

Indiana Department of Transportation

County Vanderburgh Route US 41, Hillsdale Road, and Radio Avenue Des. No. 1400005

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

Road No./County:	US 41, Hillsdale Road, and Radio Avenue/Vanderburgh County
Designation Number:	1400005
Project Description/Termini:	Intersection Improvement / US 41, Approximately 1,055 feet (ft.) south of Hillsdale Road to approximately 650 ft. north of Radio Avenue, including Hillsdale Road and Radio Avenue approaches.


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

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

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

Approval

_____	_____	_____	_____
ESM Signature	Date	ES Signature	Date
_____		_____	
FHWA Signature		Date	

Release for  Public Involvement

_____	<u>4/30/2020</u>	_____	_____
ESM Initials	Date	ES Initials	Date

Certification of Public Involvement

_____	_____
Office of Public Involvement	Date

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

INDOT ES/District Env.
Reviewer Signature: _____ Date: _____

Name and Organization of CE/EA
Preparer: Susan Castle, Metric Environmental, LLC

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Part I - PUBLIC INVOLVEMENT

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

Does the project have a historic bridge processed under the Historic Bridges PA*?

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

If No, then:

Opportunity for a Public Hearing Required?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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*A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.

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

Remarks:

A Notice of Entry letter was not mailed to the only affected property owner, CSX Railroad. The designer has coordinated with CSX Railroad and coordination will be on-going.
The project will meet the minimum requirements described in the current <i>Indiana Department of Transportation (INDOT) Public Involvement Manual</i> which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds

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

Will the project involve substantial controversy concerning community and/or natural resource impacts?

Remarks:

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

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

Sponsor of the Project: INDOT INDOT District: Vincennes
Local Name of the Facility: US 41, Hillsdale Road, and Radio Avenue

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

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

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PURPOSE AND NEED:

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

The need for this project originated from a Corridor Study that was completed in 2018 that examined the traffic operations for a large segment of the US 41 corridor. This project is included in that study. The existing intersection of US 41 at Hillsdale Road experiences a crash history that merits an evaluation of causes and applicable countermeasures. Traffic growth over a period of years has contributed to the safety concerns for vehicles entering US 41 from Hillsdale Road.

Crash data was obtained for the period extending from January 2016 through December 2018. The crash data was gathered to include only those crashes that occurred within the limits of the Hillsdale Road intersection. The following table summarizes the severity of crashes at the Hillsdale Road / US 41 intersection:

Crash Severity	2016	2017	2018	Total
Property Damage	2	4	3	9
Non-Incapacitating Injury	0	1	0	1
Incapacitating Injury	0	2	3	5
Fatal	1	0	0	1
Totals	3	7	6	16

The findings of the crash analysis indicate that the most frequent accident type is right-angle collisions (56%) followed by left-turn collisions (19%). With 75% of the intersection collision involving cross-traffic conflicts, the most likely factor leading to crashes is traffic volume.

In addition, there is an extremely low volume of traffic utilizing the intersection of Radio Avenue at US 41. The traffic analysis indicates that modifying the Radio Avenue access will not have a significant impact on the local road network's traffic operations.

The purpose of this project is to improve the traffic operations and the overall safety performance of this portion of the US 41 corridor.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Vanderburgh Municipality: Darmstadt / Evansville

Limits of Proposed Work: US 41, Approximately 1,055 ft. south of Hillsdale Road to approximately 650 ft. north of Radio Avenue, including Hillsdale Road and Radio Avenue approaches.

Total Work Length: 0.4 Mile(s) Total Work Area: N/A Acre(s)

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

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

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

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Location

This project is located on US 41 from approximately 1,055 ft. south of Hillsdale Road to approximately 650 ft. north of Radio Avenue situated at the southeast corner of the Town of Darmstadt, Scott and Center Townships, Vanderburgh County, Indiana (Appendix B, page B-1). Specifically, this project is located in Sections 17 and 20, Township 5 South, Range 10 West on the Evansville North, Indiana 7.5 minute United States Geological Survey topographic quadrangle (Appendix B, page B-2).

Existing Conditions

US 41 is classified as a Principal Arterial. US 41 is a 4-lane divided highway with a 60 miles per hour posted speed limit. The pavement material is asphalt. There is a single left-turn lane for each northbound and southbound US 41. The lane widths are 12 ft. There are 10-ft. wide paved shoulders along the outside travel lanes and 4-ft. wide paved shoulders along the median edges. The median width is 64 ft. as measured between the inside thru travel lanes. The width of the paved median surface as measured longitudinally along the US 41 centerline is 38 ft. The terrain is generally level. The area surrounding the project area is rural/suburban and the land uses adjoining the project area are residential, commercial, and agricultural. A 2011 aerial photograph is located in Appendix B, page B-3. Photo location maps and ground level photographs are located in Appendix B, pages B-4 to B-29.

Hillsdale Road is an east-west, two-lane local roadway with a posted speed limit of 45 MPH. The Hillsdale Road approaches have no auxiliary lanes. The existing roadway width is approximately 20 ft. and 84 ft. at the approaches. Hillsdale Road connects two north-south local collector roadways; Browning Road (approximately one mile east) and Old State Road (approximately 0.3 mile west).

Radio Avenue is on the east side of US 41 and is a two-lane local roadway with a posted speed limit of 30 MPH. The existing roadway width is approximately 20 ft. and 90 ft. at the approach.

A single set of CSX railroad track is parallel to US 41, situated approximately 135 ft. west of the US 41 centerline. There is a 2-lane bridge carrying Hillsdale Road over Little Pigeon Creek whose west abutment is approximately 160 ft. east of the US 41 centerline.

Little Pigeon Creek crosses under US 41 approximately 1,045 ft. north of Hillsdale Road (60 inches x 48 inches reinforced concrete box culvert) and crosses under Hillsdale Road approximately 200 ft. east of the US 41 centerline (bridge). A tributary of Little Pigeon Creek (UNT 1) is located in the northeast quadrant of US 41 and Hillsdale Road.

Preferred Alternative

The Indiana Department of Transportation (INDOT) and the Federal Highway Administration (FHWA) intend to proceed with the following project. The preferred alternative is to convert US 41 into a J-Turn configuration. A 12 ft. wide southbound J-turn lane will be constructed beginning approximately 100 ft. south from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 955 ft. south of its intersection with Hillsdale Road and will be widened to 14 ft. A 12 ft. wide northbound J-turn lane will be constructed beginning approximately 100 ft. north from its intersection with Hillsdale Road. The 14 ft. wide J-turn loop will be situated approximately 960 ft. north of its intersection with Hillsdale Road, approximately 50 ft. south of bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek. Bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek, are excluded from this project. The existing 12 ft. wide US 41 northbound right-turn lane to Hillsdale Road will be extended approximately 100 ft. A 12 ft. wide southbound US 41 right-turn lane onto Hillsdale Road will be added. The existing 12 ft. wide southbound and northbound travel lanes and shoulders will be milled and resurfaced. New inlets and pipes will be installed to existing pipes within the median along US 41 for drainage. Riprap on geotextile will be placed at the existing pipe outlets. The median on US 41 from Radio Avenue north to the end of the project will be graded to drain. Please refer to the Intersection Improvements Plan Sheets located in Appendix B, pages B-44 to B-50.

The existing westbound and eastbound left-turns and through traffic on Hillsdale Road will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Road approach on the west side of US 41 will be widened to approximately 114 ft. Concrete center curbs will be added at the westbound and eastbound Hillsdale Road approaches.

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With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Hillsdale Road, east of US 41, no work will be conducted on or under the bridge. Please note that the early coordination letter, Red Flag Investigation, and U. S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) refer to this bridge being located on Radio Avenue, which was in error. The existing 70 ft. long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Road, west of US 41, will be extended 22 ft. to the south with 48 inches diameter pipe and 42 ft. to the north with 48 inches diameter pipe for a total length of approximately 134 ft. to accommodate the approach widening. Approximately 25 tons of riprap on 35 square yards (sys) of geotextile will be placed at the north and south ends of the extended pipe. Please refer to the Intersection Improvements Plan Sheets located in Appendix B, pages B-46 to B-47.

The existing US 41 intersection with Radio Avenue will be converted to a right-in / right-out configuration, by installing a concrete center curb on Radio Avenue, in conjunction with this project. The median on US 41 will be reconstructed to remove the US 41 southbound left-turn on to Radio Avenue and the Radio Avenue westbound left-turn will be removed. New pavement markings and signs will be installed. Please refer to the Intersection Improvements Plan Sheets located in Appendix B, page B-49.

New signage, pavement marking, and highway lighting will be installed throughout the project limits (Appendix B, pages B-54 to B-61).

The preferred alternative can be constructed under traffic. The construction activity will primarily occur within the median with one lane of traffic for both northbound and southbound US 41 traffic on the existing outside lanes. Refer to the maintenance of traffic (MOT) section in this document for the full MOT description and Appendix B, pages B-34 to B-43.

Termini

The preferred alternative has independent utility because it meets the purpose and need of the project without being connected to any other actions in the area. The preferred alternative has logical termini because it encompasses only the area necessary to reconfigure US 41 into a J-turn and other ancillary work as described above. Every effort to avoid, minimize, and/or mitigate project impacts will be made.

The preferred alternative meets the stated purpose and need of the project by addressing the existing traffic operations and improving the existing safety performance of the roadway for the traveling public.

OTHER ALTERNATIVES CONSIDERED:

Describe all discarded alternatives, including the Do-Nothing Alternative and an explanation of why each discarded alternative was not selected.

Alternative 1: Slotted Turn Lanes

This alternative was considered to improve visibility for left-turning vehicles on US 41 prior to initiating the turn maneuver. This alternative would not provide the desired safety improvements for vehicles entering US 41 from Hillsdale Road and therefore was removed from further consideration.

Alternative 2: Traffic Signal (Conventional)

Installing a conventional traffic signal would provide improved safety performance for turning movements, however the highest percentage (approximately 90%) of intersection traffic is the through movement along US 41. The delay introduced to the northbound and southbound through movements would negatively impact corridor mobility by introducing intersection delay for the through movements.

If implemented, the Hillsdale Road approaches would require a significant amount of reconstruction in order to accommodate left-turn lanes for eastbound and westbound traffic entering US 41. It is estimated the construction cost for this alternative would be \$2 million to reconstruct 500 ft. of both the east and west approaches in order to accommodate eastbound and westbound left-turn lanes, construct southbound and northbound right-turn lanes, install the new traffic signal, remove the reverse crown along the outside southbound lane and reconstruct the median opening. The east approach bridge over Little Pigeon Creek would need to be widened to accommodate the added lane. The profile grade along the west approach would

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have to be raised to improve the stopping sight distance and the sharp vertical breaks at the railroad crossing would need to be removed for continuous travel under a green light condition. There would be significant right-of-way impacts and utility impacts associated with the alternative.

A crash modification factor (CMF) countermeasure value of 0.23 (77% reduction) applies to the angle crash category when converting a stop-controlled intersection to a signal-controlled intersection as published in the CMF Clearinghouse. However, it may be expected that rear-end crashes would increase as indicated by a CMF countermeasure value of 1.58 (58% increase). The high speeds, high traffic volume and significant volume of commercial trucks (approximately 13%) make this alternative less desirable.

This alternative is not recommended because similar angle crash reduction benefits can be attained by other alternative treatments without increasing rear-end crashes while not significantly restricting the mobility for through traffic along US 41.

Alternative 3: Traffic Signal (R-Cut-partial)

An R-Cut intersection was considered as an alternative treatment to a conventional traffic signal installation. Traffic signals at the median U-turns were examined with no traffic signal at the main intersection for US 41 left-turns onto Hillsdale Road due to their low volumes.

The westbound movement for 2020 AM traffic was used to test the R-Cut signal and compare to the conventional signal performance. This directional movement was chosen because it is the critical conflict movement for both AM and PM volumes. It was found that there would be no performance benefit to an R-Cut traffic signal as compared to a conventional signal for this specific project. The R-Cut alternative is not recommended because it does not exceed the performance of a conventional traffic signal installation.

Alternative 4: J-Turn with West Approach Right-in/Right-out & No South Median U-Turn (MUT)

Converting the existing intersection to a J-Turn configuration with right-in / right-out access would provide similar safety and operation benefits as the preferred alternative. Eliminating the south MUT alternative was considered in combination with the restricted access at the west approach. The directional movements that would be eliminated are the eastbound left-turn, the eastbound through and the northbound left-turn.

This alternative is not recommended because it would be disruptive to the local road network and it would direct traffic to the Old State Road / US 41 intersection. The Old State Road / US 41 west approach currently operates at a level of service F. Adding a dedicated left-turn lane at this approach was tested and was found to not improve the west approach level of service.

Alternative 5: Roundabout

Installing a multi-lane roundabout would provide improved intersection safety but would have a negative impact on US 41 mobility. The approaches along Hillsdale Road would require significant reconstruction to attain adequate entry geometrics and sight lines.

Roundabouts provide safety benefits in several ways. Many potential vehicle conflict points are eliminated, crash severity potential is significantly reduced by nearly eliminating right-angle conflicts and reducing speeds through the intersection. A CMF countermeasure value of 0.17 (83% reduction) applies to the angle crash category as published in the CMF Clearinghouse

The US 41 traffic volumes represent approximately 90% of the traffic through the Hillsdale Road intersection. Reducing operating speeds for all vehicles to accommodate Hillsdale Road traffic is inefficient from a traffic operations perspective. The appreciable truck volumes (approximately 13%) along US 41 would intensify those inefficiencies.

The construction cost for a multi-lane roundabout at this location is estimated to be approximately \$3 million. Approach work on Hillsdale Road would require grade modifications to the west leg and a bridge reconstruction on the east leg. This

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alternative was removed from further consideration because similar safety benefits can be attained by implementing a J-turn intersection while not significantly impacting the mobility for through traffic along US 41.

Alternative 6: Interchange

Constructing a new interchange at this location would provide improved safety while limiting the impact on US 41 corridor mobility. However, the cost and impacts associated with this type of intersection improvement would be of the highest magnitude as compared to the alternatives. Construction cost for a standard diamond configuration would be approximately \$18 million, and the property and environmental impacts would be significant. This alternative was removed from further consideration due to the high costs and impacts.

Alternative 7: Grade Separation on New Alignment

This alternative examined a realignment of Hillsdale Road with bridge structures spanning over US 41, the CSX railroad and Little Pigeon Creek. Connector roadways would be built off the realigned roadway to the existing Hillsdale Road to maintain local access to US 41. The existing Hillsdale Road intersection would be converted to right-in / right-out access at US 41. This alternative would cost approximately \$12 million to construct, and the property and environmental impacts would be significant. This alternative was removed from further consideration due to the high costs and impacts.

Alternative 8: Do-Nothing

The current performance of the existing two-way stop intersection indicates that an improvement to this intersection is desirable both on a safety basis and a level-of-service basis. This alternative is not recommended because it would perpetuate these undesirable measures.

The Do Nothing Alternative is not feasible, prudent or practicable because (Mark all that apply):

- It would not correct existing capacity deficiencies;
- It would not correct existing safety hazards;
- It would not correct the existing roadway geometric deficiencies;
- It would not correct existing deteriorated conditions and maintenance problems; or
- It would result in serious impacts to the motoring public and general welfare of the economy.
- Other (Describe)

X
X

ROADWAY CHARACTER:

Functional Classification: US 41, Principal Arterial - Other
 Current ADT: 21,200 VPD (2020) Design Year ADT: 27,200 VPD (2045)
 Design Hour Volume (DHV): 2,600 Truck Percentage (%) 13%
 Designed Speed (mph): 60 Legal Speed (mph): 60

	Existing	Proposed
Number of Lanes:	6	8
Type of Lanes:	4 through and 2 left-turn	4 through 2 left-turn and 2 right-turn
Pavement Width:	48 - 72 ft.	48 - 96 ft.
Shoulder Width:	28 ft.	7 - 14 ft.
Median Width:	48 - 64 ft.	29 - 68 ft.
Sidewalk Width:	ft.	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

Functional Classification: Hillsdale Road, Local Road

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Current ADT: 1,825 VPD (2020) Design Year ADT: 2,350 VPD (2045)
 Design Hour Volume (DHV): 171 Truck Percentage (%) 1.7%
 Designed Speed (mph): 45 Legal Speed (mph): 45

Existing **Proposed**

Number of Lanes:	2	2	
Type of Lanes:	Left-turn and Through	Right-turn	
Pavement Width:	20-84	20-114	ft.
Shoulder Width:			ft.
Median Width:			ft.
Sidewalk Width:			ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

Functional Classification: Radio Avenue, Local Road
 Current ADT: 107 VPD (2020) Design Year ADT: 139 VPD (2045)
 Design Hour Volume (DHV): 18 Truck Percentage (%) 1.7%
 Designed Speed (mph): 30 Legal Speed (mph): 30

Existing **Proposed**

Number of Lanes:	2	2	
Type of Lanes:	Right-turn and Through left-turn	Right-turn	
Pavement Width:	20-90	20-90	ft.
Shoulder Width:			ft.
Median Width:			ft.
Sidewalk Width:			ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

If the proposed action has multiple roadways, this section should be filled out for each roadway.

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): _____ Sufficiency Rating: _____
 (Rating, Source of Information)

Existing **Proposed**

Bridge Type:			
Number of Spans:			
Weight Restrictions:			ton
Height Restrictions:			ft.
Curb to Curb Width:			ft.
Outside to Outside Width:			ft.
Shoulder Width:			ft.
Length of Channel Work:			ft.

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

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Remarks: No bridges are located within the project area; however, the table below describes impacts to small structures during this project. Also, several storm sewer pipes, including inlets will be installed to existing RCP pipes within the median of US 41 (Appendix B, pages B-45 to B-48). The depth of excavation will be 6 ft. to 12 ft.

Structure No. 11 - 12 inches RCP existing outlet – Place 3 tons of riprap on 2.5 sys of geotextile (Appendix B, page B-45).
Structure No. 13 – 12 inches RCP existing outlet – Place 3 tons of riprap on 2.5 sys of geotextile (Appendix B, page B-46).
Structure No. 15 – Extend the existing 70 ft. long x 48 inches diameter RCP with 48 inches of 22 ft. pipe south and 48 inches of 42 ft. pipe north. Place 25 tons of riprap on 35 sys of geotextile at both the south and north ends of the pipe (Appendix B, pages B-46 to B-47).
Structure No. 16 – 12 inches RCP existing outlet - Place 3 tons of riprap on 2.5 sys of geotextile. This will permanently impact 6 linear ft. and temporarily impact 6 linear ft. of UNT 1 (Appendix B, page B-46).
Structure No. 19 - 12 inches RCP existing outlet – Place 3 tons of riprap on 2.5 sys of geotextile (Appendix B, page B-47).
Structure No. 21 – Install new 12 inches inlet and 61 linear ft. of 12 inches pipe with 3 tons of riprap on 2.5 sys of geotextile at the outlet (Appendix B, page B-48).

Yes
No
N/A

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

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

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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Remarks: The MOT for the project will require three phases of construction and a detour during Phase 2.

Phase 1: The construction activity will primarily occur within the median with one lane of traffic for both northbound and southbound US 41 traffic on the existing outside lanes. The paved intersection median at Hillsdale Road will remain open while the median lanes are constructed. Barrels will be placed to off-set construction from the traveling public. Phase 1 MOT is located in Appendix B, pages B-34 to B-36.

Phase 2: The outside lanes of US 41 will be constructed while inside through and left-turn lanes for both northbound and southbound US 41 traffic will be available. Barrels will be placed to off-set construction from the traveling public. Hillsdale Road, west of US 41 will be closed during this phase. A detour using US 41 to Old State Road will be in place which will add approximately 0.75 mile for the traveling public. Flaggers will be used at Hillsdale Road and Radio Avenue on the east side of US 41 as necessary. Phase 2 MOT is located in Appendix B, pages B-37 to B-40.

Phase 3: The final phase of construction will be completing work in the median through the intersection. During this phase, only right-turns out of the east and west approaches will be permitted. Posting I-69 as an alternate route (4 miles east) during construction will be considered to remove a portion of through traffic along US 41 through the work zone and to provide motorists with an option to avoid the construction zone. Phase 3 MOT is located in Appendix B, pages B-41 to B-43.

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 will cease upon project completion. Delays may occur during construction but will cease with project completion.

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 248,500 (2018) Right-of-Way: \$ (20--) Construction: \$ 2,205,682 (2020)

Anticipated Start Date of Construction: March 1, 2022

Date project incorporated into STIP 2018 – 2021 State Transportation Improvement Program (STIP); July 3, 2017 and 2020-2024 STIP; July 2, 2019 (Appendix H, pages H-1 to H-2)

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

If yes,

Name of MPO Evansville MPO

Location of Project in TIP Page 43 of the FY 2020-2024 TIP; March 14, 2019 (Appendix H, page H-3)

Date of incorporation by reference into the STIP July 2, 2019

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RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.00	0.00
Commercial	0.00	0.00
Agricultural	0.00	0.00
Forest	0.00	0.00
Wetlands	0.00	0.00
Other: CSX Railroad Easement	1.712	0.00
Other:	0.00	0.00
TOTAL	1.712	0.00

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

Remarks: Since the design has progressed, the amount of perpetual highway easement to be acquired from the CSX railroad has increased from 0.88 acres to 1.712 acres. The project will require the acquisition of approximately 1.712 acres of perpetual highway easement from CSX railroad for INDOT access of highway related work to include widening Hillsdale Road approach, west of US 41, the construction of the US 41 southbound right-turn lane to Hillsdale Road, grading, seeding, guardrail installation, and drainage structure modifications along the west side of US 41.

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

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

SECTION A – ECOLOGICAL RESOURCES

	Presence	Impacts	
		Yes	No
Streams, Rivers, Watercourses & Jurisdictional Ditches	X	X	
Federal Wild and Scenic Rivers			
State Natural, Scenic or Recreational Rivers			
Nationwide Rivers Inventory (NRI) listed			
Outstanding Rivers List for Indiana			
Navigable Waterways			

Remarks: Based on a desktop review, a site visit on October 15, 2019 by Metric Environmental (Metric), the 2011 aerial map of the project area (Appendix B, page B-3), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page E-10), there are fifteen streams, rivers, watercourses, jurisdictional ditches located within the 0.5 mile search radius. There are two streams, rivers, watercourses, jurisdictional ditches present within or adjacent to the project area.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office approved on January 22, 2020. Please refer to Appendix F, pages F-1 to F-51 for

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the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that Little Pigeon Creek and UNT 1 to Little Pigeon Creek, totaling 60.7 linear ft., were identified within the project study limits. Little Pigeon Creek is outside of the construction limits. Therefore, no impacts are anticipated to Little Pigeon Creek. UNT 1 to Little Pigeon Creek flows from west to east and is approximately 12.4 linear ft. long (0.0003 acre) within the project study limits. At the time of the site visit, the stream was dry. The ordinary high-water mark (OHWM) was an average of 1 ft. wide and 0.33 ft. deep. Approximately 6 linear ft. of permanent impacts and 6 linear ft. of temporary impacts to UNT 1 are expected due to the placement of riprap and geotextile at the outlet of an existing pipe located in the northeast quadrant of US 41 and Hillsdale Road (Appendix B, page B-46). Mitigation will not be required. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

Early coordination letters were sent to Indiana Department of Natural Resources (IDNR) Division of Fish & Wildlife (DFW), USFWS, and Indiana Department of Environmental Management (IDEM) on March 11, 2020. IDNR-DFW responded on April 9, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts (Appendix C, pages C-5 to C-6). IDNR-DFW recommends measures to control erosion and sediment from entering the stream or leaving the construction site and seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper. USFWS responded on March 24, 2020 with their standard recommendations which includes implementing temporary erosion and sediment control methods within areas of disturbed soil (Appendix C, pages C-7 to C-8). IDEM's automatic response letter, signed March 12, 2020, includes recommendations to obtain the appropriate USACE 404 and IDEM 401 permits and to avoid impacts to water resources to the fullest extent (Appendix C, pages C-9 to C-16).

Other Surface Waters	Presence	Impacts	
		Yes	No
Reservoirs			
Lakes			
Farm Ponds			
Detention Basins			
Storm Water Management Facilities			
Other: _____			

Remarks: Based on a desktop review, a site visit on October 15, 2019 by Metric Environmental (Metric), the 2011 aerial map of the project area (Appendix B, page B-3), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page E-10), there are five other surface waters within the 0.5 mile search radius. No other surface waters are present within the project area; therefore, no impacts are expected.

A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office approved on January 22, 2020. Please refer to Appendix F, pages F-1 to F-51 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no other surface waters are present within the project area. The USACE makes all final determinations regarding jurisdiction.

IDNR-DFW responded on April 9, 2020; however, there were no recommendations provided pertaining to other surface waters (Appendix C, pages C-5 to C-6). USFWS responded on March 24, 2020 with their standard recommendations which do not include other surface waters (Appendix C, pages C-7 to C-8). IDEM's automatic response letter, signed March 12, 2020, includes a recommendation that impacts to other water resources be avoided to the fullest extent (Appendix C, pages C-9 to C-16).

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Presence

Impacts
 Yes No

Wetlands

Total wetland area: 0.129 acre(s) Total wetland area impacted: 0.024 acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
A	Palustrine, Scrub-shrub, Broad-Leaved Deciduous, Temporarily Flooded (PSS1A)	0.068	0	No impacts are expected to wetland A.
B	Palustrine, Emergent, Broad-Leaved Deciduous, Temporarily Flooded (PEM1A)	0.061	0.024	Approximately 0.024 acre of wetland B will be impacted to extend the RCP pipe beneath Hillsdale Road, placement of riprap, and grading due to widening the roadway approach.

Documentation

ES Approval Dates

Wetlands (Mark all that apply)

- Wetland Determination
- Wetland Delineation
- USACE Isolated Waters Determination
- Mitigation Plan

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

January 22, 2020
January 22, 2020

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

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

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

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

Remarks: Based on a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), a site visit on October 15, 2019 by Metric, the USGS topographic map (Appendix B, page B-2), and the RFI report (Appendix E, page E-10) there are eleven wetlands located within the 0.5 mile search radius. There are 2 wetlands present within or adjacent to the project area.

This is page 13 of 28 Project name: Intersection Improvement Project Date: April 24, 2020

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A *Waters of the U.S. Determination / Wetland Delineation Report* was approved by INDOT Ecology and Waterway Permitting Office approved on January 22, 2020. Please refer to Appendix F, pages F-1 to F-51 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that two wetlands totaling 0.129 acre are located within the project area. Wetland A, classified as PSS1A is 0.068 acre in size, located in a concave depression northwest of the intersection of US 41 and Hillsdale Rd., south of Little Pigeon Creek. Wetland A exhibited average plant species diversity, no wildlife was observed, and is surrounded by railroad and paved road. These factors contribute to the conclusion that Wetland A likely supports a low amount of wildlife or aquatic habitat, and therefore should be considered poor quality. Wetland A is located outside of the construction limits; therefore, no impacts to wetland A are expected. Wetland B, classified as PEM1A is 0.061 acre in size, located in a concave depression southwest of the intersection of US 41 and Hillsdale Road. Wetland B exhibited poor plant species diversity and no wildlife was observed. These factors contribute to the conclusion that Wetland B can support a poor amount of wildlife or aquatic habitat, and therefore should be considered poor quality. Approximately 0.024 acre of Wetland B will be impacted to extend the existing RCP pipe beneath Hillsdale Road approximately 22 ft. to the south, placement of riprap, and grading due to widening the Hillsdale Road approach. Mitigation will not be required. The USACE makes all final determinations regarding jurisdiction.

IDNR-DFW responded on April 9, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts (Appendix C, pages C-5 to C-6). IDNR-DFW recommends impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding (Appendix C, pages C-5 to C-6). USFWS responded on March 24, 2020 with their standard recommendations which do not include wetlands (Appendix C, pages C-7 to C-8). IDEM's automatic response letter, signed March 12, 2020, includes recommendations that a consultant check to determine whether the project will abut, or lie within, a wetland area and that wetlands are avoided to the fullest extent (Appendix C, pages C-9 to C-16). The applicable IDNR-DFW recommendation is included in the Environmental Commitments section of this CE document.

Terrestrial Habitat

Unique or High Quality Habitat

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

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

Remarks:

Based on a desktop review, a site visit on October 15, 2019 by Metric, the 2011 aerial map of the project area (Appendix B, page B-3), there are trees, sapling/shrub, and herb stratum located within the project area. The dominant species include boxelder maple (*Acer negundo*), black locust (*Robinia pseudoacacia*), sugar maple (*Acer saccharum*), and American elm (*Ulmus Americana*) in the tree stratum; black willow (*salix nigra*), green ash (*Fraxinus pennsylvanica*), sugar maple (*Acer saccharum*), Eastern black walnut (*Juglans nigra*), Fragrant sumac (*Rhus aromatica*), and Gray dogwood (*Cornus racemose*) in the sapling/shrub stratum; Soft rush (*Juncus effuses*), Kentucky Bluegrass (*Poa pratensis*), Tall fescue (*Schedonorus arundinaceus*), Yellow foxtail (*Setaria pumila*), Virginia wildrye (*Elymus virginicus*), Redshank (*Persicaria maculosa*), Reed canary grass (*Phalaris arundinacea*), Canada goldenrod (*Solidago canadensis*), and Asiatic dayflower (*Commelina communis*) in the herb stratum. This project will disturb approximately 3.5 acres of the herb stratum during construction of the US 41 southbound right-turn lane to Hillsdale Road, grading, seeding, guardrail installation, and drainage structure modifications. No trees will be removed. No mitigation will be required.

IDNR-DFW responded on April 9, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources to the greatest extent possible, and compensate for impacts (Appendix C, pages C-5 to C-6). IDNR-DFW recommends revegetating as soon as possible, minimize tree and brush clearing, do not cut trees suitable for Indiana bat or Northern Long-eared bat from April 1 through September 30 and seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper. USFWS responded on March 24, 2020 with their standard recommendations which include do not clear trees or

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understory vegetation outside the construction zone boundaries (Appendix C, pages C-7 to C-8). The applicable IDNR-DFW recommendation is included in the Environmental Commitments section of this CE document.

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

Karst

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?	Yes	No
Are karst features located within or adjacent to the footprint of the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, will the project impact any of these karst features?	<input type="checkbox"/>	<input type="checkbox"/>

Use the remarks box to identify any karst features within the project area. (Karst investigation must comply with the Karst MOU, dated October 13, 1993)

Remarks: Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, page B-2), the RFI report (Appendix E, page E-10), there are no karst features identified within or adjacent to the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C, page C-17 to C-19). IGS responded that geological hazards include a high liquefaction potential and 1% annual chance flood hazard; mineral resources include low potential bedrock resource and low potential sand and gravel resource; and active or abandoned mineral resources extraction sites include petroleum exploration wells are located within 0.5 mile of the project area. Response from IGS has been communicated with the designer on April 9, 2020. No impacts are expected.

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

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

Remarks: Based on a desktop review and the RFI report (Appendix E), completed by metric on March 11, 2020, the IDNR Vanderburgh County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix E, pages E-14 to E-15). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW early coordination response letter dated April 9, 2020 (Appendix C, page C-5), the Natural Heritage Program's Database has been checked. The state endangered Loggerhead Shrike (*Lanius ludovicianus*) has been documented within the project area. Suitable habitat for the Loggerhead Shrike no longer exists within or near the project area. Therefore, they do not foresee any impacts to this bird species as a result of this project.

Project information was submitted through the USFWS's IPaC portal, and an official species list was generated (Appendix C, pages C-20 to C-25). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). No additional species were found within or adjacent to the project area other than the Indiana bat and northern long-eared bat.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was

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completed on March 27, 2020, and based on the responses provided, the project was found to “may affect / not likely to adversely affect” the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on March 27, 2020 and requested USFWS’s review of the finding (Appendix C, pages C-26 to C-38). 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) are included as firm commitments in the *Environmental Commitments* section of this document.

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.

SECTION B – OTHER RESOURCES

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

If a SSA is present, answer the following:

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

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

The Indiana Department of Environmental Management’s Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on March 11, 2020 by Metric. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on April 8, 2020 by Metric. One field located well was identified adjacent east of the project area north of Hillsdale Road. The feature will not be affected because it is located outside of the construction limits. Therefore, no impacts are expected. Should it be determined during the right-of-way phase that these wells are affected, a cost to cure will likely be included in the appraisal to restore the wells.

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Metric on January 13, 2020 and the RFI report; this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on January 13, 2020, to the Vanderburgh County MS4 Coordinator (Appendix C, page C-39). The MS4 coordinator did not respond within the 30-day time frame.

Based on a desktop review, a site visit on October 15, 2019 by Metric, the 2011 aerial map of the project area (Appendix B, page B-3) this project is most located where there is a public water system. The public water system will not be affected because the deepest depth of excavation is for installing the panel sign foundations and highway lighting along the project area. Early coordination letter was sent on November 17, 2019, to Evansville Water and Sewer Utility (EWSU). A reminder was sent to EWSU on December 4, 2019. There has

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been no response from EWSU. Utility coordination, by the designer, with EWSU will be on-going to avoid any potential water lines located within the project area. The utility coordination status report is located in Appendix C, page C-44.

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

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

Remarks: Based on a desktop review of The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmaps.dnr.in.gov/appsphp/fdms/>) by Metric on October 11, 2020, and the RFI report; this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, pages F-14 to F-23). An early coordination letter was sent on April 8, 2020, to the local Floodplain Administrator. During a phone conversation on April 10, 2020 between the floodplain administrator and a representative from Metric, the floodplain administrator stated he has no comments regarding this project. This project qualifies as a Category 3 per the current INDOT CE Manual, which states "The modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial."

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

Total Points (from Section VII of CPA-106/AD-1006* _____
 *If 160 or greater, see CE Manual for guidance.

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

Remarks: Based on a desktop review, a site visit on October 15, 2019 by Metric, the 2011 aerial map of the project area (Appendix B, page B-3), there is no land that meets the definition of farmland under the Farmland Protection Policy Act (FPPA) within 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 March 11, 2020, to Natural Resources Conservation Services (NRCS). On March 30, 2020, NRCS responded that this project will not cause a conversion of prime farmland (Appendix C, page C-40).

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	A and B	A-2, A-4, B-2, & B-3	February 10, 2020	<input type="checkbox"/>

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Eligible and/or Listed Resource Present

Results of Research

Archaeology	<input type="checkbox"/>
NRHP Buildings/Site(s)	<input type="checkbox"/>
NRHP District(s)	<input type="checkbox"/>
NRHP Bridge(s)	<input type="checkbox"/>

Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation Prepared

Documentation (mark all that apply)

Historic Properties Short Report
 Historic Property Report
 Archaeological Records Check/ Review
 Archaeological Phase Ia Survey Report
 Archaeological Phase Ic Survey Report
 Archaeological Phase II Investigation Report
 Archaeological Phase III Data Recovery
 APE, Eligibility and Effect Determination
 800.11 Documentation

**ES/FHWA
Approval Date(s)**

**SHPO
Approval Date(s)**

Memorandum of Agreement (MOA)

MOA Signature Dates (List all signatories)

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

Remarks:

On February 10, 2020 the INDOT Cultural Resource Office (CRO) determined that this project falls within the guidelines of Category A, Type 2 and 4 and Category B, Type 2 and 3 under the Minor Projects Programmatic Agreement, (Appendix D, pages D-1 to D-4).

Category A-2: All work within interchanges and within medians of divided highways in previously disturbed soils.

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

Category B-2: Installation of new lighting, signals, signage and other traffic control devices 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

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

Condition B (Above-Ground Resources)
 Work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

Category 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 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.

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

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

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

	<u>Presence</u>	<u>Use</u>	
		Yes	No
Parks & Other Recreational Land			
Publicly owned park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (school, state/national forest, bikeway, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Evaluations Prepared</u>	<u>FHWA Approval date</u>	
Programmatic Section 4(f)*	<input type="checkbox"/>	<input style="width: 100%; height: 20px;" type="text"/>	
“De minimis” Impact*	<input type="checkbox"/>		
Individual Section 4(f)	<input type="checkbox"/>		

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Wildlife & Waterfowl Refuges	<u>Presence</u>	<u>Use</u>	
		Yes	No
National Wildlife Refuge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Natural Landmark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Wildlife Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Nature Preserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Evaluations Prepared</u>	<u>FHWA Approval date</u>
Programmatic Section 4(f)*	<input type="text"/>
"De minimis" Impact*	<input type="text"/>
Individual Section 4(f)	<input type="text"/>

Historic Properties	<u>Presence</u>	<u>Use</u>	
		Yes	No
Sites eligible and/or listed on the NRHP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Evaluations Prepared</u>	<u>FHWA Approval date</u>
Programmatic Section 4(f)*	<input type="text"/>
"De minimis" Impact*	<input type="text"/>
Individual Section 4(f)	<input type="text"/>

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

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

Remarks:	<p>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. Lands subject to this law are considered Section 4(f) resources.</p> <p>Based on a desktop review, a site visit on October 15, 2019 by Metric, the aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-9), there are two 4(f) resources located within the 0.5 mile search radius. There are two located within or adjacent to the project area. Scott Township Civic Center, 600 Radio Avenue, Evansville, IN 47711 is located northeast and Vanderburgh County 4-H Center, 404 W. Booneville New Harmony Road, Evansville, IN 47711 is located northwest of the project area. The project will not use these resources by taking permanent right-of-way and will not alter the environment in such a way as to constitute constructive use of these resources. Therefore, no use is expected.</p> <p>Early coordination letters were sent to Scott Township Civic Center and Vanderburgh County 4-H Center on March 11, 2020. Scott Township Civic Center and Vanderburgh County 4-H Center did not respond to the early coordination letter.</p>
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Section 6(f) Involvement	<u>Presence</u>	<u>Use</u>	
Section 6(f) Property	<input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

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

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

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) website at <https://www.wilderness.org/articles/article/mapping-land-and-water-conservation-fund-lwcf> revealed a total of twelve properties in Vanderburgh County (Appendix I, page I-1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

Is the project in an air quality non-attainment or maintenance area?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If YES, then:		
Is the project in the most current MPO TIP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If the project is NOT exempt from conformity, then:		
Is the project in the Transportation Plan (TP)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Level of MSAT Analysis required?

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

Remarks: This project is included in the Fiscal Year (FY) 2020-2024 Evansville Metropolitan Planning Organization (MPO) Transportation Improvement Program (MPO TIP) and FY 2018-2021 and FY 2020-2024 Statewide Transportation Improvement Program (STIP) (Appendix H, pages H-1 to H-3).

- **Ozone:** This project is located in Vanderburgh County, which is currently a maintenance area for Ozone, under the 1997 standard *which was revoked in 2015 but is being evaluated for conformity due to the February 16, 2018, South Coast Air Quality Management District V. Environmental Protection Agency, Et. Al. Decision*. The project’s design concept and scope are accurately reflected in both the Evansville MPO Transportation Plan (TP) and the Transportation Improvement Program (TIP) and both conform to the State Implementation Plan (SIP). Therefore, the conformity requirements of 40 CFR 93 have been met.
- **PM2.5:** This project is located in Vanderburgh County. This county is currently a maintenance area for PM2.5. Under 40 CFR 93.123, this is not a project of air quality concern. Therefore, a hot spot analysis for PM2.5 is not required.

Based on consultation with INDOT Environmental Services Division (ESD) on April 8 and 10, 2020, A hot spot analysis is not needed (Appendix C, pages C-41 to 42).

MSAT Level 1b Analysis
The purpose of this project is to improve the traffic operations and the overall safety performance of this portion of the US 41 corridor by constructing a northbound and southbound J-turn with median U-turns,

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extend the existing US 41 northbound right-turn lane onto Hillsdale Road, add a southbound right-turn lane on US 41 to Hillsdale Road, reconstruct the median opening at Hillsdale Road to accommodate dedicated northbound and southbound left-turn lanes, and reconstruct the median at Radio Avenue to remove the southbound left-turn on US 41 to Radio Avenue and the westbound left-turn on Radio Avenue to US 41. This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

SECTION F - NOISE

Noise **Yes** **No**
 Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?

	No	Yes/ Date
ES Review of Noise Analysis	<input type="checkbox"/>	<input type="checkbox"/>

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

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

	Yes	No
Will the proposed action comply with the local/regional development patterns for the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed action result in substantial impacts to community cohesion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the proposed action result in substantial impacts to local tax base or property values?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will construction activities impact community events (festivals, fairs, etc.)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the community have an approved transition plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If No, are steps being made to advance the community's transition plan?	<input type="checkbox"/>	<input type="checkbox"/>
Does the project comply with the transition plan? (explain in the remarks box)	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Remarks: There will be no permanent adverse impact to local mobility, access, pedestrian or motorist safety or emergency services as a result of the project. However, during construction, there will be temporary impacts due to the alternating lanes of travel. There will be no permanent adverse alterations to the movement of traffic, land use or the streetscape. No permanent impacts to the community cohesion, local tax base, property values or community events were identified as a result from the project.

Local access will be maintained during construction. In accordance with the current INDOT Design Manual and Standard Specifications, the contractor will be responsible for contacting school districts and emergency services at least two weeks prior to the start of construction. Notification and all signs, lights and barricades

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utilized for traffic maintenance will be in accordance with current INDOT Standard Specifications and the Manual on Uniform Traffic Control Devices (MUTCD).

The Indiana Association of Fairs website (www.indianafestivals.org) was reviewed by Metric Environmental on April 8, 2020. There is one event currently scheduled, Southern Indiana Antique and Machinery (SIAM) Classic Iron Show, June 12 – 14, 2020 at the Vanderburgh 4-H Center, located at 201 E. Boonville-New Harmony Road, Evansville, IN 47725. If this event is held during the construction activities, the commute times to events may be impacted. Announcements regarding construction activities will be published on the INDOT social media pages and coordination with the community will occur to minimize disruption to the extent possible.

Early coordination letters were sent to U.S. Department of Housing & Urban Development (HUD), Vanderburgh County Surveyor, Vanderburgh County Highway Department, and Vanderburgh County Commissioner on March 11, 2020 (Appendix C, pages C-1 to C-4). The agencies did not respond to the early coordination letter.

The Town of Darmstadt and City of Evansville follow the Vanderburgh County American with Disabilities Act (ADA) Transition Plan, adopted in December 2015. There are no existing sidewalks or other pedestrian walkways which will be destroyed or amended within the vicinity of this project, and there are no sidewalks or other pedestrian walkways that will be constructed as part of this project. This project will not contribute to any barriers to ADA accessibility.

Indirect and Cumulative Impacts

Will the proposed action result in substantial indirect or cumulative impacts?

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

Remarks:

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

Future Improvement Considerations:
The 2018 Corridor Study identified US 41 intersection improvements at Hillsdale Road, Radio Avenue and Old State Road/Campbell Road that may be developed at some point in the future. This assessment of alternative improvements at Hillsdale Road and the recommended alternative are generally consistent with the conclusions of the Corridor Study. The following modifications are identified in the Corridor Study:

- Remove the Hillsdale Road west approach at US 41.
- Do not provide a south MUT at Hillsdale Road.
- Remove the Radio Avenue intersection at US 41.
- Remove the Campbell Road east approach at US 41.
- Construct a continuous link between Campbell Road and Old State Road on the east side of US 41.
- Construct improvements to Campbell Road and Walnut Avenue.

Public Facilities & Services

Will the proposed action result in substantial impacts on health and educational facilities, public and private utilities, emergency services, religious institutions, airports, public transportation or pedestrian and bicycle facilities? *Discuss how the maintenance of traffic will affect public facilities and services.*

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

Remarks:

Based on a desktop review, a site visit on October 15, 2019 by Metric, the 2011 aerial map of the project area (Appendix B, page B-3), and the RFI report (Appendix E, page E-3), there is one religious facility, one airport, and three railroads located within the 0.5 mile of the project. One single railroad is within or adjacent to the project area. The railroad is not located within the construction limits. Temporary road closure at Hillsdale Road, west of US 41, will be necessary during Phase 2 construction; however, access to all properties will be maintained during construction. Therefore, no impacts are expected.

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Early coordination letters were sent to Harvest Community Church and INDOT Office of Aviation on March 11, 2020. Harvest Community Church did not respond to the early coordination. INDOT Office of Aviation responded on March 12, 2020 indicating if any object, construction, or equipment will exceed 115 ft. in height, further coordination will be required with their office (Appendix C, page C-43). The applicable INDOT Office of Aviation recommendation is 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.

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project require an EJ analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If YES, then:		
Are any EJ populations located within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project result in adversely high or disproportionate impacts to EJ populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require acquisition of 0.88 permanent easement from CSV railroad. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Vanderburgh County. The community that overlaps the project area is called the affected community (AC). In this project, the AC-1 is Census Tract 102.01 and the AC-2 is Census Tract 107. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2013 – 2017 American Community Survey 5-Year Estimates was obtained from the US Census Bureau Website <https://factfinder.census.gov/> on March 28, 2020 by Metric. The data collected for minority and low-income populations within the AC-1 and AC-2 are summarized in the below table.

Table: Minority and Low-Income Data (Source Data and Year)			
	COC Vanderburgh County	AC-1 Census Tract 102.01 Vanderburgh County Indiana	AC-2 Census Tract 107 Vanderburgh County Indiana
Percent Minority	15.88%	15.33%	9.33%
125% of COC	19.85%	AC < 125% COC	AC < 125% COC
EJ Population of Concern		No	No
Percent Low-Income	17.99%	2.00%	4.10%
125% of COC	22.49%	AC < 125% COC	AC < 125% COC
EJ Population of Concern		No	No

*Refer to the INDOT EJ guidance for calculating percentages

AC-1, Census Tract 102.01 has a percent minority of 15.33% which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 107 has a percent minority of 9.33% which is below 50% and is below the 125% COC threshold. Therefore, both AC's do not contain minority populations of EJ concern.

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AC-1, Census Tract 102.01 has a percent low-income of 2.00% which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 107 has a percent low-income of 4.10% which is below 50% and is below the 125% COC threshold. Therefore, both AC's do not contain low-income populations of EJ concern.

Conclusion
The census data sheets, map, and calculations can be found in Appendix I, pages I-2 to I-8. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

	Yes	No
Will the proposed action result in the relocation of people, businesses or farms?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a Business Information Survey (BIS) required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a Conceptual Stage Relocation Study (CSRS) required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has utility relocation coordination been initiated for this project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

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

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

First Group Engineering, Inc. initiated utility coordination with AT&T (Distribution and Transmission), EWSU (Water and Sewer), Vectren (Electric and Gas Distribution), and Wide Open West (Communication) on November 17, 2019. A pothole request was sent to AT&T Distribution on March 10, 2020. AT&T Transmission is located within the project area; however, no conflicts are expected. All other utility coordination will be on-going. The utility coordination status report is located in Appendix C, page C-44.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Documentation

Hazardous Materials & Regulated Substances (Mark all that apply)

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

	No	Yes/ Date
ES Review of Investigations	<input type="checkbox"/>	Yes / March 12, 2020

Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, an RFI was completed on March 11, 2020 by Metric (Appendix E, pages E-1 to E-15). One UST and One LUST sites are located within 0.5 mile of the project area; however, no hazmat sites were identified in or within 0.5 mile of the project area that will impact the project. The UST site, Circle S Mart, is located adjacent to the project area. The LUST site, former Swifty Station #223, is located 0.10 mile north from the project area. No impacts are expected because the UST site was inspected on June 7, 2016 and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9. On January 21, 2011, IDEM issued a No Further Action Determination Pursuant to Risk Integrated System of Closure (RISC) to the LUST site. Further investigation for hazardous material concerns is not required at this time.

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SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

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

IDEM

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

IDNR

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

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the remarks box below)

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

Remarks:

An IDEM Section 401 Water Quality Control Permit and a USACE 404 Regional General Permit are anticipated to be required to extend the existing RCP located beneath Hillsdale Road, west of US 41, install riprap and impacts to UNT 1. Final decisions regarding the type of permits will be made by USACE and IDEM.

An NPDES General Permit for Erosion Control (Rule 5) will be required, as greater than 1 acre of land will be disturbed. Prior to the initiation of construction, it will be the responsibility of the contractor to submit the Notice of Intent to IDEM regarding the intent to operate the proposed construction project in a manner consistent with the rule.

An early coordination letter was sent to IDNR-DFW on March 11, 2020 (Appendix C, pages C-1 to C-4). According to the IDNR-DFW early coordination response letter dated April 9, 2020 This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, unless it qualifies under the INDOT and IDNR Memorandum of Understanding for Maintenance Activity Exemption, dated March 1997 (Appendix C, pages C-5). Based on the proposed construction activities and INDOT Ecology and Waterway Permitting review, it has been determined that a construction in a floodway permit will not be required due to the wetland impacts are located outside of the mapped floodway (Appendix C, page C-45).

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

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

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SECTION J- ENVIRONMENTAL COMMITMENTS

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

Remarks:

Firm:

1. The existing 70 ft. long x 48 inches diameter RCP located beneath Hillsdale Road, west of US 41 has shown no evidence of use (for example, nests) by a bird species protected under the Migratory Bird Treaty Act (MBTA) during previous inspections. However, the structure is located over or near water which is preferred habitat for migratory birds. Avoidance and minimization measures must be implemented prior to the start of and during the nesting season. Nests without eggs or young should be removed prior to construction during the non-nesting season (September 8 – April 30) and during the nesting season if no eggs or young are present. Nests with eggs or young cannot be removed or disturbed during the nesting season (May 1 – September 7). Nests with eggs or young should be screened or buffered from active construction. Details of the required procedures are outlined in the “Potential Migratory Bird on Structure Unique Special Provision”. (INDOT EWPO)
2. 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 ESD)
3. If the scope of work or permanent or temporary right-of-way amounts change, INDOT-ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT-ESD and INDOT District)
4. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction activity that would block or limit access. (INDOT-ESD)
5. USFWS Bridge/Structure Assessment shall take place no earlier than two (2) years prior to the start of construction. If construction will begin after October 15, 2021, an inspection of the structure by a qualified individual, must be performed. Inspection of the structure should check for presence of bats/bat indicators and/or presence of birds. The results of the inspection must indicate no signs of bats or birds. If signs of bats or birds are documented during this inspection, the INDOT District Environmental Manager must be contacted immediately. (INDOT-ESD)
6. General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWAQ/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
7. Lighting AMM 1: Direct lighting away from suitable habitat during the active season. (USFWS)
8. Lighting AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of “uplight” of 0 and “backlight” as low as practicable. (USFWS)
9. If any object, obstruction, or equipment will exceed 115 ft. in height, further coordination will be required with INDOT, Office of Aviation (317) 232-1477. (INDOT, Office of Aviation)

For Further Consideration:

10. Evaluate wildlife crossings under bridge/culverts projects in appropriate situations. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels, and diversion fencing. (USFWS)
11. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS)
12. Restrict below low-water work in streams to placement of culverts, piers, pilings, and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. (USFWS)
13. Do not excavate in the low flow area except for the placement of piers, foundations, and riprap, or removal of the old structure. (IDNR-DFW)
14. Grouted riprap is not recommended due to negative impacts to fish, wildlife, and botanical resources. (IDNR-DFW)

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15. Protect the area around and below any concentrated discharge points, down to the waterway's normal flow level, with appropriate structural armament such as riprap. (IDNR-DFW)
16. Riprap must not be placed in the active thalweg channel or placed in the streambed in a manner that precludes fish or aquatic organism passage (riprap must not be placed above the existing streambed elevation). Riprap may be used only at the toe of the sideslopes up to the ordinary high water mark (OHWM). The banks above the OHWM must be restored, stabilized, and revegetated using geotextiles and a mixture of grasses, sedges, wildflowers, shrubs, and trees native to [site indicated] and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion. (IDNR-DFW)
17. The new, replacement, or rehabbed structure should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. (IDNR-DFW)
18. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids. (IDNR-DFW)
19. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding. (IDNR-DFW)
20. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30. (IDNR-DFW)

SECTION K- EARLY COORDINATION

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

Remarks:

Agency	Coordination Sent	Response Received
Vanderburgh County MS4 Coordinator	January 13, 2020	None Received
Indiana Geological Survey	March 11, 2020	March 11, 2020
IDEM Wellhead Proximity Determinator	March 11, 2020	Automatic Response
Indiana Department of Natural Resources	March 11, 2020	April 9, 2020
IDEM Proposed Roadway Construction Projects	March 11, 2020	March 12, 2020
US Department of HUD	March 11, 2020	None Received
Midwest Regional Office, National Parks Service	March 11, 2020	None Received
U.S. Fish & Wildlife Service	March 11, 2020	March 24, 2020
Natural Resources Conservation Service	March 11, 2020	March 30, 2020
Vanderburgh County Commissioner	March 11, 2020	None Received
Vanderburgh County Surveyor	March 11, 2020	None Received
Vanderburgh County Highway Department	March 11, 2020	None Received
Evansville MPO	March 11, 2020	None Received
Harvest Community Church	March 11, 2020	None Received
Scott Township Civic Center	March 11, 2020	None Received
Vanderburgh County 4-H Center	March 11, 2020	None Received
INDOT Office of Aviation	March 11, 2020	March 12, 2020
Vanderburgh County Floodplain Administrator	April 8, 2020	Telephone April 10, 2020

APPENDICES

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APPENDIX A:
INDOT Supporting Documentation

Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 ¹
Section 106	Falls within guidelines of Minor Projects PA	“No Historic Properties Affected”	“No Adverse Effect”	-	“Adverse Effect” Or Historic Bridge involvement ²
Stream Impacts	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
Wetland Impacts	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
Right-of-way³	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
Relocations	None	-	-	< 5	≥ 5
Threatened/Endangered Species (Species Specific Programmatic for Indiana bat & northern long eared bat)	“No Effect”, “Not likely to Adversely Affect” (Without AMMs ⁴ or with AMMs required for all projects ⁵)	“Not likely to Adversely Affect” (With any other AMMs)	-	“Likely to Adversely Affect”	Project does not fall under Species Specific Programmatic
Threatened/Endangered Species (Any other species)	Falls within guidelines of USFWS 2013 Interim Policy	“No Effect”, “Not likely to Adversely Affect”	-	-	“Likely to Adversely Affect”
Environmental Justice	No disproportionately high and adverse impacts	-	-	-	Potential ⁶
Sole Source Aquifer	Detailed Assessment Not Required	-	-	-	Detailed Assessment
Floodplain	No Substantial Impacts	-	-	-	Substantial Impacts
Coastal Zone Consistency	Consistent	-	-	-	Not Consistent
National Wild and Scenic River	Not Present	-	-	-	Present
New Alignment	None	-	-	-	Any
Section 4(f) Impacts	None	-	-	-	Any
Section 6(f) Impacts	None	-	-	-	Any
Added Through Lane	None	-	-	-	Any
Permanent Traffic Alteration	None	-	-	-	Any
Coast Guard Permit	None	-	-	-	Any
Noise Analysis Required	No	-	-	-	Yes
Air Quality Analysis Required	No	-	-	-	Yes ⁷
Approval Level	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes	Yes
<ul style="list-style-type: none"> • District Env. Supervisor • Env. Services Division • FHWA 				Yes	Yes

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

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

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

⁴AMMs = Avoidance and Mitigation Measures.

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

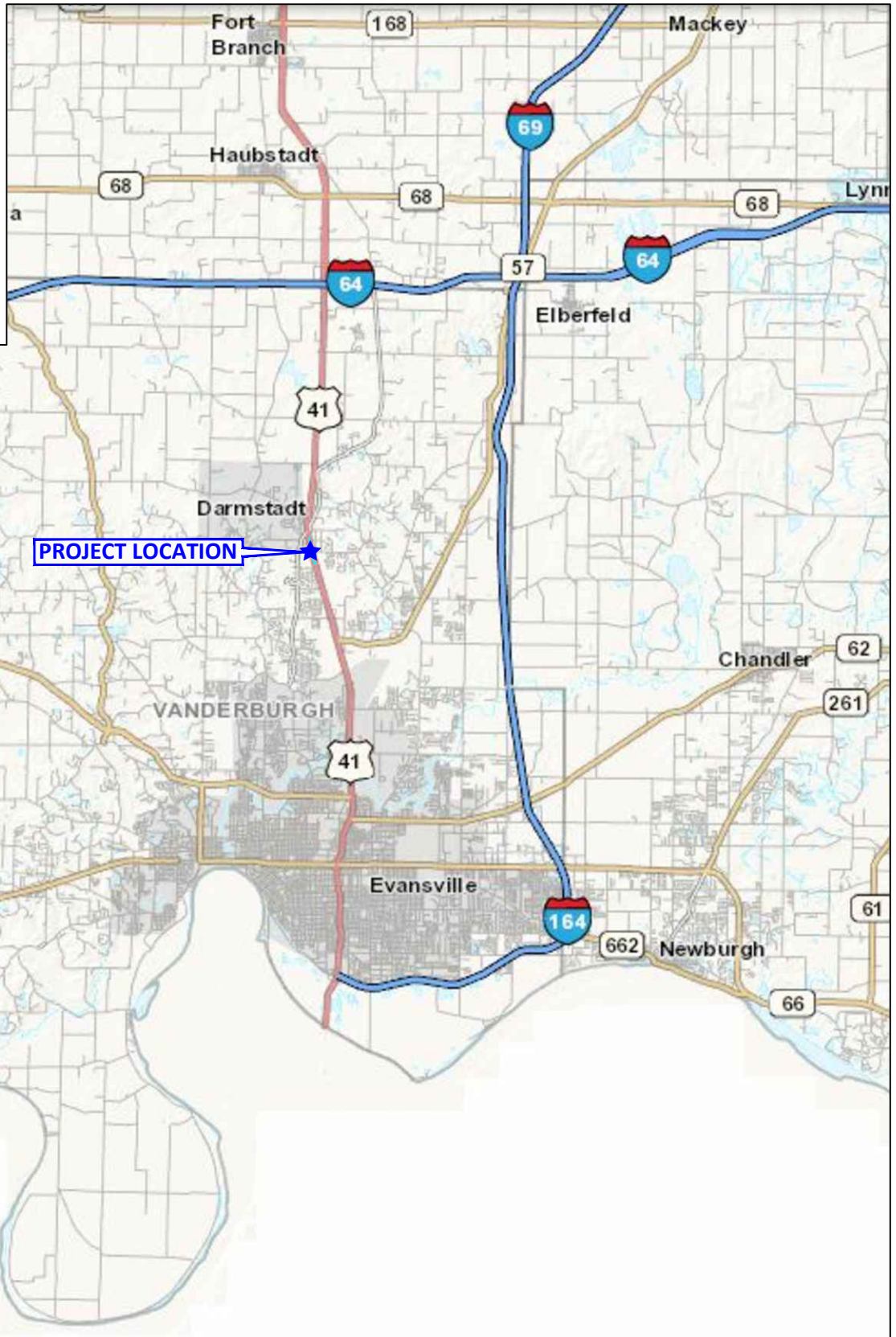
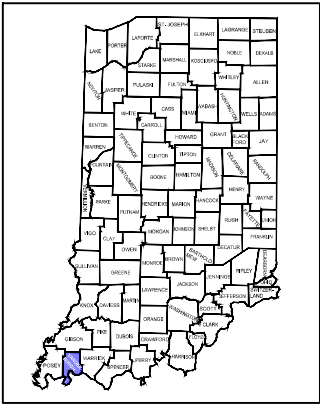
⁶Potential for causing a disproportionately high and adverse impact.

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

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

APPENDIX B:

Graphics



\\metricapp\Project Files\2019\19-0123 - FG-INDOT-Hillsdale Road two P-Turns\5-Deliverables\Exhibits\CE\Location Map.dwg

Source: <http://maps.indiana.edu/>

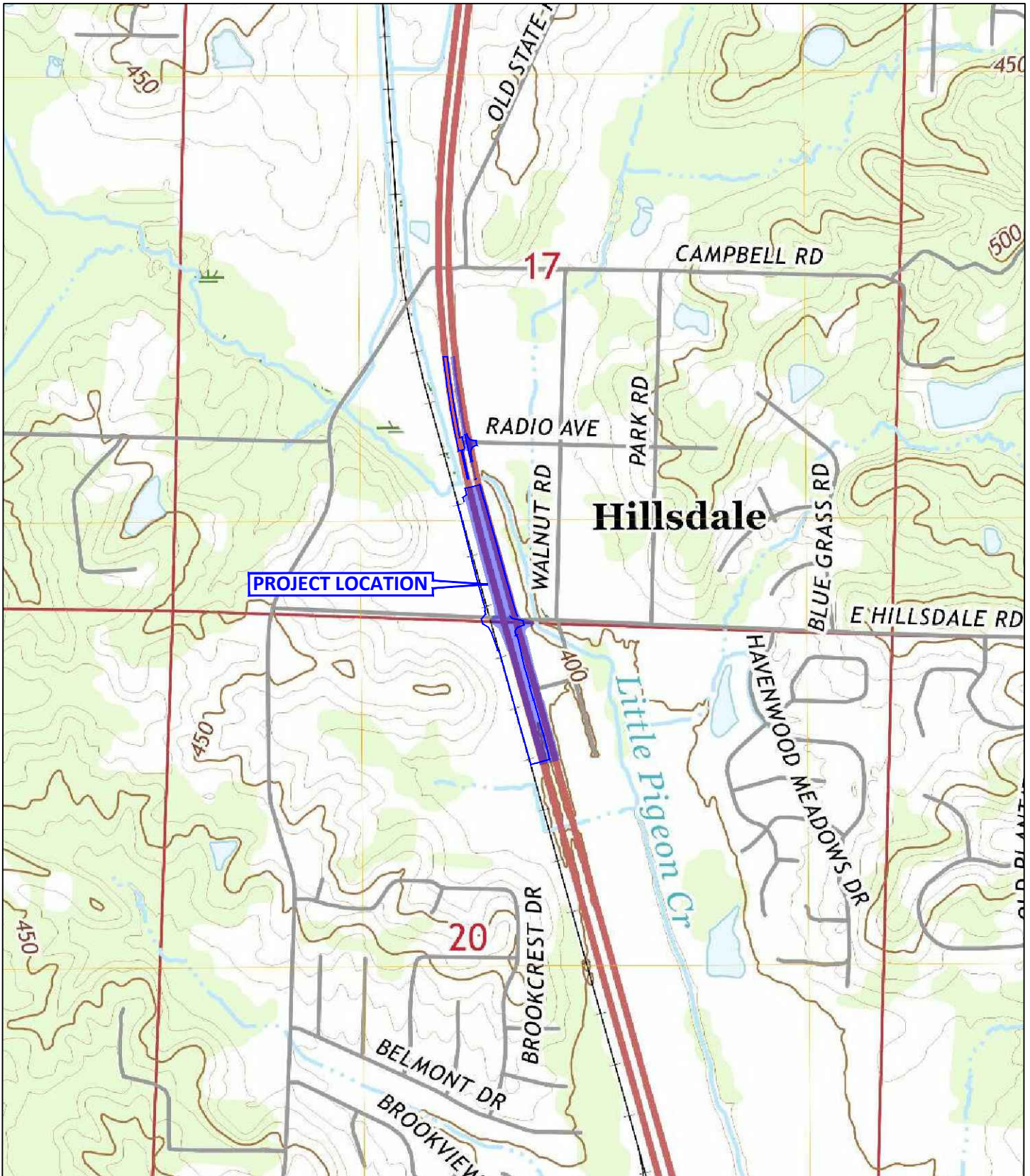
Location Map
 Road Project
 Hillsdale Road and Radio Avenue at US 41
 Scott and Center Township, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123

All locations approximate



Not to Scale

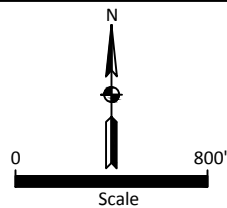


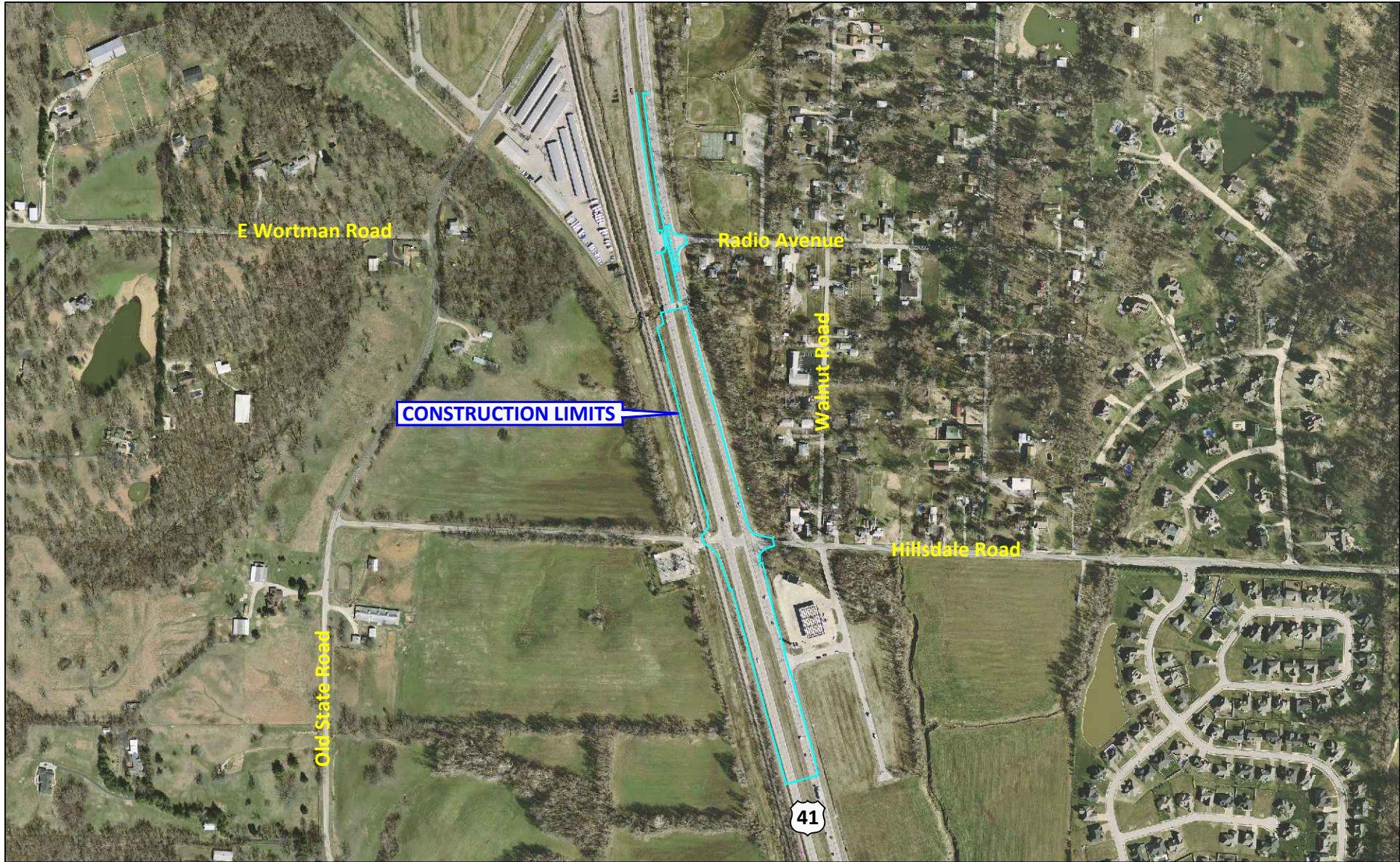


Source: <https://ngmdb.usgs.gov/topoview/viewer/#14/38.0794/-87.5548>

USGS Topographic Map
 Road Project
 Hillsdale Road and Radio Avenue at US 41
 Scott and Center Township,
 Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123

Note: All locations are approximate
 Base map:
 2019 Evansville North, IN
 7.5 Minute Quadrangle

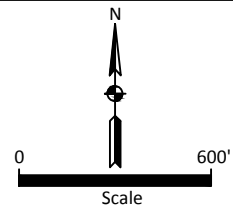


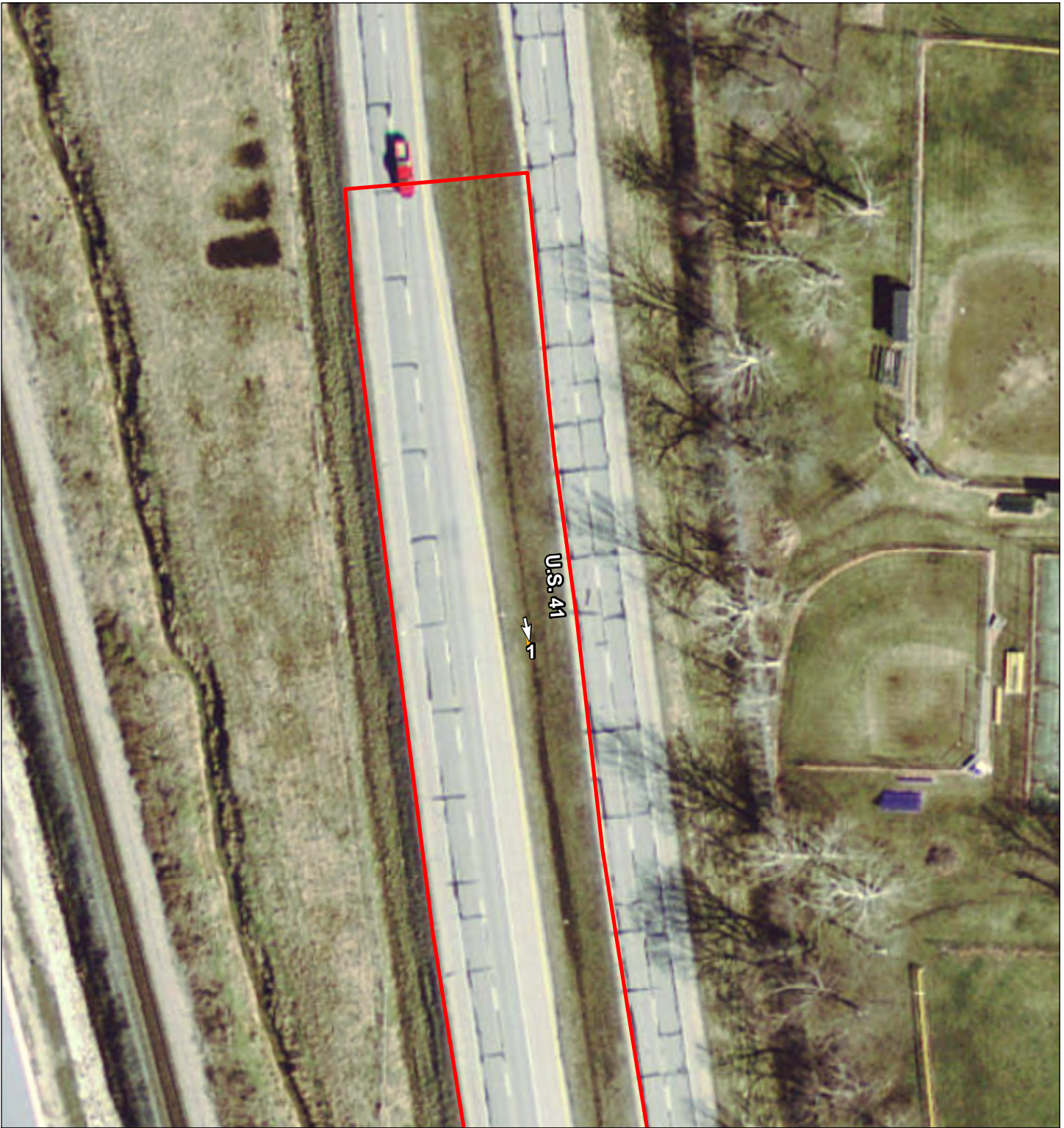


Source: <http://maps.indiana.edu/>

2011 Aerial Photograph
 Road Project
 Hillsdale Road and Radio Avenue at US 41
 Scott and Center Township, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123

Note: All locations are approximate






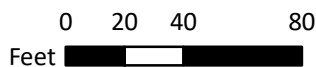
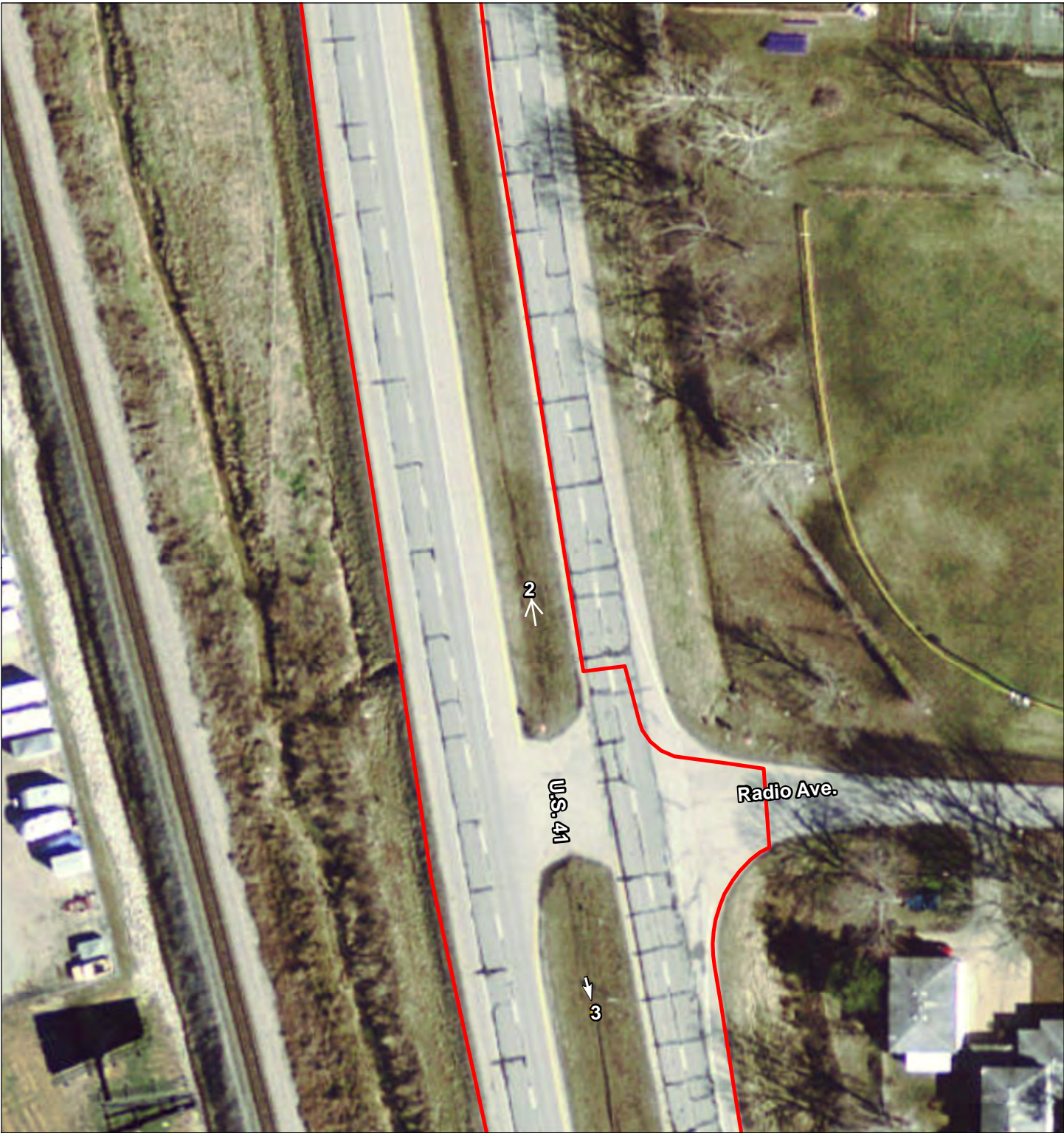
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)



Exh. 5 Page 1 of 9





 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

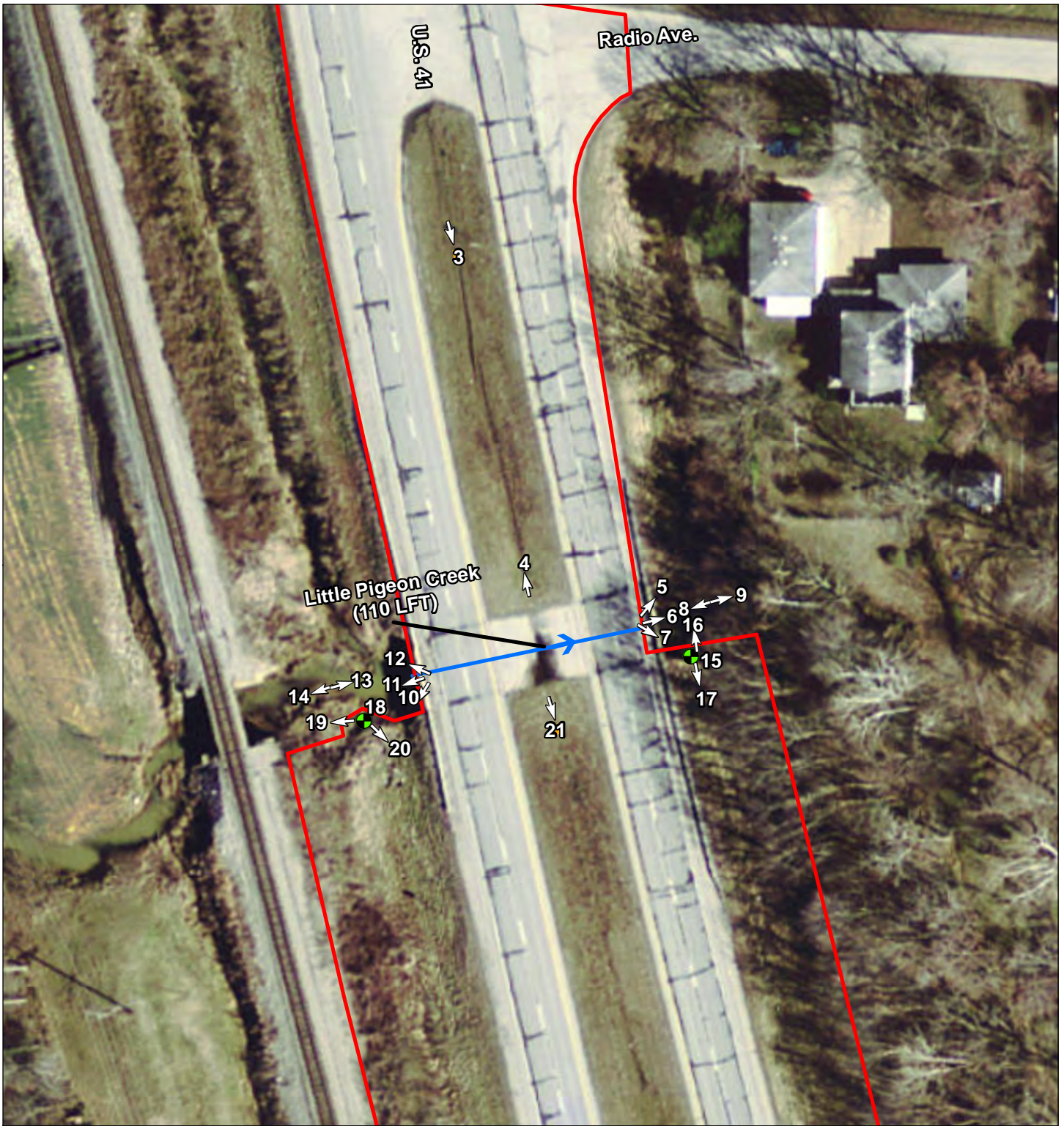
All locations approximate
 Source: Indiana Spatial Data Portal (2013)



0 20 40 80
 Feet 



Exh. 5 Page 2 of 9



Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)



0 20 40 80
 Feet



Exh. 5 Page 3 of 9




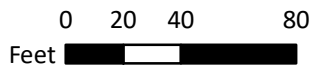
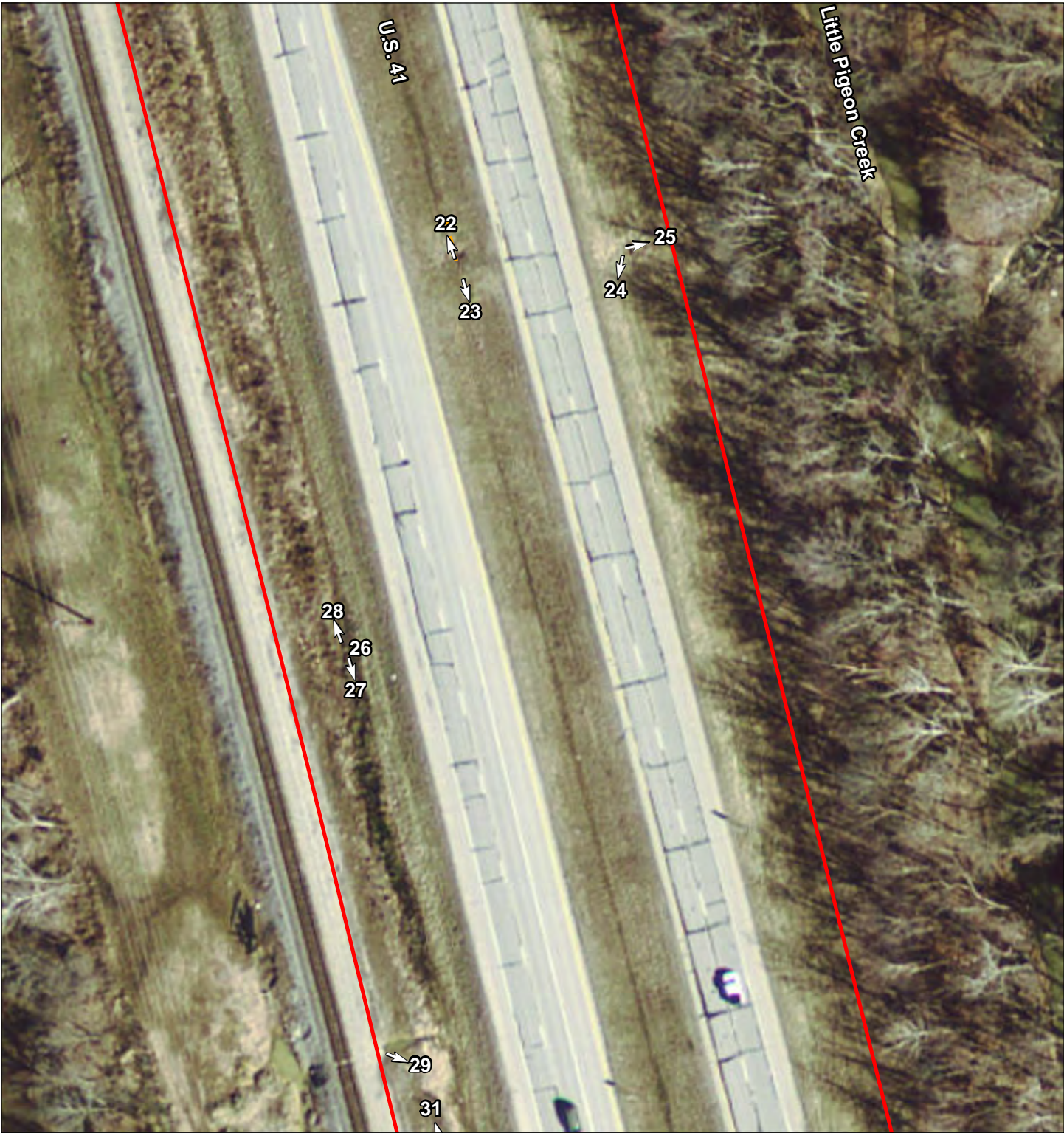
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)



Exh. 5 Page 4 of 9




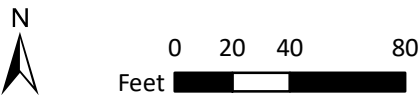
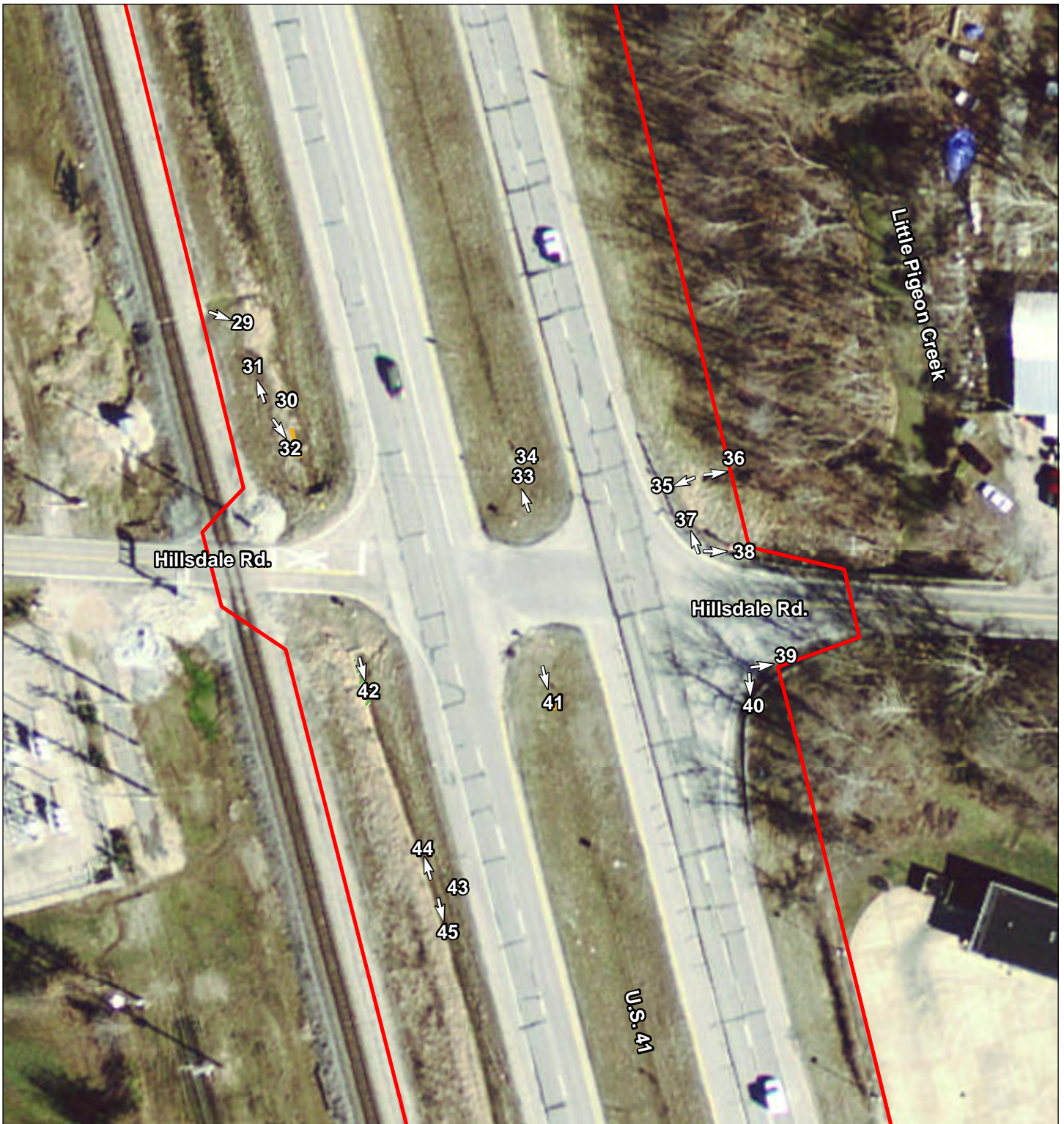
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)






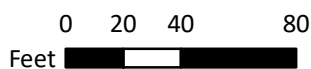
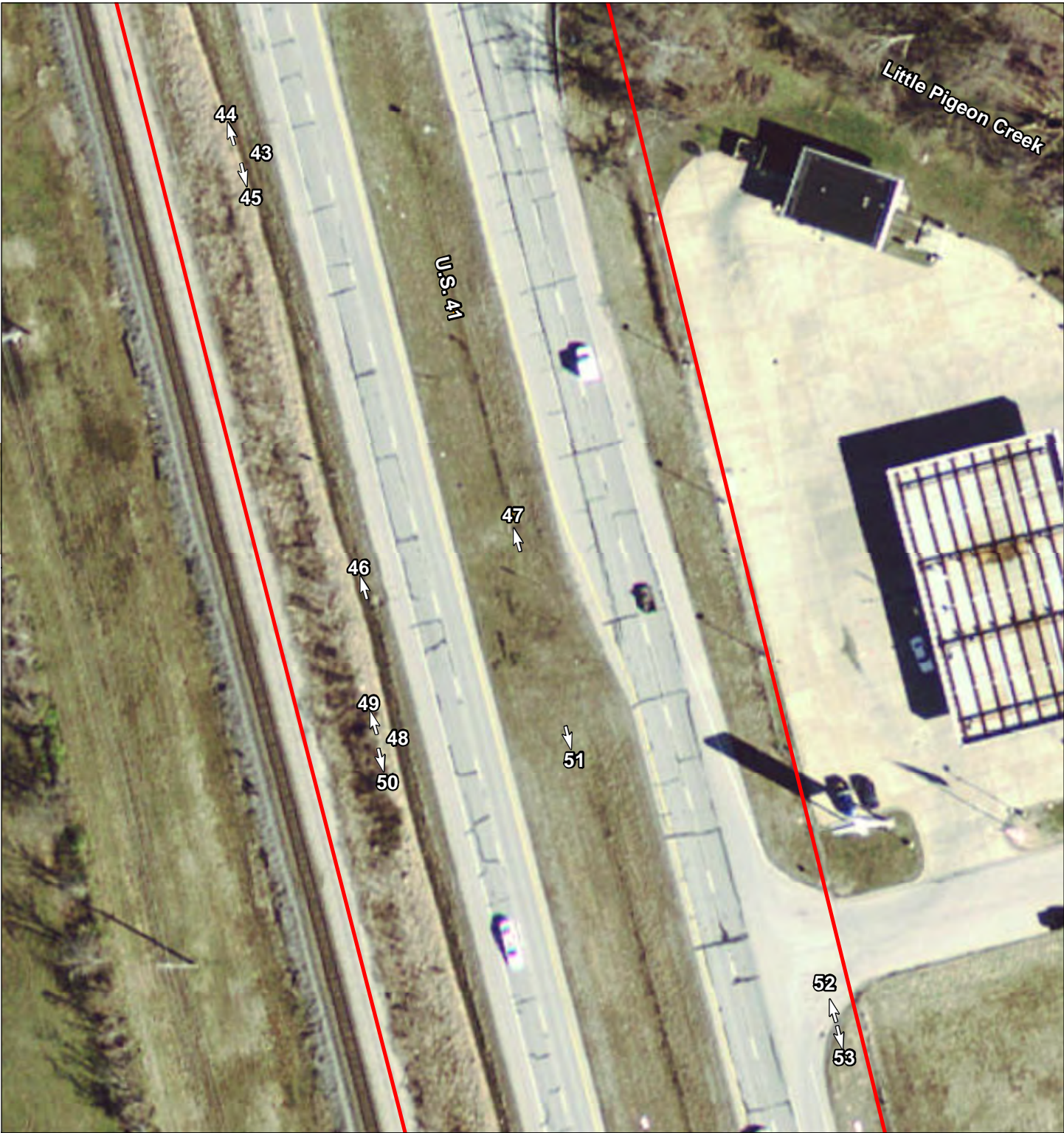
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)



Exh. 5 Page 6 of 9




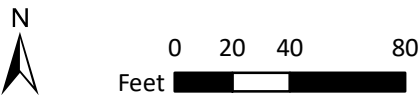
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)






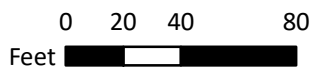
 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)







 Project Study Limits (PSL)

Photo Location Map
 Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships, Vanderburgh County, Indiana
 Des. No. 1400005
 Metric Project No. 19-0123
 Map Date: 11/12/2019
 Map Author: Cory Shumate

All locations approximate
 Source: Indiana Spatial Data Portal (2013)



0 20 40 80
 Feet 



Exh. 5 Page 9 of 9



1. View of Roadside Ditch (RSD) 1 from project study Limits (PSL), looking southeast.



2. View of Culvert 1 and RSD 1, looking northwest.



3. View of RSD 2, looking southeast.



4. View of Culvert 2 and RSD 2, looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





5. View of northern bank of Little Pigeon Creek (outside of PSL), looking northeast.



6. View of Little Pigeon Creek (outside of PSL), looking northeast (downstream).



7. View of southern bank of Little Pigeon Creek, looking south-east.



8. View of Little Pigeon Creek from outside PSL, looking southwest (upstream).

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





9. View of Little Pigeon Creek from outside PSL, looking northeast (downstream).



10. View of southern bank of Little Pigeon Creek, looking southeast.



11. View of Little Pigeon Creek (outside of PSL), looking southwest (upstream).



12. View of northern bank of Little Pigeon Creek (outside of PSL), looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





13. View of Little Pigeon Creek (outside of PSL), looking northeast (downstream).



14. View of Little Pigeon Creek (outside of PSL), looking southwest (upstream).



15. View of SP-1, Upland Sampling Point 1, soil profile.



16. View of SP-1, Upland Sampling Point 1, looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





17. View of SP-1, Upland Sampling Point 1, looking southeast.



18. View of SP-2, Upland Sampling Point 2, soil profile.



19. View of SP-2, Upland Sampling Point 2, looking west.



20. View of SP-2, Upland Sampling Point 2, looking southeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





21. View of RSD 3, looking southeast.



22. View of Culvert 3 and RSD 3, looking northwest.



23. View of RSD 4, looking southeast.

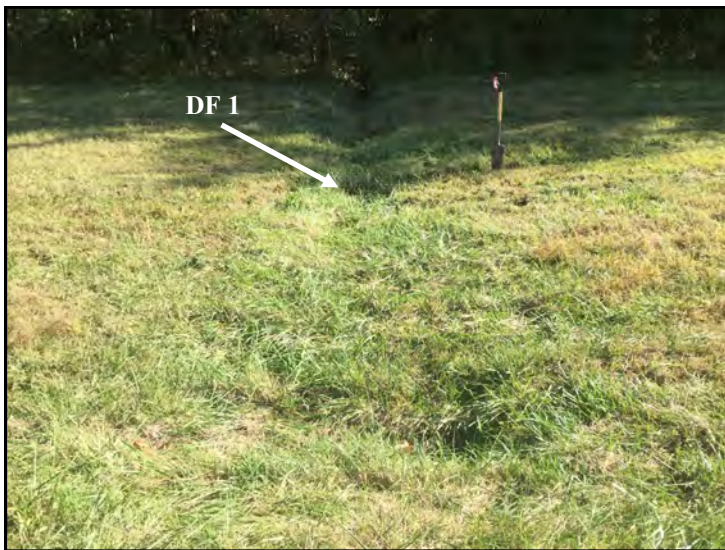


24. View of Culvert 4, looking southwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





25. View of Drainage Feature (DF 1), looking northeast.



26. View of SP-A1, Wetland A, soil profile.



27. View of SP-A1, Wetland A, looking southeast.

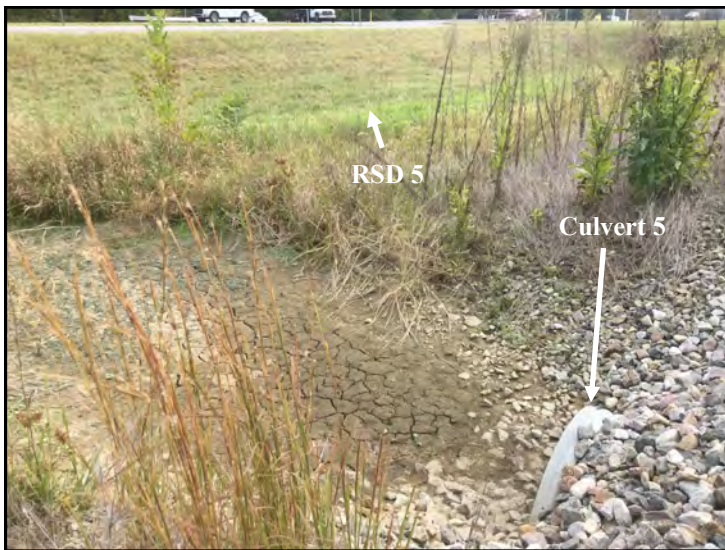


28. View of SP-A1, Wetland A, looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





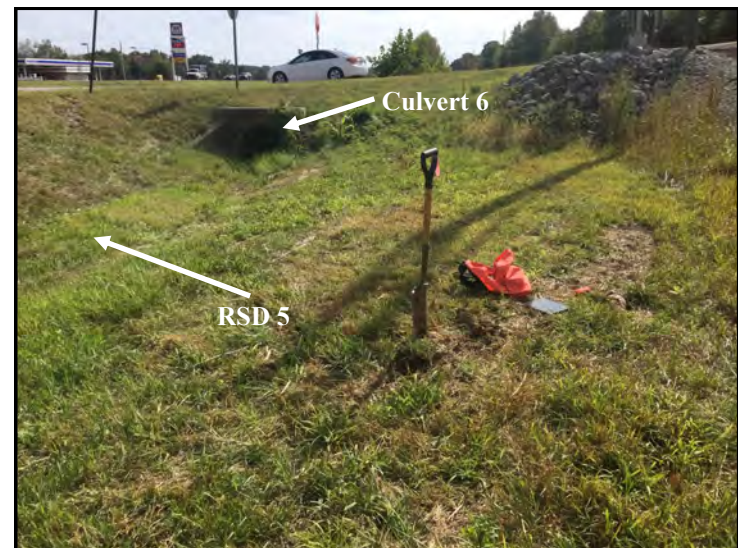
29. View of Culvert 5 and RSD 5, looking southeast.



30. View of SP-A2, Wetland A upland, soil profile.



31. View of SP-A2, Wetland A upland, RSD 5, and Wetland A, looking northwest.

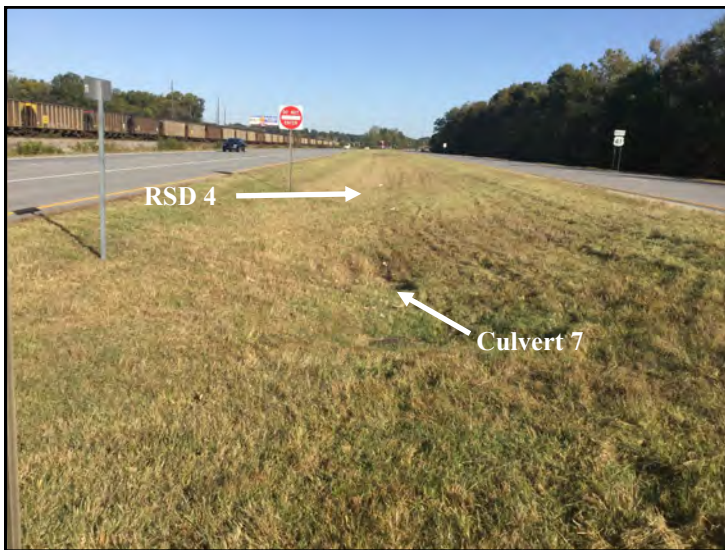


32. View of SP-A2, Wetland A upland, RSD 5, and Culvert 6, looking southeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships,
 Vanderburgh County, Indiana
 Des. No. 1400005





33. View of RSD 4 and Culvert 7, looking northwest.



34. View of Culvert 7.



35. View of Culvert 8, looking southwest.



36. View of Unnamed Tributary (UNT) to Pigeon Creek (UNT 1), looking northeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





37. View of UNT 1 and U.S. 41 right-of-way (ROW), looking northwest.



38. View of Hillsdale Rd. ROW, looking east.



39. View of Hillsdale Rd. ROW, looking northeast.



40. View of U.S. 41 ROW, looking south.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





41. View of RSD 6, looking southeast.



42. View of Wetland B from Culvert 6, looking southeast.



43. View of SP-B1, Wetland B, soil profile.



44. View of SP-B1, Wetland B, and Culvert 6, looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships,
 Vanderburgh County, Indiana
 Des. No. 1400005





45. View of SP-B1, Wetland B, looking southeast.



46. View of Wetland B and Culvert 9, looking northwest.



47. View of RSD 6 and Culvert 10, looking northwest.



48. View of SP-B2, Wetland B upland, soil profile.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
 Scott & Center Townships,
 Vanderburgh County, Indiana
 Des. No. 1400005





49. View of SP-B2, Wetland B upland, and Wetland B, looking northwest.



50. View of SP-B2, Wetland B upland, and Wetland B, looking southeast.



51. View of RSD 7, looking southeast.



52. View of U.S. 41 ROW, looking northwest.

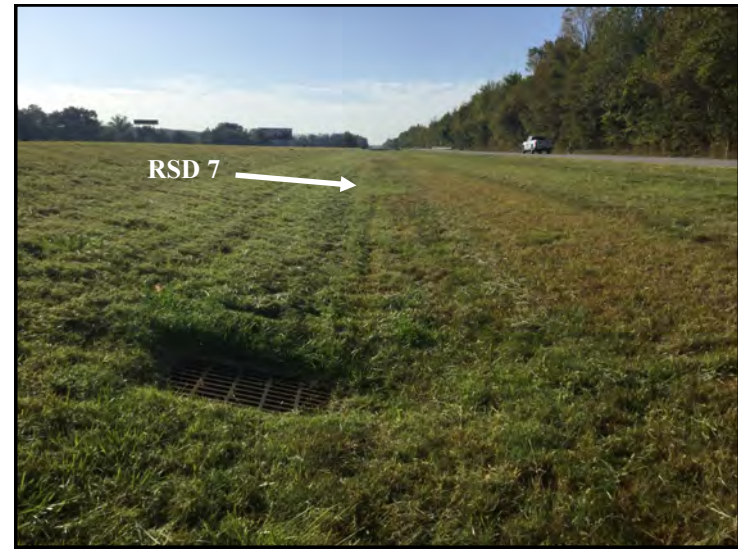
SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





53. View of U.S. 41 ROW, looking southeast.



54. View of RSD 7 and Culvert 11, looking southeast.



55. View of RSD 8, looking northwest.



56. View of RSD 8, looking southeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





57. View of RSD 9, looking southeast.



58. View of SP-3, Upland Sampling Point 3, soil profile.



59. View of SP-3, Upland Sampling Point 3, looking northwest.



60. View of SP-3, Upland Sampling Point 3, looking southeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005

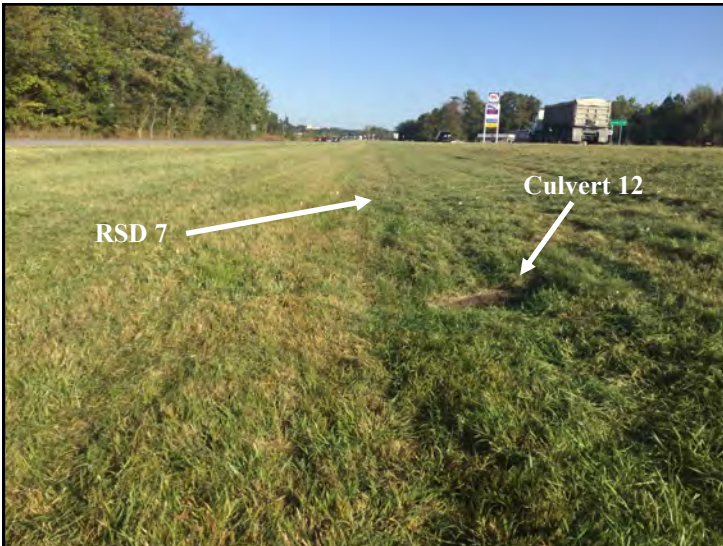




61. View from southern PSL, looking northwest.



62. View of RSD 8 from southern PSL, looking northwest.



63. View of RSD 7 and Culvert 12, looking northwest.



64. View of Culvert 13, looking southeast.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005





65. View of RSD 9 from Culvert 13 at southern PSL, looking northwest.

SITE PHOTOGRAPHS—10/15/2019

Hillsdale Rd. at U.S. 41 Intersection Improvements
Scott & Center Townships,
Vanderburgh County, Indiana
Des. No. 1400005



PROJECT	DESIGNATION
1400005	1400005
CONTRACT	R-37845

INDIANA
DEPARTMENT OF
TRANSPORTATION

ROAD PLANS

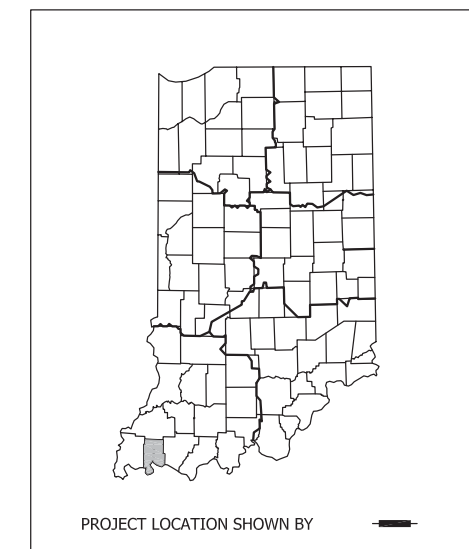
U.S. 41 at Hillsdale Road INTERSECTION IMPROVEMENT PROJECT

PROJECT NO. 1400005 CN

Intersection improvement project.
All in the Sections of 17 and 20, T-5-S, R-10-W, Vanderburgh County, Indiana.

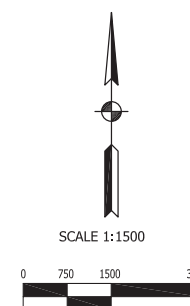
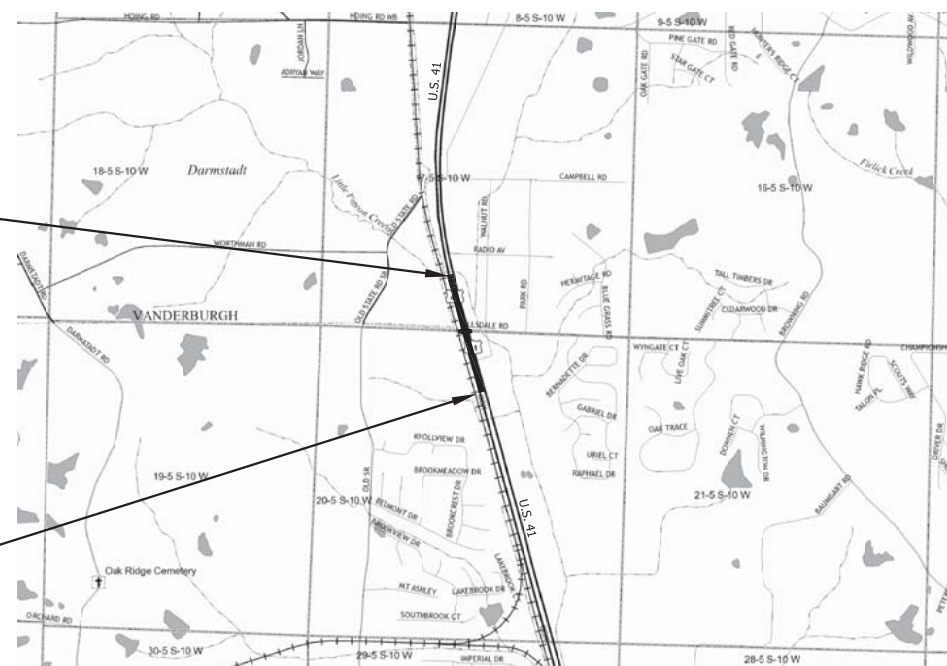
GROSS LENGTH: Ft. (0.4 mi.) RP 10+866 TO RP 11+263
NET LENGTH: Ft. (0.4 mi.) MAX. GRADE: 0.50 %
LATITUDE: 38° 04' 46" N LONGITUDE: 87° 33' 18" W

TRAFFIC DATA	
U.S. 41	
A.A.D.T. (2020)	21,200 V.P.D.
A.A.D.T. (2045)	27,200 V.P.D.
D.H.V. (2045)	2,600 V.P.H.
DIRECTIONAL DISTRIBUTION	50%-50%
TRUCKS	13% A.A.D.T. 5% D.H.V.
DESIGN DATA	
DESIGN SPEED	60 M.P.H.
PROJECT DESIGN CRITERIA	3R (Non-Freeway)
FUNCTIONAL CLASSIFICATION	Principal Arterial (Other)
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	PARTIAL



END PROJECT
STA. 729+42.33 LINE "B"

BEGIN PROJECT
STA. 708+45.00 LINE "B"



Vanderburgh County

These Plans Prepared By:



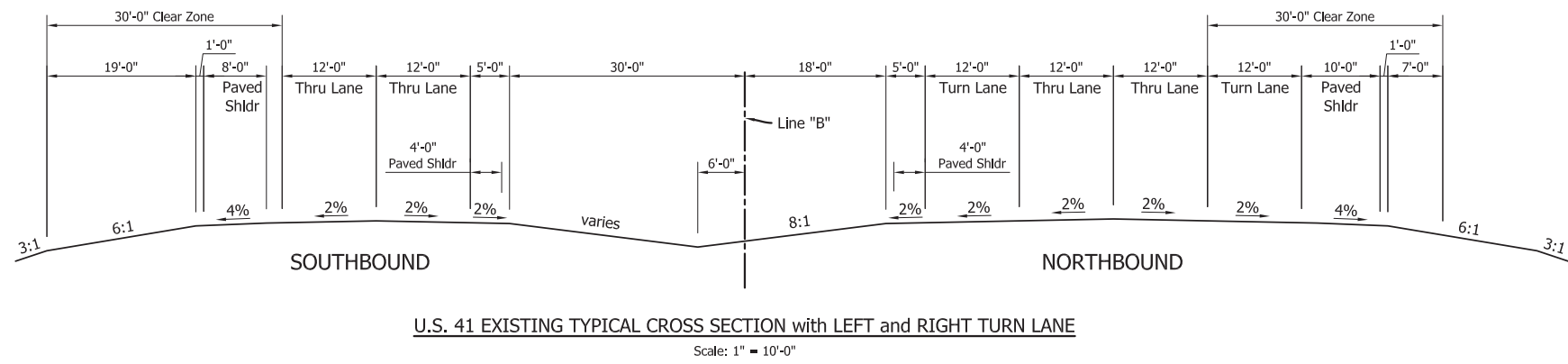
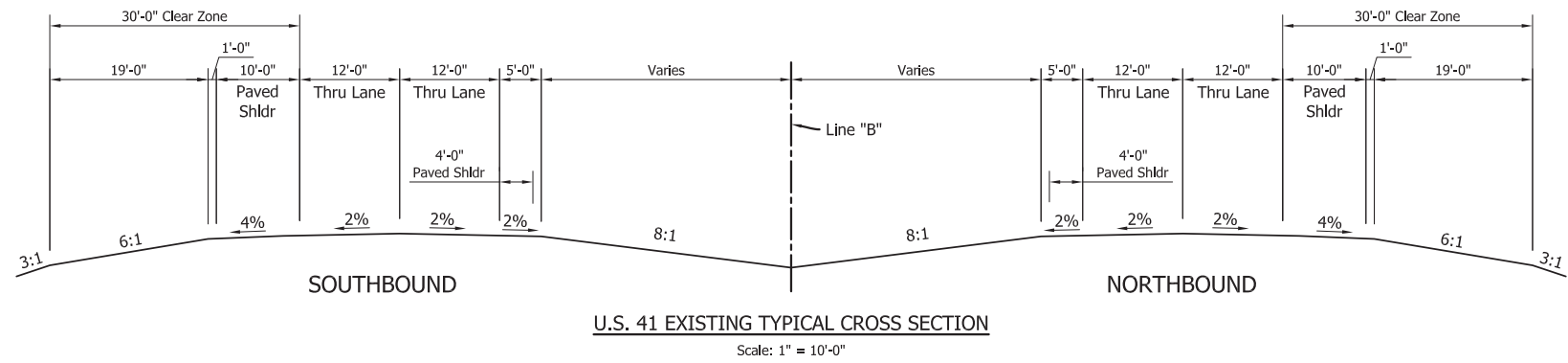
5925 Lakeside Blvd.
Indianapolis, Indiana 46278
(317) 290-9549

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

PLANS
PREPARED BY: FIRST GROUP ENGINEERING, INC. (317) 290-9549
PHONE NUMBER
CERTIFIED BY: _____ DATE _____
APPROVED FOR LETTING: _____ DATE _____
CHIEF, DIVISION OF DESIGN

Preliminary
Plans
4-03-20

DESIGNATION	1400005
SHEETS	1 of 57
PROJECT	1400005
CONTRACT	R-37845



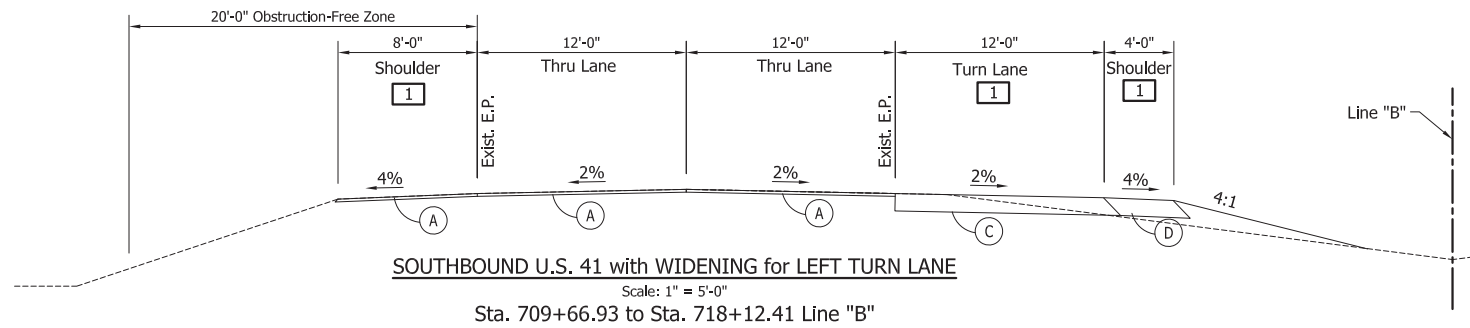
FOR INFORMATION ONLY

Preliminary
Plans
4-03-20

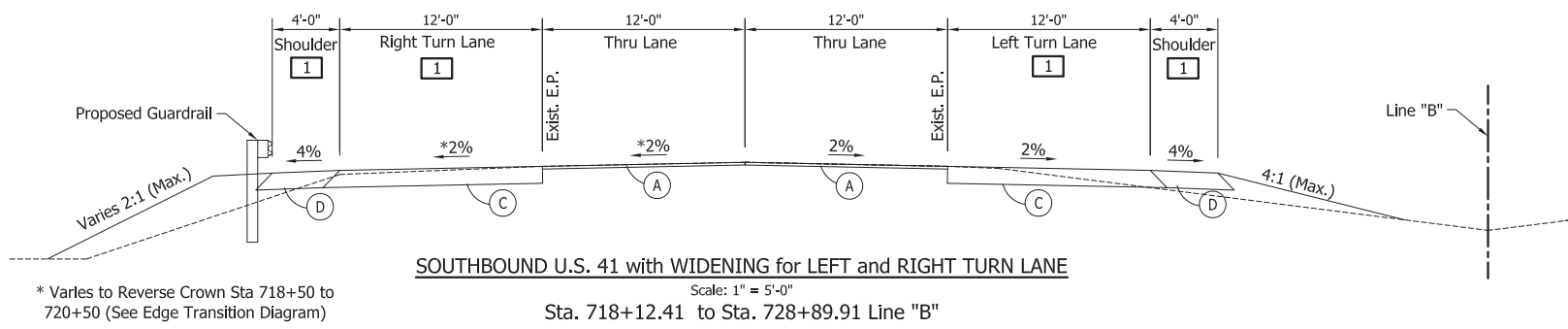
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: M.J.K.	DRAWN: R.E.N.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA DEPARTMENT OF TRANSPORTATION	
TYPICAL CROSS SECTIONS LINE "B"	

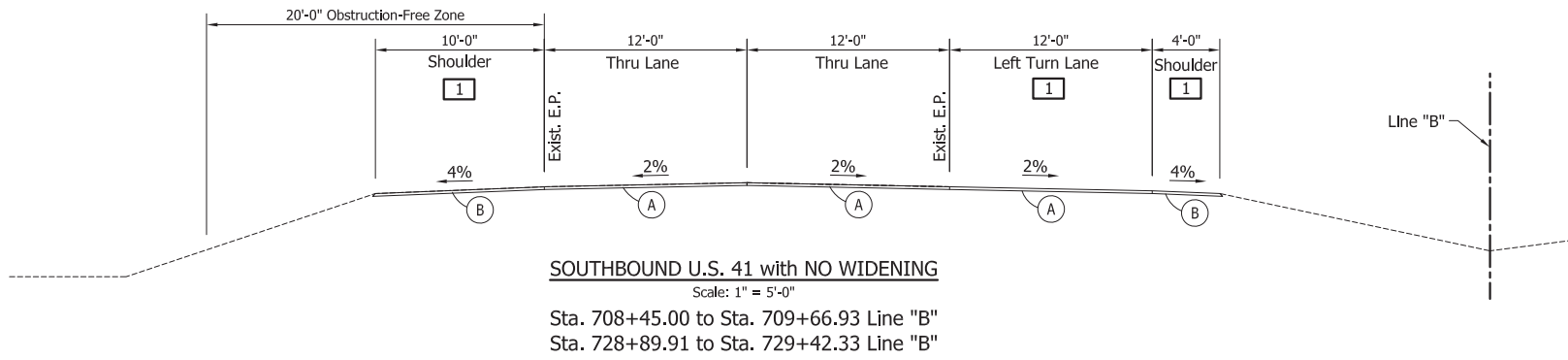
HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	3 of 57
CONTRACT	PROJECT
R-37845	1400005



- LEGEND**
- (A) Asphalt Milling & HMA Resurface, Mainline
 - (A1) HMA Resurface (Variable Depth), Mainline
 - (B) Asphalt Milling & HMA Resurface, Shoulder
 - (C) HMA For Widening, Mainline
 - (D) HMA For Shoulder
 - (E) HMA For Approaches
 - (F) Concrete Center Curb



1 Limits and Dimensions Vary (See Construction Details)

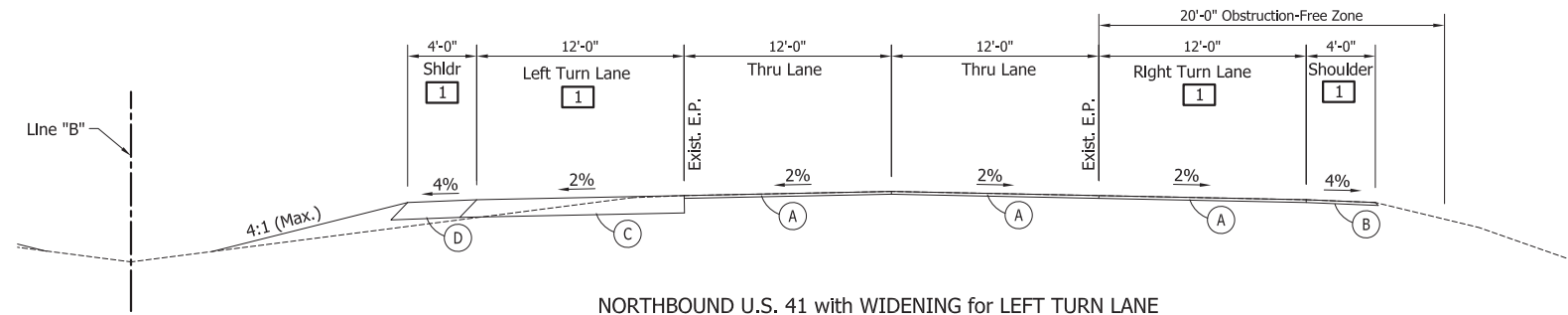


Preliminary Plans 4-03-20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: M.J.K.	DRAWN: R.E.N.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS LINE "B"

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	4 of 57
CONTRACT	PROJECT
R-37845	1400005



NORTHBOUND U.S. 41 with WIDENING for LEFT TURN LANE

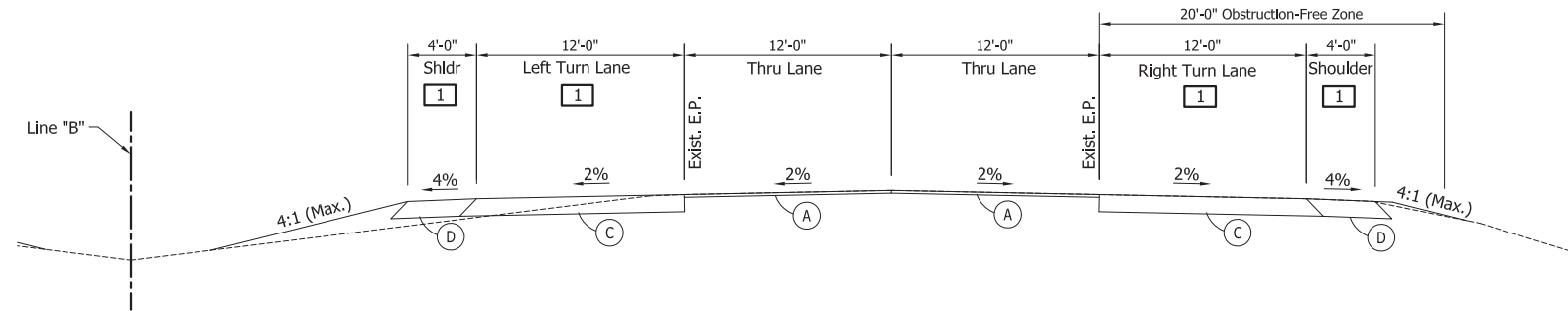
Scale: 1" = 5'-0"

Sta. 711+13.08 to Sta. 714+20.62 Line "B"
Sta. 720+10.27 to Sta. 728+13.97 Line "B"

LEGEND

- (A) Asphalt Milling & HMA Resurface, Mainline
- (A1) HMA Resurface (Variable Depth), Mainline
- (B) Asphalt Milling & HMA Resurface, Shoulder
- (C) HMA For Widening, Mainline
- (D) HMA For Shoulder
- (E) HMA For Approaches
- (F) Concrete Center Curb

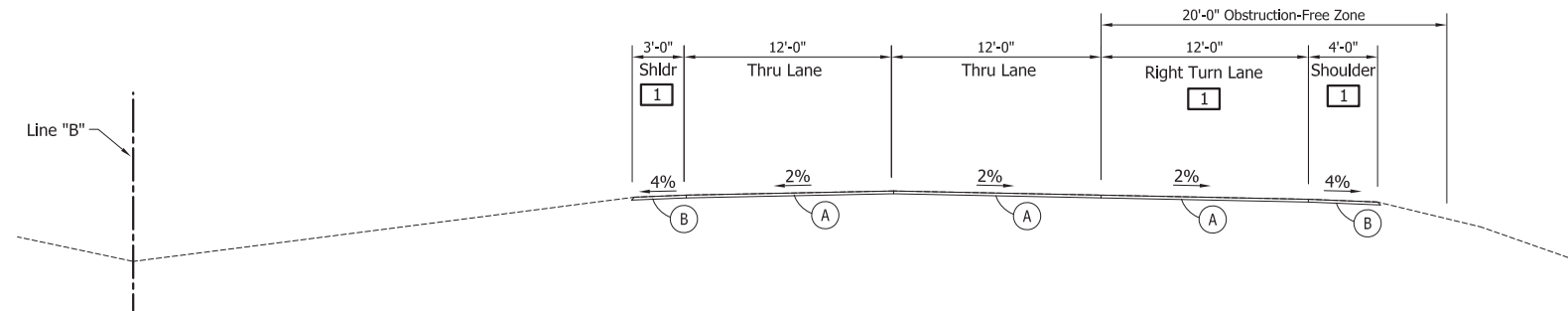
1 Limits and Dimensions Vary
(See Construction Details)



NORTHBOUND U.S. 41 with WIDENING for LEFT AND RIGHT TURN LANE

Scale: 1" = 5'-0"

Sta. 714+20.62 to Sta. 717+88.70 Line "B"



NORTHBOUND U.S. 41 with NO WIDENING

Scale: 1" = 5'-0"

Sta. 708+45.00 to Sta. 711+13.08 Line "B"
Sta. 717+88.70 to Sta. 720+10.27 Line "B"
Sta. 728+13.97 to Sta. 729+42.33 Line "B"

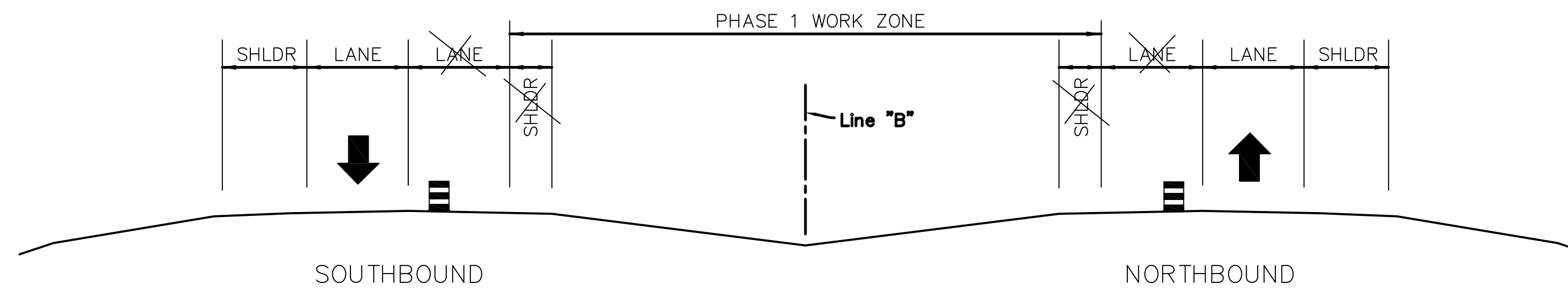
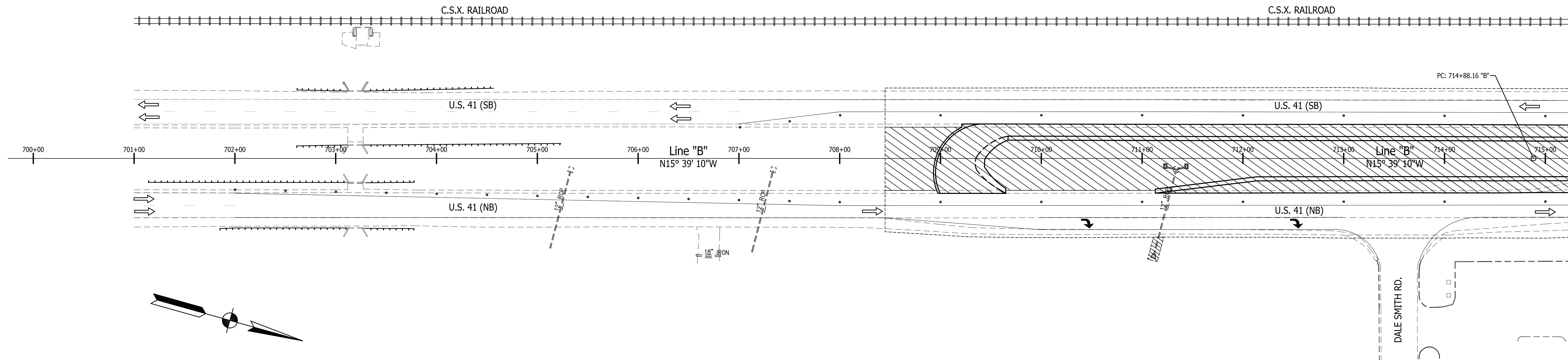
Preliminary
Plans
4-03-20

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED:	M.J.K.	DRAWN:	R.E.N.		
CHECKED:	M.J.K.	CHECKED:	M.J.K.		

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
LINE "B"

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	5 of 57
CONTRACT	PROJECT
R-37845	1400005



MAINTENANCE OF TRAFFIC GENERAL NOTES

1. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH EACH MAINTENANCE OF TRAFFIC SCHEME SHALL BE REMOVED PRIOR TO CONSTRUCTION.
2. WHENEVER POSSIBLE PRIVATE DRIVEWAYS SHALL BE CONSTRUCTED IN PORTIONS TO ALLOW ACCESS TO PROPERTIES AT ALL TIMES. WHENEVER PRIVATE DRIVEWAYS ARE TOO NARROW TO ACCOMMODATE CONTINUOUS ACCESS, THE CONTRACTOR SHALL CONTACT THE PROPERTY OWNER AND WORK OUT A TIME SCHEDULE FOR DRIVEWAY CONSTRUCTION THAT WILL CAUSE THE LEAST INCONVENIENCE TO THE PROPERTY OWNER.
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5. FOR DETAILS AND SPACING OF DETOUR SIGNS, CONSTRUCTION SIGNS AND CHANNELIZATION DEVICES, SEE INDOT STANDARD DRAWINGS.
6. ADVANCE SIGNING TO BE IN PLACE AT BEGINNING AND END OF PROJECT PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.

LEGEND

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220#/SYS HMA SURFACE, TYPE C ON
440#/SYS HMA BASE, TYPE C ON
6" COMPACTED AGGREGATE, NO. 53, BASE ON
SUBGRADE TREATMENT TYPE III
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- (46) TEMPORARY PAVEMENT MARKING, 4" (YELLOW)
- (47) TEMPORARY PAVEMENT MARKING, 24" (WHITE)
- (48) TEMPORARY PAVEMENT MARKING, 8" (WHITE)
- (49) TEMPORARY PAVEMENT MARKING, 12" (WHITE)
- STANDARD DRUMS (SEE STANDARD DRAWINGS FOR SPACING)
- T CONSTRUCTION SIGN (A, B OR C)
- TT SIGN ASSEMBLY (ROAD CLOSURE OR DETOUR ROUTE MARKER)
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- FLG FLAGGER (UTILIZE AS NECESSARY)
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Preliminary
Plans
4-03-20

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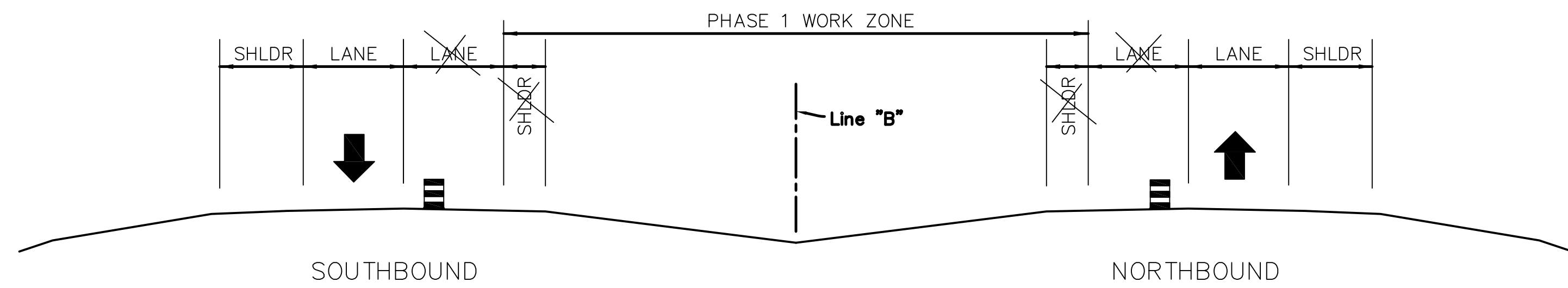
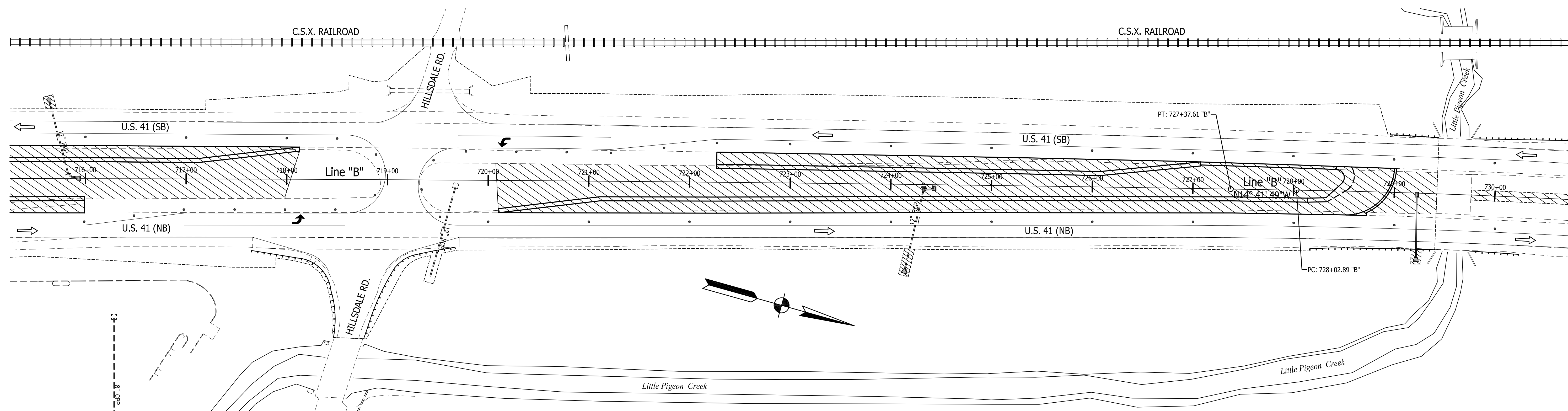
DESIGNED: G.S.H. DRAWN: G.S.H.

CHECKED: M.J.K. CHECKED: M.J.K.

INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	9 of 57
CONTRACT	PROJECT
R-37845	1400005



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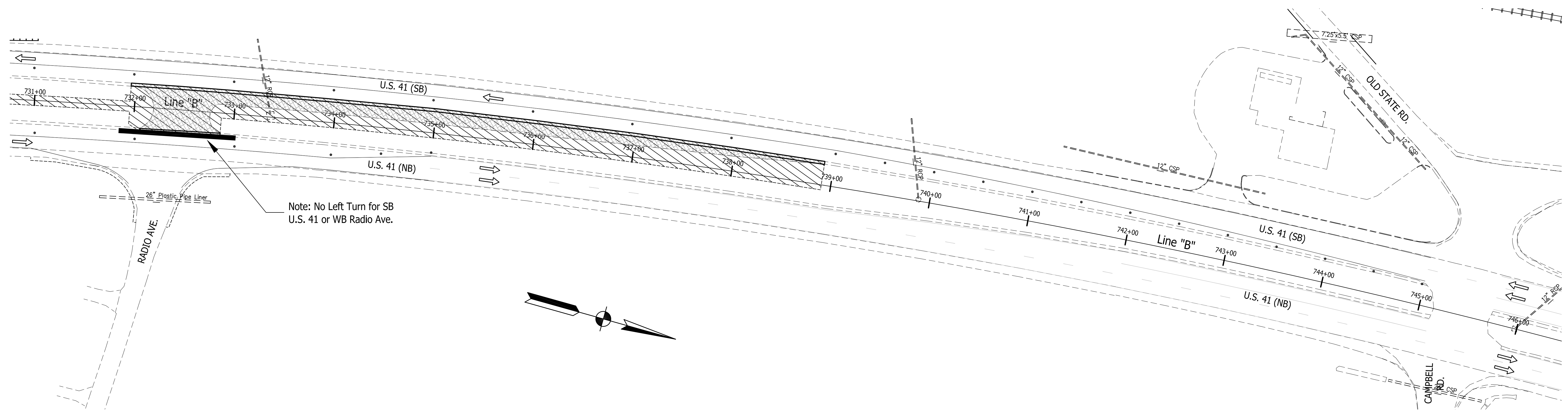
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Preliminary Plans 4-03-20

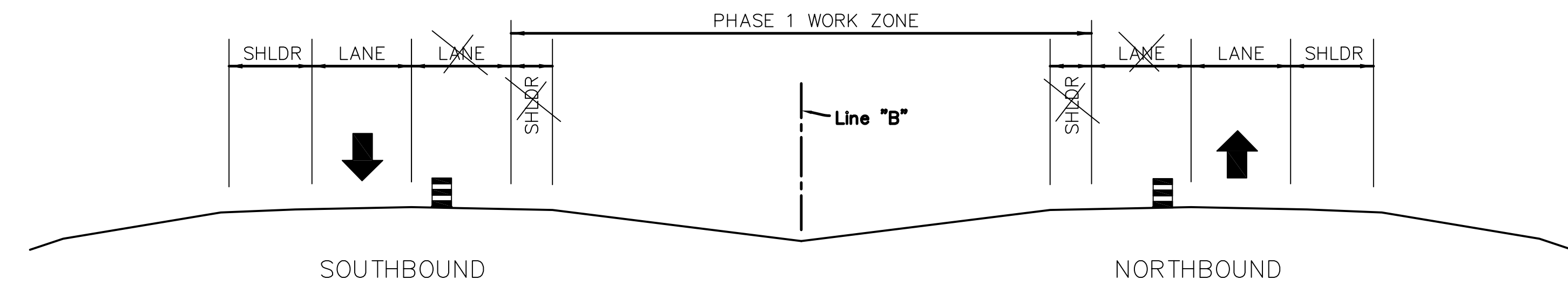
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
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CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA DEPARTMENT OF TRANSPORTATION
U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	10 of 57
CONTRACT	PROJECT
R-37845	1400005



Note: No Left Turn for SB U.S. 41 or WB Radio Ave.



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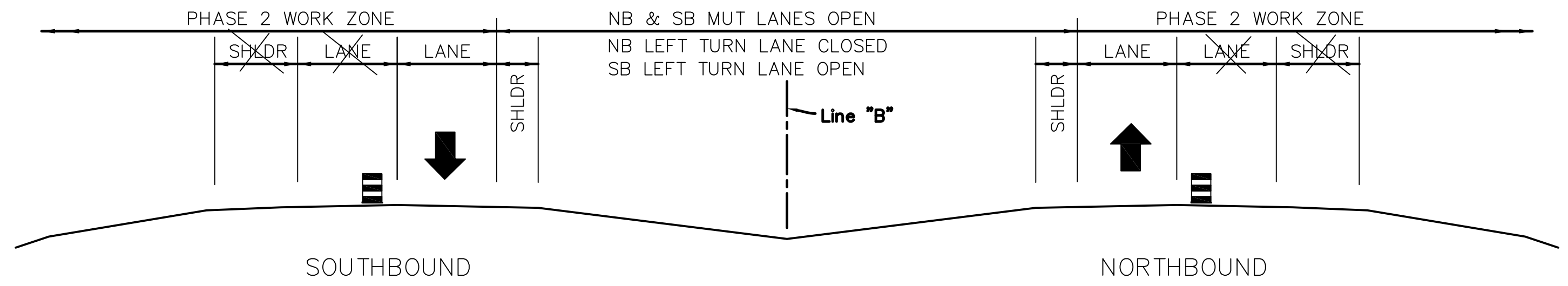
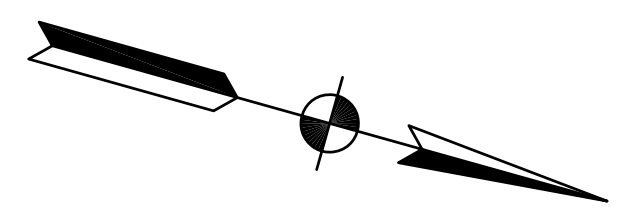
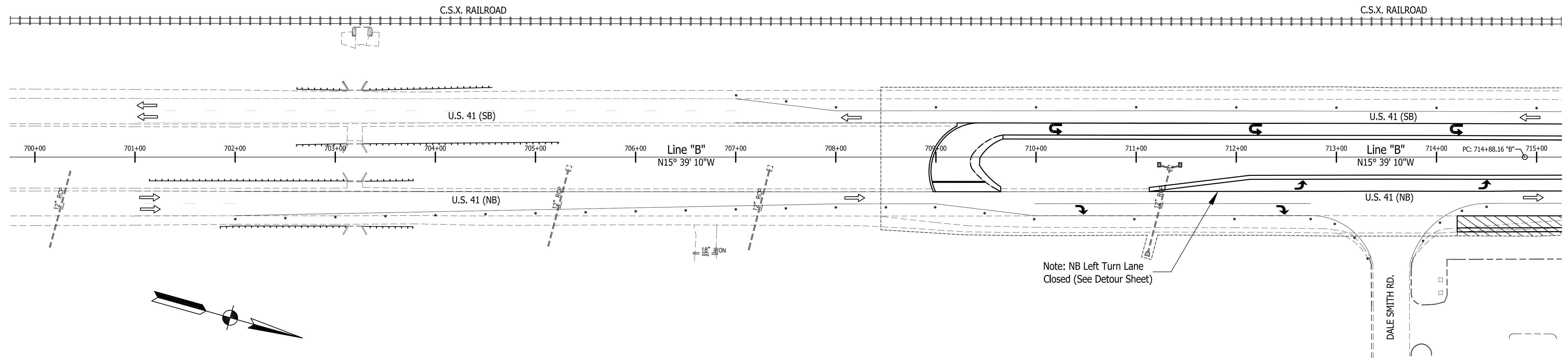
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INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	11 of 57
CONTRACT	PROJECT
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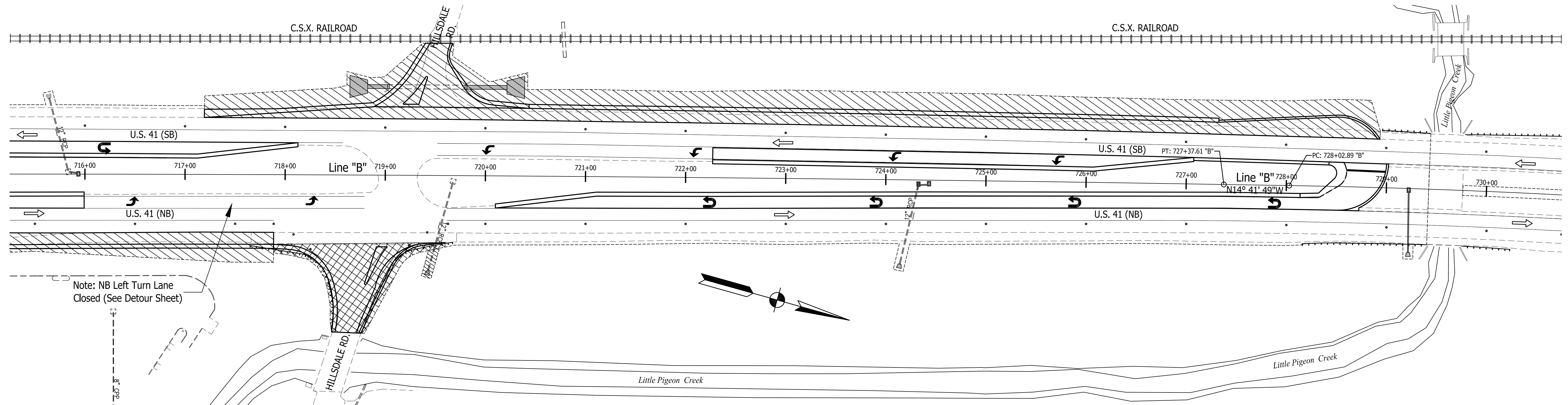
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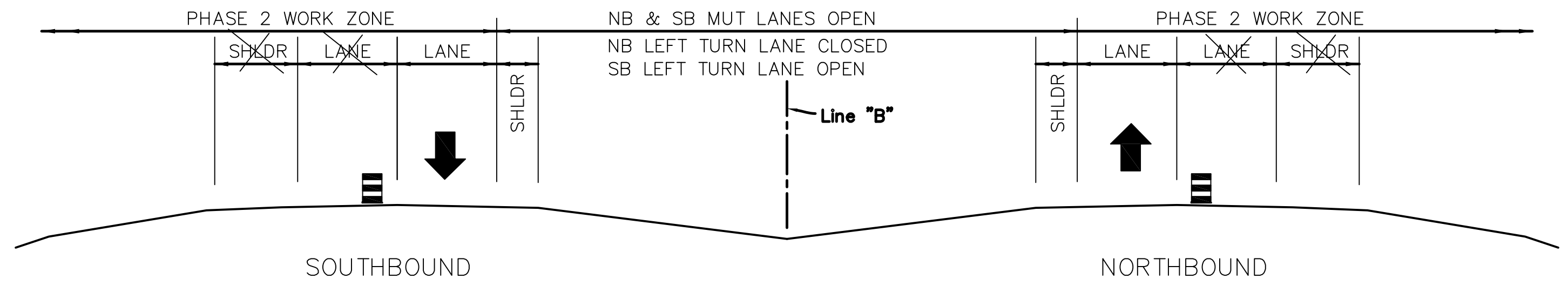
INDIANA DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD MAINTENANCE OF TRAFFIC - PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	12 of 57
CONTRACT	PROJECT
R-37845	1400005



Note: NB Left Turn Lane Closed (See Detour Sheet)



MAINTENANCE OF TRAFFIC GENERAL NOTES

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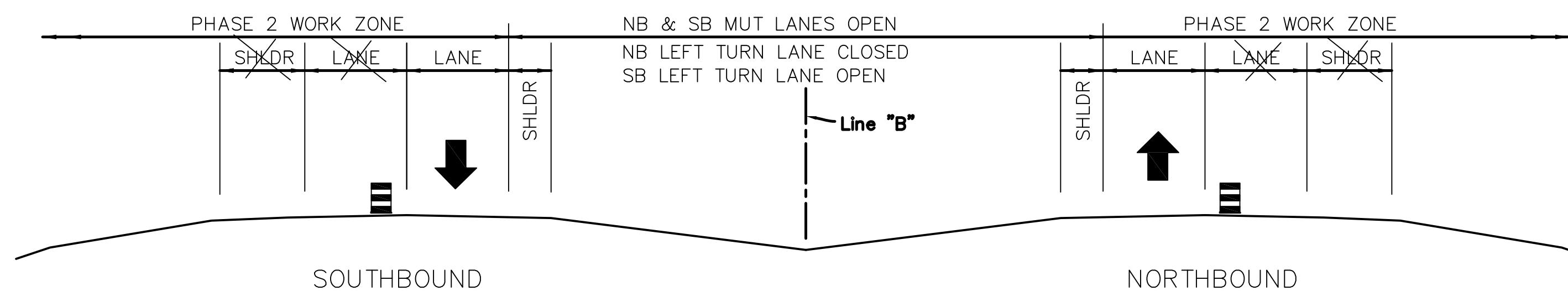
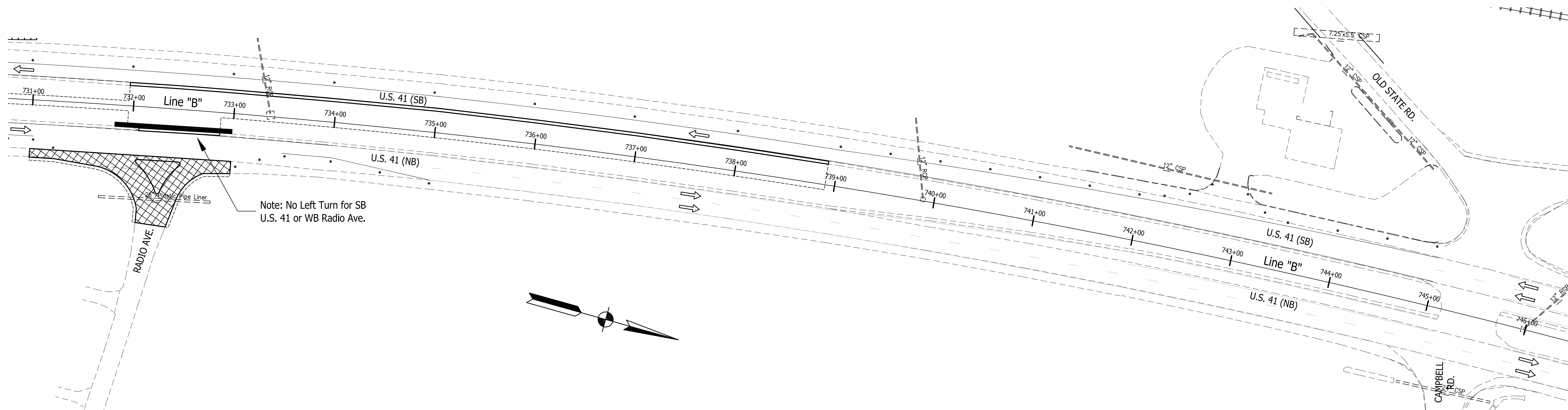
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INDIANA DEPARTMENT OF TRANSPORTATION
U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 2

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AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	13 of 57
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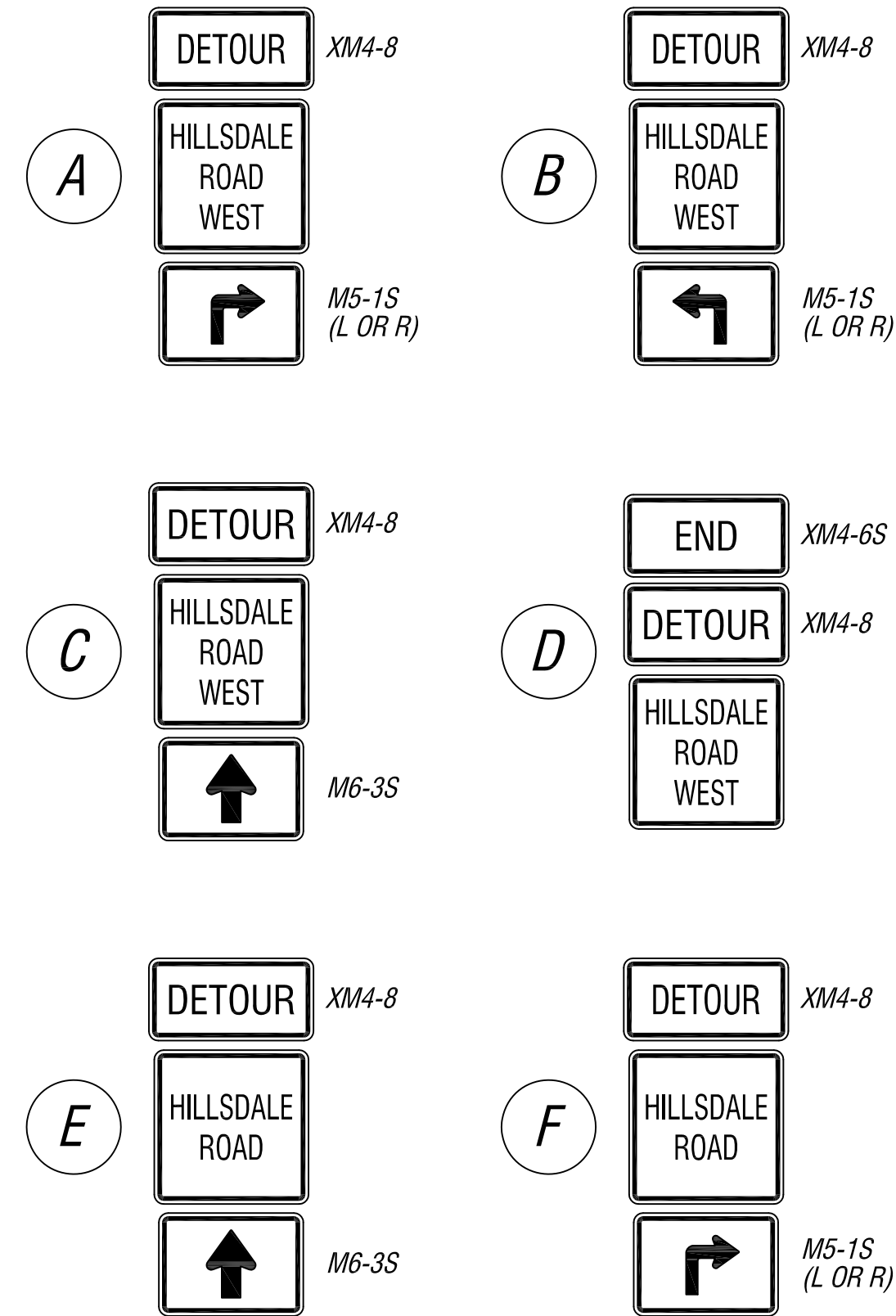
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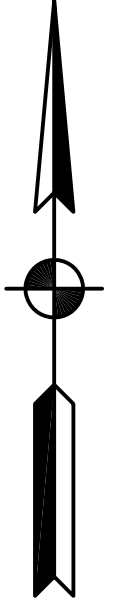
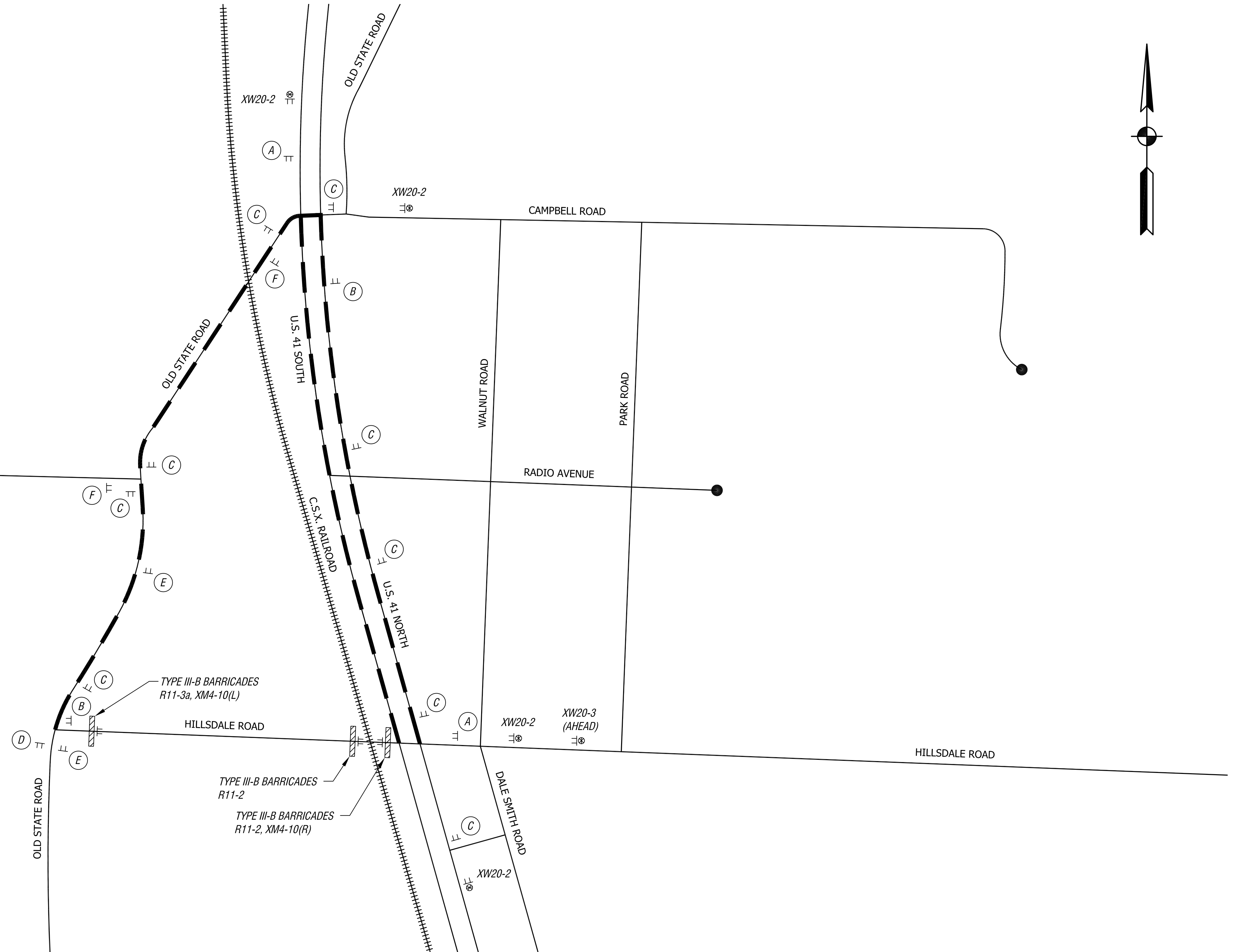
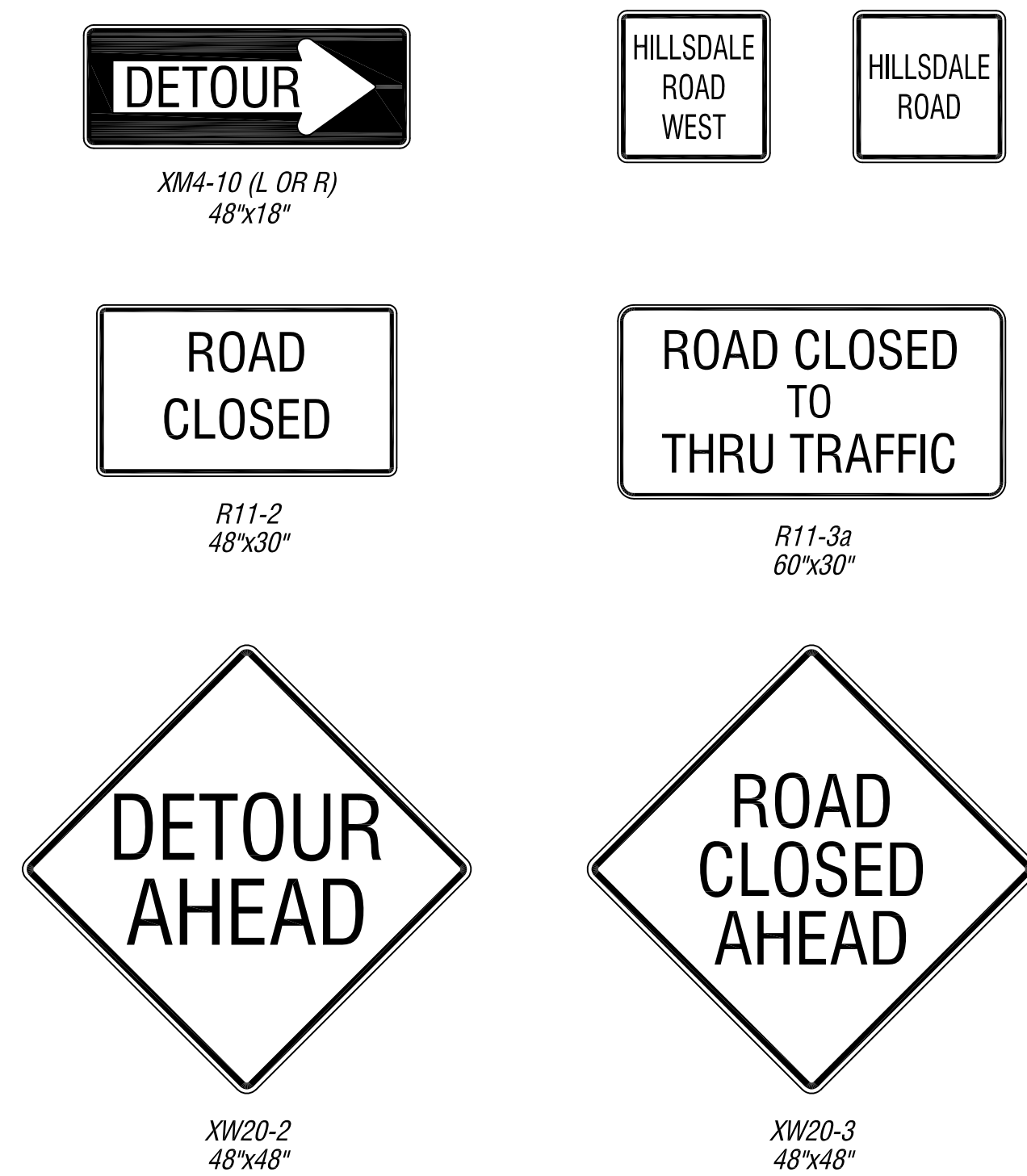
U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	14 of 57
CONTRACT	PROJECT
R-37845	1400005

DETOUR ROUTE MARKER ASSEMBLIES



CONSTRUCTION SIGNS



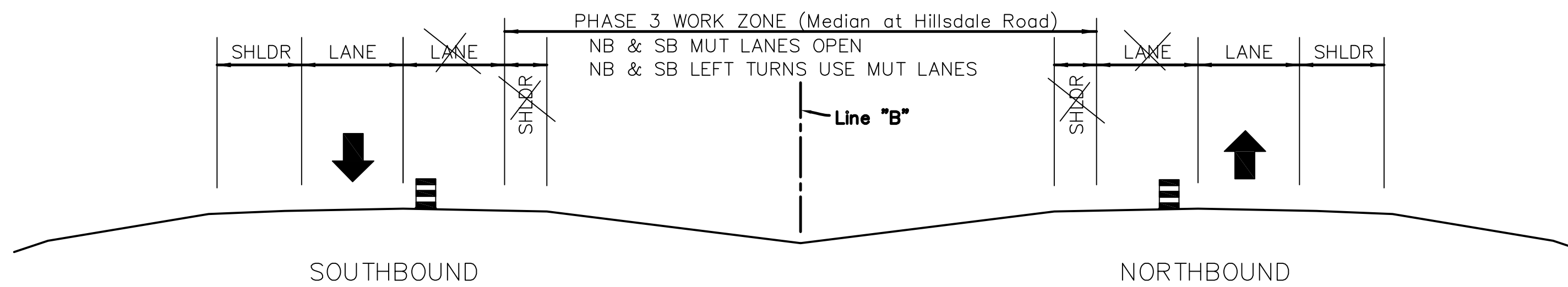
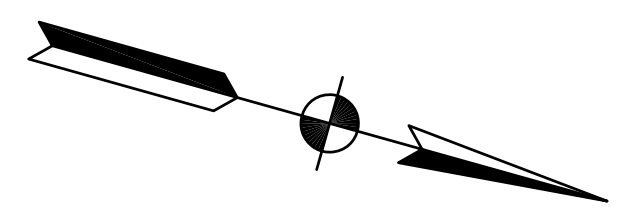
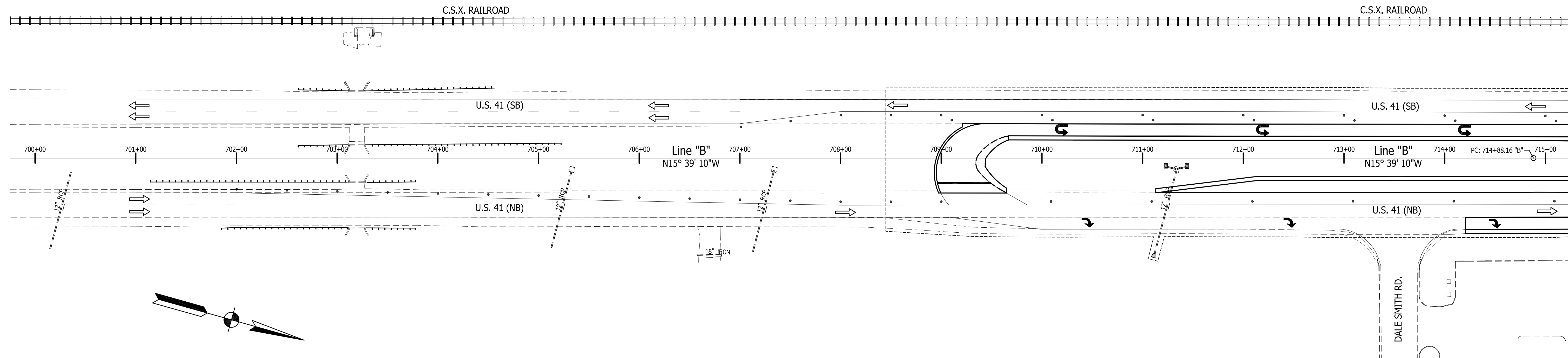
- DETOUR NOTES:**
1. THIS DETOUR IS TO BE USED FOR THE WEST APPROACH CLOSURE OF HILLSDALE ROAD THROUGHOUT PHASE 2 OF CONSTRUCTION. SEE MAINTENANCE OF TRAFFIC DETAILS.
 2. FOR CONSTRUCTION SIGN SPACING DETAILS SEE INDOT STANDARD DRAWINGS.

Preliminary Plans
4-03-20

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DEPARTMENT OF TRANSPORTATION
**MAINTENANCE OF TRAFFIC - PHASE 2
DETOUR PLAN - HILLSDALE ROAD**

HORIZONTAL SCALE 1" = 300'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 15 of 57
CONTRACT R-37845	PROJECT 1400005



MAINTENANCE OF TRAFFIC GENERAL NOTES

1. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH EACH MAINTENANCE OF TRAFFIC SCHEME SHALL BE REMOVED PRIOR TO CONSTRUCTION.
2. WHENEVER POSSIBLE PRIVATE DRIVEWAYS SHALL BE CONSTRUCTED IN PORTIONS TO ALLOW ACCESS TO PROPERTIES AT ALL TIMES. WHENEVER PRIVATE DRIVEWAYS ARE TOO NARROW TO ACCOMMODATE CONTINUOUS ACCESS, THE CONTRACTOR SHALL CONTACT THE PROPERTY OWNER AND WORK OUT A TIME SCHEDULE FOR DRIVEWAY CONSTRUCTION THAT WILL CAUSE THE LEAST INCONVENIENCE TO THE PROPERTY OWNER.
3. STREET APPROACHES ARE TO BE CLOSED TO THROUGH TRAFFIC DURING THEIR CONSTRUCTION. BEFORE ANY CLOSURES ARE MADE, THE CONTRACTOR MUST FIRST CONTACT LOCAL OFFICIALS, POLICE, FIRE, LOCAL SCHOOL OFFICIALS, U.S. POSTAL SERVICE, AND OTHERS AS NECESSARY TO MINIMIZE DISRUPTIONS TO LOCAL SERVICE. NO TWO ADJACENT APPROACHES SHALL BE CLOSED AT THE SAME TIME.
4. USE FLAGGERS AS NEEDED FOR SHORT DURATIONS. FOR TEMPORARY ADVANCE SIGNING REQUIREMENTS, SEE INDOT STANDARD DRAWINGS.
5. FOR DETAILS AND SPACING OF DETOUR SIGNS, CONSTRUCTION SIGNS AND CHANNELIZATION DEVICES, SEE INDOT STANDARD DRAWINGS.
6. ADVANCE SIGNING TO BE IN PLACE AT BEGINNING AND END OF PROJECT PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.

LEGEND

- (T) HMA FOR TEMPORARY PAVEMENT, TYPE C, CONSISTING OF: 220#/SYS HMA SURFACE, TYPE C ON 440#/SYS HMA BASE, TYPE C ON 6" COMPACTED AGGREGATE, NO. 53, BASE ON SUBGRADE TREATMENT TYPE III
- (45) TEMPORARY PAVEMENT MARKING, 4" (WHITE)
- (46) TEMPORARY PAVEMENT MARKING, 4" (YELLOW)
- (47) TEMPORARY PAVEMENT MARKING, 24" (WHITE)
- (48) TEMPORARY PAVEMENT MARKING, 8" (WHITE)
- (49) TEMPORARY PAVEMENT MARKING, 12" (WHITE)
- STANDARD DRUMS (SEE STANDARD DRAWINGS FOR SPACING)
- T CONSTRUCTION SIGN (A, B OR C)
- TT SIGN ASSEMBLY (ROAD CLOSURE OR DETOUR ROUTE MARKER)
- TTT TEMPORARY BARRICADE, III-B
- TRAFFIC FLOW DIRECTION
- FLG FLAGGER (UTILIZE AS NECESSARY)
- [Diagonal Hatching] AREA TO BE CONSTRUCTED DURING THIS PHASE
- [Cross-hatching] AREA TO BE CONSTRUCTED USING FLAGGERS AS NECESSARY
- [Solid Grey] AREA OF TEMPORARY HMA PAVEMENT PLACEMENT
- [Dotted] AREA OF PAVEMENT REMOVAL IN MEDIAN AREA

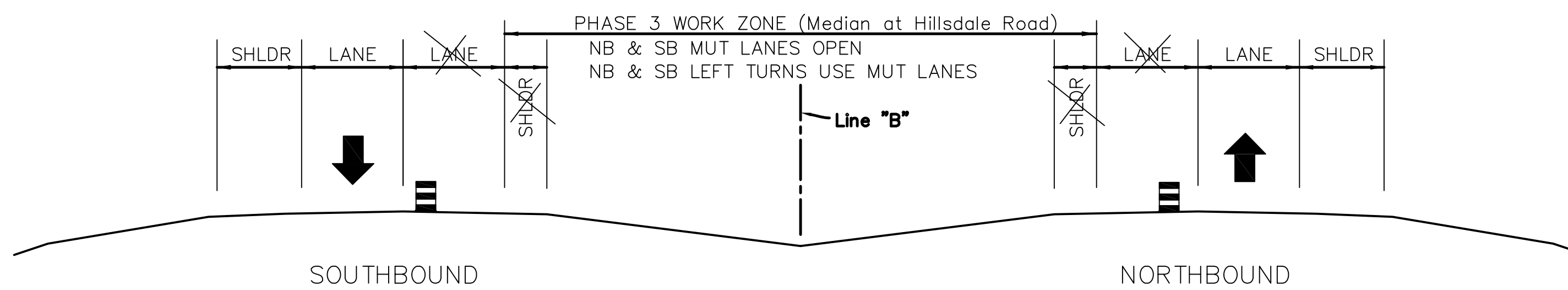
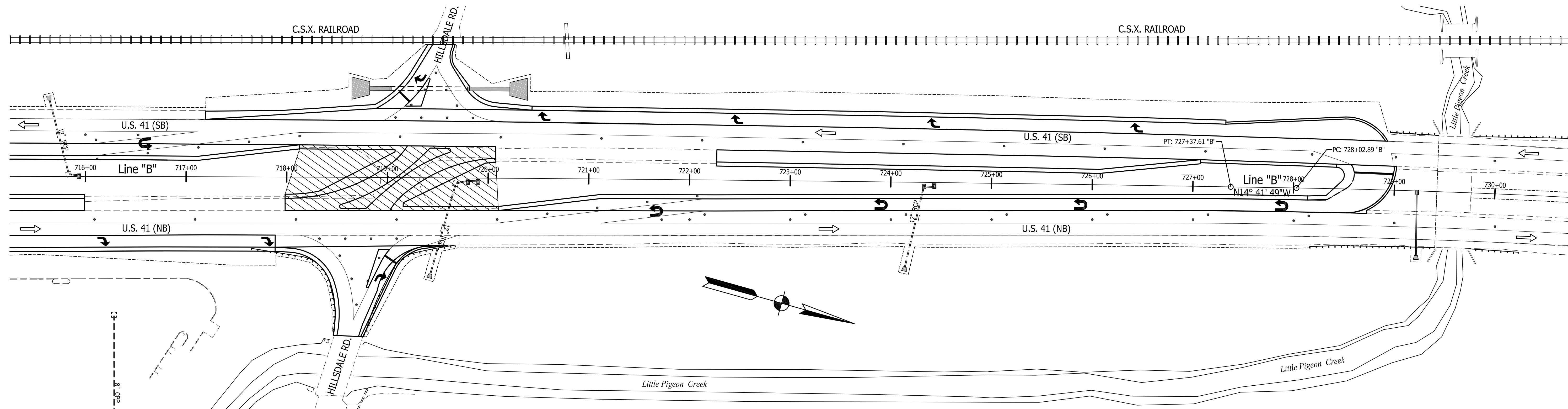
Preliminary
Plans
4-03-20

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED BY: G.S.H.	DRAWN BY: G.S.H.	
CHECKED BY: M.J.K.	CHECKED BY: M.J.K.	

**INDIANA
DEPARTMENT OF TRANSPORTATION**

**U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 3**

HORIZONTAL SCALE AS SHOWN	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 16 of 57
CONTRACT R-37845	PROJECT 1400005



MAINTENANCE OF TRAFFIC GENERAL NOTES

1. EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH EACH MAINTENANCE OF TRAFFIC SCHEME SHALL BE REMOVED PRIOR TO CONSTRUCTION.
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- TTT TEMPORARY BARRICADE, III-B
- TRAFFIC FLOW DIRECTION
- FLG FLAGGER (UTILIZE AS NECESSARY)
- [Hatched Box] AREA TO BE CONSTRUCTED DURING THIS PHASE
- [Cross-hatched Box] AREA TO BE CONSTRUCTED USING FLAGGERS AS NECESSARY
- [Solid Grey Box] AREA OF TEMPORARY HMA PAVEMENT PLACEMENT
- [Dotted Box] AREA OF PAVEMENT REMOVAL IN MEDIAN AREA

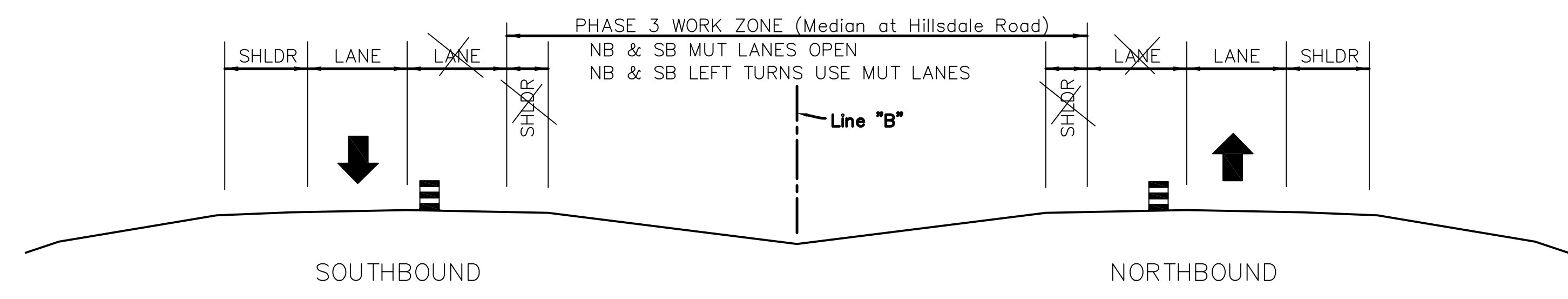
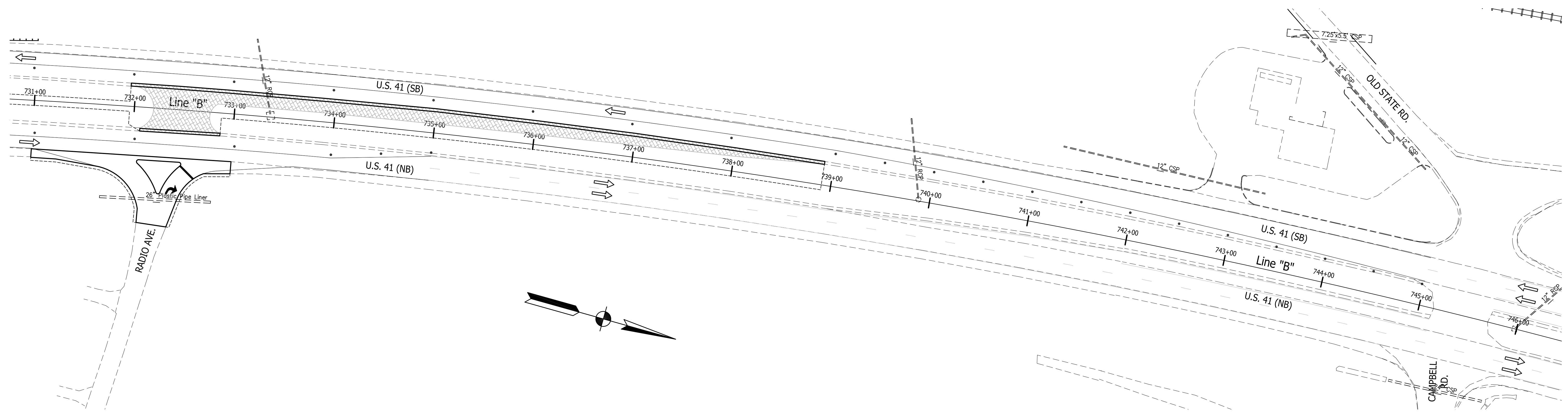
Preliminary Plans 4-03-20

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: G.S.H.	DRAWN: G.S.H.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 3

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	17 of 57
CONTRACT	PROJECT
R-37845	1400005



MAINTENANCE OF TRAFFIC GENERAL NOTES

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- [Dotted Box] AREA OF PAVEMENT REMOVAL IN MEDIAN AREA

Preliminary Plans
4-03-20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: G.S.H.	DRAWN: G.S.H.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
MAINTENANCE OF TRAFFIC - PHASE 3

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	18 of 57
CONTRACT	PROJECT
R-37845	1400005

705

705+02.2,88.0' Sign (F.O.C.)

705+39.0,0.0' 3/4 in. RBR w/BLA Cap

706

Sec. 20, T-5-S, R-10-W, Center Township Vanderburgh County

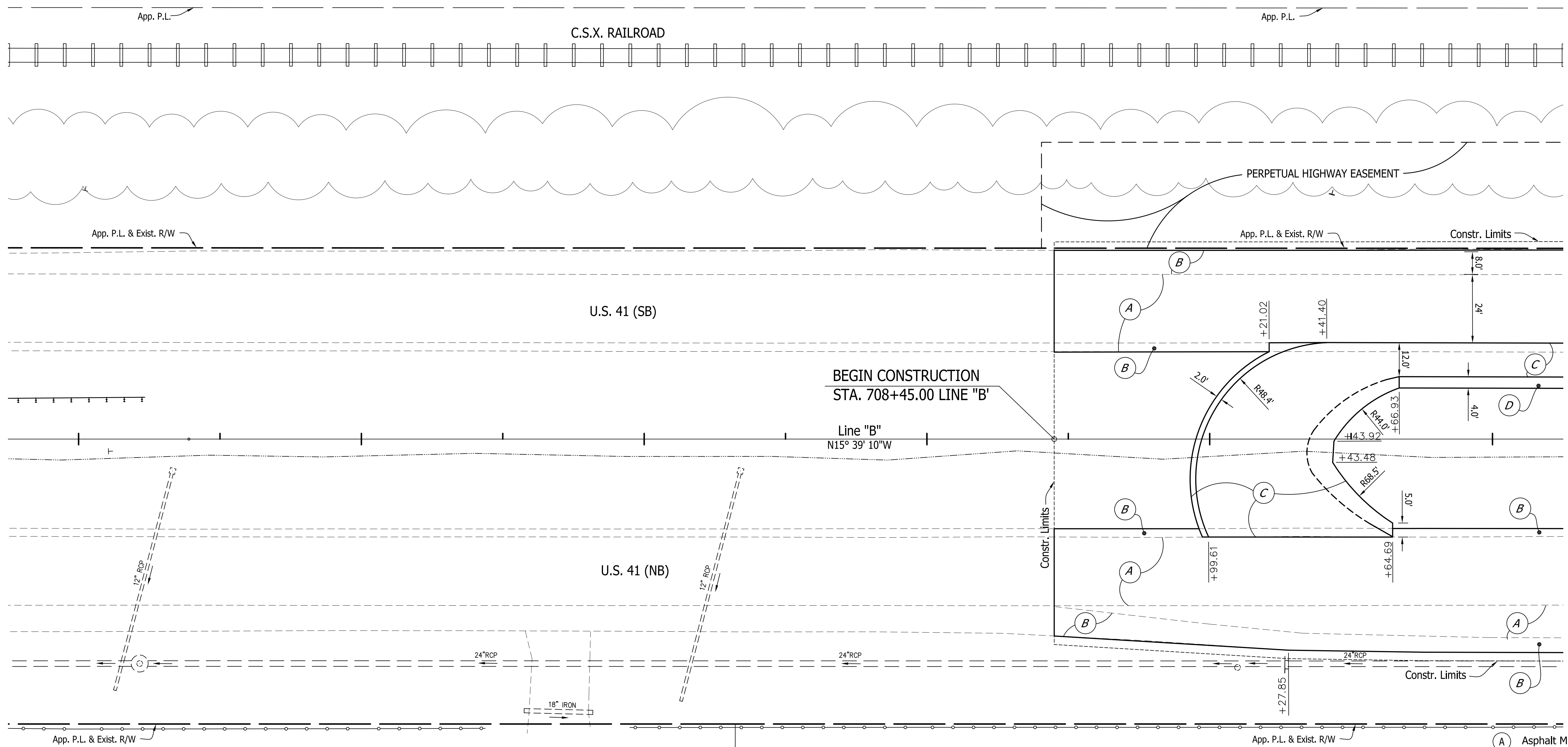
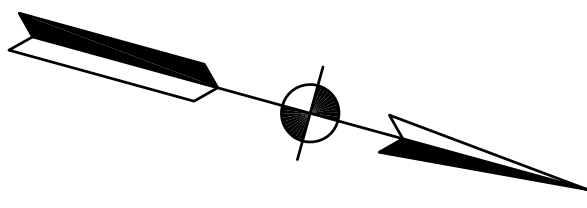
707

708

709

709+43.1,86.5' Sign (F.O.C.)
709+43.2,86.7' Sign (F.O.C.)

710



705+10.6,4.3' Sign, MW
705+12.8,68.9' 12 in. R.C.P.
705+21.6,79.4' Sign, M.H.

705+33.2,11.3' 24 x 24 in. Inlet

706+57.6,96.1' 18 in. Pipe Iron

706+81.8,96.7' 18 in. Pipe Iron

707+13.0,92.7' 12 in. R.C.P.

707+34.1,11.3' 24 x 24 in. Inlet

709+09.7,80.9' Semi. MH

709+26.6,78.4' Sign (Info.)

LEGEND

- (A) Asphalt Milling & HMA Resurface, Mainline
- (A1) HMA Resurface (Variable Depth), Mainline
- (B) Asphalt Milling & HMA Resurface, Shoulder
- (C) HMA For Widening, Mainline
- (D) HMA For Shoulder
- (E) HMA For Approaches
- (F) Concrete Center Curb

Preliminary Plans 4-03-20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: M.J.K.	DRAWN: R.E.N.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

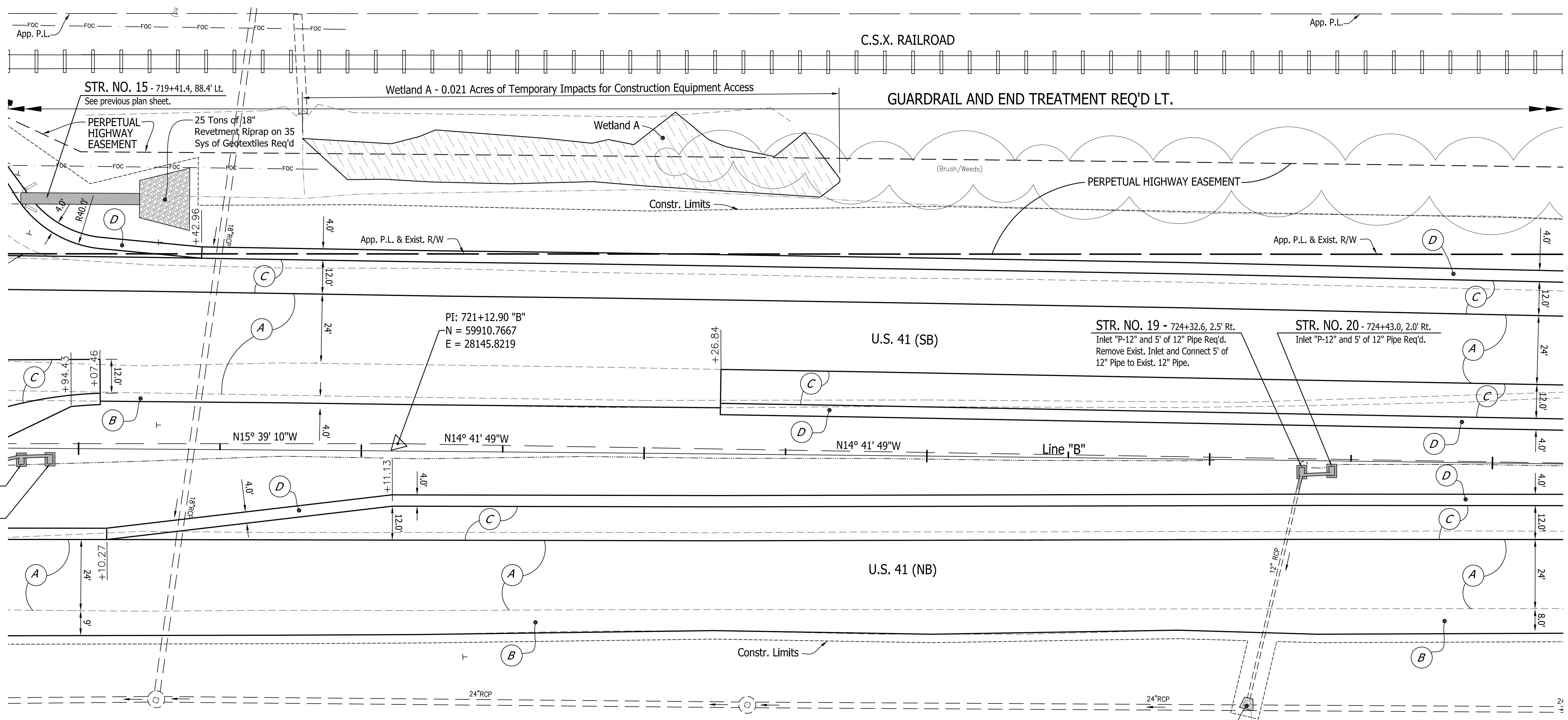
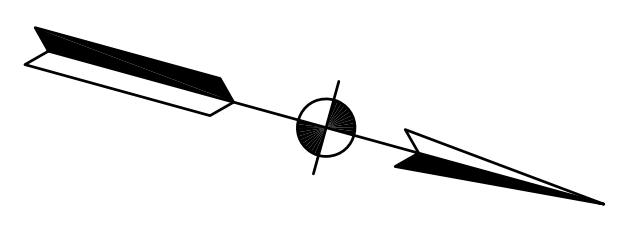
INDIANA DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD INTERSECTION IMPROVEMENTS PLAN SHEETS

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	19 of 57
CONTRACT	PROJECT
R-37845	1400005

719+97.1, 200.2' Sign (WOW+FOC)
 719+56.5, 193.3' Utility Pole w/Tele. Pole
 720+01.5, 166.0' Sign (ATT F.O.C. Marker)
 720+03.6, 226.2' 18" in. C.S.P.
 720+07.8, 234.7' 6" in. W.
 720+19.6, 198.1' 6" in. W. C.P.P.
 720+27.3, 85.5' Sign (Do Not Enter)
 720+34.1, 175.5' 18" in. C.S.P.
 720+64.1, 180.7' 36" in. C.S.P. (50% Sited)
 720+78.4, 119.0' 36" in. C.S.P. (50% Sited)

Sec. 17, T-5-S, R-10-W,
 Center Township
 Vanderburgh County



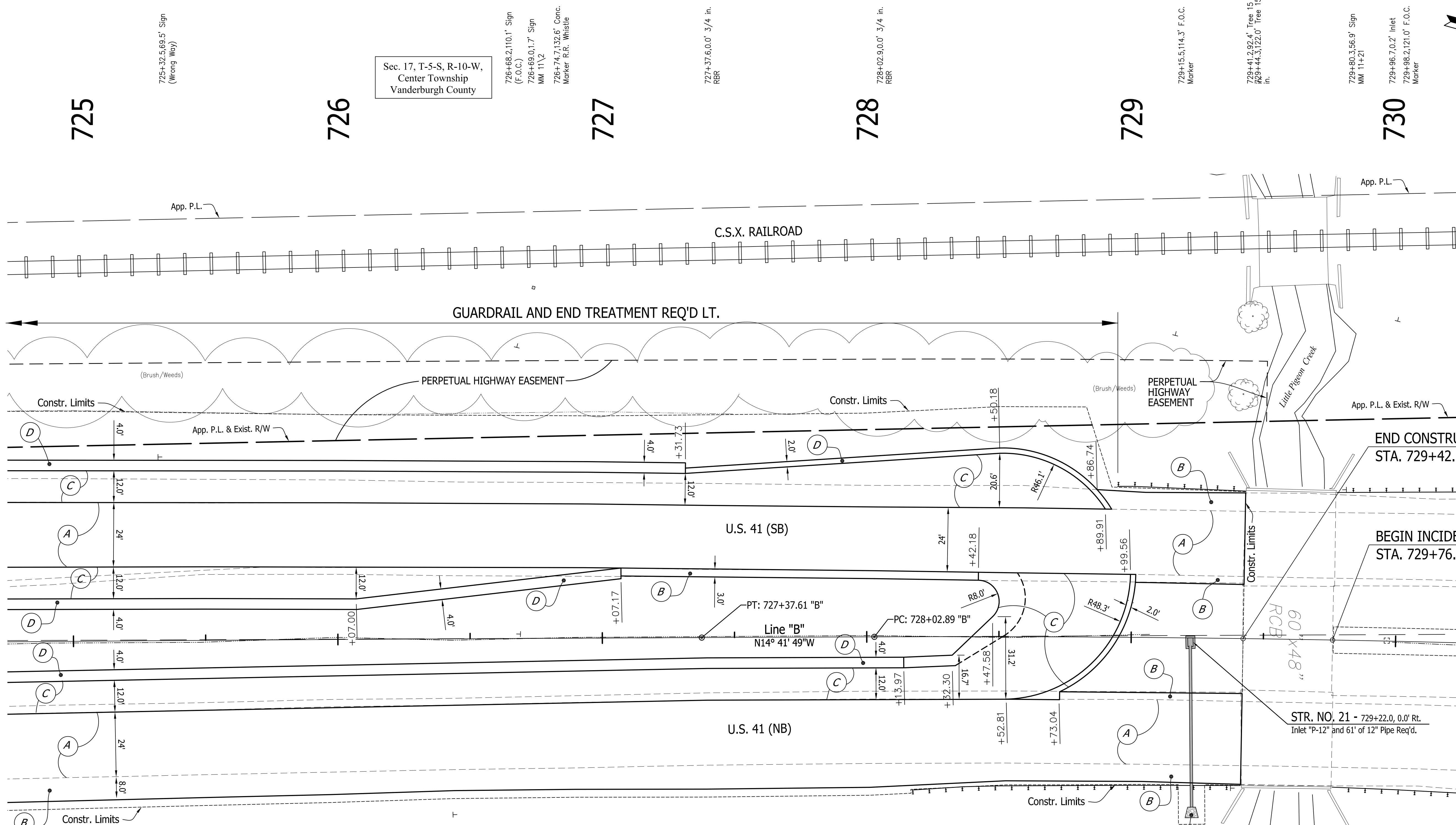
STR. NO. 18 - 719+90.0, 5.5' Rt.
 See previous plan sheet.
 STR. NO. 17 - 719+80.0, 5.7' Rt.
 See previous plan sheet.

CURVE DATA
 PI: 721+12.90 "B"
 N = 59910.7667
 E = 28145.8219
 R = 74900.00'
 L = 1249.44'
 Δ = 0° 57' 21"

3 Tons of 18"
 Class I RipRap
 on 2.5 Sys of
 Geotextiles

- LEGEND**
- (A) Asphalt Milling & HMA Resurface, Mainline
 - (A1) HMA Resurface (Variable Depth), Mainline
 - (B) Asphalt Milling & HMA Resurface, Shoulder
 - (C) HMA For Widening, Mainline
 - (D) HMA For Shoulder
 - (E) HMA For Approaches
 - (F) Concrete Center Curb

Preliminary Plans 4-03-20	RECOMMENDED FOR APPROVAL _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
	DESIGN ENGINEER _____ DATE _____		U.S. 41 and HILLSDALE ROAD INTERSECTION IMPROVEMENTS PLAN SHEETS		VERTICAL SCALE N/A	DESIGNATION 1400005
	DESIGNED: M.J.K.	DRAWN: R.E.N.			SURVEY BOOK N/A	SHEETS 22 of 57
	CHECKED: M.J.K.	CHECKED: M.J.K.			CONTRACT R-37845	PROJECT 1400005



LEGEND

- (A) Asphalt Milling & HMA Resurface, Mainline
- (A1) HMA Resurface (Variable Depth), Mainline
- (B) Asphalt Milling & HMA Resurface, Shoulder
- (C) HMA For Widening, Mainline
- (D) HMA For Shoulder
- (E) HMA For Approaches
- (F) Concrete Center Curb

CURVE DATA

PI:	742+74.40 "B"
N:	62001.5725
E:	27597.4280
R:	7675.00'
L:	2907.73'
Δ:	21° 42' 25"

TBM-39 EL. 409.87
 INDOT, BRASS DISC. @ SOUTHWEST WINGWALL OVER
 DITCH STAMPED V-92 VAN EL. 410.87 (APPROX. 1/4 MILE
 NORTH OF HILLSDALE ROAD & HIGHWAY 41. 57.4' LT. STA.
 729+43.5 "B"

**Preliminary
 Plans
 4-03-20**

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: M.J.K.	DRAWN: R.E.N.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

**INDIANA
 DEPARTMENT OF TRANSPORTATION**

**U.S. 41 and HILLSDALE ROAD
 INTERSECTION IMPROVEMENTS
 PLAN SHEETS**

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	23 of 57
CONTRACT	PROJECT
R-37845	1400005

Sec. 17, T-5-S, R-10-W,
Center Township
Vanderburgh County

735

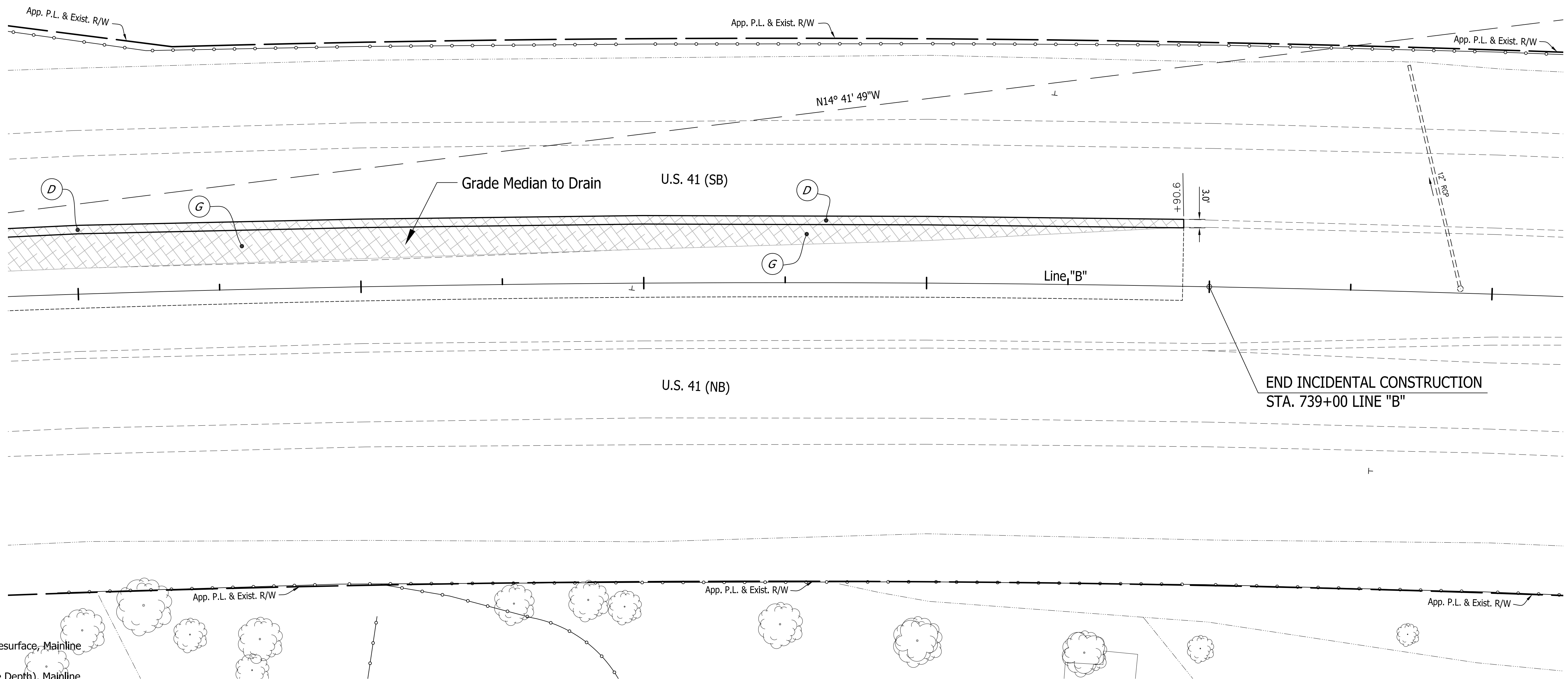
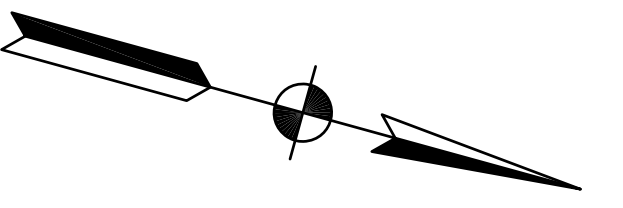
736

737

738

739

740



LEGEND

- (A) Asphalt Milling & HMA Resurface, Mainline
- (A1) HMA Resurface (Variable Depth), Mainline
- (B) Asphalt Milling & HMA Resurface, Shoulder
- (C) HMA For Widening, Mainline
- (D) HMA For Shoulder
- (E) HMA For Approaches
- (F) Concrete Center Curb
- (G) Asphalt Pavement Removal

- 735+12.3, 143.5' Ash 13 in.
- 735+19.8, 110.7' Birch Twin Tr. 15 in.
- 735+36.1, 121.5' Birch 15 in.
- 735+39.4, 146.8' Sycamore 18 in.
- 735+58.1, 134.7' Sycamore 15 in.
- 735+61.2, 123.7' Sycamore 20 in.
- 736+52.7, 112.9' Sycamore 18 in.
- 736+79.3, 111.9' Sycamore 18 in.
- 736+92.4, 114.3' Birch 15 in.
- 736+95.7, 2.4' Sign MM 11'4
- 737+48.2, 120.8' Ash Twin Tr. 15 in.
- 737+97.5, 126.4' Sycamore 22 in.
- 738+57.6, 130.1' Sycamore 20 in.
- 738+99.3, 127.9' Oak 12 in.
- 739+58.1, 63.8' Sign (No Parking)
- 739+73.7, 121.1' 4 in. Maple Twin Tr.

CURVE DATA

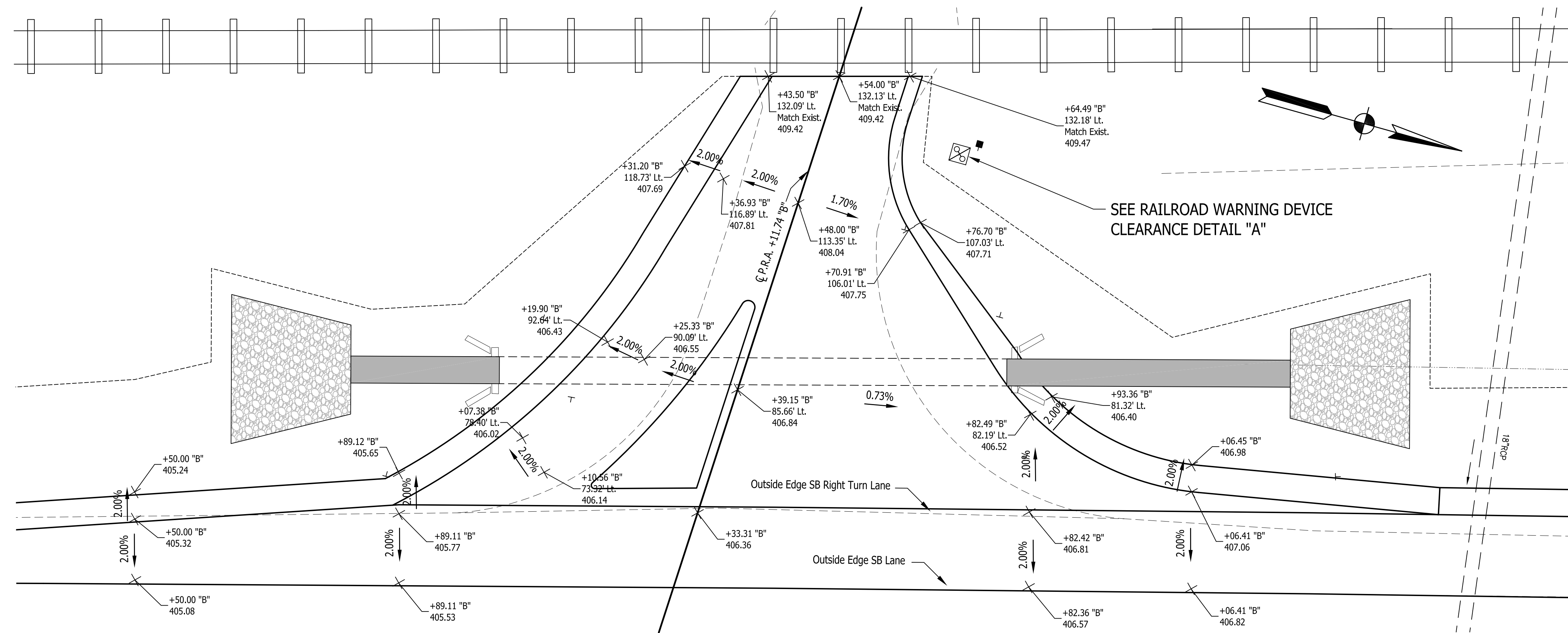
PI: 742+74.40 "B"
 N = 62001.5725
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Preliminary
Plans
4-03-20

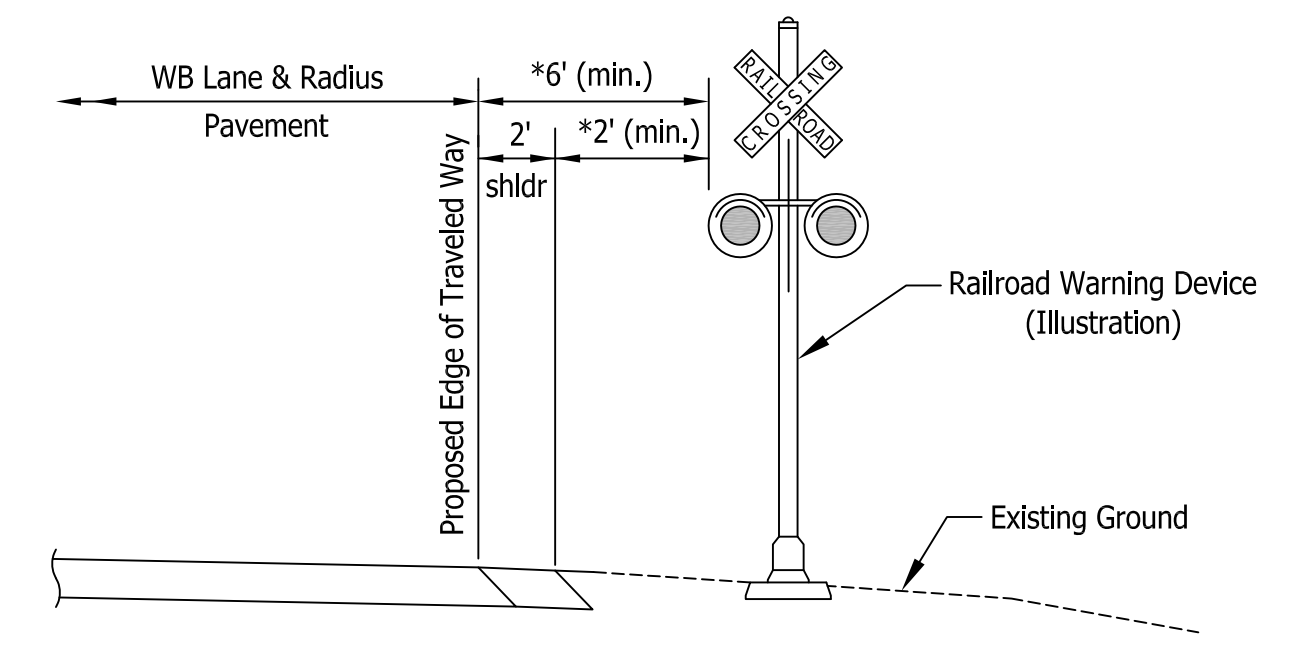
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INDIANA
DEPARTMENT OF TRANSPORTATION
U.S. 41 and HILLSDALE ROAD
INTERSECTION IMPROVEMENTS
PLAN SHEETS

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	25 of 57
CONTRACT	PROJECT
R-37845	1400005

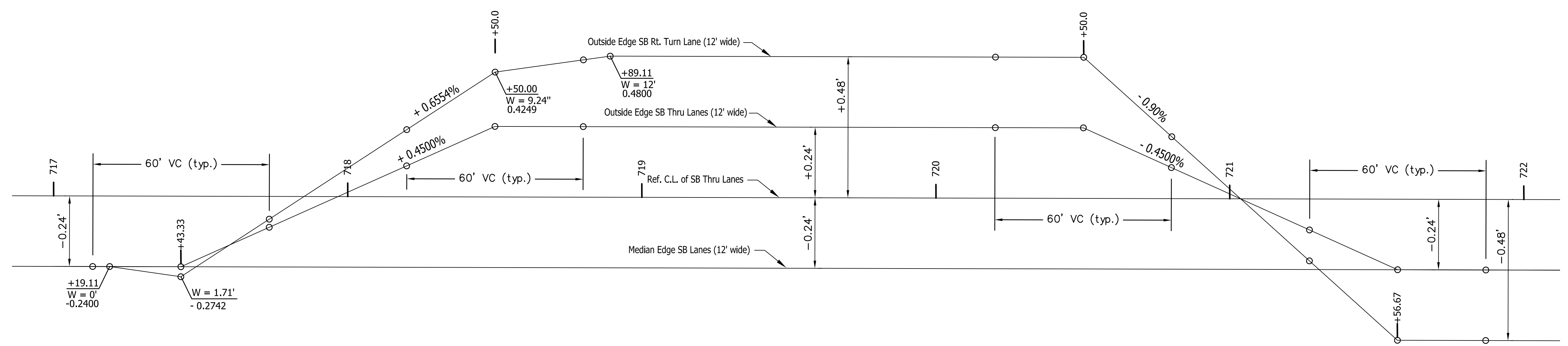


SPOT ELEVATIONS - HILLSDALE ROAD WEST APPROACH AT U.S. 41 SOUTHBOUND
Scale: 1" = 10'



NOTE:
Minimum offset dimensions from the edge of traveled way and from the edge of shoulder to the existing railroad warning device are required and shall be field verified by the contractor prior to construction.
*applies to the nearest stationary railroad warning device appurtenance from the point measure.

CLEARANCE REQUIREMENTS FOR RAILROAD WARNING DEVICES
Detail "A" (Not to Scale)



EDGE TRANSITION DIAGRAM - U.S. 41 SOUTHBOUND AT HILLSDALE ROAD WEST APPROACH
Scale: 1" = 20'

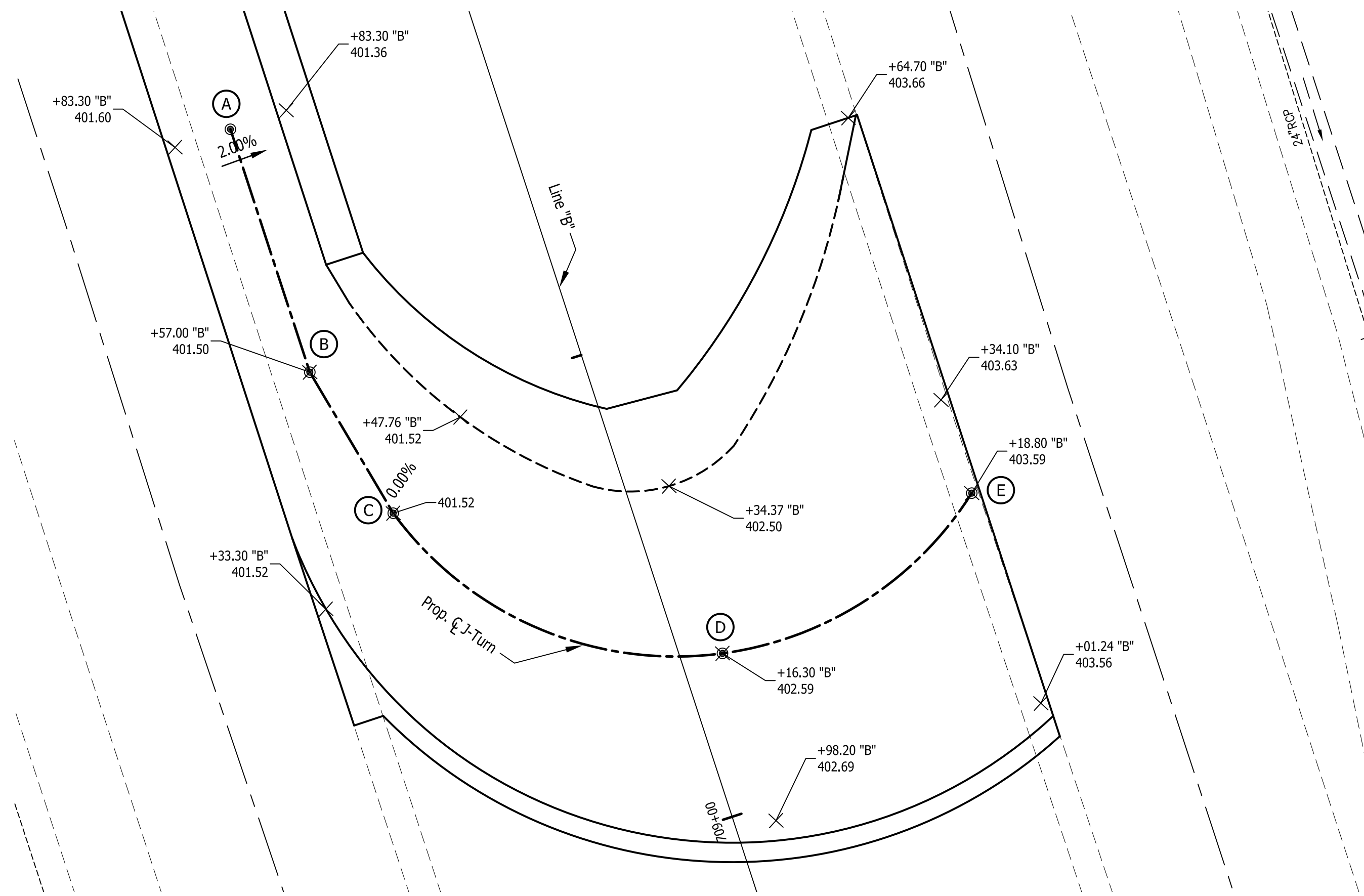
Preliminary
Plans
4-03-20

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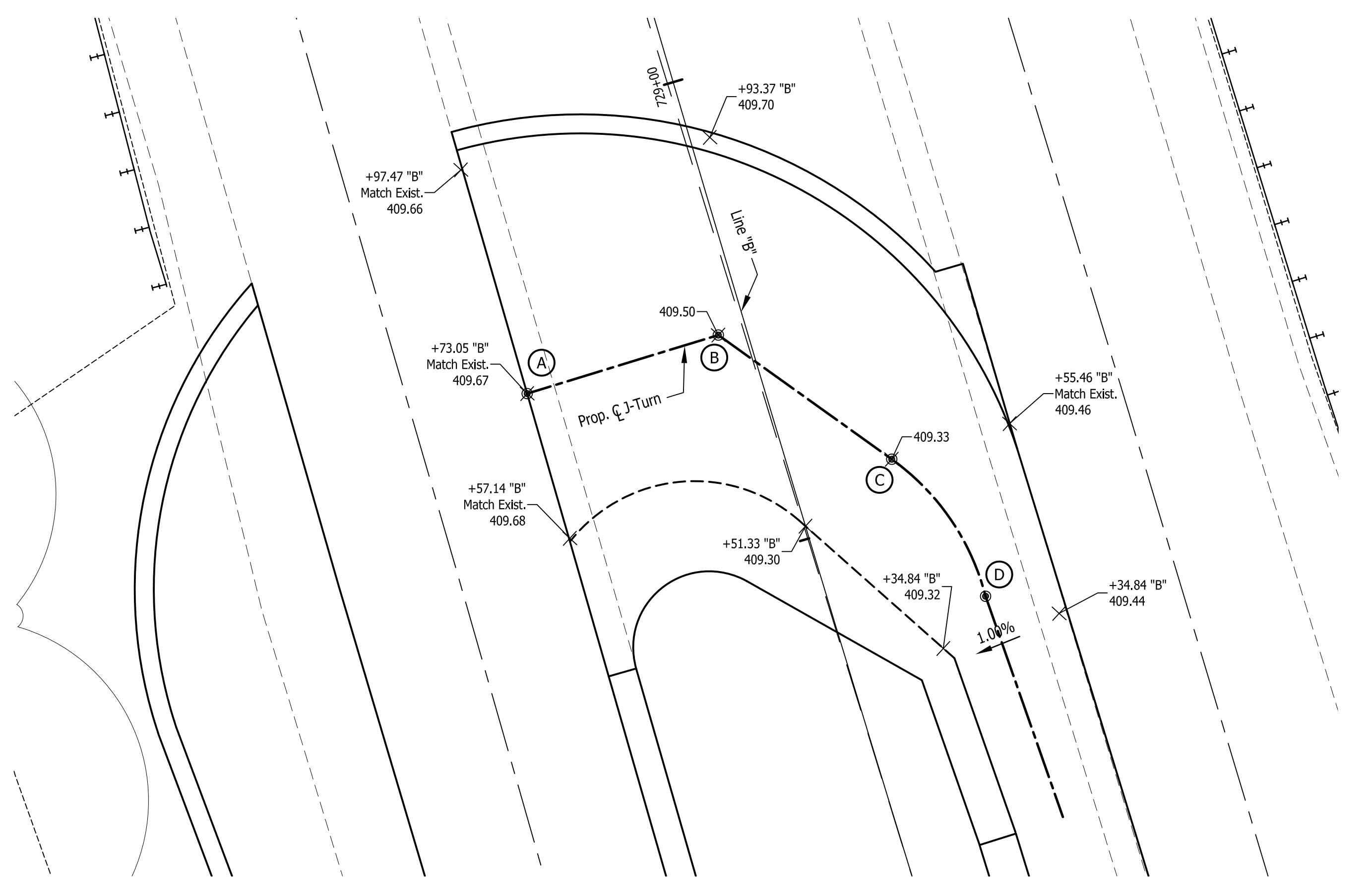
INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
SPOT ELEVATIONS & EDGE TRANSITION

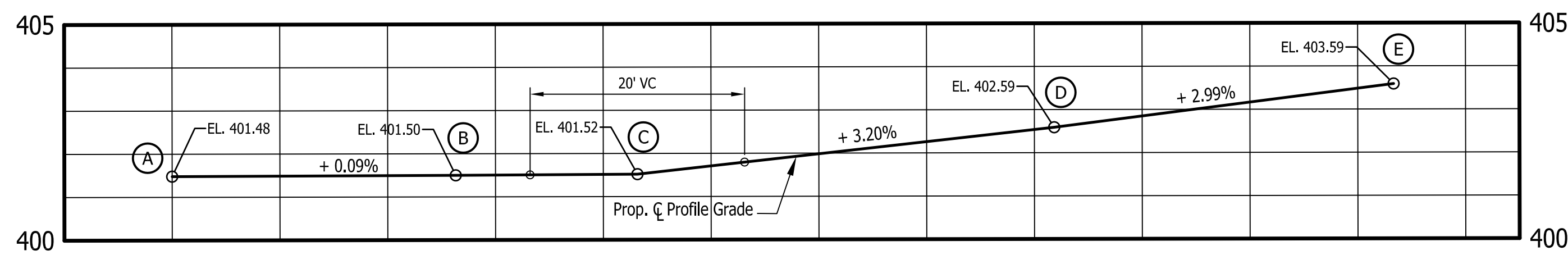
HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	26 of 57
CONTRACT	PROJECT
R-37845	1400005



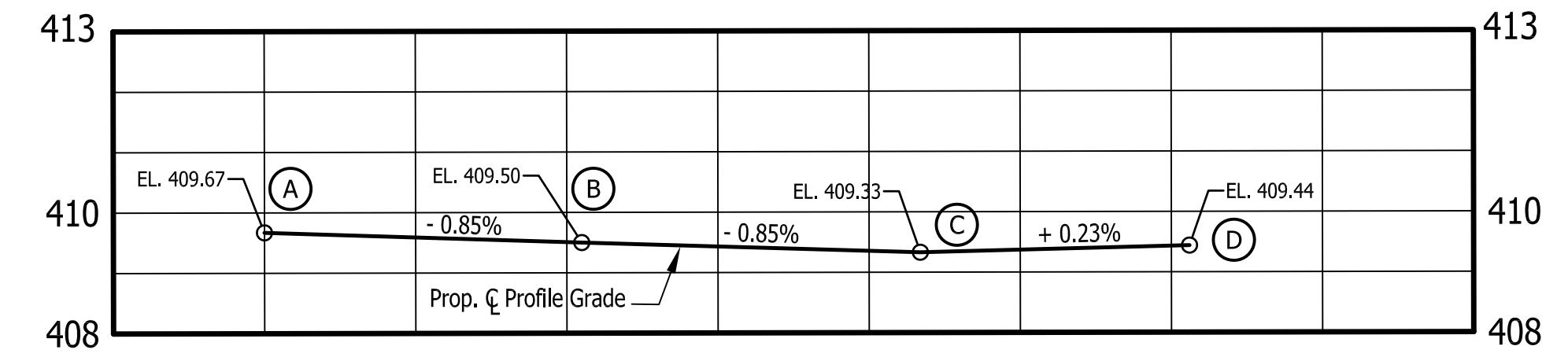
SPOT ELEVATIONS - U.S. 41 SOUTHBOUND J-TURN MEDIAN
Scale: 1" = 10'



SPOT ELEVATIONS - U.S. 41 NORTHBOUND J-TURN MEDIAN
Scale: 1" = 10'



PROPOSED CENTERLINE PROFILE - U.S. 41 SOUTHBOUND J-TURN MEDIAN
Horizontal Scale: 1" = 10'
Vertical Scale: 1" = 5'



PROPOSED CENTERLINE PROFILE - U.S. 41 NORTHBOUND J-TURN MEDIAN
Horizontal Scale: 1" = 10'
Vertical Scale: 1" = 5'

Preliminary
Plans
4-03-20

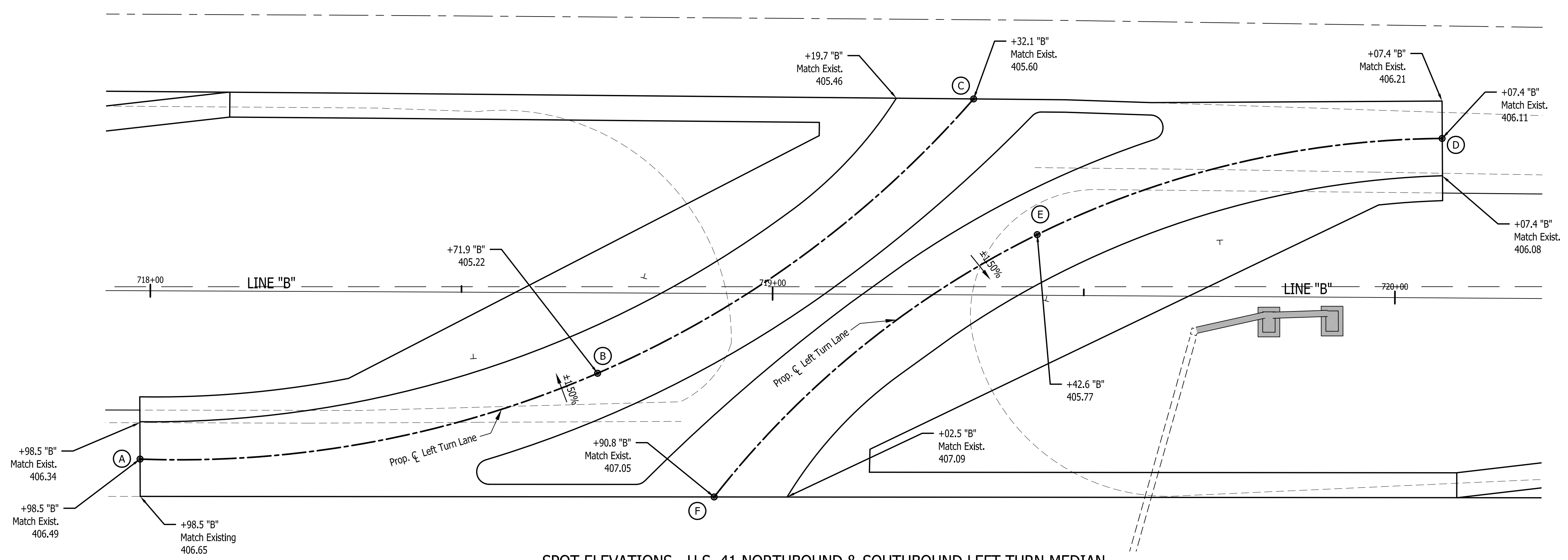
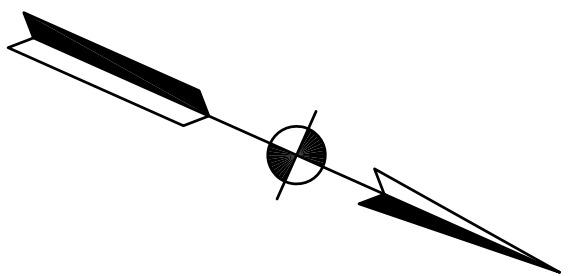
RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: M.J.K. DRAWN: R.E.N.
CHECKED: M.J.K. CHECKED: M.J.K.

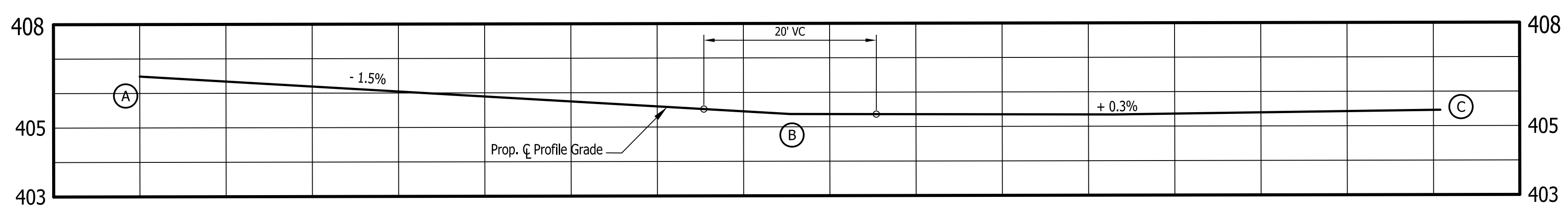
INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
J-TURN INTERSECTION DETAILS

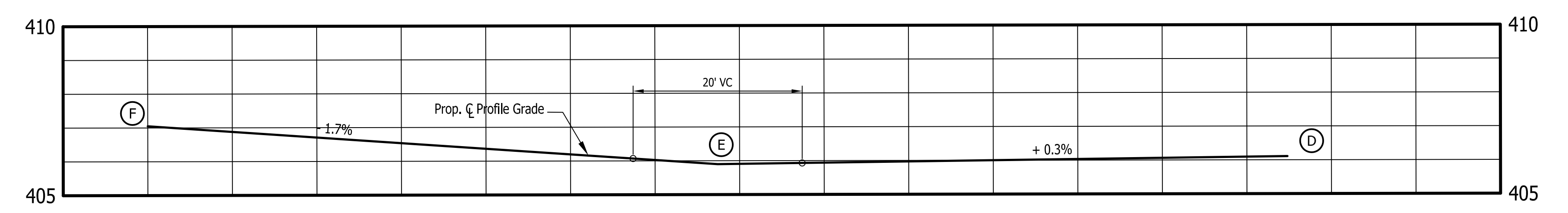
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VERTICAL SCALE	DESIGNATION
AS SHOWN	1400005
SURVEY BOOK	SHEETS
N/A	27 of 57
CONTRACT	PROJECT
R-37845	1400005



SPOT ELEVATIONS - U.S. 41 NORTHBOUND & SOUTHBOUND LEFT TURN MEDIAN
Scale: 1" = 10'



PROPOSED CENTERLINE PROFILE - U.S. 41 NORTHBOUND LEFT TURN MEDIAN
Horizontal Scale: 1" = 10'
Vertical Scale: 1" = 5'



PROPOSED CENTERLINE PROFILE - U.S. 41 SOUTHBOUND LEFT TURN MEDIAN
Horizontal Scale: 1" = 10'
Vertical Scale: 1" = 5'

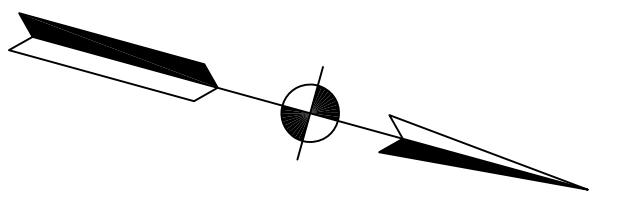
Preliminary
Plans
4-03-20

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: M.J.K.	DRAWN: R.E.N.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
J-TURN INTERSECTION DETAILS

HORIZONTAL SCALE	BRIDGE FILE
AS SHOWN	N/A
VERTICAL SCALE	DESIGNATION
AS SHOWN	1400005
SURVEY BOOK	SHEETS
N/A	28 of 57
CONTRACT	PROJECT
R-37845	1400005



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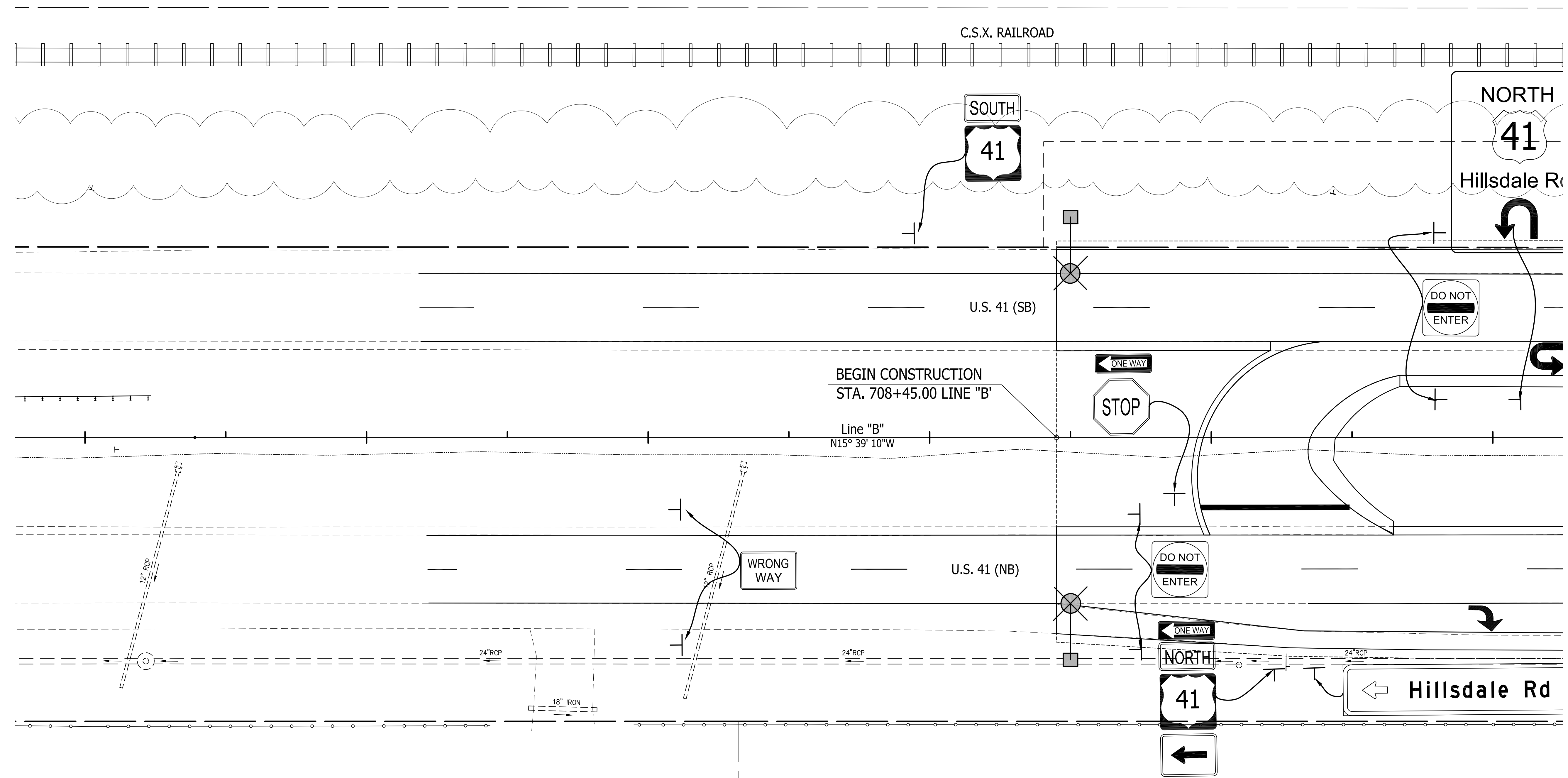
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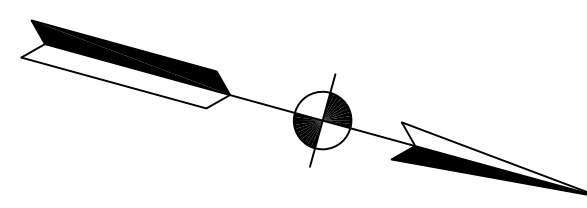
Preliminary
Plans
4-03-20

RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: T.F.S.	DRAWN: T.F.S.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

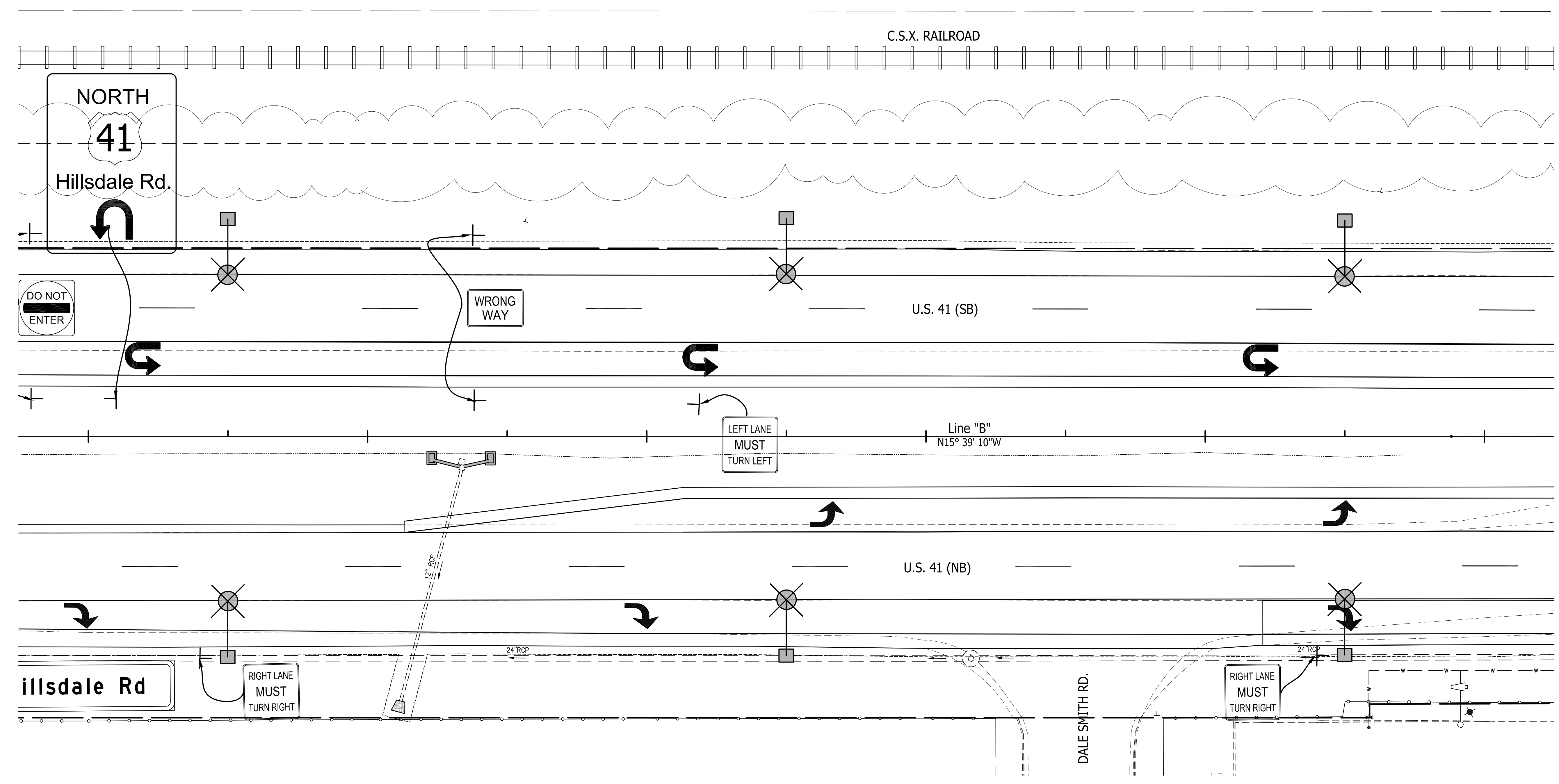
INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS

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VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 29 of 57
CONTRACT R-37845	PROJECT 1400005



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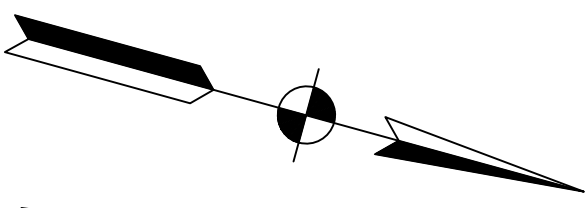
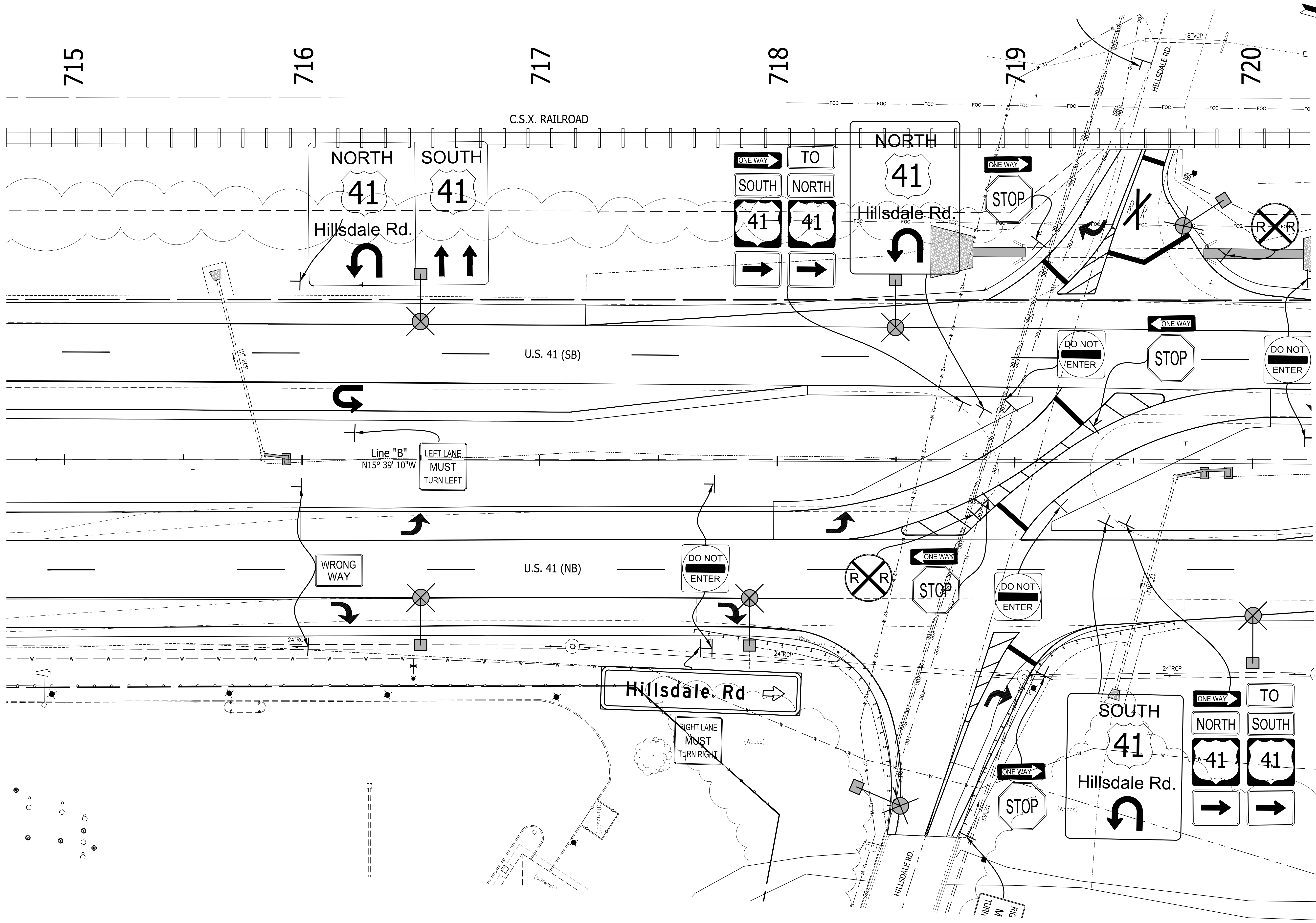
Preliminary
Plans
4-03-20

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DESIGNED: T.F.S.	DRAWN: T.F.S.	
CHECKED: M.J.K.	CHECKED: M.J.K.	

INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 30 of 57
CONTRACT R-37845	PROJECT 1400005



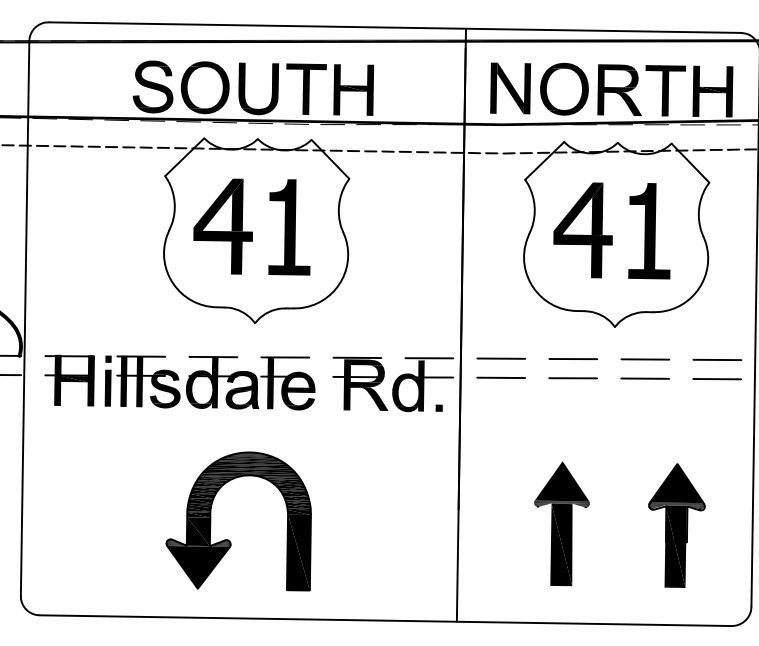
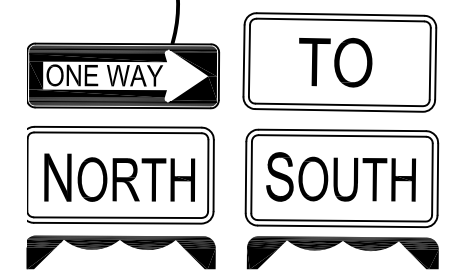
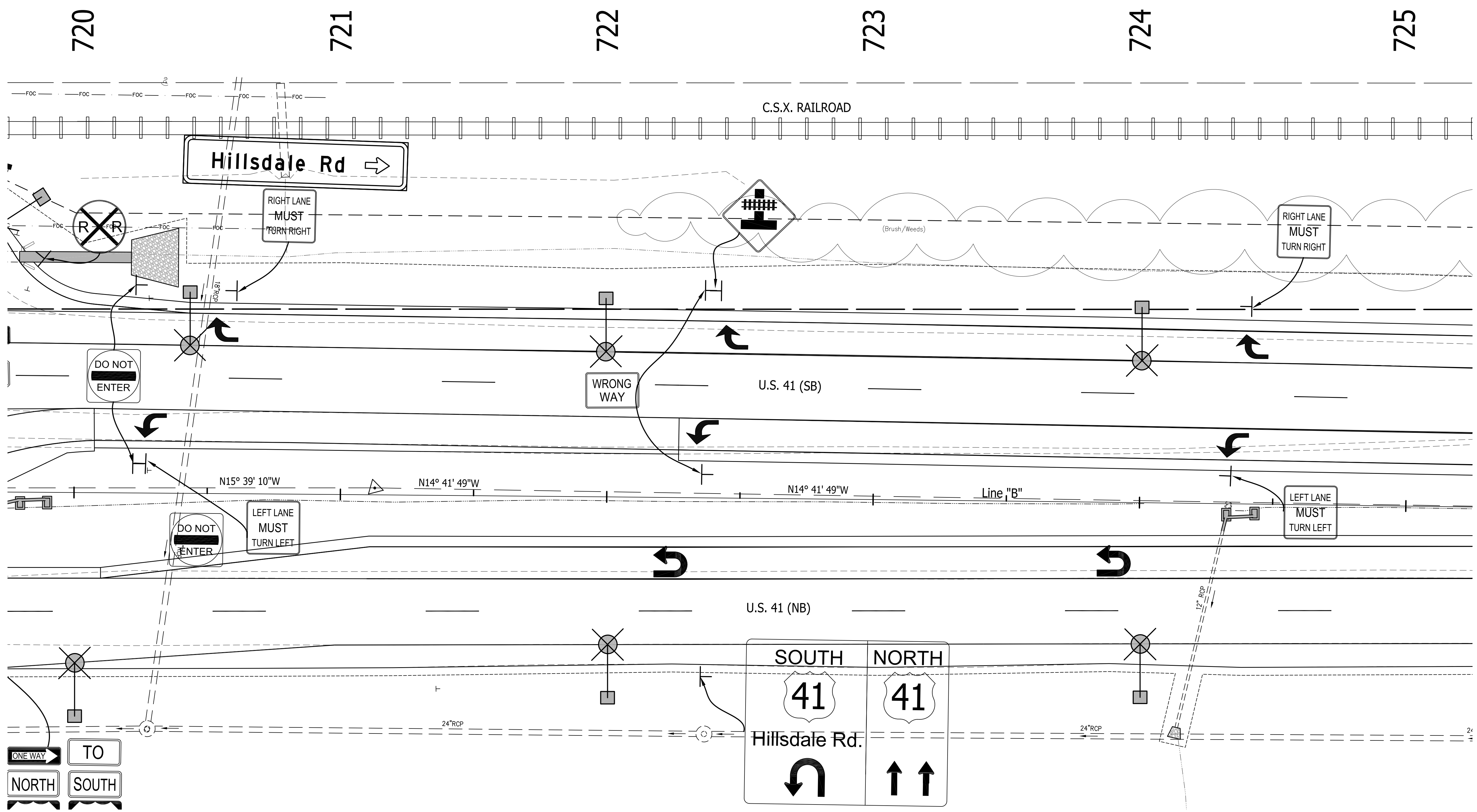
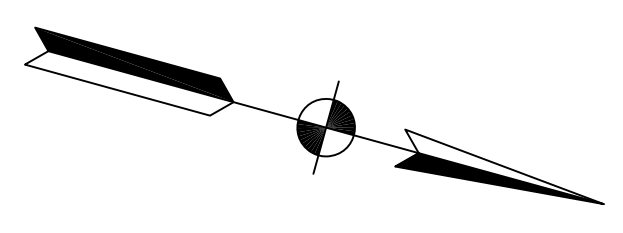
Preliminary
Plans
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INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
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SURVEY BOOK N/A	SHEETS 31 of 57
CONTRACT N/A	PROJECT 1400005



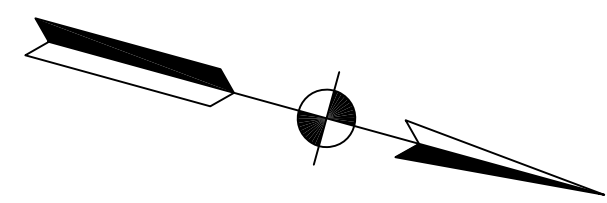
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4-03-20

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INDIANA
DEPARTMENT OF TRANSPORTATION

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SIGNING, MARKING & LIGHTING PLANS

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SURVEY BOOK N/A	SHEETS 32 of 57
CONTRACT R-37845	PROJECT 1400005



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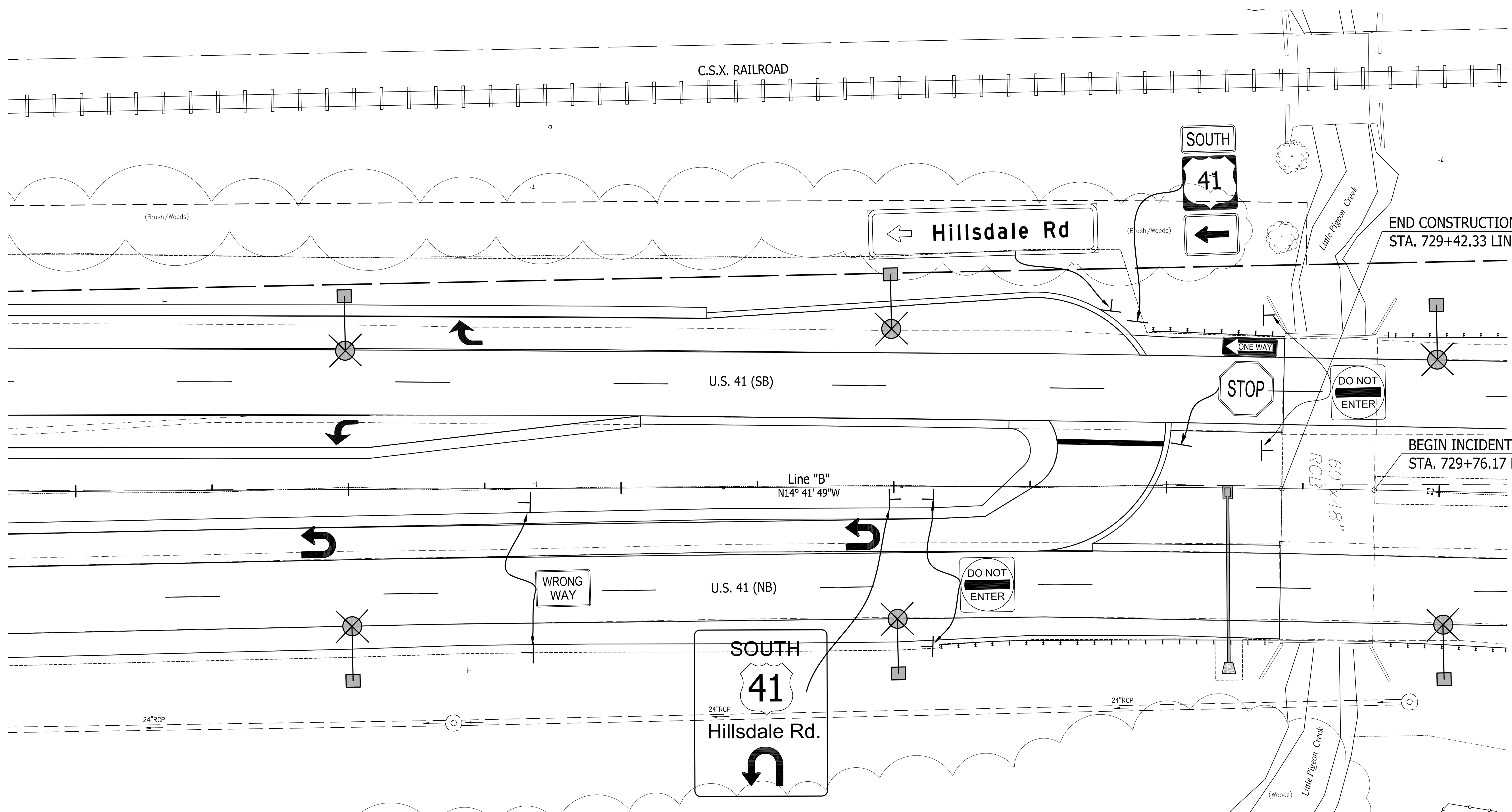
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CURVE DATA

PI: 742+74.40 "B"
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 E = 27597.4280
 R = 7675.00'
 L = 2907.73'
 $\Delta = 21^\circ 42' 25''$

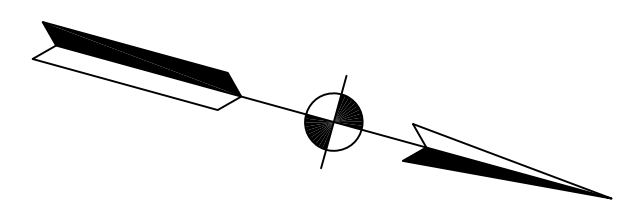
Preliminary
Plans
4-03-20

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INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
N/A	33 of 57
CONTRACT	PROJECT
R-37845	1400005



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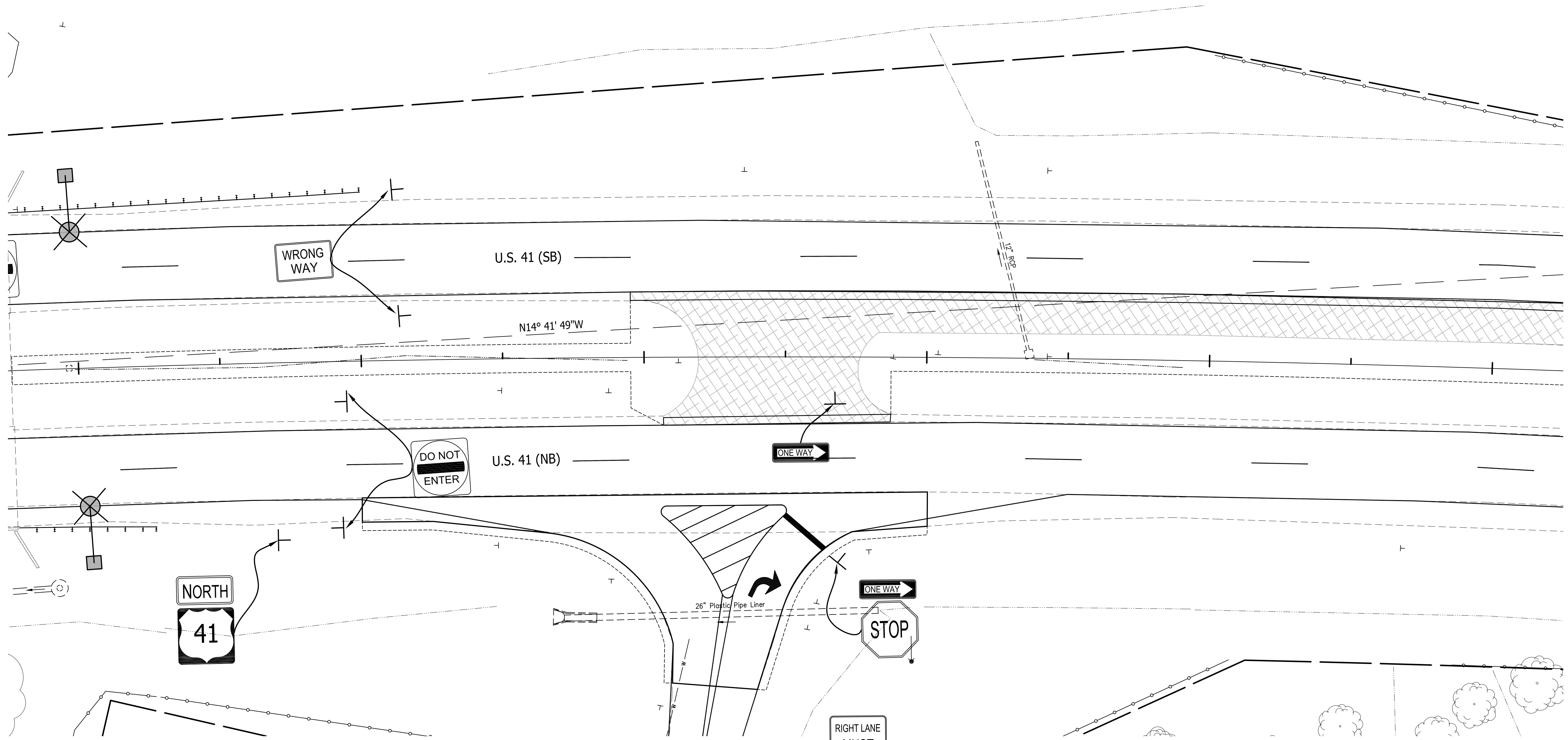
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WRONG WAY

DO NOT ENTER

ONE WAY

ONE WAY

STOP

RIGHT LANE MUST TURN RIGHT

CURVE DATA
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 E = 27597.4280
 R = 7675.00'
 L = 2907.73'
 $\Delta = 21^\circ 42' 25''$

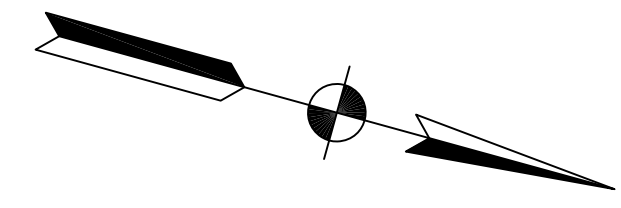
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 Plans
 4-03-20

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CHECKED: M.J.K.	CHECKED: M.J.K.	

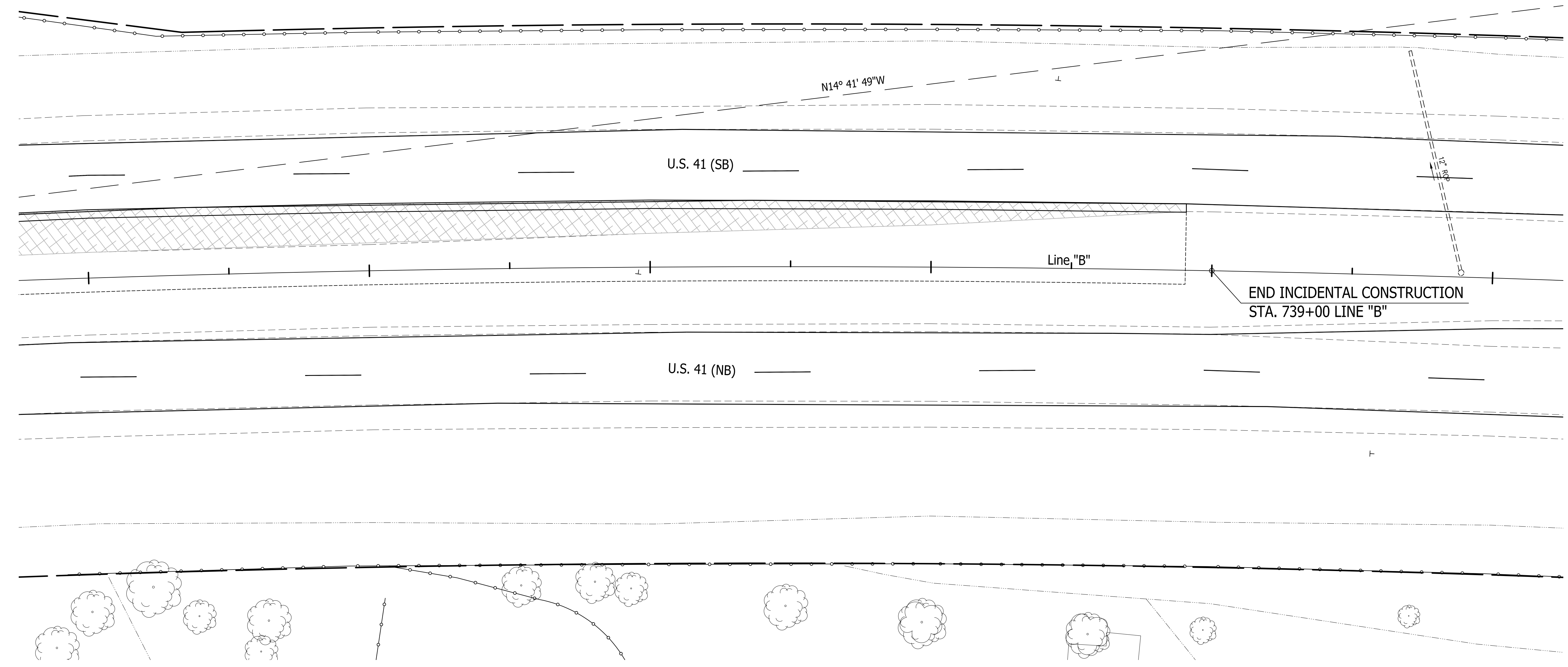
INDIANA
 DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
 SIGNING, MARKING & LIGHTING PLANS

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 34 of 57
CONTRACT R-37845	PROJECT 1400005



735 736 737 738 739 740



END INCIDENTAL CONSTRUCTION
STA. 739+00 LINE "B"

CURVE DATA
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 Δ = 21° 42' 25"

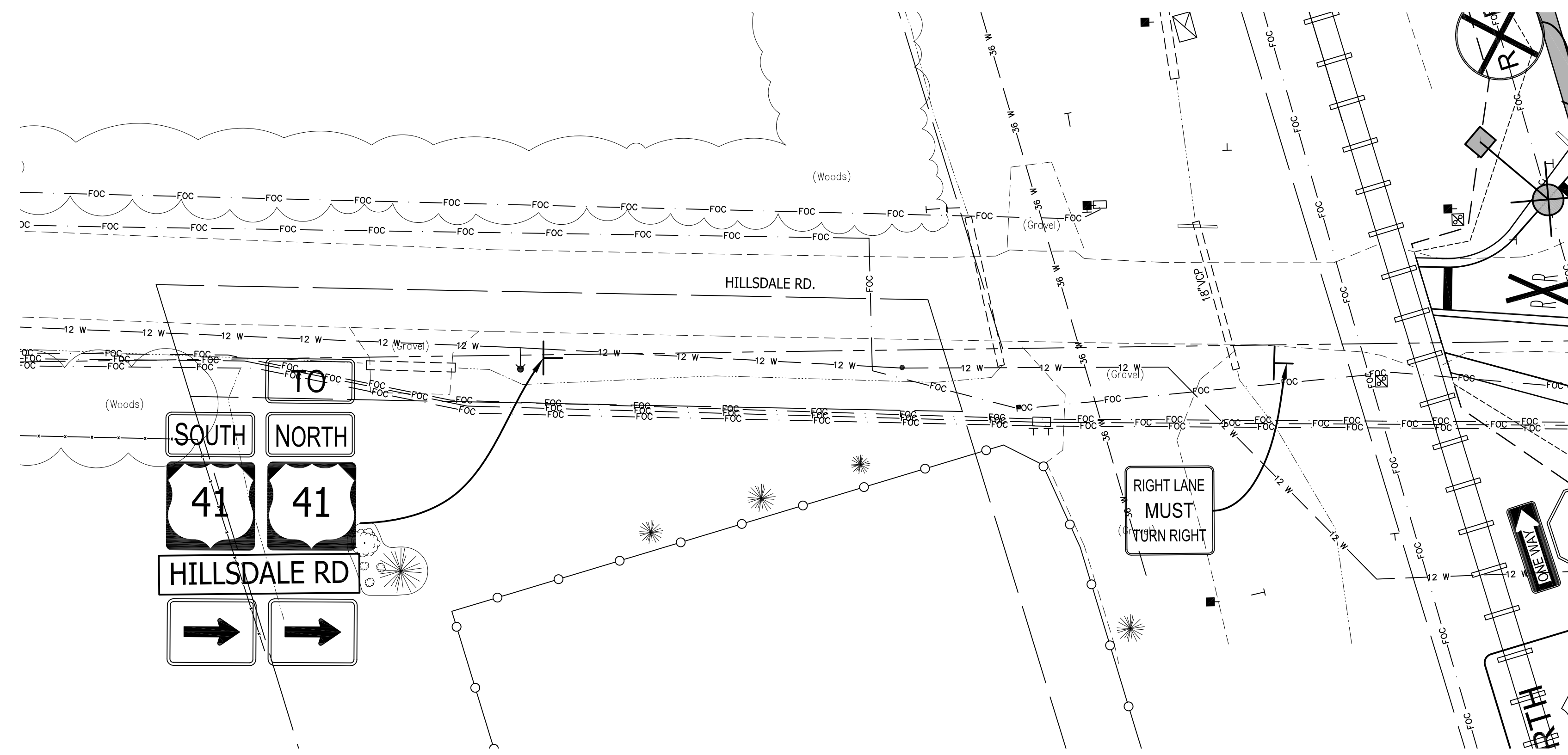
*Preliminary
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4-03-20*

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____	
DESIGNED: T.F.S.	DRAWN: T.F.S.	CHECKED: M.J.K.	CHECKED: M.J.K.

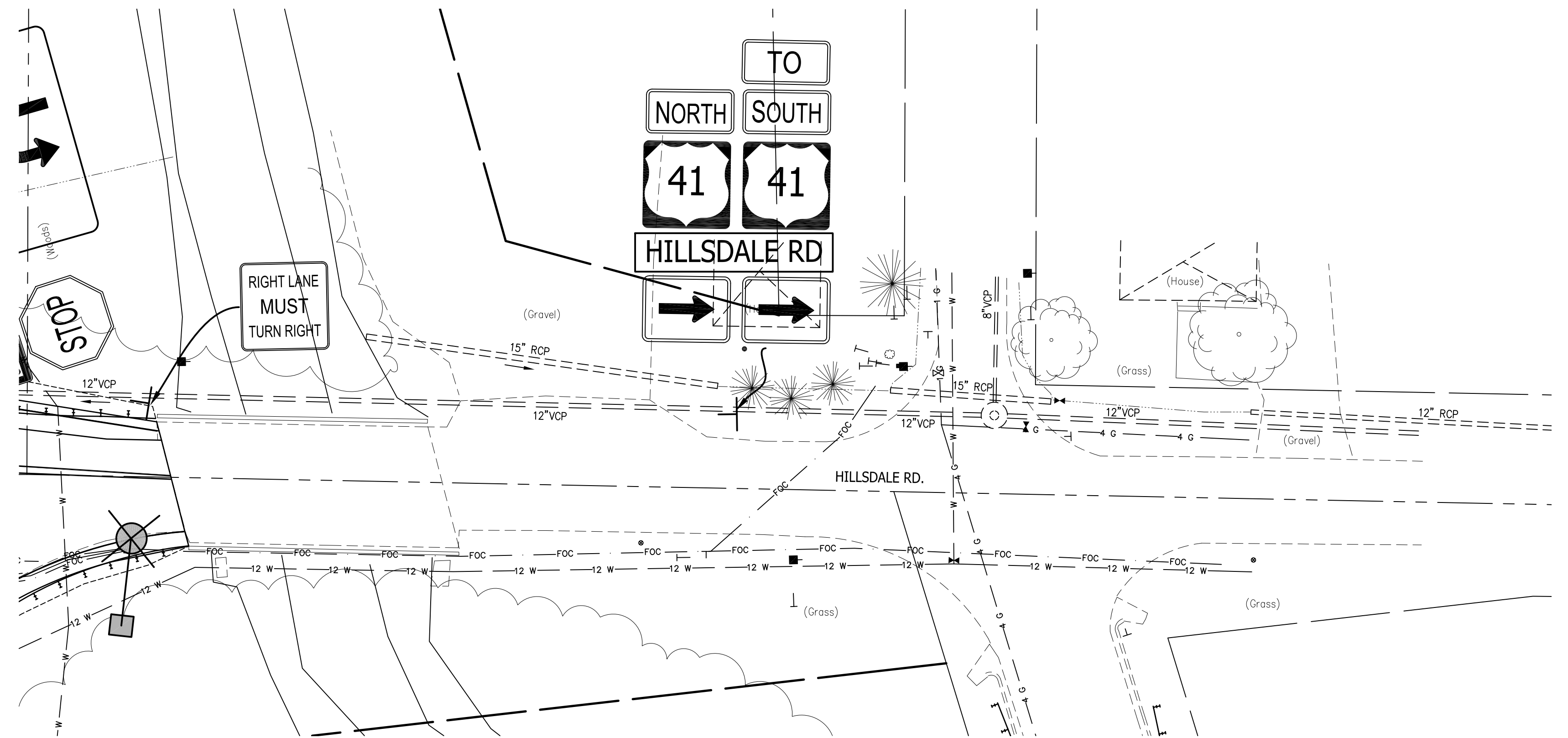
**INDIANA
DEPARTMENT OF TRANSPORTATION**

**U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS**

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1400005
SURVEY BOOK N/A	SHEETS 35 of 57
CONTRACT R-37845	PROJECT 1400005



HILLSDALE RD. WEST APPROACH



HILLSDALE RD. EAST APPROACH

Preliminary
Plans
4-03-20

RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: T.F.S. DRAWN: T.F.S.
CHECKED: M.J.K. CHECKED: M.J.K.

INDIANA
DEPARTMENT OF TRANSPORTATION

U.S. 41 and HILLSDALE ROAD
SIGNING, MARKING & LIGHTING PLANS

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VERTICAL SCALE	DESIGNATION
N/A	1400005
SURVEY BOOK	SHEETS
N/A	35A of 57
CONTRACT	PROJECT
R-37845	1400005

APPENDIX C: Early Coordination



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

Eric J. Holcomb, Governor
Joe McGuinness, Commissioner

March 11, 2020

Sample Early Coordination Letter

{See Attached List}

Re: Early Coordination Designation Number (Des. No.) 1400005
Roadway Project, United State (US) 41, Hillside Road, and Radio Avenue
Scott and Center Townships, Vanderburgh County, Indiana

Dear Agency:

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

The project is located on US 41 at the southeast corner of the Town of Darmstadt, Vanderburgh County, Indiana. Specifically, the project is located in Sections 17 and 20, Township 5 South, Range 10 West of the Evansville North, Indiana 7.5-minute United States Geological Survey (USGS) topographic quadrangle. US 41 is classified as a Principal Arterial highway. The project is located in a rural / suburban area. US 41 is a 4-lane divided highway (each lane 12 ft. wide) with a 60 mile per hour (MPH) posted speed limit. There is a single left-turn lane for each northbound and southbound on US 41. There are 10 ft. wide paved shoulders along the outside travel lanes and 4 ft. wide paved shoulders along the median edges. The median width is 64 ft. wide as measured between the inside thru lanes. The width of the paved median surface as measured longitudinally along the US 41 centerline is 38 ft. The terrain is generally level.

Hillsdale Road is an east-west, two-lane local roadway with a posted speed limit of 45 MPH. The Hillsdale Road approaches have no auxiliary lanes. The existing roadway width is approximately 20 ft. Hillsdale Road connects two north-south local collector roadways; Browning Road (approximately one mile east) and Old State Road (approximately 0.3 mile west).

A single set of CSX railroad track is parallel to US 41, situated approximately 135 ft. west of the US 41 centerline. There is a 2-lane bridge carrying Hillsdale Road over Little Pigeon Creek whose west abutment is approximately 160 ft. east of the US 41 centerline.

The land uses adjoining the project area are residential, commercial and agricultural. Several underground utilities and overhead electric distribution are located within and or adjacent to the project area.

Little Pigeon Creek crosses under US 41 approximately 1,045 ft. north of Hillsdale Road (60 inches x 48 inches reinforced concrete box culvert) and crosses under Hillsdale Road approximately 200 ft. east of the US 41 centerline (bridge). A tributary of Little Pigeon Creek (UNT 1) is located in the northeast quadrant of US 41 and Hillsdale Road. No impacts to Little Pigeon Creek and UNT 1 to Little Pigeon Creek are anticipated.

The existing roadside drainage along US 41 is conveyed in ditches and pipes into Little Pigeon Creek or its tributaries.

Traffic growth over a period of years has contributed to the safety concerns for vehicles entering US 41 from Hillsdale Road.

The proposed project will convert the existing interchange into a J-Turn configuration. The westbound and eastbound left turn lanes and through traffic on Hillsdale Road will turn right. The traffic will cross the two US 41 thru lanes, and enter the J-turn median lane. The traffic will stop for traffic, and then proceed to make a U-turn on to US 41.

The improvements along US 41 will include adding a northbound and southbound J-Turn lane and Median U-turn (MUT). The exiting northbound right turn lane for the Hillsdale Road east approach will be extended. A southbound right-turn lane will be added for the Hillsdale Road west approach. The median opening will be reconstructed to facilitate the dedicated northbound and southbound left turn lanes. The crown on the southbound outside lane will be reversed to improve the intersection sight line at the west approach. The west approach on Hillsdale Road to the east edge of the railroad header will be reconstructed. The pavement within the project area will be milled and resurfaced. The east approach to the west bridge joint (bridge over Little Pigeon Creek) will be milled and resurfaced. The bridge over Little Pigeon Creek is excluded from this project. The project will also require the installation of highway lighting and new signage. New pavement markings will be installed within the project area.

Modifications to Radio Avenue include reconstructing the US 41 median to remove the southbound and the westbound left turn which will make Radio Avenue a right-turn in and right-turn out. This will require the installation of new signage and pavement markings. The existing guardrail on Radio Avenue will be replaced from the bridge east of US 41 to US 41. No impacts to the bridge are anticipated with the exception of replacing the western guardrail that is attached.

Approximately 0.18 acre of easement acquisition of right-of-way from CSX railroad will be required to widen Hillsdale Road approach, west of US 41. Additionally, approximately 0.70 acres of easement acquisition of right-of-way from CSX railroad will be required for the construction of the US 41 southbound right turn lane to Hillsdale Road, grading, seeding, guardrail installation, and drainage structure modifications. Utilities located within the project area may be impacted during construction. Coordination will be on-going.

Maintenance of traffic will utilize phased construction. The construction activities will primarily occur within the median with one lane of traffic for both northbound and southbound US 41 traffic on the outside lanes. The paved intersection median at Hillsdale Road should remain open while the median lanes are constructed. The outside lanes of US 41 should be constructed in the second phase. The final phase of construction should be completing work in the median through the intersection. During this phase, only right turns out of the east and west approaches will be permitted. Temporary traffic barriers will be utilized to protect the work zone. A posting for a detour utilizing Interstate (I)-69 as an alternate route (4 miles east) may be considered.

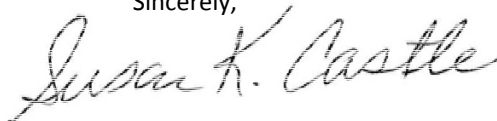
Metric Environmental will perform waters and wetlands determinations to identify any ecological resources that may be present.

This project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern long-eared bat and project information will be submitted through USFW's Information for Planning and Consultation (IPaC) separately.

This project appears to fall under Categories A-2, A-4, B-2, and B-3 of the *Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the INDOT, the Advisory Council on Historic Preservation (ACHP), and the Indiana State Historic Preservation Officer (Indiana SHPO) regarding the implementation of the Federal Aid Highway Program in the State of Indiana (MPPA)*. Metric Environmental will coordinate with INDOT Cultural Resources Office (CRO) for verification.

Should we not receive your response within thirty (30) calendar days from the date of this letter, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. However, should you find that an extension to the response time is necessary; a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact Susan Castle, Senior Consultant, Metric Environmental, at 317.608.2730, or SusanC@MetricEnv.com, 6971 Hillside Court, Indianapolis, Indiana 46250 or Matthew Bullock, Project Manager, INDOT Vincennes District, at MBullock1@indot.in.gov or 812.830.9683. Thank you in advance for your input.

Sincerely,



Susan K. Castle
Senior-consultant

Metric Environmental, LLC

cc: File No. 19-0123
Michael Koyak, P.E., mkoyak@FirstGroupEngineering.com, First Group Engineering, Inc.
Matthew Bullock, Project Manager, MBullock1@indot.in.gov, INDOT Vincennes District

Attachments: Location Map, USGS Topographic Map, 2011 Aerial Photograph, and Stage 1 Road Plans

The attachments were intentionally omitted from this document. Please refer to Appendix B in the CE document.



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

Eric J. Holcomb, Governor
Joe McGuinness, Commissioner

Early Coordination Designation Number (Des. No.) 1400005 Roadway Project
United State (US) 41, Hillside Road, and Radio Avenue
Scott and Center Townships, Vanderburgh County, Indiana

March 11, 2020

Federal Highway Administration
{Michelle.Allen@dot.gov}
{Erica.Tait@dot.gov}

Indiana Geological Survey
{<https://igs.indiana.edu/eAssessment/>}

IDEM Wellhead Proximity Determinator
Electronic Review of Location
{<https://www.in.gov/idem/cleanwater/2456.htm>}

Indiana Department of Natural Resources
Division of Fish and Wildlife
{environmentalreview@dnr.in.gov}

Indiana Department of Environmental Management
Proposed Roadway Construction Projects Letter
{<https://www.in.gov/idem/5284.htm>}

Indiana Department of Transportation
{rclark@indot.in.gov}

U.S. Department of Housing & Urban Development
Chicago Regional Office
{Paul.J.Lehmann@hud.gov}

Regional Environmental Coordinator
Midwest Regional Office
National Park Service
601 Riverfront Drive
Omaha, Nebraska 68102

Indiana Department of Transportation
Vincennes District
{RFalls@indot.in.gov}

U.S. Fish and Wildlife Service
Bloomington Indiana Field Office
{Robin_Mcwilliams@fws.gov}

Natural Resources Conservation Service
{rick.neilson@in.usda.gov}

Vanderburgh County Commissioners Ben
Shoulders - President
{bshoulders@vanderburghgov.org}
Jeff Hatfield – Vice-President
{jhatfield@vanderburghgov.org}

Vanderburgh County Surveyor
Jeffrey Mueller, P.E.
{jmueller@vanderburghcounty.com}

Vanderburgh County Highway Department
Scot Wichser, Superintendent
{Highway@Vanderburghgov.org}

Evansville MPO
{bmills@evansvillempo.com}
{sshokouhzadeh@evansvillempo.com}

Harvest Community Church
11300 Walnut Road
Evansville, IN 47725
{Prayer@HCCEvansville.Church}

Scott Township Civic Center
600 Radio Avenue
Evansville, IN 47711

Vanderburgh County 4-H Center
404 W. Booneville New Harmony Road
Evansville, IN 47711

Indiana Department of Transportation Office
of Aviation
{JCourtade@indot.in.gov}

April 8, 2020
Vanderburgh County Floodplain Administrator
{dballew@evansville.in.gov}

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

DNR #: ER-22323

Request Received: March 11, 2020

Requestor: Metric Environmental
Susan Castle
6971 Hillsdale Court
Indianapolis, IN 46250

Project: US 41 northbound and southbound J-turn and Median U-turn construction at Hillsdale Road, and intersection reconstruction at Radio Avenue, Darmstadt; Des #1400005

County/Site info: Vanderburgh

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: This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile, unless it qualifies under the INDOT and IDNR Memorandum of Understanding for Maintenance Activity Exemption, dated March 1997. Please include a copy of this letter with the permit application, if required.

Natural Heritage Database: The Natural Heritage Program's data have been checked. The state endangered Loggerhead Shrike (*Lanius ludovicianus*) has been documented within the project area.

Fish & Wildlife Comments: Suitable habitat for the Loggerhead Shrike no longer exists within or near the project area. Therefore, we do not foresee any impacts to this bird species as a result of this project.

We recommend a mitigation plan be developed (and submitted with the permit application, if required) for any unavoidable habitat impacts that will occur. The DNR's Floodway Habitat Mitigation guidelines (and plant lists) can be found online at: <http://www.in.gov/legislative/iac/20190130-IR-312190041NRA.xml.pdf>.

Impacts to non-wetland forest of one (1) acre or more should be mitigated at a minimum 2:1 ratio. If less than one acre of non-wetland forest is removed in a rural setting, replacement should be at a 1:1 ratio based on area. Impacts to non-wetland forest under one (1) acre in an urban setting should be mitigated by planting five trees, at least 2 inches in diameter-at-breast height (dbh), for each tree which is removed that is 10" dbh or greater (5:1 mitigation based on the number of large trees). Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

The mitigation site should be located in the floodway, downstream of the one (1) square mile drainage area of that stream (or another stream within the 8-digit HUC, preferably as close to the impact site as possible) and adjacent to existing forested riparian habitat.

THIS IS NOT A PERMIT

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

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 with a mixture of native grasses, sedges, wildflowers, and also native hardwood trees and shrubs if any woody plants are disturbed during construction as soon as possible upon completion. Do not use any varieties of Tall Fescue or other non-native plants, including prohibited invasive species (see 312 IAC 18-3-25).
2. Minimize and contain within the project limits all tree and brush clearing.
3. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.
4. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
5. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff:

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

Christie L. Stanifer

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

Date: April 9, 2020

Susan Castle

Subject: FW: [EXTERNAL] Early Coordination, Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

From: McWilliams, Robin <robin_mcwilliams@fws.gov>

Sent: Tuesday, March 24, 2020 11:48 AM

To: Susan Castle <susanc@metricenv.com>

Subject: Re: [EXTERNAL] Early Coordination, Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

Dear Susan,

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

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

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

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

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

Sincerely,
Robin McWilliams Munson

Standard Recommendations:

1. Do not clear trees or understory vegetation outside the construction zone boundaries. **(This restriction is not related to the "tree clearing" restriction for potential Indiana Bat habitat.)**
2. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap.
Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottom culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community.

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

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

Mon-Tues 8-3:30p
Wed-Thurs 8:30-3p Telework



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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

Indiana Department of Transportation
Matthew Bullock
3650 Old US Highway 41
Vincennes , IN 47591
Date

Metric Environmental, LLC
Susan Castle
6971 Hillside Court
Indianapolis , IN 46250

To Engineers and Consultants Proposing Roadway Construction Projects:

RE: Des. No. 1400005, Road Project, US 41, Hillside Road, and Radio Avenue, Evansville, Indiana. The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 feet south from its intersection with Hillside Road. The J-turn loop will be situated approximately 955 feet south of its intersection with Hillside Road. A northbound J-turn lane will be constructed beginning approximately 100 feet north from its intersection with Hillside Road. The J-turn loop will be situated approximately 960 feet north of its intersection with Hillside Road, approximately 50 feet south of bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek. Bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillside Road will be extended. A southbound US 41 right-turn lane onto Hillside Road will be added. The existing southbound and northbound travel lanes and shoulders will be milled and resurfaced. New highway lighting will be installed along the southbound and northbound outside shoulders of US 41. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Avenue north to the end of the project will be graded to drain. The westbound and eastbound left-turns and through traffic on Hillside Road will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillside Road approach on the west side of US 41 will be widened. Concrete center curbs will be added at the westbound and eastbound Hillside Road approaches. The existing 70 feet long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillside Road, west of US 41, will be lengthened to approximately 140 feet to accommodate the approach widening. The existing US 41 intersection with Radio Avenue will be converted to a right-in / right-out configuration in conjunction with this project. With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Radio Avenue, no work will be conducted on or under the bridge. The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Avenue and the Radio Avenue westbound left turn. New pavement markings and signs will be installed.

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: <http://www.in.gov/idem/5283.htm> (<http://www.in.gov/idem/5283.htm>).

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (<http://www.lrl.usace.army.mil/orf/default.asp>) (<http://www.lrl.usace.army.mil/orf/default.asp>) and then click on "Information" from the menu on the right-hand side of that page. Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana) are served by the USACE Louisville District Office (502-315-6733).

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

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>).

3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.
4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: <http://www.in.gov/idem/4384.htm> (<http://www.in.gov/idem/4384.htm>) for the appropriate staff contact to further discuss your project.
5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:
 - o IC 14-26-2 Lakes Preservation Act 312 IAC 11
 - o IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
 - o IC 14-28-1 Flood Control Act 310 IAC 6-1
 - o IC 14-29-1 Navigable Waterways Act 312 IAC 6
 - o IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
 - o IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: <http://www.in.gov/dnr/water/9451.htm> (<http://www.in.gov/dnr/water/9451.htm>) . Contact the DNR Division of Water at 317-232-4160 for further information.

The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

6. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
 - o <http://www.in.gov/idem/4902.htm> (<http://www.in.gov/idem/4902.htm>)

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

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

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

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

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

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

AIR QUALITY

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

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

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

Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with

chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

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

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

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

To learn more about radon, radon risks, and ways to reduce exposure visit:

<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm> (<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>), <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html> (<http://www.epa.gov/radon/index.html>).

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

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

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

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

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. All notification remitters will be billed on a quarterly basis.

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

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

LAND QUALITY

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

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

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

FINAL REMARKS

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

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

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that it is the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at <http://www.in.gov/idem/5284.htm> (<http://www.in.gov/idem/5284.htm>), is used.

Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

Project Description

Des. No. 1400005, Road Project, US 41, Hillsdale Road, and Radio Avenue, Evansville, Indiana. The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 feet south from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 955 feet south of its intersection with Hillsdale Road. A northbound J-turn lane will be constructed beginning approximately 100 feet north from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 960 feet north of its intersection with Hillsdale Road, approximately 50 feet south of bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek. Bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillsdale Road will be extended. A southbound US 41 right-turn lane onto Hillsdale Road will be added. The existing southbound and northbound travel lanes and shoulders will be milled and resurfaced. New highway lighting will be installed along the southbound and northbound outside shoulders of US 41. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Avenue north to the end of the project will be graded to drain. The westbound and eastbound left-turns and through traffic on Hillsdale Road will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Road approach on the west side of US 41 will be widened. Concrete center curbs will be added at the westbound and eastbound

Hillsdale Road approaches. The existing 70 feet long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Road, west of US 41, will be lengthened to approximately 140 feet to accommodate the approach widening. The existing US 41 intersection with Radio Avenue will be converted to a right-in / right-out configuration in conjunction with this project. With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Radio Avenue, no work will be conducted on or under the bridge. The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Avenue and the Radio Avenue westbound left turn. New pavement markings and signs will be installed.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 3/12/2020

Signature of the INDOT
Project Engineer or Other Responsible Agent 

Matthew Bullock

Date: March 12, 2020

Signature of the
For Hire Consultant 

Susan Castle



Organization and Project Information

Project ID: 19-0123
Des. ID: 1400005
Project Title: Road Project
Name of Organization: Metric Environmental, LLC
Requested by: Susan Castle

Environmental Assessment Report

1. Geological Hazards:

- High liquefaction potential
- 1% Annual Chance Flood Hazard

2. Mineral Resources:

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

3. Active or abandoned mineral resources extraction sites:

- Petroleum Exploration Wells

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

DISCLAIMER:

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

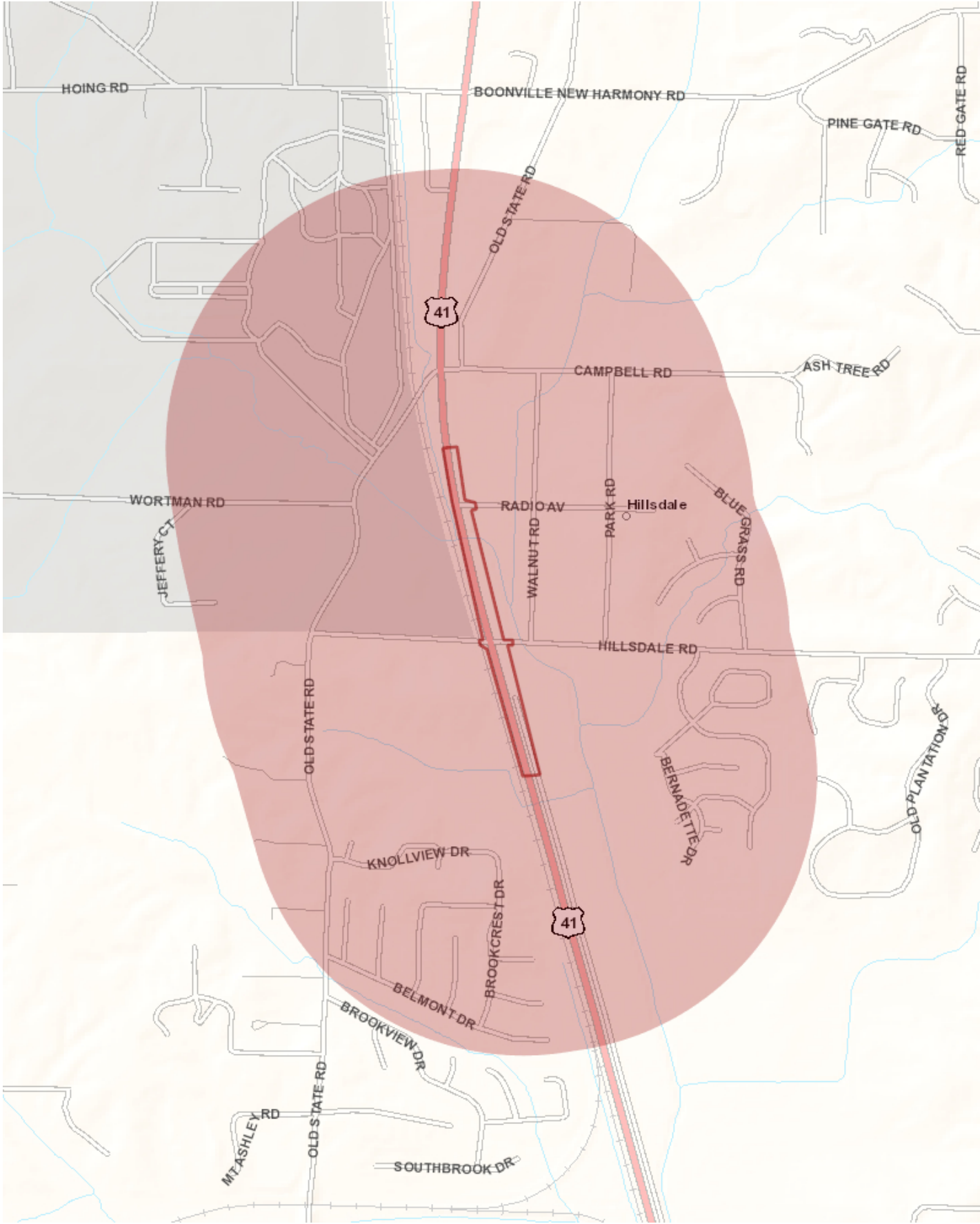
This information was furnished by Indiana Geological Survey

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

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: March 11, 2020



Metadata:

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

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

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

In Reply Refer To:

March 27, 2020

Consultation Code: 03E12000-2020-SLI-1159

Event Code: 03E12000-2020-E-05220

Project Name: Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

(812) 334-4261

Project Summary

Consultation Code: 03E12000-2020-SLI-1159

Event Code: 03E12000-2020-E-05220

Project Name: Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN

Project Type: TRANSPORTATION

Project Description: Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) propose to utilize federal funds to proceed with an Intersection Improvement project on US 41 from approximately 1,055 feet (ft.) south of Hillsdale Rd. to approximately 650 ft. north of Radio Ave. situated at the southeast corner of the Town of Darmstadt, Indiana.

The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 ft. south from its intersection with Hillsdale Rd. The J-turn loop will be situated approximately 955 ft. south of its intersection with Hillsdale Rd. A northbound J-turn lane will be constructed beginning approximately 100 ft. north from its intersection with Hillsdale Rd. The J-turn loop will be situated approximately 960 ft. north of its intersection with Hillsdale Rd., approximately 50 ft. south of the bridges over Little Pigeon Creek. The bridges over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillsdale Rd. will be extended. A southbound US 41 right-turn lane onto Hillsdale Rd. will be added. The existing southbound and northbound lanes and shoulders will be milled and resurfaced. Approximately 26 to 29 new permanent highway lighting will be installed along the southbound and northbound outside shoulders of US 41. Temporary lighting may be necessary during construction. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Ave. north to the end of incidental construction will be graded to drain. Suitable summer habitat is located near/within the project action area; however, none will be removed.

The westbound and eastbound left-turns and through traffic on Hillsdale Rd. will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Rd. approach on the west side of US 41 will be widened. Curbs will be added at the westbound and eastbound Hillsdale Rd. approaches. The existing 70 ft. long x 48 inches diameter Reinforced Concrete Pipe (RCP) located

beneath Hillsdale Rd., west of US 41, will be lengthened to approximately 140 ft. to accommodate the approach widening.

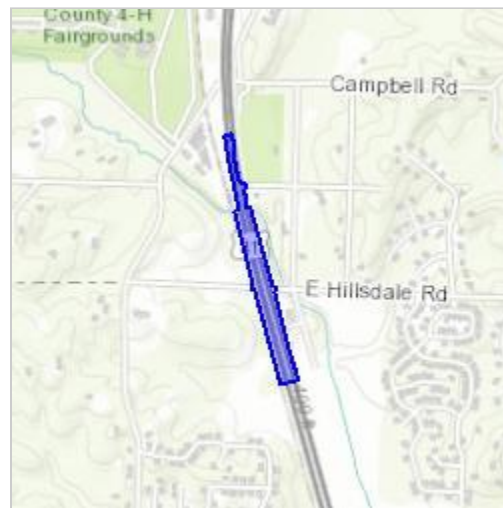
The existing US 41 intersection with Radio Ave. will be converted to a right-in / right-out configuration. With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Radio Ave., no work will be conducted on or under the bridge. The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Ave. and the Radio Ave. westbound left turn. New pavement markings and signs will be installed.

Approximately 0.18 acre of permanent easement from CSX railroad will be required to widen Hillsdale Rd. approach, west of US 41. Additionally, 0.70 acre of permanent easement from CSX railroad will be required for the construction of the US 41 southbound right turn lane to Hillsdale Rd., grading, seeding, guardrail installation, and drainage structure modifications.

An inspection of the existing culvert conducted on 10-15-2019 did not note evidence of bats. A review of the USFWS database completed 10-29-2019 did not indicate the presence of endangered bat species within 0.5 mile of the project area. All work will be completed within 24 ft. of the edge of pavement. Construction 3-15-2021 to 10-15-2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.08048389546879N87.55528043689725W>



Counties: Vanderburgh, IN

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

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

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

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

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

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



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

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

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

In Reply Refer To:

March 27, 2020

Consultation Code: 03E12000-2020-I-1159

Event Code: 03E12000-2020-E-05222

Project Name: Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN

Subject: Concurrence verification letter for the 'Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

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

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

Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

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

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

Project Description

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

Name

Des. No. 1400005, Roadway Project, US 41, Hillsdale Road, and Radio Avenue, Vanderburgh County, IN

Description

Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) propose to utilize federal funds to proceed with an Intersection Improvement project on US 41 from approximately 1,055 feet (ft.) south of Hillsdale Rd. to approximately 650 ft. north of Radio Ave. situated at the southeast corner of the Town of Darmstadt, Indiana.

The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 ft. south from its intersection with Hillsdale Rd. The J-turn loop will be situated approximately 955 ft. south of its intersection with Hillsdale Rd. A northbound J-turn lane will be constructed beginning approximately 100 ft. north from its intersection with Hillsdale Rd. The J-turn loop will be situated approximately 960 ft. north of its intersection with Hillsdale Rd., approximately 50 ft. south of the bridges over Little Pigeon Creek. The bridges over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillsdale Rd. will be extended. A southbound US 41 right-turn lane onto Hillsdale Rd. will be added. The existing southbound and northbound lanes and shoulders will be milled and resurfaced. Approximately 26 to 29 new permanent highway lighting will be installed along the southbound and northbound outside shoulders of US 41. Temporary lighting may be necessary during construction. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Ave. north to the end of incidental construction will be graded to drain. Suitable summer habitat is located near/within the project action area; however, none will be removed.

The westbound and eastbound left-turns and through traffic on Hillsdale Rd. will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Rd. approach on the west side of US 41 will be widened. Curbs will be added at the westbound and eastbound Hillsdale Rd. approaches. The existing 70 ft. long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Rd., west of US 41, will be lengthened to approximately 140 ft. to accommodate the approach widening.

The existing US 41 intersection with Radio Ave. will be converted to a right-in / right-out configuration. With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Radio Ave., no work will be conducted on or under the bridge.

The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Ave. and the Radio Ave. westbound left turn. New pavement markings and signs will be installed.

Approximately 0.18 acre of permanent easement from CSX railroad will be required to widen Hillsdale Rd. approach, west of US 41. Additionally, 0.70 acre of permanent easement from CSX railroad will be required for the construction of the US 41 southbound right turn lane to Hillsdale Rd., grading, seeding, guardrail installation, and drainage structure modifications.

An inspection of the existing culvert conducted on 10-15-2019 did not note evidence of bats. A review of the USFWS database completed 10-29-2019 did not indicate the presence of endangered bat species within 0.5 mile of the project area. All work will be completed within 24 ft. of the edge of pavement. Construction 3-15-2021 to 10-15-2021.

Determination Key Result

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

Qualification Interview

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

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

Automatically answered

Yes

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

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

Automatically answered

Yes

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

A) Federal Highway Administration (FHWA)

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

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

No

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

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

No

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

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

No

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

No

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

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

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

Yes

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

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

No

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

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

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

No

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

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

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

No

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

- *Des 1400005 Bridge-Structure Assessment Form_updated.pdf* <https://ecos.fws.gov/ipac/project/2HVSK76H4JFCFCNGC2IK3UVGRE/projectDocuments/20987945>

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?

Yes

23. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting will be installed or replaced?

Yes

24. 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

25. 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

26. 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

27. 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

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

No

29. 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.

30. 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

31. 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

32. **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

33. **Lighting AMM 1**

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

Yes

34. Lighting AMM 2

Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society^{[1][2]} to rate the amount of light emitted in unwanted directions?

[1] Refer to [Fundamentals of Lighting - BUG Ratings](#)

[2] Refer to [The BUG System—A New Way To Control Stray Light](#)

Yes

35. Lighting AMM 2

Will the **permanent** lighting be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

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:

The existing 70 feet long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Road, west of US 41, will be lengthened to approximately 140 feet to accommodate the approach widening.

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

March 15, 2021 to October 15, 2021

5. Please enter the date of the bridge assessment:

October 15, 2019

Avoidance And Minimization Measures (AMMs)

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

GENERAL AMM 1

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

LIGHTING AMM 1

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

LIGHTING AMM 2

When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

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

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

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

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



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-XXXX
FAX: (317) 233-XXXX

Eric Holcomb, Governor
Joe McGuinness, Commissioner

January 13, 2020

TO: VANDERBURGH COUNTY MS4 COORDINATOR
201 NW FOURTH STREET
ROOM 306
EVANSVILLE, IN 47708

FROM: SUSAN CASTLE
METRIC ENVIRONMENTAL, LLC
6971 HILLSDALE COURT
INDIANAPOLIS, IN 46250

RE: Early Notification
INDOT DES Number: 1400005
Location: US 421, Hillside Road, and Radio Avenue, Vanderburgh County
Description: Road Improvements, Installation of J-Turns

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with the above project. You are being notified because this project lies within an Urbanized Area Boundary (UAB). In accordance with 327 IAC 15-13 (Rule 13 - Municipal Separate Storm Sewer Systems), INDOT has developed a Storm Water Quality Management Plan (SWQMP).

As part of its implementation, projects falling within the UAB will be required to consider appropriate post construction storm water quality best management practices (BMPs). These BMPs should take into consideration the available space, pollutants of concern and receiving waters.

This letter is for notification purposes only, and no action is required by you; however, if you would like to provide your input on water quality concerns, please provide this information **within thirty (30) calendar days** from the date of this letter to the undersigned. Should we not receive your response within the specified timeframe, it will be assumed that your agency does not have additional concerns about water quality issues resulting from the proposed project. Should you find that an extension to the response time is necessary, a reasonable amount of time may be granted upon request. If you have any questions regarding this matter, please feel free to contact Susan Castle, Senior Consultant, Metric Environmental, LLC, 6971 Hillside Court, Indianapolis, IN 46250, SusanC@MetricEnv.com, 317-608-2730. Thank you in advance for your attention to this matter.

Sincerely,
Susan Castle
Senior Consultant
Metric Environmental, LLC

March 30, 2020

Susan Castle
Metric Environmental
100 North Senate Avenue, Room N642
Indianapolis, Indiana 46204

Dear Ms. Castle:

The proposed project to convert the existing interchange into a J-Turn configuration along US 41 at Hillside Road and Radio Avenue in Scott and Center Townships, Vanderburgh County, Indiana (Des No 1400005), as referred to in your letter received March 11, 2020 will not cause a conversion of prime farmland.

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

Sincerely,

RICHARD
NEILSON

Digitally signed by
RICHARD NEILSON
Date: 2020.03.31
15:21:18 -04'00'

RICK NEILSON
State Soil Scientist



Susan Castle

Subject: FW: Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

From: Bales, Ronald <rbales@indot.IN.gov>

Sent: Friday, April 10, 2020 12:25 PM

To: Susan Castle <susanc@metricenv.com>

Cc: Miller, Brandon <BraMiller1@indot.IN.gov>

Subject: Re: Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

No hotspot needed.

Sent from my iPhone

From: Susan Castle

Sent: Wednesday, April 8, 2020 5:13 PM

To: 'rbales@indot.in.gov' <rbales@indot.in.gov>

Subject: Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

Hi Ron,

We are preparing the environmental document for the above referenced project. This project is located in a maintenance area for PM2.5.

Per the standard language, coordination should occur with INDOT ESD. Is a Hot Spot analysis for PM2.5 required?

Preferred Alternative

The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 feet south from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 955 feet south of its intersection with Hillsdale Road. A northbound J-turn lane will be constructed beginning approximately 100 feet north from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 960 feet north of its intersection with Hillsdale Road, approximately 50 feet south of bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek. Bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillsdale Road will be extended. A southbound US 41 right-turn lane onto Hillsdale Road will be added. The existing southbound and northbound travel lanes and shoulders will be milled and resurfaced. New highway lighting will be installed along the southbound and northbound outside shoulders of US 41. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Avenue north to the end of the project will be graded to drain.

The westbound and eastbound left-turns and through traffic on Hillsdale Road will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Road approach on the west side of US 41 will be widened. Concrete center curbs will be added at the westbound and eastbound Hillsdale Road approaches. With the exception of replacing the existing guardrail which attaches to the

western end of the bridge on Hillsdale Road west approach, no work will be conducted on or under the bridge. The existing 70 feet long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Road, west of US 41, will be lengthened to approximately 140 feet to accommodate the approach widening.

The existing US 41 intersection with Radio Avenue will be converted to a right-in / right-out configuration in conjunction with this project. The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Avenue and the Radio Avenue westbound left turn will be removed. New pavement markings and signs will be installed.

The preferred alternative can be constructed under traffic. The construction activity will primarily occur within the median with one lane of traffic for both northbound and southbound US 41 traffic on the existing outside lanes. Refer to the maintenance of traffic (MOT) section in this document for the full MOT description.

The plans are attached. Please let me know if you need additional information.

Thank you

Susan Castle
NEPA Senior Technical Consultant



Phone: 317.608.2730
Mobile: 317.379.3649
6971 Hillsdale Court, Indianapolis, IN 46250

www.metricenv.com



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Susan Castle

Subject: FW: Early Coordination, Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

From: Courtade, Julian [<mailto:JCourtade@indot.IN.gov>]

Sent: Thursday, March 12, 2020 7:53 AM

To: Susan Castle

Subject: RE: Early Coordination, Des. No. 1400005, Road Improvements, US 41, Hillsdale Road, and Radio Avenue, Evansville, Vanderburgh County, IN

Susan –

After reviewing the Early Coordination Letter, I have determined that if any object, obstruction, or equipment will exceed 115 ft. in height, further coordination will be required with our office. This is due to the close proximity of Evansville Regional Airport and the need for any obstructions within 5 miles to meet a 100:1 glideslope to the nearest runway. Please let me know if you have any questions!

Best,

Julian L. Courtade

Chief Airport Inspector
INDOT, Office of Aviation
IGCN Room N955
100 North Senate Avenue
Indianapolis, IN 46204

Office: (317) 232-1477

Email: jcourtade@indot.in.gov



Susan Castle

Subject: FW: R-37845 1400005 Permit Determination

From: Cooper, Nicholas <NCooper5@indot.IN.gov>

Sent: Wednesday, January 22, 2020 12:00 PM

To: Michael Koyak <mkoyak@firstgroupengineering.com>; Bullock, Matthew K <MBullock1@indot.IN.gov>

Cc: Jeff Brechbill <jbrechbill@firstgroupengineering.com>; Alex Gray <alexg@metricenv.com>; Amy Smith <amys@metricenv.com>; Slaymon, Shawn <sslaymon@indot.IN.gov>; Furst, Clara L <CFurst@indot.IN.gov>; Phillabaum, Richard <RPHILLABAUM@indot.IN.gov>

Subject: RE: R-37845 1400005 Permit Determination

Michael,

Thanks for the information. Based on the information provided, the following permits are needed for **Des. No. 1400005, RFC Date 9/30/20** (the designer should confirm all schedules with the Project Manager):

- **401/404 NWP** (Use State Form 51937) based on less than 300 LFT and 0.1 acres of permanent impact to jurisdictional features. **Please submit this application to our office by 5/30/20.**
- **Rule 5: Please submit this application to our office by 5/30/20.**

The following permit **are not needed**:

- No DNR CIF is needed due to the wetland impacts being outside of the mapped floodway.

*We are providing **preliminary** permit determinations based on the information presented at the time of the request. **If scope and plans change the designer should contact us for a revised determination.** A final permit determination will be done at the time of permit application submittal and/or any changes to the scope of the project.*

Nick Cooper

Ecology and Waterway Permitting Specialist
Indiana Department of Transportation
Ph. (317) 233-3698

APPENDIX D:
**Section 106 of the National Historic
Preservation Act**

Minor Projects PA Project Assessment Form

Date: 2/10/2020

Project Designation Number: 1400005

Route Number: US 41

Project Description: Intersection Improvement Project at Hillsdale Rd., 2.04 miles north of SR 57

The proposed project involves converting the two-way stop-controlled intersection of US 41 at Hillsdale Road to a J-turn intersection. The median access for Radio Avenue will be closed and the left turn lane from southbound US 41 to Radio Avenue will be removed. Radio Avenue will become a right-in/right-out roadway approach. In addition, street lighting and new signage will be installed. Sections of the road will be milled and repaved. Culverts in the median may be improved as needed. The overall project length is 3,043 feet along US 41, width is 305 feet at its widest (US 41 & Hillsdale), encompassing a total of approximately 8.0 acres. The amount of right-of-way is not known at the time of this determination. The project is completely within disturbed soils.

Improvements at Hillsdale Road.

The following improvements are included in this recommendation:

- Add a northbound J-Turn lane and Median U-Turn (MUT) in the median.
- Add a southbound J-Turn lane and MUT in the median.
- Extend the existing northbound right-turn lane for the east approach.
- Add a southbound right-turn lane for the west approach.
- Reconstruct the median opening to accommodate dedicated northbound and southbound left turn lanes.
- Reverse the crown on the southbound outside lane to improve intersection sight lines at the west approach.
- Reconstruct the west approach to the east edge of the railroad header.
- Mill and resurface the existing pavement within the project limits.
- Mill and resurface the east approach to the west bridge joint (bridge over Little Pigeon Creek).
- Install highway lighting along the northbound and southbound lanes for the length extending from the south MUT to the north MUT.
- Install new signage.
- Install new pavement markings within the project limits.

Improvements at Radio Avenue:

- Reconstruct the median to remove the southbound left turn and the westbound left turn.
- Install new signs and pavement markings.

Feature crossed (if applicable):

Township: Center and Scott townships

City/County: Vanderburgh County

Information reviewed (please check all that apply):

General project location map USGS map Aerial photograph Interim Report

- Written description of project area General project area photos Soil survey data
- Previously completed historic property reports Previously completed archaeology reports
- Bridge Inspection Information

Other (please specify): SHAARD GIS; SHAARD; online street-view imagery; Indiana Historic Building, Bridges, and Cemeteries Map (IHBBCM); County GIS data (accessed via <https://data-65c7d-vandassessor.opendata.arcgis.com/app/158ff38df0f7474c80cb7794fabaa9eb>); project information provided by Metric Environmental, LLC, dated 1/17/2020 and on file at INDOT-CRO.

Stillwell, Larry N.

2002 An Archaeological Field Reconnaissance of the Proposed U.S. 41 Added Travel Lanes (Project # STP-4079() Des. 9620660) in Evansville, Vanderburgh County, Indiana. Archaeological Consultants of Ossian. Submitted to INDOT. Report on file at IDNR, DHPA.

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

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

- A-2. All work within interchanges and within medians of divided highways in previously disturbed soils.
- A-4. Roadway work associated with surface replacement, reconstruction, rehabilitation, or resurfacing projects, including overlays, shoulder treatments, pavement repair, seal coating, pavement grinding, and pavement marking within previously disturbed soils where replacement, repair, or installation of curbs, curb ramps or sidewalks will not be required.
- B-2. Installation of new lighting, signals, signage and other traffic control devices under the following conditions ***[BOTH Condition A, which pertains to Archaeological Resources, and Condition B, which pertains to Above-Ground Resources, must be satisfied]***:

Condition A (Archaeological Resources)

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

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

Condition B (Above-Ground Resources)

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

- B-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 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.

If no, please explain:

Additional comments:

With regard to above-ground resources, an INDOT-Cultural Resources Office (CRO) historian, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, 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 Vanderburgh County. No listed resources are present within 0.15 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 *Vanderburgh County Interim Report* (1994; Scott Township; Center Township) 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 (IHBBCM). The SHAARD information was checked against the Interim Report hard copy maps. No IHSSI sites are recorded within 0.15 mile of the project.

The project is located in a semi-urban area with a residential area and athletic park located on the northeast and east sides of the project, agricultural fields encompassing the west and south sides of the project, and a small industrial area to the northwest of the project. Railroad tracks are present adjacent to the roadway, running nearly parallel to US 41. A line of mature deciduous trees is present adjacent to US 41 between Hillsdale Rd. and Radio Ave., blocking views to the residential houses east of the tree line. Between Radio Ave. and Campbell Rd., trees are also present along the edge of the park, but these are further spaced and provide some view of the park from the road. However, another line of mature deciduous trees exist along the east boundary of the park. These trees and other deciduous and coniferous trees in the residential areas shield the houses located east of the project from view of US 41.

Two (2) commercial buildings located near the northern project terminus, west of the project area, and one (1) located near the southern project terminus, on the east side of the project area, date from the late-twentieth century and will not be 50 years old or older by the time of project letting in 2020. The remainder of the properties within 0.15 mile of the project area primarily consist of early-to-mid twentieth century houses. Based on a review of online street-view imagery and aerial photography, there is no

evidence to suggest that any of these resources possess the significance and integrity necessary to be considered potentially eligible for the National Register.

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

With regard to archaeological resources, an INDOT-CRO archaeologist, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, first performed a desktop review, checking archaeological records in SHAARD. One archaeological reconnaissance has examined a small portion of the proposed project area at the US 41 and Hillsdale Road Intersection. No archaeological site are recorded within or adjacent to the proposed project.

The project will take place entirely within the disturbed U.S. 41 highway corridor. The project does not have the potential to impact intact archaeological sites and no additional investigation is warranted.

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

INDOT Cultural Resources staff reviewer(s): Kelyn Alexander and David Moffatt

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

APPENDIX E:
Red Flag and Hazardous Materials



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

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

Eric Holcomb, Governor
Joe McGuinness, Commissioner

Date: March 11, 2020

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

From: Susan Castle
Metric Environmental, LLC
6971 Hillside Court
Indianapolis, IN 46250
SusanC@MetricEnv.com

Re: RED FLAG INVESTIGATION
DES No. 1400005, State Project
Intersection Improvement
US 41 at Hillside Road and Radio Avenue
Vanderburgh County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) propose to utilize federal funds to proceed with an Intersection Improvement project on US 41 from approximately 1,055 feet south of Hillside Road to approximately 650 feet north of Radio Avenue situated at the southeast corner of the Town of Darmstadt, Indiana. Specifically, this project is located in Sections 17 and 20, Township 5 South, Range 10 West on the Evansville North, Indiana 7.5 minute United States Geological Survey topographic quadrangle.

The existing intersection experiences a crash history that merits an evaluation of causes and applicable countermeasures. Traffic growth over a period of years has contributed to the safety concerns for vehicles entering US 41 from Hillside Road.

US 41 is classified as a Principal Arterial. The area surrounding the intersection is rural/suburban. US 41 is a 4-lane divided highway with a 60 miles per hour posted speed limit. The pavement material is asphalt. There is a single left turn lane for each northbound and southbound US 41. The lane widths are 12 feet. There are 10-foot wide paved shoulders along the outside travel lanes and 4-foot wide paved shoulders along the median edges. The median width is 64 feet as measured between the inside thru travel lanes. The width of the paved median surface as measured longitudinally along the US 41 centerline is 38 feet. The terrain is generally level. The land uses adjoining US 41 within the project area are residential, commercial, and agricultural.

The preferred alternative is to convert US 41 into a J-Turn configuration. A southbound J-turn lane will be constructed beginning approximately 100 feet south from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 955 feet south of its intersection with Hillsdale Road. A northbound J-turn lane will be constructed beginning approximately 100 feet north from its intersection with Hillsdale Road. The J-turn loop will be situated approximately 960 feet north of its intersection with Hillsdale Road, approximately 50 feet south of bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek. Bridges 041-82-03149 ASBL and 041-82-03149 ANBL, over Little Pigeon Creek, are excluded from this project. The existing US 41 northbound right-turn lane to Hillsdale Road will be extended. A southbound US 41 right-turn lane onto Hillsdale Road will be added. The existing southbound and northbound travel lanes and shoulders will be milled and resurfaced. New highway lighting will be installed along the southbound and northbound outside shoulders of US 41. New inlets and pipes will be installed within the median along US 41 for drainage. The median on US 41 from Radio Avenue north to the end of the project will be graded to drain.

The westbound and eastbound left-turns and through traffic on Hillsdale Road will turn right, cross the two US 41 thru lanes, enter the J-turn median lane, proceed through the median U-turn, stop for oncoming US 41 traffic, and complete the U-turn movement onto US 41. Hillsdale Road approach on the west side of US 41 will be widened. Concrete center curbs will be added at the westbound and eastbound Hillsdale Road approaches. The existing 70 feet long x 48 inches diameter Reinforced Concrete Pipe (RCP) located beneath Hillsdale Road, west of US 41, will be lengthened to approximately 140 feet to accommodate the approach widening.

The existing US 41 intersection with Radio Avenue will be converted to a right-in / right-out configuration in conjunction with this project. With the exception of replacing the existing guardrail which attaches to the western end of the bridge on Radio Avenue, no work will be conducted on or under the bridge. The median on US 41 will be reconstructed to remove the US 41 southbound left turn on to Radio Avenue and the Radio Avenue westbound left turn. New pavement markings and signs will be installed.

Bridge and/or Culvert Project: Yes No Structure # N/A 48" RCP

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

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

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

Approximately 0.18 acre of easement acquisition of right-of-way from CSX railroad will be required to widen Hillsdale Road approach, west of US 41. Additionally, approximately 0.70 acres of easement acquisition of right-of-way from CSX railroad will be required for the construction of the US 41 southbound right turn lane to Hillsdale Road, grading, seeding, guardrail installation, and drainage structure modifications.

Type of excavation: Where pavement widening is to occur along US 41, a range of 0.5 feet to 2 feet is anticipated pending the recommendations of a future geotechnical investigation and pavement design. For the Hillsdale Road median intersection pavement on US 41, a range of 0.5 feet to 2 feet is anticipated pending the recommendations of a future geotechnical investigation and pavement design. Where median inlets are constructed, a range of 3 feet to 5 feet is anticipated to install the structure and pipe. For the west and east approaches of Hillsdale Road, a range of 0.5 feet to 2 feet is anticipated pending the recommendations of a future geotechnical investigation and pavement design. For the permanent removal of the median intersection pavement at Radio Avenue, a range of 0.5 feet to 4 feet is anticipated. For the permanent removal of the southbound left turn lane approaching Radio Avenue, a range of 0.5 feet to 2 feet is anticipated. For the extension of the existing 48 inch pipe beneath Hillsdale Road west of US 41, an excavation of 1 foot to 2 feet is anticipated. Excavation depths for panel sign foundations and highway lighting foundations are anticipated to be 7 feet to 10 feet.

Maintenance of traffic: The recommended construction can be constructed under traffic. The construction activity will primarily occur within the median with one lane of traffic for both northbound and southbound US 41 traffic on the existing outside lanes. The paved intersection median at Hillsdale Road should remain open while the median lanes are constructed. The outside lanes of US 41 should be constructed in the second phase. The final phase of construction should be completing work in the median through the intersection. During this phase, only right turns out of the east and west approaches will be permitted. Posting I-69 as an alternate route (4 miles east) during construction will be considered to remove a portion of through traffic along US 41 through the work zone and to provide motorists with an option to avoid the construction zone.

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	1*	Recreational Facilities	2
Airports ¹	1	Pipelines	N/A
Cemeteries	N/A	Railroads	3
Hospitals	N/A	Trails	N/A
Schools	N/A	Managed Lands	N/A

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

Religious Facilities*: Although not shown on the Indiana GIO Database, further desktop review revealed that one (1) religious facility is located within the 0.5 mile search radius. The facility, Harvest Community Church, is located at 11300 Walnut Road, Evansville, IN 47725, approximately 0.06 miles east of the project area. No impact is expected to occur; however, coordination with the church will occur.

Airports: One (1) public airport, Evansville Regional Airport, is located within 3.8 miles (20,000 feet) of the project area. The public airport is located approximately 2.88 miles southeast of the project area; therefore, early coordination with INDOT Aviation will occur.

Recreational Facility: Two (2) recreational facilities are located within the 0.5 mile search radius. The two recreational facilities are located adjacent to the project area: Scott Township Civic Center, 600 Radio Avenue, Evansville, IN 47711 is located northeast and Vanderburgh County 4-H Center, 404 W. Booneville New Harmony Road, Evansville, IN 47711 is located northwest of the project area. No impact is expected; however, coordination with the owners will occur.

Railroads: Three (3) railroad segments are located within the 0.5 mile search radius. The three railroad segments, CSX Railroad, are located adjacent west of the project area. Coordination with INDOT Utilities and Railroads will occur.

WATER RESOURCES TABLE AND SUMMARY

Water Resources			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	11
Canal Structures – Historic	N/A	Lakes	5
NPS NRI Listed	N/A	Floodplain - DFIRM	8
NWI-Lines	6	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	5	Sinkhole Areas	N/A
Rivers and Streams	15	Sinking-Stream Basins	N/A

NWI-Line: Six (6) NWI-Line segments are located within the 0.5 mile search radius. One NWI-Line segment intersects the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

IDEM 303d Listed Streams and Lakes (Impaired): Five (5) Indiana Department of Environmental Management (IDEM) 303d Listed Streams and Lakes segments are located within the 0.5 mile search radius. One IDEM 303d Listed Stream segment, Little Pigeon Creek, is located within the project area. Little Pigeon Creek is listed as impaired for E. coli; however, a review of the IDEM e303d Mapper reveals that Little Pigeon Creek is no longer listed as having impairments. No impact is expected.

Rivers and Streams: Fifteen (15) River and Stream segments are located within the 0.5 mile search radius. Three (3) segments of Little Pigeon Creek intersect the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

NWI – Wetlands: Eleven (11) NWI-Wetlands are located within the 0.5 mile search radius. One wetland is located west adjacent to the project area. A Waters of the US Report will be prepared and coordination with INDOT ES Ecology and Waterway Permitting will occur.

Lakes: Five (5) lakes are located within the 0.5 mile search radius. The nearest feature is located approximately 0.27 mile southeast of project area. No impact is expected.

Floodplain – DFIRM: Eight (8) floodplain polygons are located within the 0.5 mile search radius. The project area is located within four of the floodplain polygons. Coordination with INDOT ES Ecology and Waterway Permitting will occur.

URBANIZED AREA BOUNDARY SUMMARY

This project lies within the Vanderburgh County UAB. Post construction Storm Water Quality Best Management Practices (BMPs) may need to be considered. An early coordination letter with topographic and aerial maps showing the project area should be sent to the Vanderburgh County MS4 Coordinator at 201 NW Fourth Street, Room 306, Evansville, IN 47708.

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	51	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Petroleum Wells: Fifty-one (51) petroleum wells are located within the 0.5 mile radius. No petroleum wells are located within or adjacent to the project area. The nearest petroleum well, a presumed plugged well operated by Nomo Petroleum Corporation (Permit #:15645, IGS #:102229) is located 0.16 mile south of the project area. No impact is expected.

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	1	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	N/A
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	N/A
Leaking Underground Storage (LUST) Sites	1	Notice of Contamination Sites	N/A

Underground Storage Tank (UST) Sites: One (1) Underground Storage Tank (UST) Site is located within the 0.5 mile search radius. The facility, Circle S Mart 41 (11001 Hwy 41 N, Evansville, IN 47711; AI #: 43988, Regulatory Program ID #: 22509), adjoins the project area to the east. According to the IDEM Virtual Filing Cabinet (VFC) four (4) USTs are registered for use at the facility. IDEM conducted an Underground Storage Tank Inspection on June 7, 2016, and the facility was found to be in compliance with equipment, operating, and maintenance requirements set forth in Indiana’s UST Rule 329 IAC 9. No impact is expected.

Leaking Underground Storage (LUST) Sites: One (1) Leaking Underground Storage (LUST) Site is located within the 0.5 mile search radius. The facility, former Swifty Station #223 (11812 Old State Road, Evansville, IN; AI #: 41575, Regulatory Program ID#: 15449), is located approximately 0.10 mile north of the project area. On January 21, 2011, IDEM issued a No Further Action Determination Pursuant to Risk Integrated System of Closure (RISC). No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Vanderburgh County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. A preliminary review of the Indiana Natural Heritage Database by INDOT Environmental Services did indicate the presence of ETR species within the 0.5 mile search radius. Coordination with USFWS and IDNR will occur.

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The 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".

An inquiry using the USFWS Information for Planning and Consultation (IPaC) website did not indicate the presence of the federally endangered species, the Rusty Patched Bumble Bee, in or within 0.5 mile of the project area. No impact is expected.

RECOMMENDATIONS SECTION

INFRASTRUCTURE:

Religious Facilities: Harvest Community Church is located 0.06 miles east of the project area. Coordination with the church will occur.

Airports: One (1) public airport, Evansville Regional Airport, is located approximately 2.88 miles southeast of the project area. Coordination with INDOT Aviation will occur.

Recreational Facility: Two (2) recreational facilities are located adjacent to the project area. Coordination with the owners and/or managers of Scott Township Civic Center and Vanderburgh 4-H Center will occur.

Railroads: Three (3) railroad segments, CSX Railroad, are located adjacent west of the project area. Coordination with INDOT Utilities and Railroads will occur.

WATER RESOURCES:

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

- One (1) NWI-Line intersects the project area.
- Three (3) stream segments of Little Pigeon Creek intersect the project area.
- One (1) wetland is located west adjacent to the project area.
- The project is located within four (4) floodplains (coordination only).

URBANIZED AREA BOUNDARY: This project lies within the Vanderburgh County UAB. An early coordination letter with topographic and aerial maps showing the project area should be sent to the Vanderburgh County MS4 Coordinator at 201 NW Fourth Street, Room 306, Evansville, IN 47708.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: N/A

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

INDOT Environmental Services concurrence: Aaron Aldred Digitally signed by Aaron Aldred
Date: 2020.03.12 14:10:41 -04'00' (Signature)

Prepared by:
Susan Castle
Senior Consultant
Metric Environmental

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

URBANIZED AREA BOUNDARY: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES