

Indiana Department of Transportation

County Newton

Route State Road 14

Des. No. 1700076

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

Road No./County:	State Road (SR) 14/Newton County
Designation Number:	1700076
Project Description/Termini:	Bridge Project located along SR 14 over Gaff Ditch in Newton County, approximately 2.27 miles east of US 41. The project begins 2.22 miles east of US 41 and ends 2.29 miles east of US 41.

After completing this form, I conclude that this project qualifies for the following type of Categorical Exclusion (FHWA must review/approve if Level 4 CE):

X	Categorical Exclusion, Level 2 – The proposed action meets the criteria for Categorical Exclusion Manual Level 2 - table 1, CE Level Thresholds. Required Signatories: ESM (Environmental Scoping Manager)
	Categorical Exclusion, Level 3 – The proposed action meets the criteria for Categorical Exclusion Manual Level 3 - table 1, CE Level Thresholds. Required Signatories: ESM, ES (Environmental Services Division)
	Categorical Exclusion, Level 4 – The proposed action meets the criteria for Categorical Exclusion Manual Level 4 - table 1, CE Level Thresholds. Required Signatories: ESM, ES, FHWA
	Environmental Assessment (EA) – EAs require a separate FONSI. Additional research and documentation is necessary to determine the effects on the environment. Required Signatories: ES, FHWA

Note: For documents prepared by or for Environmental Services Division, it is not necessary for the ESM of the district in which the project is located to release for public involvement or sign for approval.

Approval

ESM Signature

Date

ES Signature

Date

FHWA Signature

Date

Release for Public Involvement

AAS

5/19/2020

REB

5-20-2020

ESM Initials

Date

ES Initials

Date

Certification of Public Involvement

Office of Public Involvement

Date

Note: Do not approve until after Section 106 public involvement and all other environmental requirements have been satisfied.

INDOT ES/District Env.

Reviewer Signature: _____

Date: _____

Name and Organization of CE/EA

Preparer: _____

Chris Kunkel/Lochmueller Group

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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
If No, then:
Opportunity for a Public Hearing Required?

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

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

Remarks: Notice of Entry
Notice of Entry letters were mailed to potentially affected property owners within the project area on August 20, 2018 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, G1 to G3.
Public Involvement:
The project will meet the minimum requirements described in the current INDOT *Public Involvement Manual* which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. 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 Yes No
Will the project involve substantial controversy concerning community and/or natural resource impacts?

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

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

Sponsor of the Project: Indiana Department of Transportation (INDOT) INDOT District: LaPorte
Local Name of the Facility: SR 14

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

*If other is selected, please identify the funding source: N/A

PURPOSE AND NEED:

Describe the transportation problem that the project will address. The solution to the traffic problem should NOT be discussed in this section. (Refer to the CE Manual, Section IV.B.2. Purpose and Need)

Need:
The need for the project stems from the deteriorated condition of the existing bridge (Bridge No. 014-56-03655). According to the INDOT Bridge Inspection Report dated April 9, 2019 (Appendix J, J2 to J16), there is cracking on the underside of the structure and moisture leaching through the joints of the south spandrel wall. The spandrel wall is the space between the sides of the arch and the top of the structure. The north spandrel wall is also cracked with efflorescence. The condition rating of the superstructure is a 5, which is considered "fair" condition. Condition ratings range from 0, which indicates a failed

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structure component, to 9, which indicates a new structure component with no deficiencies. The northeast corner of the substructure is spalled with exposed rebar. The condition rating of the substructure is a 5, which is considered “fair” condition. The substructure has horizontal cracking with efflorescence and minor deterioration. The channel has minor slumping, no bank protection present, and “widespread minor damage.” The banks of the channel exhibit slumping although the banks of Gaff Ditch are well-vegetated away from the bridge. The condition rating of the channel is a 6, which indicates “satisfactory condition.”

Purpose:

The purpose of this project is to provide an improved crossing at this location where the superstructure, substructure, and channel have condition ratings of at least an 8, which is considered to be in “very good” condition. Meeting the purpose of the project will address the identified structural deficiencies and provide a sufficient crossing for continued vehicular operations.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Newton Municipality: N/A

Limits of Proposed Work: The project begins 2.22 miles east of US 41 and ends 2.29 miles east of US 41 along SR 14.

Total Work Length: 0.07 Mile(s) Total Work Area: 0.97 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?	Yes¹	No
If yes, when did the FHWA grant a conditional approval for this project?	<input type="text"/>	<input checked="" type="checkbox"/>
	Date: <input style="width: 100%;" type="text"/>	

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

In the remarks box below, describe existing conditions, provide in detail the scope of work for the project, including the preferred alternative. Include a discussion of logical termini. Discuss any major issues for the project and how the project will improve safety or roadway deficiencies if these are issues.

The Federal Highway Administration and the INDOT LaPorte District propose to proceed with a federal-aid project to replace the existing Bridge No. 014-56-03655 (National Bridge Inventory (NBI) No. 3580) that carries SR 14 over Gaff Ditch in Newton County, Indiana.

Location:

The project is located along SR 14, approximately 2.27 miles east of US 41. Specifically, the project is located in McClellan Township within Sections 25 and 36, Township 30 North, Range 20 West as depicted on the Enos, Indiana USGS Quadrangle (Appendix B, B2).

Existing Conditions:

Within the project area, SR 14 is functionally classified as a rural state collector. The typical cross section of SR 14 as it approaches Bridge No. 014-56-3655, consists of two 13-foot wide asphalt travel lanes with 2-foot wide paved and 1-foot wide aggregate shoulders. On structure, the typical cross section of SR 14 over the bridge consists of two 13-foot asphalt travel lanes with 2-foot paved shoulders. The existing bridge is a single span, earth-filled reinforced concrete arch bridge built in 1946 with a 25-foot clear span. A 12-inch diameter, 10-foot long drainage culvert drains into Gaff Ditch in the northeast quadrant of the bridge. Concrete railing exists on either side of the bridge but there is no existing guardrail present along either side of SR 14 within the project area. During INDOT Inspections in April 2019, cracking and moisture leaching was observed at the superstructure. Spalling with exposed rebar was identified at the northeast corner of the substructure and slumping was observed within the channel of Gaff Ditch. No bank protection was observed.

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Preferred Alternative:

The preferred alternative involves the replacement of the existing concrete arch beam bridge with an earth-filled, precast, reinforced concrete three-sided structure with wing walls at both the upstream and downstream ends. The bridge number for the new structure will be Bridge No. 014-56-10319. The new structure will be 78 feet long and will have a 24-foot wide clear span with a 13-foot, 6-inch rise. On the structure, the typical cross-section of SR 14 will consist of two, 12-foot travel lanes (one in each direction) with 7-foot paved shoulders on each side. The downstream (south) side of the structure will have 35-foot long wing walls and the upstream (north) side will have 32-foot long wing walls. New riprap will be placed at both the upstream and downstream sides as well as under the new structure along Gaff Ditch.

The existing 12-inch diameter drainage pipe culvert in the northeast quadrant will be removed. New compacted aggregate field entrance drives will be constructed in all four quadrants of the project. At the northeast and southwest field entrance drives, new 35-foot long by 15-inch diameter pipes will be installed to convey roadside drainage beneath the new drives. They are Structure 18 in the northeast quadrant and Structure 17 in the southwest quadrant. Both of these structures will have riprap installed at their outlet. In addition, several other structures will be installed to convey drainage to Gaff Ditch. Refer to the *Design Criteria for Bridges* section of this document for a description of these structures.

The project also includes replacing the existing concrete railings along the bridge deck with 183 feet of guardrail along both the north and south sides of SR 14. The guardrail will curve around the inside (ditch side) of the new field entrances in each quadrant. Full depth pavement reconstruction will occur along SR 14 from a point 101 feet west of the new structure to a point 124 feet east of it. Approximately 225 feet of this reconstructed section of SR 14 will involve replacing the roadway surface with hot mix asphalt (HMA). An additional 75 feet beyond the western reconstruction terminus and 75 feet beyond the eastern reconstruction terminus will be milled to a depth 1.5 inches and a new 1.5-inch HMA overlay applied. The typical cross-section of the approaches will consist of two, 12-foot wide travel lanes (one in each direction) with paved shoulders varying in width from 2 to 7-feet wide in addition to 3.5-foot aggregate shoulders. Drainage will be conveyed by side ditches re-graded at a 3:1 foreslope and backslope. The design speed for SR 14 is 55 miles per hour (mph).

Including the length of incidental construction, the total length of the project is 375 feet (0.07 mile) along SR 14. Please refer to Appendix B for maps depicting the project area (B1 to B4), photographs of the project area (B5 to B13), and the Preliminary Design Plans (B14 to B24).

The termini of the project provide the logical beginning and end point necessary to complete the bridge replacement and to transition the roadway project back to the existing approaches. The project is independent of any other action and able to be constructed without relying on the completion of any other project.

Every effort to avoid, minimize, and/or mitigate project impacts will be made.

This project will meet the purpose and need of the project by constructing a new structure with a condition rating of at least 8. The condition rating of a new structure would be 9, which indicates a new structure with no deficiencies.

Maintenance of Traffic

The proposed maintenance of traffic plan includes the closure of SR 14 to thru traffic. A detour will be established that will utilize US 41, SR 114, and SR 55 (Appendix B, B18). Please refer to the *Maintenance of Traffic* section of this document for full details. The MOT will be implemented per the *Indiana Design Manual* guidelines.

Right-of-Way

The proposed project will require the acquisition of 1.11 acres of permanent right-of-way (Appendix B, B3). No temporary right-of-way will be required. No relocations will be required.

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Existing
Proposed

Bridge Type:	Concrete filled arch bridge		Concrete Three-Sided Structure	
Number of Spans:	1		1	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	37	ft.	38	ft.
Outside to Outside Width:	39.7	ft.	68.9	ft.
Shoulder Width:	6	ft.	7	ft.
Length of Channel Work:			217	ft.

Describe bridges and structures; provide specific location information for small structures.

Remarks:

The project involves the replacement of Bridge No. 014-56-03655 which carries SR 14 over Gaff Ditch. The proposed project will impact a total of 217 linear feet of Gaff Ditch (Appendix B, B3). The bridge number for the new structure will be Bridge No. 014-56-10319.

There is an existing 12-inch diameter, 10-foot long drainage pipe in the northeast quadrant. This structure does not have an associated structure number and will be removed. The project will also involve the construction and installation of eight additional structures to convey roadside drainage to Gaff Ditch (Appendix B, B19 and B24). Information about these structures is detailed in the below table.

Structure No.	Type	Size (length by diameter)	Location
11	Inlet with drainage pipe	42 feet by 12 inches	SW quadrant (outlets into Gaff Ditch)
12	Inlet with drainage pipe (under SR 14)	59 feet by 12 inches	NW to SW quadrant (flows into Str. 11)
13	Inlet with drainage pipe	54 feet by 12 inches	NW quadrant (flows into Str. 12)
14	Inlet with drainage pipe	51 feet by 12 inches	SE quadrant (flows into Str. 15)
15	Inlet with drainage pipe (under SR 14)	57 feet by 12 inches	SE to NE quadrant (flows into Str. 16)
16	Inlet with drainage pipe	42 feet by 12 inches	NE quadrant (outlets into Gaff Ditch)
17	Pipe under field entrance	35 feet by 15 inches	SW quadrant (flows over land to Str. 11)
18	Pipe under field entrance	35 feet by 15 inches	NE quadrant (flows over land to Str. 16)

Will the structure be rehabilitated or replaced as part of the project?

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

If the proposed action has multiple bridges or small structures, this section should be filled out for each structure.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

Is a temporary bridge proposed?

Is a temporary roadway proposed?

Will the project involve the use of a detour or require a ramp closure? (describe in remarks)

Provisions will be made for access by local traffic and so posted.

Provisions will be made for through-traffic dependent businesses.

Provisions will be made to accommodate any local special events or festivals.

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

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Remarks: The MOT will require the closure of SR 14 to thru traffic. A detour that utilizes US 41, SR 114, and SR 55 will be established. The detour will be approximately 19.6 miles long and would involve 25.6 miles in added travel distance. Access to all drives and businesses will be maintained during construction. The detour is expected to last approximately 4 months. The MOT will be implemented per the *Indiana Design Manual* guidelines.

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. Delays are likely to occur during construction but will cease upon project completion.

Will the proposed MOT substantially change the environmental consequences of the action?

Is there substantial controversy associated with the proposed method for MOT?

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 219,843 (2019/2021) Right-of-Way: \$ 600,000 (2021) Construction: \$ 955,803 (2021/2022)

Anticipated Start Date of Construction: Spring 2022

Date project incorporated into STIP July 2, 2019

Is the project in an MPO Area? **Yes** **No**

If yes,

Name of MPO N/A

Location of Project in TIP N/A

Date of incorporation by reference into the STIP N/A

RIGHT OF WAY:

Land Use Impacts	Amount (acres)			
	New ROW		Reacquisition	
	Permanent	Temporary	Permanent	Temporary
Residential	0.00	0.00	0.00	0.00
Commercial	0.00	0.00	0.00	0.00
Agricultural	0.33	0.00	0.00	0.00
Forest	0.00	0.00	0.00	0.00
Wetlands	0.00	0.00	0.00	0.00
Other: Maintained Roadside	0.78	0.00	0.00	0.00
Other: Existing Roadway	0.00	0.00	0.26	0.00
TOTAL	1.11	0.00	0.26	0.00

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 or reacquisition, either known or suspected, and there impacts on the environmental analysis should be discussed.

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Remarks: Within the project area, the existing ROW is assumed to be located along the edge of the pavement of SR 14. The typical width along SR 14 is 15 feet north and south of the centerline of SR 14. However, records in Newton County do not exist as to where the existing ROW is located. In addition, Newton County maintains a 75-foot from top of bank drainage easement along Gaff Ditch (Appendix B, B19).

The project requires approximately 1.11 acres of permanent ROW from maintained roadside (0.78 acre) and agricultural (0.33 acre) land use. Approximately 0.76 acre of the new ROW occurs within the drainage easement maintained by Newton County. The new typical ROW width along SR 14 will be 50 feet north and south of the centerline. The maximum ROW width will be 100 feet north and 115 feet south of the centerline of SR 14. Since no records exist for the location of existing ROW along SR 14, the project will also require the reacquisition of 0.26 acre ROW from under the pavement of SR 14. No temporary ROW is required (Appendix B, B3).

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.

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

SECTION A – ECOLOGICAL RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Streams, Rivers, Watercourses & Jurisdictional Ditches	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Federal Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Natural, Scenic or Recreational Rivers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nationwide Rivers Inventory (NRI) listed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outstanding Rivers List for Indiana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Navigable Waterways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group, the 2018 aerial map of the project area (Appendix B, B3), the USGS topographic map (Appendix B, B2), and the water resources map of the RFI report (Appendix E, E7) there are nine streams, rivers, watercourses, and/or jurisdictional ditches located within the 0.5 mile search radius. There is one stream present within or adjacent to the project area.

A *Waters of the U.S. Determination Report* was approved for the project on April 23, 2019 by INDOT Ecology and Waterway Permitting Office. Please refer to Appendix F, pages F1 to F19 for the *Waters of the U.S. Determination Report*. It was determined that one likely jurisdictional stream, Gaff Ditch, is within the project area. Gaff Ditch is identified as Beaver Creek in the report. Approximately 217 linear feet of Gaff Ditch flows within the project area. Gaff Ditch is likely a Water of the U.S. due to the well-defined OHWM and the hydrologic connection with the Iroquois River, a Traditionally Navigable Water (TNW). Gaff Ditch flows southwest and then west to the Iroquois River, approximately 31.6 river miles downstream of the project area. According to the USGS (1:24,000 scale) topographic map, Gaff Ditch is a mapped state perennial stream (Appendix B, B2). Gaff Ditch has an OHWM of 19 feet, 6 inches wide and 1 foot, 6 inches deep. Gaff Ditch is not listed as a Federal Wild and Scenic River, a State Natural, Scenic, and Recreational River or as an Indiana Department of Natural Resources (IDNR) Outstanding River. The U.S. Army Corp of Engineers (USACE) makes all final determinations regarding jurisdiction.

Gaff Ditch is a legal drain within Newton County. Coordination with the Newton County Surveyor occurred on February 6, 2019 (Appendix C, C1 to C4) and no response was received.

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A total of 217 linear feet (0.1 acre) of Gaff Ditch will be impacted by the project. Impacts to Gaff Ditch will result from the removal of the existing bridge, construction of the new bridge, access and grading activities, and riprap placement. Due to the total permanent impacts to a likely Waters of the U.S., an Indiana Department of Environmental Management (IDEM) Section 401 Water Quality Certification (WQC) and a USACE Section 404 Regional General Permit (RGP) will be required. Mitigation is required when cumulative stream and wetland impacts meet or exceed 300 linear feet or 0.1 acre below the OHWM. As the anticipated impacts for the project exceed this threshold, mitigation is likely required.

Early coordination information was sent to the U.S. Fish and Wildlife Service (USFWS), IDNR Division of Fish and Wildlife (DFW), and the USACE on February 6, 2019 (Appendix C, C1 to C4). The USFWS responded on February 15, 2019 stating that since this project will have minor impacts on natural resources, they were not providing a comment letter (Appendix C, C9). The IDNR DFW responded on March 7, 2019 with recommendations to avoid, minimize or compensate for impacts to the stream to the greatest extent possible (Appendix C, C25 to C27). These recommendations include minimizing the use of riprap for bank stabilization, utilizing time of year restrictions on stream work, minimizing the movement of resuspended bottom sediment, and preventing any disturbed sediment from entering the waterway. The USACE responded on March 12, 2019 with recommendations involving the coordination with agencies to obtain the proper permits when impacting the waterway (Appendix C, C29 to C30). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

An automated letter was generated from the Indiana Department of Environmental Management website on February 17, 2020 (Appendix C, C31 to C36). Applicable recommendations from the Proposed Roadway Letter include coordinating with appropriate agencies with regards to stream impacts and limiting stream disturbance.

Other Surface Waters

Reservoirs

Lakes

Farm Ponds

Detention Basins

Storm Water Management Facilities

Other: _____

Presence

Impacts

Yes

No

Remarks:

Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group, the 2018 aerial map of the project area (Appendix B, B3), the USGS topographic map (Appendix B, B2), and the water resources map of the RFI report (Appendix E, E7), there are no other surface waters within the 0.5 mile search radius. No other surface waters are present within the project area; therefore, no impacts are expected.

The USFWS responded on February 15, 2019 stating that since this project will have minor impacts on natural resources, they were not providing a comment letter (Appendix C, C9). The IDNR DFW responded on March 7, 2019 but did not provide any recommendations relating to other surface waters (Appendix C, C25 to C27). The USACE responded on March 12, 2019 with recommendations involving the coordination with proper agencies to obtain the proper permits when impacting water resources (Appendix C, C29 to C30).

An automated letter was generated from the Indiana Department of Environmental Management website on February 17, 2020 (Appendix C, C31 to C36). No recommendations related to open water features apply as there are no open water feature impacts associated with this project.

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

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

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
N/A	N/A	N/A	N/A	N/A

Wetlands (Mark all that apply)	Documentation	ES Approval Dates
Wetland Determination	X	April 23, 2019
Wetland Delineation	<input type="checkbox"/>	<input type="text"/>
USACE Isolated Waters Determination	<input type="checkbox"/>	<input type="text"/>
Mitigation Plan	<input type="checkbox"/>	<input type="text"/>

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.

Measures to avoid, minimize, and mitigate wetland impacts need to be discussed in the remarks box.

Remarks:

Based on a review of the National Wetlands Inventory (NWI) on-line mapper (<https://www.fws.gov/wetlands/data/Mapper.html>) (Appendix F, F8), a site visit on October 12, 2018 by Lochmueller Group, the USGS topographic map (Appendix B, B2), and the water resource map of the RFI report (Appendix E, E7), no wetlands are located within the 0.5 mile search radius. There are no wetlands present within or adjacent to the project area.

A *Waters of the U.S. Determination Report* was approved by the INDOT Ecology and Waterway Permitting Office on April 23, 2019. Please refer to Appendix F, pages F1 to F19 for the *Waters of the U.S. Determination Report*. It was determined that no wetland features exist within the project area. Therefore, no impacts are expected. The USACE makes all final determinations regarding jurisdiction.

The USFWS responded on February 15, 2019 stating that since this project will have minor impacts on natural resources, they were not providing a comment letter (Appendix C, C9). The IDNR DFW responded on March 7, 2019 but had no recommendations relating to wetland features (Appendix C, C25 to C27). The USACE responded on March 12, 2019 with recommendations involving the coordination with proper agencies to obtain the proper permits when impacting water resources (Appendix C, C29 to C30).

An automated letter was generated from the Indiana Department of Environmental Management website on February 17, 2020 (Appendix C, C31 to C36). No recommendations related to wetland features apply as there are no wetland feature impacts associated with this project.

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	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Terrestrial Habitat	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Unique or High Quality Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify each type of habitat and the acres impacted (i.e. forested, grassland, farmland, lawn, etc).

Remarks:

Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group and the 2018 aerial map of the project area (Appendix B, B3), there is maintained roadside, constructed drainage features, and agricultural field habitats present. Vegetation in the project area is limited to herbaceous species and was dominated by rice cutgrass (*Leersia oryzoides*), reed canary grass (*Phalaris arundinacea*), Kentucky bluegrass (*Poa pratensis*), marijuana (*Cannabis sativa*), and tall fescue (*Schedonorus arundinaceus*). This project will not involve any tree clearing. Approximately 0.72 acre of land disturbance for the removal of the existing bridge, the construction of the new structure, placement of the new drainpipes and riprap, construction of new ditch lines, and the construction of the new field entrance drives. Due to ground disturbance less than 1.0 acre, an IDEM Rule 5 permit will not be required.

The avoidance of terrestrial habitats is not feasible as the project limits are required for the construction activities needed for this project, which meets the purpose and need for the project, as outlined in the *Purpose and Need* section of this document.

The USFWS responded to early coordination on February 15, 2019 stating that since this project will have minor impacts on natural resources, they were not providing a comment letter (Appendix C, C9). The IDNR DFW responded on March 7, 2019 with recommendations to avoid, minimize or compensate for impacts to the wildlife to the greatest extent possible (Appendix C, C25 to C27). These recommendations include revegetating all bare and disturbed areas, minimizing vegetation clearing to be within the project limits, and maintaining wildlife crossing through the structure. The USACE responded on March 12, 2019 with no recommendations related to terrestrial habitat (Appendix C, C29 to C30). All applicable agency recommendations are included in the Environmental Commitments section of this CE document.

An automated letter was generated from the IDEM website on February 17, 2020 (Appendix C, C31 to C36). Applicable recommendations from the Proposed Roadway Letter include coordinating with appropriate agencies with regards to impacts to terrestrial habitat. All applicable IDEM recommendations are included in the *Environmental Commitments* section of this CE document.

If there are high incidences of animal movements observed in the project area, or if bridges and other areas appear to be the sole corridor for animal movement, consideration of utilizing wildlife crossings should be taken.

Karst

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?

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

Are karst features located within or adjacent to the footprint of the proposed project?

If yes, will the project impact any of these karst features?

<input type="checkbox"/>	<input type="checkbox"/>
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Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks:

Based on a desktop review, the project is located outside the designated karst region of Indiana, as outlined in the October 13, 1993 Memorandum of Understanding. According to the topographic map of the project area (Appendix B, B2) and the water resources map of the RFI report (Appendix E, E7), there are no karst features identified within or adjacent to the project area. In the early coordination response, the IGS did not indicate that karst features exist in the project area (Appendix C, C5 to C7). The coordination response did mention there is high liquefaction potential, high potential to encounter bedrock resources, and low potential to encounter sand and gravel resources in the project area. The response from IGS was communicated with the designer on February 18, 2020. No impacts are expected.

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Threatened or Endangered Species	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Is Section 7 formal consultation required for this action? **Yes** **No**

Remarks: Based on a desktop review and the RFI report (Appendix E, E1 to E11) completed by Lochmueller Group on April 1, 2019, the IDNR Newton County Endangered, Threatened, and Rare (ETR) Species List has been checked and is included in Appendix E, pages E8 to E11. The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR DFW early coordination response dated March 7, 2019 (Appendix C, C25 to C27), the Natural Heritage Program’s Database has 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.

Project information was submitted through the USFWS’s IPaC portal, and an official species list was generated (Appendix C, C10 to C15). The project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area, other than the Indiana bat and NLEB.

The project qualifies for the *Range-wide Programmatic Informal Consultation* for the Indiana bat and NLEB, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on November 5, 2019, and based on the responses provided, the project was found to have “No Effect” on the Indiana bat and/or the NLEB (Appendix C, C16 to C22).

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 this site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

SECTION B – OTHER RESOURCES

Drinking Water Resources	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Wellhead Protection Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Residential Well(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sole Source Aquifer (SSA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If a SSA is present, answer the following:

	Yes	No
Is the Project in the St. Joseph Aquifer System?	<input type="checkbox"/>	<input type="checkbox"/>
Is the FHWA/EPA SSA MOU Applicable?	<input type="checkbox"/>	<input type="checkbox"/>
Initial Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>
Detailed Groundwater Assessment Required?	<input type="checkbox"/>	<input type="checkbox"/>

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Remarks: The project is located in Newton 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/USEPA Sole Source Aquifer MOU* is not applicable to this project. Therefore, a detailed groundwater assessment is not needed, and no impacts are expected.

The IDEM Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on February 18, 2020 by Lochmueller Group. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The IDNR Water Well Web Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on February 18, 2020 by Lochmueller Group. No wells are located near this project area. Therefore, no impacts are anticipated.

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Lochmueller Group on February 18, 2020 and the RFI report; this project is not located within an urbanized area boundary (UAB) location. No impacts are expected.

Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group, and the 2018 aerial map of the project area (Appendix B, B3), no public water systems were identified. Therefore, no impacts are expected.

Flood Plains	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Longitudinal Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse Encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project located within a regulated floodplain	<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"/>

Discuss impacts according to classification system described in the "Procedural Manual for Preparing Environmental Studies".

Remarks: The IDNR Indiana Floodway Information Portal website (<http://dnrmaps.dnr.in.gov/appsphp/fdms/>) was accessed on February 19, 2020 by Lochmueller Group. This project is not located in a regulatory floodplain as determined from approved FEMA floodplain maps (Appendix F, F9). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

Farmland	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total Points (from Section VII of CPA-106/AD-1006* 154

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

See CE Manual for guidance to determine which NRCS form is appropriate for your project.

Remarks: Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group, and the 2018 aerial map of the project area (Appendix B, B3), the project will convert approximately 0.33 acre of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on February 6, 2019 to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 154 on the NRCS-CPA-106 Form (Appendix C, C23 to C24). 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 the project. No alternatives, other than those previously discussed in this document, will be investigated without re-evaluating impacts to prime farmland.

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SECTION C – CULTURAL RESOURCES

Minor Projects PA Clearance	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 2px;">Category</th> <th style="padding: 2px;">Type</th> </tr> <tr> <td style="text-align: center; padding: 2px;">A</td> <td style="text-align: center; padding: 2px;">4</td> </tr> <tr> <td style="text-align: center; padding: 2px;">B</td> <td style="text-align: center; padding: 2px;">4, 9 & 12</td> </tr> </table>	Category	Type	A	4	B	4, 9 & 12	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="padding: 2px;">INDOT Approval Dates</th> </tr> <tr> <td style="padding: 2px;">March 26, 2020</td> </tr> </table>	INDOT Approval Dates	March 26, 2020	N/A
Category	Type										
A	4										
B	4, 9 & 12										
INDOT Approval Dates											
March 26, 2020											

Eligible and/or Listed
Resource Present

Results of Research

Archaeology	
NRHP Buildings/Site(s)	
NRHP District(s)	
NRHP Bridge(s)	

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation
Prepared

Documentation (mark all that apply)

	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report		
Historic Property Report		
Archaeological Records Check/ Review		
Archaeological Phase Ia Survey Report		
Archaeological Phase Ic Survey Report	March 26, 2020	N/A
Archaeological Phase II Investigation Report		
Archaeological Phase III Data Recovery		
APE, Eligibility and Effect Determination		
800.11 Documentation		

Memorandum of Agreement (MOA)

MOA Signature Dates (List all signatories)

Describe all efforts to document cultural resources, including a detailed summary of the Section 106 process, using the categories outlined in the remarks box. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of paper(s) and the comment period deadline. Likewise include any further Section 106 work which must be completed at a later date, such as mitigation or deep trenching.

Remarks: On March 26, 2020, the INDOT Cultural Resources Office (CRO) determined that this project falls within the guidelines of Category A, Type 4 and Category B, Types 4, 9, and 12 under the MPPA (Appendix D, D1 to D5). The projects that fall under the aforementioned MPPA categories are as follows:

A-4: Roadway work within previously disturbed soils where installation of curbs, curb ramps, or sidewalks are not required.

B-4: Installation of new guardrails where work occurs in undisturbed soils where an archaeological investigation found no NRHP eligible or listed sites are found and no NRHP eligible or NRHP listed district or above-ground individual resource exists within or adjacent to the project area.

B-9: Installation of drainage structures and work may occur to unusual features where the structure has no wood, stone, or brick in undisturbed soils where an archaeological investigation found no

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NRHP eligible or listed sites are found and no NRHP eligible or NRHP listed district or above-ground individual resource exists within or adjacent to the project area structures.

B-12: Bridge replacement project in undisturbed soils where an archaeological investigation found no NRHP eligible or listed sites are found and no NRHP eligible or NRHP listed district or above-ground individual resource exists within or adjacent to the project area.

A Phase 1a Archaeological Survey Report was completed on February 26, 2020 by 106 Consulting LLC. The report included an archaeological records check and an onsite the investigation of the project survey area for NRHP eligible archaeological sites. No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

Section 4(f) Involvement (mark all that apply)

Parks & Other Recreational Land

- Publicly owned park
- Publicly owned recreation area
- Other (school, state/national forest, bikeway, etc.)

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Wildlife & Waterfowl Refuges

- National Wildlife Refuge
- National Natural Landmark
- State Wildlife Area
- State Nature Preserve

Presence

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations Prepared

- Programmatic Section 4(f)*
- “De minimis” Impact*
- Individual Section 4(f)

FHWA Approval date

--

*FHWA approval of the environmental document also serves as approval of any Section 4f Programmatic and/or De minimis evaluation(s) discussed below.

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Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the remarks box below. Individual Section 4(f) documentation must be separate Draft and Final documents. For further discussions on Programmatic, "de minimis" and Individual Section 4(f) evaluations please refer to the "Procedural Manual for the Preparation of Environmental Studies". Discuss proposed alternatives that satisfy the requirements of Section 4(f).

Remarks: 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, recreational areas, wildlife/waterfowl refuges, and NRHP eligible or listed historical 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 12, 2018 by Lochmueller Group, the 2018 aerial map of the project area (Appendix B, B3), and the RFI report (Appendix E, E1 to E11) there are no Section 4(f) resources within the 0.5 miles search radius. There are no Section 4(f) resources within or adjacent to the project area. Therefore, no impacts are expected.

Section 6(f) Involvement

Presence

Use

Section 6(f) Property

Yes

No

Discuss proposed alternatives that satisfy the requirements of Section 6(f). Discuss any Section 6(f) involvement.

Remarks: The U.S. Land and Water Conservation Fund Act of 1965 established the 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) list available on INDOT's Environmental Policy website (<https://www.in.gov/indot/2523.htm>) revealed there is one property, Willow Slough Fish and Wildlife Area, in Newton County (Appendix J, J1). This property is not located within or adjacent to the project area. Therefore, there will be no impacts to Section 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

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

Yes

No

If YES, then:

Is the project in the most current MPO TIP?

Is the project exempt from conformity?

If the project is NOT exempt from conformity, then:

Is the project in the Transportation Plan (TP)?

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

Level of MSAT Analysis required?

Level 1a Level 1b Level 2 Level 3 Level 4 Level 5

Remarks: This project is included in the FY 2020-2024 STIP (Appendix H, H1 to H2). The funds programmed into the FY 2020-2024 STIP for Des. No. 1700076 include funds for the other project bundled into this contract (B-40608).

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This project is located within Newton County, which is currently in attainment for all criteria pollutants according to (<https://www.in.gov/idem/airquality/2339.htm>). 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 F – NOISE

Noise

Yes No

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

	No	Yes/ Date
ES Review of Noise Analysis	X	

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

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

- Will the proposed action comply with the local/regional development patterns for the area?
- Will the proposed action result in substantial impacts to community cohesion?
- Will the proposed action result in substantial impacts to local tax base or property values?
- Will construction activities impact community events (festivals, fairs, etc.)?
- 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 remarks box)

Yes	No
X	
	X
	X
	X
	X
	X
	X

Remarks: The project will ultimately be beneficial to local properties due to improvements of deteriorating roadway conditions and will not substantially change access to properties within the area. Overall, the negative impacts to property owners within the project area will be minimal and will consist primarily of short-term construction impacts. No relocations are expected. Property owners will be provided access throughout the duration of the project to reduce impacts as much as possible. The project is not anticipated to result in substantial impacts to community cohesion, because it will not change access to properties within the area. The proposed project is not expected to impact the surrounding community or cause economic impacts to the surrounding area. Therefore, this project will have minimal or no negative impacts to the community or local economy.

According to the Indiana Festivals website (www.indianafestivals.org) accessed on February 19, 2020 by Lochmueller Group there are no fairs and festivals scheduled within 10 miles of the project.

The MOT may pose delays and temporary inconveniences to traveling motorists (including school buses and emergency services); however, all inconveniences will cease upon project completion. The MOT for the project is not anticipated to impact access to community events.

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The project sponsor will be responsible for contacting school districts and emergency services at least two weeks prior to any construction activities that would limit access, this is included as a commitment in the *Environmental Commitments* section of this CE document.

Coordination with Newton County did not identify an approved transition plan and the status of the plan is unknown; however, no existing pedestrian facilities will be modified or removed, and no new pedestrian facilities are proposed as part of this project. Therefore, this project will not create any additional barriers to access.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts? Yes No

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

This project will not add substantial capacity to the existing roadway network or provide additional access to any currently undeveloped area. Therefore, the project is not expected to increase development in the area or result in substantial indirect or cumulative impacts.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.* Yes No

Remarks: Based on a desktop review, a site visit on October 12, 2018 by Lochmueller Group, the 2018 aerial map of the project area (Appendix B, B3), and the RFI report (Appendix E, E7) there are no public facilities within the 0.5-mile search radius. Access to all properties will be maintained during construction. Therefore, no impacts are expected.

Early coordination information was sent to North Newton School District, Newton County Commissioners, Newton County Council, Newton County Highway Department, Newton County Surveyor's Office, Newton County Ambulance Service, Newton County Sheriff's Department, and Morocco Volunteer Fire Department on February 6, 2019. None of the aforementioned agencies responded to the early coordination letter.

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.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified? Yes No

Does the project require an EJ analysis? Yes No

If YES, then:

Are any EJ populations located within the project area? Yes No

Will the project result in adversely high or disproportionate impacts to EJ populations? Yes No

Remarks: 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 ROW. This project will require 1.1 acres of ROW. Therefore, an EJ analysis is required.

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Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city, or town and is called the community of comparison (COC). In this project, the COC is Newton County, Indiana. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 1005. 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 2017 American Community Survey (ACS), 5-year estimate was obtained from the U.S. Census Bureau website (<https://factfinder.census.gov/>) on February 12, 2020 by Lochmueller Group. The data collected for minority and low-income populations within the AC are summarized in the table below.

Minority and Low-Income Data (ACS 5-Year Estimate, 2017)		
	COC	AC
	Newton County, Indiana	Census Tract 1005
MINORITY		
Percent Minority	8.5%	10.5%
125% of COC	10.6%	AC < 125% COC
EJ Population of Concern?		No
LOW-INCOME		
Percent low-income	14.0%	8.7%
125% of COC	17.5%	AC < 125% COC
EJ Population of Concern?		No

The AC, Census Tract 1005, has a percent minority of 10.5% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain minority populations of EJ concern.

The AC, Census Tract 1005 has a percent low-income of 8.7% which is below 50% and is below the 125% COC threshold. Therefore, the AC does not contain low-income populations of EJ concern.

The census data sheets, map, and calculations can be found in Appendix I, I1 to I6. No further EJ analysis is warranted.

Relocation of People, Businesses or Farms

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

Is a Business Information Survey (BIS) required?

Is a Conceptual Stage Relocation Study (CSRS) required?

Has utility relocation coordination been initiated for this project?

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

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

If a BIS or CSRS is required, discuss the results in the remarks box.

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

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SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)

Red Flag Investigation	<input checked="" type="checkbox"/>
Phase I Environmental Site Assessment (Phase I ESA)	<input type="checkbox"/>
Phase II Environmental Site Assessment (Phase II ESA)	<input type="checkbox"/>
Design/Specifications for Remediation required?	<input type="checkbox"/>

Documentation

	No	Yes/ Date
ES Review of Investigations		June 21, 2019

Include a summary of findings for each investigation.

Remarks: Based on a review of Geographic Information System data and available public records, an RFI was approved on June 21, 2019 by INDOT Site Assessment and Management (Appendix E, E1 to E11). No sites with hazardous material concerns (hazmat sites) or sites involved with regulated substances were identified in or within 0.5 mile of the project area. Further investigation for hazardous materials or regulated substances is not required at this time.

SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

Individual Permit (IP)	<input type="checkbox"/>
Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Pre-Construction Notification (PCN)	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input type="checkbox"/>

IDEM

Section 401 WQC	<input checked="" type="checkbox"/>
Isolated Wetlands determination	<input type="checkbox"/>
Rule 5	<input type="checkbox"/>
Other	<input type="checkbox"/>
Wetland Mitigation required	<input type="checkbox"/>
Stream Mitigation required	<input checked="" type="checkbox"/>

IDNR

Construction in a Floodway	<input type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>
Lake Preservation Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>
Mitigation Required	<input type="checkbox"/>

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the remarks box below)

Remarks: A total of 217 linear feet (0.1 acre below the OHWM) of Gaff Ditch will be impacted by the project. Impacts will be limited to the portion of the creek within the construction limits of the project. A USACE Section 404 RGP and IDEM Section 401 WQC will be required due to the impacts to Gaff Ditch. A formal jurisdictional determination has not yet been made by the USACE, which will be required during the permitting phase.

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Mitigation is required when cumulative stream and wetland impacts meet or exceed 300 linear feet or 0.1 acre below the ordinary high water mark. Due to the cumulative impacts of 217 linear feet and 0.1 acre, mitigation is likely required for the IDEM Section 401 WQC.

The project occurs within the Gaff Ditch drainage easement, which is maintained by the Newton County Surveyor. Newton County has no known legal or regulated drain permit. Therefore, such a permit is not required for the project.

Applicable recommendations provide by permitting agencies are included in the Environmental Commitments section of this CE document. If permits are found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations.

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

SECTION J- ENVIRONMENTAL COMMITMENTS

The following information should be provided below: List all commitments, name of agency/organization requesting the commitment(s), and indicating which are firm and which are for further consideration. The commitments should be numbered.

Remarks:

- 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. Any work within a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the USACE permit. (INDOT ESD)
- For Further Consideration:**
1. Avoid all work within the inundated part of the stream channel 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)
 2. 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. (USFWS)
 3. 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)
 4. 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)
 5. 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)
 6. 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. (IDNR DFW)

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7. 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 current conditions. (IDNR DFW)
8. 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). (IDNR DFW)
9. Do not construct any temporary runarounds, causeways, cofferdams, diversions, or pump arounds without approval from the DFW. (IDNR DFW)

SECTION K- EARLY COORDINATION

Please list the date coordination was sent and all agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received. INDOT and FHWA are automatically considered early coordination participants and should only be listed if a response is received.

Remarks: Early coordination with the regulatory agencies was completed on February 6, 2019 (Appendix C, C1 to C4). If no response was received, it was assumed the agency did not feel the project will result in substantial impacts. The following agencies/individuals were contacted during the coordination phase.

Agency	Date of Response(s)
1. USACE, Detroit District	March 12, 2019
2. USFWS, Northern Indiana Suboffice	February 15, 2019
3. USDA, NRCS	March 1, 2019
4. National Park Service, Midwest Regional Office	No Response
5. U.S. Department of Housing and Urban Development	No Response
6. FHWA, Indiana Division	No Response
7. IDNR, Division of Fish and Wildlife	March 7, 2019
8. Indiana Geological Survey	February 7, 2019
9. INDOT, Office of Public Involvement	February 7, 2019
10. INDOT, LaPorte District Environmental Scoping Manager	No Response
11. INDOT, Project Manager	No Response
12. INDOT, Environmental Services	No Response
13. IDEM (electronic submission)	February 17, 2020
14. Newton County Board of Commissioners	No Response
15. Newton County Highway Department	No Response
16. Newton County Surveyor's Office	No Response
17. Newton County, McClellan Township Trustee	March 7, 2019
18. Newton County Council	No Response
19. Newton County Emergency Management Agency	No Response
20. Newton County Ambulance Service	No Response
21. Newton County Sheriff's Department	No Response
22. Morocco Volunteer Fire Department	No Response
23. North Newton School Corporation	No Response

Appendix A: INDOT Supporting Documentation

Threshold Chart.....A1

Appendix B: Graphics

General Location Map.....B1
USGS Enos, Indiana Quadrangle Topographic Map.....B2
Project Aerial (2018).....B3
Photo Location Map (2018)B4
Site Photographs.....B5-B13
Preliminary Plan Sheets.....B14-B22

Appendix C: Early Coordination

Sample Early Coordination Letter (February 6, 2019)..... C1-C4
Indiana Geological Survey
Electronic Response (February 7, 2019)..... C5-C7
Indiana Department of Transportation (INDOT), Office of Public Involvement
Response Email (February 7, 2019)..... C8
United States Fish and Wildlife Service
Response Email (February 15, 2019)..... C9
IPaC Official Species List (February 13, 2020)..... C10-C15
IPaC Concurrence Verification Letter (November 5, 2019) C16-C22
Natural Resources Conservation Service
Response Letter (March 1, 2019)..... C23
Completed NRCS-CPA-106 Form..... C24
Indiana Department of Natural Resources (IDNR), Division of Fish and Wildlife
Response Letter (March 7, 2019)..... C25-C27
McClellan Township Trustee
Response Email (March 7, 2019)..... C28
US Army Corps of Engineers – Detroit District
Response Letter (March 12, 2019)..... C29-C30
Indiana Department of Environmental Management
Electronic Response (February 17, 2020)..... C31-C36

Appendix D: Section 106 of the National Historic Preservation Act (NHPA)

MPPA Project Assessment Form D1-D5

Appendix E: Red Flag Investigation

Red Flag Investigation..... E1-E11

Appendix F: Water Resources

Waters of the U.S. Determination Report.....F1-F6
Water Resources Map F7
NWI Wetlands Map F8
FEMA Floodplain Map F9
USGS StreamStats Map F10
Soil Survey..... F11-F15
Preliminary Jurisdictional Determination F16-F19

Appendix G: Public Involvement

Notice of Survey..... G1-G2
INDOT Notice of Survey Attachment.....G3

Appendix H: Air Quality

Relevant pages from the INDOT 2020-2024 STIPH1
Relevant pages from the INDOT 2018-2021 STIPH2

Appendix I: Environmental Justice (EJ) Analysis

EJ Analysis Map.....	I1
Data Calculation Table.....	I2
Population Data.....	I3-I6

Appendix J: Additional Information

Land and Water Conservation Fund Grants: Newton County, Indiana.....	J1
INDOT Bridge Inspection Report.....	J2-J16

Categorical Exclusion

Appendix A

INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	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” (Without AMMs ⁴ or with AMMs required for all projects ⁵)	“Not likely to Adversely Affect” (With any other AMMs)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	“No Effect”, “Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level <ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

¹Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

²Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

³Permanent and/or temporary right-of-way.

⁴AMMs = Avoidance and Mitigation Measures.

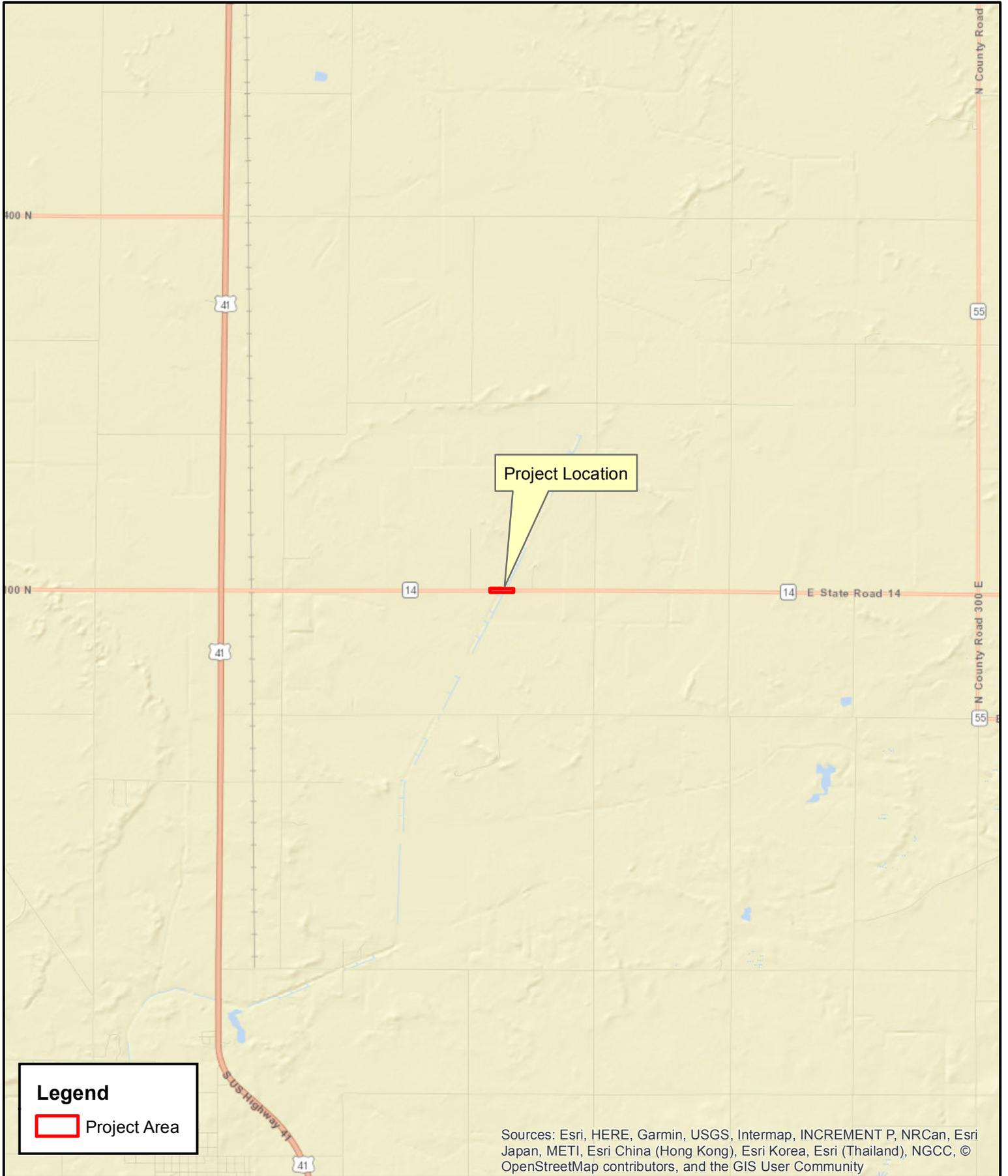
⁵AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User’s Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as “required for all projects”.

⁶Potential for causing a disproportionately high and adverse impact.

⁷Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

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

Categorical Exclusion
Appendix B
Graphics



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Legend
 Project Area



LOCHMUELLER GROUP
 3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

Location Map
 Des. # 1700076



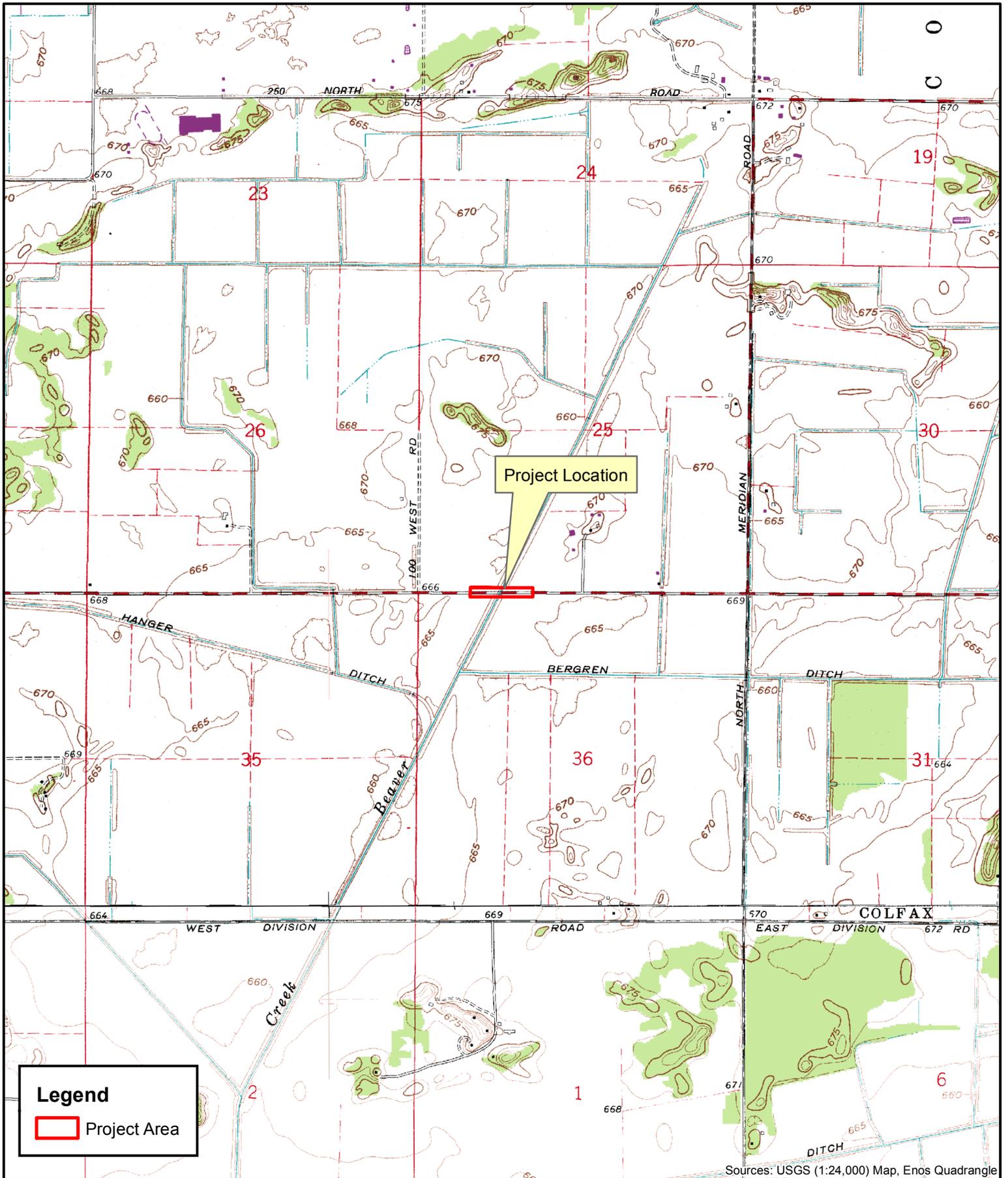
0 0.5 1 Miles



County: Newton
 Township: Lake
 State: Indiana

Bridge Replacement Project
 SR 14, 2.27 mi east of US 41
 Created: 3/11/2020, C. Kunkel

S:_2017\17-03\2020\Enviro\Mapsets\X\Location_Map_DBD.mxd



Project Location

Legend

Project Area

Sources: USGS (1:24,000) Map, Enos Quadrangle

LOCHMUELLER GROUP

3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

USGS Quadrangle Map

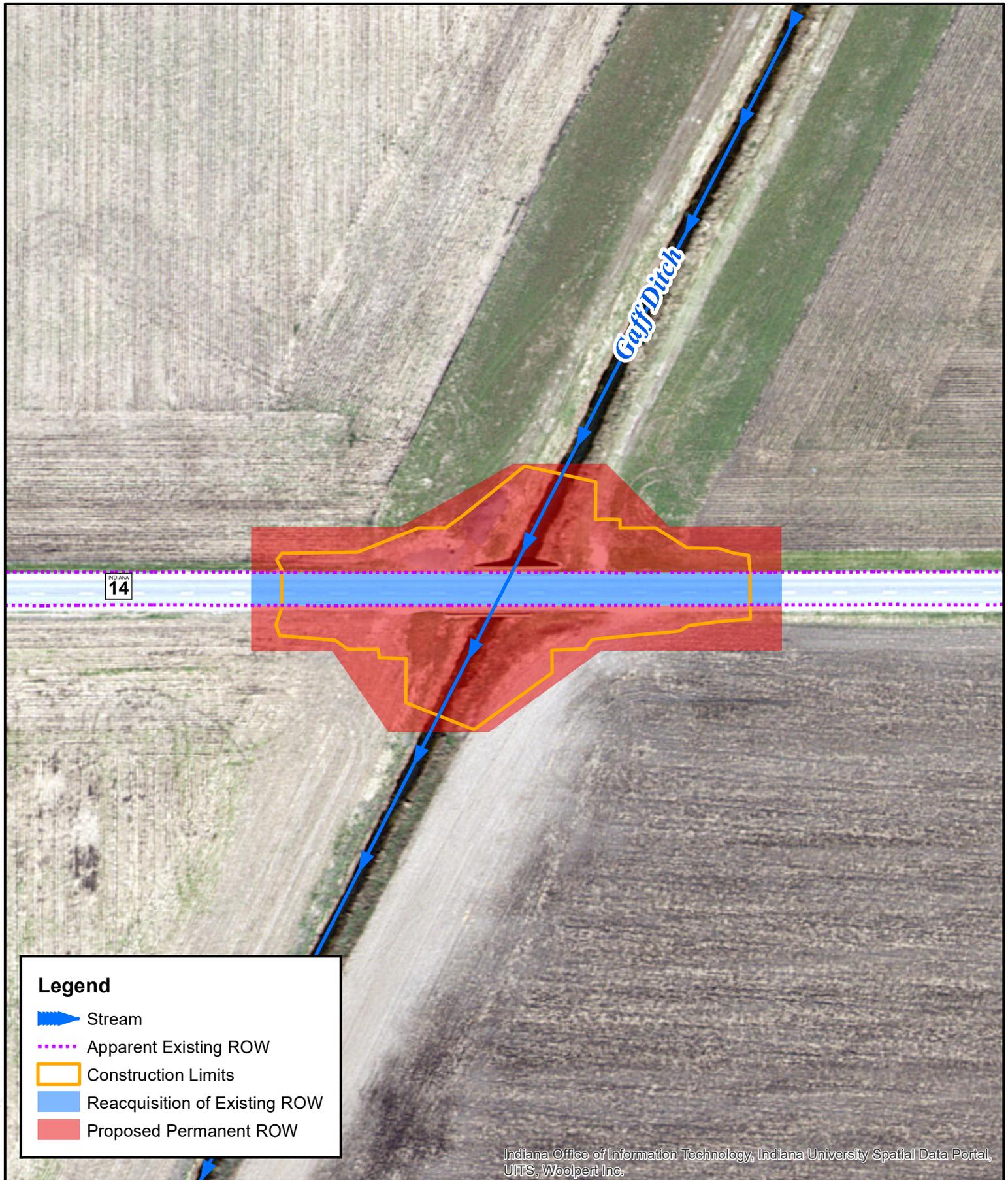
Enos Quadrangle
 Des. # 1700076

0 1,000 2,000
 Feet

County: Newton
 Township: Lake
 State: Indiana

Bridge Replacement Project
 SR 14, 2.27 mi east of US 41
 Created: 3/11/2020, C. Kunkel

S:\2017\17-03\2017\Enos\Map\Map\Map_DIBD.mxd



Legend

-  Stream
-  Apparent Existing ROW
-  Construction Limits
-  Reacquisition of Existing ROW
-  Proposed Permanent ROW

Indiana Office of Information Technology, Indiana University Spatial Data Portal, UITS, Woolpert Inc.



LOCHMUELLER GROUP
 3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

Aerial Map (2018)
 Des. # 1700076

0 50 100
 Feet



County: Newton
 Township: Lake
 State: Indiana

Bridge Replacement Project
 SR 14, 2.27 mi east of US 41
 Created: 4/10/2020, C. Kunkel

S:\L2017\217-0372\BDD\Enviro\Map\SR14\Aerial Map_DBD.mxd



Indiana Office of Information Technology, Indiana University Spatial Data Portal, UITS, Woolpert Inc.

Legend

-  Photo Locations
-  Stream
-  Apparent Existing ROW
-  Construction Limits
-  Reacquisition of Existing ROW
-  Proposed Permanent ROW



3502 Woodview Trace, Suite 150
 Indianapolis, IN 46268
 Phone: (317) 222-3880
 Fax: (317) 222-3881

Photo Location Map
(2018)
Des. # 1700076

0 50 100
 Feet



County: Newton
 Township: Lake
 State: Indiana

Bridge Replacement Project
 SR 14, 2.27 mi east of US 41
 Created: 4/10/2020, C. Kunkel

S:\L2017\17-0372\BDD\Enviro\Map\SR14\Photo Map_DBD_CSE.mxd



1. Looking west along north side of SR 14



2. Looking north at adjacent agricultural field along SR 14



3. Looking east along the north side of SR 14



4. Looking south at adjacent agricultural field along SR 14



5. Looking west along SR 14 from bridge



6. Looking southwest (downstream) along Gaff Ditch from bridge



7. Looking northeast (upstream) along Gaff Ditch from bridge



8. Looking east along the north side of SR 14 from bridge



9. Looking northeast (upstream) along Gaff Ditch



10. Looking southwest (downstream) along Gaff Ditch



11. Looking northeast (upstream) along Gaff Ditch



12. Looking southwest (downstream) along Gaff Ditch



13. Looking west along SR 14



14. Looking north at adjacent agricultural field along SR 14



15. Looking south at adjacent agricultural field along SR 14



16. Looking east along SR 14



17. Looking northwest at bridge



27. Looking southwest at bridge

PROJECT	DESIGNATION
1700076	1700076
CONTRACT	BRIDGE FILE
B-40608	014-56-10319

INDIANA DEPARTMENT OF TRANSPORTATION



BRIDGE PLANS

FOR SPANS OVER 20 FEET

ROUTE: SR 14

AT: RP 2+23

PROJECT NO.

1700076 P.E.

1700076 R/W

1700076 CONST.

ADDITIONAL RIGHT-OF-WAY
REQUIRED FOR THIS PROJECT

TRAFFIC DATA	
	SR 14
A.A.D.T. (2022)	2,274 V.P.D.
A.A.D.T. (2042)	2,909 V.P.D.
D.H.V. (2042)	224 V.P.H.
DIRECTIONAL DISTRIBUTION	55% EB / 45% WB
TRUCKS	34% A.A.D.T. 40% D.H.V.

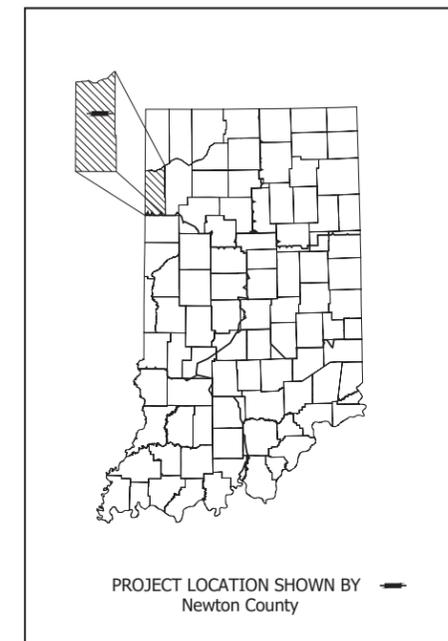
DESIGN DATA	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	STATE COLLECTOR
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE

STRUCTURE INFORMATION

STRUCTURE	TYPE	SPAN AND SKEW	OVER	STATION
014-56-10319	Precast Reinforced Concrete Three-Sided Structure	1 Span: 24'-0", Skew: 28° Rt.	Gaff Ditch	245+75.98 Line "A"

KIN PROJECT INFORMATION

DESIGNATION	PROJECT DESCRIPTION				
	Work Type	Route	Location	Feature Crossed	County
1700075	Bridge Replacement, Concrete	SR 10	2.31 mi E of US 41	Knight Ditch	Newton County
1700076 (LEAD)	Bridge Replacement, Concrete	SR 14	2.27 mi E of US 41	Gaff Ditch	Newton County
1700077	Bridge Replacement, Concrete	SR 16	1.31 mi E of SR 55	Mosquito Creek	Newton County
1700083	Bridge Replacement, Concrete	US 41 NB	1.63 mi N of SR 16	Chizum Ditch	Newton County
1700085	Bridge Replacement, Concrete	US 41 SB	1.63 mi N of SR 16	Chizum Ditch	Newton County
1700124	Small Structure - New	SR 114	1.75 mi W of SR 55	Turner Ditch	Newton County
1701324	Small Structure Replacement	US 41	0.28 mi S of SR 16	Hambridge Ditch	Newton County
1701478	Small Structure Replacement	SR 16	2.9 mi E of SR 55	Simonim Ditch	Jasper County
1701492	Small Structure Replacement	SR 114	0.43 mi W of Jct of SR 55	Haynes Tile	Newton County
1701505	Small Structure Replacement	US 24	1.6 mi W of SR 55	Kent Tile	Newton County
1701541	Small Structure Pipe Lining	SR 114	0.03 mi E of Jct of I-65	UNT to Yeoman Ditch	Jasper County



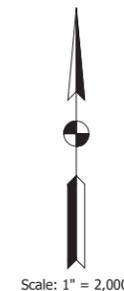
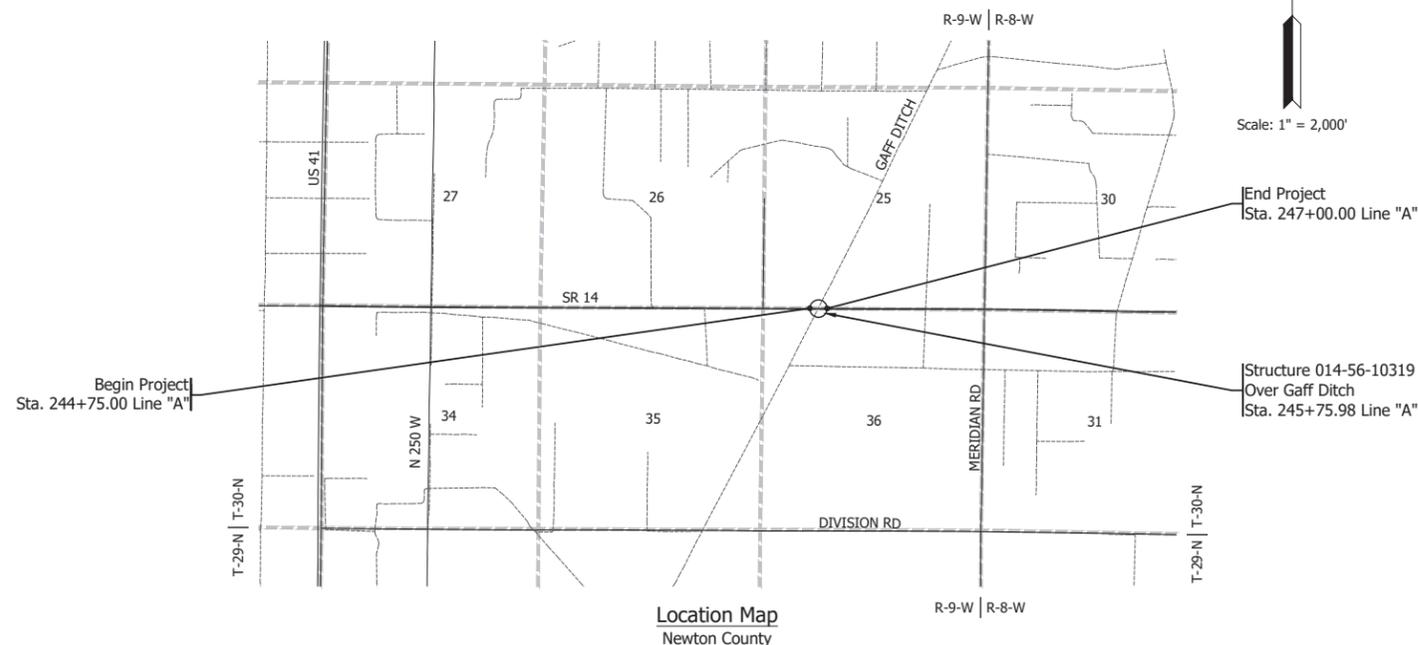
LATITUDE: 41° 00' 49" LONGITUDE: 87° 24' 24"

BRIDGE LENGTH: 0.006 MI.
ROADWAY LENGTH: 0.037 MI.
TOTAL LENGTH: 0.043 MI.
MAX. GRADE: 0.65 %

HUC 12: 071200021301
HUC 14: 07120002150010

STAGE 2 PLANS
03/01/2020

Bridge Replacement, Concrete on SR 14 over Gaff Ditch
Located 2.27 Miles East of US 41
Sections 25 & 36, T-30-N, R-9-W, McClellan Township, Newton County



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



PLANS PREPARED BY: Lochmueller Group, Inc. (574) 334-5460
PHONE NUMBER

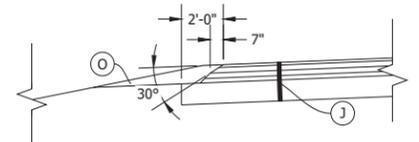
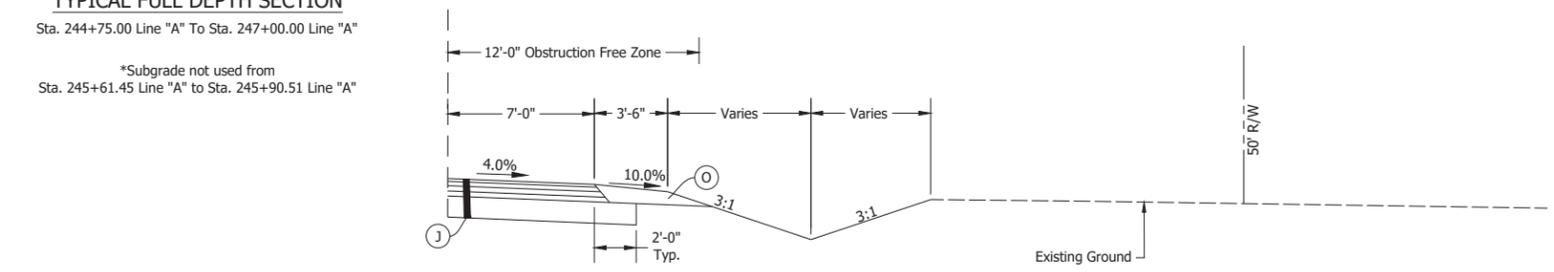
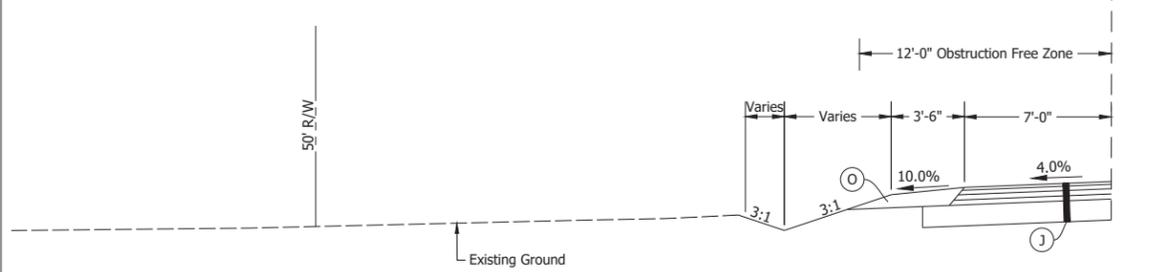
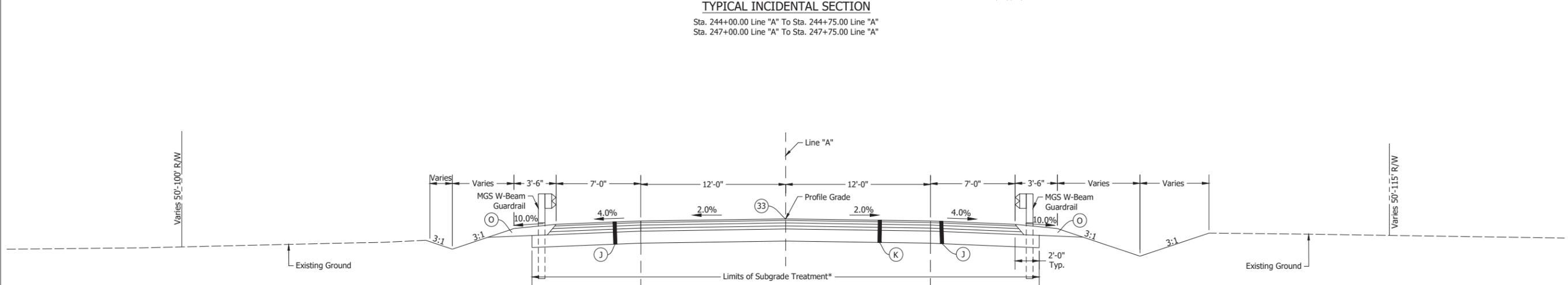
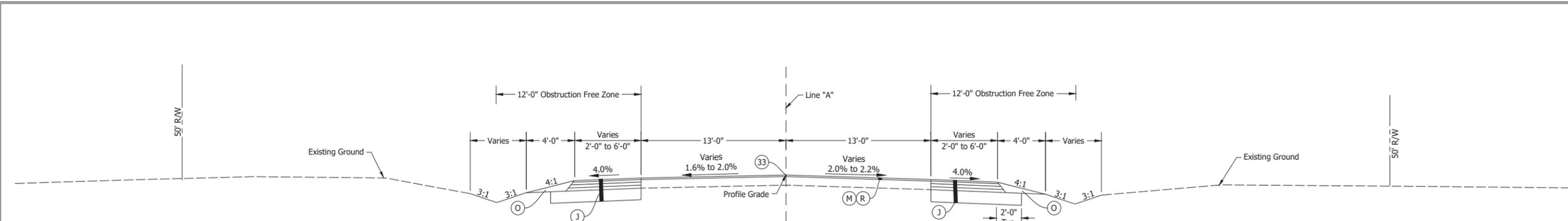
CERTIFIED BY: _____ DATE _____

APPROVED FOR LETTING: _____ DATE _____

INDIANA DEPARTMENT OF TRANSPORTATION

BRIDGE FILE	
014-56-10319	
DESIGNATION	
1700076	
SURVEY BOOK	SHEET
ELECTRONIC	1 of 17
CONTRACT	PROJECT
B-40608	1700076

Date: Feb 24, 2020, 1:30pm User Name: BStutzman
File: S:_2017\17-0372\LD\Bridges\CAD\Misc\Drawings\Title Sheet.dwg



- (J) Pavement Design Will Be Determined After Completion Of Geotechnical Report
- (K) Pavement Design Will Be Determined After Completion Of Geotechnical Report
- (M) Milling, Asphalt, 1 1/2"
- (O) Compacted Aggregate, No. 53
- (R) QC/QA-HMA, 3, 70, Surface, 9.5mm
- (33) Milled HMA Corrugations, Conventional (Longitudinal Rumble Stripes)

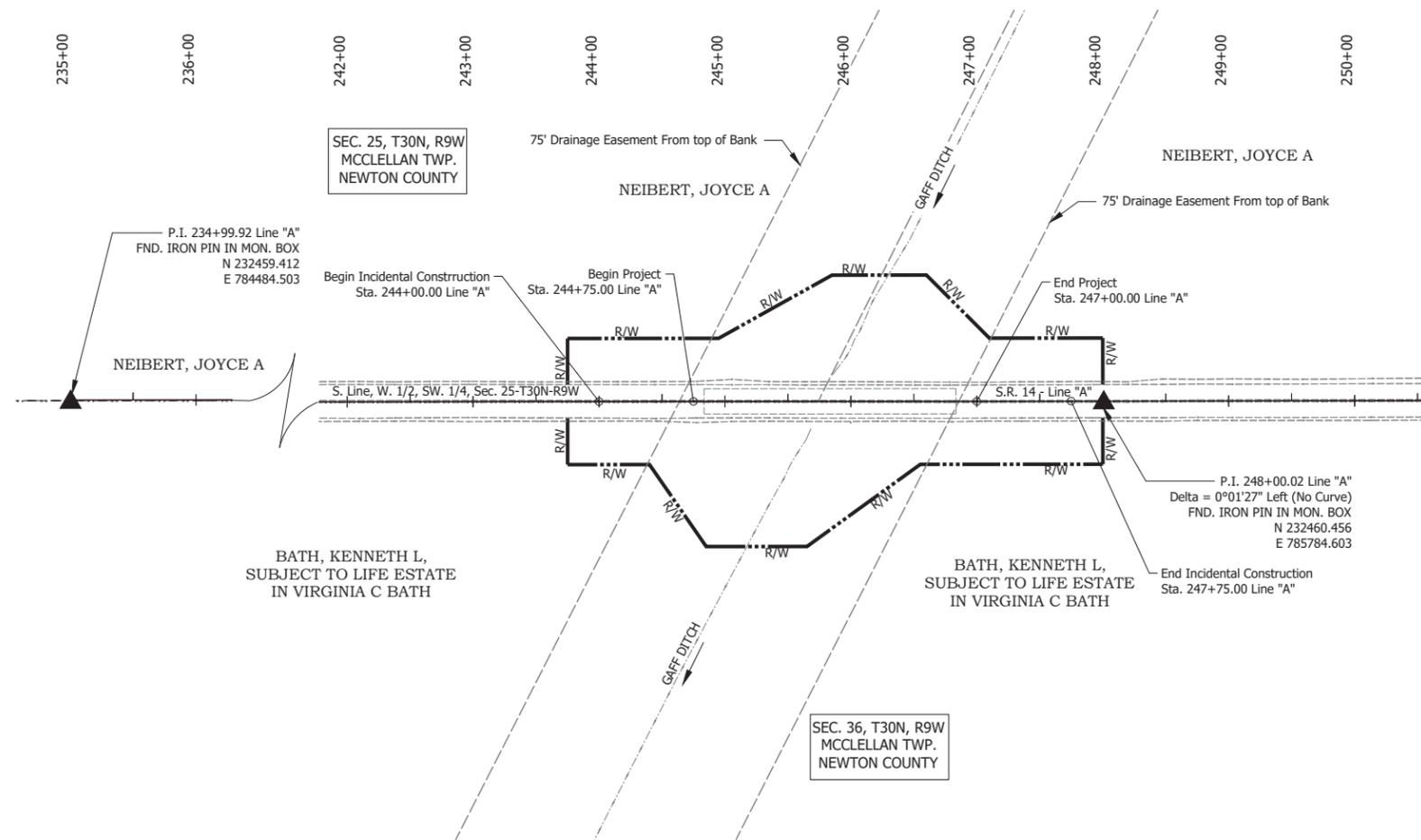
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MDV	DRAWN: MDV	
CHECKED: BKA	CHECKED: BKA	

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1/4" = 1'-0"	014-56-10319
VERTICAL SCALE	DESIGNATION
1/4" = 1'-0"	1700076
SURVEY BOOK	SHEET
ELECTRONIC	3 of 17
CONTRACT	PROJECT
B-40608	1700076

Date: Feb. 24, 2020, 1:31pm User Name: BStutzman File: S:_2017\17-0372L_DBD\Bridges\CAD\Plans\Typicals.dwg



Date: Feb 24, 2020, 1:32pm User Name: BStutzman
 File: S:_2017\17-0372\LD\Bridges\CAD\Misc\Drawings\Plat 1.dwg

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ MDV _____	DRAWN: _____ NG _____	
CHECKED: _____ BKA _____	CHECKED: _____ EJG _____	

INDIANA
 DEPARTMENT OF TRANSPORTATION

 PLAT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 60'	014-56-10319
VERTICAL SCALE	DESIGNATION
N/A	1700076
SURVEY BOOK	SHEET
ELECTRONIC	4 of 17
CONTRACT	PROJECT
B-40608	1700076

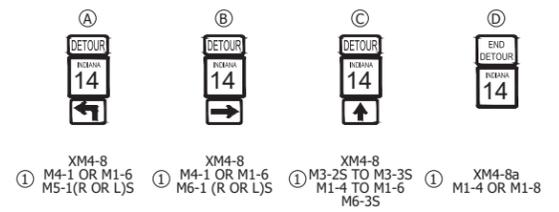


CONSTRUCTION SIGN SCHEDULE					
SIGN. NO.	DESCRIPTION	SIZE (IN)	TYPE	EST. QTY.	
R11-2	"ROAD CLOSED" SIGN	48 x 30	(1)	2	
R11-4	"ROAD CLOSED TO THRU TRAFFIC" SIGN	60 x 30	(1)	2	
XM4-10(L OR R)	"DETOUR" SIGN	48 x 18	(1)	2	
XW20-2	"DETOUR AHEAD" SIGN	48 x 48	A	4	
XW20-3	"ROAD CLOSED AHEAD" SIGN	48 x 48	A	16	
				TOTAL TYPE "A" SIGNS	10

Detour Route Marker Assemblies: 37 Req'd
 Road Closure Sign Assemblies: 4 Req'd
 Type III-A Barricades: 48 Lft.
 Type III-B Barricades: 24 Lft.

(1) Included with road closure sign assembly.

LEGEND

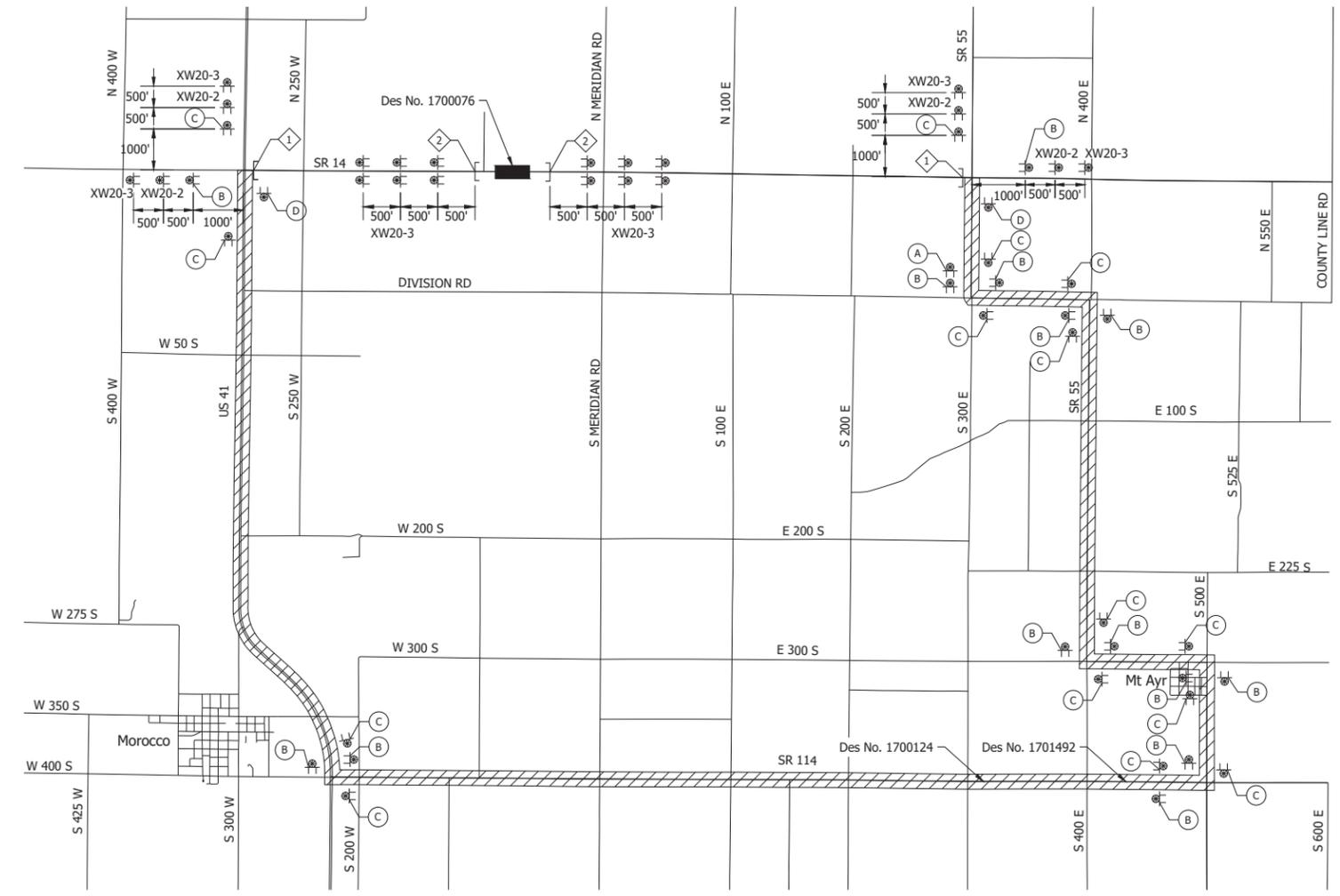


- ① ROAD CLOSURE SIGN ASSEMBLY W/ TYPE III-B BARRICADE (12 LFT.) AND R11-4 SIGN WITH XM4-10 (L OR R)
- ② ROAD CLOSURE SIGN ASSEMBLY W/ TYPE III-A BARRICADE (24 LFT.) AND R11-2 SIGN

CONSTRUCTION ZONE
 DETOUR ROUTE

GENERAL NOTES

1. All maintenance of traffic devices, signs and pavement markings shall conform to the latest edition of the Indiana MUTCD.
2. See INDOT Std. Dwg. 801-TCDD-02 for sign spacing requirements and additional notes.
3. See INDOT Std. Dwg. 801-TCLG-02 for standard notes.
4. The cost of R11-2 and R11-4 shall be included in the cost of the road closure sign assembly.
5. Type B construction warning lights shall be used with all signs located on barricades. Type A construction warning lights shall be used on all other construction signs.



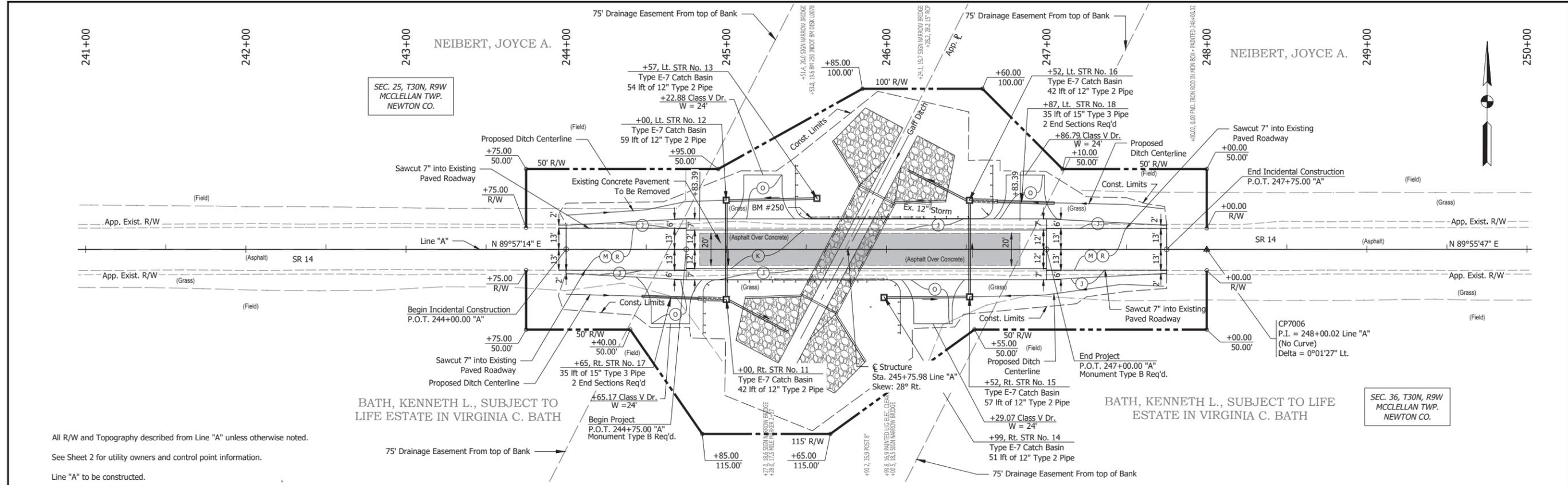
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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: _____ MDV	DRAWN: _____ MDV	
CHECKED: _____ BKA	CHECKED: _____ BKA	

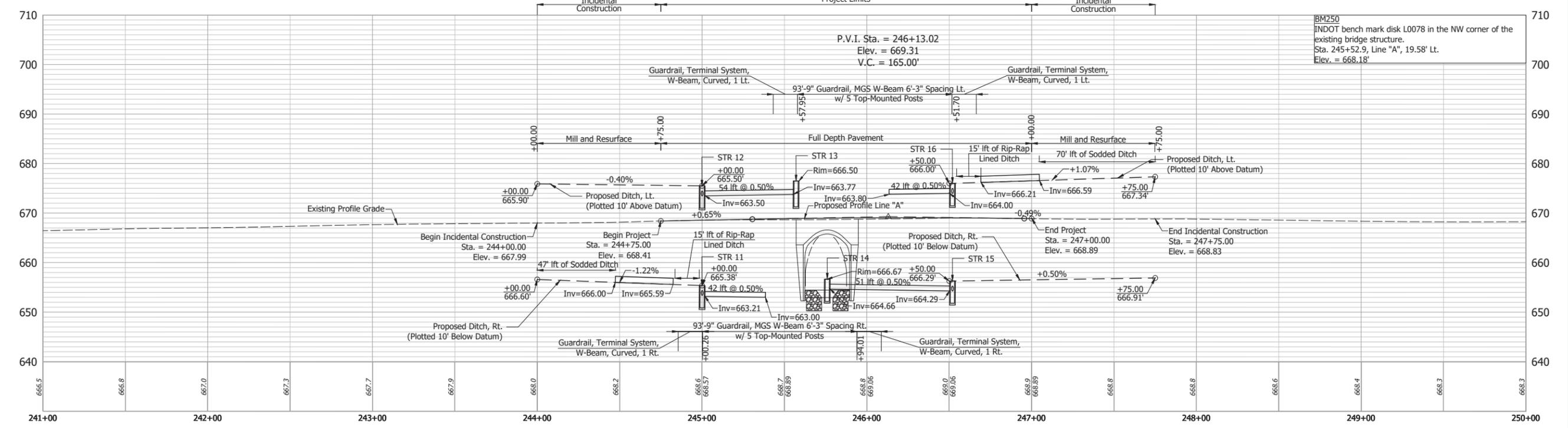
INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC

HORIZONTAL SCALE	BRIDGE FILE
1" = 1000'	014-56-10319
VERTICAL SCALE	DESIGNATION
1" = 1000'	1700076
SURVEY BOOK	SHEET
ELECTRONIC	5 of 17
CONTRACT	PROJECT
B-40608	1700076



All R/W and Topography described from Line "A" unless otherwise noted.
 See Sheet 2 for utility owners and control point information.
 Line "A" to be constructed.



Date: Feb. 24, 2020, 1:33pm User Name: BStutzman
 File: S:_2017\17-03721_D&D\Bridges\CAD\Plans\Plan and Profile.dwg

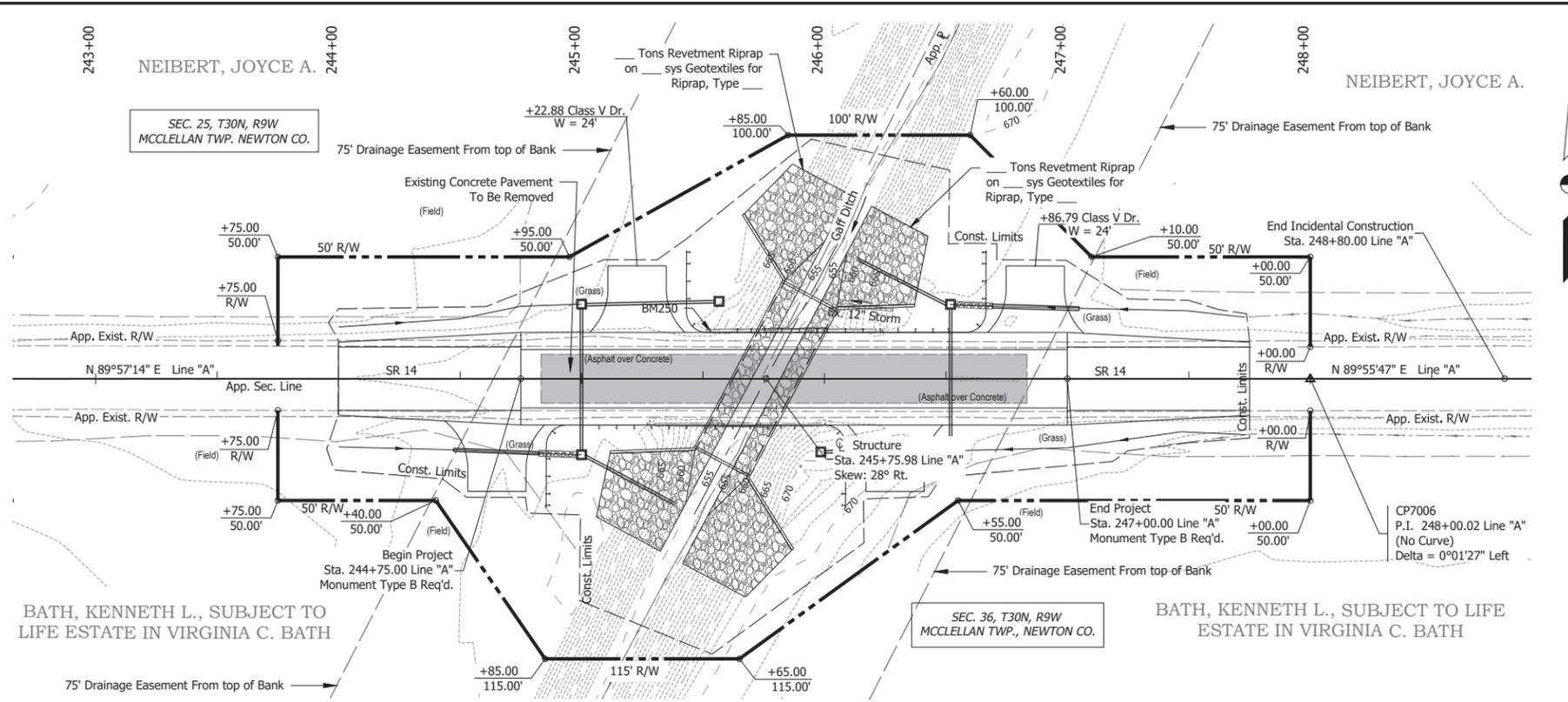
- (J) Pavement Design Will Be Determined After Completion Of Geotechnical Report
- (K) Pavement Design Will Be Determined After Completion Of Geotechnical Report
- (M) Milling, Asphalt, 1 1/2"
- (O) Compacted Aggregate, No. 53
- (R) QC/QA-HMA, 3, 70, Surface, 9.5mm

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

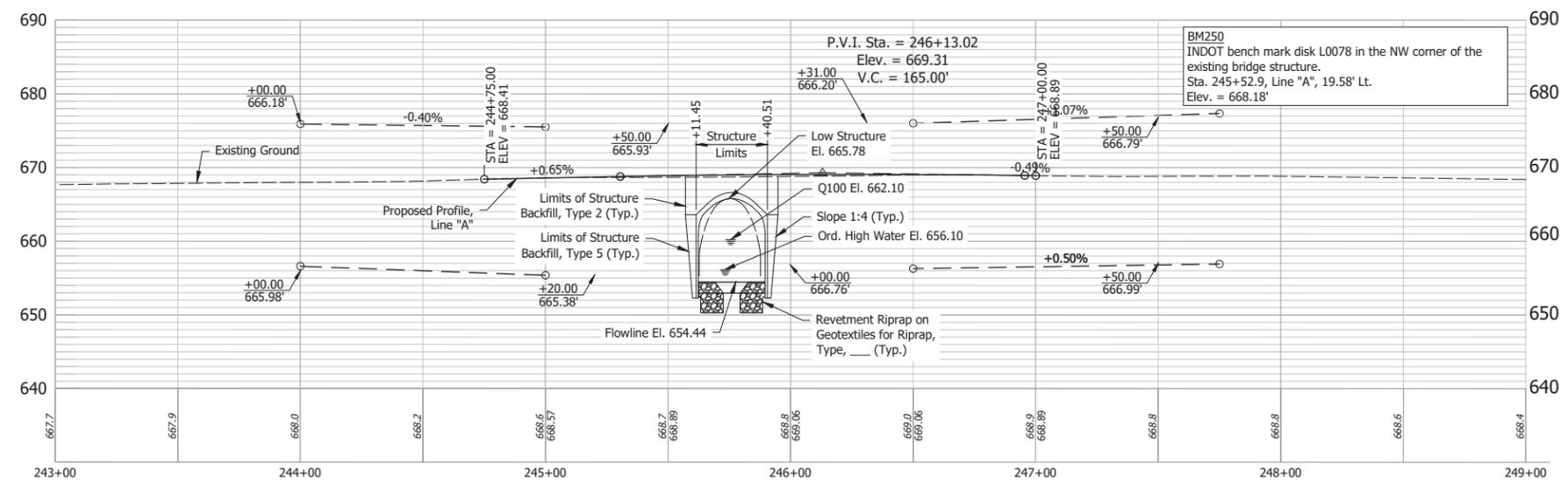
INDIANA
DEPARTMENT OF TRANSPORTATION

**PLAN AND PROFILE
LINE "A"**

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE 014-56-10319
VERTICAL SCALE 1" = 10'	DESIGNATION 1700076
SURVEY BOOK	SHEET
ELECTRONIC	6 of 17
CONTRACT B-40608	PROJECT 1700076



All R/W and existing topography described from Line "A" unless otherwise noted.
 See Sheet 2 for utility owners and control point information.
 Line "A" to be constructed.



EXISTING STRUCTURE

The existing structure, 014-56-03655, is a single span reinforced concrete filled arch bridge built in 1946 with a 25 ft. span and 37 ft. clear roadway. Existing structure to be removed.

HYDRAULIC DATA

Drainage Area	0.88 SQ. MI.
Q100 Discharge	130.00 CFT./SEC.
Q100 Elevation	662.10 M.S.L.
Q100 Backwater	0.01 FT.
Q100 Velocity	0.91 FT./SEC.
Proposed Waterway Opening, Below Q100	143.63 SFT.
Low Structure Elevation	665.78 M.S.L.
Skew	28°00'00"
Existing Waterway Opening	128.33 SFT.
Existing Low Structure Elevation	665.78 M.S.L.
Existing Backwater	0.01 FT.

HYDRAULIC SCOUR DATA

Q100 Discharge	130.00 CFT./SEC.
Q100 Elevation	662.10 M.S.L.
Q100 Scour Velocity	1.07 FT./SEC.
Q100 Contraction Scour Depth	0.00 FT.
Q100 Total Scour Depth	0.00 FT.
Q100 Low Scour Elevation	654.44 M.S.L.
Q500 Discharge	169.00 CFT./SEC.
Q500 Elevation	662.94 M.S.L.
Q500 Scour Velocity	1.77 FT./SEC.
Q500 Contraction Scour Depth	0.00 FT.
Q500 Total Scour Depth	0.00 FT.
Q500 Low Scour Elevation	654.44 M.S.L.

EARTHWORK TABULATION

FILL	___ cys
FILL + 15%	___ cys
COMMON EXCAVATION	___ cys
USABLE WATERWAY EXCAVATION	___ cys
BORROW	___ cys
TOTAL WATERWAY EXCAVATION	___ cys
EXCAVATION FOUNDATION UNCLASSIFIED	___ cys
BENCHING	___ cys

No direct payment for Benching. Benching will not be paid for as Common Excavation.

- NOTES**
- See Plan and Profile Sheet for approach work, incidental construction and addition details.
 - M.S.L. = Mean Sea Level.
 - See Sheet 2 for utility owners and control point information.

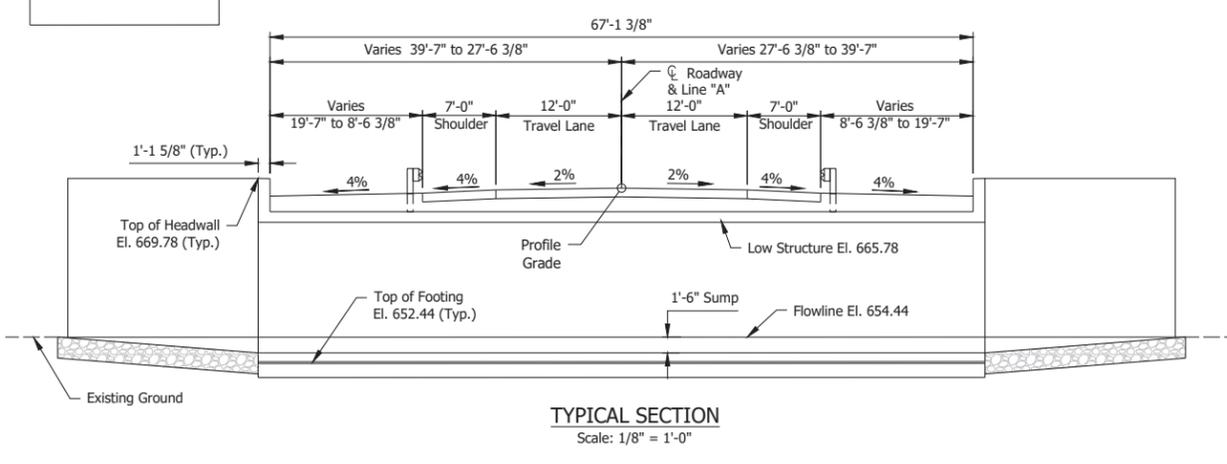
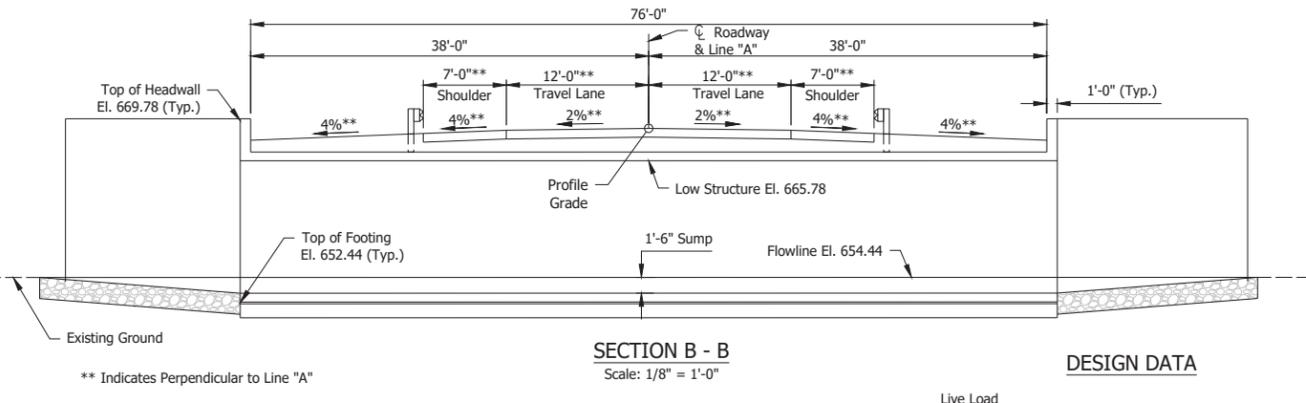
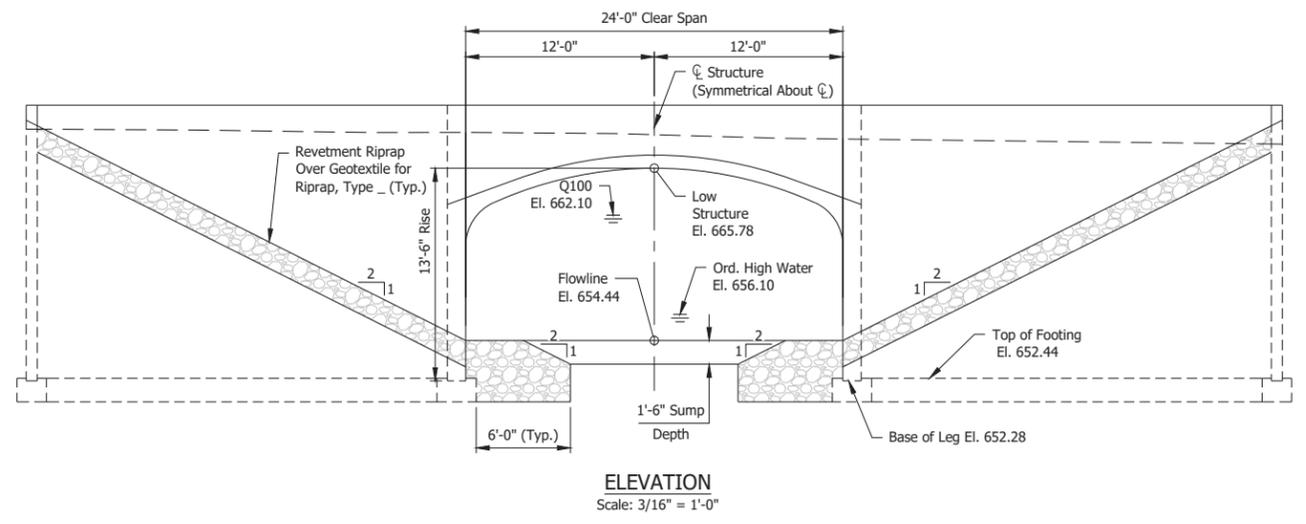
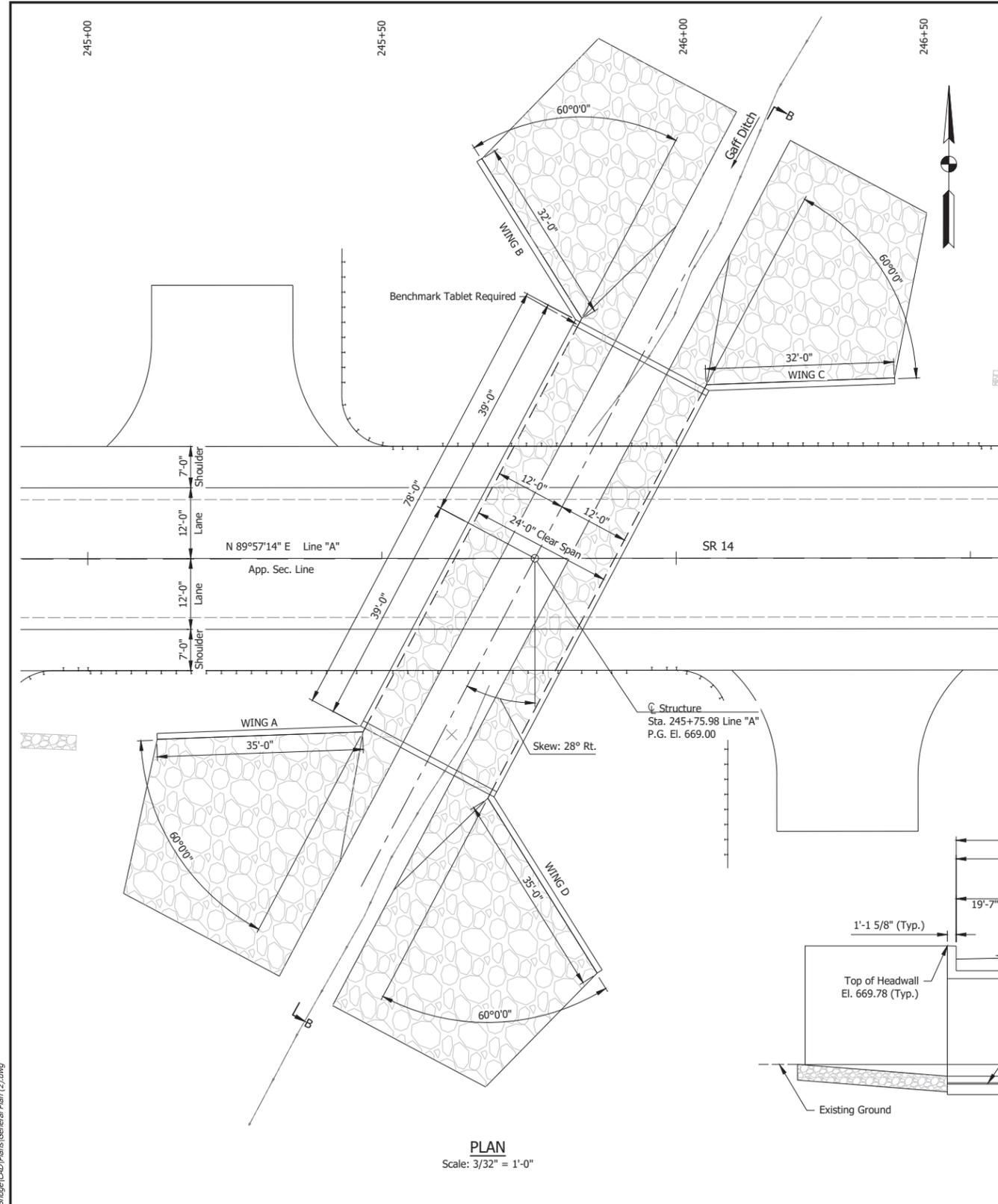
**PRECAST REINFORCED CONCRETE
 THREE-SIDED STRUCTURE**
 SPAN: 24'-0"; RISE: 13'-6"
 SPAN: 27' 2 1/8" ALONG \bar{C} ROADWAY
 38'-0" CLEAR ROADWAY; 28° SKEW RT.
 SR 14 OVER GAFF DITCH
 NEWTON COUNTY

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: E J G	DRAWN: D J G	
CHECKED: A C S	CHECKED: E J G	

INDIANA DEPARTMENT OF TRANSPORTATION	
LAYOUT	

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	014-56-10319
VERTICAL SCALE	DESIGNATION
1" - 10'	1700076
SURVEY BOOK	SHEET
ELECTRONIC	7 of 17
CONTRACT	PROJECT
B-40608	1700076

Date: Feb 24, 2020, 1:34pm User Name: BSutzman File: S:_2017\17-0372\1700076\bridge\CAI\Plans\Layout.chg



DESIGN DATA

Live Load
Designed for HL-93 loading, in accordance with the AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017 and its subsequent interims.

Dead Load
Actual weight plus 35 PSF for future wearing surface.

- NOTES**
1. An alternate flat top, precast, reinforced concrete, three-sided structure with a 24'-0" perpendicular span and a 13'-6" rise may be substituted for the structure shown.
 2. A true-arch structure will not be permitted at this location.
 3. Contractor shall verify the existing flowline elevation to set the appropriate sump depth.

PRECAST REINFORCED CONCRETE THREE-SIDED STRUCTURE
SPAN: 24'-0"; RISE: 13'-6"
SPAN: 27' 2 1/8" ALONG Q ROADWAY
38'-0" CLEAR ROADWAY; 28° SKEW RT.
SR 14 OVER GAFF DITCH
NEWTON COUNTY

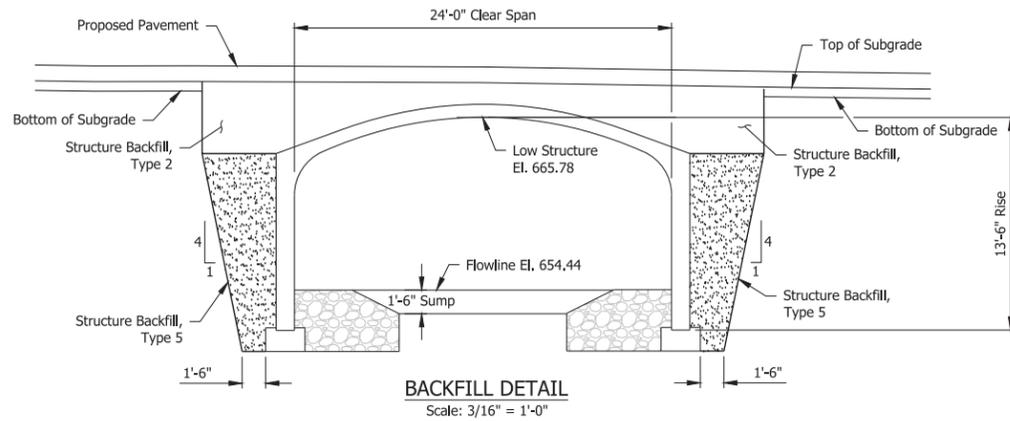
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RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: E J G	DRAWN: D J G	
CHECKED: A C S	CHECKED: E J G	

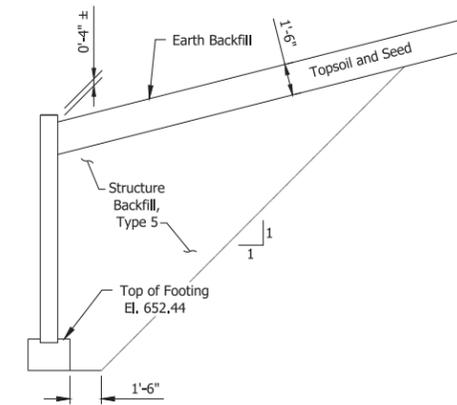
INDIANA
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN

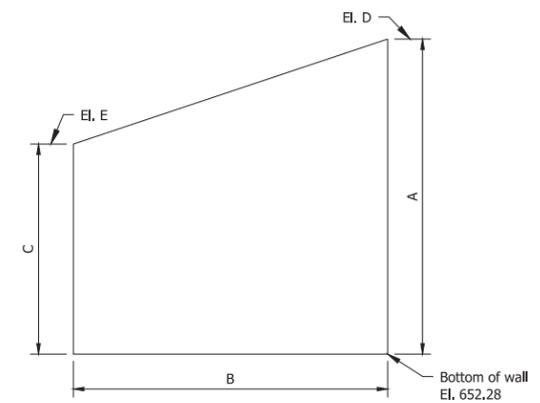
HORIZONTAL SCALE	BRIDGE FILE
As Noted	014-56-10319
VERTICAL SCALE	DESIGNATION
As Noted	1700076
SURVEY BOOK	SHEET
ELECTRONIC	8 of 17
CONTRACT	PROJECT
B-40608	1700076



BACKFILL DETAIL
Scale: 3/16" = 1'-0"



TYPICAL WING SECTION
Scale: 1/4" = 1'-0"



WINGWALL TABLE				
Location	Wing A	Wing B	Wing C	Wing D
Dimension A	---	---	---	---
Dimension B	---	---	---	---
Dimension C	---	---	---	---
Elevation D	669.78	669.78	669.78	669.78
Elevation E	---	---	---	---
Area (SFT)	---	---	---	---
Total (SFT) ---				

SOIL PARAMETERS FOR WINGWALL DESIGN	
Resistance Factor (ϕ_b)	--
Nominal Bearing Capacity (Q_n)	-- ksf
Factored Bearing Resistance (Q_r)	-- ksf
Angle of Friction of Backfill Material	--°
Friction Factor ($\tan \delta$) of the Foundation Soil	--
Angle of Internal Friction of the Foundation Soil (ϕ)	--°
Ultimate Cohesion of Foundation Soil (c)	-- psf
Ultimate Adhesion Between Foundation Soil and Poured Concrete Footing (C_a)	-- psf

WINGWALL DETAIL
Scale: 1/4" = 1'-0"

PRECAST REINFORCED CONCRETE
THREE-SIDED STRUCTURE
SPAN: 24'-0"; RISE: 13'-6"
SPAN: 27' 2 1/8" ALONG ϕ ROADWAY
38'-0" CLEAR ROADWAY; 28° SKEW RT.
SR 14 OVER GAFF DITCH
NEWTON COUNTY

Date: Feb. 24, 2020, 1:34pm User Name: BStutzman
File: S:_2017\217-0371\DDI\Bridges\CAD\Plans\General Plan (2).dwg

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE As Noted	BRIDGE FILE 014-56-10319
	GENERAL PLAN		VERTICAL SCALE As Noted	DESIGNATION 1700076
DESIGNED: _____ E.J.G. _____ DRAWN: _____ D.J.G. _____			SURVEY BOOK	SHEET
CHECKED: _____ ACS _____ CHECKED: _____ E.J.G. _____			ELECTRONIC	9 of 17
			CONTRACT	PROJECT
			B-40608	1700076