

FHWA-Indiana Environmental Document
CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM
GENERAL PROJECT INFORMATION

Road No./County:	US 231/Putnam County
Designation Number(s):	1800151
Project Description/Termini:	Small Structure Replacement, US 231 over Unnamed Tributary to Sand Branch, 1.45 Miles South of State Road 42, 240 Feet North and 235 Feet South of the Structure

X	Categorical Exclusion, Level 2 – Required Signatories: INDOT DE and/or INDOT ESD
	Categorical Exclusion, Level 3 – Required Signatories: INDOT ESD
	Categorical Exclusion, Level 4 – Required Signatories: INDOT ESD and FHWA
	Environmental Assessment (EA) – Required Signatories: INDOT ESD and FHWA
	Additional Investigation (AI) – The proposed action included a design change from the original approved environmental document. Required Signatories must include the appropriate environmental approval authority

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

RZK February 25, 2022

INDOT DE Initials and Date

INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Bruce M. E 2/24/2022

Name and Organization of CE/EA Preparer:

Kristin Wing – Beam, Longest, and Neff, LLC

Indiana Department of Transportation

County Putnam

Route US 231

Des. No. 1800151

Part I – Public Involvement

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

	Yes	No
Does the project have a historic bridge processed under the Historic Bridges PA*?	☐	☒
If No, then: Opportunity for a Public Hearing Required?	☒	☐

*A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

Notice of Entry letters were mailed to potentially affected property owners near the project area on July 15, 2019 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 is included in Appendix G, page 1.

Project Does Meet

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Public Involvement Manual* which requires the project sponsor to 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.

Public Controversy on Environmental Grounds

Discuss public controversy concerning community and/or natural resource impacts, including what is being done during the project to minimize impacts.

No controversy

At this time, there is no substantial public controversy concerning impacts to the community or to natural resources.

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Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: Indiana Department of Transportation INDOT District: Crawfordsville

Local Name of the Facility: US 231

Funding Source (mark all that apply): Federal ☒ State ☒ Local ☐ Other* ☐

*If other is selected, please identify the funding source: _____

PURPOSE AND NEED:

The need should describe the specific transportation problem or deficiency that the project will address. The purpose should describe the goal or objective of the project. The solution to the traffic problem should NOT be discussed in this section.

Need: The project need is based on the condition of the existing 12-foot by six-foot slabtop box culvert. According to the July 12, 2021 INDOT Bridge Inspection Report, the overall rating was considered a four out of nine, or a poor rating, based on the cores indicating the slab is crumbling and has poor strength. Moderate cracking with leaching is on the slab, along with spalling on the original coping. Precast concrete channel beams (PCCBs) are resting on crushed pier caps on the timber wing walls, and PCCBs under the shoulders have moderate spalling with exposed rebar along with cracking and leaching. There is minor channel scour throughout the culvert, and the headwalls are mainly cracking and leaching on the east side.

Purpose: The purpose is to provide a structurally and hydraulically adequate culvert that will perpetuate traffic on US 231 and to provide channel protection to prevent further channel damage, and to improve the structure rating to a seven out of nine or better.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Putnam Municipality: Cloverdale Township

Limits of Proposed Work: Anticipated project limits will be approximately 40 feet south and 35 feet north of the proposed culvert with approximately 200 feet north and south of incidental construction area beyond each end of the project for a total length of approximately 475 feet.

Total Work Length: 0.090 Mile(s) Total Work Area: 0.76 Acre(s)

Is an Interstate Access Document (IAD)¹ required?

If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?

¹If an IAD is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IAD.

Yes¹

No

☐ ☒

Date: _____

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Describe location of project including township, range, city, county, roads, etc. Existing conditions should include current conditions, current deficiencies, roadway description, surrounding features, etc. Preferred alternative should include the scope of work, anticipated impacts, and how the project will meet the Purpose and Need. Logical termini and independent utility also need discussed.

Location

This project is on US 231 in Putnam County south of Cloverdale, 1.45 miles south of SR 42. It is in Section 18, Township 12 North, and Range 3 West in Cloverdale Township, as illustrated on the Cataract, Indiana 7.5 Minute USGS Topographic Quadrangle. Project maps and ground level photographs are provided in Appendix B.

Existing Conditions

The existing small structure (CV #231-067-137.53) is a 12 foot by 6-foot slabtop concrete box culvert with timber wing walls. It measures approximately 41.3 feet long with a vertical opening of five feet, a 12-foot span, a cover of one foot, and a skew of zero degrees. According to the July 12, 2021 INDOT Bridge Inspection Report, the overall structure rating was considered four of nine which is considered poor based on the cores that indicate the slab is crumbling with poor strength. The slab does have moderate cracking with leaching and there is spalling on the original coping. Over the lifetime of the culvert, the wing walls have crushed the pier caps.

The existing US 231 approach roadway pavement consists of asphalt with a 12-foot travel lane in the northbound direction and a 12-foot travel lane in the southbound direction with three-foot shoulders on both sides. US 231 is classified as a part of the National Truck Network, a 3R System, part of the National Highway System, and as an Other Principal Arterial. The posted speed limit is 55 mph. The project is on level terrain with surrounding land use being agricultural. The existing right-of-way (ROW) limits extend to the edge of the US 231 shoulders and to the ends of the existing culvert. Typical ROW limits are approximately 15 feet from the road centerline.

Preferred Alternative

This project consists of constructing a new small structure on the existing alignment with minimum road reconstruction. The replacement will be a single span, 68-foot long, 15-foot wide by six-foot tall four-sided precast reinforced concrete box culvert with precast wing walls that are 11 feet long and skewed at 75 degrees. This alternative will install revetment riprap on the outlet side only. The roadside ditches on the north side will be replaced and the slopes of the ditches will be regraded and utilized to collect drainage and outlet the water into the UNT to Sand Branch. Efforts to avoid, minimize, or mitigate project impacts will be made, including efforts to minimize the amount of tree clearing needed. Further avoidance, minimization and mitigation efforts are described in the commitments section of this document. This alternative meets the purpose and need by providing a structurally and hydraulically adequate concrete box culvert that will have a condition rating greater than 7 (good), and that will perpetuate traffic on US 231 while providing channel protection to prevent further channel damage. Temporary cofferdams and pump-arounds are needed to provide a dry working area while the new structure is installed (Appendix B, page 24).

The project requires approximately 0.694 acre of new permanent ROW on both sides of the culvert from agricultural property. It also requires approximately 0.02 acre of temporary ROW at the inlet and outlet for access during construction. Typical and maximum proposed ROW width is 50 feet on the west side and 45 feet on the east side of US 231.

Maintenance of traffic (MOT) will consist of phased construction, maintaining a single 10-foot lane with one-foot minimum shoulders. This will be done utilizing temporary portable traffic signals, a temporary concrete barrier, and temporary pavement markings.

Logical Termini/Independent Utility

The logical termini for the project are approximately 235 feet north and 240 feet south of the culvert, for a total length of 475 feet. This project has independent utility because it has an independent purpose that is not dependent on another project in the area.

OTHER ALTERNATIVES CONSIDERED:

Provide a header for each alternative. Describe all discarded alternatives, including the No Build Alternative. Explain why each discarded alternative was not selected. Make sure to state how each alternative meets or does not meet the Purpose and Need and why.

Do nothing

This alternative has no costs and no environmental impacts. However, it does not address the identified need and purpose of the project, which is the structural deterioration of the existing concrete box culvert. The do nothing alternative will result in US 231 eventually being closed for safety reasons caused by the deterioration. This alternative does not address the purpose and need and

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therefore was eliminated from consideration.

Rehabilitation of the Existing Structure

Rehabilitation of the existing structure was briefly discussed during the field check and was determined to not satisfy the purpose and need of the project. Rehabilitation would require widening the existing structure which has already been previously widened to satisfy the geometric criteria. The structure is beyond the limits of rehabilitation since the existing superstructure and substructure are in poor and serious condition, respectively. Rehabilitation of the substructure would require replacement of the superstructure and at that point replacement of the entire structure would be the most cost effective.

The No Build Alternative is not feasible, prudent or practicable because (Mark all that apply):

It would not correct existing capacity deficiencies;

It would not correct existing safety hazards;

It would not correct the existing roadway geometric deficiencies;

It would not correct existing deteriorated conditions and maintenance problems; or

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe):

X

ROADWAY CHARACTER:

If the proposed action includes multiple roadways, complete and duplicate for each roadway.

Name of Roadway	<u>US 231</u>			
Functional Classification:	<u>Rural Minor Arterial</u>			
Current ADT:	<u>6155</u>	VPD (2022)	Design Year ADT:	<u>6330</u>
				VPD (2042)
Design Hour Volume (DHV):	<u>568</u>	Truck Percentage (%)	<u>16.96</u>	
Designed Speed (mph):	<u>55</u>	Legal Speed (mph):	<u>55</u>	

Existing			Proposed		
Number of Lanes:	2		2		
Type of Lanes:	Travel		Travel		
Pavement Width:	12	ft.	12	ft.	
Shoulder Width:	3	ft.	3	ft.	
Median Width:	NA	ft.	NA	ft.	
Sidewalk Width:	NA	ft.	NA	ft.	

Setting:	☐	Urban	☐	Suburban	☒	Rural
Topography:	☒	Level	☐	Rolling	☐	Hilly

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BRIDGES AND/OR SMALL STRUCTURE(S):

If the proposed action includes multiple structures, complete and duplicate for each bridge and/or small structure. Include both existing and proposed bridge(s) and/or small structure(s) in this section.

Structure/NBI Number(s): CV 231-067-137.53 Sufficiency Rating: 79 out of 100, 2018 INDOT Mini Scope
(Rating, Source of Information)

	Existing	Proposed
Bridge/Structure Type:	Slabtop concrete box culvert	Precast reinforced concrete box culvert
Number of Spans:	1	1
Weight Restrictions:	None ton	None ton
Height Restrictions:	NA ft.	NA ft.
Curb to Curb Width:	NA ft.	NA ft.
Outside to Outside Width:	40 ft.	40 ft.
Shoulder Width:	3 ft.	3 (left), 4 (right) ft.

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

Presence

One small structure (slabtop concrete box culvert) is included within the project area and is the subject of the project. Small Structure CV#231-067-137.53 is a 39-foot long, 12-foot wide, five-foot tall slabtop concrete box culvert with precast wing walls that are 11 feet long and skewed at 75 degrees. The box culvert crosses UNT to Sand Branch Creek. This box culvert will be replaced with a single span 68-foot long, 15-foot wide, six-foot tall precast reinforced concrete box culvert with wing walls. No other bridges or small structures are located within the construction limits.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?	☐	☒
Is a temporary roadway proposed?	☐	☒
Will the project involve the use of a detour or require a ramp closure? (describe below)	☐	☒
Provisions will be made for access by local traffic and so posted.	☐	☐
Provisions will be made for through-traffic dependent businesses.	☐	☐
Provisions will be made to accommodate any local special events or festivals.	☐	☐
Will the proposed MOT substantially change the environmental consequences of the action?	☐	☒
Is there substantial controversy associated with the proposed method for MOT?	☐	☒

Discuss closures and/or facilities (if any) that will be provided for maintenance of traffic. Any known impacts from these temporary measures should be quantified to the extent possible, particularly with respect to properties such as Section 4(f) resources and wetlands. Any local concerns about access and traffic flow should be detailed as well.

The maintenance of traffic (MOT) will consist of phased construction, maintaining both lanes of traffic on a single 10-foot lane with one-foot minimum shoulders. This will be done by utilizing temporary portable traffic signals, temporary concrete barrier, and temporary pavement markings.

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.

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ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 120,000 (2021) Right-of-Way: \$ 40,000 (2021) Construction: \$ 823,000 (2023)

Anticipated Start Date of Construction: Spring 2023

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.000	0.000
Commercial	0.000	0.000
Agricultural	0.694	0.020
Forest	0.000	0.000
Wetlands	0.000	0.000
Other:	0.000	0.000
Other:	0.000	0.000
TOTAL	0.694	0.020

Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition, reacquisition or easements, either known or suspected, and their impacts on the environmental analysis should be discussed.

Existing right-of-way (ROW) is at the edge of pavement, which is approximately 15 feet from the centerline of US 231 on either side. The land use impact category on both sides of the road is agricultural. Typical and maximum existing ROW width is at the edge of pavement along US 231. Typical and maximum proposed ROW width is 50 feet on the west side and 45 feet on the east side of US 231.

Right-of-way (ROW) required

The project requires approximately 0.694 acre of permanent ROW of agricultural property. It also requires approximately 0.02 acre of temporary ROW at the inlet and outlet of the culvert to remove the existing retaining walls and the placement of riprap on agricultural property. No anticipated acquisition or reacquisition is required.

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

Part III – Identification and Evaluation of Impacts of the Proposed Action

SECTION A - EARLY COORDINATION:

List the date(s) coordination was sent and all resource agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received.

Early coordination letters were sent on July 21, 2021. A sample early coordination letter can be found in Appendix C, page C-1.

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<u>Agency</u>	<u>Date Sent</u>	<u>Date Response Received</u>	<u>Appendix</u>
U.S. Army Corps of Engineers	July 21, 2021	No response received	N/A
U.S. Department of Housing & Urban Development	July 21, 2021	No response received	N/A
U.S. Fish & Wildlife Service (IPaC)	July 21, 2021	October 21, 2021	Appendix C, pages 19, 25
Natural Resources Conservation Service	July 21, 2021	July 29, 2021	Appendix C, page 36, 37
National Park Service	July 21, 2021	No response received	N/A
Indiana Geological and Water Survey	July 21, 2021	July 21, 2021	Appendix C, page 16
Indiana Department of Environmental Management – Groundwater Section	July 21, 2021	No response received	N/A
Indiana Department of Environmental Management (Automated response)	July 21, 2021	October 21, 2021	Appendix C, page 5
Indiana Department of Transportation District Environmental	July 21, 2021	No response received	N/A
Indiana Department of Natural Resources – Division of Fish and Wildlife	July 21, 2021	August 19, 2021	Appendix C, page 13
Putnam County Health Department	July 21, 2021	No response received	N/A
Putnam County EMS	July 21, 2021	No response received	N/A
INDOT Utilities and Railroad	July 21, 2021	No response received	N/A
INDOT Project Manager – Jessica Miller	July 21, 2021	No response received	N/A
Terre Haute Area MPO	July 21, 2021	No response received	N/A
Putnam Highway Department	July 21, 2021	No response received	N/A
Putnam County Commissioners	July 21, 2021	No response received	N/A
Federal Highway Administration	July 21, 2021	No response received	N/A

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

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SECTION B – ECOLOGICAL RESOURCES:

Streams, Rivers, Watercourses & Other Jurisdictional Features

Federal Wild and Scenic Rivers
State Natural, Scenic or Recreational Rivers
Nationwide Rivers Inventory (NRI) listed
Outstanding Rivers List for Indiana
Navigable Waterways

Presence

X

Impacts

Yes	No
X	

Total stream(s) in project area: 105 Linear feet Total impacted stream(s): 105 Linear feet

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e. location, flow direction, likely Water of the US, appendix reference)
UNT to Sand Branch	R4SB	105	105	Intermittent, likely Water of the US, Appendix F

Describe all streams, rivers, watercourses and other jurisdictional features adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if the streams or rivers are listed on any federal or state lists for Indiana. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

Presence, with impacts

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 1) there are 3 mapped stream segments within the 0.5-mile search radius. As documented in the approved Waters of the US Report, during the site visit on October 13, 2020, by BLN Staff it was confirmed that one jurisdictional stream, UNT to Sand Branch, is within the project area. 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 or adjacent to the project area.

The RFI identified the UNT to Sand Branch as being an IDEM 303d-listed impaired stream due to the presence of *E. coli*. 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.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* received concurrence from INDOT Ecology and Waterway Permitting Office November 10, 2021. Refer to Appendix F for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that one jurisdictional stream, UNT to Sand Branch, is located within the project area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Impacts

UNT to Sand Branch is an intermittent stream located in the project area. The Ordinary High-Water Mark (OHWM) measures four feet wide and two and a half feet deep. The UNT does not have riffles or pools present and is considered to be of poor quality due to a muddy substrate, a lack of overhead cover and aquatic organisms. Approximately 105 linear feet of UNT to Sand Branch will be impacted due to the installation of the new structure and revetment riprap.

Early Coordination

The Indiana Department of Natural Resources – Division of Fish and Wildlife (IDNR-DFW) responded August 19, 2021, with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts (Appendix C, page 13). Recommendations include using bridges rather than culverts for stream crossing design, as well as the methods used for streambank stabilization and erosion control and wildlife passage. All applicable recommendations are included in the Environmental Commitments section of this CE document. UNT to Sand Branch is not listed on any federal or state lists for Indiana.

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Open Water Feature(s)

Reservoirs
Lakes
Farm Ponds
Retention/Detention Basin
Storm Water Management Facilities
Other: _____

Presence

Impacts

Yes	No

Describe all open water feature(s) identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

No presence, no impact

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 1) there are three mapped lakes within the 0.5-mile search radius. As documented in the approved Waters of the US Report, during the site visit on October 13, 2020, by BLN Staff, it was confirmed that no open water features are within or adjacent to the project area. Therefore, no impacts are expected.

Wetlands

Presence

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Impacts

Yes	No

Total wetland area: N/A Acre(s) Total wetland area impacted: N/A Acre(s)

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments (i.e. location, likely Water of the US, appendix reference)

Documentation

ESD Approval Dates

Wetlands (Mark all that apply)

Wetland Determination
Wetland Delineation
USACE Isolated Waters Determination

X

November 10, 2021

Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in (Mark all that apply and explain):

Substantial adverse impacts to adjacent homes, business or other improved properties;
Substantially increased project costs;
Unique engineering, traffic, maintenance, or safety problems;
Substantial adverse social, economic, or environmental impacts, or
The project not meeting the identified needs.

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Describe all wetlands identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

No presence, no impact

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page 1) there are four NWI-mapped wetlands within the 0.5-mile search radius. As documented in the approved Waters of the US Report, during a site visit on October 13, 2020, by BLN Staff it was confirmed that no wetlands features are within or adjacent to the project area. Therefore, no impacts are expected.

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Terrestrial Habitat	☒	☒	☐

Total terrestrial habitat in project area: 0.69 Acre(s) Total tree clearing: 0.00 Acre(s)

Describe types of terrestrial habitat (i.e. forested, grassland, farmland, lawn, etc.) adjacent or within the project area. Include whether or not impacts will occur to habitat identified. Include total terrestrial habitat impacted and total tree clearing that will occur. Discuss measure to avoid, minimize, and mitigate if impacts will occur.

Presence, with impacts

Based on a desktop review, a site visit on October 13, 2020, by BLN Staff, and the aerial map of the project area (Appendix B, page 3) there is terrestrial habitat consisting of grass and farmland within the project area. Dominant species include Harry Crab Grass (*Digitaria sanguinalis*) and Creeping Wild Rye (*Leymus triticoides*). Approximately 0.38 acre of terrestrial habitat will be impacted to create clear space for construction activities, and it is not possible to avoid these impacts with other alternatives. No trees will be removed for this project.

Protected Species

Federally Listed Bats

Information for Planning and Consultation (IPaC) determination key completed
 Section 7 informal consultation completed (IPaC cannot be completed)
 Section 7 formal consultation Biological Assessment (BA) required

Yes	No
☒	☐
☐	☒
☐	☒

Determination Received for Listed Bats from USFWS: NE ☐ NLAA ☒ LAA ☐

Other Species not included in IPaC

Additional federal species found in project area (based on IPaC species list)
 State species (not bird) found in project area (based upon consultation with IDNR)

Yes	No
☐	☒
☐	☒

Migratory Birds

Known usage or presence of birds (i.e. nests)
 State bird species based upon coordination with IDNR

Yes	No
☐	☒
☐	☒

Discuss IDNR coordination and species identified. Describe USFWS Section 7 consultation and determination received for Indiana bat and northern long-eared bat impacts. Discuss if other federally listed species were identified. If so, include consultation that has occurred and the determination that was received. Discuss if migratory birds have been observed and any impacts.

Based on a desktop review and the RFI report (Appendix E, page 1), completed by BLN staff on July 1, 2021, the IDNR Putnam County Endangered, Threatened, and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated August 19, 2021 (Appendix C, page 13), the Natural Heritage Program's Database has been checked and no

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plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. No critical habitats were identified within the project area.

Bats, Programmatic Informal Consultation (i.e. IPaC) – Not Likely to Adversely Affect

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, page 19). The project is within range of the federally endangered Indiana Bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were generated in the IPaC species list other than the Indiana bat and northern long-eared bat. No critical habitats are located in the project area.

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 small structure inspection was conducted by INDOT on July 12, 2021, and no bats or signs of bats or birds found using the structure were present (Appendix I, page 34). BLN conducted a bridge assessment during the site visit on October 13, 2020 and no bats or signs of bats or birds was found. An effect determination key was completed on October 21, 2021. Based on responses provided, the project was found to "not likely to adversely affect" the Indiana bat and/or the NLEB (Appendix C, page 25). INDOT reviewed and verified the effect finding on October 22, 2021 and requested 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 Minimization Measures (AMMs) address lighting and hibernacula. AMMs are included as firm commitments in the *Environmental Commitments* section of this document.

Migratory Birds: The culvert on US 231 over UNT to Sand Branch, CV #231-067-137.53, and the project's surrounding habitat is conducive for use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA). Prior to the start of nesting season (May 1) the structure must be inspected for birds or signs of birds. If birds or signs of birds are found during the inspection avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 - April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 - September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the "Migratory Bird Protection" RSP.

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

Project located within the Potential Karst Features Area of Indiana
Karst features identified within or adjacent to the project area
Oil/gas or exploration/abandoned wells identified in the project area

Yes	No
☒	☐
☐	☒
☐	☒

Date Karst Study/Report reviewed by INDOT EWPO (if applicable): _____

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Discuss if project is located in Potential Karst Features Area of Indiana and if any karst features have been identified in the project area (from RFI). Discuss response received from IGWS coordination. Discuss if any mines, oil/gas, or exploration/abandoned wells were identified and if impacts will occur. Describe if any impacts will occur to any karst features. Include discussion of karst study/report was completed and results. (Karst investigation must comply with the current Karst MOU and coordinated and reviewed by INDOT EWPO)

Inside karst area; no presence

Based on a desktop review, the project is located inside the designated Karst Region of Indiana as outlined in the July 15, 2021 Protection of Karst Features during Project Development and Construction report. According to the topo map of the project area (Appendix B, page 2) and the RFI report (Appendix E, page 1), there are no karst features identified within or adjacent to the project area. In the early coordination response July 21, 2021, the Indiana Geological and Water Survey (IGWS) did not indicate that karst features exist in the project area. The IGWS report indicated there is high liquefaction potential, low potential for sand and gravel resources, non-documented active or abandoned mineral resources extraction sites in the area, and a moderate potential for bedrock resource. While there is moderate potential for bedrock resources, no impact is expected because there are no mining or quarrying facilities located in or near the project area (Appendix C, page 16). The response from IGWS has been communicated to the designer on July 21, 2021. No impacts are expected. Correspondence with INDOT Ecology and Waterway Permitting on November 12, 2021 indicated a karst report did not need to be completed but provided a special provision to be included in the contract documents regarding the discovery of karst features during construction (Appendix I, page 2). The karst unique special provision (USP) is included in the firm commitments of this document.

SECTION C – OTHER RESOURCES

Drinking Water Resources

Wellhead Protection Area(s)
Source Water Protection Area(s)
Water Well(s)
Urbanized Area Boundary
Public Water System(s)

Presence

Impacts

Yes

No

Is the project located in the St. Joseph Sole Source Aquifer (SSA):

If Yes, is the FHWA/EPA SSA MOU Applicable?

If Yes, is a Groundwater Assessment Required?

Yes

No

	X

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Check the appropriate boxes and discuss each topic below. Provide details about impacts and summarize resource-specific coordination responses and any mitigation commitments. Reference responses in the Appendix.

Outside of Sole Source Aquifer (SSA)

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

Not located in a Wellhead Protection Area or Source Water Area

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on July 21, 2021, by BLN Staff. This project is not located within a Wellhead Protection Area or Source Water Area.

No wells present, no impacts

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on July 28, 2021, by BLN Staff. No wells are located near this project. Therefore, no impacts are expected.

Not in an Urban Area Boundary Location

Based on a desktop review of INDOT's MS4 website (<https://entapps.indot.in.gov/MS4/>) by BLN Staff on July 28, 2021, this project is not located in an Urban Area Boundary. No impacts are expected.

Not in a Public Water System Location

Based on a desktop review, a site visit on October 13, 2021, by BLN Staff, and the aerial map of the project area (Appendix B, page 3) no public water systems were identified. Therefore, no impacts are expected

Floodplains	Presence	Impacts	
		Yes	No
Project located within a regulated floodplain	☐	☐	☐
Longitudinal encroachment	☐	☐	☐
Transverse encroachment	☐	☐	☐
Homes located in floodplain within 1000' up/downstream from project	☐	☐	☐

If applicable, indicate the Floodplain Level?

Level 1 ☐ Level 2 ☐ Level 3 ☐ Level 4 ☐ Level 5 ☐

Use the IDNR Floodway Information Portal to help determine potential impacts. Include floodplain map in appendix. Discuss impacts according to the classification system. If encroachment on a flood plain will occur, coordinate with the Local Flood Plain Administrator during design to insure consistency with the local flood plain planning.

Not in a floodplain

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrm.dnr.in.gov/appsphp/fdms/>) was accessed on July 28, 2021, by BLN Staff. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page 13). 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.

According to the USGS StreamStats program, the upstream drainage area of the UNT to Sand Branch at the project location is 0.216 square miles. IDNR's August 19, 2021, coordination response letter stated that formal approval under their regulatory programs is not required; therefore, a Construction in a Floodway permit will not be needed.

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Farmland

Agricultural Lands
Prime Farmland (per NRCS)

Presence

X
X

Impacts

Yes	No
X	
X	

Total Points (from Section VII of CPA-106/AD-1006*) 151

**If 160 or greater, see CE Manual for guidance.*

Discuss existing farmland resources in the project area, impacts that will occur to farmland, and mitigation and minimization measures considered.

Presence, score under 160

Based on a desktop review, a site visit on October 13, 2020, by BLN, the aerial map of the project area (Appendix B, page 3), the project will convert 0.694 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent July 21, 2021, to Natural Resources Conservation Service (NRCS). Coordination with NRCS resulted in a score of 66 on the NRCS-AD 1006 Form (Appendix C, page 36). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

SECTION D – CULTURAL RESOURCES

Minor Projects PA **Category(ies) and Type(s)** Category B-9 **INDOT Approval Date(s)** 10/19/2021 **N/A**

Full 106 Effect Finding

No Historic Properties Affected ☐ No Adverse Effect ☐ Adverse Effect ☐

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) ☐ Archaeology ☐ NRHP Bridge(s) ☐

Documentation Prepared (mark all that apply)

APE, Eligibility and Effect Determination
800.11 Documentation
Historic Properties Report or Short Report
Archaeological Records Check and Assessment ☒
Archaeological Phase Ia Survey Report ☒
Archaeological Phase Ic Survey Report
Other:

ESD Approval Date(s)

October 19, 2021
October 19, 2021

SHPO Approval Date(s)

Memorandum of Agreement (MOA)

☐

MOA Signature Dates (List all signatories)

--

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If the project falls under the MPPA, describe the category(ies) that the project falls under and any approval dates. If the project requires full Section 106, use the headings provided. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of the paper(s) and the comment period deadline. Include any further Section 106 work which must be completed at a later date, such as mitigation from a MOA or avoidance commitments.

Minor Project PA Category B projects

On October 19, 2021, INDOT Cultural Resource Office (CRO) determined this project falls within the guidelines of Category B, Type 9 under the Minor Projects Programmatic Agreement (MPPA) (Appendix D, page 1). This MPPA category covers installation, replacement, repair, lining, or extension of culverts and other drainage structures where there are disturbed soils or no archaeological or historic resources eligible for the National Register of Historic Places as determined by a professional meeting the Secretary of the Interior's Professional Qualification Standards. A Phase Ia Archaeological Reconnaissance Survey was conducted by Stephen J. Christian & Associates, Inc. (SJCA) on September 14, 2021. No archeological resources were present within the project area. It was recommended that the project be allowed to proceed as planned. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

SECTION E – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

	<u>Presence</u>	<u>Use</u>	
		Yes	No
Parks and Other Recreational Land			
Publicly owned park			
Publicly owned recreation area			
Other (school, state/national forest, bikeway, etc.)			
Wildlife and Waterfowl Refuges			
National Wildlife Refuge			
National Natural Landmark			
State Wildlife Area			
State Nature Preserve			
Historic Properties			
Site eligible and/or listed on the NRHP			
 <u>Evaluations</u>			
<u>Prepared</u>			
Programmatic Section 4(f)			
"De minimis" Impact			
Individual Section 4(f)			
Any exception included in 23 CFR 774.13			

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Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation must be included in the appendix and summarized below. Discuss proposed alternatives that satisfy the requirements of Section 4(f). FHWA has identified various exceptions to the requirement for Section 4(f) approval. Refer to 23 CFR § 774.13 - Exceptions.

No presence, no impact

Section 4(f) of the U.S. Department of Transportation 1966 prohibits the use of the 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, 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 a project (Appendix B, page 3), and the RFI report (Appendix E, page 1) there are no potential 4(f) resources located within the 0.5-mile search radius. According to the site visit on October 13, 2021, by BLN Staff there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement

Presence

Use

Yes

No

Section 6(f) Property

☐☐☐

Discuss Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.

No presence, no impact

The U.S. Land and Water Conservation Fund Act of 1965 established the 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 number of 14 properties in Putnam County (Appendix I, page 1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

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SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project

Is the project in the most current STIP/TIP?

Yes

☒

No

☐

Is the project located in an MPO Area?

☐☒

Is the project in an air quality non-attainment or maintenance area?

☐☒

If Yes, then:

Is the project in the most current MPO TIP?

☐☐

Is the project exempt from conformity?

☐☐

If No, then:

Is the project in the Transportation Plan (TP)?

☐☐

Is a hot spot analysis required (CO/PM)?

☐☐

Location in STIP:

FY 2020-2024 Amendment 34

Name of MPO (if applicable):

Location in TIP (if applicable):

Level of MSAT Analysis required?

Level 1a

☒

Level 1b

☐

Level 2

☐

Level 3

☐

Level 4

☐

Level 5

☐

Describe if the project is listed in the STIP and if it is in a TIP. Describe the attainment status of the county(ies) where the project is located. Indicate whether the project is exempt from a conformity determination. If the project is not exempt, include information about the TP and TIP. Describe if a hot spot analysis is required and the MSAT Level.

Project Bundled in Contract

The FY 2020-2024 STIP is listed based on the lead DES number in the contract. The lead DES number for this contract is 1800074. The FY 2020-2024 STIP includes DES number 1800151 by reference with the contract number B-41589 (Appendix H, page 1)

Attainment area

This project is located in Putnam County, which is currently in attainment for all criteria pollutants according to the Indiana Department of Environmental Management's (IDEM) Air Quality website (https://www.in.gov/idem/airquality/files/nonattainment_county_list.pdf). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

MSAT Level 1a Analysis

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 93.1126, and as such, a Mobile Source Air Toxics analysis is not required.

SECTION G - NOISE

Noise

Yes

No

Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?

☐☒Date Noise Analysis was approved/technically sufficient by INDOT ESD: This is page 18 of 24 Project name: Small Structure Replacement, US 231 over UNT to Sand BranchDate: February 23, 2022

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Describe if the project is a Type I or Type III project. If it is a Type I project, describe the studies completed to date and if noise impacts were identified. If noise impacts were identified, describe if abatement is feasible and reasonable and include a statement of likelihood.

Type III Project

This project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

Will the proposed action comply with the local/regional development patterns for the area?

Will the proposed action result in substantial impacts to community cohesion?

Will the proposed action result in substantial impacts to local tax base or property values?

Will construction activities impact community events (festivals, fairs, etc.)?

Does the community have an approved transition plan?

If No, are steps being made to advance the community's transition plan?

Does the project comply with the transition plan? (explain in the discussion below)

Yes	No
☒	☐
☐	☒
☐	☒
☐	☒
☒	☐
☐	☐
☒	☐

Discuss how the project complies with the area's local/regional development patterns; whether the project will impact community cohesion; and impact community events. Discuss how the project conforms with the ADA Transition Plan.

There may be temporary inconveniences associated with construction such as increased travel times, possible construction noise and fugitive dust. There will not be substantial impacts on community cohesion or property values as a result of the project. Furthermore, no permanent or temporary economic effects are expected to result from the proposed project. According to a review of www.fairsandfestivals.net, an online resource for local fairs and festivals, there are no scheduled festivals or other public events that will be impacted as a result of the project.

As required by the Americans with Disabilities Act (ADA), Putnam County has developed an ADA Transition Plan. As proposed, US 231 is a rural road that does not include any ADA components within the project area. There are no existing sidewalks or other pedestrian facilities adjacent to the project area or within the project limits. There are no sidewalks or other pedestrian facilities included in the design; however, the project complies with local development patterns for the area. No sidewalk or pedestrian facilities for the project are included in the ADA transition plan.

Public Facilities and Services

Discuss what public facilities and services are present in the project area and impacts (such as MOT) that will occur to them. Include how the impacts have been minimized and what coordination has occurred. Some examples of public facilities and services include health facilities, educational facilities, public and private utilities, emergency services, religious institutions, airports, transportation or public pedestrian and bicycle facilities.

No presence, no impact

Based on a desktop review, the aerial map of the project area (Appendix B, page 3), and the RFI report (Appendix E, page 1) there are no public facilities within the 0.5-mile search radius. During a site visit on October 13, 2020, by BLN Staff it was confirmed that no public facilities are present or adjacent to the project area, therefore, no impacts are expected.

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.

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Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

Will the project result in adversely high and disproportionate impacts to EJ populations?

Yes	No
☐	☒
☒	☐
☐	☒
☐	☒

Indicate if EJ issues were identified during project development. If an EJ analysis was not required, discuss why. If an EJ analysis was required, describe how the EJ population was identified. Include if the project has a disproportionately high and adverse effect on EJ populations and explain your reasoning. If yes, describe actions to avoid, minimize and mitigate these effects.

EJ Analysis, No EJ Populations

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. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 0.694 acre of permanent right-of-way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Putnam County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9565. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the US Census Bureau 2017 was obtained from the US Census Bureau on February 9, 2022, by BLN. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (US Census Bureau 2017)		
	COC – Putnam County	AC – Census Tract 9565
Percent Minority	8%	2%
125% of COC	10%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	12%	10%
125% of COC	15%	AC < 125% COC
EJ Population of Concern		No

The AC, Census Tract 9565, has a percent minority of 2% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

The AC, Census Tract 9565, has a percent low-income of 10% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

Conclusion

The census data sheets, map, and calculations can be found in Appendix I. The EJ analysis did not identify a minority population of concern or a low-income population of concern in the AC. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?

Is a BIS or CSRS required?

Yes	No
☐	☒
☐	☒

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: 0

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Discuss any relocations that will occur due to the project. If a BIS or CSRS is required, discuss the results in the discussion below.

No Relocations

No relocations of people, businesses, or farms will take place as a result of this project.

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

Red Flag Investigation (RFI)

Phase I Environmental Site Assessment (Phase I ESA)

Phase II Environmental Site Assessment (Phase II ESA)

Design/Specifications for Remediation required?

Documentation

X

Date RFI concurrence by INDOT SAM (if applicable): January 20, 2022

Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.

No presence

Based on a review of GIS and available public records, a RFI was concurred by INDOT SAM on January 20, 2022 (Appendix E, page 1). 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.

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Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

Nationwide Permit (NWP)
Regional General Permit (RGP)
Individual Permit (IP)
Other

X

IN Department of Environmental Management (401/Rule 5)

Nationwide Permit (NWP)
Regional General Permit (RGP)
Individual Permit (IP)
Isolated Wetlands
Rule 5
Other

X

IN Department of Natural Resources

Construction in a Floodway
Navigable Waterway Permit
Other

Mitigation Required

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the discussion below)

List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."

Permits

A Section 401 Water Quality Certification and a Section 404 Permit for Discharge of Dredged or Fill Material below the Ordinary High-Water Level are required for projects with any impacts to waterways.

Applicable recommendations provided by permitting agencies 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.

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ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Service 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. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the season (USFWS).
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. Hibernacula AMM 1: For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300-foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography (USFWS).
6. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after July 12, 2023, 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 documents during the inspection, the INDOT District Environmental Manager must be documented immediately (INDOT).
7. The recurring special provision titled "Discovery of Karst Features within the Construction Limits" is to be included in the contract documents. (INDOT EWPO).
8. UNT to Sand Branch is located within the project area and is listed as impaired for E. coli. 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 (INDOT SAM).
9. The culvert on US 231 over UNT to Sand Branch, CV #231-067-137.53, and the project's surrounding habitat is conducive for use (i.e. nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA). Prior to the start of nesting season (May 1) the structure must be inspected for birds or signs of birds. If birds or signs of birds are found during the inspection avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 - April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 - September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the "Migratory Bird Protection" RSP.

For Further Consideration:

1. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds (IDNR).
2. 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).
3. Use minimum average six-inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids (IDNR-DFW).
4. 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 bankfull width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width/length) of 0.25; and have stream depth and water velocities during low-flow conditions that are approximate to those in the natural stream channel (IDNR DFW).
5. All wildlife passage designs should include a smooth level pathway a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream (IDNR DFW).
6. Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon

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completion (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 Impacts³	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 Impacts³	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way⁵	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.

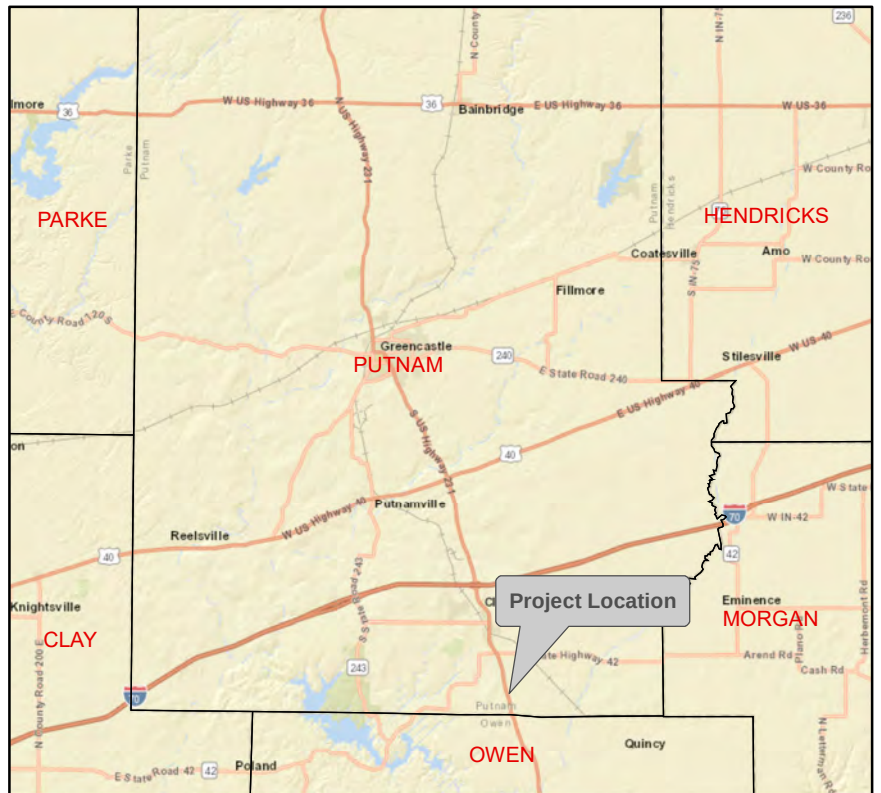
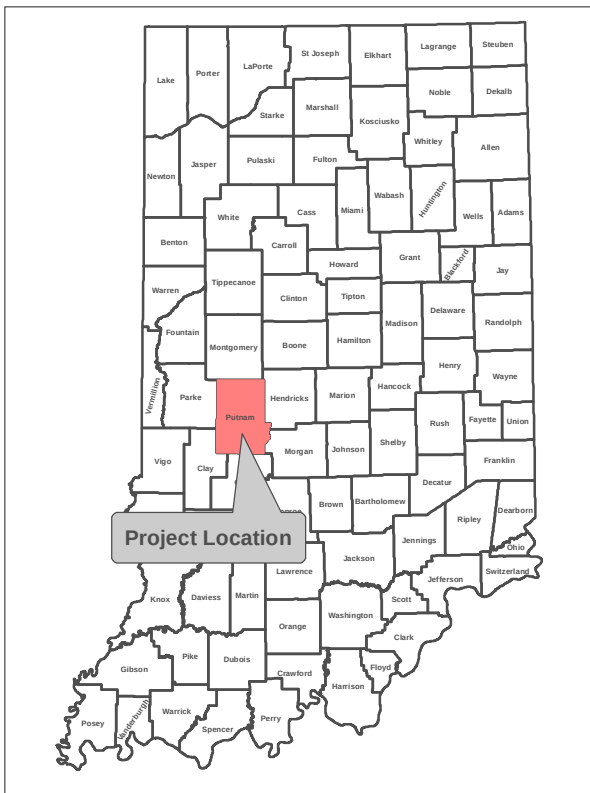
¹⁰ Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

* Includes the threatened/endangered species critical habitat

Note: Substantial public or agency controversy may require a higher-level NEPA document.

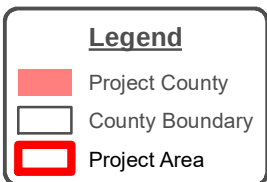
Appendix B:

Graphics

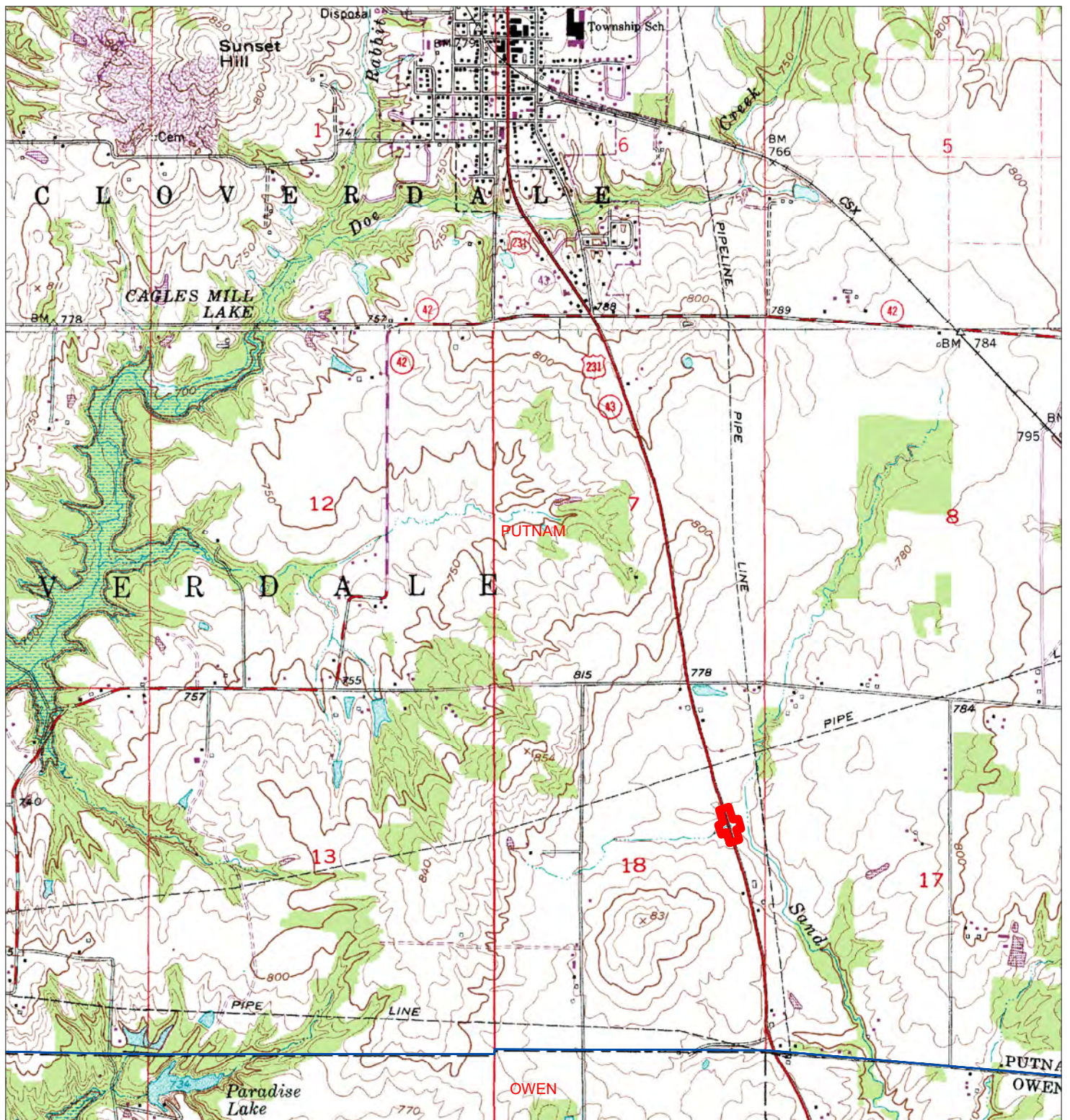


1:2,400
1 inch = 200 feet
Source: Indiana MAP

BLN
BEAM-LONGEST-NEFF



Project Location Map
 Author: Kristin Wing
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



Source: U.S. Geological Survey

1:24,000

1 in = 2,000 ft

BLN
BEAM · LONGEST · NEFF

Legend



Investigated Area

USGS Topographic Map
Author: Kristin Wing
Small Structure Replacement
US 231 over UNT to Sand Branch
Putnam County, Indiana
Des. No. 1800151

B-2
November 18, 2021



Source: U.S. Geological Survey

1:3,600

1 in = 300 ft



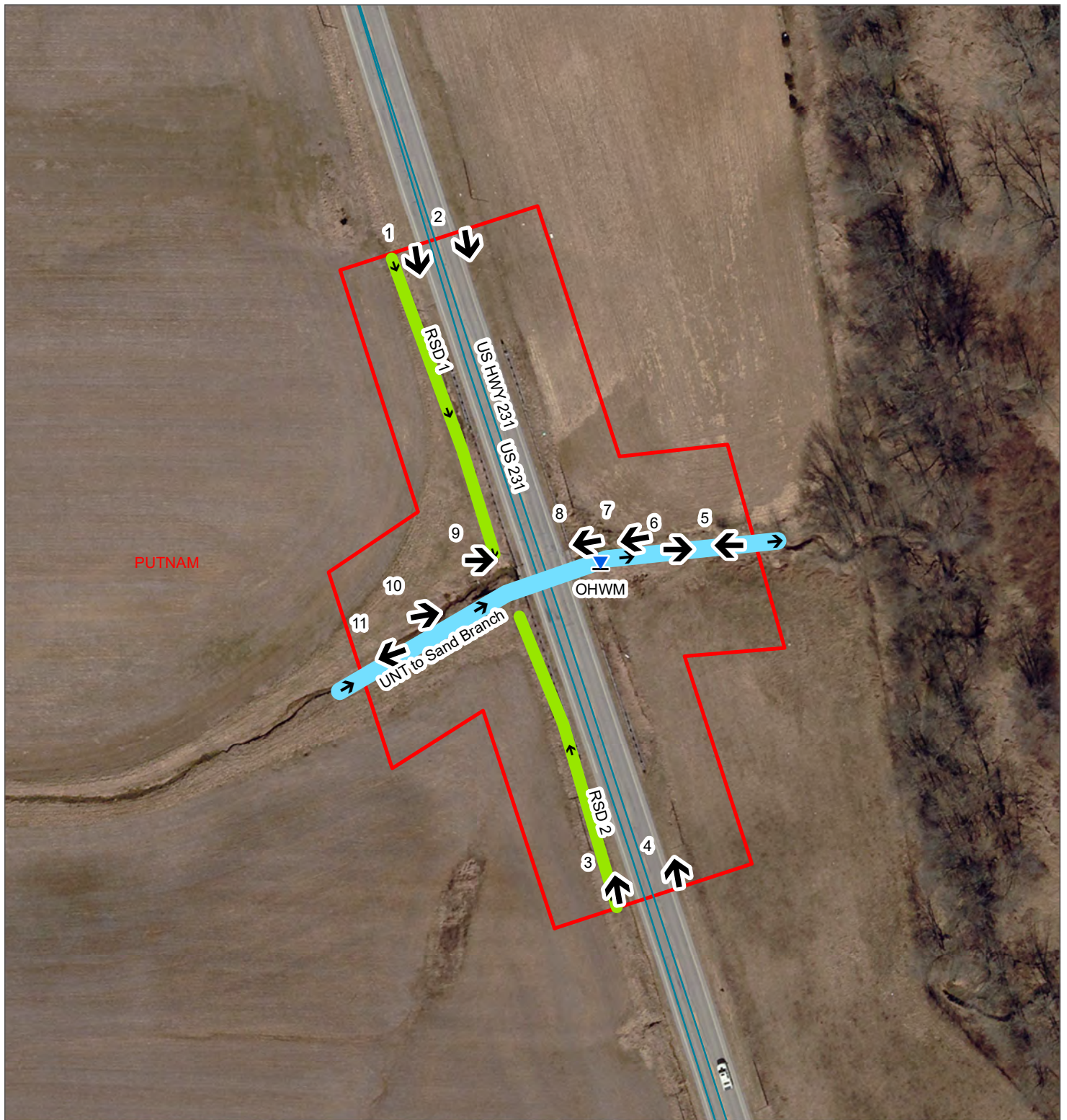
Legend



Investigated Area

Aerial Map
 Author: Kristin Wing
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151

B-3
 November 18, 2021



Source: U.S. Geological Survey

1:1,200

1 in = 100 ft



Legend

- Investigated Area
- ↗ Roadside Ditch
- ➔ Photos
- ▼ Ordinary High-Water Mark
- ↗ UNT to Sand Branch

Photo Location and Orientation Map

Author: Kristin Wing
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



**Photo 1: Looking south at US 231 from the northwest side with a view of ROW.
Agricultural fields on side of road.**



**Photo 2: Looking south at US 231 from the northeast side with a view of ROW.
Agricultural fields on side of road.**



**Photo 3: Looking north at US 231 from the southwest side with a view of ROW.
Agricultural fields on side of road.**



**Photo 4: Looking north at US 231 from the southeast side with a view of ROW.
Agricultural fields on side of road.**



Photo 5: Looking west at UNT to Sand Branch.



Photo 6: Looking east at UNT to Sand Branch.



Photo 7: Looking at UNT to Sand Branch with a view of the east side of the project small structure.



Photo 8: Looking at UNT to Sand Branch with a view of the east side of the project small structure.



Photo 9: Looking at UNT to Sand Branch with a view of the west side of the project small structure.



Photo 10: Looking east at UNT to Sand Branch.

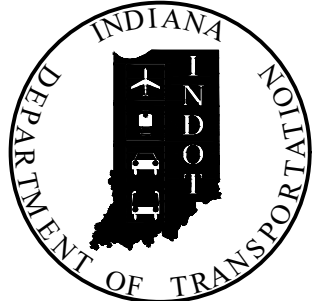


Photo 11: Looking west at UNT to Sand Branch.

PROJECT	DESIGNATION
1800151	1800151
CONTRACT	BRIDGE FILE
B-41589	N/A

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
CV231-067-137.53	PRECAST REINFORCED CONCRETE BOX	SINGLE SPAN: 15'-0" SKEW: 0°	UNNAMED TRIBUTARY TO SAND BRANCH	☐ STRUCTURE Sta. 304+40 "A"

INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

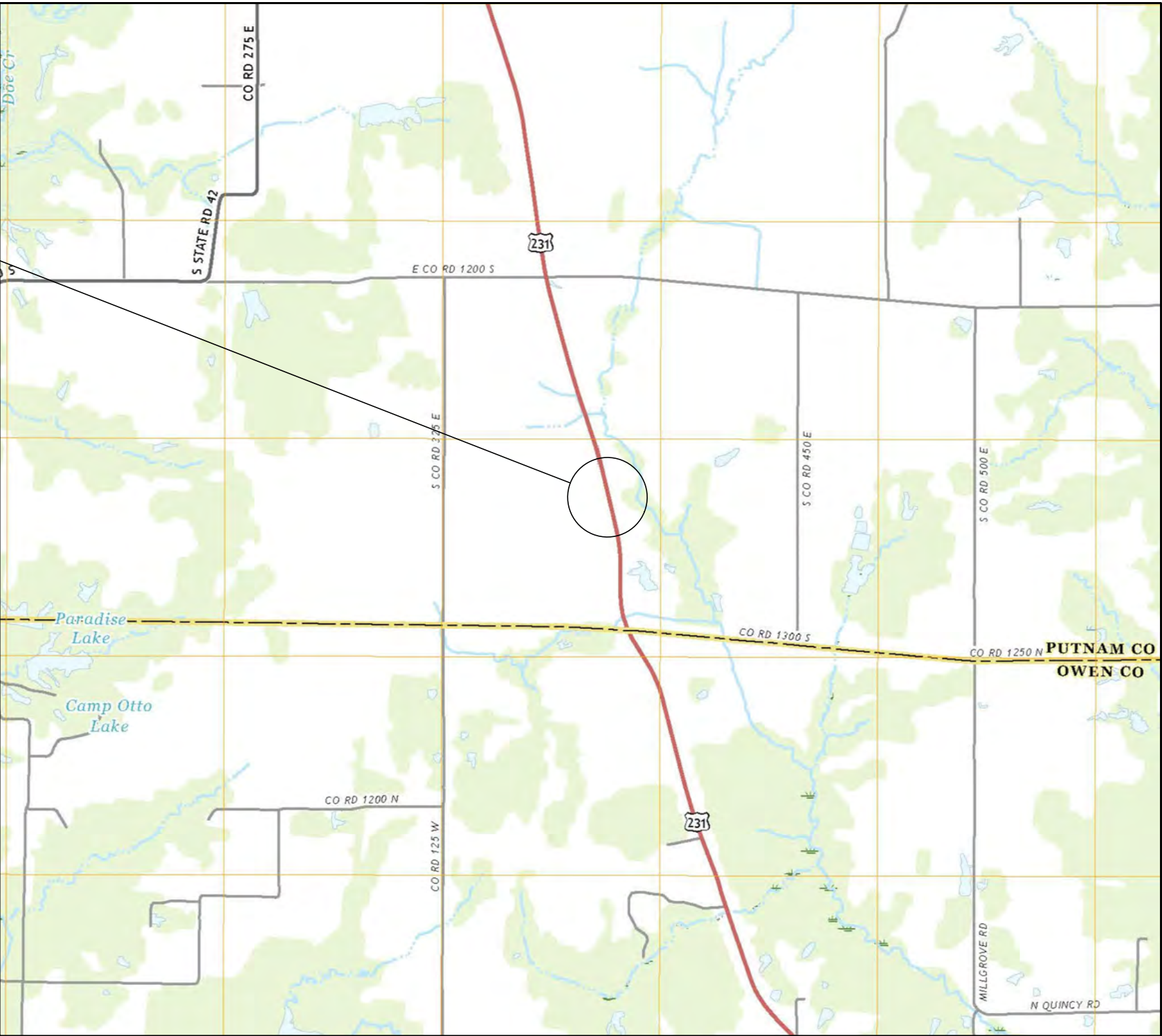
SMALL STRUCTURE REPLACEMENT

ROUTE: US 231 OVER UNNAMED TRIBUTARY TO SAND BRANCH AT: RP 137+53

PROJECT NO. 1800151 P.E.
1800151 R/W
1800151 CONST.

Small Structure Replacement on US 231 Over Unnamed Tributary to Sand Branch
Located 1.45 Miles South of SR 42
Section 18, T-12N, R-3W, Cloverdale Township, Putnam County, Indiana

PROJECT LOCATION
Begin Project-Sta.304+00 "A"
End Project-Sta.304+75 "A"



LOCATION MAP
SCALE: 1:24000

TRAFFIC DATA

A.A.D.T. (2022)	6,155 V.P.D.
A.A.D.T. (2042)	6,330 V.P.D.
D.H.V (2042)	568 V.P.H.
DIRECTIONAL DISTRIBUTION	49.8 %
TRUCKS	16.96 % A.A.D.T. 13.32 % D.H.V.

DESIGN DATA

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



PROJECT LOCATION SHOWN BY
PUTNAM COUNTY

LATITUDE: 39°28'49" N LONGITUDE: 86°46'59" W

BRIDGE LENGTH: 0.000 MI.
ROADWAY LENGTH: 0.014 MI.
TOTAL LENGTH: 0.014 MI.
MAX. GRADE: 0.86 %

HUC 12: 051202030510
HUC 14: 05120203060130

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

PLANS PREPARED BY:



PLANS PREPARED BY: BEAM, LONGEST & NEFF, LLC (317)849-5832 PHONE NUMBER
CERTIFIED BY: DATE
APPROVED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

DRAWING NO.	BRIDGE FILE	
	N/A	
	DESIGNATION 1800151	
CONTRACT B-41589	SHEETS	
	1	of 29
	PROJECT PROJECT	
B-41589		1800151

UTILITIES

ENDEAVOR COMMUNICATIONS
2 S. West Street
Cloverdale, IN 46120
Attn: Jason Lotz
Ph: 765-720-2119
Email: jlotz@weendeavor.com

VECTREN ENERGY DELIVERY
16000 Allisonville Road
Noblesville, IN 46061
Attn: Tyler Engle
Ph: 812-231-6310
Email: tyler.engle@centerpointenergy.com

DUKE ENERGY
100 S. Mill Creek Road
Noblesville, IN 46062
Attn: Cindy Rowland
Ph: 317-776-5341
Email: cindy.rowland@duke-energy.com

HENDRICKS POWER COOPERATIVE
86 N. 500E
Avon, IN 46123
Attn: Jason Stewart
Ph: 317-718-7621
Fax: 317-745-6865
Email: jstewart@hendrickspower.com

MCI COMMUNICATIONS SERVICES, INC.
720 W. Henry Street
Indianapolis, IN 46225
Attn: Ron Kocienski
Ph: 518-424-3950
Email: ronald.kocienski@verizon.com



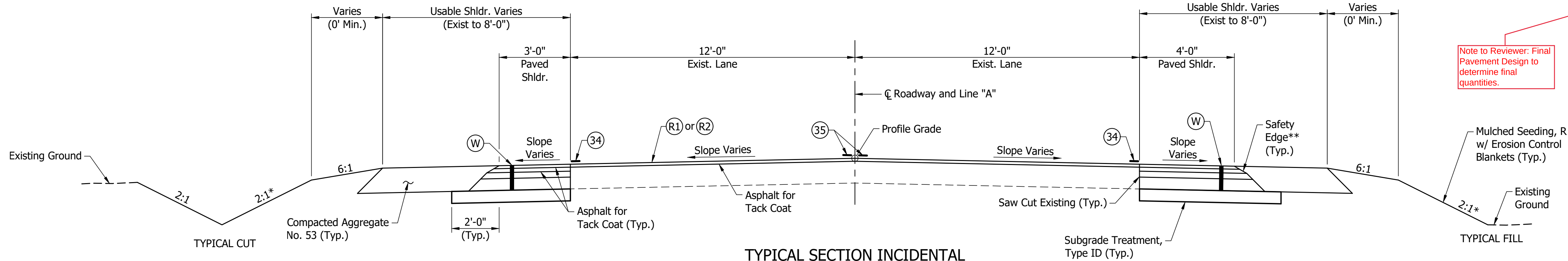
REVISIONS

REVISIONS		
SHEET NO.	DATE	REVISED

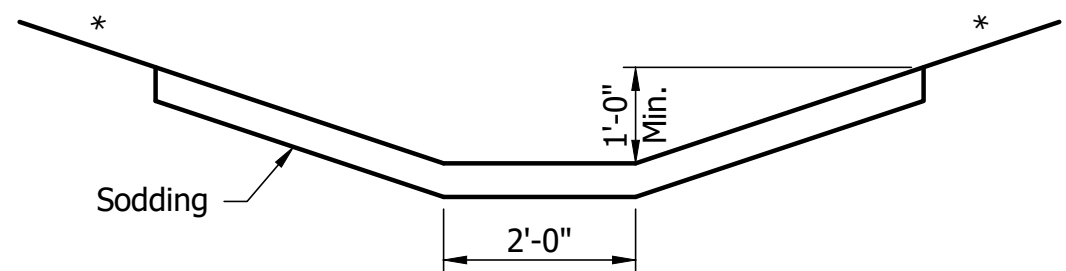
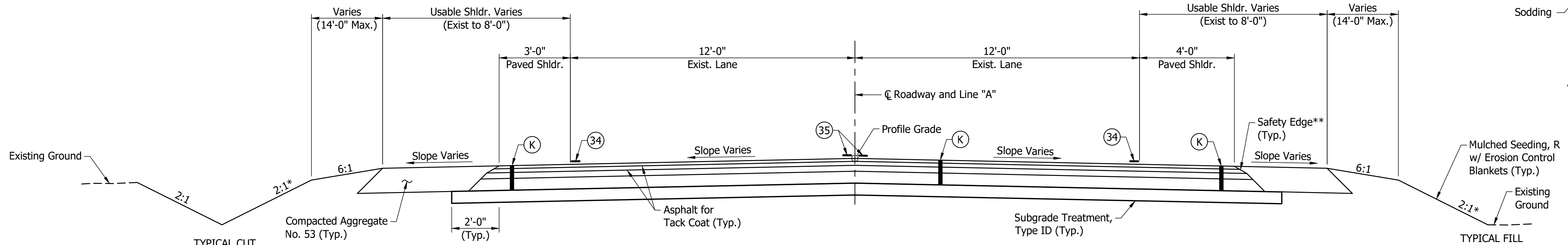
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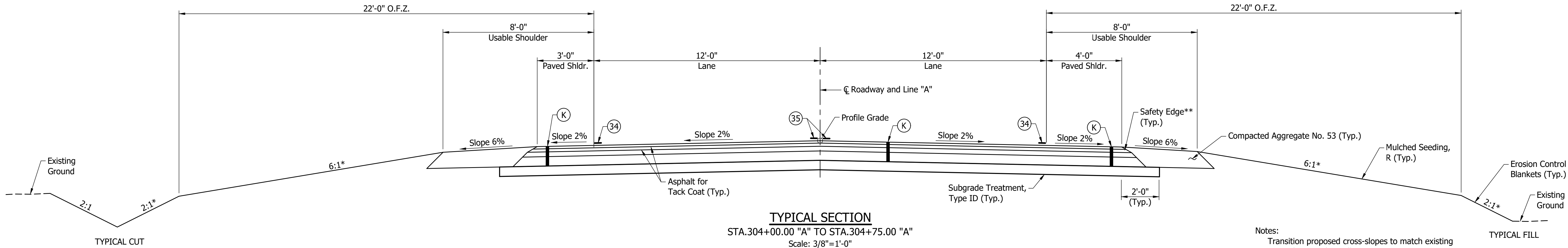
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE			
				NONE		N/A			
				VERTICAL SCALE		DESIGNATION			
				NONE		1800151			
DESIGNED: GLB		DRAWN: OMV		INDEX SHEET		DRAWING NO.		SHEETS	
		2				of		29	
CHECKED: TSW		CHECKED: GLB				CONTRACT		PROJECT	
						B-41589		1800151	



LEGEND	
(K)	165#/Syd QC/QA-HMA, 3, 64, Surface, 9.5 mm on XXX#/Syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm on XXX#/Syd QC/QA-HMA, 2, 64, Base, 19.0 mm on X" Compacted Aggregate, No.53 Base
(R1)	Milling Asphalt, 1 1/2"
(R2)	Milling, Transition 165#/Syd QC/QA-HMA, 3, 64, Surface, 9.5 mm
(W)	165#/Syd QC/QA-HMA, 3, 64, Surface, 9.5 mm on Widening with HMA, Type C 275#/Syd, HMA Intermediate, Type C on 770#/Syd, HMA Base, Type C
(34)	Line, Paint, Solid, White, 4"
(35)	Line, Paint, Solid, Yellow, 4"



TYP. SODDED SIDE DITCH
Scale: 1/2"=1'-0"



Notes:
Transition proposed cross-slopes to match existing cross-slopes within Milling, Transition.

Erosion Control Blankets are to be used on side slopes steeper than 3:1.

* See Cross Sections for Slope
** Safety Edge (30°) Applicable to Surface and Intermediate Layers Only

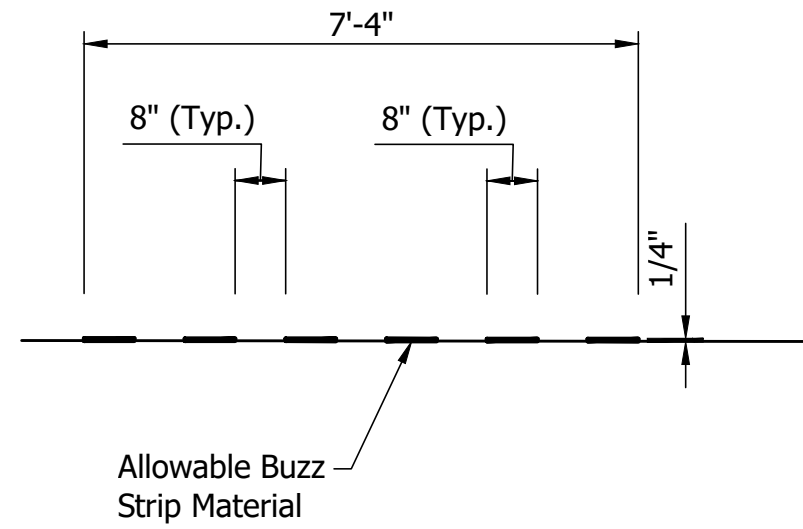
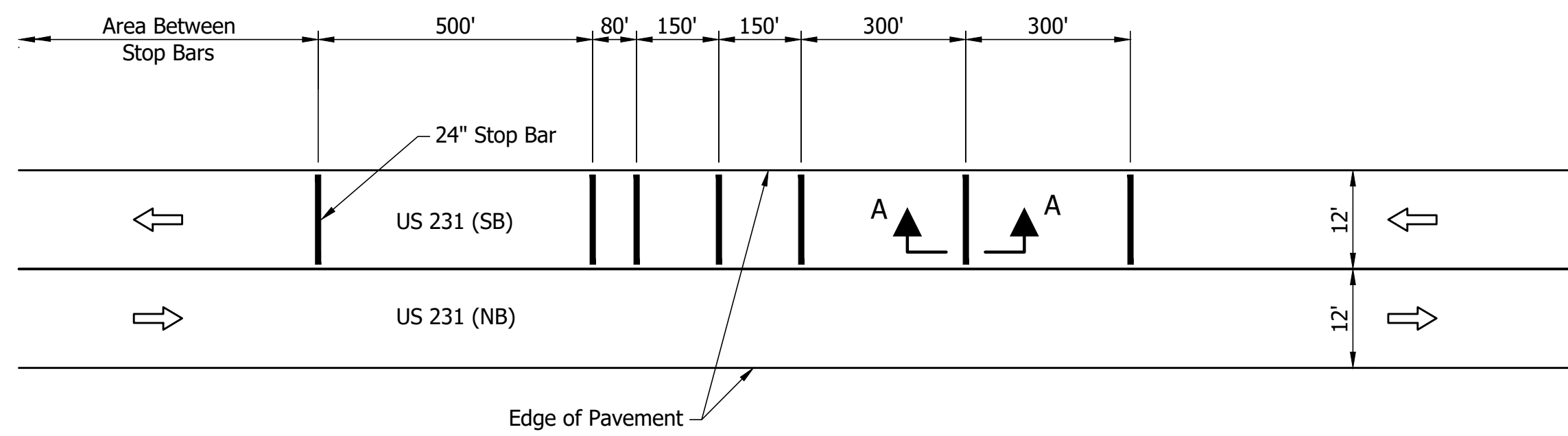
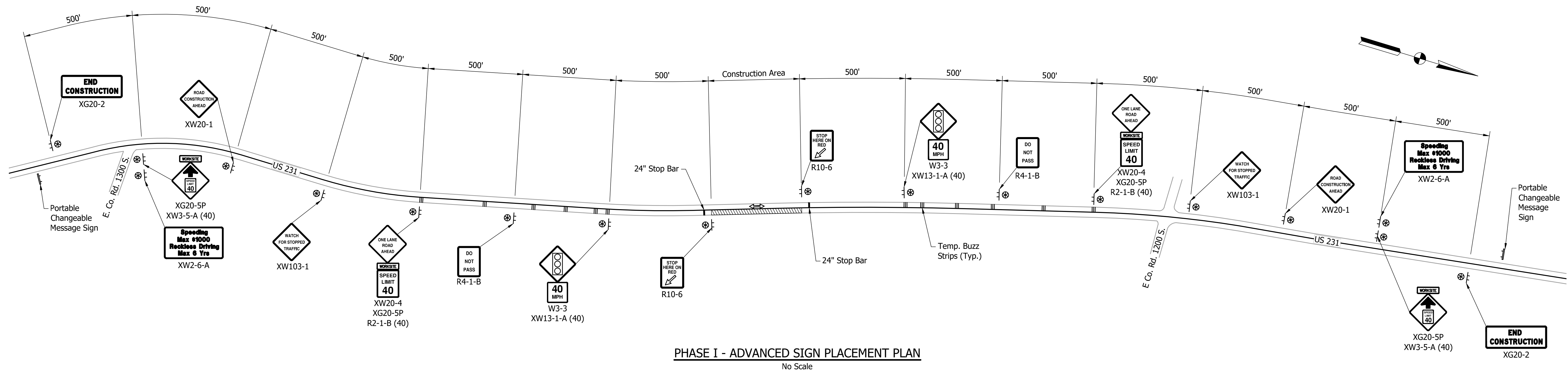
RECOMMENDED FOR APPROVAL _____	
DESIGNED: GLB	DRAWN: OMV
CHECKED: TSW	CHECKED: GLB

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800151
DRAWING NO.	SHEETS
CONTRACT	PROJECT
B-41589	1800151

CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



Notes:

For Legend & Maintenance of Traffic
General Notes, see Sht.6.

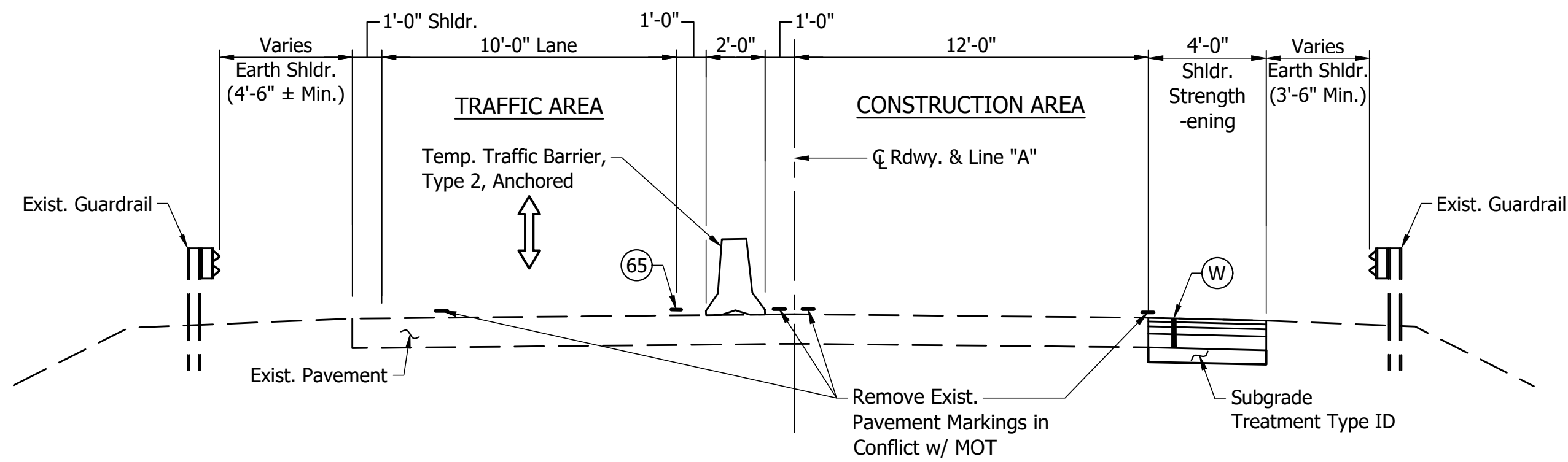
For Construction Area Details, see Sht.7

RECOMMENDED FOR APPROVAL _____	
DESIGNED: GLB	DRAWN: OMV
CHECKED: TSW	CHECKED: GLB

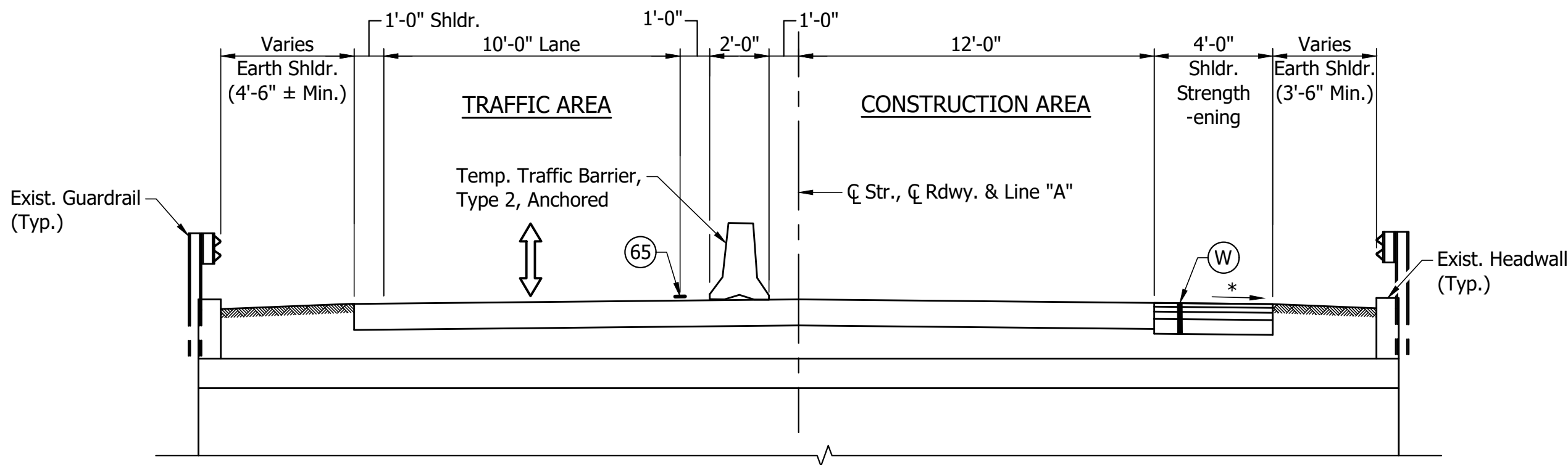
INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
PHASE I

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
NONE	1800151
DRAWING NO.	SHEETS
5	of 29
CONTRACT	PROJECT
B-41589	1800151



PHASE I - ROAD SECTION
Scale: 1/4" = 1'-0"



PHASE I - STRUCTURE SECTION
Scale: 1/4" = 1'-0"

MAINTENANCE OF TRAFFIC GENERAL NOTES

- The Maintenance of Traffic listed here is only a recommendation and should the Contractor desire to adopt another Method of maintaining Traffic during Construction, it shall be submitted to the Engineer for Review and Approval in advance of the Commencement of Work in the Affected Area.
- All Construction Signs, Drums, and Barricades shall be Equipped with Construction Warning Lights, Type A.
- Actual construction sign location shall be determined by the Project Engineer. The locations shown are approximate and may be adjusted by the Project Engineer.
- Existing Pavement Markings that conflict with the Maintenance of Traffic Scheme shall be removed prior to construction.
- The Contractor shall be required to Erect, Furnish and Maintain all construction signs and barricades as shown
- Maintenance of Traffic shall be in accordance with Section 104.04 and the Indiana Manual on Uniform Traffic Control Devices, dated 2011 with Revision #1-#3, and the Maintaining Traffic Sequence for Individual Segments as detailed.
- Remove snowplowable raised pavement markers as necessary where centerline markings are to be removed. The snowplowable raised pavement markers shall not be replaced.
- Portable Changeable Message Signs to be utilized as directed by the Engineer.
- The Contractor to cover 55 mph Speed Limit Signs located within the Advance Sign Placement Plan.
- Access to Residential Drives to be maintained at all times.

LEGEND

- (W) Shoulder Strengthening
165#/Syd QC/QA-HMA, 3, 64, Surface, 9.5 mm on Widening with HMA, Type C
275#/Syd, HMA Intermediate, Type C on 770#/Syd, HMA Base, Type C
 - Construction Zone
 - Construction Sign and Supports
 - Construction Drums
 - Low Intensity Construction Warning Light Type A
 - Directional Traffic
 - Line Removal
 - Temporary Traffic Barrier, Type 2, Anchored
 - Energy Absorbing Terminal, CZ, TL-2
 - 1-Way, 3-Section (12" Red, 12" Amber, 12" Green) Signal Indication
 - Portable Signal
 - Barricade Type III-B & Road Closure Sign Assembly
 - Barricade Type III-B
 - (65) Temporary Pavement Marking, Removable, 4 in. (White)
 - (70) Temporary Transverse Markings, White, Stop Line, 24 in.
- Type "A" Construction Signs
- (1) R11-2 Road Closed

MAINTENANCE OF TRAFFIC - TOTAL QUANTITIES

ITEM	QUANTITY
Road Closure Sign Assembly	Ea.
Temporary Pavement Marking, Removable, 4 in. (White)	Lft.
Temporary Transverse Pavement Marking, Removable, 24 in. (White)	Lft.
Construction Sign, A	Ea.
Construction Sign, B	Ea.
Maintaining Traffic	LSum
Barricade, III-B	Lft.
Temporary Traffic Barrier, Anchored, Type 2	Lft.
Portable Changeable Message Sign	Ea.
Fixed Temporary Signal	LSum
Temporary Buzz Strips	Lft.
Line, Remove	Lft.

MAINTENANCE OF TRAFFIC - PHASE I

ITEM	QUANTITY
Road Closure Sign Assembly	Ea.
Temporary Pavement Marking, Removable, 4 in. (White)	Lft.
Temporary Transverse Pavement Marking, Removable, 24 in. (White)	Lft.
Construction Sign, A	Ea.
Construction Sign, B	Ea.
Maintaining Traffic	LSum
Barricade, III-B	Lft.
Temporary Traffic Barrier, Anchored, Type 2	Lft.
Portable Changeable Message Sign	Ea.
Fixed Temporary Signal	LSum
Temporary Buzz Strips	Lft.
Line, Remove	Lft.

Note to Reviewer: Final Quantities to be provided at Stage 3. Typical for the entire plan set.

Notes:
For Advanced Sign Placement Plan, see Sht.5.
For Construction Area Details, see Sht.7.
* Match Existing Cross-Slope.

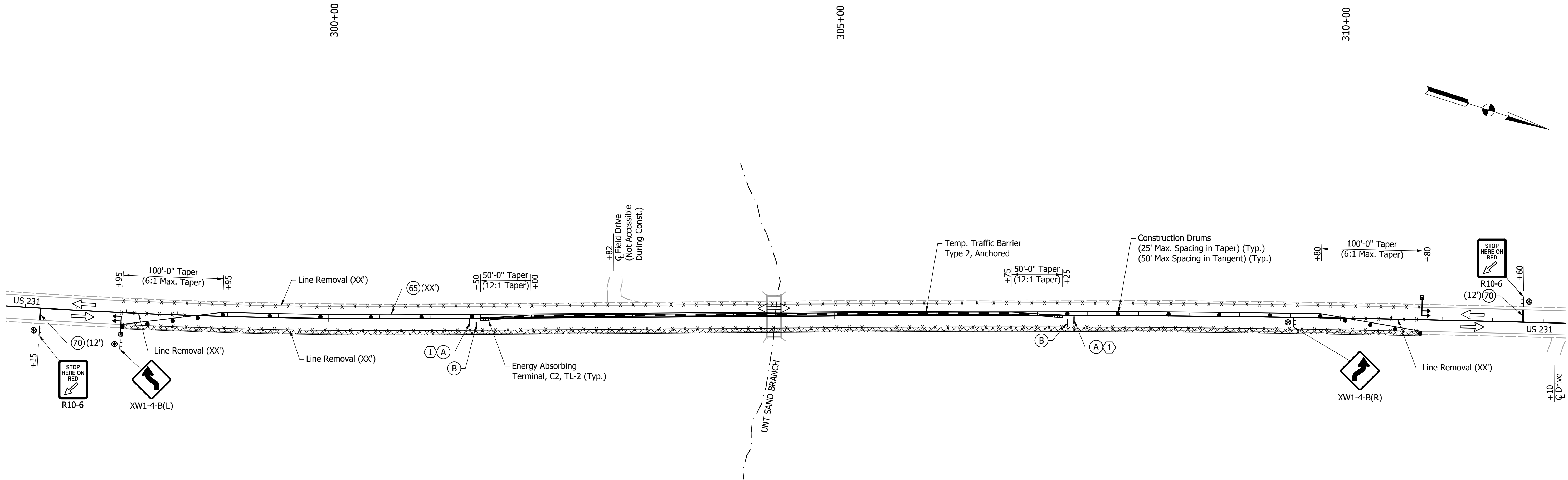
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: GLB	DRAWN: OMV	
CHECKED: TSW	CHECKED: GLB	

INDIANA
DEPARTMENT OF TRANSPORTATION

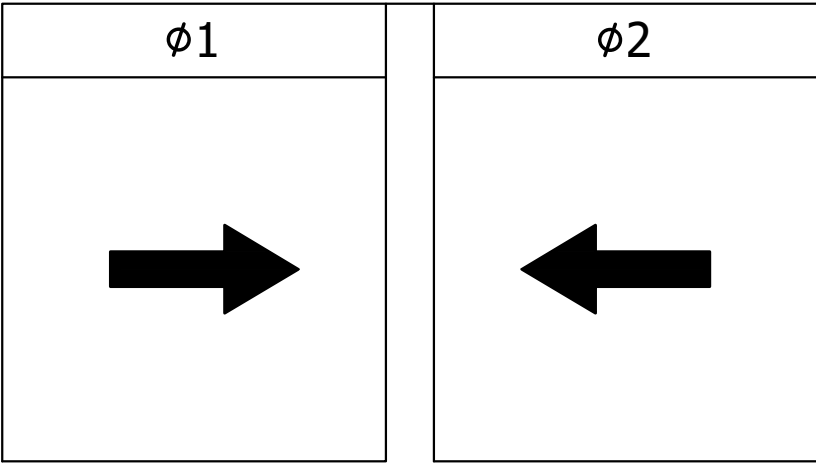
MAINTENANCE OF TRAFFIC
PHASE I

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800151
DRAWING NO.	SHEETS
	6 of 29
CONTRACT	PROJECT
B-41589	1800151

CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



PHASE I - MAINTENANCE OF TRAFFIC DETAILS
No Scale

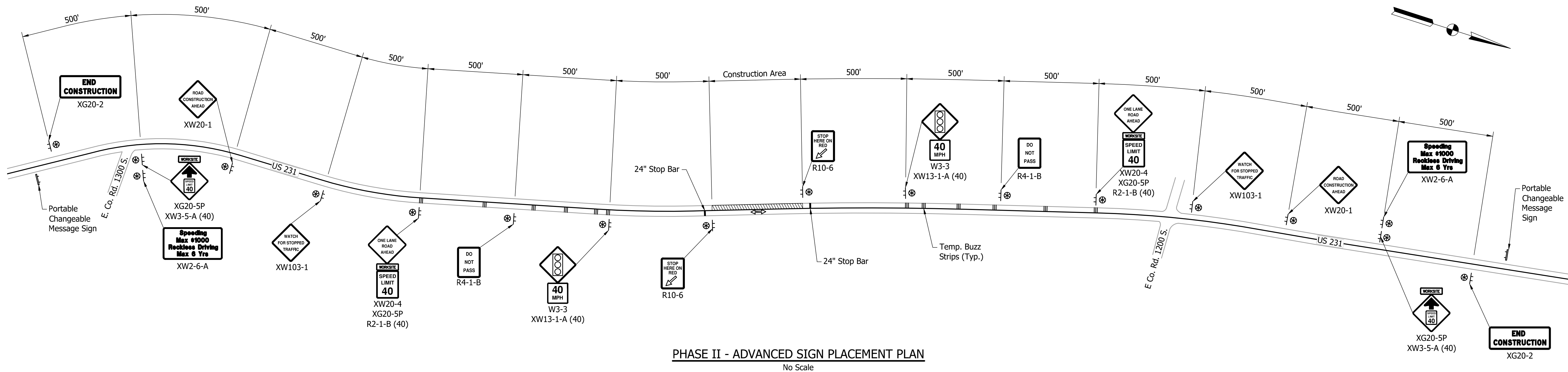


SIGNAL PHASING DIAGRAM

Notes:
For Advanced Sign Placement for Phase I, see Sht.5.
For Legend & Maintenance of Traffic General Notes, see Sht.6.

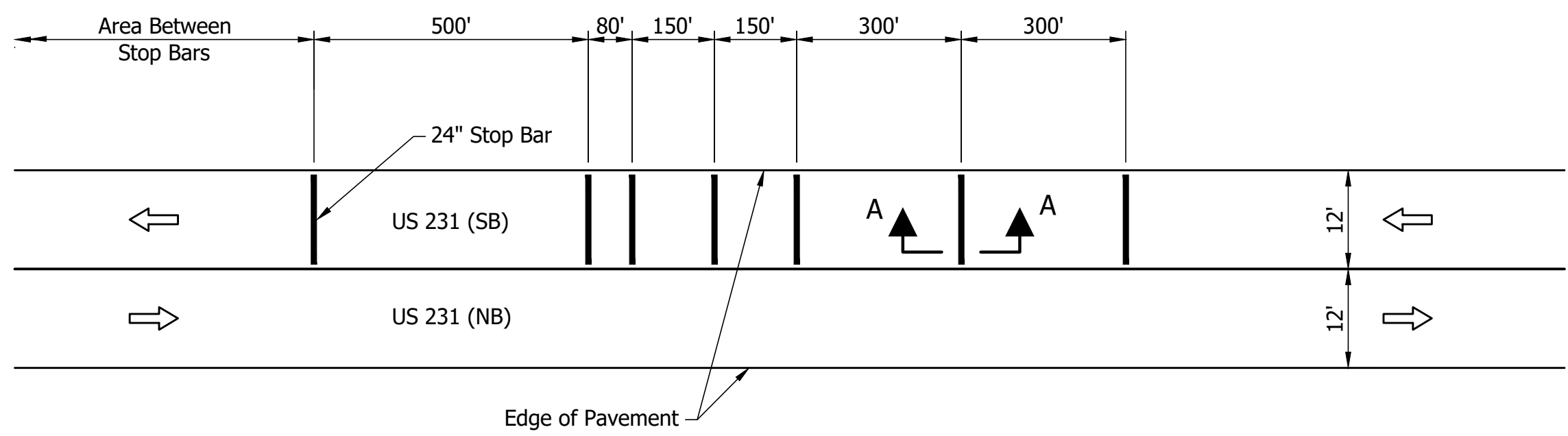
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			VERTICAL SCALE		DESIGNATION		
			NONE		1800151		
DESIGNED: GLB	DRAWN: OMV	MAINTENANCE OF TRAFFIC PHASE I		DRAWING NO.		SHEETS	
				7		of	29
CHECKED: TSW	CHECKED: GLB			CONTRACT		PROJECT	
				B-41589		1800151	

CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



PHASE II - ADVANCED SIGN PLACEMENT PLAN

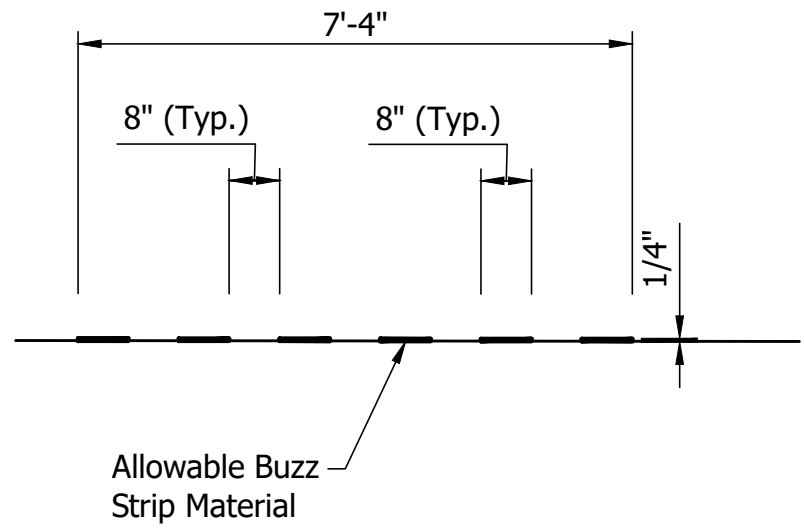
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TEMPORARY BUZZ STRIP INSTALLATION

(SB Shown, NB Same by Opposite Hand)

No Scale



SECTION A-A

No Scale

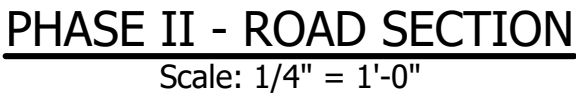
Notes:
For Legend & Maintenance of Traffic
General Notes, see Sht.6.
For Construction Area Details, see Sht.10

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	
DESIGNED: GLB	DRAWN: OMV
CHECKED: TSW	CHECKED: GLB

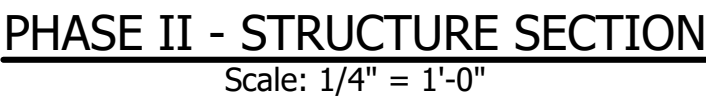
INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
PHASE II

HORIZONTAL SCALE	BRIDGE FILE
NONE	N/A
VERTICAL SCALE	DESIGNATION
NONE	1800151
DRAWING NO.	SHEETS
8	of 29
CONTRACT	PROJECT
B-41589	1800151



MAINTENANCE OF TRAFFIC - PHASE II	
ITEM	QUANTITY
Road Closure Sign Assembly	Ea.
Temporary Pavement Marking, Removable, 4 in. (White)	Lft.
Temporary Transverse Pavement Marking, Removable, 24 in. (White)	Lft.
Construction Sign, A	Ea.
Construction Sign, B	Ea.
Maintaining Traffic	LSum
Barricade, III-B	Lft.
Temporary Traffic Barrier, Anchored, Type 2	Lft.
Portable Changeable Message Sign	Ea.
Fixed Temporary Signal	LSum
Temporary Buzz Strips	Lft.
Line, Remove	Lft.



Notes:

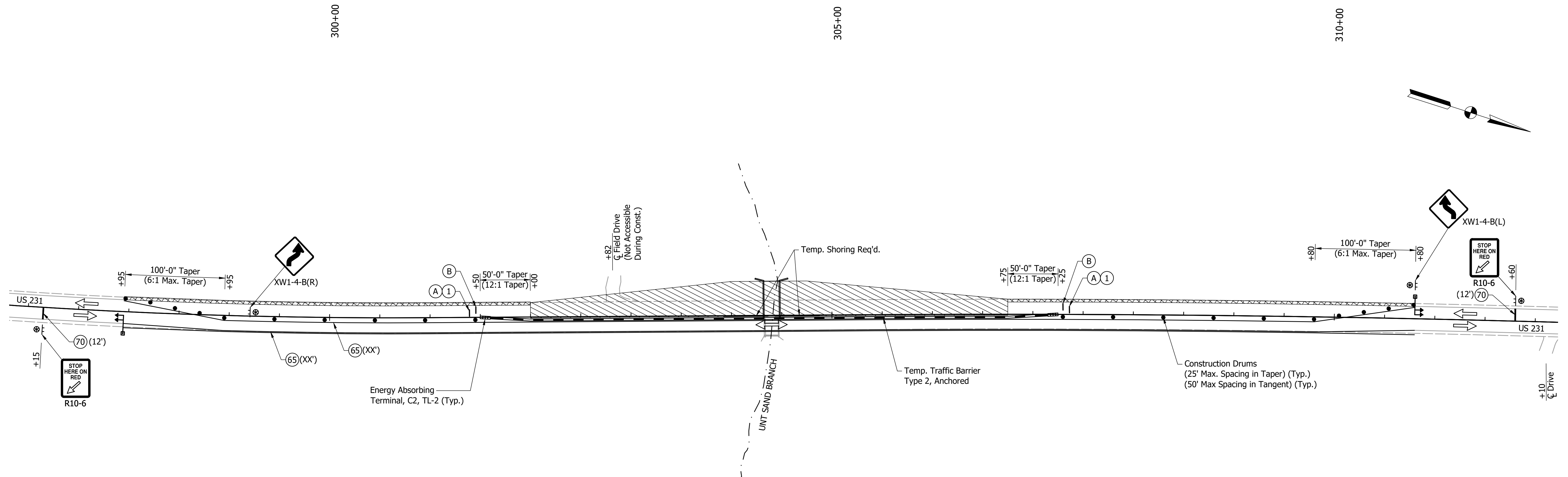
For Legend & Maintenance of Traffic General Notes, see Sht.6.

For Advanced Sign Placement Plan, see Sht.8.

For Construction Area Details, see Sht.10.

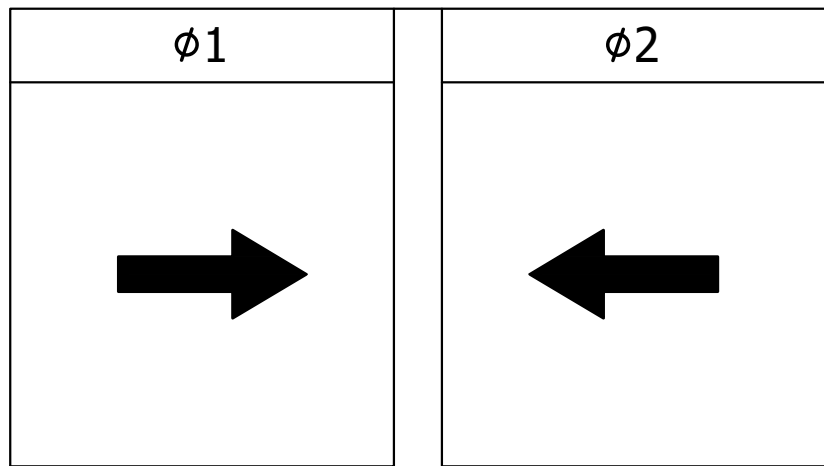
RECOMMENDED FOR APPROVAL			INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE		BRIDGE FILE		
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				VERTICAL SCALE		DESIGNATION		
				AS NOTED		1800151		
DESIGNED: GLB		DRAWN: OMV		MAINTENANCE OF TRAFFIC PHASE II	DRAWING NO.		SHEETS	
					9		of 29	
CHECKED: TSW		CHECKED: GLB			CONTRACT		PROJECT	
					B-41589		1800151	

CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



PHASE II - MAINTENANCE OF TRAFFIC DETAILS

No Scale



SIGNAL PHASING DIAGRAM

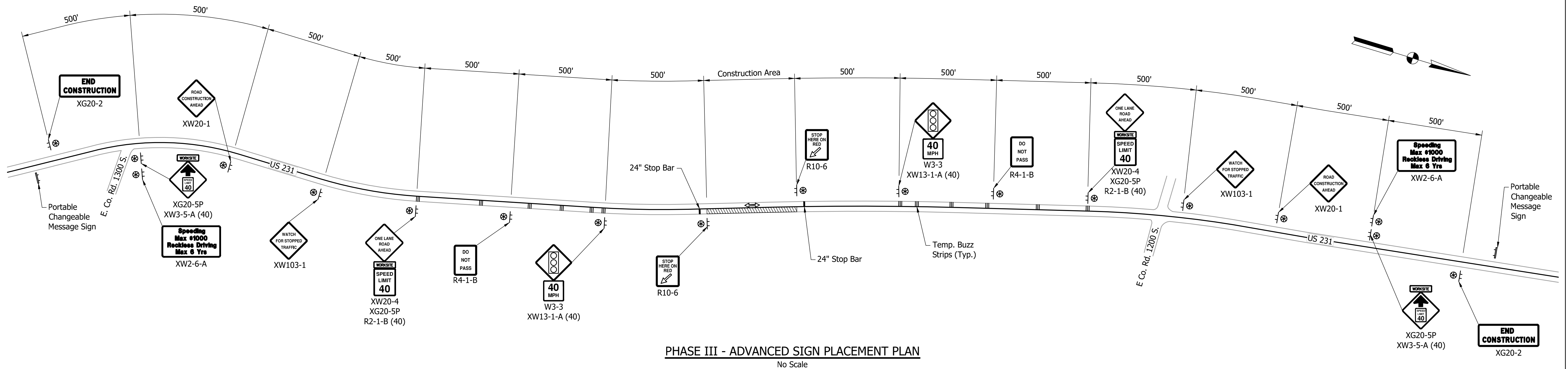
Notes:

For Advanced Sign Placement for Phase II, see Sht.8.

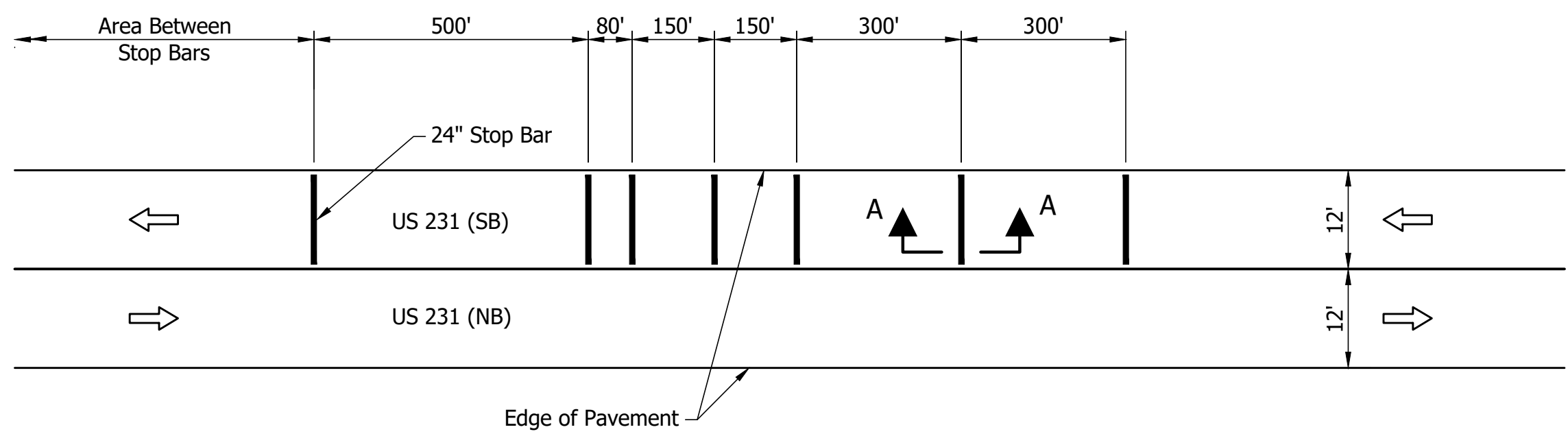
For Legend & Maintenance of Traffic General Notes,
see Sht.6.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION			HORIZONTAL SCALE		BRIDGE FILE			
				NONE		N/A			
				VERTICAL SCALE		DESIGNATION			
				NONE		1800151			
DESIGNED: GLB	DRAWN: OMV	MAINTENANCE OF TRAFFIC PHASE II			DRAWING NO.		SHEETS		
					10		of	29	
CHECKED: TSW	CHECKED: GLB				CONTRACT		PROJECT		
					B-41589		1800151		

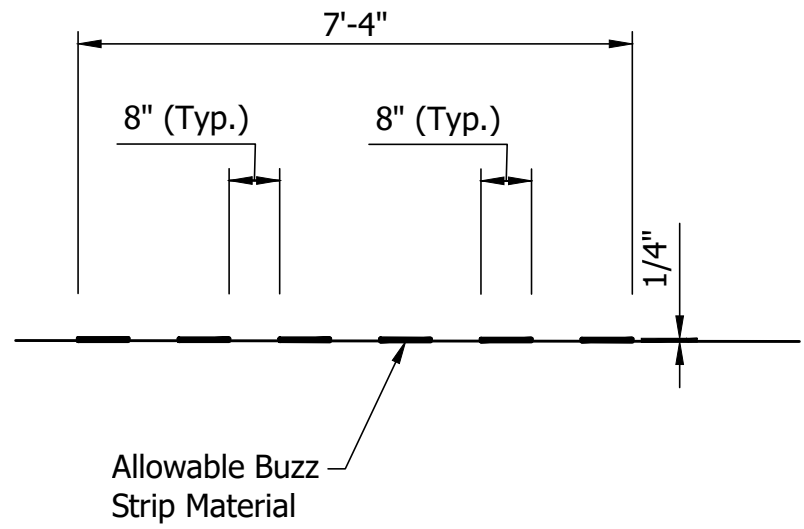
CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



PHASE III - ADVANCED SIGN PLACEMENT PLAN
No Scale



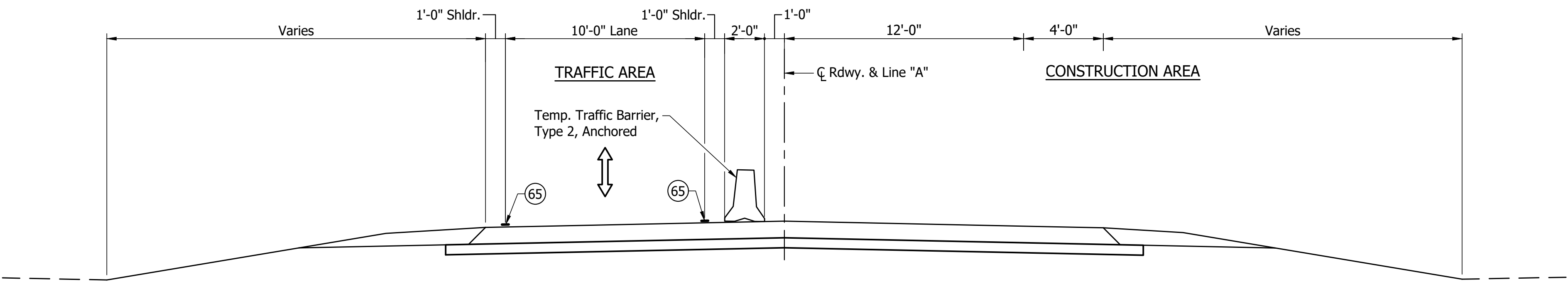
TEMPORARY BUZZ STRIP INSTALLATION
(SB Shown, NB Same by Opposite Hand)
No Scale



SECTION A-A
No Scale

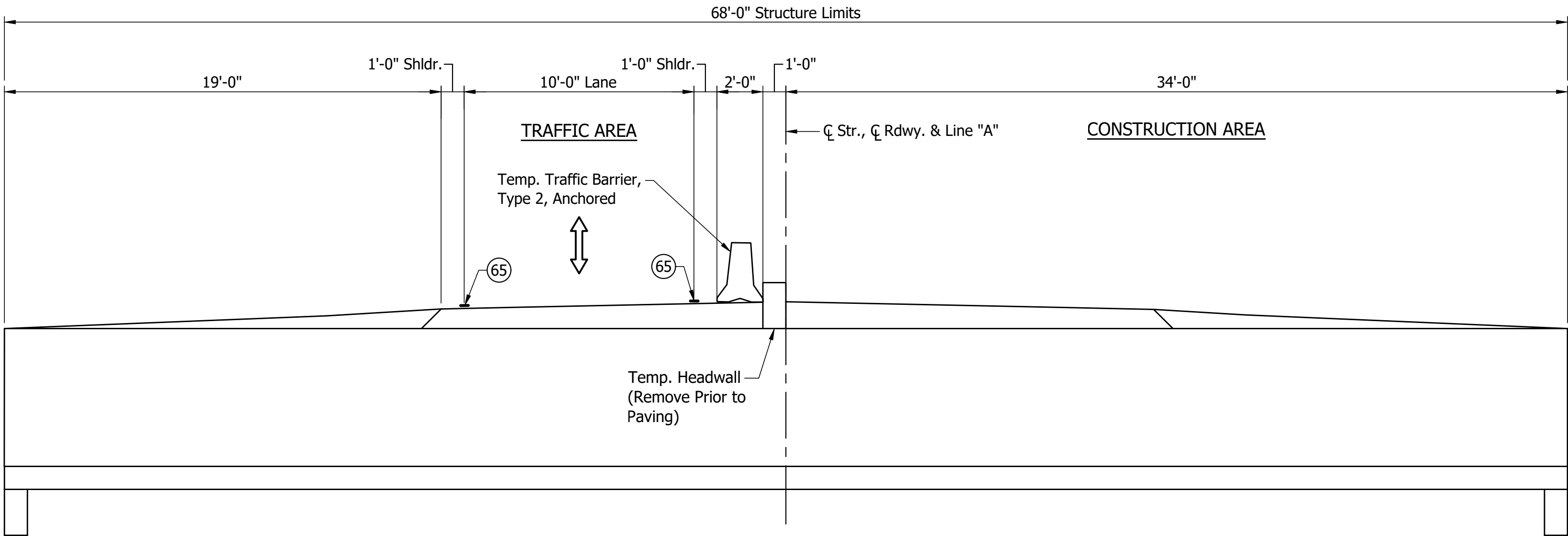
Notes:
For Legend & Maintenance of Traffic
General Notes, see Sht.6.
For Construction Area Details, see Sht.13.

RECOMMENDED FOR APPROVAL DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE			
				NONE		N/A			
				VERTICAL SCALE		DESIGNATION			
				NONE		1800151			
DESIGNED: GLB		DRAWN: OMV		MAINTENANCE OF TRAFFIC PHASE III		DRAWING NO.		SHEETS	
		11				of 29			
CHECKED: TSW		CHECKED: GLB				CONTRACT		PROJECT	
						B-41589		1800151	



PHASE III - ROAD SECTION
Scale: 1/4" = 1'-0"

MAINTENANCE OF TRAFFIC - PHASE III	
ITEM	QUANTITY
Road Closure Sign Assembly	Ea.
Temporary Pavement Marking, Removable, 4 in. (White)	Lft.
Temporary Transverse Pavement Marking, Removable, 24 in. (White)	Lft.
Construction Sign, A	Ea.
Construction Sign, B	Ea.
Maintaining Traffic	LSum
Barricade, III-B	Lft.
Temporary Traffic Barrier, Anchored, Type 2	Lft.
Portable Changeable Message Sign	Ea.
Fixed Temporary Signal	LSum
Temporary Buzz Strips	Lft.
Line, Remove	Lft.

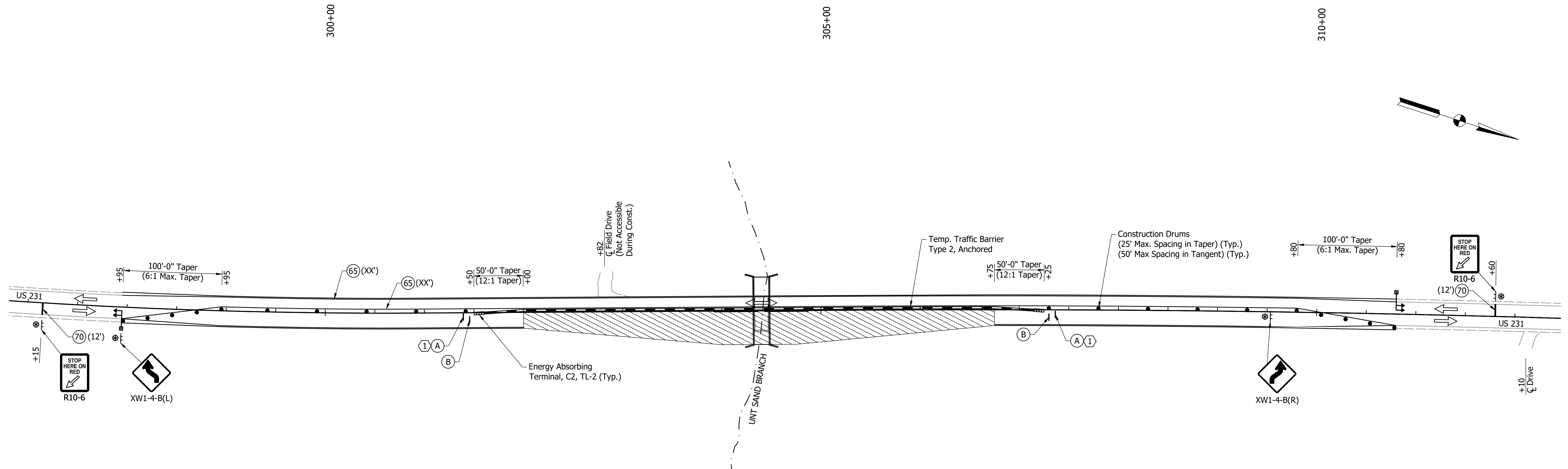


PHASE III - STRUCTURE SECTION
Scale: 1/4" = 1'-0"

Notes:
For Legend & Maintenance of Traffic General Notes, see Sht.6.
For Advanced Sign Placement Plan, see Sht.11.
For Construction Aea Details, see Sht.13.

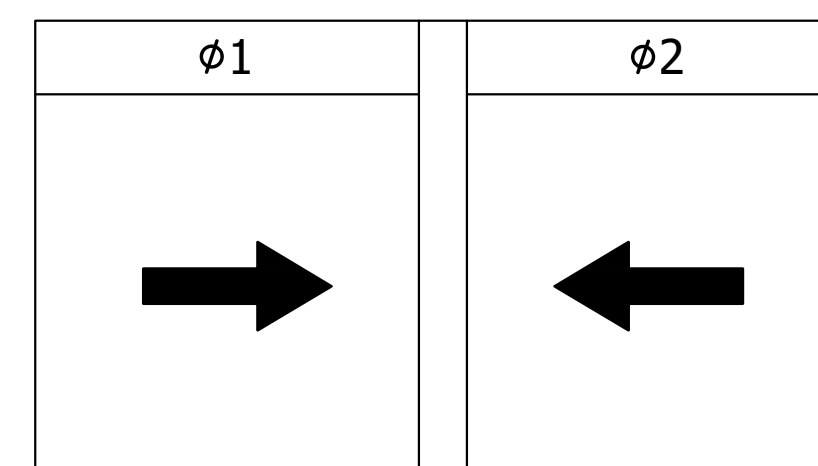
		RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
				AS NOTED	N/A
				VERTICAL SCALE	DESIGNATION
				AS NOTED	1800151
		DESIGNED: GLB DRAWN: OMV CHECKED: TSW CHECKED: GLB	MAINTENANCE OF TRAFFIC PHASE III	DRAWING NO.	SHEETS
					12 of 29
				CONTRACT	PROJECT
				B-41589	1800151

CONSTRUCTION ZONE DESIGN SPEED = 45 MPH



PHASE III - MAINTENANCE OF TRAFFIC DETAILS

No Scal



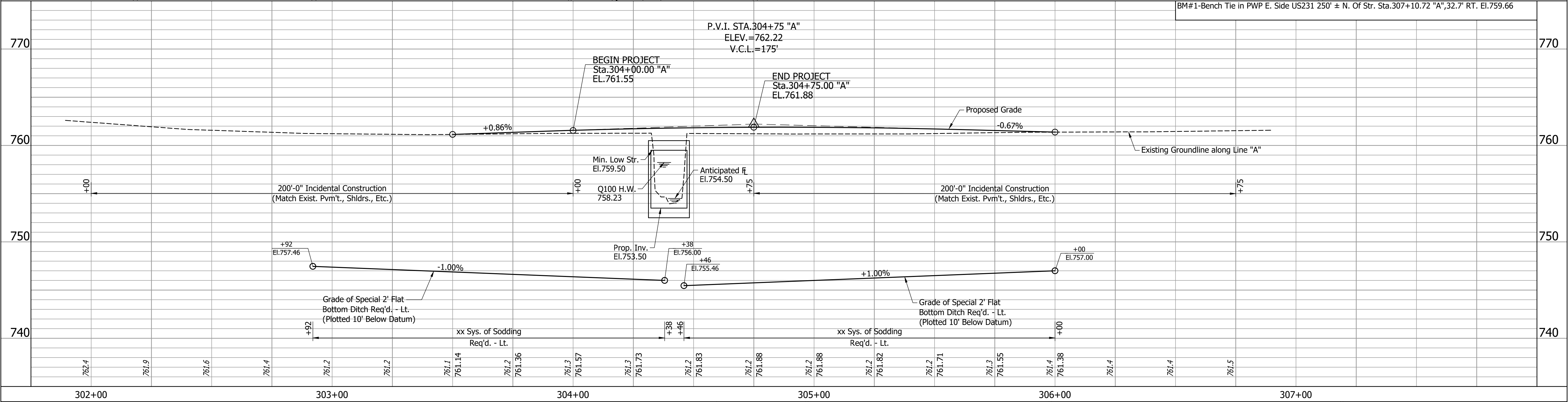
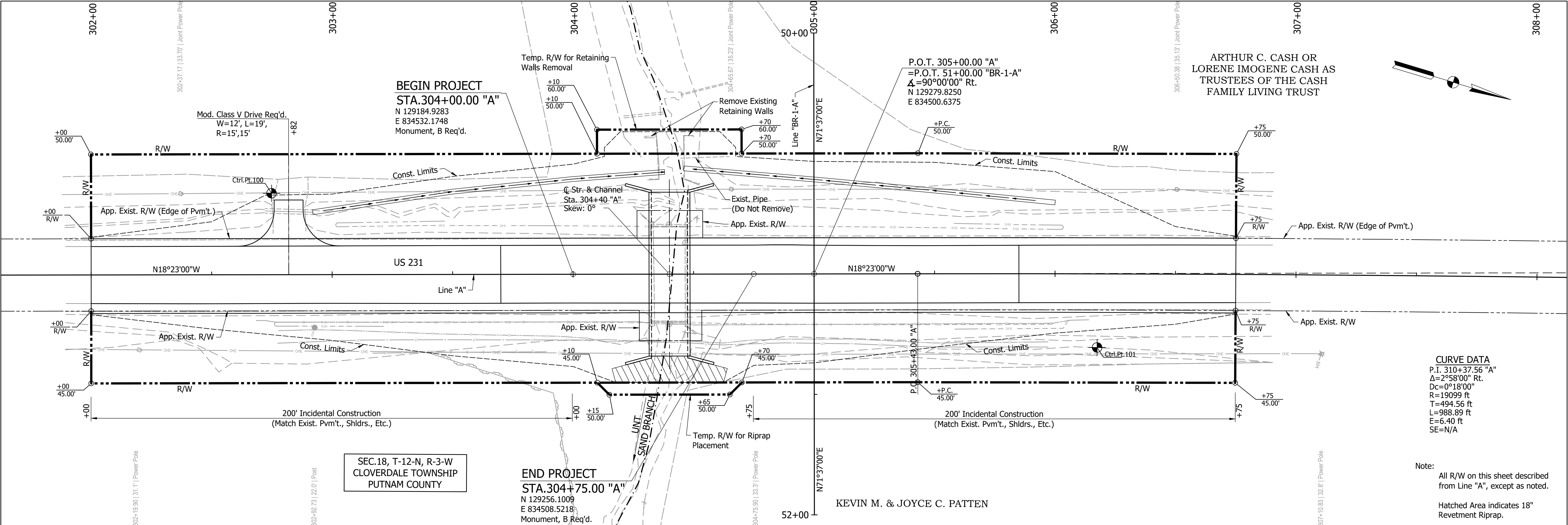
SIGNAL PHASING DIAGRAM

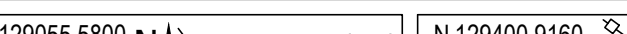
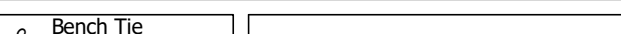
Notes

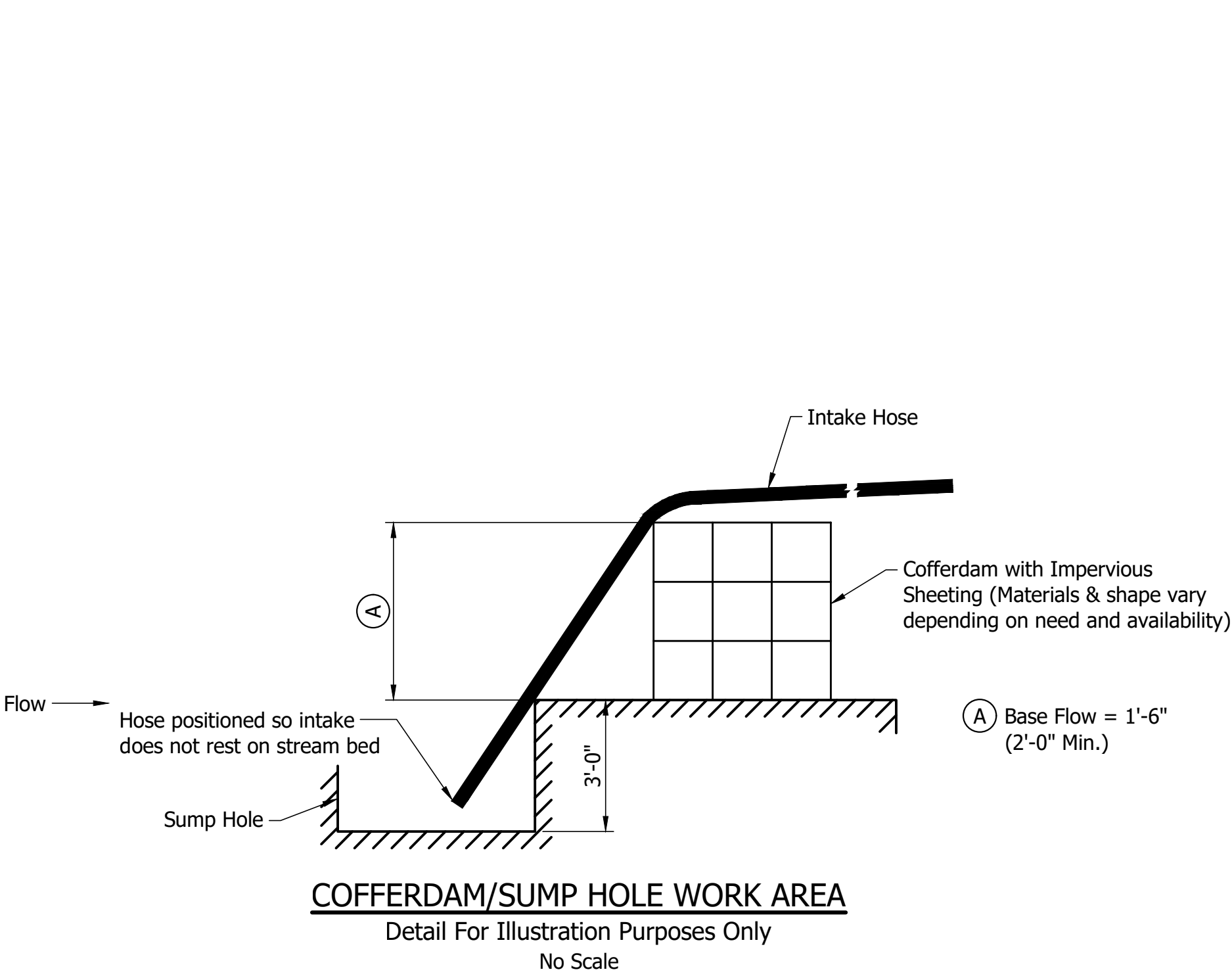
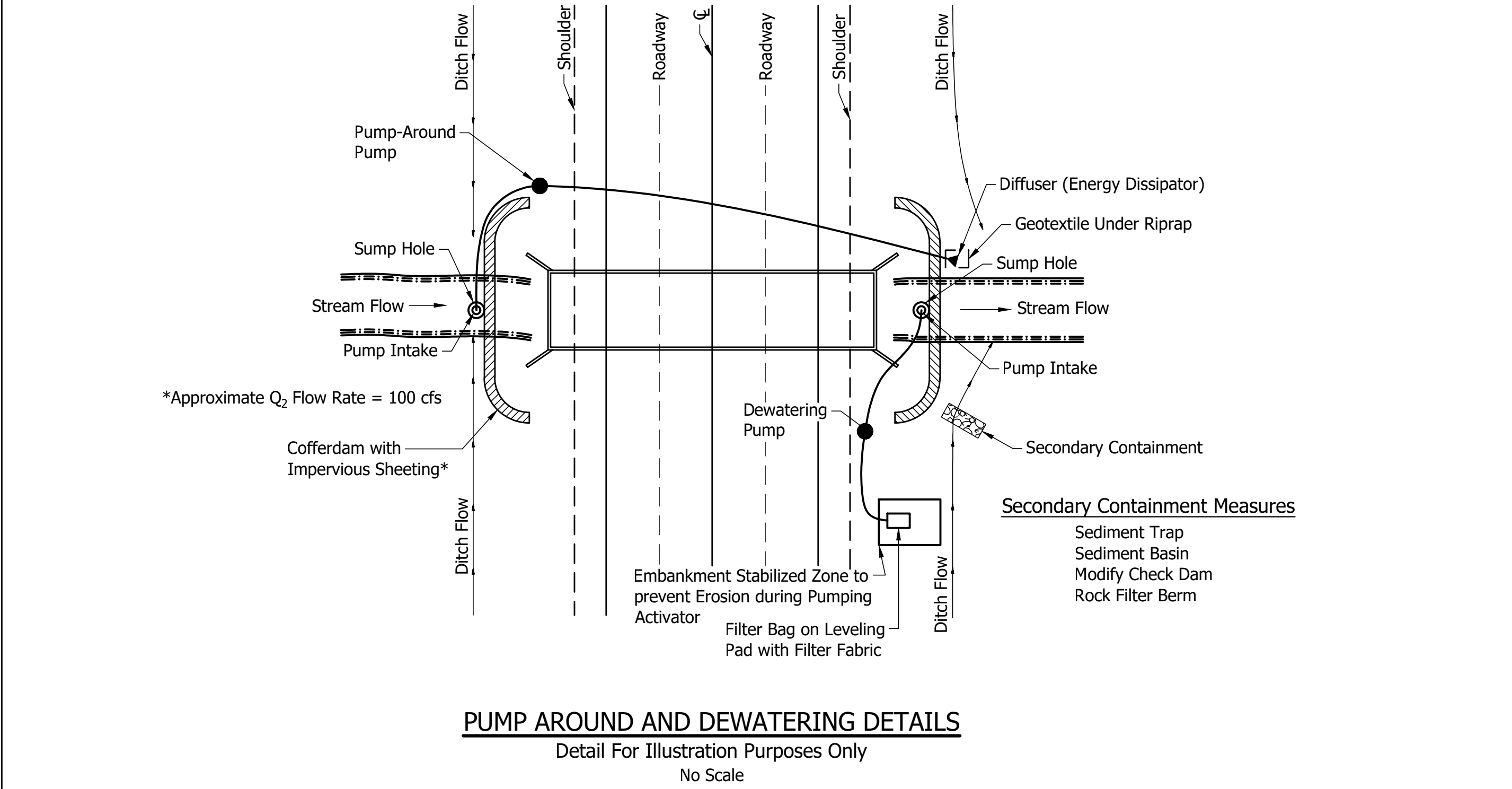
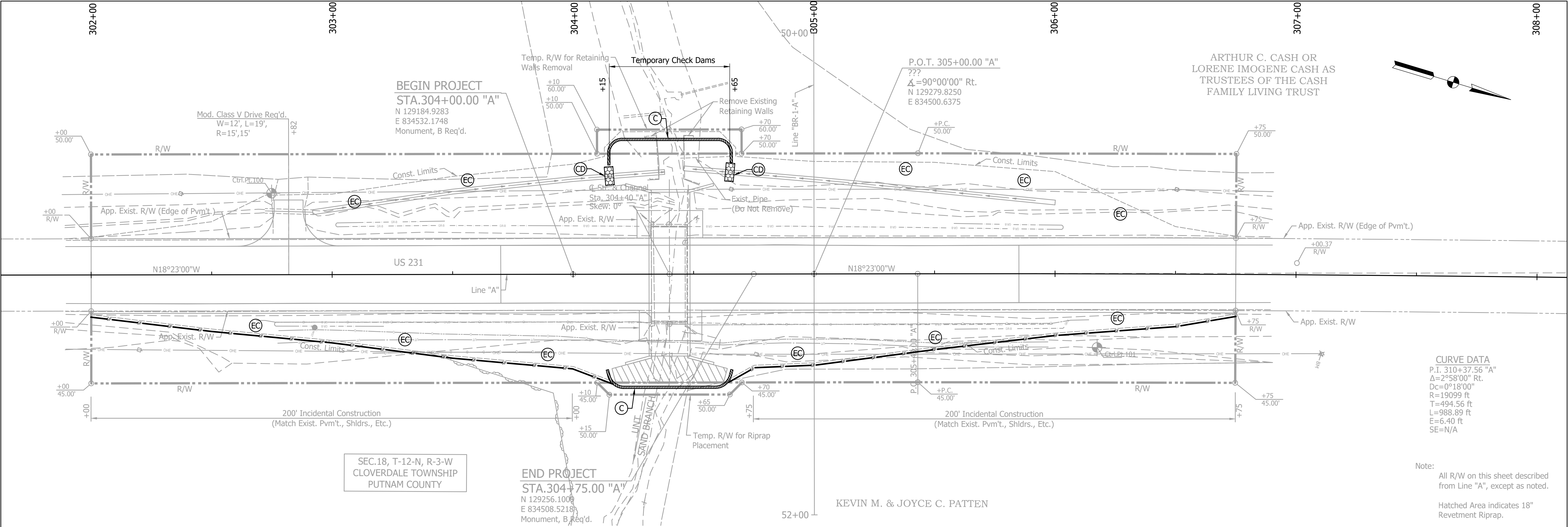
For Advanced Sign Placement for Phase III, see Sht.11.

For Legend & Maintenance of Traffic General Notes,
see Sht. 6.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION			HORIZONTAL SCALE		BRIDGE FILE		
				NONE		N/A		
				VERTICAL SCALE		DESIGNATION		
				NONE		1800151		
DESIGNED: GLB	DRAWN: OMV	MAINTENANCE OF TRAFFIC PHASE III			DRAWING NO.		SHEETS	
					13		of 29	
CHECKED: TSW	CHECKED: GLB				CONTRACT		PROJECT	
					B-41589		1800151	



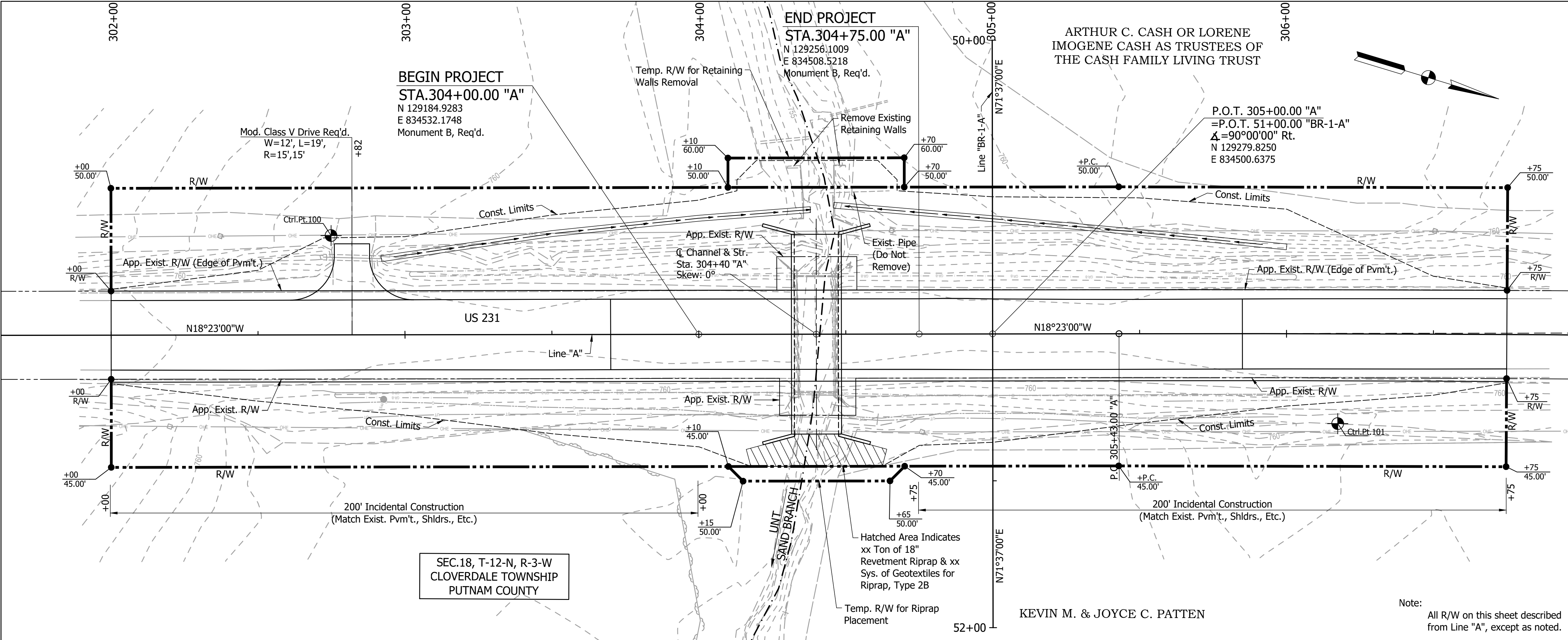
														RECOMMENDED FOR APPROVAL DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1"=20' VERTICAL SCALE 1"=5'		BRIDGE FILE N/A DESIGNATION 1800151	
CONTROL PT. #100		CONTROL PT. #101										DESIGNED: GLB DRAWN: OMV		PLAN & PROFILE LINE "A"		DRAWING NO. 14 of 29		SHEETS 14 of 29			
CHECKED: TSW										CHECKED: TSW CHECKED: GLB						CONTRACT B-41589		PROJECT 1800151			



- LEGEND**
- SF— Temporary Silt Fence
 - (C) Temporary Cofferdam with Impervious Sheeting
 - (CD) Temporary Check Dam
 - (EC) Manufactured Surface Protection Product/Erosion Control Blanket (All slopes Steeper than 3:1)
Install on Rdwy Embankment side slopes at:
Sta.302+00 "A" Rt. to Sta.306+75 "A" Rt.
Sta.302+00 "A" Lt. to Sta.306+75 "A" Lt.

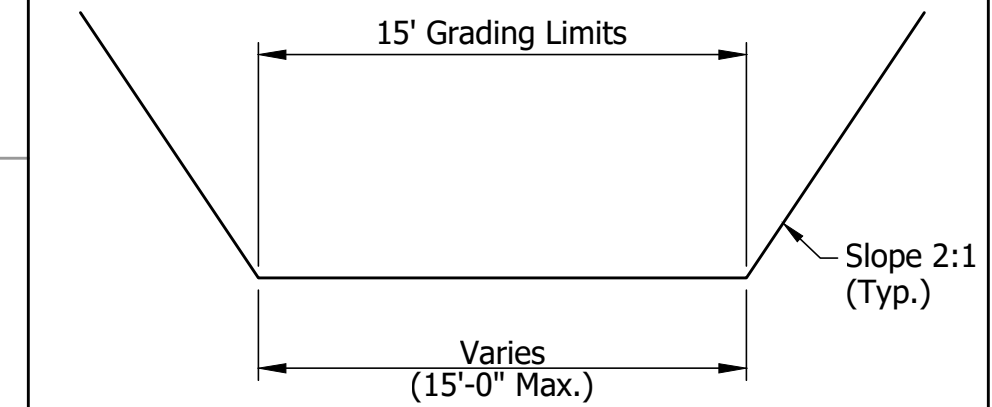
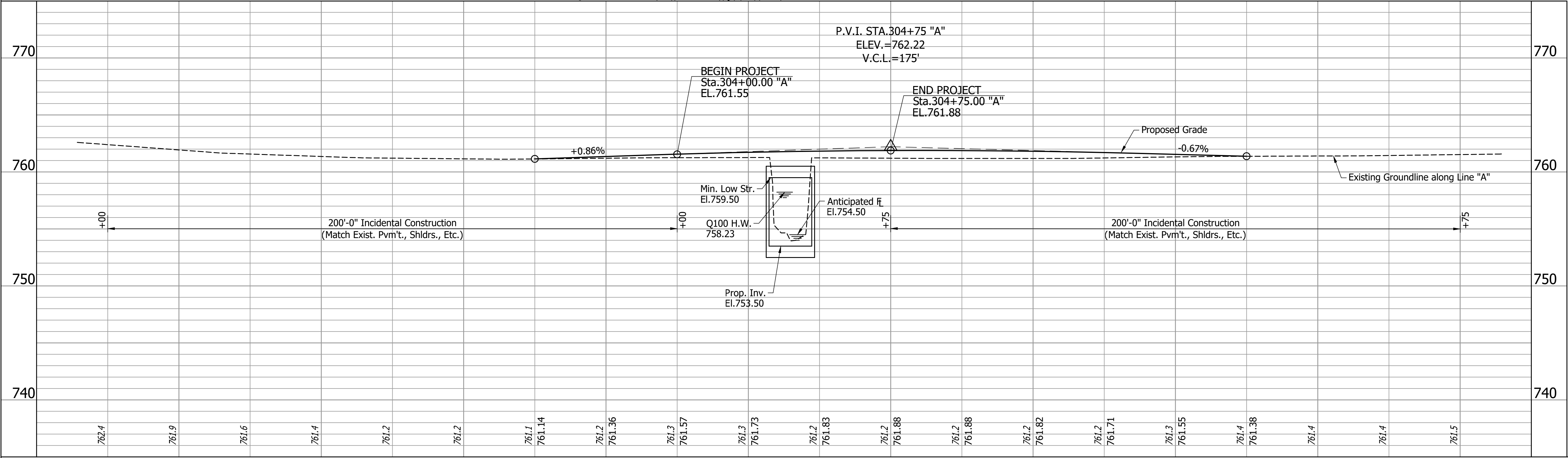
Note:
Temporary Check Dams shall be one of the following:
1. Temporary Check Dam, Revetment Riprap
2. Temporary Check Dam, Modified
For Temporary Check Dam Details, see Std.Dwgs.E205-TECD-06-08

			RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE			
							1"=20'		N/A			
							VERTICAL SCALE		DESIGNATION			
							1"=20'		1800151			
			DESIGNED: GLB		DRAWN: LLB		EROSION CONTROL PLAN LINE "A"		DRAWING NO.		SHEETS	
									16 of 29			
CHECKED: TSW		CHECKED: GLB				CONTRACT		PROJECT				
						B-41589		1800151				



EXISTING STRUCTURE	
Existing Structure is a Single Span Reinforced Concrete Bridge (12'-6") with a 40'-0" Clear Roadway. (To Be Removed)	
EARTHWORK SUMMARY	
Common Excavation	xxx Cys
Usable Common Excavation	xxx Cys
Fill + 20%	xxx Cys
Waterway Excavation	xx Cys
Usable Waterway Excavation (50%)	xx Cys
Borrow	xx Cys
The estimated quantities for Benching are xxx Cys for Cut and xxx Cys for Fill and are not included in the Earthwork Summary.	

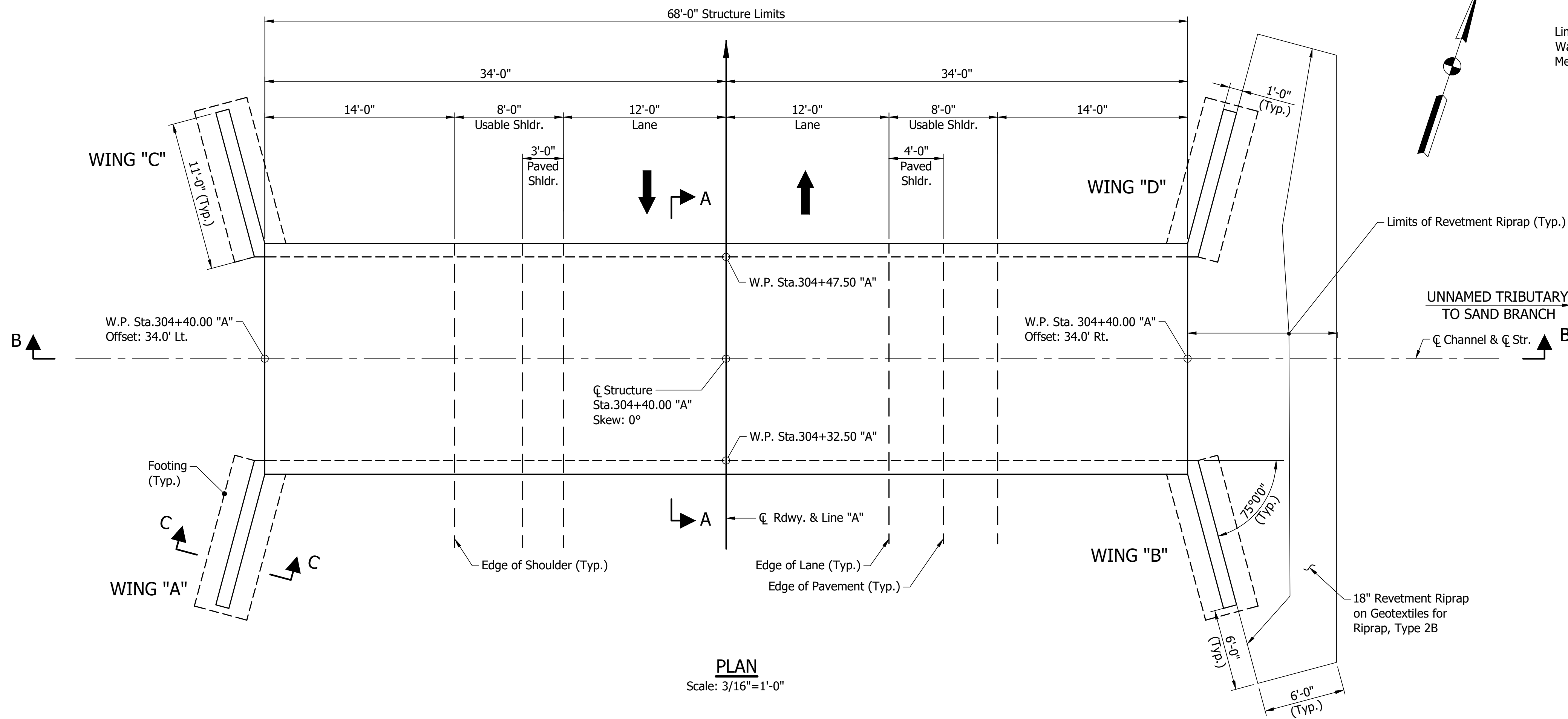
HYDRAULIC DATA	
Drainage Area	0.36 Sq Mi
Design Discharge, Q100	287.1 cfs
High Water Elevation, Q100	El.758.23
Existing Small Structure	
Waterway Area	
Net Area thru Str.	46.6 Sft
Gross Area thru Str.	46.6 Sft
Area over Road	0.0 Sft
Velocity thru Str.	5.62 ft/sec
Backwater, Q100	0.99 ft
Low Structure Elevation	El.758.86
Proposed Culvert	
Waterway Area	
Net Area thru Culvert	55.95 Sft
Provided Gross Area thru Culvert	55.95 Sft
Area over Road	0.0 Sft
Velocity thru Culvert, Q100	4.69 ft/sec
Backwater, Q100	0.70 ft
Proposed Low Structure Elevation	El.759.50
Skew	0°
Flowline Elevation (@ Upstream Coping)	El.754.50



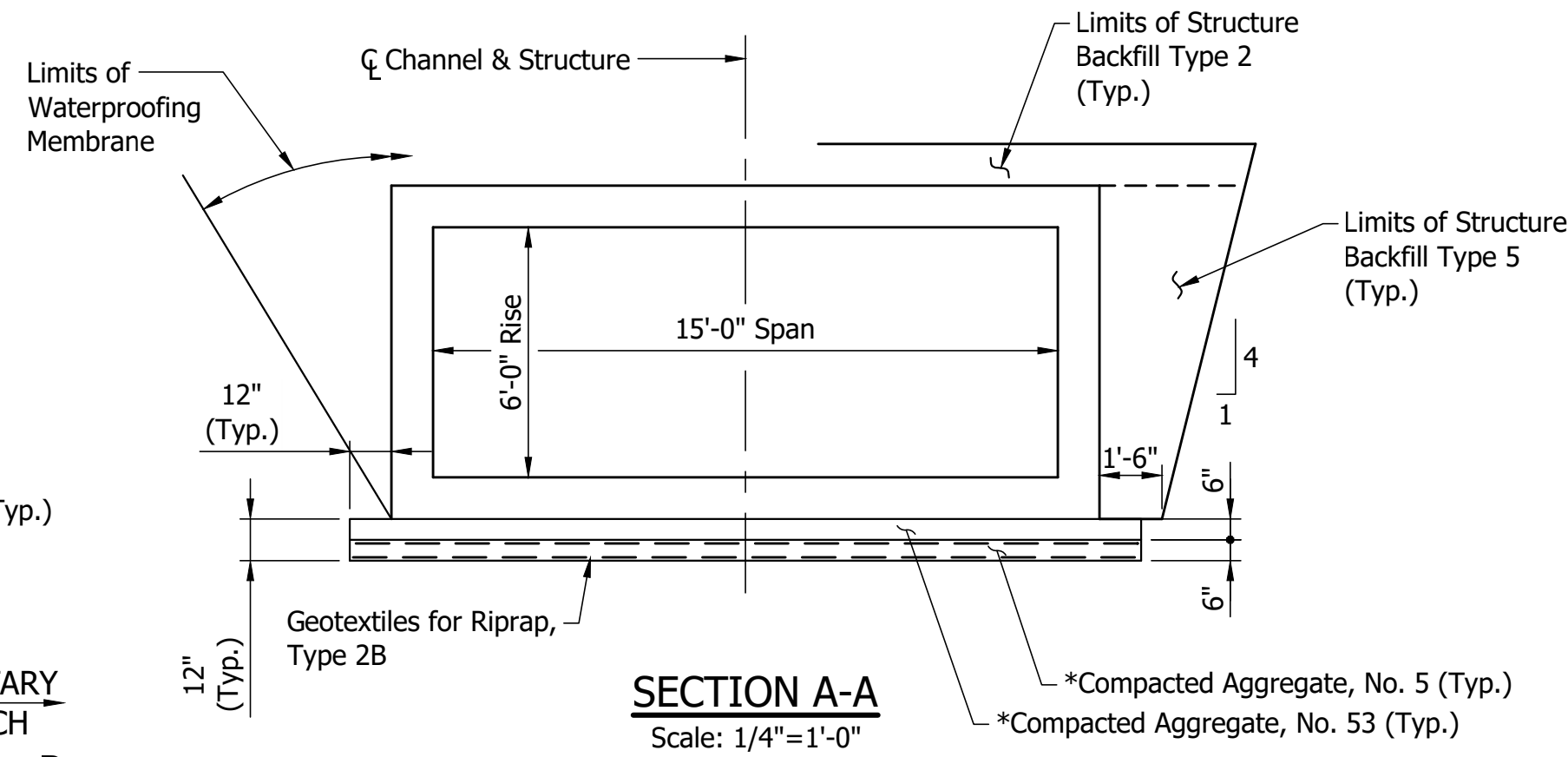
TYPICAL CHANNEL SECTION
No Scale

PRECAST REINFORCED CONCRETE BOX
1 SPAN: 15'-0" RISE: 6'-0"
40'-0" CLEAR ROADWAY SKEW: 0°
US 231 OVER UNT TO SAND BRANCH
PUTNAM COUNTY

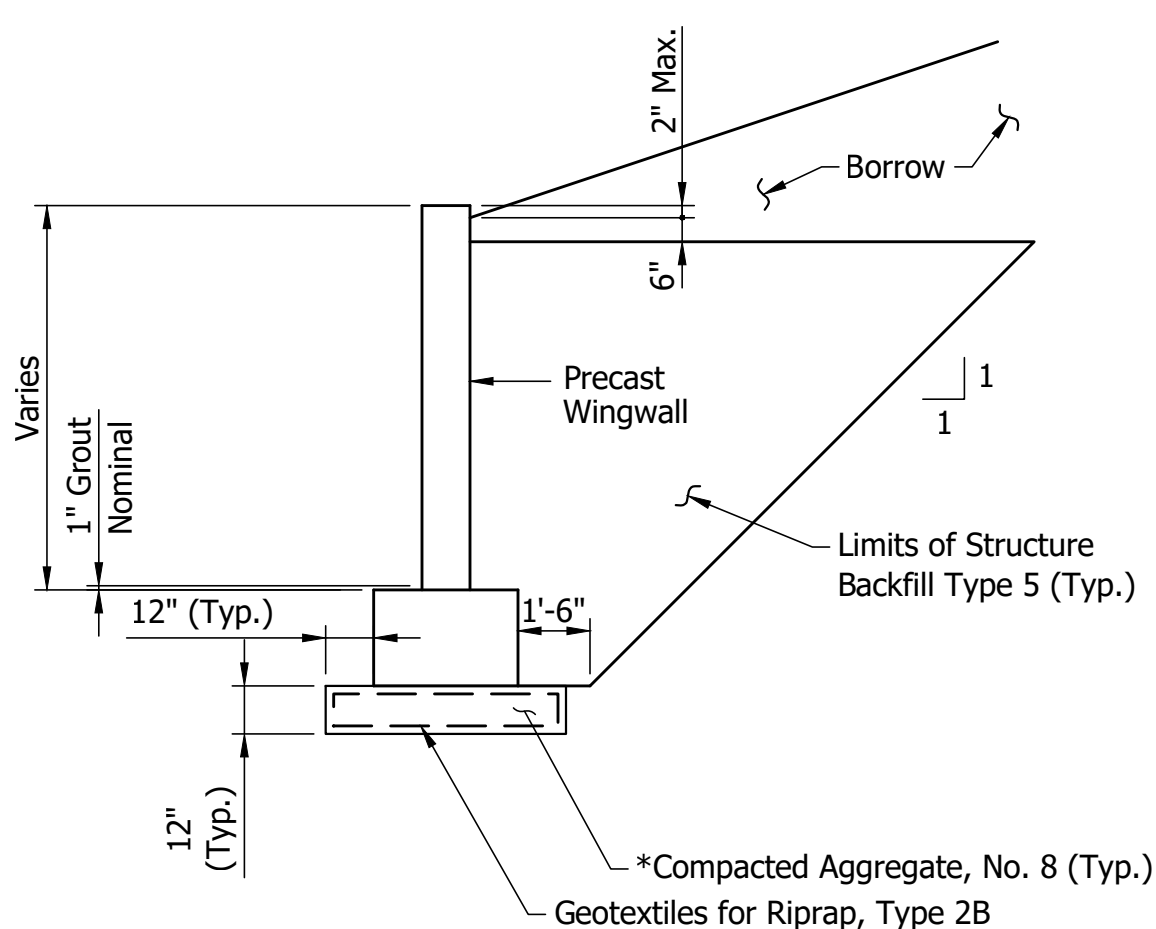
RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
1"=20'		1"=5'		DESIGNATION		DRAWING NO.		SHEETS		C1 of C3	
CONTRACT		PROJECT		B-41589		18		of		29	
DESIGNED: GLB		DRAWN: OMV		CHECKED: TSW		CHECKED: GLB		LAYOUT LINE "A"		1800151	



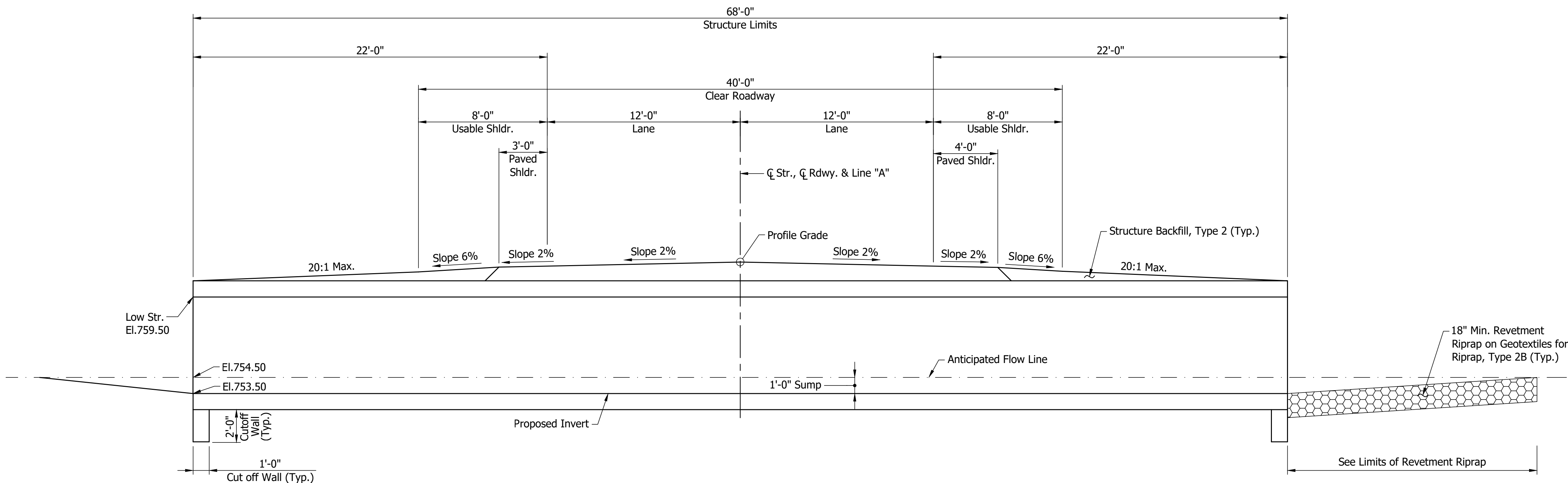
PLAN
Scale: 3/16"=1'-0"



SECTION A-A
Scale: 1/4"=1'-0"



SECTION C-C
Scale: 1/4"=1'-0"



SECTION B-B
Scale: 1/4" = 1'-0"

Note:
For General Notes and Elevations, see Dwg.No.C3.

* The Contractor shall excavate the soft or wet soils below the proposed structure and footings and replace the unsuitable material. If the depth of this over excavation exceeds 12 inches, contact the INDOT Office of Geotechnical Services.

PRECAST REINFORCED CONCRETE BOX
1 SPAN: 15'-0" RISE: 6'-0"
40'-0" CLEAR ROADWAY SKEW: 0°
US 231 OVER UNNAMED TRIBUTARY TO SAND BRANCH
PUTNAM COUNTY

RECOMMENDED FOR APPROVAL _____	
DESIGNED: GLB	DRAWN: OMV
CHECKED: TSW	CHECKED: GLB

INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	N/A
VERTICAL SCALE	DESIGNATION
AS NOTED	1800151
DRAWING NO.	SHEETS
C2 of C3	19 of 29
CONTRACT	PROJECT
B-41589	1800151

GENERAL NOTES

Reinforcing steel in footing shall be 3" in the top and sides and 4" in the bottom. All other parts to be 2" unless otherwise noted.

Alternate Cast-in-place Wingwalls may be substituted for the precast wingwall shown in Section C-C. If cast-in-place, the exposed faces of wingwalls shall be surface sealed in accordance with Article 702.21 of the specifications. Otherwise, surface seal shall be applied in the shop for precast concrete elements (Estimated Quantity = xxx Sft.)

Reinforcing in Precast Structure shall be epoxy coated.

Waterproofing Membrane shall be applied to the vertical sides and tops of the precast four-sided structure. See Special Provisions.

Contractor shall verify the existing flowline elevation to set appropriate sump depth. (1'-0" Sump).

Wingwalls to be set on outside of the ends of the precast four-sided structure. The minimum width for the wingwall footing shall be 3'-0".

DESIGN DATA

LIVE LOAD
Designed for HL-93 loading in accordance with 2018 AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

DEAD LOAD
Actual weight plus 35 psf (composite) for future wearing surface.

DESIGN STRENGTHS
To be in accordance with 2018 AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

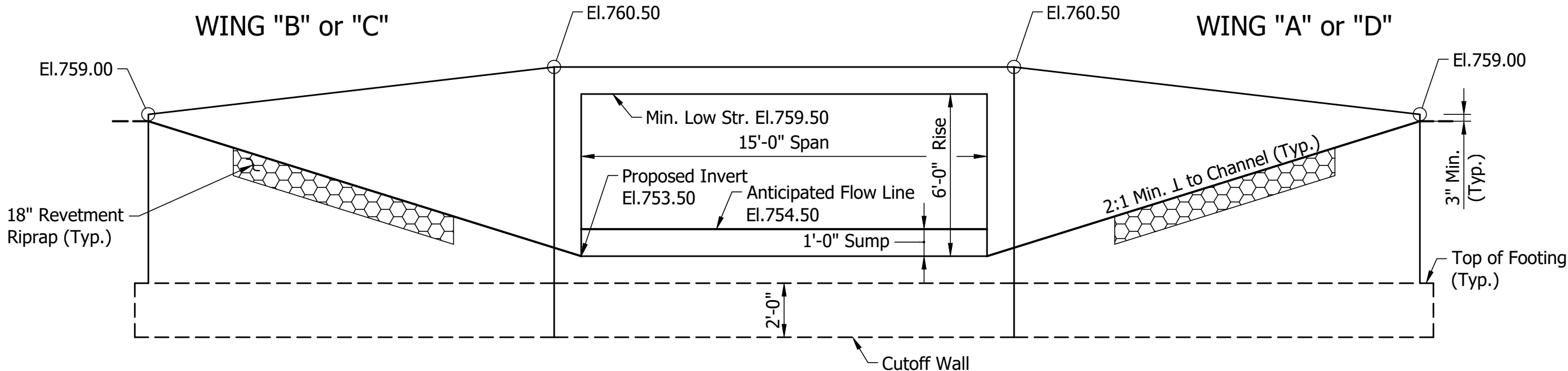
CONCRETE:
Class "A": $f'c=3,500$ psi
Class "B": $f'c=3,000$ psi
Class "C": $f'c=4,000$ psi

REINFORCING STEEL:
Grade 60: $f_y=60,000$ psi

SEISMIC DATA

AASHTO Guide Design Specifications for LRFD Seismic Bridge Design, Second Edition, 2011 and Interims through 2015.

Seismic Design Category "X"
S1 = X.XXXg
Site Class D (Assumed)
 $F_v = X.X$



ELEVATION
Scale: 1/4"=1'-0"

GEOTECHNICAL PARAMETERS FOR CULVERT FOUNDATION							
BEARING MATERIAL	ESTIMATED BEARING DEPTH (ft.)	ESTIMATED BEARING ELEVATION (ft.)	COHESION C (psf)	LIMIT STATE	NOMINAL BEARING RESISTANCE, q_n (psf)	RESISTANCE FACTOR, ϕ_b	FACTORED BEARING RESISTANCE, q_R (psf)
Loam (A-4)	9.5 feet	752.5	500	Service	2,000	1.0	2,000
				Strength	3,000	0.50	1,500

GEOTECHNICAL PARAMETERS FOR WINGWALL DESIGN	
PARAMETER	VALUE
Factored Bearing Resistance, q_R (psf)	2,500
Bearing resistance Factor, ϕ_b	0.45
Nominal Bearing Resistance, q_n (psf)	5,600
Cohesion of Foundation Soil, C (psf)	1,000
Adhesion of Foundation Soil, C_a	750
Friction Angle Between Wall and Backfill, δ (°)	21
Friction Factor at Base, $\tan \delta$	N/A

WINGWALL INFORMATION		
	AREAS	LENGTH
Wing "A"	79.8 Sft.	11'-0"
Wing "B"	79.8 Sft.	11'-0"
Wing "C"	79.8 Sft.	11'-0"
Wing "D"	79.8 Sft.	11'-0"

Note:
For General Plan and Sections,
see Dwg.No.C2.

PRECAST REINFORCED CONCRETE BOX
1 SPAN: 15'-0" RISE: 6'-0"
40'-0" CLEAR ROADWAY SKEW: 0°
US 231 OVER UNNAMED TRIBUTARY TO SAND BRANCH
PUTNAM COUNTY

		RECOMMENDED FOR APPROVAL _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
		DESIGN ENGINEER _____		GENERAL PLAN		AS NOTED		N/A	
		DATE _____				VERTICAL SCALE		DESIGNATION	
						AS NOTED		1800151	
						DRAWING NO.		SHEETS	
						C3 of C3		20 of 29	
DESIGNED: GLB		DRAWN: OMV				CONTRACT		PROJECT	
CHECKED: TSW		CHECKED: GLB				B-41589		1800151	

Appendix C:

Early Coordination



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 233-6795

Eric J. Holcomb, Governor
Joe McGuinness, Commissioner

Sample Early Coordination Letter

July 21, 2021

Early Coordination Agency

Re: Early Coordination Letter, Des. No. 1800151, Small Structure Replacement Project over Unnamed Tributary (UNT) to Sand Branch on US 231, in Cloverdale Township, Putnam County, Indiana.

Dear Early Coordination Agency:

The Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) intends to proceed with a project involving the referenced culvert (#231-067-137.53) in Putnam County, Indiana. This letter is part of the early coordination phase of the environmental review process. As the agent for INDOT, Beam, Longest, and Neff (BLN), is requesting you review the enclosed information and provide comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the referenced designation numbers and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

This project is located on US 231, 1.45 miles north of State Road (SR) 42, south of the town of Cloverdale in Putnam County, Indiana. The existing US 231 roadway facility is classified as a part of the National Truck Network, a 3R System, a part of the National Highway System, and listed as an Other Principal Arterial. The posted speed limit is 55 mph. This project is located within a rural area in level terrain.

The existing US 231 approach roadway pavement consists of asphalt with a 12' travel lane in the northbound direction and a 12' travel lane in the southbound direction with 3' shoulders on both sides.

The existing small structure is a 12' x 5' Slabtop concrete box culvert with wing walls. It has a structure length of 39', vertical opening of 5', span of 12', cover of 1' and a skew of 0 degrees. The overall structure rating was considered a 4 of 10 which is considered poor based on the cores that indicate the slab is crumbling with poor strength. The timber wing walls have crushed pier caps. The slab does have moderate cracking with leaching and there is spalling on the original coping.

The proposed project consists of the construction of a new small structure on the existing alignment with minimum road reconstruction. The replacement is anticipated to be a single span 15' precast reinforced concrete box culvert with wingwalls.

Traffic will be maintained on US 231 through phased construction on a single lane controlled by temporary traffic lights. Approximately 0.81 acre of permanent right-of-way is anticipated. Project construction is anticipated to begin in Fall 2022.

Land use in the project vicinity is primarily residential single-family dwellings and agricultural fields. One historic house was identified approximately 0.24 mile south of the project location and it is rated as outstanding. No other sites, buildings, structures, objects, or historic districts listed on or eligible for the NRHP were identified in the project area or within the recommended 0.5 mile search radius. No publicly owned parks, other recreational facilities or wildlife and waterfowl refuges, and historic sites that would be afforded protection under Section 4(f) have been identified in the immediate project area.

BLN will prepare a Waters of the US Report (WOUSR) including wetland determination as appropriate to identify water resources that may be present. The Waters of the US Report will be reviewed by the INDOT Ecology and Waterway Permitting Office. The project is anticipated to qualify for the Rangewide Programmatic Agreement for the Indiana bat and northern long-eared bat by completing the Information for Planning and Consultation (IPaC).

In addition, BLN will have Qualified Professionals (QPs) investigate the project area for archaeological and historic resources for compliance with Section 106 of the National Historic Preservation Act (NHPA). The results of this investigation will be forwarded to the Indiana State Historic Preservation Officer (IN SHPO) for review and concurrence.

Should we not receive your response **within 30 calendar days** of the date of this letter, it will be assumed that your agency has no comment on potential effects as a result of the proposed project. However, if an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions, or if we can be of any further assistance, please contact either Jessica Miller, INDOT Project Manager at jemiller1@indot.in.gov or telephone 765-361-5224 or Aimee Cooper at acooper@b-l-n.com or telephone 317-806-3060. Thank you for your cooperation.

Sincerely,



Aimee Cooper
Environmental Analyst
Beam, Longest, and Neff

Attachments:
Mailing List
Maps (Location, Topographic, Aerial, NWI)
Ground-Level Photographs

EARLY COORDINATION MAILING LIST

Federal Highway Administration Federal Office Building, Room 254 575 North Pennsylvania Street Indianapolis, Indiana 46204 Sent electronically – erica.tait@dot.gov	Randy Kurtz Environmental Section Manager Seymour District Indiana Department of Transportation Sent electronically – rkurtz@indot.in.gov
Indiana Geological and Water Survey 611 North Walnut Grove Bloomington, IN 47405 Sent electronically - https://igws.indiana.edu/eAssessment/	Jessica Miller INDOT Crawfordsville District Project Manager Sent electronically – jemiller1@indot.in.gov
Environmental Coordinator Indiana Department of Natural Resources Division of Fish and Wildlife 402 West Washington Street, Rm. W273 Indianapolis, IN 46204 Sent electronically – environmentalreview@dnr.in.gov	State Conservationist Natural Resources Conservation Service 6013 Lakeside Boulevard Indianapolis, Indiana 46278 Sent electronically – rick.neilson@in.usda.gov
Indiana Department of Environmental Management Sent electronically – https://www.in.gov/idem/5284.htm	Terre Haute Area MPO 630 Wabash Ave., Suite 221 Terre Haute, IN 47807 Sent electronically – jweir@westcentralin.com
Regional Environmental Coordinator Midwest Regional Office National Park Service 601 Riverfront Drive Omaha, Nebraska 68102 Sent electronically – mwro_compliance@nps.gov	Ms. Deborah Snyder US Army Corps of Engineers, Louisville District, Indianapolis Regulatory Office, Indianapolis, IN 46216 Sent electronically – RegulatoryApplicationsLRL@usace.army.mil
Groundwater Section Indiana Department of Environmental Management 100 N. Senate Avenue Indianapolis, IN 46204 Sent electronically – https://www.in.gov/idem/cleanwater/pages/wellhead/	Putnam Highway Department 1624 W Co. Rd. 225 S. Greencastle, IN 46135
Field Environmental Officer, Chicago Regional Office US Department of Housing & Urban Development Metcalf Fed. Bldg. 77 W. Jackson Blvd. Room 2401 Chicago, IL 60604 Sent electronically – melanie.h.castillo@hud.gov	Rick Woodall Putnam County Commissioner 307 Greenwood Ave Greencastle, IN 46135

David Berry Putnam County Commissioner 6912 E St. Rd. 236 Roachdale, IN 46172
Donald Walton Putnam County Commissioner 8 N Main St, PO Box 114 Cloverdale, IN 46120
Putnam County Health Department 1542 S. Bloomington St., Ste 1500 Greencastle, IN 46135
Putnam County EMS 513 S. Bloomington Street Greencastle, IN 46135
Bill Plant INDOT Utilities and Railroad Sent electronically – wplant@indot.in.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

Indiana Department of Transportation

Beam, Longest, and Neff, LLC

Aimee Cooper

, IN

, IN

Date

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: The existing small structure is a 12' x 5' Slabtop concrete box culvert with wing walls. It has a structure length of 39', vertical opening of 5', span of 12', cover of 1' and a skew of 0 degrees. The overall structure rating was considered a 4 of 10 which is considered poor based on the cores that indicate the slab is crumbling with poor strength. The timber wing walls have crushed pier caps. The slab does have moderate cracking with leaching and there is spalling on the original coping. The proposed project consists of the construction of a new small structure on the existing alignment with minimum road reconstruction. The replacement is anticipated to be a single span 15' precast reinforced concrete box culvert with wingwalls.

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, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at <http://www.in.gov/idem/4396.htm> (<http://www.in.gov/idem/4396.htm>). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality 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 at 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 it is 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 existing small structure is a 12' x 5' Slabtop concrete box culvert with wing walls. It has a structure length of 39', vertical opening of 5', span of 12', cover of 1' and a skew of 0 degrees. The overall structure rating was considered a 4 of 10 which is considered poor based on the cores that indicate the slab is crumbling with poor strength. The timber wing walls have crushed pier caps. The slab does have moderate cracking with leaching and there is spalling on the original coping. The proposed project consists of the construction of a new small structure on the existing alignment with minimum road reconstruction. The replacement is anticipated to be a single span 15' precast reinforced concrete box culvert with wingwalls.

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: 10.21.2021

Signature of the INDOT

Project Engineer or Other Responsible Agent

Jessica Miller

Date: 07-21-2021

Signature of the

For Hire Consultant

Aimee Cooper

Aimee Cooper

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

DNR #: ER-23913

Request Received: July 21, 2021

Requestor: Beam, Longest and Neff, LLC
Aimee Cooper
8320 Craig Street
Indianapolis, IN 46250

Project: US 231 small structure (#231-067-137.53) replacement over UNT Sand Branch, about 1.45 miles north of SR 42; Des #1800151

County/Site info: Putnam

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. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish & Wildlife Comments: 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) Stream Crossing Design:

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; 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. Upgrading wildlife passage for replacement/rehabilitated structures is recommended whenever possible to improve wildlife/vehicle safety. All wildlife passage designs should include a smooth level pathway a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream.

There are a number of techniques and materials for incorporating wildlife passage into the design of a crossing structure if restoring bank lines is not an option. The following

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links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage: <http://www.fs.fed.us/wildlifecrossings/library/>, https://roadeecology.ucdavis.edu/files/content/projects/DOT-FHWA_Wildlife_Crossing_Structures_Handbook.pdf, https://www.fs.fed.us/biology/nsaec/fishxing/aop_pdfs.html, <https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>.

2) Streambank Stabilization:

Some form of bank and/or streambed stabilization is almost always needed with the construction, repair, replacement, or modification of a stream channel or crossing structure. For streambank stabilization and erosion control, regrading to a stable slope (2:1 or shallower) and establishing native vegetation along the banks are typically the most effective techniques. A variety of methods to accomplish this include: planting plugs, whips, container stock, seeding, and live stakes. In addition to vegetation establishment, some additional level of bioengineered bank stabilization may be needed under certain circumstances (inability to regrade to a stable slope, flow velocities that exceed the limits of vegetation alone, etc.). Combining vegetation with any of the following bank stabilization methods can provide additional bank protection while not compromising benefits to fish, wildlife, and botanical resources: geotextiles (erosion control blankets and/or turf reinforcement mats 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), vegetated geogrids or soil lifts, fiber rolls, glacial stone, or riprap. Information about bioengineering techniques can be found at the following link to a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: <http://directives.sc.egov.usda.gov/17553.wba>.

Riprap or other hard bank stabilization materials should be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM) with the exception of areas directly under bridges for instance. The banks above the OHWM should be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
5. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
6. Do not use broken concrete as riprap.
7. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
8. Minimize the movement of resuspended bottom sediment from the immediate project area.
9. Do not deposit or allow construction/demolition materials or debris to fall or

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otherwise enter the waterway.

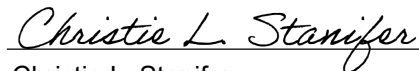
10. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

11. 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.

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.



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

Date: August 19, 2021

Organization and Project Information

Project ID:
Des. ID: 1800151
Project Title: US 231 over Sand Branch
Name of Organization: Beam, Longest, and Neff, LLC
Requested by: Aimee Cooper

Environmental Assessment Report

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

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

DISCLAIMER:

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

This information was furnished by Indiana Geological Survey

Address: 1001 E. 10th St., Bloomington, IN 47405

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: July 21, 2021



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/Geology/Bedrock_Geology.html



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

Phone: (812) 334-4261 Fax: (812) 334-4273

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

In Reply Refer To:

January 20, 2022

Consultation Code: 03E12000-2022-SLI-0160

Event Code: 03E12000-2022-E-03677

Project Name: Des No. 1800151 US 231 over UNT to Sand Branch 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: 03E12000-2022-SLI-0160

Event Code: Some(03E12000-2022-E-03677)

Project Name: Des No. 1800151 US 231 over UNT to Sand Branch Small Structure Replacement

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: The proposed project consists of the replacement of the existing small structure (#231-067-137.53) that carries US 231 over an Unnamed Tributary (UNT) to Sand Branch. The project is located approximately 1.45 miles north of State Road (SR) 42 in Putnam County. The anticipated project limits will be approximately 40 feet south and 35 feet north of the proposed structure with approximately 200 feet north and 200 feet south of incidental beyond each end of the project for a total length of approximately 475 feet. Work will include replacing the existing small structure with a four-sided reinforced concrete box structure with wingwalls. Roadside ditches will be utilized to collect drainage and outlet the water into the Unnamed Tributary to Sand Branch. Approximately 0.2 acre of temporary right-of-way and approximately 0.694 acre of permanent right-of-way will be required for this project. No trees are anticipated to be removed as a result of this project. Suitable summer habitat is located adjacent to the project area on the east side of US 231. No suitable summer habitat will be removed as a result of this project.

The review of the USFWS database on October 19, 2021, did not indicate the presence of endangered bat species within 0.5 mile of the project area. The most recent culvert inspection was conducted on July 12, 2021, and no evidence of bats or birds was found. Temporary lighting may be used for this project. The project's scheduled letting date is October 13, 2022, with construction anticipated to be in Spring 2023.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.4803845,-86.78306486045635,14z>



Counties: Putnam 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 Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> 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 <i>Myotis septentrionalis</i> 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

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

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



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:

October 22, 2021

Consultation code: 03E12000-2022-I-0160

Event Code: 03E12000-2022-E-00696

Project Name: Des No. 1800151 US 231 over UNT to Sand Branch Small Structure Replacement

Subject: Concurrence verification letter for the 'Des No. 1800151 US 231 over UNT to Sand Branch Small Structure Replacement' 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 No. 1800151 US 231 over UNT to Sand Branch Small Structure Replacement** (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:

- Monarch Butterfly *Danaus plexippus* Candidate

Project Description

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

Name

Des No. 1800151 US 231 over UNT to Sand Branch Small Structure Replacement

Description

The proposed project consists of the replacement of the existing small structure (#231-067-137.53) that carries US 231 over an Unnamed Tributary (UNT) to Sand Branch. The project is located approximately 1.45 miles north of State Road (SR) 42 in Putnam County. The anticipated project limits will be approximately 40 feet south and 35 feet north of the proposed structure with approximately 200 feet north and 200 feet south of incidental beyond each end of the project for a total length of approximately 475 feet. Work will include replacing the existing small structure with a four-sided reinforced concrete box structure with wingwalls. Roadside ditches will be utilized to collect drainage and outlet the water into the Unnamed Tributary to Sand Branch. Approximately 0.2 acre of temporary right-of-way and approximately 0.694 acre of permanent right-of-way will be required for this project. No trees are anticipated to be removed as a result of this project. Suitable summer habitat is located adjacent to the project area on the east side of US 231. No suitable summer habitat will be removed as a result of this project.

The review of the USFWS database on October 19, 2021, did not indicate the presence of endangered bat species within 0.5 mile of the project area. The most recent culvert inspection was conducted on July 12, 2021, and no evidence of bats or birds was found. Temporary lighting may be used for this project. The project's scheduled letting date is October 13, 2022, with construction anticipated to be in Spring 2023.

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?

Yes

8. Will the project include *any* type of activity that could impact a **known** hibernaculum^[1], or impact a karst feature (e.g., sinkhole, losing stream, or spring) that could result in effects to a **known** hibernaculum?

[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

9. 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](#).

No

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

No

11. Does the project include slash pile burning?

No

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

Yes

13. 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

14. 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

- IPaC BIAS Report 07.12.2021.pdf <https://ecos.fws.gov/ipac/project/XTIUKYAP2VAJ7N3GB3YQM7POZQ/projectDocuments/106792350>

15. 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

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

No

17. 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

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

Yes

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

Yes

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

No

21. 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

22. 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

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

No

24. Is the location of this project consistent with a No Effect determination in this key?

Automatically answered

Yes, because the project action area is not within suitable Indiana bat and/or NLEB summer habitat and is outside of 0.5 miles of a hibernaculum.

25. 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

26. **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

27. **Hibernacula AMM 1**

Will the project ensure that on-site personnel will use best management practices^[1], secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula?

[1] Coordinate with the appropriate Service Field Office on recommended best management practices for karst in your state.

Yes

28. **Hibernacula AMM 1**

Will the project ensure that, where practicable, a 300 foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography?

Yes

29. **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?

N/A

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

N/A

3. Please describe the proposed bridge work:

Work will include replacing the existing small structure with a four-sided reinforced concrete box structure with wingwalls. Roadside ditches will be utilized to collect drainage and outlet the water into the Unnamed Tributary to Sand Branch.

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

The project's scheduled letting date is October 13, 2022, with construction anticipated to be in Spring 2023.

5. Please enter the date of the bridge assessment:

July 12, 2021

Avoidance And Minimization Measures (AMMs)

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

LIGHTING AMM 1

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

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.

HIBERNACULA AMM 1

For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300 foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography.

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

This key was last updated in IPaC on April 22, 2021. 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.

July 29, 2021

Aimee Cooper
Beam, Longest and Neff, L.L.C.
8320 Craig Street
Indianapolis, Indiana 46250
acooper@b-l-n.com

Dear Ms. Cooper:

The proposed project to replace the small structure along US 231 over an unnamed tributary to Sand Branch in Putnam County, Indiana (Des. No. 1800151), as referred to in your letter received July 21, 2021, will cause a conversion of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

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

Sincerely,

RICHARD NEILSON
Digitally signed by
RICHARD NEILSON
Date: 2021.07.29
15:50:35 -04'00'

RICK NEILSON
State Soil Scientist

Enclosures



FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 7/21/21				
Name of Project Des #1800151 US 231 over UNT to Sand Branch		Federal Agency Involved FHWA				
Proposed Land Use Small Structure Replacement		County and State Putnam, Indiana				
PART II (To be completed by NRCS)		Date Request Received By NRCS 7/21/21		Person Completing Form:		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES ☒	NO ☐	Acres Irrigated	Average Farm Size 223 ac	
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 256,347 % 83	Amount of Farmland As Defined in FPPA Acres: 207,45 % 67				
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 7/29/21				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly						
B. Total Acres To Be Converted Indirectly						
C. Total Acres In Site						
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		0.81				
B. Total Acres Statewide Important or Local Important Farmland		0.00				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		<0.001				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		78				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		66				
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	13				
2. Perimeter In Non-urban Use	(10)	10				
3. Percent Of Site Being Farmed	(20)	2				
4. Protection Provided By State and Local Government	(20)	20				
5. Distance From Urban Built-up Area	(15)	10				
6. Distance To Urban Support Services	(15)	10				
7. Size Of Present Farm Unit Compared To Average	(10)	0				
8. Creation Of Non-farmable Farmland	(10)	0				
9. Availability Of Farm Support Services	(5)	5				
10. On-Farm Investments	(20)	15				
11. Effects Of Conversion On Farm Support Services	(10)	0				
12. Compatibility With Existing Agricultural Use	(10)	0				
TOTAL SITE ASSESSMENT POINTS		160	85	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	66	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	85	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	151	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☒				
Reason For Selection:						
Name of Federal agency representative completing this form: Krisitn Wing						
Date: 2/8/22						

(See Instructions on reverse side)

Form AD-1006 (03-02)

Appendix D:

Section 106 of the NHPA

Minor Projects PA Project Assessment Form

Date: 10/19/2021

Project Designation Number: 1800151

Route Number: US 231

Project Description: Small Structure Replacement over Unnamed tributary to (UNT) Sand Creek, 1.45 miles south of SR 42

The proposed project is located on US 231, 1.45 miles south of SR 42 in Cloverdale Township, Putnam County. The existing US 231 approach roadway pavement consists of asphalt with a 12-foot travel lane in the northbound direction and a 12-foot travel lane in the southbound direction with 3 foot shoulders on both sides. Per the approved INDOT hydraulic review, the span and opening height of the existing structure is 12.5 feet and 4.4 feet, respectively. The structure has a 0° skew to US 231 and a structure length of 41 feet -4 inches.

The purpose of this project is to address the deteriorating condition of the existing drainage structure (CV 231-067-137.53) and ensure continuing safety of traffic on US 231 as well as hydraulic adequacy. The need for this project is due to the condition of the existing slab top structure. Currently, the existing superstructure is rated in poor condition and the substructure is rated in serious condition. The slab superstructure exhibits poor strength based on cores taken from the slab in 2016. The slab has moderate cracking with leaching. The precast concrete channel beams have moderate spalling, cracks with leaching and exposed steel. The existing timber substructure have crushed and rotten timber caps. The channel has minor scour through the structure.

The proposed project consists of the construction of a new small structure on the existing alignment with minimum road reconstruction. The preferred alternative is a single span 15' x 6' reinforced concrete box sumped 12 inches with revetment riprap on the outlet side only. Traffic will be maintained on US 231 through phased construction on a single lane controlled by temporary traffic lights.

The project will require approximately 0.694 permanent and 0.020 acre of temporary right-of-way (ROW).

Feature crossed (if applicable): UNT Sand Creek

City/Township: Cloverdale Township

County: Putnam 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 | ☒ SHAARD | ☒ SHAARD GIS | ☒ Streetview Imagery |

Other (please specify): Indiana Historic Building, Bridges, and Cemeteries Map (IHBBCM); County GIS data (accessed via <https://putnamin.wthgis.com/>); Bridge Inspection Application System (BIAS); Project information provided by. SJCA, Inc., dated 9/20/2021 on file at INDOT-CRO;

Jackson, Christopher

2021 A Phase Ia Archaeological Reconnaissance for the Proposed US 231 Small Structure Replacement over an Unnamed Tributary of Sand Branch (Des 1800151), 1.45 Miles South of SR 42, Cloverdale Township, Putnam County, Indiana. SJCA, Inc. Submitted to Beam, Longest, and Neff. Report on file at IDNR, DHPA.

Please specify all applicable categories and condition(s) (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.

Are there any commitments associated with this project? If yes, please explain and include in the Additional Comments Section below. yes ☐ no ☒

Does the project result in a de minimis impact to a Section 4(f) protected historic resource? If yes, please explain in the Additional Comments Section below. yes ☐ no ☒

Additional comments:

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 area immediately adjacent to the subject structure consists of agricultural fields. An altered early twentieth-century house is located outside of the project area, approximately 0.18 mile south of the project area on the west side of US 231. Mature deciduous trees present on the west side of the house help to shield the project area from view of the project area. No unusual features are present that may be impacted by the project.

According to BIAS records, the subject structure (CV 231-067-137.53.73) is a concrete slab top box culvert; the construction date of the culvert is unknown. Based on an examination of BIAS reports/photos and photos provided by SJCA, Inc., the structure includes timber wing walls, the pier caps of which have been crushed and are rotten. The northeast wing wall has a rotten pile, and the concrete abutments exhibit cracking with efflorescence.

Per INDOT's Hydraulics Department, timber was often used in the 1940s through the 1960s in the construction and extension of culverts and other drainage structures. Timber was likely used due to the expense of other materials during this time. During the post-World War II building boom other materials, such as concrete and steel, were expensive, so timber was a more cost-effective option. It was also faster to construct with timber than concrete which needed to be formed and allowed to cure. As the state was trying to update many of its roads in this same time period, the use of timber allowed INDOT to quickly and cost-effectively construct culverts and other drainage structures required in these road updates.

INDOT-CRO has reviewed projects in northern counties of the state with similar CMP culverts with timber headwalls, including Des. No. 1298018, Des. No. 1383468, Des. No. 1801109, Des. No. 1801110, and Des. No. 1801116. Based on this information, it appears likely that multiple culverts with timber headwalls were constructed during this time period. Therefore, while this structure could potentially be older than 50 years, there is no evidence to suggest that it possesses historical or engineering significance. The structure (CV 231-067-137.53.73) is not considered eligible to the National Register.

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

Archaeological Resources

An INDOT Cultural Resources Office (CRO) archaeologist, who met the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, reviewed and concurred with the report detailing archaeological investigations for the proposed project (Jackson 2021). The records check found

that no previous archaeological survey or sites have been documented within the project area. The reconnaissance consisted of visual inspection, pedestrian survey, and shovel test probes. No cultural materials were located and no additional archaeological investigation was recommended.

Accidental Discovery: 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 David Moffatt

****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.*



A Phase Ia Archaeological Reconnaissance for the Proposed US 231 Small Structure Replacement over an Unnamed Tributary of Sand Branch (Des 1800151), 1.45 Miles South of SR 42, Cloverdale Township, Putnam County, Indiana

Archaeological short report

Lead Agency: Federal Highway Administration

September 14, 2021

Prepared for:

Beam, Longest & Neff
8320 Craig Street
Indianapolis, Indiana 46250



A handwritten signature in black ink, reading "Christopher Jackson".

Christopher Jackson, M.S., RPA
Archaeologist, Historian/QP
SJCA Inc.
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Indianapolis, Indiana 46260

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INDIANA ARCHAEOLOGICAL SHORT REPORT

State Form 54566 (R2 / 11-20)

INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY
402 West Washington Street, Room W274
Indianapolis, Indiana 46204-2739
Telephone Number: (317) 232-1646
Fax Number: (317) 232-0693
E-mail: dhpa@dnr.IN.gov

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology (DHPA).

Name(s) of author(s) Christopher Jackson		Date (month, day, year) September 14, 2021
Title of project A Phase Ia Archaeological Reconnaissance for the Proposed US 231 Small Structure Replacement over an Unnamed Tributary of Sand Branch (Des 1800151), 1.45 Miles South of SR 42, Cloverdale Township, Putnam County, Indiana		
This document is being used to report on the results of: ☐ Records check only ☒ Records check and Phase Ia archaeological reconnaissance ☐ An addendum to a previous archaeological report. For an addendum, provide the following information.		
Name(s) of author(s) of previous report		
Title of previous report		
Date of previous report (month, day, year)		DHPA number

PROJECT OVERVIEW			
Description of project The existing United States Highway 231 (US 231) small structure is a 12-foot by 5-foot slabtop concrete box culvert with wing walls. It has a structure length of 39 feet, a vertical opening of 5 feet, a span of 12 feet, and a cover of 1 foot, with a skew of 0 degrees. The overall structure rating was a 4 out of 10, which is considered poor; the rating was based on the cores that indicated the slab was crumbling and has poor strength. The timber wing walls have crushed pier caps; the slab has moderate cracking with leaching, and there is spalling on the original coping. The proposed project consists of the construction of a new small structure on the existing alignment with minimum road reconstruction. The replacement is anticipated to be a single span 15-foot precast reinforced concrete box culvert with wingwalls.			
INDOT designation number(s) 1800151	Project number	DHPA number	DHPA plan number
Prepared for: (Company / Institution / Agency) Beam, Longest and Neff			
Name of contact Brian Shaw			
Address (number and street, city, state, and ZIP code) 8320 Craig Street Indianapolis, Indiana 46250			
Telephone number (317) 849-5832		E-mail address bshaw@b-l-n.com	
Name of principal investigator Christopher Jackson			
Name of company / institution SJCA, Inc.			
Address (number and street, city, state, and ZIP code) 9102 North Meridian Street, Suite 200 Indianapolis, Indiana 46250			
Telephone number (317) 566-0629		E-mail address cjackson@sjcainc.com	
Signature of principal investigator (Required)			Date (month, day, year)

PROJECT LOCATION						
County Putnam	USGS 7.5' series topographic quadrangle Cataract				Civil township Cloverdale	
Legal Location						
Grid alignment SW						
1/4	1/4	1/4	1/4	Section	Township	Range

NW	SW	SW	NE	18	12N	3W
Comments						
Property ownership (Check all that apply.) ☒ Private ☒ Local Government ☒ State Government ☐ Federal Government ☐ Other						
Name of owner						
Address of owner (number and street, city, state, and ZIP code)						

PROJECT AREA DETAILS	
<i>See Short Report instructions for required references to be consulted.</i>	
Size of project area (hectares) 0.7	Size of project area (acres) 1.7
Natural region Highland Rim	Topography Floodplain, slope, a narrow east-west ridge, and the edge of an upland
Soil(s) information Cincinnati silt loam, Wabash Lowland, 6 to 12 percent slopes, eroded (CnC2) Shoals silt loam, 0 to 2 percent slopes, frequently flooded, brief duration (Sh)	Watershed Eel River
Current land usage Agricultural fields and a fallow field	
Comments Cincinnati silt loam is on till plains. The parent material consists of loess over pedisegment over paleosol in till. This soil is well drained (United States Department of Agriculture [USDA] 2019). The soil is classified as an Alfisol. Shoals silt loam is found on floodplains. The parent material is composed of loamy alluvium. This soil is somewhat poorly drained (USDA 2019). This soil is classified as an Inceptisol. Alfisol soils date from the Late Pleistocene or older; therefore, it can be surmised that the possibility for buried cultural horizons is unlikely (Rapp and Hill 1998; Soil Survey Staff 1999). Soils that have been classified as an Inceptisols are formed on floodplains between Entisols and better developed soils. Inceptisol soils, which can be in an active landscapes (like Entisols) with aggrading or eroding surfaces, can form on old or new landscape surfaces. They can have an anthropic epipedon and buried soils (Rapp and Hill 1998:32, Soil Survey Staff 1999). Since these soils are more developed, it indicates that the landform has been more stable than an Entisol. That is why anthropic epipedons (middens etc.) are permitted because there has been time for people to affect the soil development. Also, like Entisols, the sediments can be deposited in a massive or aggrading load. An aggrading surface would necessarily be slower than the pace of soil development or more stable in later periods so that soil development can take place. Cultural deposits may be buried or located within the soil profile. Based on the soil classifications, there is the possibility in the Shoals silt loam section of the survey area for buried archaeological deposits. Therefore, one of the objectives of the field investigation is to ascertain if this possibility exists. Figure 1 presents maps of the State of Indiana and Putnam County showing the general location of the proposed project. Figure 2 shows the location of the survey area (area examined by this investigation) on the United States Geological Survey (USGS) 1986 Cataract quadrangle (7.5' topographic map). Figure 3 consists of an aerial photograph that shows the survey area.	

Figure 4 presents the plans for the proposed project.

RECORDS CHECK	
☐ Records check only; no field investigation conducted.	Date of records check (month, day, year) September 2, 2021
Records consulted (Check all that apply.) ☒ Archaeological site forms, reports in SHAARD, and SHAARD Archaeology and Structures Map Web Application ☒ Cultural Resource Management reports, other research reports, etc., on file in locations other than SHAARD ☒ Historical documents and maps from other institutions / resources ☒ IHSSI / NRHP structures records in SHAARD ☒ Cemetery records in SHAARD	
Within the Project Area Previously recorded archaeological sites (Include citations.) No sites have been recorded in the survey area. Previous archaeological studies within the project area (Include citations.) No professional field investigations have traversed the survey area. Name(s) of previously recorded cemetery(ies) No cemeteries have been reported in the survey area. Cemetery registry number(s)	
Outside the Project Area Distance from boundary (Check one.) ☐ Area researched was a half (½) mile radius from the boundary of the project area. ☒ Area researched was a one (1) mile radius from the boundary of the project area. ☐ Area researched was a two (2) mile radius from the boundary of the project area. Previously recorded archaeological sites (Include citations.) No sites have been recorded in the study area (1-mile radius from the survey area). Previous archaeological studies (Include citations.) No professional investigations have occurred in the study area. Name(s) of previously recorded cemetery(ies) No cemeteries have been reported within 100 feet of the survey area. Cemetery registry number(s)	

FIELD INVESTIGATION	
Date(s) of field investigation (month, day, year) September 3, 2021	Name of field supervisor Christopher Jackson
Names of field crew	
Field Conditions	
Surface visibility 0-90 percent	Factors affecting visibility Soybeans, corn, and a fallow field (grasses, weeds, Queen Anne's lace)
Slope 0 to 12 percent	Environmental (weather) conditions during the survey The weather was mostly sunny and warm, with the temperature between 70 degrees and 80 degrees Fahrenheit. The weather had no impact on the field investigation.
Methods	
Surface survey (Check all that apply.) ☒ Visual walkover Interval: ☐ Thirty (30) meters ☒ Other (Describe below.) ☒ Pedestrian survey Interval: ☒ Five (5) meters ☐ Ten (10) meters ☐ Other (Describe below.)	
Describe methods. The survey area was visually examined at 10-meter (m) intervals with the purpose of determining those areas that were visually disturbed (i.e., roadside ditches, buried utilities, etc.) as well as those areas that were not visually disturbed and had the possibility for archaeological resources. Pedestrian survey was utilized in those areas in which the ground surface visibility was greater than 30 percent. This method entailed visually inspecting the ground surface at 5-m intervals. In the Southwestern and Northwestern Quarters, soybeans were pushed to the side in a breaststroke motion to expose the ground surface.	
Shovel probes (Check all that apply.) ☒ Shovel probes Interval: ☐ Five (5) meters ☐ Ten (10) meters ☒ Fifteen (15) meters ☐ Other (Describe below.)	

The standard is screened shovel probes using ¼" size mesh. If shovel probes were not screened, or a different size mesh was utilized, an explanation must be provided in the methods below.

Describe methods.

Shovel probes were excavated in those areas that were not visually disturbed, on landforms that had less than 20 percent slope, and had less than 30 percent surface visibility. The shovel probes were 30 centimeters (cm) in diameter and were excavated at 15-m intervals. The fill from the shovel probes was screened through 0.25-inch hardware mesh. Excavation was terminated when sterile subsoil was encountered.

All shovel probes were documented, which consisted of the stratigraphy (Munsell soil color, texture, and depth/thickness) of each shovel probe.

Cores / auger probes (Check all that apply.)

☐ Cores / auger probes Interval: ☐ Five (5) meters ☐ Ten (10) meters ☐ Fifteen (15) meters ☐ Other (Describe below.)

The standard is screened cores / auger probes using ¼" size mesh. If cores / auger probes were not screened, or a different size mesh was utilized, an explanation must be provided in the methods below.

Describe methods.

Additional field investigation comments

RESULTS

Summary of relevant regional culture background

All prehistoric periods utilized Putnam County. Due to a lack of information in the study area, data collected from the Big Walnut Lake study was utilized, which documented 155 sites with a prehistoric component. An examination of the site forms indicated that they mainly consisted of small camp sites that were inhabited for brief periods of time. It was determined that the main activities were hunting and/or the processing of game or the collection and processing of nuts/berries/seeds (Pace and Donham 1976). It was noted that the number of nut processing sites was unexpected.

Diagnostic artifacts indicated the Big Walnut region was primarily occupied during the Early Archaic, Late Archaic, and Late Woodland temporal periods (Pace and Donham 1976).

Cartographic Resources and Aerial Photographs

To ascertain the possibility of historic sites in the survey area, as well as the development of this region, historic cartographic sources and aerial photographs were examined.

A review of the cartographic sources indicated that the survey area is in a rural setting with no residential or commercial development (Baskin, Forster and Company 1876; Beers, J.H., and Company 1879; Cowles and Titus 1864; Indiana Highway Survey Commission 1936; United States Post Office Department 1912). The 1864 map of Putnam County does show that what would become US 231 had been constructed.

A 1947 aerial photograph showed a building (a barn) situated just west of the survey area (historicaerials.com 2020). The building was documented on the 1948, 1951, and 1955 aerial images. However, the building was not on the 1969 aerial photograph. The survey area from the 1969 aerial image to the most recent aerial photograph indicates that the survey area is rural in nature and is comprised of agricultural fields (historicaerials.com 2020).

Records check (Check all that apply.) ☐ The project area does not have the potential to contain archaeological resources. <i>Provide explanation / justification.</i> ☐ There are previously recorded archaeological resources within the project area, but those resources do not warrant additional archaeological investigation. <i>Provide explanation / justification.</i> ☒ The project area contains previously recorded archaeological resources that warrant additional investigation and/or the project area has the potential to contain archaeological resources. <i>Provide explanation / justification.</i> ☐ A cemetery is located within or adjacent to the project area.	
Explanation / justification	
Phase Ia archaeological reconnaissance (Check all that apply.) ☐ No Phase Ia reconnaissance was conducted. ☒ Phase Ia reconnaissance located no archaeological resources. ☐ Previously recorded sites were in the project area. ☐ Artifacts and/or features at a previously recorded site(s) within the project area were not discovered. <i>List the site(s) below.</i> ☐ Phase Ia reconnaissance has identified landforms conducive to buried archaeological deposits. <i>Describe below.</i>	
List sites.	
Describe landforms. A floodplain was encountered in the Southeastern Quarter; however, the excavation of shovel probes indicated that the probability for buried archaeological deposits was minimal.	
Number of shovel probes excavated 5	Number of cores / auger probes
Describe disturbances. Attach photographs documenting disturbances. US 231, the drainage ditch/unnamed tributary of Sand Branch, right-of-way (roadside ditch and man-made slope), and the utility easement	
Actual area surveyed (hectares) 0.7	Actual area surveyed (acres) 1.7
Explain results of fieldwork. The survey area was divided into quarters that were separated by the unnamed tributary of Sand Branch and US 231 (Figure 5). The following is a brief description of each quarter commencing with the Southwestern Quarter and proceeding clockwise. Southwestern Quarter: This quarter was in an agricultural field with soybeans that ranged in height from 0.5 m to 1.0 m (Plate 1). When the soybeans were parted via a breaststroke motion, surface visibility was 60 percent (Plate 2). Due to the moderate visibility, this quarter was pedestrian surveyed. The terrain was a slope toward the unnamed tributary. Disturbances entailed the right-of-way (drainage ditch and man-made slope) as well as a utility corridor. No sites were documented in this quarter. Northwestern Quarter: This quarter was in an agricultural field with soybeans, which ranged in height from 0.5 m to 0.75 m (Plate 3). Surface visibility in which the soybeans were separated by a breaststroke motion, was 60 percent. Because of the moderate visibility, this quarter was pedestrian surveyed. The topography was a slope to the tributary and a narrow linear ridge that ran parallel with the drainage. Disturbances included a utility easement and the right-of-way (roadside ditch and man-made slope). No sites were inventoried in this quarter. Northeastern Quarter: This quarter was in a cornfield that had 80 to 90 percent surface visibility (Plates 4 and 5). As a result of the excellent visibility, this quarter was pedestrian surveyed. The terrain was a slope and a narrow linear ridge running parallel with the unnamed tributary.	

Disturbances were the right-of-way (roadside ditch and man-made slope) as well as a utility easement.

No sites were recorded.

Southeastern Quarter: This quarter was in a fallow field that consisted of grasses, weeds, and Queen Anne's Lace (Plate 6); surface visibility was between 0 and 10 percent. Because of the lack of visibility, shovel probes were excavated.

The topography was the edge of an upland, slope, and a floodplain.

Disturbances were comprised of a utility easement and right-of-way (drainage ditch and man-made slope).

Five shovel probes were excavated; they were all negative, and no subsurface in situ archaeological deposits were encountered. The stratigraphy documented in Shovel Probe 1, which was at the edge of the upland, consisted of a grayish brown (10YR5/2) silt clay loam that was 19 cm in depth. The base horizon was a yellow-brown (10YR5/6) intermixed with a yellow (10YR7/6) and very pale brown (10YR8/2) silty clay.

The soil profile encountered in Shovel Probe 2, which was on the slope, entailed a grayish brown (10YR5/2) silt clay loam that was followed by a light gray (10YR7/1) intermixed with a yellow-brown (10YR5/6) slightly silty clay. The depth of the upper stratum was 15 cm.

Shovel Probes 3 to 5 were on the floodplain. The stratigraphy in Shovel Probe 3 was a dark gray-brown (10YR4/2) clay loam that was 19 cm in depth. The base stratum was a grayish brown (10YR5/2) intermixed with a very pale brown (10YR7/3) slightly sandy clay with pea gravel and Manganese. The stratigraphy encountered in Shovel Probes 4 and 5 was the same as Shovel Probe 3, except the soil in the base horizon was clay with iron inclusions or clay loam with iron inclusions. The upper horizon was 28 cm in depth in these two shovel probes.

Because the shovel probes were negative, no sites were documented in this quarter. Also, based on the information gathered from Shovel Probes 3 to 5, it can be surmised that poorly drained soils are present in the floodplain, which indicates that the possibility for significant buried archaeological deposits is minimal. It is recommended that a Phase Ic investigation is not warranted.

RECOMMENDATIONS

Records check (Check all that apply.)

- ☐ No archaeological investigation is recommended before the project is allowed to proceed because the records check has determined that the project area does not have the potential to contain archaeological resources.
- ☐ A Phase Ia archaeological reconnaissance is recommended.
- ☐ A cemetery development plan may be required under Indiana Code 14-21-1-26.5 because project ground disturbance will be within 100 feet of a cemetery.

Phase Ia archaeological reconnaissance (Check all that apply.)

- ☒ It is recommended that the project be allowed to proceed as planned because the Phase Ia archaeological reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.
- ☐ It is recommended that Phase Ic archaeological subsurface reconnaissance be conducted before the project is allowed to proceed. The Phase Ia archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits.

Other recommendations / commitments

Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.

REQUIRED ATTACHMENTS

- ☒ Figure showing project location within Indiana
- ☒ USGS topographic map showing the project area (1:24,000 scale)
- ☒ Aerial photograph showing the project area, land use and survey methods
- ☒ Photographs of the project area, including, if applicable, photographs documenting disturbances
- ☒ Project plans (if available)

Other attachments

References cited (See short report instructions for required references to be consulted.)

Baskin, Forster and Company

1876 *Illustrated Historical Atlas of the State of Indiana*. Baskin, Forster and Company, Chicago.

Beers, J.H., and Company

1879 *Atlas of Putnam County, Indiana*. J.H. Beers and Company, Chicago.

Cowles and Titus

1864 *Map of Putnam County, Indiana*. Cowles and Titus, Philadelphia.

historicaerials.com

2020 Historic aerials. <http://www.historicaerials.com>. accessed 2 September 2021.

Indiana Highway Survey Commission

1936 *Map of Putnam County*. Indiana Highway Survey Commission, Indianapolis.

Pace, Robert E., and Theresa Donham

1976 *Archaeological Reconnaissance of Proposed Big Walnut Lake, Putnam County, Indiana*. Indiana State University Anthropology Laboratory. Submitted to the U.S. Army Corps of Engineers, Louisville District, Louisville. Copies on file at the Division of Historic Preservation and Archaeology, Indianapolis.

Rapp, George, and Christopher L. Hill

1998 *Geoarchaeology: The Earth-Science Approach to Archaeological Investigation*. Yale University Press, New Haven, Connecticut.

Soil Survey Staff

1999 *Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys*. United States Department of Agriculture, Natural Resources Conservation Service, Washington D.C.

United States Department of Agriculture

2019 Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov>. accessed 2 September 2021.

United States Post Office Department

1912 *Map of Putnam County Showing Rural Delivery Service*. U.S. Post Office Department, Washington D.C.

Comments

CURATION

Location of project documentation

SJCA, Inc. Fountain Square Office.

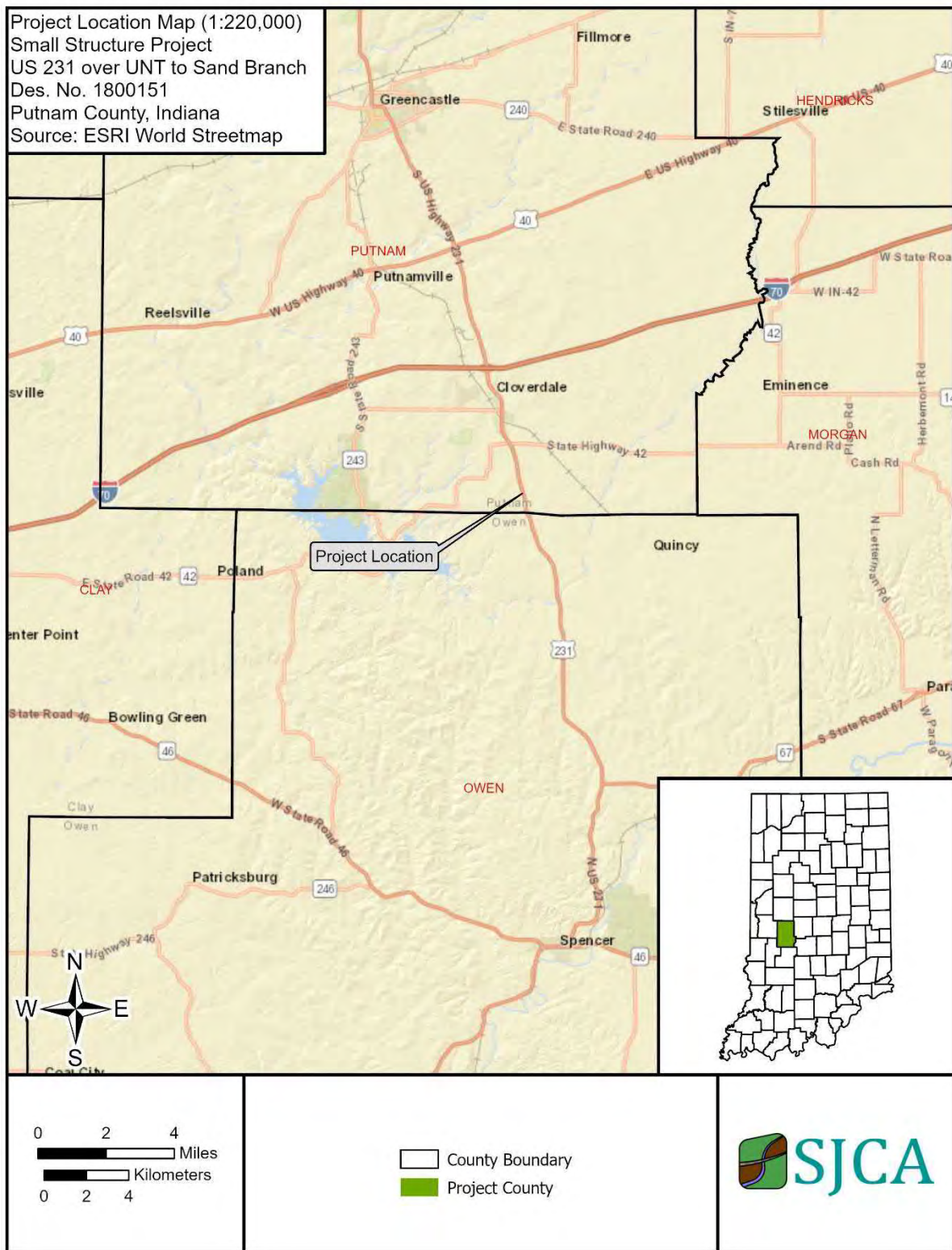


Figure 1. Maps of the State of Indiana as well as Putnam and Owen counties showing the general location of the project.

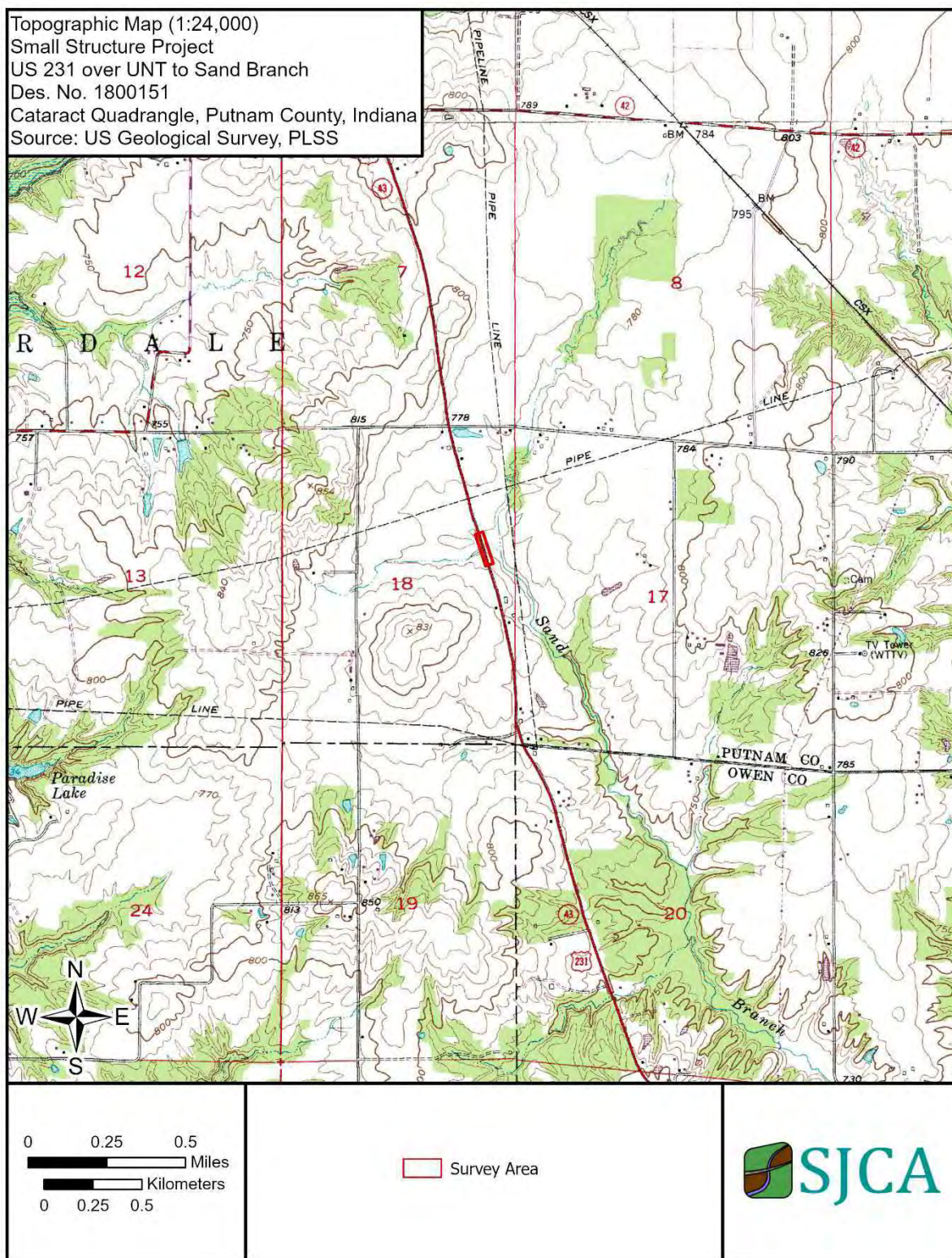


Figure 2. A section of the USGS 1986 Cataract quadrangle (7.5' topographic map) showing the location of the survey area.



Figure 3. Aerial photograph showing the survey area.

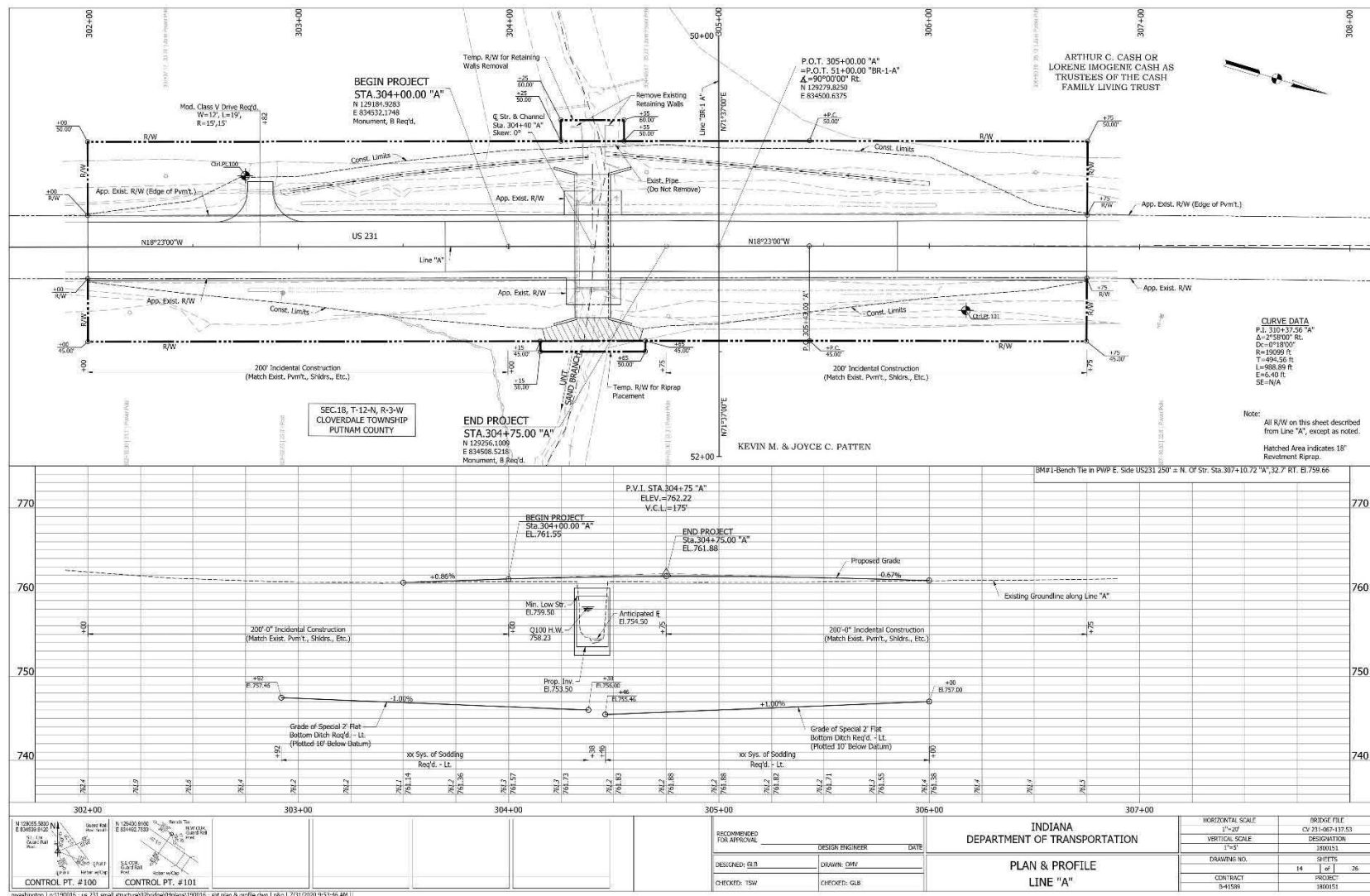


Figure 4. Stage I plans for the proposed project.



Figure 5. Aerial photograph showing the location of the survey area and the quarters.



Plate 1. Photograph of the Southwestern Quarter, looking north.



Plate 2. Photograph of the ground surface in the Southwestern Quarter, looking north.



Plate 3. Photograph of the Northwestern Quarter, looking south.



Plate 4. Photograph of the Northeastern Quarter, looking south.



Plate 5. Photograph of the ground surface in the Northeastern Quarter, looking south.



Plate 6. Photograph of the Southeastern Quarter, looking south.

Appendix E:

Red Flag and Hazardous Materials



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758-ES
Indianapolis, Indiana 46204

PHONE: (855) 463-6848
(855) INDOT4U

Eric Holcomb, Governor
Joe McGuinness,
Commissioner

Date: January 20, 2021

To: Site Assessment & Management (SAM)
Environmental Policy Office - Environmental Services Division
Indiana Department of Transportation
100 N Senate Avenue, Room N758-ES
Indianapolis, IN 46204

From: Aimee Cooper
Beam, Longest, and Neff, LLC
8320 Craig Street
Indianapolis, IN 46250
acooper@b-l-n.com

Re: RED FLAG INVESTIGATION
DES #1800151, State Project
Small Structure Replacement
US 231 over UNT to Sand Branch, 1.45 Miles South of SR 42
Putnam County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: Indiana Department of Transportation proposes a small structure replacement on US 231 over Unnamed Tributary (UNT) to Sand Branch, 1.45 miles south of SR 42 in Putnam County, Indiana. The proposed work includes replacing the existing small structure, a 12' x 6' slabtop with a 15' x 6' single span precast reinforced concrete box. The regrading of the slopes of the ditches is anticipated. No guardrails are expected.

Bridge and/or Culvert Project: Yes ☒ No ☐ Structure # CV #231-067-137.53

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 0.81, Not Applicable ☐

Type of excavation: On the west side of US 231 approximately 5' in depth of excavation will be needed for placing new ditches. In the bank of the stream, approximately 3' in depth of excavation will be used to remove the old structure and place the new structure.

Maintenance of traffic: Traffic will be maintained using a temporary signal that will control the single lane of traffic that will be open.

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

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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	3
Cemeteries	N/A	Railroads	N/A
Hospitals	N/A	Trails	N/A
Schools	N/A	Managed Lands	N/A

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

Explanation:

Pipelines: Three (3) pipeline segments are located within the 0.5 mile search radius. The nearest pipeline segment, associated with Texas Gas Transmission Corp., is approximately 0.05 mile east of the project area. Coordination with INDOT Utilities and Railroads should occur.

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	4
Canal Structures – Historic	N/A	Lakes	3
NPS NRI Listed	N/A	Floodplain - DFIRM	N/A
NWI-Lines	2	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	3	Sinkhole Areas	N/A
Rivers and Streams	3	Sinking-Stream Basins	N/A

Explanation:

NWI-Lines: Two (2) NWI-Line segments are located within the 0.5 mile search radius. The nearest NWI-line segment is located approximately 0.05 mile east of the project area. No impacts are expected.

IDEM 303d Listed Streams and Lakes: Three (3) 303d Listed Stream segments are located within the 0.5 mile search radius. UNT to Sand Branch is located within the project area and is listed as impaired for E.coli. 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.

Rivers and Streams: Three (3) rivers and stream are located within the 0.5 mile search radius. One (1) stream, UNT to Sand Branch, 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.

Wetlands: Four (4) wetlands are located within the 0.5 mile search radius. The nearest wetland is located approximately 0.39 mile southeast of the project area. No impacts are expected.

Lakes: Three (3) lakes are located within the 0.5 mile search radius. The nearest is located approximately 0.39 mile southeast of the project area. No impacts are expected.

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

Unless otherwise noted, site specific details presented in this section were obtained from documents reviewed on the Indiana Department of Environmental Management (IDEM) Virtual File Cabinet (VFC).

Explanation: No Hazardous Material Concerns resources were identified within the 0.5 mile search radius.

ECOLOGICAL INFORMATION SUMMARY

The Putnam County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_putnam.pdf. A preliminary review of the Indiana Natural Heritage Database by INDOT ESD did not indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural areas surrounded by farm fields. The July 12, 2021 inspection report for Culvert #231-067-137.53 states that no evidence of bats was seen or heard in the culvert. 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".

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE:

Pipelines: One (1) pipeline segment is located 0.05 mile east of the project area. Coordination with INDOT Utilities and Railroads should occur.

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

- One (1) stream segment, UNT to Sand Branch Creek, flows through the project area.

UNT to Sand Branch is located within the project area and is listed as impaired for E.coli. 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.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

ECOLOGICAL INFORMATION:

Coordination with USFWS and IDNR 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."

INDOT Environmental Services concurrence: Marlene Mathas Digitally signed by Marlene Mathas
Date: 2022.01.20 08:43:37 -05'00' (Signature)

Prepared by:
Aimee Cooper
Environmental Analyst
Beam, Longest, and Neff, LLC

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

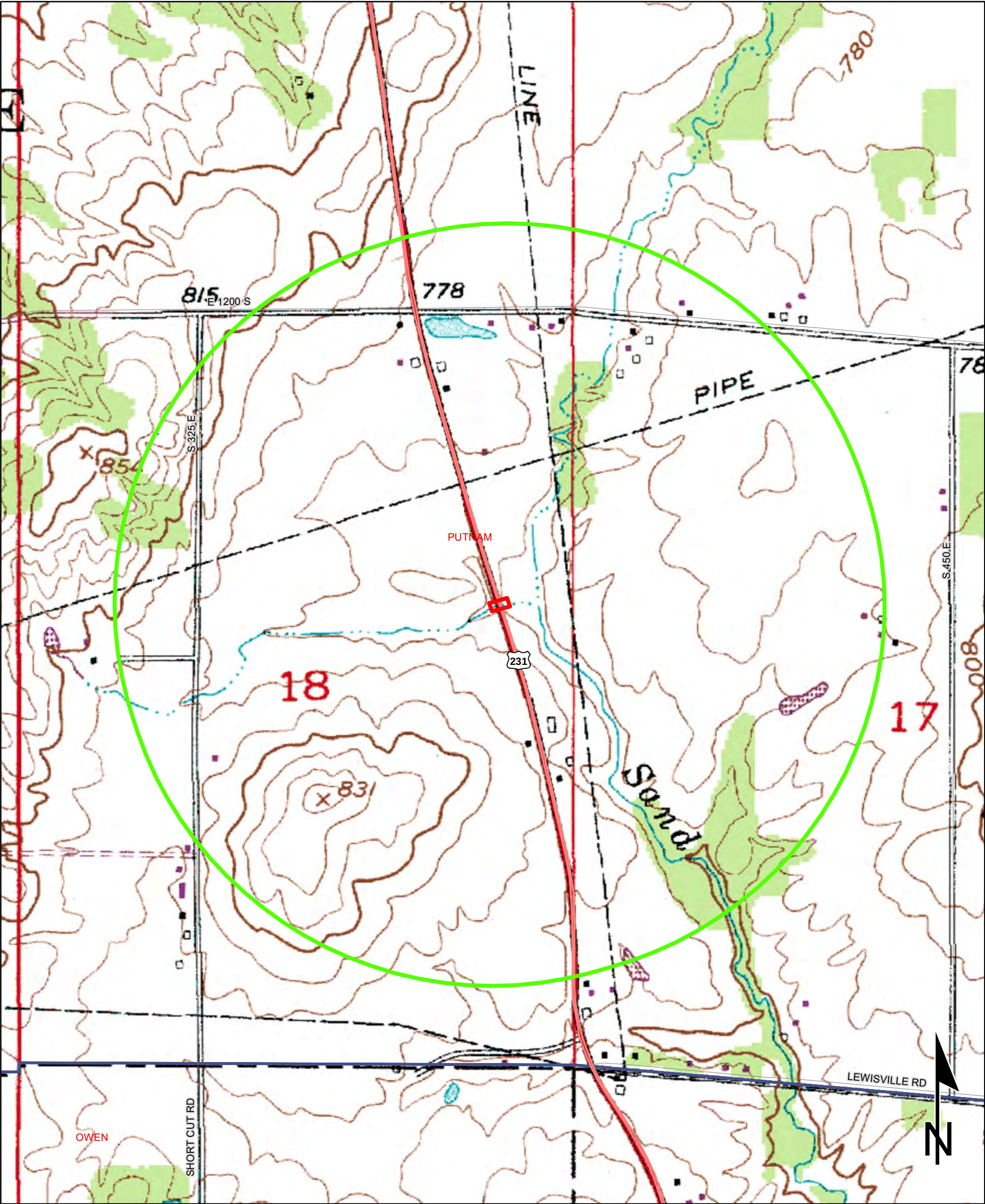
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

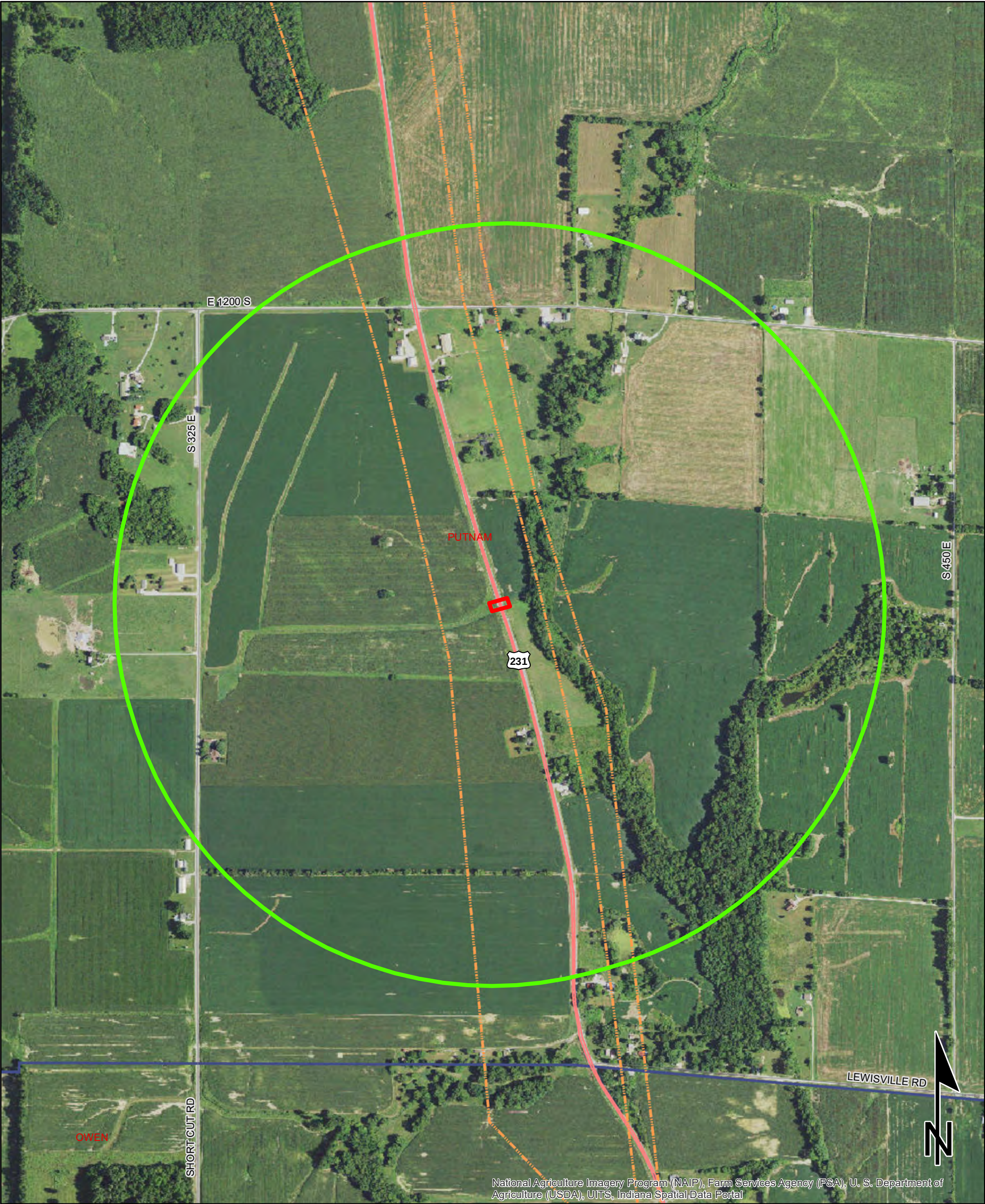
Red Flag Investigation - Site Location
US 231 over UNT to Sand Branch, 1.45 Miles South of SR 42
Des. No. 1800151, Small Structure Replacement
Putnam County, Indiana



Sources: 0.15 0.075 0 0.15 Miles
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.

CATARACT QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
US 231 over UNT to Sand Branch, 1.45 Miles South of SR 42
Des. No. 1800151, Small Structure Replacement
Putnam County, Indiana



Sources: 0.15 0.075 0 0.15 Miles
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.

	Religious Facility		Recreation Facility		Project Area
	Airport		Pipeline		Half Mile Radius
	Cemeteries		Railroad		Toll
	Hospital		Trails		Interstate
	School		Managed Lands		State Route
			County Boundary		US Route
					Local Road

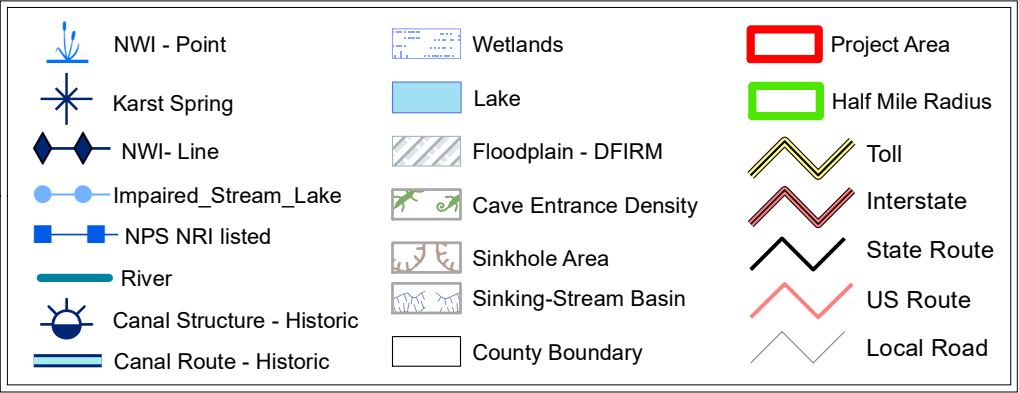
Red Flag Investigation - Water Resources
US 231 over UNT to Sand Branch, 1.45 Miles South of SR 42
Des. No. 1800151, Small Structure Replacement
Putnam County, Indiana



National Agriculture Imagery Program (NAIP), Farm Services Agency (FSA), U. S. Department of Agriculture (USDA), UITS, Indiana Spatial Data Portal

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.



Appendix F:

Water Resources

**Waters Report
Small Structure Replacement
US 231 over Unnamed Tributary to Sand Branch
Putnam County, Indiana
Des. No. 1800151
CV #231-067-137.53**

APPROVED
Justus McGill
11/10/21

Prepared by: Aimee Cooper
acooper@b-l-n.com; 317-806-3060
Beam, Longest and Neff (BLN)
Completed Date: September 28, 2021

PROJECT INFORMATION

Date of Field Reconnaissance
October 13, 2020

Location
Section 18, Township 12 North, Range 3 West
Cataract, Indiana Quadrangle Map
Latitude: 39.480379 North, Longitude: 86.783068 West

PROJECT DESCRIPTION

The proposed project consists of the replacement of the existing small structure (#231-067-137.53) that carries US 231 over an Unnamed Tributary (UNT) to Sand Branch. The project is located approximately 1.45 miles north of State Road (SR) 42 in Putnam County (Appendix A-1).

The existing small structure is a 12'x 5' slab top concrete box culvert with wing walls. It has a structure length of 39', vertical opening of 5', span of 12', cover of 1' and a skew of 0 degrees and the overall structure rating was considered a 4 of 10 which is considered poor based on the cores that indicate the slab is crumbling with poor strength. Timber wing walls have crushed pier caps and the slab does have moderate cracking with leaching and there is spalling on the original coping. The replacement structure be a single span 15' precast reinforced concrete box culvert with wingwalls.

General topography of the project area is relatively flat. According to the United States Geological Survey (USGS) Cataract Quadrangle, Indiana 7.5-minute topographic quadrangle map, the road has an elevation of approximately 761 feet above Mean Sea Level (MSL) and the elevation of UNT to Sand Branch within the project area is approximately 758 feet above MSL (Appendix A-2 and A-3).

DESKTOP DATA REVIEW

Soils

According to the Soil Survey Geographic (SSURGO) Database for Putnam County, Indiana, the project area contains soils on the national list of hydric soils (Appendix A-7) Table 1 lists the soil types located within the project survey area.

Table 1: Soil Series in Project Area

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Cincinnati silt loam	CnC2	None	Well Drained	Predominantly Nonhydric	0% Hydric
Shoals silt loam	Sh	Frequent	Somewhat Poorly Drained	Predominantly Nonhydric	4% Hydric

National Wetlands Inventory (NWI) Information

One NWI-mapped feature is located within the project survey area. UNT to Sand Branch has a Cowardin Classification of R4SBC (riverine, intermittent, streambed, seasonally flooded) according the NWI records. The survey results for UNT to sand branch are described in the field reconnaissance section.

Floodplain

A Flood Insurance Rate Map (FIRM) obtained from the Federal Emergency Management Agency (FEMA) shows that neither the project survey area nor its surroundings are located within a mapped floodway or flood hazard zone (Appendix A-8).

Hydrologic Unit Code (HUC)

The project survey area is situated in the Sand Branch-Mill Creek watershed, which is identified by the 12-digit HUC 051202030510 (Appendix A-9).

Attached Documents

- Maps (Appendix A-1 through A-11)
- Photographs (Appendix A-12)

FIELD RECONNAISSANCE

A field visit to inspect the project area for aquatic resources was conducted by BLN staff on October 13, 2020. Existing land use in the project survey area is primarily agriculture. The survey footprint extends approximately 400 feet north of center of the structure and continues south 1200 feet along US 231 and 150 feet west of the structure to 300 feet east along UNT to Sand Branch to encompass the maximum estimated area of disturbance based on the design (Appendix A-4). Typical circumstances appeared to be present throughout the entire survey area. The field investigation identified one waterway (UNT to Sand Branch) and no wetlands in the survey area (Appendix A-10).

Streams

The project area was inspected for the presence of streams. Streams in the project area were identified and evaluated using *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI)* (2006). Recommendations on the jurisdictional status of water resources within the project area were made based on guidance from the *US Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook* (2007).

UNT to Sand Branch

The USGS topographic map and the National Hydrography Dataset both identify UNT to Sand Branch as an intermittent stream located within the project survey area. According to the USGS Stream Stats application, the UNT exhibits an upstream drainage area of 0.216 square mile. Field investigation confirmed the presence of UNT to Sand Branch. An Ordinary High-Water Mark (OHWM) of approximately 2.5 feet deep and 4 feet wide was found. Approximately 305 linear feet of UNT to Sand Branch Creek is within the project area. No water was in the bank during the time of investigation and the substrate consisted of mud. No riffles or pools were present, and based on the lack of cover, lack of aquatic organisms, and a muddy substrate UNT to Sand branch is considered to be of poor quality. UNT to Sand Branch would be classified as an intermittent stream with a Cowardin of R4SB based on the observation during field work and the intermittent NHD line present on the NHD map (Appendix A-6). Because UNT to Sand Branch flows into Sand Branch which eventually flows to the White River, a section 10 Traditionally Navigable Waterway, it is considered Waters of the U.S.

Table 2: Stream Summary

Water Feature Name	Photos	Lat/Long	OHWM Width (ft)	OHWM Depth (ft)	USGS Blue line? Type?	Riffles? Pools?	Quality	Substrate	Likely Water of U.S.?
UNT to Sand Branch	4-11	39.480379 N 86.783068 W	4	2.5	Yes, intermittent	N/A	Poor	Mud	Yes

Wetland Sample Points

No potential wetland areas were identified on the NWI map. The project site was visually surveyed to identify potential wetland areas. The survey area appeared well drained into the UNT to Sand Branch. No areas that appeared to exhibit the necessary vegetation, hydrology, or geomorphic position were identified during the visual survey. No sample points were collected.

Other Features

The project area was also surveyed for other aquatic features, including roadside ditches and open water bodies. Any features identified were evaluated for potential jurisdictional status.

Roadside Ditches

Two roadside ditches were identified during field investigation along each side of US 231, located northwest and southwest of the structure. The area showed no flowing water and no OHWM which would indicate the ditch does not have relatively permanent water (RPW) flow. Therefore, the two roadside ditches are not considered Waters of the U.S.

Lakes/Ponds

No lakes or ponds were observed in the project area.

Conclusions

BLN conducted a field investigation for wetlands and Waters of the U.S. at the project area on October 13, 2020. The investigation identified one likely jurisdictional waterway and no wetlands within the project limits.

UNT to Sand Branch is likely a Water of the U.S. Every effort should be taken to avoid and minimize impacts to the waterway. If impacts are necessary, 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 USACE. This report is our best judgment based on the guidelines set forth by USACE.

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 Delineation Manual*, the appropriate regional supplement, the USACE *Jurisdictional Determination Form Instructional Guidebook*, and other appropriate agency guidelines.



Aimee Cooper
Environmental Analyst
Beam, Longest and Neff, LLC

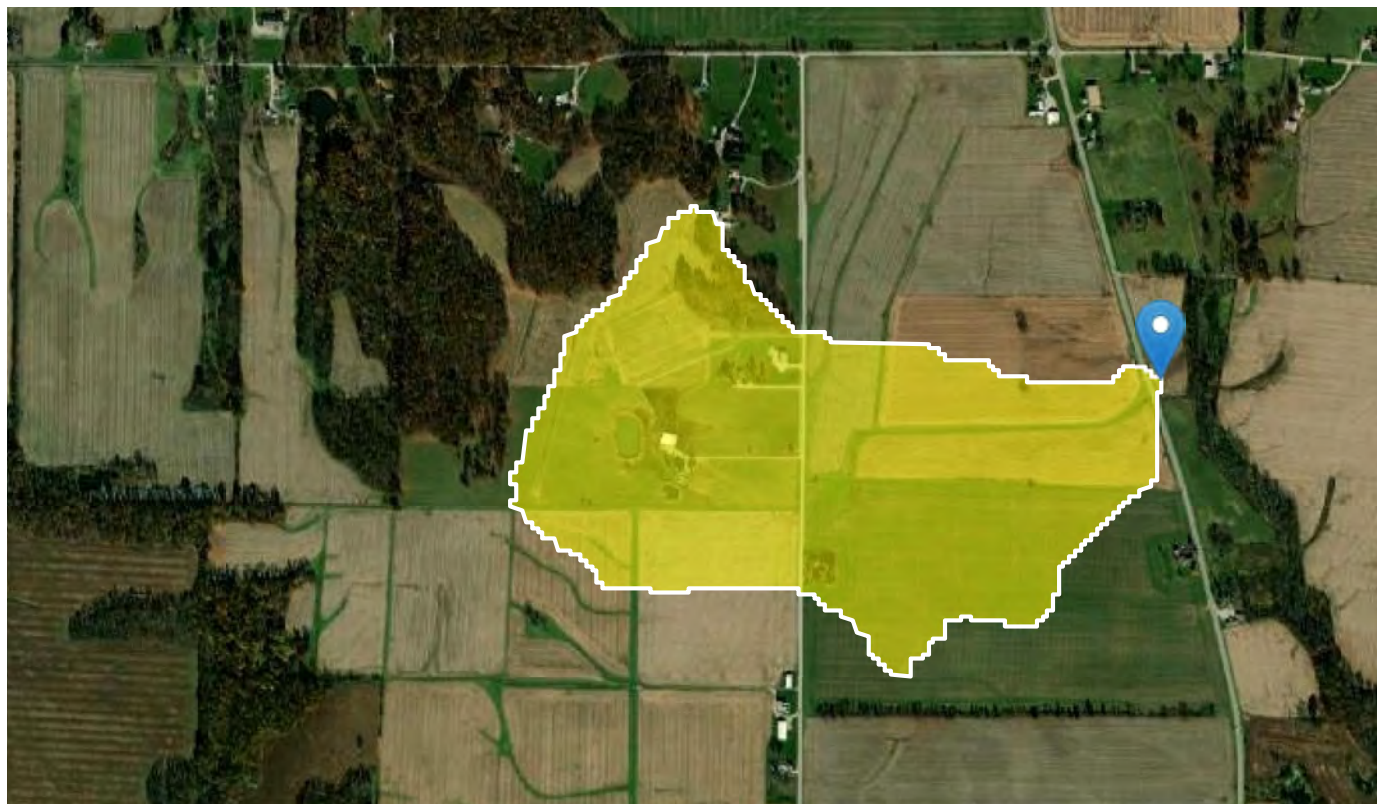
StreamStats Report

Region ID: IN

Workspace ID: IN20211109145913687000

Clicked Point (Latitude, Longitude): 39.48068, -86.78300

Time: 2021-11-09 09:59:32 -0500



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.216	square miles
BFREGNO	BFREGNO	1567	dimensionless
K2INDNR	Average hydraulic conductivity (ft/d) for the full depth of unconsolidated deposits from InDNR well database.	16	ft per day
QSSPERMTHK	Index of the permeability of surficial Quaternary sediments computed as in SIR 2014-5177	25	dimensionless
LOWREG	Low Flow Region Number	1730	dimensionless

Parameter Code	Parameter Description	Value	Unit
T2INDNR	Average transmissivity (ft ² /d) for the full depth of unconsolidated deposits from InDNR well database.	4081	square feet per day
LC01FOREST	Percentage of forest from NLCD 2001 classes 41-43	2.5	percent

Bankfull Statistics Parameters [Bankfull South Hills and Lowlands Region 2013 5078]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.216	square miles	0.06	186
BFREGNO	BFREGNO	1567	dimensionless		

Bankfull Statistics Parameters [Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.216	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [Central Lowland P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.216	square miles	0.200772	59927.66594

Bankfull Statistics Parameters [USA Bieger 2015]

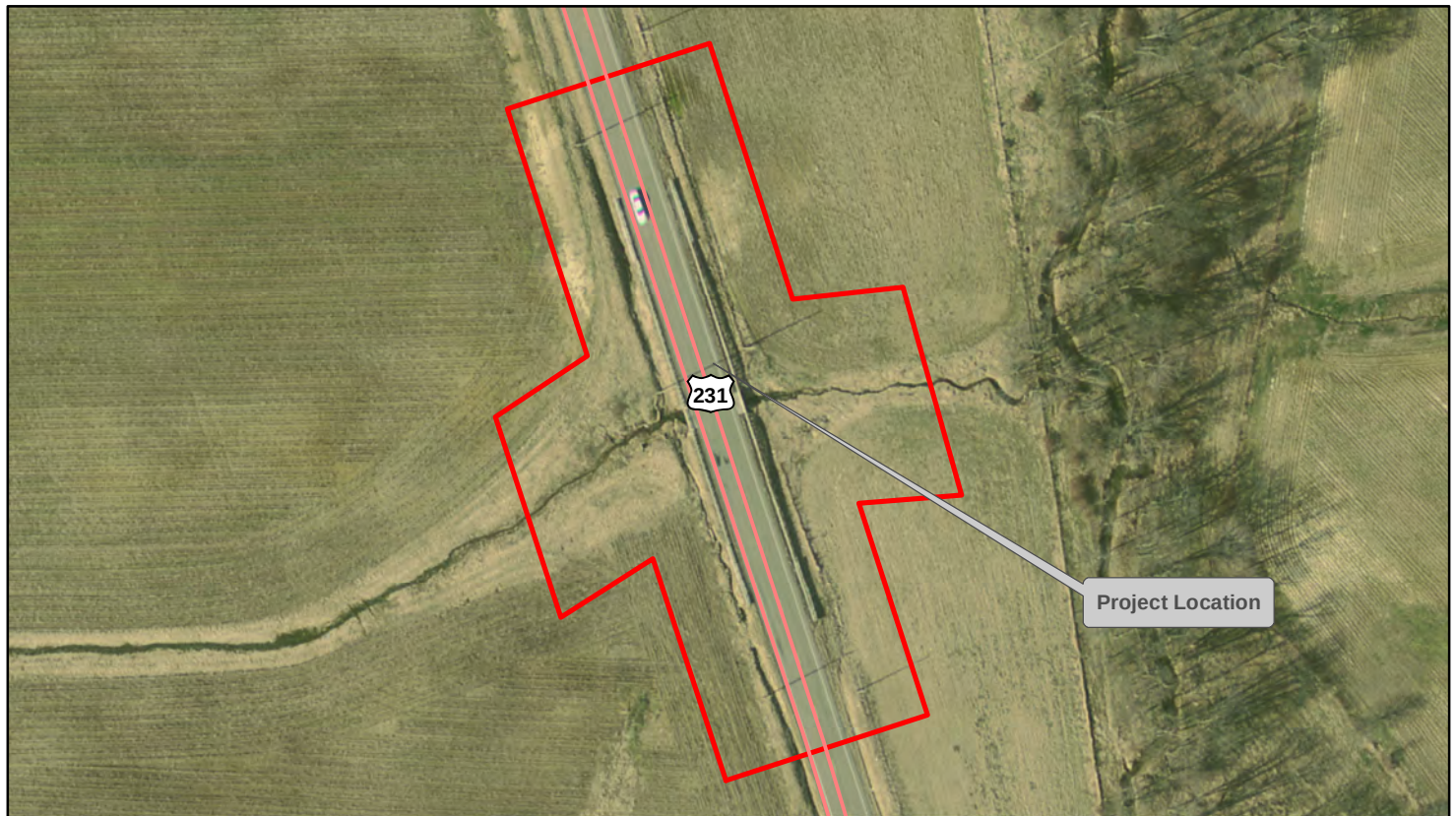
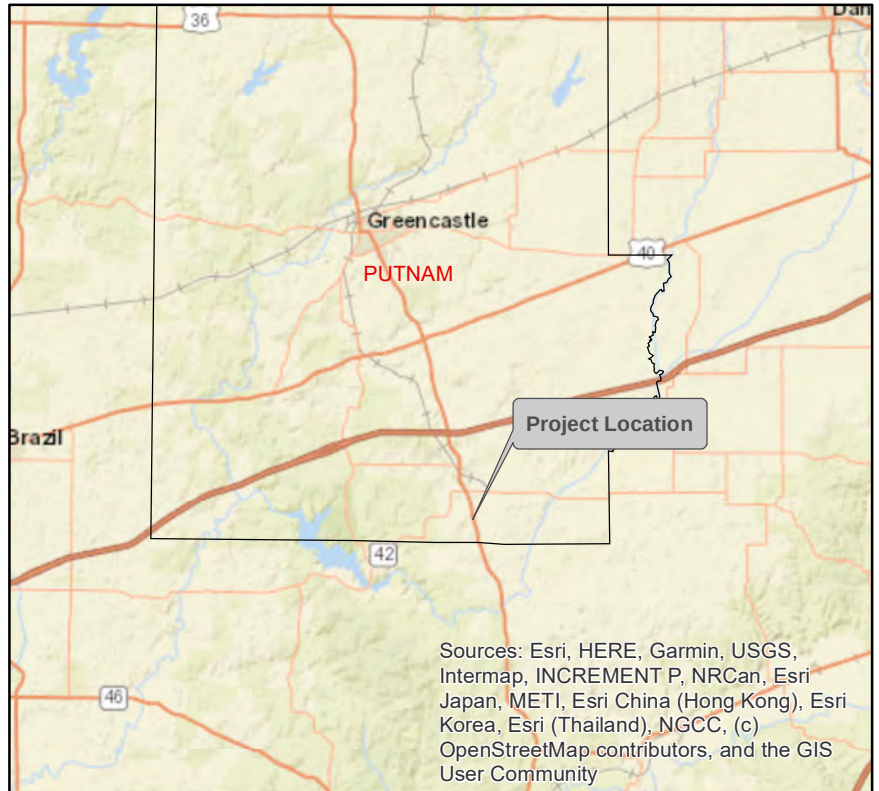
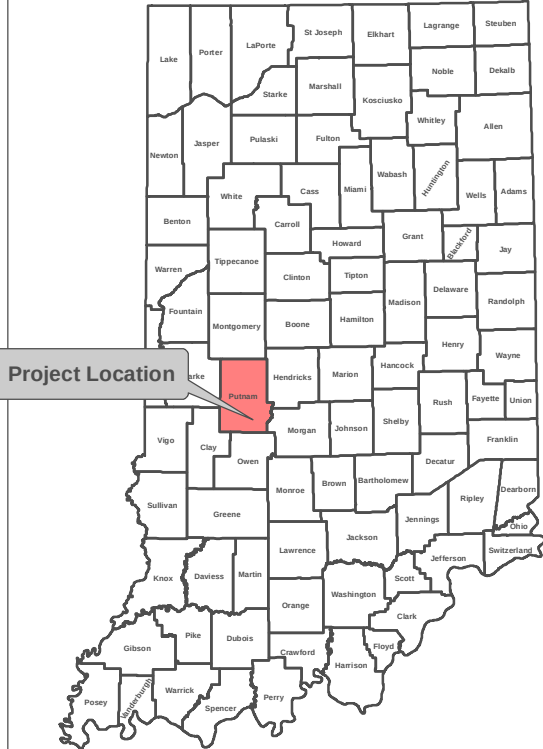
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.216	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [Bankfull South Hills and Lowlands Region 2013 5078]

Statistic	Value	Unit
Bankfull Width	17.5	ft
Bankfull Depth	1.44	ft
Bankfull Area	24.8	ft ²

Bankfull Statistics Flow Report [Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	6.85	ft



Source: Indiana MAP

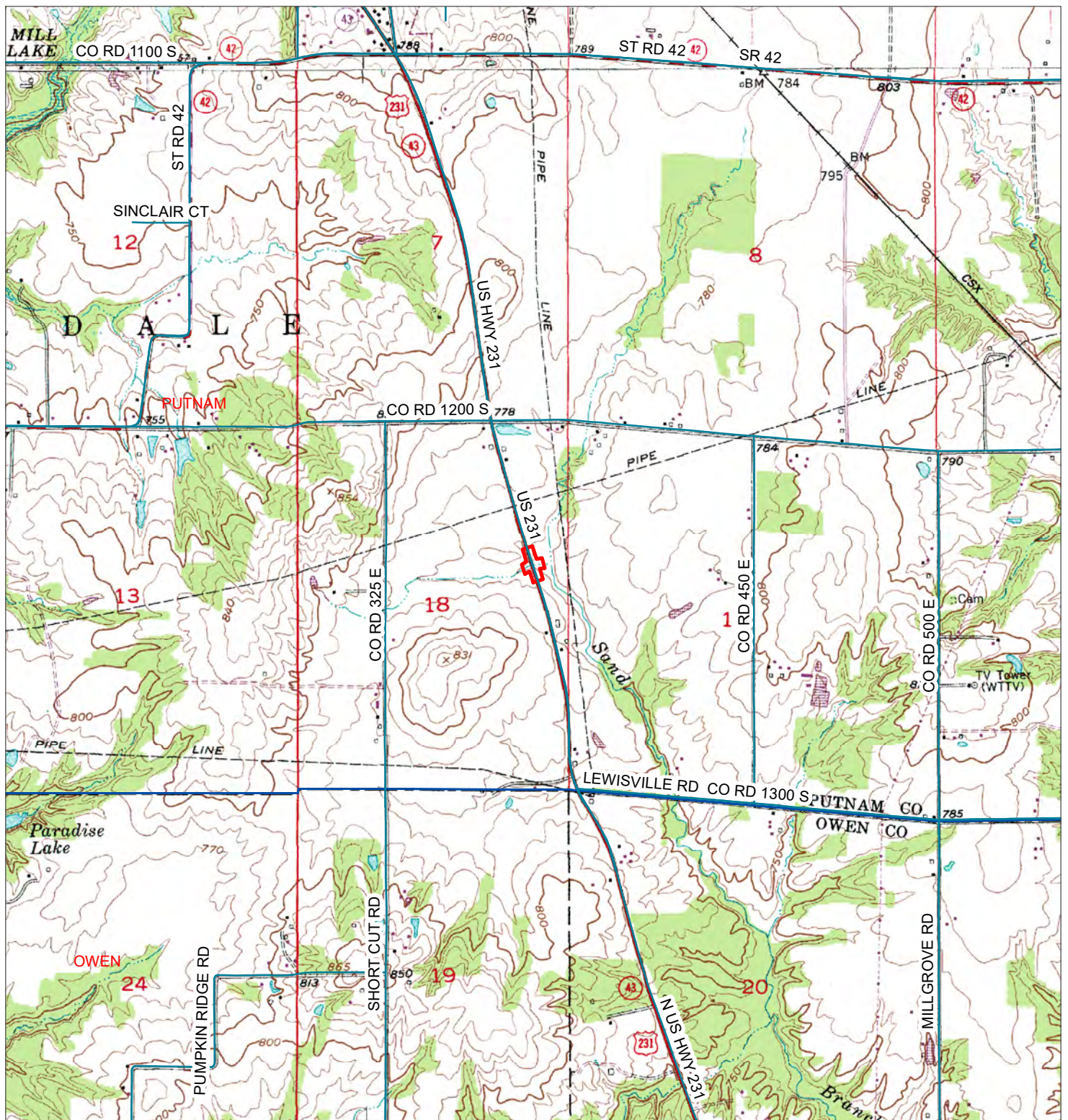


Legend

- Project County
- County Boundary

Project Location Map
 Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151

F-6
 May 27, 2021



Source: U.S. Geological Survey

1:24,000

1 in = 2,000 ft



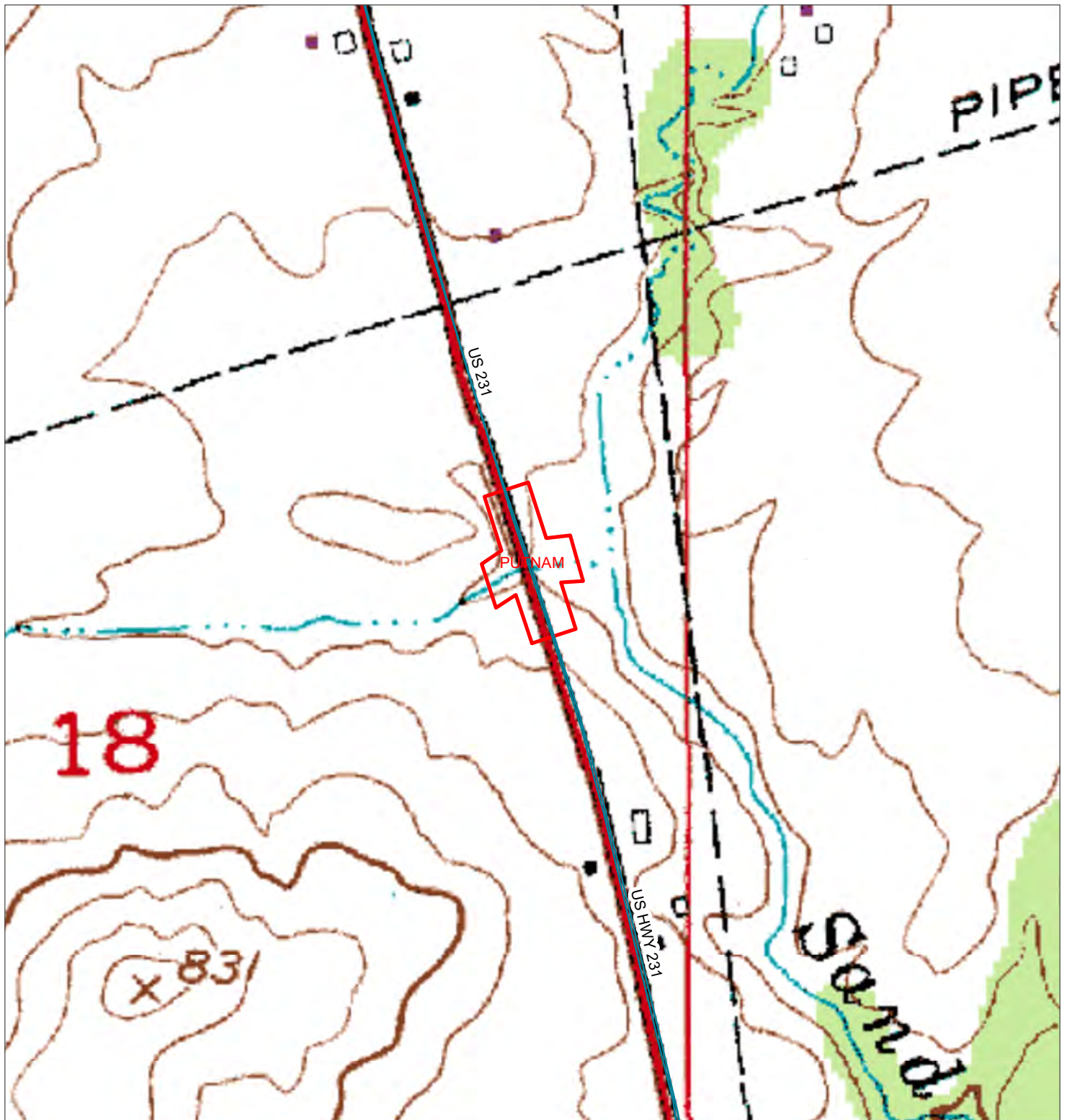
Legend

Investigated Area

USGS Topographic Map
 Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151

F-7
 September 28, 2021

Waters Report A-2



Source: U.S. Geological Survey

1:5,400

1 in = 450 ft

BLN
BEAM · LONGEST · NEFF

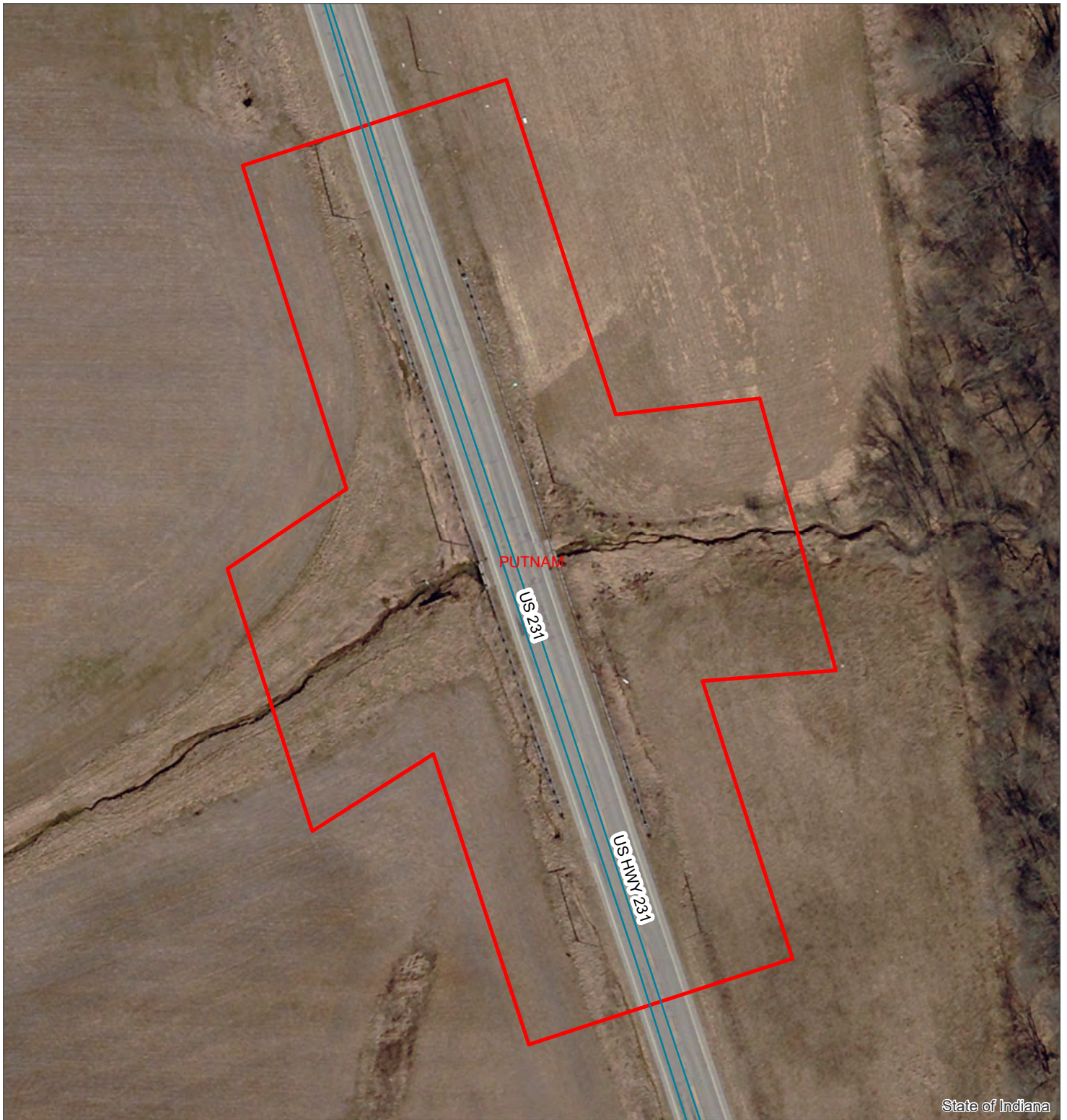
Legend

Investigated Area

USGS Topographic Map - Detail

Author: Aimee Cooper
Small Structure Replacement
US 231 over UNT to Sand Branch
Putnam County, Indiana
Des. No. 1800151

F-8
September 28, 2021



State of Indiana



Source: U.S. Geological Survey

1:900

1 in = 75 ft



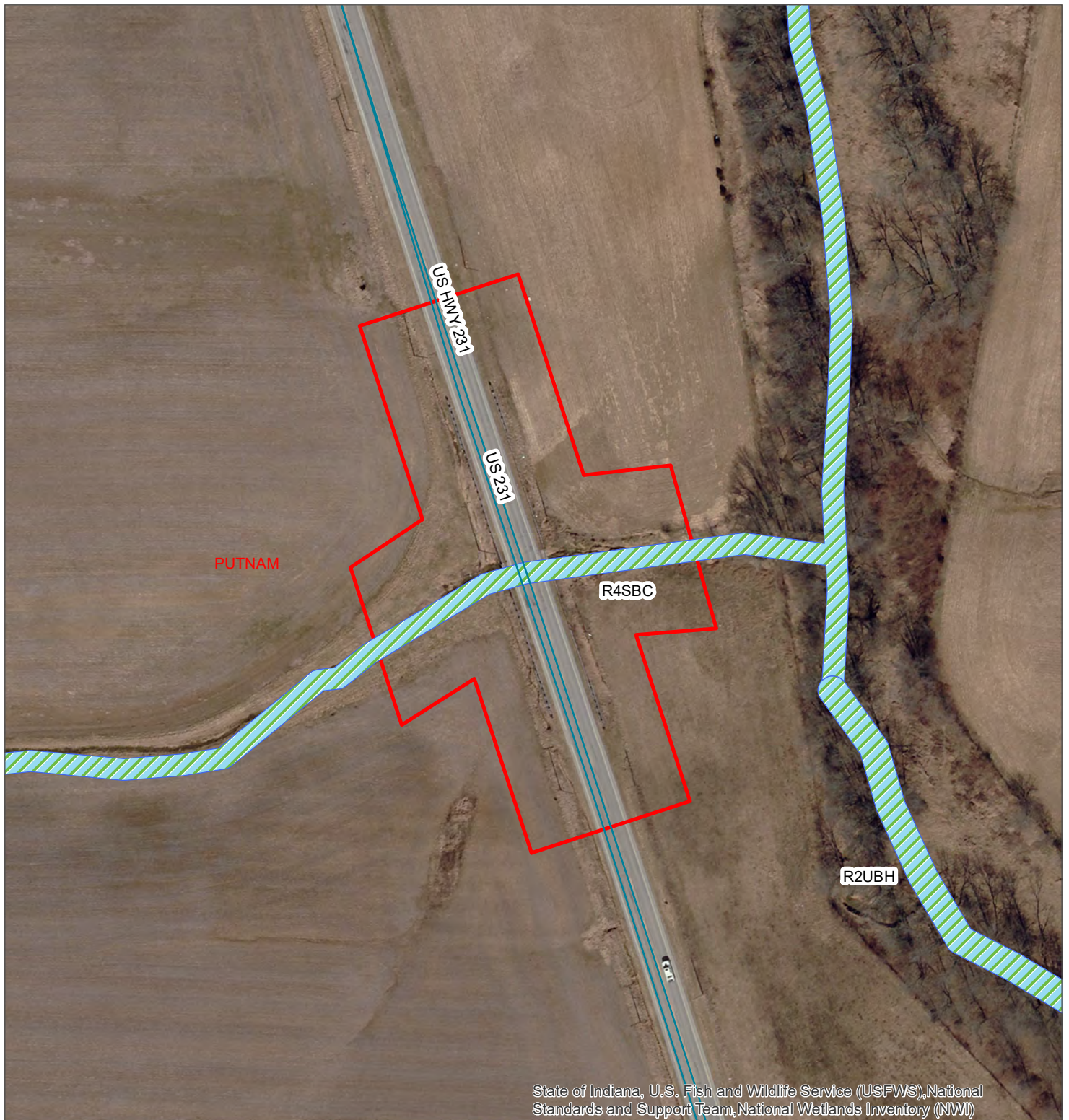
Legend



Investigated Area

Aerial Map
Author: Aimee Cooper
Small Structure Replacement
US 231 over UNT to Sand Branch
Putnam County, Indiana
Des. No. 1800151

F-9
September 28, 2021



Source: U.S. Geological Survey

1:1,500

1 in = 125 ft



Legend



Investigated Area



National Wetland Inventory

National Wetland Inventory Map

Author: Aimee Cooper

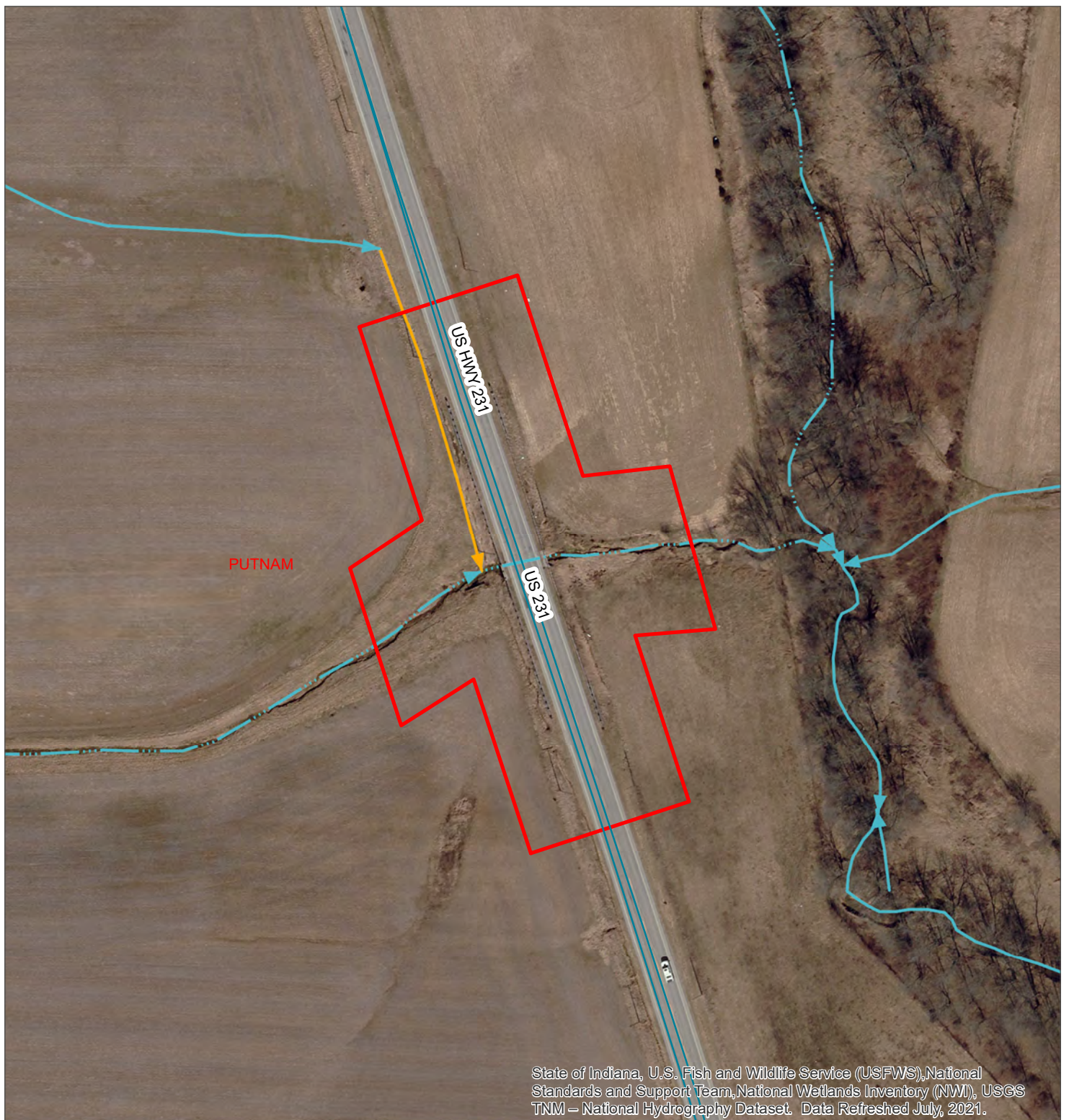
Small Structure Replacement

US 231 over UNT to Sand Branch

Putnam County, Indiana

Des. No. 1800151

F-10
September 28, 2021



Source: U.S. Geological Survey

1:1,500

1 in = 125 ft

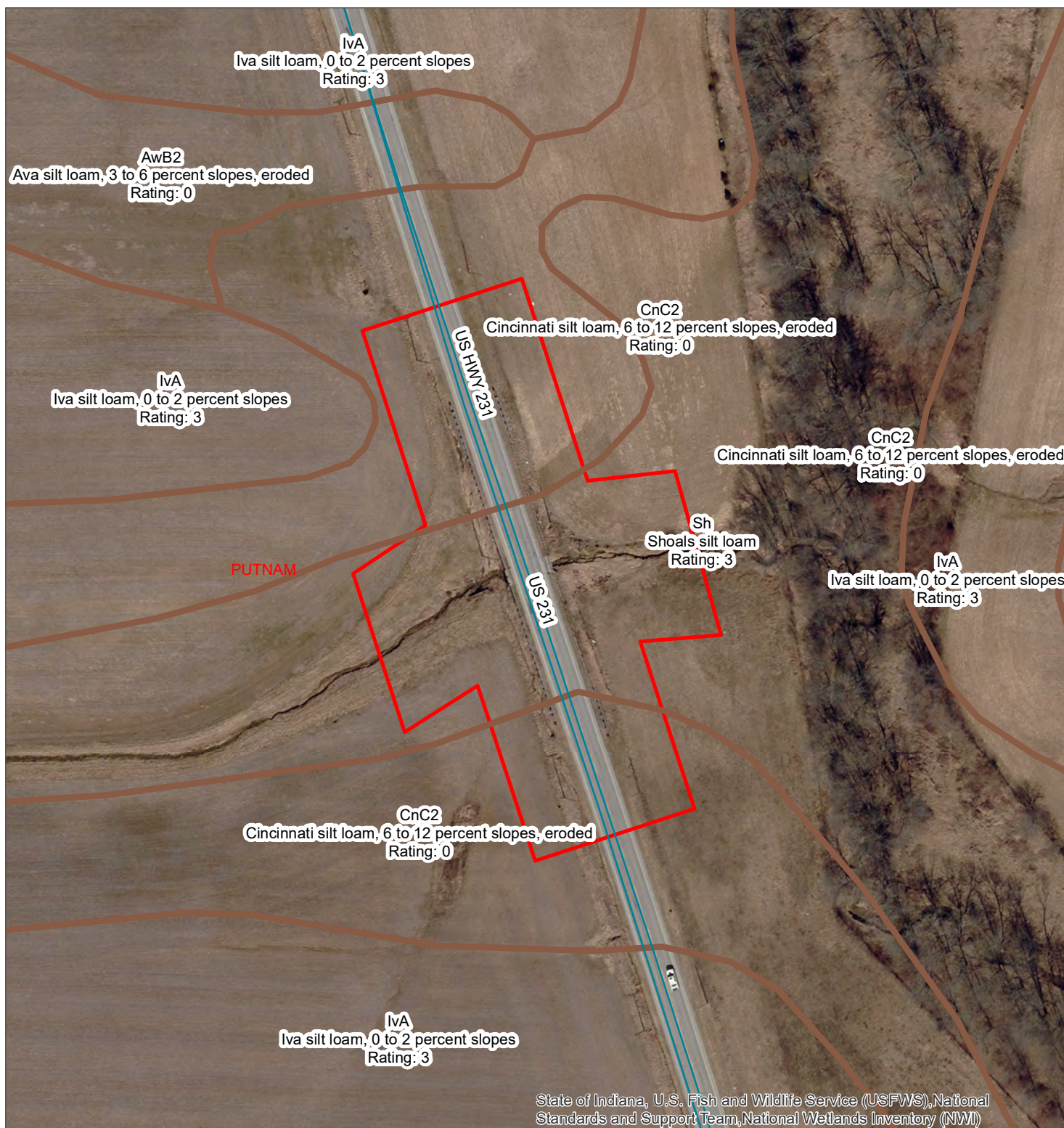


Legend

- | | |
|--|--|
| Investigated Area | Canal Ditch |
| Perennial | Coastline |
| Intermittent | Connector |
| Ephemeral | Pipeline |
| Artificial Path | Underground Conduit |

National Hydrography Dataset Map

Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



State of Indiana, U.S. Fish and Wildlife Service (USFWS), National Standards and Support Team, National Wetlands Inventory (NWI)



Source: U.S. Geological Survey

1:1,500

1 in = 125 ft



Legend

- Investigated Area
- Soils

Soils Map

Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



Source: U.S. Geological Survey

1:4,200

1 in = 350 ft

Legend

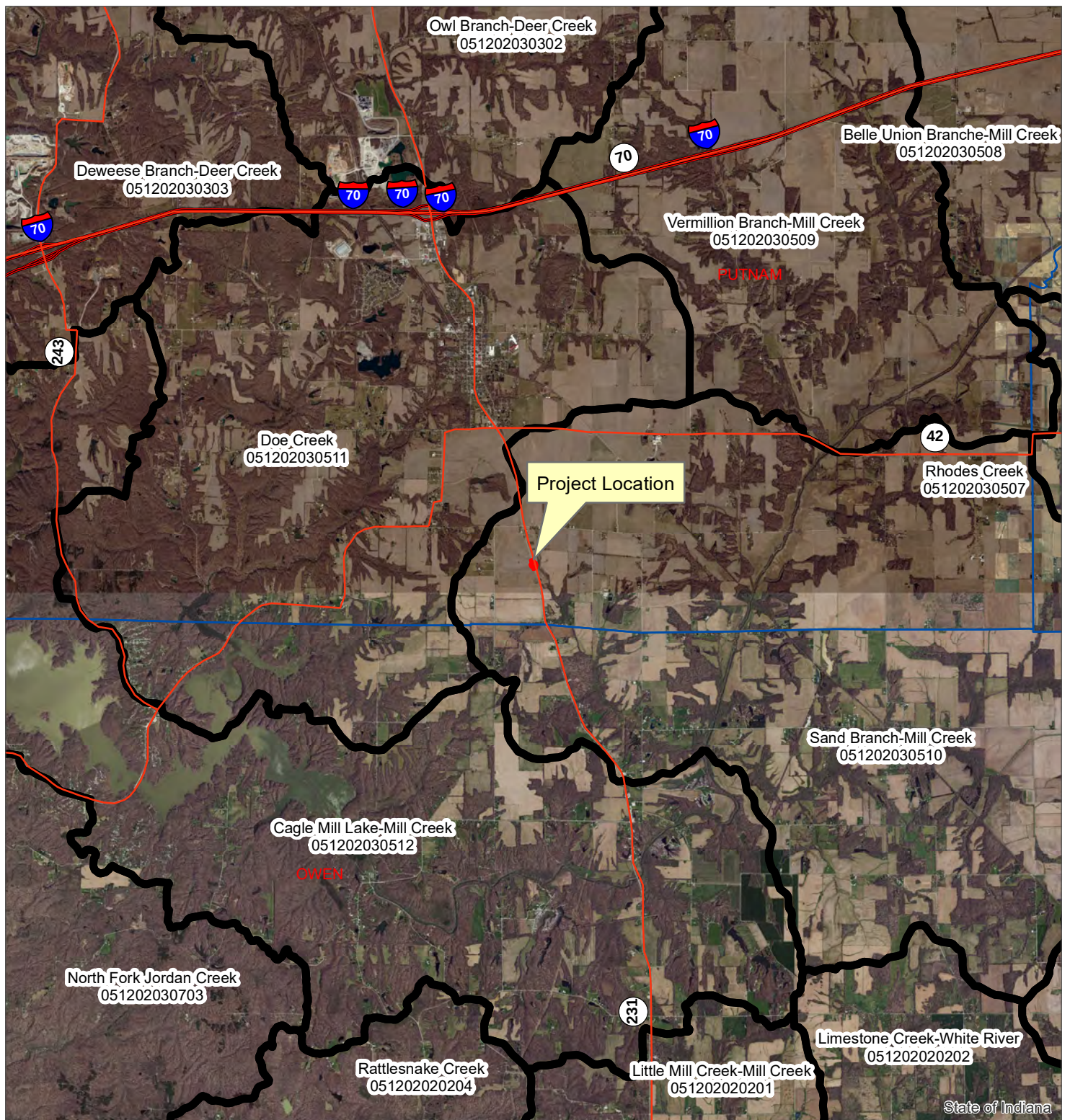
- Investigated Area
- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard

BLN
BEAM • LONGEST • NEFF

Floodplain Map

Author: Aimee Cooper
Small Structure Replacement
US 231 over UNT to Sand Branch
Putnam County, Indiana
Des. No. 1800151

F-13
September 28, 2021



Source: U.S. Geological Survey

1:90,000

1 in = 7,500 ft



Legend

- Investigated Area
- Watersheds -12 digit

Watershed Map

Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



Source: U.S. Geological Survey

1:1,200

1 in = 100 ft

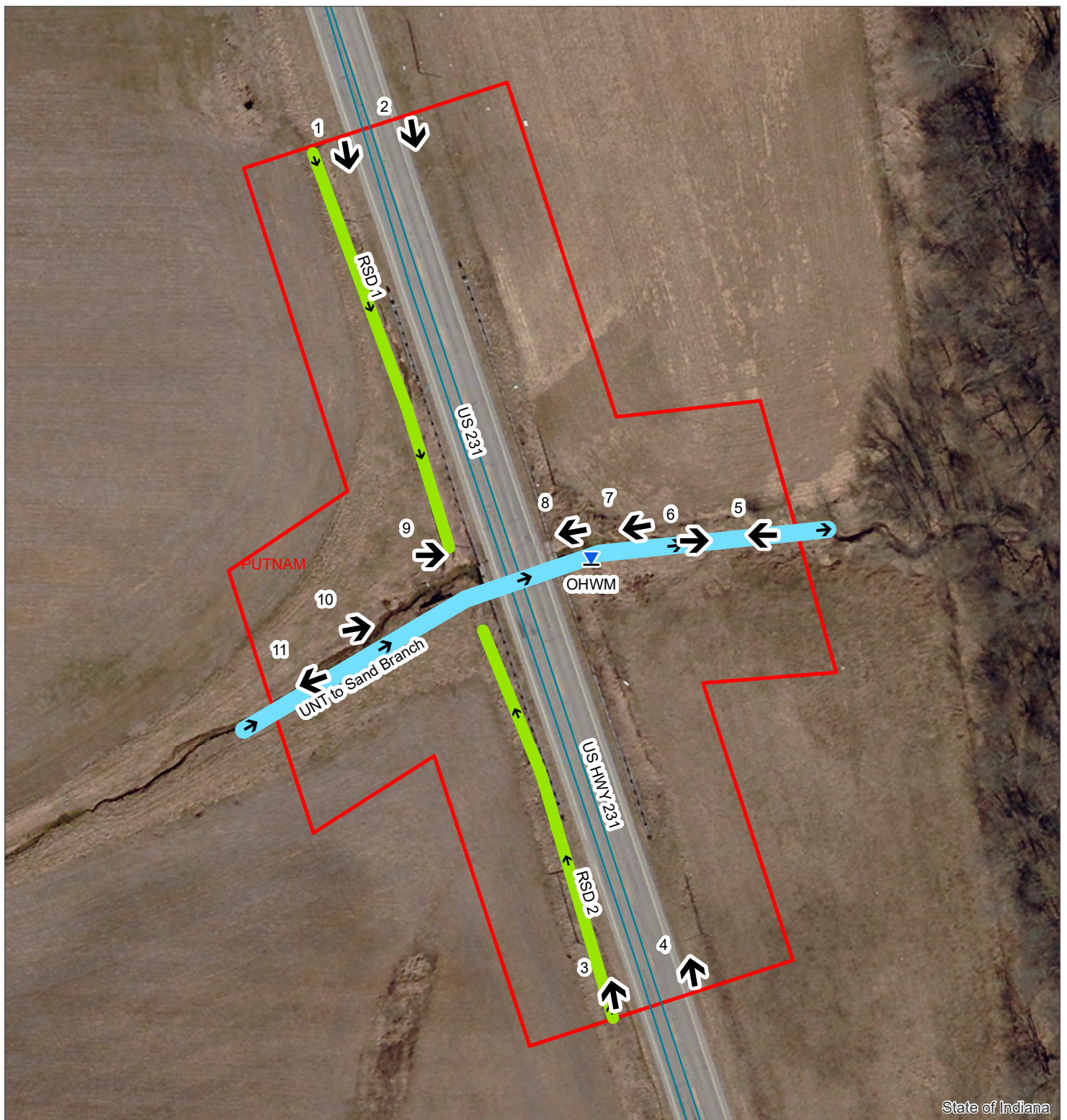


Legend

- Investigated Area
- ↗ UNT to Sand Branch
- ↗ Roadside Ditch
- ▼ Ordinary High-Water Mark

Water Resources Map
 Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151

F-15
 September 28, 2021



State of Indiana



Source: U.S. Geological Survey

1:900

1 in = 75 ft



Legend

- Investigated Area
- ▶ Ordinary High-Water Mark
- ↔ UNT to Sand Branch
- ↔ Roadside Ditch
- ➔ Photos

Photo Location and Orientation Map

Author: Aimee Cooper
 Small Structure Replacement
 US 231 over UNT to Sand Branch
 Putnam County, Indiana
 Des. No. 1800151



**Photo 1: Looking south at US 231 from the northwest side with a view of ROW.
Agricultural fields on side of road.**



**Photo 2: Looking south at US 231 from the northeast side with a view of ROW.
Agricultural fields on side of road.**



**Photo 3: Looking north at US 231 from the southwest side with a view of ROW.
Agricultural fields on side of road.**



**Photo 4: Looking north at US 231 from the southeast side with a view of ROW.
Agricultural fields on side of road.**



Photo 5: Looking west at UNT to Sand Branch.



Photo 6: Looking east at UNT to Sand Branch.



Photo 7: Looking west at UNT to Sand Branch with a view of the east side of the project small structure.



Photo 8: Looking west at UNT to Sand Branch with a view of the east side of the project small structure.

OWHM:
 Latitude: 39.480412,
 Longitude: -86.782957
 Width 4 feet, Depth 2.5 feet



Photo 9: Looking east at UNT to Sand Branch with a view of the west side of the project small structure.



Photo 10: Looking east at UNT to Sand Branch.



Photo 11: Looking west at UNT to Sand Branch.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**BACKGROUND INFORMATION****A. REPORT COMPLETION DATE FOR PJD:** July 22, 2021**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:** Brian Shaw, BLN, 8320 Craig St. Indianapolis, IN 46250**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:****D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:****(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: IN County/parish/borough: Putnam City: Cloverdale

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

Lat.: 39.480379 Long.: -86.783068

Universal Transverse Mercator:

Name of nearest waterbody: UNT to Sand Branch

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):☐ Office (Desk) Determination. Date:☐ Field Determination. Date(s):**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 Sand Branch	39.480379	-86.783068	305 lin. ft.	non-wetland waters	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: A-1 - A-10 and B-1, Ground Level Photos.
- ☐ 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: (A-2) 10,000x and (A-3) 2,500x Norman Quad.
- ☒ Natural Resources Conservation Service Soil Survey. Citation: (A-7) NRCS, USDA, UITS, Indiana Spatial Data Portal.
- ☒ National wetlands inventory map(s). Cite name: (A-5) USFWS, USDA, UITS, Indiana Spatial Data Portal.
- ☐ State/local wetland inventory map(s): _____.
- ☒ FEMA/FIRM maps: (A-8) FEMA, USDA, UITS, Indiana Spatial Data Portal.
- ☐ 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): (A-4) Indiana MAP, USDA, UITS, Indiana Spatial Data Portal, December 15,2020.
or ☒ Other (Name & Date): BLN Staff, in the field October 13, 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.

Signature and date of
Regulatory staff member
completing PJD

Brian Shaw

Digitally signed by Brian Shaw
Date: 2021.09.21 13:26:16 -04'00'

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

NOTICE OF SURVEY
July 15, 2019

Cash Family Living Trust
12004 S. US 231
Cloverdale, IN 46120

Re: Cloverdale, IN
US 231 Small Structure
Des # 1800151

Dear Property Owner:

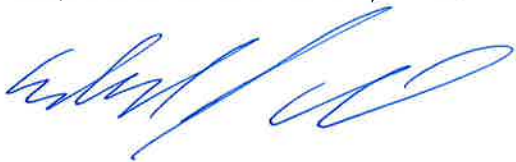
Our information indicates that you own or occupy property near this proposed small structure project. Our employees will be doing a survey of the project area in the near future. It may be necessary for them to come onto your property to complete this work. This is permitted by law per Indiana Code IC 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 let us know the name and address of the new owner or current occupant so we can contact them about the survey.

At this stage, we generally do not know what effect, if any, our project may eventually have on your property. If it is determined that your property is involved, you will be contacted with additional information.

The survey work will include mapping the location of features such as trees, buildings, fences, roadways and drives, and obtaining ground elevations. The survey is needed for the proper planning and design of this small structure project. Please be assured of our sincere desire to cause you as little inconvenience as possible during this survey. If any problems do occur, please speak to our field crew or contact me at the telephone number or address shown above.

Sincerely,

BEAM, LONGEST AND NEFF, L.L.C.



Edward J. Sweetland, P.L.S.
Survey Manager

xc: 190016

Appendix H:

Air Quality

Indiana Department of Transportation (INDOT)
State Preservation and Local Initiated Projects FY 2020 - 2024

SPONSOR	CONTR ACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	LOCATION	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2020	2021	2022	2023	2024
Greencastle	40875 / 1800238	M 33	ST 1016	Road Reconstruction (3R/4R Standards)	Locust Street from Franklin Street to Seminary Street	Crawfordsville	.2	STBG	\$1,938,613.00	Local Funds	RW	\$0.00	-\$1,244.00		(\$12,000.00)	\$10,756.00		
										Group III Program	RW	-\$4,976.00	\$0.00		(\$48,000.00)	\$43,024.00		
Comments:NO MPO please remove RW funds from FY 21 and add 53,780 to RW in FY 22																		
Indiana Department of Transportation	40970 / 1800406	Init.	I 70	Small Structure Pipe Lining	3.73 mi E of US 231	Crawfordsville	0	NHPP		Bridge Construction	CN	\$1,223,400.60	\$135,933.40		\$1,359,334.00			
										Bridge ROW	RW	\$22,500.00	\$2,500.00	\$25,000.00				
Performance Measure Impacted: Safety																		
Indiana Department of Transportation	41292 / 1400238	Init.	I 70	Small Structure Pipe Lining	3.32 mi E of US 231, EBL	Crawfordsville	0	NHPP		Bridge Construction	CN	\$253,425.60	\$28,158.40		\$281,584.00			
Performance Measure Impacted: Safety																		
Indiana Department of Transportation	41328 / 1592845	Init.	I 70	Replace Superstructure	I70 EB over US 231, 4.02 mi E SR 243, EBL	Crawfordsville	0	NHPP		Bridge Construction	CN	\$6,322,422.60	\$702,491.40	\$7,024,914.00				
Performance Measure Impacted: Bridge Condition																		
Indiana Department of Transportation	41589 / 1800074	Init.	US 231	Bridge Replacement, Other Construction	over Doe Creek; 0.33 mi N of SR 42	Crawfordsville	0	NHPP		Bridge Construction	CN	\$2,134,264.00	\$533,566.00				\$2,667,830.00	
Indiana Department of Transportation	41589 / 1800074	A 27	US 231	Bridge Replacement	over Doe Creek; 0.33 mi N of SR 42	Crawfordsville	0	STBG	\$2,299,548.00	Bridge Consulting	PE	\$16,000.00	\$4,000.00		\$20,000.00			
Performance Measure Impacted: Bridge Condition																		
Comments:Add PE phase for \$20,000 FY21, No MPO																		
Indiana Department of Transportation	41589 / 1800074	A 34	US 231	Bridge Replacement	over Doe Creek; 0.33 mi N of SR 42	Crawfordsville	0	STBG	\$2,299,548.00	Bridge ROW	RW	\$8,000.00	\$2,000.00			\$10,000.00		
Performance Measure Impacted: Bridge Condition																		
Comments:Add ROW phase \$10,000 for FY22, No MPO, AQC NA																		
Indiana Department of Transportation	41589 / 1800151	A 34	US 231	Small Structure Replacement	1.45 mi S of SR 42	Crawfordsville	0	STBG	\$415,782.00	Bridge ROW	RW	\$8,000.00	\$2,000.00			\$10,000.00		
Performance Measure Impacted: Bridge Condition																		
Comments:Add ROW phase \$10,000 FY22, No MPO, AQC NA																		
Indiana Department of Transportation	41592 / 1800115	A 34	SR 236	Small Structure Pipe Lining	2.42 mi W of US 231 W jct	Crawfordsville	0	STBG	\$180,683.00	Bridge ROW	RW	\$4,000.00	\$1,000.00				\$5,000.00	
Performance Measure Impacted: Safety																		
Comments:Add ROW phase for \$5,000 FY23, AQC NA, No MPO																		
Indiana Department of Transportation	41612 / 1800190	Init.	SR 240	HMA Overlay Minor Structural	From 1.68 mi E of US 231 (India napolis Rd) to 4.17 mi E of US 231	Crawfordsville	2.477	STBG		Road Construction	CN	\$2,104,103.20	\$526,025.80				\$2,630,129.00	

*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 ▼
1800070	1800070B	Putnam	Lieber State Recreation Area
1800118	1800118D	Putnam	Lieber State Recreation Area
1800171	1800171S	Putnam	Lieber State Recreation Area
1800263	1800263	Putnam	Robe-Ann Park
1800312	1800312F	Putnam	Lieber State Recreation Area
1800323	1800323	Putnam	Lieber SRA & Cagles Mill Lake
1800363	1800363O	Putnam	Lieber State Recreation Area
1800364	1800364B	Putnam	Big Walnut Nature Preserve
1800375	1800375C	Putnam	Lieber State Recreation Area
1800405	1800405D	Putnam	Big Walnut Nature Preserve
1800413	1800413E	Putnam	Lieber State Recreation Area
1800557	1800557	Putnam	Big Walnut Sports Park
1800578	1800578	Putnam	Big Walnut Community Park
1800582	1800582	Putnam	Robe-Ann Park

*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.

From: [Mcgill, Justus](#)
To: [Kristin Wing](#)
Cc: [Rehder, Crystal](#); [Miller, Jessica](#)
Subject: RE: Des 1800151 US 231 Small Structure Project - Karst Area
Date: Friday, November 12, 2021 8:47:12 AM
Attachments: [image001.png](#)
[108_USP_DISCOVERY OF KARST FEATURES.docx](#)

EXTERNAL EMAIL

Hello Kristin,

Des 1800151 is located on US 231, 1.45 miles South of SR 42 in Putnam County of the Indiana karst region. The proposed work includes replacing the existing small structure, an 12' x 6' slabtop over UNT to Sand Branch with a 15' x 6' single span precast reinforced concrete box. The project will likely involve scour protection, regrading of the slopes, and minor amount of excavation on the west and east side of the project area. The project area is not located within a sinking-stream basin polygon. No mapped karst springs, cave entrance, or sinkholes have been documented with a 0.5 miles radius of the project (closest mapped karst feature is approx. 2.1 miles away).

At this time, EWPO does not recommend that a karst report be complete at this time. The project is limited to a small structure replacement with minimal excavation of already disturbed soils. All excavation will be located within pre-disturbed areas of a agricultural area and/or INDOT ROW. EWPO does advise that the attached karst USP be included into the commitments database for this project (see attached). Contact EWPO if there is changes to the proejct scope.

Please let me know if you have any questions regarding this information.

Justus McGill

Ecology and Waterway Permitting Office (Crawfordsville District)
100 N Senate Ave. Indianapolis, IN 46204
Office: (317)-509-7296
Office Hours: Mon to Fri 6:30am to 2:30pm.
Email: jmcgill@indot.in.gov



From: Kristin Wing <kwing@b-l-n.com>
Sent: Wednesday, October 27, 2021 3:11 PM
To: McGill, Justus <JMcgill@indot.IN.gov>
Subject: Des 1800151 US 231 Small Structure Project - Karst Area

****** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. ******

Justus,

I recently submitted an IPaC request to Zane and he informed me that you had asked for consultants

to contact you if a project is in a karst area. I marked this project as being in a karst area based on the latest karst map provided in the July 2021 guidance, and while there are not any karst features mapped in the project area there are some located north and west of the project area in Cloverdale, IN. I've attached a map showing the project area in relation to those karst features. Please let me know what else you'll need from me on this.

Thank you,

KRISTIN WING

Environmental Analyst

o: 317.849.5832

B-L-N.com

BEAM, LONGEST and NEFF

A Tradition of Excellence Since 1945

Culvert Inspection Report

CV 231-067-137.53

US 231
over



Inspection Date: 07/12/2021

Inspected By: Melvin Hughes

Inspection Type(s): Culvert

Large Culvert Inspection Report

(8) Asset Code:	93001345	(27) Year Built:	0000
Asset Name:	CV 231-067-137.53	(90) Inspection Date:	07/12/2021
OLD Culvert ID:	231-67-137.53	(91) Inspection Frequency:	12
Team Assignment:	01	☐ Additional Treatment Exists	

Identification

(2) Highway Agency District:	01	(3) County Code:	067
Sub District:	1500	Ramp ID:	
(42B) Type of Service (Under):	5	☐ Adjacent to Roadway	
(7) Facility Carried:	US 231	(6) Features Intersected:	
(9) Location:	1.45 S SR 42	(9.01) Location Additional Description:	
(11) Milepoint:	137.53	(16) Latitude:	39.48039
		(17) Longitude:	-86.78308
Classification:			
(104) Highway System of the Inventory Route:	1	(26) Functional Classification of Inventory Route:	02

Geometric Data

Culvert: Kind of Material:	1. Concrete	Culvert: Type of Structure:	1. Slab	Min Est Fill Cover (ft):	1.00
Culvert: Max. Horizontal Opening (ft.):	12.00	Culvert: Max. Vertical Opening (ft.):	5.00	(34) Skew:	0
Barrel Length (ft.):	39.00	Original Culvert Shape:	Box		

Measurement Remarks: From Culvert Chart

Structure Additional Description: Concrete Slabtop 12' x 6' Slabtop with PCCB extensions

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:	1
(36B) Transitions:	N	(36D) Approach Guardrail Ends:	1

Culvert:

(62) Culvert - Rating:	4
------------------------	---

(62) Culvert Rating Comments:	<i>Adjusted overall rating to '4' based on core of slab that indicates it is crumbled with poor strength (NP 5/23/2016). The timber wing walls have crushed pier caps that the PCCB's are resting on. The original copings have spalling with exposed rebar. No change from last inspection.</i>
-------------------------------	--

Deck:

(58) Deck:	4
------------	---

(58a) Deck Comments:	<i>Adjusted overall rating to '4' based on core of slab that indicates it is crumbled with poor strength (NP 5/23/2016).</i>
----------------------	--

Superstructure:

(59) Superstructure:	4
----------------------	---

(59.01) Superstructure Comments:	<i>The slab has moderate cracking with efflorescence. Both copings are spalled with exposed rebar. The PCCB's under the shoulders have cracking and efflorescence.</i>
----------------------------------	--

Substructure:

(60) Substructure:	3
--------------------	---

(60.01) Substructure Comments:	<i>The timber wing walls have crushed & rotten pier caps. northeast wing all has a pile that is rotten. concrete abutments have cracking with efflorescence</i>
--------------------------------	---

CV-Headwall/Anchor Rating	N
---------------------------	---

CV-Wingwalls Rating	3
---------------------	---

Channel:

(61) Channel and Channel Protection:	6
--------------------------------------	---

(61.01) Channel and Channel Protection Comments:	<i>There is channel scour at the west end of the structure. the bottom of the channel is very soft. the channel runs from the west towards the east. Good alignment to the culvert.</i>
--	---

Bank Erosion Rating:	7
----------------------	---

Drift/Sediment Rating	7
-----------------------	---

Channel Alignment Rating	7
--------------------------	---

☐ Check this box if culvert has OBSTRUCTED flow

Describe Obstruction:

Overtopping Frequency:	1
------------------------	---

Overtopping Frequency Comments:

Table: Minority and Low-Income Data (US Census, 2017)		
	COC - Putnam County	AC - Census Tract 9565
Percent Minority	8%	2%
125% of COC	10%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	12%	10%
125% of COC	15%	AC < 125% COC
EJ Population of Concern		No

An official website of the United States government [Here's how you know](#)

United States Census Bureau

B03002: HISPANIC OR LATINO ORIGIN BY RACE

Advanced Search

All **Tables** Maps Pages

American Community Survey

B03002 | HISPANIC OR LATINO ORIGIN BY RACE

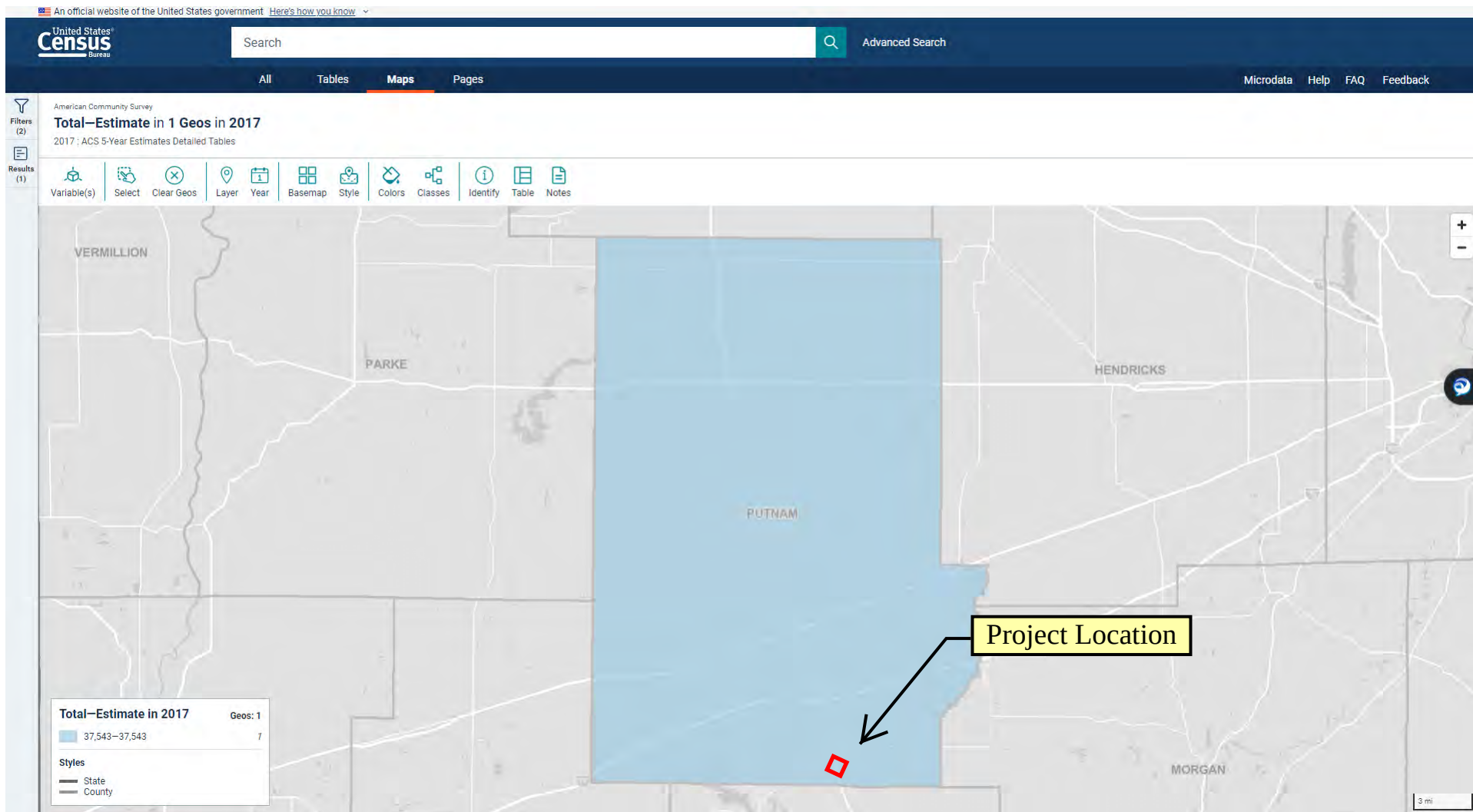
Universe: Total population

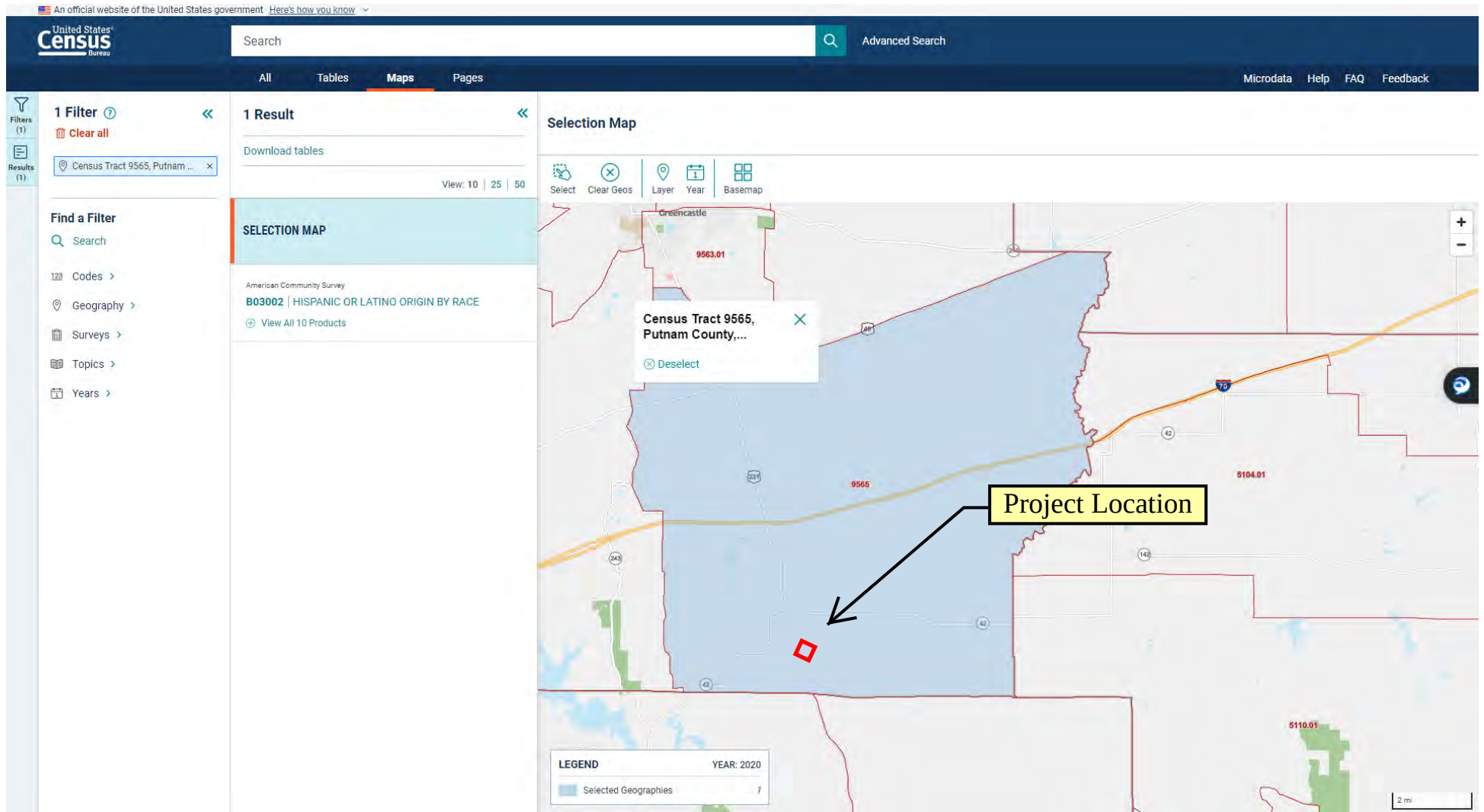
Filters (4)

Results (1)

Notes 2 Geos 1 Year Topics Surveys Codes 123 Hide Transpose Margin of Error Restore Excel Download Print More Data Map

	Putnam County, Indiana		Census Tract 9565, Putnam County, Indiana	
Label	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	37,543	*****	5,522	±330
▼ Not Hispanic or Latino:	36,589	±137	5,473	±327
White alone	34,487	±44	5,398	±335
Black or African American alone	1,149	±127	2	±5
American Indian and Alaska Native alone	73	±48	35	±34
Asian alone	380	±56	0	±16
Native Hawaiian and Other Pacific Islander alone	10	±17	0	±16
Some other race alone	10	±9	0	±16
➤ Two or more races:	480	±162	38	±44
➤ Hispanic or Latino:	954	±137	49	±46





American Community Survey

B17001 | POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

Universe: Population for whom poverty status is determined

Notes
 2 Geos
 1 Year
 Topics
 Surveys
 Codes
 Hide
 Transpose
 Margin of Error
 Restore
 Excel
 Download
 Print
 More Data
 Map

	Putnam County, Indiana		Census Tract 9565, Putnam County, Indiana	
Label	Estimate		Margin of Error	
▼ Total:	31,918	±318	5,479	±331
▼ Income in the past 12 months below poverty level:	3,696	±668	549	±302
➤ Male:	1,480	±353	239	±145
➤ Female:	2,216	±405	310	±185
➤ Income in the past 12 months at or above poverty level:	28,222	±723	4,930	±356

