

CATEGORICAL EXCLUSION LEVEL 1 FORM

GENERAL PROJECT INFORMATION

Road No./County:

US 41 and State Road (SR) 352, Benton County

Designation Number(s):

2100058

**Project
Description/Termini:**

US 41 and SR 352 Reduced Conflict Intersection (RCI), 4.1 miles north of SR 26

☒**CE Level 1 documentation for
exempted projects****Additional Information
to CE Level 1****Approval:**_____
INDOT DE/ESD Signature and Date

RF

12/13/2024

Release for Public Involvement:_____
INDOT DE/ESD Initials and Date**Certification of Public involvement:**_____
INDOT Consultant Services Signature and Date**INDOT DE/ESD Reviewer:**_____
Signature and Date**CE Preparer:**_____
Rosemary Snyder and Jennifer Rhodes, ASC Group, Inc.

Name and Organization

Indiana Department of Transportation

County Benton

Route US 41 and SR 352

Des. No. 2100058

GENERAL PROJECT INFORMATION, DESCRIPTION, AND DESIGN INFORMATION

Purpose and Need:

Need:

The need for this project is due to the US 41 and SR 352, 4.1 miles north of SR 26, in Grant Township, Benton County, Indiana experiencing an above normal number of crashes and crash severity for an unsignalized rural state intersection. Between 2015 and 2020, there were 13 crashes at this intersection with 1 being fatal. Three crashes had incapacitating injuries (where one party had to be transported to the hospital), two had non-incapacitating injuries, and seven had only property damages. The majority of the crashes were right-angle crashes (77 percent), while there were also rear end (15 percent) and driver distracted (8 percent) crashes. This intersection has an index crash frequency (ICF) of 0.57 and the Index of Crash Costs (ICC) of 1.01. An ICF and ICC above 0 and less than 1 indicates that the number of crashes and their severity are slightly higher than usual. The crash data shows that most of the crashes can be attributed to driver's failing to yield right-of-way (ROW) and not roadway features. All data for this project can be found in the Abbreviated Engineering Assessment located in Appendix I (Appendix I: I-8 to I-9).

Purpose:

The purpose of this project is to improve public safety by reducing the severity of crashes at this intersection and by reducing the number of right angle crashes, while possibly improving the ICF and ICC scores to less than 1.00.

**Project Description
(Preferred Alternative):**

The Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) intend to proceed with an RCI project on US 41 and SR 352, along with drainage and lighting improvements.

Location

The project is located on US 41 and SR 352, 4.1 miles north of SR 26, in Sections 18 and 19, Township 24 North, Range 8 West, Grant Township, Benton County, Indiana (Appendix B: B-2 to B-4). Note: Some reports document the location as approximately 4 miles north of SR 26 and 7 miles south of SR 18.

Existing Conditions

This section of US 41 is a four-lane divided Rural - Principal Arterial roadway that contains two 12-foot (ft) wide travel lanes with 10-ft wide outside shoulders and 4-ft wide median shoulders in each direction. The speed limit along US 41 is 60 miles per hour (mph). This section of SR 352 is a two-lane undivided Rural - Major Collector roadway that contains two 11-ft wide travel lanes with 1-ft wide shoulders. The speed limit along SR 352 is 50 mph east of the intersection and 30 mph west of the intersection. There are two culverts within the project limits. A 36-inch (in.) diameter corrugated metal pipe (CMP) culvert (Structure No. 2; CLV-86826) is located under SR 352 west of US 41 and a 30-in. diameter polyvinyl chloride (PVC) pipe inside of a CMP culvert (Structure No. 3; CLV-86827) is located under SR 352 east of US 41. Multiple median inlets are located in the US 41 grass median, which drain east and west into the existing roadside ditches along US 41. No guardrail or other standard safety features exist at the intersection, but there is existing guardrail along US 41 southbound near the project's southern terminus. Land use in the vicinity of the project is a mostly commercial land with adjacent agricultural and residential lands.

Between 2015 and 2020, there were 13 crashes at this intersection with 1 being fatal. Three crashes had incapacitating injuries (where one party had to be transported to the hospital), two had non-incapacitating injuries, and seven had only property damages.

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The majority of the crashes were right-angle crashes (77 percent), while there were also rear end (15 percent) and driver distracted (8 percent) crashes. This intersection has an ICF of 0.57 and the ICC of 1.01. An ICF and ICC above 0 and less than 1 indicates that the number of crashes and their severity are slightly higher than usual. The crash data shows that most of the crashes can be attributed to driver's failing to yield ROW and not roadway features (Appendix I: I-8 to I-9).

Preferred Alternative

The preferred alternative will construct an RCI at the US 41 and SR 352 intersection. This type of intersection will eliminate the left turn and through movements from the SR 352 approaches. To accommodate these movements, the RCI intersection will require SR 352 drivers to turn right onto the US 41 and then make a U-turn maneuver at a one-way median opening at least 400 ft after the intersection in both directions. US 41 traffic will still be allowed to turn left on SR 352. The US 41 and SR 352 roadways will be milled and resurfaced after the completion of adding the median U-turns and center medians.

Lighting will be added throughout the project area. Two 30-ft tall light poles will be removed and replaced with 40-ft tall light poles. An existing traffic signal at the intersection will be removed. Signage will be installed regarding new traffic movements.

Both of the SR 352 culverts will be extended with circular pipes. Structure No. CLV-86826 will be extended 16 ft south and 24 ft north of SR 352. Structure No. CLV-86827 will be extended 24 ft south and 16 ft north of SR 352. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median. Several small structures are located in the project area and will require varying levels of work. Additional details about these structures can be found in the Bridge(s) and/or Small Structure(s) section of this document.

A temporary pump-around dewatering system that will utilize two temporary cofferdams, which will be placed on the east side of US 41 with one north and one south of SR 352. Temporary check dams, curb inlet protection, ditch inlet protection, and pipe inlet protection will also be utilized. Pump-arounds will be utilized on both sides of US 41. The cofferdams and pump-around system are temporary and will be removed after construction is completed.

The preferred alternative will require impacts to resources. These anticipated impacts include terrestrial habitat impacts, due to soil excavation and tree removal. Detailed information regarding these anticipated impacts can be found in the Identification and Evaluation of Impacts portion of this document. Measures have been incorporated at various stages of this project to avoid, minimize, or mitigate impacts to resources. These include measures to protect terrestrial habitat from soil impacts due to excavation and construction access and to protect trees that may provide suitable habitat to protected bat species. Plans can be found in Appendix B (Appendix B: B-12 to B-33).

The project will meet the purpose and need by decreasing the severity of crashes and decreasing the number of right-angle crashes. The approximate termini for this project extends 925 ft north and 724 ft south of SR 352 for a total project length of 0.313 mile. The termini were developed to be centered on the preferred alternative and will be limited to only what is required for construction and to satisfy the purpose and need.

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	This project has independent utility because it does not rely on any other projects for completion. The maintenance of traffic (MOT) for the project will require phased lane closures for US 41 and SR 352. Two-way traffic will be maintained during construction. Full details of the MOT can be found in the MOT During Construction section of this document and in Appendix B (Appendix B: B-15 to B-24).
Other Alternatives Considered:	The other alternatives that were considered for this project are listed in this section. Additional details regarding the following alternatives can be found in the Abbreviated Engineering Assessment located in Appendix I (Appendix I: I-9 to I-12). No Build Alternative The no-build alternative would have included no changes to either the existing geometry or the roadside features. This alternative would not have reduced the severity of crashes and would not have met the purpose and need. Therefore, this alternative has been dismissed from further consideration. Low Cost Alternative – Install a Traffic Signal Traffic signal warrants have been checked by District Traffic personnel who found a signal is not warranted for this location. Installing an unwarranted signal would have caused excessive delay, higher crash rates, and may have resulted in disobedience of the traffic signal in this rural area. This alternative would not have met the purpose and need. Therefore, this alternative has been dismissed from further consideration. Reconstruction Alternative – Median U-Turn Intersection The Median U-Turn (MUT) Intersection is also known as the Median U-Turn Crossover and sometimes referred to as a Michigan Left Turn. The MUT intersection would have replaced the direct left turns at the intersection with indirect left turns using a U-turn movement in a wide median. The MUT intersection would have required drivers on SR 352 to turn right onto US 41 and then make a U-turn maneuver at a one-way median opening at least 400 ft after the intersection. The MUT intersection would have eliminated left turns on SR 352 from US 41 and thus reduced the number of conflict points at the main crossing intersection, it would have resulted in improved safety at the intersection. Right turn lanes would have been incorporated into the design, but they would not have been required; this would have separated the through vehicles from the turning vehicles. The addition of the right turning lanes were included in the cost estimate. This alternative would have been un-signalized. US 41 and SR 352 would have been milled and resurfaced after the completion of the added median U-turns. Although this alternative would have met the purpose and need, due to the additional cost and additional traffic impacts, this alternative has been dismissed from further consideration. Reconstruction Alternative – Multi-Lane Roundabout This alternative would have consisted of a multi-lane roundabout that would have followed the design standards. Multi-lane roundabouts have at least one entry with two or more lanes. SR 352 would have been widened to two entry lanes to allow more vehicles to enter the roundabout. The geometric design would have included raised spitter islands, truck apron, non-traversable central island, and appropriate entry path deflection. Since US 41 and the east leg of SR 352 are high speed roadways, a series of curves would have been designed leading up to the roundabout to reduce the speed of vehicles. US 41 and SR 352 would have been milled and resurfaced after the completion of the roundabout. It is anticipated that this alternative would have received

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	political opposition from local stakeholders, the public, and truck drivers who drive this road regularly. The MOT would have been more difficult for the roundabout and ROW would have been required. Since the roundabout would have had a larger footprint at the intersection, more drainage analysis would have been required and more grading would have been expected. The roundabout would have had significantly higher construction costs compared to the other reconstruction alternatives. Although this alternative would have met the purpose and need, due to the additional cost and additional traffic impacts, this alternative has been dismissed from further consideration.		
Funding Source(s):	☒ Federal	☒ State	☐ Local ☐ Other
Project Sponsor:	INDOT		
Estimated Cost:	\$1,557,000	Project Length:	0.311
Public Involvement:		No:	Yes: X
Notice of Survey letters were mailed to potentially affected property owners near the project area on January 6, 2023, 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 Survey letter is included in Appendix G (Appendix G: G-2). The project will meet the minimum requirements described in the current <i>Indiana Department of Transportation (INDOT) Project Development Public Involvement Procedures Manual</i> which requires the project sponsor to offer the public an opportunity to submit comments and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.			
Right-of-Way:		No: X	Yes:
The existing ROW is approximately 130–145 ft on each side of the US 41 centerline and 25 ft on each side of the SR 352 centerline throughout the project area. The existing ROW consists of mowed and maintained ROW along commercial properties. The project will occur within existing ROW. No permanent or temporary ROW will be required for this project. If the scope of work or permanent or temporary ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.			
Maintenance of Traffic (MOT) During Construction:		No:	Yes: X
The MOT for the project will require phased lane closures for US 41 and SR 352. The early coordination letter stated that there would be an eventual roadway closure and restrictions for SR 352 with a detour utilizing SR 26, SR 55, and US 41. However, INDOT has requested that both roads remain open throughout construction. Two-way traffic will now be maintained throughout construction. - Phase 1: This phase will close the right lane of US 41 northbound and the right lane of US 41 southbound. - Phase 2: This phase will close the left/interior lanes of US 41 south and north of the SR 352 intersection and will construct both the southern and northern U-turn lanes and sections in the median. - Phase 3: This phase will close the left/interior lanes of US 41 at and near the SR 352 intersection and construct the restricted crossing left turns at the intersection. Traffic will use the newly constructed U-turns constructed during Phase 2 in order to make left turns onto SR 352 from both directions. - Phase 4: This phase will begin construction on SR 352 including pavement widening as shown on the plans. Work will include Phases 4A and 4B, which will reconstruct the approaches and keep two-way traffic open.			

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The MOT will be in place for approximately 6 months with each phase lasting an estimated 1–2 months. The MOT plan can be found in Appendix B (Appendix B: B-15 to B-24).

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

Bridge(s) and/or Small Structure(s) (include structure number(s)):**No:****Yes: X**

There are two culverts within the project limits. A 36-in. diameter CMP culvert (Structure Nos. 105; CLV-86826) is located under SR 352 west of US 41 and a 30-in. diameter PVC pipe inside of a CMP culvert (Structure Nos. 104; CLV-86827) is located under SR 352 east of US 41. Structure No. CLV-86826 will be extended 16 ft south and 24 ft north of US 41 (Structure Nos. 203 and 205). Structure No. CLV-86827 will be extended 24 ft south and 11 ft north of US 41 (Structure Nos. 202 and 204).

Multiple median inlets are located in the US 41 grass median, which drain east and west into the existing roadside ditches along US 41. There will be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median. Median underdrains will be relocated.

There are several small structures near the project location. Structures 100–102 are marked as “Do Not Disturb.” Structures 103 and 106 are existing catch basins that will be removed and the pipe plugged. Structure 107 is an existing basin that will be removed.

There are several added structures within the project area.

- Structure 200 will add an inlet along with a 90-ft long 18-inch pipe.
- Structure 201 will add an inlet along with a 90-ft long 18-inch pipe.
- Structure 201A will add an inlet along with a 6-ft long 18-inch pipe.
- Structure 206 will add an inlet along with a 78-ft long 24-inch pipe.
- Structure 206A will add an inlet along with a 6-ft long 24-inch pipe.
- Structure 207 will add an inlet along with a 66-ft long 24-inch pipe.
- Structure 207A will add an inlet along with a 6-ft long 24-inch pipe.

No other bridges or small structures are located within the project area.

IDENTIFICATION AND EVALUATION OF IMPACTS

Early Coordination:

Early coordination letters were sent on February 2, 2024 (Appendix C: C-2 to C-5). Additional coordination letters were sent on October 27, 2023.

Agency	Date Sent	Date Response Received	Appendix
Indiana Department of Environmental Management (IDEM) Wellheads	February 2, 2024	February 14, 2024	Appendix C: C-11 to C-13
Indiana Geological and Water Survey (IGWS) (Completed online via the website)	October 27, 2023	October 27, 2023	Appendix C: C-6 to C-8
Indiana Department of Natural Resources-Division of Fish and Wildlife (IDNR-DFW)	February 2, 2024	March 1, 2024	Appendix C: C-14 to C-16
U.S. Department of Housing and Urban Development	February 2, 2024	No response received	N/A

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INDOT Crawfordsville District – Environmental Section Manager	February 2, 2024	No response received	N/A
INDOT Crawfordsville District – Project Manager	February 2, 2024	No response received	N/A
INDOT – Office of Aviation	February 2, 2024	February 5, 2024	Appendix C: C-9
Natural Resources Conservation Service (NRCS)	February 2, 2024	February 13, 2024	Appendix C: C-10
Benton County Council	February 2, 2024	No response received	N/A
Benton County Commissioner Members	February 2, 2024	No response received	N/A
Benton County Highway Supervisor	February 2, 2024	No response received	N/A
Benton County Surveyor	February 2, 2024	No response received	N/A
Town of Boswell Council President	February 2, 2024	No response received	N/A
Town of Boswell Street/Water Department	February 2, 2024	No response received	N/A
Benton Community Schools	February 2, 2024	No response received	N/A
Benton County Sheriff's Department & Jail	February 2, 2024	No response received	N/A
Benton County Emergency Services	February 2, 2024	No response received	N/A
Boswell-Grant Township Fire Department	February 2, 2024	No response received	N/A
Boswell Water Department RE: Wellhead Protection Area	July 15, 2024	No response received	N/A
INDOT Utilities and Railroads Red Flag Investigation (RFI) RE: One Kankakee Beaverville and Southern Railroad Segment Adjacent to Project and RE: One Northern Indiana Public Service Co. Pipeline Segment Within the Project	July 15, 2024	No response received	N/A
IDEM Office of Land Quality RFI RE: Antique Landfill – Boswell Dump Adjacent to Project	July 15, 2024	July 24, 2024	Appendix C: C-41 to C-42
Dollar General Store 21911 RFI RE: National Pollutant Discharge Elimination System (NPDES) Facility – Dollar Store Adjacent to Project	July 15, 2024	No response received	N/A
U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Species List	August 16, 2024	August 16, 2024	Appendix C: C-17 to C-27
USFWS IPaC Concurrence Verification Letter	March 21, 2024	March 21, 2024	Appendix C: C-28 to C-39

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

Streams, Rivers, and Other Jurisdictional Features Impacted:

No: X

Yes:

Based on the desktop review, the aerial map of the project area (Appendix B: B-4), and the RFI report (Appendix E: E-2 to E-12), there are 13 river and stream segments mapped within the 0.5-mile search radius. There are no streams, rivers, watercourses, or other jurisdictional features mapped within or adjacent to the project area, which was confirmed by the site visit on August 22, 2023, by ASC Group, Inc. Therefore, no impacts are expected.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by INDOT Ecology, Waterway Permitting, & Stormwater Office (EWPSO) on March 5, 2024. Please refer to Appendix F (Appendix F: F-2 to F-90) for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that no streams and four roadside ditches (RSDs 1–4) were present within the project area. All of the RSDs are entirely within the exiting ROW, flow from north to south, and were constructed to convey US 41's stormwater runoff. The RSDs are all

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artificial and maintained grassed swales located both east and west, as well as within the median of US 41 (Appendix F: F-22 to F-23). The NHD shows blue line features confluent with RSDs 2 and 4 both within the project area and upstream. Additionally, the Boswell, Indiana quadrangle (USGS 7.5' topographic map) shows the RSDs on both the east and west side of US 41 as blue line features. During the field investigation, no such surface water features or stormwater outlets were observed upstream providing significant hydrology to the RSDs. It is unlikely that the RSDs found within the project area are captured streams. No ordinary high water mark was observed within any of the RSDs. The RSDs are likely non-jurisdictional, artificial roadside drainage features. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Open Water Feature(s):	No: X	Yes:
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Based on the desktop review, the aerial map of the project area (Appendix B: B-4), and the RFI report (Appendix E: E-2 to E-12), there is one open water feature mapped within the 0.5-mile search radius. There are no open water features mapped within or adjacent to the project area, which was confirmed by the site visit on August 22, 2023, by ASC Group, Inc. Therefore, no impacts are expected.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by INDOT EWPSO on March 5, 2024. Please refer to Appendix F (Appendix F: F-2 to F-90) for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that no open water features were observed in the project area. Therefore, no impacts to open water features will occur.

Wetlands:	No:	Yes: X
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Based on the desktop review, the aerial map of the project area (Appendix B: B-4), and the RFI report (Appendix E: E-2 to E-12), there are two wetlands mapped within the 0.5-mile search radius. There are no wetlands mapped within or adjacent to the project area. That number was updated to five wetlands are present within the project area by the site visit on August 22, 2023, by ASC Group, Inc.

A *Waters of the U.S. Determination/Wetland Delineation Report* was approved by INDOT EWPSO on March 5, 2024. Please refer to Appendix F (Appendix F: F-2 to F-90) for the *Waters of the U.S. Determination/Wetland Delineation Report*. It was determined that five poor quality, emergent (PEM1C) wetlands (Wetlands A–E) are present within the project area.

- Wetland A is a 0.048 acre wetland located west of US 41 and north of SR 352, on the western border of the project area. The wetland is part of drainageway where hydrology flows through Wetland B, through a railroad culvert at the southern edge of the project area, and eventually discharges into a relatively permanent water (RPW), Goose Creek. Due to the connectivity to a RPW, Wetland A is likely a jurisdictional Water of the U.S. (WOTUS). The dominant species in Wetland A were sandbar willow (*Salix interior*) and narrowleaf cattail (*Typha angustifolia*).
- Wetland B is a 0.110 acre wetland located south of SR 352, and west of US 41, on the western border of the project area. The wetland is part of drainageway where hydrology flows through Wetland B, a railroad culvert at the southern edge of the project area, and eventually discharges into a RPW, Goose Creek. Due to the connectivity to a RPW, Wetland B is likely a jurisdictional WOTUS. The dominant species in Wetland B were sandbar willow (*Salix interior*) and narrowleaf cattail (*Typha angustifolia*).
- Wetland C is a 0.058 acre wetland located north of SR 352, and east of US 41, on the eastern border of the project area. Hydrology flows south through the road culvert, Wetland D, Wetland A, and eventually discharges into a RPW, Goose Creek. Due to the connectivity to a RPW, Wetland C is likely a jurisdictional WOTUS. The dominant species in Wetland C were silky dogwood (*Cornus amomum*) and reed canary grass (*Phalaris arundinacea*).
- Wetland D is a 0.094 acre wetland located south of SR 352, east of US 41, on the eastern border of the project area. Hydrology flows through Wetland A, and eventually discharges into a RPW, Goose Creek. Due to the connectivity to a RPW, Wetland D is likely a jurisdictional WOTUS. The dominant species in Wetland D were silky dogwood (*Cornus amomum*) and reed canary grass (*Phalaris arundinacea*).
- Wetland E is a 0.010 acre wetland located within the US 41 median, north of SR 352. Hydrology flows through Wetland E, Wetland A, and eventually discharges into a RPW, Goose Creek. Due to the

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connectivity to a RPW, Wetland E is likely a jurisdictional WOTUS. The dominant species in Wetland E were cocksbur grass (<i>Echinochloa crus-galli</i>), narrowleaf cattail (<i>Typha angustifolia</i>), and redtop grass (<i>Agrostis gigantea</i>). The USACE makes all final determinations regarding jurisdiction. The project will require impacts to the wetlands due to work for the culvert extensions and placement of riprap. Measures have been incorporated at various stages of this project to avoid, minimize, or mitigate impacts. These include measures to limit the lengths of outlet pipes to avoid impacting the wetlands located in the outside ditches adjacent to US 41. Approximately 0.025 acre of permanent impacts (Wetland A = 0.0033 acre, Wetland B = 0.0039 acre, Wetland C = 0.0030 acre, Wetland D = 0.0046 acre, and Wetland E = 0.0102 acre (completely filled)) and 0.0052 acre of temporary impacts (Wetland A = 0.0016 acre, Wetland B = 0.0008 acre, Wetland C = 0.0019 acre, Wetland D = 0.0009 acre, and Wetland E = N/A) are expected to Wetlands A–E from culvert work, riprap, and construction access. Wetlands A–E will be included on the plans. These impacts are unavoidable because this work is required to complete the culvert installation/extension, riprap placement, and construction access. The portions of Wetlands A–D to remain undisturbed by construction will be labeled on the plans as "Do Not Disturb." This has been added as a firm commitment and is included in the Environmental Commitments section of this CE document. Mitigation will be determined during permitting, but is not anticipated at this time. IDEM 401/USACE 404 Clean Water Act permits will likely be required. IDNR-DFW responded with a signed letter on March 1, 2024, with standard recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and to compensate for impacts (Appendix C: C-14 to C-16). All applicable recommendations are included in the Environmental Commitments section of this CE document.		
Terrestrial Habitat:	No:	Yes: X
Based on a desktop review, a site visit on August 22, 2023, by ASC Group, Inc., and the aerial map of the project area (Appendix B: B-4), there is commercial and maintained ROW land. The dominant species observed within the project area include red fescue (<i>Festuca rubra</i>), perennial rye grass (<i>Lolium perenne</i>), reed canary grass (<i>Phalaris arundinacea</i>), smooth brome (<i>Bromus inermis</i>), tall false rye grass (<i>Schedonorus arundinaceus</i>), sandbar willow (<i>Salix interior</i>), narrow-leaf cat-tail (<i>Typha angustifolia</i>), white mulberry (<i>Morus alba</i>), large barnyard grass (<i>Echinochloa crus-galli</i>), whorled milkweed (<i>Asclepias verticillata</i>), black walnut (<i>Juglans nigra</i>), ash-leaf maple (<i>Acer negundo</i>), white ash (<i>Fraxinus americana</i>), eastern poison ivy (<i>Toxicodendron radicans</i>), orchard grass (<i>Dactylis glomerata</i>), silky dogwood (<i>Cornus amomum</i>), crown vetch (<i>Securigera varia</i>), Indiana goose grass (<i>Eleusine indica</i>), and black bent (<i>Agrostis gigantea</i>). No tree trimming or removal is required for this project. The project will take place within existing ROW. The project will require impacts to terrestrial habitat. Measures have been incorporated at various stages of this project to avoid, minimize, or mitigate impacts. These include measures to protect terrestrial habitat from soil impacts due to excavation and construction access and to protect trees that may provide suitable habitat to protected bat species. These impacts are unavoidable because this work is necessary to construct the median U-turns and to install/extend culverts. Mitigation is not anticipated. Approximately 2.38 acres of total soil disturbance is expected for the project. A Construction Stormwater General Permit, formerly known as the Rule 5 Permit, will be required due to the soil disturbance being greater than the 1-acre threshold. IDNR-DFW responded with a signed letter on March 1, 2024, with standard recommendations to avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible and to compensate for impacts (Appendix C: C-14 to C-16). All applicable recommendations are included in the Environmental Commitments section of this CE document.		

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Protected Species:	No:	Yes: X
Based on a desktop review and the RFI report (Appendix E: E-2 to E-12), completed by ASC Group, Inc. on April 1, 2024, the IDNR Benton County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter signed on March 1, 2024 (Appendix C: C-14 to C-16), the National Heritage Program's Database has been checked and 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. An INDOT 0.5-mile bat review occurred on October 30, 2023, and no sites have been documented within 0.5-mile of the project area. Project information was submitted through the USFWS's IPaC portal, and an official species list was generated (Appendix C: C-17 to C-27). The project is within range of the federally endangered Indiana bat (<i>Myotis sodalis</i>). Other species were generated in the IPaC species list along with the Indiana bat. Refer to paragraph below. The project qualifies for the <i>Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)</i>, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. A culvert inspection of the 36-in. diameter CMP culvert (Structure Nos. 105; CLV-86826) occurred on August 22, 2023, and no evidence of birds or bats was found (Appendix C: C-40). An effect determination key was completed on March 19, 2024, and based on the responses provided, the project was found to "may affect, but is not likely to adversely affect" the Indiana bat (Appendix C: C-28 to C-39). INDOT reviewed and verified the effect finding on March 21, 2024, and requested USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Minimization Measures (AMMs) for this project include: General AMM 1 and Lighting AMM 1. AMMs and/or commitments are included as firm commitments in the Environmental Commitments section of this document. The official species list generated from IPaC indicated five other species, tricolored bat (<i>Perimyotis subflavus</i>), whooping crane (<i>Grus americana</i>), salamander mussel (<i>Simpsonaias ambigua</i>), monarch butterfly (<i>Danaus plexippus</i>) and western regal fritillary (<i>Argynnis idalia occidentalis</i>) present within the project area. The tricolored bat and salamander mussel are listed as proposed endangered. The whooping crane is listed as experimental population, non-essential. The monarch butterfly is listed as a candidate species for inclusion as a federally listed endangered species. The western regal fritillary is listed as proposed threatened. These species are not listed as federally-threatened or federally-endangered; thus, an effect determination is not required at this time. This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.		
Geological and Mineral Resources:	No: X	Yes:
Based on a desktop review and the Indiana Karst Region map, the project is located outside the designated Indiana Karst Region as outlined in the most current <i>Protection of Karst Features during Project Development and Construction</i>. According to the topo map of the project area (Appendix B: B-3) and the RFI report (Appendix E: E-2 to E-12), there are no karst features identified within or adjacent to the project area. In the early coordination response dated October 27, 2023, IGWS did not indicate that karst features exist in the project area (Appendix C: C-6 to C-8). IGWS stated that there is a moderate liquefaction potential and a one percent annual chance flood hazard. There is a moderate potential for bedrock resources and a low potential for sand and gravel resources, with no active or abandoned mineral resources extraction sites documented in the project area. The response from IGWS has been communicated with the designer on May 3, 2024. No impacts are expected.		
Drinking Water Resources:	No:	Yes: X
Sole Source Aquifer (SSA) The project is located in Benton County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/Environmental		

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Protection Agency (EPA)/INDOT Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project, a detailed groundwater assessment is not needed, and no impacts are expected.

Wellhead Protection Area and Source Water

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<https://www.in.gov/idem/cleanwater/pages/wellhead>) was accessed on October 27, 2023, by ASC Group, Inc. This project is located within a Wellhead Protection Area. In an early coordination letter dated February 14, 2024, IDEM stated that the project is located within Boswell Water Department's Wellhead Protection Area (Appendix C: C-11 to C-13). An early coordination letter was sent to Boswell Water Department on July 15, 2024. No response was received within the 30-day time frame. The features will not be affected because they are located outside of the construction limits.

Water Wells

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on January 9, 2023, by ASC Group, Inc. The closest well is 0.02 mile from the project area and is east of US 41, and north of SR 352. The feature will not be affected because it is not within the construction limits and the depth of excavation will not extend to the minimum water depth. Therefore, no impacts are expected. Should it be determined during the ROW phase that these wells will be affected, a cost to cure will likely be included in the appraisal to restore the well.

Urban Area Boundary

Based on a desktop review of <https://entapps.indot.in.gov/MS4/> by ASC Group, Inc., and the RFI report (Appendix E: E-2 to E-12), this project is not located in an Urban Area Boundary. No impacts are expected.

Public Water System

Based on a desktop review, a site visit on August 22, 2023, by ASC Group, Inc., and the aerial map of the project area (Appendix B: B-4), this project is located where there is a public water system. The public water system will not be affected because there is minimal proposed construction below ground. Utility conflicts with the water line are not anticipated. Early coordination letter were sent on July 15, 2024, to Boswell Water Department. No response was received within the 30-day time frame.

Floodplains:	No: X	Yes:
The IDNR Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appshp/fdms/) was accessed on October 27, 2023, by ASC Group, Inc. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F: F-91). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.		
Farmland:	No: X	Yes:
Based on a desktop review, a site visit on August 22, 2023, by ASC Group, Inc., and the aerial map of the project area (Appendix B: B-4), there is no land that meets the definition of farmland under the Farmland Protection Policy Act (FPPA) within or adjacent to the project area. The requirements of the FPPA do not apply to this project; therefore, no impacts are expected. An early coordination letter was sent on February 2, 2024, to NRCS. NRCS responded with a signed letter on February 13, 2024, stating that the project will not cause a conversion of prime farmland (Appendix C: C-10).		
Cultural Resources:	No: X	Yes:
On July 3, 2024, the INDOT-Cultural Resources Office (CRO) determined that this project falls within the guidelines of Category B, Types 3 and 9 under the Minor Projects Programmatic Agreement (Appendix D: D-2 to D-8).		
Category B, Type 3 projects include construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening under the following conditions: Condition A		

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(Archaeological Resources): i. Work occurs in previously disturbed soils; and Condition B (Above-Ground Resources): Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

Category B, Type 9 projects include the installation, replacement, repair, lining, or extension of culverts and other drainage structures under the conditions listed below: Condition A (Archaeological Resources): i. Work occurs in previously disturbed soils; and Condition B (Above-Ground Resources): i. Work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following condition: a. The structure exhibits no wood, stone, or brick structures or parts therein.

No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

Based on a desktop review, the aerial map of the project area (Appendix B: B-4), and the RFI report (Appendix E: E-2 to E-12), there are four potential 4(f) resources located within the 0.5-mile search radius. According to additional research and by the site visit on August 22, 2023, by ASC Group, Inc., there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f)

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

A review of 6(f) properties on the INDOT ESD website revealed a total of one property in Benton County (Appendix I: I-2). This property is not located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

Air Quality:	No: X	Yes:
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STIP/TIP

This project is included in the Fiscal Year (FY) 2024–2028 Statewide Transportation Improvement Program (STIP) (Appendix H: H-2 to H-3).

Attainment Status

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

MSAT

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 (MSAT) analysis is not required.

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Community Impacts:	No: X	Yes:
Environmental Justice (EJ) Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. This project will have no relocations and will require no permanent ROW, therefore, an EJ analysis is not required per the current INDOT Categorical Exclusions Manual.		
Public Facilities and Services (e.g., schools, emergency services):	No: X	Yes:
Based on a desktop review, the aerial map of the project area (Appendix B: B-4), and the RFI report (Appendix E: E-2 to E-12), there are seven mapped public facilities within the 0.5-mile search radius. There are no public facilities within or adjacent to the project area, which was confirmed by the site visit on August 22, 2023, by ASC Group, Inc. Therefore, no impacts are expected. Access to all properties will be maintained during construction. There are public/private utilities located within the project area that will be impacted by construction. Coordination is ongoing. A pipeline segment (Northern Indiana Public Service Co.) and a railroad segment (Kankakee Beaverville and Southern Railroad) are within and adjacent to the project area. Early coordination letters were sent on February 2, 2024, to INDOT Utilities and Railroads. No response was received within the 30-day time frame. INDOT Aviation responded on February 5, 2024, stating that no tall structure permit is required for the project if all equipment being used is under 200 ft in height (Appendix C: C-9). Coordination with the designer determined that the project will not include any work above 200 ft. Therefore, no impact to airspace is expected, and no further coordination is required. All applicable recommendations are included in the Environmental Commitments section of this CE document. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.		
Hazardous Materials and Regulated Substances:	No: X	Yes:
Based on a review of GIS and available public records, the RFI was completed on March 19, 2024, by ASC Group, Inc. and INDOT SAM provided their concurrence on April 1, 2024 (Appendix E: E-2 to E-12). Four Underground Storage Tank (UST) Sites, one Solid Waste Landfill, one Leaking Underground Storage Tank (LUST) Site, one Brownfield, three NPDES Facilities, and one NPDES Pipe Location are located within 0.5 mile of the project area. One UST Site, one Solid Waste Landfill, one Brownfield, and one NPDES Facility are located adjacent to and/or could affect the project area. Solid Waste Landfill: One antique landfill, the Boswell Dump, is located 0.01 mile west of the eastern terminus of the project area. An early coordination letter was sent on July 15, 2024, to IDEM Office of Land Quality, Kim Vedder (kvedder@idem.in.gov) in order to determine if additional exploratory actions should occur that will require the submission of a Scope of Work to SAM for review and approval. IDEM Office of Land Quality responded on July 24, 2024, stating that the location is ambiguous and the dump is not fully integrated into their database yet. A 1973 inspection report indicates that the dump is a “Truck stop in Boswell” that is 400 ft east of US 41 with the nearest dwelling 400 ft north-northwest of the dump. However, in 1973, US 41 was west of where it is now, which is now Old US 41. There were two truck stops on US 41 and one is a low spot on the historic topographic maps and the other is the Brownfield project (Agency Interest (AI) ID # 111235). IDEM Office of Land Quality suspects that the dump is approximately where it is located on the attached map, but does not have proof. They recommended: • Initial exploratory test pits or borings should be advanced to confirm or deny the presence of waste and its extent in the proposed area of work; • If waste is excavated, it needs to be properly disposed of in a permitted municipal solid waste (MSW) Landfill. IDEM can provide guidance and approval for remediation/excavation or use of the dumps;		

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- Special attention should be given to leachate control during the excavation activity, including stormwater run-on and run-off controls for the excavated areas;
- Special attention should also be given to the potential for explosive gas to be present;
- All exposed waste not removed will need to be recovered with 2 ft of soil, graded and vegetated; and
- If roadway and/or culvert work is to be conducted over the dump, then we will need to see a workplan for review and approval, before work can commence (Appendix C: C-41 to C-42).

These have been added as firm commitments and are included in the Environmental Commitments section of this CE document.

Brownfield: The former Odle Trucking and Repair 4160101, 215 North Old US 41, AI ID # 111235, is located 0.06 mile east of the project area. The site was formerly operated as a truck repair shop, and USTs were installed and removed at unknown dates. This could be the location of J&P Produce, which is listed as being at the intersection of SR 352 and Old Highway 41, AI ID #5406. A notice was given to IDEM that 2–2,000 gallon gasoline USTs were planned for removal from the site in 1990. A third 3,000 gallon gasoline UST was listed on a 1988 notification form. No information was available on the removal. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

NPDES Facility: Dollar General Store 21911, 215 North Old US Highway 41, Permit #INRA05315, is located adjacent to the western terminus of the project area. The permit is in effect until April 5, 2025. An early coordination letter was sent on July 15, 2024, to Dollar General Store 21911. No response was received within the 30-day time frame.

Permits:	No:	Yes: X
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A Construction Stormwater General Permit, formerly known as the Rule 5 Permit will be required due to the soil disturbance being greater than the 1-acre threshold.

IDEM 401/USACE 404 Clean Water Act permits will likely be required due to wetland impacts.

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

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

ENVIRONMENTAL COMMITMENTS:

Firm:

- 1) If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
- 2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
- 3) USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after August 22, 2025, an inspection of the 36-in. diameter CMP culvert (Structure Nos. 105; CLV-86826) by a qualified individual, must be performed. Inspection of the structure should check for the presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT District)
- 4) Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT EWPO)

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- 5) The portions of Wetlands A–D to remain undisturbed by construction will be labeled on the plans as "Do Not Disturb." These wetlands will not be disturbed by any construction activities. (INDOT EWPO)
- 6) LIGHTING AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
- 7) GENERAL AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
- 8) An antique landfill, the Boswell Dump, is located 0.01 mile west of the eastern terminus of the project area. An early coordination letter was sent on July 15, 2024, to IDEM Office of Land Quality, Kim Vedder (kvedder@idem.in.gov) in order to determine if additional exploratory actions should occur that will require the submission of a Scope of Work to SAM for review and approval. (INDOT SAM)
- 9) IDEM Office of Land Quality responded on July 24, 2024, stating that the location is ambiguous and the dump is not fully integrated into their database yet. A 1973 inspection report indicates that the dump is a "Truck stop in Boswell" that is 400 ft east of US 41 with the nearest dwelling 400 ft north-northwest of the dump. However, in 1973, US 41 was west of where it is now, which is now Old US 41. There were two truck stops on US 41 and one is a low spot on the historic topographic maps and the other is the Brownfield project (Agency Interest (AI) ID # 111235). IDEM Office of Land Quality suspects that the dump is approximately where it is located on the attached map, but does not have proof. They recommended:
 - Initial exploratory test pits or borings should be advanced to confirm or deny the presence of waste and its extent in the proposed area of work;
 - If waste is excavated, it needs to be properly disposed of in a permitted municipal solid waste (MSW) Landfill. IDEM can provide guidance and approval for remediation/excavation or use of the dumps;
 - Special attention should be given to leachate control during the excavation activity, including stormwater run-on and run-off controls for the excavated areas;
 - Special attention should also be given to the potential for explosive gas to be present;
 - All exposed waste not removed will need to be recovered with 2 ft of soil, graded and vegetated; and
 - If roadway and/or culvert work is to be conducted over the dump, then we will need to see a workplan for review and approval, before work can commence. (IDEM Office of Land Quality)
- 10) The former Odle Trucking and Repair 4160101, 215 North Old US 41, AI ID # 111235, is located 0.06 mile east of the project area. The site was formerly operated as a truck repair shop, and USTs were installed and removed at unknown dates. This could be the location of J&P Produce, which is listed as being at the intersection of SR 352 and Old Highway 41, AI ID #5406. A notice was given to IDEM that 2–2,000 gallon gasoline USTs were planned for removal from the site in 1990. A third 3,000 gallon gasoline UST was listed on a 1988 notification form. No information was available on the removal. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. (INDOT SAM)
- 11) Dollar General Store 21911, 215 North Old US Highway 41, Permit #INRA05315, is located adjacent to the western terminus of the project area. The permit is in effect until April 5, 2025. An early coordination letter was sent on July 15, 2024, to Dollar General Store 21911. (INDOT SAM)

For Consideration:

- 1) Pavement rehabilitation projects typically do not have a significant impact on fish, wildlife, and botanical resources if best management practices (BMPs) are in place to limit the migration of polycyclic aromatic hydrocarbons (PAHs) into local waterways. PAHs are a byproduct of asphalt and coal tar-based sealants and negatively impact aquatic systems. The use of sealants that are free of petroleum and coal tar-based products is encouraged whenever possible. Contaminated road runoff can significantly impact the aquatic environment through increased turbidity and release of sediment into the stream which can be harmful to fish and other aquatic organisms, their eggs, and their food supply. Where possible, road runoff should be directed to riprap turnouts and sediment filtration prior to entering a stream to reduce impacts to aquatic species. We recommend the use of pollutant trapping technology such as storm drain inserts to reduce the runoff of roadside pollutants where appropriate. (IDNR-DFW)

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- 2) Consider a more sustainable approach to stormwater management. The traditional model of stormwater management aims to drain runoff as quickly as possible with the help of channels and pipes, which increases peak flows and costs of stormwater management. This type of solution only transfers drainage problems from one section of a basin to another. A more sustainable approach should aim to rebuild the natural water cycle by using storage techniques (retention basins, constructed wetlands, raingardens, etc.) and recharging groundwater using infiltration techniques (infiltration basins or trenches, pervious pavement, etc.). The following links give a good overview of traditional and sustainable stormwater management systems and their pros and cons for consideration during the design of the proposed project: <https://www.epa.gov/greeningepa/epa-facility-stormwater-management>; <https://www.epa.gov/greeningepa/stormwater-management-practices-epa-facilities>. (IDNR-DFW)
- 3) The new structure must include wildlife passage appropriate for the type of replacement structure being proposed. Wildlife passage designs should include a smooth level pathway preferably 3 feet wide but a minimum of 1–2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream. The stream crossing repairs or modifications, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions. Upgrading wildlife passage for rehabilitated/modified structures is encouraged whenever possible to improve wildlife/vehicle safety. (IDNR-DFW)
- 4) There are several techniques and materials for incorporating wildlife passage into the design of a crossing structure. Coordination with a Regional Environmental Biologist to address wildlife passage issues before submitting a permit application (if required) is encouraged to avoid delays in the permitting process. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage: <https://www.fs.usda.gov/ccrc/tool/fishxing-fish-passage-learning-systems>, <https://www.fs.usda.gov/wildlifecrossings/library/index.php>, https://www.fhwa.dot.gov/clas/ctip/wildlife_crossing_structures/, and <https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>. (IDNR-DFW)
- 5) Consider using native plants for any proposed on-site landscaping and revegetation. The following is a link to information on landscaping with native plants on the Indiana Native Plant Society (INPS) website: <https://indiananativeplants.org/landscaping/>. (IDNR-DFW)

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APPENDIX A: INDOT SUPPORTING DOCUMENTATION

Threshold Chart

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts³	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	USACE Individual 404 Permit ⁴
Wetland Impacts³	No adverse impacts to wetlands	< 0.1 acre	-	< 1.0 acre	≥ 1.0 acre
Right-of-way⁵	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations⁶	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)*	“No Effect”, “Not likely to Adversely Affect” (With select AMMs ⁷)	“Not likely to Adversely Affect” (With any AMMs or commitments)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic ⁸
Threatened/Endangered Species (Any other species)*	Falls within guidelines of USFWS 2013 Interim Policy or “No Effect”	“Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁹
Sole Source Aquifer	No Detailed Groundwater Assessment	-	-	-	Detailed Groundwater Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Section 4(f) Impacts	None	-	-	-	Any ¹⁰
Section 6(f) Impacts	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ¹¹
Approval Level					
• District Env. (DE) • Env. Serv. Div. (ESD) • FHWA	Concurrence by DE or ESD	DE or ESD	DE or ESD	DE and/or ESD	DE and/or ESD; and FHWA

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

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

³ Total permanent impacts to streams (linear feet) and wetlands (acres).

⁴ US Army Corps of Engineers Individual 404 Permit

⁵ Total permanent and temporary right-of-way. This does not include reacquisition of existing apparent right-of-way.

⁶ If any relocations are within an area with a known or suspected Environmental Justice (EJ) or disadvantaged population, or has greater than 5 relocations, a conversation with FHWA, through INDOT ESD, is needed to confirm NEPA classification and outreach plan for the project.

⁷ Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.

⁸ Projects that do not fall under a Species Specific Programmatic and results in a “Likely to Adversely Affect”. Other findings can be processed as a lower-level CE.

⁹ Potential for causing a disproportionately high and adverse impact.

¹⁰ Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.

¹¹ Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

* Includes the threatened/endangered species critical habitat

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

APPENDIX B: PROJECT AREA AND PLAN SHEET

Figure 1 – Project Vicinity

Figure 2 – Topographic Maps Showing the Project Area

Figure 3 – Aerial Photograph Showing the Project Area
Photographs

Project Plan Set

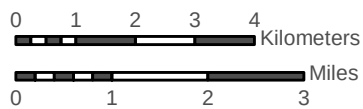
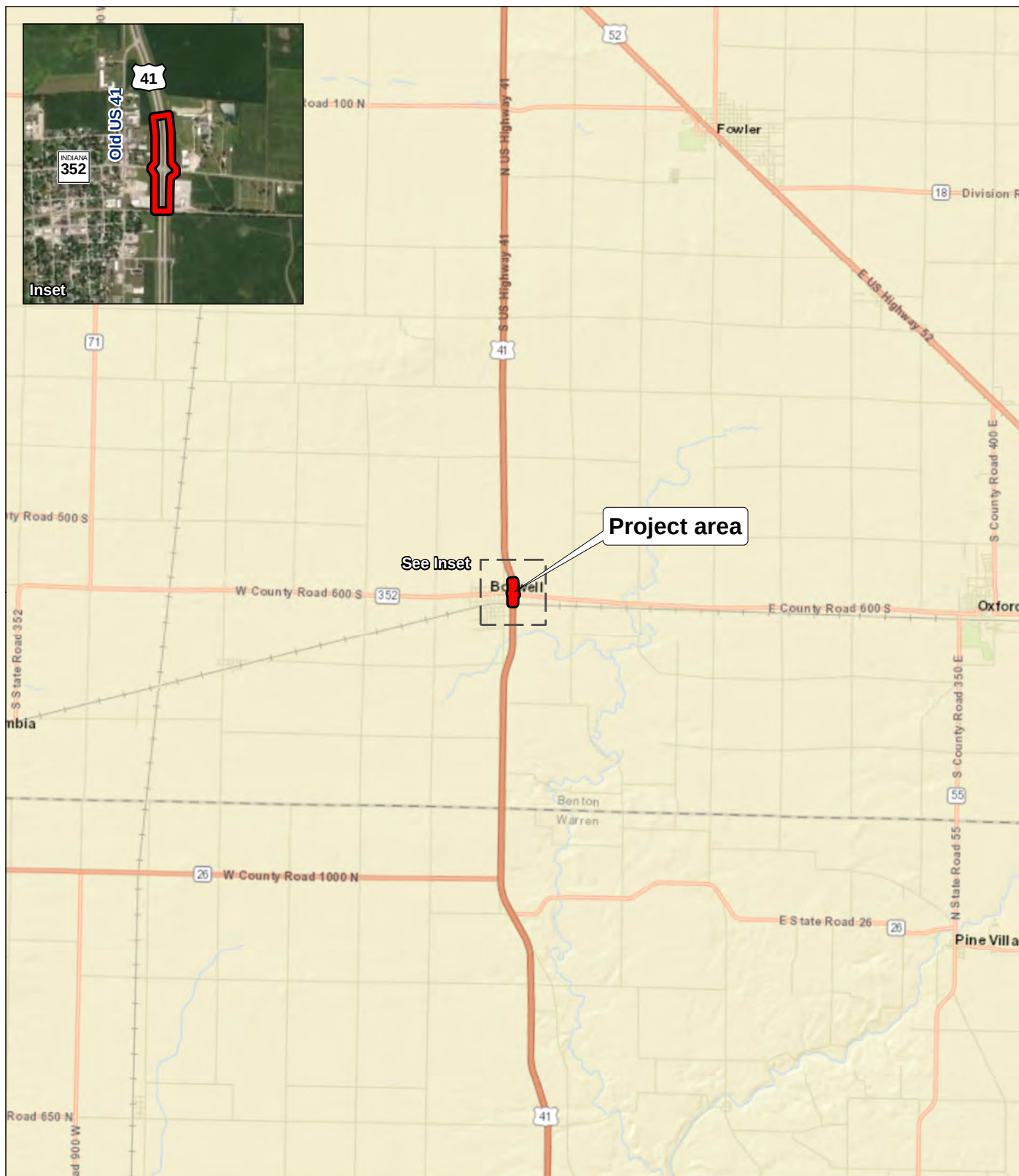
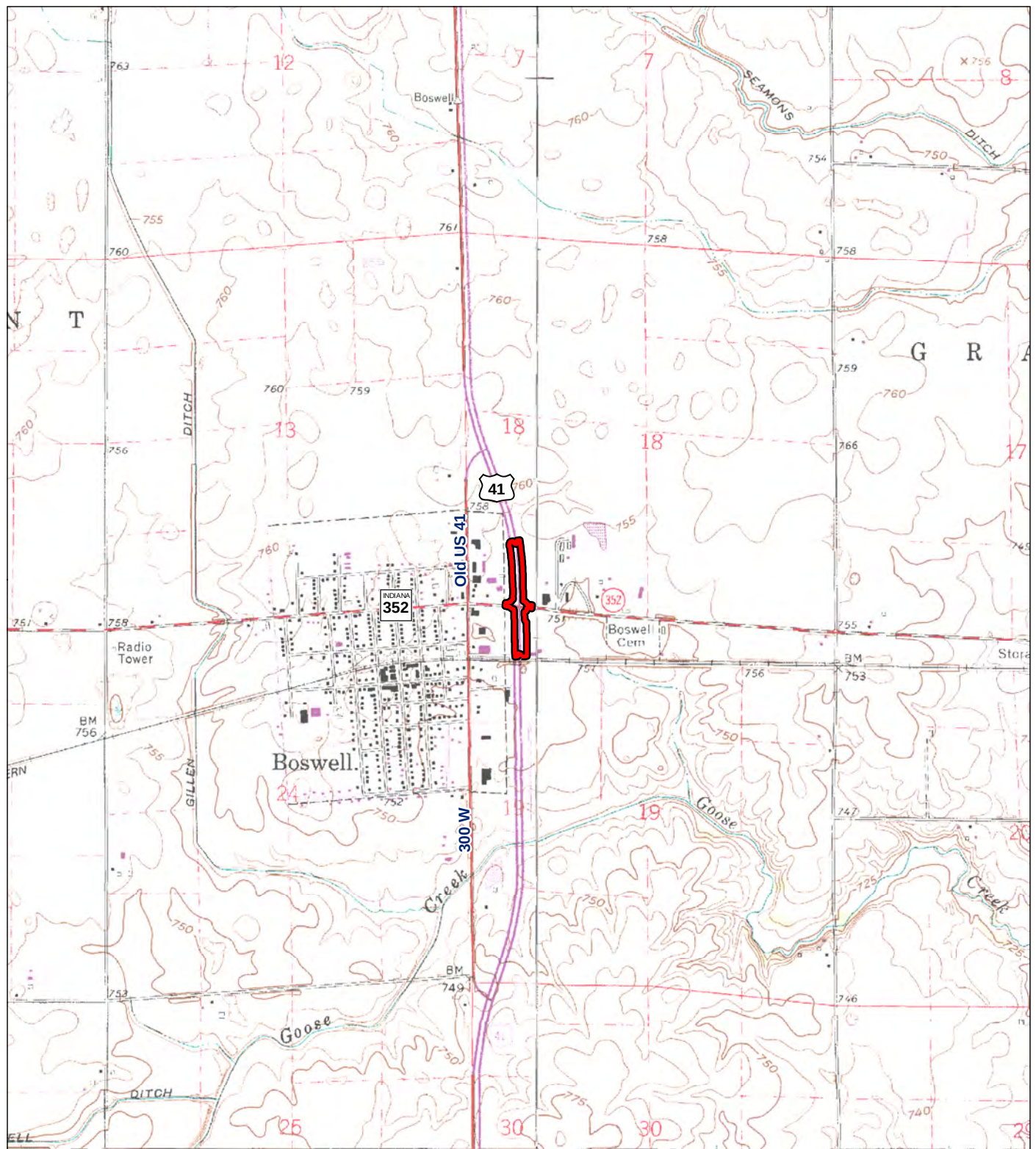


Figure 1

Portion of the ESRI World Street Map showing the vicinity of the project area for the proposed US 41 and SR 352 Roadway Project (INDOT Des. No. 2100058).

Base: ESRI World Street Map



 Project area

0 200 400 600 800 1000 Meters
0 1000 2000 3000 Feet



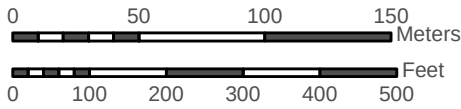
Figure 2

Portions of the 1980 Boswell and 1980 Fowler, Indiana quadrangles (USGS 7.5' topographic maps) showing the project area for the proposed US 41 and SR 352 Roadway Project (INDOT Des. No. 2100058).

Base: USGS Boswell and Fowler, Indiana, 7.5' series quadrangles



-  Project area
-  Photo location



Base: Microsoft Corporation
2023

Figure 3
Aerial photograph showing the project area and photograph locations for the proposed US 41 and SR 352 Roadway Project (INDOT Des. No. 2100058).



Photograph 1. View of the US 41 and SR 352 intersection, facing east.



Photograph 2. View of the US 41 and SR 352 intersection, facing south.



Photograph 3. View of the US 41 and SR 352 intersection, facing southeast.



Photograph 4. View of the US 41 and SR 352 intersection, facing southwest.



Photograph 5. View of US 41 northbound, facing northeast.



Photograph 6. View of US 41 southbound, facing northwest.



Photograph 7. View of US 41 southbound at the southern terminus of the project area, facing northeast.



Photograph 8. View of the US 41 median, facing north.



Photograph 9. View of the US 41 median, facing south at the southern terminus of the project area.



Photograph 10. View of US 41 southbound, facing south at the northern terminus of the project area.



Photograph 11. View of the US 41 median, facing north at the northern terminus of the project area.



Photograph 12. View of the culvert inlet on the eastern side of the US 41 and SR 352 intersection, facing north.



Photograph 13. View of the culvert outlet on the western side of the US 41 and SR 352 intersection, facing north.

PROJECT	DESIGNATION
2100058	2100058
CONTRACT	
T-43690	

INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

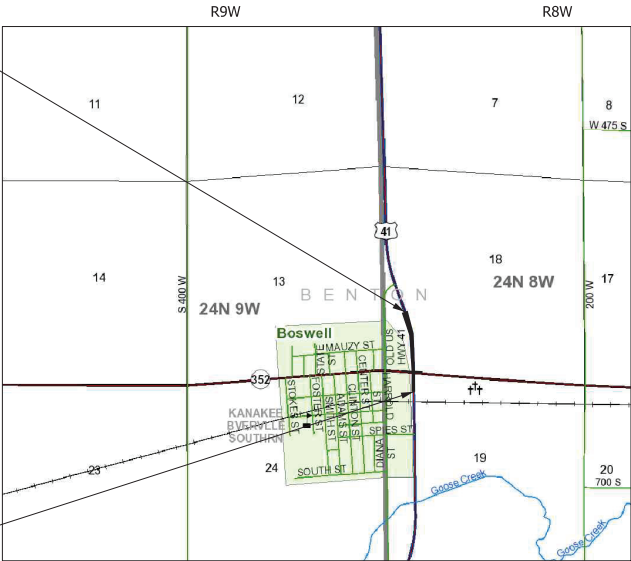
ROUTE: US 41 FROM: RP 194+08 TO: RP 194+28
PROJECT NO. 2100058 P.E.

NO ADDITIONAL RIGHT OF WAY
REQUIRED FOR THIS PROJECT

R/W
2100058 CONST.

US 41 & SR 352 Reduced Conflict Intersection
Located at the Intersection of US 41 & SR 352, 4.1 Miles North of SR 26
Section 18 & 19, T-24-N, R-8-W, Grant Township, Benton County, Indiana

End Project 2100058
Sta. 1084+34.08 Line "A"



Begin Project 2100058
Sta. 1067+92.16 Line "A"

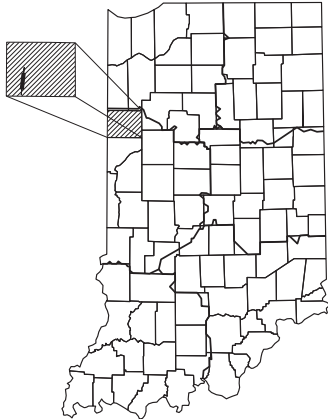
LOCATION MAP
BENTON COUNTY

T24N



SCALE: 1" = 2000'

TRAFFIC DATA	US 41	SR 352
A.A.D.T. (2026)	3,826 V.P.D.	1,737 V.P.D.
A.A.D.T. (2046)	4,546 V.P.D.	2,120 V.P.D.
D.H.V. (2046)	364 V.P.H.	212 V.P.H.
DIRECTIONAL DISTRIBUTION	51 %	57 %
TRUCKS	48 % A.A.D.T. 52 % D.H.V.	10 % A.A.D.T. 10 % D.H.V.
DESIGN DATA		
DESIGN SPEED	60 M.P.H.	50 M.P.H.
PROJECT DESIGN CRITERIA	3R (NON-FREEWAY)	3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL	MAJOR COLLECTOR
RURAL/URBAN	RURAL	RURAL
TERRAIN	LEVEL	LEVEL
ACCESS CONTROL	NONE	NONE



PROJECT LOCATION SHOWN BY
BENTON COUNTY

LATITUDE: 40° 31' 16" N LONGITUDE: 87° 22' 34" W

GROSS LENGTH: 0.311 MI.
NET LENGTH: 0.311 MI.
MAX. GRADE: 0.20 %

INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2024
TO BE USED WITH THESE PLANS

Plans Prepared By:

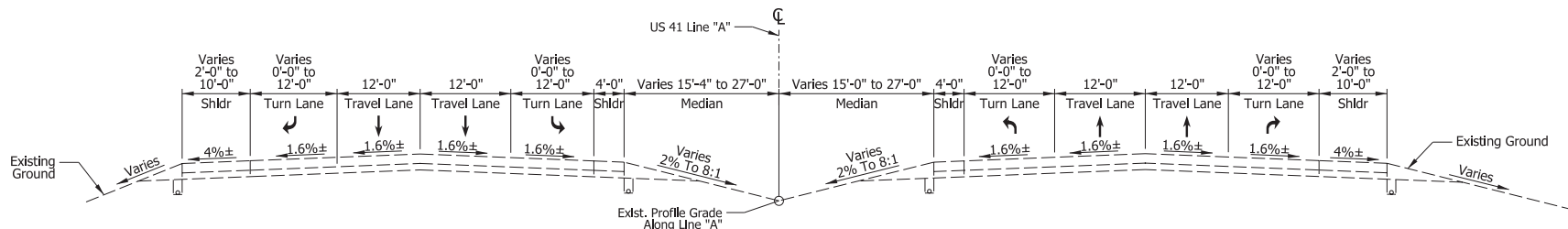


PLANS PREPARED BY:	(317) 577-9050 PHONE NUMBER
CERTIFIED BY:	DATE
RECOMMENDED FOR LETTING:	DATE
INDIANA DEPARTMENT OF TRANSPORTATION	

DESIGNATION	2100058
SHEETS	1 of 35
PROJECT	2100058
CONTRACT	T-43690

Pkt: 9/20/2024

File: 221641 Sht Title.dgn
Model: RD_Title Sheet



EXISTING TYPICAL SECTION
Sta. 1067+92.16 Line "A" to Sta. 1084+34.08 Line "A"

Intersection Omission Sta. 1074+90.45 to Sta. 1075+41.34



PROPOSED TYPICAL SECTION
Sta. 1067+92.16 Line "A" to Sta. 1084+34.08 Line "A" *

Intersection Omission Sta. 1074+01.51 to Sta. 1076+28.49

- 1 Match and perpetuate slope of adjacent travel lane
Sta 1076+00.00 to 1084+34.08
- 2 Match Existing From Sta 1067+92.16 to Sta 1073+90.53
See Intersection Details From Sta 1073+90.53 to Sta 1076+03.71
6' From Sta 1076+03.71 to 6' at Sta 1083+34.08
6' From Sta 1083+32.64 to 12' at Sta 1083+84.08
12' From Sta 1083+84.08 to 12' at Sta 1084+34.08
- 3 0' From Sta 1067+92.16 to 0' at Sta 1073+90.53
See Intersection Details From Sta 1073+90.53 to Sta 1076+03.71
12' From Sta 1076+03.71 to 12' at Sta 1083+34.08
12' From Sta 1083+34.08 to 0' at Sta 1084+34.08
- 4 0' From Sta 1067+92.16 to 0' at Sta 1069+12.21
12' From Sta 1069+12.21 to 12' at Sta 1074+01.27
12' From Sta 1074+01.27 to 0' at Sta 1075+01.27
See Intersection Details From Sta 1075+01.27 to Sta 1075+96.08
18' From Sta 1075+96.08 to 18' at Sta 1082+10.47
18' From Sta 1082+10.47 to 0' at Sta 1083+10.47
0' From Sta 1083+10.47 to 0' at Sta 1084+34.08
- 5 0' From Sta 1067+92.16 to 0' at Sta 1069+12.50
0' From Sta 1069+86.93 to 18' at Sta 1070+88.57
18' From Sta 1070+88.57 to 18' at Sta 1074+33.92
See Intersection Details From Sta 1074+33.92 to Sta 1075+28.73
0' From Sta 1075+28.73 to 12' at Sta 1076+28.73
12' From Sta 1076+28.73 to 12' at Sta 1083+13.41
0' From Sta 1083+13.41 to 0' at Sta 1084+34.08
- 6 0' From Sta 1067+92.16 to 12' at Sta 1068+92.16
12' From Sta 1068+92.16 to 12' at Sta 1074+26.29
See Intersection Details From Sta 1074+26.29 to Sta 1076+39.47
0' From Sta 1076+39.47 to 0' at Sta 1084+34.08
- 7 12' From Sta 1067+92.16 to 12' at Sta 1068+42.16
12' From Sta 1068+42.16 to 6' at Sta 1068+92.16
6' From Sta 1068+92.16 to 6' at Sta 1074+26.29
See Intersection Details From Sta 1074+26.29 to Sta 1076+39.47
Match Existing From Sta 1076+39.47 to Sta 1084+34.08

REVIEWER NOTE:
Pavement Design is pending
and will be included in next
plan submittal.
Mill and Resurface operation within
project limits to be determined prior
to stage 3 based upon construction
funding.

LEGEND

- (K) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on
385 lb/syd QC/QA HMA, 3, 64, Base, 25.0 mm, on
440 lb/syd QC/QA HMA, 3, 64, Base, 25.0 mm, on
6 in. Compacted Aggregate No. 53, on
Subgrade Treatment, Type IC
- (O) 6-in Compacted Aggregate, No. 73
- (27) Mulched Seeding R
- (R) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on
Min. 275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm,
(Variable Depth for Slope Correction), on
Milling, Asphalt, 3 In.

* Notes: See Spot Elevation Details for U-Turn and Median Left-Turn Information.
See Superelevation Details for Sta. 1076+56 Line "A" to north end of project.

Pkt: 9/20/2024

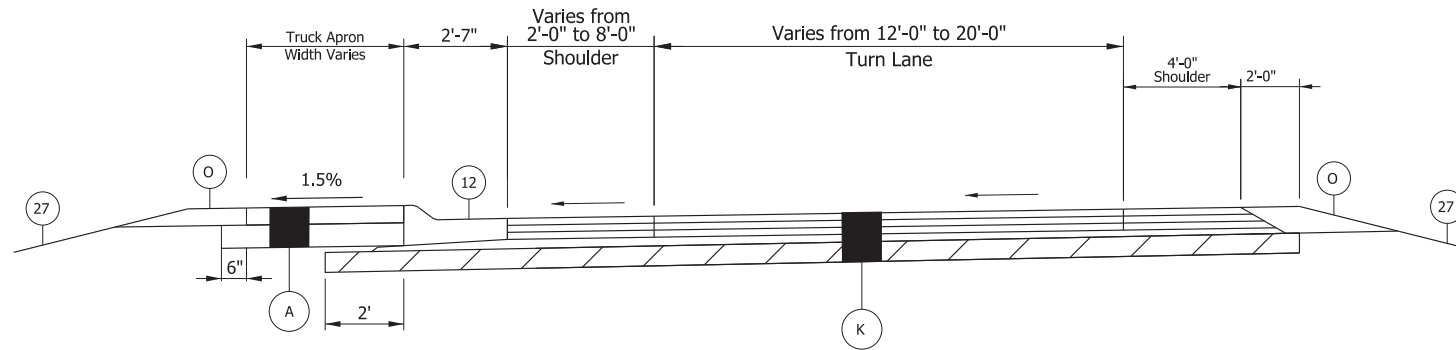
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CHECKED: BBV	07/26/2023	CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

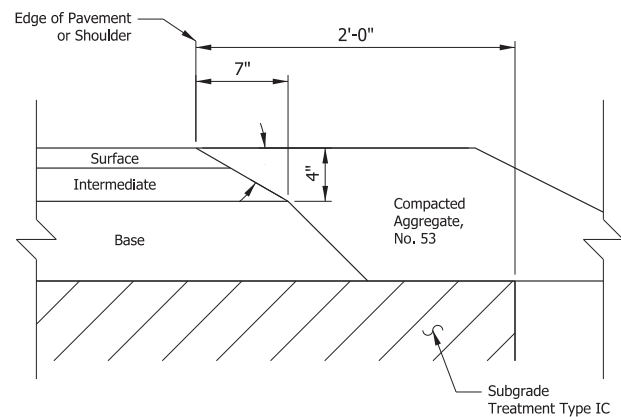
TYPICAL CROSS SECTIONS

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	DESIGNATION 2100058
	SHEETS 3 of 35
CONTRACT T-43690	PROJECT 2100058

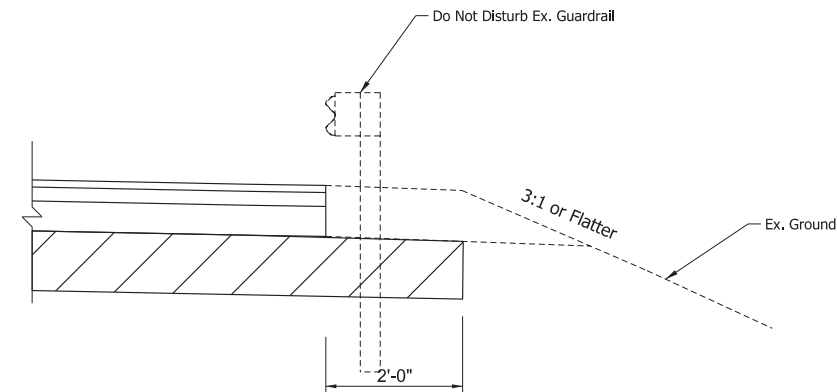


Median U-Turn Detail
See Construction Details
for Variable Width Values & Spot Elevations

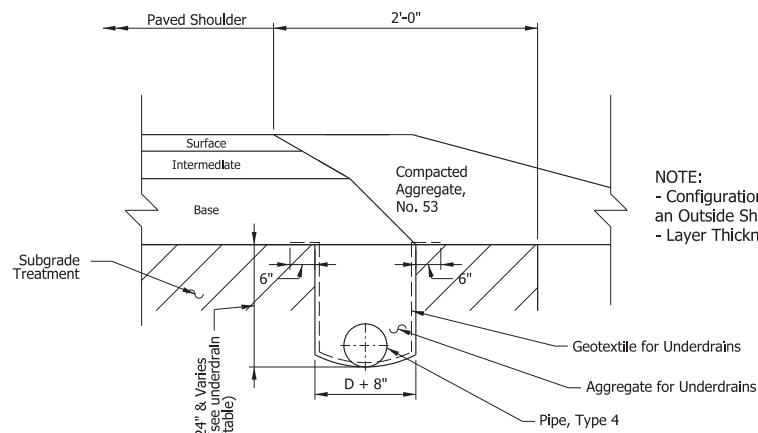
- LEGEND**
- (A) 8 in. PCCP (Colored), on
13 in. Compacted Aggregate No. 53
Subgrade Treatment, Type IBC
 - (K) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on
385 lb/syd QC/QA HMA, 3, 64, Base, 25.0 mm, on
440 lb/syd QC/QA HMA, 3, 64, Base, 25.0 mm, on
6 in. Compacted Aggregate No. 53, on
Subgrade Treatment, Type IC
 - (O) Variable Depth Compacted Aggregate, No 53
 - (R) 165 lb/syd QC/QA HMA, Surface, on
Min. 275 lb/syd QC/QA-HMA, Intermediate
(Variable Depth for Slope Correction), on
Milling, Asphalt, 3 in.
 - (12) Curb and Gutter, B, Concrete
 - (22) Curb, Island Concrete
 - (27) Mulched Seeding R
 - Subgrade Treatment Type IC



Safety Edge Detail

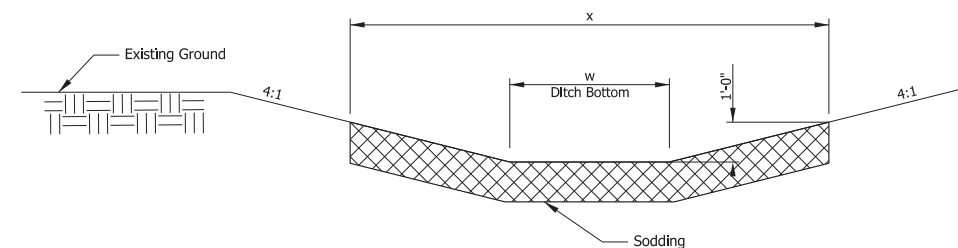


Guardrail Detail



Underdrain Detail
(Pending Final Pavement Design)

NOTE:
- Configuration For Median Shoulder is The Same as For
an Outside Shoulder
- Layer Thicknesses Are Not to Scale.

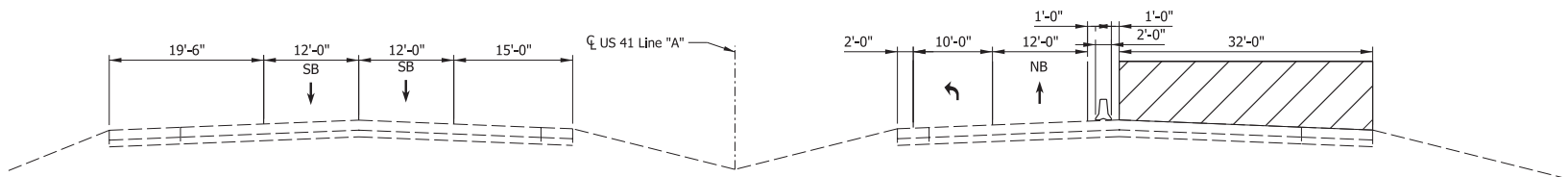


Ditch Detail
V-Ditch: w=0, x=8 ft
4-ft Flat Bottom: w = 4 ft, x = 12 ft

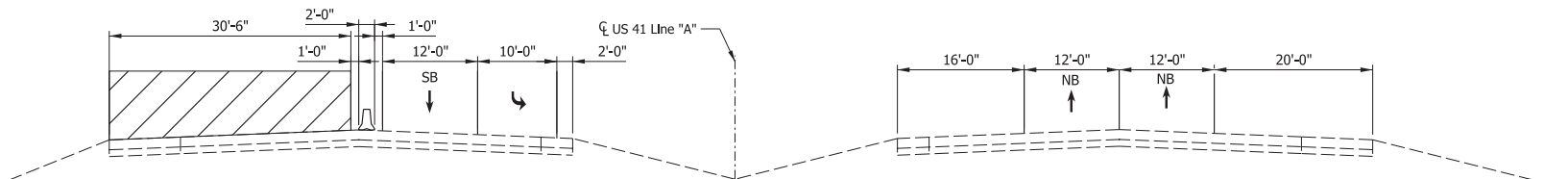
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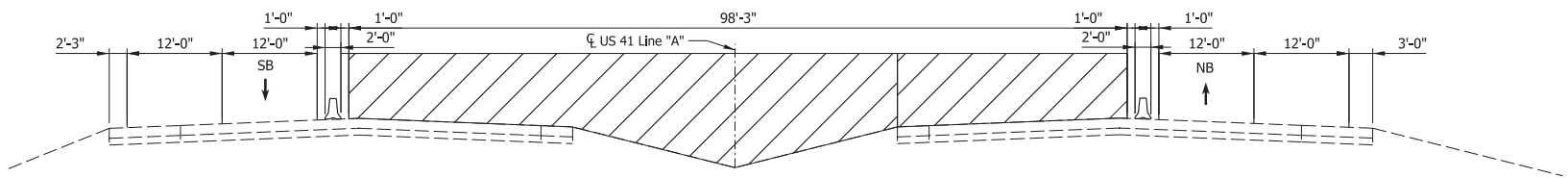
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CHECKED: BBV	CHECKED: BBV				2100058	
					SHEETS	
					4	of 35
					PROJECT	
					2100058	



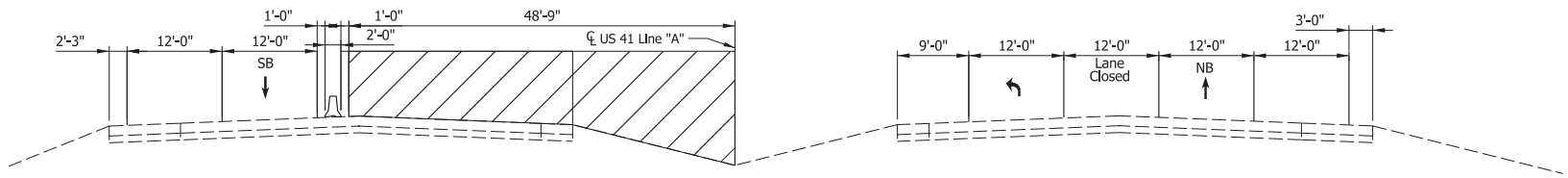
PHASE 1 MOT TYPICAL SECTION
Sta. 1067+92.00 to Sta. 1070+26.00



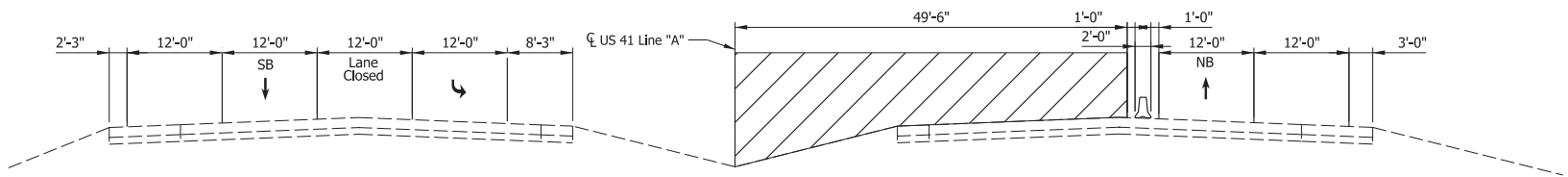
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Sta. 1076+18.00 to Sta. 1084+34.00



PHASE 2 MOT TYPICAL SECTION
Sta. 1067+92.00 to Sta. 1069+51.00
Sta. 1082+99.00 to Sta. 1084+34.00



PHASE 2 MOT TYPICAL SECTION
Sta. 1069+51.00 to Sta. 1073+61.00



PHASE 2 MOT TYPICAL SECTION
Sta. 1076+71.00 to Sta. 1082+99.00

LEGEND
 Construction Work Zone

RECOMMENDED FOR APPROVAL _____ 7/2023 DESIGN ENGINEER DATE	
DESIGNED: NK	DRAWN: NK
CHECKED: BBV	CHECKED: BBV

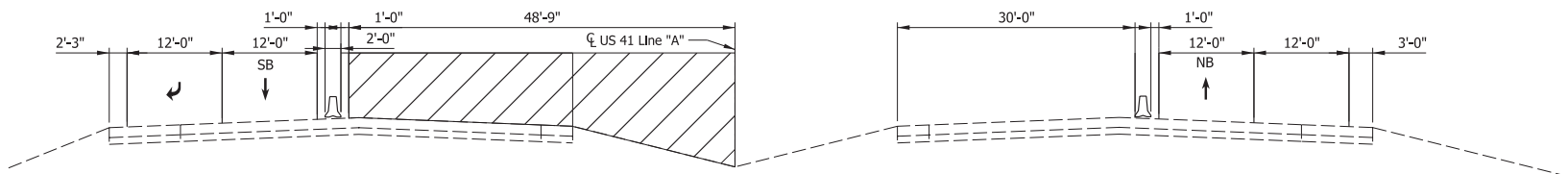
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
MAINTENANCE OF TRAFFIC

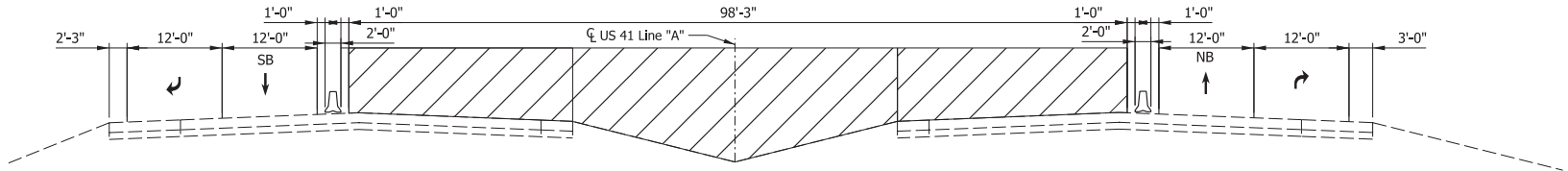
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	DESIGNATION 2100058	
	SHEETS 5 of 35	
CONTRACT T-43690	PROJECT 2100058	

Pkt: 9/20/2024

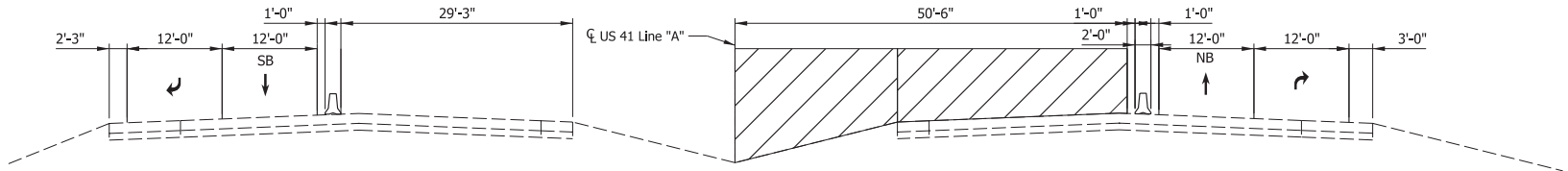
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PHASE 3 MOT TYPICAL SECTION
Sta. 1069+92.00 to Sta. 1073+61.00



PHASE 3 MOT TYPICAL SECTION
Sta. 1073+61.00 to Sta. 1076+71.00



PHASE 3 MOT TYPICAL SECTION
Sta. 1076+71.00 to Sta. 1082+99.00

LEGEND

 Construction Work Zone

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER
DESIGNED: NK	DRAWN: NK
CHECKED: BBV	CHECKED: BBV

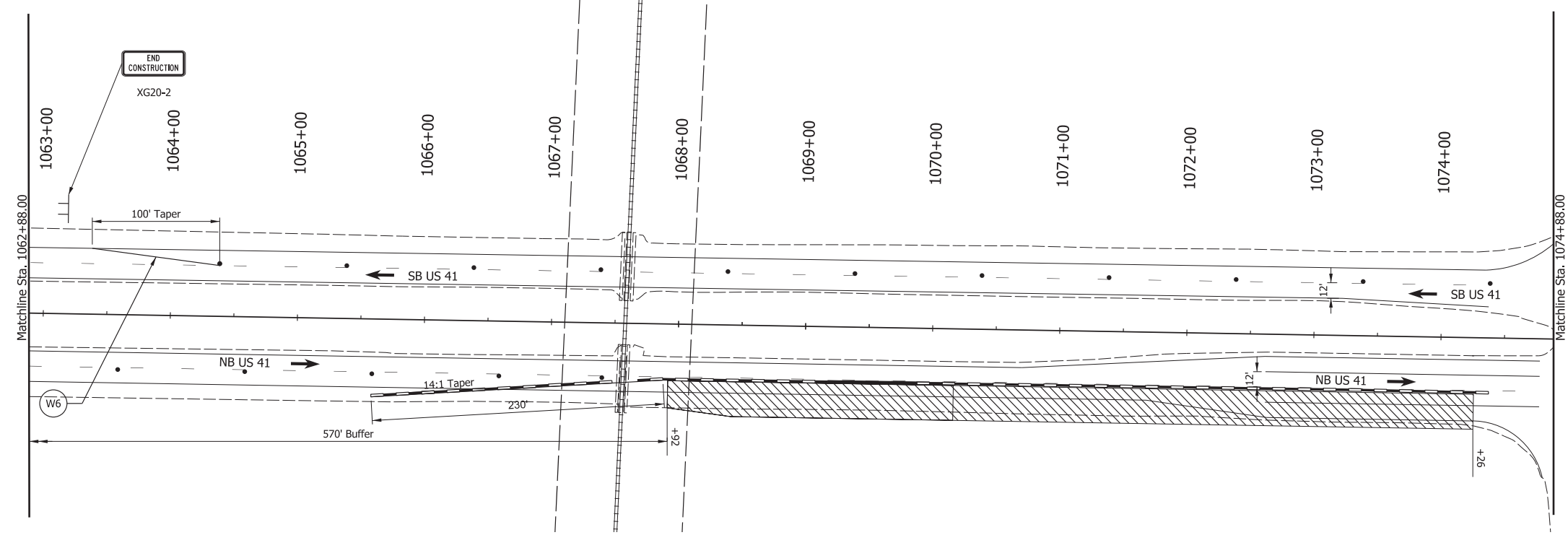
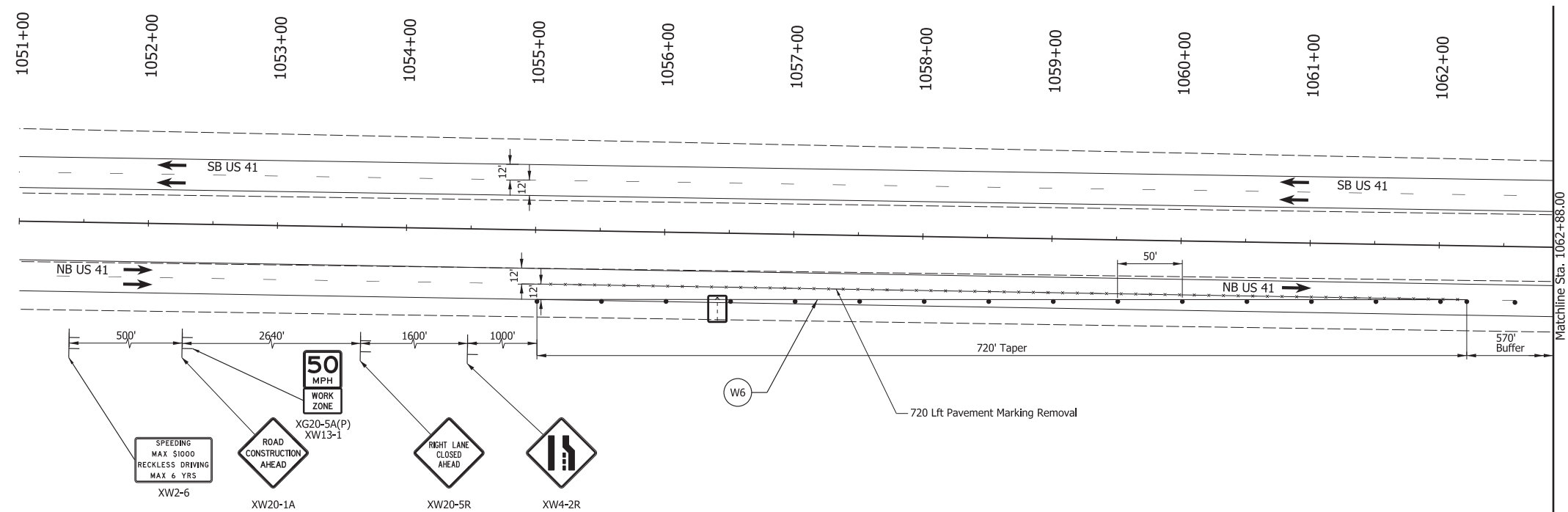
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
MAINTENANCE OF TRAFFIC

SCALE	BRIDGE FILE
3/32" = 1'-0"	N/A
	DESIGNATION
	2100058
	SHEETS
	6 of 35
CONTRACT	PROJECT
T-43690	2100058

Pkt: 9/20/2024

File: 221641 Sht MOT Typical_01.dgn
Model: Sheet 2



NOTES:
1. Construction Zone Design Speed is 50 MPH.

LEGEND

	Construction Sign		Flashing Arrow Sign
	Lane Direction		Temporary Traffic Barrier
	Channelizing Device		Line, Remove
	Temporary Pavement Marking, Removable, Yellow 6"		
	Temporary Pavement Marking, Removable, White 6"		

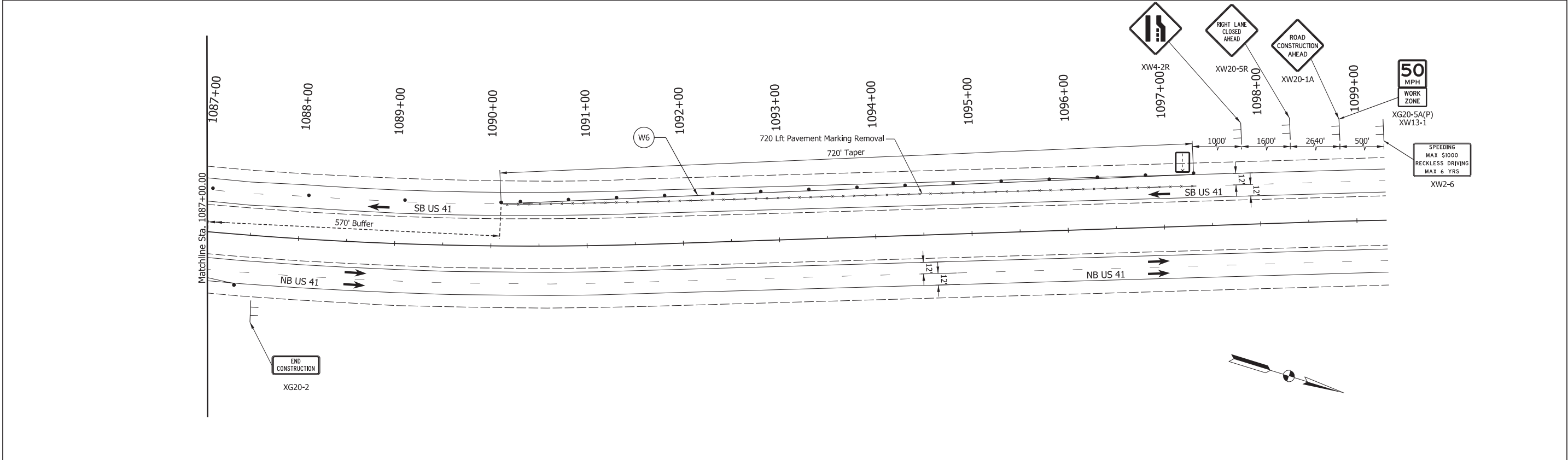
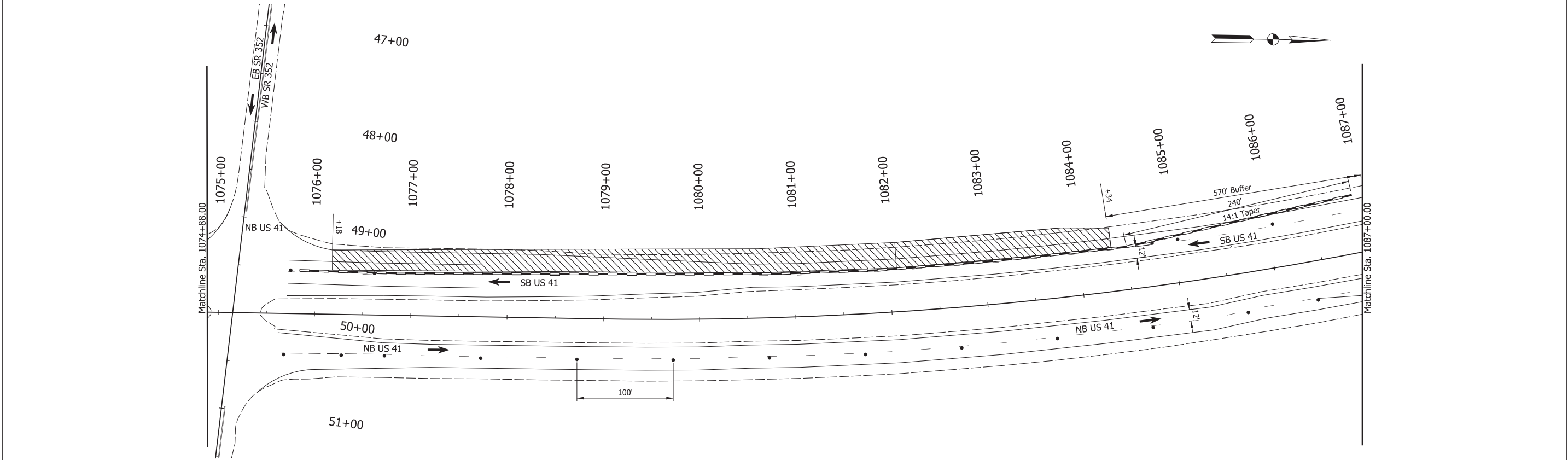
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	7/2023	DATE
DESIGNED: NK	DRAWN: NK		
CHECKED: BBV	CHECKED: BBV		

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 1
STA. 1049+88 TO STA. 1074+88

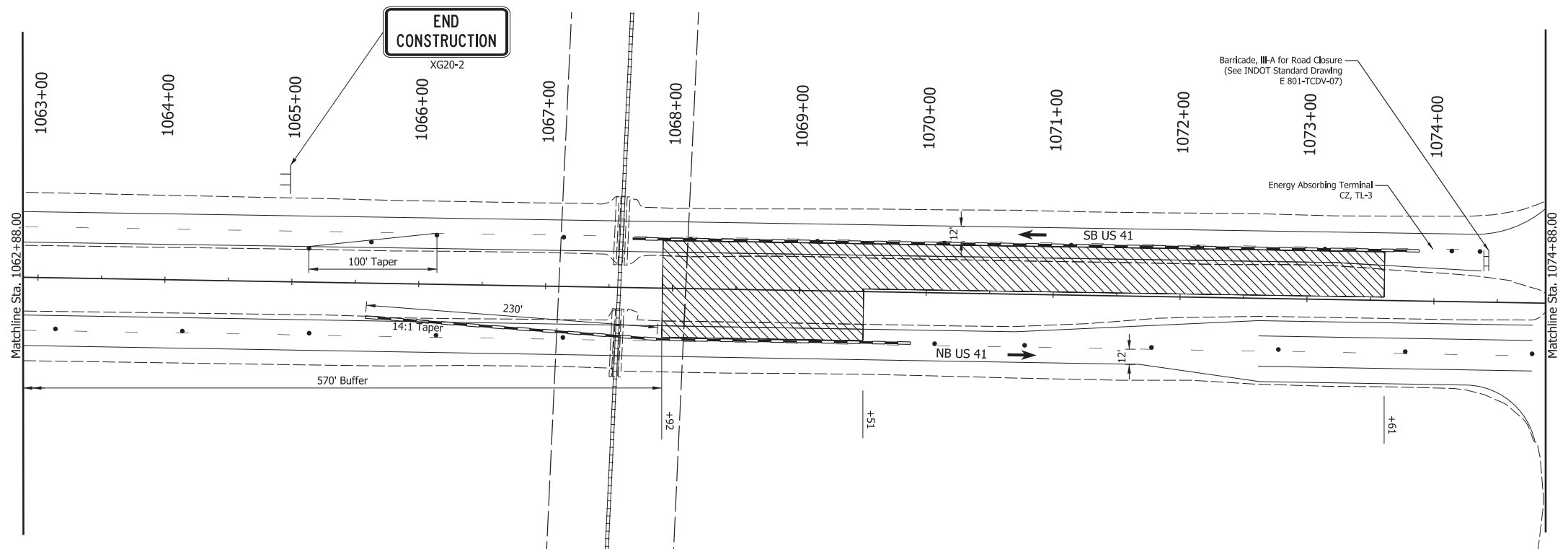
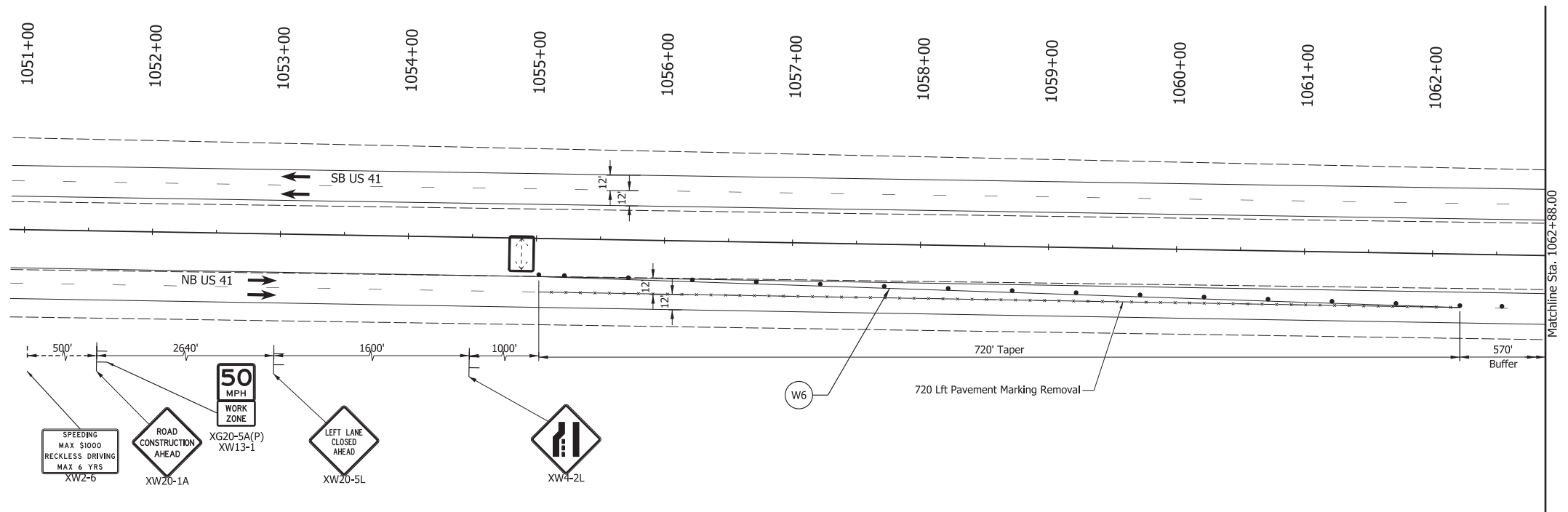
SCALE 1"=50'	BRIDGE FILE N/A
	DESIGNATION 2100058
	SHEETS 7 of 35
CONTRACT T-43690	PROJECT 2100058

Pkt: 9/20/2024
File: 221641 Sht MOT 001.dgn
Model: MOT PHASE 1-1



Pkt: 9/20/2024	LEGEND				INDIANA DEPARTMENT OF TRANSPORTATION		SCALE 1"=50'	BRIDGE FILE N/A
	Construction Sign	Construction Work Zone	Flashing Arrow Sign	Temporary Traffic Barrier	DESIGNED: NK	DRAWN: NK		DESIGNATION 2100058
	Lane Direction	Temporary Pavement Marking, Removable, Yellow 6"		Line, Remove	CHECKED: BBV	CHECKED: BBV	SHEETS 8 of 35	
	Channelizing Device	Temporary Pavement Marking, Removable, White 6"			MOT PLANS - PHASE 1 STA. 1074+88 TO STA. 1099+20		CONTRACT T-43690	PROJECT 2100058

File: 221641 Sht MOT 001.dgn
Model: MOT PHASE 1-2



NOTES:
1. Construction Zone Design Speed is 55 MPH.

LEGEND

- Construction Sign
- Lane Direction
- Channelizing Device



Construction Work Zone



Temporary Pavement Marking, Removable, Yellow 6"



Temporary Pavement Marking, Removable, White 6"



Flashing Arrow Sign



Temporary Traffic Barrier



Line, Remove

RECOMMENDED FOR APPROVAL _____ 7/2023
DESIGN ENGINEER DATE

DESIGNED: NK DRAWN: NK

CHECKED: BBV CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 2
STA. 1049+88 TO STA. 1074+88

SCALE
1"=50'

BRIDGE FILE
N/A

DESIGNATION
2100058

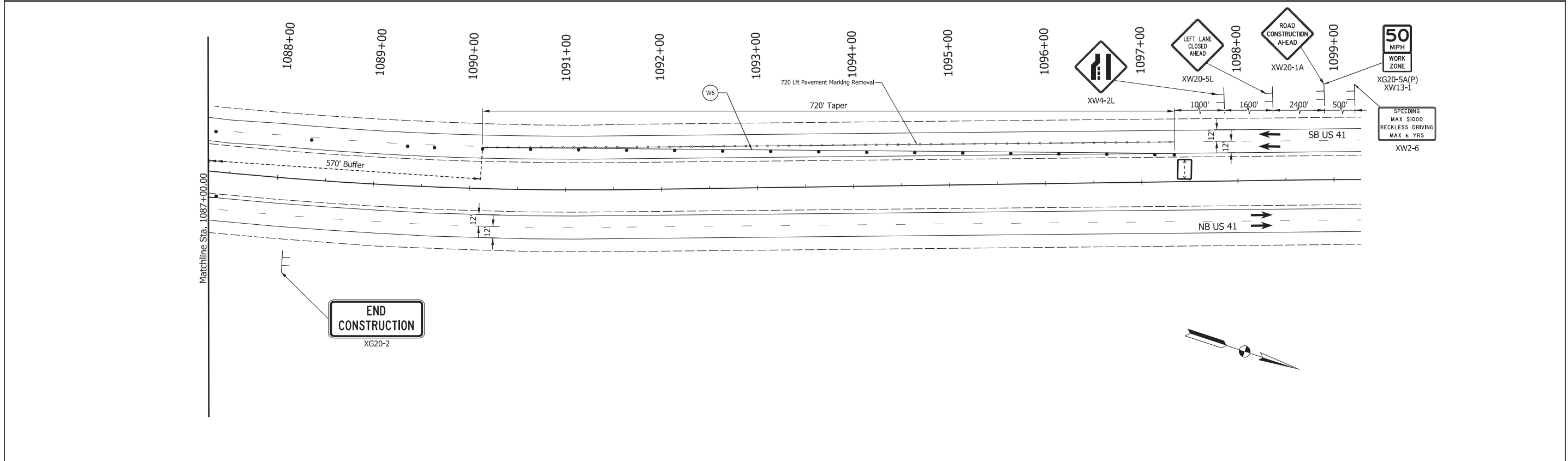
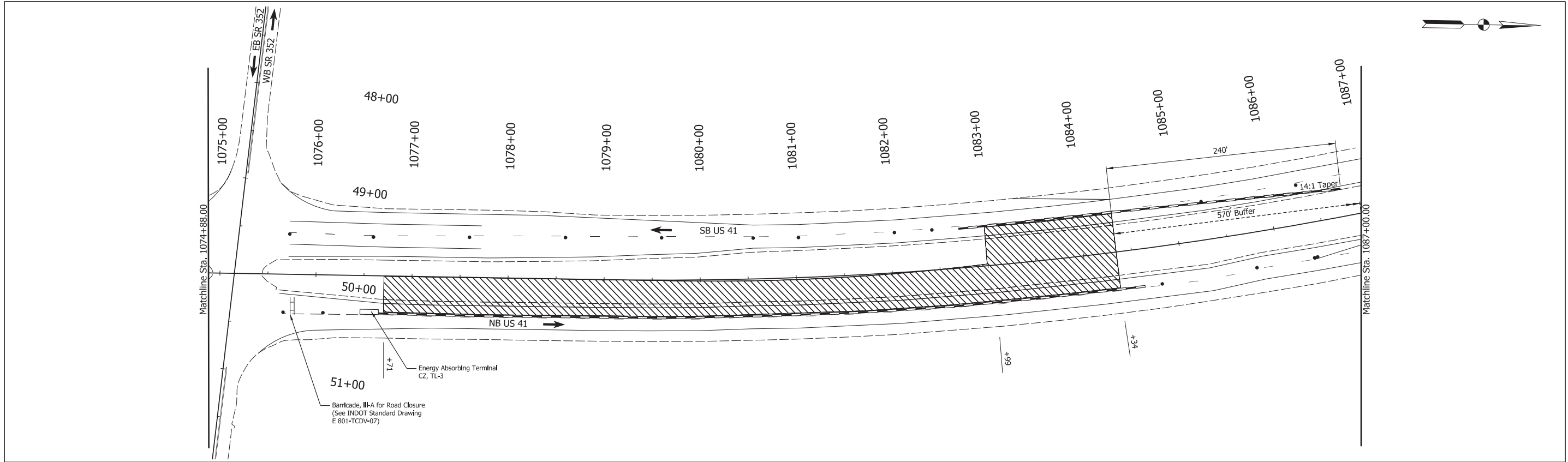
SHEETS
9 of 35

CONTRACT
T-43690

PROJECT
2100058

Pkt: 9/20/2024

File: 221641 Sht MOT 002.dgn
Model: MOT PHASE 2-1



LEGEND

Construction Sign

Lane Direction

Channelizing Device

Temporary Pavement Marking, Removable, Yellow 6"

Temporary Pavement Marking, Removable, White 6"

Construction Work Zone

Flashing Arrow Sign

Temporary Traffic Barrier

Line, Remove

RECOMMENDED FOR APPROVAL _____ 7/2023 DATE

DESIGNED: NK DRAWN: NK

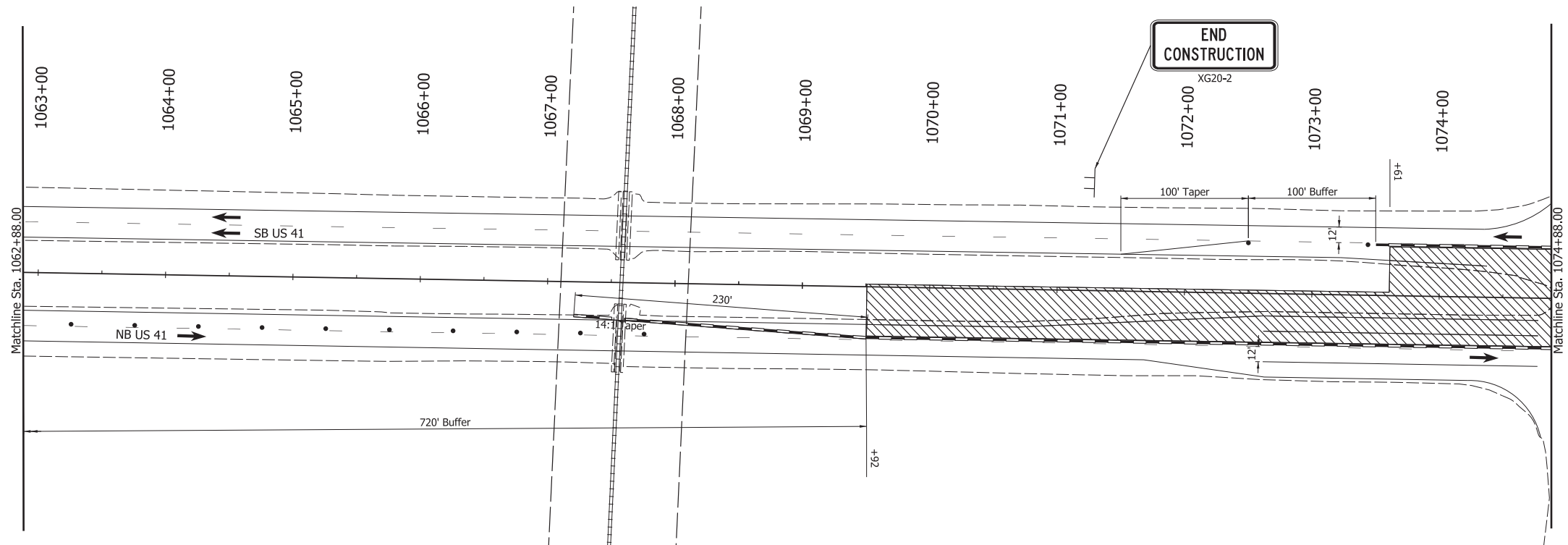
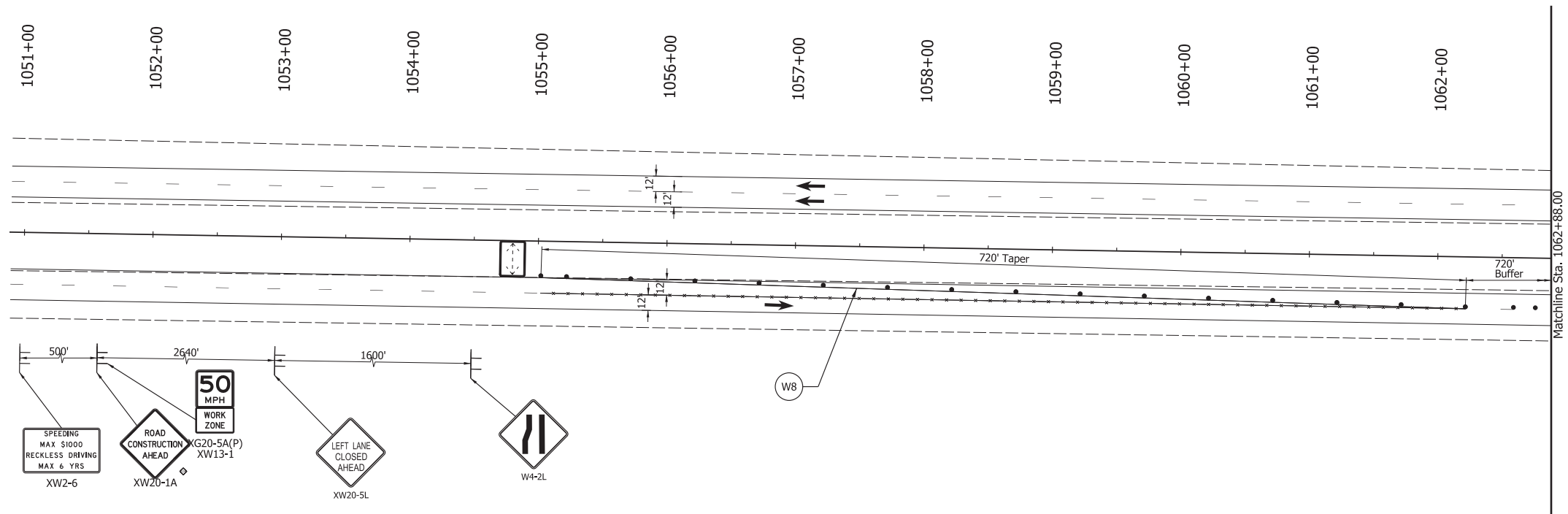
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INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 2
STA. 1074+88 TO STA. 1099+20

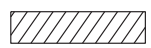
SCALE 1"=50'	BRIDGE FILE N/A
	DESIGNATION 2100058
	SHEETS 10 of 35
CONTRACT T-43690	PROJECT 2100058

Pkt: 9/20/2024
File: 221641 Sht MOT 002.dgn
Model: MOT PHASE 2-2



LEGEND

- Construction Sign
- Lane Direction
- Channelizing Device



Construction Work Zone



Temporary Pavement Marking, Removable, Yellow 6"



Temporary Pavement Marking, Removable, White 6"



Flashing Arrow Sign



Temporary Traffic Barrier



Line, Remove

RECOMMENDED
FOR APPROVAL

DESIGN ENGINEER

7/2023
DATE

DESIGNED: NK

DRAWN: NK

CHECKED: BBV

CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 3
STA. 1049+88 TO STA. 1074+88

SCALE
1"=50'

BRIDGE FILE
N/A

DESIGNATION
2100058

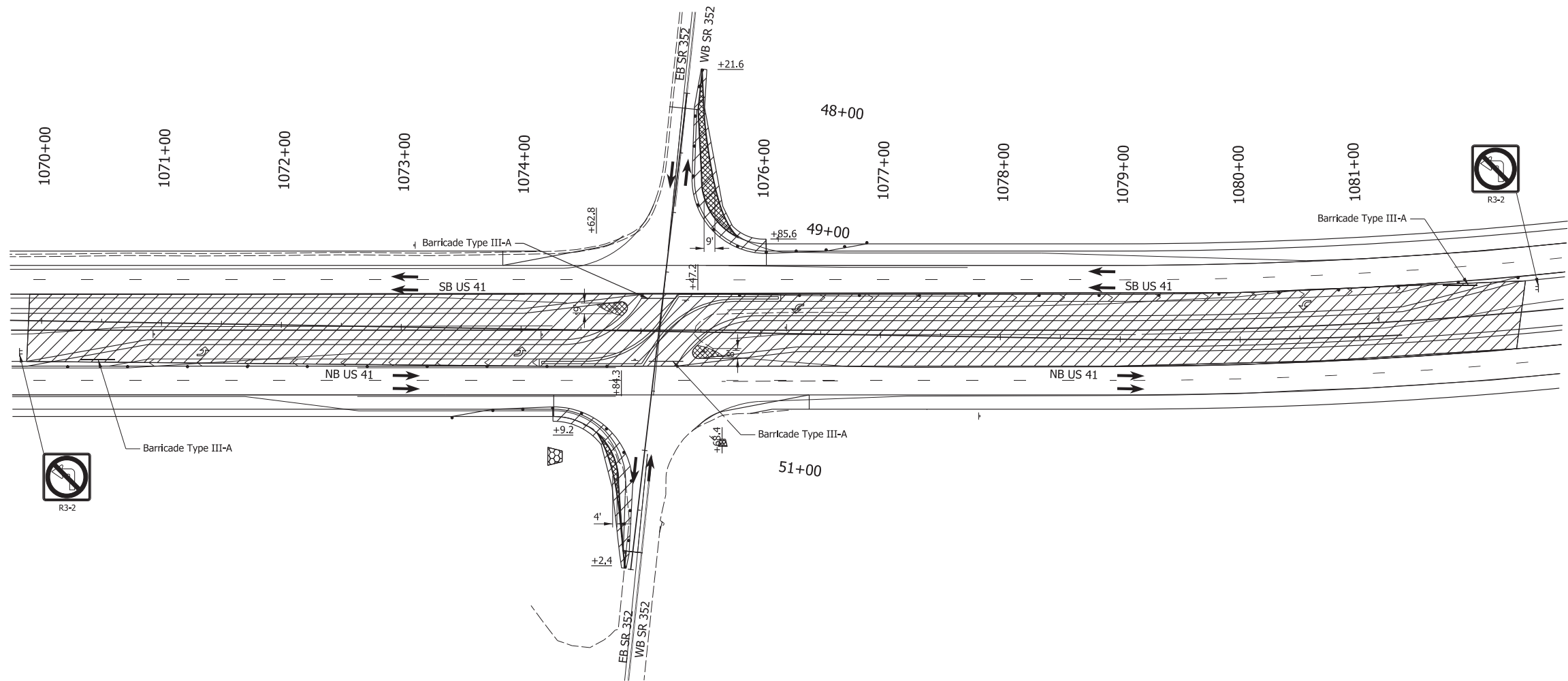
SHEETS
11 of 35

CONTRACT
T-43690

PROJECT
2100058

Pkt: 9/20/2024

File: 221641 Sht MOT 003.dgn
Model: MOT PHASE 3-1



NOTES:
1. Construction Zone Design Speed is 50 MPH.

LEGEND

- Construction Sign
- Lane Direction
- Channelizing Device



Construction Work Zone



Temporary Pavement Marking, Removable, Yellow 6"



Temporary Pavement Marking, Removable, White 6"



Flashing Arrow Sign



Temporary Pavement

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	7/2023	DATE
DESIGNED: NK	DRAWN: NK		
CHECKED: BBV	CHECKED: BBV		

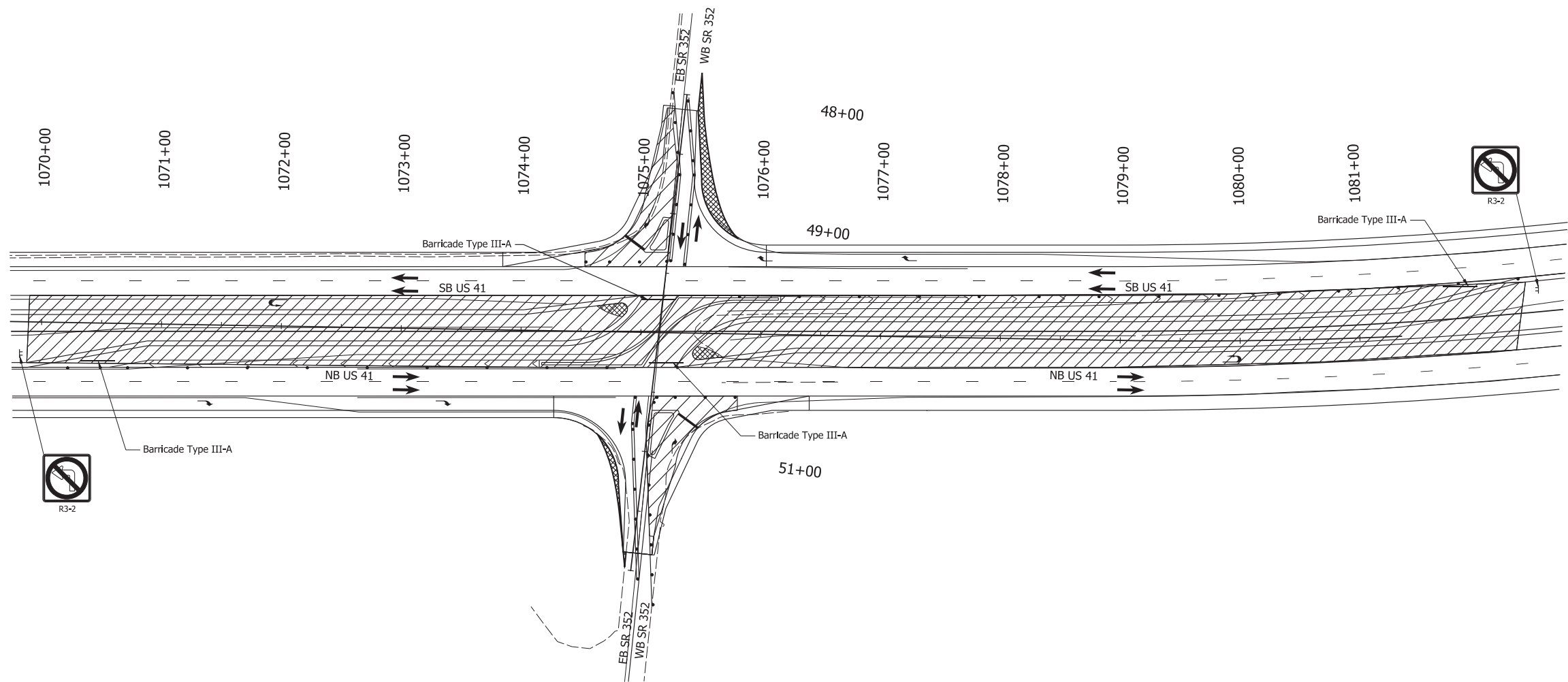
INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 4A
STA. 48+00 to STA. 52+00

SCALE	BRIDGE FILE
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	DESIGNATION
	2100058
	SHEETS
	13 of 35
CONTRACT	PROJECT
T-43690	2100058

Pkt: 9/20/2024

File: 221641 Sht MOT 004.dgn
Model: MOT PHASE 4 - A



NOTES:
1. Construction Zone Design Speed is 50 MPH.

LEGEND

- Construction Sign
- Lane Direction
- Channelizing Device



Construction Work Zone



Y8 Temporary Pavement Marking, Removable, Yellow 6"



W8 Temporary Pavement Marking, Removable, White 6"



Flashing Arrow Sign



Temporary Pavement

RECOMMENDED FOR APPROVAL _____ 7/2023
DESIGN ENGINEER DATE

DESIGNED: NK DRAWN: NK

CHECKED: BBV CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PLANS - PHASE 4B
STA. 48+00 to STA. 52+00

SCALE
1"=50'

BRIDGE FILE
N/A

DESIGNATION
2100058

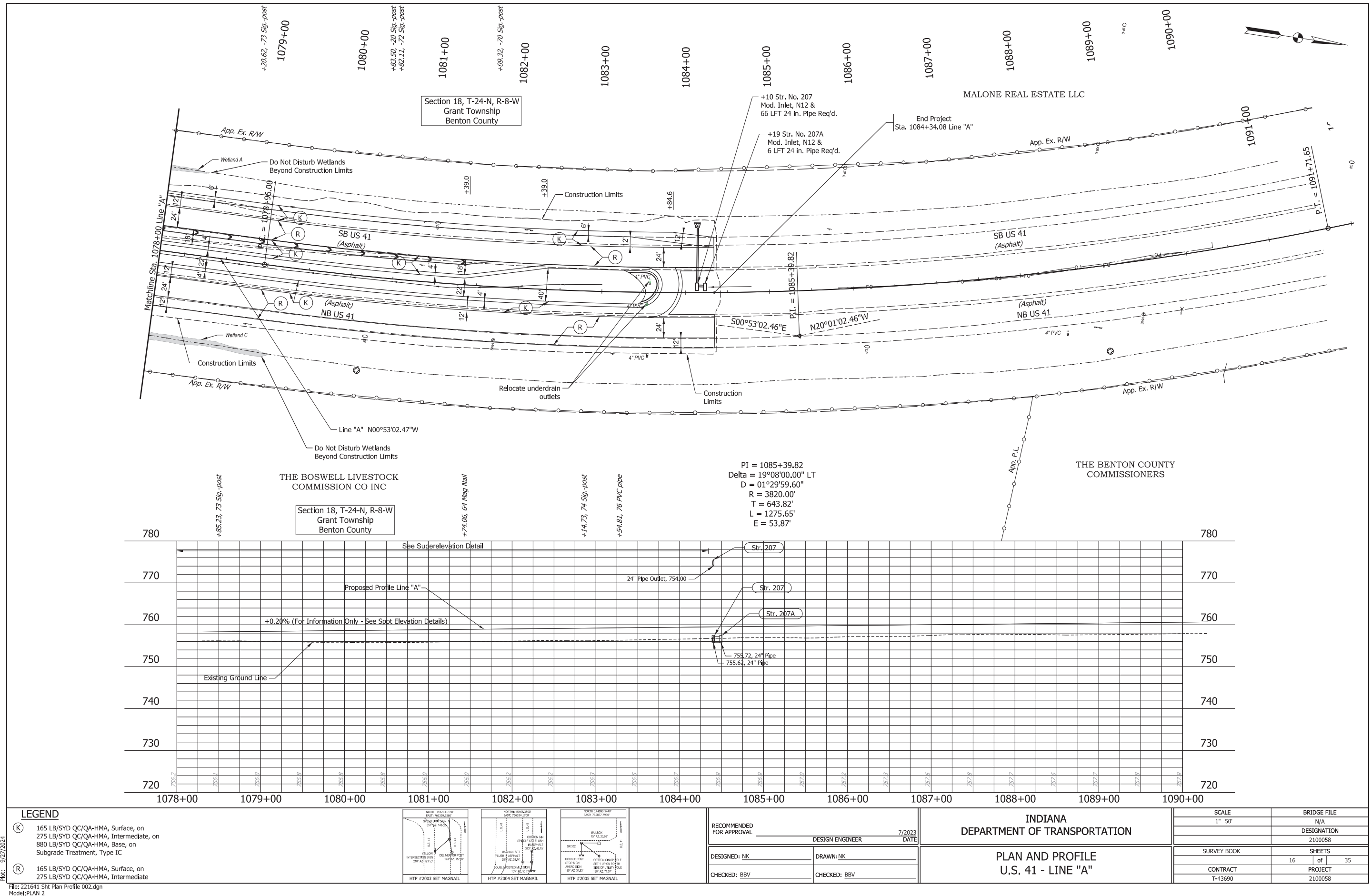
SHEETS
14 of 35

CONTRACT
T-43690

PROJECT
2100058

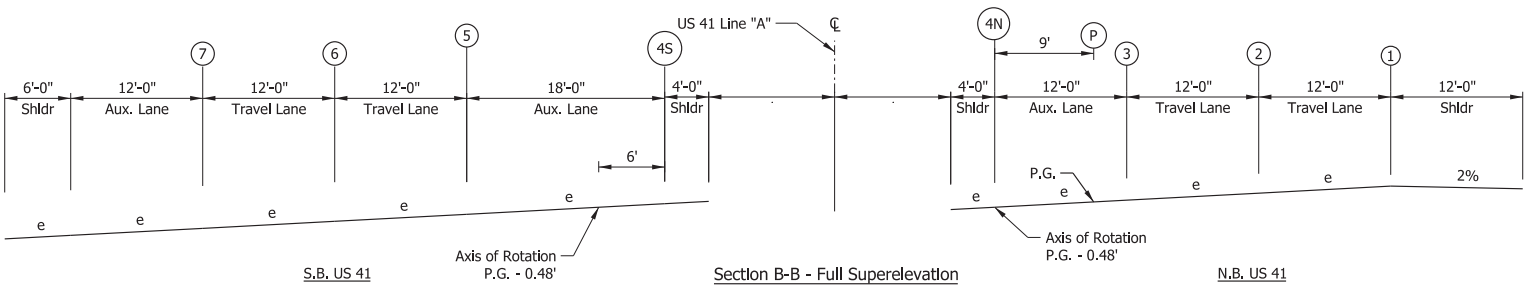
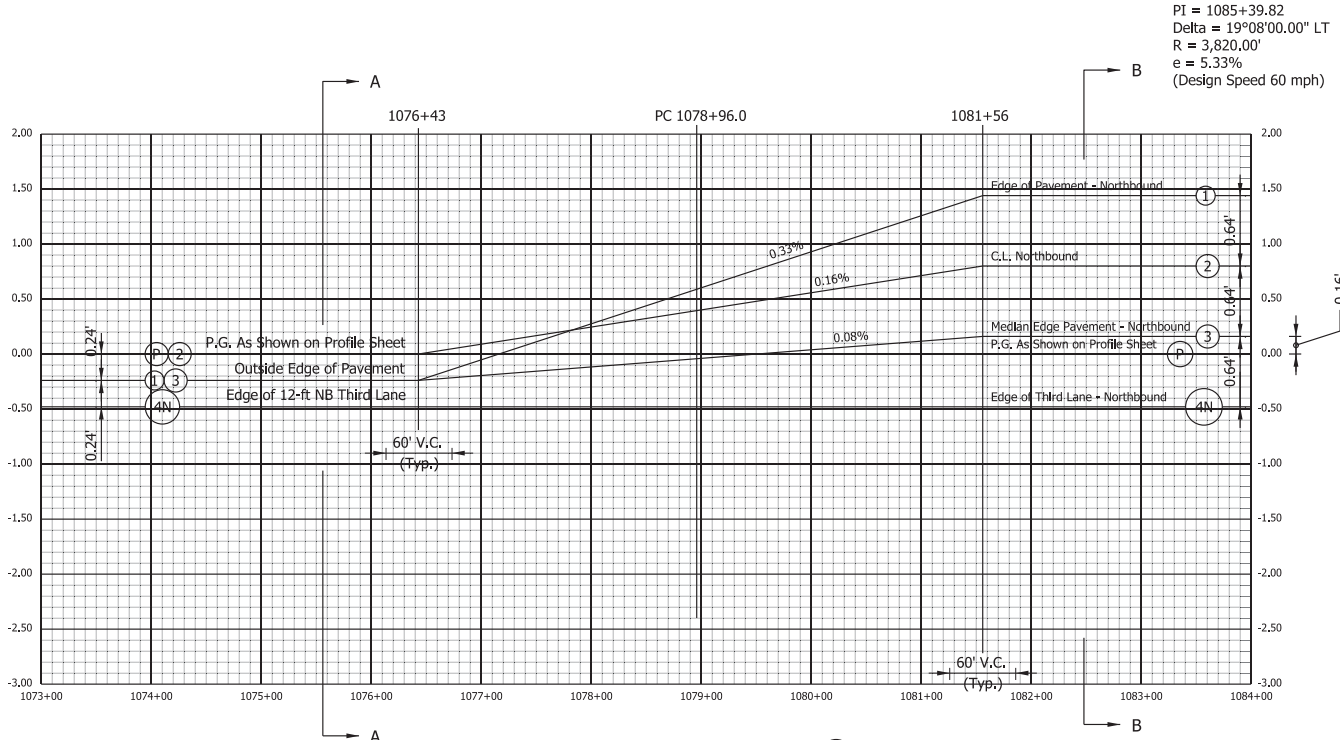
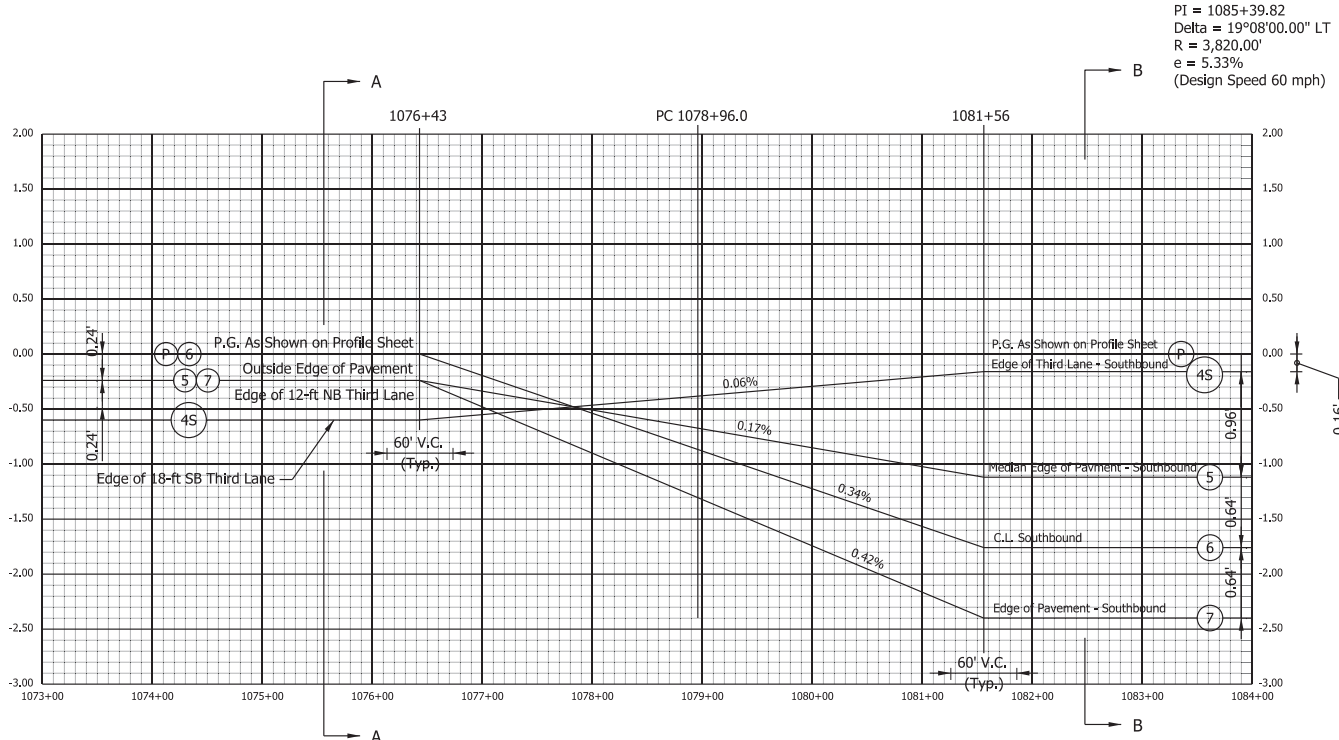
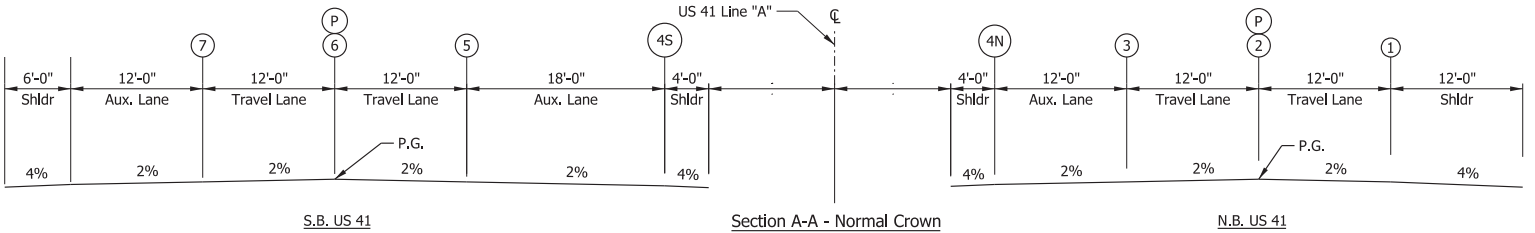
Pkt: 9/20/2024

File: 221641 Sht MOT 004.dgn
Model: MOT PHASE 4 - B



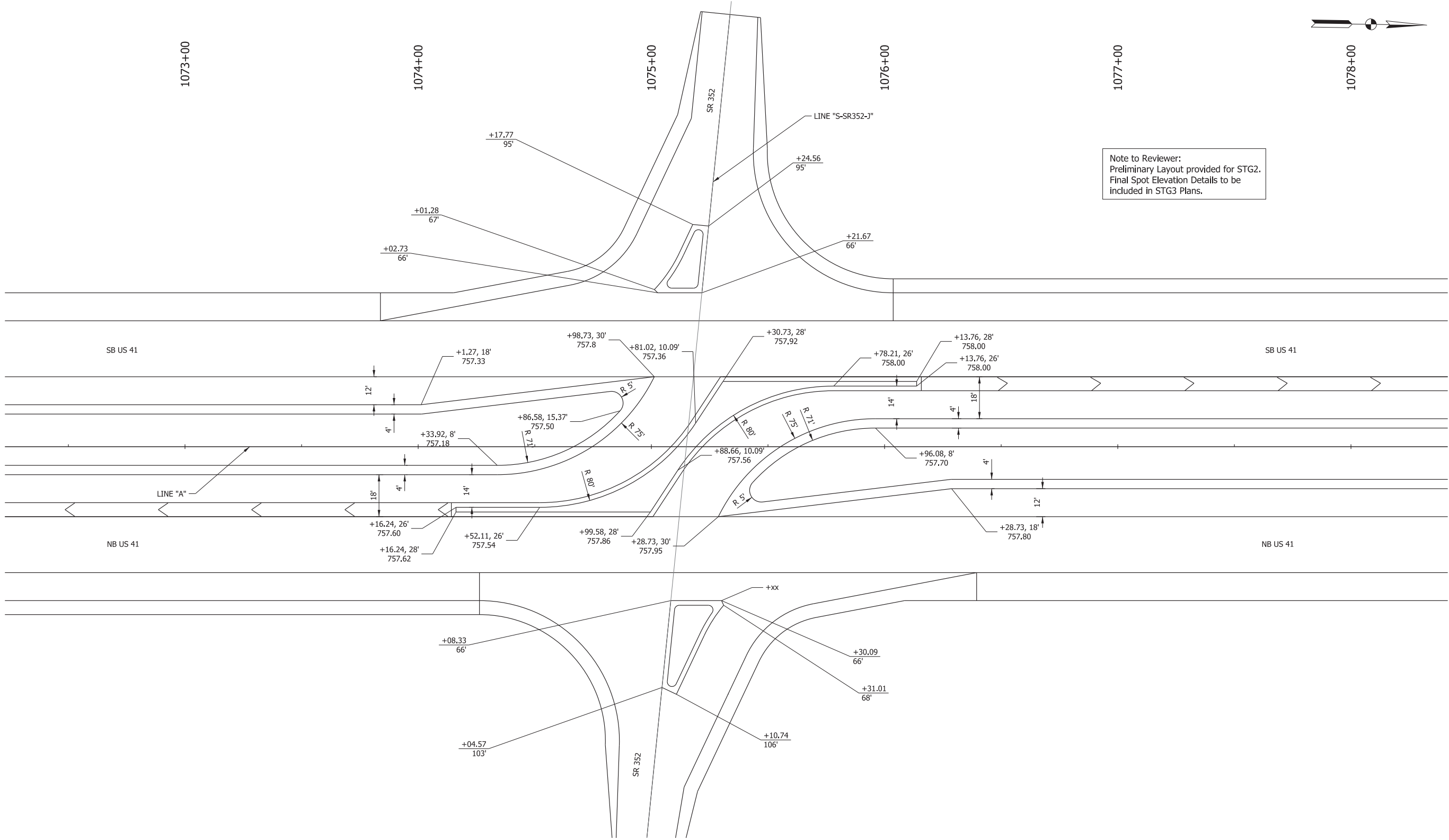
LEGEND		INDIANA DEPARTMENT OF TRANSPORTATION		SCALE 1"=50'		BRIDGE FILE	
(K)	165 LB/SYD QC/QA-HMA, Surface, on 275 LB/SYD QC/QA-HMA, Intermediate, on 880 LB/SYD QC/QA-HMA, Base, on Subgrade Treatment, Type IC	RECOMMENDED FOR APPROVAL _____ 7/2023 DATE				N/A	
(R)	165 LB/SYD QC/QA-HMA, Surface, on 275 LB/SYD QC/QA-HMA, Intermediate	DESIGNED: NK DRAWN: NK				DESIGNATION 2100058	
		CHECKED: BBV CHECKED: BBV				SURVEY BOOK	
						SHEETS 16 of 35	
						CONTRACT T-43690	
						PROJECT 2100058	

File: 221641 Sht Plan Profile 002.dgn
Model: PLAN 2



Note: P.G. - 0.48' = Edge of Third Lane (12' width on NB side) for normal crown and full superelevation. Match into existing conditions from FT-F-95(12) plans, dated 1969, on north end of project. Provide 2.0% x-slope in normal crown section via slope correction.

Pkt: 9/20/2024 File: 221641 Sht Super 001.dgn Model: RD_Detail Sheet			RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ 7/2023 DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE 1/8" : 1'-0"		BRIDGE FILE N/A	
							DESIGNATION 2100058	
							SHEETS 17 of 35	
							PROJECT 2100058	
			DESIGNED: NK _____ CHECKED: BBV _____		DRAWN: NK _____ CHECKED: BBV _____		SUPER ELEVATION DETAILS	



LEGEND

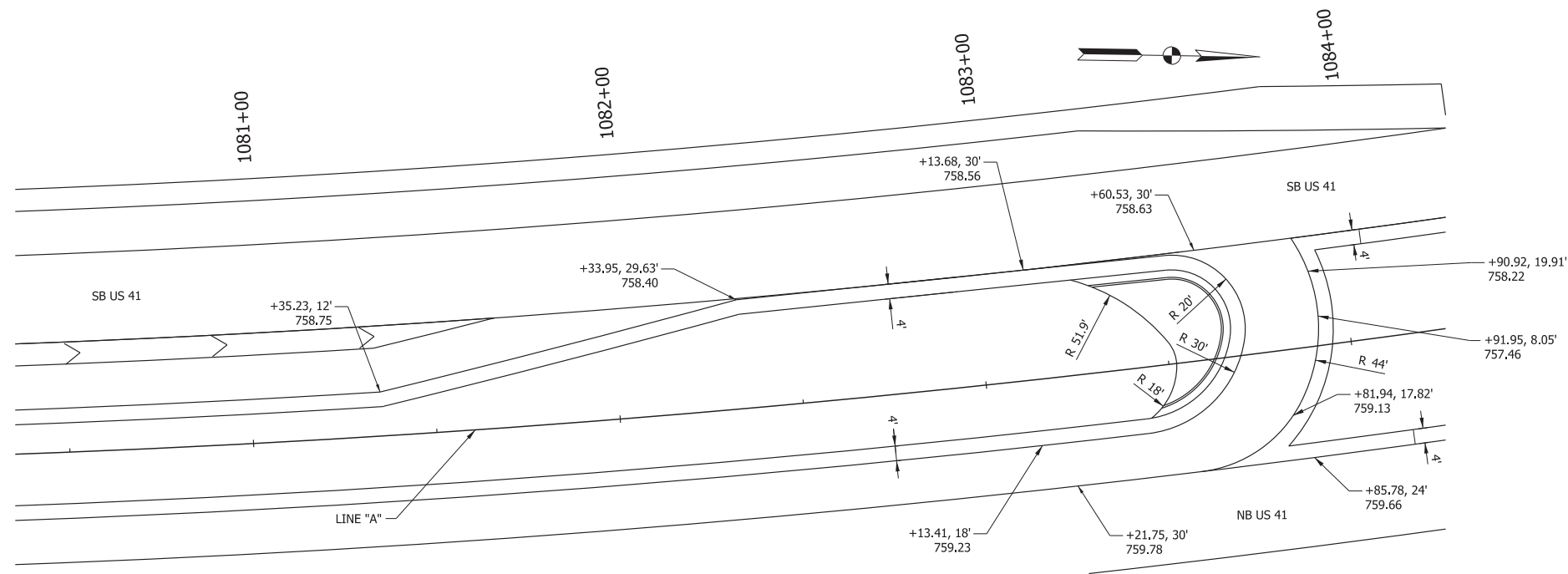
See Typical Section Details for Legend.

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: NK	DRAWN: NK
CHECKED: \$DES\$CHECKBY\$	CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

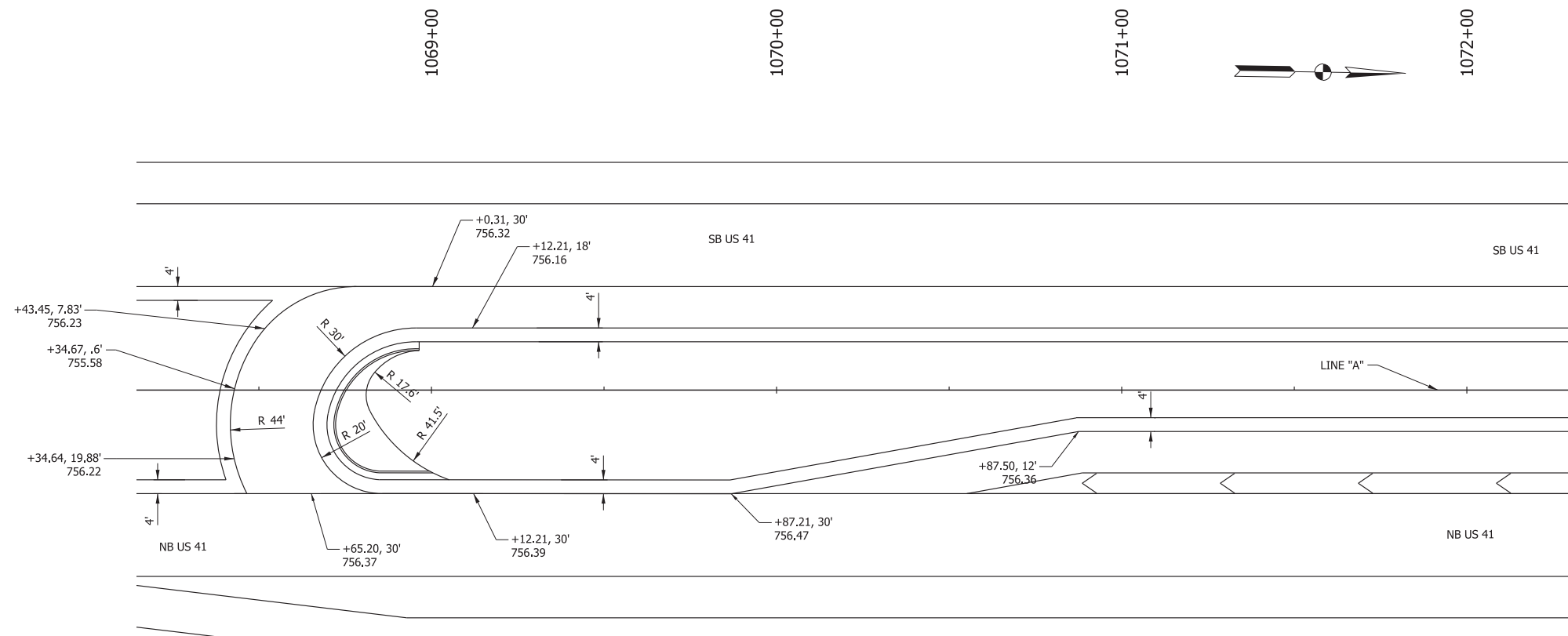
SPOT ELEVATION DETAILS
US41 & SR352 INTERSECTION

BRIDGE FILE	
N/A	
SCALE	DESIGNATION
1" = 20'	
SURVEY BOOK	SHEETS
ELECTRONIC	18 of 35
CONTRACT	PROJECT
T-43690	



Note to Reviewer:
Preliminary Layout displayed for STG2.
Final Spot Elevation Details to be
included in STG3 Plans.

CONSTRUCTION DETAIL - SB U-TURN US 41



CONSTRUCTION DETAIL - NB U-TURN US 41

LEGEND

See Typical Section Details for Legend.

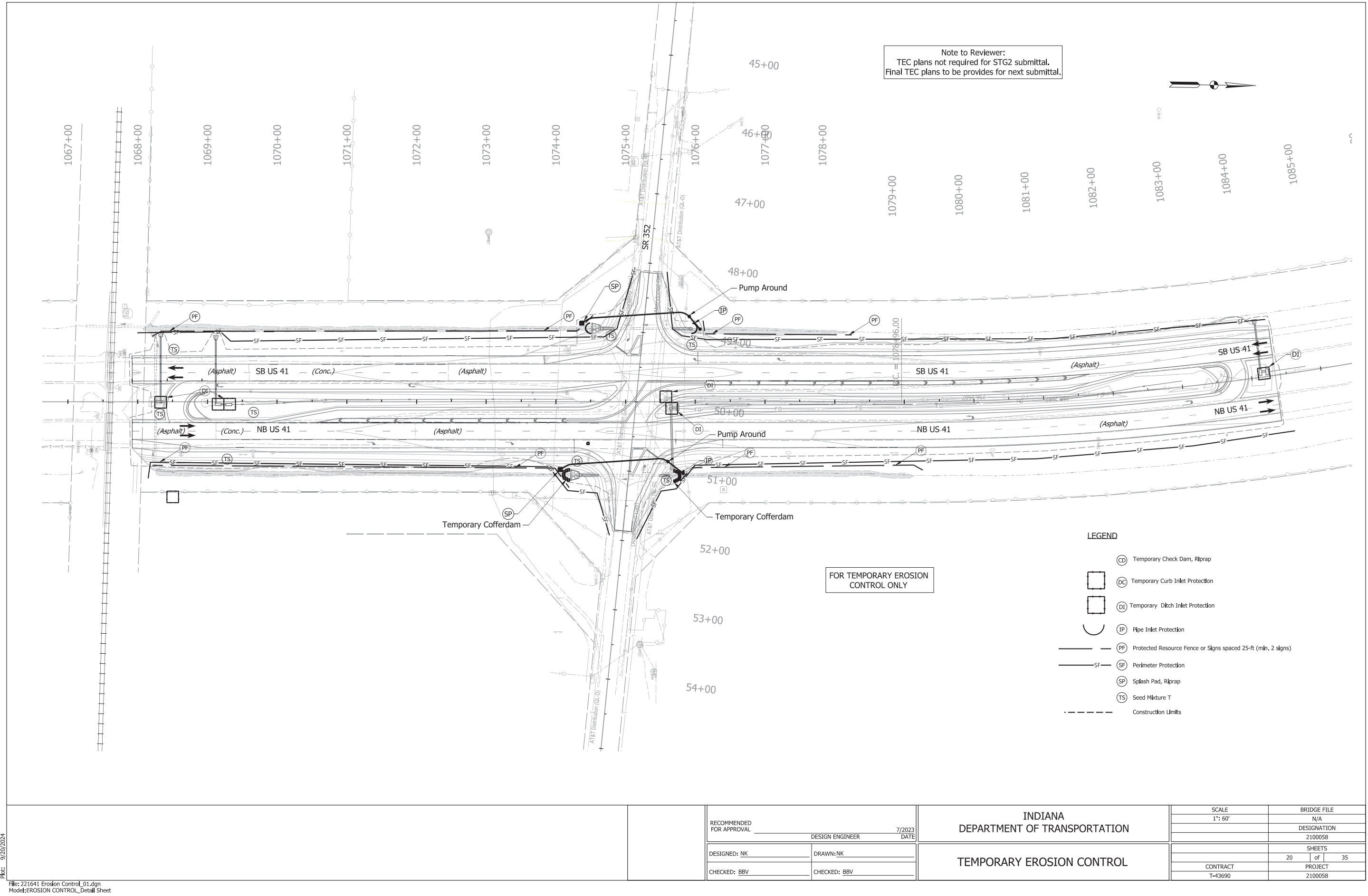
RECOMMENDED FOR APPROVAL _____	
DESIGNED: NK	DRAWN: NK
CHECKED: \$DESCKBY\$	CHECKED: BBV

INDIANA
DEPARTMENT OF TRANSPORTATION

SPOT ELEVATION DETAILS
US 41 U-TURNS

BRIDGE FILE	
N/A	
SCALE	DESIGNATION
1" = 20'	
SURVEY BOOK	SHEETS
ELECTRONIC	19 of 35
CONTRACT	PROJECT
T-43690	

221641 Sht Detail 002.dgn



Pkt: 9/20/2024

File: 221641 Erosion Control_01.dgn
Model: EROSION CONTROL_Detail Sheet

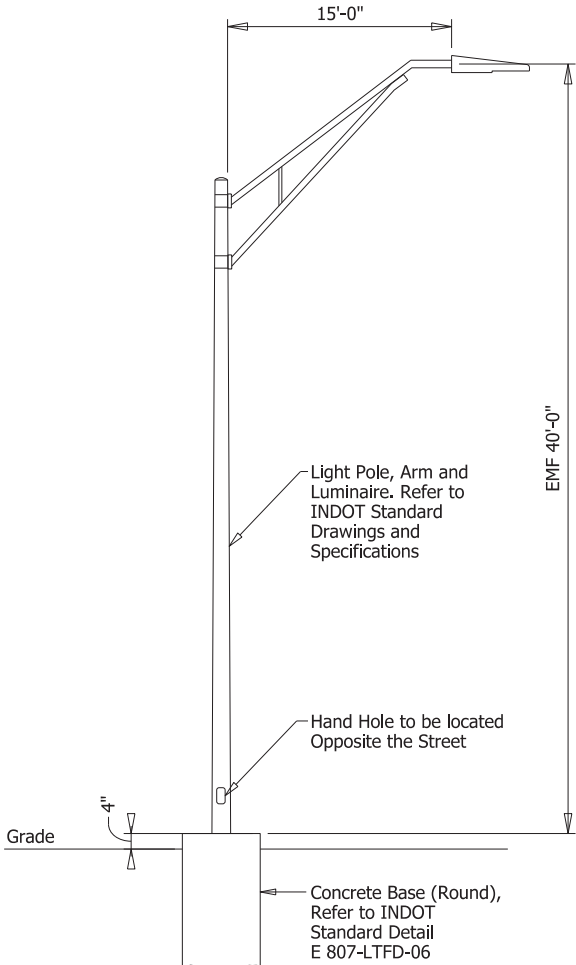
LUMINAIRE AND POLE INFORMATION SCHEDULE														
LUMINAIRE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CIRCUIT NO.	A-1	A-1	A-1	A-1	A-1	A-1	A-2	A-2	A-2	A-2	A-3	A-3	A-3	A-3
CIRCUIT CONNECTION (R-RED, B-BLACK)	B	R	B	R	B	R	B	R	B	R	B	R	B	R
STATION - Line "A"	1069+94	1072+45	1074+70	1077+70	1080+22	1082+80	1068+66	1071+18	1073+68	1075+62	1076+42	1078+92	1081+38	1083+85
	74' LT	74' LT	93' LT	86' LT	86' LT	86' LT	86' RT	86' RT	86' RT	92' RT	74' RT	74' RT	74' RT	74' RT

Note: Station and Offset locations are at proposed pole.

LIGHTING FIXTURE SCHEDULE						
SERVICE POINT	SERVICE TYPE	VOLTAGE	MAIN BREAKER	BRANCH CIRCUIT COLOR	BRANCH CIRCUIT DESIGN LOAD	BRANCH CIRCUIT BREAKER
A	-	120/240V	-	BLACK RED	- -	- -

LIGHTING FIXTURE SCHEDULE								
TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMP	VOLTAGE	MOUNTING	REMARKS
A	See Legend	INDOT Standard LED	AMERICAN ELECTRIC LIGHTING	ATBO-P305-MVOLT-R4-4K	LED	120	ARM	-
A		INDOT Standard 15' ARM E-807-LTST	-	-	-	-	-	-
A		INDOT Standard 40' POLE E-807-LTST	-	-	-	-	-	-

HANDHOLE LOCATIONS						
HANDHOLE NO.	1	2	3	4	5	6
CONDUIT DIRECTION	North	-	East	North	-	-
CONDUIT LENGTH (FT)	87	-	160	101	-	-
STATION - Line "A"	1074+80	1075+65	1076+25	1074+52	1075+52	1076+25
	120' LT	118' LT	86' LT	94' RT	97' RT	77' RT



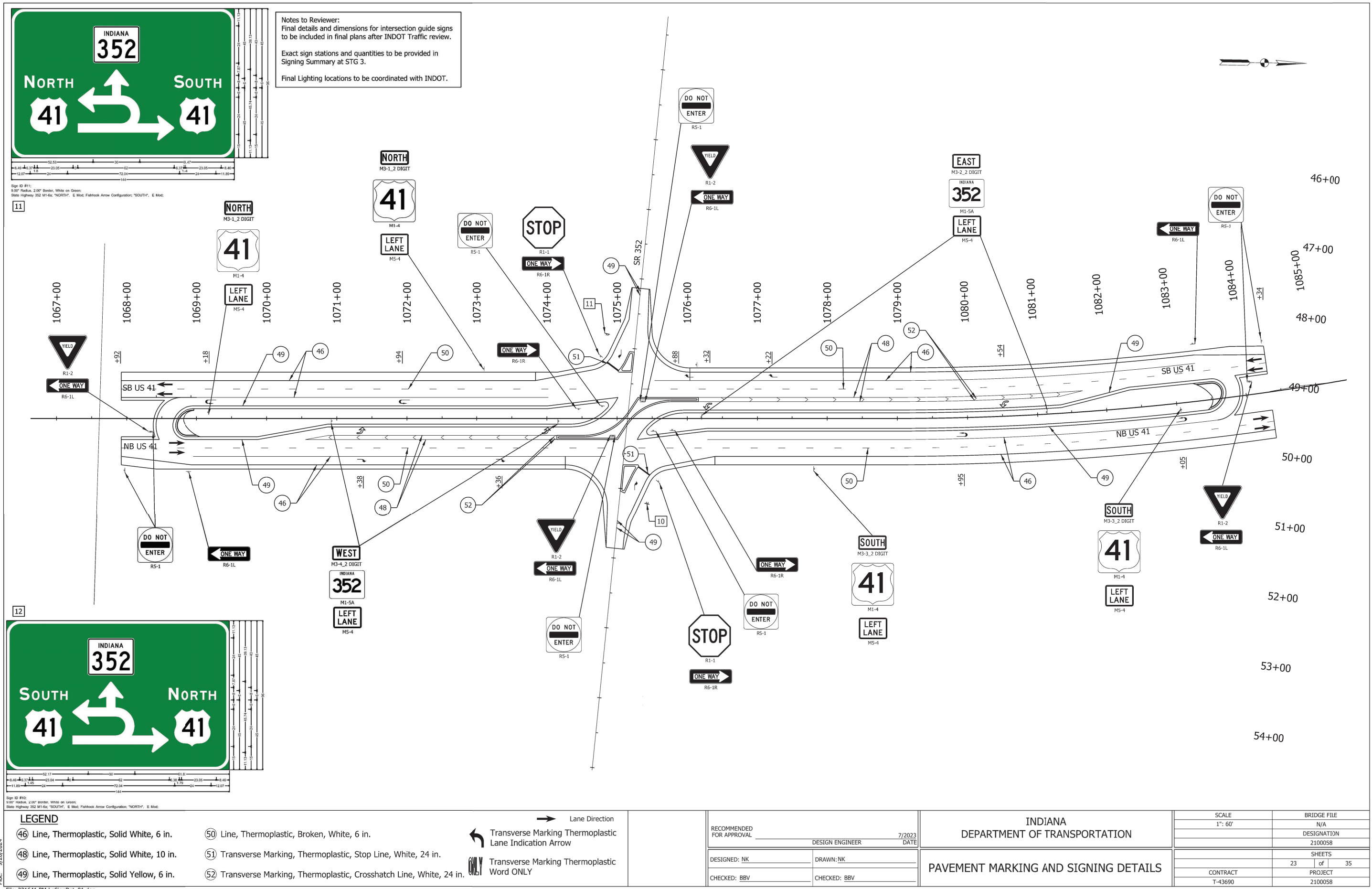
LIGHT POLE DETAIL
SCALE: Not to Scale

NOTE TO REVIEWER:
Lighting Details to be Finalized
for Stage 3 Plans Submittal.

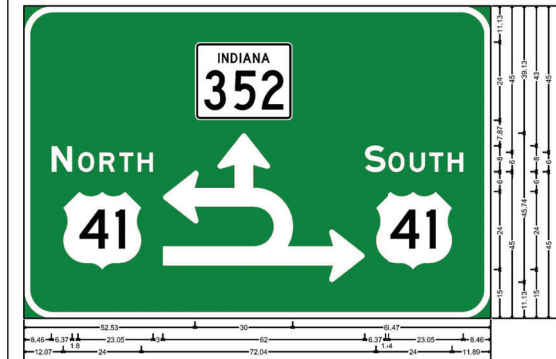
Pkt: 9/20/2024

File:
Model:Default

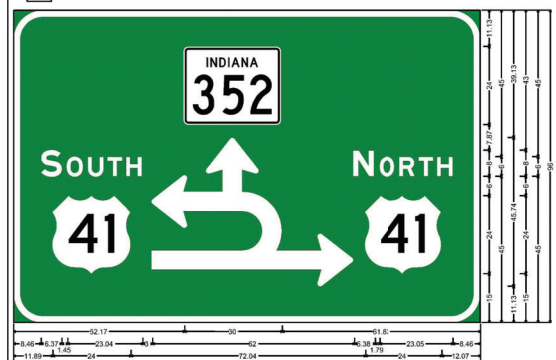
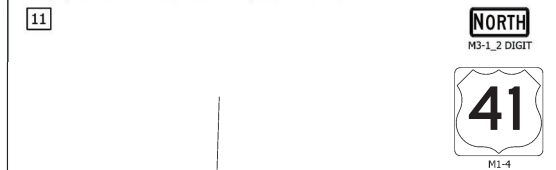
		RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION	SCALE NTS			
							DESIGNATION 2100058	
		DESIGNED: <u>NSK</u>			DRAWN: <u>NSK</u>			
		CHECKED: <u>AF</u>			CHECKED: <u>AF</u>			
				LIGHTING DETAILS AND SCHEDULES			SHEETS 22 of 35	
					CONTRACT T-43690		PROJECT 2100058	



Notes to Reviewer:
Final details and dimensions for intersection guide signs to be included in final plans after INDOT Traffic review.
Exact sign stations and quantities to be provided in Signing Summary at STG 3.
Final Lighting locations to be coordinated with INDOT.



Sign ID #11:
9.00' Radius, 2.00' Border, White on Green.
State Highway 352 M-4a, "NORTH", E Mod, Flashback Arrow Configuration, "SOUTH", E Mod.



Sign ID #12:
9.00' Radius, 2.00' Border, White on Green.
State Highway 352 M-4a, "SOUTH", E Mod, Flashback Arrow Configuration, "NORTH", E Mod.

LEGEND			
46 Line, Thermoplastic, Solid White, 6 in.	50 Line, Thermoplastic, Broken, White, 6 in.	→ Lane Direction	
48 Line, Thermoplastic, Solid White, 10 in.	51 Transverse Marking, Thermoplastic, Stop Line, White, 24 in.	↖ Transverse Marking Thermoplastic Lane Indication Arrow	
49 Line, Thermoplastic, Solid Yellow, 6 in.	52 Transverse Marking, Thermoplastic, Crosshatch Line, White, 24 in.	ONLY Transverse Marking Thermoplastic Word ONLY	

RECOMMENDED FOR APPROVAL _____ 7/2023 DATE	
DESIGNED: NK	DRAWN: NK
CHECKED: BBV	CHECKED: BBV

INDIANA DEPARTMENT OF TRANSPORTATION	
PAVEMENT MARKING AND SIGNING DETAILS	

SCALE 1" = 60'	BRIDGE FILE N/A
	DESIGNATION 2100058
	SHEETS 23 of 35
CONTRACT T-43690	PROJECT 2100058

Plot: 9/20/2024

File: 221641 PMrkSignDet_01.dgn
Model: PMRKING_Detail Sheet

APPENDIX C: EARLY COORDINATION

Early Coordination Package
Early Coordination Responses



INDIANA DEPARTMENT OF TRANSPORTATION

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

Eric Holcomb, Governor
Michael Smith, Commissioner

February 2, 2024

Re: Early Coordination Letter, INDOT Des. No.: 2100058, Roadway Project on US 41 and SR 352, approximately 4 Miles North of SR 26 and 7 Miles South of SR 18, Benton County, Indiana

To Whom It May Concern:

The Indiana Department of Transportation (INDOT), with federal funding, intends to proceed with a project involving the aforementioned roadway project in Benton County. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above designation numbers and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

This project is located at the intersection of US 41 and State Road (SR) 352, approximately 4 miles north of SR 26 and 7 miles south of SR 18, in Benton County. This section of US 41 is a four-lane divided Rural - Principal Arterial roadway that contains two 12-foot (ft) wide travel lanes with 10-ft wide outside shoulders and 4-ft wide median shoulders in each direction. SR 352 is a two-lane undivided Rural - Major Collector roadway that contains two 11-ft wide travel lanes with 1-ft wide shoulders. There are two culverts within the project limits. A 36-inch (in.) diameter corrugated metal pipe (CMP) culvert is located under SR 352 west of US 41 and a 30-in. diameter polyvinyl chloride (PVC) pipe inside of a CMP culvert is located under SR 352 east of US 41. Multiple median inlets are located in the US 41 grass median within the project limits. The median inlets drain east and west into the existing roadside ditches along US 41. No guardrail or other standard safety features exist at the intersection, but there is existing guardrail along US 41 southbound near the project's southern terminus. Potential work on the guardrail is anticipated to be limited to improved end sections along US 41. The draft need is due to the intersection experiencing an above normal number of crashes and crash severity for an unsignalized rural state intersection. This intersection has an index crash frequency (ICF) of 0.57 and the Index of Crash Costs (ICC) of 1.01. An ICF and ICC above 0 and close to 1 indicates that the number of crashes and their severity are slightly higher than usual. The draft purpose is to improve public safety by reducing the number of crashes at this intersection and to reduce right angle crashes. The approximate existing right-of-way is 130–145 ft on each side of the US 41 centerline and 25 ft on each side of the SR 352 centerline throughout the project area.

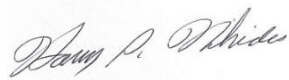
Reduced Conflict

The proposed project is anticipated to construct a ~~Restricted Crossing~~ Intersection (RCI) at the US 41 and SR 352 intersection. This type of intersection would eliminate the left turn and through movements from SR 352 approaches. To accommodate these movements, the RCI intersection would require SR 352 drivers to turn right onto the US 41 and then make a U-turn maneuver at a one-way median opening at least 400 ft after the intersection in both directions. US 41 traffic would still be allowed to turn left on SR 352. The US 41 and SR 352 roadways would be milled and resurfaced after the completion of adding the median U-turns and center medians. Both SR 352 culverts would need to be extended or replaced. There would also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median. New 18-in. diameter culverts would be installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections. The project would occur within existing INDOT right-of-way. No permanent or temporary right-of-way are anticipated to be required. The project will be approximately 0.313 mile in length. The proposed method of traffic maintenance is anticipated to require phased lane closures for US 41 and eventual roadway closure and restrictions for SR 352 at the US 41 intersection. A detour route would utilize SR 26, SR 55, and US 41 during construction. No trees are anticipated to be cleared as part of this project. The project is anticipated to begin construction in Spring 2026.

The INDOT Environmental Services Division (ESD) Ecology & Waterway Permitting Office (EWPO) will review the waters and wetlands determinations completed by ASC Group, Inc. to identify any ecological resources that may be present. The project is anticipated to qualify for the Range-wide Programmatic Agreement for the Indiana bat and northern long-eared bat by completing the Information for Planning and Consultation (IPaC). Coordination will occur with INDOT Cultural Resources Office (CRO) to evaluate the project area for archaeological and historic resources and for Section 106 compliance. The results of this investigation will be forwarded to the State Historic Preservation Officer (SHPO) for review and concurrence as appropriate.

Please provide your response within thirty (30) calendar days from the date of this letter. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Harry Nikides, Indiana Regional Manager, at hnikides@ascgroup.net or 317.915.9300, ext. 100 or Kaitlyn ~~McDaniel~~, INDOT Project Manager, at KaMedaniel@indot.IN.gov or 765-361-5561. Thank you in advance for your input. **Taylor** **KatTaylor@indot.IN.gov** **5610**

Sincerely,



Harry Nikides
Indiana Regional Manager
ASC Group, Inc.

cc: Harry Nikides, ASC Group, Inc.
Robert Iverson, Fishbeck

Attachments:

List of Agencies
Maps/Graphics (Location, Topographic, Aerial, and Photographs)

Sample Recipient List



INDIANA DEPARTMENT OF TRANSPORTATION

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

Eric Holcomb, Governor
Michael Smith, Commissioner

The following agencies received Early Coordination Letters:

Federal Highway Administration (FHWA)
Federal Office Building, Room 254
575 North Pennsylvania Street
Indianapolis, IN 46204

(Electronic Coordination)

Kari Carmany-George – Crawfordsville, Greenfield, and
LaPorte Districts k.carmanygeorge@dot.gov

Chief, Groundwater Section
Indiana Department of Environmental Management (IDEM)
100 North Senate Avenue
Indianapolis, IN 46204
(Electronic Coordination)
ATurnbow@idem.IN.gov

Indiana Geological and Water Survey (IGWS)
611 North Walnut Grove
Bloomington, IN 47405
(Electronic Coordination)
<https://igws.indiana.edu/eAssessment>

Environmental Coordinator
Indiana Department of Natural Resources-Division of Fish and
Wildlife (IDNR-DFW)
402 West Washington Street, Room W273
Indianapolis, IN 46204
(Electronic Coordination)
environmentalreview@dnr.in.gov

Field Environmental Officer
Chicago Regional Office
U.S. Department of Housing and Urban Development
Metcalf Federal Building
77 West Jackson Boulevard, Room 2401
Chicago, IL 60604
(Electronic Coordination)
Erik.r.sandstedt@hud.gov

INDOT
Crawfordsville District – Environmental Section Manager
41 West 300 North
Crawfordsville, IN 47933
(Electronic Coordination)
RKurtz@indot.in.gov

INDOT
Crawfordsville District – Project Manager
41 West 300 North
Crawfordsville, IN 47933
(Electronic Coordination)
~~KaMedaniel@indot.IN.gov~~ **KatTaylor@indot.IN.gov**

INDOT
Office of Aviation
100 North Senate Avenue, Room 955
Indianapolis, IN 46204
(Electronic Coordination)
Tyler Lewandowski – tlewandowski@indot.in.gov

State Conservationist
Natural Resources Conservation Service (NRCS)
6013 Lakeside Boulevard
Indianapolis, IN 46278
(Electronic Coordination)
john.allen@usda.gov

Benton County Council
706 East 5th Street
Fowler, IN 47944
(Electronic Coordination)
Jacqueline.steinmetz@primient.com

Benton County Commissioner Members
District 1 – Grant, Hickory Grove, Oak Grove North, Oak
Grove South, and Bolivar Townships
706 East 5th Street
Fowler, IN 47944
(Electronic Coordination)
jfields3536@gmail.com

Benton County Highway Supervisor
920 East CR 800 North
Chrisney, IN 47611
(Electronic Coordination)
schwy@psci.net

Benton County Surveyor
706 East 5th Street; Suite 17
Fowler, IN 47944
(Electronic Coordination)
dfisher@bentoncounty.in.gov

Town of Boswell Council President
108 West Main Street
Boswell, IN 47921
(Electronic Coordination)
brodygmike@gmail.com

Town of Boswell Street/Water Department
108 West Main Street
Boswell, IN 47921
(Electronic Coordination)
bw@townofboswell.com

Benton Community Schools
405 South Grant Avenue
P.O. Box 512
Fowler, IN 47944

Benton County Sheriff's Department & Jail
105 South Lincoln Avenue
Fowler, IN 47944

Benton County Emergency Services
604 East 2nd Street, Suite C
Fowler, IN 47944

Boswell-Grant Township Fire Department
307 West North Street
Boswell, IN 47921

Sent 7-15-2024 only:

Boswell Water Department
RE: Wellhead Protection Area
108 B East Main Street
Boswell, IN 47921
(Electronic Coordination)
Turner.jim59@yahoo.com

RFI contacts:

INDOT Utilities and Railroads
RE: One Kankakee Beaverville and Southern Railroad segment Adjacent to Project
RE: One Northern Indiana Public Service Co. pipeline segment Within the Project
Utilities and Railroad Director
100 North Senate Avenue IGCN 758 - UT/RR
Indianapolis, IN 46204
(Electronic Coordination)
saanderson2@indot.in.gov

IDEM Office of Land Quality
RE: Antique Landfill – Boswell Dump Adjacent to Project
100 North Senate Avenue
Indianapolis, IN 46204
(Electronic Communication)
Kim Vedder kvedder@idem.in.gov

Dollar General Store 21911
RE: NPDES Facility – Dollar General Store 21911 Adjacent to Project
215 N Old US Highway 41
Boswell, IN 47921



INDIANA GEOLOGICAL
& WATER SURVEY
INDIANA UNIVERSITY

Organization and Project Information

Project ID:

Des. ID:

Project Title: US 41 & SR 352 ATL DES 2100058

Name of Organization: ASC Group, Inc.

Requested by: Cameron Berry

Environmental Assessment Report

1. Geological Hazards:

- Moderate liquefaction potential
- 1% Annual Chance Flood Hazard

2. Mineral Resources:

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

3. Active or abandoned mineral resources extraction sites:

- None documented in the area

*Map layers from the [Indiana Geological and Water Survey](#) and [Indiana Map](#)

DISCLAIMER:

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

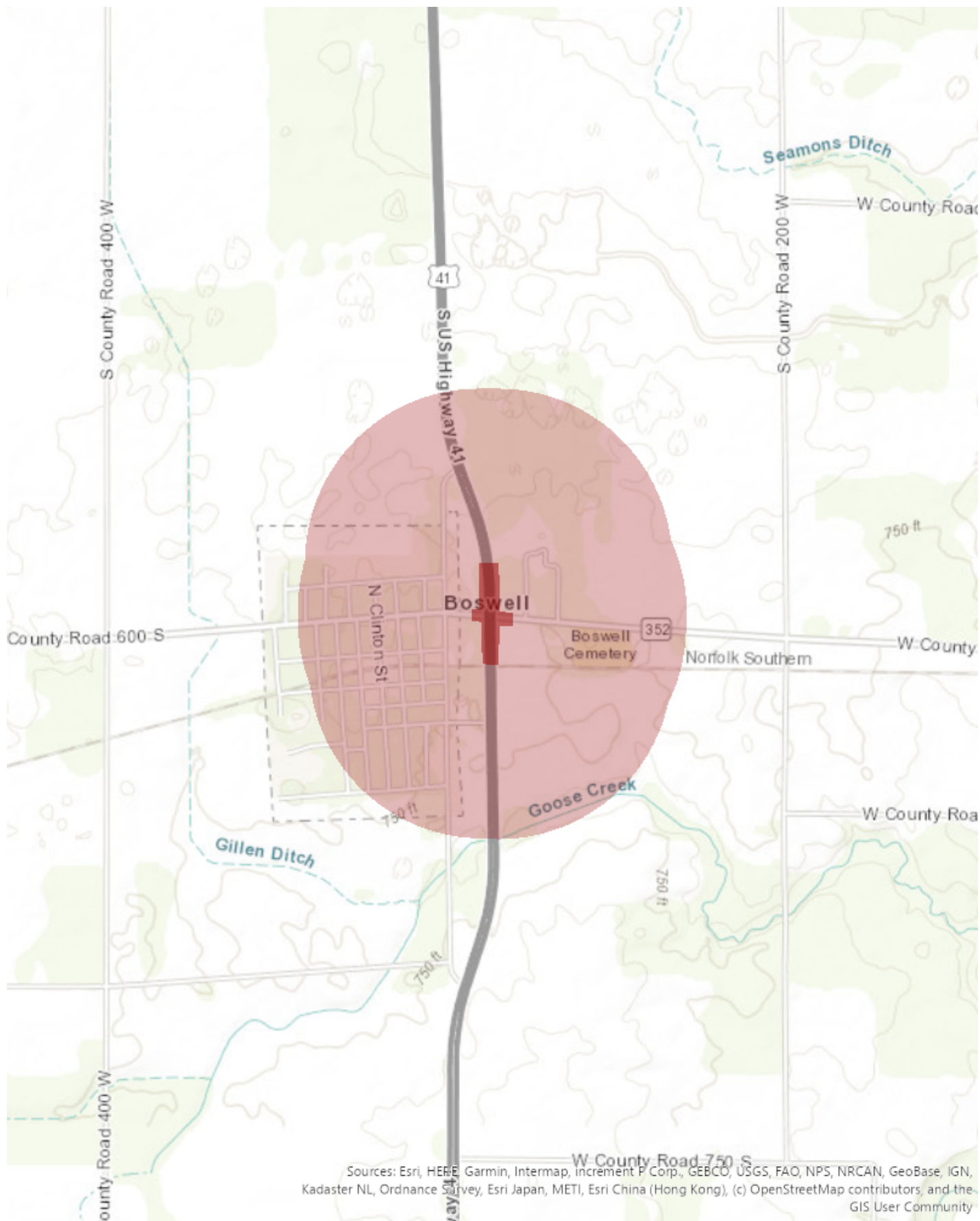
This information was furnished by Indiana Geological Survey

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

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: October 27, 2023



Metadata:

- https://portal.igs.indiana.edu/arcgis/rest/services/Seismic_Earthquake_Liquefaction_Potential/MapServer/info/metadata
- https://portal.igs.indiana.edu/arcgis/rest/services/Industrial_Minerals_SandAndGravel_Resources/MapServer/info/metadata
- https://gisdata.in.gov/server/rest/services/Hosted/FIRM_Flood_Hazard_Zones_2023/FeatureServer/info/metadata
- https://portal.igs.indiana.edu/arcgis/rest/services/Bedrock_Geology/MapServer/info/metadata

Jennifer Rhodes

From: Lewandowski, Tyler <TLewandowski@indot.IN.gov>
Sent: Monday, February 5, 2024 7:53 AM
To: Cameron Berry; Mcdaniel, Kaitlyn; Harry Nikides
Cc: 'Iversen, Rob'; Prasad, Dandi
Subject: RE: Des 2100058 Roadway Project on US 41 and SR 352 - Early Coordination Letter

Good morning,

After review, no tall structure permit is required for the project if all equipment being used is under 200 feet in height. Please let our office know if you have any further questions.

Thank you,

Tyler Lewandowski
Project Manager
INDOT Office of Aviation
(317) 495-4875
tlewandowski@indot.in.gov
www.aviation.indot.in.gov



From: Cameron Berry <cberry@ascgroup.net>
Sent: Friday, February 2, 2024 4:55 PM
To: Mcdaniel, Kaitlyn <KaMcdaniel@indot.IN.gov>; hNikides <hnikides@ascgroup.net>
Cc: 'Iversen, Rob' <riversen@fishbeck.com>; Prasad, Dandi <dvprasad@fishbeck.com>
Subject: Des 2100058 Roadway Project on US 41 and SR 352 - Early Coordination Letter

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

Des. No.: 2100058

Project Description: US 41 and SR 352 Roadway Project, approximately 4 miles north of SR 26 and 7 miles south of SR 18

Location: Benton County, Indiana

INDOT and FHWA are in the planning stage for a roadway project on US 41 and SR 352, Benton County, Indiana.

This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding potential environmental impacts with recommendations for avoidance, minimization, and mitigation.

Federal Highway Administration (FHWA)
Indiana Department of Environmental Management (IDEM) Wellhead Proximity Determinator
Indiana Geological & Water Survey (IGWS)
Indiana Dept. of Natural Resources-Division of Fish and Wildlife (IDNR-DFW)
US Dept. of Housing and Urban Development
INDOT –Crawfordsville District

February 12, 2024

Cameron Berry
ASC Group
9376 Castlegate Drive
Indianapolis, Indiana 46256

Dear Mr. Berry:

The purposed US 41 and SR 352 Roadway Project, approximately 4 miles north of SR 26 and 7 miles south of SR 18 in Benton County, Indiana (Des. No. 2100058) as referred to in your letter received February 2, 2024, will not cause a conversion of prime farmland.

If you need additional information, please contact John Allen at 317-295-5859 or john.allen@usda.gov.

Sincerely,

JOHN ALLEN

Digitally signed by JOHN ALLEN

Date: 2024.02.13 12:34:49 -05'00'

JOHN ALLEN
State Soil Scientist

Enclosures

Jennifer Rhodes

From: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Sent: Wednesday, February 14, 2024 1:22 PM
To: Cameron Berry
Cc: Harry Nikides; Mcdaniel, Kaitlyn; Moncznik, Adam; Prasad, Dandi
Subject: RE: Des 2100058 Roadway Project on US 41 and SR 352 - Early Coordination Letter
Attachments: Proximity to WPA (2100058).pdf

Hi Cameron,

Find attached to this email a response to the proximity request for Des No 2100058.

Des No 2100058 is located in Boswell Water Department's Wellhead Protection (WHP) Area. The contact for Boswell Water Department is Jim Turner and they can be reached at turner.jim59@yahoo.com and 765-366-5454.

Let me know what questions you have.

Sincerely,



Alisha Turnbow
Environmental Manager
Office of Water Quality
Drinking Water Branch, Groundwater Section

(317) 233-9158 • aturnbow@idem.IN.gov

Indiana Department of Environmental Management



IDEM values your feedback.

Please take two minutes and complete this brief survey.



From: Cameron Berry <cberry@ascgroup.net>
Sent: Friday, February 2, 2024 5:34 PM
To: Turnbow, Alisha <ATurnbow@idem.IN.gov>
Cc: hNikides <hnikides@ascgroup.net>; Mcdaniel, Kaitlyn <KaMcdaniel@indot.IN.gov>; Moncznik, Adam <amoncznik@fishbeck.com>; Prasad, Dandi <dvprasad@fishbeck.com>
Subject: Des 2100058 Roadway Project on US 41 and SR 352 - Early Coordination Letter

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

Des. No.: 2100058

Project Description: US 41 and SR 352 Roadway Project, approximately 4 miles north of SR 26 and 7 miles south of SR 18

Location: Benton County, Indiana

INDOT and FHWA are in the planning stage for a roadway project on US 41 and SR 352, Benton County, Indiana.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

February 14, 2024

ASC Group, Inc.
Attention: Cameron Berry
9376 Castlegate Drive
Indianapolis, IN 46256

Dear Cameron Berry:

Re: Wellhead Protection Area
Proximity Determination
Des No 2100058
Roadway Project on US 41 and SR 352,
approximately 4 Miles North of SR 26 and 7 Miles
South of SR 18, Benton County, Indiana

Upon review of the above referenced project site, it has been determined that the proposed project area **is located within** a Wellhead Protection Area. If the contact information is needed for the WHPA, please contact the reference located at the bottom of the letter for the appropriate information. The information is accurate to the best of our knowledge; however, there are in some cases a few factors that could impact the accuracy of this determination. Some Wellhead Protection Area Delineations have not been submitted, and many have not been approved by this office. In these cases, we use a 3,000-foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's (PWSS's) Wellhead Protection Area Delineation please visit our tracking database at <http://www.in.gov/idem/cleanwater/2456.htm> and scroll to the bottom of the page.

The project area **is not located within** a Source Water Assessment Area for a PWSS's surface water intake. The Source Water Assessment Area relates to the surface water drainage area that water could potentially flow and influence water quality for a PWSS's source of drinking water.

In the future, **please consider using this self-service tool** if it suits your needs. The Drinking Water Branch has a self-service tool which allows one to determine wellhead proximity without submitting the application form. Go to <https://www.in.gov/idem/cleanwater/pages/wellhead/> and use the instructions at the bottom of the page.



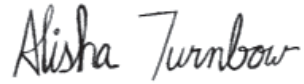
A State that Works

Please Reduce, Reuse, Recycle

Cameron Berry
Page 2

If you have any additional questions, please feel free to contact me at the address above or at 317-233-9158 and aturnbow@idem.in.gov.

Sincerely,

A handwritten signature in black ink that reads "Alisha Turnbow". The signature is written in a cursive, flowing style.

Alisha Turnbow,
Environmental Manager
Ground Water Section
Drinking Water Branch
Office of Water Quality

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

DNR#: ER-26266

Request Received: February 2, 2024

Requestor:

Harry Nikides
ASC Group Incorporated
9376 Castlegate Drive
Indianapolis, IN 46256

Project:

US 41 & SR 352 intersection improvements via construction of a Restricted Crossing Intersection (RCI) to eliminate the left turn and through movements from SR 352 approaches, and two SR 352 culvert extensions/replacements, 4 miles north of SR 26 and 7 miles south of SR 18; Des #2100058

County/Site Info: Benton County

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

Regulatory Assessment:

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

Natural Heritage Database:

The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

Fish and Wildlife Comments:

Avoid and minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts. The following are recommendations that address potential impacts identified in the proposed project area:

A) Pavement Rehabilitation

Pavement rehabilitation projects typically do not have a significant impact on fish, wildlife, and botanical resources if best management practices (BMPs) are in place to limit the migration of polycyclic aromatic hydrocarbons (PAHs) into local waterways. PAHs are a byproduct of asphalt and coal tar-based sealants and negatively impact aquatic systems. The use of sealants that are free of petroleum and coal tar-based products is encouraged whenever possible. Contaminated road runoff can significantly impact the aquatic environment through increased turbidity and release of sediment into the stream which can be harmful to fish and other aquatic organisms, their eggs, and their food supply. Where possible, road runoff should be directed to riprap turnouts and sediment filtration prior to entering a stream to reduce impacts to aquatic species. We recommend the use of pollutant trapping technology such as storm drain inserts to reduce the runoff of roadside pollutants where appropriate.

B) Drainage and Stormwater Management

The Division of Fish and Wildlife recommends considering a more sustainable approach to stormwater management. The traditional model of stormwater management aims to drain runoff as quickly as possible with the help of channels and pipes, which increases peak flows and costs of stormwater management. This type of solution only transfers drainage problems from one section of a basin to another. A more sustainable approach should aim to rebuild the natural water cycle by using storage techniques (retention basins, constructed wetlands, raingardens, etc.) and recharging groundwater using infiltration techniques (infiltration basins or trenches, pervious pavement, etc.). The following links give a good overview of traditional and sustainable stormwater management systems and their pros and cons for consideration during the design of the proposed project: <https://www.epa.gov/greeningepa/epa-facility-stormwater-management>; <https://www.epa.gov/greeningepa/stormwater-management-practices-epa-facilities>.

C) Wildlife Passage

Maintaining or improving fish and wildlife passage at existing and proposed crossings is a priority for the Division of Fish and Wildlife (DFW) to reduce wildlife mortality along roadways. The DFW has outlined different requirements for different types of crossing structure impacts. For crossing replacements, the new structure must include wildlife passage appropriate for the type of replacement structure being proposed. Wildlife passage designs should include a smooth level pathway preferably 3 feet wide but a minimum of 1-2 feet in width composed of natural substrate (soil, sand, gravel, etc.) or compacted aggregate fill over riprap (#2, #53, #73, etc.) tied into existing elevations both upstream and downstream. The stream crossing repairs or modifications, and any bank stabilization under or around the structure, must not create conditions that are less favorable for wildlife passage when compared to existing conditions. Upgrading wildlife passage for rehabilitated/modified structures is encouraged whenever possible to improve wildlife/vehicle safety.

There are several techniques and materials for incorporating wildlife passage into the design of a crossing structure. Coordination with a Regional Environmental Biologist to address wildlife passage issues before submitting a permit application (if required) is encouraged to avoid delays in the permitting process. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage:

<https://www.fs.usda.gov/ccrc/tool/fishxing-fish-passage-learning-systems>
<https://www.fs.usda.gov/wildlifecrossings/library/index.php>
https://www.fhwa.dot.gov/clas/ctip/wildlife_crossing_structures/
<https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf>

D) Landscaping

Consider using native plants for any proposed on-site landscaping and revegetation. The following is a link to information on landscaping with native plants on the Indiana Native Plant Society (INPS) website: <https://indiananativeplants.org/landscaping/>.

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

1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits all tree and brush clearing.
3. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

4. If erosion control blankets are used, they shall be heavy-duty, biodegradable, and net free or use loose-woven/Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff:

Our agency appreciates this opportunity to be of service. Please contact me at RVanVoorhis@dnr.IN.gov or (317) 232-8163 if we can be of further assistance.

Rachel Van Voorhis
Rachel Van Voorhis
Environmental Coordinator
Division of Fish and Wildlife

Date: March 1, 2024



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273



In Reply Refer To:

08/16/2024 00:50:24 UTC

Project Code: 2024-0018435

Project Name: DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/>

[s7process/index.html](https://www.fws.gov/s7process/index.html). This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects and projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both

migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. **Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.**

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Indiana Ecological Services Field Office

620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

PROJECT SUMMARY

Project Code: 2024-0018435
Project Name: DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes

Project Type: Road/Hwy - Maintenance/Modification

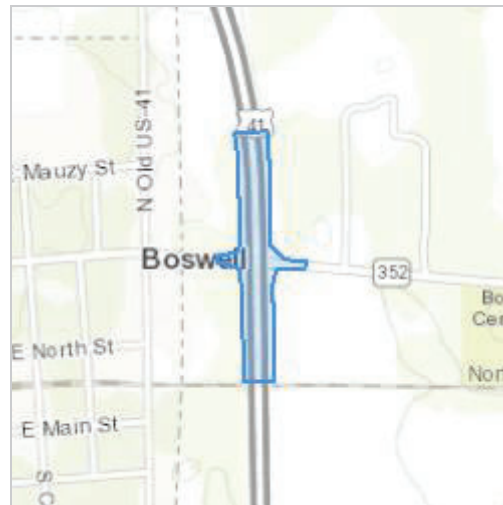
Project Description: The Indiana Department of Transportation (INDOT) is in the planning stage for a proposed intersection improvement project involving the addition of turn lanes at US 41 and SR 352, 4.1 miles north of SR 26 in Benton County, Indiana (Des No. 2100058).

Reduced Conflict Intersection (RCI)

Proposed work will include the construction of a reduced conflict intersection. Specifically, a ~~restricted crossing U-Turn (RCUT)~~ will be constructed at the intersection of US 41 and SR 352. US 41 and SR 352 will be milled and resurfaced after the completion of adding the median U-turns and center medians. A 36-inch corrugated metal pipe (CMP) culvert is located under SR 352 west of US 41 and will need to be extended or replaced. A 30-inch polyvinyl chloride (PVC) pipe inside of a CMP culvert is located under SR 352 east of US 41; the culvert will need to be extended or replaced. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median with new 18-inch culverts installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections. There is suitable summer bat habitat within and near the project area, but these areas will remain undisturbed. On October 27, 2023 a review of the USFWS database by INDOT Environmental District did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. No tree trimming or clearing will occur as part of this project. Construction is anticipated to occur in spring and summer of 2026.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.52124365,-87.37606748367007,14z>



Counties: Benton County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Whooping Crane <i>Grus americana</i> Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non- Essential

CLAMS

NAME	STATUS
Salamander Mussel <i>Simpsonaias ambigua</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Western Regal Fritillary <i>Argynnis idalia occidentalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/12017	Proposed Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act¹ and the Migratory Bird Treaty Act².

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats³, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Bald and Golden Eagle Protection Act](#) of 1940.
 2. The [Migratory Birds Treaty Act](#) of 1918.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats³ should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "[Supplemental Information on Migratory Birds and Eagles](#)".

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9454	Breeds May 20 to Jul 31

NAME

BREEDING SEASON

Chimney Swift *Chaetura pelagica*

Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9406>

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)

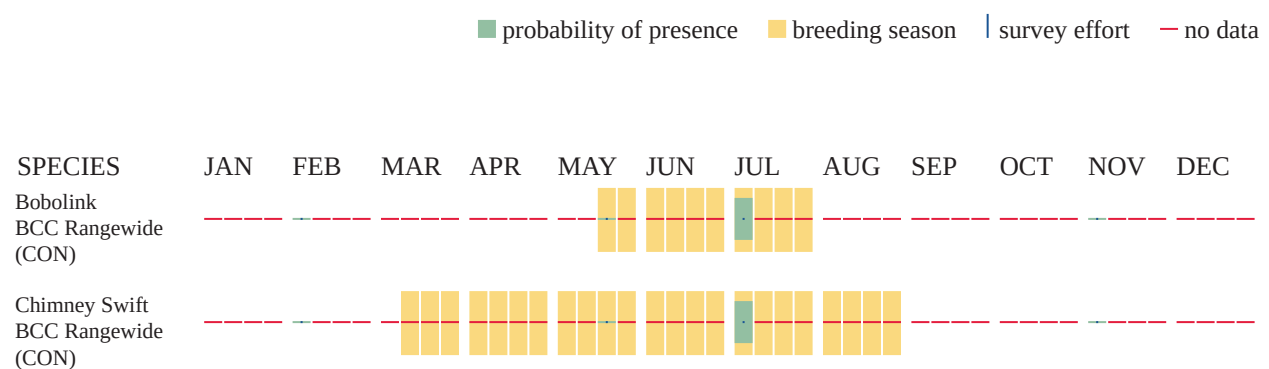
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>

- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

Agency: ASC Group, Inc.

Name: Cameron Berry

Address: 9376 Castlegate Dr

City: Indianapolis

State: IN

Zip: 46256

Email: cberry@ascgroup.net

Phone: 3179159300

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Indiana Department of Transportation



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273



In Reply Refer To:

03/21/2024 14:49:54 UTC

Project code: 2024-0018435

Project Name: DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes

Subject: Concurrence verification letter for the 'DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated March 21, 2024 to verify that the **DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures. **At least one of the qualification interview questions indicated an activity or portion of your project is consistent with a not likely to adversely affect determination therefore, the overall determination for your project is, may affect, and is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the endangered northern long-eared bat (*Myotis septentrionalis*).** Consultation with the Service pursuant to section 7(a)(2) of ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is required.

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed

Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities: If your initial bridge/culvert or structure assessment documented signs of bat use or occupancy, or an assessment failed to detect Indiana bats and/or NLEBs, yet are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of any potential take. In these instances, potential incidental take of Indiana bats and/or NLEBs is covered under the Incidental Take Statement in the 2018 FHWA, FRA, FTA PBO (provided that the take is reported to the Service).

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required.

For Proposed Actions that include bridge/culvert or structure removal, replacement, and/or maintenance activities:

If your initial bridge/culvert or structure assessments failed to detect Indiana bats and/or NLEB use or occupancy, yet bats are later detected prior to, or during construction, please submit the Post Assessment Discovery of Bats at Bridge/Culvert or Structure Form (User Guide Appendix E) to this Service Office within 2 working days of the incident. In these instances, potential incidental take of Indiana bats and/or NLEBs may be exempted provided that the take is reported to the Service.

If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

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

- Monarch Butterfly *Danaus plexippus* Candidate
- Salamander Mussel *Simpsonaias ambigua* Proposed Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

PROJECT DESCRIPTION

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

NAME

DES No. 2100058, US 41 & SR 352 Intersection Improvement, Added Turn Lanes

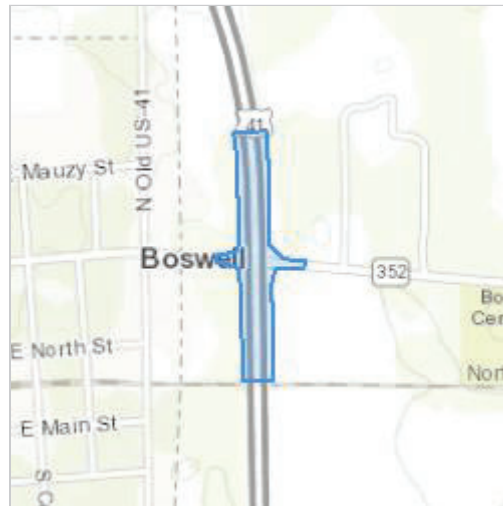
DESCRIPTION

The Indiana Department of Transportation (INDOT) is in the planning stage for a proposed intersection improvement project involving the addition of turn lanes at US 41 and SR 352, 4.1 miles north of SR 26 in Benton County, Indiana (Des No. 2100058).

Reduced Conflict Intersection (RCI)

Proposed work will include the construction of a reduced conflict intersection. Specifically, a ~~restricted crossing U-Turn (RCUT)~~ will be constructed at the intersection of US 41 and SR 352. US 41 and SR 352 will be milled and resurfaced after the completion of adding the median U-turns and center medians. A 36-inch corrugated metal pipe (CMP) culvert is located under SR 352 west of US 41 and will need to be extended or replaced. A 30-inch polyvinyl chloride (PVC) pipe inside of a CMP culvert is located under SR 352 east of US 41; the culvert will need to be extended or replaced. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median with new 18-inch culverts installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections. There is suitable summer bat habitat within and near the project area, but these areas will remain undisturbed. On October 27, 2023 a review of the USFWS database by INDOT Environmental District did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. No tree trimming or clearing will occur as part of this project. Construction is anticipated to occur in spring and summer of 2026.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.5212518,-87.37607270872478,14z>



DETERMINATION KEY RESULT

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the endangered northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

QUALIFICATION INTERVIEW

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

[1] See [Indiana bat species profile](#)

Automatically answered

Yes

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

[1] See [northern long-eared bat species profile](#)

Automatically answered

No

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

A) Federal Highway Administration (FHWA)

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

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

No

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

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

No

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

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

No

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

No

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

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

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [User's Guide for the Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat](#).

Yes

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

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

No

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

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

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

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

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

No

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

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

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

No

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

No

13. Does the project include slash pile burning?

No

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

Yes

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

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

Yes

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

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

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

Yes

SUBMITTED DOCUMENTS

- IN919 - Bridge Structure Bat Assessment Form.pdf <https://ipac.ecosphere.fws.gov/project/B4YF2HSKCJDY3JHOVGIBNLF14E/projectDocuments/135344942>

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

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

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

No

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

No

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

No

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

Yes

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

Yes

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

No

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

Yes

24. Will the activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the active season^[1]?

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

Yes

25. Will *any* activities that use percussives (**not including tree removal/trimming or bridge/structure work**) and/or increase noise levels above existing traffic/background levels be conducted *during* the inactive season^[1]?

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

Yes

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

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

Yes

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

No

28. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) consistent with a Not Likely to Adversely Affect determination in this key?

Automatically answered

Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the active season within undocumented habitat.

29. Are the project activities that use percussives (not including tree removal/trimming or bridge/structure work) and/or increase noise levels above existing traffic/background levels consistent with a No Effect determination in this key?

Automatically answered

Yes, because the activities are within 300 feet of the existing road/rail surface, greater than 0.5 miles from a hibernacula, and conducted during the inactive season

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

Automatically answered

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

31. **General AMM 1**

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

Yes

32. Lighting AMM 1

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

Yes

PROJECT QUESTIONNAIRE

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

N/A

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

N/A

3. Please describe the proposed bridge work:

A 36-inch corrugated metal pipe (CMP) culvert is located under SR 352 west of US 41 and will need to be extended or replaced. A 30-inch polyvinyl chloride (PVC) pipe inside of a CMP culvert is located under SR 352 east of US 41; the culvert will need to be extended or replaced. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median with new 18-inch culverts installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections.

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

Spring and Summer of 2026

5. Please enter the date of the bridge assessment:

August 22, 2023

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

LIGHTING AMM 1

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

GENERAL AMM 1

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

DETERMINATION KEY DESCRIPTION: FHWA, FRA, FTA PROGRAMMATIC CONSULTATION FOR TRANSPORTATION PROJECTS AFFECTING NLEB OR INDIANA BAT

This key was last updated in IPaC on October 30, 2023. Keys are subject to periodic revision.

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

This decision key should only be used to verify project applicability with the Service's [amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion \(dated March 23, 2023\) for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.

IPAC USER CONTACT INFORMATION

Agency: Indiana Department of Transportation

Name: Benjamin Neild

Address: 41 W. 300 N.

City: Crawfordsville

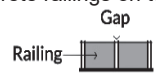
State: IN

Zip: 47933

Email: bneild@indot.in.gov

Phone: 7653615259

Bridge/Structure Bat Assessment Form

Date & Time of Assessment	8/22/2023 @ 11:00 AM	DOT Project Number	DES 2100058	Route/Facility Carried	US 41 & SR 352	County	Randolph
Federal Structure ID	N/A CLV-86826	Structure Coordinates (latitude and longitude)	40.521300, -87.376331	Structure Height (approximate)	1 Ft 36-in.	Structure Length	40 Ft
Structure Type (check one)				Structure Material (check all that apply)			
Bridge Construction Style				Deck Material Beam Material End/Back Wall Material			
☐ Cast-in-place 		☐ Pre-stressed Girder 		☐ Metal	☐ None	☐ Concrete	
☐ Flat Slab/Box 		☐ Steel I-beam 		☐ Concrete	☐ Concrete	☐ Timber	
☐ Truss 		☐ Covered 		☐ Timber	☐ Steel	☐ Stone/Masonry	
☐ Parallel Box Beam 		☐ Other:		☐ Open grid	☐ Timber	☐ Other:	
						Creosote Evidence	
						☐ Yes ☒ No	
						☐ Unknown	
Culvert Type				Culvert Material		Notes:	
☐ Box		☐ Other Structure		☒ Metal			
☒ Pipe/Round				☐ Concrete			
☐ Other:				☐ Plastic			
				☐ Stone/Masonry			
				☐ Other:			
Crossings Traversed (check all that apply)				Surrounding Habitat (check all that apply)			
☐ Bare ground		☒ Open vegetation		☒ Agricultural		☒ Grassland	
☐ Rip-rap		☒ Closed vegetation		☐ Commercial		☐ Ranching	
☐ Flowing water		☐ Railroad		☐ Residential-urban		☒ Riparian/wetland	
☐ Standing water		☒ Road/trail - Type: US 35, Paved Roadway		☒ Residential-rural		☐ Mixed use	
☐ Seasonal water		☐ Other:		☒ Woodland/forested		☒ Other: Recreational, Bike Path	
Areas Assessed (check all that apply)							
Check all areas that apply. If an area is not present in the structure, check the "not present" box.							
Document all bat indicators observed during the assessment. Include the species present, if known, and provide photo documentation as indicated.							
Area (check if assessed)		Assessment Notes		Evidence of Bats (include photos if present)			
☐ All crevices and cracks:		☐ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
☒ Bridges/culverts: rough surfaces or imperfections in concrete				☐ Guano		☐ Odor	
☐ Other structures: soffits, rafters, attic areas				☐ Staining		☐ Photos	
☒ Concrete surfaces (open roosting on concrete)		☐ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ Spaces between concrete end walls and the bridge deck		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ Crack between concrete railings on top of the bridge deck		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ Vertical surfaces on concrete I-beams		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ Spaces between walls, ceiling joists		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☒ Weep holes, scupper drains, and inlets/pipes		☐ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ All guiderails		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
☐ All expansion joints		☒ Not present		☐ Visual - live # dead #		☐ Audible	☐ Species
				☐ Guano		☐ Odor	
				☐ Staining		☐ Photos	
Name: Cameron Berry				Signature: Cameron Berry			

Jennifer Rhodes

From: VEDDER, KIM <KVEDDER@idem.IN.gov>
Sent: Wednesday, July 24, 2024 11:31 AM
To: Jennifer Rhodes
Cc: Cameron Berry; Taylor, Kaitlyn; 'Iversen, Rob'; Prasad, Dandi; RAMAN, SHYAMALA; Lu, Xuefei (Michelle)
Subject: RE: Des 2100058 Roadway Project on US 41 and SR 352 - Early Coordination Letter
Attachments: Boswell_Dump.pdf

Hi Jennifer,

Attached is the only document we have for the Boswell Dump. The location is somewhat ambiguous, which is one of the reasons it's not fully integrated with our database systems yet. The attached inspection report from 1973 refers to the location as a "Truck stop in Boswell," indicates it's approximately 400 feet east of US 41, and that the nearest dwelling is approximately 400 feet north/northwest of the dump.

In 1973, US 41 was west of where it is now (what is now called Old US 41). Our location on the map for the suspected dump corresponds to a low area on historic topographic maps. There were 2 truck stops along US 41. One was/is west of where we drew the dump. The other is the Brownfields project (AI # 111235).

We suspect the waste is in the approximate area where it is on the map, but we do not have proof. Therefore, we recommend the following:

- Initial exploratory test pits or borings should be advanced to confirm or deny the presence of waste and its extent in the proposed area of work.
- If waste is excavated, it needs to be properly disposed of in a permitted MSW Landfill. IDEM can provide guidance and approval for remediation/excavation or use of the dumps.
- Special attention should be given to leachate control during the excavation activity, including stormwater run-on and run-off controls for the excavated areas.
- Special attention should also be given to the potential for explosive gas to be present.
- All exposed waste not removed will need to be recovered with 2 feet of soil, graded and vegetated.
- If roadway and/or culvert work is to be conducted over the dump, then we will need to see a workplan for review and approval, before work can commence.

Please let us know if we can answer additional questions.



Kim Vedder

Geologist | Antique Landfill Coordinator
Permits Geology Section | Office of Land Quality
(317) 232-8714 kvedder@idem.in.gov



www.idem.IN.gov

Scan the QR code to leave your feedback.

We appreciate your input!



INDIANA STATE BOARD OF HEALTH
INSPECTION FORM FOR SOLID WASTE DISPOSAL FACILITIES

ALF 789

DATE: Aug 24, 1973 TIME: 10:21 ^{AM} _{PM} COUNTY: Benton
SUBJECT: Open Dump
LOCATION: Truck Stop in Bowell
PERSON CONTACTED: _____

I. Type of Operation: DUMP LANDFILL OTHER: _____

II. Operating Deficiencies:

- ☒ No Approval ☐ No Permit
☐ Cover Not Adequate ☒ No Cover
☐ On-Site Roads Not Adequate Or Not Of All-Weather Type
☒ Burning: ☒ Past; ☐ Present
☒ Limited Access To Public Not Sufficient
☒ Blowing Paper Problem
☐ Size Of Working Face Too Large
☐ Accumulation Of Salvage Materials
☐ Surface Drainage Problems
☐ Leaching
☒ Vector Problem: ☐ Rats; ☒ Birds; ☐ Insects
☐ Hazardous Or Prohibited Wastes Allowed (Specify Below)
☐ Unloading Procedures Problem (Specify Below)
☒ Odor Problem
☐ Refuse Dumped In Water

III. Dumps Only

Proximity To Major Highway 400' E of US 41
Proximity To Dwellings 400' NNW of Dump
Water On Site Or Nearby OK
Jurisdiction: Private County Municipal
Is There Garbage Present? Yes No
Soils Observed: _____

IV. Additional Comments:

INSPECTED BY

C-42

Robert F. Cotton

APPENDIX D: SECTION 106 OF THE NHPA

Section 106 Documentation

Minor Projects PA Project Assessment Form

Minor Projects PA Project Submittal and Assessment Form

SECTION 1

Submittal of this form is only required for projects where Category B applies. Projects qualifying under Category A do not require submittal of this form. SECTION 2 (for Conditions of Category B.1 for curb/sidewalk) or SECTION 3 (for Conditions of Category B.9 for drainage structures) may be required as determined by INDOT-Cultural Resources Office (INDOT-CRO) review. INDOT-CRO will notify applicant if the Minor Projects PA does not apply.

Part I: Project Information-Completed by Applicant (Consultant/PM/Project Sponsor/INDOT District Staff)*

*A qualified professional historian (QP) is not required to complete Part I INDOT-Cultural Resources Office (INDOT-CRO) staff will be responsible for completion of Part II.

Original Submission Date: October 26, 2023

Amended Submission Date*:

*Consult with INDOT-CRO to determine whether an amendment is required. For revisions/updates to original form, please detail in applicable sections below. Please use red font to distinguish the revisions/updates.

Submitted By (Provide Name and Firm/Organization):

Douglas S. Terpstra
ASC Group, Inc.
800 Freeway Drive North, Suite 101
Columbus, Ohio 43229
614-268-2514 x 3556
dterpstra@ascgroup.net

Project Designation Number: 2100058

Route Number: US 41 and State Road (SR) 352

Feature crossed (if applicable): N/A

City/Township: Grant Township and Town of Boswell

County: Benton

Project Description:*

The US 41 and SR 352 intersection is located approximately 4 miles north of SR 26 and 7 miles south of SR 18 in Sections 18 and 19, Township 24N, Range 8W, in Benton County, Indiana. The intersection is located in Grant Township, with the Town of Boswell on the west side of the intersection.

Reduced Conflict Intersection (RCI)

The project proposes to convert the intersection into a ~~Restricted Crossing U-Turn (RCUT) Intersection~~. The ~~RCUT~~ intersection differs from a conventional intersection by eliminating the left-turn and through movements from cross street approaches. To accommodate these movements, the ~~RCUT~~ intersection requires SR 352 drivers to turn right onto the main road and then make a U-turn maneuver at a one-way median opening at least 400 feet after the intersection. US 41 traffic will still be allowed to turn left on SR 352. The intersection would be un-signalized, and the turns (both the right and U-turns) would be stop-controlled. The following areas will be widened:

- Southbound US 41 will be widened to the outside north of the intersection to add a right turn lane onto westbound SR 352.
- Northbound US 41 will be widened to the outside south of the intersection to add a right turn lane onto eastbound SR 352.
- Southbound US 41 will be widened to the inside north of the intersection to add a left turn lane onto eastbound SR 352.

Minor Projects PA Project Submittal and Assessment Form

- Northbound US 41 will be widened to the inside south of the intersection to add a left turn lane onto westbound SR 352.

US 41 and SR 352 will be milled and resurfaced after the completion of adding the median U-turns and center medians. A 36-inch corrugated metal pipe (CMP) culvert is located under SR 352 west of US 41 and will need to be extended or replaced. A 30-inch polyvinyl chloride (PVC) pipe inside of a CMP culvert is located under SR 352 east of US 41; the culvert will need to be extended or replaced. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median with new 18-inch culverts installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections.

US 41 is a four-lane divided rural principal arterial highway, with two 12-foot-wide travel lanes with 10-foot-wide outside shoulders and 4-foot-wide median shoulders in each direction. SR 352 is a two-lane undivided major collector highway, with two 11-foot-wide travel lanes with 1-foot-wide shoulders within the project limits. Right and left turn lanes exist in both the northbound and southbound direction on US 41. The intersection is classified as an Unsignalized Rural State Intersection.

The need for the project is that the intersection is experiencing an above normal number of crashes and crash severity for an Unsignalized Rural State Intersection. There were 13 crashes at this intersection between 2015 and 2020, including one fatal crash. From the available information in the narratives of the crashes, three crashes involved incapacitating injuries, two crashes involved non-incapacitating injuries, and seven crashes involved property damage only. This roadway segment has an Index of Crash Frequency (ICF) of 0.57 and an Index of Crash Costs (ICC) of 1.01. An ICF and ICC above 0 and less than 1 indicates that the number of crashes and their severity are slightly higher than usual. The primary crash factors for all of the recorded incidents shows the majority of crashes are more likely attributable to driver failure to yield right-of-way than road features. The purpose of the project is to increase public safety by reducing the number of crashes at this intersection and to reduce right angle crashes.

A portion of this work falls under Category A-2 for work within interchanges and within medians of divided highways in previously disturbed soils, but the right turns lanes built to the outside of the existing travel lanes will require clearance under Category B-3, along with work performed to culverts under Category B-9.

If the project includes any curb, curb ramp, or sidewalk work, please specify the location(s) of such work: N/A

For bridge or small structure projects, please list feature crossed, structure number, NBI number, and structure type:

No culvert number in Bridge Inspection Application System (BIAS), roadside drainage under SR 352 (west of US 41), 36-inch CMP

No culvert number in BIAS, roadside drainage under SR 352 (east of US 41), 30-inch PVC pipe inside a CMP

For bridge projects, is the bridge included in INDOT's Historic Bridge Inventory (<https://www.in.gov/indot/2531.htm>)?

☐ Yes

☐ No

Minor Projects PA Project Submittal and Assessment Form

If yes, did the inventory determine the bridge eligible for or listed in the National Register of Historic Places? Please provide page # of entry in Historic Bridge Inventory.

☐ Yes

☐ No

Inventory Page # _____

Will there be right-of-way acquisition as part of this project?

☐ Yes

☒ No

If yes was checked above, please check all that apply:

☐ Permanent

☐ Temporary

☐ Reacquisition

If applicable, identify right-of-way acquisition locations in text below and in attached mapping. Please specify how much (both temporary and permanent) and indicate what activities are included in the proposed right-of-way:

Is there any potential for additional temporary right-of-way to be needed later for purposes such as access, staging, etc.?

☐ Yes

☒ No

Archaeology (check one):

☒ All proposed activities are presumed to occur in previously disturbed soils*

**INDOT-CRO will notify you if project area includes undisturbed soils and requires an archaeological reconnaissance.*

☐ Project takes place in undisturbed soils and the archaeology report is included in submission or will be forthcoming*

** If an archaeology report is required, the Minor Projects PA Form will not be finalized until the report is reviewed and approved by INDOT-CRO. For INDOT-sponsored projects, INDOT-CRO may be able to complete the archaeological investigation. If you would like to request that INDOT-CRO complete an archaeological investigation, please contact the INDOT-CRO archaeology team lead. See CRM Pt. 1 Ch. 3 for current contact information.*

Please specify all applicable categories and condition(s) (highlight applicable conditions in yellow)*:

**Include full category text, including any conditions. INDOT-CRO will finalize categories upon their review.*

B-3. Construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening under the following conditions **[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]**:

Condition A (Archaeological Resources)

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

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

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

Minor Projects PA Project Submittal and Assessment Form

SHAARD by the applicant. The archaeological reports will also be available for viewing (by Tribes only) on INSCOPE.

Condition B (Above-Ground Resources)

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

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

Condition A (Archaeological Resources)

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

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

Condition B (Above-Ground Resources)

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

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

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- b. The subject structure exhibits one of the characteristics described below (*Condition 1, Condition 2 or Condition 3 must be satisfied*).
1. The structure exhibits no wood, stone, or brick structures or parts therein; *OR*
 2. The structure exhibits only modern wood, stone, or brick structures or parts therein; *OR*
 3. The structure exhibits non-modern wood, stone, or brick structures or parts therein but lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. Under this condition, a qualified professional (meeting the Secretary of Interior's Professional Qualification standards [48 Federal Register (FR) 44716]) must prepare an analysis and justification that the structure lacks sufficient integrity and/or a context that suggests it might have engineering or historical significance. This documentation must be reviewed and approved by INDOT Cultural Resources Office.

Check ☐ if SECTION 2: Minor Projects PA Category B-1, Condition B-ii Submission is included

Check ☐ if SECTION 3: Minor Projects PA Category B-9, Condition B-i-c-2 or B-ii-b-3 Submission is included

Part II: Completed by INDOT-CRO

Amendments will be shown in red font.

Information reviewed (please check all that apply):

General project location map ☒ USGS map ☒ Aerial photograph ☒ Soil survey data ☐

General project area photos ☒ Archaeology Reports ☐ Historic Property Reports ☐

Indiana Historic Buildings, Bridges, and Cemeteries Map/Interim Report ☒

Bridge inspection information/BIAS ☒ Historic Bridge Inventory Database ☒

SHAARD ☒ SHAARD GIS ☒ Streetview Imagery ☒ County GIS Data/Property Cards ☐

Other (please specify): INDOT Bridge and Drainage Assets Viewer database; *Abbreviated Engineering Assessment: US 41 and SR 352 Intersection* (Prepared for INDOT Crawfordsville District by Parsons; December 2021)

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

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

Additional Comments:

Minor Projects PA Project Submittal and Assessment Form

Above-ground Resources

An INDOT-CRO historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 An INDOT-Cultural Resources Office (CRO) historian who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 first performed a desktop review, checking the Indiana Register of Historic Sites and Structures (State Register) and National Register of Historic Places (National Register) lists for Benton County. No listed resources are present within 0.25 mile of the project area, a distance that would serve as an adequate area of potential effects (APE) given the scope of the project and the surrounding terrain.

The *Benton County Interim Report* of the Indiana Historic Sites and Structures Inventory (IHSSI) was also consulted. The National Register & IHSSI information is available in the Indiana State Historic Architectural and Archaeological Research Database (SHAARD) and the Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBM). The SHAARD information was checked against the Interim Report hard copy maps. No historic district exists in the small town of Boswell. One IHSSI-surveyed resource rated higher than 'contributing' is recorded within 0.25 mile of the project: **1) Boswell Scattered Site #007-060-47030** (Noll Farm; located at the NE corner of Spies Street and Old US 41; includes c. 1870 Queen Anne farmhouse and cistern; rated 'outstanding'). No other IHSSI-surveyed resource rated higher than 'contributing' is recorded within 0.25 mile of the project location.

According to the IHSSI rating system, generally properties rated "contributing" do not possess the level of historical or architectural significance necessary to be considered individually National Register eligible, although they would contribute to a historic district. If they retain material integrity, properties rated "notable" might possess the necessary level of significance after further research. Properties rated "outstanding" usually possess the necessary level of significance to be considered National Register eligible if they retain material integrity. Historic districts identified in the IHSSI are usually considered eligible for the National Register.

The previously referenced IHSSI-surveyed resource, #007-060-47030 is located approximately 0.11 mile west/southwest of the project's southern terminus. Areas of heavy tree growth—present in residential yards and in lines of mature trees on the north and south sides of the Norfolk Southern Railroad tracks—as well as existing housing stock serve to block views of the US 41 highway from the resource. For the purposes of this determination, Boswell Scattered Site #007-060-47030 is not considered to be adjacent to the proposed project.

Land surrounding the project area is rural, small town with agricultural fields and scattered residential and commercial buildings present. As US 41 progresses north and south through the eastern side of Boswell's town limits, it is lined with commercial uses, most of which are related to farming/agriculture and animal husbandry. None of the properties within 0.25 mile of the intersection of US 41 with SR 352 were observed to retain the requisite levels of material integrity for NRHP eligibility assessment.

No culvert number in Bridge Inspection Application System (BIAS), roadside drainage under SR 352 (west of US 41), 36-inch CMP

No photographs of the culverts referenced for replacement as part of this project were provided by the consultant (ASC). The following information was provided concerning the culverts: "...*No culvert number in BIAS, roadside drainage under SR 352 (east of US 41), 30-inch PVC pipe inside a CMP...*". The assigned INDOT CRO historian checked the INDOT ProjectWise database for other sources of information/structure photos (hydraulics reports, RFI, etc.). An abbreviated engineering assessment was consulted; no structure photographs were located. The INDOT Bridge and Drainage Assets Viewer did not include inspection photos of any of the structures mapped in the locations provided by the consultant.

Despite the good-faith efforts made by the assigned CRO Historian to confirm that the subject structures '*...do not exhibit non-modern wood, brick or stone or parts therein...*,' no confirmation can be made. Therefore, the burden of proof that the culverts do not include those component parts lies with the INDOT Crawfordsville District.

Minor Projects PA Project Submittal and Assessment Form

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

Archaeological Resources

An INDOT-CRO archaeologist who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61 reviewed the proposed project area, conducted a desktop review, and prepared an archaeological assessment. No archaeological resources have been recorded within or adjacent to the proposed project area.

All work is confined to the existing US 41 and SR 352 R/W, which consists of the four-lane divided highway separated by a ditched median and flanked by wide, graded side ditches and embankments of fill. The proposed project area matches the proposed construction limits. Since the areas within the proposed project area/construction limits are limited to previously disturbed soils, there are no archaeological concerns provided the project scope and footprint do not change.

Accidental Discovery: If any archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, construction within 100 feet of the discovery will be stopped, and INDOT-CRO and the Indiana Department of Natural Resources-Division of Historic Preservation and Archaeology (IDNR-DHPA) will be notified immediately.

INDOT-CRO staff reviewer(s): Susan Branigin and David Walton

INDOT Approval Date: 7/3/2024

Amendment Approval Date (if applicable):

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

Please attach the following to this form:

- **General Location Map.** This map should allow the INDOT-CRO reviewer to quickly locate the project.
- **Aerial photography map(s) of project area.** This map must include project limits. It may also include SHAARD data, but SHAARD data is not required.
- **If bridge or small structure project, please attach photographs of bridge or small structure.** Photographs can be found in inspection reports located in INDOT's Bridge Inspection Application System (BIAS), as well as other project documents, such as engineering assessments or mini-scopes.

Map depicting potential temporary and/or permanent right-of-way acquisitions. In the email submission to INDOT-CRO, please also include:

- **A GIS polygon shapefile or KMZ file of the project area** (shapefiles are preferred). Shapefiles should use "NAD_1983_UTM" projected coordinate system. In addition, these files should contain the following text attribute field: DES_NO. The project designation number should be entered in this field.
- **If the project takes place in undisturbed soils, attach the results of the archaeological investigation, if completed.** *Note: The MPPA Submission Form may be submitted before the archaeology report. INDOT-CRO staff will process the above-ground portion of the form in advance of the archaeological portion of the form. However, a completed determination form will not be returned to the applicant until after the archaeology report has been reviewed and approved by INDOT-CRO.*

APPENDIX E: RED FLAG HAZARDOUS MATERIAL

Red Flag Investigation



INDIANA DEPARTMENT OF TRANSPORTATION

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

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

Eric Holcomb, Governor
Michael Smith, Commissioner

Date: April 1, 2024

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

From: Cameron Berry
ASC Group, Inc.
9376 Castlegate Drive
Indianapolis, Indiana 46256
cberry@ascgroup.net

Re: RED FLAG INVESTIGATION
DES # 2100058, State Project
Intersection Improvement
US 41 and SR 352
Benton County, Indiana

PROJECT DESCRIPTION

Reduced Conflict Intersection (RCI). The RCI

Brief Description of Project: The proposed project is located at the intersection of US 41 and State Road (SR) 352, approximately 4 miles north of SR 26 and 7 miles south of SR 18, in the City of Boswell, Benton County, Indiana. The proposed project would convert the intersection into a ~~Restricted Crossing U Turn (RCUT) Intersection. The RCUT~~ intersection differs from a conventional intersection by eliminating the left-turn and through movements from cross street approaches. US 41 and SR 352 will be milled and resurfaced after the completion of adding the median U-turns and center medians. A 36-inch (in.) diameter corrugated metal pipe (CMP) culvert (CLV-86826) is located under SR 352 west of US 41 and will need to be extended or replaced. A 30-in. diameter polyvinyl chloride (PVC) pipe inside of a CMP culvert (CLV-86827) is located under SR 352 east of US 41; the culvert will need to be extended or replaced. There will also be some minor stormwater drainage work involving catch basin/inlet adjustment and/or replacement in the median. Structures CLV-33660 and CLV-004-194.17 will be removed and replaced with new 18-in. diameter culverts installed on US 41 north and south of the SR 352 intersection at the new U-turn pavement sections.

Bridge Work Included in Project: Yes ☐ No ☒ Structure #(s) _____

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

(Note: If the project involves a historical bridge, please include the bridge information in the Recommendations Section of the report).

Culvert Work Included in Project: Yes ☒ No ☐ Structure #(s) _____ Not listed in BIAS

Proposed right of way: Temporary ☐ # Acres _____ Permanent ☐ # Acres _____, Not Applicable ☒

Type and proposed depth of excavation: Excavation will be required for the pavement removal, culvert replacement, and ditch re-grading and will be a maximum depth of 6 feet (ft).

Maintenance of traffic (MOT): The MOT will consist of phased lane closures for US 41 and eventual roadway closure for SR 352 at the US 41 intersection. The MOT plan will reduce US 41 to one lane in each direction during construction. While construction is performed on the outside shoulder areas, US 41 traffic will be shifted to the interior lane. While construction is on the inside median shoulder areas, US 41 traffic will be shifted to the exterior lane. SR 352 access to US 41 will have short term restrictions during construction, at the intersection both west and east of US 41.

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

State Project: ☒ LPA: ☐

Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	3*	Recreational Facilities	2*
Airports ¹	N/A	Pipelines	1
Cemeteries	1	Railroads	1
Hospitals	N/A	Trails	1
Schools	N/A	Managed Lands	1*

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

Explanation:

Religious Facilities*: Three (3) religious facilities, one (1) mapped and two (2) unmapped, are located within the 0.5 mile search radius. The nearest religious facility, United Methodist Church, is located 0.24 mile west of the project area. No impact is expected.

Cemeteries: One (1) cemetery is located within the 0.5 mile search radius. Boswell Cemetery is located 0.22 mile east of the eastern terminus of the project area. No impact is expected.

Recreational Facilities*: Two (2) recreational facilities, one (1) mapped and one (1) unmapped, are located within the 0.5 mile search radius. The nearest recreational facility, Boswell Community Park, is located 0.10 mile to the west of the project area. No impact is expected.

Pipelines: One (1) pipeline segment is located within the 0.5 mile search radius. The pipeline segment, Northern Indiana Public Service Co., crosses the project area near the southern terminus. Coordination with INDOT Utilities and Railroads should occur.

Railroads: One (1) railroad segment is located within the 0.5 mile search radius. The Kankakee Beaverville and Southern Railroad segment is located 0.01 mile south of the southern project area terminus. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contracts (RFC) date.

Trails: One (1) trail segment is located within the 0.5 mile search radius. The Boswell Park Pathway, located in Boswell Community Park, is located 0.11 mile west of the project area. No impact is expected.

Managed Lands*: One (1) unmapped managed lands polygon is located within the 0.5 mile search radius. Boswell 4-H Fairgrounds is located 0.10 mile east of the eastern terminus of the project area. No impact is expected.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Karst Springs	N/A	Canal Routes - Historic	N/A
Canal Structures – Historic	N/A	NWI - Wetlands	2
NPS NRI Listed	N/A	Lakes	1
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Floodplain - DFIRM	1
Rivers and Streams	13	Cave Entrance Density	N/A
		Sinkhole Areas	N/A
		Sinking-Stream Basins	N/A

If unmapped water features are identified that might impact the project area, direct coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Explanation:

River and Streams: Thirteen (13) river and stream segments are located within the 0.5 mile search radius. The nearest stream segment is located 0.16 mile southeast of the project area. No impact is expected.

NWI-Wetlands: Two (2) wetland polygons are located within the 0.5 mile search radius. The nearest wetland polygon is located 0.18 mile northeast of the project area. No impact is expected.

Lakes: One (1) lake polygon is located within the 0.5 mile search radius. The lake polygon is located 0.18 mile northeast of the project area. No impact is expected.

Floodplain - DFIRM: One (1) floodplain polygon is located within the 0.5 mile search radius. The floodplain polygon is located 0.36 mile south of the southern terminus of the project area. No impact is expected.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	N/A	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation: No Mining/Mineral Exploration resources were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	4	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	1
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	1	NPDES Facilities	3
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	1
Leaking Underground Storage (LUST) Sites	1	Notice of Contamination Sites	N/A

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

Explanation:

Underground Storage Tank (UST) Sites: Four (4) UST sites are located within the 0.5 mile search radius. The nearest site, HHB Plaza, 207 North Old US 41, Agency Identification (AI) ID# 4671, is located 0.01 mile east of the of the project area. IDEM conducted an Underground Storage Tank Inspection on October 20, 2022, and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana’s UST Rule 329 IAC 9; however, documentation reviewed does not indicate that a release occurred. IDEM issued a Return to Compliance Letter on June 22, 2023. No impact is expected.

Solid Waste Landfill: One (1) solid waste landfill is located within the 0.5 mile search radius. An antique landfill, the Boswell Dump, is located 0.01 mile west of the eastern terminus of the project area. Coordination with IDEM Office of Land Quality, Kim Vedder (kvedder@idem.in.gov), will occur to determine if additional exploratory actions should occur that will require the submission of a Scope of Work to SAM for review and approval.

Leaking Underground Storage (LUST) Sites: One (1) LUST site is located within the 0.5 mile search radius. The former Boswell Elementary School, 414 West Main Street, AI ID# 2208, is located 0.18 mile southwest of the project area. Documents reviewed in the VFC indicate that a steel UST containing diesel was closed by removal in August 1993. According to the Site Assessment document dated September 13, 1993, a total of 95 cubic yards of soil was excavated in addition to the tank removal. The soils were left on site and listed to be treated under a remediation program. An additional 320 cubic yards of petroleum contaminated soil was removed on November 3, 1993, and disposed of. No further documentation was found detailing the removal of soils from the site. No impact is expected.

Brownfields: One (1) Brownfield site is located within the 0.5 mile search radius. The former Odle Trucking and Repair 4160101, 215 North Old US 41, AI ID # 111235, is located 0.06 mile east of the project area. The site was formerly operated as a truck repair shop, and USTs were installed and removed at unknown dates. This could be the location of J&P Produce, which is listed as being at the intersection of SR 352 and Old Highway 41, AI ID #5406. A notice was given to IDEM that 2–2,000 gallon gasoline USTs were planned for removal from the site in 1990. A third 3,000 gallon gasoline UST was listed on a 1988 notification form. No information was available on the removal. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

NPDES Facilities: Three (3) NPDES facilities, two (2) mapped and one (1) unmapped, are located within the 0.5 mile search radius. The nearest NPDES facility, Dollar General Store 21911, 215 N Old US Highway 41, Permit #INRA05315, is located adjacent to the western terminus of the project area. The permit is in effect until April 5, 2025. Coordination with Dollar General will occur.

NPDES Pipe Locations: One (1) NPDES pipe location is located within the 0.5 mile search radius. The Boswell Wastewater Treatment Plant pipe, Permit # IN0039756, is located 0.49 mile south of the project area. The permit is listed as effective, and expires September 30, 2028. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

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

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The project area is located in a rural area with some commercial. Information on the presence or absence of bats is available for the pipes. Additional investigation to confirm the presence or absence of bats in the pipes will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent “Using the USFWS’s IPaC System for Listed Bat Consultation for INDOT Projects”.

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE:

Pipelines: One (1) pipeline segment, Northern Indiana Public Service Co., crosses the project area near the southern terminus. Coordination with INDOT Utilities and Railroads should occur.

Railroad: One (1) railroad segment, the Kankakee Beaverville and Southern Railroad, is located 0.01 mile south of the southern project area terminus. Standard coordination will occur with INDOT Utilities and Railroads by the Project Management Team or their consultant no later than the Ready for Contracts (RFC) date.

WATER RESOURCES: N/A

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS:

Solid Waste Landfill: An antique landfill, the Boswell Dump, is located 0.01 mile west of the eastern terminus of the project area. Coordination with IDEM Office of Land Quality, Kim Vedder (kvedder@idem.in.gov), will occur to determine if additional exploratory actions should occur that will require the submission of a Scope of Work to SAM for review and approval.

Brownfields: The former Odle Trucking and Repair 4160101, 215 North Old US 41, AI ID # 111235, is located 0.06 mile east of the project area. The site was formerly operated as a truck repair shop, and USTs were installed and removed at unknown dates. This could be the location of J&P Produce, which is listed as being at the intersection of SR 352 and Old Highway 41, AI ID #5406. A notice was given to IDEM that 2–2,000 gallon gasoline USTs were planned for removal from the site in 1990. A third 3,000 gallon gasoline UST was listed on a 1988 notification form. No information was available on the removal. If excavation occurs in this area, proper handling, removal, and disposal of soil and/or groundwater may be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

NPDES Facilities: Dollar General Store 21911, 215 N Old US Highway 41, Permit #INRA05315, is located adjacent to the western terminus of the project area. The permit is in effect until April 5, 2025. Coordination with Dollar General will occur.

ECOLOGICAL INFORMATION: Coordination with USFWS and IDNR will occur. Additional investigation to confirm the presence or absence of bats in the pipes will be necessary. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent “Using the USFWS’s IPaC System for Listed Bat Consultation INDOT Projects”.

INDOT ESD concurrence: Shelby O'Neal Digitally signed by Shelby O'Neal
Date: 2024.04.01 13:10:47 -04'00' (Signature)

Prepared by:
Cameron Berry
NEPA Manager
ASC Group, Inc.

Graphics:

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

SITE LOCATION: YES

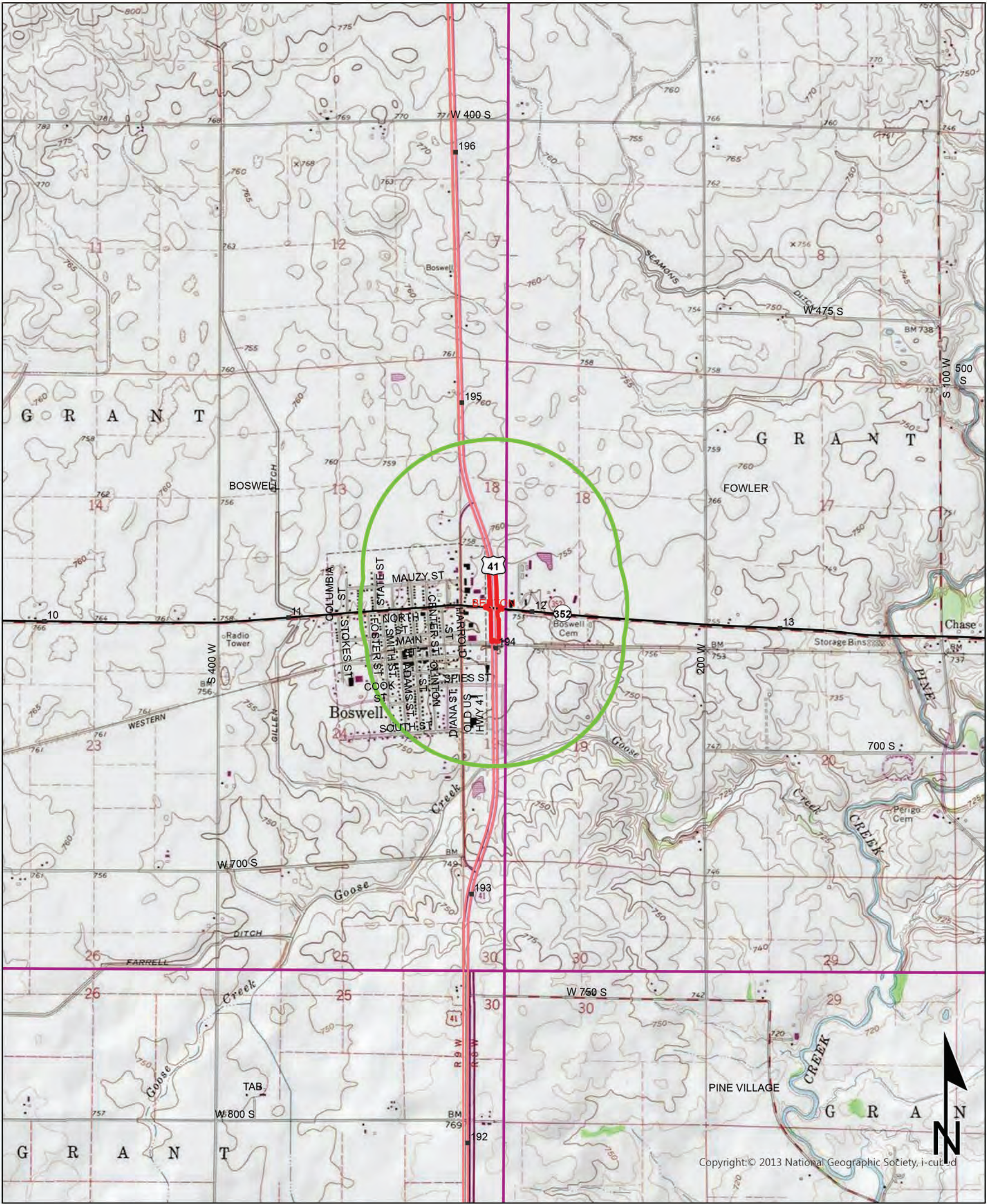
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
US 41 and SR 352 Intersection
Des. No. 2100058, Intersection Improvement with Added Travel Lanes
Benton County, Indiana



Sources: 0.45 0.23 0 0.45 Miles
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N Map Datum: NAD83
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

BOSWELL AND FOWLER
QUADRANGLES
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
US 41 and SR 352 Intersection
Des. No. 2100058, Intersection Improvement with Added Travel Lanes
Benton County, Indiana



Sources: 0.1 0.05 0 0.1 Miles
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

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

Red Flag Investigation - Water Resources
US 41 and SR 352 Intersection
Des. No. 2100058, Intersection Improvement with Added Travel Lanes
Benton County, Indiana



Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N Map Datum: NAD83
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.



Red Flag Investigation - Hazardous Material Concerns

US 41 and SR 352 Intersection

Des. No. 2100058, Intersection Improvement with Added Travel Lanes

Benton County, Indiana



Brownfield	RCRA Generator/TSD	Institutional Controls
RCRA Corrective Action Sites	Restricted Waste Site	County Boundary
Confined Feeding Operation	Septage Waste Site	Project Area
Notice_Of_Contamination	Solid Waste Landfill	Half Mile Radius
Construction/Demolition Site	State Cleanup Site	Toll
Infectious/Medical Waste Site	Superfund	Interstate
Leaking Underground Storage Tank	Tire Waste Site	State Route
Manufactured Gas Plant	Underground Storage Tank	US Route
NPDES Facilities	Voluntary Remediation Program	Local Road
NPDES Pipe Locations	Waste Transfer Station	
Open Dump Waste Site		

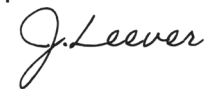
0.15 0.07 0 0.15 Miles

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

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

APPENDIX F: WATERS RESOURCES

Waters Report – Including NWI Map
Floodplain Map



Waters of the U.S. Determination and Wetland Delineation Report

US 41 and SR 352, Grant Township, Benton County, Indiana

Intersection Improvement Project

INDOT Des. No. 2100058

Prepared by: Ken Safranek, Ecologist

ASC Group, Inc.

Prepared Date: March 4, 2024

Project Description:

Date(s) of Field Investigation: August 22, 2023

Sections 18 and 19, Township 24 North, Range 8 West

Boswell, Indiana Quadrangle

Grant Township, Benton County, Indiana

Latitude: 40.521141

Longitude: -87.375946

Reduced Conflict Intersection (RCI)

Project Description: The proposed project (INDOT Des. No. 2100058) is located at U.S. Route (US) 41 and State Road (SR) 352 in Grant Township, Benton County, Indiana (Figures 1–7). The project proposes to reconstruct the intersection as a ~~restricted crossing U-Turn (RCUT)~~. The purpose of this project is to increase the safety for vehicles crossing US 41 or turning left onto US 41 from SR 352. The need for this project is due to the intersection experiencing an above normal number of crashes and elevated crash severity for an unsignalized rural state intersection. The project may include pavement widening to accommodate added right turn lane, completely enclosing the unpaved median, and central island modifications with slotted northbound left turn lane on US 41 at SR 352. This project will not require the acquisition of temporary or permanent right-of-way (ROW).

Desktop Reconnaissance:

Soils (Figure 4)

According to the Soil Survey Geographic (SSURGO) Database for Benton County, Indiana (U.S. Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2023); the investigation area contained three nationally listed soil with hydric components (USDA, NRCS 2021).

Table 1. USDA, NRCS SSURGO Mapped Soil Units.

Soil Unit Name	Symbol	NRCS Flooding Frequency	NRCS Drainage Class	NRCS Hydric Soil Category	SSURGO Hydric Rating
Chalmers silty clay loam	Ch	None	Poorly drained	Hydric	100% Hydric
Darroch silt loam, till substratum	Dp	None	Somewhat poorly drained	Predominantly non-hydric	3% Hydric
Odell silt loam, 0–2 percent slopes	OIA	None	Somewhat poorly drained	Predominantly non-hydric	7% Hydric

National Wetland Inventory (NWI) Wetlands (Figure 5)

There are no NWI mapped water features within or adjacent to the investigation area (U.S. Fish and Wildlife Service [USFWS] 2023).

National Hydrography Dataset (NHD) (Figure 5)

According to the NHD (U.S. Geological Survey, National Hydrography Dataset [USGS, NHD] 2019), the investigation area contains five flowline features. The NHD flowlines for the investigation area are provided on Figure 5.

<u>NHD Flowline Feature Type</u>	<u>Location</u>
2 – Canal/Ditch	Flows south along the eastern and western edges of US 41
1 – Canal/Ditch	Flows east into the western Canal/Ditch along US 41 near the southern investigation limit
1 – Connector	Flows west, connecting the eastern to the western Canal/Ditch of US 41
1 – Stream/River	Flows east into the western Canal/Ditch along US 41 near the northern investigation limit

Upstream Drainage

The streams and drainage features observed during the field investigation were not accurately represented on the USGS StreamStats Services (USGS 2023) web application, and thus no drainage area was calculated.

HUC 12: 051201080303: Goose Creek-Mud Pine Creek

Attached Documents:

- Maps (General Location, Topographic, NRCS Soils, NWI with NHD Lines, Indiana Department of Natural Resources [IDNR] Floodplain, Aerials with Aquatic Resources and Photograph Key)
- Photographs
- Wetland Determination Data Sheets, Antecedent Precipitation Tool (APT Results)
- Preliminary Jurisdictional Determination (PJD) Form

FIELD RECONNAISSANCE:

ASC Group, Inc., under contract with Fishbeck, conducted an investigation to determine the presence of potential Waters of the U.S. (WOTUS) or Waters of the State for the proposed intersection improvement project at US 41 and SR 352 in Grant Township, Benton County, Indiana on August 22, 2023. Identified wetlands had their boundaries delineated in accordance to *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the appropriate *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (U.S. Army Corps of Engineers [USACE] 2010). Any surface water features observed were investigated for potential ordinary high water mark (OHWM) and roadside ditches (RSDs) along the roadway were examined for wetland criteria or jurisdictional status. The investigation area for this Waters Report serves as the limits of the delineation and includes all the resources that were investigated. The investigation area includes the full extent of ROW adjacent to the preliminary limits of disturbance. This includes any roadway drainage features and the unpaved median. The Antecedent Precipitation Tool (APT) Version 1.0.23 was used to determine climatic conditions during site visit (Attachments). The APT indicated that the site was in a “mild drought” climatic range for the dry season in a typical year. The preliminary limits of disturbance and subsequent investigation area were created to encapsulate the area described in the proposal plans provided by the Engineer. Maps (Figures 1–7) and photographs (Photographs 1–77) of the investigation area are included in the attachments.

STREAMS

A preliminary jurisdictional waters determination was performed in the field to determine the presence of waterways that possessed a defined channel and streambed as defined by the OHWM were present in the investigation area. However, no streams were observed within the investigation area on August 22, 2023.

ROADSIDE DITCHES (RSDs)

Four RSDs (RSDs 1–4) were encountered during the August 22, 2023, field investigation. All the RSDs are entirely within the existing ROW, flow from north to south, and were constructed to convey US 41’s stormwater runoff. The RSDs are all artificial and maintained grassed swales located both east and west, as well as within the median of US 41. The NHD shows blue line features confluencing with RSDs 2 and 4 both within the investigation area and upstream. Additionally, the Boswell, Indiana quadrangle (USGS 7.5’ topographic map) shows the RSDs on

both the east and west side of US 41 as blue line features. During field investigation, no such surface water features or stormwater outlets were observed upstream providing significant hydrology to the RSDs. It is unlikely that the RSDs found within the investigation area are captured streams. Sample Points 3, 6, 10, and 12 were taken to represent the typical vegetation, soils, and hydrology found in the RSDs. Where all three indicators of wetlands were observed, a wetland boundary was delineated. No OHWM was observed within any of the RSDs. The RSDs found within the investigation area are likely non-jurisdictional, artificial roadside drainage features.

Table 2. Roadside Ditches (RSDs) Table.

RSD No.	Location	Length (ft)	Flow Direction	Photographs
RSD1	US 41 Median, South of SR 352	628	South	4, 43–48
RSD2	West of US 41, North of SR 352	646	South	8, 21–25
RSD3	US 41 Median, North of SR 352	791	South	73–75, 77
RSD4	East of US 41, North of SR 352	567	South	64, 66–69

WETLANDS

A total of 12 sampling points (SPs 1–12) as well as 5 test points (TPs 1–5) were investigated in order to confirm the presence or absence of wetlands that may potentially be in the investigation area (Figure 7, Sheets 1 and 2). Sampling points document representative observation points in each community type found within the investigation area. Test points were used to investigate the boundary between these communities. All of the wetland determination data sheets are included in the attachments. The sample point observations revealed five wetlands (Wetlands A–E) within the investigation area. The *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.2* (USDA, NRCS 2018), *2020 National Wetland Plant List (NWPL) Version 3.5 - Species Detail Tool* (USACE 2020), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0* (USACE 2010) were used to determine whether wetlands were present within the investigation area.

Wetland A

Wetland A, characterized by SP2, is a 0.048-acre depressional swale located west of US 41 and north of SR 352 which was originally constructed and currently maintained as a stormwater conveyance feature for the roadway. The sampling point documents a concave depression with 3

to 6 percent slopes where no OHWM was observed. This point was taken to document the relatively homogenous vegetative community in a portion of the roadway swale which is dominated hydrophytic vegetation both north and south of the SR 352 culvert (Wetlands A and B). For the purposes of permitting, the wetland within the western US 41 roadway swale has been labeled Wetland A to the north of the SR 352 culvert and Wetland B to the south. The wetland is entirely contained within this roadside swale and receives hydrology in the form of diffuse stormwater runoff from adjacent upland and impervious surfaces as well as effluent from RSD2. A typical upland sampling point, SP3, was taken upslope from Wetland A, west of US 41 and north of SR 352 within the adjacent vegetation community. SP3 documents a concave depressional roadway swale with 3 to 6 percent slopes labeled as RSD 2. This point was taken to help document the vegetation community of the maintained roadway swale directly upslope from Wetland A. The boundary of Wetland A was determined following successional test bores (TP1 and TP2) [Figure 7, Sheet 1; Photograph 21] between the wetland and adjacent upland where an abrupt change in topography, vegetation composition, the presence/absence of hydrological indicators, and an absence of hydric soils was observed.

Wetland A would be an emergent (PEM1C) wetland according to the Cowardin et al. (1979) classification scheme. The wetland is part of a drainageway adjacent to west of US 41. The wetland begins approximately 250 feet (ft) north of SR 352 and hydrology flows south through the road culvert, continues south, and exits the culvert as Wetland B. The US 41 roadway swale continues south (as Wetland B) and flows through a railroad culvert at the southern edge of the investigation area. This hydrology continues within the western US 41 roadway swale and eventually discharges to a relatively permanent water (RPW), Goose Creek, approximately 2,650-ft south of the investigation area. Due to direct connectivity to a RPW, it is likely that Wetland A is a WOTUS and under the jurisdictional authority of the USACE. The USACE makes all final determinations regarding jurisdiction. The wetland was designated as poor quality by the investigators due to its close proximity to adjacent developed areas, lack of natural buffers, prevalence of invasive species, and continued anthropogenic management. Wetland A was delineated with a sub-meter global positioning system (GPS) and found to be approximately 0.048 acre in size within the investigation area.

Wetland B

Wetland B, characterized by SP2, is a 0.110-acre depressional swale located west of US 41 and south of SR 352 which was originally constructed and currently maintained as a stormwater conveyance feature for the roadway. The sampling point documents a concave depression with 3 to 6 percent slopes where no OHWM was observed. This point was taken to document the vegetative community in a portion of the roadway swale which is dominated hydrophytic vegetation both north and south of the SR 352 culvert. For the purposes of permitting, the wetland within the western US 41 roadway swale has been labeled Wetland A to the north of the SR 352 culvert and Wetland B to the south. Wetland B is entirely contained within this roadside swale and receives hydrology in the form of diffuse stormwater runoff from adjacent upland and impervious surfaces as well as effluent from Wetland A. Several typical upland sampling points, SP4 and SP5 were taken upslope from Wetland B, within the adjacent vegetation communities. SP4 documents the vegetation community of the unmanaged wooded area with 4 to 6 percent slopes near the drainage confluence of Wetland B and two separate stormwater outfalls which only met the hydric soil wetland criterion. SP5 documents a hydrophytic vegetation community which was found upslope and adjacent from Wetland B with 8 to 10 percent slopes but did not meet hydric soils or wetland hydrology criterion. The boundary of Wetland B was determined following successional test bores (TP3 and SP4 and SP5) [Figure 7, Sheet 2; Photograph 30] between the wetland and adjacent upland where an abrupt change in topography, vegetation composition, the presence/absence of hydrological indicators, and an absence of hydric soils was observed.

Wetland B would be an emergent (PEM1C) wetland according to the Cowardin et al. (1979) classification scheme. The wetland spans the entirety of the western US 41 roadway swale south of SR 352, within the investigation area, and hydrology exits south through a railroad culvert at the southern edge of the investigation area. This hydrology continues within western US 41 roadway swale and eventually discharges to a RPW, Goose Creek, approximately 2,650-ft south of the investigation area. Due to direct connectivity to a RPW, it is likely that Wetland B is a WOTUS and under the jurisdictional authority of the USACE. The USACE makes all final determinations regarding jurisdiction.. The wetland was designated as poor quality by the investigators due to its close proximity to adjacent developed areas, lack of natural buffers, prevalence of invasive species, and continued anthropogenic management. Wetland B was

delineated with a sub-meter GPS and found to be approximately 0.110 acre in size within the investigation area.

Wetland C

Wetland C, characterized by SP9, is a 0.058-acre depressional swale located east of US 41 and north of SR 352 which was originally constructed and currently maintained as a stormwater conveyance feature for the roadway. The sampling point documents a concave depression with 1 to 3 percent slopes where no OHWM was observed. This point was taken to document the relatively homogenous vegetative community in a portion of the roadway swale which is dominated hydrophytic vegetation both north and south of the SR 352 culvert (Wetlands C and D). For the purposes of permitting, the wetland within the eastern US 41 roadway swale has been labeled Wetland C to the north of the SR 352 culvert and Wetland D to the south. The wetland is entirely contained within this roadside swale and receives hydrology in the form of diffuse stormwater runoff from adjacent upland and impervious surfaces as well as effluent from RSD 4. A typical upland sampling point, SP10, was taken upslope from Wetland C, east of US 41 and north of SR 352 within the adjacent vegetation community. SP10 documents a concave depressional roadway swale with 2 to 4 percent slopes labeled as RSD 4. This point was taken to help document the vegetation community of the maintained roadway swale directly upslope from Wetland A. The boundary of Wetland A was determined following successional test bores (SP9 and SP10) [Figure 7, Sheet 1] between the wetland and adjacent upland where an abrupt change in topography, vegetation composition, the presence/absence of hydrological indicators, and an absence of hydric soils was observed.

Wetland C would be an emergent (PEM1C) wetland according to the Cowardin et al. (1979) classification scheme. The wetland is part of a drainageway adjacent to east of US 41. The wetland begins approximately 250 ft north of SR 352 and hydrology flows south through the road culvert, continues south and exits the culvert as Wetland D. The eastern US 41 roadway swale continues south (as Wetland D) and is captured by an east-west aligned US 41 road culvert near the southern investigation limits which discharges to Wetland A to the west. This conveyance eventually discharges to a RPW, Goose Creek, approximately 2,650 ft south of the investigation area. Due to direct connectivity to a RPW, it is likely that Wetland C is a WOTUS and under the jurisdictional authority of the USACE. The USACE makes all final determinations regarding jurisdiction. The wetland was designated as poor quality by the investigators due to its close

proximity to adjacent developed areas, lack of natural buffers, prevalence of invasive species, and continued anthropogenic management. Wetland C was delineated with a sub-meter GPS and found to be approximately 0.058 acre in size within the investigation area.

Wetland D

Wetland D, characterized by SP9, is a 0.094-acre depressional swale located east of US 41 and south of SR 352 which was originally constructed and currently maintained as a stormwater conveyance feature for the roadway. The sampling point documents a concave depression with 1 to 3 percent slopes where no OHWM was observed. This point was taken to document the vegetative community in a portion of the roadway swale which is dominated by hydrophytic vegetation both north and south of the SR 352 culvert. For the purposes of permitting, the wetland within the eastern US 41 roadway swale has been labeled Wetland C to the north of the SR 352 culvert and Wetland D to the south. A test point, TP4 (Figure 7, Sheet 2) was taken south of the SR 352 culvert to confirm wetland status and differentiate from uplands. TP4 met hydrophytic vegetation, wetland hydrology, and hydric soil criterion for wetlands. Wetland D is entirely contained within the eastern US 41 roadside swale and receives hydrology in the form of diffuse stormwater runoff from adjacent upland and impervious surfaces as well as effluent from Wetland C. Several typical upland sampling points, SP7 and SP8 were taken upslope from Wetland D, within the adjacent vegetation communities. SP7 documents the hydrophytic vegetation community which was found adjacent to Wetland D on the top slope terrace, containing 1 to 3 percent slopes but did not meet hydric soils or wetland hydrology criterion. SP8 documents the mowed and managed vegetation community, adjacent to TP4, which was found on the roadway swale shoulder containing 15 to 20 percent slopes throughout the investigation area. The boundary of Wetland D was determined following successional test bores (TP4 and SP7 and SP8) [Figure 7, Sheet 2; Photographs 56 and 57] between the wetland and adjacent upland where an abrupt change in topography, vegetation composition, the presence/absence of hydrological indicators, and an absence of hydric soils was observed.

Wetland D would be an emergent (PEM1C) wetland according to the Cowardin et al. (1979) classification scheme. Wetland D spans the entirety of the eastern US 41 roadway swale south of SR 352, within the investigation area and is captured by an east-west aligned US 41 road culvert near the southern investigation limits which discharges to Wetland B to the west. This hydrology continues within western US 41 roadway swale and eventually discharges to a RPW,

Goose Creek, approximately 2,650-ft south of the investigation area. Due to direct connectivity to a RPW, it is likely that Wetland D is a WOTUS and under the jurisdictional authority of the USACE. The USACE makes all final determinations regarding jurisdiction.. The wetland was designated as poor quality by the investigators due to its close proximity to adjacent developed areas, lack of natural buffers, prevalence of invasive species, and continued anthropogenic management. Wetland D was delineated with a sub-meter GPS and found to be approximately 0.094 acre in size within the investigation area.

Wetland E

Wetland E, characterized by SP11, is a 0.010-acre depressional swale located within the US 41 median, north of the intersection with SR 352, and was originally constructed and currently maintained as a stormwater conveyance feature for the roadway. The sampling point documents a concave depression with 1 to 3 percent slopes where no OHWM was observed. This point was taken to document the vegetative community in a portion of the roadway median swale which is dominated by hydrophytic vegetation. The wetland is entirely contained within this roadside median swale and receives hydrology in the form of diffuse stormwater runoff from adjacent upland and impervious surfaces as well as effluent from RSD 3. A typical upland sampling point, SP12, was taken upslope from Wetland E, within the US 41 median. SP12 documents a concave depressional roadway swale with 1 to 3 percent slopes labeled as RSD 4. This point was taken to help document the vegetation community of the maintained roadway median swale directly upslope from Wetland E. The boundary of Wetland E was determined following successional test bores (TP5 and SP11) [Figure 7, Sheets 1 and 2; Photograph 77] between the wetland and adjacent upland where an abrupt change in topography, vegetation composition, the presence/absence of hydrological indicators, and an absence of hydric soils was observed.

Wetland E would be classified as an emergent (PEM1C) wetland according to the Cowardin et al. (1979) classification scheme. The wetland is part of a drainageway within the median of US 41. The wetland begins approximately 116 ft north of a stormwater inlet at the intersection between US 41 and SR 352. The hydrology from Wetland E is captured by this inlet and then discharges to Wetland A to the west. This conveyance from Wetland A eventually discharges to a RPW, Goose Creek, approximately 2,650 ft south of the investigation area. For this reason, the wetland is provisionally considered a federally jurisdictional WOTUS. The wetland was designated as poor quality by the investigators due to its close proximity to adjacent developed

areas, lack of natural buffers, prevalence of invasive species, and continued anthropogenic management. Wetland E was delineated with a sub-meter GPS and found to be approximately 0.010 acre in size within the investigation area.

Table 4. Wetland Summary Table.

Wetland ID and Lat/Long	Type	Acreage	Quality	Photo IDs	Associated Structure ID	Likely WOTUS?	Sample Point ID (SP)	Lat/Long	Dominant Vegetation	Meets Vegetation Criterion?	Hydric Soil Indicators (s)	Meets Soil Criterion?	Hydrology Indicators(s)	Meets Hydrology Criterion?	Within Wetland?	Notes
Upland Sample Points							SP1	40.521121 -87.376611	<i>Festuca rubra</i> , <i>Lolium perenne</i>	No	None	No	None	No	No	Sample Point was taken southwest of the intersection between US 41 and SR 352 at the nearly flat top slope terrace to help document the existing vegetation community of the mowed and maintained lawns found throughout the ROW within the investigation area.
							SP6	40.519462 -87.375918	<i>Phalaris arundinacea</i> , <i>Bromus inermis</i> , <i>Schedonorus arundinaceus</i>	No	None	No	B10, D2	Yes	No	The Sample Point was taken in the US 41 median near the southern investigation area limits to help document the existing conditions in RSD 1.
Wetland A 40.521634, -87.376330	PEM1C	0.048	Poor	14–22	N/A	Yes	SP2*	40.521643 -87.376306	<i>Salix interior</i> , <i>Typha angustifolia</i>	Yes	A11, F3	Yes	Primary: A3 Secondary: B10, C2, D2, D5	Yes	Yes	SP2 documents both Wetlands A and B, which are entirely contained with the western US 41 roadway swale. Wetlands are divided by the SR 352 culvert. Wetland A is north and Wetland B is south of the culvert.
							SP3	40.523566 -87.376478	<i>Morus alba</i> , <i>Echinochloa crus-galli</i> , <i>Lolium perenne</i> , <i>Asclepias verticillata</i>	No	None	No	Secondary: B10, D2	Yes	No	Sample Point was taken in the upland portion of the US 41 roadway swale adjacent to Wetland A.
Wetland B 40.520131, -87.376305	PEM1C	0.110	Poor	1, 2, 26- 34, 37, 42	N/A	Yes	SP2*	40.521643 -87.376306	<i>Salix interior</i> , <i>Typha angustifolia</i>	Yes	A11, F3	Yes	Primary: A3 Secondary: B10, C2, D2, D5	Yes	Yes	SP2 documents both Wetlands A and B, which are entirely contained within the western US 41 roadway swale. Wetland B begins at the western SR 352 road culvert outlet and terminates at a railroad culvert inlet at the southern edge of the investigation limits.
							SP4	40.519223 -87.376337	<i>Morus alba</i> , <i>Juglans nigra</i> , <i>Acer negundo</i> , <i>Fraxinus americana</i> , <i>Toxicodendron radicans</i> , <i>Dactylis glomerata</i>	No	A11, F3	Yes	Secondary: D2	No	No	The Sample Point was taken to help document the upland vegetation community of the unmanaged wooded area with 4 to 6 percent slopes adjacent to the drainage confluence of Wetland B and two separate stormwater outfalls.
							SP5	40.519336 -87.376203	<i>Morus alba</i> , <i>Phalaris arundinacea</i> , <i>Typha angustifolia</i>	Yes	F6	Yes	Secondary: D5	No	No	The Sample Point was taken to help document a hydrophytic vegetation community which was found upslope from Wetland B with 8 to 10 percent slopes.
Wetland C 40.521684, -87.375592	PEM1C	0.058	Poor	6, 62-66	N/A	Yes	SP9*	40.522227 -87.375594	<i>Cornus amomum</i> , <i>Phalaris arundinacea</i>	Yes	A11, F3	Yes	Primary: B2, B3 Secondary: B10, D2, D5	Yes	Yes	SP9 documents both Wetland C and D and the wetlands are entirely contained with the eastern US 41 roadway swale. Wetlands are divided by the SR 352 culvert. Wetland C is north and Wetland D is south of the culvert.
							SP10	40.522475 -87.375573	<i>Cornus amomum</i> , <i>Schedonorus arundinaceus</i> , <i>Echinochloa crus-galli</i> , <i>Securigera varia</i>	No	A11, F3	Yes	Secondary: B10, D2	Yes	No	The Sample Point was taken in an area directly adjacent to Wetland C within the US 41 roadway swale.

Wetland D 40.519964, -87.375559	PEM1C	0.094	Poor	5, 49, 51, 54, 56-61	N/A	Yes	SP9*	40.522227 -87.375594	<i>Cornus amomum</i> , <i>Phalaris arundinacea</i>	Yes	A11, F3	Yes	Primary: B2, B3 Secondary: B10, D2, D5	Yes	Yes	SP9 documents both Wetland D and C and the wetlands are entirely contained within the eastern US 41 roadway swale. Wetland D begins at the eastern SR 352 road culvert outlet and terminates at a east-west (US 41) culvert inlet at the southern edge of the investigation limits.
							SP7	40.519236 -87.375583	<i>Morus alba</i> , <i>Phalaris arundinacea</i>	Yes	None	No	Secondary: D5	No	No	The Sample Point was taken on a top slope terrace upslope from Wetland D where wetland vegetation was observed.
							SP8	40.520034 -87.375527	<i>Bromus inermis</i> , <i>Schedonorus arundinaceus</i> , <i>Eleusine indica</i>	No	None	No	None	No	No	The Sample was taken to represent the mowed and managed roadway swale slopes and shoulder.
Wetland E 40.521421, -87.375942	PEM1C	0.010	Poor	70-72, 76, 77	N/A	Yes	SP11	40.521595 -87.375921	<i>Echinochloa crus-galli</i> , <i>Typha angustifolia</i> , <i>Agrostis gigantea</i>	Yes	F6	Yes	Primary: B2, B3 Secondary: B10, D2, D5	Yes	Yes	SP11 represents Wetland E and is entirely contained with the US 41 roadway swale median. It continues south ending at the US 41 and SR 352 intersection stormwater inlet.
							SP12	40.523242 -87.376063	<i>Schedonorus arundinaceus</i> , <i>Bromus inermis</i>	No	F6	Yes	Secondary: D2	No	No	The Sample Point was taken to represent the US 41 roadway swale median where upland vegetation was observed directly upslope from Wetland E.

*Indicates typical wetland data point.

OPEN WATER

No open water features were observed in the investigation area nor are any listed on the background material.

FLOODWAYS

According to the IDNR Indiana Floodplain Information Portal (Figure 6), the investigation area does not lie within a mapped Flood Hazard Zone or Regulatory Floodway.

WILDLIFE CROSSINGS

Suitable terrestrial and aquatic habitat for wildlife crossings was found to be present within the investigation area. This includes habitat that is suitable for amphibians, reptiles, and mammals. Adjacent vegetation communities include mowed and maintained lawns, emergent wetlands, and young woods. During the site visit, mammal tracks (Photograph 31) were observed within sediment deposits adjacent to the southwestern culvert inlet within Wetland A. In addition, amphibians (frogs) were observed within Wetlands A and B.

CONCLUSIONS:

Five jurisdictional wetland features (Wetlands A–E) were determined to be present within the investigation area (Table 4). The wetlands are connected by underground stormwater utilities and hydrology of the site exits the investigation area at the southwestern corner (Wetland B) through a culvert under train tracks. This hydrology flows south through the US 41 roadway swale to a RPW, Goose Creek, approximately 2,650-ft south of the investigation area. INDOT acknowledges that these features may be WOTUS and is requesting that the USACE take jurisdiction of these features. Four roadside ditches (RSDs 1–4) were observed within the investigation area. The RSDs are likely a non-jurisdictional roadside ditch due to their lack of bed, bank, or ground water influence.

Every effort should be taken to avoid and minimize impacts to the waterway. If impacts are necessary, then mitigation may be required and will be determined during permitting. The INDOT Environmental Services Division should be contacted immediately if impacts will occur. The final determination of jurisdictional waters is ultimately made by the USACE. This report is our best judgment based on the guidelines set forth by the USACE.

Acknowledgement:

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



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INDOT District: Crawfordsville



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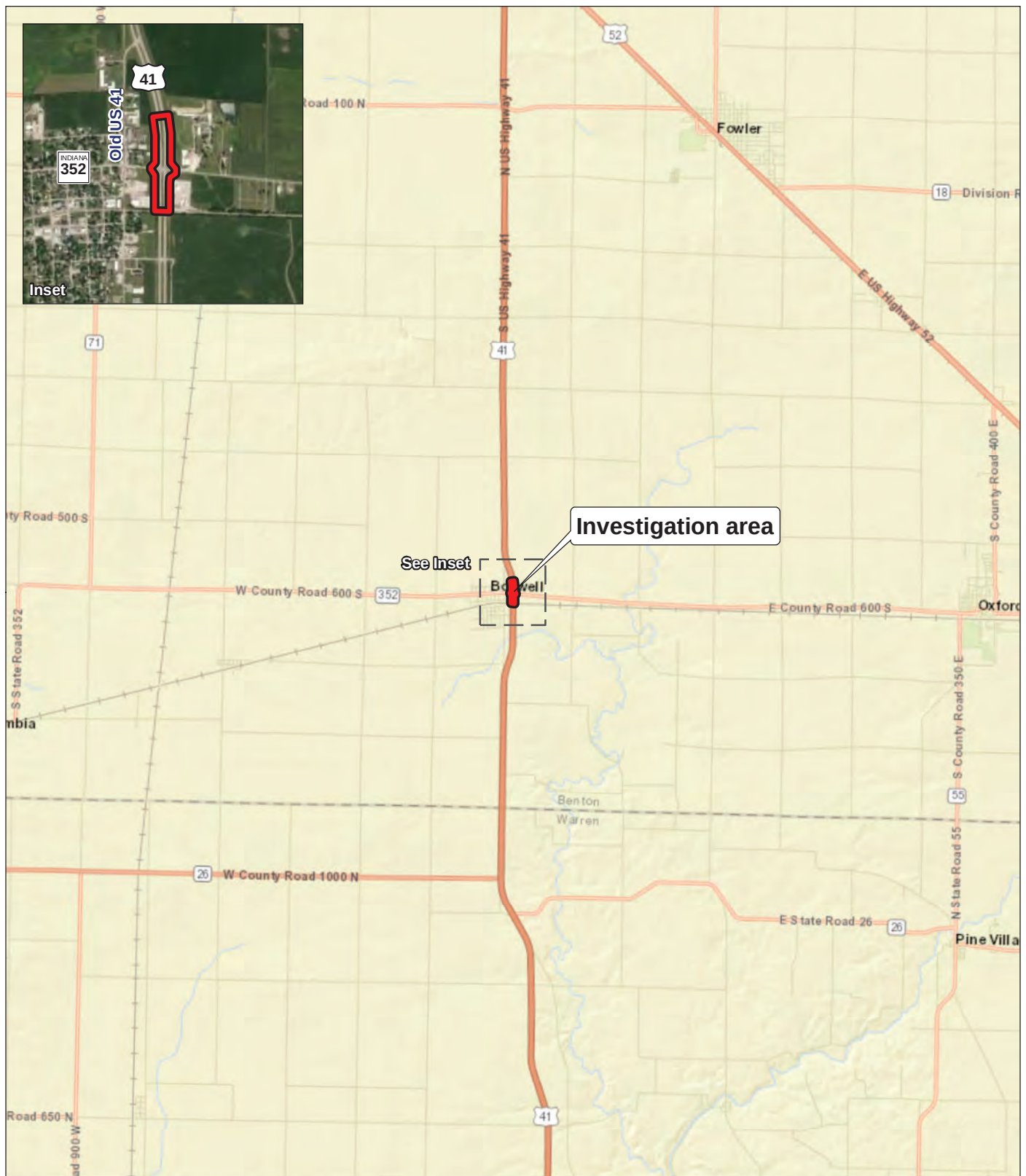


Figure 1

Portion of the ESRI World Street Map showing the vicinity of the US 41 and SR 352 Intersection Improvement Project (INDOT Des. No. 2100058) investigation area.

Base: ESRI World Street Map