern

Fish & Wildlife Comments: As long as standard sediment and erosion control measures are implemented, we do not foresee any impacts to the mussel or fish species above as a result of this project.

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:

1) Crossing Structure:
For purposes of maintaining fish and wildlife 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 OHWM 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, channel width, 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.

2) Riparian Habitat:
We recommend a mitigation plan be developed for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation guidelines (and plant lists) can be found online at: http://iac.iga.in.gov/iac/20200527-IR-312200284NRA.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 by 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 acre in and urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however.

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 within the project area using a mixture of grasses (excluding all varieties of tall fescue), sedges, and wildflowers native to Northern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.
2. Minimize and contain within the project limits all tree and brush clearing.
3. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
4. 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.
5. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.
6. Do not excavate or place fill in any riparian wetland.

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 **Date:** June 10, 2020

Christie L. Stanifer
Environ. Coordinator
Division of Fish and Wildlife

Organization and Project Information

Project ID: 19H0012
Des. ID: 1800016
Project Title: SR 16 Small Structure Replacement
Name of Organization: Hanson Professional Services
Requested by: Ali Whitehead

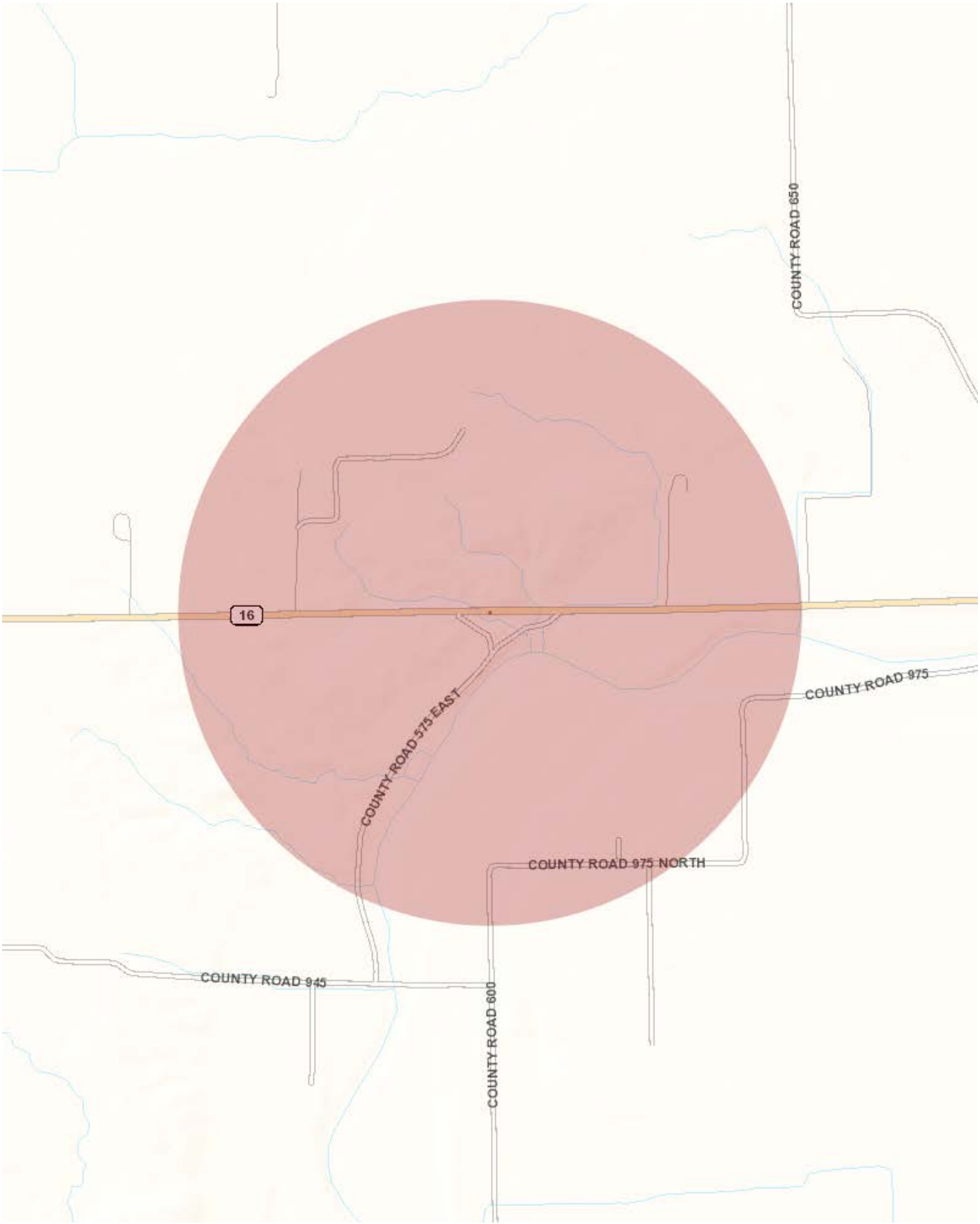
Environmental Assessment Report

1. Geological Hazards:
    - Moderate liquefaction potential
    - 1% Annual Chance Flood Hazard
2. Mineral Resources:
    - Bedrock Resource: High Potential
    - Sand and Gravel Resource: High Potential
3. Active or abandoned mineral resources extraction sites:
    - None documented in the area

*All map layers from Indiana Map (maps.indiana.edu)

This information was furnished by Indiana Geological Survey
Address: 420 N. Walnut St., Bloomington, IN 47404
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: May 11, 2020



Metadata:

- 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/Hydrology/Floodplains_FIRM.html
- https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html

USDA
United States Department of Agriculture

Natural Resources Conservation Service
Indiana State Office
6013 Lakeside Boulevard
Indianapolis, IN 46278
317-290-3200

May 18, 2020

Jason Rowley, P.E.
Hanson Professional Services
7820 Innovation Boulevard, Suite 200
Indianapolis, Indiana 46278

Dear Mr. Rowley:

The proposed project to replace the small structure along State Road 16 over an unnamed tributary to Eel River in Miami County, Indiana (Des Nos 1800016), as referred to in your letter received May 11, 2020, will not cause a conversion of prime farmland.

If you need additional information, please contact John Allen at 317-295-5859.

Sincerely,

RICHARD NEILSON
Digitally signed by RICHARD NEILSON
Date: 2020.05.18 15:32:55 -04'00'

RICK NEILSON
State Soil Scientist

United States Department of the Interior
Fish and Wildlife Service

Indiana Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

June 9, 2020

Mr. Jason Rowley
Hanson Professional Services Inc.
6510 Telecom Drive, Suite 210
Indianapolis, Indiana 46278

Project No.: Des. 1800016
Project: Small Structure Replacement SR 16 over Unnamed Tributary of Eel River
Location: Stockdale, Miami County

Dear Mr. Rowley:

This responds to your letter dated May 11, 2020, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The proposed project consists of the replacement of the existing concrete box culvert with a 6-foot diameter pipe at the same location. The highway side slopes will also be modified. Woodlands are present in all 4 quadrants of the proposed project area.

ENDANGERED SPECIES

The proposed project is within the range of the Federally endangered Indiana bat (Myotis sodalis) and the threatened northern long-eared bat (Myotis septentrionalis) and rabbitsfoot mussel (Quadrula cylindrica cylindrica). The impacts on the 2 bat species will be evaluated utilizing the Section 7 Range-wide Programmatic Consultation process. The rabbitsfoot mussel is known from several locations in the Eel River both upstream and downstream of the tributary stream confluence. Protection of water quality in Eel River is very important for the continued existence of this and other native mussel species. Therefore, strict erosion control measures will be needed at the site.

A spill avoidance/remediation plan needs to be developed, utilizing the most effective prevention and remediation practices to prevent hazardous materials (*e.g.* epoxy, petroleum products, solvents, paints, etc.) from entering the unnamed tributary and Eel River or from contaminating soils or waters within the project area. Such measures should include stationing of emergency response equipment at the project site and the designation of contained fueling and fuel storage areas at least 150 feet away from the creek and Eel River.

With these water pollution control measures in place, we concur that the proposed project is not likely to adversely affect the threatened rabbitsfoot mussel.

This precludes the need for further consultation on this project for the rabbitsfoot mussel as required under Section 7 of the Endangered Species Act of l973, 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.

We appreciate the opportunity to comment on this proposed project. If project plans change, please recoordinate with our office as soon as possible. For further discussion, please contact Elizabeth McCloskey at (219) 983-9753 or elizabeth_mccloskey@fws.gov.

Sincerely yours,

/s/ *Elizabeth S. McCloskey*

for Scott E. Pruitt
Supervisor

Sent via email June 9, 2020; no hard copy to follow.

cc: Christie Stanifer, Environmental Coordinator, Division of Fish and Wildlife, Indianapolis, IN

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: March 25, 2021
Consultation code: 03E12000-2020-I-2255
Event Code: 03E12000-2021-E-04815
Project Name: Des. 1800016 SR 16 Small Structure Project

Subject: Concurrence verification letter for the 'Des. 1800016 SR 16 Small Structure Project' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **Des. 1800016 SR 16 Small Structure Project** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*).

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities: If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Rabbitsfoot *Quadrula cylindrica cylindrica* Threatened

Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

Name

Des. 1800016 SR 16 Small Structure Project

Description

The proposed project is located on SR 16 over an Unnamed Tributary (UNT) to Eel River, approximately 3.36 miles east of SR 19, Perry Township, Sections 33 and 34, Township 29 North, Range 5 East, and Richland Township, Sections 3 and 4, Township 28 North, Range 5 East, in Miami County, Indiana. The project will be using federal and state funds. This section of SR 16 is listed as a Rural Major Collector.

SR 16 proposed work under Des #1800016 includes replacement of the existing 4.2-foot rise by 5-foot span reinforced concrete box culvert, CV 016-052-82.45, with a six-foot diameter type 1 pipe with a 12-inch sump. Riprap will be placed at the outlet to prevent scour protection. The work will also involve pavement removal and replacement at the east and west approaches of the structure on SR 16.

The project will require the acquisition of 0.4802 acre of right-of-way: 0.1715 acre on the north side of SR 16 and 0.3087 acre on the south side of SR 16. Work will occur approximately 60 feet from the northern edge of pavement and approximately 85 feet from the southern edge of pavement. Temporary lighting is not anticipated. Should temporary lighting be required, all temporary lighting will be directed away from suitable habitat during the active season.

A field survey was conducted on May 29, 2020. Trees will be removed. 0.243 acre of trees will be removed. The trees were clearly demarcated and include such species as Maple and Hickory.

The estimated timing of work is scheduled to begin in Spring 2024, with a standard 8-hour work schedule. Removal of trees, if applicable, is scheduled for the off season from October 1, 2023 to March 31, 2024.

Maintenance of Traffic (MOT): The preferred traffic maintenance during construction of the SR 16 project will involve a full closure with access to local traffic with an official detour route. The official detour would be SR 19 to SR 114 to SR 15.

A review of the U.S. Fish and Wildlife Service (USFWS) database by the Indiana Department of Transportation Environmental Services Division on May 8, 2020 did not indicate the presence of endangered bat species in or within the 0.5-mile search radius of the project area. A bat inspection was conducted on May 29, 2020. No evidence of bats was found during the inspection. A Culvert Inspection Report was completed on April 2, 2019. No evidence of bats or birds/nests were found during the inspection.

Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

Qualification Interview

1. Is the project within the range of the Indiana bat[1]?

   [1] See Indiana bat species profile

   Automatically answered
   Yes

2. Is the project within the range of the Northern long-eared bat[1]?

   [1] See Northern long-eared bat species profile

   Automatically answered
   Yes

3. Which Federal Agency is the lead for the action?

   A) Federal Highway Administration (FHWA)

4. Are *all* project activities limited to non-construction[1] activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

   [1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

   No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces[1]?

   [1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

   No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum[1]?

   [1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

   No

7. Is the project located **within** a karst area?

   No

8. Is there *any* suitable[1] summer habitat for Indiana Bat or NLEB **within** the project action area[2]? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   [2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the national consultation FAQs.

   Yes

9. Will the project remove *any* suitable summer habitat[1] and/or remove/trim any existing trees **within** suitable summer habitat?

   [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

   Yes

10. Will the project clear more than 20 acres of suitable habitat per 5-mile section of road/rail?

    No

11. Have presence/probable absence (P/A) summer surveys[1][2] been conducted[3][4] **within** the suitable habitat located within your project action area?

    [1] See the Service's summer survey guidance for our current definitions of suitable habitat.

    [2] Presence/probable absence summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernaculum (contact local Service Field Office for appropriate distance from hibernacula) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

    [3] For projects within the range of either the Indiana bat or NLEB in which suitable habitat is present, and no bat surveys have been conducted, the transportation agency will assume presence of the appropriate species. This assumption of presence should be based upon the presence of suitable habitat and the capability of bats to occupy it because of their mobility.

    [4] Negative presence/probable absence survey results obtained using the summer survey guidance are valid for a minimum of two years from the completion of the survey unless new information (e.g., other nearby surveys) suggest otherwise.

    No

12. Does the project include activities **within documented Indiana bat habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

13. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors?

    Yes

14. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented Indiana bat** roosting/foraging habitat or travel corridors occur[1]?

    [1] Coordinate with the local Service Field Office for appropriate dates.

    B) During the inactive season

15. Does the project include activities **within documented NLEB habitat**[1][2]?

    [1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    [2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

    No

16. Will the removal or trimming of habitat or trees occur **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors?

    Yes

17. What time of year will the removal or trimming of habitat or trees **within** suitable but **undocumented NLEB** roosting/foraging habitat or travel corridors occur?

    B) During the inactive season

18. Will *any* tree trimming or removal occur **within** 100 feet of existing road/rail surfaces?

    Yes

19. Will *any* tree trimming or removal occur **between** 100-300 feet of existing road/rail surfaces?

    No

20. Are *all* trees that are being removed clearly demarcated?

    Yes

21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?

    No

22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

    No

23. Does the project include slash pile burning?

    No

24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

    Yes

25. Is there *any* suitable habitat[1] for Indiana bat or NLEB **within** 1,000 feet of the bridge? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

    [1] See the Service's current summer survey guidance for our current definitions of suitable habitat.

    Yes

26. Has a bridge assessment[1] been conducted **within** the last 24 months[2] to determine if the bridge is being used by bats?

    [1] See User Guide Appendix D for bridge/structure assessment guidance

    [2] Assessments must be completed no more than 2 years prior to conducting any work below the deck surface on all bridges that meet the physical characteristics described in the Programmatic Consultation, regardless of whether assessments have been conducted in the past. Due to the transitory nature of bat use, a negative result in one year does not guarantee that bats will not use that bridge/structure in subsequent years.

    Yes

    SUBMITTED DOCUMENTS

    - *1800016_SR16_Structure Bat Assessment Form.pdf https://ecos.fws.gov/ipac/project/P4RSSXAXPREULGAY73K4Z2QM6A/projectDocuments/22684451*
    - *Pages from 1800016 - Culvert Inspection Report.pdf https://ecos.fws.gov/ipac/project/P4RSSXAXPREULGAY73K4Z2QM6A/projectDocuments/98343004*

27. Did the bridge assessment detect *any* signs of Indiana bats and/or NLEBs roosting in/under the bridge (bats, guano, etc.)[1]?

    [1] If bridge assessment detects signs of *any* species of bats, coordination with the local FWS office is needed to identify potential threatened or endangered bat species. Additional studies may be undertaken to try to identify which bat species may be utilizing the bridge prior to allowing *any* work to proceed.

    Note: There is a small chance bridge assessments for bat occupancy do not detect bats. Should a small number of bats be observed roosting on a bridge just prior to or during construction, such that take is likely to occur or does occur in the form of harassment, injury or death, the PBO requires the action agency to report the take. Report all unanticipated take within 2 working days of the incident to the USFWS. Construction activities may continue without delay provided the take is reported to the USFWS and is limited to 5 bats per project.

    No

28. Will the bridge removal, replacement, and/or maintenance activities include installing new or replacing existing **permanent** lighting?

    No

29. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

    No

30. Will the project involve the use of **temporary** lighting *during* the active season?

    Yes

31. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

    Yes

32. Will the project install new or replace existing **permanent** lighting?

    No

33. Does the project include percussives or other activities (**not including tree removal/ trimming or bridge/structure work**) that will increase noise levels above existing traffic/ background levels?

    No

34. Are *all* project activities that are **not associated with** habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

    Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

    Yes

35. Will the project raise the road profile **above the tree canopy**?

    No

36. Are the project activities that are not associated with habitat removal, tree removal/ trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

    Automatically answered

    Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO

37. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered

    Yes, because the tree removal/trimming that occurs outside of the Indiana bat's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

38. Is the habitat removal portion of this project consistent with a Not Likely to Adversely Affect determination in this key?

    Automatically answered

    Yes, because the tree removal/trimming that occurs outside of the NLEB's active season occurs greater than 0.5 miles from the nearest hibernaculum, is less than 100 feet from the existing road/rail surface, includes clear demarcation of the trees that are to be removed, and does not alter documented roosts and/or surrounding summer habitat within 0.25 miles of a documented roost.

39. Is the bridge removal, replacement, or maintenance activities portion of this project consistent with a No Effect determination in this key?

    Automatically answered

    Yes, because the bridge has been assessed using the criteria documented in the BA and no signs of bats were detected

40. **General AMM 1**

    Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

    Yes

41. **Tree Removal AMM 1**
    Can *all* phases/aspects of the project (e.g., temporary work areas, alignments) be modified, to the extent practicable, to avoid tree removal[1] in excess of what is required to implement the project safely?

    Note: Tree Removal AMM 1 is a minimization measure, the full implementation of which may not always be practicable. Projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented and LAA as long as Tree Removal AMMs 3, 5, 6, and 7 are implemented.

    [1] The word “trees” as used in the AMMs refers to trees that are suitable habitat for each species within their range. See the USFWS’ current summer survey guidance for our latest definitions of suitable habitat.

    Yes

42. **Tree Removal AMM 3**
    Can tree removal be limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits)?

    Yes

43. **Tree Removal AMM 4**
    Can the project avoid cutting down/removal of *all* (1) **documented**[1] Indiana bat or NLEB roosts[2] (that are still suitable for roosting), (2) trees **within** 0.25 miles of roosts, and (3) documented foraging habitat any time of year?

    [1] The word documented means habitat where bats have actually been captured and/or tracked.

    [2] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

    Yes

44. **Lighting AMM 1**
    Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

    Yes

Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

   Yes

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

   No

3. How many acres[1] of trees are proposed for removal between 0-100 feet of the existing road/rail surface?

   [1] If described as number of trees, multiply by 0.09 to convert to acreage and enter that number.

   0.243

4. Please describe the proposed bridge work:

   SR 16 proposed work under Des #1800016 includes replacement of the existing 4.2-foot rise by 5-foot span reinforced concrete box culvert, CV 016-052-82.45, with a six-foot diameter type 1 pipe with a 12-inch sump. Riprap will be placed at the outlet to prevent scour protection. The work will also involve pavement removal and replacement at the east and west approaches of the structure on SR 16.

5. Please state the timing of all proposed bridge work:

   The estimated timing of work is scheduled to begin in Spring 2024, with a standard 8-hour work schedule. Removal of trees, if applicable, is scheduled for the off season from October 1, 2023 to March 31, 2024.

6. Please enter the date of the bridge assessment:

   May 29, 2020 (In-person inspection) and April 2, 2019 (BIAS Report)

Avoidance And Minimization Measures (AMMs)

This determination key result includes the committment to implement the following Avoidance and Minimization Measures (AMMs):

TREE REMOVAL AMM 1

Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal.

LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

TREE REMOVAL AMM 2

Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

TREE REMOVAL AMM 3

Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

TREE REMOVAL AMM 4

Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or
documented foraging habitat any time of year.

GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat

This key was last updated in IPaC on December 29, 2020. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects. The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

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: March 24, 2021
Consultation Code: 03E12000-2020-SLI-2255
Event Code: 03E12000-2021-E-04744
Project Name: Des. 1800016 SR 16 Small Structure Replacement

Subject: Updated list of threatened and endangered species that may occur in your proposed project location 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-2255
Event Code: 03E12000-2021-E-04744
Project Name: Des. 1800016 SR 16 Small Structure Replacement
Project Type: TRANSPORTATION
Project Description: The proposed project is located on SR 16 over an Unnamed Tributary (UNT) to Eel River, approximately 3.36 miles east of SR 19, Perry Township, Sections 33 and 34, Township 29 North, Range 5 East, and Richland Township, Sections 3 and 4, Township 28 North, Range 5 East, in Miami County, Indiana. The project will be using federal and state funds. This section of SR 16 is listed as a Rural Major Collector.

SR 16 proposed work under Des #1800016 includes replacement of the existing 4.2-foot rise by 5-foot span reinforced concrete box culvert, CV 016-052-82.45, with a six-foot diameter type 1 pipe with a 12-inch sump. Riprap will be placed at the outlet to prevent scour protection. The work will also involve pavement removal and replacement at the east and west approaches of the structure on SR 16.

The project will require the acquisition of 0.4802 acre of right-of-way: 0.1715 acre on the north side of SR 16 and 0.3087 acre on the south side of SR 16. Work will occur approximately 60 feet from the northern edge of pavement and approximately 85 feet from the southern edge of pavement. Temporary lighting is not anticipated. Should temporary lighting be required, all temporary lighting will be directed away from suitable habitat during the active season.

A field survey was conducted on May 29, 2020. Trees will be removed. 0.243 acre of trees will be removed. The trees were clearly demarcated and include such species as Maple and Hickory.

The estimated timing of work is scheduled to begin in Spring 2024, with a standard 8-hour work schedule. Removal of trees, if applicable, is scheduled for the off season from October 1, 2023 to March 31, 2024.

Maintenance of Traffic (MOT): The preferred traffic maintenance during construction of the SR 16 project will involve a full closure with access to local traffic with an official detour route. The official detour would be SR 19 to SR 114 to SR 15.

A review of the U.S. Fish and Wildlife Service (USFWS) database by the Indiana Department of Transportation Environmental Services Division on May 8, 2020 did not indicate the presence of endangered bat species in or within the 0.5-mile search radius of the project area. A bat inspection

was conducted on May 29, 2020. No evidence of bats was found during the inspection. A Culvert Inspection Report was completed on April 2, 2019. No evidence of bats or birds/nests were found during the inspection.

Project Location:

Counties: Miami County, Indiana

Endangered Species Act Species

There is a total of 3 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[1], 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.

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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 *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ 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 www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Clams

NAME	STATUS
Rabbitsfoot *Quadrula cylindrica cylindrica* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5165	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	DOT Project Number	Route/Facility Carried	County
May 29, 2020	1800016	SR 16	Miami County
Federal Structure ID	**Structure Coordinates (latitude and longitude)**	**Structure Height (approximate)**	**Structure Length**
CV 016-052-82.45	40.9136, -85.9633	4 ft	80 ft

Structure Type (check one)

Bridge Construction Style

○ Cast-in-place		○ Pre-stressed Girder	
○ Flat Slab/Box		○ Steel I-beam	
○ Truss		○ Covered	
○ Parallel Box Beam		○ Other:	

Culvert Type

- ⊙ Box
- ○ Pipe/Round
- ○ Other:

Other Structure

- ○

Structure Material (check all that apply)

Deck Material	*Beam Material*	*End/Back Wall Material*
☐ Metal	☐ None	☐ Concrete
☐ Concrete	☐ Concrete	☐ Timber
☐ Timber	☐ Steel	☐ Stone/Masonry
☐ Open grid	☐ Timber	☐ Other:
☐ Other:	☐ Other:	

Creosote Evidence

- ○ Yes ○ No
- ○ Unknown

Culvert Material

- ☐ Metal
- ☒ Concrete
- ☐ Plastic
- ☐ Stone/Masonry
- ☐ Other:

Notes:

Crossings Traversed (check all that apply)

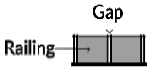
☐ Bare ground	☐ Open vegetation
☐ Rip-rap	☐ Closed vegetation
☐ Flowing water	☐ Railroad
☐ Standing water	☐ Road/trail - Type:
☒ Seasonal water	☐ Other:

Surrounding Habitat (check all that apply)

☒ Agricultural	☐ Grassland
☐ Commercial	☐ Ranching
☐ Residential-urban	☐ Riparian/wetland
☒ Residential-rural	☐ Mixed use
☒ Woodland/forested	☐ Other:

Areas Assessed (check all that apply)

Check all areas that apply. If an area is not present in the structure, check the "not present" box.
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.

Area (check if assessed)	Assessment Notes	Evidence of Bats (include photos if present)
☒ All crevices and cracks: **Bridges/culverts:** rough surfaces or imperfections in concrete **Other structures:** soffits, rafters, attic areas	☐ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Concrete surfaces (open roosting on concrete)	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between concrete end walls and the bridge deck	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Crack between concrete railings on top of the bridge deck 	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Vertical surfaces on concrete I-beams	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Spaces between walls, ceiling joists	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ Weep holes, scupper drains, and inlets/pipes	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All guiderails	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species
☐ All expansion joints	☒ Not present	☐ Visual - live # dead # ☐ Guano ☐ Staining ☐ Audible ☐ Odor ☐ Photos ☐ Species

Name: Ali Whitehead

Signature: Alison Whitehead

Looking through culvert, viewing north, 05/29/2020

Looking through culvert, viewing south, 05/29/2020

Existing culvert, viewing south, 05/29/2020

Existing culvert, viewing north, 05/29/2020

APPENDIX D

Section 106 of the NHPA

Category A consists of projects that, by their nature, have no effect on properties listed in or eligible for inclusion in the National Register of Historic Places (hereinafter referred to as the "National Register") and do not require review by INDOT Cultural Resources Office. All of the work under this Category must occur in previously disturbed soils, which are defined as soils that have been completely altered or displaced by earthmoving or other modern manipulation.

1. Any work on bridges limited to substructure or superstructure elements without replacing, widening, or elevating the superstructure under the conditions listed below ***(BOTH Conditions A and B must be met)*****.** This category **does not** include bridge replacement projects (when both superstructure and substructure are removed):

   A. The project takes place in previously disturbed soils; *AND*
   B. With regard to the bridges, at least one of the conditions (i, ii or iii) listed below must be satisfied:
      i. The latest Historic Bridge Inventory identified the bridge as non-historic (see http://www.in.gov/indot/2531.htm);
      ii. The bridge was built after 1945, and is a common type as defined in Section V. of the *Program Comment Issued for Streamlining Section 106 Review for Actions Affecting Post-1945 Concrete and Steel Bridges* issued by the Advisory Council on Historic Preservation on November 2, 2012 for so long as that Program Comment remains in effect AND the considerations listed in Section IV of the Program Comment do not apply;
      iii. The bridge is part of the Interstate system and was determined not eligible for the National Register under the Section 106 Exemption Regarding Effects to the Interstate Highway System adopted by the Advisory Council on Historic Preservation on March 10, 2005, for so long as that Exemption remains in effect.

2. All work within interchanges and within medians of divided highways in previously disturbed soils.

3. Replacement, repair, lining, or extension of culverts and other drainage structures that do not exhibit wood, stone or brick structures or parts therein and are in previously disturbed soils.

4. Roadway work associated with surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking within previously disturbed soils where replacement, repair, or installation of curbs, curb ramps or sidewalks will not be required.

5. Repair, in-kind replacement or upgrade of existing lighting, signals, signage, and other traffic control devices in previously disturbed soils.

6. Repair, replacement, or upgrade of existing safety appurtenances such as guardrails, barriers, glare screens, and crash attenuators in previously disturbed soils.

7. Repair or in-kind replacement of fencing and hardscape landscaping elements and/or replacement of existing plant materials in previously disturbed soils and installation of new fencing and hardscape landscaping elements and plant materials limited to locations within interstate right-of way within previously disturbed soils.

8. Installation of new or modification of existing traffic control devices and systems, including signs, signals, markings, illumination, other warning devices and their supports, to improve safety at railway crossings in previously disturbed soils.

9. Installation, repair, or replacement of erosion control measures along roadways, waterways and bridge piers within previously disturbed soils.

Minor Projects PA Project Assessment Form

Date: 7/30/20 **Updated** 3/22/21

Project Designation Number: 1800016

Route Number: SR 16

Project Description: Small Structure Replacement, 3.36 miles east of SR 19, north junction

Proposed work includes replacement of an existing reinforced concrete box culvert under SR 16 with a smooth 6-foot diameter type 1 pipe with 12-inch sump which will eliminate drainage issues at this location. The work will also involve the production of side slopes on the north and south sides of SR 16.

On March 10, 2021 INDOT, CRO was notified of the following change in the project scope.

- The only project change is the ROW amount which was increased from 0.3716 acre to 0.48 acre. Everything else is the same as we had submitted to the CRO in July 2020.

The project changes were reviewed by CRO and it was determined that the previous above-ground and archaeological assessments are still valid and Category B-9 of the MPPA remains applicable.

Feature crossed (if applicable): Unnamed Tributary to (UNT) Eel River

Township: Perry and Richland townships

City/County: Miami County

Information reviewed (please check all that apply):

☑ General project location map ☑ USGS map ☑ Aerial photograph ☑ Interim Report

☐ Written description of project area ☑ General project area photos ☑ Soil survey data

☐ Previously completed historic property reports ☐ Previously completed archaeology reports

☑ Bridge Inspection Information

Other (please specify): SHAARD GIS; SHAARD; online street-view imagery; Indiana Historic Building, Bridges, and Cemeteries Map (IHBBCM); Bridge Inspection Application System (BIAS); County property records, accessed here: https://miamiin.elevatemaps.io/#extent=247601.38888888896,242268.05555555565,2065364.0624999998,2062108.8541666663,2244; Project information provided by Hanson Professional Services, Inc., dated 7/10/2020 and on file at INDOT-CRO;

Does the project appear to fall under the Minor Projects PA? yes ☒ no ☐

If yes, please specify category and number (applicable conditions are highlighted):

B-9. Installation, replacement, repair, lining, or extension of culverts and other drainage structures under the conditions listed below ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

One of the two conditions listed below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work occurs in previously disturbed soils; *OR*

ii. Work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. If the archaeological investigation locates National Register-listed or potentially National Register-eligible archaeological resources, then full Section 106 review will be required. Copies of any archaeological reports prepared for the project will be provided to the DHPA and any archaeological site form information will be entered directly into the SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE**.**

Condition B (Above-Ground Resources)

One of the conditions below must be met *(EITHER Condition i or Condition ii must be satisfied)*:

i. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under one of the following conditions *(Condition a, Condition b, or Condition c must be satisfied)*:
   a. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
   b. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
   c. The structure exhibits non-modern wood, stone, or brick structures or parts therein and the following conditions are met *(BOTH Condition 1 AND Condition 2 must be met):*
      1. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
      2. The structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

ii. Work involves the installation of a new culvert and other drainage structures AND/OR there may be impacts to unusual features, including historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following conditions *(BOTH Condition a and Condition b must be satisfied)*:
   a. Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource; *AND*
   b. The subject structure exhibits one of the characteristics described below *(Condition 1, Condition 2 or Condition 3 must be satisfied)*.
      1. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
      2. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
      3. The structure exhibits non-modern wood, stone, or brick structures or parts therein but lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

If no, please explain:

Additional Comments:

With regard to above-ground resources, an INDOT-Cultural Resources Office (CRO) historian, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, performed a desktop review of the surrounding area. Based on a review of online street-view imagery and aerial photography, the areas immediately adjacent to the subject structure consists of dense woods. No unusual features are present that may be impacted by the project.

According to BIAS records, the subject structure (CV 016-052-82.45) is a 4.2-foot rise by 5-foot span (4-sided) reinforced concrete box culvert built c.-1940. Based on an examination of BIAS reports and interior photos, the structure exhibits no wood, stone, or brick structures or parts therein. In addition, there is no evidence to suggest that it possesses historical or engineering significance.

Based on the available information, as summarized above, no above-ground concerns exist as long as the project scope does not change.

With regard to archaeological resources, the proposed project is limited replacing the small structure carrying SR 16 over an UNT of Eel River. All work will occur in soils that have been disturbed by the construction of the 2-lane state highway, the raised road berm and grade separation built atop fill soils, concrete wingwalls, and utility easements. According to SHAARD GIS there are no recorded archaeological sites within or adjacent to the proposed project area. Soils in the project area consist of 25-50% slopes and are unlikely to contain intact significant archaeological deposits. Since work is limited to replacing an existing structure in previously disturbed soils and soils too steeply sloping to contain archeological deposits, there are no archaeological concerns.

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, construction in the immediate area of the find will be stopped and the INDOT Cultural Resources Office and the Division of Historic Preservation and Archaeology will be notified immediately.

INDOT Cultural Resources staff reviewer(s): Susan Branigin and Shaun Miller

****Be sure to attach this form to the National Environmental Policy Act documentation for this project. Also, the NEPA documentation shall reference and include the description of the specific stipulation in the PA that qualifies the project as exempt from further Section 106 review.*

APPENDIX E

Red Flag and Hazardous Materials

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-5113
FAX: (317) 233-4929

Eric Holcomb, Governor
Joe McGuinness,
Commissioner

Date: June 24, 2020

To: Site Assessment & Management
Environmental Policy Office - Environmental Services Division
Indiana Department of Transportation
100 N Senate Avenue, Room N642
Indianapolis, IN 46204

From: Tamra L. Reece
Hanson Professional Services Inc.
6510 Telecom Drive, Suite 210
Indianapolis, IN 46278
TReece@hanson-inc.com

Re: RED FLAG INVESTIGATION
DES 1800016, State Project
Small Structure Replacement
SR 16, 3.36 miles east of SR 19
Miami County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The proposed project is located on SR 16 over Unnamed Tributary (UNT) to Eel River, approximately 3.36 miles east of SR 19, Section 33, Township 29 North, Range 5 East, Miami County, Indiana. The project will be using federal and state funds. Proposed work includes replacement of an existing culvert under SR 16 with a 6-foot diameter pipe with a 12-inch sump.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # CV 016-052-82.45

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 _____ Permanent ☒ # Acres <0.5, Not Applicable ☐

Permanent and temporary right of way limits will be determined after the preliminary design is complete.

Type of excavation: Full depth replacement and 1.5" pavement removal 50 feet east and west of the project approaches. The proposed depth of excavation for installation of the pipe is approximately 20 feet below grade surface (bgs).

Maintenance of traffic: The preferred traffic maintenance during construction would involve a full closure with through traffic using an official detour route. The office detour route will be: SR 19 to SR 114 to SR 15.

Work in waterway: Yes ☒ No ☐ Below ordinary high water mark: Yes ☒ No ☐

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: Not applicable

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure 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	N/A	Recreational Facilities	N/A
Airports[1]	N/A	Pipelines	N/A
Cemeteries	N/A	Railroads	N/A
Hospitals	N/A	Trails	N/A
Schools	N/A	Managed Lands	N/A

[1]In order to complete the required airport review, a review of public airports within 3.8 miles (20,000 feet) is required.

Explanation: No infrastructure resources were identified within the 0.5-mile search radius.

WATER RESOURCES TABLE AND SUMMARY

Water Resources 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	2
Canal Structures – Historic	N/A	Lakes	3
NPS NRI Listed	N/A	Floodplain - DFIRM	1
NWI-Lines	N/A	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	18	Sinkhole Areas	N/A
Rivers and Streams	24	Sinking-Stream Basins	N/A

Explanation:

IDEM 303d Listed Streams and Lakes: Eighteen (18) 303d Listed Streams are located within the 0.5 miles search radius. An UNT of Eel River is located within the project area. The UNT is listed as impaired for E. coli and PCBs in fish tissue. 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. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT Site Assessment and Management (SAM) will occur prior to any work.

Rivers and Streams: Twenty-four (24) rivers and streams are located within the 0.5 mile search radius. One (1) stream, an UNT to Eel River, is located within the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

NWI – Wetlands: Two (2) wetlands are located within the 0.5 mile search radius. One wetland is located approximately 0.08 mile southeast of the project area. No impact is expected.

Lakes: Three (3) lakes are located within the 0.5 mile search radius. One lake is located approximately 0.34 mile northeast of the project area. No impact is expected.

Floodplains: One (1) floodplain polygon is located within the 0.5 mile search radius. The nearest floodplain polygon is located approximately 0.02 mile southeast of the project area. No impact is expected.

URBANIZED AREA BOUNDARY SUMMARY

Explanation: The project area is not mapped within an Urbanized Area Boundary.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration 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	N/A	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation: No mining and mineral exploration resources were identified within the 0.5-mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns 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	N/A	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	N/A
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	N/A	Notice of Contamination Sites	N/A

Explanation: No hazardous material concerns were identified within the 0.5-mile search radius.

ECOLOGICAL INFORMATION SUMMARY

The Miami County listing 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 preliminary review of the Indiana Natural Heritage Database by INDOT Environmental Services did indicate the presence of ETR species within the 0.5 mile search radius. Coordination with IDNR and USFWS will occur.

A review of the USFWS database by INDOT Environmental Services did not indicate the presence of endangered bat species in or within 0.5-mile of the project area. The project area is in a rural area surrounded by trees. The April 2, 2019 inspection report for Culvert #CV 016-052-82.45, stated no evidence of bats seen or heard within the culvert. The range-wide programmatic consultation for the Indiana bat and northern long-eared bat will need to be completed according to the most recent "Using the USFWS Information for Planning and Consultation (IPaC) System for Listed Bat Consultation for INDOT projects".

RECOMMENDATIONS SECTION

Include recommendations from each section. If there are no recommendations, please indicate N/A:

INFRASTRUCTURE: N/A

WATER RESOURCES: The presence of the following water resources will require the preparation of Waters of the US report and coordination with INDOT ES Ecology and Waterway Permitting:

- Rivers and Streams- One (1) stream, the UNT to Eel River is located within the project area.

IDEM 303d Listed Streams and Lakes (Impaired) - An UNT of Eel River is located within the project area. The UNT is listed as impaired for E. coli and PCBs in fish tissue. 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. Exposure to PCBs in fish tissue is considered low, assuming workers are not eating biota surrounding or associated with the water body. If there will be sediment and/or soils disturbed by construction, additional investigation may be necessary. Coordination with INDOT Site Assessment and Management (SAM) will occur prior to any work.

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION:

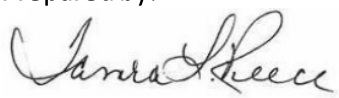
Coordination with IDNR and USFWS will occur. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects."

Nicole Fohey-Breting

Digitally signed by Nicole Fohey-Breting
Date: 2020.06.25 12:06:59 -04'00'

INDOT Environmental Services concurrence: _____(Signature)

Prepared by:



Environmental Specialist
Hanson Professional Services Inc.

Graphics:

A map for each report section with a 0.5 mile search radius buffer around all project area(s) showing all items identified as possible items of concern is attached. If there is not a section map included, please change the YES to N/A:

SITE LOCATION: YES

INFRASTRUCTURE: N/A

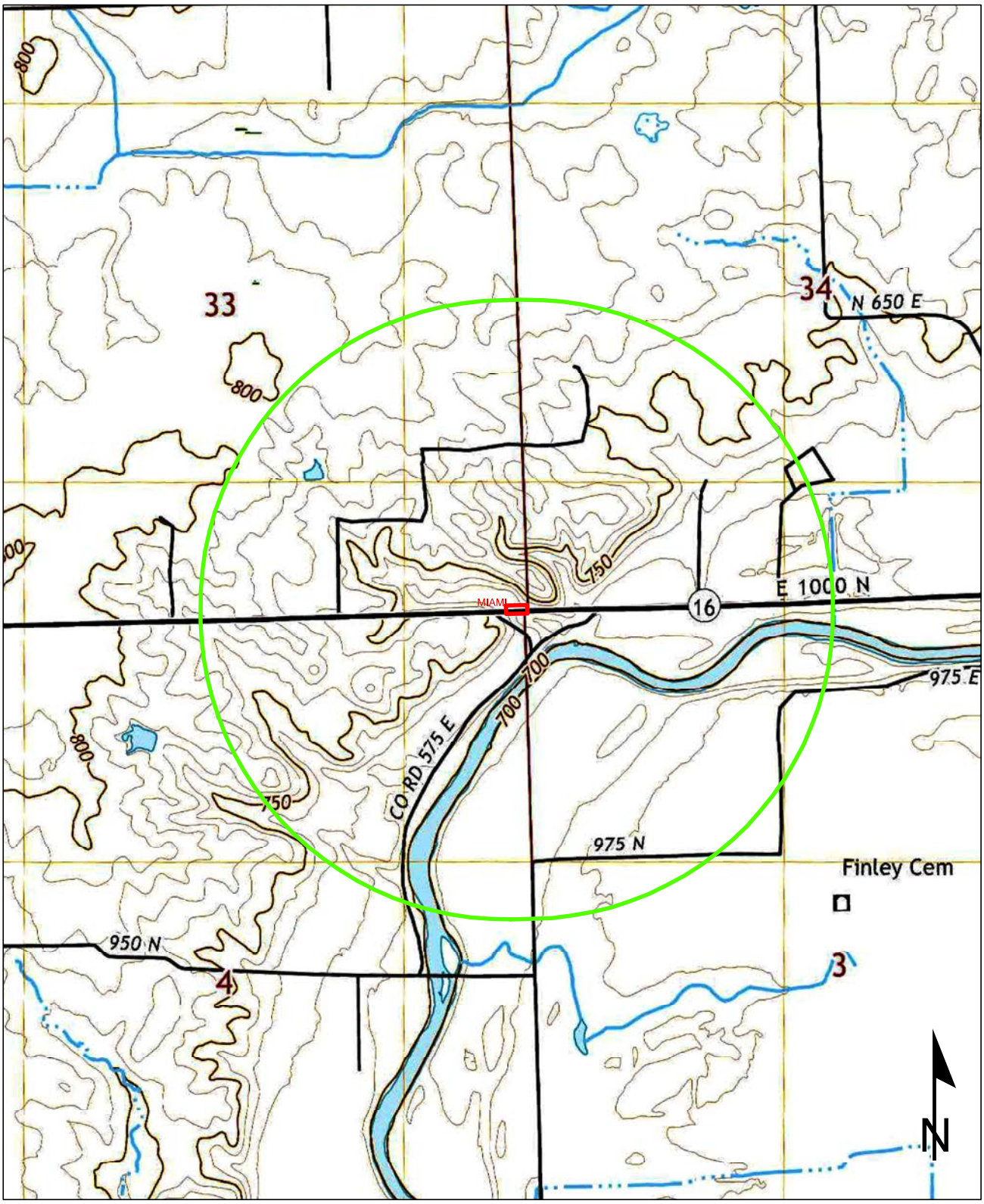
WATER RESOURCES: YES

URBANIZED AREA BOUNDARY: N/A

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: N/A

Red Flag Investigation - Site Location
SR 16, 3.36 miles east of SR 19
Des. No. 1800016, Small Structure Replacement
Miami County, Indiana



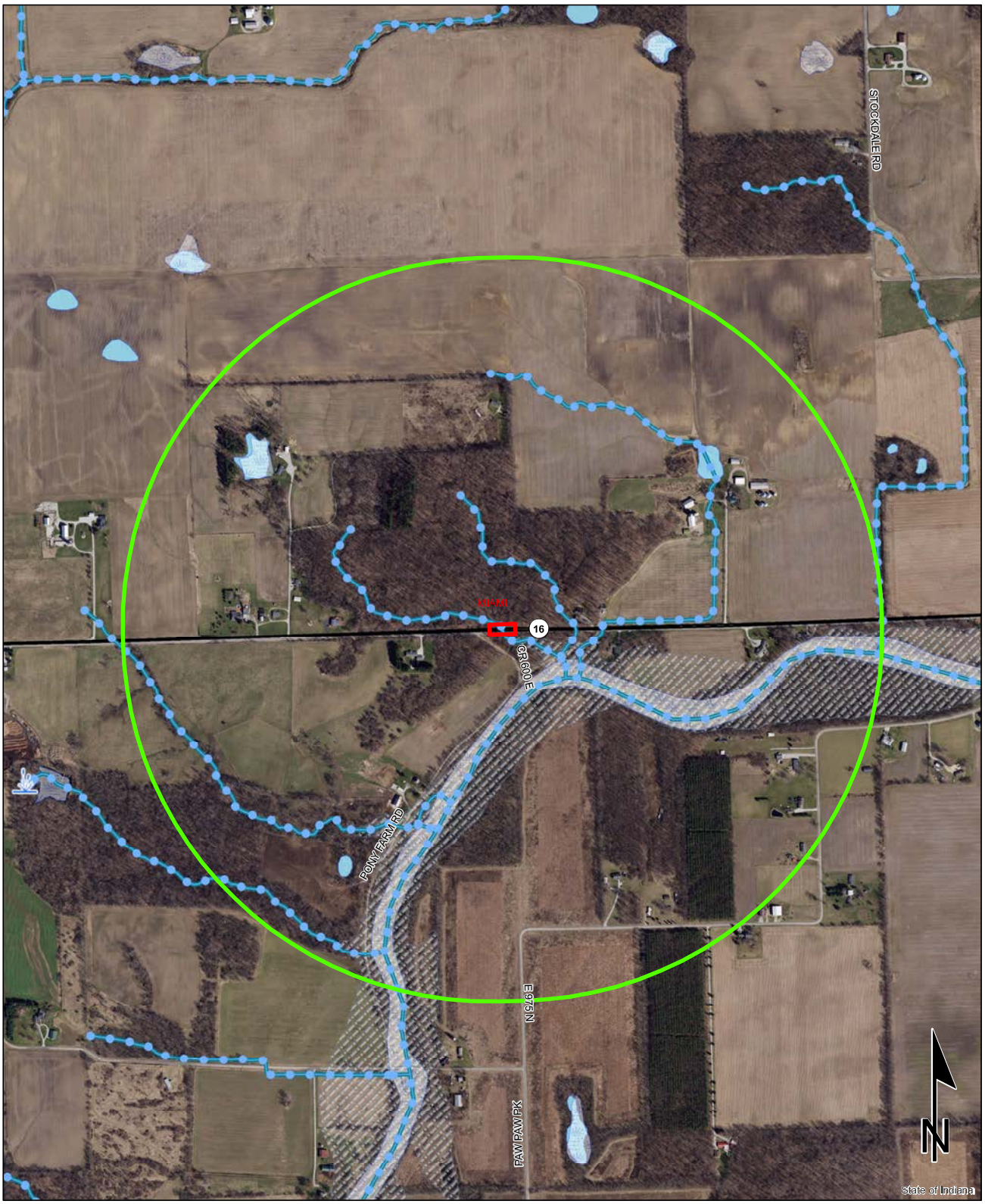
0.2 0.1 0 0.2 Miles

Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

ROANN QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Water Resources
SR 16, 3.36 miles east of SR 19
Des. No. 1800016, Small Structure Replacement
Miami County, Indiana



0.15 0.075 0 0.15 Miles

Sources:

Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

- NWI - Point
- Karst Spring
- NWI- Line
- Impaired_Stream_Lake
- NPS NRI listed
- River
- Canal Structure - Historic
- Canal Route - Historic
- Wetlands
- Lake
- Floodplain - DFIRM
- Cave Entrance Density
- Sinkhole Area
- Sinking-Stream Basin
- County Boundary
- Project Area
- Half Mile Radius
- Toll
- Interstate
- State Route
- US Route
- Local Road

Indiana County Endangered, Threatened and Rare Species List

County: Miami

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Epioblasma rangiana	Northern Riffleshell	LE	SE	G1	S1
Epioblasma triquetra	Snuffbox	LE	SE	G3	S1
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G5	S3
Ligumia recta	Black Sandshell		SSC	G4G5	S2
Obovaria subrotunda	Round Hickorynut	C	SE	G4	S1
Plethobasus cyphyus	Sheepnose	LE	SE	G3	S1
Pleurobema clava	Clubshell	LE	SE	G1G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Theliderma cylindrica	Rabbitsfoot	LT	SE	G3G4	S1
Toxolasma lividus	Purple Lilliput	C	SSC	G3Q	S2
Venustaconcha ellipsiformis	Ellipse			G4	S2
Villosa fabalis	Rayed Bean	LE	SE	G2	S1
Fish					
Moxostoma valenciennesi	Greater Redhorse		SE	G4	S2
Reptile					
Emydoidea blandingii	Blanding's Turtle	C	SE	G4	S2
Thamnophis proximus proximus	Western Ribbon Snake		SSC	G5T5	S3
Bird					
Circus hudsonius	Northern Harrier		SE	G5	S2
Haliaeetus leucocephalus	Bald Eagle		SSC	G5	S2
Mammal					
Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Crataegus succulenta var. succulenta	fleshy hawthorn		ST	G5T5	S3
Hypericum pyramidatum	great St. John's-wort		ST	G4T4	S2
Napaea dioica	glade mallow		ST	G4	S2
Passiflora incarnata	purple passion-flower		WL	G5	S3
High Quality Natural Community					
Forest - upland dry-mesic Central Till Plain	Central Till Plain Dry-mesic Upland Forest		SG	GNR	S2
Forest - upland mesic Central Till Plain	Central Till Plain Mesic Upland Forest		SG	GNR	S3
Other Significant Feature					
Geomorphic - Nonglacial Erosional Feature - Water Fall and Cascade	Water Fall and Cascade			GNR	SNR

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

APPENDIX F

Waters Report

Note: Waters Report was approved on 11/24/2020

Aaron Koehlinger 2/25/2020



Wetland Delineation and Waters Report

SR 16 Small Structure Replacement over an Unnamed Tributary to Eel River

Des. 1800016, CV 016-052-82.45

3.36 Miles East of SR 19, Miami County, Indiana

Prepared for:

Indiana Department of Transportation

Fort Wayne District

5333 Hatfield Rd.

Fort Wayne, IN 46808

Prepared by:

Hanson Professional Services, Inc.

6510 Telecom Drive, Suite 210

Indianapolis, IN 46278

November 3, 2020

1.0 Introduction

Hanson Professional Services Inc. was contracted by the Indiana Department of Transportation (INDOT) Fort Wayne district to perform a wetland delineation and waters investigation for the proposed Small Structure Replacement on SR 16 over an Unnamed Tributary (UNT) to Eel River, approximately 3.36 miles east of SR 19 in Perry and Richland Townships, Miami County, Indiana (CV 016-052-82.45). The investigated area is located on the Roann United States Geological Survey (USGS) 7.5 Minute Quadrangle Map in Sections 33 and 34, Township 29 North, Range 5 East, and Sections 3 and 4, Township 28 North, Range 5 East. The central GPS point for the investigated area is 40.913428, -85.963408. The location and approximate boundaries of the study area can be seen in the attached maps and photographs.

Proposed work includes replacement of an existing 5-foot span by 4.2-foot rise reinforced concrete box culvert under SR 16 with a six-foot diameter smooth pipe with a 12-inch sump. Riprap will be installed at the outlet of the structure. The work will also involve pavement reconstruction of the adjacent roadway approaches. The need (or deficiency) for this project is the structural deficiency of the existing structure. The structure has cracks, spalling, exposed rebar, and a large scour hole. The purpose of this project is to perpetuate vehicular crossings at the project location and to improve hydraulic characteristics. The length of the project is approximately 130 feet.

Hanson Professional Services Inc. staff visited the site on May 29 and September 24, 2020 to conduct a wetland delineation and waters investigation. This wetland delineated 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).

2.0 Site Characterization – Records Review

Data from the U.S. Geological Survey (USGS) 7.5 minute quadrangle maps, the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey, the U.S. Fish and Wildlife Service National Wetlands Inventory (NWI), and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) were used to provide an indication of areas where waters and wetlands potentially occur.

2.1 USGS Quadrangle Map

The investigated area is located on the Roann USGS 7.5 Minute Quadrangle Map in Sections 33 and 34, Township 29 North, Range 5 East, and Sections 3 and 4, Township 28 North, Range 5 East. The topographic map does not depict any surface water features within the project study area (see Figure 2).

2.2 National Wetlands Inventory (NWI) Information

The digital format NWI maps were developed by the USFWS in collaboration with the USGS, Water Resources Division using data from 1988. The maps were prepared primarily by stereoscopic analysis and high altitude aerial photographs. All wetlands are identified based on vegetation, visible hydrology and geography in accordance with the Cowardin System. According to the USFWS, aerial photographs typically reflect conditions during the year and season they were take n. There is a margin of error inherent in the use of aerial photographs to delineate wetlands. Therefore,

wetland boundaries established through interpretation of aerial photographs may be revised based upon detailed ground and historical analyses for individual sites.

The NWI was reviewed for the investigated area. There is one NWI wetland mapped within the investigated area. The NWI wetland is classified as Riverine, Intermitten, Streambed, Seasonally Flooded (R4SBC) under the Cowardin Classification System. Additionally, Eel River is located 0.1 mile southeast of the investigated area and is classified as Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded (R2UBH) under the Cowardin Classification System.

2.3 Soils

The NRCS Web Soil Survey is generated from USDA-NRCS certified data for Miami County, Indiana. Soil mapping units within the study area depicted in Figure 3 are presented in Table 1. The soil type of the study area is Hennepin silt loam, 25 to 50 percent slopes. Hennepin silt loam is not considered to be a hydric soil in Miami County, Indiana (See Figure 3).

Table 1: Soils

Soil Unit	Soil Type	Percent Slope	Hydric? (Y/N)	Percent of the Map Unit Hydric	Hydric Component Landform
HeG	Hennepin silt loam	25 – 50	No	0%	Moraines

2.4 Floodways and Floodplains

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping (FIRM) was reviewed for the investigated area. The investigated area is located in an area of minimal flood hazard.

2.5 12-Digit Hydrologic Unit Code

The USGS 12-Digit Hydrologic Unit Code (HUC) mapping was reviewed for the investigated area. The investigated area is located entirely within the limits of Paw Paw Creek – Eel River's 12-Digit HUC (051201040509).

2.6 National Hydrography Dataset (NHD) Flowlines

One NHD flowline runs through the investigated area. The flowline is associated with UNT to Eel River and is classified as a stream/river with a hydrographic category of intermittent.

3.0 Field Reconnaissance

3.1 Wetlands

A field reconnaissance was conducted on May 29 and September 24, 2020 by Hanson personnel to determine and identify jurisdictional wetlands and Waters of the United States (WOTUS) or Waters of the State within the study area, which includes the existing SR 16 corridor and adjacent land approximately 80 feet from the centerline of SR 16. The length of the study area was walked, and photos were taken of any suspected features (see Figure 5). The study area was surveyed for wetlands using the methods in *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Midwest Region (Midwest Regional Supplement).* Under the delineation procedures in this

manual, an area must exhibit characteristic hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a wetland. If a field investigation determines that any of the three parameters are not satisfied, the area usually does not qualify as a wetland. Supporting materials used for this survey were plant identification lists and field guides, NRCS soil survey data and hydric soil list, aerial photography, USGS topographic map, NWI map and floodplain map.

Collector for ArcGIS installed on an iPad was used to collect photographs throughout the study area, see Figure 5 for selected photographs and locations.

Four potential wetland sites, A, B, C, and D were investigated during the field visit. Sites A and B are located on the south side of SR 16. Site A is located to the east of the culvert outlet and site B is located to the west of the culvert outlet. Sites C and D are located on the north side of SR 16. Site C is located west of the culvert inlet and site D is located east of the culvert inlet. Sites C and D were taken outside of the defined bed and bank. See Table 2 for a summary of the data points.

Sampling site A was observed as a hillslope with 8-10 percent slope (see Data Form A). Some hydrophytic vegetation was present at the site but was not dominant or prevalent. Dominant species consisted of Pale Touch-Me-not (*Impatiens pallida),* Red Hickory (*Carya* ovalis), Sugar Maple (*Acer Saccharum),* and American Elm (*Ulmus Americana)*. Hydric soil was not found to be present due to a lack of hydric soil indicators. The soil was found to have a clay texture and a color of 10 YR 3/2 from 0-12 inches. Wetland hydrology was present as oxidized rhizospheres on living roots were observed (primary indicator C3). Due to a lack of hydrophytic vegetation and hydric soil, Site A was determined not to be a wetland.

Sampling site B was observed as a hillslope with 5 percent slope (see Data Form B). Dominance of hydrophytic vegetation was found at the site. Dominant species consisted of Boxelder Maple (*Acer Negundo*) and Pale Touch-Me-not (*Impatiens pallida).* Hydric soil was not found to be present due to a lack of hydric soil indicators and no wetland hydrology was observed at the site. The soil was found to have a sandy texture and a color of 10 YR 5/4 from 0-12 inches. Due to the lack of hydric soil and wetland hydrology, Site B was determined not to be a wetland.

Sampling site C was observed as a terrace with 0 percent slope (see Data Form C). Dominance of hydrophytic vegetation was found at the site. Dominant species consisted of Sugar Maple (*Acer Saccharum),* Pale Touch-Me-not (*Impatiens pallida),* and White Violet (*Viola reinfolia).* Hydric soil was not found to be present due to a lack of hydric soil indicators. The soil was found to have a clay texture and a color of 10 YR 3/2 from 1-5 inches and a sandy clay texture and color of 10 YR 4/3 from 5-12 inches. No wetland hydrology was observed at the site. Due to the lack of hydric soil and wetland hydrology, Site C was determined not to be a wetland.

Sampling site D was observed as a terrace with 5 percent slope (see Data Form D). Some hydrophytic vegetation was present at the site but was not dominant or prevalent. Dominant species included Black Maple (*Acer Nigrum)*, Canadian wild ginger (*Asarum canadense)*, and Stinging nettle (*Urtica dioica).* Hydric soil was not found to be present due to a lack of hydric soil indicators. The soil had a clay texture and color of 10 YR 3/2 from 1-5 inches and a sandy clay texture and color of 10 YR 4/3 from 5-12 inches. No wetland hydrology was observed at the site. Due to the lack of hydrophytic vegetation, hydric soil, and wetland hydrology, Site D was determined not to be a wetland.

Table 2: Data Point Summary Table

Data Point	Vegetation	Soils	Hydrology	Wetland
A	No	No	Yes	No
B	Yes	No	No	No
C	Yes	No	No	No
D	No	No	No	No

3.2 Stream and Ditch Features

One stream was identified during the field investigation. The stream, an unnamed tributary (UNT) to Eel River, has a defined bed and bank and appears to be an intermittent, natural drainageway to Eel River. It crosses under SR 16 via a concrete box culvert from north to south. At the time of the investigation, flow was not observed in the stream channel. The ordinary high-water mark (OHWM) measured at approximately 40.913492, -85.963422 was approximately 5 inches, and the OHWM width was approximately 2.5 feet. The UNT to Eel River has a drainage area of 112.67 acres. Approximately 115 LFT of the UNT to Eel River was observed in the study area on the north side of SR 16. Because of its defined bed, bank, and connection to downstream waters, the UNT to Eel River is considered a jurisdictional Waters of the U.S.

Table 3: Stream Summary Table

Name	Photos	Lat / Long	OHWM Width	OHWM Depth	USGS Blue-line?	Riffles? Pools?	Quality	Substrate	Likely WOTUS?
UNT to Eel River	1, 2, 3, 17	40.913428,-85.963408	2.5 ft	5 in	Yes, intermittent	No	Average	Sand and gravel	Yes

4.0 Conclusions

One (1) jurisdictional feature, an UNT to Eel River was identified within the study area. The waterway is likely a Waters of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway and wetlands. If impacts are necessary, then mitigation may be required. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgement on the guidelines set forth by the USACE.

5.0 Acknowledgement

This waters determination has been prepared based on the best available information, interpreted in the light of the investigator's training, experience and professional judgement in conformance with the 1987 *Corps of Engineers Wetlands Determination Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.

Ali Whitehead

Transportation Designer
Hanson Professional Services Inc.

10/16/20

Preston R. Marucco

Environmental Specialist
Hanson Professional Services Inc.

10/16/20

6.0 Supporting Documentation

Maps:

- Figure 1 – Project Location
- Figure 2 – USGS Topographic Map
- Figure 3 – USGS National Hydrography Dataset, National Wetlands Inventory, NRCS Soil Survey
- Figure 4 – FEMA Flood Insurance Rate Map
- Figure 5 – Delineated Features and Photo Locations

Photos 1-17

7.0 References

Cowardin, L.M., V. Carter, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Office of Biological Services. FWS/OBS-79/31. Washington, D.C. 20240.

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U.S. Department of Agriculture, Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. L.M. Vasilas, G.W. Hurt and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils. Available at: http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046970.pdf.

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U.S. Geological Survey. 7.5 Minute Series Quadrangles, Roann, Indiana. Available at: http://gis.iu.edu/datasetInfo/topo.php.

Figure 1 Project Location

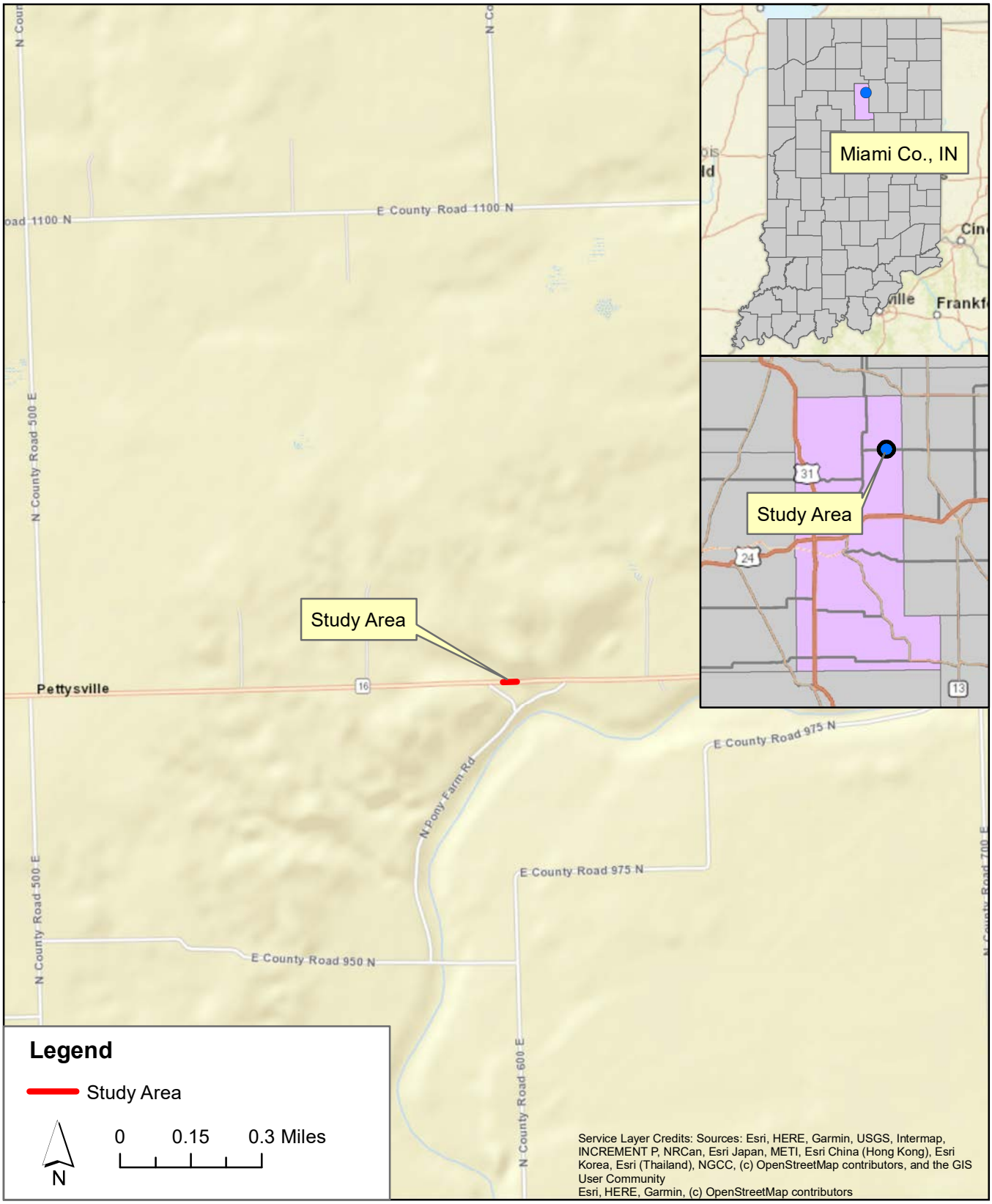

Figure 2A USGS Topographic Map

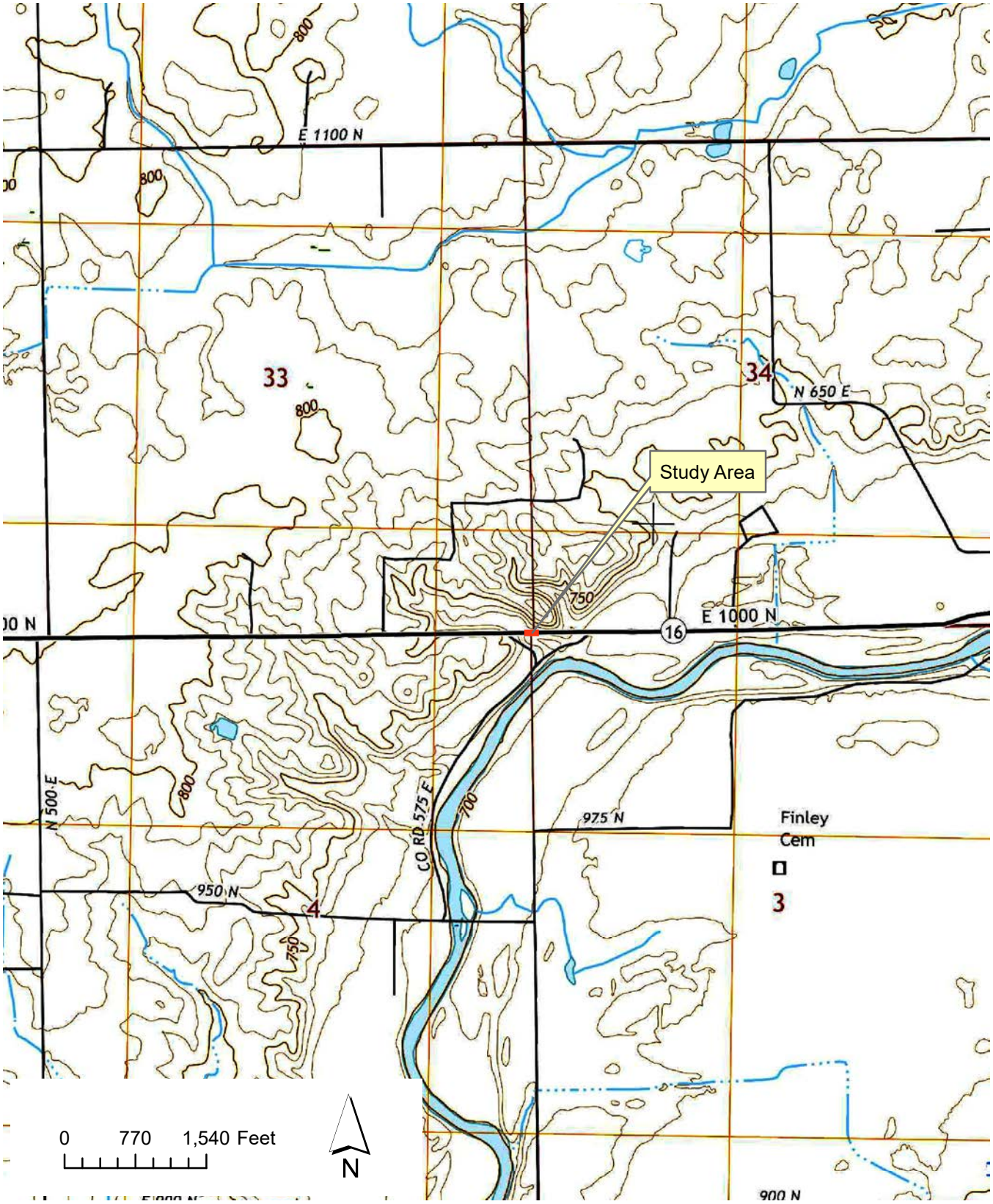

Figure 2B USGS Topographic Map - Zoomed-in Scale

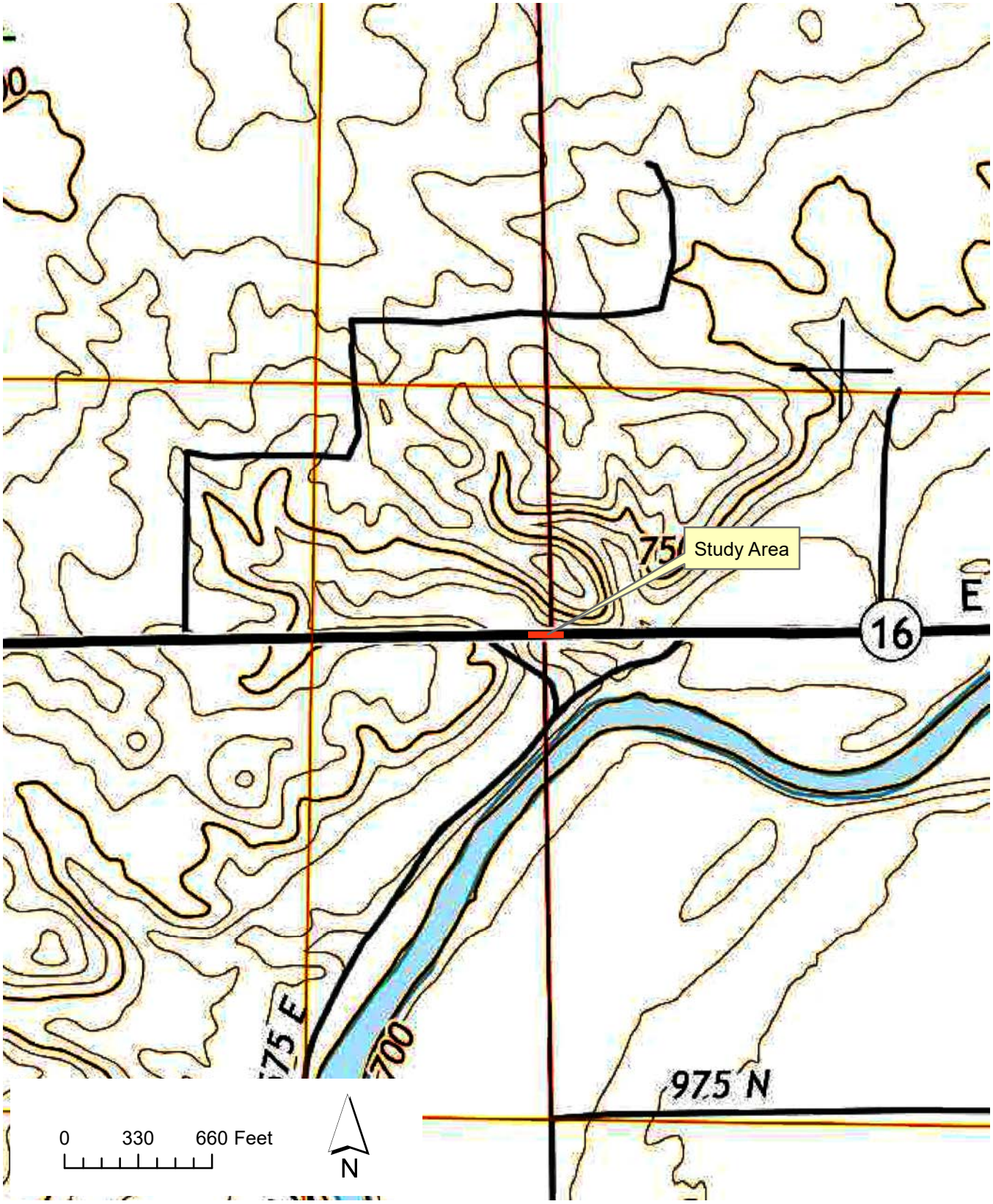

Figure 3 NHD, NWI and Soil Survey

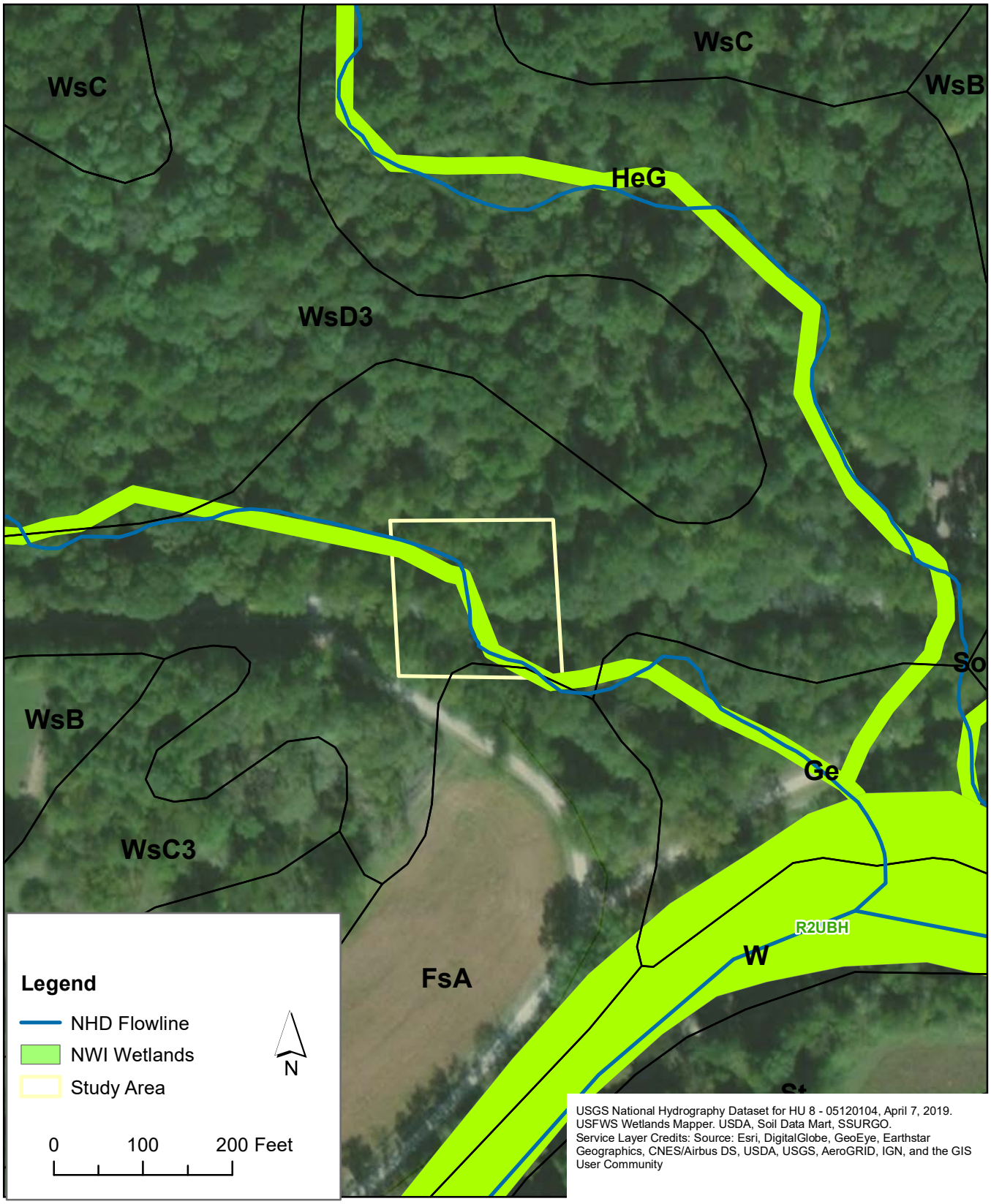

Figure 4 FEMA Floodplain Map

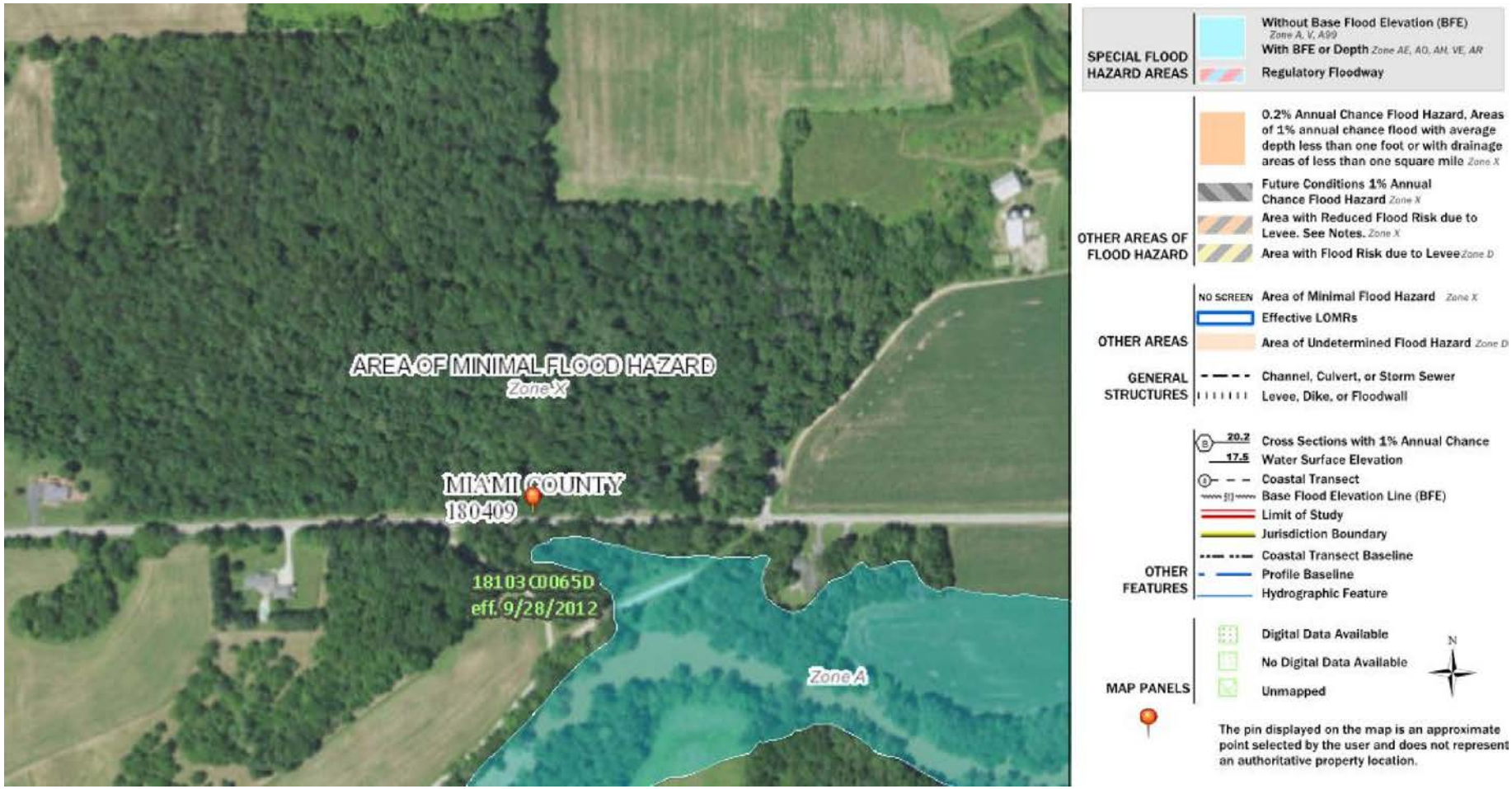

Figure 5 Delineated Features and Photo Locations

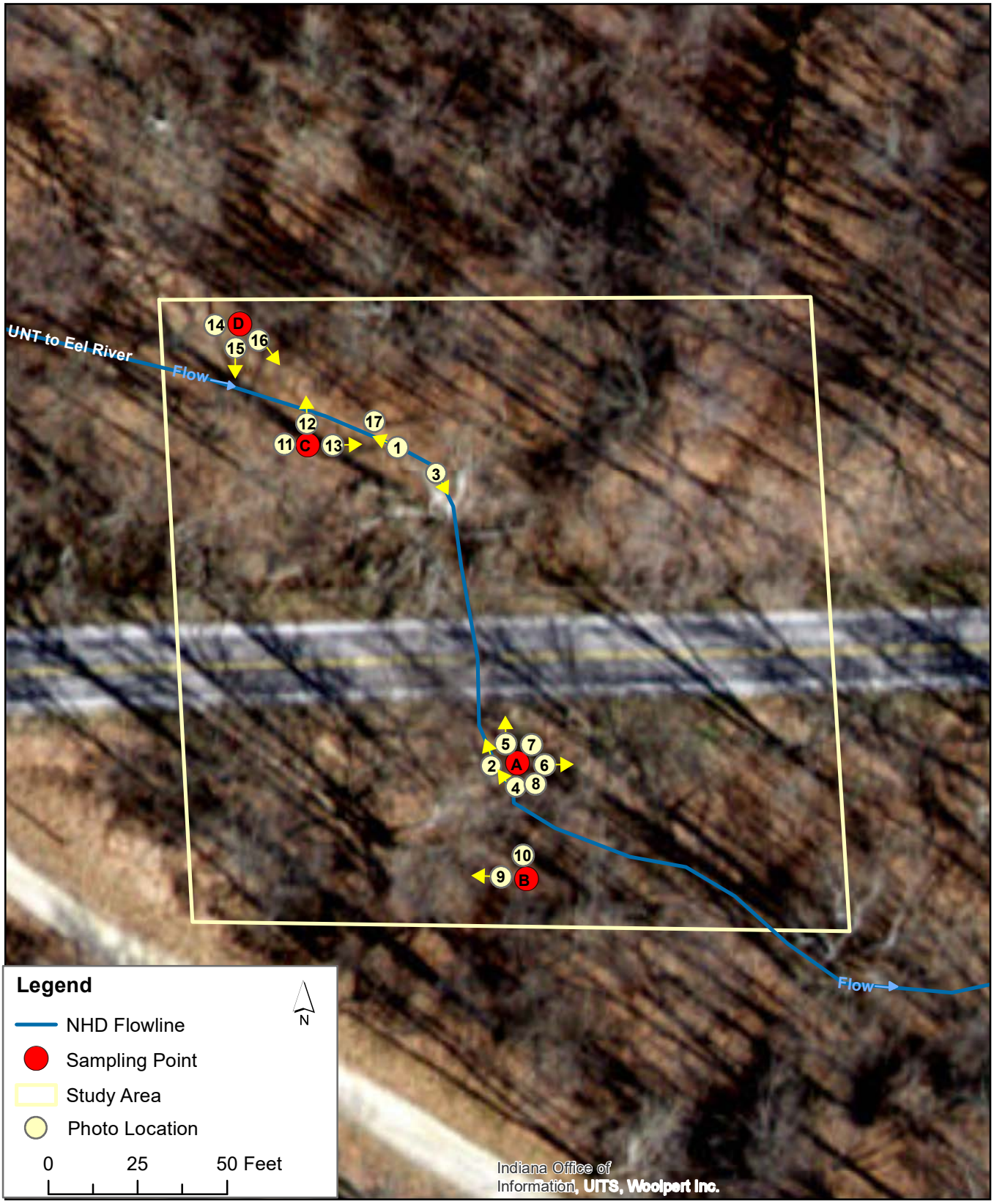

Photo 1. UNT to Eel River upstream, viewing northwest, 05/29/2020

Photo 2. Existing structure outlet, UNT to Eel River viewing upstream, viewing north, 05/29/2020

Photo 3. Existing structure inlet, UNT to Eel River viewing downstream, viewing south, 05/29/2020

Photo 4. Sampling Site A, viewing northwest, 05/29/2020

Photo 5. Sampling Site A, viewing north, 05/29/2020

Photo 6. Sampling Site A, viewing east, 05/29/2020

Photo 7. Sampling Site A, 05/29/2020

Photo 8. Sampling Site A soil profile, 05/29/2020

Photo 9. Sampling Site B, viewing west, 05/29/2020

Photo 10. Sampling Site B soil profile, 05/29/2020

Photo 11. Sampling Site C, 05/29/2020

Photo 12. Sampling Site C, viewing north, 05/29/2020

Photo 13. Sampling Site C, viewing east, 05/29/2020

Photo 14. Sampling Site D, 05/29/2020

Photo 15. Sampling Site D, viewing south, 05/29/2020

Photo 16. Sampling Site D, viewing southeast, 05/29/2020

Photo 17. UNT to Eel River OHWM measurement, 09/24/2020

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 19H0012 - Des. 1800016 SR 16 City/County: Miami County Sampling Date: 5/29/20

Applicant/Owner: INDOT Fort Wayne State: IN Sampling Point: A

Investigator(s): Ali Whitehead, Preston Marucco Section, Township, Range: Section 33, T 29 North, R 5 East

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave

Slope (%): 8-10 Lat: 40.913334 Long: -85.963353 Datum: _____

Soil Map Unit Name: Hennepin silt loam NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X

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 _____	No X	
Hydric Soil Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
It had rained the morning prior to the field investigation. Rainfall for 30 days prior to the field investigation date was approximately 1 to 2 inches higher than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya ovalis	35	Yes	FACU
2. Acer Saccharum	30	Yes	FACU
3. Ulmus Americana	30	Yes	FACW
4.			
5.			
	95	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: 15 ft)			
1. Impatiens pallida	60	Yes	FACW
2. Urtica dioica	10	No	FACW
3. Podophyllum peltatum	5	No	FACU
4. Viola reinfolia	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	_____	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	105	x 2 =	210
FAC species	_____	x 3 =	_____
FACU species	70	x 4 =	280
UPL species	_____	x 5 =	_____
Column Totals:	175 (A)		490 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/2	100	N/A				Clay	Sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 19H0012 - Des. 1800016 SR 16 City/County: Miami County Sampling Date: 5/29/20

Applicant/Owner: INDOT Fort Wayne State: IN Sampling Point: B

Investigator(s): Ali Whitehead, Preston Marucco Section, Township, Range: Section 33, T 29 North, R 5 East

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 40.913246 Long: -85.963344 Datum: _____

Soil Map Unit Name: Hennepin silt loam NWI classification: R4SBC

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 X

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
It had rained the morning prior to the field investigation. Rainfall for 30 days prior to the field investigation date was approximately 1 to 2 inches higher than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. Acer Negundo	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
Herb Stratum (Plot size: 15 ft)			
1. Impatiens Pallida	60	Yes	FAC
2. Urtica Dioica	5	No	FACW
3. Hydrophyllum Canadense	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	10	x 2 =	20
FAC species	65	x 3 =	195
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	75 (A)		215 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 5/4	100	N/A				Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 19H0012 - Des. 1800016 SR 16 City/County: Miami County Sampling Date: 5/29/20

Applicant/Owner: INDOT Fort Wayne State: IN Sampling Point: C

Investigator(s): Ali Whitehead, Preston Marucco Section, Township, Range: Section 33, T 29 North, R 5 East

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 40.913582 Long: -85.96356 Datum: _____

Soil Map Unit Name: Hennepin silt loam NWI classification: R4SBC

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 X

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 X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
It had rained the morning prior to the field investigation. Rainfall for 30 days prior to the field investigation date was approximately 1 to 2 inches higher than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. Acer Saccharum	40	Yes	FACU
2.			
3.			
4.			
5.			
	40 = Total Cover		
Herb Stratum (Plot size: 15 ft)			
1. Impatiens pallida	20	Yes	FACW
2. Viola reinfolia	15	Yes	FACW
3. Podophyllum peltatum	5	No	FACU
4. Hydrophyllum Canadense	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	45 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species 40	x 2 =	80
FAC species _____	x 3 =	_____
FACU species 45	x 4 =	180
UPL species _____	x 5 =	_____
Column Totals: 65 (A)		260 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
1-5	10 YR 3/2	100	N/A				Clay	
5-12	10 YR 4/3	100	N/A				Clay	Sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: 19H0012 - Des. 1800016 SR 16 City/County: Miami County Sampling Date: 5/29/30

Applicant/Owner: INDOT Fort Wayne State: IN Sampling Point: D

Investigator(s): Ali Whitehead, Preston Marucco Section, Township, Range: Section 33, T 29 North, R 5 East

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave

Slope (%): 5 Lat: 40.913675 Long: -85.963628 Datum: _____

Soil Map Unit Name: Hennepin silt loam NWI classification: R4SBC

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 X

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 _____	No X	
Hydric Soil Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Wetland Hydrology Present?	Yes _____	No X	

Remarks:
It had rained the morning prior to the field investigation. Rainfall for 30 days prior to the field investigation date was approximately 1 to 2 inches higher than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer Nigrum	75	Yes	FACU
2.			
3.			
4.			
5.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: 15 ft)			
1. Asarum canadense	20	Yes	FACU
2. Urtica dioica	10	Yes	FACW
3. Polygonatum biflorum	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	_____	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	10	x 2 =	20
FAC species	_____	x 3 =	_____
FACU species	100	x 4 =	400
UPL species	_____	x 5 =	_____
Column Totals:	110 (A)		420 (B)

Prevalence Index = B/A = 3.82

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
1-5	10 YR 3/2	100	N/A				Clay	
5-12	10 YR 4/3	100	N/A				Clay	Sandy

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 11/03/2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Ali Whitehead, 6510 Telecom Drive, Suite 210, Indianapolis, IN 46278

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

SR 16 Small Structure Replacement over an Unnamed Tributary (UNT) to Eel River
Des. No. 1800016
UNT to Eel River

Proposed work includes replacement of an existing 5x4.2' RCB culvert under SR 16 with a 6' smooth pipe with a 12-in sump. Riprap will be installed at the outlet of the structure. The work will also involve pavement reconstruction of the adjacent roadway approaches. The need for this project is the structural deficiency of the existing structure. The purpose of the project is to perpetuate vehicular crossings at the project location and to improve hydraulic characteristics. The length of the project is approximately 130 ft.

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: IN County/parish/borough: Miami County City:

Center coordinates of site (lat/long in degree decimal format):

Lat.: 40.913428 Long.: -85.963408

Universal Transverse Mercator: 16T 587214.65 m Easting (x) 4536324.67 Northing (y)

Name of nearest waterbody: UNT to Eel River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): May 29, 2020

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
UNT to Eel River	40.913428	-85.963408	0.03 ac, 115 ft	non-wetland waters	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.

2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there *"may be"* waters of the U.S. and/or that there *"may be"* navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

☐ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: _____.

■ Data sheets prepared/submitted by or on behalf of the PJD requestor.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report. Rationale: _____.

☐ Data sheets prepared by the Corps: _____.

☐ Corps navigable waters' study: _____.

■ U.S. Geological Survey Hydrologic Atlas: _____.
■ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.

■ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 Roann.

■ Natural Resources Conservation Service Soil Survey. Citation: SSURGO Miami County, IN.

■ National wetlands inventory map(s). Cite name: Wetlands Mapper, HUC 8, 05120104.

☐ State/local wetland inventory map(s): _____.

■ FEMA/FIRM maps: FIRM , 180409 Miami County, IN, 6/25/2020.

☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)

■ Photographs: ■ Aerial (Name & Date): aerial tiff image 2017.
or ■ Other (Name & Date): Site photos 5/29/2020, 9/25/2020.

☐ Previous determination(s). File no. and date of response letter: _____.

☐ Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

_____	Alison Whitehead "Digitally signed by Alison Whitehead DN: C=US, E=awhitehead@hanson-inc.com, O="Hanson Professional Services, Inc.", CN=Alison Whitehead Date: 2020.10.02 12:34:46-04'00'
Signature and date of Regulatory staff member completing PJD	Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)[1]

[1] Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

APPENDIX G

Public Involvement

STRAND ASSOCIATES®

Strand Associates, Inc.®
629 Washington Street
Columbus, IN 47201
(P) 812-372-9911

NOTICE OF SURVEY

October 15, 2018

Property Owner
Street
City, IN Zip

Re: Location Control Route Survey for Indiana Department of Transportation
S.R. 16 over Unnamed Tributary to Eel River
Miami County, Indiana
Des. No. 1800016

Dear Property Owner:

Our information indicates that property is occupied and/or owned by you near this proposed bridge replacement project. Our employees will conduct a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is allowed by law as stated in Indiana Code IC 8-23-7-26. They will show you their identification, if you are available, before coming onto your property. If you have sold this property, or it is occupied by someone else, please provide any known name and/or address changes of the new owner or current occupant so that we may contact them about the survey.

The survey work will include mapping the location of features such as trees, buildings, fences, driveways, sidewalks, and utilities. The survey is needed for proper planning and design of this bridge replacement project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey.

At this stage we generally do not know what affect, if any, this project may eventually have on your property. If it is determined at a later time that your property will be affected, you will be contacted at that time with additional information. If any problems occur, please contact our field crew or myself at (812) 372-9911 or write to the address provided above. Thank you for your cooperation.

Sincerely,

STRAND ASSOCIATES, INC.®

Jacob E. Fitzsimmons, P.L.S.

JEF:vls\\\strand.com\projects\COL\4000--4099\4060\450\Survey\SR 16 UNT Eel River\Letters\SR 16 UNT Eel River NOTICE OF SURVEY.docx

Notice of Survey Recipient List

Mr. John K. and Michelle Butcher
5252 East State Road 16
Denver, IN 46926

Mr. Michael J. and Jenny L. See
6116 East State Road 16
Roann, IN 46974

Mr. Arthur D. and Mary L. Kendall
6302 East State Road 16
Roann, IN 46974

Deardorff Land Company, Inc.
10729 North State Road 19
Macy, IN 46951

APPENDIX H

Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Estimated Cost left to Complete Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Indiana Department of Transportation	42369 / 1800016	A 01	SR 16	Small Structure Replacement	Carries UNT of Eel River, 3.36 Miles East of SR 19, North Junction.	Fort Wayne	.1	STPBG	$588,744.00	Bridge Construction	CN	$318,995.20	$79,748.80			$20,000.00		$378,744.00
										Bridge Consulting	PE	$128,000.00	$32,000.00	$160,000.00				
										Bridge ROW	RW	$24,000.00	$6,000.00			$30,000.00		
Comments:NO MPO. DES 1800016 adding PE to FY 2020, RW to FY 2022 and CN to FY 2022 into FY 2020 - 2024 STIP.																		
Indiana Department of Transportation	42406 / 1700089	A 07	US 24	Other Intersection Improvement	US 24 at SR 19.	Fort Wayne	.499	NHPP	$1,113,966.00	Safety Construction	CN	$815,172.80	$203,793.20			$1,018,966.00		
										Safety Consulting	PE	$76,000.00	$19,000.00	$95,000.00				
Comments:NO MPO. DES 1700089 adding PE to FY 2020 for $95,000 and CN to FY 2022 for $1,018,966.																		
Indiana Department of Transportation	42406 / 1700089	A 10	US 24	Other Intersection Improvement	US 24 at SR 19.	Fort Wayne	.499	NHPP	$1,218,966.00	Safety Consulting	PE	$160,000.00	$40,000.00	$200,000.00				
Comments:NO MPO. DES 1700089 add PE to FY 2020 for $200,000, CN to FY 2022 for $1,018,966.																		
Indiana Department of Transportation	42465 / 1383527	A 10	SR 19	Small Structure Pipe Lining	3.40 miles N of US 24, over Branch #1, Eel River	Fort Wayne	0	STBG	$802,705.00	Bridge Construction	CN	$288,964.00	$72,241.00		$5,000.00	$356,205.00		
										Bridge ROW	RW	$44,000.00	$11,000.00		$55,000.00			
Comments:NO MPO. DES 1383527 add RW to FY 2021 for $55,000, CN to FY 2021 for $5,000																		
Indiana Department of Transportation	42465 / 1383527	A 15	SR 19	Small Structure Pipe Lining	3.40 miles N of US 24, over Branch #1, Eel River	Fort Wayne	0	STBG	$784,205.00	Bridge Construction	CN	-$812,915.20	-$203,228.80	($1,391,644.00)		$375,500.00		
Comments:NO MPO. FY 22 rebundled. Adding CN to FY 2022 for $375,500. Reducing CN for FY 2020 for DES 1701349 by $1,391,644.																		
Indiana Department of Transportation	42465 / 1701349	A 27	US 31	Small Structure Replacement	US 31 Carries UNT of Rife Creek, 3.00 miles N of SR 218, North Junction, Un	Fort Wayne	0	NHPP	$1,113,467.00	Bridge ROW	RW	$36,000.00	$9,000.00		$45,000.00			
Comments:No MPO. DES 1383533, 1383535, 1600412, 1701349, 1701398 adding R/W to FY 2021 for $45,000 and adding CN to FY 2021 for $5,000 and adjusting FY 2022 for $1,028,467																		
Indiana Department of Transportation	42465 / 1701349	M 15	US 31	Small Structure Replacement	US 31 Carries UNT of Rife Creek, 3.00 miles N of SR 218, North Junction, Un	Fort Wayne	0	NHPP	$1,053,667.00	Bridge Construction	CN	-$290,541.60	-$72,635.40	($1,391,644.00)		$1,028,467.00		
Comments:NO MPO. Moving CN for FY 2020 to FY 2022 for $1,028,467.																		
Indiana Department of Transportation	42542 / 1800056	A 05	SR 16	Bridge Replacement, Other Construction	Bridge Over Weesau Creek, 2. 92 Miles East of US 31	Fort Wayne	.385	STBG	$992,738.00	Bridge Consulting	PE	$59,408.00	$14,852.00	$74,260.00				
										Statewide Consulting	PE	$17,920.00	$4,480.00	$22,400.00				
Comments:No MPO for DES 1800056. Adding PE to FY 2020 for $96,660.																		
Indiana Department of Transportation	43109 / 2000255	A 22	SR 19	Repair Or Replace Joints	SR 19 over Branch of Eel River , 1.53 miles S of SR 16	Fort Wayne	0	STBG	$34,876.00	Bridge Construction	CN	$22,500.80	$5,625.20			$28,126.00		
										Bridge Consulting	PE	$5,400.00	$1,350.00		$6,750.00			
Comments:NO MPO for DES 2000200. Adding PE for $6,750 to FY 2021 and CN for $28,126 to FY 2022.																		

*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

APPENDIX I

Additional Studies

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated July 2020)

ProjectNumber	SubProjectCode	County	Property
1800069	1800069B	Miami	Miami State Recreation Area
1800171	1800171Y	Miami	Mississinewa Reservoir
1800375	1800375D	Miami	Mississinewa Reservoir
1800413	1800413H	Miami	Miami State Recreation Area, Mississinewa Reservoir
1800449	1800449A	Miami	Miami State Recreation Area, Mississinewa Reservoir
1800563	1800563	Miami	Mississinewa Reservoir - Miami SRA
1800594	1800594B	Miami	Miami SRA

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Structure Number: *CV 016-052-82.45* **Inspector:** Biller, Joshua

Large Culvert Inspection Report

(8) Asset Code:	*93002110*	(27) Year Built:	*1940*
Asset Name:	*CV 016-052-82.45*	(90) Inspection Date:	*04/02/2019*
OLD Culvert ID:	*016-52-082.45*	(91) Inspection Frequency:	*24*
Team Assignment:	*02*	☐ Additional Treatment Exists	

Identification

(2) Highway Agency District:	*02*	(3) County Code:	*052*
Sub District:	*2500*	Ramp ID:	
(42B) Type of Service (Under):	*5*	☐ Adjacent to Roadway	

(7) Facility Carried: *SR 16* (6) Features Intersected: *UNT EEL RIVER*

(9) Location: *3.36 E SR 19 (N. JCT.)* (9.01) Location Additional Description: *0.04 E CR 600 E W JCT*

(11) Milepoint: *14.08* (16) Latitude: *40.91343* (17) Longitude: *-85.96332*

Classification:

(104) Highway System of the Inventory Route: *0* (26) Functional Classification of Inventory Route: *07*

Geometric Data

Culvert: Kind of Material: *1. Concrete* Culvert: Type of Structure: *19. 4 Sided Box Culvert* Min Est Fill Cover (ft): *20.00*

Culvert: Max. Horizontal Opening (ft.): *5.00* Culvert: Max. Vertical Opening (ft.): *4.00* (34) Skew: *00*

Barrel Length (ft.): *80.00* Original Culvert Shape: *Box*

Measurement Remarks:

Structure Additional Description: *Reinforced Concrete Box {RCB}; likely built before World War II (say 1940);*

Openings:

Direction	Opening Latitude	Opening Longitude	Direction	Opening Latitude	Opening Longitude
1.			3.		
2.			4.		

Openings Comments:

☐ **Follow Up Required:**

**If checked, please describe for follow up:

Endangered Species

Bats: seen or heard under structure? *	*N - No evidence of bats*
Birds/swallows/nests seen? Empty nests present?	*N - No Birds and/or Nests Visi*

* If yes, add one photo to the dropdown field

General Condition Ratings

(36A) Bridge Railings:	*N*	(36C) Approach Guardrail:	*N*
(36B) Transitions:	*N*	(36D) Approach Guardrail Ends:	*N*

Culvert:

(62) Culvert - Rating: *5*

(62) Culvert Rating Comments: *Box: two sets of wide cracks (top & sides) with effflorescence and wetness; several spalls with exposed rebar on roof slab; extensive honeycomb and cold joints on side walls (poor consolidation of concrete at time of construction); floor slab has heavy surface scaling;*

Head & Wing Walls: both ends have minor surface scaling; bottom of south headwall and top of SE wing wall have spalling; wing wall footings and lug at end of floor slab exposed st south end;

Settlement: south end of floor is undermined (combination of erosion and scour due to flash flooding);

Deck:

(58) Deck: *N*

(58a) Deck Comments:

Superstructure:

(59) Superstructure: *N*

(59.01) Superstructure Comments:

Substructure:

(60) Substructure: *N*

(60.01) Substructure Comments:

Channel:

(61) Channel and Channel Protection: *5*

(61.01) Channel and Channel Protection Comments: *Channel: flow is from NW to SE (north-to-south through structure); usually dry; prone to flash flooding;*
Upstream: deep, wooded ravine with a 30-degree bend to the NW; large boulders and other debris in channel near inlet;
Downstream: 3' drop to ditch bottom (scour due to flash floods); deep, wooded ravine;

Bank Erosion Rating: *6*

Drift/Sediment Rating *5*

Channel Alignment Rating *7*

☐ **Check this box if culvert has OBSTRUCTED flow**

Describe Obstruction:

Overtopping Frequency: *1*

Overtopping Frequency Comments:

SCOPING REPORT

SR 16 over Unnamed Tributary to Eel River (CV 016-052-82.45)
3.36 Miles East of SR 19, Miami County, Indiana

I. PROJECT PURPOSE AND NEED

The project is located 3.36 miles east of SR 19 in Miami County. The existing small structure proposed for replacement is a 4.2 feet rise by 5 feet span reinforced concrete box culvert that runs perpendicular to SR 16. The purpose of this project is to replace the existing small structure to perpetuate vehicular crossings at this location, while also improving its hydraulic characteristics. The need for this project is evidenced by the structural deficiencies of the existing reinforced concrete box structure.

The current Indiana Department of Transportation (INDOT) Culvert Inspection Report, dated April 20, 2017, rates the structure as a 5. The perimeter of the box is cracked, and the underside of the deck has spalling with rebar exposed. There is a one-half-inch fracture crack in the center of the structure on both walls and the underside of the deck. The box is unsupported on the south end. There is a large scour hole at the outlet of the structure, and debris consisting of logs and large rock at the inlet of the structure. There are existing nontraversable 1.5:1 side slopes at the structure with no guardrail protection present.

II. CRASH HISTORY AND ANALYSIS

Three crashes occurred within the project limits in the three-year period from July 2015 to June 2018. Two of these were deer crashes and are classified as property damage only. The other crash involved a vehicle running off the road and is classified as incapacitating.

Two RoadHAT analyses were completed for this project: one including the deer crashes and one excluding the deer crashes. Including the deer crashes, the Index of Crash Frequency (ICF) was 1.49 and the Index of Crash Cost (ICC) was 0.98. Excluding the deer crashes, the ICF was 0.61 and the ICC was 0.96. Neither of these values indicate that this project is likely to be a high-crash location. However, the existing steep side slopes could have been a factor in the incapacitating “ran off road” crash; the proposed side slope improvements are expected to decrease the number and severity of crashes.

III. EXISTING OPERATIONS

The culvert is located at Reference Post 82+45, and the culvert number is CV 016-052-82.45. The contributing draining area for the crossing is 0.18 square miles (sq mi) with a 1 percent exceedance probability (EP) discharge of 127.60 cubic feet per second (cfs). The existing backwater of the culvert is 2.31 feet, and the outlet velocity is 11.46 feet per second (fps). Under existing conditions, the roadway does not overtop during the 10-year storm.

The crossing is not a regulated drain according to the Miami County Surveyor and will not require a construction in a floodway (CIF) permit because it is located outside of the floodway of the Eel River.

The roadway through the project area consists of two narrow driving lanes approximately 10 feet in width narrow earth shoulders. There is no guardrail in the existing condition. The apparent roadway right-of-way width in the project area is approximately 40 feet.

SR 16 will be designed according to IDM Figure 55-3B, and consists of the following in its existing condition:

	SR 16
Project Design Criteria:	3R (Non-Freeway)
Functional Classification:	Rural Major Collector
Terrain:	Level
Design Speed:	55 mph
Posted Speed:	55 mph
Number of Lanes and Width:	2 @ 10 feet
Shoulders Width and Type:	2 foot usable
Maximum Right-of-Way Width:	40 feet (ex.)
Minimum Right-of-Way Width:	40 feet (ex.)

IV. ALTERNATIVES ANALYSIS

INDOT completed a hydraulic review for this project on October 9, 2018. The hydraulic recommendations are attached to this document. The recommendations include three variations of a 6-foot diameter pipe, and a reinforced concrete box culvert option. All alternates require Class 1 riprap on geotextiles at the outlet of the structure.

Traffic counts from the INDOT Traffic Count Database System show that the 2018 annual average daily traffic (AADT) for SR 16 is 830 vehicles per day. For the design phase, a traffic projection will need to be requested from the INDOT Traffic Statistics Unit.

The project will involve acquisition of right-of-way on both sides of the roadway to provide 3:1 side slopes. Relocation of businesses or residents will not be required. Two utility poles on the north side of SR 16 will likely be impacted and relocated as a part of this improvement.

A. 6-foot-Diameter Type 1 Pipe with 12-inch Sump (RECOMMENDED ALTERNATIVE)

A 6-foot diameter pipe with 12-inch sump was selected as the recommended alternative because of its lower construction cost while meeting the hydraulic criteria to improve the crossing. The hydraulic recommendation allows three pipe types for the 6-foot diameter pipe; corrugated, semi-smooth, and smooth pipe. The District preference is to use the smooth alternate.

Guardrail placement is not required because of the lengthened pipe which allows for sideslopes that do not warrant it.

This alternative involves minor work at the upstream and downstream end of the culvert to tie in the existing ditch. Upstream impacts are expected to be minor, and only necessary to make sure the proposed pipe invert and ditch align. Downstream, the hydraulic recommendation includes Class 1 riprap on geotextiles for outlet protection, and the sizing will be according to current INDOT standards (IDM Figure 203-2J), which is 24-feet downstream in length and 30-feet in width. The riprap pad will impact the ditch, but there are no other anticipated impacts.

B. 5-foot by 5-foot Reinforced Concrete Box Structure with 12-inch Sump

The hydraulic recommendation allows for the use of a 5-foot by 5-foot reinforced concrete box culvert with 12-inch sump. This option is more costly than the 6-foot diameter pipe, but is an acceptable solution for the small structure replacement.

Guardrail placement is not required because of the lengthened pipe which allows for sideslopes that do not warrant it.

This alternative involves minor work at the upstream and downstream end of the culvert. Upstream impacts are expected to be minor, and only necessary to tie in the existing ditch to the proposed pipe location and invert. Downstream, Class 1 riprap on geotextiles is required for protection, the pad would be 20-feet in length and 25-feet in width.

A preliminary plan view of the proposed structure replacement is included as an attachment to his report. Existing steep side slopes are proposed to be flattened to 3:1 over the structure replacement.

V. COST ESTIMATE

The cost estimate below assumes certain geometric aspects of design:

- The typical section will consist of 11-foot travel lanes with 2-foot usable shoulders to match design criteria on IDM Fig. 55-3B.
- 3:1 side slopes will extend over the proposed structure, and will be tapered back to tie into existing steep side slopes as shown in the plan view attached.
- The proposed profile grade will match existing.
- A large contingency was included to account for unquantified items including maintenance of traffic, signage, and to account for a potential increase to the limits of the 3:1 side slope.

Table V shows the present value of the estimated project cost for replacement using a 6-foot-diameter Type 1 pipe. A construction cost breakdown is attached to this report.

Cost Item	**Total Price**
Right-of-Way	$ 40,000
Preliminary Engineering	$105,000
Utilities	$ 15,000
Construction (Includes 25% Contingency)	$252,400
Total Estimated Project Cost (2019)	**$412,400**

Table V: Probable Cost for Recommended Alternative

Construction cost estimates for the other Hydraulic recommended alternates are as follows:

72-inch Corrugated Metal Pipe	$235,000
72-inch Reinforced Concrete Pipe	$252,400
72-inch HDPE Pipe	$252,400
5-foot by 5-foot Reinforced Concrete Box	$282,700

VI. GEOTECHNICAL

This small structure replacement will require a geotechnical investigation in accordance with IDM Chapter 17-2.0.

VII. MAINTENANCE OF TRAFFIC

During construction, maintenance of traffic will consist of closing SR 16. The contractor will be responsible for following temporary road closure standards as detailed in the INDOT Standard Drawings and the Indiana Manual on Uniform Traffic Control Devices (MUTCD). A detour route for the closure will consist of SR 19, SR 114, and SR 15 for a total detour of approximately 24 miles.

VIII. RIGHT-OF-WAY, ENVIRONMENTAL, AND MITIGATION

Approximately 0.33 acres of permanent right-of-way acquisition will be necessary for this project. Acquisition will be necessary from both sides of SR 16.
According to the National Wetland Inventory map is there are no wetlands in the proximity of the proposed improvement, and mitigation is not necessary for this project.

The project is located in a forested area, trees exists on both sides of SR 16. The proposed improvement involves impact to 0.14 acres of forested land.

IX. CHANGES TO PROPOSAL

The Fort Wayne District Technical Services Director shall be consulted if deviation from this document is determined to be necessary during a later phase of project development. The person initiating the change shall route a memo detailing the changes including justification for the change and the estimated cost difference to the Fort Wayne District Technical Services Director, System Asset Manager, and Project Manager for concurrence.

Prepared by:

February 11, 2019

Jeremy Brodhacker, P.E.
Strand Associates, Inc.®

Date

Concur:

2/12/19

Susan Doell, P.E.
Scoping Manager

Date

2019.03.11 15:50:38 -04'00'

Randall Post, P.E.
System Asset Manager

Date

2/12/2019

Steve Seculoff
Project Manager

Date

Attachments:

State Location Map
Project Location Map
Project Kickoff Meeting Minutes
INDOT Hydraulic Review
Preliminary Project Limits
Preliminary Cost Estimate
Culvert Inspection Report
RoadHAT Analysis Results

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642-BR
Indianapolis, Indiana 46204

PHONE: (317) 233-2096
FAX: (317) 233-4929

Eric Holcomb, Governor
Joe McGuinness, Commissioner

October 9, 2018

TO: Kelly Ellis
INDOT Scoping Engineer

FROM: Alex Schwinghamer
Hydraulics Engineer

THROUGH: David Finley, P.E.
Hydraulics Engineer

DAVID FINLEY REGISTERED No. 9300101 STATE OF INDIANA PROFESSIONAL ENGINEER

SUBJECT: Hydraulic Review
Des. #: 1800016
Structure #: CV 016-052-82.45
County: Miami
Location: 3.36 miles E of SR19
Crossing: UNT Eel River
DNR CIF Permit Required (Y/N): No
Legal Drain (Y/N): No

Site Parameters		
Drainage Area	112.67	acres
Q_{100} Discharge	127.60	cfs
Q_{100} Tailwater Depth	2.31	ft.
Design Roadway Serviceability Elevation	118.92	ft.

Culvert Properties										
Parameter	**Existing**		**Proposal 1**		**Proposal 2**		**Proposal 3**		**Proposal 4**	
Structure Size & Type	RCB 5' x 4.2'		Corrugated Pipe ID 6' w/12" Sump		Semi-smooth Pipe ID 6' w/12" Sump		Smooth Pipe ID 6' w/12" Sump		RCB 5' x 5' w/ 12" Sump	
Q_{100} Headwater Elevation	105.93	ft.	105.73	ft.	105.73	ft.	105.73	ft.	105.43	ft.
Q_{10} Headwater Elevation	104.02	ft.	103.74	ft.	103.74	ft.	103.74	ft.	103.64	ft.
Meets Roadway Serviceability @ Q_{10}	Yes		Yes		Yes		Yes		Yes	
Backwater	2.31	ft.	2.11	ft.	2.11	ft.	2.11	ft.	1.81	ft.
Outlet Velocity @ Q_{10}	11.46	ft/s	8.69	ft/s	9.49	ft/s	9.72	ft/s	8.88	ft/s
Minimal Outlet Riprap Size			Class 1		Class 1		Class 1		Class 1	
Inlet Riprap Needed (Y/N)			No		No		No		No	

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The existing outlet invert elevation is set at 100 ft. The proposals in the table above are approved and final. The existing structure is a reinforced concrete box that has a span of 5 ft and rise of 4.2 ft. There is a large scour hole at the outlet and debris of logs and large rocks at the inlet. The channel bed is sandy soil.

- Proposals 1-3 is to replace the structure with a 6 ft inner diameter pipe whether it be corrugated, semi-smooth, or smooth. These proposals will require a 12 in sump and for the outlet flow line to be lowered to the flow line of the channel (FL Elev. =98.86).
- Proposal 4 is to replace the existing with a reinforced concrete box that has an iner span and inner rise of 5 ft. This proposal will require a 12 in sump and for the outlet flow line to be lowered to the flow line of the channel (FL Elev. =98.86).

This is not a part of a regulated drain as per the county gis and will not require a CIF permit. The culvert is not impacted by the Eel River.

Riprap Design Recommendations

Class 1 riprap on geotextiles should be used at the outlet and placed according to IDM Figure 203-2J. Rip rap is not required at the inlet however if the designer sees it necessary, a minimum size of revetment riprap can be placed at the inlet.

Alternative scour protection designs should be submitted to the INDOT Office of Hydraulics for review and approval.

If you have any questions or comments, please contact me at (317) 233-6951.
AJS
cc: file

Indiana Floodplain Information Portal Report

Point of Interest

Approximate Address:
5834 E 1000 N
DENVER, IN 46926
Effective Flood Zone:
X
Preliminary Flood Zone:
N/A
Best Available Flood Zone:

Approximate Flood Elevation:
711.3ft NAVD88
Source:
Zone A Model Delineation
Nearest Stream:
EEL RIVER

Map Legend

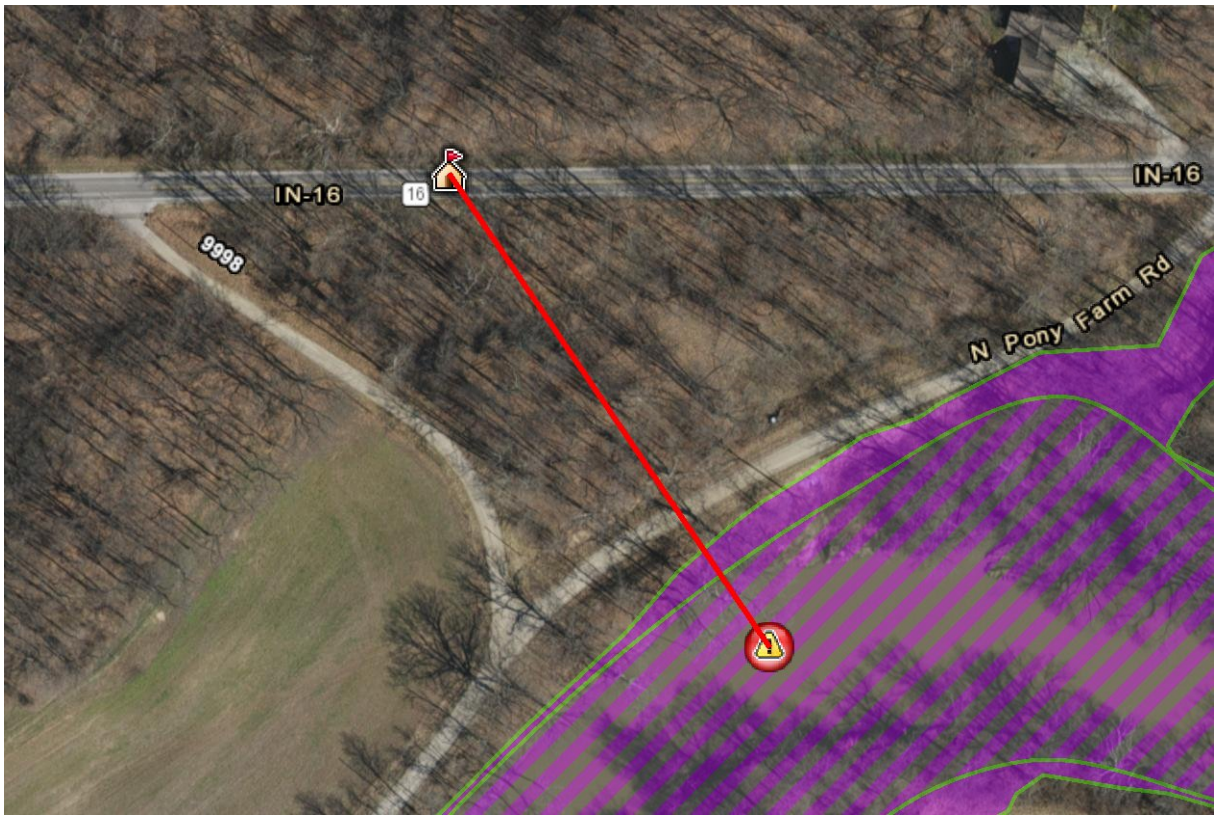
Point of Interest

Nearest Point on Stream

Best Available Flood Zone

FEMA Zone AE Floodway
DNR Detailed Floodway
DNR Approximate Floodway
FEMA Zone A
FEMA Zone AE
DNR Detailed Fringe
DNR Approximate Fringe
Additional Floodplain Area
FEMA Protected by Levee
FEMA Floodplain - Ponding (Depth)
FEMA Floodplain - Sheet Flow (Depth)

Site Map with Best Available Flood Zone



Approximate scale 1:2,400

Disclaimer

Generated on Thursday August 13th 2020 at 04:08:31pm

The data shown on this map represents FEMA floodplain data enhanced with additional studies that have been reviewed and approved by the Division of Water. While this data has not yet been submitted to FEMA for inclusion in the Flood Insurance Rate