

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

Road No./County:	State Road (SR) 56 / Ohio County
Designation Number(s):	DES 1802982
Project Description/Termini:	Large Culvert Replacement, 2.35 miles east of SR 262

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

_____	_____
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: _____

Name and Organization of CE/EA Preparer: _____ Sawyer Patrick, SJCA Inc.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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.**

Does the project have a historic bridge processed under the Historic Bridges PA*?	Yes	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If No, then:		
Opportunity for a Public Hearing Required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**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 Survey letters were mailed to potentially affected property owners near the project area on September 4, 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-1 through G-2.

The project will meet 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 comment 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.

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

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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

Sponsor of the Project: INDOT INDOT District: Seymour

Local Name of the Facility: SR 56 over Buck Run

Funding Source (mark all that apply): Federal [X] State [X] 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 need for this project lies in the deteriorating condition of the existing large culvert. According to the May 2017 INDOT Large Culvert Inspection Report, the culvert has an overall rating of 4 of 9 (poor), the barrel/box has a rating of 4 of 9 (poor), and the wingwalls has a rating of 4 of 9 (poor) (Appendix I-11).

Purpose:

The purpose of the project is to provide a structure that achieves an overall rating of 7 out of 9 (good) or better and maintains the current uses of the existing structure (e.g., hydraulics, cattle crossing).

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Ohio Municipality: N/A

Limits of Proposed Work: Approximately 250 feet north of structure to approximately 215 feet south of the structure

Total Work Length: 0.101 Mile(s) Total Work Area: 1.12 Acre(s)

Is an Interstate Access Document (IAD)1 required?

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

Yes1 No X Date:

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.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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 located in the eastern portion of Ohio County, north of the town of Rising Sun, 2.35 miles east of SR 262. Specifically, the project is in Section 26, Township 4 North, Range 1 West. The incidental construction limits for asphalt placement are approximately 250 feet north of project structure to approximately 215 feet south of the project structure. Approximately 68 feet will be utilized for the construction of the culvert. This project will be approximately 0.101 miles long. Project location graphics are included in Appendix B-1 through B-3.

Existing Conditions:

The existing SR 56 roadway is classified as a rural minor arterial. The existing roadway is 26 feet wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of two 12-foot travel lanes with 2-foot usable shoulders, 1 foot of which is paved. The posted speed limit at the project location is 55 miles per hour (mph). The existing structure, CV 056-058-187.65, carries Buck Creek under SR 56 and is used as a cattle crossing by the adjoining land owner. The structure is a precast concrete slab top widened with one concrete beam on each side that is 33-foot long, with a 10-foot span and a 6-foot rise. The structure has a zero-degree skew. According to the May 2017 INDOT Large Culvert Inspection Report, the culvert has an overall rating of 4 of 9 (poor), the barrel/box has a rating of 4 of 9 (poor), and the wingwalls has a rating of 4 of 9 (poor) (Appendix I-11).

The surrounding area is flat to rolling and consists primarily of agricultural pastureland and sparse residences. The project location has cattle pasture on either side of SR 56 and the landowner uses the project culvert as a cattle crossing. Overhead power lines are located within and adjacent to the project area.

Preferred Alternative:

The preferred alternative is to replace the existing structure with a 46-foot long, 10-foot by 9-foot three-sided flat top precast concrete structure with wingwalls sumped 6 inches. The new structure will have a zero-degree skew. Class I riprap on geotextile will be placed at the structure's inlet and an articulating concrete block mat will be used through the span of the structure and at the outlet to facilitate the safe passage of cattle on a vegetated bottom. The proposed typical cross section through the project limits shall include two 12-foot travel lanes with 4-foot usable shoulders, where guardrail exists traveling northwest, and 3-foot usable shoulders where guardrail does not exist, traveling southeast. The preferred structure matches the hydraulic performance of the existing structure. Roadside ditches will be maintained or graded to facilitate drainage to the culvert. The parts of the existing cattle fence, along SR 56, that are within proposed ROW, will be removed as a part of the ROW acquisition.

Maintenance of traffic (MOT) is anticipated to be a complete closure of SR 56 with an official detour utilizing US 50 and SR 129. The cattle crossing will also be closed during construction. Therefore, livestock controls have been incorporated into the MOT costs and will consist of temporary fencing that will keep livestock out of the construction area.

This alternative meets the purpose and need by providing a structure that achieves a rating of 7 out of 9 and maintains the existing hydraulic efficiency and structure use as a cattle crossing. Overhead utility lines on the east side of SR 56 will be relocated.

Project termini allow for construction equipment to access the structure for replacement and for grading of roadside ditches. The project has independent utility because it does not rely on another project to meet the purpose and need. Therefore, the project has logical termini and independent utility.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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.

Reinforced Concrete Box Culvert:

This alternative would replace the existing structure with an 11-foot by 10-foot reinforced concrete box structure sumped 6 inches, with class I riprap placed at the outlet. While this alternative met the purpose and need, it was more expensive than the preferred alternative. Therefore, it was discarded from further consideration.

Three-sided Arch Top Culvert:

This alternative would replace the existing structure with a 12-foot by 9-foot three-sided arch top structure sumped 12 inches, with revetment riprap placed at the outlet. While this alternative met the purpose and need, it was more expensive than the preferred alternative. Therefore, it was discarded from further consideration.

Do Nothing:

This alternate would allow the existing roadway and structure to remain in place with no improvements, which would not correct the existing deteriorated conditions. This alternative does not meet the purpose and need of the project. Therefore, it was discarded from further consideration.

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>SR 56</u>			
Functional Classification:	<u>Rural Minor Arterial</u>			
Current ADT:	<u>5,931</u>	VPD (2023)	Design Year ADT:	<u>6,123</u>
Design Hour Volume (DHV):	<u>28</u>	Truck Percentage (%)		<u>3.93%</u>
Designed Speed (mph):	<u>55</u>	Legal Speed (mph):		<u>55</u>
		VPD (2043)		

	Existing	Proposed
Number of Lanes:	2	2
Type of Lanes:	HMA overlay on concrete	HMA overlay on concrete
Pavement Width:	24 ft.	24 ft.
Shoulder Width:	3 ft.	The eastbound shoulder will be 3 feet. The westbound shoulder will be 4 feet
Median Width:	N/A ft.	N/A ft.
Sidewalk Width:	N/A ft.	N/A ft.

Setting:	<input type="checkbox"/> Urban	<input type="checkbox"/> Suburban	<input checked="" type="checkbox"/> Rural
Topography:	<input type="checkbox"/> Level	<input checked="" type="checkbox"/> Rolling	<input type="checkbox"/> Hilly

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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 056-058-187.65 Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing	Proposed	
Bridge/Structure Type:	10x6 foot precast concrete three-sided flat top structure	10x6 foot precast concrete three-sided flat top structure	
Number of Spans:	1	1	
Weight Restrictions:	N/A	N/A	ton
Height Restrictions:	N/A	N/A	ft.
Curb to Curb Width:	N/A	N/A	ft.
Outside to Outside Width:	30	46	ft.
Shoulder Width:	2	The eastbound shoulder will be 3 feet. The westbound shoulder will be 4 feet	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.

Structure No. CV 056-058-187.65 is a 33 foot long, ten (10) foot span by six (6) foot high precast concrete slab top widened with one concrete beam on each side that carries SR 56 over Buck Run. The structure currently serves as a cattle crossing. No other bridges or small structures are located in the project area.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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 MOT for the project will require a full closure of SR 56 with a detour that will utilize US 50 and SR 129. The detour length is approximately 48 miles, with 15 minutes of additional travel, and is anticipated to last for 30 days. This detour route was chosen over SR 262 to facilitate the truck traffic in the area. Barricades with "Road Closed" signs will be placed on each side of the project location and roadside signs and barricades, indicating the closure and detour, will be used prior to the project location to reduce traffic in the area. Access for local businesses and residences will be maintained throughout construction. See Appendix B-10 through B-11 for detailed MOT plans.

The closure will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 175,000 (2020) Right-of-Way: \$ 40,000 (2023) Construction: \$ 766,074 (2024)

Anticipated Start Date of Construction: Spring 2022

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.080	0.000
Commercial	0.000	0.000
Agricultural (pasture)	0.654	0.000
Forest	0.000	0.000
Wetlands	0.000	0.000
Other:	0.000	0.000
Other:	0.000	0.000
TOTAL	0.734	0.000

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 ROW limits on SR 56 are assumed to be at the edge of pavement, approximately 14 feet from the center line, in both directions of travel at the project location. The land surrounding the project area is mainly agricultural with sparse residences. There are cattle pastures on both side of SR 56 in the project area. The project culvert serves as a cattle crossing under SR 56. 0.734 acre of permanent ROW is necessary for the proposed project, 0.080 acre coming from residential land in the southeast quadrant of the project area, and 0.654 acre coming from agricultural land, in the form of cattle pasture, along both sides of SR 56 and at the location of the project culvert. Maximum ROW will be 35 feet, from the edge of pavement, approaching the project structure. Maximum ROW will be 60 feet west of the project structure and 70 feet east of the project structure.

The project will require approximately 0.734 acre of permanent ROW for construction equipment to have access to replace the structure and ditch grading. No temporary ROW acquisition is anticipated. Note: the early coordination letter and USFWS concurrence letter and species list in Appendix C state that 0.84 acre of permanent ROW will be required, and the Minor Projects Programmatic Agreement (MPPA) determination in Appendix D states that 0.85 acre will be required. The estimate was adjusted after the submission of these documents to 0.734 acre.

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

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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.

An early coordination letter was sent to regulatory agencies on November 10, 2020. Refer to Appendix C-1 to C-3.

Agency	Response Date
Federal Highway Administration (FHWA)- Seymour District	No Response Received
Indiana Department of Natural Resources (IDNR)	December 9, 2020
Indiana Geological and Water Survey (IGWS)- Online Submission	November 11, 2020
Indiana Department of Transportation (INDOT)- Project Manager	No Response Received
National Parks Service	No Response Received
US Department of Housing and Urban Development	No Response Received
INDOT- Seymour District	No Response Received
US Fish and Wildlife Services (USFWS)	December 8, 2020
US Army Corps of Engineers (USACE)	No Response Received
Ohio County Surveyor	November 24, 2020
Natural Resources Conservation Service (NRCS)	July 27, 2021
Rising Sun Ohio County Community School Corp	No Response Received
Ohio County Highway Department	No Response Received
Rising Sun City Council	No Response Received
Indiana Department of Environmental Management (IDEM)- Online Submission	November 11, 2020

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

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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
X
X
X

Impacts

Yes	No
X	
	X
	X
	X
	X
	X

Total stream(s) in project area: 140 Linear feet Total impacted stream(s): 120 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)
Buck Run	Intermittent Stream	140 linear feet	120 linear feet	Due to the presence of an ordinary high water mark (OHWM) and eventual connectivity to the Ohio River, Buck Run is likely a Waters of the U.S.

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.

Based on the desktop review, a site visit on October 8, 2020 by SJCA Inc., the aerial map of the project area, and the RFI report (Appendix E-2) there are 11 streams, rivers, watercourse or other jurisdictional features within the 0.5 mile search radius. There is one stream, river, watercourse, or jurisdictional ditch present within or adjacent to 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 the project area.

The stream found within the project area is known as Buck Run and is classified as an intermittent stream. Buck Run shows up as a solid blue-line water feature on the USGS Topographic Map and the National Wetlands Inventory (NWI) map within the investigated area. Approximately 140 linear feet of this tributary is within the project area. The stream has a bank full width of approximately 11.5 ft and is characterized by a silt substrate with low flow at the time of investigation and an ordinary high water mark (OHWM) of 8 feet wide and approximately 5 inches deep. The stream has high sinuosity and no riffle/run complexes. The quality of the stream is rated poor due to no stream coverage, low vegetation, high sinuosity, and intermittent flow conditions. Buck Run receives drainage from the runoff from SR 56 and surrounding hills.

The project will permanently impact 120 linear feet (LFT) of Buck Run in order to replace the culvert and place an erosion control mat. The project will also have 66 LFT of temporary stream impacts: 42 LFT to the southwest of the culvert and 24 LFT northeast of the culvert will be impacted for access to the structure (Appendix B-12). Total stream impact avoidance is not practicable because access to the structure is necessary for replacement and to meet the purpose and need of the project. Permits from the IDEM and USACE are anticipated. Mitigation is not anticipated.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* was INDOT Ecology and Waterway Permitting Office approved on December 9, 2020. Please refer to Appendix F-1 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined the stream runs northeast under SR 56, and then eventually towards the Ohio River. The Ohio River is a navigable waterway and jurisdictional under the USACE. Due to the presence of an OHWM and eventual connectivity to the Ohio River, Buck Run is likely a Waters of the U.S. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

IDEM's automated response letter dated November 11, 2020 gave permit recommendations, recommended limiting the disturbance of the stream and riparian vegetation be limited to that which is necessary to complete the project obtaining proper waterway permits (Appendix C-7 through C-14). The IDNR responded on December 9, 2020 with recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and to compensate for impacts; culvert design recommendations that would allow wildlife movement under the roadway to reduce wildlife/ vehicle collisions were given;

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

revegetating all bare and disturbed areas that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Southeastern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; riprap must not be placed in the active channel or in a manner that preclude fish or aquatic organism passage and may only be placed at the toe of the side slopes up to the OHWM; not to work in the waterway from April 1 to September 30; not to operate equipment used to replace the structure from the existing roadway (Appendix C-18 through C-20). USFWS responded on December 8, 2020 with recommendations not to clear vegetation outside of the project limits and to minimize impacts within the project area to that which is necessary, to revegetate disturbed areas upon project completion, recommendations to the open bottom culvert substrate, minimize the use of riprap, and to avoid work in the inundated part of the stream channel during fish spawning season (Appendix C-16 through C-17). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

Open Water Feature(s)	Presence	Impacts	
		Yes	No
Reservoirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lakes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retention/Detention Basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water Management Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E-2) there are 2 (two) lakes within the 0.5 mile search radius. The nearest lake is located 0.18 mile west of the project area. No open water features were identified within or adjacent to the project area; that number was confirmed during a site visit on October 8, 2020 by SJCA Inc and the *Waters of the U.S. Determination / Wetland Delineation Report* (Appendix F-8). Therefore, no impacts are expected.

Wetlands	Presence	Impacts	
		Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Total wetland area: 0.0 Acre(s) Total wetland area impacted: 0.0 Acre(s)

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

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

Wetlands (Mark all that apply)	Documentation	ESD Approval Dates
Wetland Determination	<input checked="" type="checkbox"/>	January 14, 2021
Wetland Delineation	<input type="checkbox"/>	<input type="checkbox"/>
USACE Isolated Waters Determination	<input type="checkbox"/>	<input type="checkbox"/>

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

- 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.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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.

Based on a review of the NWI online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), a site visit on October 8, 2020 by SJCA Inc., the USGS topographic map (Appendix B-2), and the RFI report (Appendix E-2), 31 wetlands are located within the 0.5 mile search radius. No wetlands are present within or adjacent to the project area; therefore, no impacts are expected.

Waters Report

A *Waters of the U.S. Determination / Wetland Delineation Report* was INDOT Ecology and Waterway Permitting Office approved on December 9, 2020. Please refer to Appendix F-1 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no wetlands are present within the project area. The USACE makes all final determinations regarding jurisdiction.

IDEM's November 11, 2020 early coordination automated response letter gave permit recommendations if wetlands are found in the project area (Appendix C-7 to C-14). The December 9, 2020 response from IDNR gave permit recommendations if wetlands are found within the project area and recommended no excavating or placing fill in any riparian wetland (Appendix C-19 to C-20). All applicable recommendations are included in the Environmental Commitments section of this CE document.

Terrestrial Habitat

Presence

Impacts

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total terrestrial habitat in project area: 0.50 Acre(s) Total tree clearing: 0.14 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.

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc and the aerial map of the project area (Appendix B-3), vegetation throughout the project area consists primarily of *Trifolium repens* (white clover), *Plantago major* (Common plantain), *Poa pratensis* (Kentucky bluegrass), *Schedonorus arundinaceus* (tall fescue), and *Eleusine indica* (Indian goosegrass).

The project involves the replacement of an existing large culvert and will require approximately 0.50 acre of terrestrial disturbance and approximately 0.14 acre of tree removal to allow construction equipment access to remove and replace the existing large culvert. Therefore, avoidance is not practicable. Mitigation is not anticipated.

Early coordination letters were sent to IDEM, IDNR, and USFWS on November 10, 2020 (Appendix C-1 to C-3). The IDEM's automated response letter to early coordination recommended vegetation and large trees be limited to what is necessary to complete the project and gave permit recommendations (Appendix C-7 to C-14). The IDNR response dated December 9, 2020 and gave recommendations about the type of structure constructed; recommendations to revegetate all disturbed areas as soon as possible upon completion of construction; do not cut any trees suitable for Indiana bat or Northern Long-eared bat between April 1 through September 30; replace any non-wetland forest area removed at a 1:1 ratio (Appendix C-18 to C-20). The USFWS responded on December 8, 2020 with recommendations to avoid or minimize impacts to terrestrial habitat. These included recommendations to not clear trees or understory vegetation outside the construction zone boundaries and to implement temporary erosion control measures within areas of disturbed soil (Appendix C-16 to C-17).

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

Indiana Department of Transportation

County Ohio Route SR 56 Des. No. 1802982

Protected Species

Federally Listed Bats

	Yes	No
Information for Planning and Consultation (IPaC) determination key completed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section 7 informal consultation completed (IPaC cannot be completed)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 7 formal consultation Biological Assessment (BA) required	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Determination Received for Listed Bats from USFWS: NE NLAA LAA

Other Species not included in IPaC

	Yes	No
Additional federal species found in project area (based on IPaC species list)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
State species (not bird) found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Migratory Birds

	Yes	No
Known usage or presence of birds (i.e. nests)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State bird species based upon coordination with IDNR	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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), completed by SJCA Inc on March 30, 2021, the IDNR Ohio Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated December 9, 2020 (Appendix C-18), the Natural Heritage Program's Database has been checked and no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C-35 to C-40). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). Other species were found to be present within or adjacent to the project area along with the Indiana bat and northern long-eared bat. Refer to paragraph below.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. A culvert inspection occurred on October 8, 2020 and no signs or bats or guano were found in the structure. An effect determination key was completed on December 7, 2020, and based on the responses provided, the project was found to "not likely to adversely affect" the Indiana bat and/or the NLEB (Appendix C-21). INDOT reviewed and verified the effect finding on December 7, 2020 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) and/or commitments are included as firm commitments in the *Environmental Commitments* section of this document. These include restrictions on the use of temporary lighting and tree removal.

The official species list generated from IPaC indicated one other species present within the project area, the Running Buffalo Clover (*Trifolium stoloniferum*). The December 8, 2020 early coordination response from USFWS stated that the running buffalo clover occurs in mesic habitats of partial to filtered sunlight, including disturbed bottomland meadows, where there is a prolonged pattern of moderate periodic disturbance, such as mowing, trampling, or grazing. It is most often found in regions underlain with limestone or other calcareous bedrock. Due to the project site characteristics, the USFWS stated that it does not appear any running buffalo habitat will be impacted (Appendix C-16). Further coordination with USFWS is not required at this time.

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.

Indiana Department of Transportation

County Ohio Route SR 56 Des. No. 1802982

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
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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)

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc., the USGS topographic map of the project area (Appendix B-2), and the RFI report (Appendix E), the proposed project is located outside the designated karst area of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU) between INDOT, IDEM, and the USFWS. There are no karst features identified within the project area. In the November 11, 2020 early coordination response from the Indiana Geological and Water Survey (IGWS) geological concerns of high liquefaction potential, being in a floodway, and potential slope instability were reported, as well as a low potential for bedrock resources and a high potential for sand and gravel resources. There were no active or abandoned mineral resource extraction sites documented in the area (Appendix C-4 to C-6). These features will not be affected because the project involves replacement of an existing structure along the same alignment, with no extraction sites in the area.

This information was forwarded on November 11, 2020 to the project engineer during the design phase to address potential concerns. No impacts are expected.

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

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Impacts

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

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
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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.

Sole Source Aquifer

The proposed project is in Ohio 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/Environmental Protection Agency (EPA) Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. No impacts are expected.

Wellhead Protection Area and Source Water

The IDEM Wellhead Proximity Determinator Website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on November 24, 2020 by SJCA Inc. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

Water Wells

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on November 24, 2020 by SJCA Inc staff. No wells are located near this project. Therefore, no impacts are expected.

Urban Area Boundary

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by SJCA Inc staff on November 24, 2020, this project is not located in an Urbanized Area Boundary (UAB) location. No impacts are expected.

Public Water System

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc, the aerial map of the project area (Appendix B-3), and a review of the project plans in Appendix B-12, no public water systems were identified. Therefore, no impacts are expected.

	Presence	Impacts	
		Yes	No
Floodplains			
Project located within a regulated floodplain	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Longitudinal encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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.

Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmmaps.dnr.in.gov/appspshp/fdms/>) by SJCA Inc staff on November 24, 2020, and the RFI report, this project is located within a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F-13). Ohio County has no floodplain administrator; the acting floodplain administrator refers all projects to IDNR and state regulations. This project qualifies as a Category 4 per the current INDOT CE Manual, which states:

- Category 4 – “No homes are located within the base floodplain within 1,000 feet upstream and two homes are located within the base floodplain within 1,000 feet downstream. The proposed structure will have an effective capacity such that backwater surface elevations are not expected to substantially increase. As a result, there will be no substantial adverse impacts on natural and beneficial floodplain values; there will be no substantial change in flood risks; and there will be no substantial increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not substantial.”

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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*) 77

**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.

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc, the aerial map of the project area (Appendix B-3) the project area will convert 0.734 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on June 30, 2021, to Natural Resources Conservation Service (NRCS). Coordination with NRCS resulted in a score of 77 on the AD-1006 Form (Appendix C-43). 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.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

SECTION D – CULTURAL RESOURCES

Minor Projects PA	Category(ies) and Type(s) <input type="text" value="B-4, B-9"/>	INDOT Approval Date(s) <input type="text" value="March 31, 2021"/>	N/A <input type="text"/>
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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)		ESD Approval Date(s)	SHPO Approval Date(s)
APE, Eligibility and Effect Determination	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
800.11 Documentation	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Historic Properties Report or Short Report	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Archaeological Records Check and Assessment	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Archaeological Phase Ia Survey Report	<input checked="" type="checkbox"/>	<input type="text" value="March 31, 2021"/>	<input type="text" value="N/A"/>
Archaeological Phase Ic Survey Report	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Other:	<input type="text"/>	<input type="text"/>	<input type="text"/>

Memorandum of Agreement (MOA) **MOA Signature Dates** (List all signatories)

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.

On March 31, 2021 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category B, Types 4 and 9 under the Minor Projects Programmatic Agreement, (Appendix D-1).

Category B-4 involves the installation of new safety appurtenances, including but not limited to, guardrails, barriers, glare screens, and crash attenuators where work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource and work occurs in previously undisturbed soils that are not located within Nationally Registered archeological resources.

Category B-9 involves the installation, replacement, repair, lining, or extension of culverts and other drainage structure where work occurs in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT CRO determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area.

Due to work in undisturbed soils, an archaeological record check and Phase 1a reconnaissance survey of the project area was conducted by SJAC Inc, (Jackson 2021). The report did not find any evidence of archaeological deposits were identified and recommended that the project be allowed to proceed as planned. INDOT CRO concurred with the report (Appendix D-6). Therefore, there are no archaeological concerns. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (school, state/national forest, bikeway, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildlife and Waterfowl Refuges			
National Wildlife Refuge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Natural Landmark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Wildlife Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Nature Preserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic Properties			
Site eligible and/or listed on the NRHP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Evaluations</u>			
<u>Prepared</u>			
Programmatic Section 4(f)	<input type="checkbox"/>		
"De minimis" Impact	<input type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>		
Any exception included in 23 CFR 774.13	<input type="checkbox"/>		

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.

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

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc staff, the aerial map of the project area (Appendix B-3), and the RFI report (Appendix E-2) there are no 4(f) resources located within the 0.5 mile search radius. 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

Section 6(f) Property

Yes

No

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.

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

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) website at <https://www.lwcfcoalition.com/tools> revealed zero (0) properties in Ohio County. Therefore, there will be no impacts to 6(f) resources as a result of this project.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project

	Yes	No
Is the project in the most current STIP/TIP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project located in an MPO Area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the project in an air quality non-attainment or maintenance area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If Yes, then:		
Is the project in the most current MPO TIP?	<input type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input type="checkbox"/>	<input type="checkbox"/>
If No, then:		
Is the project in the Transportation Plan (TP)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Location in STIP: _____ Fiscal Year (FY) 2020-2024

Name of MPO (if applicable): _____ N/A

Location in TIP (if applicable): _____ N/A

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.

The FY 2020-2024 STIP is listed based on the lead DES number in the contract. The lead DES number for this contract is DES 1801046. The FY 2020-2024 STIP includes DES number DES 1802982 by reference with the contract number R-41524 (Appendix H-1)

This project is located in Ohio County, which is currently in attainment for all criteria pollutants according to Environmental Protection Agency (EPA) website (<https://www.epa.gov/green-book>). Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

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

SECTION G - NOISE

	Yes	No
Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Date Noise Analysis was approved/technically sufficient by INDOT ESD: _____

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.

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.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

This project will comply with the local and regional development patterns in the area. It is accurately reflected in the Indiana STIP. It will not have a substantial impact to community cohesion, or local tax bases and property values. Minor decreases in property value may occur for properties that will require ROW acquisition, but impacts are not expected to be substantial. The website www.fairsandfestivals.net was reviewed to determine if the project would impact any community fairs or festivals in the vicinity of the project area. While there are fairs and festivals that are planned within a 10-mile radius of the project area during the construction period, this project will not restrict access to facilities that host these events.

An online search did not find an Americans with Disabilities Act (ADA) transition plan for Ohio County. This project does not include sidewalks or curb improvements that are necessary for ADA compliance.

The November 24, 2020 response from the Ohio County Surveyor expressed concerns with the proposed replacement structure effecting the adjacent property owner's use of the span as a cattle crossing (Appendix C-14). The proposed replacement structure is designed with a vegetated bottom so it may continue to be used as a cattle crossing.

The parts of the existing fence, along SR 56, that are within proposed ROW will be removed as a part of the ROW acquisition. The property owner will be compensated for the cost of the new fence. Livestock controls during construction will consist of temporary fencing that will keep livestock out of the construction area. The crossing will need to be closed during construction.

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.

Based on a desktop review, a site visit on October 8, 2020 by SJCA Inc., the aerial map of the project area (Appendix B-3), and the RFI report (Appendix E-2), there are no facilities located within the 0.5 mile of the project. That number was confirmed by the site visit on October 10, 2020 by SJCA Inc. There are no public facilities within or adjacent to the project area; therefore, no impacts are expected. Access to all properties will be maintained during construction.

Indiana Department of Transportation

County Ohio Route SR 56 Des. No. 1802982

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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.

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 0.85 acre of ROW. 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). The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract is 9658. 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 2019 America Community Survey (ACS) 5- year Estimates was obtained from the US Census Bureau Website (<https://census.gov>) on May 6, 2021 by SJCA Inc. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table 1: Minority and Low- income Date 2019: ACS 5- year Estimates

	COC - Ohio County	AC – Census Tract 9658
Percent Minority	3.6%	2.9%
125% of COC	4.5%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	7.1%	3.6%
125% of COC	8.9%	AC < 125% COC
EJ Population of Concern		No

The AC, Census Tract 9658, has a percent minority of 2.9% which is below 50% and is below the 125% COC threshold. Therefore, AC does not contain minority populations of EJ concern.

The AC, Census Tract 6958, has a percent low-income of 3.6% which is below 50% and is below the 125% COC threshold. Therefore, AC does not contain low-income populations of EJ concern.

AC does not contain low-income or minority populations of EJ concern. Therefore, no further environmental justice analysis is warranted. The census data sheets, map, and calculations can be found in Appendix I-29 through I-36.

Relocation of People, Businesses or Farms

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

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Is a BIS or CSRS required?

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

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 of people, businesses, or farms will take place as a result of this project.

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

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 Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
- 2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
- 3) 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)
- 4) Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
- 5) Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
- 6) Tree Removal AMM 2: Apply time of year restrictions for tree removal (April 1 to September 30) when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and **outside of documented** roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS)
- 7) Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
- 8) Tree Removal AMM 4: Do not remove **documented** Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 miles of roosts, or **documented** foraging habitat any time of year. (USFWS)
- 9) USFWS Bridge/ Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after October 8, 2022, and inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for the presence of bats/bat indicator and /or presence of birds. The results of the inspection must indicate no sign of bats or birds. If signs of bats or birds are documented during this inspection the INDOT District Environmental manager must be contacted immediately. (INDOT ESD)

For Further Consideration:

- 10) Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. (USFWS)
- 11) Culverts should span the active stream channel, should be either embedded or a 3-sided or open arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community. (USFWS)
- 12) Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS)
- 13) Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS)
- 14) Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas

This is page 22 of 23 Project name: Small Structure Replacement SR 56 over Buck Run Date: August 27, 2021

Indiana Department of Transportation

County Ohio

Route SR 56

Des. No. 1802982

below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing. (USFWS)

- 15) If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the OHWM width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel. Bank lines should be restored within box and pipe structures to allow for wildlife passage above the ordinary highwater mark. (IDNR)
- 16) 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. (IDNR)
- 17) Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Eastern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (IDNR)

Table of Contents

	Page
Appendix A – INDOT Supporting Documentation	
CE Level Threshold Chart	A1
Appendix B – Graphics	
Project Location (State/ county) Map.....	B1
USGS Topographic Map	B2
Aerial Map	B3
Site Photographs	B4
Preliminary Plans	B7
Appendix C – Early Coordination	
Early Coordination Letter & Mailing List	C1
IGWS Auto Response Letter.....	C4
IDEM Auto Response Letter.....	C7
Ohio County Surveyor Email.....	C15
USFWS Response Email	C16
INDNR Response Email.....	C18
INDOT IPaC Concurrence.....	C21
USFWS Concurrence Letter	C22
USFWS Official Species List.....	C36
NRCS Response Letter.....	C42
NRCS AD-1006 Form.....	C43
Appendix D – Section 106 of the DHPA	
MPPA Determination	D1
Appendix E- Red Flag Investigation	
Red Flag Investigation Form.....	E1
RFI Site Location Map	E5
RFI Water Resources Map.....	E6
Threatened and Endangered Species List for Ohio County	E7
Appendix F- Water Resources	
National Wetlands Inventory (NWI) map.....	F1
DNR Floodplain Map	F2
March 2020 <i>Waters of the U.S. Determination / Wetland Delineation Report</i>	F3
Appendix G- Public Involvement	
<i>(This Appendix to be updated after the completion of public involvement activities)</i>	
Notice of Survey Letter	G1
Appendix H- Air Quality	
Indiana STIP FY 2020-2024 Documentation.....	H1
Appendix I- Additional Studies and Information	
Excerpts from April 2020 Engineer’s Report (by Burgess & Niple).....	I1
May 18, 2017 Large Culvert Inspection Report	I8
August 28, 2018 INDOT Hydraulics Memo	I11
Environmental Justice Analysis	I14

DES 1802982

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	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA
<ul style="list-style-type: none"> • District Env. (DE) • Env. Serv. Div. (ESD) • 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.

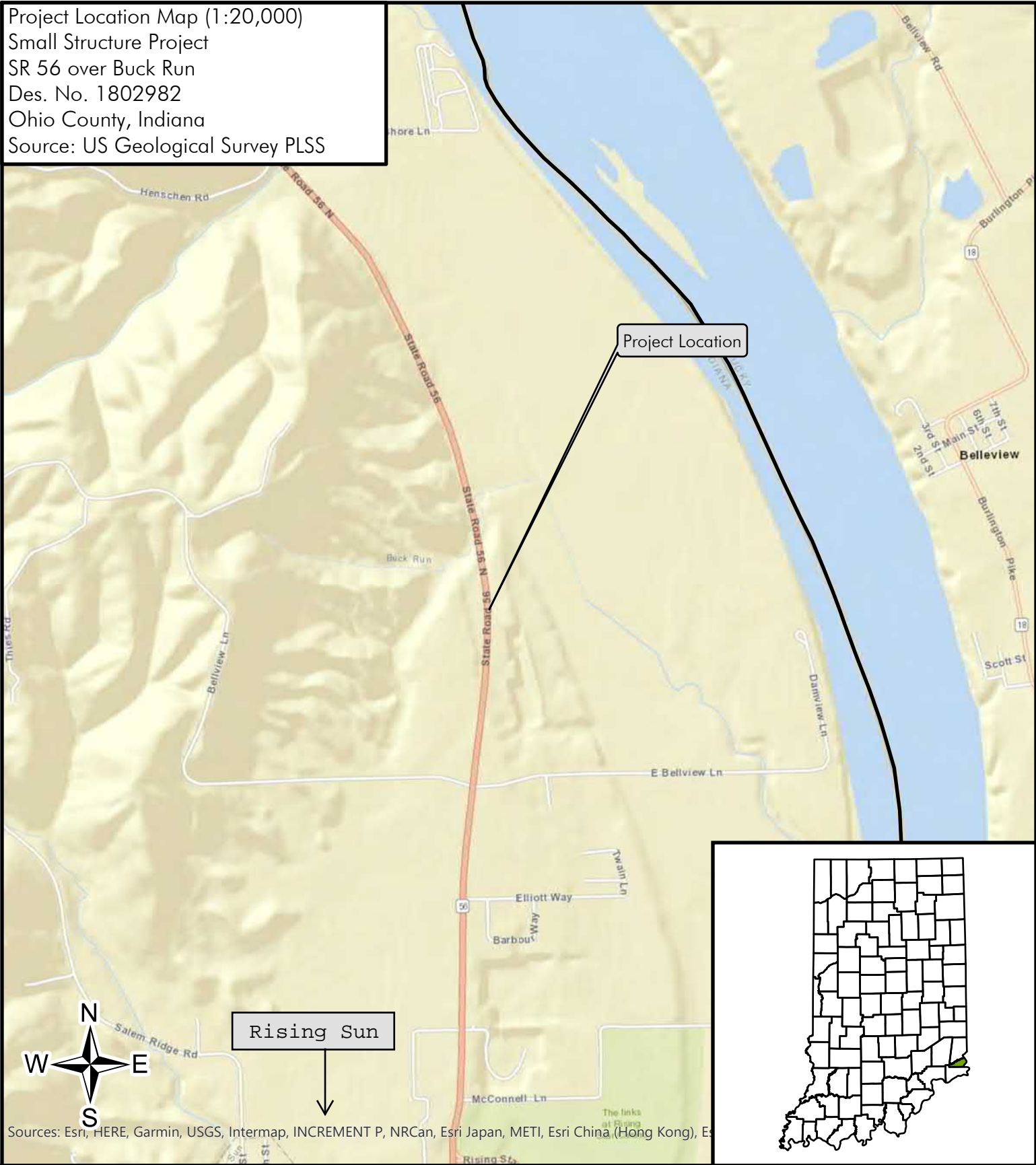
DES 1802982

Appendix B

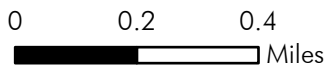
Graphics

Note to reader: Pages were removed to reduce the overall size of the document and can be made available upon request

Project Location Map (1:20,000)
 Small Structure Project
 SR 56 over Buck Run
 Des. No. 1802982
 Ohio County, Indiana
 Source: US Geological Survey PLSS



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri

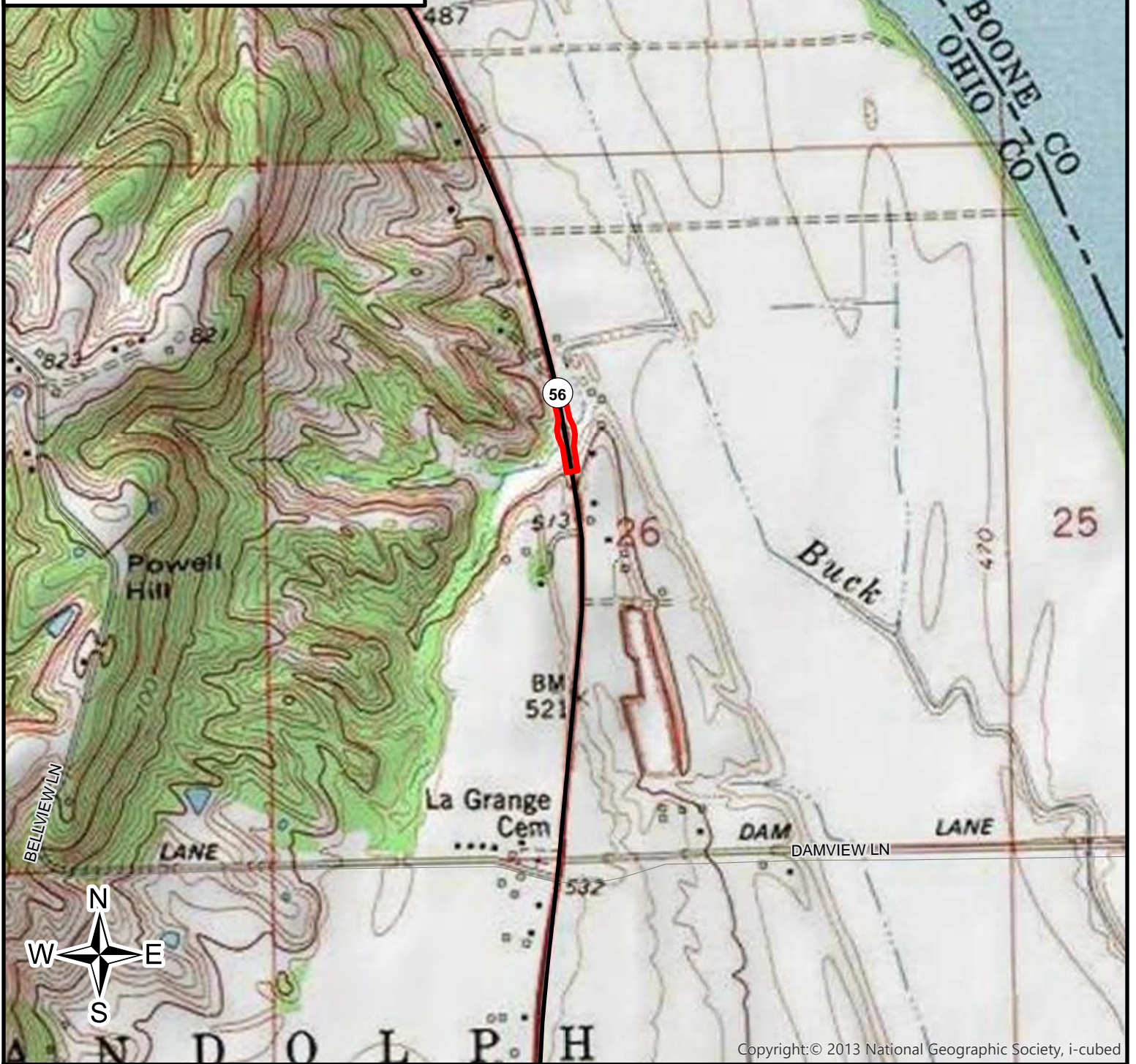


- County Boundary
- Project County



10/28/2020

Topographic Map (1:12,000)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Rising Sun Quadrangle
Source: US Geological Survey



Copyright: © 2013 National Geographic Society, i-cubed

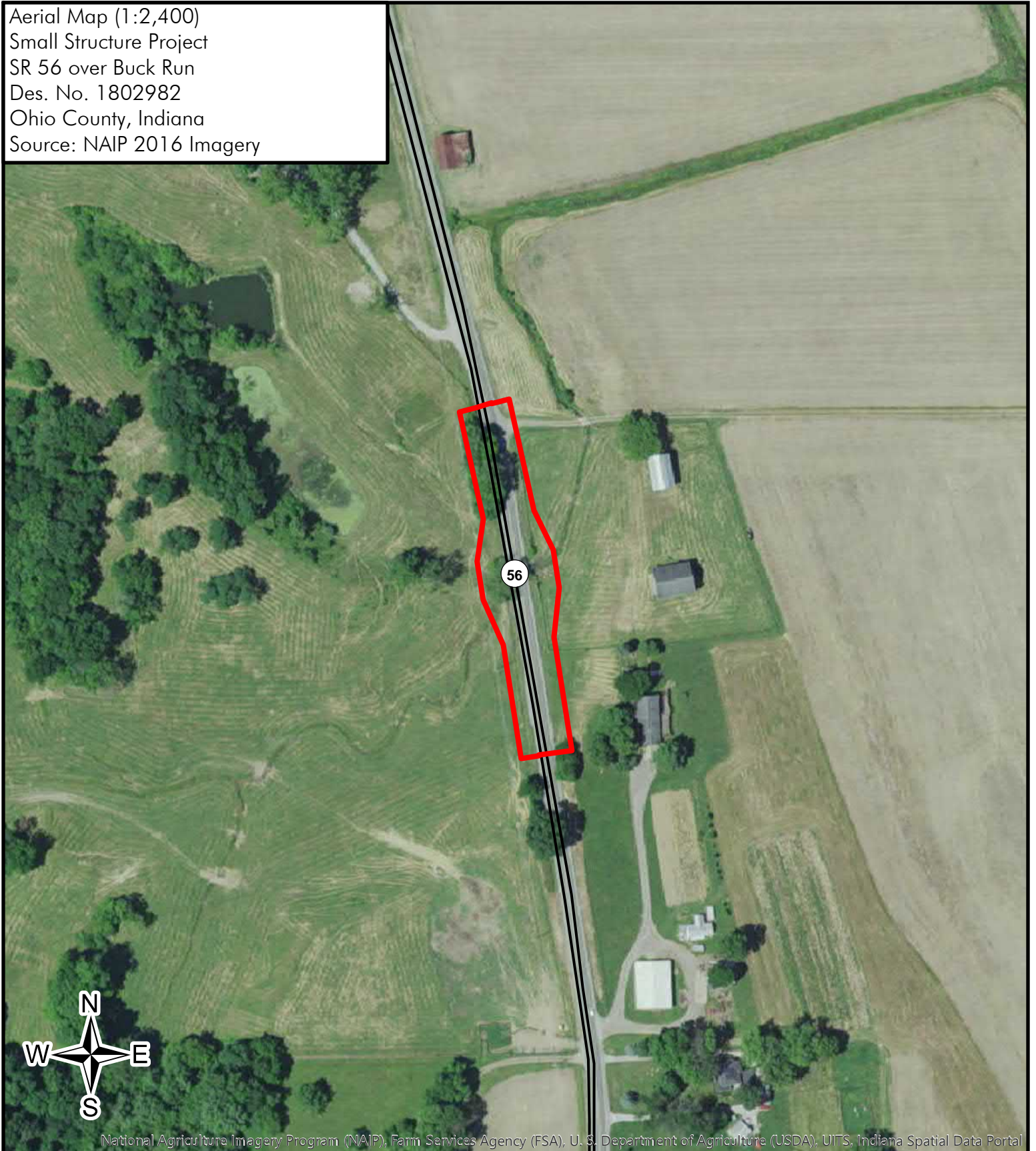
0 500 1,000
Feet

 Project Location



10/28/2020

Aerial Map (1:2,400)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: NAIP 2016 Imagery



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

0 140 280
Feet

 Project Location



10/28/2020

Photo Location and Orientation Map (1:1,200)

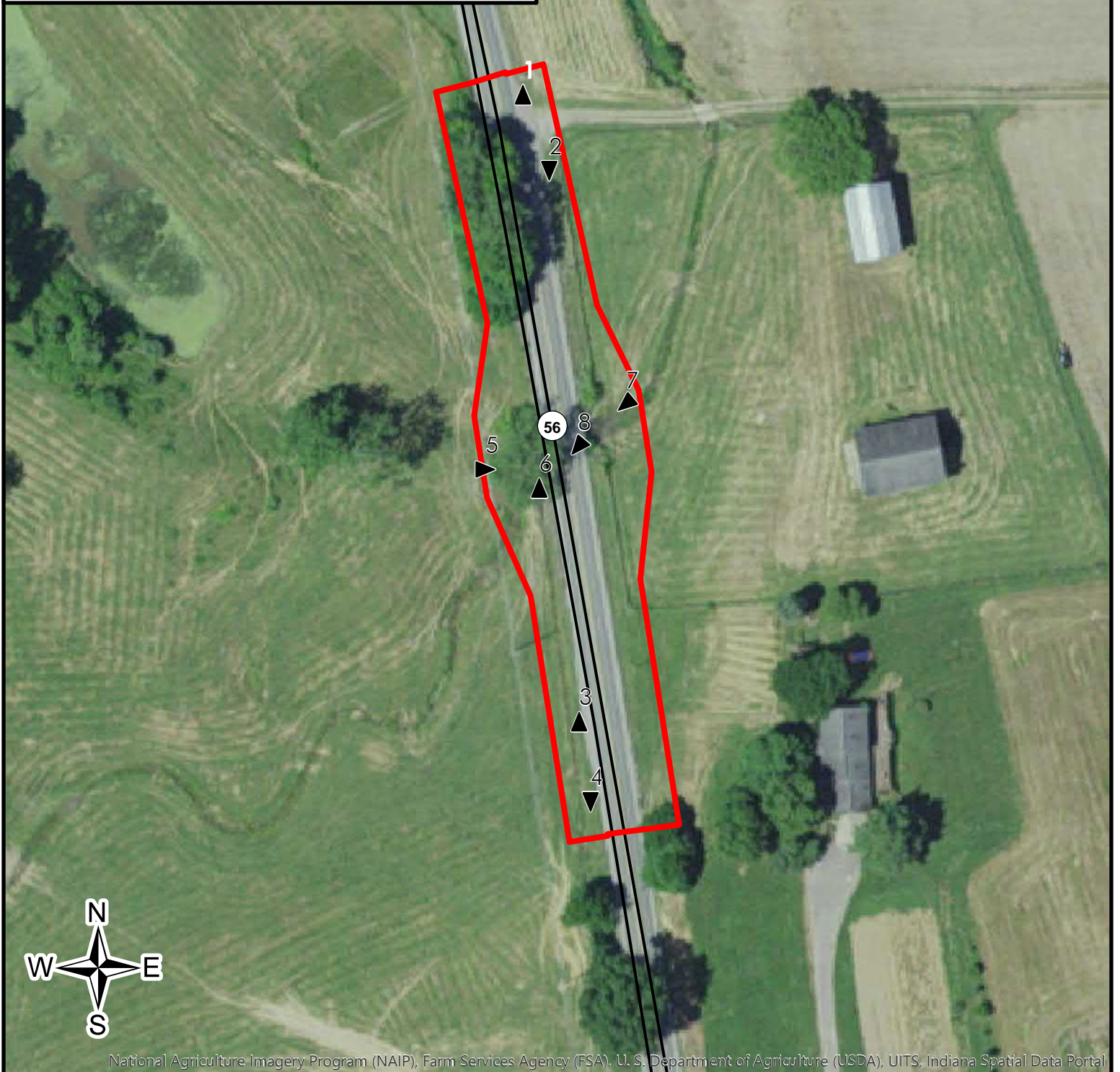
Small Structure Project

SR 56 over Buck Run

Des. No. 1802982



Ohio County, Indiana

Source: SJCA Inc Field Survey



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

0 70 140 Feet

-  Project Location
-  Photo Location



10/28/2020

DES 1802982 SR 56, Over Buck Run, Small Structure Replacement
Site Photos October 8, 2020



Photo 1: Northern Project Termini, SR 56 Facing North



Photo 2: Northern Project Termini, SR 56 Facing South



Photo 3: Southern Project Termini, SR 56 Facing North



Photo 4: Southern Project Termini, SR 56 Facing South

DES 1802982 SR 56, Over Buck Run, Small Structure Replacement
Site Photos October 8, 2020



Photo 5: West Side of Structure, Inlet



Photo 6: Rock Wall. West Side of Structure



Photo 7: East Side of Structure, Outlet



Photo 8: Inside of Structure

PROJECT	DESIGNATION
1802982	1802982
CONTRACT	
R-41524	

STRUCTURE NO. CV 056-058-187.65

INDIANA DEPARTMENT OF TRANSPORTATION

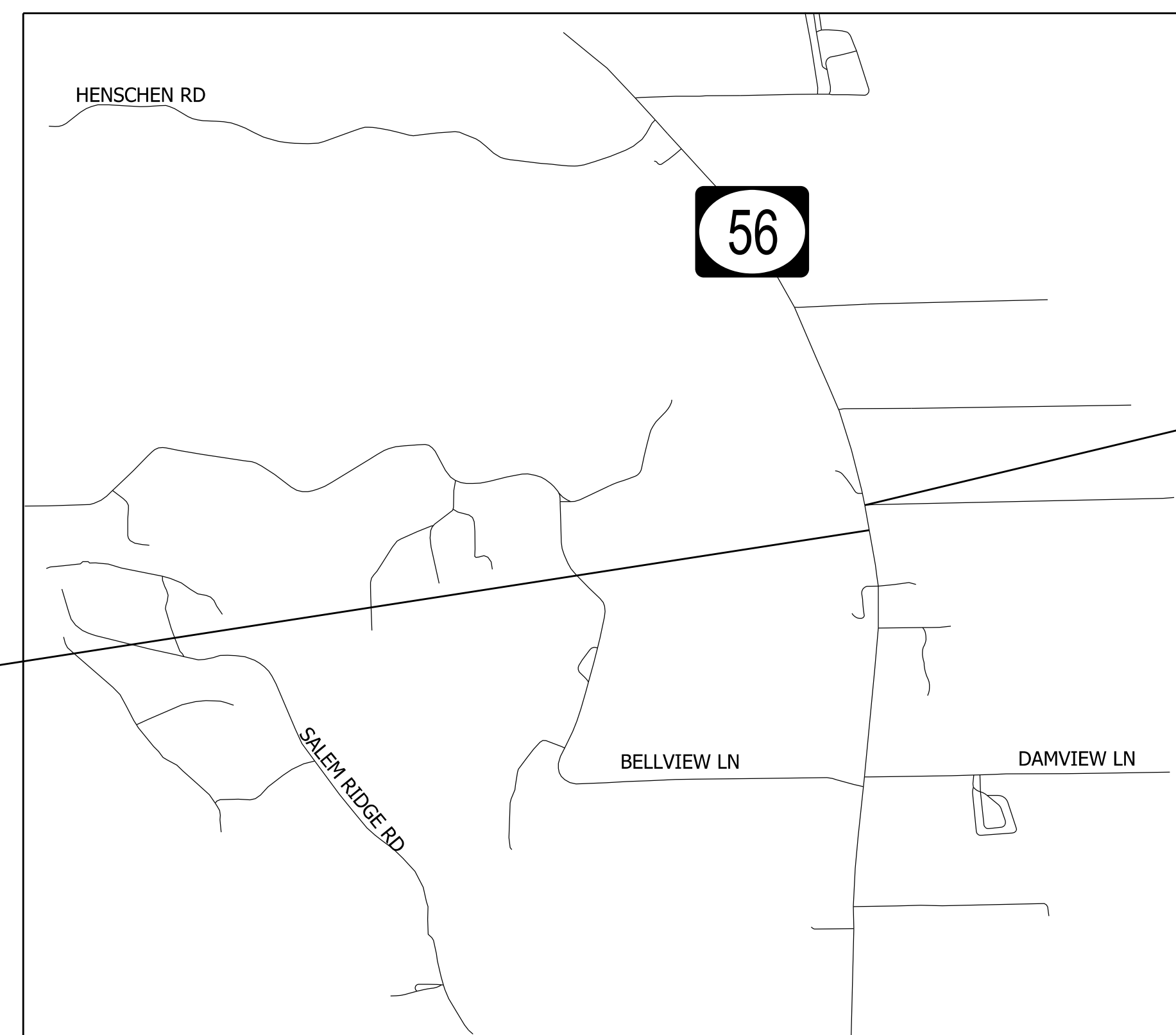


ROAD PLANS

ROUTE: SR 56 FROM: RP 187+65 TO: RP 187+65
 PROJECT NO. 1802982 P.E.
 1802982 R/W
 1802982 CONST.

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
1801046	SMALL STRUCTURE REPLACEMENT

Small Structure Replacement on SR 56 over Buck Run
 Located 2.35 Miles East of SR 262
 Section 26, T-4-N, R-1-W, Randolph Township, Ohio County, Indiana



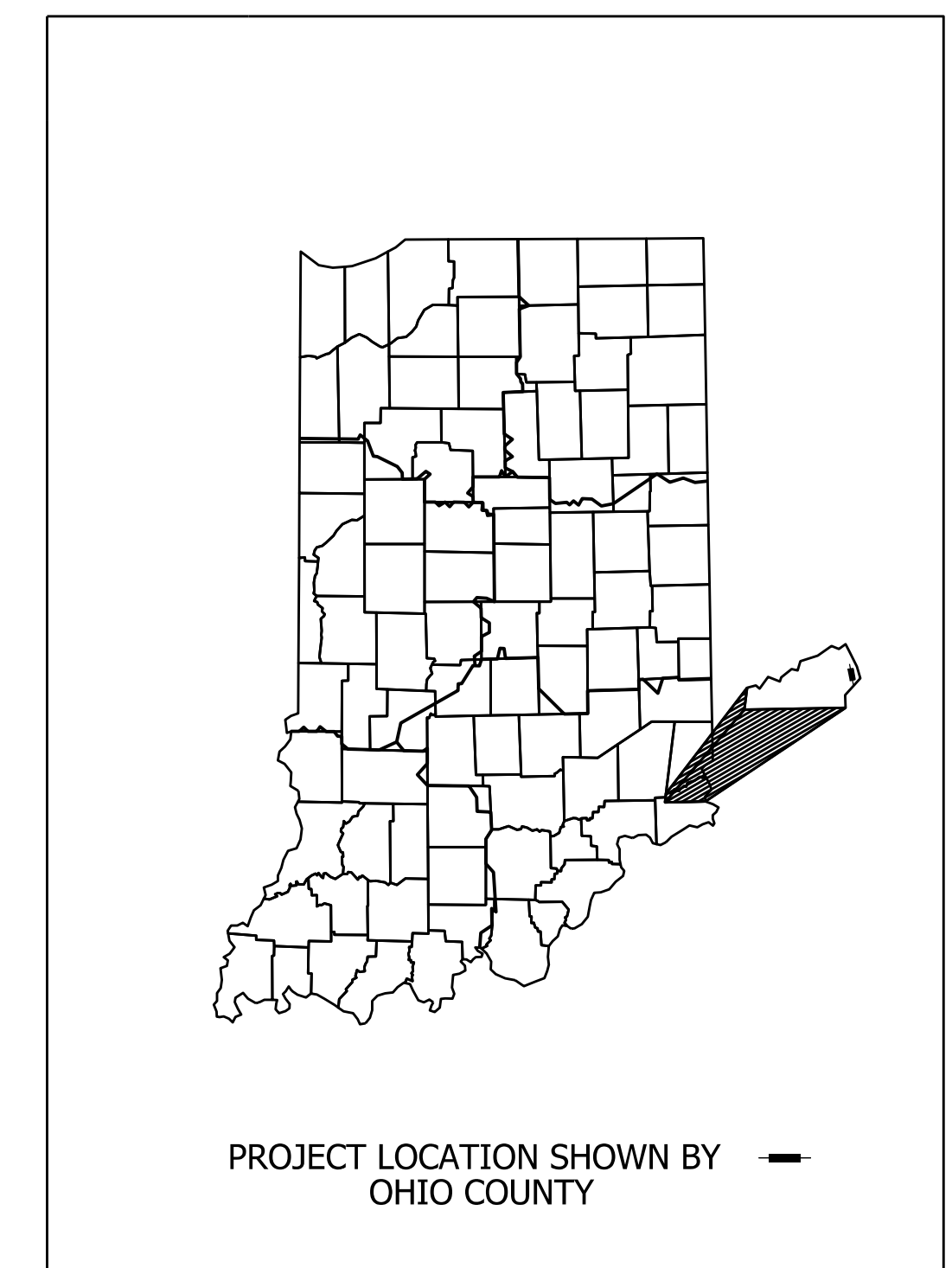
SCALE: 1" = 1,500'
 END PROJECT 1802982
 STA. 403+92 "B"

BEGIN PROJECT 1802982
 STA. 403+22 "B"

October 30, 2020
 Stage 2 Submittal

TRAFFIC DATA		
A.A.D.T. (2023)		5931 V.P.D.
A.A.D.T. (2043)		6123 V.P.D.
D.H.V (2043)		28 V.P.H.
DIRECTIONAL DISTRIBUTION		49.71 %
TRUCKS		3.93% A.A.D.T. 4.73% D.H.V.

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



LATITUDE: 38° 56' 57" N LONGITUDE: 84° 50' 56" W

GROSS LENGTH:	0.013 MI.
NET LENGTH:	0.013 MI.
MAX. GRADE:	0.81 %

HYDROLOGIC UNIT CODE
050902030804

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

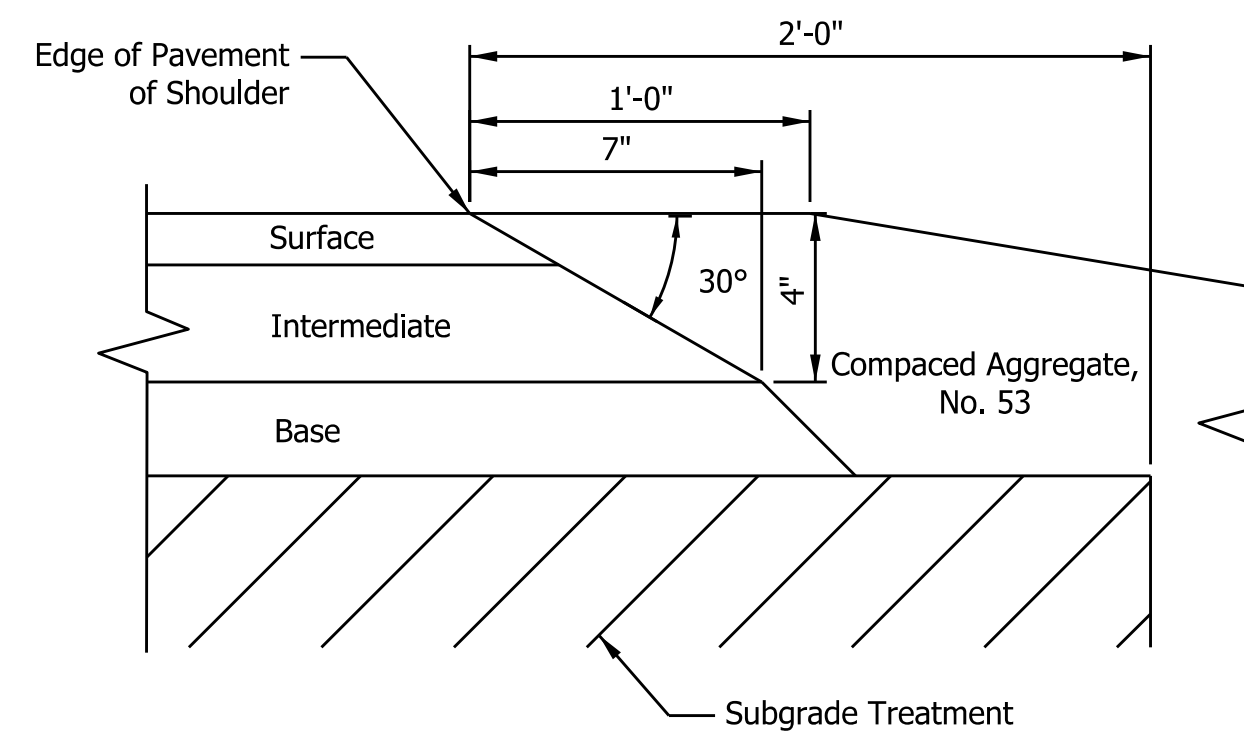
PLANS PREPARED BY: **BURGESS & NIPL, INC.** (317) 237-2760
PHONE NUMBER

CERTIFIED BY: THIS SPACE SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT DATE

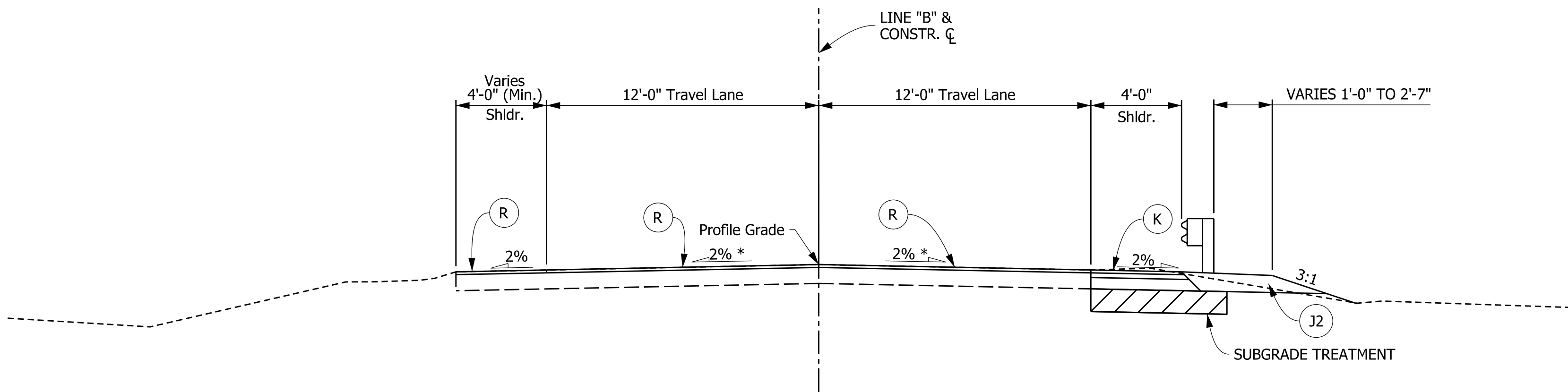
RECOMMENDED FOR LETTING: INDIANA DEPARTMENT OF TRANSPORTATION DATE

DESIGNATION	
1802982	
SHEETS	
1	of 23
CONTRACT	PROJECT
R-41524	1802982

10/30/2020
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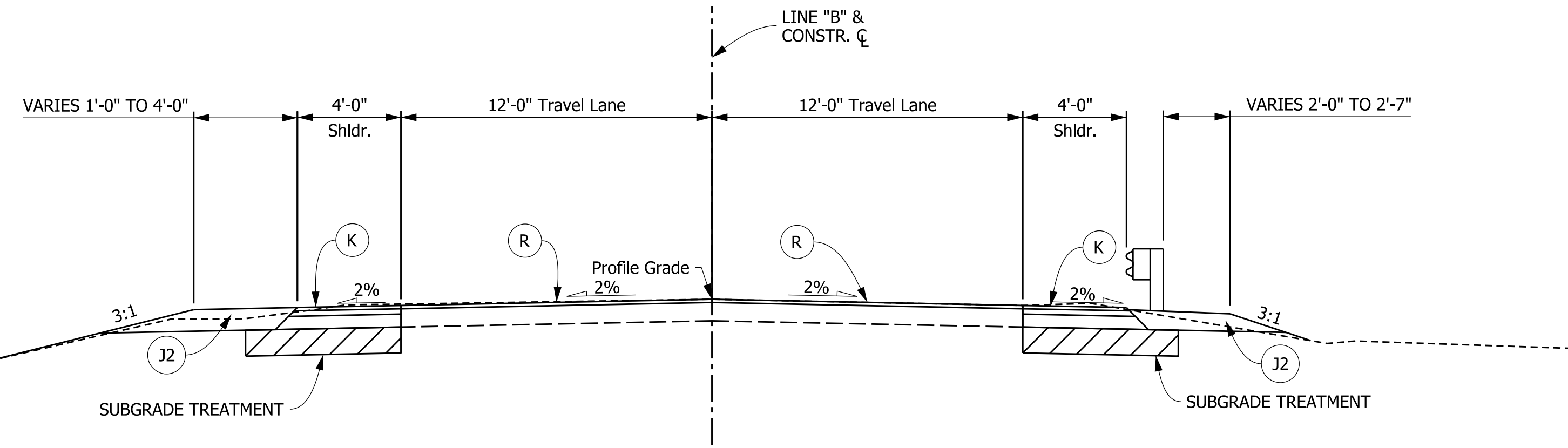
SAFETY EDGE ON HMA PAVEMENT



TYPICAL SECTION

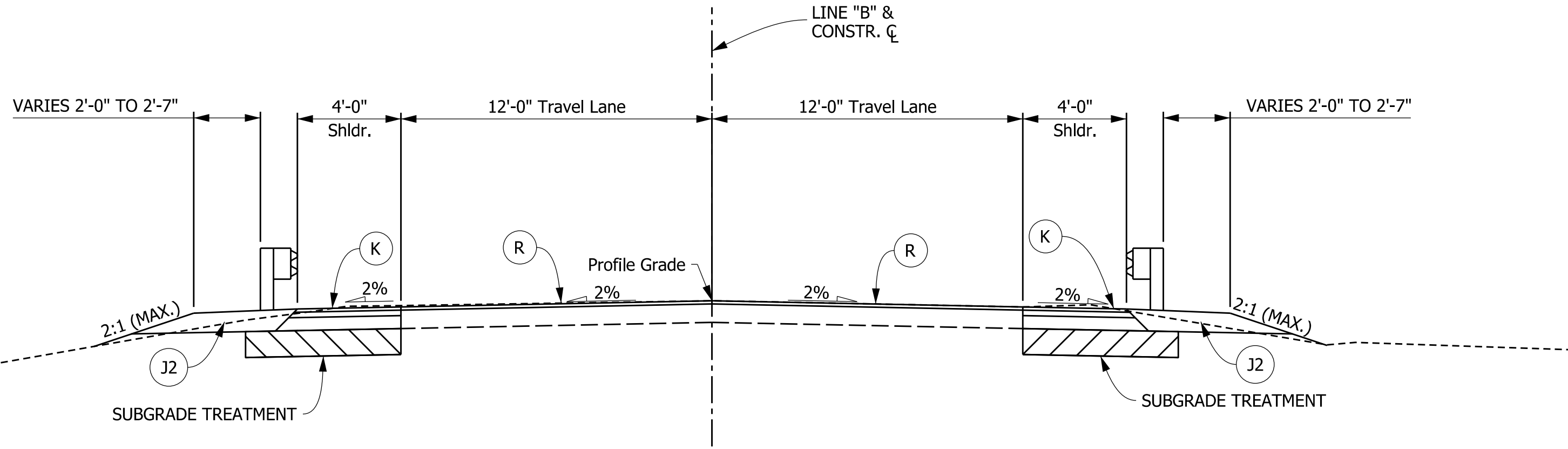
STA. 401+37.00 TO STA. 401+83.00
STA. 405+23.91 TO STA. 406+15.00 Opp. Hand

* Transition from existing slope to 2%



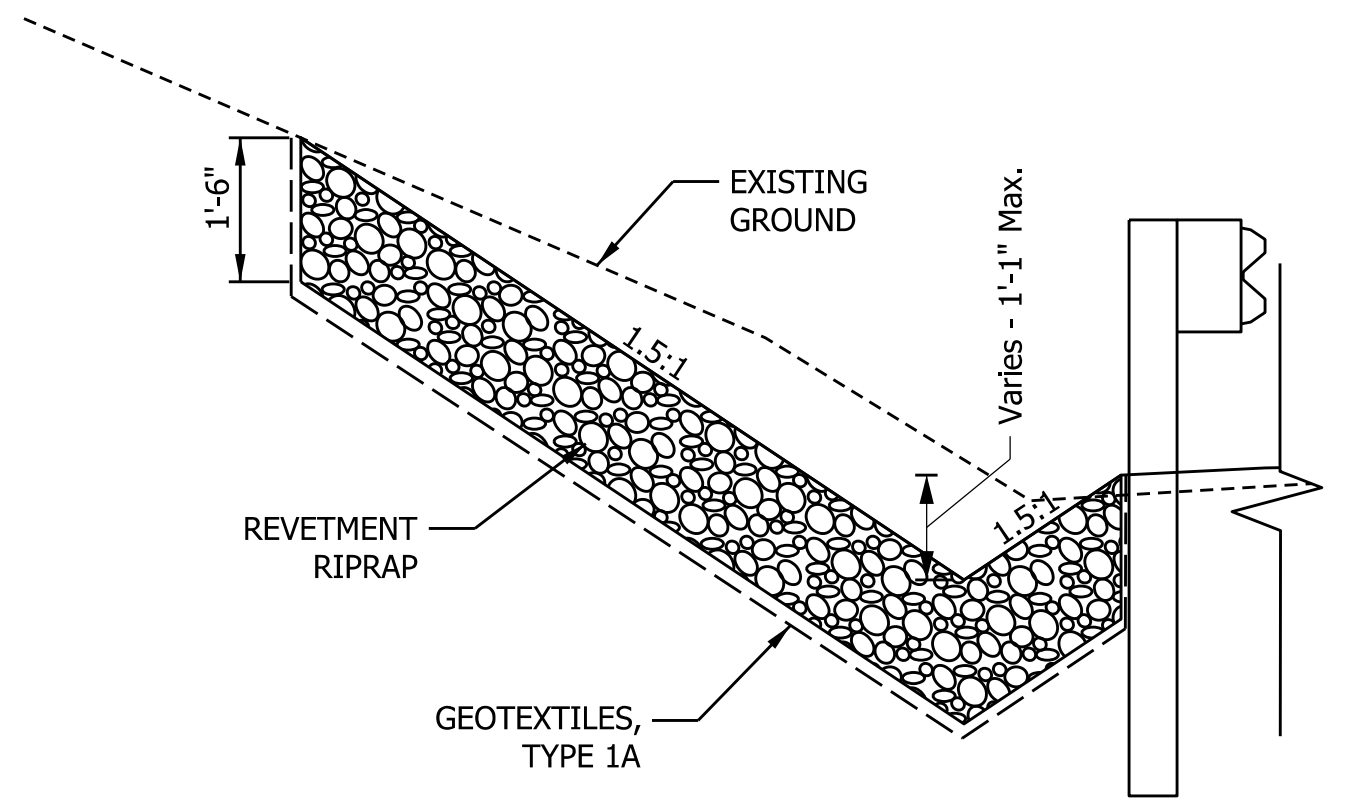
TYPICAL SECTION

STA. 401+83.00 TO STA. 402+23.00
STA. 404+99.50 TO STA. 405+23.91 Opp. Hand



TYPICAL SECTION

STA. 402+23.00 TO STA. 403+22.00
STA. 403+92.00 TO STA. 404+99.50



TYPICAL RIPRAP DITCH BEHIND GUARDRAIL

LEFT STA. 405+00 TO STA. 406+00

NOTE TO REVIEWER:
LEVEL 2 DESIGN EXCEPTION
FOR NOT PROVIDING 2' BEHIND
POST BEFORE GRADE BREAK HAS
BEEN INCLUDED IN STAGE 2
SUBMITTAL.

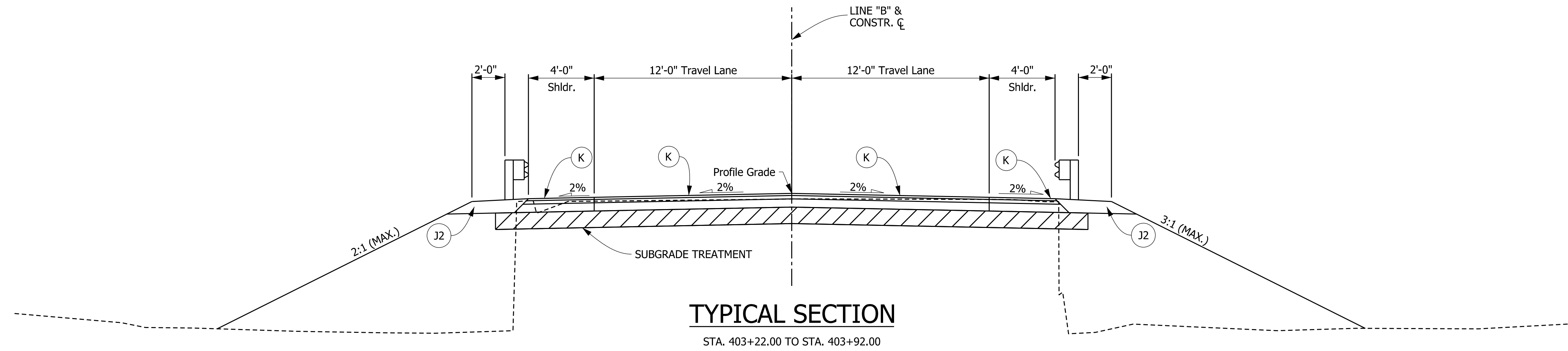
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(K)	FULL DEPTH HMA (TBD)
(R)	165 #/SY QC/QA HMA, 2, 64, SURFACE, 9.5 mm, ON 1.5" SURFACE MILLING, HMA
(J2)	COMPACTED AGGREGATE, NO. 53

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED: LEJ	DRAWN: LEJ				
CHECKED: JMM	CHECKED: JMM				

INDIANA	
DEPARTMENT OF TRANSPORTATION	
TYPICAL SECTIONS	

HORIZONTAL SCALE 1/4" = 1'-0"	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1802982
SURVEY BOOK	SHEET NO. 3 of 23
CONTRACT R-41524	PROJECT 1802982

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LEGEND

- (K) FULL DEPTH HMA (TBD)
- (R) 165 #/SY QC/QA HMA, 2, 64, SURFACE, 9.5 mm, ON 1.5" SURFACE MILLING, HMA

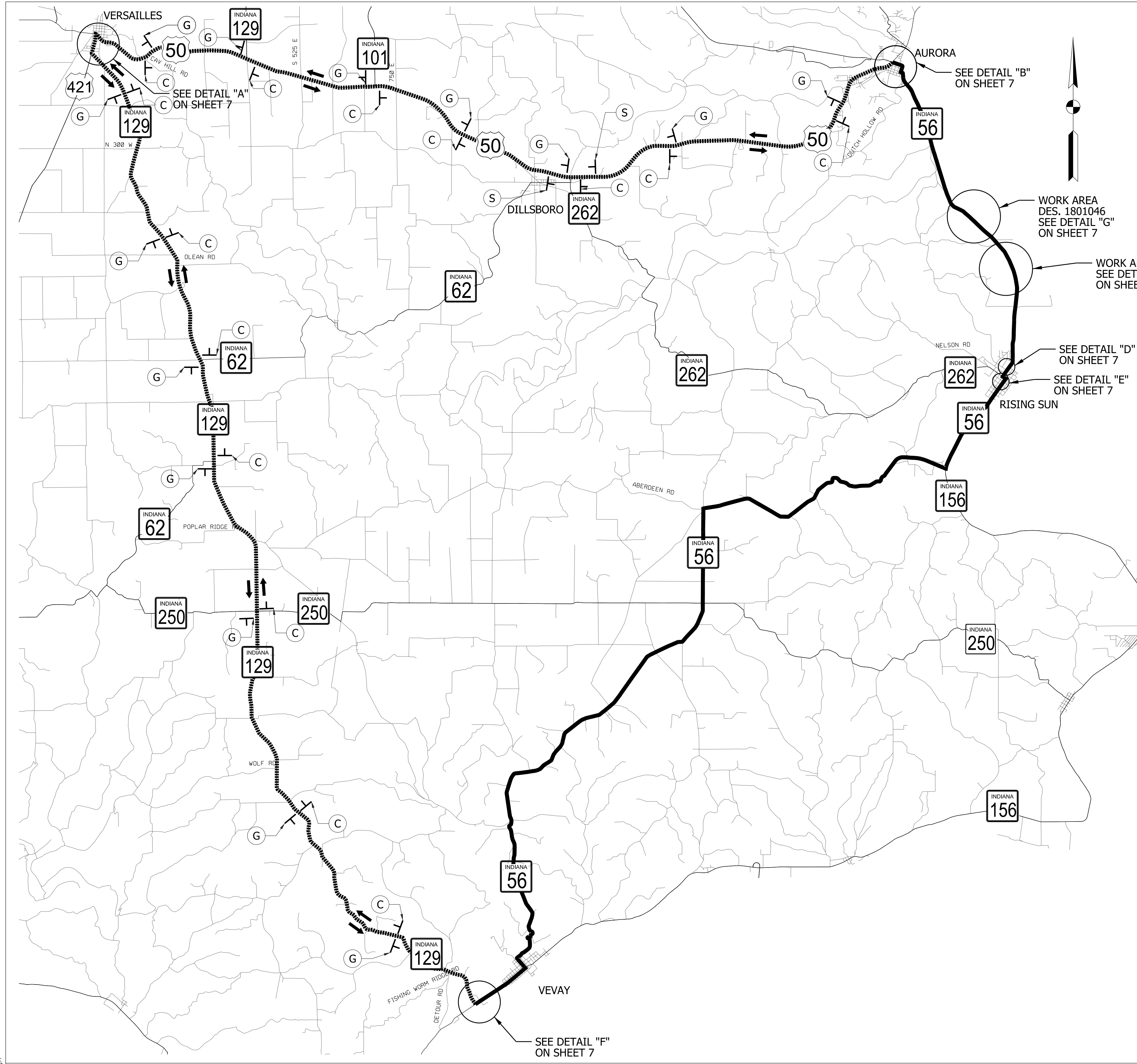
(J2) COMPACTED AGGREGATE, NO. 53

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED:	LEJ	DRAWN:	LEJ		
CHECKED:	JMM	CHECKED:	JMM		

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

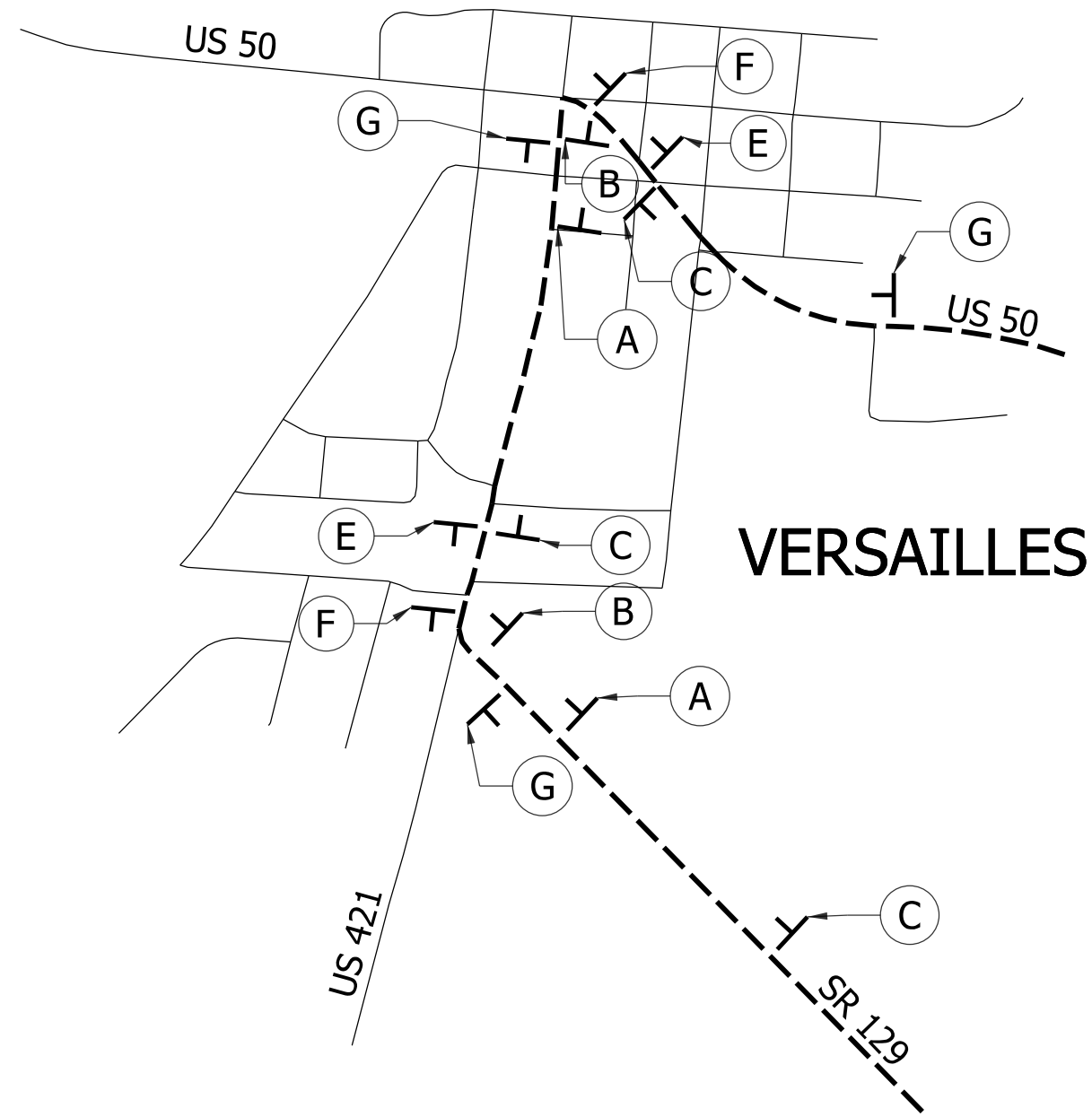
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1/4" = 1'-0"	N/A
VERTICAL SCALE	DESIGNATION
N/A	1802982
SURVEY BOOK	SHEET NO.
	4 of 23
CONTRACT	PROJECT
R-41524	1802982



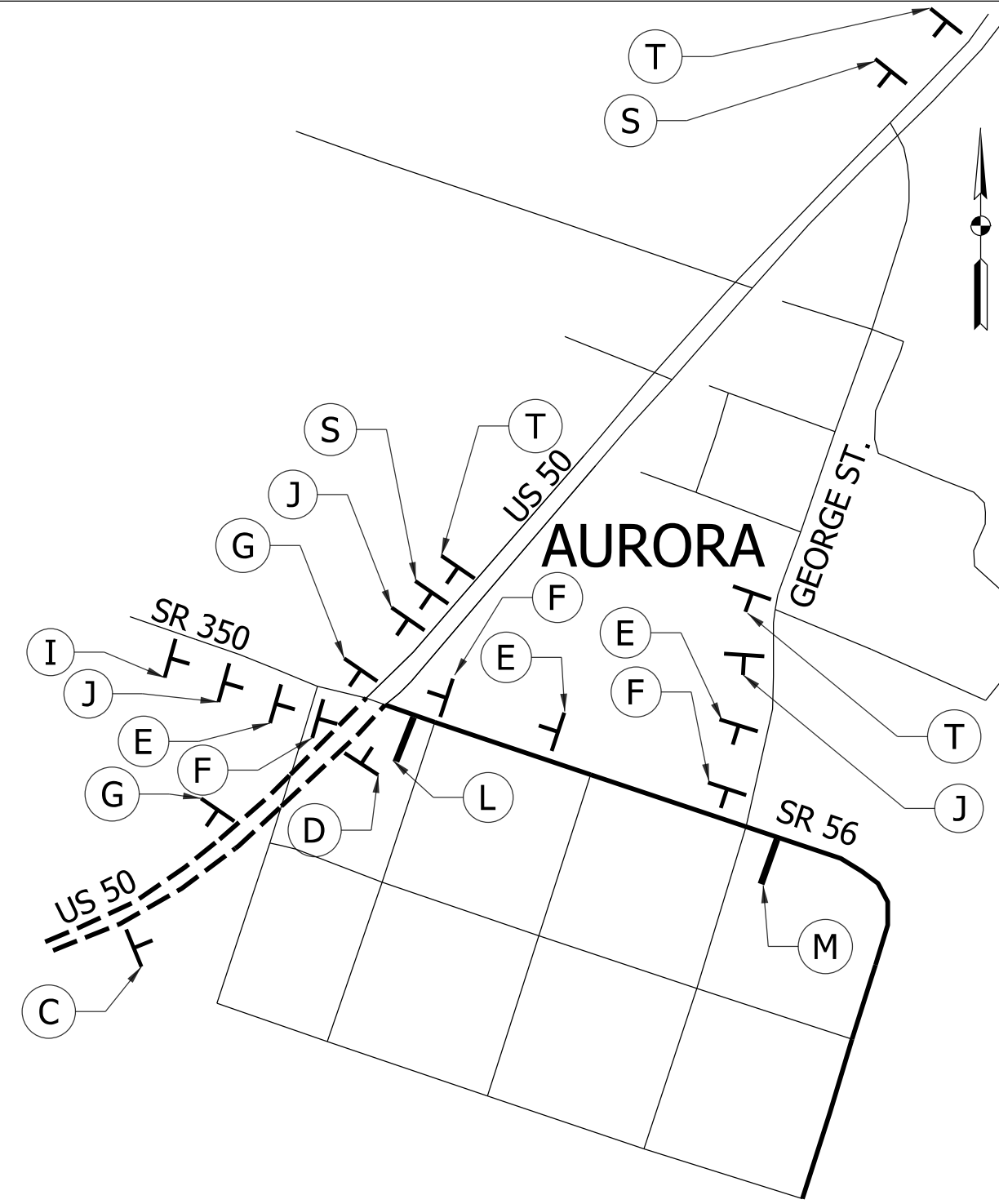
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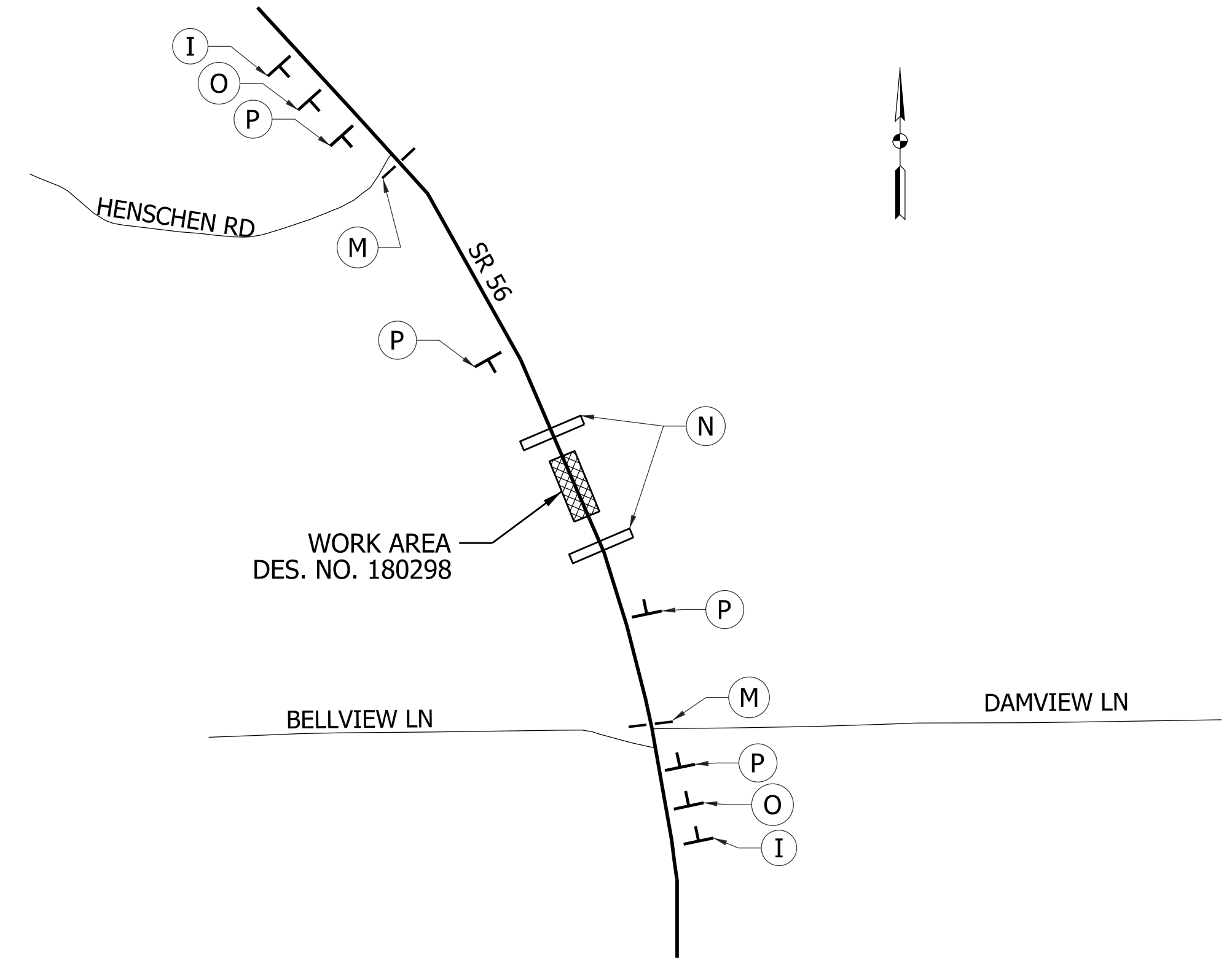
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CHECKED: JMM	CHECKED: JMM			SURVEY BOOK	SHEET NO. 6 of 23
				CONTRACT R-41524	PROJECT 1802982



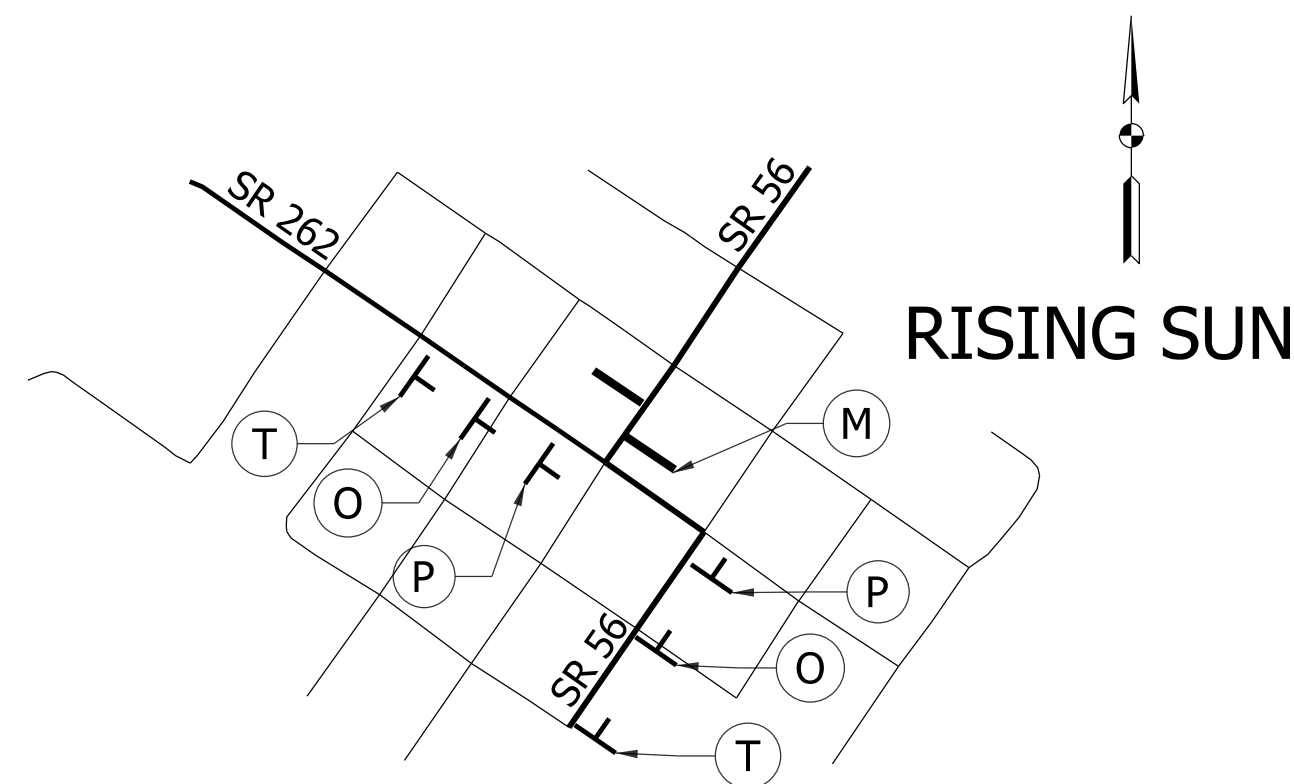
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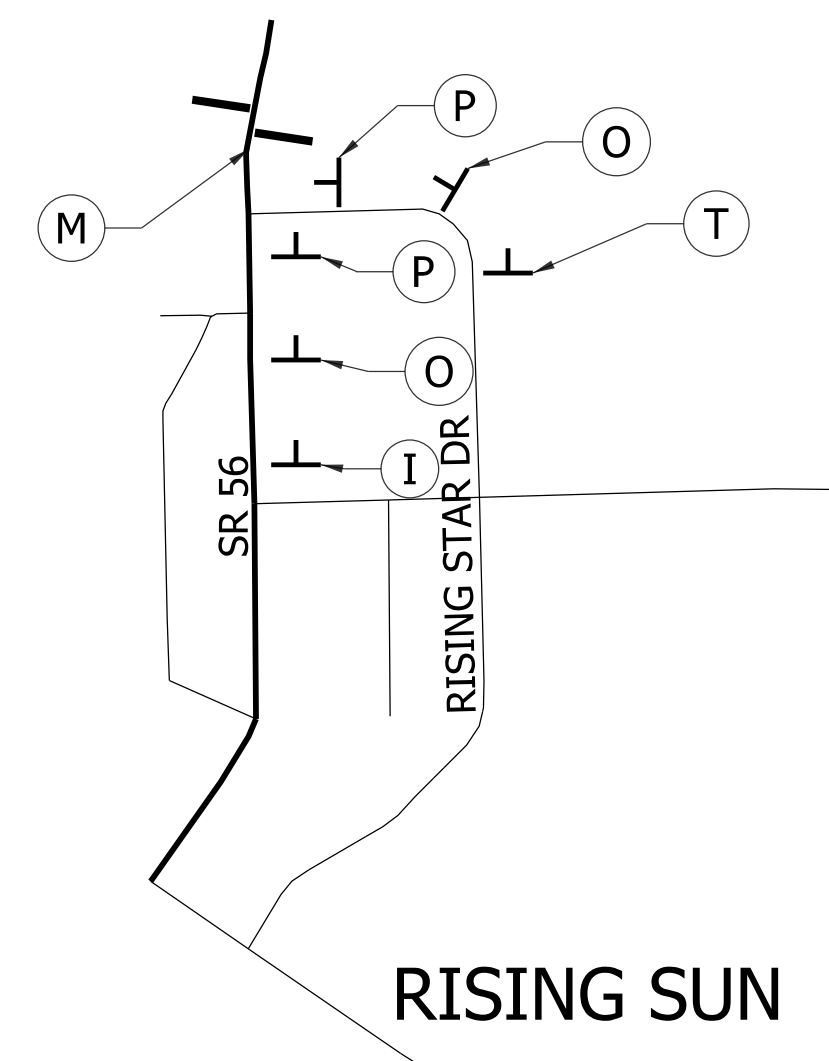
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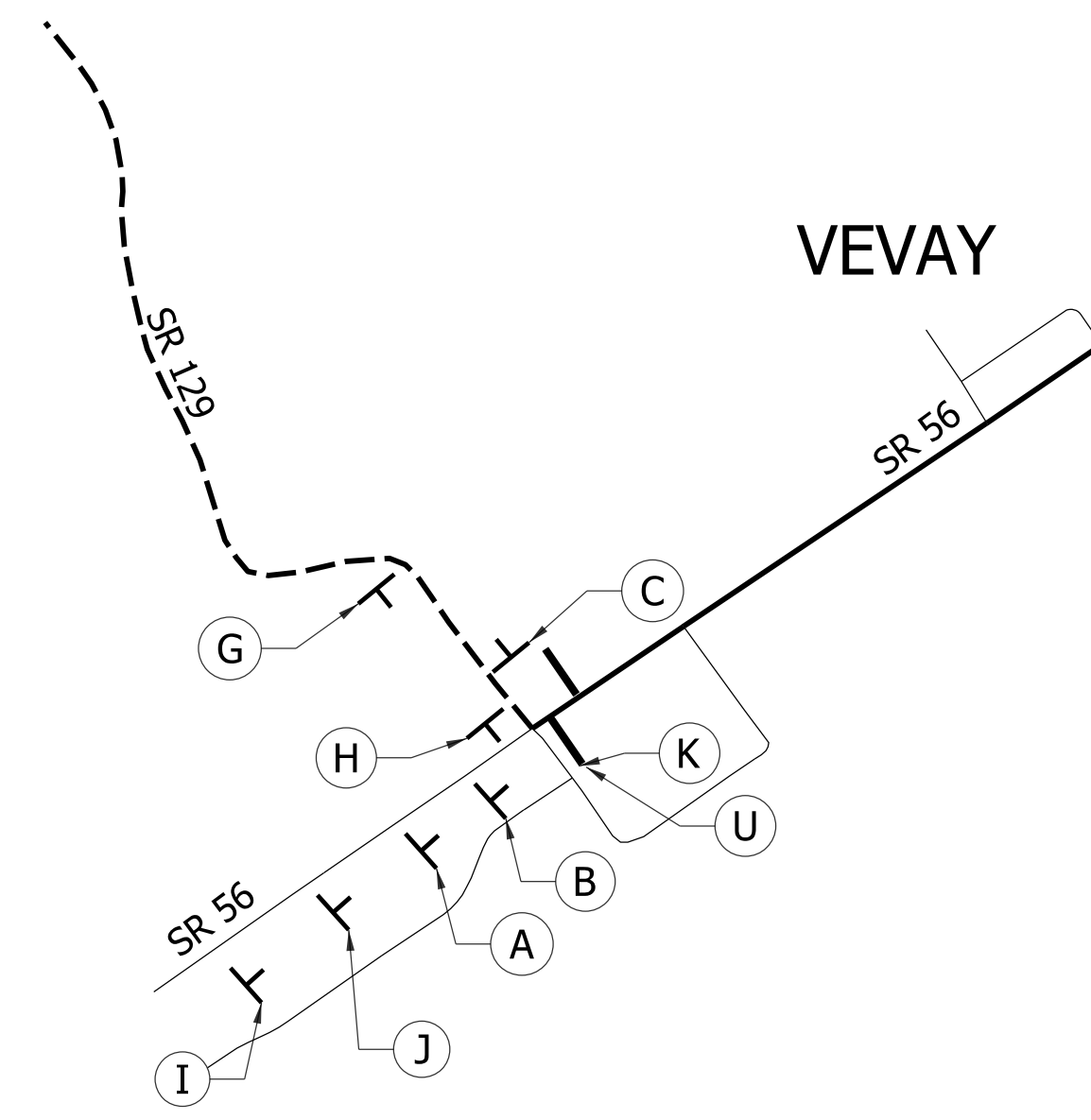
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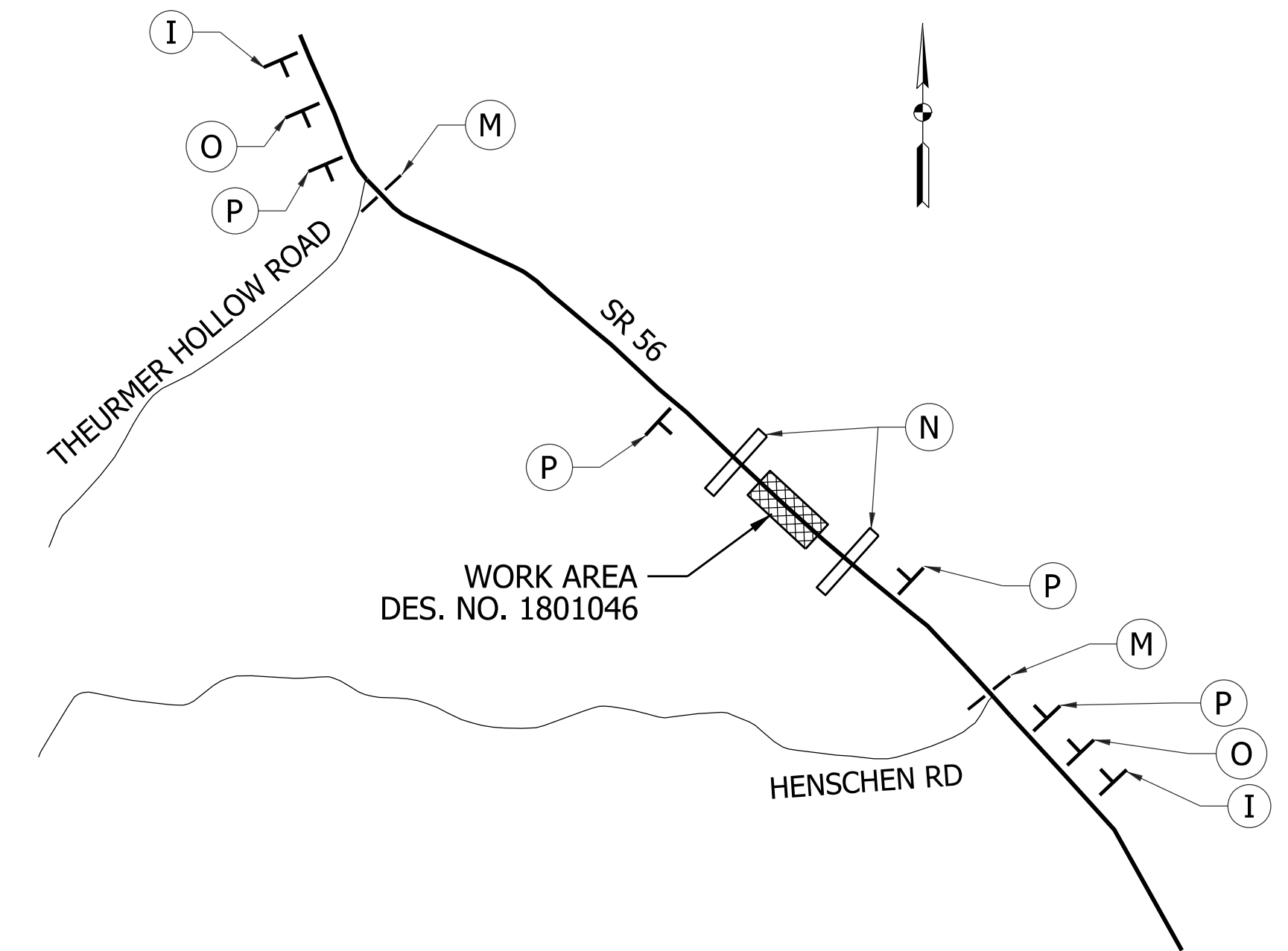
DETAIL "D"



DETAIL "E"



DETAIL "F"

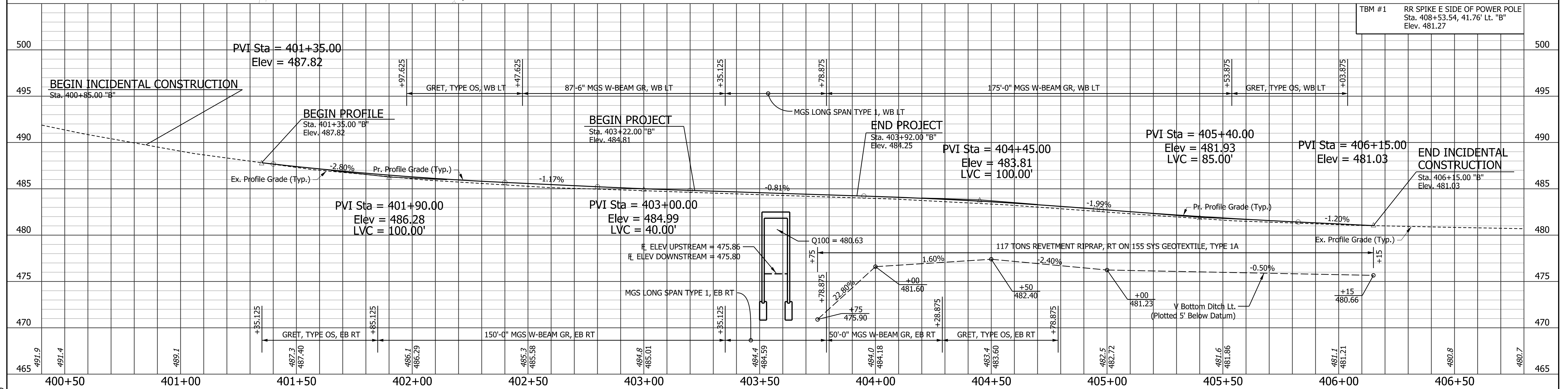
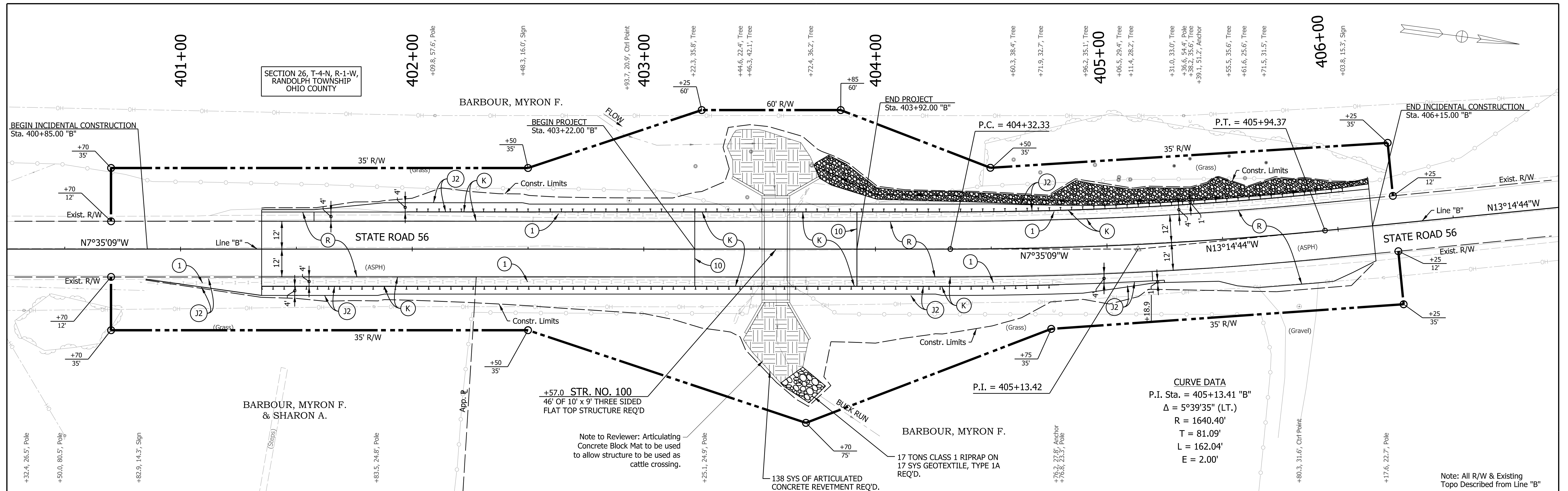


DETAIL "G"

NOTE:
SEE LEGEND ON SHEET 6

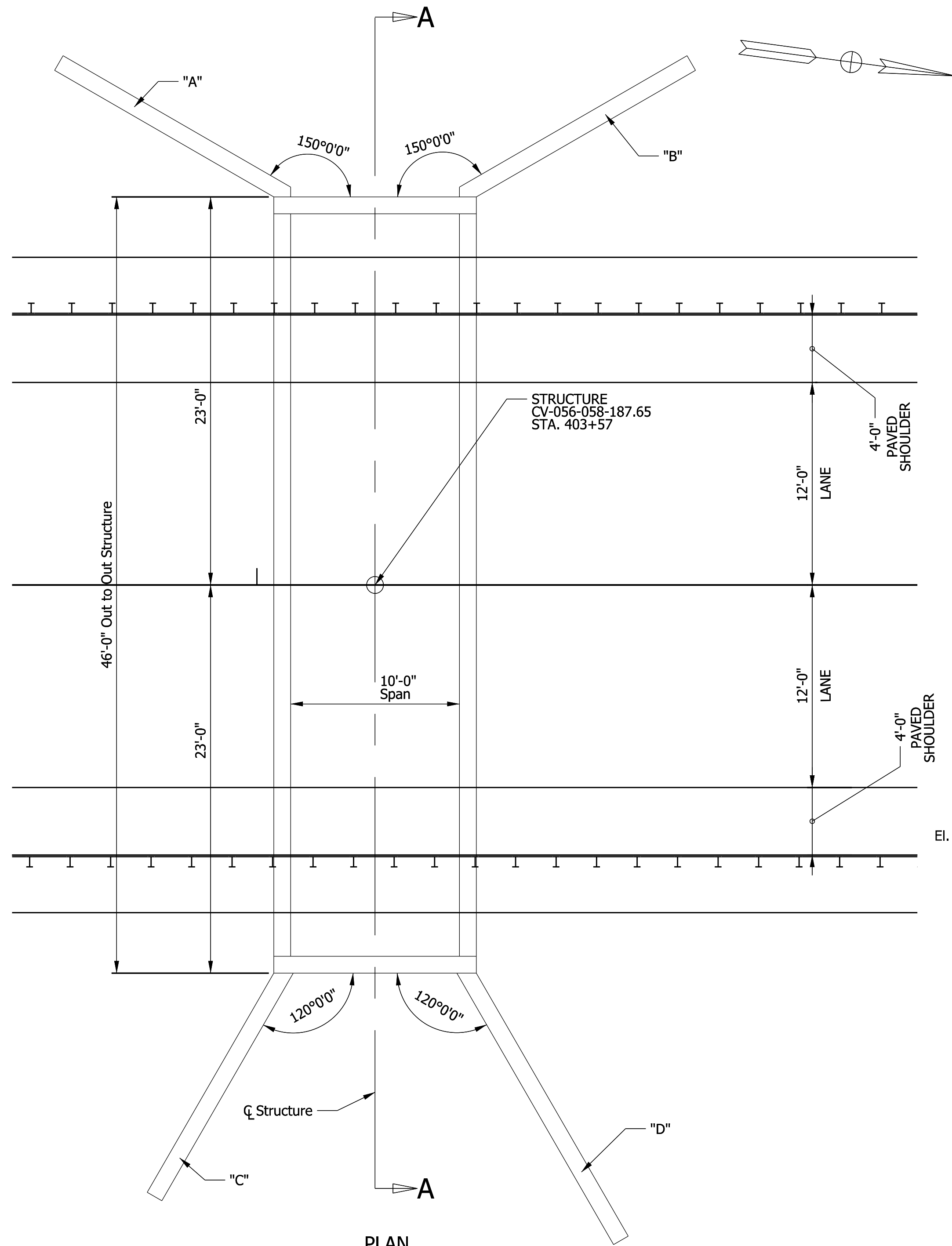
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			N.T.S.	N/A
DESIGNED: LEJ DRAWN: LEJ	DETOUR		VERTICAL SCALE	DESIGNATION
CHECKED: JMM CHECKED: JMM			N/A	1802982
			SURVEY BOOK	SHEET NO.
				7 of 23
			CONTRACT R-41524	PROJECT 1802982



LEGEND (K) FULL DEPTH HMA (TBD) (R) 165 #/SY QC/QA HMA, 2, 64, SURFACE, 9.5 mm, ON 1.5" SURFACE MILLING, HMA (MIN.) (J2) COMPACTED AGGREGATE, NO. 53 (10) SAW CUT (1) REMOVE GUARDRAIL ARTICULATING CONCRETE BLOCK MAT REVETMENT RIPRAP CLASS 1 RIPRAP		RECOMMENDED FOR APPROVAL _____ X-X-20XX DATE DESIGN ENGINEER DESIGNED: MWR DRAWN: LEJ CHECKED: JMM CHECKED: JMM	INDIANA DEPARTMENT OF TRANSPORTATION PLAN & PROFILE STA. 401+37.00 "B" TO STA. 405+98.00 "B"	HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 5' SURVEY BOOK _____ SHEET NO. 8 of 23 CONTRACT R-41524 PROJECT 1802982
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User: mrobison
 10/30/2020
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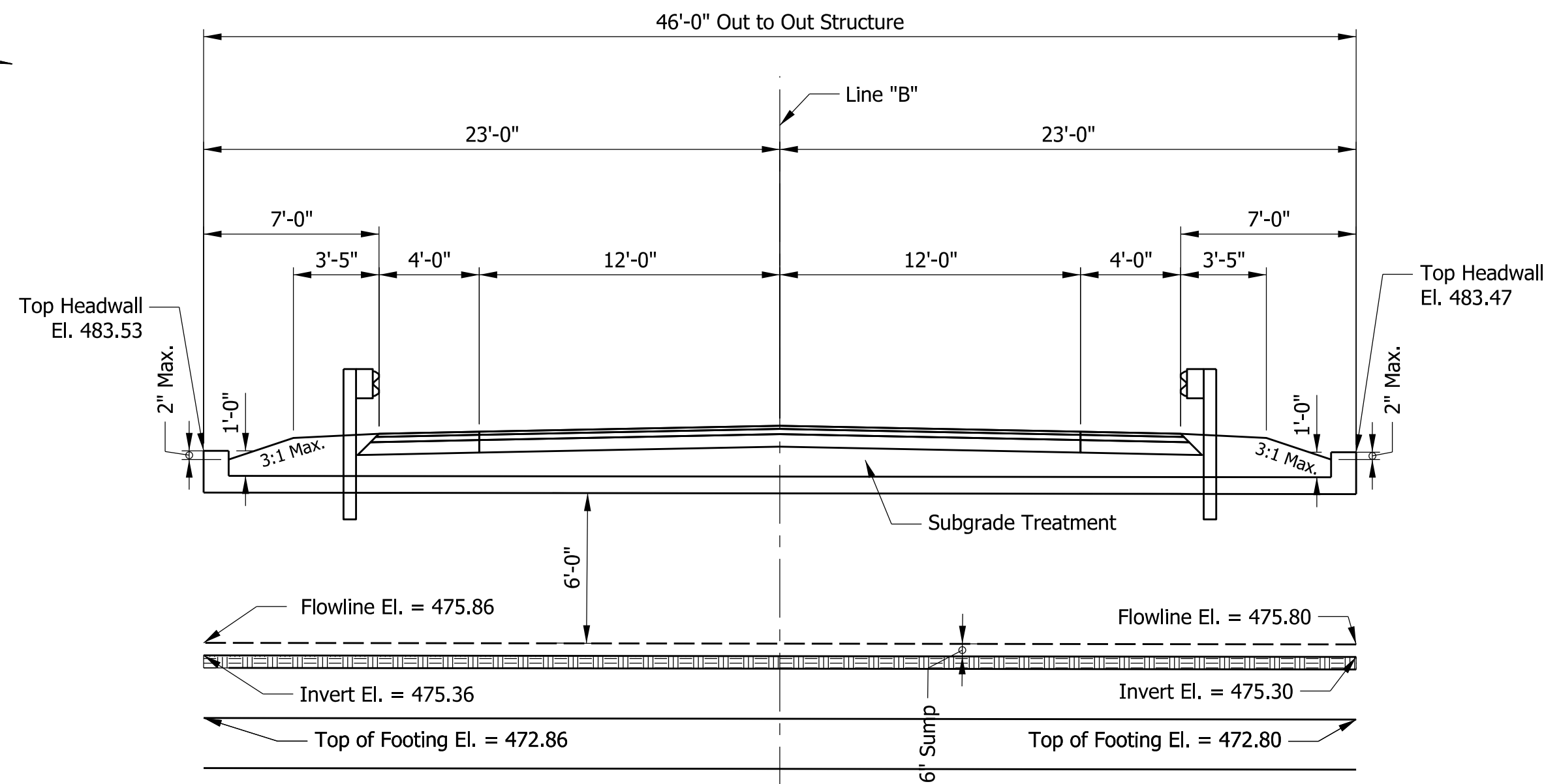
PLAN
SCALE: 1" = 5'-0"

HYDRAULIC DATA TABLE

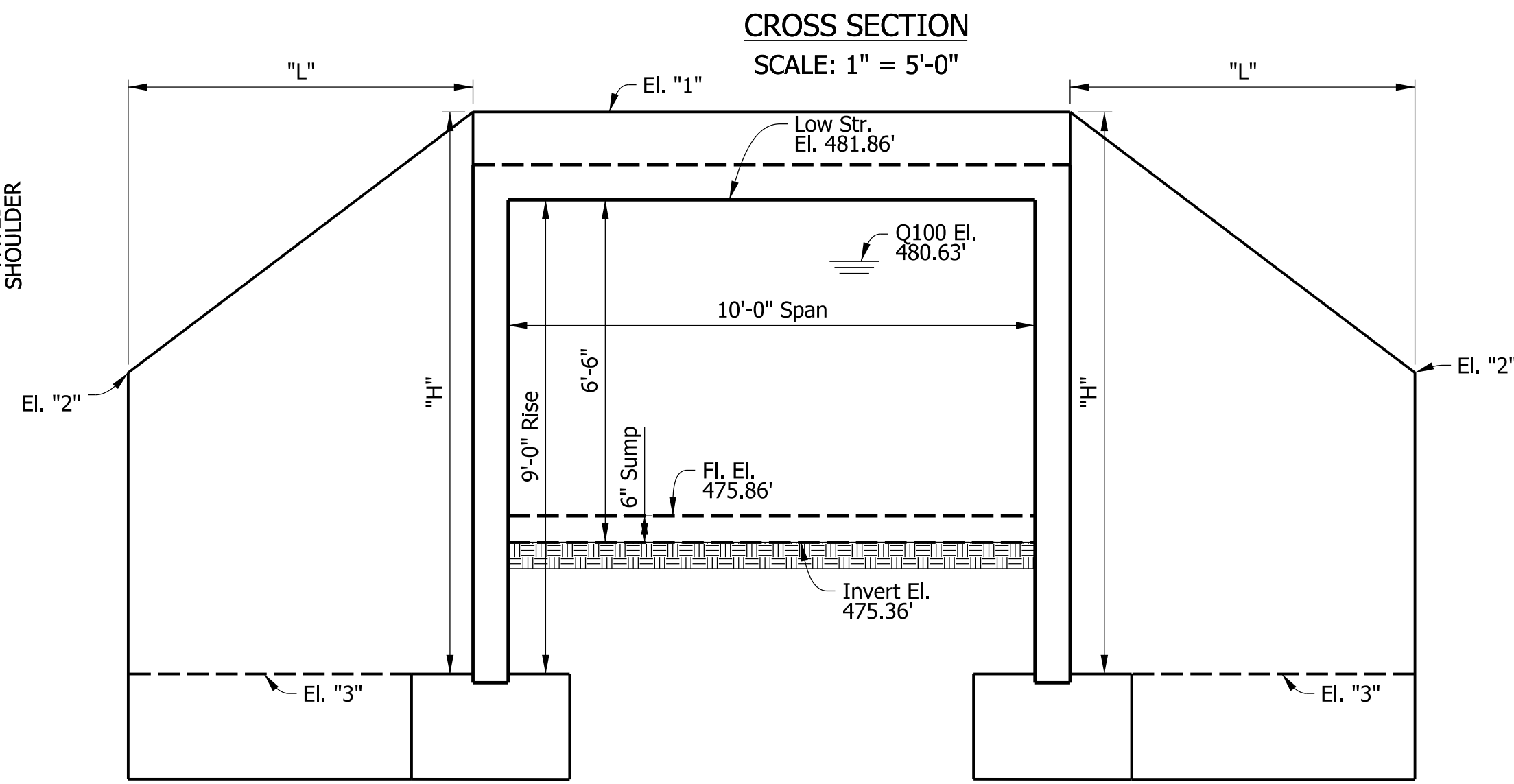
ITEM	UNIT	PROPOSED STRUCTURE
DRAINAGE AREA	Sq Mi	0.67
Q100 DISCHARGE	cfs	250
Q100 ELEVATION	ft	480.63
Q100 BACKWATER	ft	1.41
Q50 VELOCITY	ft/sec	6.91
WATERWAY OPENING BELOW Q100	Sft	47.70
MIN. LOW STR. ELEV.	ft	481.86
ROADWAY OVERFLOW-Q100	Sft	0

WINGWALL INFORMATION

ELEVATION	WING "A"	WING "B"	WING "C"	WING "D"
1	483.53	483.53	483.47	483.47
2	482.38	481.92	482.44	481.15
3	472.86	472.86	472.80	472.80
DIMENSION				
L	15'-0"	15'-0"	15'-0"	18'-0"
H	10'-8"	10'-8"	10'-8"	10'-8"
AREA	151.4 SFT.	147.8 SFT.	152.3 SFT.	171.2 SFT.



CROSS SECTION
SCALE: 1" = 5'-0"



ELEVATION
SCALE: 1" = 10'-0"

GEOTECHNICAL DATA TABLES

Table 2 - Soil Parameters for Spread Footing Design on Improved Soils

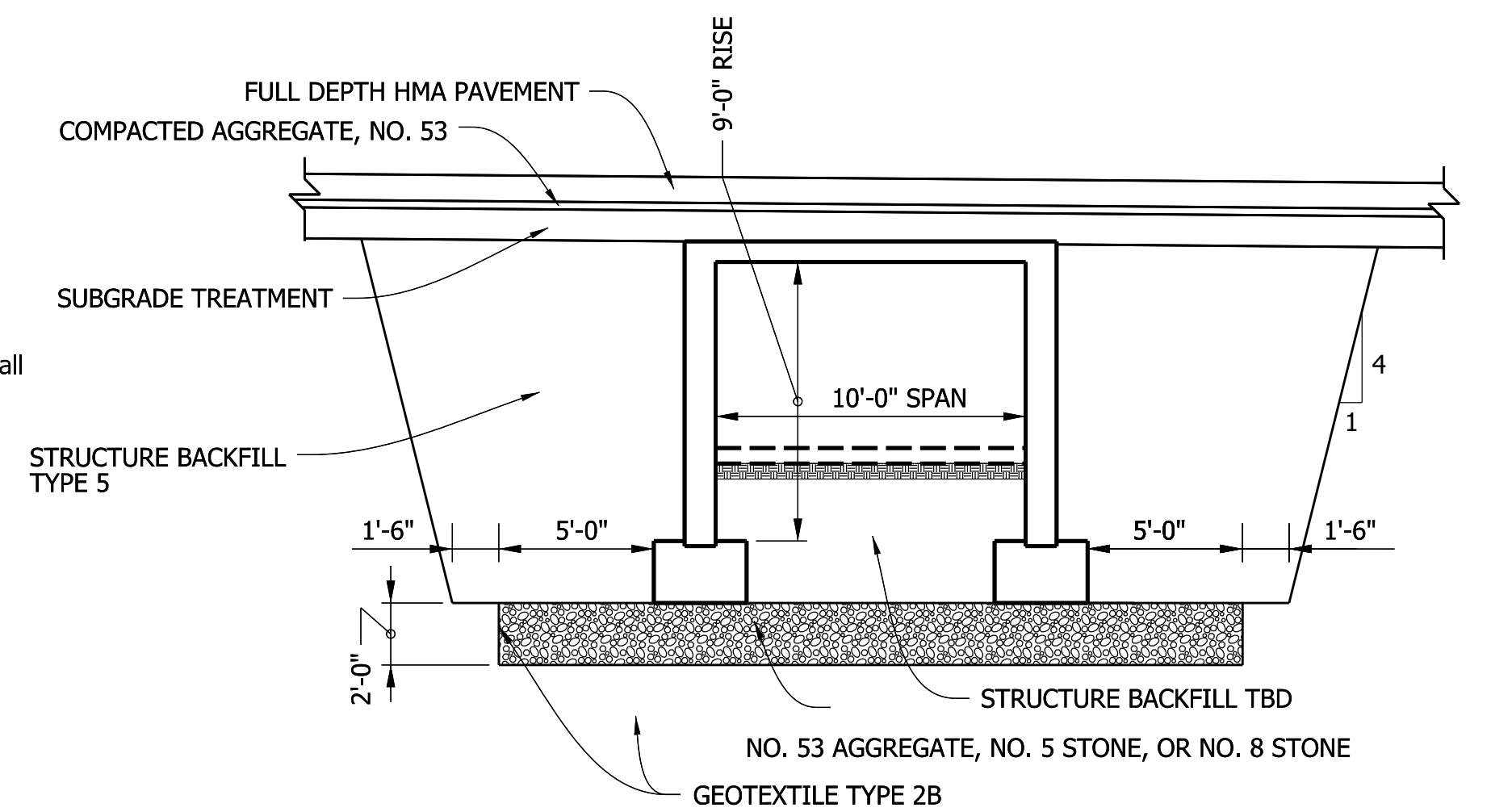
Parameters	Estimated Value
Minimum Bottom of Footing Elevations	4 Feet below Flowline @ Elevation 471.3 on improved soils
Minimum Footing Width, feet	3.0
Nominal Bearing Resistance (q_u), psf (Service Limit)	Table 3 - Figure 1
Bearing Resistance Factor (ϕ_b) (Strength Limit)	0.45
Soil Bearing Resistance, psf (Strength Limit)	Table 3 - Figure 1
Friction Angle of Foundation Soil (ϕ), degrees	30 ⁽¹⁾
Friction Angle between Footing and Foundation Soil (δ), degrees	20 ⁽¹⁾
Friction Factor ($\tan \delta$)	0.364 ⁽¹⁾
Nominal Cohesion of Foundation Soil (C), psf	0.0
Nominal Adhesion between Foundation Soil and Concrete (C_a), psf	0.0
Friction Angle of Backfill Material, degrees	30
Friction Angle between Wall and Backfill (δ_b), degrees	20
Total Unit Weight of Foundation Soil, pcf	125
Unit Weight of Backfill Material, pcf	130

⁽¹⁾ Soil parameters for a minimum of 2 feet undercut below proposed footing elevations and backfilling with No. 53 aggregate, No. 5 or No. 8 stone. The improvement area shall be performed a minimum horizontal distance of 5 feet beyond the footprint of the footings.

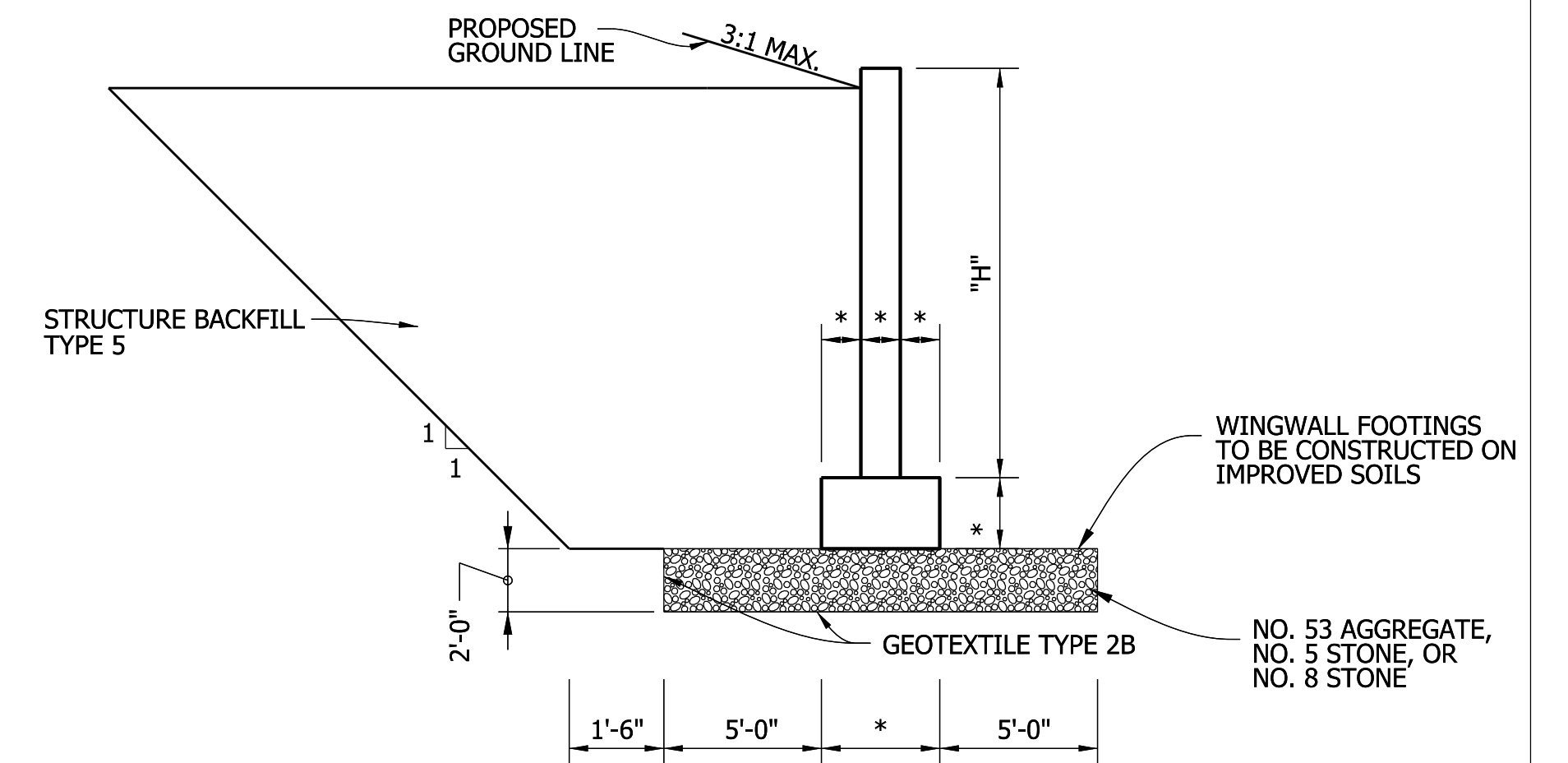
Table 3 - Recommended Factored Bearing Resistance on Improved Soils

Footing Width (feet)	Strength Limit State Factored Bearing Resistance (psf)	Service Limit State Bearing Resistance (psf)		Design Bearing Resistance (psf) *
		At 0.5-inch settlement	At 1.0-inch settlement	
3	4,100	750	2,050	2,050
4	3,650	550	1,450	1,450
5	3,400	450	1,200	1,200
6	3,250	400	1,050	1,050
7	3,150	350	900	900

* Assuming 1-inch settlement criteria.



TYPICAL STRUCTURE ELEVATION
SCALE: 1" = 5'-0"



TYPICAL WING ELEVATION
N.T.S.

DESIGN DATA

ALL ELEMENTS SHALL BE DESIGNED FOR HL-93 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION (2017), AND ALL SUBSEQUENT INTERIM SPECIFICATIONS. DEAD LOAD INCREASED 35 PSF FOR FUTURE WEARING SURFACE.

NOTES

* - INDICATES DIMENSIONS TO BE DETERMINED BY THE PRECAST MANUFACTURER.
CONTRACTOR SHALL VERIFY THE EXISTING FLOWLINE ELEVATION TO SET THE APPROPRIATE SUMP DEPTH.

PRECAST CULVERT THREE-SIDED FLAT TOP
10'-0" SPAN x 9'-0" RISE
STA. 403+57.00 LINE "B"

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
DESIGNED: MWR	DRAWN: LEJ			AS NOTED	N/A
CHECKED: JMM	CHECKED: JMM		PRECAST CULVERT DETAILS STRUCTURE CV-056-058-187.65	VERTICAL SCALE	DESIGNATION
				AS NOTED	1802982
				SURVEY BOOK	SHEET NO.
					9 of 23
				CONTRACT	PROJECT
				R-41524	1802982

DES 1802982
Appendix C
Early Coordination
and
Bat Habitat Assessment

Note to reader: Sample maps sent with the early coordination letter can be found in Appendix B



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 233-6795

Eric J. Holcomb, Governor
Joe McGuinness, Commissioner

November 10, 2020

Re: Des. Nos.1802982, State Road 56, Over Buck Run, Small Structure Replacement Project– Ohio County, Indiana

Dear Agency Representative,

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project on State Road 56 (SR 56) in Ohio County. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above designation 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 SR 56, 2.35 miles east of SR 262 in Ohio County. This section of SR 56 is a two-lane rural minor arterial and is part of the National Truck Network. The existing roadway is 26 feet wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of 12- foot travel lanes and 2- foot usable shoulders, 1 foot of the shoulders being paved. The existing large culvert, CV 056-058-187.65, is a 10- foot span by six foot rise concrete slabtop widened with one precast concrete beam on each side of the concrete slab and is used as a cattle crossing. The existing wingwalls have a loss of bearing with a large hole behind the southeast wingwall and in the shoulder pavement as well as spalling and exposed reinforcement of the slab. There is no existing right of way outside of existing pavement.

The current proposed project would replace the small structure over Buck Run with a 10 foot by 6- foot three-sided, flat top structure. The new structure will be sumped at 6 inches and will require scour protection placed at the outlet. Pavement widening will be required, and ditch and guardrail work is anticipated. The project would require the acquisition approximately of 0.84 acre of permanent right-of-way. Proposed right-of-way widths along SR 56 would be 40 feet from centerline approaching the structure and 60 feet at the structure. The project would not require tree removal. The project limits would be approximately 555 feet in length. The method of traffic maintenance is planned to be a full closure of SR 56 with detour that will utilize US 50 and SR 129. The detour length is 48 miles with 15 miles of additional travel. Construction is anticipated to begin in Spring 2022.

Land use in the vicinity of the project is primarily agricultural. A Waters of the US Determination/Wetland Delineation Report will be completed to identify any ecological resources that may be present. This project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern longeared bat and project information will be submitted through USFWS's Information for Planning and Consultation (IPaC) portal separately. An archaeological investigation will be completed for any areas of new right-of-way.

Please respond with comments, questions, and concerns within thirty (30) calendar days from the date of this letter; if no response is received, it will be assumed that your agency feels that there are no adverse

effects incurred as a result of this proposed project. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Jessica Parrish at SJCA Inc at jparrish@sjcainc.com or 317-634-4110 or INDOT Project Manager, Karlei Metcalf kmetcalf1@indot.in.gov or 812-524-3969. Thank you in advance for your input on this project.

Sincerely,

Jessica Parrish, NEPA Preparer
SJCA Inc

Enclosures:

Mailing List
Project Maps
Ground Level Photographs



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 233-6795

Eric J. Holcomb, Governor
Joe McGuinness, Commissioner

Federal Highway Administration
Seymore District
erica.tait@dot.gov

Environmental Coordinator
Indiana Department of Natural Resources Division
of Fish and Wildlife
environmentalreview@dnr.in.gov

Indiana Geological Survey
Online Submission:
<https://igs.indiana.edu/eassessment/>

Indiana Department of Environmental Management
Online Submission
<https://www.in.gov/idem/5284.htm>

US Department of Housing and Urban Development
Chicago Regional Office
Melanie.H.Castillo@hud.gov

INDOT Seymore District
David Dye
ddye@indot.in.gov

INDOT Project Manager
Karlei Metcalf
kmetcalf1@indot.in.gov

Field Supervisor US Fish and Wildlife Service
Bloomington Indiana Field Office 620 South Walker
Street Bloomington, Indiana 47403-2121
robin_mewilliams@fws.gov

State Conservationist
Natural Resources Conservation Service
Rick.neilson@in.usda.gov

Ms. Deborah Snyder
US Army Corps of Engineers,
Louisville District, Indianapolis Regulatory Office,
Indianapolis, IN 46216
RegulatoryApplicationsLRL@usace.army.mil

Ohio County Surveyor
Wayne Stahl
205 N High Street
Rising Sun, Indiana 47040
wlstahl@centurylink.net

National Park Service, Midwest Regional
Environmental Coordinator, Hector Santiago.
hector_santiago@nps.org

Wellhead Proximity Determinator website
<https://www.in.gov/idem/cleanwater/pages/wellhead/>

Rising Sun Ohio County Community School Corp
Becky Brown
Transportation Secretary
bbrown@risingsun.k12.in.us

Ohio County Highway Department
ochd@etczone.com

Rising Sun City Council
City Hall, Council Chambers
200 N. Walnut St.
Rising Sun, IN 47040
Bill Marksberry-Councilman
bmarksberry@cityofrisingsun.com
Bud Radcliff-Councilman
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Lisa Hewitt-Williams-Councilwoman
lhwilliams@cityofrisingsun.com
Tina Rumsey-Councilwoman
trumsey@cityofrisingsun.com

www.in.gov/dot/

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Organization and Project Information

Project ID:

Des. ID:

Project Title: DES 1802982 SR 56 over Buck Run Small Structure Replacement

Name of Organization: SJCA

Requested by: Jessica Parrish

Environmental Assessment Report

1. Geological Hazards:

- High liquefaction potential
- Floodway
- Potential Slope Instability

2. Mineral Resources:

- Bedrock Resource: Low Potential
- Sand and Gravel Resource: High Potential

3. Active or abandoned mineral resources extraction sites:

- None documented in the area

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

DISCLAIMER:

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

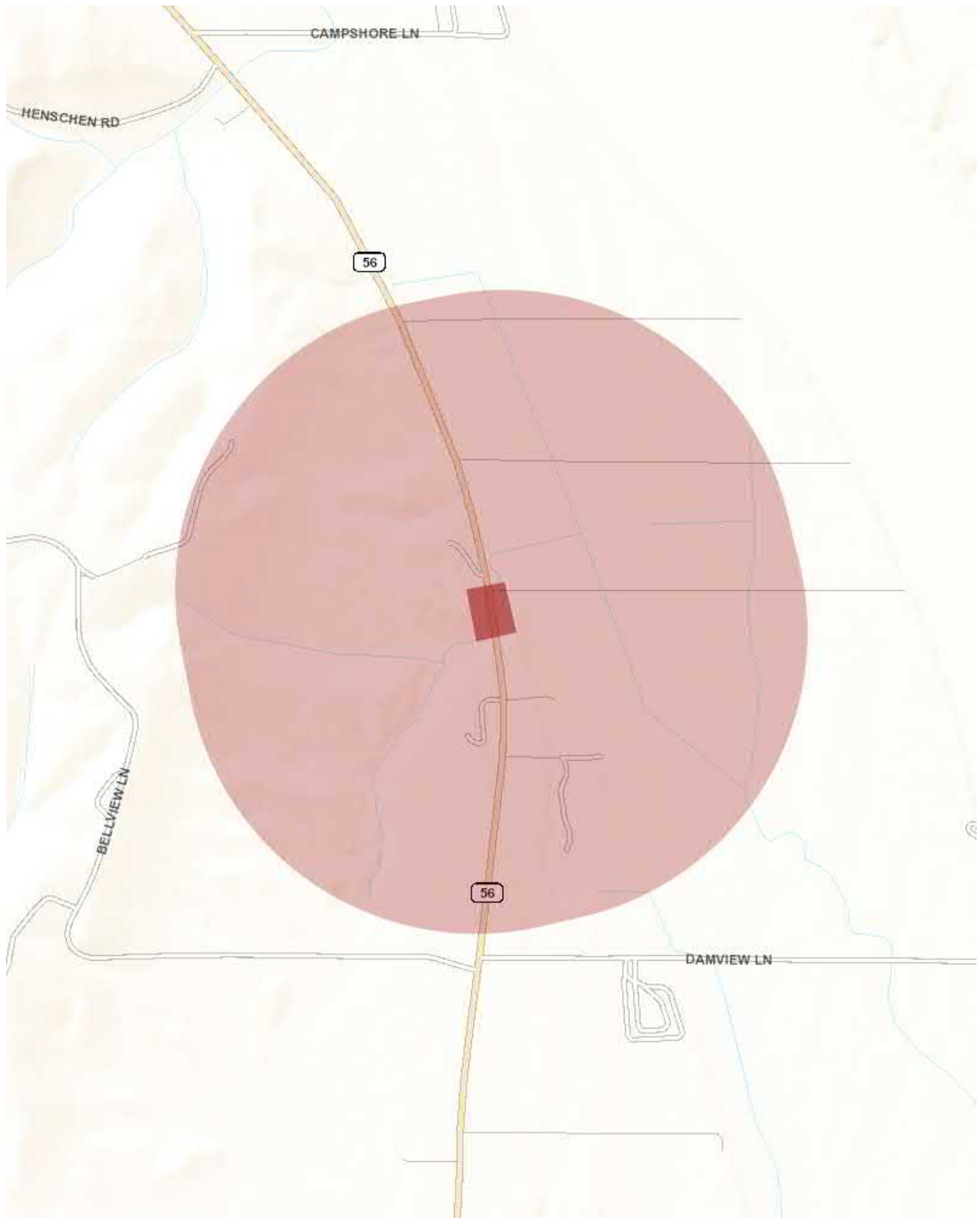
This information was furnished by Indiana Geological Survey

Address: 420 N. Walnut St., Bloomington, IN 47404

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: November 11, 2020



Metadata:

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



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

SJCA
Jessica Parrish
9102 N. Meridian St, Suite 200
Indianapolis , IN 46260

, IN
Date

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: DES 1802982 SR 56 over Buck Run Small Structure Replacement. Replacing existing large culvert, CV 056-058-187.65, with a 10 foot by 6- foot three-sided, flat top structure. The new structure will be sumped at 6 inches and will require scour protection placed at the outlet. Pavement widening will be required, and ditch and guardrail work is anticipated. The project would require the acquisition approximately of 0.84 acre of permanent right-of-way. The project limits would be approximately 555 feet in length. The method of traffic maintenance is planned to be a full closure of SR 56 with detour that will utilize US 50 and SR 129. The detour length is 48 miles with 15 miles of additional travel. Construction is anticipated to begin in Spring 2022.

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:
- o IC 14-26-2 Lakes Preservation Act 312 IAC 11
 - o IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
 - o IC 14-28-1 Flood Control Act 310 IAC 6-1
 - o IC 14-29-1 Navigable Waterways Act 312 IAC 6
 - o IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
 - o IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at:

<http://www.in.gov/dnr/water/9451.htm> (<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
- o <http://www.in.gov/idem/4902.htm> (<http://www.in.gov/idem/4902.htm>)

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (<http://www.in.gov/idem/4917.htm#constreq>) (<http://www.in.gov/idem/4917.htm#constreq>)), and as described in 327 IAC 15-5-6.5 (<http://www.in.gov/legislative/iac/T03270/A00150> [PDF] (<http://www.in.gov/legislative/iac/T03270/A00150.PDF>), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (<http://www.in.gov/isda/soil/contacts/map.html>) (<http://www.in.gov/isda/soil/contacts/map.html>)).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm> (<http://www.in.gov/idem/4900.htm>).

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.
8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.
9. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (<http://www.in.gov/idem/4148.htm> (<http://www.in.gov/idem/4148.htm>)) under specific conditions. You also can seek an open burning variance from IDEM.

However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus *Histoplasma capsulatum*, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

2. The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>).

The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit: http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf (http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf)). It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure visit: <http://www.in.gov/isdh/regsvcs/radhealth/radon.htm> (<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>), <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html> (<http://www.epa.gov/radon/index.html>).

3. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at <http://www.in.gov/icpr/webfile/formsdiv/44593.pdf> (<http://www.in.gov/icpr/webfile/formsdiv/44593.pdf>).

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on

pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. All notification remitters will be billed on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: <http://www.in.gov/idem/4983.htm> (<http://www.in.gov/idem/4983.htm>).

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: <http://www.in.gov/isdh/19131.htm> (<http://www.in.gov/isdh/19131.htm>).
5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>) (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>)).
6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: www.ai.org/legislative/iac/t03260/a00020.pdf) (<http://www.ai.org/legislative/iac/t03260/a00020.pdf>.) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
7. For more information on air permits visit: <http://www.in.gov/idem/4223.htm> (<http://www.in.gov/idem/4223.htm>), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm> (<http://www.in.gov/idem/4998.htm>).
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.
4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.

5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).
6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: <http://www.in.gov/idem/4999.htm> (<http://www.in.gov/idem/4999.htm>).

FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that 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

DES 1802982 SR 56 over Buck Run Small Structure Replacement. Replacing existing large culvert, CV 056-058-187.65, with a 10 foot by 6- foot three-sided, flat top structure. The new structure will be sumped at 6 inches and will require scour protection placed at the outlet. Pavement widening will be required, and ditch and guardrail work is anticipated. The project would require the acquisition approximately of 0.84 acre of permanent right-of-way. The project limits would be approximately 555 feet in length. The method of traffic maintenance is planned to be a full closure of SR 56 with detour that will utilize US 50 and SR 129. The detour length is 48 miles with 15 miles of additional travel. Construction is anticipated to begin in Spring 2022.

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: 12/28/2020

Signature of the INDOT

Project Engineer or Other Responsible Agent *Karlei Metcalf*

Date: 12/23/2020

Signature of the

For Hire Consultant *Jessica Parrish*

Jessica Parrish, SJCA Inc

From: [WAYNE](#)
To: [Jessica Parrish](#)
Subject: Re: DES 1802982 SR 56 Small Structure Replacement Early Coordination
Date: Tuesday, November 24, 2020 9:36:58 AM
Attachments: [image003.png](#)

How will the state's acquisition of the right of way and replacement of the of the span effect the property owner's use of the span as a cattle crossing? He owns the property on both sides of the road and uses the underpass to move livestock from one side of the highway to the other. Wayne Stahl, Ohio Co. Surveyor

From: "Jessica Parrish" <jparrish@sjcainc.com>
To: "erica tait" <erica.tait@dot.gov>, "DNR Environmental Review" <environmentalreview@dnr.IN.gov>, "Melanie h castillo" <Melanie.h.castillo@hud.gov>, ddye@indot.IN.gov, kmetcalf1@indot.in.gov, "robin mcwilliams" <robin_mcwilliams@fws.gov>, "Rick neilson" <Rick.neilson@in.usda.gov>, wlstahl@centurylink.net, "hector santiago" <hector_santiago@nps.gov>, bbrown@risingsun.k.12.in.us, ochdh@etczone.com, bmarksberry@cityofrisingsun.com, jradcliff1203@gmail.com, dthomason@cityofrisingsun.com, lhwiliams@cityofrisingsun.com, trumsey@cityofrisingsun.com
Sent: Tuesday, November 10, 2020 10:44:51 AM
Subject: DES 1802982 SR 56 Small Structure Replacement Early Coordination

Good morning,

Attached is the Early Coordination Letter for the SR 56 Small Structure Replacement project in Ohio County, Indiana. Your comment are requested withing thirty (30) days.

Thank you,
[Jessica Parrish](#),
NEPA Preparer

SJCA Inc.
1104 Prospect St.
Indianapolis, IN 46203
T (317) 634-4110
jparrish@sjcainc.com



From: [McWilliams, Robin](#)
To: [Jessica Parrish](#)
Subject: Re: [EXTERNAL] DES 1802982 SR 56 Small Structure Replacement Early Coordination
Date: Tuesday, December 8, 2020 1:51:39 PM
Attachments: [image003.png](#)

Dear Jessica,

This responds to your recent letter requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The project is within the range of the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) and should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (i.e. a federal transportation nexus is established). The Service has 14 days after a "Not Likely to Adversely Affect" determination letter is generated to review the project and provide additional comments or request additional information; if you do not receive a response from us within 14 days, we have no additional comments.

The project is also within the range of the running buffalo clover (*Trifolium stoloniferum*, endangered). This species occurs in mesic habitats of partial to filtered sunlight, including disturbed bottomland meadows, where there is a prolonged pattern of moderate periodic disturbance, such as mowing, trampling, or grazing. It is most often found in regions underlain with limestone or other calcareous bedrock. Due to the project site characteristics, it does not appear any running buffalo habitat will be impacted.

Based on a review of the information you provided, the U.S. Fish and Wildlife Service has no other comments on the project as currently proposed. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinstate consultation. Standard recommendations are provided below.

We appreciate the opportunity to comment at this early stage of project planning. If you have any questions about our recommendations, please call (812) 334-4261 x. 207.

Sincerely,
Robin McWilliams Munson

Standard Recommendations:

1. Do not clear trees or understory vegetation outside the construction zone boundaries. **(This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**
2. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.

Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community.

3. Restrict channel work and vegetation clearing to the minimum necessary for installation of the stream crossing structure.
4. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat.
5. Implement temporary erosion and sediment control methods within areas of disturbed soil. All disturbed soil areas upon project completion will be vegetated following INDOT's standard specifications.
6. Avoid all work within the inundated part of the stream channel (in perennial streams and larger intermittent streams) during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below Ordinary High Water Mark during this time unless the machinery is within the caissons or on the cofferdams.
7. Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing

Robin McWilliams Munson
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
620 South Walker Street
Bloomington, IN 46142
812-334-4261

[Mon-Tues 8-3:30p](#)

[Wed-Thurs 8:30-3p Telework](#)

From: Jessica Parrish <jparrish@sjcainc.com>

Sent: Tuesday, November 10, 2020 10:44 AM

To: erica.tait@dot.gov <erica.tait@dot.gov>; DNR Environmental Review <environmentalreview@dnr.IN.gov>; Melanie.h.castillo@hud.gov <Melanie.h.castillo@hud.gov>; ddye@indot.IN.gov <ddye@indot.IN.gov>; kmetcalf1@indot.in.gov <kmetcalf1@indot.in.gov>; McWilliams, Robin <robin_mcwilliams@fws.gov>; Rick.neilson@in.usda.gov <Rick.neilson@in.usda.gov>; wlstahl@centurylink.net <wlstahl@centurylink.net>; Santiago, Hector R <Hector_Santiago@nps.gov>; bbrown@risingsun.k.12.in.us <bbrown@risingsun.k.12.in.us>; ochdh@etczone.com <ochdh@etczone.com>; bmarksberry@cityofrisingsun.com <bmarksberry@cityofrisingsun.com>; jradcliff1203@gmail.com <jradcliff1203@gmail.com>; dthomason@cityofrisingsun.com <dthomason@cityofrisingsun.com>; lhwilliams@cityofrisingsun.com <lhwilliams@cityofrisingsun.com>; trumsey@cityofrisingsun.com <trumsey@cityofrisingsun.com>

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

DNR #: ER-23212

Request Received: November 10, 2020

Requestor: SJCA P.C.
Jessica Parrish
9102 North Meridian Street, Suite 200
Indianapolis, IN 46260

Project: SR 56 small structure (CV 056-058-187.65) replacement over Buck Run, 2.35 miles east of SR 262; Des #1802982

County/Site info: Ohio

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) Crossing Structure:

For purposes of maintaining fish and wildlife passage through a crossing structure, the Environmental Unit recommends bridges rather than culverts and bottomless culverts rather than box or pipe culverts. Wide culverts are better than narrow culverts, and culverts with shorter through lengths are better than culverts with longer through lengths. If box or pipe culverts are used, the bottoms should be buried a minimum of 6" (or 20% of the culvert height/pipe diameter, whichever is greater up to a maximum of 2') below the stream bed elevation to allow a natural streambed to form within or under the crossing structure. Crossings should: span the entire channel width (a minimum of 1.2 times the OHWM width); maintain the natural stream substrate within the structure; have a minimum openness ratio (height x width / length) of 0.25; and have stream depth, channel width, and water velocities during low-flow conditions that are approximate to those in the natural stream channel. Banklines should be restored within box and pipe structures to allow for wildlife passage above the ordinary highwater mark.

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. When determining an appropriate bridge or culvert size, consider whether or not wildlife/vehicle collisions are a concern at the crossing site. If feasible, a larger bridge or culvert opening can allow for the movement of wildlife under the roadway in order to minimize wildlife/vehicle collisions.

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

2) Bank Stabilization:

Establishing vegetation along the banks is critical for stabilization and erosion control. In addition to vegetation, some other form of bank stabilization may be needed. While hard armoring alone (e.g. riprap or glacial stone) may be needed in certain instances, soft armoring and bioengineering techniques should be considered first. In many instances, one or more methods are necessary to increase the likelihood of vegetation establishment. Combining vegetation with most bank stabilization methods can provide additional bank protection and help reduce impacts upon fish and wildlife. Information about bioengineering techniques can be found at <http://www.in.gov/legislative/iac/20120404-IR-312120154NRA.xml.pdf>. Also, the following is a USDA/NRCS document that outlines many different bioengineering techniques for streambank stabilization: <http://directives.sc.egov.usda.gov/17553.wba>.

Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to Eastern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion.

3) Riparian Habitat:

We recommend a mitigation plan be developed for any unavoidable habitat impacts that will occur. The DNR's Habitat Mitigation guidelines (and plant lists) can be found online at: <http://iac.iga.in.gov/iac/20200527-IR-312200284NRA.xml.pdf>.

Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees) or by using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10 acre in an urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however.

4) Stream/Wetland Habitat:

For any stream and/or wetland impacts, you may need to contact the Indiana Department of Environmental Management (IDEM) 401 program and the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

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

1. Revegetate all bare and disturbed areas that will not be mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Southeastern Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in regularly mowed areas only.

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

2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.
4. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
5. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure.
6. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
7. Operate equipment used to replace the bridge from the existing roadway.
8. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
9. Do not use broken concrete as riprap.
10. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
11. Minimize the movement of resuspended bottom sediment from the immediate project area.
12. 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.
13. 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.
14. Do not excavate or place fill in any riparian wetland.

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer

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

Date: December 9, 2020

Jessica Parrish

From: Dye, David <DDYE@indot.IN.gov>
Sent: Monday, December 7, 2020 4:23 PM
To: Jessica Parrish
Subject: RE: DES 1802982 SR 56 over Buck Run/ IPaC Record Locator: 638-24482627

You left 'pipe' in the description, so I changed it to 'structure'. That change shows up in the verification letter (the important one) but not the consistency letter, I just learned. 😊👤

I have reviewed and submitted this determination to USFWS for their 14-day review period.

Let me know if you have any additional questions.

David Dye
Environmental Section Manager
185 Agrico Lane
Seymour, IN 47274
Office: (812) 524-3723
Email: ddye@indot.in.gov



From: Jessica Parrish <jparrish@sjcainc.com>
Sent: Monday, December 7, 2020 3:02 PM
To: Dye, David <DDYE@indot.IN.gov>
Subject: RE: DES 1802982 SR 56 over Buck Run/ IPaC Record Locator: 638-24482627

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

Well, that pipe is from another project so I removed it and generated a new letter. Sorry about that. The other project is in your district as well so we can revisit that pipe at a later time. Have a great day.

Thank you,

Jessica Parrish,
NEPA Preparer

SJCA Inc.
1104 Prospect St.
Indianapolis, IN 46203
T (317) 634-4110
jparrish@sjcainc.com





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:

December 07, 2020

Consultation Code: 03E12000-2021-I-0131

Event Code: 03E12000-2021-E-01372

Project Name: DES 1802982 SR 56 over Buck Run Small Structure Replacement

Subject: Concurrence verification letter for the 'DES 1802982 SR 56 over Buck Run 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 1802982 SR 56 over Buck Run 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:

- Running Buffalo Clover, *Trifolium stoloniferum* (Endangered)

Project Description

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

Name

DES 1802982 SR 56 over Buck Run Small Structure Replacement

Description

This project includes the replacement of structure CV 056-058-187.65 on SR 56 over Buck Creek, 2.35 miles east of SR 262, north of the town of Rising Sun, in Ohio County, Indiana. This section of SR 56 is a two lane rural minor arterial and is part of the National Truck Network. The existing roadway is 26 feet wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of two (2) 12 foot travel lanes with two (2) foot usable shoulders, one (1) foot of the shoulders being paved. The existing large culvert, CV 056-058-187.65, is a 10 foot span by six (6) foot rise concrete slabtop widened with one precast concrete beam on each side of the concrete slab and is used as a cattle crossing. The existing wingwalls have a loss of bearing with a large hole behind the southeast wingwall and in the shoulder pavement as well as spalling and exposed reinforcement of the slab. The approximate existing right-of-way is 14 feet to each side of centerline throughout the project area. The preferred alternative for this project is to replace the existing structure with a 10 foot by six (6) foot three- sided flat top structure with scour protection at the outlet. The project limits are approximately 215 feet west of the structure and 250 feet east of the structure. Approximately 0.85 acre of right of way will be required for access to the structure and grading the slopes to maintain drainage to the structure. It is anticipated 0.18 acre of trees will be removed to provide access to the end of the structure and space to construct the energy dissipater in the channel bed. Suitable summer habitat is located adjacent to the project area, with stands of trees with diameter larger than 3 inches, and individual trees within 1000 feet of the structure. A review of the USFWS database on November 5, 2020 by INDOT, did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. A site visit on October 8, 2020 by SJCA, Inc staff found no indication or presence of bats or guano in the structure. Temporary lightning may be used during construction but no permanent lighting is planned. Construction is anticipated to begin Summer of 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?

No

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

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

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

Yes

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

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

Yes

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

No

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

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

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

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

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

No

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

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

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

No

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

Yes

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

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

B) During the inactive season

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

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

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

No

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

Yes

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

B) During the inactive season

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

Yes

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

No

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

Yes

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

No

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

No

23. Does the project include slash pile burning?

No

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

Yes

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

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

Yes

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

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

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

Yes

SUBMITTED DOCUMENTS

- *SR 56 bat inspection.pdf* <https://ecos.fws.gov/ipac/project/634XXFWFA5G6FAEKJDRISWKKGY/projectDocuments/24482083>

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

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

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

No

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

No

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

No

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

Yes

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

Yes

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

No

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

No

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

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

Yes

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

No

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

Automatically answered

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

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

Automatically answered

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

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

Automatically answered

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

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

Automatically answered

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

40. **General AMM 1**

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

Yes

41. **Tree Removal AMM 1**

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

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

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

Yes

42. **Tree Removal AMM 3**

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

Yes

43. **Tree Removal AMM 4**

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

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

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

Yes

44. **Lighting AMM 1**

Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

Project Questionnaire

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

No

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

No

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

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

0.18

4. Please describe the proposed bridge work:

Culvert Replacement

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

Begin Summer 2023

6. Please enter the date of the bridge assessment:

October 8, 2020

Avoidance And Minimization Measures (AMMs)

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

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.

LIGHTING AMM 1

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

TREE REMOVAL AMM 1

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

TREE REMOVAL AMM 2

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

TREE REMOVAL AMM 3

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

TREE REMOVAL AMM 4

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

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

This key was last updated in IPaC on December 02, 2019. Keys are subject to periodic revision.

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

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

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

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

In Reply Refer To:

May 05, 2021

Consultation Code: 03E12000-2021-SLI-0131

Event Code: 03E12000-2021-E-05867

Project Name: DES 1802982 SR 56 over Buck Run 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: 03E12000-2021-SLI-0131

Event Code: 03E12000-2021-E-05867

Project Name: DES 1802982 SR 56 over Buck Run Small Structure Replacement

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: This project includes the replacement of structure CV 056-058-187.65 on SR 56 over Buck Creek, 2.35 miles east of SR 262, north of the town of Rising Sun, in Ohio County, Indiana. This section of SR 56 is a two lane rural minor arterial and is part of the National Truck Network. The existing roadway is 26 feet wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of two (2) 12 foot travel lanes with two (2) foot usable shoulders, one (1) foot of the shoulders being paved. The existing large culvert, CV 056-058-187.65, is a 10 foot span by six (6) foot rise concrete slabtop widened with one precast concrete beam on each side of the concrete slab and is used as a cattle crossing. The existing wingwalls have a loss of bearing with a large hole behind the southeast wingwall and in the shoulder pavement as well as spalling and exposed reinforcement of the slab. The approximate existing right-of-way is 14 feet to each side of centerline throughout the project area. The preferred alternative for this project is to replace the existing structure with a 10 foot by six (6) foot three- sided flat top structure with scour protection at the outlet. The project limits are approximately 215 feet west of the structure and 250 feet east of the structure. Approximately 0.85 acre of right of way will be required for access to the structure and grading the slopes to maintain drainage to the structure. It is anticipated 0.18 acre of trees will be removed to provide access to the end of the structure and space to construct the energy dissipater in the channel bed. Suitable summer habitat is located adjacent to the project area, with stands of trees with diameter larger than 3 inches, and individual trees within 1000 feet of the structure. A review of the USFWS database on November 5, 2020 by INDOT, did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. A site visit on October 8, 2020 by SJCA, Inc staff found no indication or presence of bats or guano in the structure. Temporary lightning may be used during construction but no permanent lighting is planned. Construction is anticipated to begin Summer of 2023.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.9825311876413,-84.84892151366381,14z>



Counties: Ohio 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: <ul style="list-style-type: none"> ▪ 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

Flowering Plants

NAME	STATUS
Running Buffalo Clover <i>Trifolium stoloniferum</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2529	Endangered

Critical habitats

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

July 22, 2021

Sawyer Patrick
SJCA
9201 North Meridian Street, Suite 200
Indianapolis, Indiana 46260

Dear Mr. Patrick:

The proposed project to replace the small structure along State Road 56 over Buck Run in Ohio County, Indiana, (Des No 1802982) as referred to in your letters received June 28, 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 Digitally signed by
RICHARD NEILSON
NEILSON Date: 2021.07.27
06:34:10 -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			
Name of Project DES1802982_SR56 over Buck Run		Federal Agency Involved			
Proposed Land Use		County and State Ohio County, Indiana			
PART II (To be completed by NRCS)		Date Request Received By NRCS 6/28/2021		Person Completing Form: JRA	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Acres Irrigated	
				Average Farm Size 152 ac	
Major Crop(s) Corn		Farmable Land In Govt. Jurisdiction Acres: 34602 % 62		Amount of Farmland As Defined in FPPA Acres: 13104 % 23	
Name of Land Evaluation System Used LESA		Name of State or Local Site Assessment System		Date Land Evaluation Returned by NRCS 7/22/2021	
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		0.76			
B. Total Acres Statewide Important or Local Important Farmland		0.00			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.002			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		46			
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		77			
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160	0	0	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	77	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	77	0	0
Site Selected:		Date Of Selection		Was A Local Site Assessment Used?	
				YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

(See Instructions on reverse side)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

DES 1802982

Appendix D

Section 106

From: [Kelly, Clint](#)
To: [Aimee Adamson](#)
Cc: [Kumar, Anuradha](#); [Branigin, Susan](#); [Miller, Shaun \(INDOT\)](#); [Karen Wood](#); [Erin Mulryan](#); [Jessica Parrish](#); [Metcalf, Karlei A](#); [Moffatt, Charles D](#)
Subject: Des. 1802982 MPPA Approval
Date: Wednesday, March 31, 2021 10:52:20 AM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image007.png](#)
[image009.png](#)
[image010.png](#)
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[image019.png](#)
[image020.png](#)
[image021.png](#)
[image022.png](#)
[MPPA Determination Form B-9 Des 1802982.pdf](#)

Aimee,
Thank you for the submittal of this project information for our review. We have determined that this project falls under Category B-4 and B9 of the MPPA, thus concluding the Section 106 process. Please find attached the completed determination forms for inclusion in the CE.

The archaeological report has been reviewed and approved by INDOT-CRO. Please forward one hard copy of the report to DHPA, indicating in the cover letter that the project qualified as a Minor Project and therefore the report is for their records only and no formal review is required under Section 106. In addition, we ask that a copy of the DHPA submittal letter be sent to INDOT CRO care of David Moffatt during the time of submission and that the archaeological report be posted to IN SCOPE (please ensure that the uploaded file follows the IN SCOPE naming conventions).

Please keep in mind that if the scope of the project or project limits should change, our office will need to re-examine the information to determine whether the MPPA still applies. Please don't hesitate to contact us should you have any questions or need additional information.

Thanks,
Clint

Clint Kelly

Historian

Cultural Resources Office

Environmental Services

100 N. Senate Ave., Rm. N758-ES

Indianapolis, IN 46204

Office: (317) 447-8707

Email: ckelly1@indot.in.gov

Core Office Hours: M-F 7:30-3:30



Minor Projects PA Project Assessment Form

Date: 3/31/2021

Project Designation Number: 1802982

Route Number: State Road (SR) 56

Project Description: Small Structure Replacement, 2.35 miles east of SR 262

This project takes place at SR 56 over Buck Run, 2.35 miles east of SR 262 in Randolph Township, Ohio County, Indiana. The roadway is classified as a Rural Minor Arterial route and is not part of the US National Highway System. It is, however, part of the Ohio River National Scenic Byway. The existing roadway is 26 feet wide with 12-foot travel lanes and 2-foot usable shoulders with 1 foot of the shoulders being paved. Guardrails are location on both sides of the roadway. The project focuses on the culvert CV 056-058- 187.65 underneath SR 56 over Buck Run. This culvert acts as cattle crossing. This concrete slab-top, widened with one concrete beam on each side with 10-foot span, was last inspected in 2017 and received an overall rating of 4. The rating was due to the loss of bearing near the wingwalls under the added channel beams. Since the last inspection it appears some repairs were made because of wood formwork observed at engineer's field check in 2019. A large hole was also found behind the southeast wingwall and in the shoulder pavement. The primary need for this project is based on the poor condition of the existing structure. The purpose is to provide a structurally sufficient structure to perpetuate vehicular crossing, while increasing the safety features in the project area.

The proposed alternative would replace the existing structure with a 46-foot, precast three-sided flat top structure with a 10-foot span by 9-foot rise with wingwalls that would continue to allow the passage of cattle. Articulated concrete block mat will be used at the culvert outlets to facilitate the safe passage of cattle. Articulated concrete revetment and Class 1 Riprap will be placed outside the block mat on the eastside. A design exception for roadside safety elements is being submitted for the area on the west side of the roadway north of the structure. The existing condition in this area consists of guardrail, minimal ditch behind the guardrail, and a hillside slope that rises approximately 40 feet above the roadway. The project recommendation is to replicate the existing guardrail length with a riprap lined "V" ditch behind the guardrail having steep slopes to minimize the cut quantity. 748 feet of guardrail will be removed and replaced with 462.5 feet MGS long span guardrail. A design exception for usable shoulder width is being submitted.

Since this project is a small structure replacement project of relatively short length a 4 feet-0 inches usable shoulder width is proposed to better align with the existing roadway. Per IDM Figure 55-3A the minimum required usable shoulder width is 8 feet. Another design exception is being submitted regarding superelevation transition. There is a horizontal curve east (north) of the project limits that should theoretically be superelevated with the transition extending across the project limits. However, there is no superelevation on the curve, negating the need to construct a transition across the project limits.

A total of 0.85 acre of permanent right-of-way is expected with no temporary right-of-way needed.

Feature crossed (if applicable): Buck Run

City/Township: Randolph

County: Ohio

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

Minor Projects PA Project Assessment Form

Other (please specify): Bridge Inspection Application System (BIAS); Indiana State Historic Architectural and Archaeological Research Database (SHAARD); Indiana Buildings, Bridges, and Cemeteries Map website; Arc Map GIS; Ohio County GIS (accessed via <https://ohioin.wthgis.com>); *Ohio County Interim Report*; online street-view imagery; MPPA application (including maps and photographs) sent by SJCA, dated February 26th, 2020 and on file at Cultural Resources Office (CRO).

Carson, Catherine A.

2004 Phase Ia Archaeological Field Reconnaissance: Proposed Road Improvements to SR 56 from Rising Sun to Aurora, Dearborn and Ohio Counties, Indiana. Landmark Archaeological and Environmental Services. Submitted to American Consulting, Indianapolis. Copies on file at Division of Historic Preservation and Archaeology, Indianapolis.

Jackson, Christopher

2021 A Phase Ia Archaeological Literature Review and Reconnaissance Survey for the Proposed State Road 56 Small Structure Replacement over Buck Run that is 2.35 Miles East of State Road 262 (Des 1802982) in Randolph Township, Ohio County, Indiana. SJCA, Inc. Submitted to Burgess & Niple. Report on file at IDNR, DHPA.

Does the project fall under the Minor Projects PA? yes no

If yes, please specify categories and condition(s) (**conditions that are applicable are highlighted**):

B-4. Installation of new safety appurtenances, including but not limited to, guardrails, barriers, glare screens, and crash attenuators, under the following conditions [***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)

Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

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

Minor Projects PA Project Assessment Form

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 historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 performed a desktop review, checking the Indiana Register of Historic Sites and

Minor Projects PA Project Assessment Form

Structures (State Register) and National Register of Historic Places (National Register) lists for Ohio County. No listed resources are located within 0.25 mile of the project area, a distance that serves as an adequate area of potential effects given the surrounding terrain and project scope.

The Indiana Historic Sites and Structures Inventory (IHSSI) and National Register information for Ohio County is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Ohio County Interim Report* (1984; Randolph Township) of the Indiana Historic Sites and Structures Inventory (IHSSI) were also consulted. All sites were reviewed through the IHBBCM, which contains the most recently updated SHAARD information. Three (3) IHSSI documented properties rated higher than “Contributing” are located within 0.25 mile of the project area.

- IHSSI# 115-540-00030, Jacob House, Carpenter-Builder, c. 1880, rated “Notable”
- IHSSI# 115-540-00029, House, Italianate, c. 1880, rated “Outstanding”
- IHSSI# 115-540-00032, House, c. 1910, Dutch Colonial, rated “Notable”

The INDOT-CRO historian reviewed structures within 0.25 mile of the project area utilizing online aerial, street-view photography, and the Ohio County GIS website. The project area is located in a rural setting with agricultural fields. The adjacent building stock consists of late nineteenth to late twentieth century residential buildings. Of the three (3) IHSSI documented properties rated higher than “Contributing” noted above, one (IHSSI# 115-540-00030, rated “Notable”) is located at 7548 SR 56 and is approximately 120 feet east of the project area. Another (IHSSI# 115-540-00029, rated “Outstanding”) is located at 7619 SR 56 and is approximately 500 feet from the project area. The third (IHSSI# 115-540-00032, rated “Notable”) is located at 7409 SR 56 and is approximately 0.15 mile southeast of project area.

The most recent inspection report (R. Strain; 5/18/2017) from the Bridge Inspection Application System (BIAS) was referenced to review the culvert. The subject structure (CV 056-058-187.65) carries SR 56 over Buck Run and is a concrete slab top culvert and is 30 feet long. The date of construction is unknown. The project proposes to replace the structure with a 46-foot-long precast three-sided flat top concrete structure with a 10-foot span by 9-foot rise with wingwalls. Examination of online street view photography and BIAS images show the subject structure does not exhibit non-modern wood, stone, or brick structures or parts therein. In addition, the structure lacks a context that would suggest that it might have engineering or historical significance. The replacement of the structure is not in-kind, and the overall length will be extended 16 feet. However, the precast concrete three-sided flat top type is similar. The visual changes will not be significant.

While property parcel line for IHSSI# 115-540-00029 is approximately 70 feet north of the project area, the house is approximately 500 feet from the project area. The house sits on top of a hill with trees between the structure and project limits. Additionally, the small structure is screened from the house by a bend in the road and trees on the west side of the culvert. IHSSI# 115-540-00032, located approximately 0.15 mile from the project area, also has a house that is screened from the project area by trees. Due to the distance, trees, topography, and the extent of the project scope, IHSSI# 115-540-00029 and IHSSI# 115-540-00032 are not considered adjacent to the project area.

A review of photographs through the county GIS and online street-view reveals that IHSSI# 115-540-00030 has been demolished and was replaced with a late twentieth century residence. No other properties appear to possess the necessary significance or integrity to be considered National Register-eligible. No unusual features that might be impacted by construction activities were observed.

Based on the available information, as summarized above, no above-ground concerns exist.

Minor Projects PA Project Assessment Form

Archaeological Resources

An INDOT 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 submitted by SJCA, Inc. (Jackson 2021). The records check found that a portion of the project area had been examined previously (Carson 2004). No archaeological sites were recorded within or adjacent to the proposed project.

The archaeological reconnaissance consisted of shovel tests and an auger test of all areas not obviously disturbed or very steep (over 20%). No cultural materials were identified. The soil strata observed in the shovel and auger tests did not suggest potential for buried archaeological deposits and so no additional investigation was recommended.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving 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): Clint Kelly 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.*

DES 1802982

Appendix E

Red Flag Investigation



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

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

Eric Holcomb, Governor
Joe McGuinness,
Commissioner

Date: March 30, 2021

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

From: Ty Gallahan, SJCA Inc
Seymour District
1104 Prospect Street
Indianapolis, Indiana
TGallahan@SJCAinc.com

Re: RED FLAG INVESTIGATION
DES 1802982, State Project
Small Structure Project
SR 56 over Buck Run, 2.35 Miles East of SR 262
Ohio County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) intend to proceed with a small structure project at the SR 56 over Buck Run. The existing structure is a Concrete Slab top widened with one concrete beam on each side with a span length of 10 ft. The existing roadway is 26 ft wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of 12 ft travel lanes and 2 ft usable shoulders, 1 ft of the shoulders being paved. The preferred alternative is a small structure replacement of the existing structure with a 10 ft x 6 ft three-sided flat top structure. The new structure will be sumped at 6 inches and will require scour protection placed at the outlet. Pavement widening will be required, and ditch and guardrail work is anticipated.

Bridge and/or Culvert Project: Yes No Structure # CV 056-058-187.65

If this is a bridge project, is the bridge Historical? Yes No , Select Non-Select

Proposed right of way: Temporary # Acres N/A, Permanent # Acres over 0.5 acre, Not Applicable

Type of excavation: A maximum of 6 feet of excavation may be needed under the invert of the structure for footer construction. Excavation is anticipated for pavement widening, structure removal/replacement, ditches, riprap placement, and benching on roadside slopes.

Maintenance of traffic: Maintenance of Traffic is anticipated to be a full closure with a detour. The proposed detour will utilize US 50 and SR 129. The detour length is 48 miles, with 15 miles of additional travel.

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	N/A
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: No infrastructure resources were identified within the 0.5 mile search radius.

WATER RESOURCES TABLE AND SUMMARY

Water Resources			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	3	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	31
Canal Structures – Historic	N/A	Lakes	2
NPS NRI Listed	N/A	Floodplain - DFIRM	2
NWI-Lines	10	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	11	Sinking-Stream Basins	N/A

Explanation:

NWI-Points: Three (3) NWI-Points are located within the 0.5 mile search radius. The nearest NWI-Point is located 0.35 mile northeast of the project area. No impact is expected

NWI-Lines: Ten (10) NWI-lines are located within the 0.5 mile search radius. The nearest NWI-line is located 0.18 mile southeast of the project area. No impact is expected

Rivers and Streams: Eleven (11) rivers and streams segments are located within the 0.5 mile search radius. Buck Run is located within and adjacent to the project area. A Waters of the US Report will be prepared and coordination with INDOT Ecology and Waterway Permitting will occur.

NWI-Wetlands: Thirty-one (31) NWI-Wetlands are located within the 0.5 mile search radius. The nearest wetland is located approximately 0.03 mile west of the project area. No impact is expected.

Lakes: Two (2) lakes are located within the 0.5 mile search radius. The nearest lake is located 0.18 mile west of the project area. No impact is expected.

Floodplain – DFIRM: Two (2) floodplain polygons were identified within the 0.5 mile search radius. The project area is located within the floodplain polygon. Coordination with INDOT Ecology and Waterway Permitting will occur.

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 resources were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	N/A	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	N/A
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	N/A	Notice of Contamination Sites	N/A

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

ECOLOGICAL INFORMATION SUMMARY

The Ohio County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. A preliminary review of the Indiana Natural Heritage Database by INDOT 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 is surrounded by agricultural fields and residential area. The May 19, 2017 Inspection Report for CV # 056-058-187.65 contains no information about whether bats are present or absent in the culvert. Additional investigation to confirm the presence or absence of bats in the culvert will be necessary. 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

INFRASTRUCTURE: N/A

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

- Buck Run is located within the project area as a River and Stream Segment.
- The project area is located within a floodplain polygon (Coordination only)

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

ECOLOGICAL INFORMATION: Additional investigation to confirm the presence or absence of bats in the culvert will be necessary. 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."

**Nicole Fohey-
Breting**

Digitally signed by
Nicole Fohey-Breting
Date: 2021.03.31
09:03:54 -04'00'

INDOT Environmental Services concurrence:

_____(Signature)

Prepared by:
Ty Gallahan
GIS Admin
SJCA Inc

Graphics:

SITE LOCATION: YES

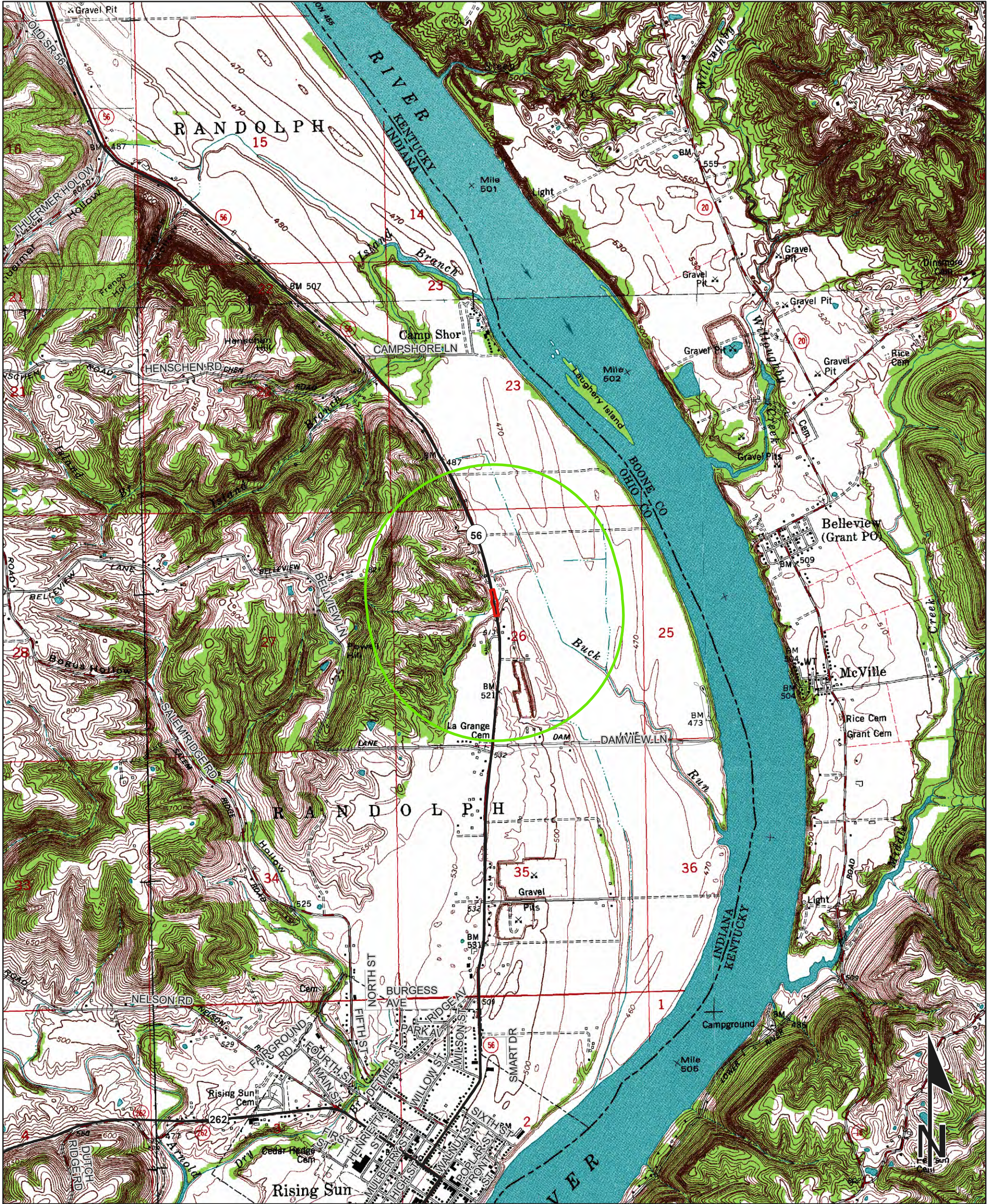
INFRASTRUCTURE: N/A

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

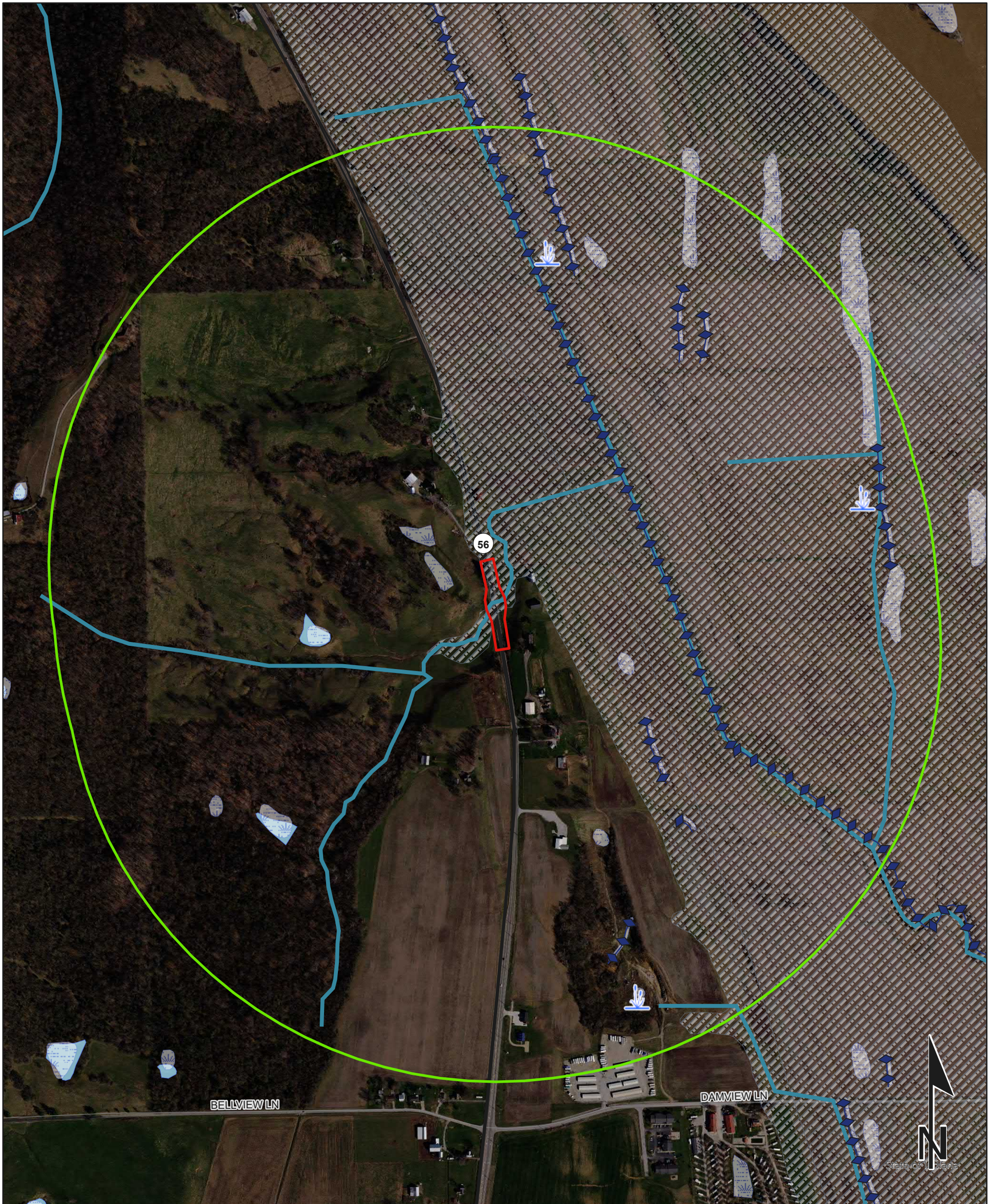
Red Flag Investigation - Site Location
 SR 56 over Buck Run, 2.35 Miles East of SR 262
 Des. No. 1802982, Small Structure Project
 Ohio County, Indiana



Sources: 0.45 0.23 0 0.45 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.

**RISING SUN QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES
 (TOPOGRAPHIC)**

Red Flag Investigation - Water Resources
 SR 56 over Buck Run, 2.35 Miles East of SR 262
 Des. No. 1802982, Small Structure Project
 Ohio County, Indiana



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

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



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

Indiana County Endangered, Threatened and Rare Species List

County: Ohio



Species Name	Common Name	FED	STATE	GRANK	SRANK
Insect: Plecoptera (Stoneflies)					
<i>Leuctra alta</i>	Alta Needlefly		SE	G3G4Q	S1
<i>Perlesta golconda</i>	Two-lined Stone		SE	G2G3	S1
Mollusk: Bivalvia (Mussels)					
<i>Pleurobema clava</i>	Clubshell	LE	SE	G1G2	S1
<i>Ptychobranthus fasciolaris</i>	Kidneyshell		SSC	G4G5	S2
<i>Simpsonaias ambigua</i>	Salamander Mussel	C	SSC	G3	S2
Amphibian					
<i>Ambystoma barbouri</i>	Streamside Salamander	C	SSC	G4	S3
Bird					
<i>Ammodramus henslowii</i>	Henslow's Sparrow		SE	G4	S3B
<i>Buteo platypterus</i>	Broad-winged Hawk		SSC	G5	S3B
<i>Circus hudsonius</i>	Northern Harrier		SE	G5	S2
<i>Helmitheros vermivorus</i>	Worm-eating Warbler		SSC	G5	S3B
<i>Lanius ludovicianus</i>	Loggerhead Shrike		SE	G4	S3B
<i>Tyto alba</i>	Barn Owl		SE	G5	S2
Vascular Plant					
<i>Baptisia australis</i>	wild false indigo		ST	G5	S3
<i>Micranthes virginiana</i>	Virginia saxifrage		WL	G5	S3
<i>Napaea dioica</i>	glade mallow		ST	G4	S2
<i>Penstemon canescens</i>	gray beardtongue		SE	G4	S1
<i>Plantago cordata</i>	heart-leaved plantain		SE	G4	S1
<i>Trifolium stoloniferum</i>	running buffalo clover	LE	SE	G3	S1
<i>Viburnum molle</i>	softleaf arrow-wood		ST	G5	S3
High Quality Natural Community					
<i>Forest - upland mesic Bluegrass</i>	Bluegrass Mesic Upland Forest		SG	GNR	S3

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
 State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
 GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long-term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
 SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long-term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

DES 1802982

Appendix F

Water Resources

LiKang 01/14/2021



**Waters Report
Des 1802982
SR 56 over Buck Run
Ohio County, Indiana
Small Structure Project
CV 056-058-187.65**

Report Completed on: December 9, 2020

Prepared for:
Burgess & Niple, Inc.

Prepared By:

Laney Walstra
SJCA, Inc.
Historic Fountain Square
1104 Prospect Street
Indianapolis, IN 46203

p. 317.634.4110

f. 866.422.2046

e. lwalstra@sjcainc.com

TABLE OF CONTENTS

Project Description 3

Methodology 3

Results/Discussion 4

Findings..... 5-6

Conclusions & Acknowledgement 6

Supporting Documentation 6-7

Site Location:

Section 26, Township 4 N, Range 1 W
Rising Sun 1:24,000 Quadrangle
Ohio County, Indiana
Middle Creek-Ohio River, 12-Digit HUC: 050902030804
Latitude: 38.982417°N Longitude: -84.848908°W

Field Investigation Date: October 8, 2020

Project Description

The purpose of the project is to address the structural deficiencies of the existing small structure (CV 056-058-187.65) that carries SR 56 over Buck Run. SR 56 roadway consists of two 12 foot lanes with 2 foot usable shoulders. SR 56 is a rural minor arterial with a posted speed limit of 55 mile per hour (MPH). The existing structure is a Concrete Slab top widened with one concrete beam on each side with a span length of 10 ft. The proposed alternative is a small structure replacement of the existing structure with a 10 ft by 6 ft three-sided flat top structure. The new structure will be sumped at 6 inches and will require scour protection at the outlet. Pavement widening will be required, and guardrail work is anticipated.

Methodology

The delineation of wetlands and other “waters of the U.S.” on the site was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Environmental Laboratory, 2012)* as required by current U.S. Army Corps of Engineers (USACE) policy.

Prior to the field work, background information, including U.S. Geological Survey’s (USGS) topographic maps, aerial photographs, the USGS National Hydrography Dataset (NHD) layer on the Indiana Geological Society’s (IGS) Indiana Map website, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and the Natural Resources Conservation Service (NRCS) Web Soil Survey for Ohio County were reviewed to establish the probability and potential location of water resources on the site. Next, a general reconnaissance of the project area was conducted to determine site conditions. Sample points were established at locations within the project area to inspect for any possible wetland areas and to document soil characteristics, evidence of hydrology, and dominant vegetation. Soils were examined to a depth of at least 16-20 inches, when no restrictive layer was encountered, to assess soil characteristics and site hydrology.

Results/Discussion

Site Description and Conditions

- **Topography:** The topography around the project sloped due to surrounding hills.
- **Existing Land-Use:** Adjacent land use is primarily agricultural, with a residential home to the southeast of the structure.
- **Plant Communities:** Vegetation within the investigated area primarily consisted of upland plants.
- **NHD-Flowline:** One NHD-Flowline is located within the investigated area. Buck Run is labelled as Stream/River NHD-Line.
- **Soils:** According to the Ohio County Soil Survey, soils mapped within the investigated area include:

Table 1.

Soil Types Within the Investigated Area

Soil abbreviation	Soil Unit Name	Hydric Rating
Ch	<i>Chagrin silt loam, frequently flooded</i>	Not Hydric (0%)
FoB2	<i>Fox silt loam, 1 to 4 percent slopes, eroded</i>	Not Hydric (0%)

- **Hydrology:** According to the FEMA Flood Rate Insurance Map (FIRM) dataset (see attached Floodplain Map), the project area is mapped within a floodway. Hydrology in the area is influenced by runoff from SR 56, Buck Run, and surrounding hills.
- **NWI Data:** According to the NWI map, the following wetlands are mapped with 0.15 mile of the project area:

Table 2.

NWI Wetlands Within 0.15 Mile of the Project Area

Classification	Distance Away from Project Area
R4SBC	Within the Project Area
PUBFh	0.04 Mile West of Project Area
PUBGh	0.06 Mile Northwest of Project Area
PEM1Ad	0.13 Mile Southeast of the Project Area

- **Site Conditions:** Site conditions were typical for early fall, with 0.07 inch of precipitation occurring on October 5 (WeatherUnderground.com). Temperatures were in the mid-seventies (° F).

Findings

Soil Sample Points (SP)

Table 3.

Sample Point Summary Table SR 56 over Buck Run Ohio County, Indiana						
Data Point	Photos	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Wetland	Date
1	1-4	No	Yes	No	No	10.08.2020
2	5-8	No	No	No	No	10.08.2020

Site Analysis

The investigated area included roadside right-of-way and banks around Buck Run. Hydrology within the project area is influenced by roadway runoff, surrounding hills, and field runoff. The project area is located within the Middle Creek-Ohio River watershed. During the site visit, one stream, Buck Run, was found within investigated area during the site visit. **Buck Run** does show up as a solid blue-line water feature on the USGS Topographic Map and the NWI map within the investigated area. Based upon observation in the field, it appears that Buck Run is an intermittent stream throughout the investigated area. The upstream drainage area of Buck Run is 0.454 square miles (USGS Stream Stats, Version 4.0), from where it crosses SR 56. Approximately 140 linear feet of this tributary is within the investigated area. The stream measurements were taken outside the influence of the structure. The stream has a bank full width of approximately 11.5 ft and is characterized by a silt substrate, with low flow at time of investigation, and an ordinary high water mark (OHWM) of 8 ft wide and approximately 5 inches deep. The stream has high sinuosity and no riffle/run complexes. The quality of the stream is rated poor due to no stream coverage, low vegetation, high sinuosity, and intermittent flow conditions. Buck Run receives drainage from the runoff from SR 56 and surrounding hills. The stream runs northeast under SR 56, and then eventually towards the Ohio River. The Ohio River is approximately 0.74 mile east of the project area. The Ohio River is a navigable waterway and jurisdictional under the USACE. Due to the presence of an OHWM and eventual connectivity to the Ohio River, Buck Run is likely a Waters of the U.S.

Sample Point 1 (SP 1) was taken on the east side of the structure, outside of Buck Run within a terrace. SP 1 was dominated in the herb stratum by white clover, *Trifolium repens* (FACU), common plantain, *Plantago major* (FACU), and Kentucky bluegrass, *Poa pratensis* (FACU). This community did not pass the rapid test, dominance test, or prevalence index for hydrophytic vegetation. The soil met the indicator for Redox Dark Surface with a layer of 10 YR 3/2 matrix (100%) from 0-5 inches, and a layer of 10 YR 3/2 (93%), with concentrations in the matrix of 10 YR 5/8 (5%) and 2.5 YR 3/6 (2%) from 5-16 inches. The soil had a texture of clay loam. Wetland hydrology was not present at the sample point. While hydric soil was present, hydrophytic vegetation and wetland hydrology were not present at the sample point. Therefore, SP 1 is not within a wetland.

Sample Point 2 (SP 2) was taken on the west side of the structure, within a field outside of Buck Run. SP 2 was dominated in the herb stratum by tall fescue, *Schedonorus arundinaceus* (FACU), Indian goosegrass, *Eleusine indica* (FACU). This community did not pass the rapid test for hydrophytic vegetation, dominance test, or prevalence index. The soil did not meet any indicators for hydric soil with a layer of 10 YR 3/3 matrix (100%) from 0-11 inches. A restrictive layer is present at 11 inches. The soil had a texture of sandy

clay. Wetland hydrology was not present at the sample point. Hydrophytic vegetation, hydric soil, and wetland hydrology were not present at the sample point. Therefore, SP 2 is not within a wetland.

The project area was reviewed for the presence of other water features such as open water, areas that do not have an OHWM but have concentrated flow, all roadside ditches, historic drainage, and unusual circumstances. No open water or other water features were identified in the review area.

Aquatic Resources

Table 4. Stream Summary Table

Stream Name	Photos	Lat/Long	OHWM Width (ft)	OHWM Depth (in)	USGS Blue-line?	Riffles? Pools?	Substrate	Quality	Likely Water of U.S.?
Buck Run	3, 4, 8-16	38.9824417°N, -84.8489133°W	8	5	Yes	No	Silt	Poor	Yes

Conclusions

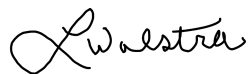
Vegetation in the investigated area was mostly consistent upland vegetation. The project area was sloped due to nearby hills, and appears to drain quickly, preventing the development of hydric soils. Buck Run flows through the project area. Due to the presence of an OHWM and eventual connectivity to the Ohio River, Buck Run is likely a Waters of the U.S. No open water or other water features, including ditches, were identified in the review area.

Every effort should be taken to avoid and minimize impacts to these wetlands. If impacts are necessary, then mitigation may be required. The United States Army Corps of Engineers (USACE) should be contacted immediately if impacts occur. The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the USACE. This report is our best judgment based on the guidelines set forth by the Corps.

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.

Laney Walstra



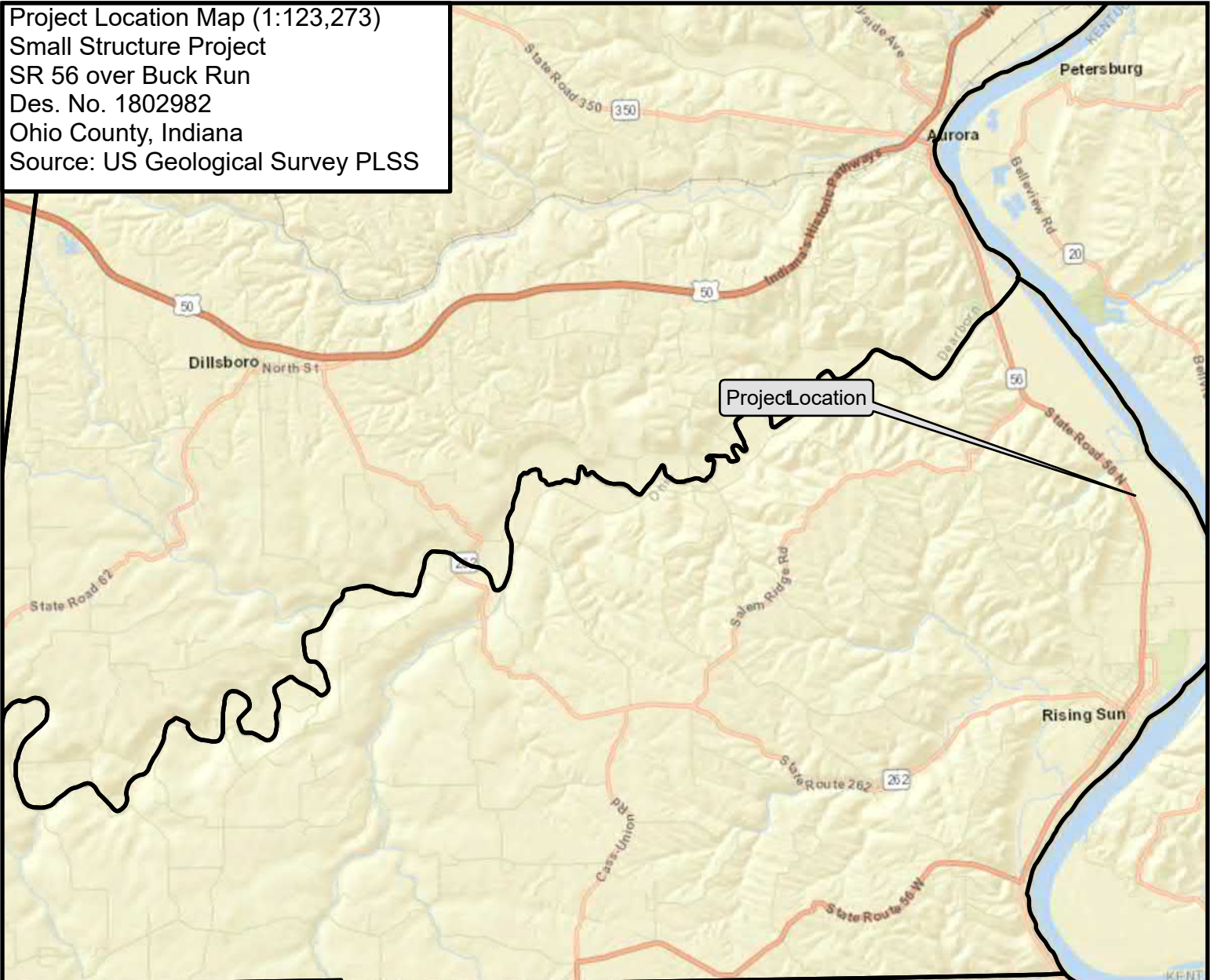
Ecologist
 SJCA Inc
 Date: December 9, 2020



Supporting Documentation

- Site Location Map
- USGS Topographic Map

- FEMA Floodplain Map
- LiDAR Map
- USFWS NWI Map
- NRCS Hydric Soil Map
- Water Resources Map
- Photograph Location Map
- Site Photographs
- Sample Point Data Sheets
- Preliminary Jurisdictional Determination Form

Project Location Map (1:123,273)
 Small Structure Project
 SR 56 over Buck Run
 Des. No. 1802982
 Ohio County, Indiana
 Source: US Geological Survey PLSS

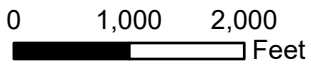
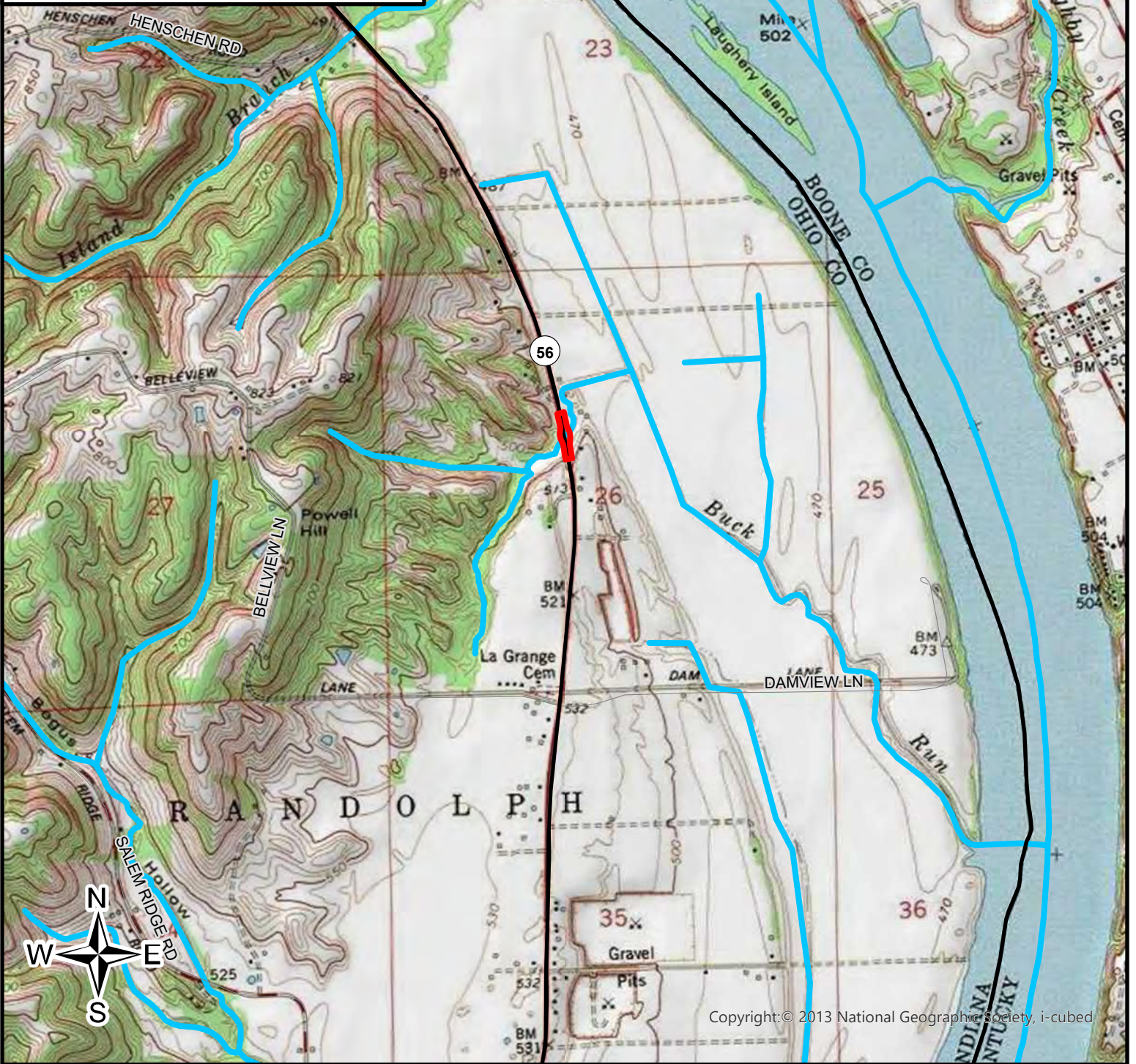




 County Boundary
 Project County



12/1/2020

Topographic Map (1:20,000)
 Small Structure Project
 SR 56 over Buck Run
 Des. No. 1802982
 Ohio County, Indiana
 Rising Sun Quadrangle
 Source: US Geological Survey



 Investigated Area
 NHD Flowline

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Topographic Map (1:6,000)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Rising Sun Quadrangle
Source: US Geological Survey



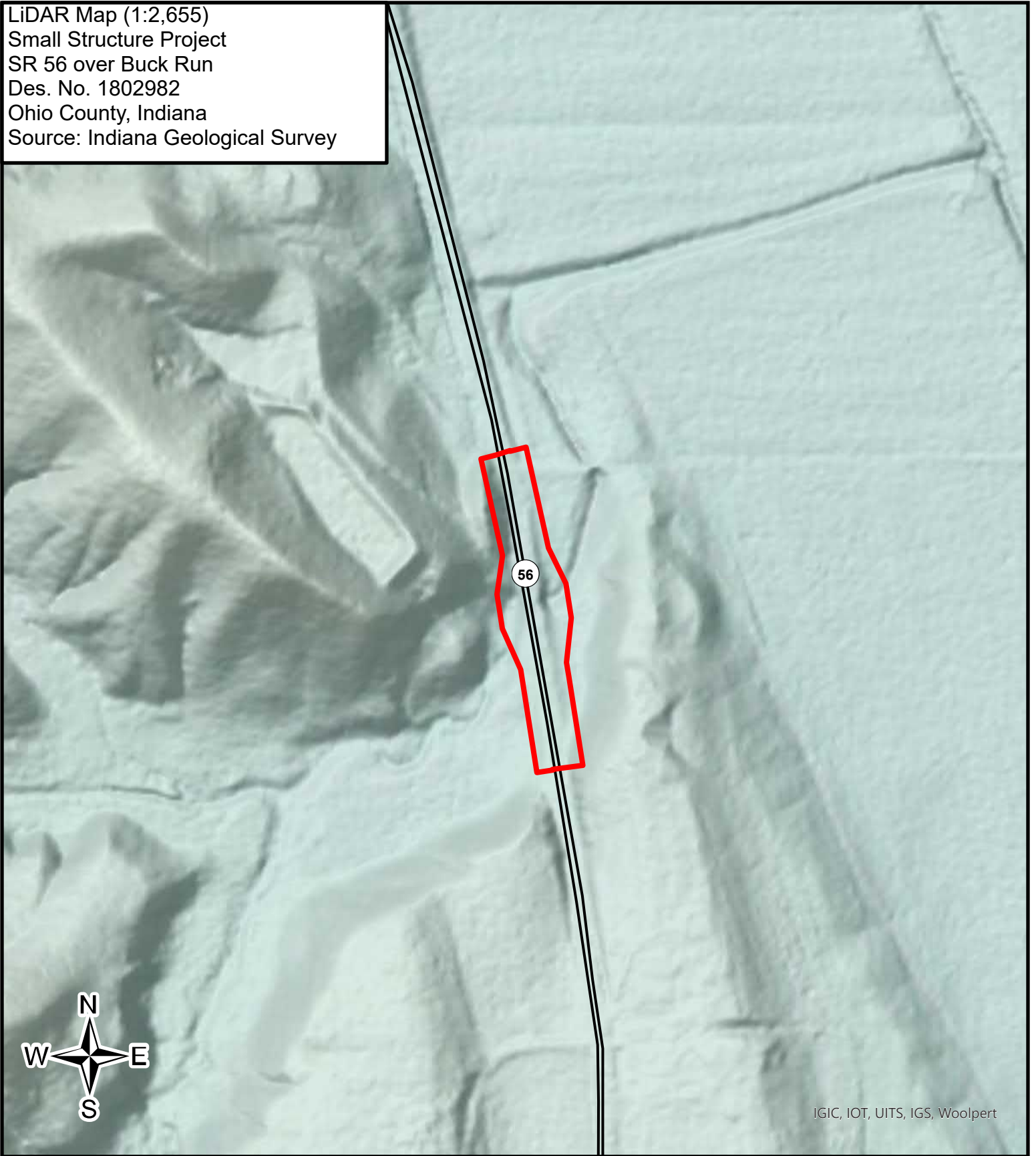
Copyright © 2013 National Geographic Society, i-cubed

0 345 690
Feet

 Investigated Area
 NHD Flowline



LiDAR Map (1:2,655)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: Indiana Geological Survey



IGIC, IOT, UITS, IGS, Woolpert

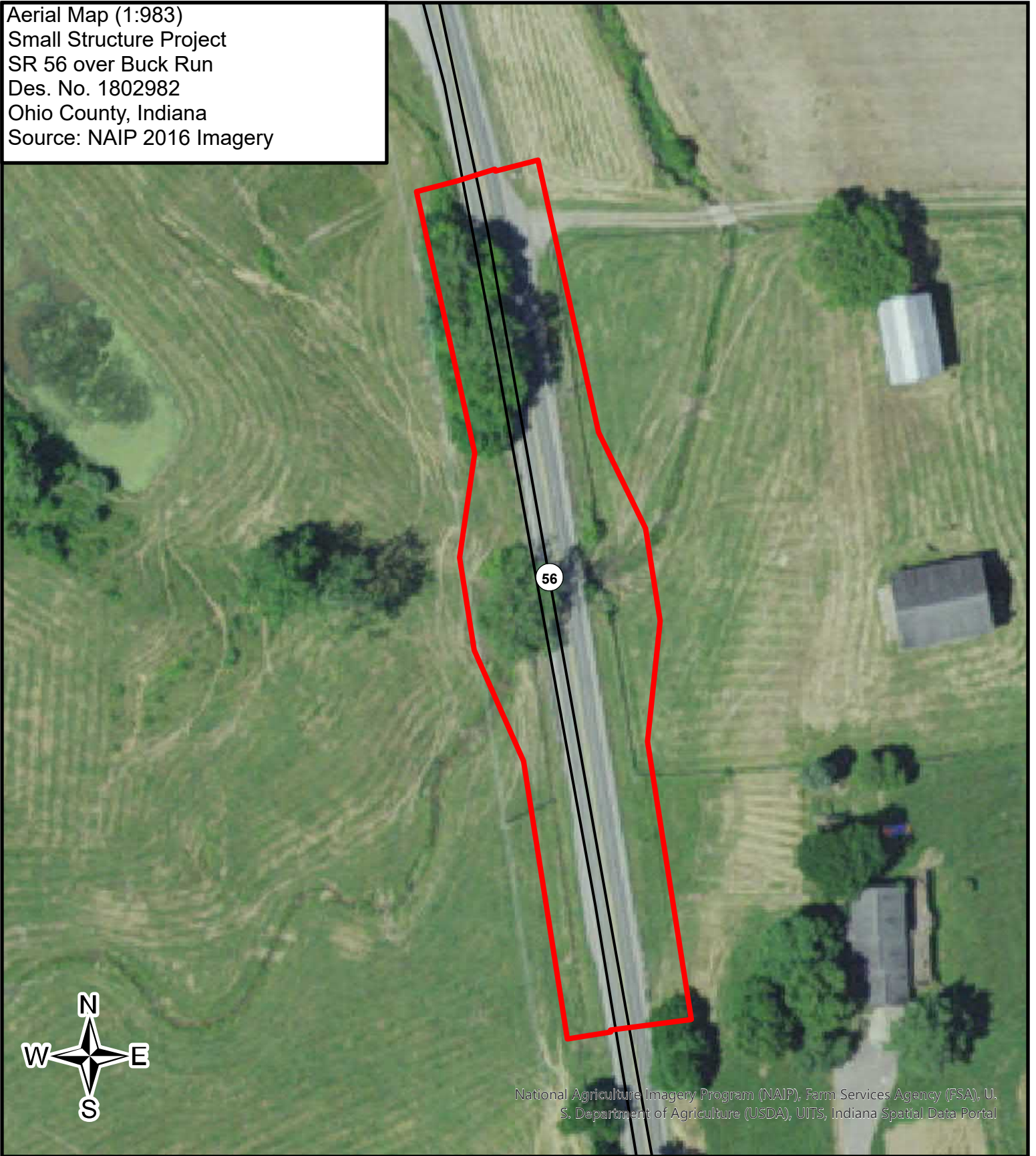
0 150 300
Feet

 Investigated Area

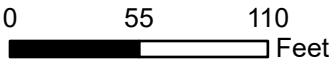


12/4/2020

Aerial Map (1:983)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: NAIP 2016 Imagery



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

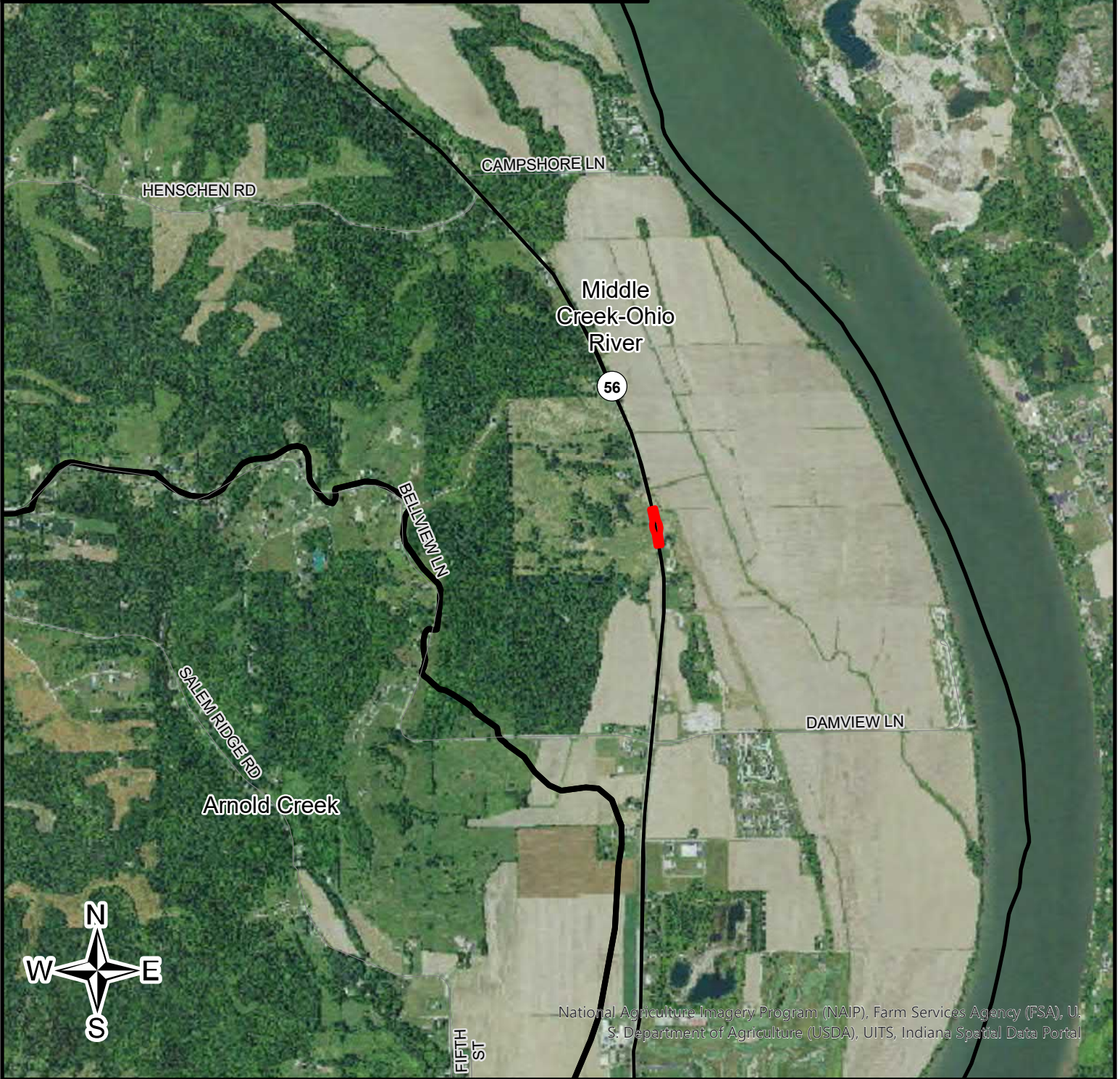


 Investigated Area





12/4/2020

Watershed Map (1:24,730)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: Indiana Department of Environmental Management



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

0 0.25 0.5
Miles

 Investigated Area
 HUC - 12





12/2/2020

Floodplains Map (1:2,400)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: FEMA FIRM



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

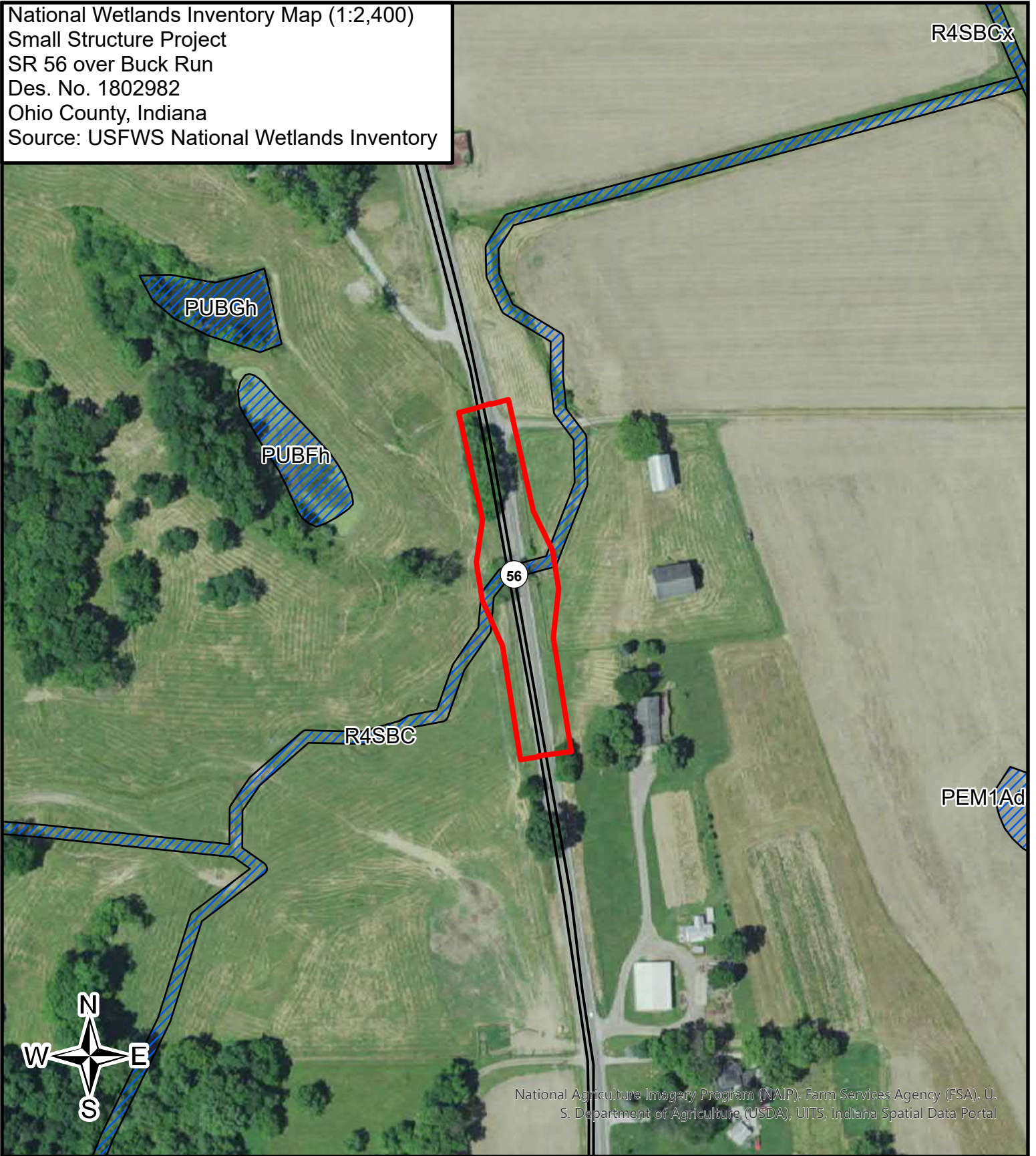
0 137.5 275
Feet

 Investigated Area
 1% Annual Chance Flood Hazard





12/2/2020

National Wetlands Inventory Map (1:2,400)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: USFWS National Wetlands Inventory



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

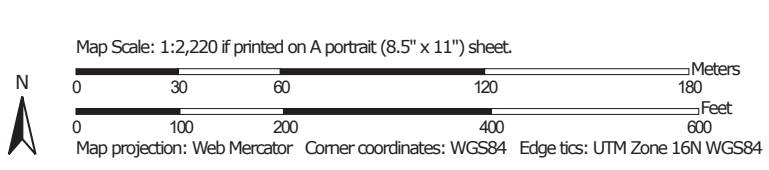
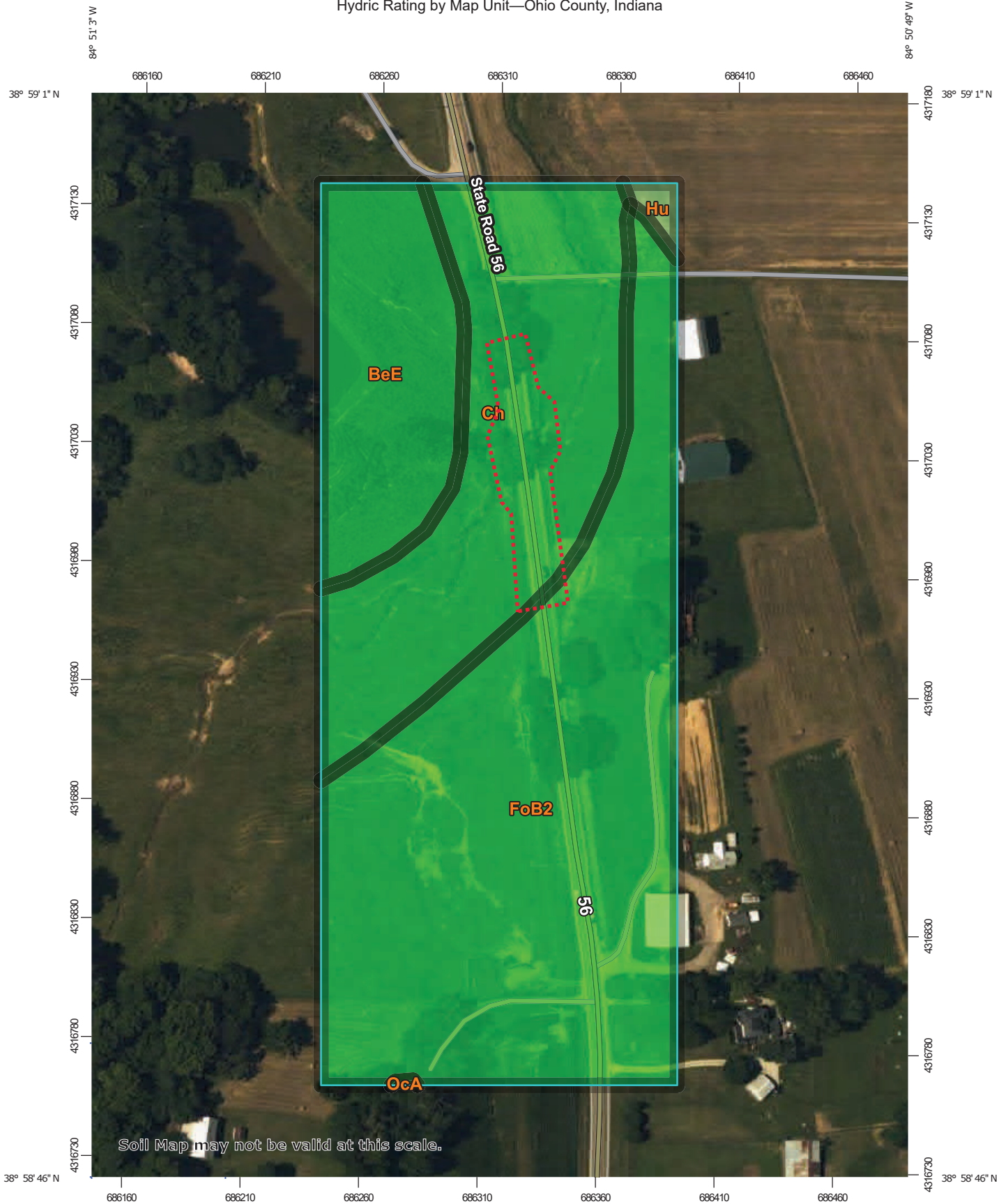
0 137.5 275
Feet

 Investigated Area
 NWI Wetlands




12/4/2020

Hydric Rating by Map Unit—Ohio County, Indiana









MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)

Soils







Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available


Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available






Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available



Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography
-  Investigated Area

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ohio County, Indiana
 Survey Area Data: Version 19, Jun 10, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

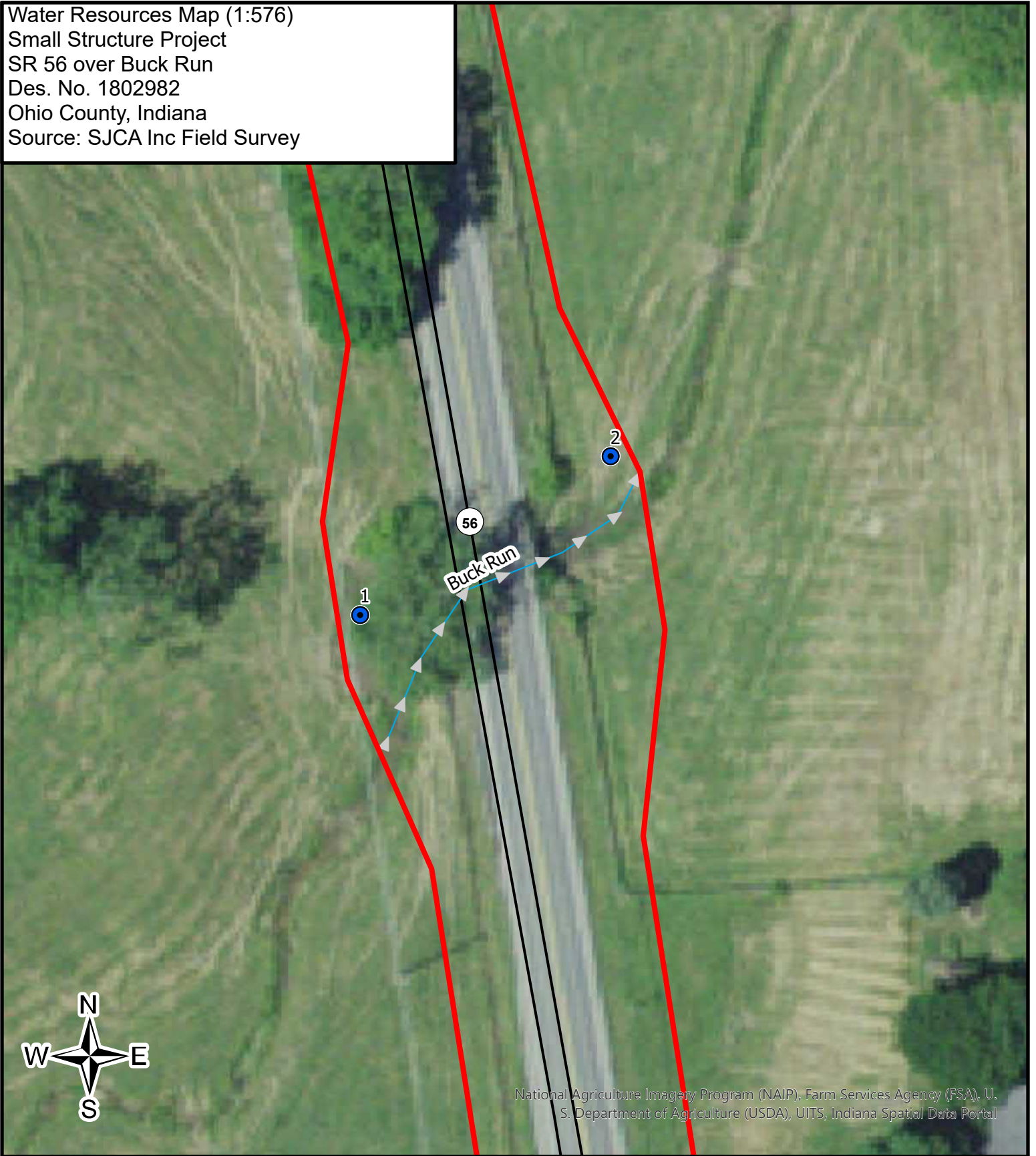
Date(s) aerial images were photographed: Jun 27, 2019—Sep 22, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

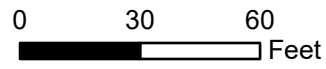
Hydric Rating by Map Unit




Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BeE	Bonnell silt loam, 18 to 35 percent slopes	0	2.2	15.3%
Ch	Chagrin silt loam, frequently flooded	0	4.1	29.0%
FoB2	Fox silt loam, 1 to 4 percent slopes, eroded	0	7.8	55.0%
Hu	Huntington silt loam, 0 to 2 percent slopes, frequently flooded	2	0.1	0.7%
OcA	Ockley silt loam, 0 to 3 percent slopes	0	0.0	0.0%
Totals for Area of Interest			14.1	100.0%

Water Resources Map (1:576)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: SJCA Inc Field Survey



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

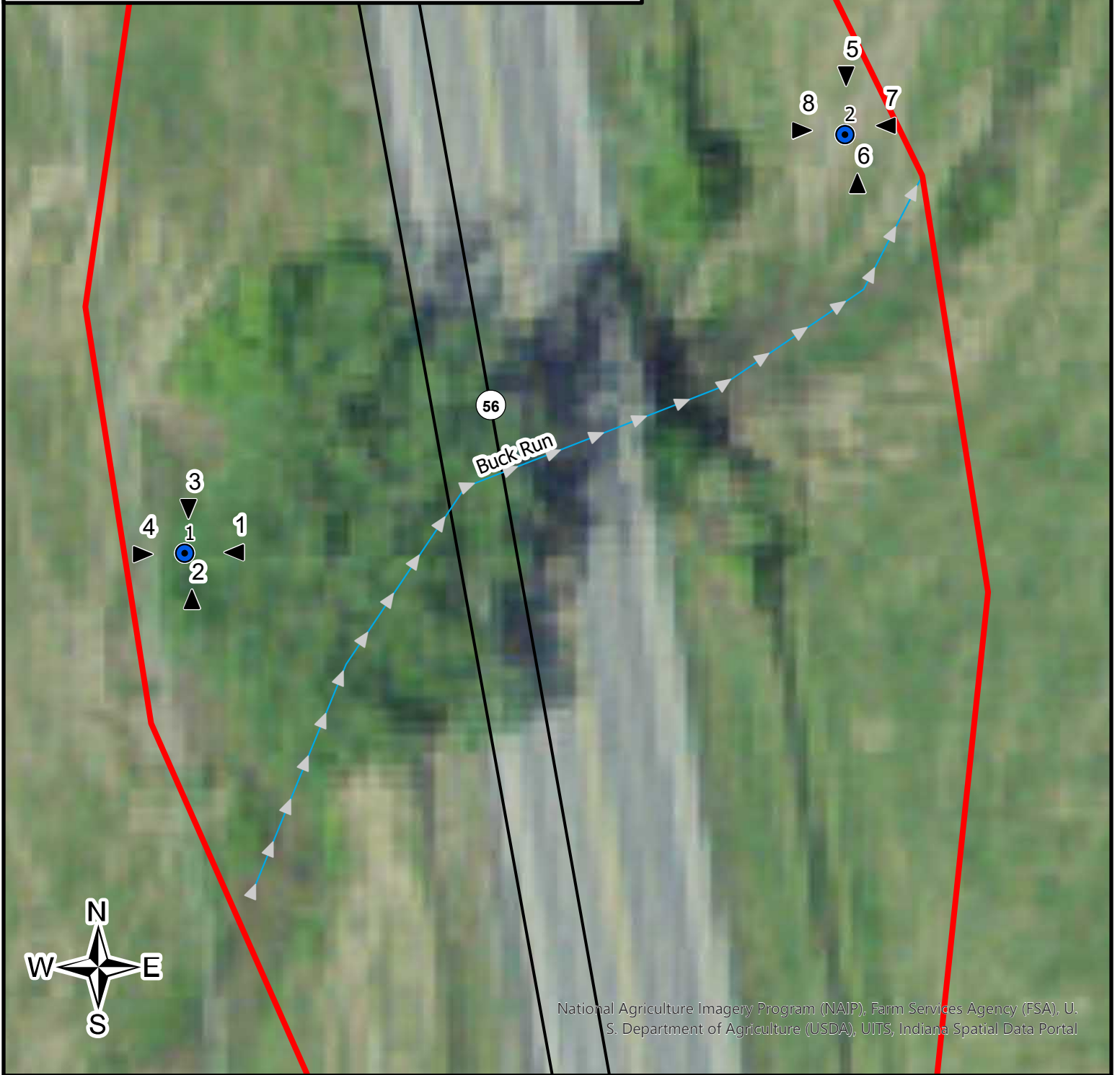


-  Investigated Area
-  Stream
-  Sample Point







12/4/2020

Photo Location and Orientation Map: Photos 1-8 (1:236)
 Small Structure Project
 SR 56 over Buck Run
 Des. No. 1802982
 Ohio County, Indiana
 Source: SJCA Inc Field Survey



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

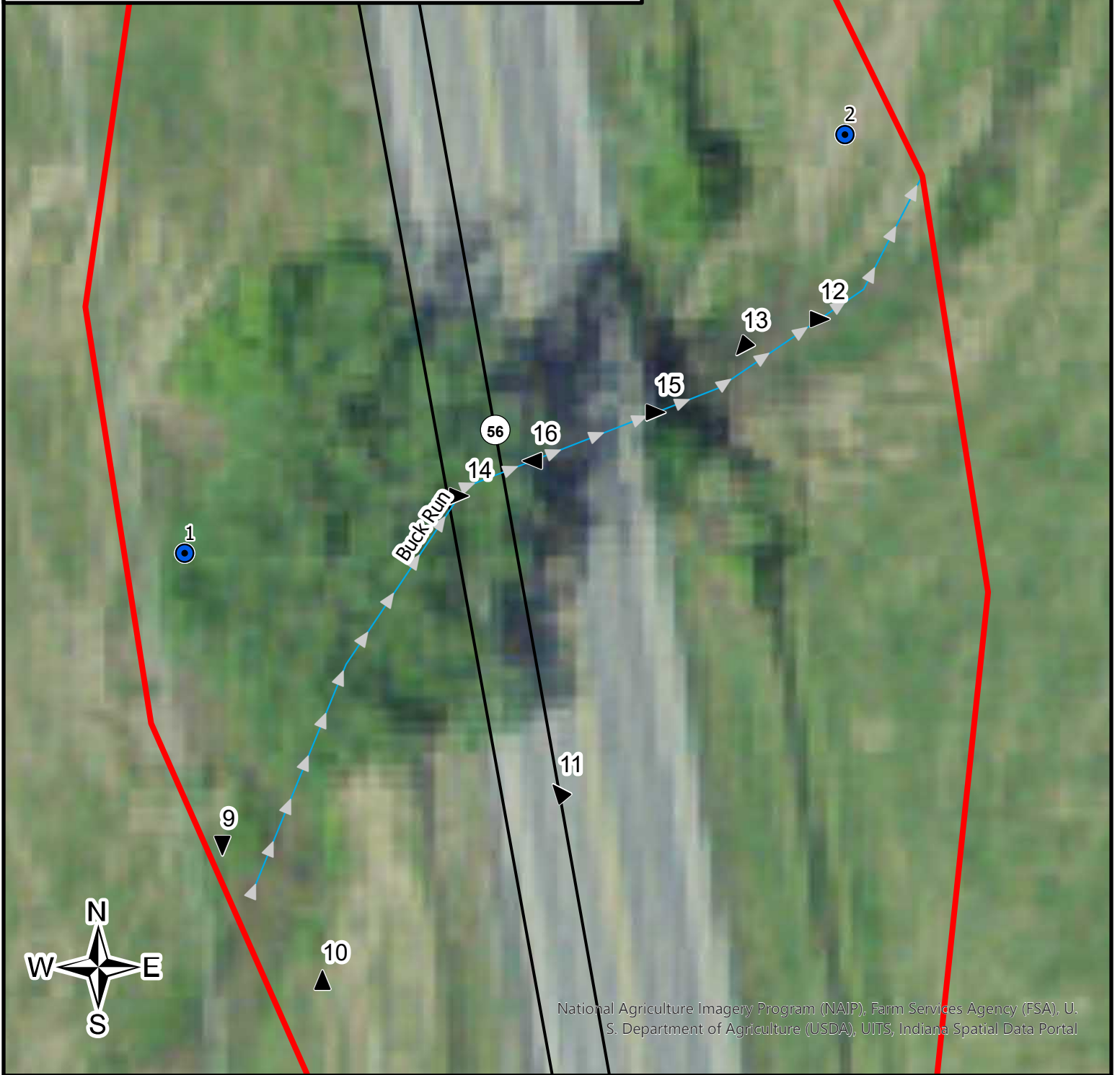
-  Investigated Area
-  Stream
-  Sample Point
-  Photo Location

0 12.5 25
 Feet







12/4/2020

Photo Location and Orientation Map: Photos 9-16 (1:236)
 Small Structure Project
 SR 56 over Buck Run
 Des. No. 1802982
 Ohio County, Indiana
 Source: SJCA Inc Field Survey



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

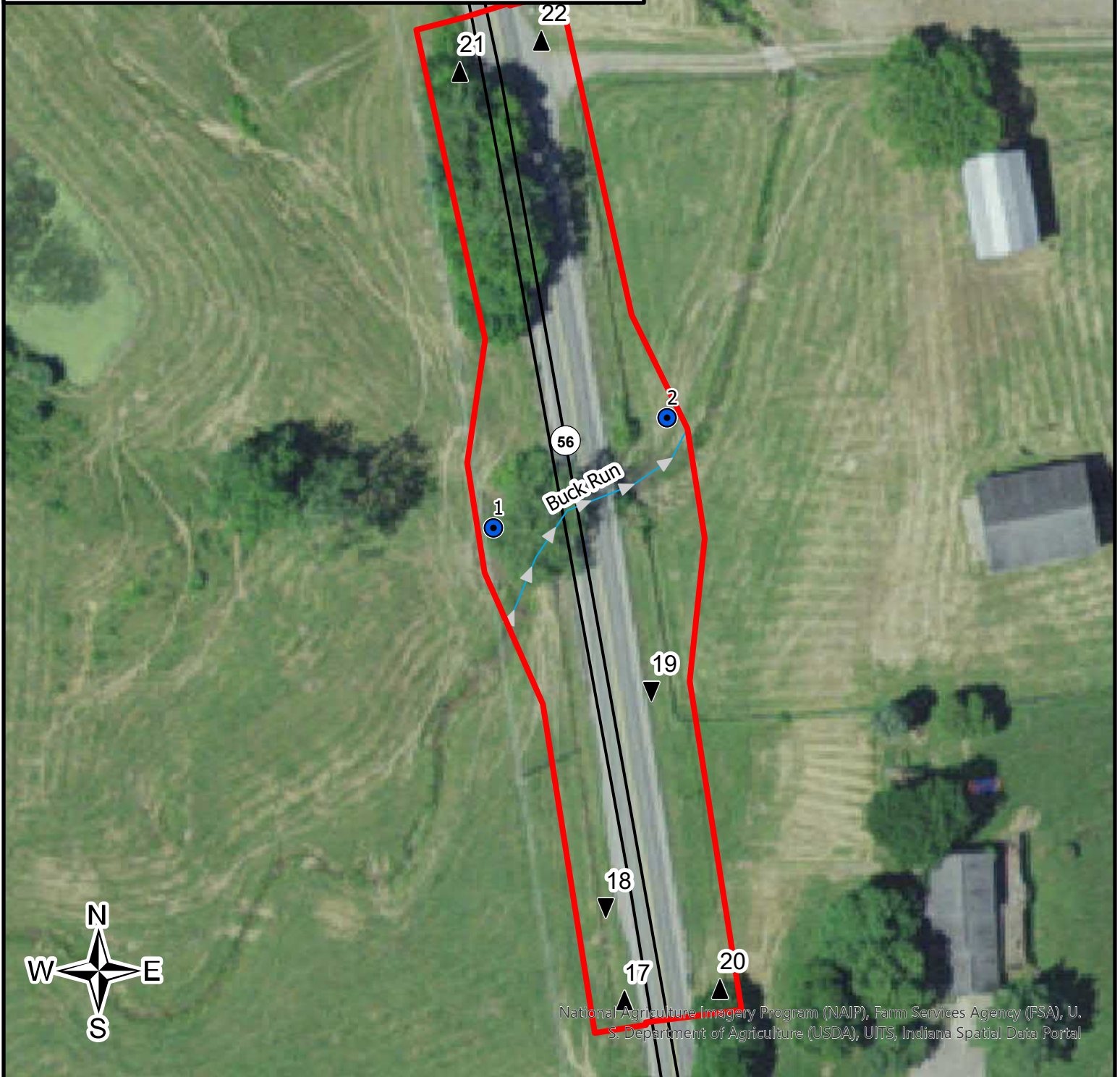
0 12.5 25 Feet

-  Investigated Area
-  Stream
-  Sample Point
-  Photo Location



12/9/2020

Photo Location and Orientation Map: Photos 17-22 (1:900)
Small Structure Project
SR 56 over Buck Run
Des. No. 1802982
Ohio County, Indiana
Source: SJCA Inc Field Survey



- Investigated Area
- Stream
- Sample Point
- Photo Location

12/4/2020





Photo 1: SP 1 Soil



Photo 2: SP 1 Pit



Photo 3: SP 1, on Westside of CV 056-058-187.65, Facing South Towards Buck Run



Photo 4: SP 1, on Westside of CV 056-058-187.65, Facing East Towards CV 056-058-187.65 Carrying Buck Run



Photo 5: SP 2 Soil



Photo 6: SP 2 Pit



Photo 7: SP 2, on Eastside of CV 056-058-187.65,
Facing West SR 56



Photo 8: SP 2, on Eastside of CV 056-058-187.65,
Facing East Towards Buck Run

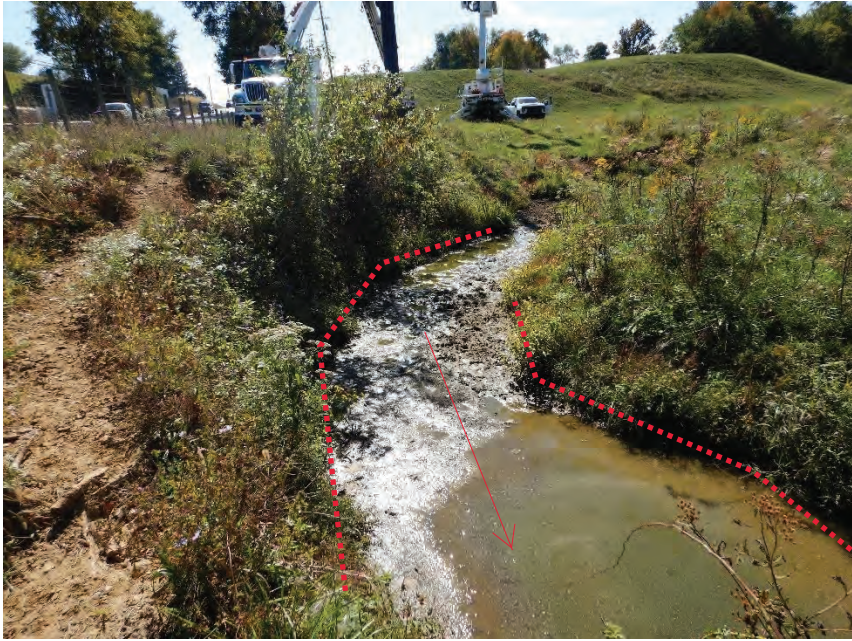


Photo 9: Buck Run, on Westside of CV 056-058-187.65, Facing South



Photo 10: Buck Run, on Westside of CV 056-058-187.65, Facing North Towards Structure



Photo 11: Facing Northwest Towards Buck Run, on Westside of CV 056-058-187.65, From SR 56



Photo 12: Buck Run, on Eastside of CV 056-058-187.65, Facing East



Photo 13: Buck Run, on Eastside of CV 056-058-187.65, Facing Southwest Towards Structure



Photo 14: Buck Run, on Westside of CV 056-058-187.65, Facing East Towards Structure



Photo 15: Facing East Towards Buck Run, on Eastside of CV 056-058-187.65, From SR 56



Photo 16: Facing West Towards Buck Run, on Westside of CV 056-058-187.65, From SR 56



Photo 17: ROW of Westside of SR 56, Facing North



Photo 18: ROW of Westside of SR 56, Facing South



Photo 19: ROW of Eastside of SR 56, Facing South



Photo 20: ROW of Eastside of SR 56, Facing North



Photo 21: ROW of Westside of SR 56, Facing North



Photo 22: ROW of Eastside of SR 56, Facing North

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Des 1802983 SR 56 Small Structure City/County: Ohio Sampling Date: 10.08.2020
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 1
 Investigator(s): Kevin McLane, Laney Walstra Section, Township, Range: Section 26, Township 4 N, Range 1 W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR or MLRA): LRR: East and Central Farming Lat: 38.9824149°N Long: -84.8490823°W Datum: WGS 84
 Soil Map Unit Name: Ch: Chagrin silt loam, frequently flooded NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: Sample point taken outside bank.			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

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

Remarks:
Wetland hydrology not present at sample point.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 1

Tree Stratum (Plot size: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>0</u> = Total Cover		
	50% of total cover: <u>0</u>	20% of total cover: <u>0</u>	

Sapling Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>0</u> = Total Cover		
	50% of total cover: <u>0</u>	20% of total cover: <u>0</u>	

Shrub Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
	<u>0</u> = Total Cover		
	50% of total cover: <u>0</u>	20% of total cover: <u>0</u>	

Herb Stratum (Plot size: <u>5 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <i>Trifolium repens</i>	40	X	FACU
2. <i>Plantago major</i>	25	X	FACU
3. <i>Poa pratensis</i>	20	X	FACU
4. <i>Abutilon theophrasti</i>	10		UPL
5. <i>Digitaria ciliaris</i>	5		FAC
6. <i>Polygonum minus</i>	5		OBL
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>105</u> = Total Cover		
	50% of total cover: <u>47.5</u>	20% of total cover: <u>18</u>	

Woody Vine Stratum (Plot size: <u>15 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	<u>0</u> = Total Cover		
	50% of total cover: <u>0</u>	20% of total cover: <u>0</u>	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>85</u>	x 4 = <u>340</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>105</u> (A)	<u>410</u> (B)

Prevalence Index = B/A = 3.42

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present?

Yes No

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

Hydrophytic vegetation not present at sample point.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10 YR 3/2	100					Clay Loam	
5-16	10 YR 3/2	93	10 YR 5/8	5	C	M	Clay Loam	
			2.5 YR 3/6	2	C	M		

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) **(LRR N)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)

- Dark Surface (S7)
- Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- Thin Dark Surface (S9) **(MLRA 147, 148)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- Umbric Surface (F13) **(MLRA 136, 122)**
- Piedmont Floodplain Soils (F19) **(MLRA 148)**
- Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) **(MLRA 147)**
- Coast Prairie Redox (A16) **(MLRA 147, 148)**
- Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil present at sample point.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Des 1802983 SR 56 Small Structure City/County: Ohio Sampling Date: 10.08.2020
 Applicant/Owner: Indiana Department of Transportation State: IN Sampling Point: 2
 Investigator(s): Kevin McLane, Laney Walstra Section, Township, Range: Section 26, Township 4 N, Range 1 W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-2
 Subregion (LRR or MLRA): LRR: East and Central Farming Lat: 38.9825684°N Long: -84.8487442°W Datum: WGS 84
 Soil Map Unit Name: Ch: Chagrin silt loam, frequently flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks: Taken in field outside of of Buck Run			

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

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

Remarks:
 Wetland hydrology not present at sample point.

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: 2

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Sapling Stratum (Plot size: <u>15 ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Shrub Stratum (Plot size: <u>15 ft</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Herb Stratum (Plot size: <u>5 ft</u>)				
1.	<i>Schedonorus arundinaceus</i>	60	X	FACU
2.	<i>Eleusine indica</i>	50	X	FACU
3.	<i>Solanum carolinense</i>	10		FACU
4.	<i>Abutilon theophrasti</i>	5		UPL
5.	<i>Setaria faberi</i>	5		UPL
6.				
7.				
8.				
9.				
10.				
11.				
	<u>130</u> = Total Cover			
	50% of total cover: <u>62.5</u>		20% of total cover: <u>26</u>	
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1.				
2.				
3.				
4.				
5.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Remarks: (Include photo numbers here or on a separate sheet.)				
Hydrophytic vegetation is not present at sample point.				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>120</u>	x 4 = <u>480</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>130</u> (A)	<u>530</u> (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-11	10 YR 3/3	100					Sandy Clay	

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

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 147, 148)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 136, 147)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

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

Restrictive Layer (if observed):
 Type: Pebbles
 Depth (inches): 11 inches

Hydric Soil Present? Yes No

Remarks: Hydric soil not present at sample point.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 12/9/2020

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Laney Walstra, 1104 Prospect Street, Indianapolis, Indiana 46203

C. DISTRICT OFFICE, FILE NAME, AND NUMBER:

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

The purpose of the project is to address the structural deficiencies of the existing small structure (CV 056-058-187.65) that carries an SR 56 over Buck Run. SR 56 roadway consists of two 12 foot lanes with 2 foot usable shoulders. SR 56 is a rural minor arterial with a posted speed limit of 55 mile per hour (MPH). The current structure is an existing structure is a Concrete Slab top widened with one concrete beam on each side with a span length of 10 ft. The proposed alternative is a small structure replacement of the existing structure with a 10 ft by 6 ft three-sided flat top structure. The new structure will be sumped at 6 inches and will require scour at the outlet. Pavement widening will be required, and guardrail work is anticipated.

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

State: Indiana County/parish/borough: Ohio City: Rising Sun

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

Lat.: 38.982417°N Long.: -84.848908°W

Universal Transverse Mercator: 16 S

Name of nearest waterbody: Ohio River

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)
Buck Run	38.9824417°N	-84.8489133°W	140 linear feet, 0.0257 acre	Non-Wetland Waters	Section 404

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

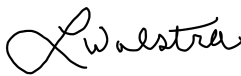
SUPPORTING DATA. Data reviewed for PJD (check all that apply)

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

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: See Attached Maps
- 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: NHD map and HUC 12 watershed map.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 - Rising Sun Quadrangle
- Natural Resources Conservation Service Soil Survey. Citation: Ohio County (websoilsurvey.sc.egov.usda.gov)
- National wetlands inventory map(s). Cite name: 2014 NWI Data
- State/local wetland inventory map(s): _____
- FEMA/FIRM maps: 2018 Floodplain Data
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): fws.gov/wetlands/data/mapper.html, 2016 ESRI World Imagery
or Other (Name & Date): Site photos: October 8, 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



Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹ 12/9/2020

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.

DES 1802982

Appendix G

Public Involvement

(Note: this appendix will be updated upon completion of the public involvement process)



INDIANA DEPARTMENT OF TRANSPORTATION

Seymour District
185 Agrico Lane
Seymour, IN 47274

PHONE: (812) 522-5649
FAX: (812) 522-7658

Eric Holcomb, Governor
Joe McGuinness, Commissioner

Sample Letter

September 4, 2019



NOTICE OF SURVEY

Dear Property Owner:

The Indiana Department of Transportation (INDOT) will perform a survey for the proposed small structure replacement project on S.R. 56 approximately 2.35 miles east of S.R. 262, Des No. 1802982, in Ohio County, Indiana. A portion of this survey work may be performed on your property in order to provide design engineers information for project design. The survey work will include mapping the location of features such as trees, buildings, fences, drives, ground elevations, etc. The survey is needed for the proper planning and design of this highway project.

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

Indiana Code 8-23-7-26 allows the Seymour District Survey Section, as the authorized employees of INDOT, *Right of Entry* to the project site (including private property) upon proper notification. A copy of a Notice of Survey discussion sheet, as found on INDOT's website (<http://www.in.gov/indot/2888.htm>), is attached to this letter. Pursuant to Indiana Code 8-23-7-27, this letter serves as written notification that we will be performing the above noted survey in the vicinity of your property. INDOT employees will show you their identification, upon request, before coming onto your property.

If you own but are not the tenant of this property (i.e. rental, sharecrop), please inform us so that we may also contact the actual tenant of the property prior to commencement of our work. If you have any questions or concerns regarding our proposed survey work or schedule, please contact the Seymour District Design/Survey Manager.

Under Indiana Code 8-23-7-28, you have a right to compensation for any damage that occurs to your land or water as a result of the entry or work performed during the entry. To obtain such compensation, you should contact the Seymour Real Estate Manager. His contact information is below. The District Real Estate Manager can provide you with a form to request compensation for damages. Once you fill out this form, you can return it to the District Real Estate Manager for consideration. If you are not satisfied with the compensation that INDOT determines is owed to you, Indiana Code 8-23-7-28 provides the following:



INDIANA DEPARTMENT OF TRANSPORTATION

Seymour District
185 Agrico Lane
Seymour, IN 47274

PHONE: (812) 522-5649
FAX: (812) 522-7658

Eric Holcomb, Governor
Joe McGuinness, Commissioner

The amount of damages shall be assessed by the county agricultural extension educator of the county in which the land or water is located and two (2) disinterested residents of the county, one (1) appointed by the aggrieved party and one (1) appointed by the department. A written report of the assessment of damages shall be mailed to the aggrieved party and the department by first class United States mail. If either the department or the aggrieved party is not satisfied with the assessment of damages, either or both may file a petition, not later than fifteen (15) days after receiving the report, in the circuit or superior court of the county in which the land or water is located.

If you have questions regarding the rights and procedures outlined in this letter, please contact the Project Manager on this project. Her contact information is as follows:

Karlei Metcalf
185 Agrico Lane
Seymour, IN 47274
(812) 524-3792

Thank you in advance for your cooperation in this matter.

Sincerely,

Michael Cozart
Seymour District Survey Operations
185 Agrico Lane
Seymour, IN 47274
(812) 524-3791

DES 1802982

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										
Indiana Department of Transportation	41524 / 1801046	Init.	SR 56	Small Structure Replacement	3.90 miles East of SR 262	Seymour	0	STBG		Bridge Construction	CN	\$279,980.80	\$69,995.20				\$349,976.00											
										Bridge Consulting	PE	\$140,560.00	\$35,140.00	\$165,000.00			\$10,700.00											
										Bridge ROW	RW	\$8,000.00	\$2,000.00		\$10,000.00													
Performance Measure Impacted: Bridge Condition																												
Indiana Department of Transportation	42239 / 1802982	A 04	SR 56	Small Structure Replacement	2.35 miles E of SR 262	Seymour	0	STBG	\$981,074.00	Bridge Construction	CN	\$612,859.20	\$153,214.80					\$766,074.00										
										Bridge Consulting	PE	\$140,000.00	\$35,000.00	\$175,000.00														
										Bridge ROW	RW	\$32,000.00	\$8,000.00				\$40,000.00											
Performance Measure Impacted: Bridge Condition																												
Comments:Amend PE in FY 2020, RW in 2023 and CN in FY 2024 to current STIP. No MPO.																												
Indiana Department of Transportation	42862 / 2000124	A 19	SR 56	Bridge Thin Deck Overlay	Bridge over Arnold Creek, 00.0 8 miles E of SR 156	Seymour	0	STBG	\$1,151,564.00	Bridge Construction	CN	\$921,251.20	\$230,312.80					\$1,151,564.00										
										Performance Measure Impacted: Bridge Condition																		
										Comments:No MPO. Add CN phase of \$1,151,564 in FY 2023. AQC-NA																		
Indiana Department of Transportation	43299 / 2002081	A 34	SR 262	Bridge Deck Overlay	over Arnold Creek, 01.13 mi W of SR 56	Seymour	0	STBG	\$1,310,779.00	Bridge Consulting	PE	\$104,000.00	\$26,000.00			\$130,000.00												
										Performance Measure Impacted: Bridge Condition																		
										Comments:No MPO. Add PE phase of \$130,000 to FY 2022. AQC-NA.																		
Indiana Department of Transportation	43368 / 2001949	A 34	SR 262	Small Structure Replacement	12.70 mi S of US 50	Seymour	0	STBG	\$737,992.00	Bridge Consulting	PE	\$172,000.00	\$43,000.00			\$215,000.00												
										Performance Measure Impacted: Bridge Condition																		
										Comments:No MPO. Add PE phase of \$215,000 in FY 2022. AQC-NA.																		
Indiana Department of Transportation	43368 / 2001951	A 34	SR 262	Small Structure Replacement	13.10 mi S of US 50	Seymour	0	STBG	\$555,735.00	Bridge Consulting	PE	\$140,000.00	\$35,000.00			\$175,000.00												
										Performance Measure Impacted: Bridge Condition																		
										Comments:No MPO. Add PE phase of \$175,000 in FY 2022. AQC-NA																		
Indiana Department of Transportation	43368 / 2001953	A 34	SR 262	Small Structure Replacement	5.45 mi S of US 50	Seymour	0	STBG	\$434,631.00	Bridge Consulting	PE	\$140,000.00	\$35,000.00			\$175,000.00												
										Performance Measure Impacted: Bridge Condition																		
										Comments:No MPO. Add PE phase of \$175,000 in FY 2022. AQC-NA.																		

Ohio County Total
 Federal: \$21,682,757.60 Match :\$5,420,689.40 2020: \$8,037,705.00 2021: \$929,664.00 2022: \$2,000,613.00 2023: \$15,369,391.00 2024: \$766,074.00

*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.

DES 1802982

Appendix I

Additional Studies

Note to reader: Some pages and graphics were removed to reduce the overall size of the document and can be made available upon request

Indiana Department of Transportation ENGINEER'S REPORT

Des No: 1802982

Small Structure Replacement

Location: SR 56, Over Buck Run, 2.35 Miles East of SR 262

CV 056-058-187.65

RP 187+65

County: Ohio

1. PURPOSE OF REPORT

The purpose of this report is to document the engineering assessment phase of project development, including all coordination that has been completed in preparation for this small structure replacement project. This document outlines the proposal and is intended to serve as a guide for subsequent survey, design, environmental, right of way and other project activities leading to construction. The preferred alternative identified in this document is considered predecisional, pending the outcome of environmental studies.

2. PROJECT LOCATION

This project is located on SR 56, 2.35 miles east of SR 262 at reference post 187+65 in Ohio County. The GPS coordinates are 38°58'56.9" North and 84°50'56.1" West. The project is located in the Indiana Department of Transportation's Seymour District, Aurora Sub-District. The location is in a rural planning organization region, the Southeastern Indiana Regional Planning Commission.



3. PROJECT PURPOSE AND NEED

The primary need for this project is based on the poor condition of the existing structure. See Appendix 1 for the Culvert Inspection Report.

Project purpose is to provide a structurally sufficient structure to perpetuate vehicular crossing at this location, while increasing the safety features in the project area.

4. EXISTING FACILITY

The existing roadway facility is classified as a rural minor arterial and is not part of the US National Highway System (NHS). The roadway is part of the National Truck Network. The posted speed limit at the project location is 55 mph.

Land Use

The surrounding land consists of agricultural fields, grass pastures, and woodlands.

Roadway

The existing roadway is 26’ wide through the project limits with guardrail on both sides which spans the top slab of the structure. The existing roadway consists of 12’ travel lanes and 2’ usable shoulders, 1’ of the shoulders being paved.

Roadway Information			
Geometric Criteria			
Design Speed	<i>55 mph</i>	Functional Class	<i>Minor Arterial</i>
Design Criteria	<i>3R (Non Freeway)</i>	Rural/Urban	<i>Rural</i>
Terrain	<i>Rolling</i>	Access Control	<i>None</i>
Approach Cross Section			
IDM Figure Reference	<i>IDM 55-3A</i>		
Travel Lane Count	<i>2</i>	Travel Lane Width	<i>12’ (existing) 12’ (proposed)</i>
Shoulder Width (Usable)	<i>2’ (existing) 3’-4’ (proposed)*</i>	Shoulder Width (Paved)	<i>1’ (existing) 2’-4’ (proposed)</i>
Mainline Pavement	<i>HMA</i>	Shoulder Pavement	<i>HMA</i>
Alignment			
Horizontal	<i>Tangent</i>	Vertical	<i>Straight Grade**</i>

*Level One Design Exception Required

**Level One Design Exception Required - While the vertical alignment is a straight grade across the structure, there is a sag vertical curve south of the structure within the limits of the approach construction that will require a Level One Design Exception.

Road History

SR 56 was last overlaid in this area in 2012 under contract no. RS-34406, Des. No. 1173308. The next anticipated treatment would be an overlay in 2026 or later. The pavement history prior to 2012 is not known.

Structure (CV 056-058-187.65)

The existing structure data is as follows:

Structure Number: CV 056-058-187.65

Feature Intersected: Buck Run

Superstructure Type: Concrete Slab top widened with one concrete beam on each side

Substructure Type: Unknown

Span Length: 10'

Vertical Opening: 6'

Structure Length: 33'

Deck Geometry: 29' wide roadway plus guardrail over the slab

Deck Railing: None, guardrail spans structure

Skew Angle: 0 degree

Structure Inspection Observations

The small structure was last inspected on May 18, 2017. According to the 2017 Culvert Inspection Report, the culvert has an overall rating of 4, primarily due to loss of bearing near the wingwalls under the added channel beams. The superstructure was given a rating of 7 and the substructure a rating of 6. Since the 2017 inspection, it appears that some repairs were made in these areas, as wood formwork was observed at the field check meeting that was left in place at the top of the wingwalls and under the concrete beams. See Appendices 1 and 7 for the Culvert Inspection Report and existing photographs.

Drainage

The existing drainage area of Buck Run through the structure at the project site is 0.67 square miles, with a Q₁₀₀ discharge of 250 cfs. The existing Q₁₀₀ indicates the roadway is not overtopped per the hydraulic report. See Appendix 6 for Hydraulic Recommendations.

5. FIELD CHECK

A field check meeting was held at the project site on November 15, 2019, some items of note include:

- Wood was observed anchored at the top of the southeast and northeast abutments, believed to be formwork for bearing repairs.
- A large hole was found behind the southeast wingwall and in the shoulder pavement.
- The existing culvert acts as a cattle crossing. The replacement structure options presented in the hydraulics report were discussed, and the 10' x 6' 3-sided flat top structure was preferred. This alternative would allow the culvert to continue to be used as a cattle crossing

See Appendix 4 for the Meeting Minutes.

6. TRAFFIC DATA

See Appendix 3 for the Traffic Data.

7. CRASH DATA

Crash Data was searched on Aries. Within 1,000' south and north of the structure there were no crashes in the three year period from July 2016 through July 2019.

8. ALTERNATIVES AND RECOMMENDATIONS

Per the INDOT provided Hydraulics Memorandum dated August 28, 2018, there are three approved options for replacement. See Appendix 6 for the INDOT Hydraulics Memorandum. These options are the alternatives for this report.

For Alternatives B, C, and D the roadway approach work will be similar. The proposed typical cross section through the project limits shall include two 12' lanes. In areas where guardrail is placed the usable/paved shoulder width shall be 4'. In areas where guardrail is not required, the usable shoulder width shall be 3' and paved shoulder width shall be 2'. The culvert ends and steep slopes shall be protected by guardrail. Roadside ditches shall be maintained or graded to perpetuate drainage to the culvert.

Alternate A: Do Nothing

This alternate would allow the existing roadway and structure to remain in place with no improvements, which would not correct the existing deteriorated conditions. This alternative does not meet the need nor achieves the purpose of the project and will not be considered further.

Alternate B: Replace with 11' x 7' Reinforced Concrete Box Structure

This alternative is Option #1 in the hydraulics report. The option must be sumped 6" and should have class 1 ripap placed at the outlet per the hydraulics report.

Alternate C: Replace with 10' x 6' Three-Sided Flat Top Structure

This alternative is Option #2 in the hydraulics report. The option must be sumped 6" and should have class 1 ripap placed at the outlet per the hydraulics report. This is the preferred alternative.

Alternate D: Replace with 12' x 6' Three-Sided Arch Top Structure

This alternative is Option #3 in the hydraulics report. The option must be sumped 12" and should have revetment ripap placed at the outlet per the hydraulics report.

Details of Preferred Alternative

Replacing the existing structure with a 10' x 6' three-sided flat top structure is preferred because it would allow for the passage of cattle on a vegetated bottom. In lieu of the outlet riprap specified in the hydraulic report, an erosion control mat will be specified to facilitate the safe passage of cattle. The mat type shall be approved by INDOT hydraulics.

Note to reader: These alternative structure measurements were taken from the flowline, as was the hydraulics report measurements. The measurements in the CE alternatives discussion references the structure measurements from the footing elevation.

Design Standards

Design Standard	<i>3R, Rural Minor Arterial, Figure 55-3A, 2 Lane</i>
Design Speed	<i>Posted, 55 mph</i>
Lane Width	<i>12'</i>
Paved Shoulder Width	<i>w/ guardrail:4', w/o guardrail: 2'</i>
Usable Shoulder Width	<i>w/guardrail:4'* , w/o guardrail: 3'*</i>
Side Slopes	<i>2H:1V or flatter</i>
Obstruction Free Zone	<i>20'</i>
Clear Zone	<i>26'</i>

*A Level 1 Design Exception required for usable shoulder width. This is recommended to better match the adjacent existing roadway.

9. MAINTENANCE OF TRAFFIC DURING CONSTRUCTION

This project is not considered a mobility significant project per IDM Section 503-2.02. See Appendix 9 for Determination of Significant Work Zone Impact Worksheet. The following is the temporary traffic control plan concept that shall be used for the project.

A full closure of SR 56 with detour is recommended for the project due to the type of work. The proposed detour will utilize US 50 and SR 129. The detour length is 48 miles with 15 miles of additional travel. This detour route was chosen over SR 262 to facilitate the truck traffic. SR 262 is curvy, has narrow lanes, and no shoulders; therefore, making it less desirable for truck traffic. See Appendix 10 for Maintenance of Traffic Correspondence.

No local detour has been coordinated for this project.

10. COST ESTIMATE

The cost of Alternative C is as follows:

Construction Cost (CN)	\$500,000
Right-of-Way (RW)	\$15,000
Preliminary Engineering (PE)	\$130,000
Utility (UT)	\$40,000
Total Project Cost	\$685,000

See Appendix 8 for the preliminary construction cost estimate.

11. ENVIRONMENTAL CONSIDERATIONS

At this time there are no known environmental sensitive areas within the project limits. There appears to be a potentially historic property just northwest of the project location but it should not be impacted. Requirements include a Red Flag Investigation, Waters Report, MPPA Cat. B, Archaeology, and Environmental Document (CE-1 or CE-2). CE level will be dependent on amount of R/W determined to be needed. Waterway permits may be required depending on the Waters Report findings. Small sections of stone headwall are present on both the north and south side of the structure. The designer will

be responsible for obtaining all necessary permits.

12. SURVEY REQUIREMENTS

The survey along SR 56 has been completed by INDOT. It begins 2.22 miles north of SR 262 and proceeds north approximately 1,200'. The width of the survey is approximately 75' east and west of the centerline of SR 56. The survey along the existing channel is approximately 125' upstream and 185' downstream.

13. RIGHT-OF-WAY IMPACT

The existing right-of-way is assumed to be at the existing edge of pavement since supporting documentation of existing right-of-way could not be found. Right-of-way will be acquired from 3 properties, one north/west and two south/east of SR 56. It is anticipated that a total of approximately 0.8 acres of right-of-way will need to be acquired for this project.

14. UTILITY IMPACT

Per an 811 Design Ticket, there are three utilities within the area: Aberdeen-Pate Water Co., Rising Sun Municipal Utilities, and Enhanced Telecommunications Corporation. Pavement widening will likely require the overhead lines along the south/east side of SR 56 to be relocated. The overhead lines approximately 50' north/west of the roadway are not expected to be impacted by the project.

15. RELATED PROJECTS

This project is kinned with the SR 56 Small Structure Replacement over UNT to Island Branch, 3.90 miles east of SR 262, Ohio County, Des. No. 1801046. The contract number is R-41524.

APPENDICES

1. Inspection Report
2. Utility Information
3. Traffic Data
4. Field Check/Kick-off Meeting Minutes
5. Design Criteria
6. Hydraulic Recommendations
7. Photographs
8. Preliminary Cost Estimate
9. Determination of Significant Work Zone Impact Worksheet
10. Maintenance of Traffic Correspondence

This document was prepared by:

Jason Mathias

4/13/2020

**Jason Mathias, P.E.
Project Manager – Burgess & Niple, Inc.**

Date

Reviewed by:

Karlei A. Metcalf

05/07/2020

**Karlei Metcalf, PMP
INDOT Seymour District Project Manager**

Date

Robert F. Tally Jr.

05/06/2020

**Robert F. Tally, Jr., P.E.
INDOT Seymour District System Asset Manager**

Date

Culvert Inspection Report

CV 056-058-187.65

SR 56

over



Inspection Date: 05/18/2017

Inspected By: Randy Strain

Inspection Type(s): Culvert

Large Culvert Inspection Report - Culvert # CV 056-058-187.65

CV 056-058-187.65	Last Inspection 05/18/2017	- 60 Months	Team 05 - Seymour	Inspector Strain, Randy
District 05	- 5100 - AURORA SUBDISTRICT	- 058 - OHIO	at 38.98270	Lat -84.84896
Location SR 56	over		at 2.35 E SR 262	Long
RP 187	+ 65 Milepoint 12.47	Ramp ID	0 - Structure/Route is NOT on NHS	02 - Rural - Principal Arterial - Other
Additional Location Desc.				

Original Culvert Description (not additional treatment)

Material / Size / Type	Bridge Type - Slab Top	- Concrete	(62) Overall Rating 4	<input checked="" type="checkbox"/> Recommend Replacement
-------------------------------	------------------------	------------	------------------------------	--

Structure Additional Desc. Concrete Slabtop Widened with one precast concrete beam on each side of the concrete slab

<input checked="" type="checkbox"/> On Skew	Degrees:	Shape	<input checked="" type="checkbox"/> Adjacent to Roadway	Year Built 0000
	Length 30.00	Span 12.00	Vertical Opening 7.00	Cover 1.00

Measurement Remarks

Direction	Openings Latitude	Openings Longitude	Openings Remarks
------------------	--------------------------	---------------------------	-------------------------

Non-Entry of Structure

This culvert has OBSTRUCTED flow

Roadway Related Items

(72) Approach Roadway Alignment	7
(58) Wearing Surface Rating	7
Shoulder Rating	7
Embankment/Side Ditches Rating	6

Culverts and Pipes

Barrel/Box Rating		Rated 4 due to loss of bearing
Coping Rating		Repair can bring rating back up
Headwall Rating		
Wingwalls Rating	4	
Settlement Rating		
(113) Scour Critical Bridges	7	
(36A) Bridge Railings	1	
Overtopping Frequency		

Structures

<u>Superstructure</u>	
(59) Superstructure	7
Concrete Slab Rating	7
Beams/Girders Rating	6
<u>Substructure</u>	
(60) Substructure	6
Abutment Bent Cap Rating	
Abutments Rating	6
Footings Rating	7
Pile Rating	

Channel Related Items

(61) Channel and Channel Protection	6
Bank Erosion Rating	6
Drift/Sediment Rating	7
Channel Alignment Rating	7

Miscellaneous Asset Data - Asset # CV 056-058-187.65

Bats: seen or heard under structure? N - No evidence of bats Birds/swallows/nests seen? Empty nests present? N - No Birds and/or Nests
Scour POA? Inv Type S - State Road Inv # 56 Reference Post 187 Offset 65

Joints Location: Type: Rating (Lowest Rated Joint):

Paint Rating Paint Year

■ Asset Type Has Changed

Original RP Data Source
RP 187 Offset 65



INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 232-6439
 FAX: (317) 233-4929

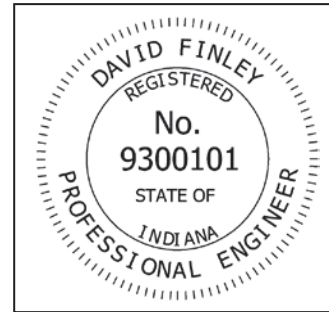
Eric Holcomb, Governor
Joe McGuinness, Commissioner

August 28, 2018

TO: Adam Pyle
 Assistant Bridge Asset Engineer
 Seymour District

FROM: James Boehm, EIT
 Hydraulics Engineer

THROUGH: David Finley, P.E.
 Sr. Hydraulics Engineer



SUBJECT: Hydraulic Review
 Status: Final Design
 Des. #: N/A
 Str. #: CV 056-058-187.65
 County: Ohio (058)
 Location: SR 56, 2.35 miles north of SR 262
 DNR CFI Permit (Y/N): N
 Legal Drain (Y/N): N

Site Parameters		
Drainage Area	0.67	mi ²
Q ₁₀₀ Discharge	250	cfs
Q ₅₀ Discharge	225	cfs
Q ₁₀₀ Depth	3.23	ft.
Roadway Overtopping Elevation	96.01	ft.

Culvert Properties								
Parameter	Existing		Option #1		Option #2		Option #3	
Structure	10' x 6' Slab Top		11' x 7' RCB Sumped 6"		10' x 6' Three-Sided Flat Top		12' x 6' Three-Sided Arch Top	
Road Overflow at Q ₁₀₀ Elevation	No		No		No		No	
Waterway Area Below Q ₁₀₀ Elevation	32.30	sq ft	35.28	sq ft	32.30	sq ft	39.55	sq ft
Q ₁₀₀ Headwater Elevation	92.33	ft	92.12	ft	92.33	ft	91.88	ft
Backwater	1.48	ft	1.27	ft	1.48	ft	1.03	ft
Outlet Velocity (Q ₅₀)	7.19	ft/s	6.63	ft/s	7.19	ft/s	5.87	ft/s
Minimal Outlet Riprap Size	N/A		Class 1 Riprap		Class 1 Riprap		Revetment Riprap	

Existing Conditions and Analysis:

The existing culvert is a 10' span by 6' rise slab top that is approximately 30' long. The structure is located in Ohio County under SR 56, 2.35 miles north of SR 262. This structure is not part of a legal drain and flows from southwest to northeast.



INDIANA DEPARTMENT OF TRANSPORTATION

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Eric Holcomb, Governor
Joe McGuinness, Commissioner

The upstream and downstream channels flow through pasture and are lined with grass and weeds. The structure is also used as a passage by cattle. The drainage area is rural and is comprised by a range of land covers types. There is a flat top structure downstream of the CV 056-058-187.65, and analysis was done to verify the impact it may have on CV 056-058-187.65. A model of both the natural water surface elevation from a tailwater channel and a constant tailwater elevation from the downstream structure was analyzed.

The section of SR 56 at the structure has an AADT of greater than 3000 vehicles. Therefore, the design discharge for roadway serviceability was based on a storm event with a 1% EP (exceedance probability), and discharge for culvert allowable velocity was based on a 2% EP. 1% EP discharge was calculated using TR-20. All replacement options were modeled using HY-8 7.2.

Replacement Options:

- Option #1: 11' x 7' Reinforced Concrete Box Sumped 6"
- Option #2: 10' x 6' Three-Sided Concrete Flat Top. Rise is above the flow line.
- Option #3: 12' x 6' Three-Sided Concrete Arch Top. Rise is above the flow line.

Replacement option 1 and 2 must be sumped 6" per IDM 203-2.02(10). Replacement options 3 must be sumped 12" per IDM 203-2.02(10). Options 1-3 are considered specialty structures and are required to be constructed with either wingwalls or headwalls per IDM 203-2.06(01). Elevations are based on a relative datum in conjunction with surveyed rod readings taken at the location. Existing downstream invert and proposed downstream flowline elevation for analysis was 87.62'. Contractor shall verify the existing flowline elevation to set the appropriate sump depth or low structure elevation.

Scour Protection Design and Recommendations:

For scour protection, class 1 riprap *must* be placed at the outlet for options 1 and 2 and revetment riprap for options 3. Scour protection must be placed in accordance with IDM 203-2.03(10), IDM Figure 203-2J, and INDOT Standard Drawings E714-BCSP-01 and E 723-CCSP-01 to 06.

The Ohio County Surveyor was contacted with regards to legal status of the drainage, and he indicated that this structure is used as a crossing for cattle. The county surveyor supplied contact information for the land owner just in case correspondence would be necessary.

Land Owner:

Myron Barbour
Ph#: (812)438-3984

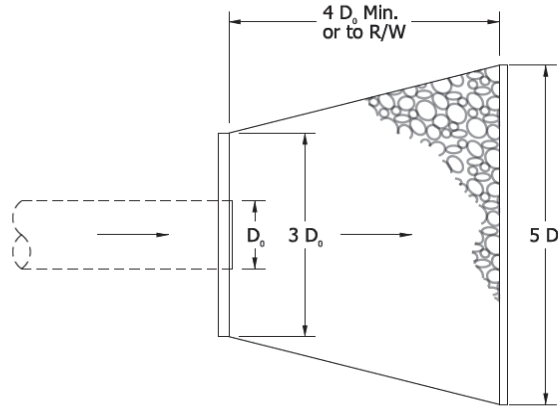


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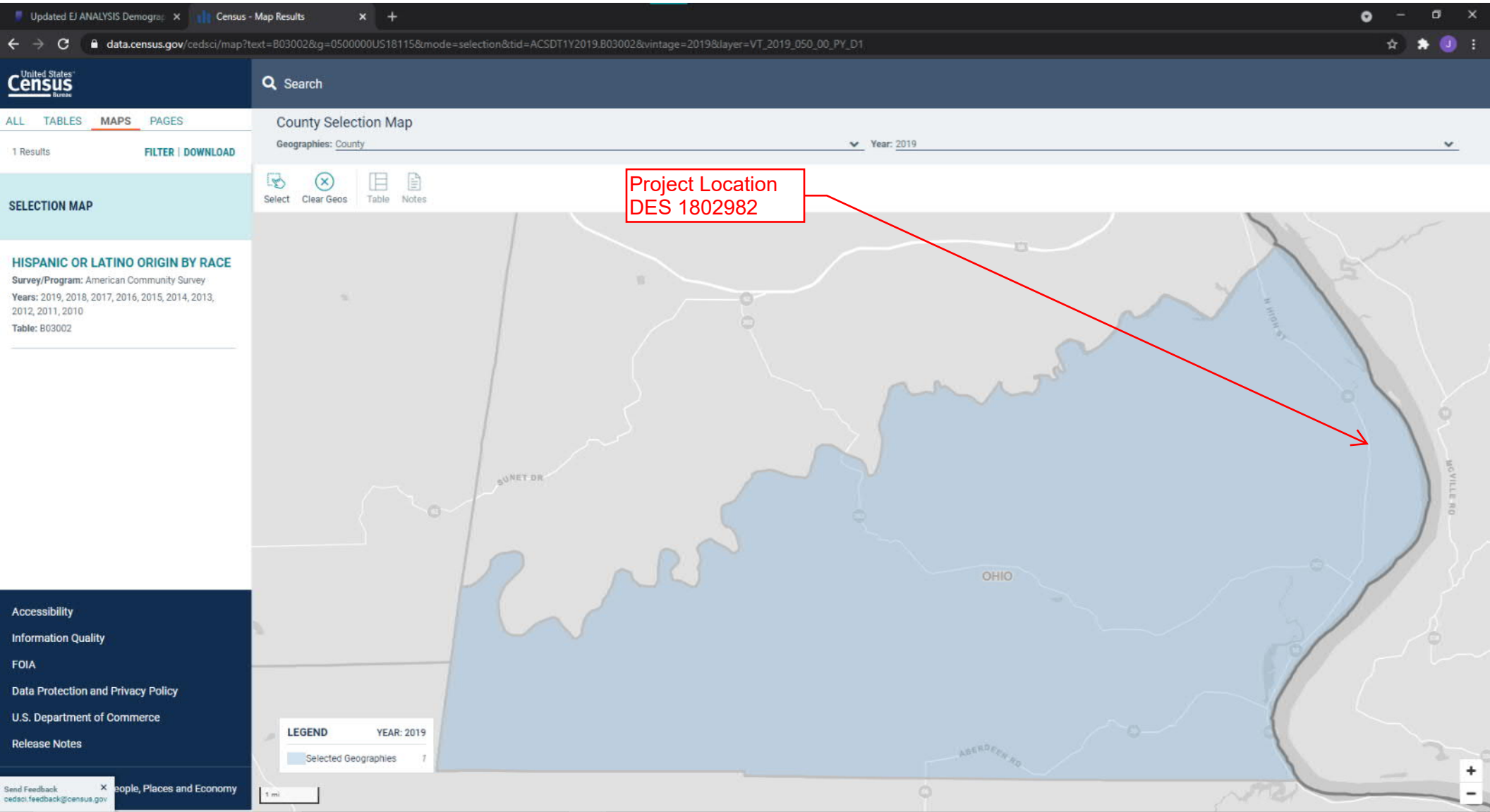
D_o = Outside Diameter of structure

IDM Figure 203-2J Minimum Riprap Apron Dimensions

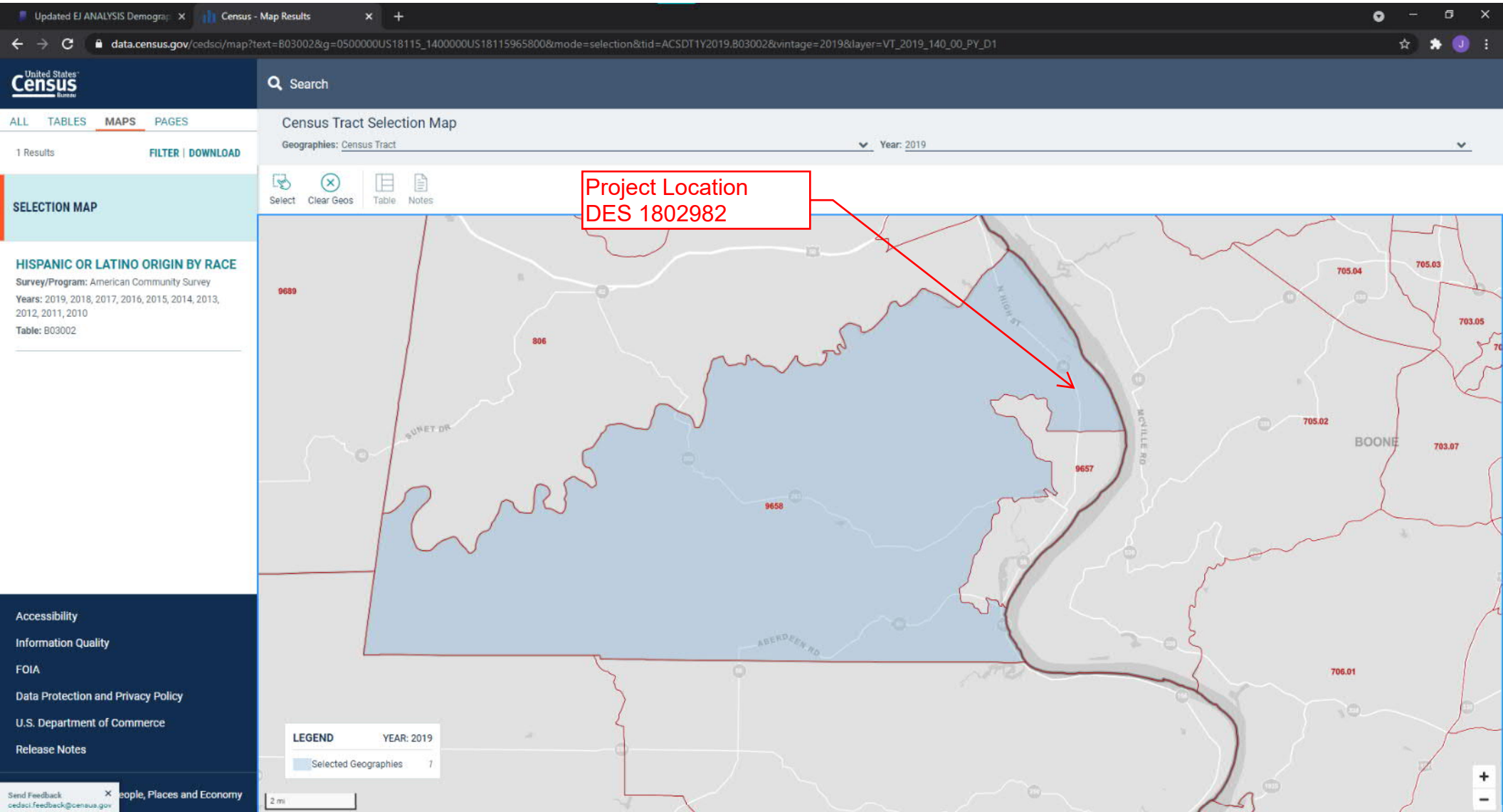
If you have any questions or comments, please contact me at (317) 232-6439.

JPB

County of Concern Map- Ohio County, Indiana



Affect Community Map - Census Tract 9658



HISPANIC OR LATINO ORIGIN BY RACE

Survey/Program: American Community Survey
TableID: B03002

Product: 2019: ACS 5-Year Estimates Detailed Tables
Universe: Total population

CUSTOMIZE TABLE

HISPANIC OR LATINO ORIGIN BY RACE
Survey/Program: American Community Survey
Years: 2019
Table: B03002

Label	Ohio County, Indiana		Census Tract 9658, Ohio County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	5,874	*****	3,516	±170
▼ Not Hispanic or Latino:	5,800	±63	3,483	±172
White alone	5,663	±17	3,414	±174
Black or African American alone	23	±22	0	±12
American Indian and Alaska Native alone	6	±10	0	±12
Asian alone	26	±31	26	±31
Native Hawaiian and Other Pacific Islander alone	0	±17	0	±12
Some other race alone	0	±17	0	±12
▼ Two or more races:	82	±47	43	±28
Two races including Some other race	0	±17	0	±12
Two races excluding Some other race, and three or more races	82	±47	43	±28
▼ Hispanic or Latino:	74	±63	33	±52
White alone	31	±45	0	±12
Black or African American alone	0	±17	0	±12
American Indian and Alaska Native alone	0	±17	0	±12
Asian alone	0	±17	0	±12
Native Hawaiian and Other Pacific Islander alone	0	±17	0	±12
Some other race alone	43	±53	33	±52
▼ Two or more races:	0	±17	0	±12
Two races including Some other race	0	±17	0	±12
Two races excluding Some other race, and three or more races	0	±17	0	±12

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cedsci.feedback@census.gov

Columns
Cell/Column Notes

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE

Survey/Program: American Community Survey
TableID: B17001

Product: 2019 ACS 5-Year Estimates Detailed Tables

Universe: Population for whom poverty status is determined

CUSTOMIZE TABLE

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE
Survey/Program: American Community Survey
Years: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010
Table: B17001

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (WHITE ALONE)
Survey/Program: American Community Survey
Years: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010
Table: B17001A

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (BLACK OR AFRICAN AMERICAN ALONE)
Survey/Program: American Community Survey
Years: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010
Table: B17001B

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (AMERICAN INDIAN AND ALASKA NATIVE ALONE)
Survey/Program: American Community Survey
Years: 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010
Table: B17001C

POVERTY STATUS IN THE PAST 12 MONTHS BY SEX BY AGE (ASIAN ALONE)
Survey/Program: American Community Survey

Label	Ohio County, Indiana		Census Tract 9658, Ohio County, Indiana	
	Estimate	Margin of Error	Estimate	Margin of Error
▼ Total:	5,763	±98	3,462	±165
▼ Income in the past 12 months below poverty level:	412	±155	126	±110
▶ Male:	163	±73	57	±55
▶ Female:	249	±103	69	±61
▼ Income in the past 12 months at or above poverty level:	5,351	±169	3,336	±186
▶ Male:	2,674	±92	1,647	±122
▶ Female:	2,677	±108	1,689	±121

Columns
Cell/Column Notes

Environmental Justice Analysis for SR 56 Small Structure Replacement (Des 1802982)

		COC	AC
		Ohio County, Indiana	Census Tract 9658, Ohio County, Indiana
LOW-INCOME			
B 17001001	Population for whom poverty status is determined: Total	5,763	3,462
B 17001002	Population for whom poverty status is determined: Income in past 12 months below poverty	412	126

Percent Low-Income	7.1%	3.6%
125 Percent of COC	8.9%	AC<125% COC
Potential Low-Income EJ Impact?		No

MINORITY			
B 03002001	Total population: Total	5,874	3,516
B 03002002	Total population: Not Hispanic or Latino	5,800	3,483
B 03002003	Total population: Not Hispanic or Latino; White alone	5,663	3,414
B 03002004	Total population: Not Hispanic or Latino; Black or African American alone	23	0
B 03002005	Total population: Not Hispanic or Latino; American Indian and Alaska Native alone	6	0
B 03002006	Total population: Not Hispanic or Latino; Asian alone	26	26
B 03002007	Total population: Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B 03002008	Total population: Not Hispanic or Latino; Some other race alone	0	0
B 03002009	Total population: Not Hispanic or Latino; Two or more races	82	43
B 03002010	Total population: Hispanic or Latino	74	33
B 03002011	Total population: Hispanic or Latino; White alone	31	0
B 03002012	Total population: Hispanic or Latino; Black or African American alone	0	0
B 03002013	Total population: Hispanic or Latino; American Indian and Alaska Native alone	0	0
B 03002014	Total population: Hispanic or Latino; Asian alone	0	0
B 03002015	Total population: Hispanic or Latino; Native Hawaiian and Other Pacific Islander alone	0	0
B 03002016	Total population: Hispanic or Latino; Some other race alone	43	33
B 03002017	Total population: Hispanic or Latino; Two or more races	0	0

Number Non-White/Minority (P007001-P007003)	211	102
Percent Non-White/Minority	3.6%	2.9%
125 Percent of COC	4.5%	AC<125% COC
Potential Minority EJ Impact?		No