FHWA-Indiana Environmental Document

CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM

GENERAL PROJECT INFORMATION

Road No./County:	Schenck Road/ Montgomery County
Designation Number(s):	1902752
Project Description/Termini:	Schenck Road New Alignment, extending Schenck Road by 0.814 mile, from 0.1 mile south of Monroy Circle on Schenck Road to SR 32

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

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

rzk July 27, 2023
INDOT DE Initials and Date

ADWP July 27, 2023
INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date: 7/27/2023

Name and Organization of CE/EA Preparer: Lillian M. Hutzell / Clark Dietz, Inc.

Note: Refer to the most current INDOT CE Manual, guidance language, and other ESD resources for further guidance regarding any section of this form.

Part I – Public Involvement

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

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

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

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

Notice of Entry letters were mailed to potentially affected property owners near the project area on January 13, 2021, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, page G-1.

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Historic Properties Affected" was published in the Journal Review on July 21, 2022, offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed 30 days later on August 22, 2022. No comments were received during the 30-day public comment period. The text of the public notice and the affidavit of publication appear in Appendix D, pages D-47 to D-50.

The project meets the minimum requirements described in the current Indiana Department of Transportation (INDOT) Public Involvement Manual which requires the project sponsor to offer the public an opportunity to submit comments and/or request a public hearing. Therefore, a legal notice will appear in a local publication contingent upon the release of this document for public involvement. This document will be revised after the public involvement requirements are fulfilled.

Public Controversy on Environmental Grounds

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

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: City of Crawfordsville INDOT District: Crawfordsville

Local Name of the Facility: Schenck Road

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

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

PURPOSE AND NEED:

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

Need:

The need for the project is due to the lack of a primary access route between the west side of Crawfordsville and SR 32 that meets modern roadway standards and geometry. The available roads entering and exiting the west side of Crawfordsville from SR 32 have poor geometry relative to current design standards; most of the available routes are also county roads, which the City of Crawfordsville is unable to maintain or improve. As Crawfordsville continues to grow to the Southwest, roadways with suitable geometry are needed to serve the roadway network users.

The primary existing route entering and exiting Crawfordsville uses Schenck Road to Big 4 Arch Road to County Road (CR) South 200 West to SR 32. This route is geometrically deficient as a local collector road based on design criteria for rural local collectors with 1,000 vehicles per day. This route has approximately 1.8 miles of roadway with non-compliant lane width, 3 miles of roadway with non-compliant shoulder width, 1 mile of roadway with non-compliant clear zone, and one deficient curve.

The existing parcels surrounding the project area are zoned Single-Family Residential (R1). Preliminary concepts for developing the parcels have been submitted to the City of Crawfordsville, including a potential residential development adjacent to the east of the project area between Big 4 Arch Road and SR 32. Currently, the surrounding R1 area access points would be located off Big 4 Arch Road, resulting in a lack of adequate connectivity with SR 32. Roadway users traveling between the potential residential area and SR 32 will likely utilize Big 4 Arch Road and CR South 200 West, which currently does not meet current design criteria as noted in the paragraph above.

Lastly, the existing intersection of Schenck Road and Big 4 Arch Road lacks appropriate sight distance towards westbound (WB) Big 4 Arch Road for southbound (SB) Schenck Road motorists, which poses a potential hazard for roadway users.

Purpose:

The purpose of the project is to provide the west side of Crawfordsville with an access route to SR 32 that has acceptable roadway geometry for a local collector route based on design criteria for rural local collectors with 1,000 vehicles per day. Additional desirable outcomes would be to improve connectivity for roadway users traveling between SR 32 and the R1 zoned parcels adjacent to the proposed Schenck Road, and to eliminate the lack of sight distance for the intersection of Schenck Road and Big 4 Arch Road.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Montgomery Municipality: Crawfordsville

Limits of Proposed Work:
- Schenck Road New Alignment (Proposed) from 0.1 mile south of Monroy Circle to SR 32 (0.814 mile)
- Schenck Road (Existing) from 0.1 mile south of Monroy Circle to Big 4 Arch Road (0.136 mile)
- SR 32 from 0.22 mile east of Glenway Drive to 1.54 mile west of West South Boulevard (0.221 mile)
- Big 4 Arch Road from 0.22 mile west of Schenck Road to 0.46 mile east of Big 4 Drive (0.16 mile)

Total Work Length: 1.21 Mile(s) Total Work Area: 10.22 Acre(s)

	Yes[1]	No
Is an Interstate Access Document (IAD)[1] required?		X
If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?	Date:	

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

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

The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville,

Union Township, Montgomery County, Indiana. This project occurs within and along the western boundary of the Crawfordsville incorporated limits, approximately 1.3 miles southwest of downtown Crawfordsville. Specifically, the project is located in Section 1 and 12 of Township 18 North, Range 5 West and Section 6 of Township 18 North, Range 4 West on the Crawfordsville United States Geological Survey (USGS) Quadrangle map in Montgomery County, Indiana (Appendix B, page B-3).

Existing Conditions: Land use surrounding the project area is mixed, consisting of agricultural, residential, industrial, and forested land. A large industrial facility is located to the east of the project area. Multiple residential dwellings and neighborhoods are located within the vicinity of the project area. The existing parcels surrounding the project area are zoned R1, and one potential residential development is located adjacent to the east of the project area, between Big 4 Arch Road and SR 32 (Appendix B, pages B-4 to B-19).

Within the project area, the existing Schenck Road is functionally classified as a Minor Arterial. However, the classification is being updated to a Rural Collector, Local Agency Route. Schenck Road consists of two, 10-foot through travel lanes with one-foot-wide shoulders. Schenck Road currently runs from north to south connecting West Wabash Avenue/Country Club Road at the north end and Big 4 Arch Road at the south end. At present, there is no recorded right-of-way for this section of Schenck Road. Approximately 0.06 mile north of the project area, Schenck Road crosses the CSX Railroad and Donnelley Trail. An electric power substation is located in the northwest quadrant of the Big 4 Arch Road and Schenck Road intersection, with the access road off of Schenck Road.

This section of Big 4 Arch Road runs east to west and is functionally classified as a Local Street. Big 4 Arch Road consists of two, 10-foot-wide through travel lanes with one-foot-wide shoulders. At present, there is no recorded right-of-way for this section of Big 4 Arch Road. Land use surrounding this section of Big 4 Arch Road consists of agricultural fields to the north and agricultural fields with residential properties to the south.

The T-type-three-way-stop intersection of Schenck Road and Big 4 Arch Road has three approaches. Schenck Road approaches from the north, and Big 4 Arch Road from the east and west. There is a steep hill and slight curve at this intersection that requires the stop sign and stop bar for SB Schenck Road to be located approximately 85 feet north of the Schenck Road and Big 4 Arch Road intersection. The location of the stop sign and stop bar is causing inadequate sight distance towards westbound (WB) Big 4 Arch Road traffic for SB Schenck Road motorists. Furthermore, motorists approaching the intersection WB on Big 4 Arch Road and SB on Schenck Road have their sight obstructed by the wooded area located along the north side of Big 4 Arch Road.

This section of SR 32 runs east to west and is functionally classified as a Major Collector. SR 32 consists of two, 12-foot-wide through-travel lanes with one-foot-wide shoulders. At present, there is no recorded right-of-way (ROW) for this section of SR 32. Land use surrounding this section of SR 32 consists of agricultural fields to the north and south.

As described below, the preferred alternative involves extending Schenck Road between Big 4 Arch Road and SR 32 through a large open agriculture field with a wooded fence line. The existing land use of the proposed new terrain is primarily residential, agricultural, and forested land. The proposed new terrain is within one parcel (State Parcel # 54-11-01-900-005.000-030) and borders three parcels of land to the west (State Parcel # 54-11-01-400-035.000-027, 54-11-01-400-036.000-027, and 54-11-01-400-036.001-027).

Preferred Alternative: The preferred alternative will involve constructing an extension of Schenck Road that provides a direct connection from the west side of Crawfordsville to SR 32. At approximately 0.13 mile north of Big 4 Arch Road, Schenck Road will be realigned. Schenck Road will be redirected onto a geometrically sufficient new alignment that extends approximately 0.30 mile to the west. The Schenck Road extension will consist of two, 11-foot-wide travel lanes with 4-foot-wide paved shoulder (6-foot-wide usable). The proposed Schenck Road extension will include one 11-foot-wide right turn lane for northbound traffic and one 11-foot-wide left turn lane for southbound traffic entering the potential residential development, each approximately 400 feet long. The driveway for the potential residential development is located off the proposed Schenck Road, approximately 800 feet south of Big Four Arch Road. Grade changes for the Schenck Road extension vary from approximately 2.5 feet below existing grade to 8 feet above existing grade.

Through the new alignment of Schenck Road, the intersection of Schenck Road Big 4 Arch Road will be relocated approximately 0.30 mile to the west. The existing Schenck Road will be terminated approximately 0.02 mile north of the intersection. The remaining portion of the existing Schenck Road between the new alignment and Big 4 Arch Road will be renamed Old Schenck Road. Old Schenck Road will consist of two 11-foot-wide travel lanes with 1-foot-wide paved shoulders (3-foot-wide usable).

The project will include the widening of SR 32 where it connects to the new Schenck Road extension, approximately 0.38 mile east of Glenway Drive. The widening along SR 32 will occur from approximately 0.22 mile east of Glenway Drive to 1.54 mile west of West South Boulevard for a total length of 0.221-mile. This section of SR 32 will consist of two, 12-foot-wide travel lanes with two 2-foot-wide paved shoulders (4-foot-wide usable). An 11-foot-wide right turn lane along SR 32 will be added for WB SR 32 roadway

users turning onto the new extension of Schenck Road. An 11-foot-wide passing blister will be added along EB SR 32 for passing roadway users turning left onto the new extension of Schenck Road. Refer to Appendix B, pages B-20 to B-56 for the project plans.

Seven small culverts and two inlets will be installed underneath the new section of the Schenck Road extension. The seven small culverts range in size from 20 inches to 38 inches in diameter and from 50 feet to 99 feet in length. The two inlets both have an opening of 1-foot by 1-foot. Refer to the *Bridges and or Small Structure(s)* section of this report for more details.

A total of approximately 10.9667 acres of permanent and 0.0286 temporary right-of-way will be acquired. The majority of new right-of-way will convert farmland (Appendix B, pages B-5 to B-8). The proposed right-of-way along the new extension of Schenck Road varies from approximately 35 feet to 60 feet from the roadway centerline. Please refer to the *Right-of-Way* section of this document for more details.

Construction is anticipated to begin in Winter 2024. Maintenance of traffic (MOT) will consist of five phases throughout the construction, including single lane closures, temporary signals and drums, flaggers, and a detour of Schenck Road utilizing Russell Avenue and Jennison Street. Refer to the *MOT* section in this document for more details (Appendix B, pages B-25 to B-28).

The preferred alternative meets the purpose and need of this project by providing the west side of Crawfordsville with an access route to SR 32 that has acceptable roadway geometry for a local collector route. Additionally, it meets the desirable outcomes by improving connectivity for roadway users traveling between SR 32 and the R1 zoning located adjacent to the east of the project area, and eliminating the lack of sight distance for the intersection of Schenck Road and Big 4 Arch Road.

The project limits are logical because they are limited to only what is required to satisfy the purpose and need of the project. The project demonstrates independent utility because it does not depend on any other planned projects to be constructed or satisfy the purpose and need of the project.

OTHER ALTERNATIVES CONSIDERED:

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

Do-Nothing Alternative: This alternative would not involve the construction of or improvements to any roadways. This alternative would not involve any immediate cost, environmental impacts, or disruption of the roadway. The Do-Nothing alternative would not provide the west side of Crawfordsville with an access route to SR 32 that has acceptable roadway geometry for a local collector route. Additionally, this alternative would not improve connectivity for roadway users traveling between SR 32 and the potential residential development located adjacent to the east of the project area or eliminate the lack of sight distance for the intersection of Schenck Road and Big 4 Arch Road. This alternative does not address the purpose and need and was dismissed for further consideration.

Upgrade Existing Facilities Alternative: This alternative would involve upgrading and widening the existing facilities along Schenck Road, Big 4 Arch Road, and County Road (CR) South 200 West from the intersection of Schenck Road and Big 4 Arch Road to the intersection of CR South 200 West and SR 32. The existing roadways would be upgraded to meet the design criteria for a Local Collector carrying 1,000 vehicles per day. Refer to the Alternatives Analysis Map in Appendix I, page I-5.

This alternative would require approximately thirty parcels of right of way, compared to five parcels for the preferred alternative. The total amount of new right-of-way anticipated for this alternative is 7 acres, a reduction from the preferred alternative. Additionally, the north side of Big 4 Arch Road and the east side of CR South 200 West are lined by overhead utilities. Relocating approximately 1.5 miles of overhead utility facilities will have additional impacts to the adjacent right of way, resulting in tree removal from many of the residential properties on the route.

The route for this alternative is 0.1 miles longer with slower travel speeds, and there is one additional location where traffic needs to come to a stop and turn. Estimates are for one additional minute per trip, resulting in over 6,000 additional hours per year of travel time for the 1,000 daily motorists. Additionally, these roads are not owned, operated, and maintained by the City of Crawfordsville.

This alternative would provide a route that meets design criteria for a rural local collector. Therefore, this alternative would meet the purpose and need for the project. However, this alternative does not fulfill the desirable outcomes for the project because it would not provide additional access to the developing area of southwest Crawfordsville, and it would not improve the poor intersection sight distance at Schenck Road and Big 4 Arch Road. Due to the increased utility relocations and additional reasons stated above, this alternative was dismissed from further consideration.

Direct Schenck Road Extension Alternative: This alternative would provide a direct extension of Schenck Road south from the

intersection with Big 4 Arch Road to SR 32. Refer to the Alternatives Analysis Map in Appendix I, page I-5.

There are several mapped water resources within the direct extension of Schenck Road, including multiple streams and a pond. Additionally, there is a partially wooded area within the direct extension of Schenck Road. The water resources and wooded area would be impacted substantially by this alternative, resulting in an increase for environmental impacts.

There are multiple overhead utilities in an easement along this alignment. Relocation of these lines would result in the need for a new easement, requiring additional right-of-way. The cost for this alternative would be expected to nearly double the cost of the preferred alternative, due to the required construction of multiple large culverts, filling in a small pond, and the relocation of several overhead utilities.

This alternative would provide the west side of Crawfordsville with an access route to SR 32 that has acceptable roadway geometry for a local collector route. Therefore, this alternative would meet the purpose and need of the project. This alternative would also improve connectivity for roadway users traveling between SR 32 and the potential residential development located adjacent to the east of the project area. However, this alternative does not fulfill all desirable outcomes for the project because it would not eliminate the lack of sight distance for the intersection of Schenck Road and Big 4 Arch Road. As this alternative does not address the sight distance concerns, and due to the increased environmental impacts and project cost, this alternative was dismissed from further consideration.

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

It would not correct existing capacity deficiencies;	
It would not correct existing safety hazards;	
It would not correct the existing roadway geometric deficiencies;	X
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):	

ROADWAY CHARACTER:

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

Name of Roadway	Proposed Schenck Road Extension on New Alignment				
Functional Classification:	Collector				
Current ADT:	N/A	VPD (2025)	Design Year ADT:	1,303	VPD (2045)
Design Hour Volume (DHV):	154	Truck Percentage (%)	5%		
Designed Speed (mph):	30	Legal Speed (mph):	30		

	Existing		Proposed	
Number of Lanes:	N/A		2	
Type of Lanes:	N/A		2 travel lanes with shoulders	
Pavement Width:	N/A	ft.	22	ft.
Shoulder Width:	N/A	ft.	8	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:		Urban	X	Suburban		Rural
Topography:	X	Level		Rolling		Hilly

Name of Roadway: Old Schenck Road (The remaining portion of the existing Schenck Road between the new alignment and Big 4 Arch Road)
Functional Classification: Local Street
Current ADT: 1,098 VPD (2025) Design Year ADT: < 400 VPD (2045)
Design Hour Volume (DHV): N/A Truck Percentage (%) N/A
Designed Speed (mph): 30 Legal Speed (mph): 30

	Existing		Proposed	
Number of Lanes:	2		2	
Type of Lanes:	Through travel lanes		Through travel lanes	
Pavement Width:	20	ft.	22	ft.
Shoulder Width:	1	ft.	3	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Name of Roadway: Existing SR 32
Functional Classification: Major Collector
Current ADT: 3,935 VPD (2024) Design Year ADT: 3,988 VPD (2044)
Design Hour Volume (DHV): 390 Truck Percentage (%) 3.5%
Designed Speed (mph): 50 Legal Speed (mph): 50

	Existing		Proposed	
Number of Lanes:	2		3	
Type of Lanes:	Through travel lanes		2 through travel lanes, 1 right turn lane, and 1 passing blister	
Pavement Width:	24	ft.	46	ft.
Shoulder Width:	1	ft.	4	ft.
Median Width:	N/A	ft.	NA	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

BRIDGES AND/OR SMALL STRUCTURE(S):

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

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

	Existing		Proposed	
Bridge/Structure Type:	N/A		N/A	
Number of Spans:	N/A		N/A	
Weight Restrictions:	N/A	ton	N/A	ton
Height Restrictions:	N/A	ft.	N/A	ft.
Curb to Curb Width:	N/A	ft.	N/A	ft.
Outside to Outside Width:	N/A	ft.	N/A	ft.
Shoulder Width:	N/A	ft.	N/A	ft.

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

No bridges or small structures are located within the project area. Seven small culverts and two inlets will be installed underneath the proposed new section along Schenck Road. See the table titled New Small Culverts below:

New Small Culverts

Road	Station Location	Culvert Number	Culvert Type	Opening Size (in.)	Length (ft.)
Proposed Schenck Road	101+34	201	Small Culvert	38 x 24	51
Proposed Schenck Road	106+13	202	Small Culvert	35 x 24	68
Proposed Schenck Road	115+23	203	Small Culvert	24 x 24	99
Proposed Schenck Road	124+50	204	Small Culvert	24 x 24	50
Proposed Schenck Road	129+50	205	Small Culvert	28 x 20	55
Proposed Schenck Road	134+25	206	Small Culvert	24 x 24	52
Proposed Schenck Road	141+40	207	Inlet	12 x 12	89
Proposed Schenck Road	142+35	208	Small Culvert	24 x 24	52
Proposed Schenck Road	20+50	209	Inlet	12 x 12	128

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

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

The MOT for the project will require phased construction, during which time traffic will be maintained on-site, except during the last phase of construction. Phase 1 will involve the Schenck Road construction from north of SR 32 to south of Big 4 Arch Road, and from north of Big 4 Arch Road to existing Schenck Road. During Phase 1, construction will not occur on the existing roads, and traffic will only be impacted during ingress and egress to the construction site. Therefore, Phase 1 does not have a maintenance of traffic plan. Phase 2 will involve the construction of the Eastbound passing blister on SR 32. The maintenance of traffic plan will maintain one, two-way, 11-foot lane with 2-foot shoulders under a temporary signal. Phase 3 will involve the construction of the WB right turn lane on SR 32. The maintenance of traffic plan will maintain one, 11-foot lane with 2-foot shoulders under a temporary signal. Phase 4A and 4B will involve the construction of the Schenck Road and Big 4 Arch Road intersection. The maintenance of traffic plan will maintain one, two-way 11-foot lane with flaggers as needed. Following the completion of phase 4A and 4B, Schenck Road between SR 32 and Big 4 Arch Road will be opened and the Existing Schenck Road and Big 4 Arch Road intersection will be closed. Phase 5 will consist of the construction of the new Schenck Road tie-in and removal of the Existing Schenck Road and Big 4 Arch Road intersection. The maintenance of traffic for this phase will close the old intersection and traffic will be detoured using Russell Avenue and Jenison Street. SR 32, Schenck Road, and Big 4 Arch Road will require advanced warning signs at least 7 days prior to the closure. This detour will increase motorists' commute from one minute (0.42 miles) to four minutes (1.58 miles). Directional sign assembles shall be located 100-foot to 200-foot in advance of all required turn within the detour limits. The detour will not be in place more than 45 days. Access to residences, businesses, and other properties will be maintained within the road closure limits and

detailed in the project's construction standard specifications and special provisions. Additionally, access to any special events will not be encumbered.

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

ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: $ 513,800 (2020) Right-of-Way: $ 323,465 (2024) Construction: $ 3,183,950 (2025)

Anticipated Start Date of Construction: Winter 2024

RIGHT OF WAY:

	Amount (acres)	
Land Use Impacts	Permanent	Temporary
Residential	0.0807	0
Commercial	0.3651	0
Agricultural	10.5209	0.0286
Forest	0	0
Wetlands	0	0
Other:	0	0
Other:	0	0
TOTAL	**10.9667**	**0.0286**

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

At present, there is no recorded right-of-way (ROW) for the existing Schenck Road, SR 32, or Big 4 Arch Road. Therefore, the existing right-of-way for the existing Schenck Road, SR 32, or Big 4 Arch Road is considered to be the edge of pavement. The project requires approximately 10.9667 acres of permanent right-of-way from residential, commercial, and agricultural properties. The project also requires approximately 0.0286 acres of temporary right-of-way from agricultural properties. Temporary and permanent right-of-way is required for the project construction and access. The proposed right-of-way along the new extension of Schenck Road varies from approximately 35 feet to 60 feet.

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 - EARLY COORDINATION:

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

Early coordination letters were sent on March 30, 2021, unless otherwise noted. A copy of the early coordination letter can be found in Appendix C on pages C-1 to C-2.

Agency	Date Sent	Date Response Received	Appendix
Federal Highway Administration - Indiana Division (FHWA)	March 30, 2021	N/A	N/A
Environmental Manager, INDOT - Crawfordsville District Office	March 30, 2021	N/A	N/A
Indiana Geological and Water Survey (IGWS)	January 7, 2022	January 7, 2022	Appendix C, pages C-3 to C-5
Field Supervisor, U.S. Fish & Wildlife Service, Bloomington, IN (USFWS)	March 30, 2021/ September 2, 2022	April 21, 2021/ September 27, 2022	Appendix C, pages C-13 to C-33
US Department of Housing & Urban Development, Chicago, IL (HUD)	March 30, 2021	N/A	N/A
Environmental Coordinator, Indiana Department of Natural Resources, Division of Fish & Wildlife (IDNR-DFW)	March 30, 2021	April 28, 2021	Appendix C, pages C-6 to C-7
Regional Environmental Coordinator, Midwest Regional Office, National Park Service, Omaha, NE (NPS)	March 30, 2021	N/A	N/A
Indiana Department of Environmental Management – Groundwater (IDEM)	March 30, 2021	April 1, 2021	Appendix C, page C-8
Indiana Department of Environmental Management – Wetlands and Stormwater (IDEM)	January 26, 2023	February 20, 2023	Appendix C, page C-9
Indiana Department of Transportation, Office of Aviation	March 30, 2021	March 31, 2021	Appendix C, page C-10
Natural Resources Conservation Service, State Conservationist (NRCS)	January 27, 2023	February 7, 2023	Appendix C, pages C-11 to C-12
Montgomery County Surveyor	March 30, 2021	N/A	N/A
Montgomery County Commissioners	March 30, 2021	N/A	N/A
Montgomery County Highway Department	March 30, 2021	N/A	N/A
Montgomery County Engineer	March 30, 2021	N/A	N/A
Montgomery County Council	March 30, 2021	N/A	N/A
Crawfordsville City Council	March 30, 2021	N/A	N/A
City of Crawfordsville Mayor	March 30, 2021	N/A	N/A
Crawfordsville/Montgomery County Chamber of Commerce	March 30, 2021	N/A	N/A
City of Crawfordsville, Storm Water Utility MS4 Coordinator	July 18, 2022	N/A	N/A

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

SECTION B – ECOLOGICAL RESOURCES:

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

Total stream(s) in project area: 0 Linear feet Total impacted stream(s): 0 Linear feet

Stream Name	Classification	Total Size in Project Area (linear feet)	Impacted linear feet	Comments (i.e., location, flow direction, likely Water of the US, appendix reference)
N/A				

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

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-3) there are 14 streams, rivers, or watercourses within the 0.5-mile search radius. Based on this review, there is one mapped stream feature adjacent to the project area. This feature is located 50 feet from the project area at its closest point, where it passes beneath Big 4 Arch Road, immediately east of the existing Schenck Road intersection. This stream is identified as an unnamed tributary to Dry Branch. Aerial imagery and USGS National Hydrography Dataset mapping indicates that branches of this stream may extend into the project area (Appendix F, F-10 to F-11). A field investigation for water resources was conducted on October 12, 2021, by SJCA Inc., which identified no rivers, streams, or other jurisdictional waterways within the project area.

A *Waters of the U.S. Determination / Wetland Delineation Report* was completed for the project on January 6, 2022. Please refer to Appendix F, pages F-1 to F-38 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that the majority of the investigated area was considered typical of roadside right-of-way and agricultural areas, with upland vegetation and quick draining soils, and no hydrology indicators. It was determined that no streams, rivers, watercourses, or other jurisdictional features were identified in the investigated area. Therefore, no impacts are expected. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

USFWS responded to coordination on April 21, 2021, with a recommendation to evaluate wildlife crossings under bridge/culverts projects. Suitable crossings include flat areas below bridge abutments with suitable ground cover, high water shelves in culverts, amphibian tunnels and diversion fencing. All new culverts are small pipe culverts, which are not conducive to incorporating wildlife crossing design features. Diversion fencing for amphibians and reptiles was considered. The nearest water resource is the UNT to Dry Branch, which is located approximately 50 feet east of the existing Schenck Road and Big Four Arch Road intersection that is proposed to be removed. This area has the potential for conflict with the riparian wildlife during construction. However, proper use of silt fence will sufficiently act as diversion fencing to both the UNT to Dry Branch and elsewhere (Appendix C, pages C-29 to C-33).

The IDNR-DFW responded on April 28, 2021, stating that formal approval by the IDNR-DFW is not required for this project. IDNR and USFWS included several recommendations regarding water resources and erosion control measures (Appendix C, pages C-6 to C-7 and C-13 to C-33). Recommendations involving streams are not applicable to this project, because none are present in the project limits, and the erosion control recommendations are addressed by INDOT's standard specifications. This project will require the formal submission of an erosion and sediment control plan to obtain an IDEM Construction Stormwater General Permit (CSGP).

IDEM Wetlands and Stormwater responded on February 20, 2023, stating “I have reviewed the waters report and since there will be no stream or wetland impacts as a result of the project, I will not be submitting any comments.”

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

As this is a new alignment project with several culverts, reasonably foreseeable impacts for water resources were given consideration. This project will not include direct stream impacts. However, drainage patterns may be slightly altered within the vicinity of the project area. Road and culverts would have indirect impacts via increased sediment load and pollution from the roadway runoff. Drainage from this area flows into Dry Branch, a tributary of Sugar Creek. Given the surrounding roads and existing runoff from agricultural fields, the indirect impacts to Dry Branch and Sugar Creek are expected to have a relatively negligible addition to the cumulative impacts that already incur. Additionally, this project will provide access to a currently undeveloped area located adjacent to the east of the project area. The new alignment project is not expected to result in substantial indirect or cumulative impacts to streams because the land surrounding the project area is zoned R1 and housing concepts have been submitted prior to Schenck Road extension, so development that occurs is independent of the project.

County Montgomery Route Schenck Road Des. No. 1902752

Open Water Feature(s)	Presence	Impacts Yes	Impacts No
Reservoirs			
Lakes			
Farm Ponds			
Retention/Detention Basin			
Storm Water Management Facilities			
Other:			

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

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-3) there are 10 open water feature(s) within the 0.5-mile search radius. There are no open water features within or adjacent to the project area, which was confirmed by the field investigation for water resources on October 12, 2021, by SJCA Inc

A *Waters of the U.S. Determination / Wetland Delineation Report* was completed for the project on January 6, 2022. Please refer to Appendix F, pages F-1 to F-38 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no open water or other water features were identified in the investigated area. Therefore, no impacts are expected. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

USFWS responded to coordination on April 21, 2021, and IDNR-DFW responded on April 28, 2021. IDNR and USFWS included several recommendations regarding water resources and erosion control (Appendix C, pages C-6 to C-7 and C-13 to C-33). Recommendations involving streams are not applicable to this project, because none are present in the project limits, and the erosion control recommendations are addressed by INDOT's standard specifications. This project will require the formal submission of an erosion and sediment control plan to obtain an IDEM Construction Stormwater General Permit (CSGP).

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

As this is a new alignment project with several culverts, reasonably foreseeable impacts for water resources were given consideration. This project will not include any direct impacts to open water features. However, there is a retention pond located approximately 0.21 mile east of the project area. Drainage patterns may be slightly altered within the vicinity of the project area, resulting in indirect impacts to the existing retention pond. Additionally, this project will provide access to a currently undeveloped area located adjacent to the east of the project area. The new alignment project is not expected to result in substantial indirect or cumulative impacts to open water features because the land surrounding the project area is zoned R1 and housing concepts have been submitted prior to Schenck Road extension, so development that occurs is independent of the project.

Wetlands	Presence	Impacts Yes	Impacts No

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

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

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

Wetlands (*Mark all that apply*)	**Documentation**	**ESD Approval Dates**
Wetland Determination	X	N/A
Wetland Delineation		
USACE Isolated Waters Determination		

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.	

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

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E, page E-3) there are 10 wetlands within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area, which was confirmed by the field investigation for water resources on October 12, 2021, by SJCA Inc.

A *Waters of the U.S. Determination / Wetland Delineation Report* was completed for the project on January 6, 2022. Please refer to Appendix F, pages F-1 to F-38 for the *Waters of the U.S. Determination / Wetland Delineation Report*. It was determined that no wetlands were identified within the investigated area. Therefore, no impacts are expected. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

USFWS responded to coordination on April 21, 2021, and IDNR-DFW responded on April 28, 2021. IDNR and USFWS had no comments regarding wetlands (Appendix C, pages C-6 to C-7 and C-13 to C-33).

IDEM Wetlands and Stormwater responded on February 20, 2023, stating “I have reviewed the waters report and since there will be no stream or wetland impacts as a result of the project, I will not be submitting any comments.”

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

As this is a new alignment project with several culverts, reasonably foreseeable impacts for water resources were given consideration. This project will not include any direct impacts to wetlands. However, there are mapped wetlands within the vicinity of the project area. Drainage patterns may be slightly altered within the vicinity of the project area, resulting in indirect impacts to existing wetlands. Additionally, this project will provide access to a currently undeveloped area located adjacent to the east of the project area. The new alignment project is not expected to result in substantial indirect or cumulative impacts to wetlands because the land surrounding the project area is zoned R1 and housing concepts have been submitted prior to Schenck Road extension, so development that occurs is independent of the project.

	Presence	**Impacts**	
		Yes	**NO**
Terrestrial Habitat	X	X	

Total terrestrial habitat in project area: 10.5209 Acre(s) Total tree clearing: 0.99 Acre(s)

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

Based on a desktop review, a site visit on October 12, 2021, by SJCA Inc, and the aerial map of the project area (Appendix B, page B-2), there is terrestrial habitat within and adjacent to the project area. The terrestrial habitat consists of agricultural fields, maintained roadside grass, a wooded fence line along the western edge, and a wooded area on the eastern edge of the northern project area terminus. Plant species within the project area include summer grape (*Vitis aestivalis*), orchard grass (*Dactylis*

glomerata), tall fescue (*Schedonorus arundinaceus*), barnyard grass (*Echinochloa crus-galli*), Japanese bristlegrass (*Setaria faberi*), redroot amaranth (*Amaranthus retroflexus*). Tree species present within the project area include common hackberry (*Celtis occidentalis*), black walnut (*Juglans Nigra*), eastern redbud (*Cercis canadensis*), and white mulberry (*Morus alba*).

Based on the current construction limits, the total area of land disturbance is approximately 9.33 acres. A total of approximately 0.99 acre of tree removal will be required for the project. Tree clearing will occur along the western side of the Schenck Road extensions between Big 4 Arch Road and SR 32. Branch trimming will occur for trees with canopy extending into the construction limits. However, tree clearing and trimming will not occur outside of the construction limits. Avoidance of the trees would not be practical because the proposed location for the project area will result in fewer instances of fragmenting properties and sections of unusable land. No mitigation is anticipated.

USFWS responded to coordination on April 21, 2021, and recommended tree clearing restrictions (Appendix C, pages C-13 to C-33). The IDNR-DFW responded on April 28, 2021, suggesting that all disturbed areas should be revegetated and to minimize the clearing of trees and brush (Appendix C, pages C-6 to C-7).

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

Protected Species

Federally Listed Bats	**Yes**	**No**
Information for Planning and Consultation (IPaC) determination key completed		X
Section 7 informal consultation completed (IPaC cannot be completed)	X	
Section 7 formal consultation Biological Assessment (BA) required		X

Determination Received for Listed Bats from USFWS: NE [ ] NLAA [X] LAA [ ]

Other Species not included in IPaC	**Yes**	**No**
Additional federal species found in project area (based on IPaC species list)		X
State species (not bird) found in project area (based upon consultation with IDNR)		X

Migratory Birds	**Yes**	**No**
Known usage or presence of birds (i.e., nests)		X
State bird species based upon coordination with IDNR		X

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

Based on a desktop review and the RFI report (Appendix E, page E-5), completed by Clark Dietz on November 5, 2021, the IDNR Montgomery County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated April 28, 2021 (Appendix C, pages C-6 to C-7), the Natural Heritage Program's Database has been checked, and no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. An INDOT 0.5 mile bat review occurred on March 17, 2022, and no documented sites were found.

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C, pages C-13 to C-26). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally endangered northern long-eared bat (NLEB) (*Myotis septentrionalis*). One additional species was generated in the IPaC species list other than the Indiana bat and northern long-eared bat. The Monarch Butterfly (*Danaus Plexippus*), a candidate for the federally endangered and threatened list was generated in the IPaC species list.

Because tree clearing/trimming will be occurring more than 300 feet from the existing pavement, this project does not qualify for the *Rangewide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*. A standard coordination letter was prepared and submitted for INDOT review. INDOT reviewed the standard coordination letter and submitted it to USFWS for review on September 2, 2022. On September 27, 2022, USFWS issued a concurrence letter with the "*May Affect, Not Likely to Adversely Affect*" finding (Appendix C, pages C-29 to C-33). USFWS stated that standard avoidance or mitigation measures (AMMs) regarding lighting and tree removal should occur. The standard avoidance or mitigation measures included minimizing and containing in-channel disturbance, restrictions for working within the waterway and clearing trees, proper use of riprap, maintaining current wildlife passages, implementing stream bank stabilization measures, as well as erosion and sediment control measures.

Approximately 0.99 acres of trees or tree canopy, including 0.75 acres beyond 300 feet from the existing roadway, will be removed or trimmed during construction. The trees are located along a 0.5 mile long fence line between agricultural fields. These trees likely provide habitat for species protected by the Migratory Bird Treaty Act (MBTA). The nesting season for birds in Indiana is generally from May 1 through September 7. As required by USFWS Tree AMM 2 for protected bat species, tree removal must occur between October 1 through March 31, which is during the non-nesting season for birds. Therefore, the project poses a low potential for the unintentional take of birds protected under the MBTA.

Geological and Mineral Resources	**Yes**	**No**
Project located within the Indiana Karst Region		X
Karst features identified within or adjacent to the project area		X
Oil/gas or exploration/abandoned wells identified in the project area		X

Date Karst Evaluation reviewed by INDOT EWPO (if applicable): _____

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

Based on a desktop review and the Indiana Karst Region map, the project is located outside the designated Indiana Karst Region as outlined in the most current INDOT karst guidance document, Protection of Karst Features during Project Development and Construction. According to the topographic map of the project area (Appendix B, page B-3) and the RFI report (Appendix E, page E-3) there are no karst features identified within or adjacent to the project area.

In the early coordination response of January 9, 2022, the Indiana Geological and Water Survey (IGWS) did not indicate that karst features exist in the project area (Appendix C, pages C-3 to C-5). The IGWS response indicated that the area has moderate liquefaction potential, moderate potential for bedrock resources, low potential for sand and gravel resources, and abandoned industrial minerals sand gravel pits. The features will not be affected because excavation will not extend beyond six feet below ground surface. The response from IGWS has been communicated with the designer on January 9, 2022. No impacts are expected.

SECTION C – OTHER RESOURCES

	Presence	**Impacts**	
Drinking Water Resources		**Yes**	**No**
Wellhead Protection Area(s)			
Source Water Protection Area(s)			
Water Well(s)			
Urbanized Area Boundary	X		X
Public Water System(s)			

	Yes	**No**
Is the project located in the St. Joseph Sole Source Aquifer (SSA):		X
If Yes, is the FHWA/EPA SSA MOU Applicable?		
If Yes, is a Groundwater Assessment Required?		

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

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

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (http://www.in.gov/idem/cleanwater/pages/wellhead/) was accessed on November 9, 2021, by Clark Dietz. This project is not located within a Wellhead Protection Area or Source Water Area. In an early coordination letter dated March 30, 2021, IDEM stated the project is not located within a wellhead area (Appendix C, page C-8). 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 November 9, 2021, by Clark Dietz. No wells are located near this project. Therefore, no impacts are expected.

Based on a desktop review, a site visit on March 12, 2021, by Clark Dietz, the aerial map of the project area (Appendix B, page B-2), and coordination with the designer and utility coordinator, no public water systems were identified. Therefore, no impacts are expected.

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

If applicable, indicate the Floodplain Level?

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

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

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (http://dnrmaps.dnr.in.gov/appsphp/fdms/) was accessed on November 1, 2021, by Clark Dietz. This project is not located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page F-39). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. Additionally, the IDNR-DFW coordination response of April 28, 2021, states that formal approval for regulatory programs administered by the Division of Water is not required for this project. No impacts are expected.

The IDNR-DFW responded on April 28, 2021, with recommendations that formal approval by the IDNR-DFW is not required for this project (Appendix C, C-6 to C-7).

Farmland	**Presence**	**Impacts** Yes	No
Agricultural Lands	X	X	
Prime Farmland (per NRCS)	X	X	

Total Points (from Section VII of CPA-106/AD-1006*) **140**

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

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

Based on a desktop review, a site visit on March 12, 2021, by Clark Dietz, and the aerial map of the project area (Appendix B, page B-2), the project will convert 6.66 acres of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on January 27, 2023, to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 140 on the NRCS-CPA-106 Form (Appendix C, pages C-11 to C-12). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

As this is a new alignment project, reasonably foreseeable impacts for farmland were given consideration. This project will result in the permanent conversion of farmland to transportation use, which will impact the farm businesses that own the farmland. Additionally, this project will provide access to a currently undeveloped area located adjacent to the east of the project area. However, the land surrounding the project area is zoned R1 and will further develop regardless of this project. Additionally, after the project is complete, the remaining farmland will still be farmable until any potential residential development begins in the future. Therefore, the new alignment project is not expected to result in substantial indirect or cumulative impacts to farmland.

SECTION D – CULTURAL RESOURCES

	Category(ies) and Type(s)	INDOT Approval Date(s)	N/A
Minor Projects PA			X

Full 106 Effect Finding

No Historic Properties Affected [X] No Adverse Effect [ ] Adverse Effect [ ]

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) [ ] Archaeology [ ] NRHP Bridge(s) [ ]

Documentation Prepared (mark all that apply)		**ESD Approval Date(s)**	**SHPO Approval Date(s)**
APE, Eligibility and Effect Determination	X	July 18, 2022	July 27, 2022
800.11 Documentation	X	July 18, 2022	July 27, 2022
Historic Properties Report or Short Report	X	July 29, 2021	August 10, 2021
Archaeological Records Check and Assessment			
Archaeological Phase Ia Survey Report	X	January 3, 2022	February 10, 2022
Archaeological Phase Ic Survey Report			
Other:			

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

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

Area of Potential Effect (APE):

Anne Shaw, an Indiana Department of Historic Preservation and Archaeology (DHPA)-Qualified Architectural Historian from Clark Dietz, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, established an Area of Potential Effects (APE) for the project, performed fieldwork and identified and evaluated above-ground resources within it. The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The area of potential effects is influenced by the scale and nature of an undertaking…" (36 CFR 800.9(a)).

The APE (Appendix D, page D-21) was drawn to include the vicinity that would be physically and visually impacted by the project. Due to the scope of work, which is limited to the ground level, the APE includes the existing and proposed ROW, immediately adjacent properties, and those areas where a visual differentiation may occur between an existing structure and the project area. The APE is roughly a rectangular shape. Properties within the APE are agricultural to the west, suburban to the north and south, and industrial to the east.

Coordination with Consulting Parties:

An early coordination letter (ECL) was sent on April 21, 2021, to the following identified Consulting Parties (the consulting parties'

responses can be found in Appendix D, pages D-22 to D-46). Consulting Parties that accepted are in bold.

State Historic Preservation Office (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

Archaeology:
A Phase Ia Archaeological Literature Review and Reconnaissance Survey Report (Appendix D, pages D-5 to D-9) was approved by INDOT-CRO on January 3, 2022, and SHPO concurred with the finding of the report on February 10, 2022 (Appendix D, pages D-10 to D-12). With regard to archaeological resources, Chris Jackson, a qualified professional archaeologist, reviewed the proposed project area and determined that it will not likely affect archaeological resources due to the lack of intact features or National Register of Historic Places (NRHP) eligible archaeological sites. One identified site, 12MY727, does not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. It is recommended that the project be allowed to proceed without additional archaeological study. However, state law (Indiana Code 14-21-1-27 and -29) requires that if any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, that the discovery must be reported to the Department of Natural Resources within two (2) business days.

Historic Properties:
A Historic Properties Report (HPR) was approved by INDOT-CRO on July 29, 2021, and the SHPO concurred with the finding of the report on August 10, 2021 (Appendix D, pages D-1 to D-4 and D-10 to D-12). The APE contains no properties listed or recommended eligible for listing in the NRHP. Potential impacts to historic properties would include visual impacts, temporary auditory impacts, and temporary traffic impacts. As a result of identification and evaluation efforts for this project, no properties are recommended eligible for listing in the NRHP.

Documentation Finding:
The SHPO responded to the HPSR on August 10, 2021, stating that “The proposed area of potential effects (“APE”) proposed in the HPSR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur.” They also stated that “For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed or eligible for inclusion in the National Register of Historic Places (“NRHP”) located within the APE” (Appendix D, pages D-36 to D-37). Eastern Shawnee Tribe of Oklahoma responded to the Archaeology Report on January 26, 2022, stating that “As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes No Adverse Effect or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue the project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted” (Appendix D, page D-43). In a letter dated January 26, 2022, the Director of Cultural Preservation for the Peoria Tribe of Indians of Oklahoma responded to the Archaeology Report stating that “The Peoria Tribe of Indians of Oklahoma is unaware of a direct link to the newly proposed project location. The Peoria Tribe of Indians of Oklahoma is also unaware of items covered under Native American Graves Protection and Repatriation Act (NAGPRA) to be associated with the proposed project site, including funerary or sacred objects; objects of cultural patrimony; or ancestral human remains. The Peoria Tribe has no objection at this time to the proposed project. If, however, at any time items are discovered which fall under the protection of NAGPRA, the Peoria Tribe requests immediate notification and consultation. In addition, state, local and tribal authorities should be advised as to the findings and construction halted until consultation with all concerned parties has occurred” (Appendix D, page D-44).

The documentation required per 36 CFR 800.11 for a "No Historic Properties Affected" finding was approved by INDOT-CRO on July 18, 2022 (Appendix D, page D-10), and sent to consulting parties. SHPO concurred with the finding on July 27, 2022 (Appendix D, pages D-11 to D-12).

Public Involvement:
To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Historic Properties Affected" was published in the *Journal Review* on July 21, 2022, offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed 30 days later on August 22, 2022. As of August 23, 2022, no comments were received. The text of the public notice and the affidavit of publication appear in Appendix D, pages D-47 to D-50. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

	Presence	Use	
Parks and Other Recreational Land		Yes	No
Publicly owned park			
Publicly owned recreation area	X		X
Other (school, state/national forest, bikeway, etc.)			
Wildlife and Waterfowl Refuges			
National Wildlife Refuge			
National Natural Landmark			
State Wildlife Area			
State Nature Preserve			
Historic Properties			
Site eligible and/or listed on the NRHP			

	Evaluations Prepared
Programmatic Section 4(f)	
"De minimis" Impact	
Individual Section 4(f)	
Any exception included in 23 CFR 774.13	

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

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

Based on a desktop review, the aerial map of the project area (Appendix B, page B-2), and the RFI report (Appendix E, page E-2) there is one potential 4(f) resource located within the 0.5 mile search radius. The Donnelley Trailhead NW to Rail Trail, which is owned and operated by Crawfordsville Parks and Recreation, is located 0.06 mile north of the project area. There will be no impacts to the Section 4(f) resource, Donnelley Trailhead, because it is not within the project area and this project will not alter the trail's ability to remain open. The project will not use this resource by taking permanent right of way and will not indirectly use the resource in such a way that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. According to the site visit on March 12, 2021, by Clark Dietz, there are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement	Presence	Use	
		Yes	No
Section 6(f) Property			

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

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 Section 6(f) properties on the INDOT ESD website revealed a total of 12 properties in Montgomery 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 Section 6(f) resources.

SECTION F – Air Quality

STIP/TIP and Conformity Status of the Project	Yes	No
Is the project in the most current STIP/TIP?	X	
Is the project located in an MPO Area?		X
Is the project in an air quality non-attainment or maintenance area?		X
If Yes, then:		
Is the project in the most current MPO TIP?		
Is the project exempt from conformity?		
If No, then:		
Is the project in the Transportation Plan (TP)?		
Is a hot spot analysis required (CO/PM)?		

Location in STIP: FY 2022-2026 STIP, page 272

Name of MPO (if applicable): N/A

Location in TIP (if applicable): N/A

Level of MSAT Analysis required?

Level 1a [ ] Level 1b [X] Level 2 [ ] Level 3 [ ] Level 4 [ ] Level 5 [ ]

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

This project is included in the Fiscal Year (FY) 2022-2026 Statewide Transportation Improvement Program (STIP) (Appendix H, pages H-1 to H-3).

This project is located in Montgomery County, which is currently in attainment for all criteria pollutants according to EPA's Greenbook website at https://www3.epa.gov/airquality/greenbook/anayo_in.html. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

The purpose of this project is to provide the west side of Crawfordsville with an access route to SR 32 that has acceptable roadway geometry for a local collector route based on design criteria for rural local collectors with 1,000 vehicles per day. 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.

As this is a new alignment project, reasonably foreseeable impacts were given consideration. This project will provide access to a currently undeveloped area located adjacent to the east of the project area. The land surrounding the project area is zoned R1 and housing concepts have been submitted prior to the Schenck Road extension, so development that occurs is independent of the project. Furthermore, the project will not add new capacity to the existing roadway network. Therefore, the only changes in traffic will be limited to the local level rather than regional. Since there will be no added capacity and traffic changes are confined to the local level, the project will not increase or affect greenhouse gases. For these reasons, the new alignment project is not expected to result in substantial indirect or cumulative impacts to air quality.

SECTION G - NOISE

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

Date Noise Analysis was approved/technically sufficient by INDOT ESD: November 29, 2021

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

The proposed project was determined to be a Type I federal-aid highway project because it involves the construction of a roadway on a new location. All Type I projects require a Noise Analysis Report to be completed as a part of the NEPA Process. The INDOT Traffic Noise Analysis Procedure defines that traffic noise impacts occur if either the following conditions are met; the noise levels "approach" (defined as reaching one decibel less than) or exceed the FHWA Noise Abatement Criteria (NAC); or noise levels "substantially exceed" existing noise levels as defined by INDOT. An impact "substantially exceeds" existing noise levels when predicted noise levels are 15 dB(A) or greater than existing noise levels.

WSP USA completed the Traffic Noise Technical Report for INDOT ESD on November 29, 2021, based on preliminary design criteria. INDOT reviewed the report and found it to be technically sufficient on the same day (Appendix J, page J-34).

To conduct the ambient noise monitoring, short-term noise measurements were collected over 20-minute periods at three locations along the project corridor on September 14, 2021. At each location, one monitor was placed approximately 50-feet from the nearest traffic source, and data was stored in 1-minute intervals.

The noise model showed that existing traffic noise exposure varies within the Schenck Road project study area, with Schenck Road, Big 4 Arch Road, and SR 32 as the dominant noise sources for receptors in the study area. To represent a worst-case scenario, predicted noise levels at these receptors did not account for shielding from corresponding buildings. The predicted Base Year 2024 existing noise levels ranged from 38 dB(A) to 63 dB(A), while the predicted Design Year 2044 build condition results in noise levels ranging from 39 dB(A) to 64dB(A), representing an increase of 1 dB(A) in noise levels. However, this increase did not exceed the substantial increase impact criteria of 15 dB(A) above existing noise levels at any receptor location. Additionally, the predicted Design Year 2044 noise levels for build condition did not approach or exceed the Activity Category B NAC at any receptors within the project limits.

Based on the results of the noise report, the Schenck Road project is not predicted to result in traffic noise impacts, and therefore, noise abatement measures are not warranted at this time. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures may be provided.

SECTION H – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors	Yes	No
Will the proposed action comply with the local/regional development patterns for the area?	X	
Will the proposed action result in substantial impacts to community cohesion?		X
Will the proposed action result in substantial impacts to local tax base or property values?		X
Will construction activities impact community events (festivals, fairs, etc.)?		X
Does the community have an approved transition plan?	X	
If No, are steps being made to advance the community's transition plan?		
Does the project comply with the transition plan? (explain in the discussion below)	X	

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

The City of Crawfordsville has developed an American with Disabilities Act (ADA) Transition Plan. The City of Crawfordsville ADA Transition Plan does not require construction of sidewalks in conjunction with the proposed new roadway because it is in a rural setting with no existing sidewalks abutting the project to which they would be able to connect. Per coordination with the designer on May 9, 2023, the project is in compliance with the City of Crawfordsville ADA Transition Plan. However, there is adequate space within the right-of-way available for the construction of future pedestrian facilities to address any potential development and growth of the area.

As this is a new alignment project, reasonably foreseeable impacts were given consideration. This project will provide access to a currently undeveloped area located adjacent to the east of the project area. The land surrounding the project area is zoned R1 and housing concepts have been submitted prior to the Schenck Road extension, so development that occurs is independent of the project. There will be a reduction in taxable farmland that will be transitioned to publicly owned roadway use. However, the project is being constructed along property lines to minimize the number of city-owned, unused, untaxed remnant parcels. Therefore, the new alignment project is not expected to result in substantial indirect or cumulative impacts to the community.

Public Facilities and Services

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

Based on a desktop review, the aerial map of the project area (Appendix B, page B-2), and the RFI report (Appendix E, page E-2), there is one airport, the Crawfordsville Municipal Airport, located approximately 3.4 miles southeast of the project area. There are no public facilities within or adjacent to the project area, which was confirmed by the site visit on March 12, 2021, by Clark Dietz. Therefore, no impacts are expected. Access to all properties will be maintained during construction.

INDOT Aviation responded on March 31, 2021, and found no issues with the surrounding airspace or public-use airports because the project meets the required glideslope criteria from the nearest public-use facility according to 14 CFR Part 77. (Appendix C, page C-10). INDOT Aviation also noted that, if any object will exceed 200 feet in height, regardless of location, the object will need to be air spaced with the FAA 45 days prior to construction. The designer confirmed that airspace above 200 feet will not be impacted. Therefore, no further coordination is needed. All applicable recommendations are included in the Environmental Commitments section of this CE document.

Utility coordination is ongoing. Additional investigations may be needed after utility coordination has been finalized to determine if utility work is occurring outside of the construction limits.

It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

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Environmental Justice (EJ) (Presidential EO 12898)	**Yes**	**No**
During the development of the project were EJ issues identified?		X
Does the project require an EJ analysis?	X	
If YES, then:		
Are any EJ populations located within the project area?		X
Will the project result in adversely high and disproportionate impacts to EJ populations?		X

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

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 10.9667 acres of permanent right-of-way (ROW) of residential, commercial, and agricultural properties. 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 Montgomery County, IN. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 9569, Montgomery County, IN. The project area is located in the AC, and the AC is located in the COC. 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 Census Tract 9569, Montgomery County, Indiana 2020 ACS 5-Year Estimates Detailed Tables was obtained from the U.S. Census Bureau Data (https://data.census.gov) on February 15, 2023, by Clark Dietz. The data collected for minority and low-income populations within the AC are summarized in the below table.

Table: Minority and Low-Income Data (Source Data and Year)

	COC – Montgomery County, Indiana (2020)	AC-1 - Census Tract 9569, Montgomery County, Indiana (2020)
Percent Minority	8.4%	6.5%
125% of COC	10.5%	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	11.9%	10.3%
125% of COC	14.9%	AC < 125% COC
EJ Population of Concern		No

AC-1 Census Tract 9569 has a percent minority of 6.5% which is below 50% and is below the 125% of COC threshold. AC-1 Census Tract 9569 has a percent low-income of 10.3% which is below 50% and is below the 125% of COC threshold. No further environmental justice analysis is warranted. Census data sheets and maps can be found in Appendix I, pages I-2 to I-4.

Relocation of People, Businesses or Farms	**Yes**	**No**
Will the proposed action result in the relocation of people, businesses or farms?		X
Is a BIS or CSRS required?		X

Number of relocations: Residences: N/A Businesses: N/A Farms: N/A Other: N/A

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

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

SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Hazardous Materials & Regulated Substances (Mark all that apply)	**Documentation**
Red Flag Investigation (RFI)	X
Phase I Environmental Site Assessment (Phase I ESA)	
Phase II Environmental Site Assessment (Phase II ESA)	
Design/Specifications for Remediation required?	

Date RFI concurrence by INDOT SAM (if applicable): November 18, 2021

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

Based on a review of GIS and available public records, the RFI was completed on November 5, 2021, by Clark Dietz (Appendix E, page E-4). Two Leaking Underground Storage (LUST) sites are located within 0.5 mile of the project area. The nearest mapped LUST site, Marathon Food Mart #2, 1529 West State Road 32, Crawfordsville, IN, LUST Site (AID# 44258) is marked in the wrong location. The correct location of the LUST Site (AID# 44258) is 0.19 mile west of the current location. Contamination from this site does not extend to the project area. No impact is expected.

Five NPDES Facilities are located within 0.5 mile of the project area. The nearest NPDES Facility, Permit # INR10P965, is mapped 0.09 mile southwest of the project area, however, the NPDES Facility was mapped in the wrong location. The NPDES Facility is actually located outside of the 0.5 mile search radius. No impact is expected.

Two NPDES Pipe Locations are located within 0.5 mile of the project area. The nearest NPDES Pipe Location, IN0002097 LSC Communications INC North Plant, is located approximately 0.35 mile northeast of the project area. The NPDES Pipe Location is not located up-stream from the project area. No impact is expected.

None of the hazmat sites identified will impact the project. Further investigation for hazardous material concerns is not required at this time.

Part IV – Permits and Commitments

PERMITS CHECKLIST

Permits (mark all that apply)	**Likely Required**
Army Corps of Engineers (404/Section10 Permit)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	
Other	
IN Department of Environmental Management (401/Rule 5)	
Nationwide Permit (NWP)	
Regional General Permit (RGP)	
Individual Permit (IP)	
Isolated Wetlands	
Construction Stormwater General Permit	X
Other	
IN Department of Natural Resources	
Construction in a Floodway	
Navigable Waterway Permit	
Other	

County Montgomery Route Schenck Road Des. No. 1902752

Permits (mark all that apply)	**Likely Required**
Mitigation Required	
US Coast Guard Section 9 Bridge Permit	
Others (Please discuss in the discussion below)	

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

A Construction Stormwater General Permit (also known as the Rule 5 Permit) will be needed due to disturbance of more than one acre. The project will follow guidelines and requirements of the CSGP, including submittal of a Stormwater Pollution Prevention Plan and Notice of Intent.

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

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

ENVIRONMENTAL COMMITMENTS

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

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access. (INDOT ESD)
3. 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.) (USFWS)
4. General AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
5. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active. (USFWS)
6. Lighting AMM 2. Use downward-facing, full cut-off lens lights, and direct lighting away from suitable habitat if installing new or replacing existing permanent lights. (USFWS)
7. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely. (USFWS)
8. Tree Removal AMM 2: Apply time of year (TOY) restrictions for tree removal when bats are not likely to be present (October 1-March 31), or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS)
9. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
10. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting; or trees within 0.25 miles of roosts; or documented foraging habitat any time of year. (USFWS)
11. Special Provisions will be incorporated into the construction contract as required to provide access to all properties throughout construction.

Appendix Index

Appendix A: INDOT Supporting Documentation
- Categorical Exclusion Threshold Chart (A-1)

Appendix B: Graphics
- Project Location Map (B-1)
- Project Location on Aerial Map (B-2)
- Project Location on Topographic Map (B-3)
- Photographs Key Maps (B-4 to B-8)
- Photographs (B-9 to B-19)
- Project Plans (B-20 to B-56)

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- Sample Early Coordination Letter (C-1 to C-2)
- Early Coordination Letter Responses (C-3 to C-12)
- USFWS Official Species List (C-13 to C-26)
- USFWS Early Coordination Letter Response (C-27 to C-28)
- USFWS Section 7 Response Letter (C-29 to C-33)

Appendix D: Section 106 of the NHPA
- Historic Property Short Report Summary (D-1 to D-4)
- Phase Ia Archaeology Report Summary (D-5 to D-9)
- Section 106 800.11 Documentation INDOT Concurrence Email (D-10)
- Section 106 800.11 Documentation SHPO Concurrence Email (D-11 to D-12)
- Section 106 800.11 Documentation (D-13 to D-46)
- Public Notice (D-47)
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Appendix E: Red Flag and Hazardous Materials
- Red Flag Investigation (E-1 to E-10)

Appendix F: Water Resources
- Wetland Delineation and Waters of the U.S. Report (F-1 to F-38)
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Appendix G: Public Involvement
- Notice of Survey Letter (G-1)

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- STIP 2022-2026 (H-1 to H-3)

Appendix I: Additional Studies
LWCF Information (I-1)
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Appendix J: Noise Study
Traffic Noise Technical Report (J-1 to J-33)
INDOT Notice of Technical Sufficient for the Noise Analysis (J-34)

APPENDIX A

INDOT SUPPORTING DOCUMENTATION

Categorical Exclusion Threshold Chart (A-1)

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

[1] Coordinate with INDOT Environmental Services Division. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.
[2] Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.
[3] Total permanent impacts to streams (linear feet) and wetlands (acres).
[4] US Army Corps of Engineers Individual 404 Permit
[5] Total permanent and temporary right-of-way. This does not include reacquisition of existing apparent right-of-way.
[6] Avoidance and Mitigation Measures (AMMs) determined by the IPAC determination key to be required that are not tree AMMs, bridge AMMs, or structure AMMs.
[7] Projects that do not fall under a Species Specific Programmatic and results in a "Likely to Adversely Affect". Other findings can be processed as a lower level CE.
[8] Potential for causing a disproportionately high and adverse impact.
[9] Section 4(f) use resulting in an Individual, Programmatic, or *de minimis* evaluation. The only exception is a *de minimis* evaluation for historic properties (Effective January 2, 2020). If a historic property *de minimis* and no other use, mark the *None* column.
[10] Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.
* Includes the threatened/endangered species critical habitat
Note: Substantial public or agency controversy may require a higher-level NEPA document.

APPENDIX B

GRAPHICS

Project Location on Street Map (B-1)

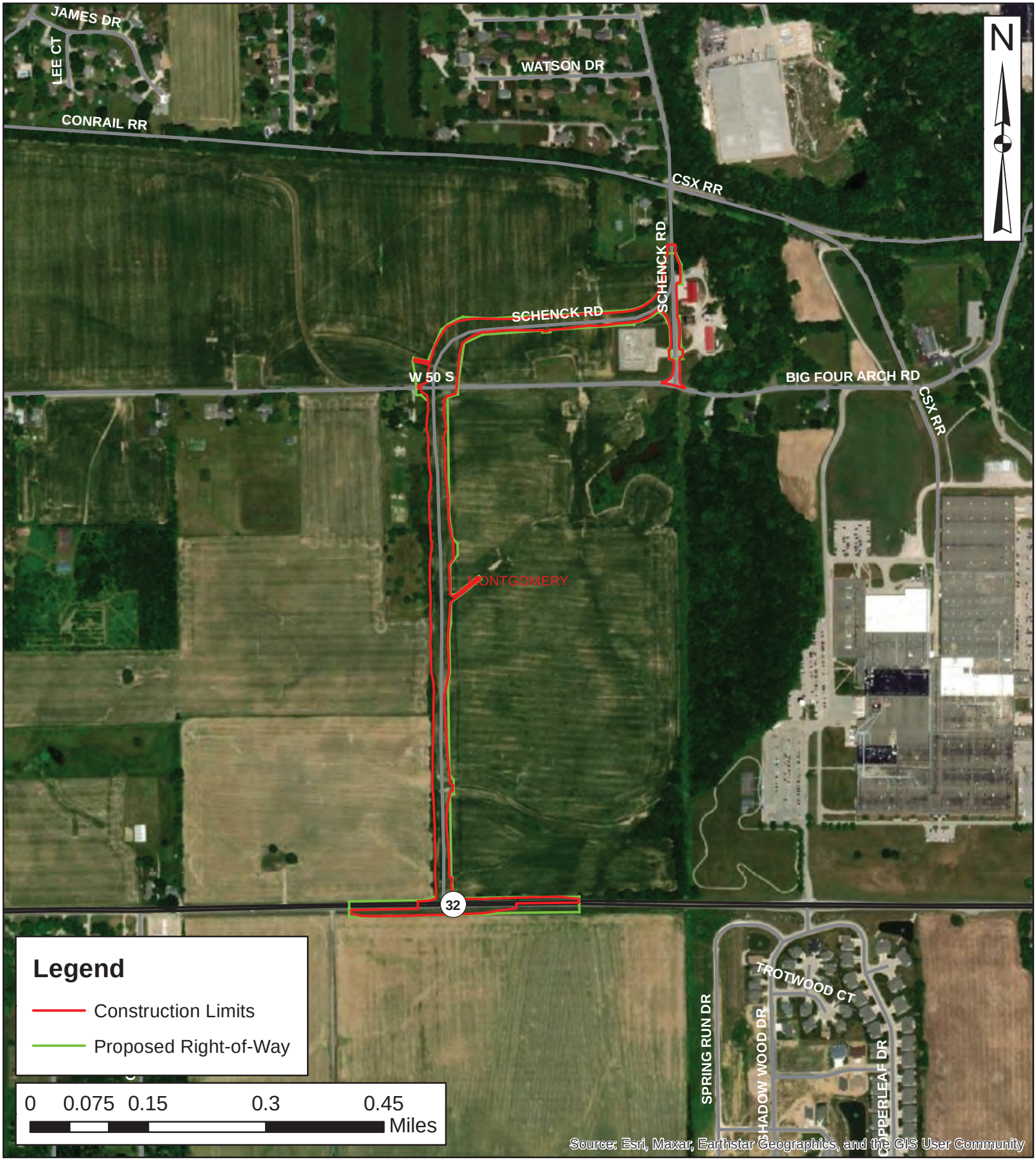
Project Location on Aerial Map (B-2)

Project Location on Topographic Map (B-3)

Photographs Key Maps (B-4 to B-8)

Photographs (B-9 to B-19)

Project Plans (B-20 to B-56)



Schenck Road New Alignment

Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32 on Schenck Road
Crawfordsville, Montgomery County, Indiana

Clark Dietz
Engineering Quality of Life®

Schenck Road New Alignment

Des. No. 1902752

Extending Schenck Road by 0.814 miles
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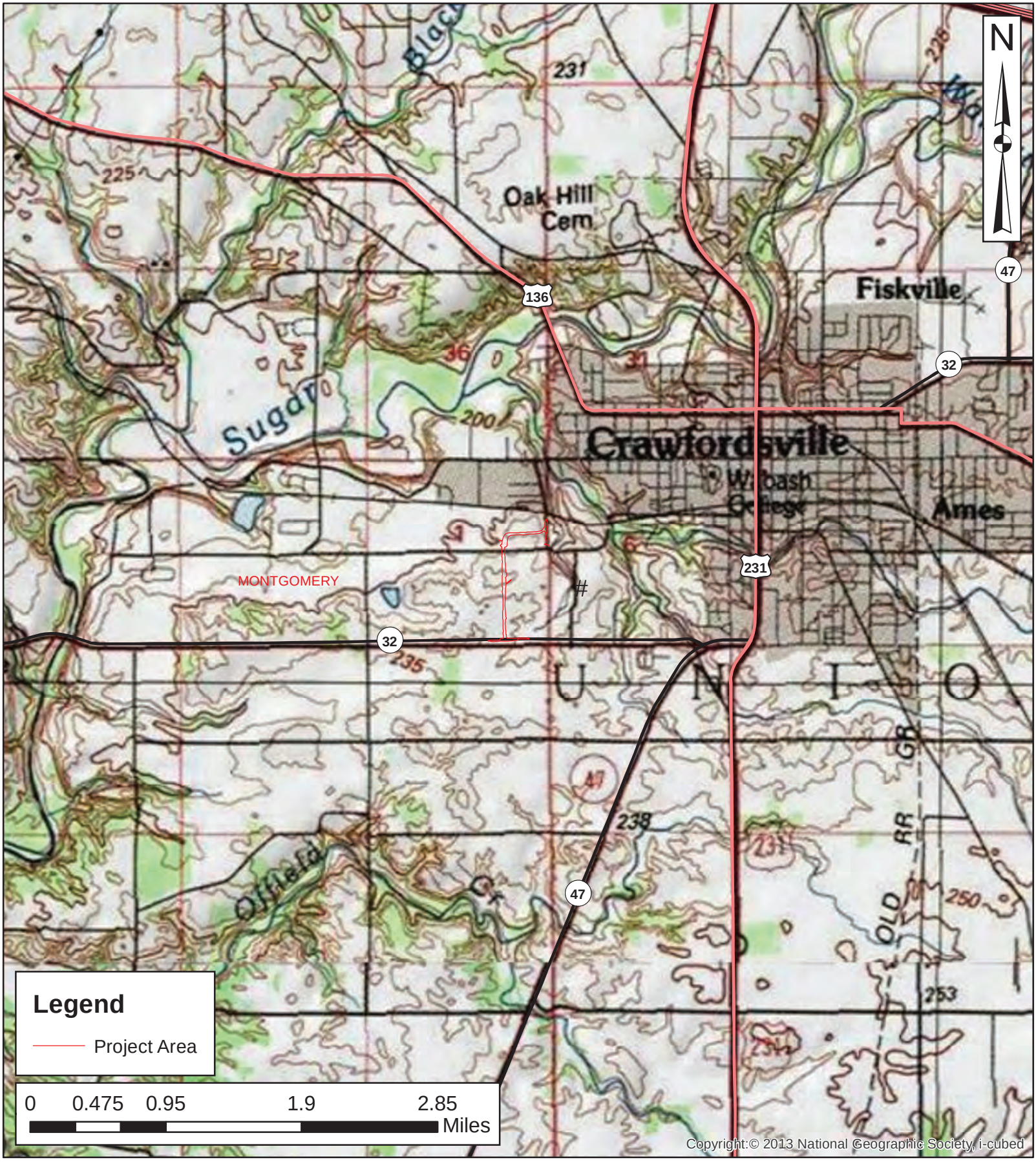

Schenck Road New Alignment

Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32 on Schenck Road
Crawfordsville United States Geological Survey (USGS) Quadrangle
Montgomery County, Indiana

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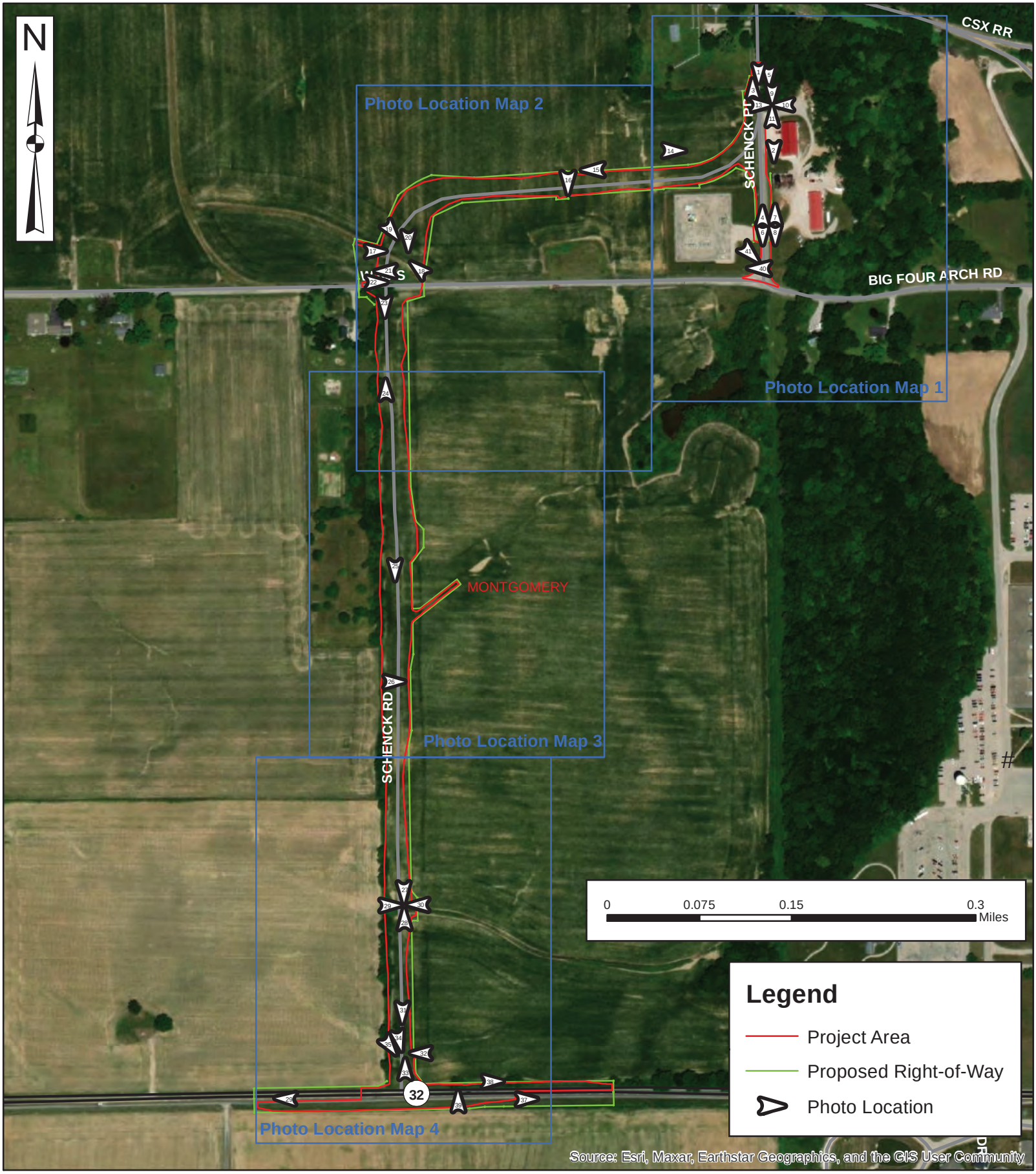

Schenck Road New Alignment
Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32
Crawfordsville, Montgomery County, Indiana

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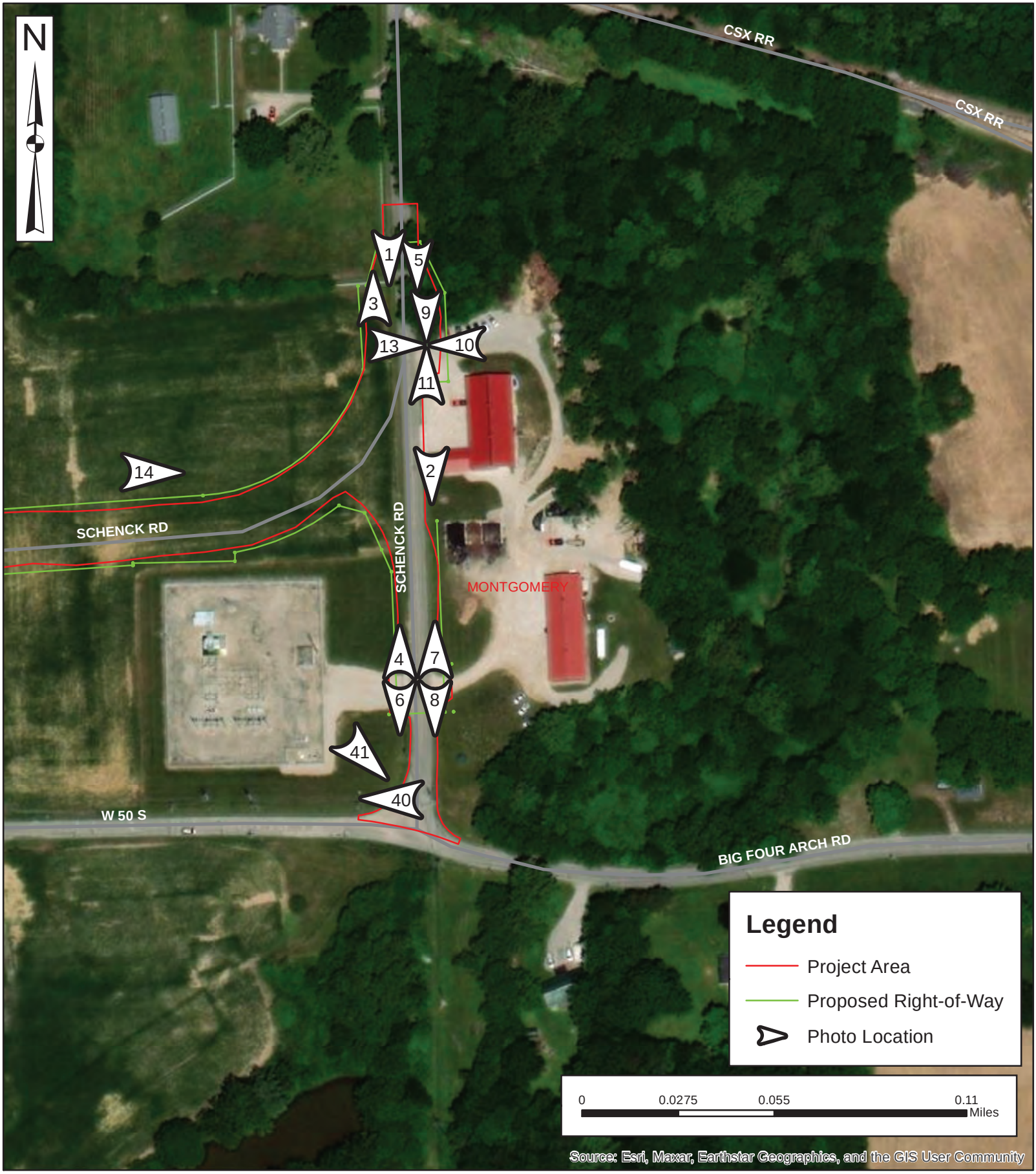
Photo Location Map Overview

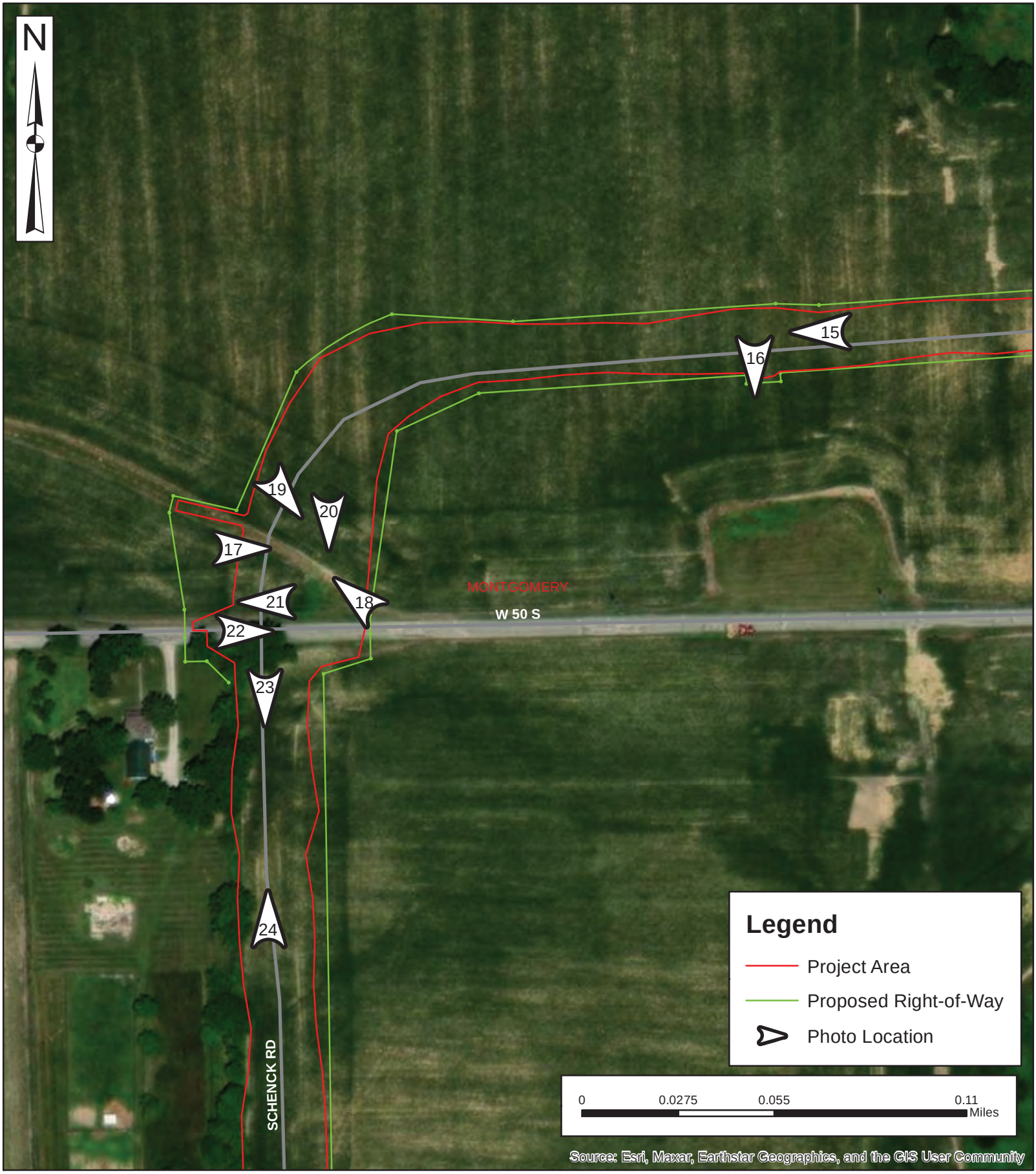


Schenck Road New Alignment
Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32
Crawfordsville, Montgomery County, Indiana

Clark Dietz
Engineering Quality of Life®

Photo Location Map 1



Schenck Road New Alignment
Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32
Crawfordsville, Montgomery County, Indiana

Clark Dietz
Engineering Quality of Life®

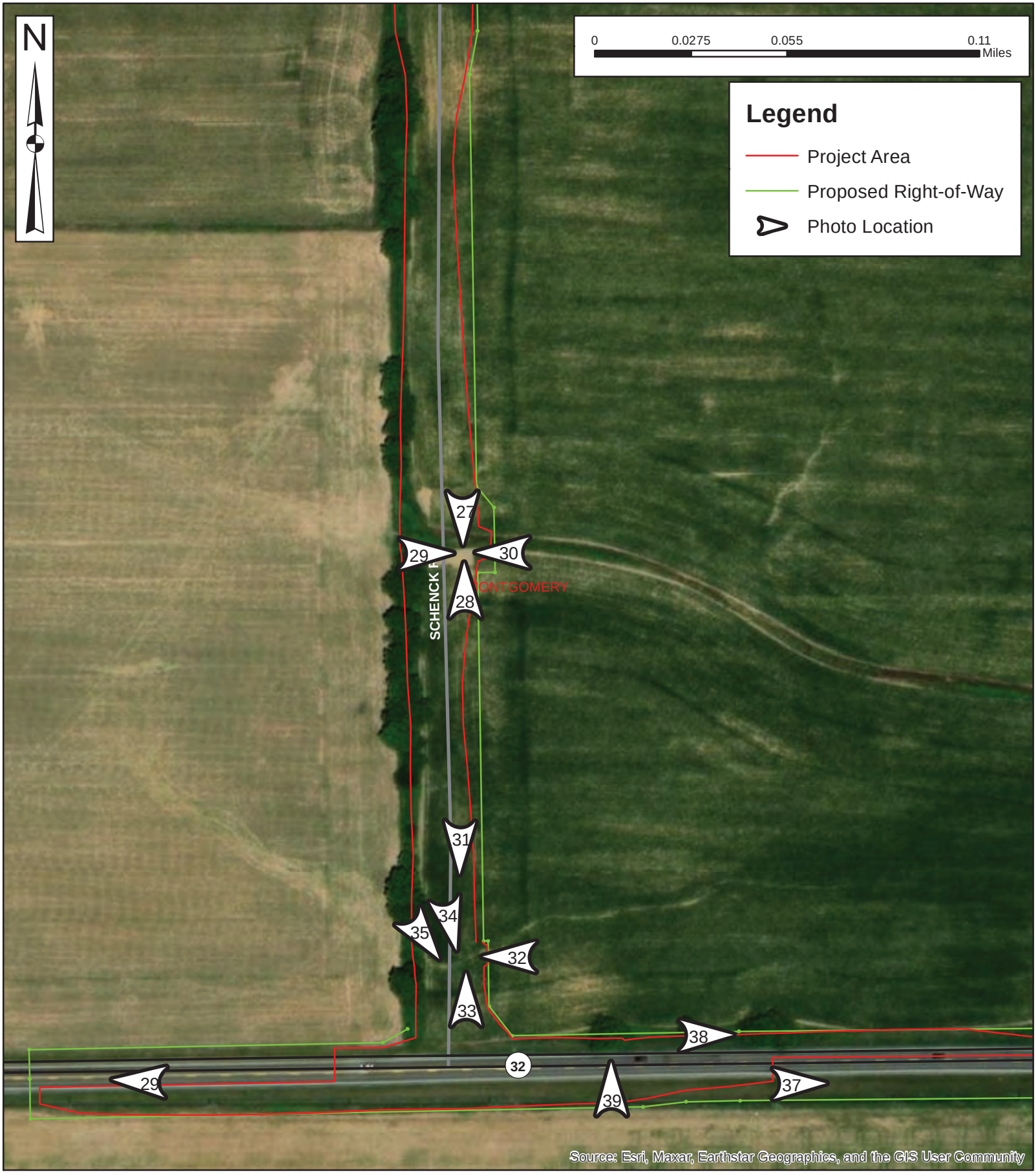
Photo Location Map 2

Schenck Road New Alignment
Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32
Crawfordsville, Montgomery County, Indiana

Clark Dietz
Engineering Quality of Life®

Photo Location Map 3



Schenck Road New Alignment
Des. No. 1902752

Extending Schenck Road by 0.814 miles
from 0.1 mile South of Monroy Circle to SR 32
Crawfordsville, Montgomery County, Indiana

Clark Dietz
Engineering Quality of Life®

Photo Location Map 4

Photo 1. Facing south from north end of the investigated area, along with west side of Schenck Road.

Photo 2. Facing south toward Big 4 Arch Road, along with east side of Schenck Road.

Photo 3. Facing north from north end of the investigated area, along with west side of Schenck Road.

Photo 4. Facing north along with west side of Schenck Road.

Photo 5. Facing south from north end of the investigated area, along east side of the Schenck Road.

Photo 6. Facing south toward Big 4 Arch Road, along with west side of Schenck Road.

Photo 7. Facing north along east side of Schenck Road.

Photo 8. Facing south toward Big 4 Arch Road, along with east side of Schenck Road.

Photo 9. Facing west from SP 1 toward Schenck Road.

Photo 10. View of SP 1 (upland), taken along east side of Schenck Road.

Photo 11. Facing north from SP 1.

Photo 12. Facing east from SP 1, down sloping path.

Photo 13. Facing south from SP 1.

Photo 14. Facing east toward Schenck Road along with agricultural filed.

Photo 15. Facing west along with agricultural field.

Photo 16. Facing south toward Big 4 Arch Road from agricultural filed.

Photo 17. View of SP 2 (upland), taken within drainage path in the farm field, north of Big 4 Arch Road.

Photo 18. Facing northwest from SP 2.

Photo 19. Facing southeast from SP 2.

Photo 20. Facing south from SP 2.

Photo 21. Facing east along with Big 4 Arch Road.

Photo 22. Facing west along with Big 4 Arch Road.

Photo 23. Facing south along edge of the agricultural field from south of Big 4 Arch Road.

Photo 24. Facing north toward Big 4 Arch Road, along with fence row of the agricultural field.

Photo 25. Facing south along fence row of agricultural field.

Photo 26. Facing east from edge of the agricultural filed.

Photo 27. View of SP 3 (upland), taken withing drainage path in the agricultural field, south of Big 4 Arch Road.

Photo 28. Facing north from SP 3.

Photo 29. Facing east from SP 3.

Photo 30. Facing west from SP 3.

Photo 31. Facing south toward SR 32, along the edge of the agricultural field.

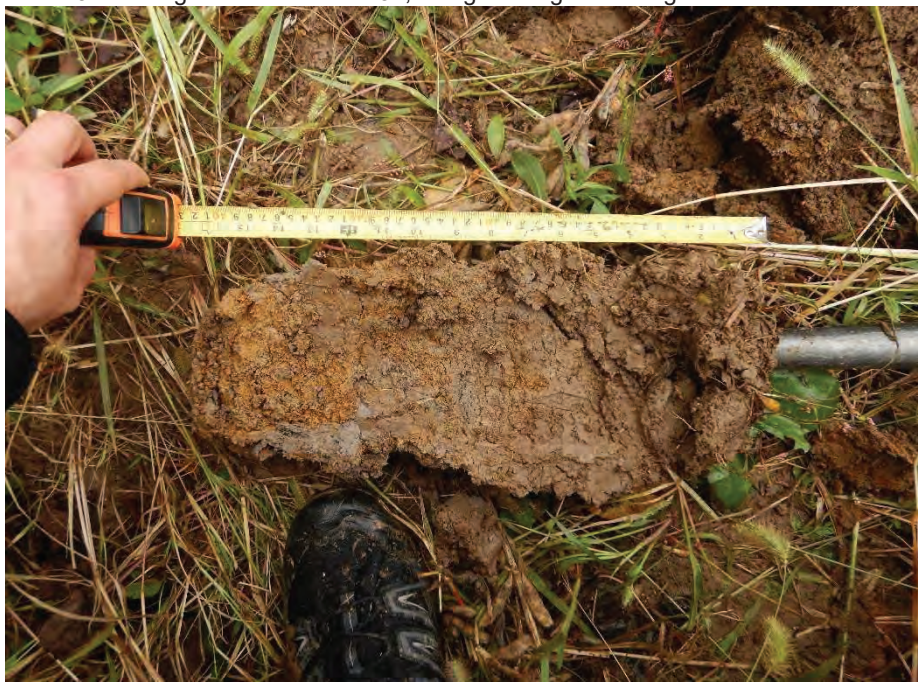


Photo 32. View of SP 4 (upland), taken along edge of the agricultural field, north of SR 32.

Photo 33. Facing north from SP 4.

Photo 34. Facing south from SP 4.

Photo 35. Facing southeast from SP 4.

Photo 36. Facing west along south side of SR 32.

Photo 37. Facing east along south side of SR 32.

Photo 39. Facing north from the south side of SR 32.

Photo 38. Facing east along the north side of SR 32.

Photo 40. Facing west along the north side of Big 4 Arch Rd, from Schenck Rd.

Photo 41. Facing southeast toward the intersection of Schenck Rd and Big 4 Arch Rd.

PROJECT	DESIGNATION
1902752	1902752
CONTRACT	
R-42763	

NOTES TO REVIEWER:

1. The functional classification for Schenck Road is currently listed as Minor Arterial. HWC received direction at the Stage 1 submittal to proceed with the design for Schenck Road as an Urban Collector.

2. There is currently no known right-of-way recorded for S.R. 32, Schenck Road, or Big Four Arch Road. The proposed right-of-way shows acquisition of all property for the new construction to the existing Section Lines. Resolution of existing right-of-way will be coordinated with the City of Crawfordsville, Montgomery County, and INDOT.

3. The pavement compositions shown in the Typical Sections are preliminary and will be verified after the Geotechnical Investigation is complete. Typical section details including safety edge and underdrain details will be provided after the pavement design is complete.

INDIANA DEPARTMENT OF TRANSPORTATION

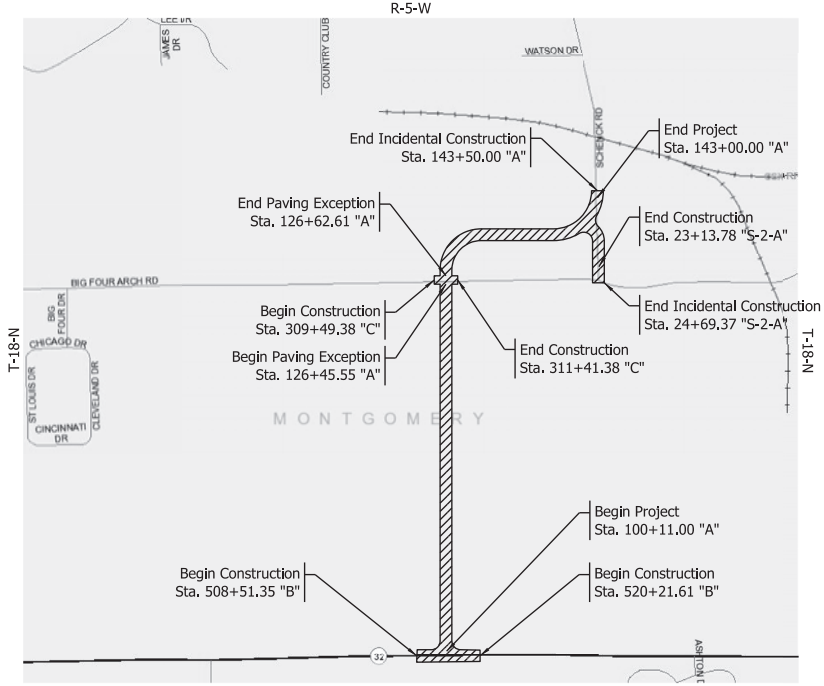
ROAD PLANS

ROUTE: SCHENCK ROAD

PROJECT NO. 1902752 P.E.

This project consists of 4,300 feet of new roadway construction from SR 32 to Schenck Rd. This project is located in Section 1, T-18-N, R-5-W, City of Crawfordsville, Montgomery County, Indiana.

R-5-W



R-5-W

SCALE: 1" = 5000'

TODD D. BARTON — DATE
MAYOR, CITY OF CRAWFORDSVILLE

SCOTT HESLER — DATE
ERC, STREET COMMISSIONER

TRAFFIC DATA: SCHENCK ROAD	
A.A.D.T. (2025)	1,098 V.P.D.
A.A.D.T. (2045)	1,303 V.P.D.
D.H.V	154 V.P.H.
DIRECTIONAL DISTRIBUTION	47.4%
TRUCKS	5.0% A.A.D.T.
	3.3% D.H.V.
DESIGN DATA	
DESIGN SPEED	30 mph
PROJECT DESIGN CRITERIA	4R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	COLLECTOR
RURAL/URBAN	URBAN (SUBURBAN)
TERRAIN	LEVEL
ACCESS CONTROL	NONE

TRAFFIC DATA: S.R. 32	
A.A.D.T. (2024)	3,935 V.P.D.
A.A.D.T. (2044)	3,988 V.P.D.
D.H.V	390 V.P.H.
DIRECTIONAL DISTRIBUTION	48.5%
TRUCKS	3.5% A.A.D.T.
	2.1% D.H.V.
DESIGN DATA	
DESIGN SPEED	50 mph
PROJECT DESIGN CRITERIA	3R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	MAJOR COLLECTOR
RURAL/URBAN	URBAN (SUBURBAN)
TERRAIN	LEVEL
ACCESS CONTROL	NONE

TRAFFIC DATA: OLD SCHENCK ROAD	
A.A.D.T. (2025)	1,098 V.P.D.
A.A.D.T. (2045)	< 400 V.P.D.
D.H.V	N/A
DIRECTIONAL DISTRIBUTION	N/A
TRUCKS	N/A
DESIGN DATA	
DESIGN SPEED	30 mph
PROJECT DESIGN CRITERIA	4R NON-FREEWAY
FUNCTIONAL CLASSIFICATION	LOCAL STREET
RURAL/URBAN	URBAN (SUBURBAN)
TERRAIN	LEVEL
ACCESS CONTROL	NONE

PROJECT LOCATION SHOWN BY MONTGOMERY COUNTY

LATITUDE: 40°02'90.3" N	LONGITUDE: 86°55'21.9" W

GROSS LENGTH:	0.81 MI.
NET LENGTH:	0.81 MI.
MAX. GRADE:	4.40%

HUC: 05120110050040

INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS DATED 2022 TO BE USED WITH THESE PLANS

HWC ENGINEERING
INDIANAPOLIS - TERRE HAUTE
LAFAYETTE - NEW ALBANY - MUNCIE
www.hwcengineering.com

Not for Construction

PLANS PREPARED BY: HWC ENGINEERING 812-675-4458 (PHONE NUMBER)

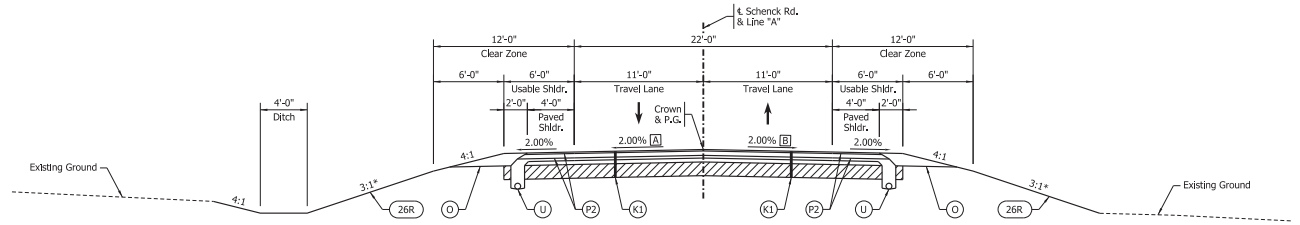
CERTIFIED BY: ____ (DATE)

APPROVED FOR LETTING: ____ INDIANA DEPARTMENT OF TRANSPORTATION (DATE)

BRIDGE FILE
N/A
DESIGNATION
1902752

SHEETS		
1	of	70

CONTRACT	PROJECT
R-42763	1902752

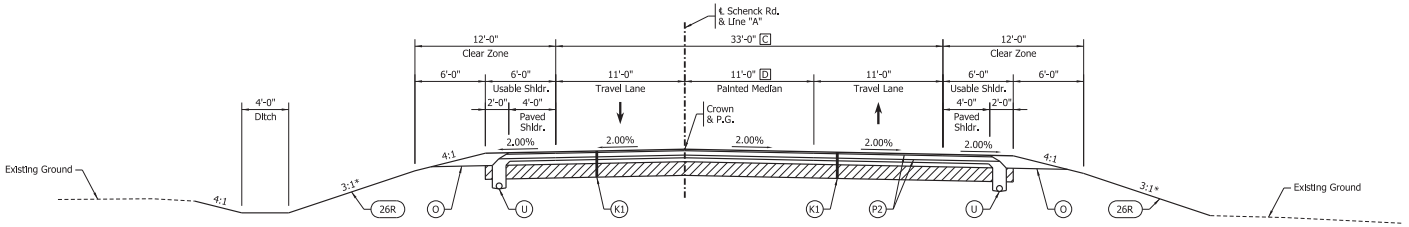


A Varies: 0.00% to -2.00%
Sta. 131+46.68 to Sta. 131+80.01

B Varies: -2.00% to 0.00%
Sta. 137+65.02 to Sta. 137+98.35

TYPICAL SECTION - LINE "A"

Schenck Road - Normal Section
Sta. 100+98.84 Lt. to Sta. 110+21.06
Sta. 101+07.00 Rt. to Sta. 110+21.06
Sta. 123+96.36 to Sta. 125+58.56
Sta. 131+47.09 to Sta. 137+98.35

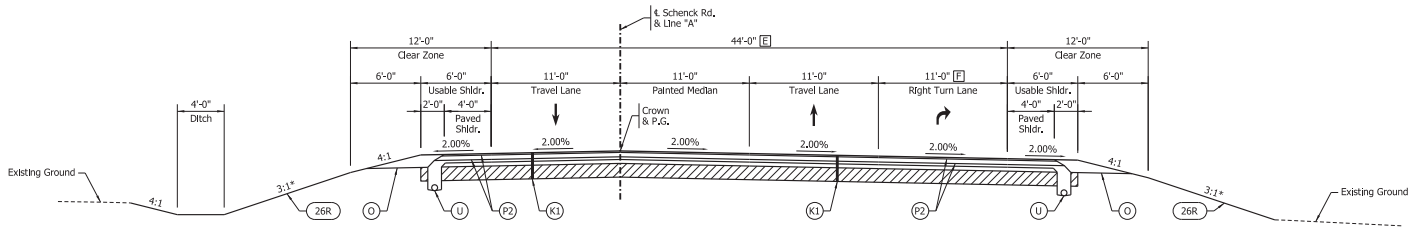


C Varies: 22.00' to 33.00'
Sta. 110+21.06 to Sta. 111+86.06

D Varies: 0.00' to 11.00'
Sta. 110+21.06 to Sta. 111+86.06

TYPICAL SECTION - LINE "A"

Schenck Road - Lane Shift Section
Sta. 110+21.06 to Sta. 113+86.06



E Varies: 33.00' to 44.00'
Sta. 113+86.06 to Sta. 114+86.06

F Varies: 0.00' to 11.00'
Sta. 113+86.06 to Sta. 114+86.06

TYPICAL SECTION - LINE "A"

Schenck Road - Right Turn Section
Sta. 113+86.06 to Sta. 117+72.18

Note to Reviewer:
Typical section details, including the safety edge detail, underdrain detail, and any grading details will be added after the pavement design is completed.

* Unless shown otherwise on cross sections.

(K1) Full Depth HMA Pavement, Type 1:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
495 lb/syd QC/QA-HMA, 2, 64, Base, 25.4 mm
300 lb/syd QC/QA-HMA, 4, 76, Intermediate, OG 19.0 mm
4 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

(K2) Full Depth HMA Pavement, Type 2:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
265 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm
440 lb/syd QC/QA-HMA, 4, 64, Base, 19.0 mm
3 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

(R) HMA Resurfacing:
1.5 in. Milling, Asphalt
QC/QA-HMA, 2, 64, Surface,
9.5 mm, Variable Depth

(O) Compacted Aggregate,
No. 53, Variable Depth

(P2) Tack Coat

(U) 6 in. Underdrain

(26R) Mulched Seeding, Type R

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" - 5'	N/A
VERTICAL SCALE	DESIGNATION
1" - 5'	1902752
SURVEY BOOK	SHEETS
2020-127	3 of 70
CONTRACT	PROJECT
R-42763	1902752

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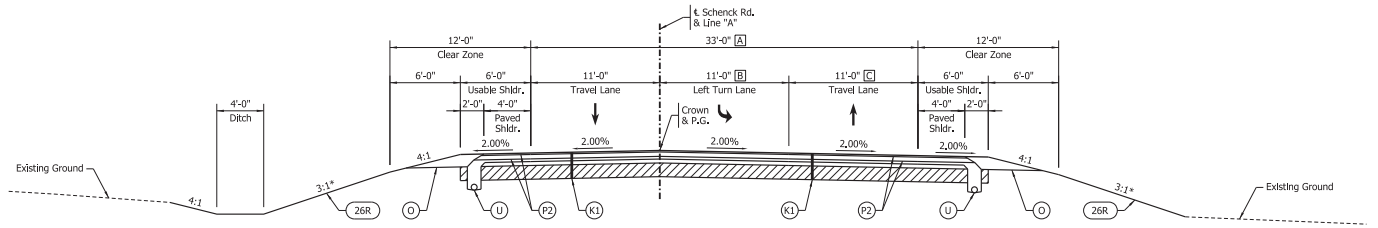


A Varies: 48.75' to 33.00'
Sta. 118+88.33 to Sta. 119+68.33

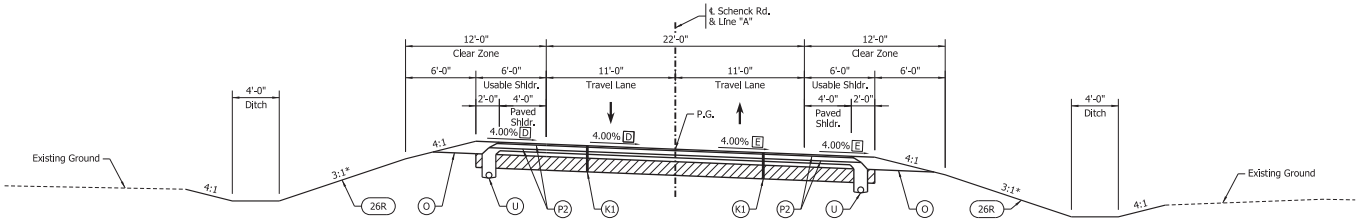
Varies: 33.00' to 22.00'
Sta. 121+76.36 to Sta. 123+96.36

B Varies: 11.00' to 0.00'
Sta. 121+76.36 to Sta. 123+96.36

C Varies: 15.75' to 11.00'
Sta. 118+88.33 to Sta. 119+68.33

TYPICAL SECTION - LINE "A"
Schenck Road - Left Turn Section
Sta. 118+88.33 to Sta. 123+96.36

D Varies: +4.00% to 0.00%
Sta. 130+80.42 to Sta. 131+47.09



E Varies: -4.00% to -2.00%
Sta. 130+80.78 to Sta. 131+14.11

-2.00%
Sta. 131+14.11 to Sta. 131+47.09

TYPICAL SECTION - LINE "A"
Schenck Road - Left Super Section
Sta. 127+54.32 Lt. to Sta. 131+47.09
Sta. 127+54.90 Rt. to Sta. 131+47.09

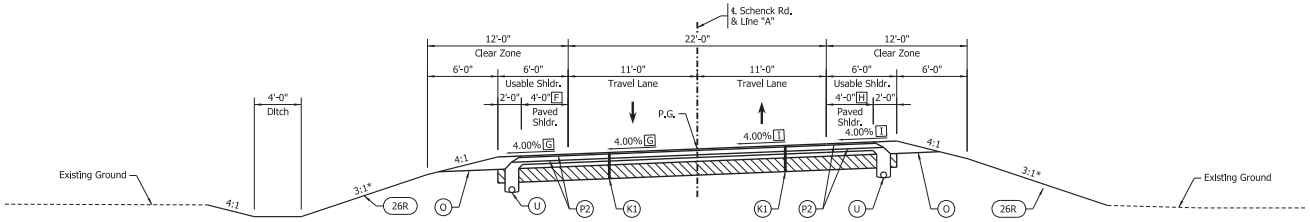
F Transition: 4.00' to 2.00'
Sta. 142+50.00 to Sta. 143+00.00

G -2.00%
Sta. 138+05.58 to Sta. 138+31.69

Transition: -2.00% to -4.00%
Sta. 138+31.69 to Sta. 138+65.02

Transition: -4.00% to -2.00%
Sta. 142+24.74 to Sta. 142+58.07

-2.00%
Sta. 142+58.07 to Sta. 143+00.00



H Transition: 4.00' to 2.00'
Sta. 142+50.00 to Sta. 143+00.00

I Transition: 0.00% to +4.00%
Sta. 137+98.35 to Sta. 138+65.02

Transition: +4.00% to -0.52%
Sta. 142+24.74 to Sta. 143+00.00

TYPICAL SECTION - LINE "A"
Schenck Road - Right Super Section
Sta. 137+98.35 to Sta. 143+00.00

* Unless shown otherwise on cross sections.

Note to Reviewer:
Typical section details, including the safety edge detail, underdrain detail, and any grading details will be added after the pavement design is completed.

K1 Full Depth HMA Pavement, Type 1:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
495 lb/syd QC/QA-HMA, 2, 64, Base, 25.4 mm
300 lb/syd QC/QA-HMA, 4, 76, Intermediate, OG 19.0 mm
4 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

K2 Full Depth HMA Pavement, Type 2:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
265 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm
440 lb/syd QC/QA-HMA, 4, 64, Base, 19.0 mm
3 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

R HMA Resurfacing:
1.5 in. Milling, Asphalt
QC/QA-HMA, 2, 64, Surface,
9.5 mm, Variable Depth

O Compacted Aggregate,
No. 53, Variable Depth

P2 Tack Coat

U 6 in. Underdrain

26R Mulched Seeding, Type R

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" - 5'	N/A
VERTICAL SCALE	DESIGNATION
1" - 5'	1902752
SURVEY BOOK	SHEETS
2020-127	4 of 70
CONTRACT	PROJECT
R-42763	1902752

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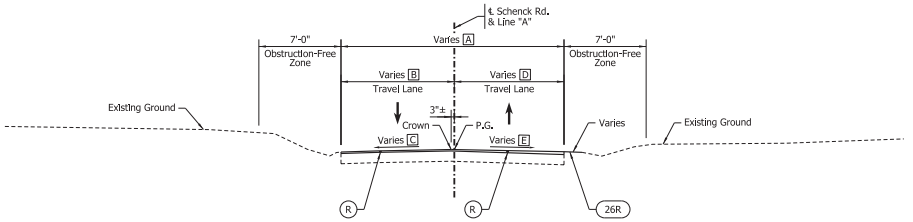
jsmith

A Varies: 18.21' TO 19.15'
Sta. 143+00.00 to Sta. 143+50.00

B Varies: 9.49' to 9.67'
Sta. 143+00.00 to Sta. 143+50.00

C Transition: -2.00% to -2.50% (Match Exist.)
Sta. 143+00.00 to Sta. 143+10.00

Match Exist.
Sta. 143+10.00 to Sta. 143+50.00

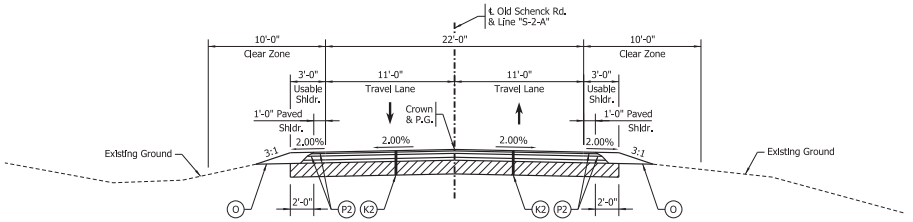


D Varies: 8.39' to 9.48'
Sta. 143+00.00 to Sta. 143+50.00

E Transition: -0.52% to -3.08% (Match Exist.)
Sta. 143+00.00 to Sta. 143+50.00

TYPICAL SECTION - LINE "A"

Schenck Road - Resurfacing Section
Sta. 143+00.00 to Sta. 143+50.00



TYPICAL SECTION - LINE "S-2-A"

Old Schenck Road - Normal Section
Sta. 20+67.55 to Sta. 23+13.78

E Transition: 1.56' (Match Exist.) to 4.00'
Sta. 511+93.63 to Sta. 512+03.63

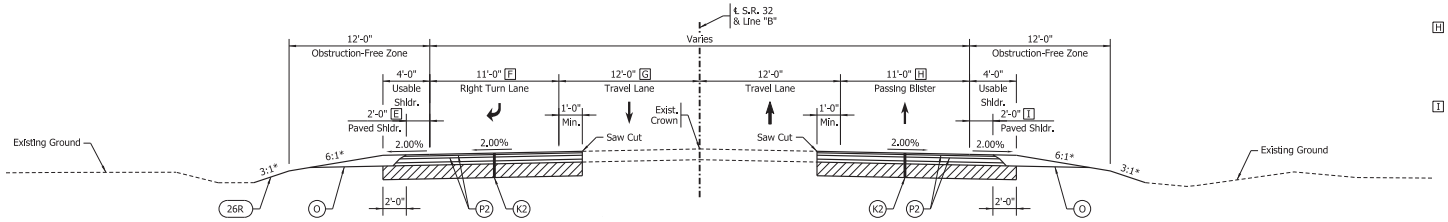
4.00'
Sta. 512+03.63 to Sta. 512+75.62

Transition: 4.00' to 2.00'
Sta. 513+85.25 to Sta. 514+25.61

Transition: 2.00' to 2.36' (Match Exist.)
Sta. 520+11.59 to Sta. 520+21.59

F Transition: 11.00' to 0.00'
Sta. 519+21.59 to Sta. 520+21.59

G Transition: 12.00' to 17.42'
Sta. 511+93.63 to Sta. 512+75.89



H Transition: 0.00' to 11.00'
Sta. 508+51.35 to Sta. 511+51.35

Transition: 11.00' to 0.00'
Sta. 514+01.35 to Sta. 517+01.35

I Transition: 2.10' (Match Exist.) to 2.00'
Sta. 508+51.35 to Sta. 508+61.35

Transition: 2.00' to 1.20' (Match Exist.)
Sta. 516+91.35 to Sta. 517+01.35

TYPICAL SECTION - LINE "B"

S.R. 32- Widening Section
Sta. 508+51.35 to Sta. 516+94.81 (Rt.)
Sta. 511+93.63 to Sta. 520+21.59 (Lt.)

Note to Reviewer:
Typical section details, including the safety edge detail, underdrain detail, and any grading details will be added after the pavement design is completed.

* Unless shown otherwise on cross sections.

K1 Full Depth HMA Pavement, Type 1:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
495 lb/syd QC/QA-HMA, 2, 64, Base, 25.4 mm
300 lb/syd QC/QA-HMA, 4, 76, Intermediate, OG 19.0 mm
4 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

K2 Full Depth HMA Pavement, Type 2:
165 lb/syd QC/QA-HMA, 2, 64, Surface, 9.5 mm
265 lb/syd QC/QA-HMA, 2, 64, Intermediate, 19.0 mm
440 lb/syd QC/QA-HMA, 4, 64, Base, 19.0 mm
3 in. of Coarse Aggregate, No. 53
Subgrade Treatment, Type IBC

R HMA Resurfacing:
1.5 in. Milling, Asphalt
QC/QA-HMA, 2, 64, Surface,
9.5 mm, Variable Depth

O Compacted Aggregate,
No. 53, Variable Depth

P2 Tack Coat

U 6 in. Underdrain

26R Mulched Seeding, Type R

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" - 5'	N/A
VERTICAL SCALE	DESIGNATION
1" - 5'	1902752
SURVEY BOOK	SHEETS
2020-127	5 of 70
CONTRACT	PROJECT
R-42763	1902752

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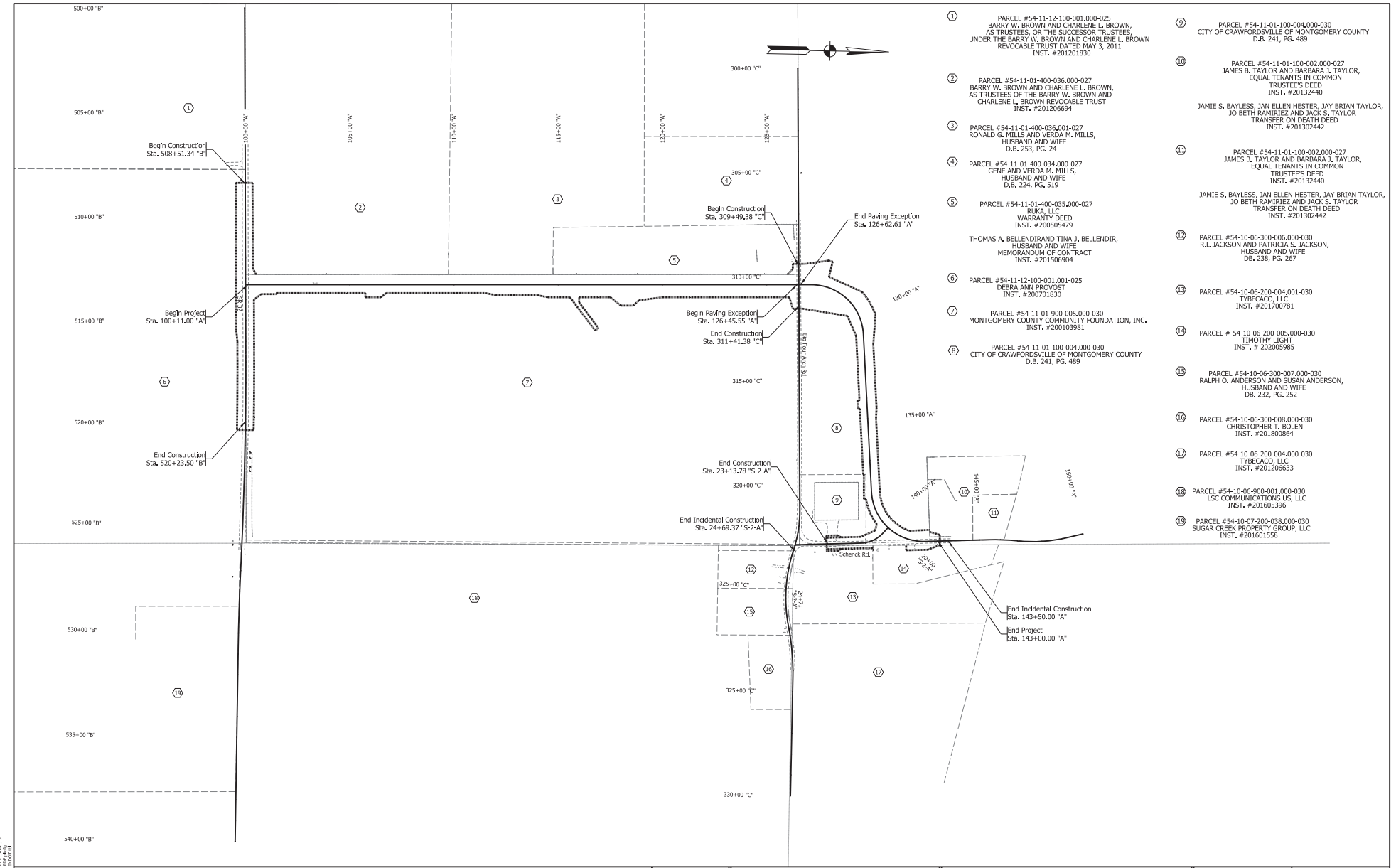
jsteinbrecher



1. PARCEL #54-11-12-100-001.000-025
BARRY W. BROWN AND CHARLENE L. BROWN, AS TRUSTEES, OR THE SUCCESSOR TRUSTEES, UNDER THE BARRY W. BROWN AND CHARLENE L. BROWN REVOCABLE TRUST DATED MAY 3, 2011
INST. #201201830

2. PARCEL #54-11-01-400-036.000-027
BARRY W. BROWN AND CHARLENE L. BROWN, AS TRUSTEES OF THE BARRY W. BROWN AND CHARLENE L. BROWN REVOCABLE TRUST
INST. #201206694

3. PARCEL #54-11-01-400-036.001-027
RONALD G. MILLS AND VERDA M. MILLS, HUSBAND AND WIFE
D.B. 253, PG. 24

4. PARCEL #54-11-01-400-034.000-027
GENE AND VERDA M. MILLS, HUSBAND AND WIFE
D.B. 224, PG. 519

5. PARCEL #54-11-01-400-035.000-027
RUKA, LLC
WARRANTY DEED
INST. #200505479

THOMAS A. BELLENDIRAND TINA J. BELLENDIR, HUSBAND AND WIFE
MEMORANDUM OF CONTRACT
INST. #201506904

6. PARCEL #54-11-12-100-001.001-025
DEBRA ANN PROVOST
INST. #200701830

7. PARCEL #54-11-01-900-005.000-030
MONTGOMERY COUNTY COMMUNITY FOUNDATION, INC.
INST. #200103981

8. PARCEL #54-11-01-100-004.000-030
CITY OF CRAWFORDSVILLE OF MONTGOMERY COUNTY
D.B. 241, PG. 489

9. PARCEL #54-11-01-100-004.000-030
CITY OF CRAWFORDSVILLE OF MONTGOMERY COUNTY
D.B. 241, PG. 489

10. PARCEL #54-11-01-100-002.000-027
JAMES B. TAYLOR AND BARBARA J. TAYLOR, EQUAL TENANTS IN COMMON
TRUSTEE'S DEED
INST. #20132440

JAMIE S. BAYLESS, JAN ELLEN HESTER, JAY BRIAN TAYLOR, JO BETH RAMIRIEZ AND JACK S. TAYLOR
TRANSFER ON DEATH DEED
INST. #201302442

11. PARCEL #54-11-01-100-002.000-027
JAMES B. TAYLOR AND BARBARA J. TAYLOR, EQUAL TENANTS IN COMMON
TRUSTEE'S DEED
INST. #20132440

JAMIE S. BAYLESS, JAN ELLEN HESTER, JAY BRIAN TAYLOR, JO BETH RAMIRIEZ AND JACK S. TAYLOR
TRANSFER ON DEATH DEED
INST. #201302442

12. PARCEL #54-10-06-300-006.000-030
R.L. JACKSON AND PATRICIA S. JACKSON, HUSBAND AND WIFE
DB. 238, PG. 267

13. PARCEL #54-10-06-200-004.001-030
TYBECACO, LLC
INST. #201700781

14. PARCEL # 54-10-06-200-005.000-030
TIMOTHY LIGHT
INST. # 202005985

15. PARCEL #54-10-06-300-007.000-030
RALPH O. ANDERSON AND SUSAN ANDERSON, HUSBAND AND WIFE
DB. 232, PG. 252

16. PARCEL #54-10-06-300-008.000-030
CHRISTOPHER T. BOLEN
INST. #201800864

17. PARCEL #54-10-06-200-004.000-030
TYBECACO, LLC
INST. #201206633

18. PARCEL #54-10-06-900-001.000-030
LSC COMMUNICATIONS US, LLC
INST. #201605396

19. PARCEL #54-10-07-200-038.000-030
SUGAR CREEK PROPERTY GROUP, LLC
INST. #201601558

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jahall

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 100'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	6 of 70
CONTRACT	PROJECT
R-42763	1902752

Construction Phasing:

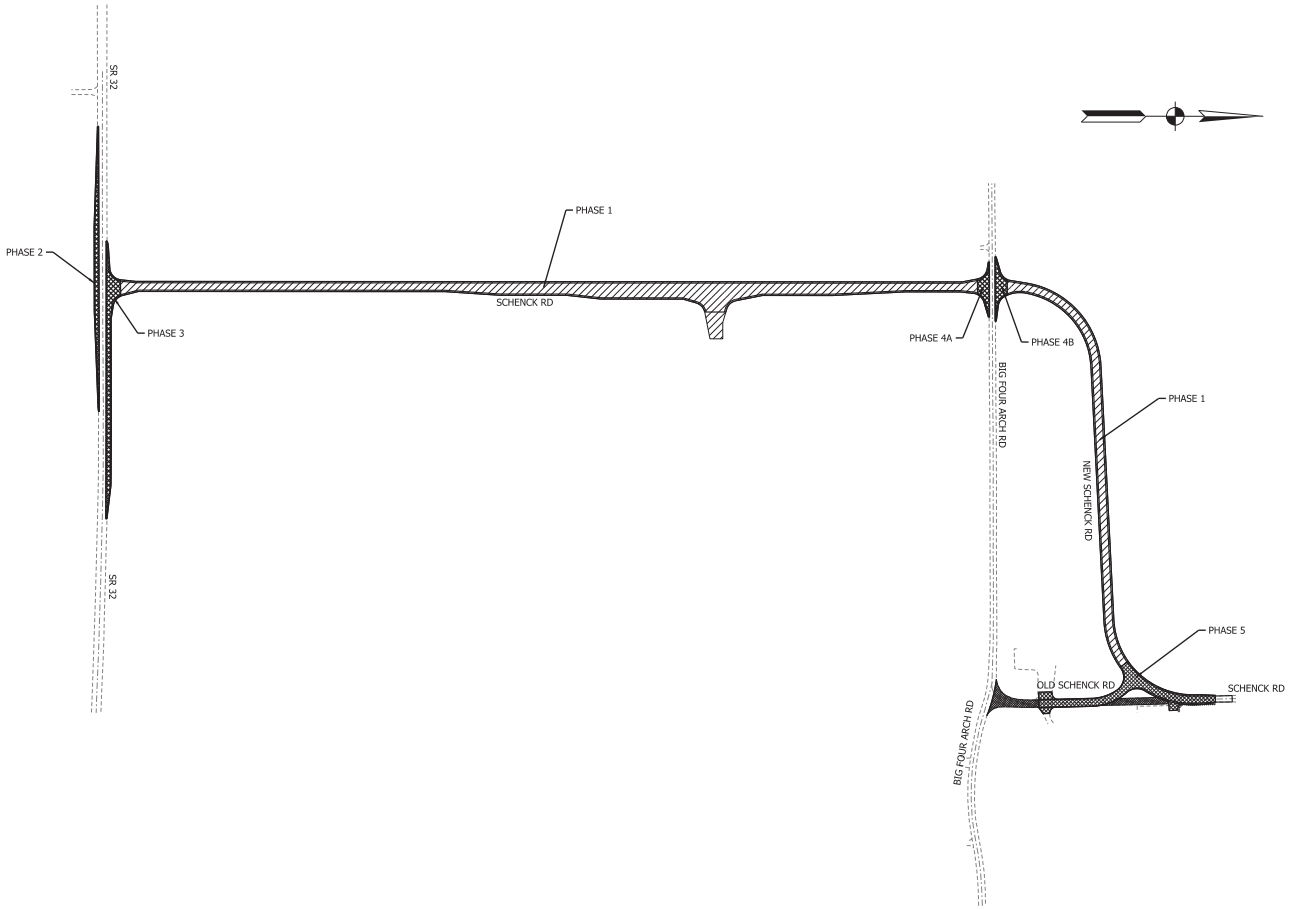
Phase 1
Construction of the new alignment for Schenck Road from SR 32 to Big Four Arch Road and from Big Four Arch to STA 140+00.

Phase 2
Construction of the Eastbound passing blister on SR 32. The Contractor shall maintain one two-way 11-foot lane with 2-foot shoulders under temporary signal.

Phase 3
Construction of the Westbound right turn lane on SR 32 and Intersection radii. The Contractor shall maintain one 11-foot lane with 2-foot shoulders under temporary signal.

Phase 4A & 4B
Construction of Schenck Road and Big Four Arch Road intersection. The Contractor shall maintain one two-way 11-foot lane with flaggers as needed. Upon completion, the Contractor shall open Schenck Road between SR 32 and Big Four Arch Road and close the Old Schenck Road/Big Four Arch Road Intersection.

Phase 5
Construction of New Schenck Road tie-in and removal of Old Schenck Road/Big Four Arch Road Intersection.
The Contractor shall close old intersection and detour traffic using Russell Avenue and Jenison Street.



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH | DRAWN: KGR

CHECKED: JRW | CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASING PLAN

HORIZONTAL SCALE	BRIDGE FILE
1" = 175'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	7 of 70
CONTRACT	PROJECT
R-42763	1902752

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PSS 2.8(3)
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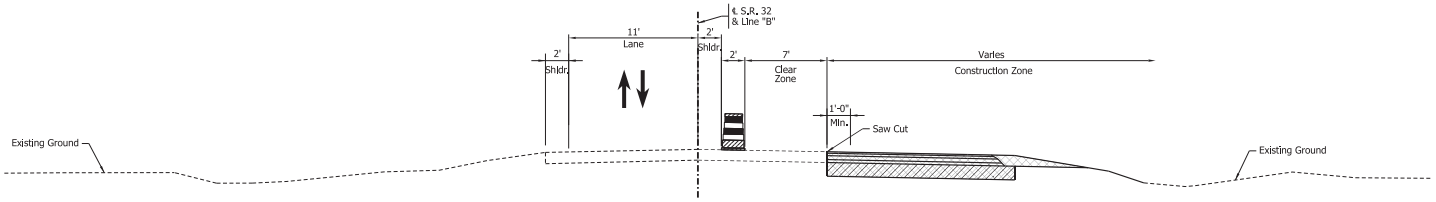
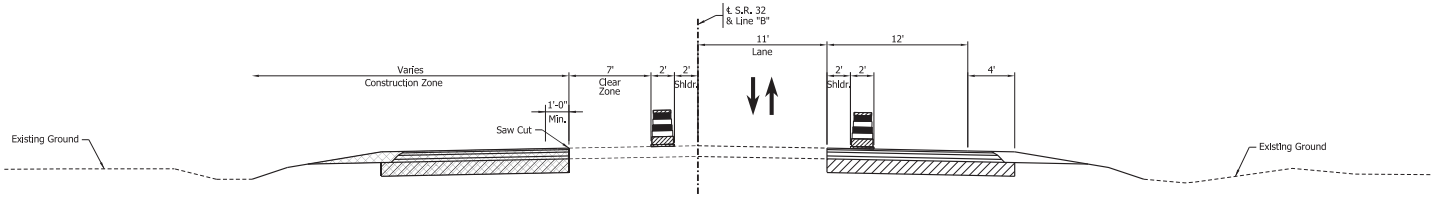


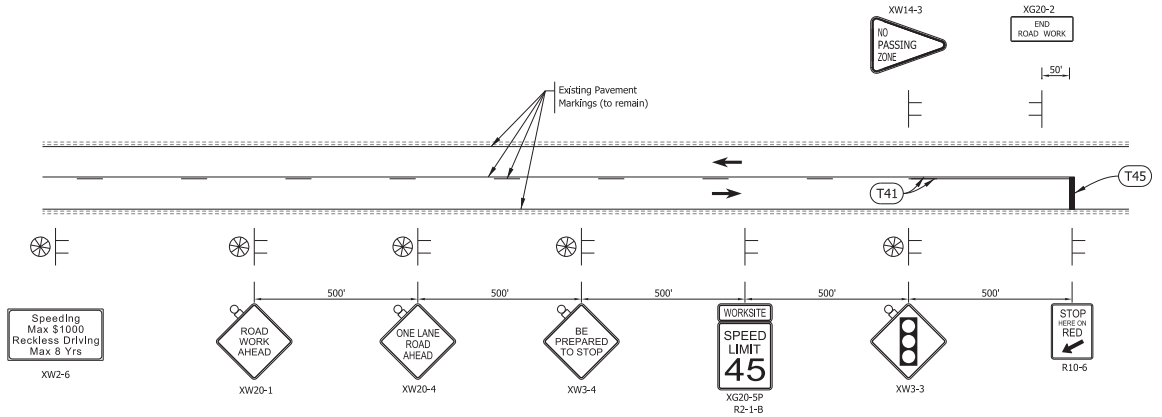
MOT PHASE 2 - LINE "B"

S.R. 32- Widening Section
Sta. 508+51.35 to Sta. 516+94.81 (Rt.)



MOT PHASE 3 - LINE "B"

S.R. 32- Widening Section
Sta. 511+93.63 to Sta. 520+21.59 (Lt.)



TYPICAL ADVANCED WARNING SIGNAGE
Not to Scale

Area Under Construction

T41 Temporary Pavement Marking, Removable, Yellow, 24 in.

T45 Temporary 24" White Stop Line, Removable

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

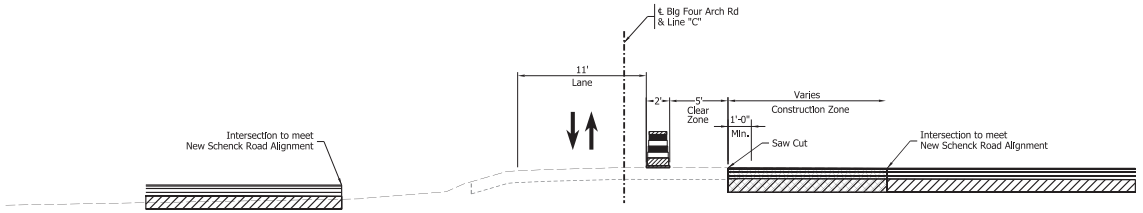
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

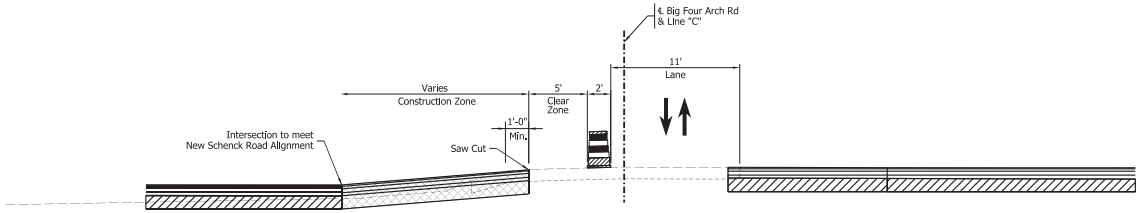
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	N/A
VERTICAL SCALE	DESIGNATION
1" = 5'	1902752
SURVEY BOOK	SHEETS
2020-127	8 of 70
CONTRACT	PROJECT
R-42763	1902752



MOT PHASE 4A - LINE "C"

Big Four Arch Rd - Intersection Widening Section
Sta. 309+65.13 to Sta. 311+29.28 (Rt.)



MOT PHASE 4B - LINE "C"

Big Four Arch Rd - Widening Section
Sta. 309+49.37 to Sta. 311+41.37 (Lt.)

Area Under Construction

T41 Temporary Pavement Marking, Removable, Yellow, 24 in.

T45 Temporary 24" White Stop Line, Removable

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

HORIZONTAL SCALE	BRIDGE FILE
1" = 5'	N/A
VERTICAL SCALE	DESIGNATION
1" = 5'	1902752
SURVEY BOOK	SHEETS
2020-127	9 of 70
CONTRACT	PROJECT
R-42763	1902752

DETOUR ROUTE MARKER ASSEMBLIES

DETOUR XM4-8
SCHENCK RD D3-1
M6-1(L)
(A) 4 Req'd

DETOUR XM4-8
SCHENCK RD D3-1
M6-1(R)
(B) 2 Req'd

DETOUR XM4-8
SCHENCK RD D3-1
M5-1(R)
(C) 1 Req'd

DETOUR XM4-8
SCHENCK RD D3-1
M6-3
(D) 3 Req'd

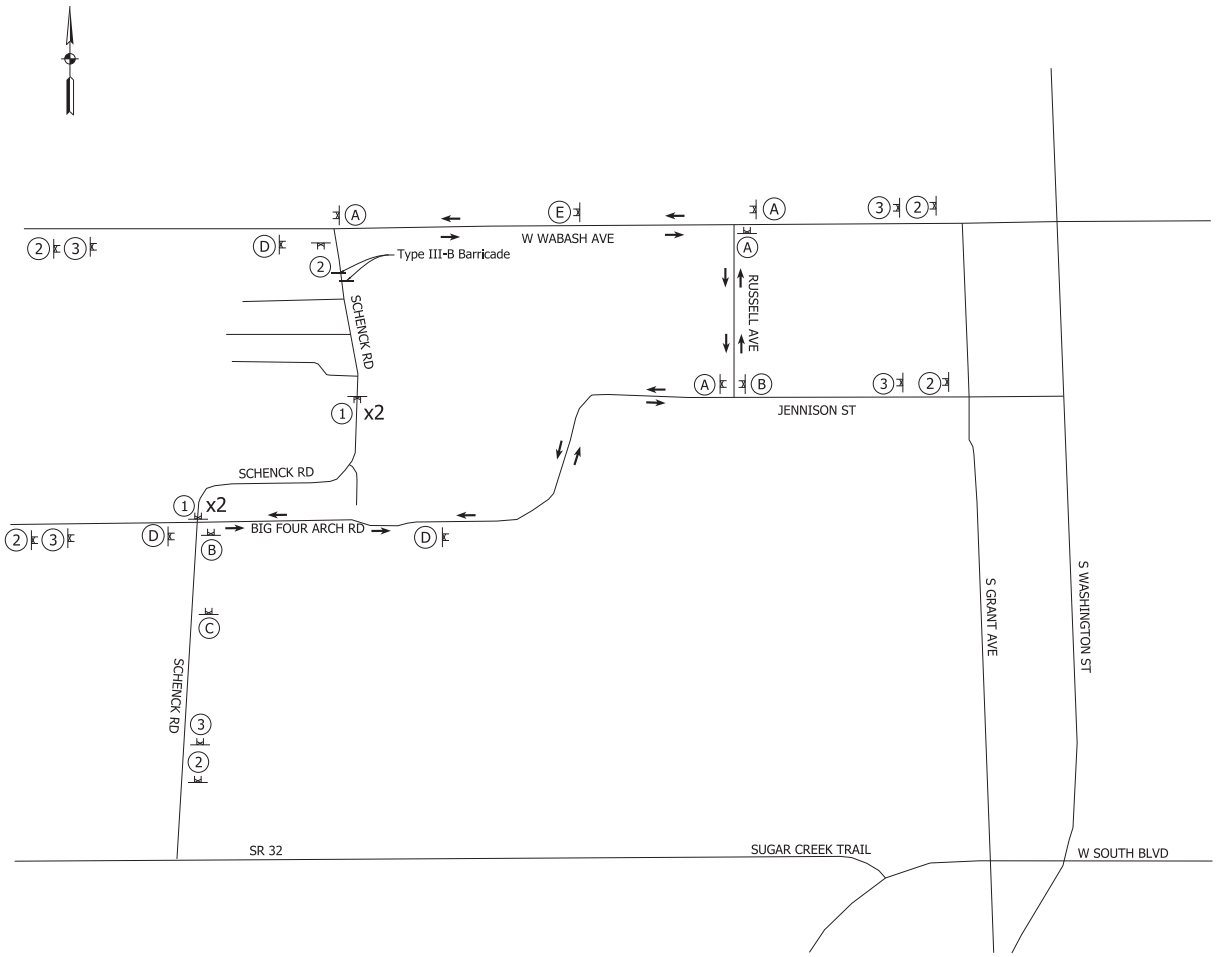
DETOUR XM4-8
SCHENCK RD D3-1
M5-1(L)
(E) 1 Req'd

CONSTRUCTION SIGNS

ROAD CLOSED
Road Closure Sign Assembly R11-2
(1) 4 Req'd

ROAD CLOSED AHEAD
XW20-3
2 Required
(2) 6 Req'd

DETOUR AHEAD
XW20-2
3 Required
(3) 4 Req'd



MISCELLANEOUS QUANTITIES	
Type III-A Barricades	0 LFT
Type III-B Barricades	24 LFT
Road Closure Sign Assembly	4 EA

MAINTENANCE OF TRAFFIC NOTES

1. Detour signage shall be placed in accordance with INDOT Specifications. For additional details, see Standard Drawing E-801-TCDT-01 & -02.
2. SR 32, Schenck Road, and Big Four Arch Road shall require advanced warning signs at least 7 days prior to closure.
3. Directional Detour sign assemblies shall be located 100 ft. to 200 ft. in advance of all required turns within the Detour limits.
4. Confirming Detour sign assemblies shall be located 200 ft. after all required turns as well as not be spaced by more than 0.5 miles within the Detour limits.

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

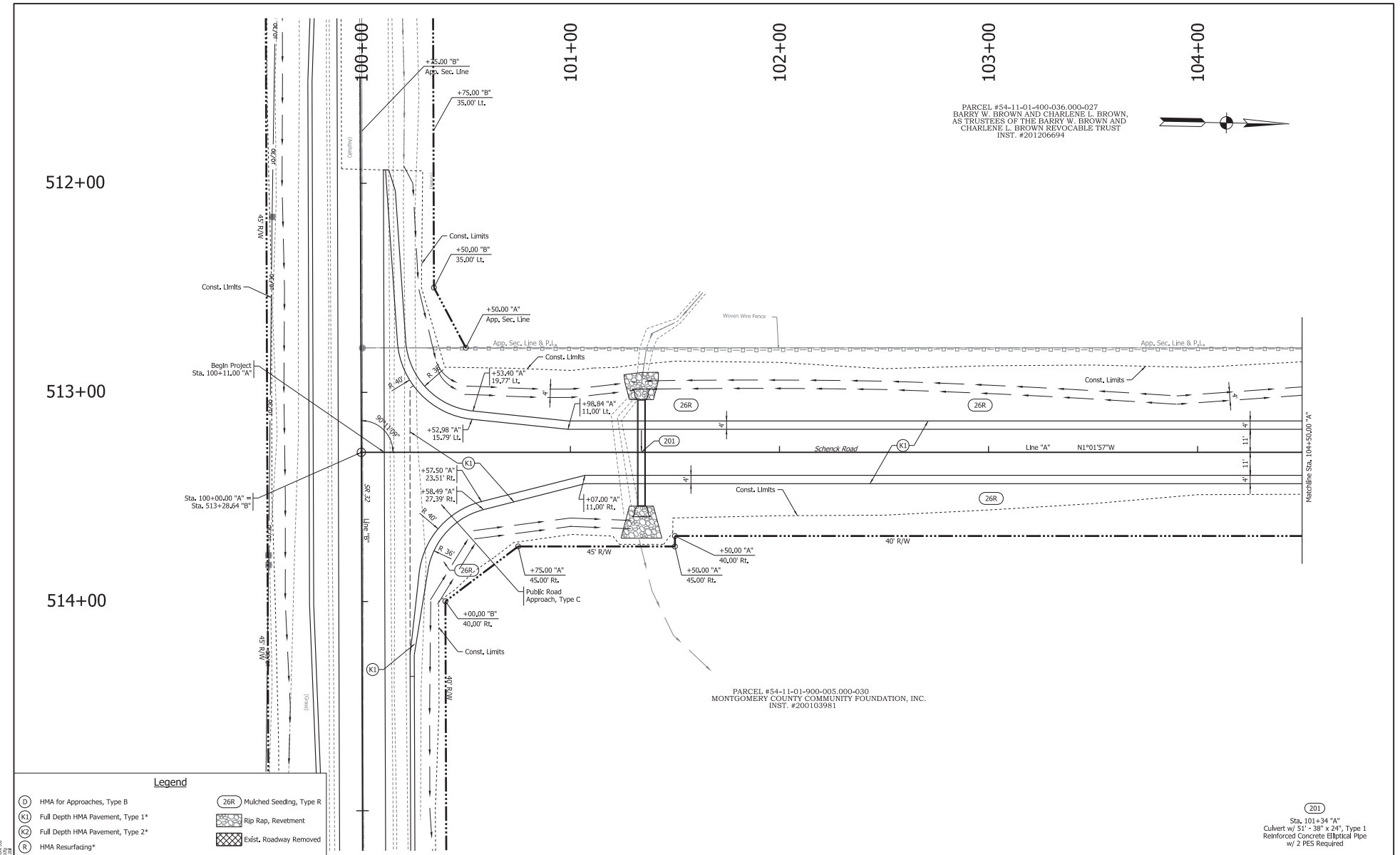
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTAINENCE OF TRAFFIC
DETOUR - SCHENCK RD

HORIZONTAL SCALE	BRIDGE FILE
N/A	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	10 of 70
CONTRACT	PROJECT
R-42763	1902752



Legend

- (D) HMA for Approaches, Type B
- (K1) Full Depth HMA Pavement, Type 1*
- (K2) Full Depth HMA Pavement, Type 2*
- (R) HMA Resurfacing*
- * See Typical Sections for Composition
- (26R) Mulched Seeding, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES Pipe End Section

(201)
Sta. 101+34 "A"
Culvert w/ 51' - 38" x 24", Type 1
Reinforced Concrete Elliptical Pipe
w/ 2 PES Required

(51) P.O.T. STA. 100+00.00 "A"
P.O.T. STA. 513+28.64 "B"
MAG NAIL W/WIRE WASHER

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 100+00.00 TO 104+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	11 of 70
CONTRACT	PROJECT
R-42763	1902752

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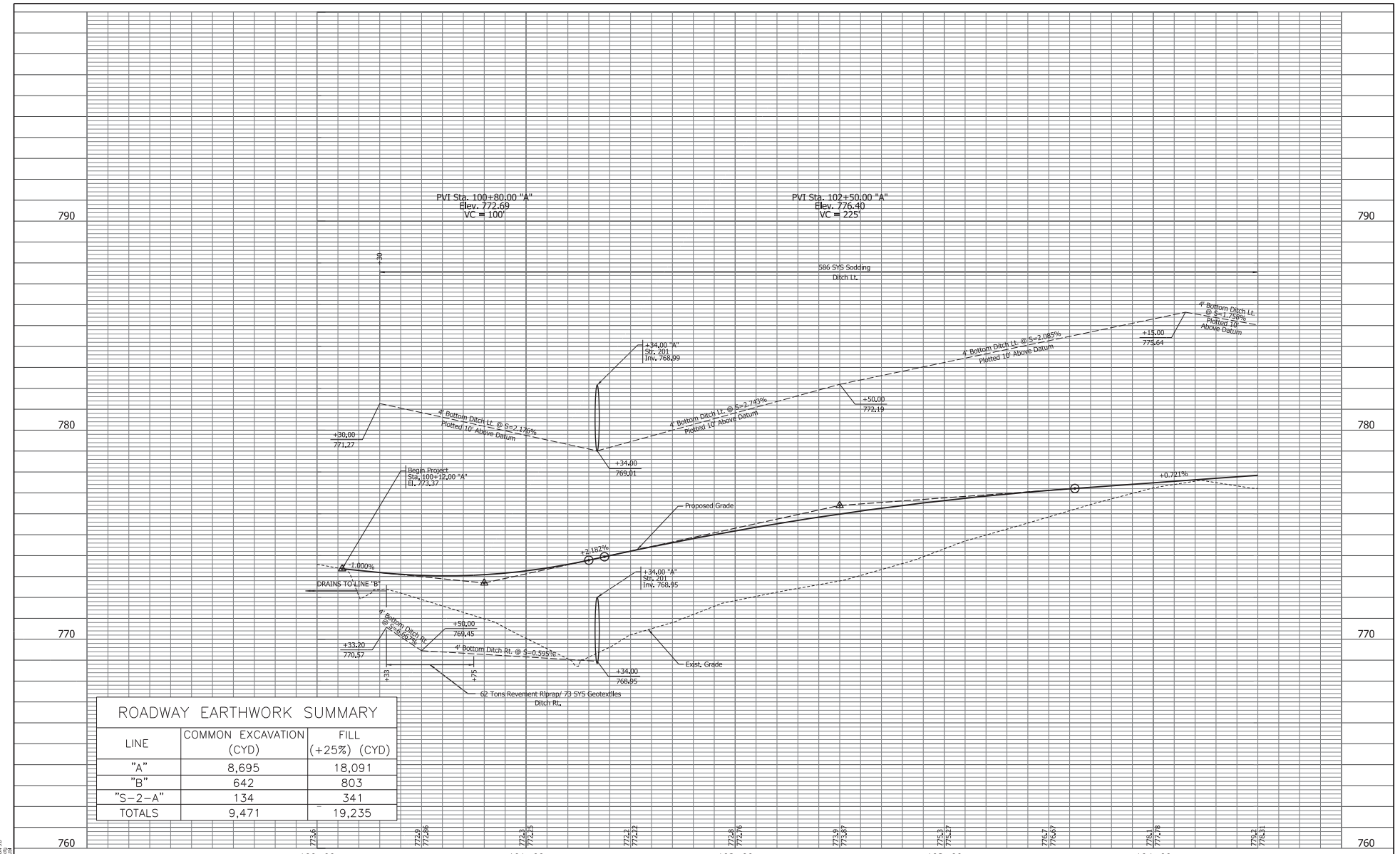


ROADWAY EARTHWORK SUMMARY

LINE	COMMON EXCAVATION (CYD)	FILL (+25%) (CYD)
"A"	8,695	18,091
"B"	642	803
"S-2-A"	134	341
TOTALS	9,471	19,235

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

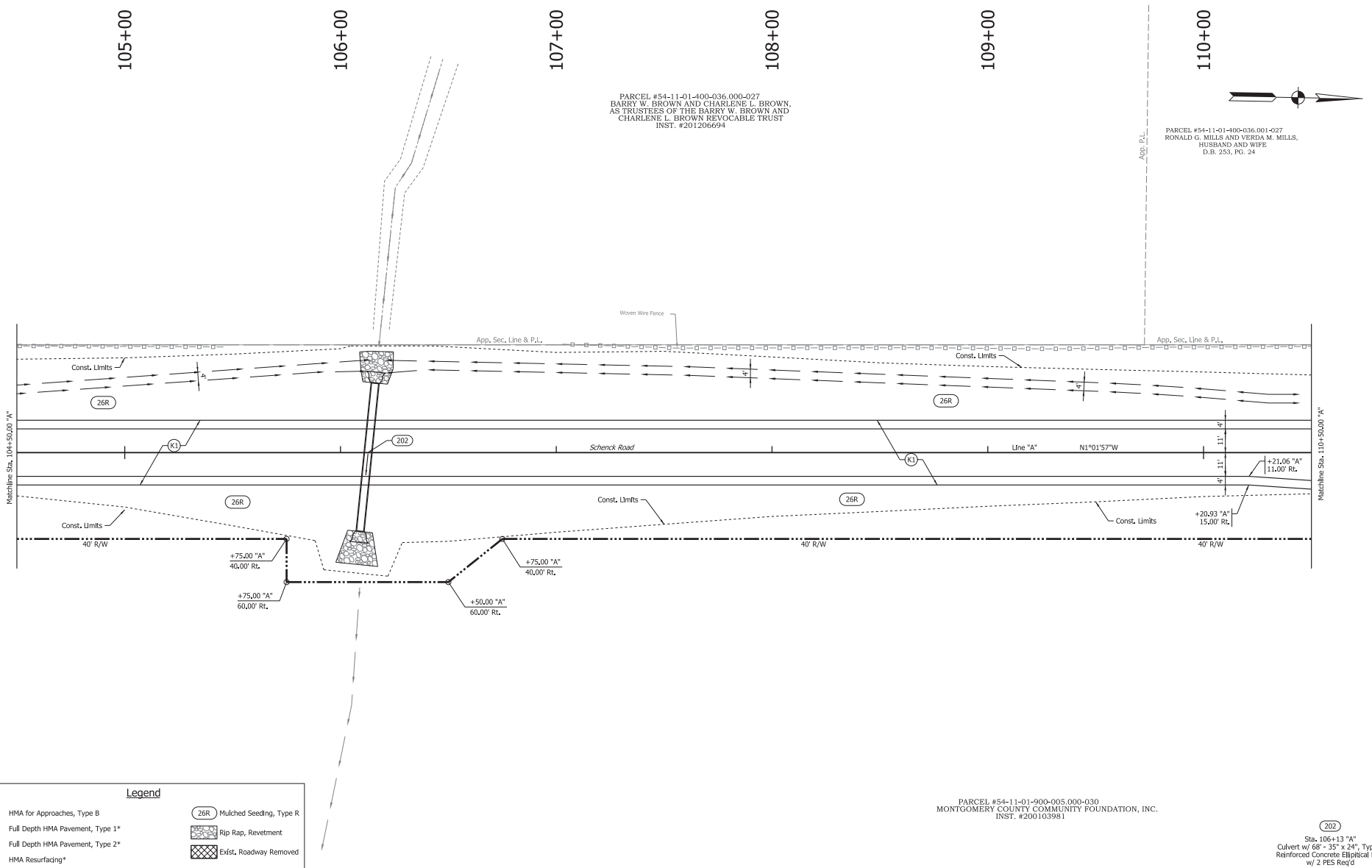
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 100+00.00 TO 104+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	12 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

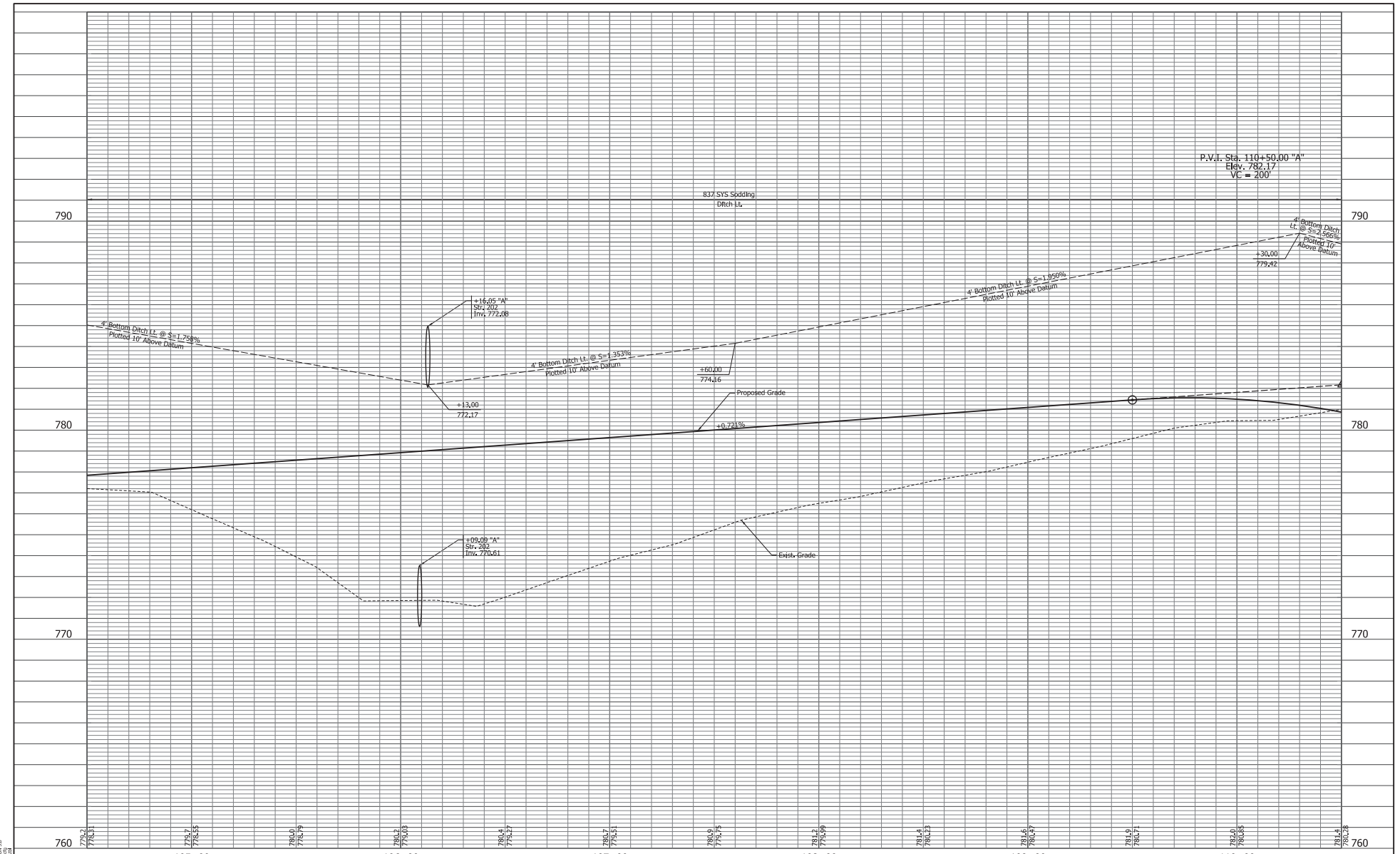
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 104+50.00 TO 110+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	13 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR

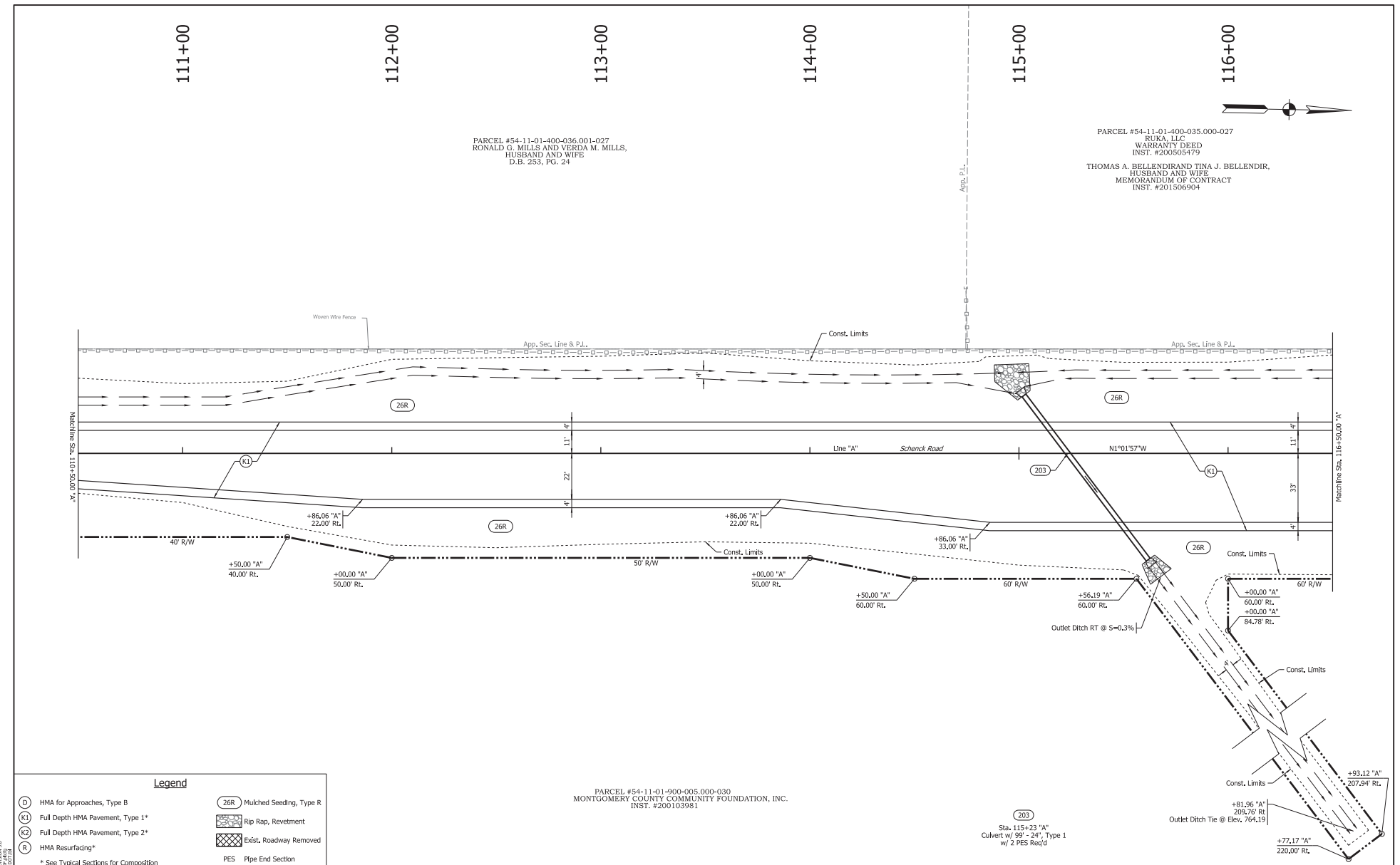
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 104+50.00 TO 110+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752

SURVEY BOOK	SHEETS
2020-127	14 of 70
CONTRACT	PROJECT
R-42763	1902752



Legend

- D — HMA for Approaches, Type B
- K1 — Full Depth HMA Pavement, Type 1*
- K2 — Full Depth HMA Pavement, Type 2*
- R — HMA Resurfacing*
- * See Typical Sections for Composition
- 26R — Mulched Seedlng, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES — Pipe End Section

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

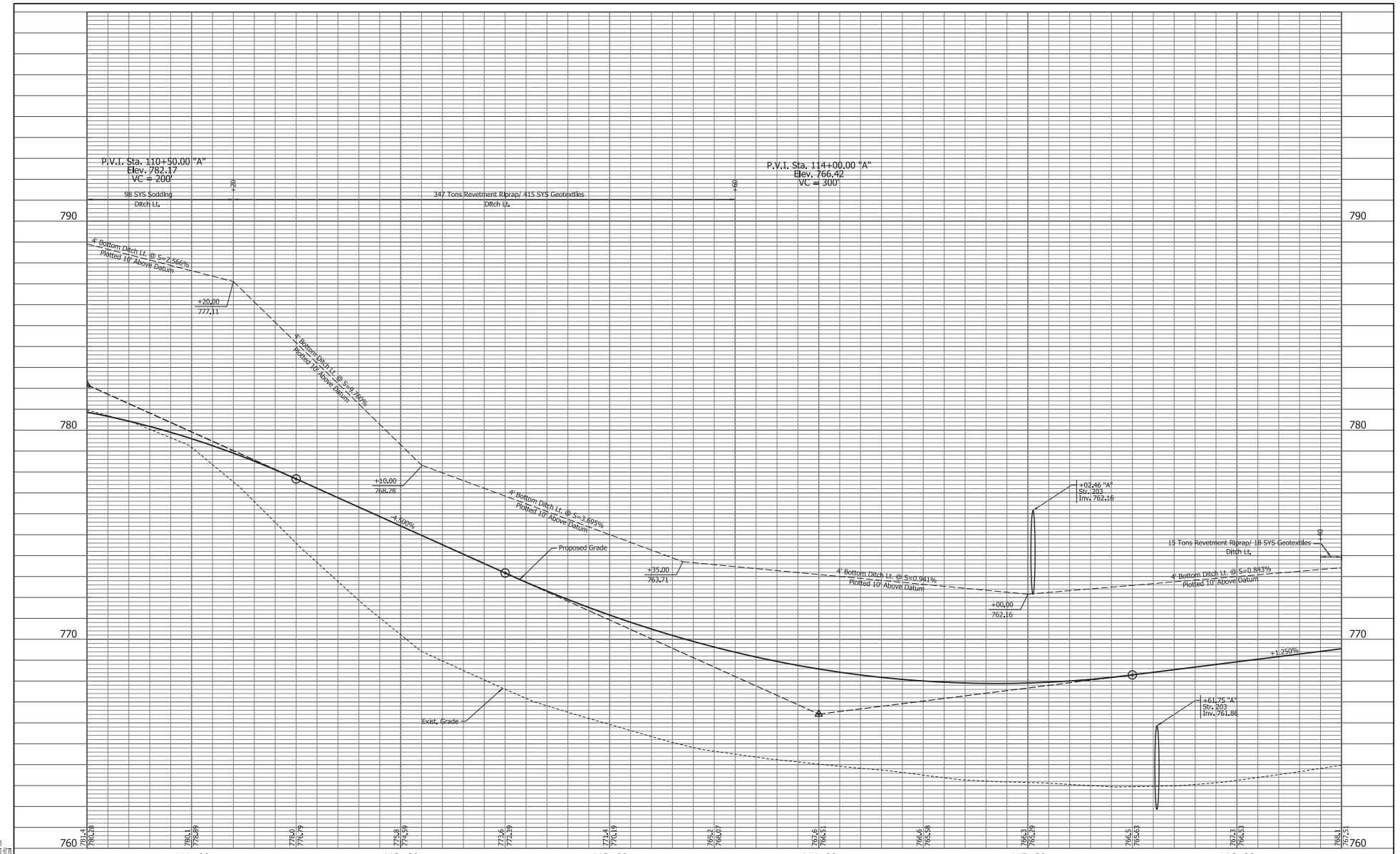
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 110+50.00 TO 116+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	15 of 70
CONTRACT	PROJECT
R-42763	1902752



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						DESIGNED: JAH DRAWN: KGR	PROFILE SHEET STA. 110+50.00 TO 116+50.00 "A"	VERTICAL SCALE 1" = 2'	DESIGNATION 1902752
						CHECKED: JRW CHECKED: MDR		SURVEY BOOK 2020-127	SHEETS 16 of 70
								CONTRACT R-42763	PROJECT 1902752

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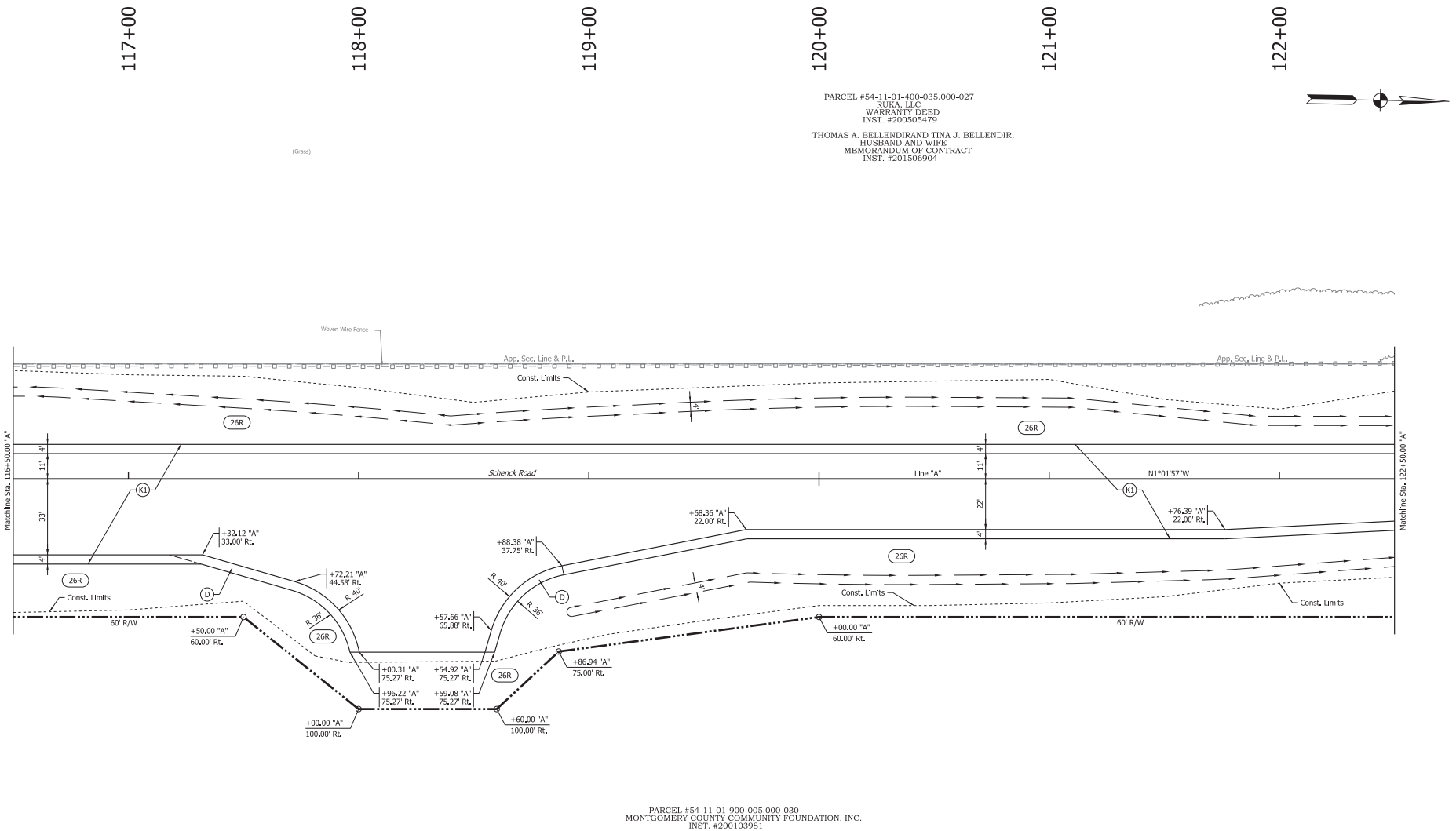


Legend

- (D) HMA for Approaches, Type B
- (K1) Full Depth HMA Pavement, Type 1*
- (K2) Full Depth HMA Pavement, Type 2*
- (R) HMA Resurfacing*
- (26R) Mulched Seeding, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES Pipe End Section

* See Typical Sections for Composition

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

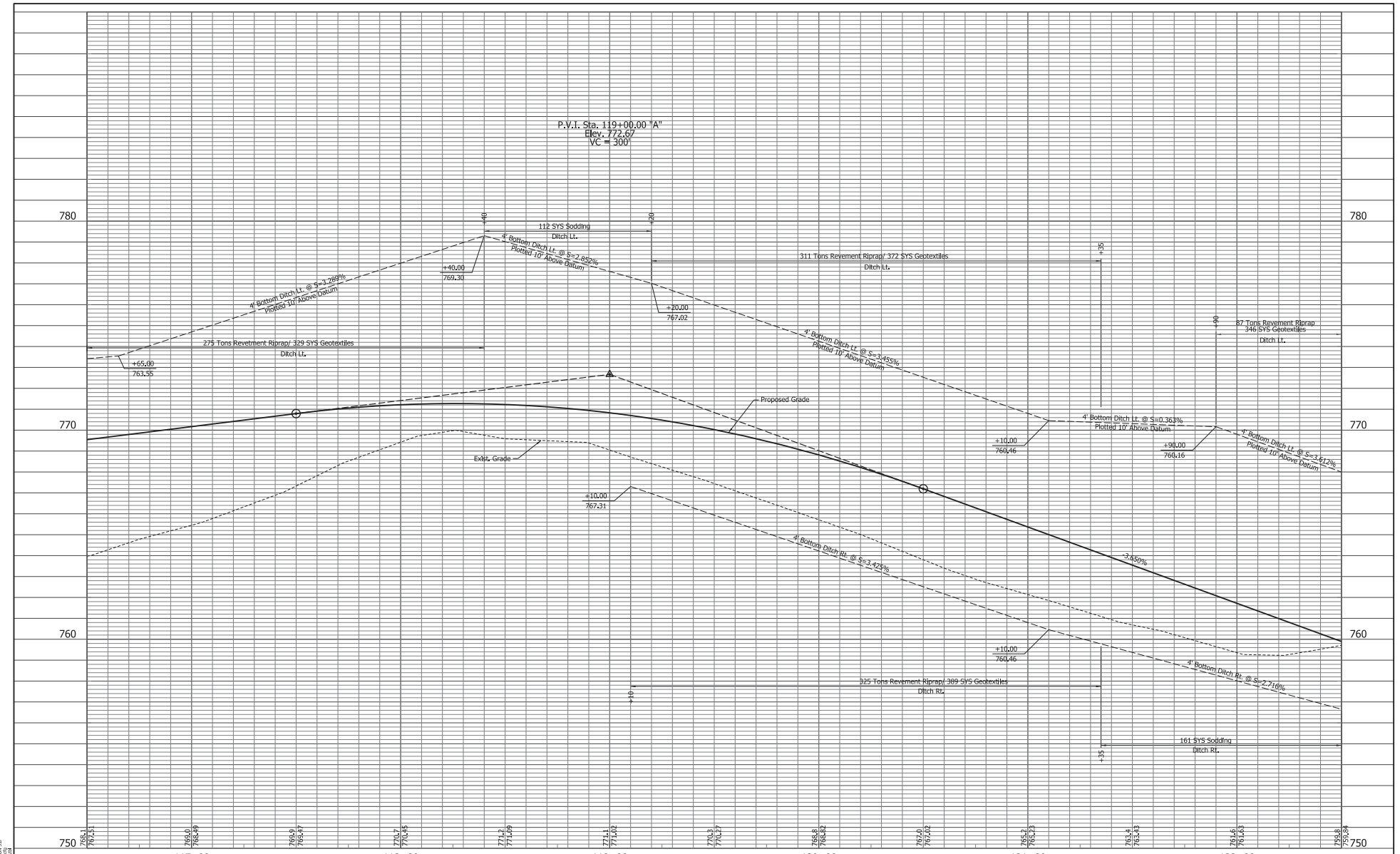
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 116+50.00 TO 122+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	17 of 70
CONTRACT	PROJECT
R-42763	1902752



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								VERTICAL SCALE 1" = 2'	DESIGNATION 1902752
						DESIGNED: JAH DRAWN: KGR	PROFILE SHEET STA. 116+50.00 TO 122+50.00 "A"	SURVEY BOOK 2020-127	SHEETS 18 of 70
						CHECKED: JRW CHECKED: MDR		CONTRACT R-42763	PROJECT 1902752

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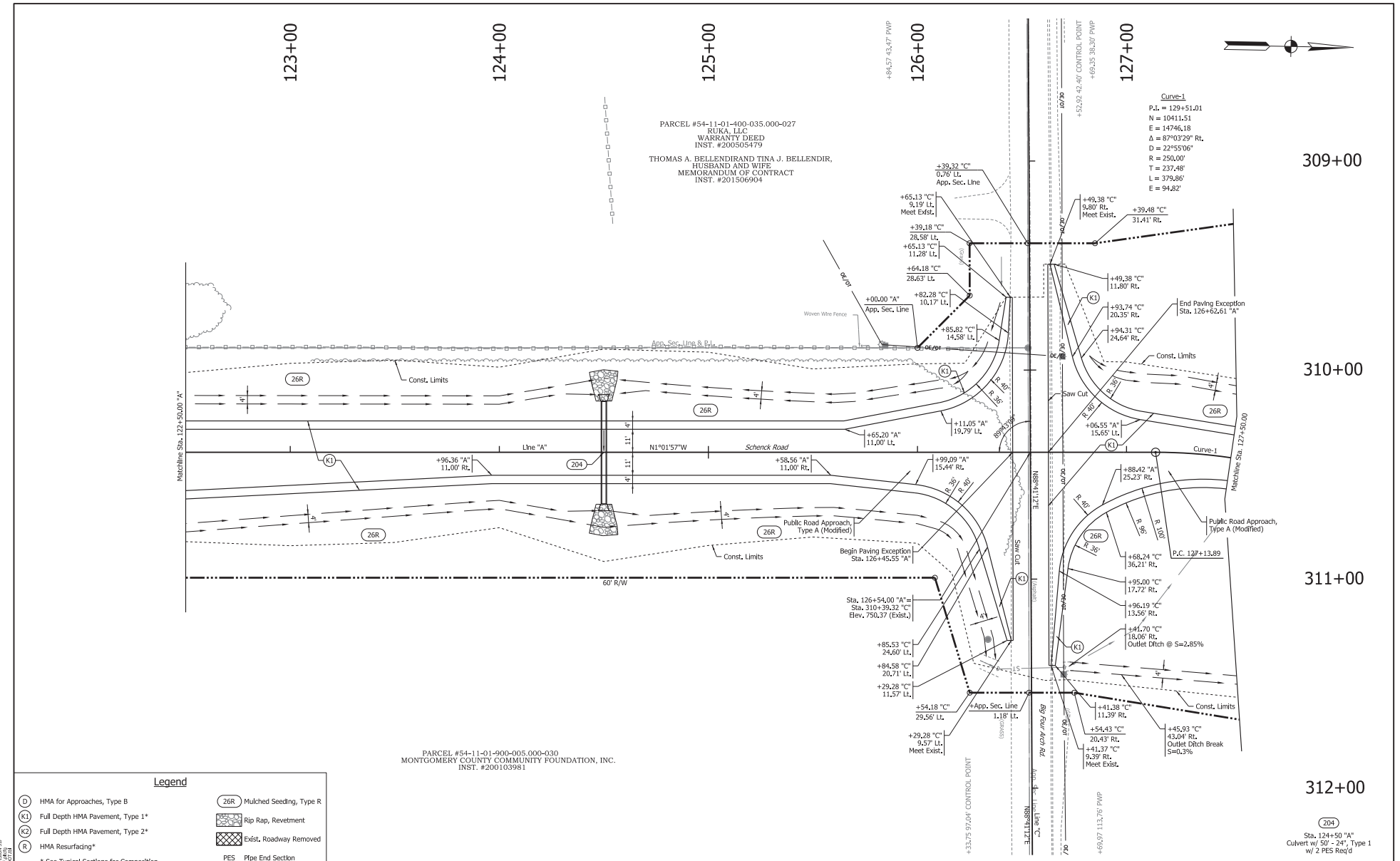


Legend

- (D) HMA for Approaches, Type B
- (K1) Full Depth HMA Pavement, Type 1*
- (K2) Full Depth HMA Pavement, Type 2*
- (R) HMA Resurfacing*
- * See Typical Sections for Composition
- (26R) Mulched Seedlng, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES Pipe End Section

(54) P.C. STA. 127+13.89 "A" REBAR W/YPM CAP

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

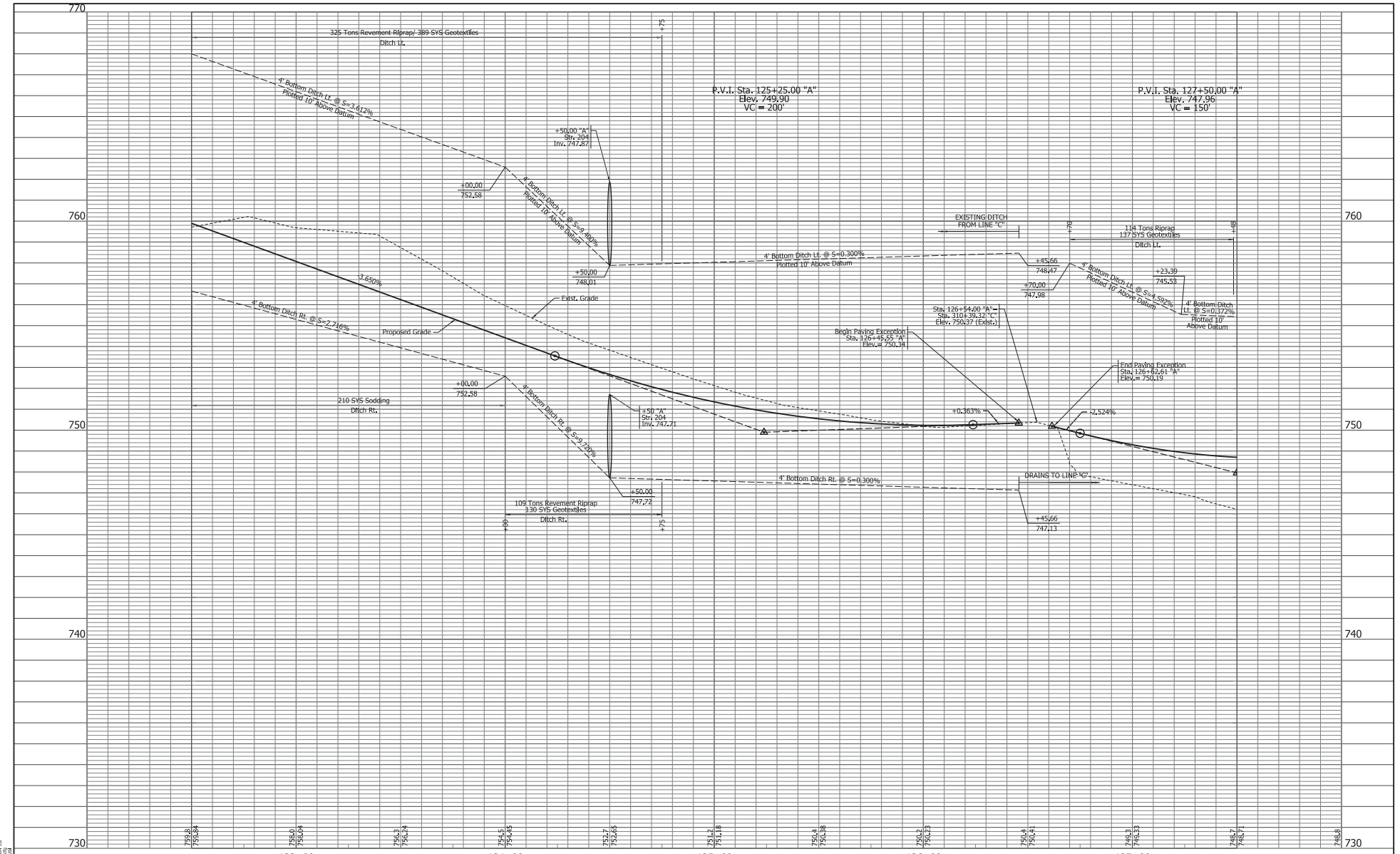
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 122+50.00 TO 127+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	19 of 70
CONTRACT	PROJECT
R-42763	1902752



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					RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE		
					DESIGNED: JAH DRAWN: KGR	PROFILE SHEET STA. 122+50.00 TO 127+50.00 "A"	
					CHECKED: JRW CHECKED: MDR		

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	20 of 70
CONTRACT	PROJECT
R-42763	1902752

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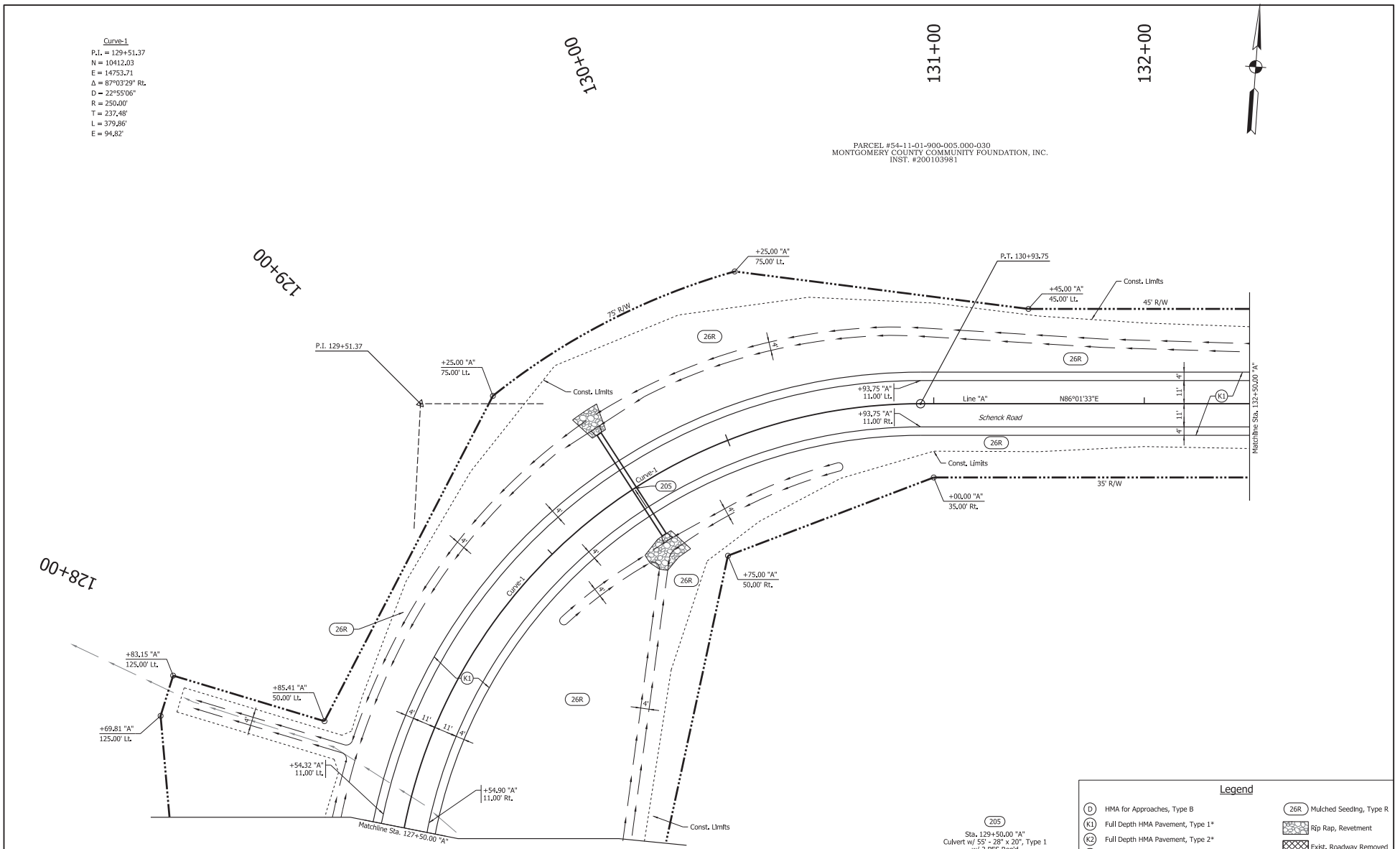


55 P.I. STA. 129+51.37 "A" REBAR W/PINK CAP

56 P.T. STA. 130+93.75 "A" REBAR W/PINK CAP

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

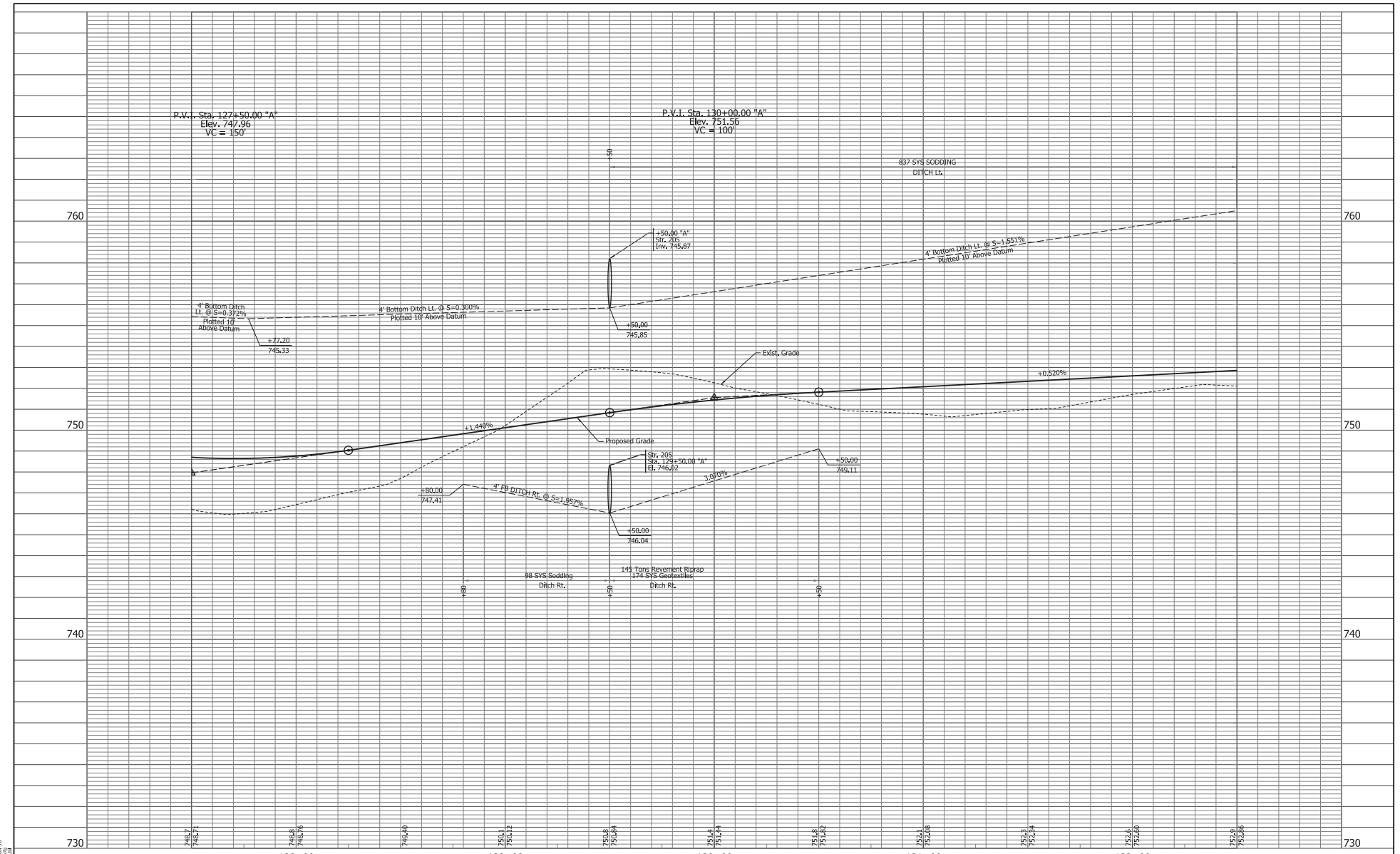
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 127+50.00 TO 132+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	21 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 127+50.00 TO 132+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	22 of 70
CONTRACT	PROJECT
R-42763	1902752

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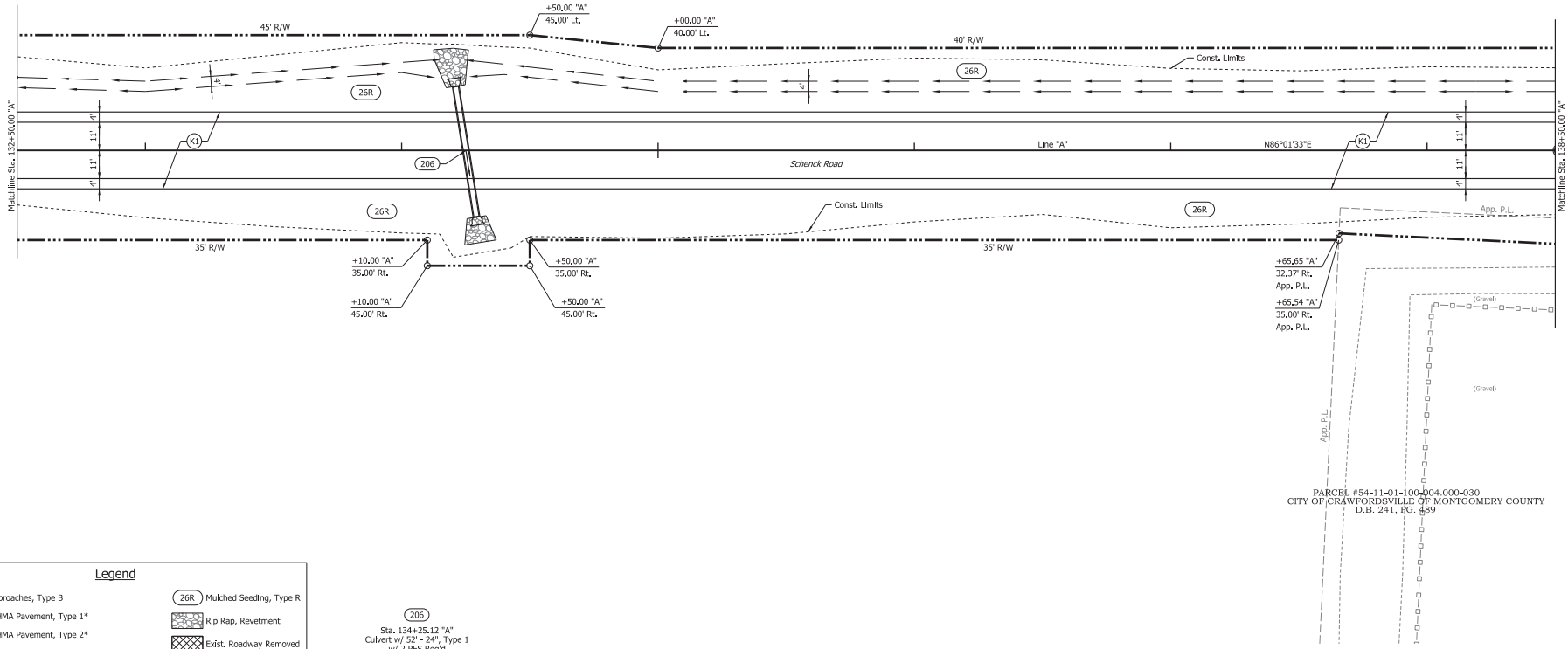
JAH

133+00 134+00 135+00 136+00 137+00 138+00

PARCEL #54-11-01-900-005.000-030
MONTGOMERY COUNTY COMMUNITY FOUNDATION, INC.
INST. #200103981



PARCEL #54-11-01-100-004.000-030
CITY OF CRAWFORDSVILLE OF MONTGOMERY COUNTY
D.B. 241, PG. 889

Legend

- D — HMA for Approaches, Type B
- K1 — Full Depth HMA Pavement, Type 1*
- K2 — Full Depth HMA Pavement, Type 2*
- R — HMA Resurfacing*
- * See Typical Sections for Composition
- 26R — Mulched Seeding, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES — Pipe End Section

206
Sta. 134+25.12 "A"
Culvert w/ 52' - 24", Type 1
w/ 2 PES Req'd

Not for Construction

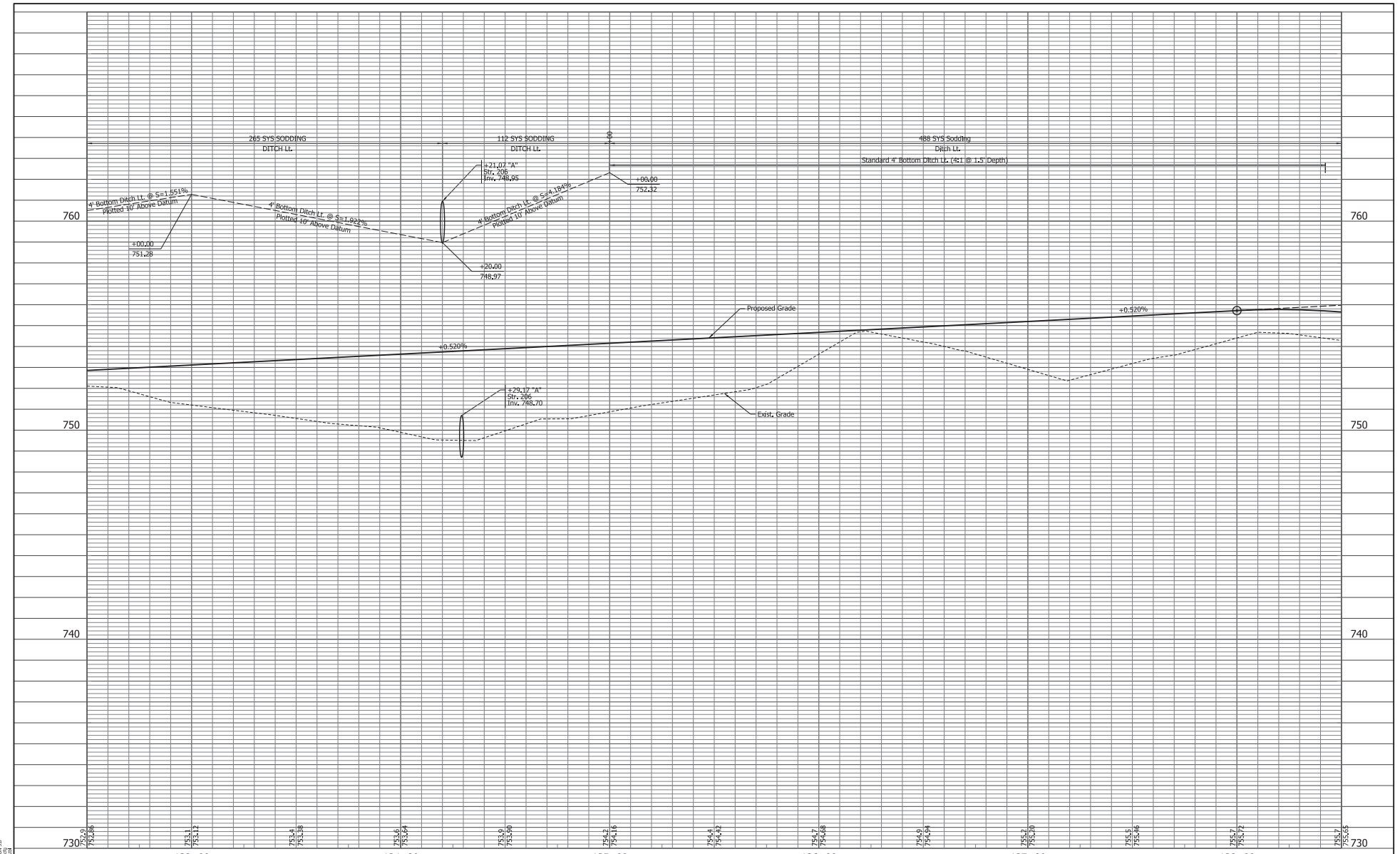
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

DESIGNED: JAH DRAWN: KGR
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 132+50.00 TO 138+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	23 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

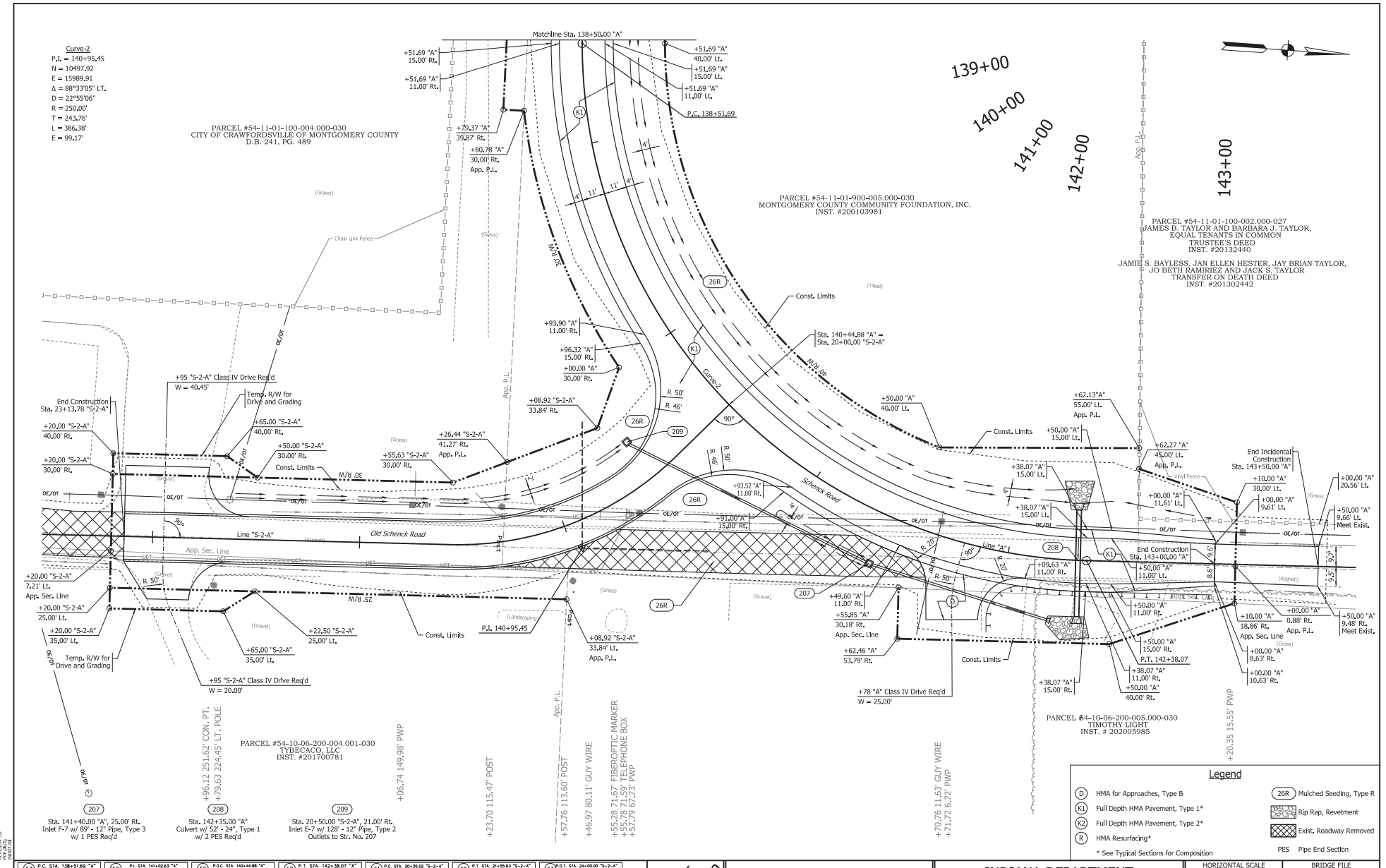
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 132+50.00 TO 138+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	24 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

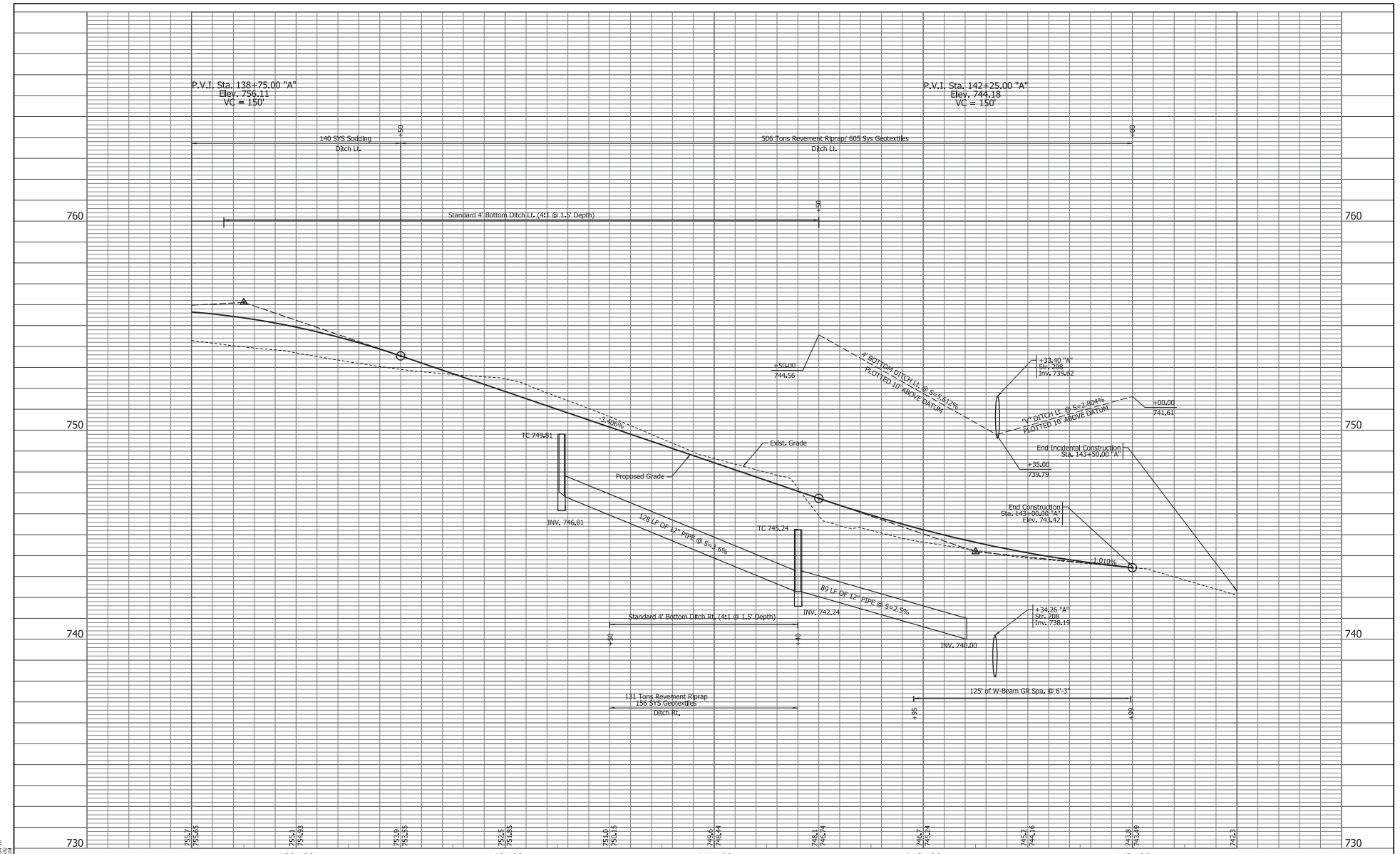
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 138+50.00 TO 143+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	25 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

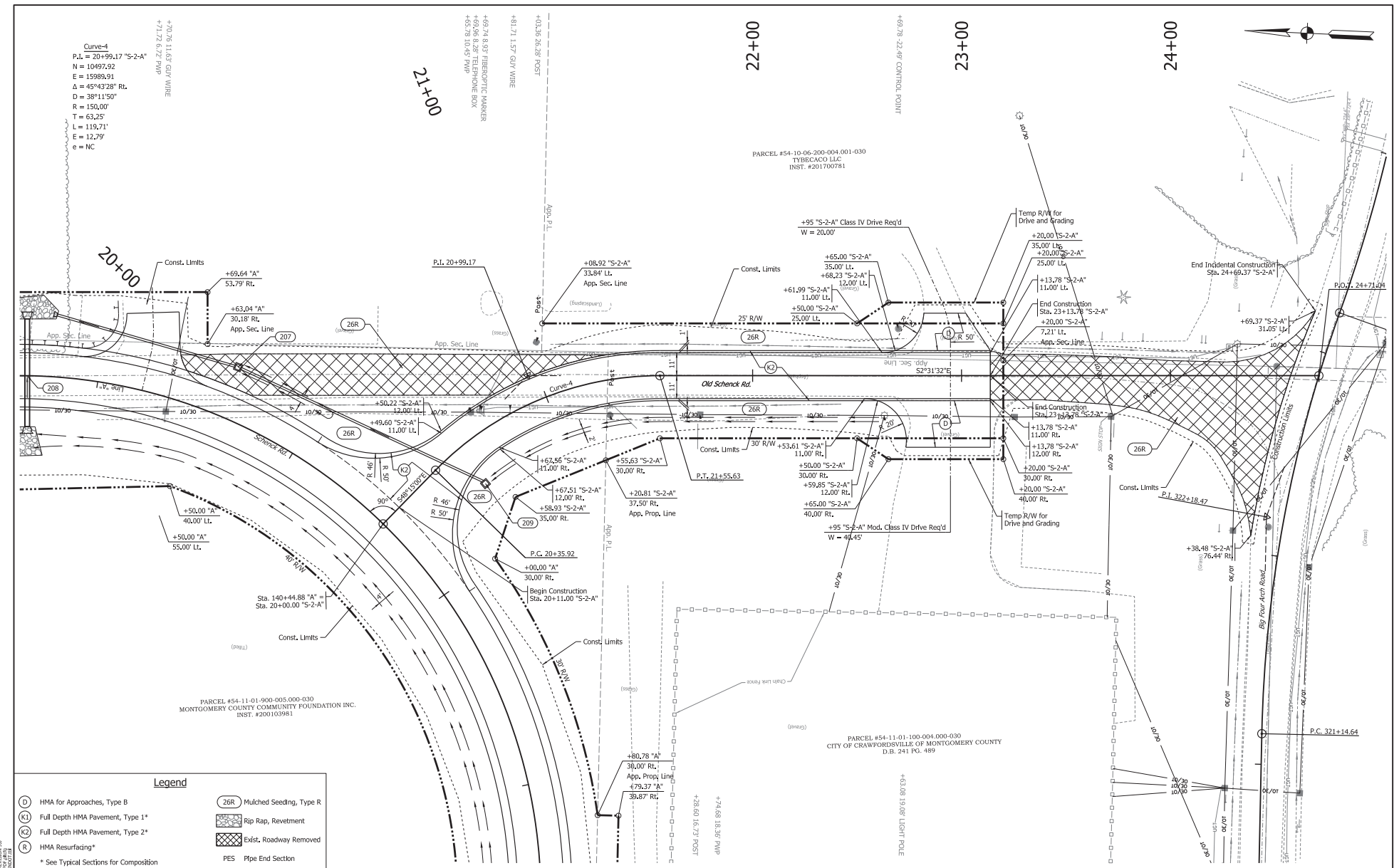
DESIGNED: JAH DRAWN: KGR

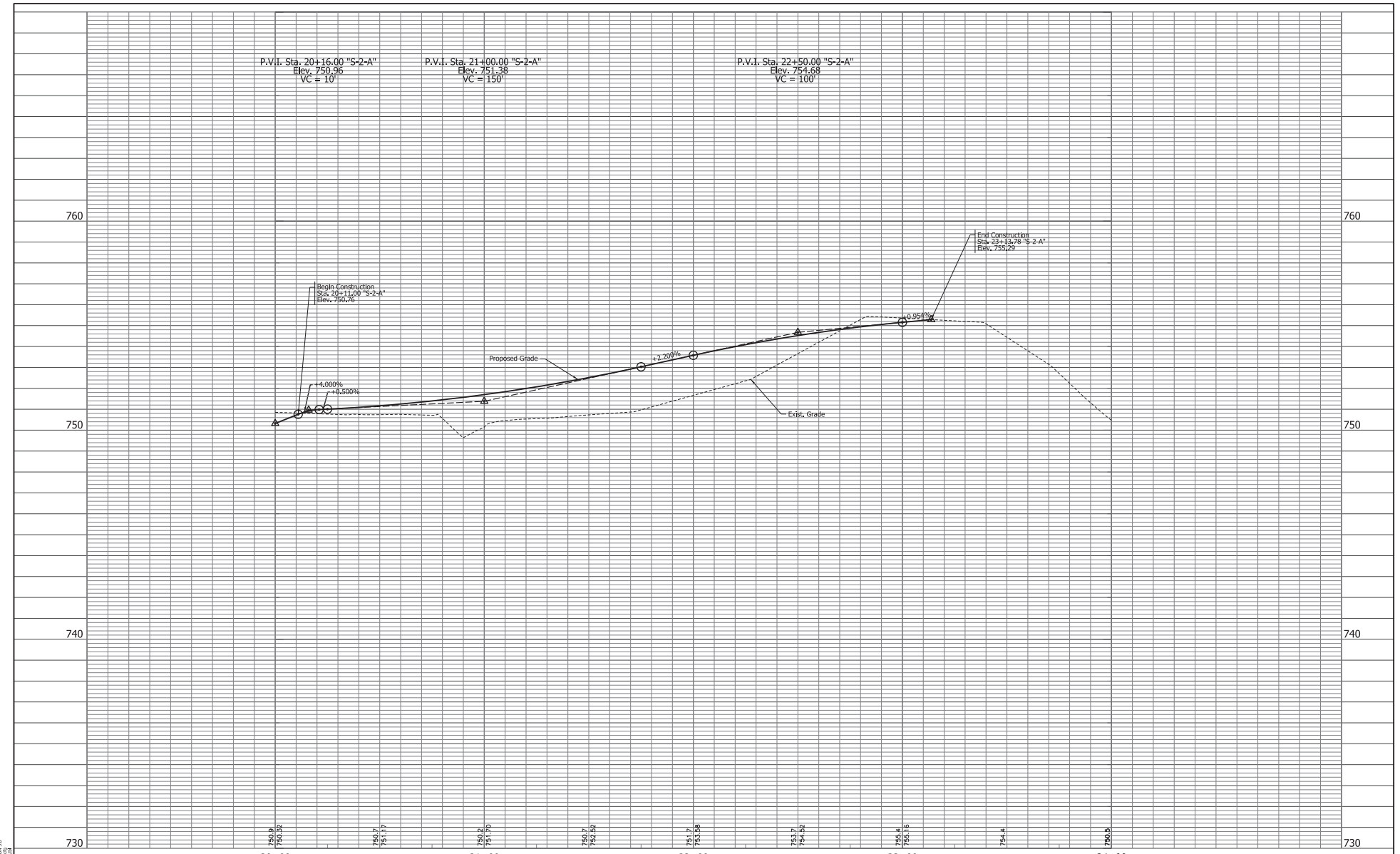
CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 138+50.00 TO 143+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	26 of 70
CONTRACT	PROJECT
R-42763	1902752


Curve-4
P.I. = 20+99.17 "S-2-A"
N = 10497.92
E = 15988.91
Δ = 45°43'28" Rt.
D = 38°11'50"
R = 150.00'
T = 63.25'
L = 119.71'
E = 12.79'
e = NC
+70.76 11.63' GUY WIRE
+71.72 6.72' PWP
+69.74 8.93' FIBEROPTIC MARKER
+69.96 6.28' TELEPHONE BOX
+65.78 10.45' PWP
+81.71 1.57' GUY WIRE
+03.36 26.28' POST
+69.78 -22.49' CONTROL POINT
20+00
21+00
22+00
23+00
24+00
PARCEL #54-10-06-200-004.001-030
TYBECACO LLC
INST. #201700781
PARCEL #54-11-01-900-005.000-030
MONTGOMERY COUNTY COMMUNITY FOUNDATION INC.
INST. #200103981
PARCEL #54-11-01-100-004.000-030
CITY OF CRAWFORDSVILLE OF MONTGOMERY COUNTY
D.B. 241 PG. 489
Const. Limits
+69.64 "A"
53.79' Rt.
+63.04 "A"
30.18' Rt.
App. Sec. Line
P.I. 20+99.17
+08.92 "S-2-A"
33.84' Lt.
App. Sec. Line
+95 "S-2-A" Class IV Drive Req'd
W = 20.00'
Temp R/W for
Drive and Grading
+20.00 "S-2-A"
35.00' Lt.
+20.00 "S-2-A"
25.00' Lt.
+65.00 "S-2-A"
35.00' Lt.
+68.23 "S-2-A"
12.00' Lt.
+61.99 "S-2-A"
11.00' Lt.
+50.00 "S-2-A"
25.00' Lt.
+13.78 "S-2-A"
11.00' Lt.
End Construction
Sta. 23+13.78 "S-2-A"
+20.00 "S-2-A"
7.21' Lt.
App. Sec. Line
End Incidental Construction
Sta. 24+69.37 "S-2-A"
+69.37 "S-2-A"
31.05' Lt.
P.O.T. 24+71.04
25' R/W
Old Schenck Rd.
S2°31'32"E
Curve-4
Post
+50.22 "S-2-A"
12.00' Lt.
+49.60 "S-2-A"
11.00' Lt.
Schenck Rd.
+67.56 "S-2-A"
11.00' Rt.
+67.51 "S-2-A"
12.00' Rt.
+58.93 "S-2-A"
35.00' Rt.
+55.63 "S-2-A"
30.00' Rt.
+20.81 "S-2-A"
37.50' Rt.
App. Prop. Line
P.T. 21+55.63
30' R/W +53.61 "S-2-A"
11.00' Rt.
+50.00 "S-2-A"
30.00' Rt.
+59.85 "S-2-A"
12.00' Rt.
+65.00 "S-2-A"
40.00' Rt.
+95 "S-2-A" Mod. Class IV Drive Req'd
W = 40.45'
+20.00 "S-2-A"
30.00' Rt.
+20.00 "S-2-A"
40.00' Rt.
+13.78 "S-2-A"
11.00' Rt.
+13.78 "S-2-A"
12.00' Rt.
End Construction
Sta. 23+13.78 "S-2-A"
Const. Limits
P.I. 322+18.47
+38.48 "S-2-A"
76.44' Rt.
Big Four Arch Road
P.C. 321+14.64
+50.00 "A"
40.00' Lt.
+50.00 "A"
55.00' Lt.
40' R/W
Sta. 140+44.88 "A" =
Sta. 20+00.00 "S-2-A"
P.C. 20+35.92
+00.00 "A"
30.00' Rt.
Begin Construction
Sta. 20+11.00 "S-2-A"
30' R/W
+80.78 "A"
30.00' Rt.
App. Prop. Line
+79.37 "A"
39.87' Rt.
+28.60 16.73' POST
+74.69 18.36' PWP
+63.08 19.08' LIGHT POLE
Chain Link Fence
Legend
D HMA for Approaches, Type B
K1 Full Depth HMA Pavement, Type 1*
K2 Full Depth HMA Pavement, Type 2*
R HMA Resurfacing*
* See Typical Sections for Composition
26R Mulched Seedlng, Type R
Rip Rap, Revetment
Exist. Roadway Removed
PES Pipe End Section
57 P.C. STA. 138+51.69 "A" REBAR W/YRM CAP
58 P.I. STA. 141+02.63 "A" P.I. STA. 20+99.17 "S-2-A" MAG NAIL W/YRM WASHER
59 P.O.C. STA. 140+44.88 "A" P.O.T. STA. 20+00.00 "S-2-A" REBAR W/YRM CAP
60 P.T. STA. 142+38.07 "A" MAG NAIL W/YRM WASHER
61 P.C. STA. 20+35.02 "S-2-A" REBAR W/YRM CAP
62 P.T. STA. 21+55.63 "S-2-A" MAG NAIL W/YRM WASHER
63 P.O.T. STA. 24+00.00 "S-2-A" MAG NAIL W/YRM WASHER
Not for Construction
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER
DATE
DESIGNED: JAH
DRAWN: KGR
CHECKED: JRW
CHECKED: MDR
INDIANA DEPARTMENT OF TRANSPORTATION
PLAN SHEET
STA. 20+00.00 TO 24+71.04 "S-2-A"
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE N/A
BRIDGE FILE N/A
DESIGNATION 1902752
SURVEY BOOK 2020-127
SHEETS 27 of 70
CONTRACT R-42763
PROJECT 1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

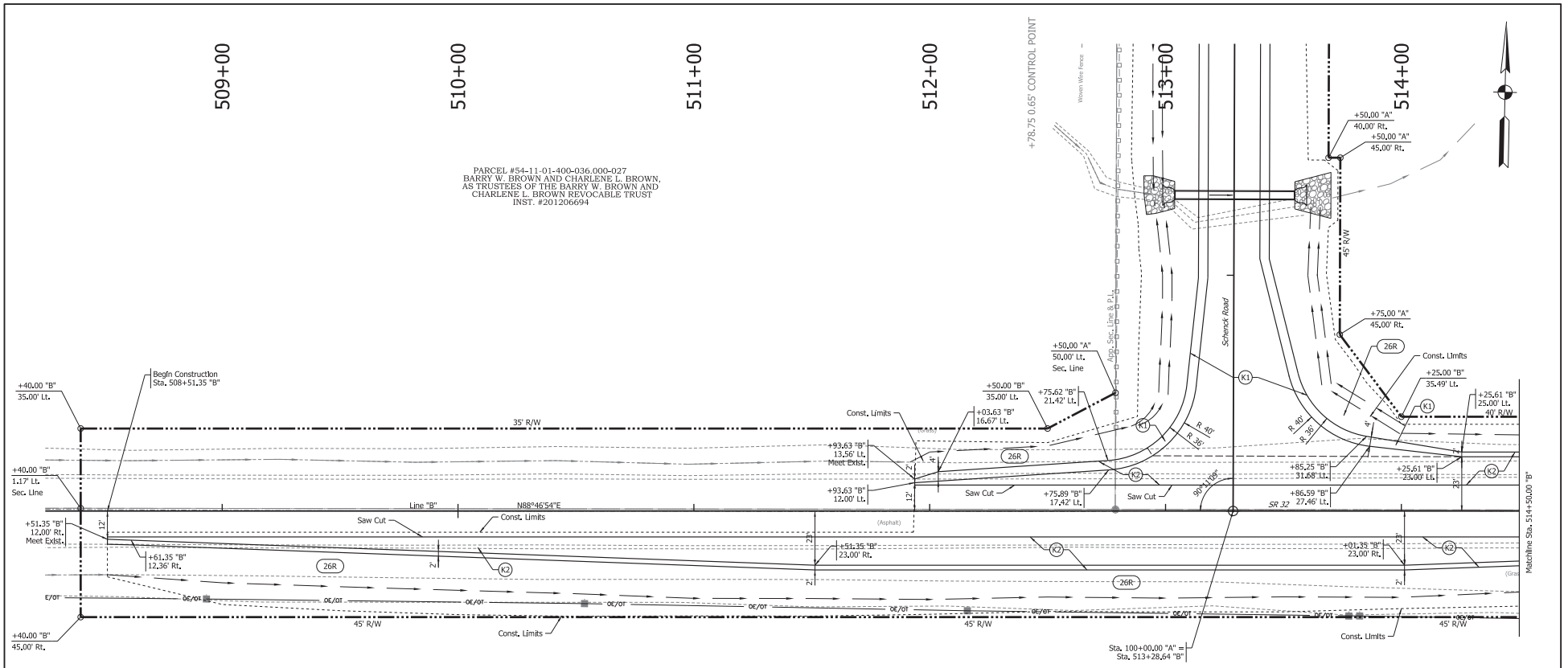
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 20+00.00 TO 24+00.00 "S-2-A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	28 of 70
CONTRACT	PROJECT
R-42763	1902752



Legend

D HMA for Approaches, Type B	26R Mulched Seeding, Type R
K1 Full Depth HMA Pavement, Type 1*	Rip Rap, Revetment
K2 Full Depth HMA Pavement, Type 2*	Exist. Roadway Removed
R HMA Resurfacing*	PES Pipe End Section
* See Typical Sections for Composition	

51 P.O.T. STA. 100+00.00 "A"
P.O.T. STA. 513+28.64 "B"
MAG NAIL W/YRM WASHER

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

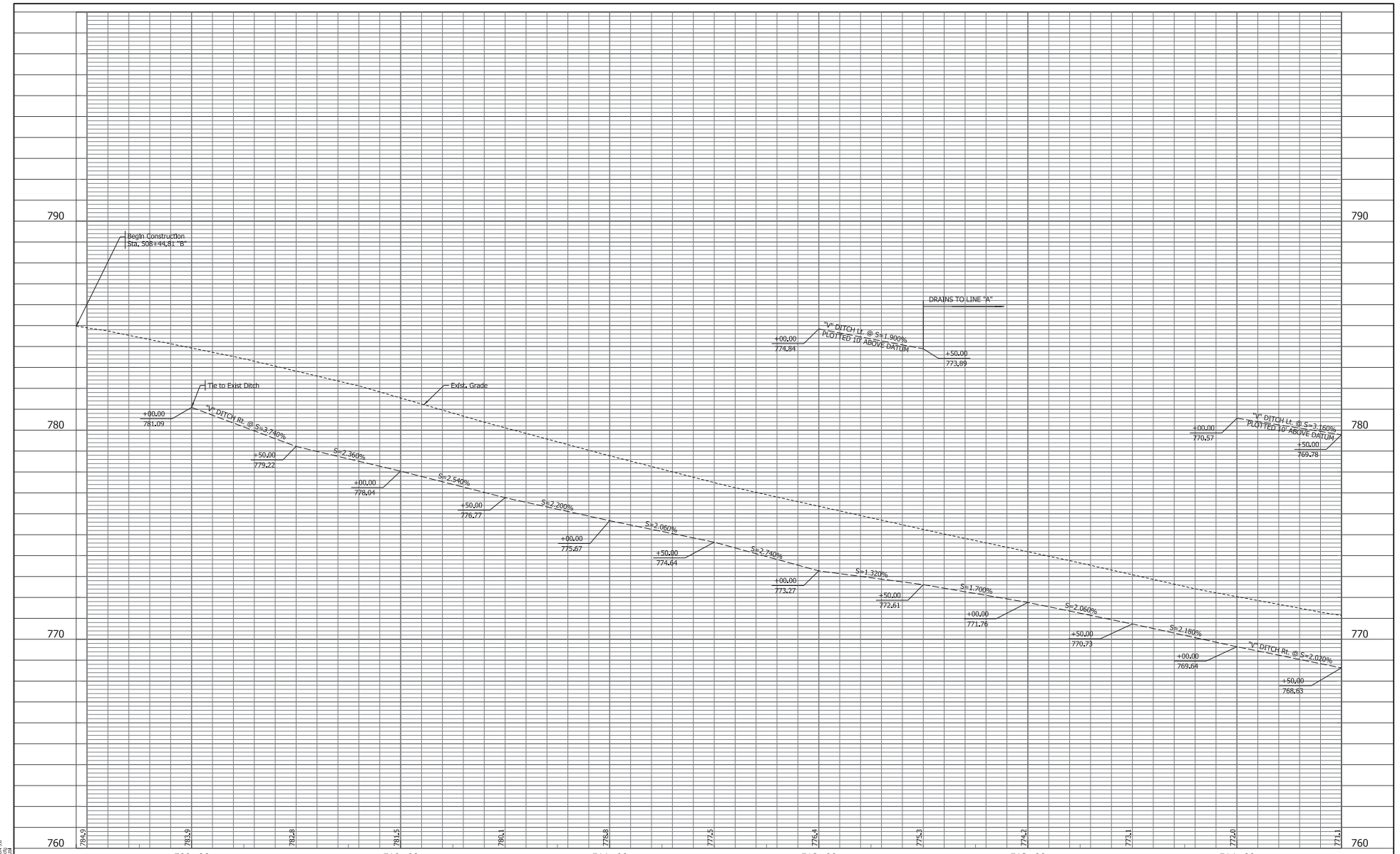
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 508+44.81 TO 514+50.00 "B"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	29 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

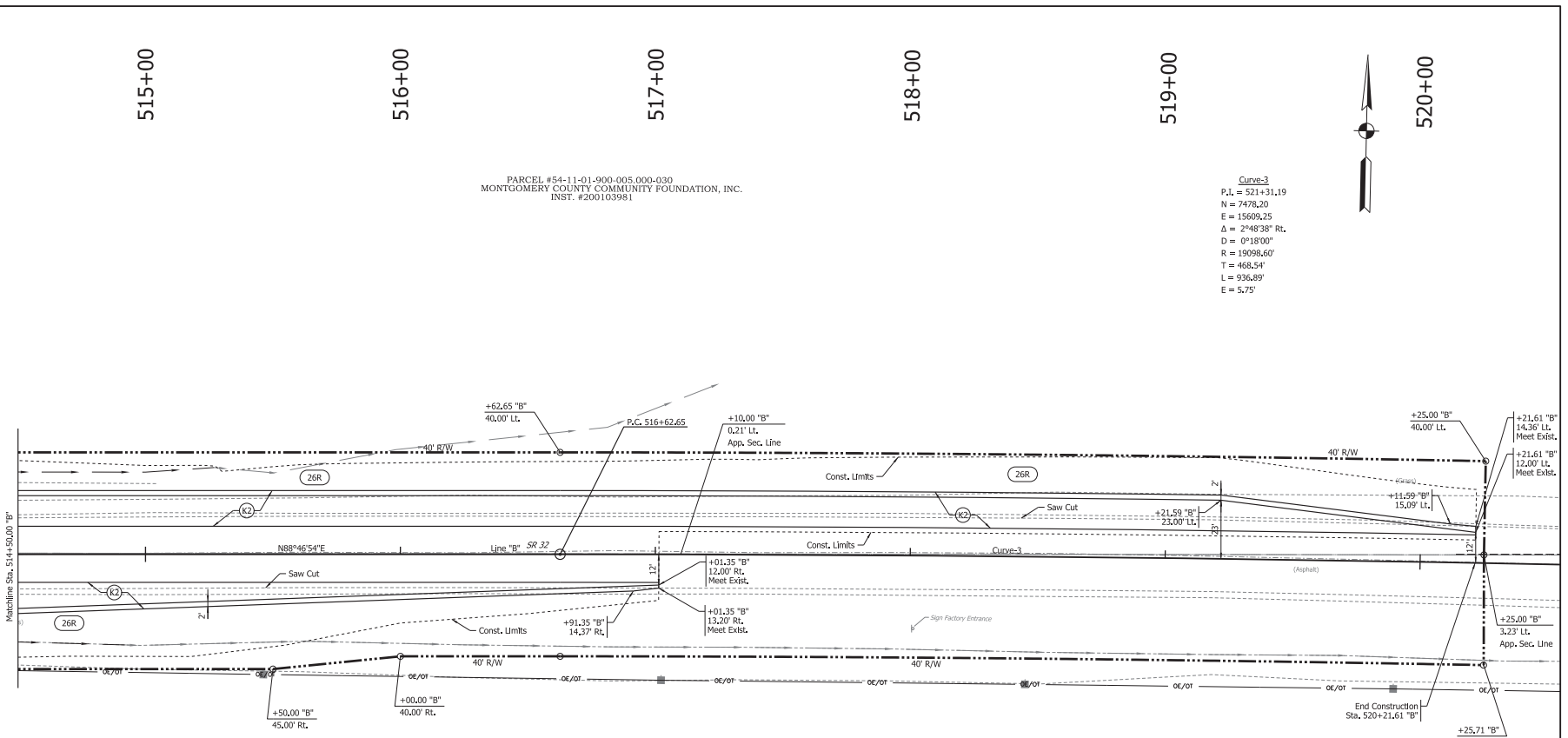
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PROFILE SHEET
STA. 508+44.81 TO 514+50.00 "B"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	30 of 70
CONTRACT	PROJECT
R-42763	1902752



Legend

- (D) HMA for Approaches, Type B
- (K1) Full Depth HMA Pavement, Type 1*
- (K2) Full Depth HMA Pavement, Type 2*
- (R) HMA Resurfacing*
- * See Typical Sections for Composition
- (26R) Mulched Seedlng, Type R
- Rip Rap, Revetment
- Exist. Roadway Removed
- PES Pipe End Section

(52) P.C. STA. 516+62.65 "B" MAG NAIL W/FRM WASHER

(53) P.I. STA. 521+31.19 "B" MAG NAIL W/FRM WASHER

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

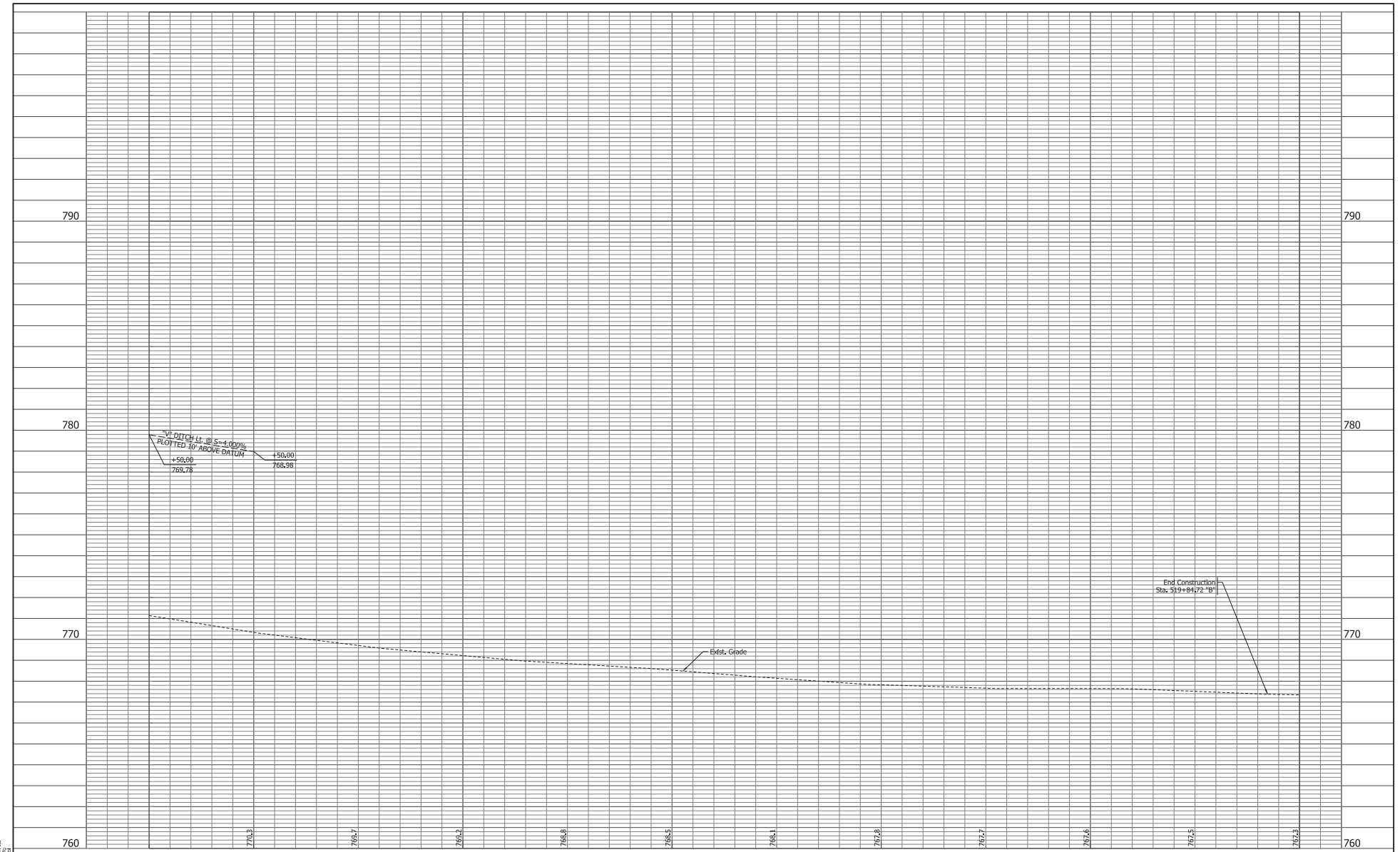
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN SHEET
STA. 514+50.00 TO 520+23.50 "B"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
	1902752
SURVEY BOOK	SHEETS
2020-127	31 of 70
CONTRACT	PROJECT
R-42763	1902752



Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

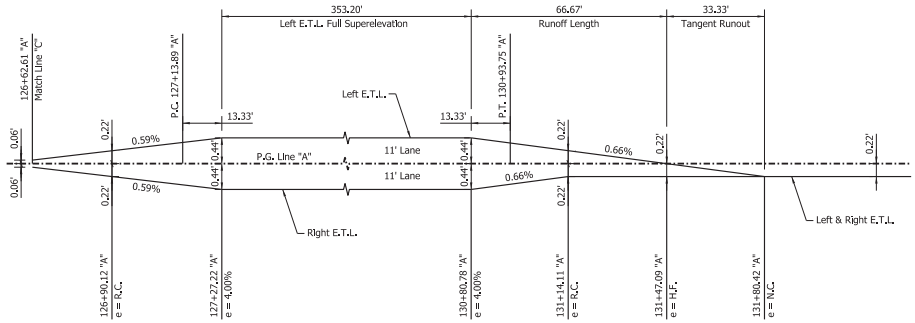
DESIGNED: JAH | DRAWN: KGR

CHECKED: JRW | CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

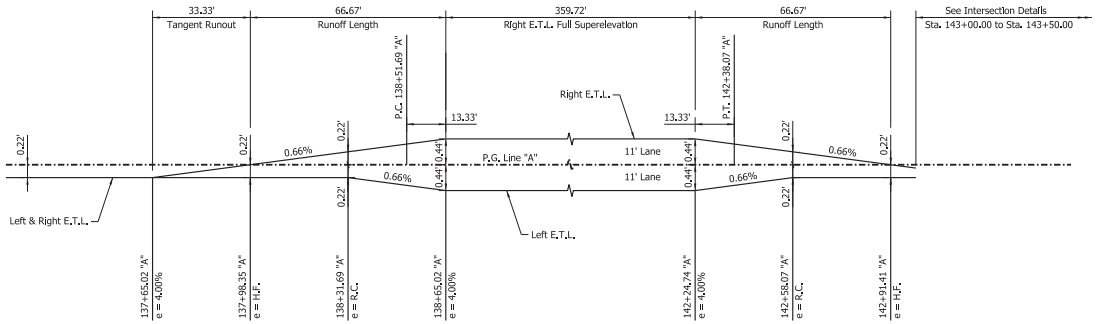
PROFILE SHEET
STA. 514+50.00 TO 520+00.00 "B"

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 2'	1902752
SURVEY BOOK	SHEETS
2020-127	32 of 70
CONTRACT	PROJECT
R-42763	1902752



SUPERELEVATION-TRANSITION, CURVE-1

P.I. 129+51.37
R = 250.00', Right
e = 4.00%
V = 30 mph



SUPERELEVATION-TRANSITION, CURVE-2

P.I. 140+95.45
R = 250.00', Left
e = 4.00%
V = 30 mph

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

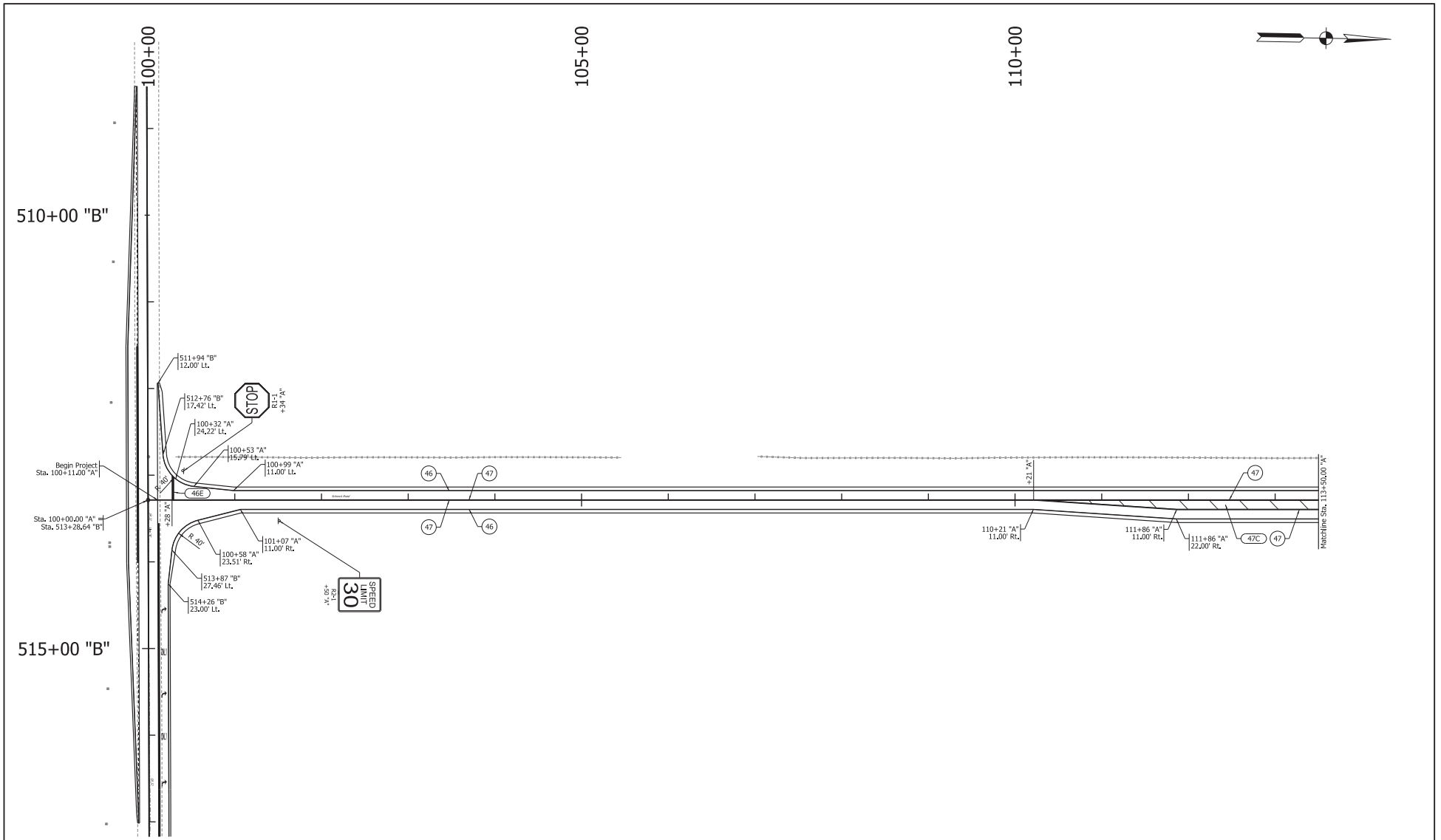
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

SUPERELEVATION-TRANSITION DIAGRAMS

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	N/A
VERTICAL SCALE	DESIGNATION
1" = 20'	1902752
SURVEY BOOK	SHEETS
2020-127	33 of 70
CONTRACT	PROJECT
R-42763	1902752



(46)	Line, Thermoplastic, Solid, White, 4 in.	(48)	Line, Thermoplastic, Solid, White, 6 in.
(46B)	Line, Thermoplastic, Solid, White, 10 in.	(49)	Line, Thermoplastic, Solid, Yellow, 6 in.
(46E)	Transverse Markings, Thermoplastic, Stop Line, 24 in.	(50)	Line, Thermoplastic, Dotted, White, 10 in.
(47)	Line, Thermoplastic, Solid, Yellow, 4 in.	(51)	Line, Thermoplastic, Dotted, White, 4 in.
(47C)	Transverse Markings, Thermoplastic, Solid, Yellow, Crosshatch Line, 12 in.		Pavement Message Markings, Thermoplastic, Lane Indication Arrow
		ONLY	Pavement Message Markings, Thermoplastic, Word (ONLY)

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

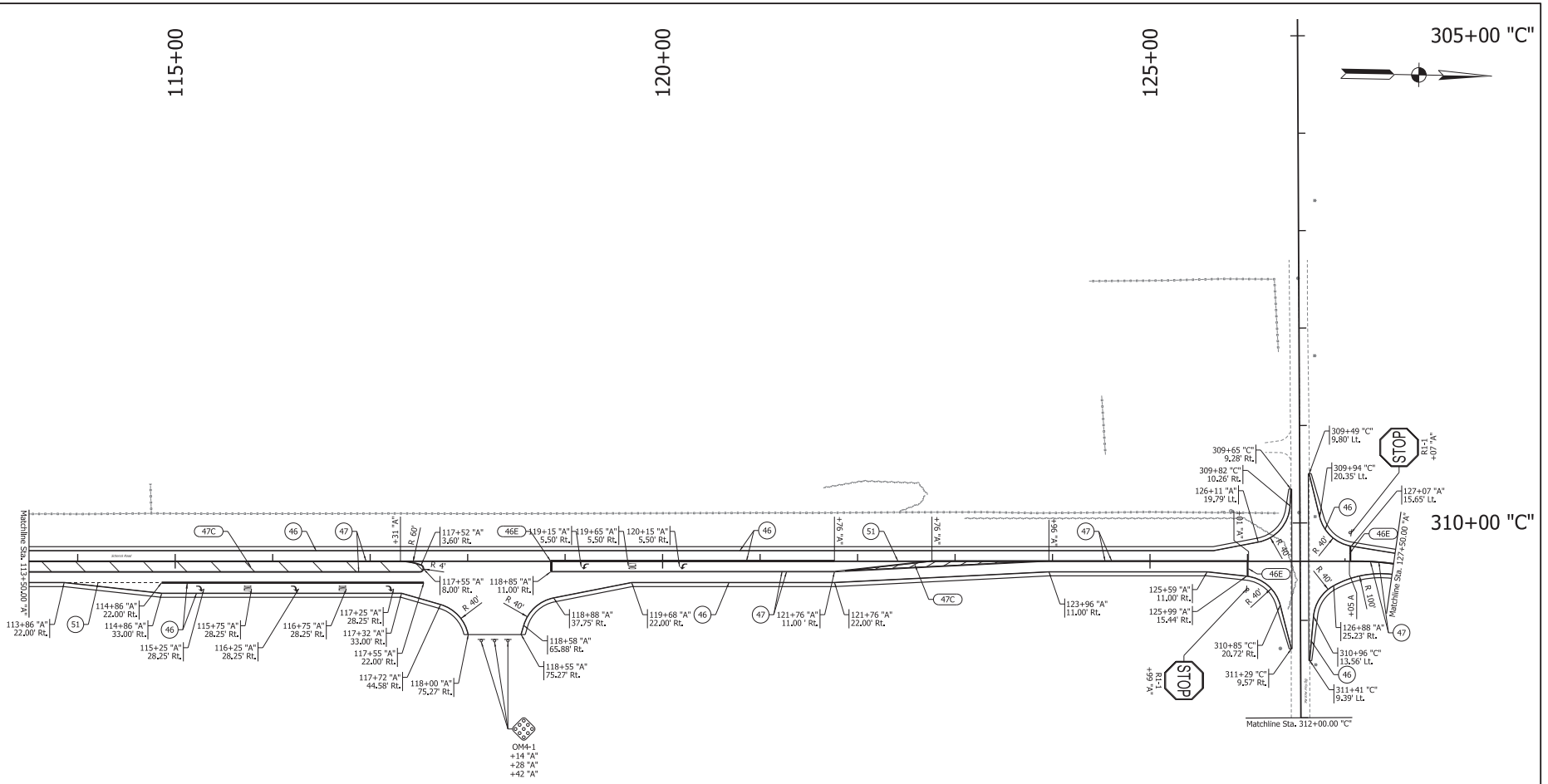
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNS
STA 100+00.00 TO 113+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	34 of 70
CONTRACT	PROJECT
R-42763	1902752



(46)	Line, Thermoplastic, Solid, White, 4 in.	(48)	Line, Thermoplastic, Solid, White, 6 in.
(46B)	Line, Thermoplastic, Solid, White, 10 in.	(49)	Line, Thermoplastic, Solid, Yellow, 6 in.
(46E)	Transverse Markings, Thermoplastic, Stop Line, 24 in.	(50)	Line, Thermoplastic, Dotted, White, 10 in.
(47)	Line, Thermoplastic, Solid, Yellow, 4 in.	(51)	Line, Thermoplastic, Dotted, White, 4 in.
(47C)	Transverse Markings, Thermoplastic, Solid, Yellow, Crosshatch Line, 12 in.	ONLY	Pavement Message Markings, Thermoplastic, Word (ONLY)

Pavement Message Markings, Thermoplastic, Lane Indication Arrow

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

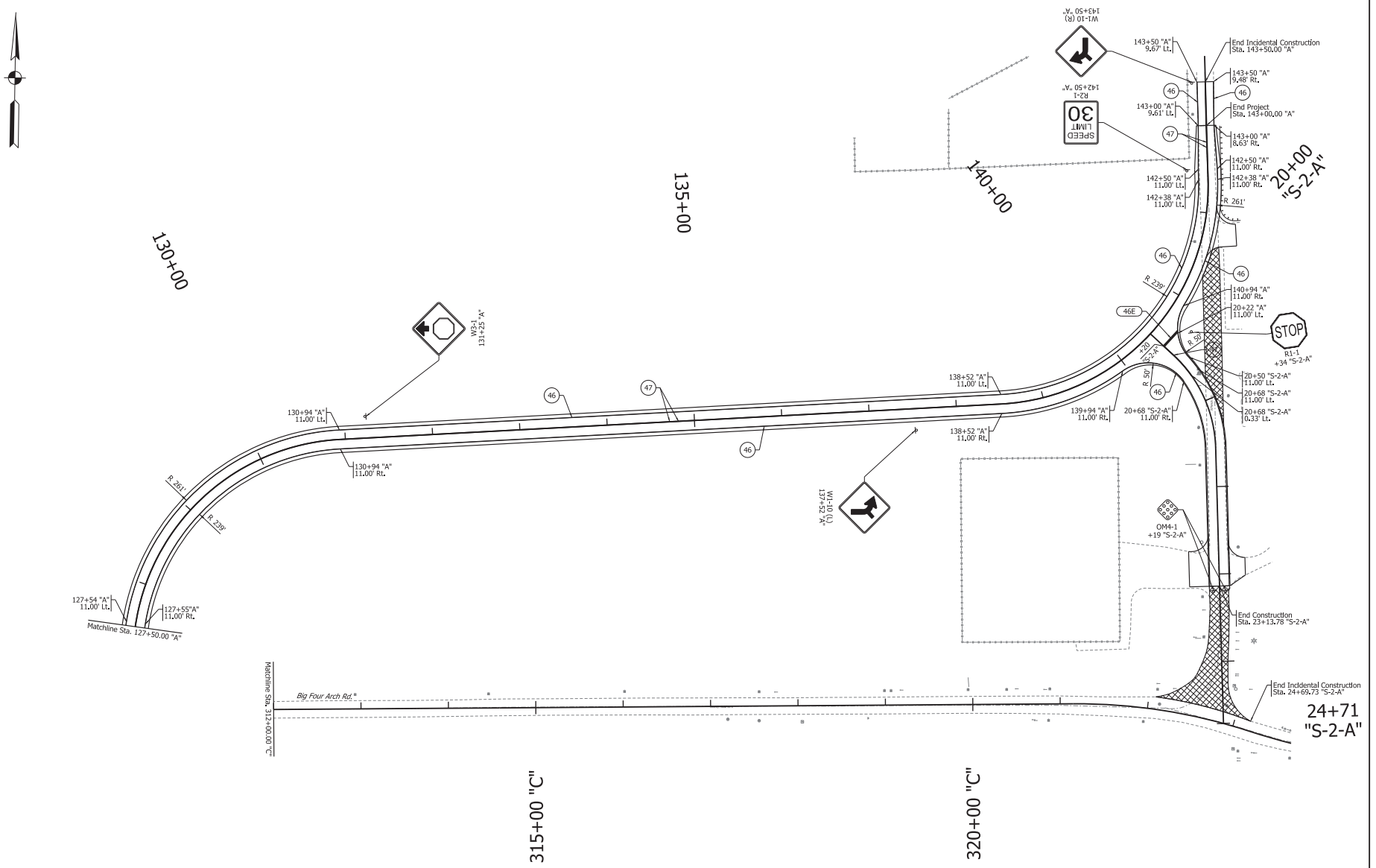
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNS STA 113+50.00 TO 127+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	35 of 70
CONTRACT	PROJECT
R-42763	1902752



(46)	Line, Thermoplastic, Solid, White, 4 in.	(48)	Line, Thermoplastic, Solid, White, 6 in.
(46B)	Line, Thermoplastic, Solid, White, 10 in.	(49)	Line, Thermoplastic, Solid, Yellow, 6 in.
(46E)	Transverse Markings, Thermoplastic, Stop Line, 24 in.	(50)	Line, Thermoplastic, Dotted, White, 10 in.
(47)	Line, Thermoplastic, Solid, Yellow, 4 in.	(51)	Line, Thermoplastic, Dotted, White, 4 in.
(47C)	Transverse Markings, Thermoplastic, Solid, Yellow, Crosshatch Line, 12 in.		Pavement Message Markings, Thermoplastic, Lane Indication Arrow
		ONLY	Pavement Message Markings, Thermoplastic, Word (ONLY)

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE

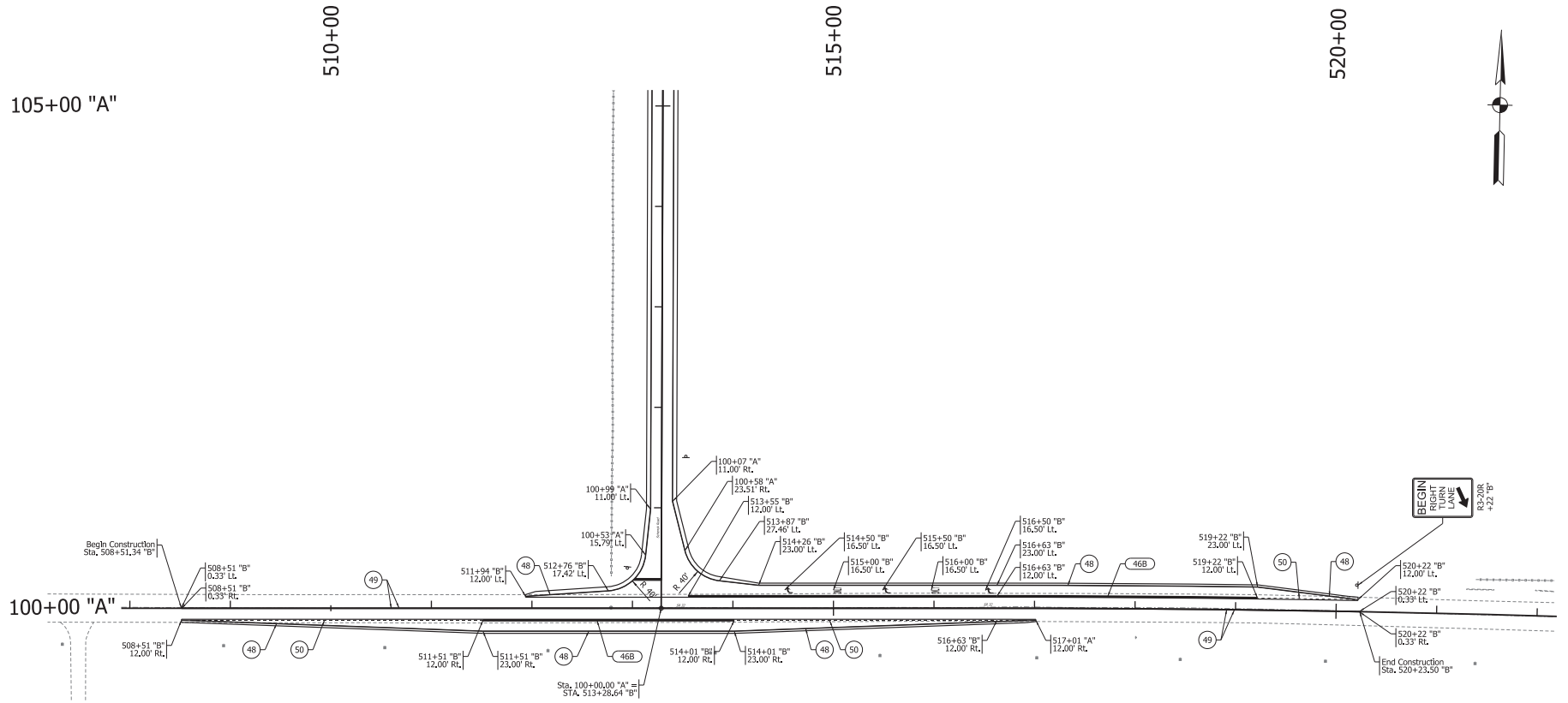
DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNS
STA 127+50.00 TO 143+50.00 "A"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	36 of 70
CONTRACT	PROJECT
R-42763	1902752



46	Line, Thermoplastic, Solid, White, 4 in.	48	Line, Thermoplastic, Solid, White, 6 in.		Pavement Message Markings, Thermoplastic, Lane Indication Arrow
46B	Line, Thermoplastic, Solid, White, 10 in.	49	Line, Thermoplastic, Solid, Yellow, 6 in.	ONLY	Pavement Message Markings, Thermoplastic, Word (ONLY)
46E	Transverse Markings, Thermoplastic, Stop Line, 24 in.	50	Line, Thermoplastic, Dotted, White, 10 in.		
47	Line, Thermoplastic, Solid, Yellow, 4 in.	51	Line, Thermoplastic, Dotted, White, 4 in.		
47C	Transverse Markings, Thermoplastic, Solid, Yellow, Crosshatch Line, 12 in.				

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNS
STA. 508+51.34 TO 520+23.50 "B"

HORIZONTAL SCALE	BRIDGE FILE
1" = 50'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	37 of 70
CONTRACT	PROJECT
R-42763	1902752

STRUCTURE DATA

STRUCTURE NUMBER	LOCATION					SIZE	PIPE TYPE	MANHOLE, INLET, CATCH BASIN, OR SPECIALTY STRUCTURE	LENGTH	SKEW	COVER	TOP OF CASTING	FLOW LINE		SERVICE LIFE	SITE DESIGNATION	pH	BACKFILL METHOD	STRUCTURAL BACKFILL						FLOWABLE BACKFILL (REMOVABLE)	FLOWABLE BACKFILL (NON-REMOVABLE)	GEOTEXTILES	REVETMENT RIPRAP CONCRETE, CLASS A, FOR STRUCTURES	VIDEO INSPECTION	PIPE END SECTION	GRATED BOX END SECTION			SAFETY METAL END SECTION		CONNECT TO STR. NO.	REMARKS
	STATION	OFFSET	LEFT	RIGHT	CROSS								UP STREAM	DOWN STREAM					TYPE	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5														
		FT				IN			FT		FT	ELEV.	ELEV.	ELEV.	YR.					CYD	CYD	CYD	CYD	CYD	CYD	CYD	SYS	TON	CYD	LF	EA.	TYPE	SLOPE	EA.	SLOPE	EA.		
201	101+34	0.0			X	38x24	1	CULVERT	51		1.2		768.99	768.84	75	N/A	7.0	1	2		32										2							
202	106+13	0.0			X	35x24	1	CULVERT	68		3.7		772.08	770.61	75	N/A	7.0	1	2		84										2							
203	115+23	0.0			X	24	1	CULVERT	99		2.2		762.16	761.86	75	N/A	7.0	1	2		68										2							
204	124+50	0.0			X	24	1	CULVERT	50		1.2		747.87	747.71	75	N/A	7.0	1	2		24										2							
205	129+50	0.0			X	28x20	1	CULVERT	55		1.3		746.02	745.87	75	N/A	7.0	1	2		18										2							
206	134+25	0.0			X	24	1	CULVERT	52		1.2		748.95	748.70	75	N/A	7.0	1	2		27										2							
207	141+40	25.0		X		12	3	INLET F7	89		1.0	745.24	742.24	740.00	75	N/A	7.0	2	2		21									88	1							
208	142+35	0.0			X	24	1	CULVERT	52		1.3		739.62	738.19	75	N/A	7.0	1	2		25										2							
209	20+50	21.0		X		12	2	INLET E7	128		1.0	749.81	746.81	742.24	75	N/A	7.0	1	2		29									128							207	

Note: All Stations are based on Line "A" unless otherwise noted.

Not for Construction

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE

DESIGNED: JAH DRAWN: KGR

CHECKED: JRW CHECKED: MDR

INDIANA DEPARTMENT OF TRANSPORTATION

STRUCTURE DATA TABLE

HORIZONTAL SCALE	BRIDGE FILE
N/A	N/A
VERTICAL SCALE	DESIGNATION
N/A	1902752
SURVEY BOOK	SHEETS
2020-127	38 of 70
CONTRACT	PROJECT
R-42763	1902752

W:\Crawfordsville\R-42763-2020-127 Crawfordsville - Shrock Road\Design\GAD\Tables\StrData.dgn
10/6/2023 AM
jsmith

APPENDIX C
EARLY COORDINATION

Sample Early Coordination Letter (C-1 to C-2)

Early Coordination Letter Responses (C-3 to C-12)

USFWS Official Species List (C-13 to C-26)

USFWS Early Coordination Letter Response (C-27 to C-28)

USFWS Section 7 Response Letter (C-29 to C-33)

INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 234-5168

Eric Holcomb, Governor
Joe McGuinness,
Commissioner

March 30, 2021

Crawfordsville/Montgomery County Chamber of Commerce
101 W. Main St., Suite 412
Crawfordsville, IN 47933
info@crawfordsvillechamber.com

Re: Des. No. 1902752 Schenck Road New Alignment
Crawfordsville, Montgomery County, Indiana

To Whom it May Concern:

The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Montgomery County, Indiana. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above description in your reply.** We will incorporate your comments in a study of the project's environmental impacts.

Current Conditions: Schenck Road is a north-south road that connects W. Wabash St. at the north end and Big 4 Arch Road at the south end. The T-type intersection of Schenck Road and Big 4 Arch Road has three approaches where the turning movement from eastbound to northbound and reverse are not stop controlled. The Big 4 Arch Road approach from the east is stop controlled and the intersection sight distance is inadequate at this location. Also, connectivity is needed. Traffic must currently travel approximately 1 mile to the west on Big 4 Arch Road to access CR 200 W, the next north-south road connection to SR 32.

Proposed Project: The City of Crawfordsville is proposing construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a 2-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32. New right-of-way is generally along existing property lines with a portion of farmland being converted at the northern end of the project (see attached aerial graphic with the project area identified). The land use in the vicinity of the project is rural. Construction is anticipated to begin in winter 2024.

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 USFWS's Information for Planning and Consultation (IPaC) separately. A consultant will investigate the area for Section 106 compliance. The results of this investigation will be forwarded to the State Historic Preservation Officer for review and concurrence.

Please respond to this letter within 30 days. 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

DRAFT

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.

Thank you in advance for your input. If you have any questions regarding this matter, please feel free to contact Anne Shaw at (859) 797-0097 or anne.shaw@clarkdietz.com, or Tamara Montgomery at 765-361-5628 or tmontgomery@indot.in.gov.

Clark Dietz
Anne Shaw
Environmental Specialist

ATTACHMENTS:
Location Map, Aerial Map, Topographic Map
Photographs

Cc: Federal Highway Administration - Indiana Division - k.carmanygeorge@dot.gov
Environmental Manager, INDOT – Crawfordsville District Office – CBowman1@indot.in.gov
Indiana Geological Survey – IGSenvir@indiana.edu
Field Supervisor, U.S. Fish & Wildlife Service, Bloomington, IN - robin_mcwilliams@fws.gov
US Department of Housing & Urban Development, Chicago, IL - Melanie.H.Castillo@hud.gov
Environmental Coordinator, Indiana Department of Natural Resources, Division of Fish & Wildlife - environmentalreview@dnr.in.gov
Regional Environmental Coordinator, Midwest Regional Office, National Park Service, Omaha, NE - Mwro_Compliance@nps.gov
Indiana Department of Environmental Management – Groundwater - ATurnbow@idem.IN.gov
Indiana Department of Transportation, Office of Aviation – JCourtade@indot.in.gov
Natural Resources Conservation Service, State Conservationist - rick.neilson@in.usda.gov
Montgomery County Surveyor - tom.cummins@montgomerycounty.in.gov
Montgomery County Commissioners - john.frey@montgomerycounty.in.gov, jim.fulwider@montgomerycounty.in.gov, Dan.Guard@montgomerycounty.in.gov
Montgomery County Highway Department - jake.lough@montgomerycounty.in.gov
Montgomery County Engineer - james.peck@montgomerycounty.in.gov
Montgomery County Council - tom.mellish@montgomerycounty.in.gov, gary.booth@montgomerycounty.in.gov, jrbohlander@gmail.com, david.hunt@montgomerycounty.in.gov, don.mills@montgomerycounty.in.gov, msfllama@gmail.com, mark.davidson@montgomerycounty.in.gov
Crawfordsville City Council - abiddle@crawfordsville-in.gov, reidy@wabash.edu, jlucas@crawfordsville-in.gov, ehollander@crawfordsville-in.gov, kpriebe@crawfordsville-in.gov, jlowe@crawfordsville-in.gov, shamilton@crawfordsville-in.gov
City of Crawfordsville Mayor – tbarton@crawfordsville-in.gov
Crawfordsville/Montgomery County Chamber of Commerce - info@crawfordsvillechamber.com

DRAFT

Organization and Project Information

Project ID:
Des. ID: 1902752
Project Title: Schenck Road Extension
Name of Organization: Clark Dietz
Requested by: Anne Shaw

Environmental Assessment Report

1. Geological Hazards:
    - Moderate liquefaction potential
    - Floodway
2. Mineral Resources:
    - Bedrock Resource: Moderate Potential
    - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
    - Abandoned Industrial Minerals Sand Gravel Pits

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

DISCLAIMER:

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

This information was furnished by Indiana Geological Survey
Address: 1001 E. 10th St., Bloomington, IN 47405
Email: IGSEnvir@indiana.edu
Phone: 812 855-7428

Date: January 09, 2022

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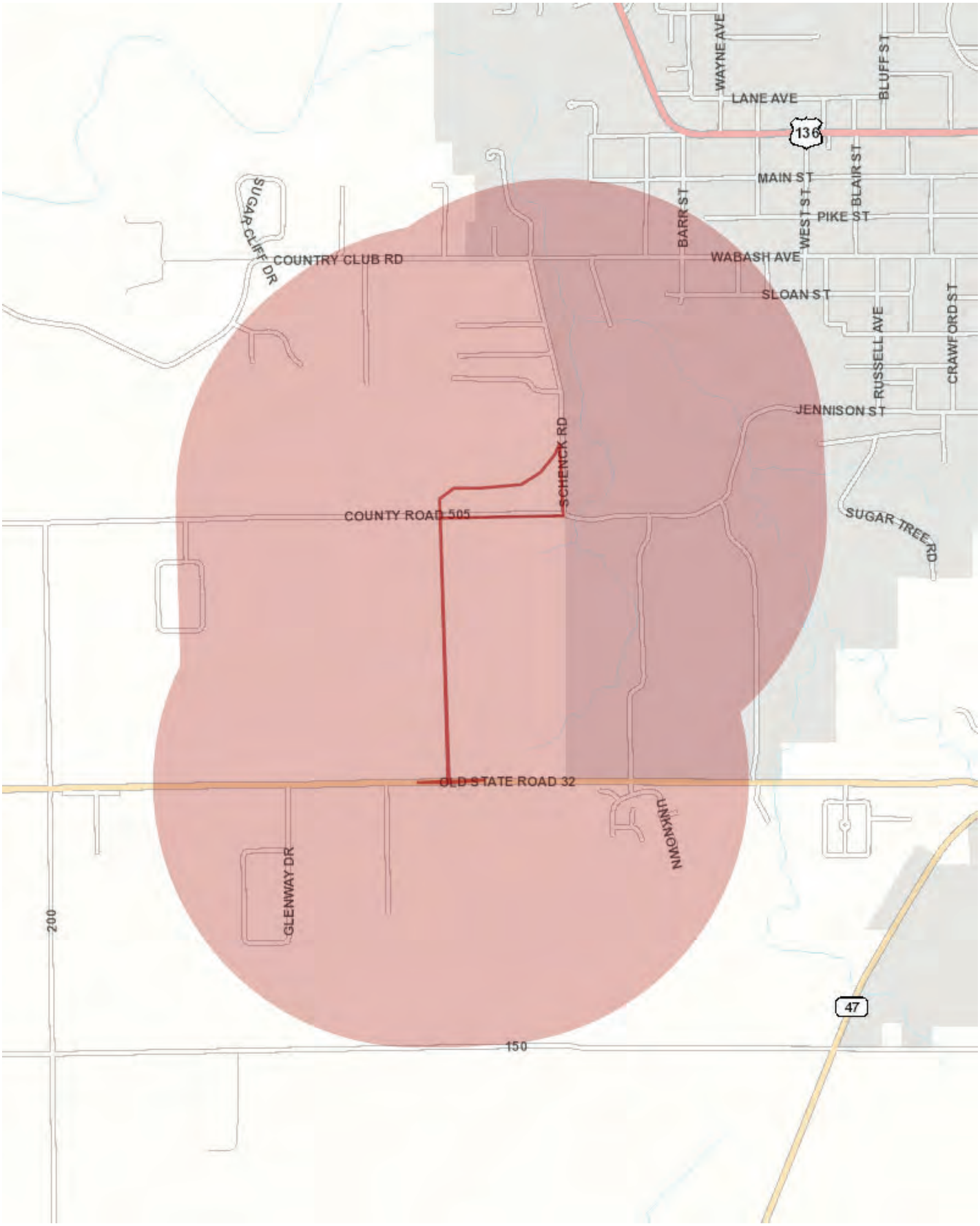

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Metadata:

- https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Pits_Abandoned.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

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

DNR #: ER-23595 **Request Received:** March 30, 2021

Requestor:
Clark Dietz, Inc.
Anne Shaw
8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240

Project: Schenck Road extension to connect with SR 32, and intersection improvement at Big 4 Arch Road, City of Crawfordsville; Des #1902752

County/Site info: Montgomery

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

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

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

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

Fish & Wildlife Comments: Based on maps and aerial photos provided for review, there appear to be a couple of agricultural drains within the proposed project area. It is unclear what impact the project may have on wildlife passage in the area. Any new, replacement, or rehabbed structure, and any bank stabilization under the structure, should not create conditions that are less favorable for wildlife passage under the structure compared to the current conditions. Upgrading wildlife passage for rehabilitated structures is encouraged whenever possible to improve wildlife/vehicle safety. There are a number of techniques and materials for incorporating wildlife passage into the design of a crossing structure. The following links are good resources to consider in the design of stream crossing structures to maintain fish and wildlife passage:
http://www.fs.fed.us/wildlifecrossings/library/,
https://roadecology.ucdavis.edu/files/content/projects/DOT-FHWA_Wildlife_Crossing_Structures_Handbook.pdf, https://www.fs.fed.us/biology/nsaec/fishxing/aop_pdfs.html,
https://www.fhwa.dot.gov/engineering/hydraulics/pubs/11008/hif11008.pdf.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:
1. Revegetate all bare and disturbed areas that are not currently mowed and maintained with a mixture of grasses, sedges, and wildflowers native to Central Indiana and specifically for stream bank/floodway stabilization purposes as soon as possible upon completion; turf-type grasses (including low-endophyte, friendly endophyte, and endophyte free tall fescue but excluding all other varieties of tall fescue) may be used in currently mowed areas only. A native herbaceous seed mixture must include at least 5 species of grasses and sedges and 5 species of wildflowers.
2. Minimize and contain within the project limits inchannel disturbance and the clearing of trees and brush.
3. Do not work in the waterway from April 1 through June 30 without the prior written approval of the Division of Fish and Wildlife.

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

4. Do not construct any temporary runarounds, access bridges, causeways, cofferdams, diversions, or pumparounds.
5. Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.
6. Do not use broken concrete as riprap.
7. Underlay the riprap with a bedding layer of well graded aggregate or a geotextile to prevent piping of soil underneath the riprap.
8. Minimize the movement of resuspended bottom sediment from the immediate project area.
9. 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.
10. 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 **Date:** April 28, 2021

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

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Eric J. Holcomb
Governor
Bruno Pigott
Commissioner

April 1, 2021

66-33
Clark Dietz, Inc.
Attention: Anne Shaw
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

Dear Anne Shaw,

RE: Wellhead Protection Area
Proximity Determination
Des No 1902752
Schenck Road New Alignment
Crawfordsville, Montgomery County,
Indiana

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

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

Note: the Drinking Water Branch has a self service feature which allows one to determine wellhead proximity without submitting the application form. Use the following instructions:

1. Go to https://www.in.gov/idem/cleanwater/pages/wellhead/
2. Use the search tool located in the upper left hand corner of the application to zoom to your site of interest by way of city, county, or address; or use the mouse to click on the site of interest displayed on the map.
3. Once the site of interest has been located and selected, use the print tool to create a .pdf of a wellhead protection area proximity determination response.

In the future please consider using this self service feature if it is suits your needs.

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

Sincerely,

Alisha Turnbow

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

From:	Lish, Erin
To:	Lillian M. Hutzell
Subject:	RE: Des. No. 1902752 Schenck Road New Alignment ECL
Date:	Monday, February 20, 2023 9:00:41 AM
Attachments:	image002.png image003.png image004.png image005.png image006.png

Hi Lillian,

I have reviewed the waters report and since there will be no stream or wetland impacts as a result of the project I will not be submitting any comments.

Thank you,

Erin Lish

Erin Lish, Wetlands Project Manager
Wetlands and Stormwater Section, Office of Water Quality
100 North Senate Avenue, Room 1255
Indianapolis Indiana 46204
Phone: (317) 232-0516
ELish@IDEM.IN.Gov

Section 401 Water Quality Certification & Isolated Wetlands Program: http://wetlands.in.gov
Storm Water Program: http://www.in.gov/idem/stormwater
Indiana Storm Water Quality Manual: http://www.in.gov/idem/stormwater/2363.htm

Indiana Department of Environmental Management

IDEM values your feedback.
Please take two minutes and complete this brief survey.

COVID-19 Resources:

- **Indiana State Dept. of Health (ISDH) COVID-19 Call Center:** Call 877-826-0011 (available 8:00 am- 5:00pm daily).
- **Anthem NurseLine:** Call 800-337-4770 or visit the Anthem NurseLine online for a FREE symptom screening. Available to anyone with an Anthem health plan (this includes State of IN employees)
- **Anthem Employee Assistance Program (EAP)**: Available to full-time state employees and their household members regardless of health plan participation. Call 800-223-7723 or visit anthemeap.com (enter State of Indiana) for crisis counseling, help finding child/elder care, legal/financial consultation and much more.

From:	Courtade, Julian
To:	Anne M. Shaw
Subject:	RE: Des. No. 1902752 Schenk Road Extension ECL
Date:	Wednesday, March 31, 2021 5:18:58 AM
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png

Anne –

I reviewed the Early Coordination Letter and found no issues with any surrounding airspace or public-use airports. This is due to the project meeting the required glideslope criteria from the nearest public-use facility according to 14 CFR Part 77 – Safe, efficient use, and preservation of the navigable airspace.

If any object will exceed 200 ft in height regardless of location, the object will need to be airspaced with the FAA 45 days prior to construction through the OEAAA portal below.

https://oeaaa.faa.gov/oeaaa/external/searchAction.jsp

Please let me know if you have any questions!

Thanks,

Julian L. Courtade
Chief Airport Inspector
100 North Senate Ave, N758-MM
Indianapolis, IN 46204
Cell: (317) 954-7385
Email: jcourtade@indot.in.gov

From: Anne M. Shaw <Anne.Shaw@clarkdietz.com>
Sent: Tuesday, March 30, 2021 1:27 PM
To: Courtade, Julian <JCourtade@indot.IN.gov>
Cc: kevin.hetrick <kevin.hetrick@clarkdietz.com>; Joe Bell <jbell@hwcengineering.com>; ballen@crawfordsville-in.gov; shesler@crawfordsville-in.gov; Montgomery, Tamara <TMontgomery@indot.IN.gov>
Subject: Des. No. 1902752 Schenk Road Extension ECL

**** This is an EXTERNAL email. Exercise caution. DO NOT open attachments or

United States Department of Agriculture
Farm Production and Conservation
Natural Resources Conservation Service
Indiana State Office
6013 Lakeside Boulevard
Indianapolis, Indiana 46278
317-295-5800

February 7, 2023

Lillian M. Hutzell
Clark Dietz, Inc.
120 W. Spring Street, Suite 400
New Albany, Indiana 47150

Dear Ms. Hutzell:

The proposed Schenck Road new alignment ECL in Montgomery County, Indiana (Des. No. 1902752), as referred to in your letter received on January 27, 2023, will cause a conversion of prime farmland.

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

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

Sincerely,

JOHN ALLEN
State Soil Scientist

Enclosers

USDA is an equal opportunity provider, employer, and lender.

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request **1/27/23**	4. Sheet 1 of **1**
1. Name of Project **Des. No. 1902752_Schenck Road New Alignm**	5. Federal Agency Involved **FHWA**	
2. Type of Project **New Road Alignment**	6. County and State **Montgomery County, Indiana**	

PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **1/27/23**	2. Person Completing Form **JRA**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☑ NO ☐		4. Acres Irrigated | Average Farm Size 445 ac
5. Major Crop(s) **Corn**	6. Farmable Land in Government Jurisdiction **Acres: 307930** **% 95**	7. Amount of Farmland As Defined in FPPA **Acres: 281375** **% 87**
8. Name Of Land Evaluation System Used **LESA**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **2/7/23**

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment ____			
	Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres To Be Converted Directly	**10.5209**			
B. Total Acres To Be Converted Indirectly, Or To Receive Services				
C. Total Acres In Corridor	**10.5209**			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	**6.66**			
B. Total Acres Statewide And Local Important Farmland	**0.00**			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	**0.003**			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	**82**			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	74			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — **Maximum Points**				
1. Area in Nonurban Use — **15**	**14**			
2. Perimeter in Nonurban Use — **10**	**9**			
3. Percent Of Corridor Being Farmed — **20**	**19**			
4. Protection Provided By State And Local Government — **20**	**0**			
5. Size of Present Farm Unit Compared To Average — **10**	**0**			
6. Creation Of Nonfarmable Farmland — **25**	**9**			
7. Availablility Of Farm Support Services — **5**	**5**			
8. On-Farm Investments — **20**	**10**			
9. Effects Of Conversion On Farm Support Services — **25**	**0**			
10. Compatibility With Existing Agricultural Use — **10**	**0**			
TOTAL CORRIDOR ASSESSMENT POINTS — **160**	66			
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — **100**	74			
Total Corridor Assessment (From Part VI above or a local site assessment) — **160**	66			
TOTAL POINTS *(Total of above 2 lines)* — **260**	140			

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
A	**6.66**	**2/16/23**	YES ☐ NO ☑

5. Reason For Selection:

Schenck Road New Alignment Project (Des. No. 1902752)

Signature of Person Completing this Part: **Lillian McKay Hutzell** | DATE **2/16/23**

NOTE: Complete a form for each segment with more than one Alternate Corridor

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273
http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html

In Reply Refer To: May 23, 2022
Project Code: 2022-0021069
Project Name: Des. No. 1902752 Schenck Road New Alignment

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

To Whom It May Concern:

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

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

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

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

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process. For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

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

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

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

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

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

Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

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

Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

Official Species List

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

This species list is provided by:

Indiana Ecological Services Field Office
620 South Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Project Summary

Project Code: 2022-0021069
Event Code: None
Project Name: Des. No. 1902752 Schenck Road New Alignment
Project Type: Road/Hwy - New Construction
Project Description: The City of Crawfordsville, with funding from the Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Union Township, Montgomery County, Indiana. The project is located on the Crawfordsville, Indiana 7.5' USGS Topographic Quadrangle in Sections 1 and 6, Townships 18 North, Ranges 4 and 5 West.

The City of Crawfordsville is proposing the construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

Suitable Indiana bat and NLEB habitat is present near the project action area in the form of mature trees. 0.61 acres of trees will be removed.

The MOT for the project will require phased construction in which Phase 1 will consist of Schenck Road construction from north of SR 32 to south of Big Four Arch Road, and from north of Big Four Arch Road. During Phases 2 and 3, a single two-way lane along SR 32 will be maintained using temporary signals and drums. Phase 4 will consist of constructing the public road approaches from the newly constructed Schenck Road to Big Four Arch Road. A single two-way lane will be maintained by using flaggers. Phase 5 will construct the tie in from existing Schenck Road to the new alignment and remove the existing tie-in from Schenck Road to Big Four Arch Road. During this phase, traffic will be detoured using Russell Avenue and Jenison Street. The MOT design will follow the criteria outlined in the Indiana Design Manual.

Construction would begin in Winter 2024.

A total of 12.832 acres of permanent right-of-way will be needed, and 0.028 acres of temporary right-of-way. The land use in the vicinity of the project is rural.

Permanent lighting will not be necessary. Temporary lighting may be necessary.

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 (email received from INDOT, March 17, 2022).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.02951444999999,-86.9269375645207,14z

Counties: Montgomery County, Indiana

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], 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.

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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 *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See www.fws.gov/midwest/endangered/mammals/nleb/index.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

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

Critical habitats

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

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

NAME	BREEDING SEASON
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

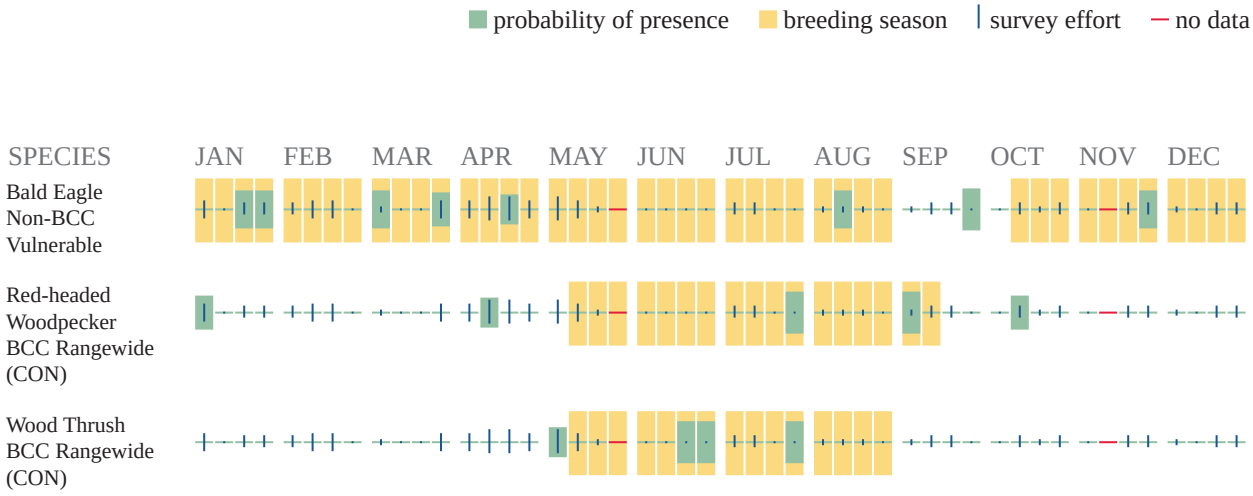
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles)

potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPaC User Contact Information

Agency:	Crawfordsville city
Name:	Lillian Hutzell
Address:	120 West Spring Street
Address Line 2:	Suite 400
City:	New Albany
State:	IN
Zip:	47150
Email	lillian.hutzell@clarkdietz.com
Phone:	4437586639

From:	McWilliams, Robin
To:	Anne M. Shaw
Subject:	Re: [EXTERNAL] Des. No. 1902752 Schenk Road Extension ECL
Date:	Wednesday, April 21, 2021 2:47:29 PM

Dear Anne,

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

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

The project is within the range of the Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis) and should follow the new Indiana bat/northern long-eared bat programmatic consultation process, if applicable (i.e. a federal transportation nexus is established). The Service has 14 days after a "Not Likely to Adversely Affect" determination letter is generated to review the project and provide additional comments or request additional information; if you do not receive a response from us within 14 days, we have no additional comments. **Please note**, if tree-clearing will occur beyond 300 feet from the edge of pavement, the programmatic consultation will likely not apply and individual consultation will be necessary.

Wetland and stream impacts may require permits from the US Army Corps of Engineers, the Indiana Department of Environmental Management's Water Quality Certification program, and the Indiana Department of Natural Resources. Wetland impacts should be avoided, and any unavoidable impacts should be compensated for in accordance with the Corps of Engineer's mitigation guidelines.

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

From: Anne M. Shaw <Anne.Shaw@clarkdietz.com>
Sent: Tuesday, March 30, 2021 1:27 PM
To: McWilliams, Robin <robin_mcwilliams@fws.gov>
Cc: Kevin M. Hetrick <Kevin.Hetrick@clarkdietz.com>; Joe Bell <jbell@hwcengineering.com>; ballen@crawfordsville-in.gov <ballen@crawfordsville-in.gov>; shesler@crawfordsville-in.gov <shesler@crawfordsville-in.gov>; tmontgomery@indot.in.gov <tmontgomery@indot.in.gov>
Subject: [EXTERNAL] Des. No. 1902752 Schenk Road Extension ECL

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

United States Department of the Interior
Fish and Wildlife Service

Indiana Field Office
(ES) 620 South Walker
Street Bloomington, IN
47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

September 27, 2022

Karstin Carmany-George Federal
Highway Administration
575 N. Pennsylvania St. Room 254
Indianapolis, Indiana 46204
(sent via email)

RE: Des. 1902752, Schenck Road New Alignment Project, Crawfordsville, Montgomery County, Indiana

Dear Ms. Carmany-George:

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (l6 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of l969, the Endangered Species Act of l973, as amended, and the U. S. Fish and Wildlife Service's (Service) Mitigation Policy.

This project does not qualify for the Indiana bat and northern long-eared bat rangewide programmatic consultation for transportation projects due to tree clearing impacts beyond 300 feet from an existing roadway.

PROPOSED ACTION

The City of Crawfordsville is proposing construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a 2-lane asphalt pavement road with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require one added turn lane along westbound SR 32. New right-of-way is generally along existing property lines with a portion of farmland being converted at the northern end of the project. The land use in the vicinity of the project is rural/agricultural. Construction is anticipated to begin in Winter 2024.

The following commitments are proposed by the Indiana Department of Transportation (INDOT) as Avoidance and Minimization Measures (AMMs) to reduce potential impacts to listed bat species:

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

Lighting AMM 2. Use downward-facing, full cut-off lens lights, and direct lighting away from suitable habitat if installing new or replacing existing permanent lights.

Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.

Tree Removal AMM 2: Apply time of year (TOY) restrictions for tree removal when bats are not likely to be present (October 1-March 31), or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed.

Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits).

Tree Removal AMM 4: Do not remove:

- **documented** Indiana bat or NLEB roosts that are still suitable for roosting; or
- trees within 0.25 miles of roosts; or
- **documented** foraging habitat any time of year.

THREATENED AND ENDANGERED SPECIES

As noted in your coordination letter, the proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) (NLEB). There are records of both species in Montgomery County. Suitable summer habitat for the Indiana bat and NLEB exists in several areas along the project corridor.

The northern long-eared bat was listed as threatened under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) in April 2015. A 4(d) rule was published in the *Federal Register* on January 14, 2016. The 4(d) rule specifically defines "take" prohibitions for the northern long-eared bat. At this time, no critical habitat has been proposed.

The entire State of Indiana is within the range of the northern long-eared bat. During the summer, northern long-eared bats typically roost singly or in colonies in cavities, underneath bark, crevices, or hollows of both live and dead trees and/or snags (typically ≥3 inches dbh). Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat appears opportunistic in selecting roosts, using tree species based on presence of cavities or crevices or presence of peeling bark. It has also been occasionally found roosting in structures like barns and sheds (particularly when suitable tree roosts are unavailable). They forage for insects in upland and lowland woodlots and tree lined corridors. During the winter, northern long-eared bats predominately hibernate in caves and abandoned mine portals.

Indiana bats are also known to occur state-wide. They hibernate in caves then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Recent research has shown that they will also inhabit fragmented landscapes with adequate forest for roosting and foraging. Young are raised in nursery colony roosts in trees, typically near drainage-ways in undeveloped areas. Like all other bat species in Indiana, the Indiana bat diet consists exclusively of insects.

STUDY AREA

Schenck Road is a north-south road that connects West Wabash Street at the north end and Big 4 Arch Road at the south end. The project is located on the southeast side of the City of Crawfordsville. Adjacent land use in the project area consists of agricultural land, residential properties, and one large industry property to the east.

PROJECT IMPACTS/EFFECTS

Forest

Tree clearing up to 0.99 acres is anticipated, including 0.75 acres beyond 300 feet of the existing roadway. Most of this clearing is along a narrow fence row between two agricultural fields. Clearing will occur during the winter of 2024 within the inactive bat season (October 1 – March 31).

Streams/Wetlands

No impacts to streams or wetlands are expected.

Lighting/Noise

Temporary lighting may be used to construct the project. The lighting may be utilized during the active season for bats. Permanent lighting will not be installed as part of this project.

Noise and vibrations throughout the work areas may increase above current levels due to construction activities; however, these activities will be short term and limited in scope at each

location. No known roosting records are in the vicinity of the project and no impacts are anticipated from noise related stressors.

CONCLUSION

Based on the information we have reviewed, including the proposed avoidance and minimization measures such as seasonal tree-clearing activities and lighting restrictions, we concur that the proposed project is not likely to adversely affect the Indiana bat or northern long-eared bat.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If, however, new information on endangered species or the extent of impacts at the site becomes available, or if project plans are changed significantly, please contact our office for further consultation.

ADDITIONAL RECOMMENDATIONS

We recommend the following additional measures be included in the final project plans (where applicable) to minimize adverse impacts on fish and wildlife resources:

1. Revegetate all disturbed soil areas immediately upon project completion, using native trees and shrubs in the riparian zone wherever feasible. We recommend reforestation occur along all impacted riparian areas, extending at least 50 feet (preferably 100) perpendicular from the streambank**.**

2. 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.)**

3. Minimize the extent of artificial bank stabilization and use bioengineering methods wherever feasible.

4. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat (if applicable).

5. Use best methods to contain soil and sediment runoff during construction. Use silt curtains or other devices at the downstream end of the project to contain bottom sediment in the newly excavated channel and to prevent it from adding to the downstream sediment load. Maintain such devices by removal of accumulated sediment.

6. Restrict below low-water work in streams to placement of culverts, piers, pilings and/orfootings, shaping of the spill slopes around the bridge abutments, and placement of riprap.

7. 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- bottomed 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.

8. 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.

9. 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.

We appreciate the opportunity to comment at this stage of project planning. We look forward to continuing to coordinate as the project develops. If you have any questions about our recommendations, please contact Robin McWilliams Munson at Robin_Mcwilliams@fws.gov.

Sincerely,

SCOTT PRUITT Digitally signed by SCOTT PRUITT Date: 2022.09.27 14:43:34 -04'00'

Scott E.
Pruitt Field
Supervisor

Cc (via email):
Sandy Bowman, INDOT, Indianapolis, IN
Randy Kurtz, INDOT, Indianapolis, IN Anne
Shaw, Clark Dietz, Indianapolis, IN

APPENDIX D

SECTION 106

Historic Property Short Report Summary (D-1 to D-4)

Phase Ia Archaeology Report Summary (D-5 to D-9)

Section 106 800.11 Documentation INDOT Concurrence Email (D-10)

Section 106 800.11 Documentation SHPO Concurrence Email (D-11 to D-12)

Section 106 800.11 Documentation (D-13 to D-46)

Public Notice (D-47)

Publisher’s Affidavit (D-48 to D-50)

Historic Property Short Report:

Schenck Road New Alignment
in the City of Crawfordsville, Union Township
Montgomery County, Indiana
Des. No. 1902752

Prepared by:
Anne M. Shaw, M.H.P.
Principal Investigator

ClarkDietz

8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240
anne.shaw@clarkdietz.com
(317) 808-3160

Prepared for:
City of Crawfordsville

July 29, 2021

MANAGEMENT SUMMARY

This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the Schenck Road New Alignment in Crawfordsville, Union Township, Montgomery County, Indiana (Des. No. 1902752). Above ground resources located within the project APE were identified and evaluated in accordance with Section 106, National Historic Preservation Act (NHPA) of 1966, as amended, and the regulations implementing Section 106 (36 CFR Part 800).

As a result of the NHPA, as amended, and CFR Part 800, federal agencies are required to take into account the impact of federal undertakings upon historic properties in the area of the undertaking. Historic properties include buildings, structures, sites, objects, and/or districts that are eligible for or listed in the National Register of Historic Places (NRHP). As this project is receiving funding from the Federal Highway Administration (FHWA), it is subject to a Section 106 review.

The APE contains no properties listed in the NRHP.

The APE contains no properties that are recommended eligible for listing in the NRHP.

INTRODUCTION/PROJECT DESCRIPTION

The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Union Township, Montgomery County, Indiana (Figure 1). The project is located on the Crawfordsville, Indiana 7.5' USGS Topographic Quadrangle in Sections 1 and 6, Townships 18 North, Ranges 4 and 5 West (Figure 2).

The City of Crawfordsville is proposing the construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

The project location is located approximately 1.3 miles southwest of downtown Crawfordsville. Land use in the project area is mixed, consisting of agricultural, residential, and industrial properties. The immediate project area is rolling hills with wooded areas and large open agricultural fields. A large industrial facility (LSC Communications) sits to the east and there is a housing development to the south and east.

Anne Shaw, an Indiana Department of Historic Preservation and Archaeology (DHPA)-Qualified Architectural Historian from Clark Dietz, who meets the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61, established an Area of Potential Effects (APE) for the project, performed fieldwork and identified and evaluated above-ground resources within it. The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The area of potential effects is influenced by the scale and nature of an undertaking…" (36 CFR 800.9(a)).

The APE (Figure 3) was drawn to include the vicinity that would be physically and visually impacted by the project. Due to the scope of work, which is limited to the ground level, the APE includes the existing and proposed right-of-way (ROW), immediately adjacent properties, and those areas where a visual differentiation may occur between an existing structure and the project area. The APE is roughly a rectangular shape. Properties within the APE are agricultural to the west, suburban to the north and south, and industrial to the east.

Notwithstanding DHPA's amendment of IHSSI methodology, INDOT still requires all "contributing" properties within a proposed project's APE to be surveyed and documented by a qualified professional historian. However, in recognition of the change to IHSSI methodology, "contributing" properties that are located outside of a historic district did not receive an individual NRHP-eligibility evaluation within the text of this HPR. Instead, if such properties are present in the APE they were documented in a table in the appendix, which includes photographs. As before, the IHSSI served as an aid in rating properties, but the historian was responsible for confirming or adjusting this rating—using the IHSSI criteria—based on their own field work and research. Likewise, the historian was responsible for identifying previously un-surveyed individual resources and historic districts.

With the exception of resources already listed in the NRHP (either individually and/or as part of a historic district), the text of the HPR includes NRHP-eligibility evaluations of all potential historic districts and all properties that the historian rated "notable" or "outstanding," whether previously surveyed or not. The historian who prepared the HPR considered the potential NRHP eligibility of every above-ground resource within the APE.

NRHP ELIGIBILITY AND EVALUATIONS

The professional historian from Clark Dietz conducted a field reconnaissance of the project area on March 12, 2021. During this fieldwork, the historian thoroughly examined the project area and surrounding properties, taking multiple photographs from all directions to capture views looking away and toward the project area (Photographs 1-8).

IHSSI #107-139-20061 was a "Contributing" farmstead with T-Plan house, a smokehouse, summer kitchen and several barns. SHAARD noted the property as demolished within their inventory and the property was confirmed demolished during field reconnaissance (Photograph 3). Based on a review of Google Earth Pro aerials, the house was demolished after February 2005.

Six properties (CD-1 to CD-6) were identified as being 50 years of age or older and were not previously listed in the IHSSI (Table 1). All six of these properties are rated by the historian as "Contributing" and are therefore included in a table detailing the findings in Appendix A.

The remaining buildings within the APE are modern structures.

CONCLUSIONS

The APE contains no properties listed in the NRHP.

As a result of identification and evaluation efforts for this project, no properties are recommended as eligible for listing in the NRHP.

A Phase Ia Archaeological Literature Review and Reconnaissance Survey for the Proposed Extension of Schenck Road from Big 4 Arch Road to SR 32 (Des 1902752), Crawfordsville, Union Township, Montgomery County, Indiana

Archaeological report

January 3, 2021

Lead Agency: Federal Highway Administration

Prepared for:

Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

SJCA

Christopher Jackson, M.S., RPA
Archaeologist, Historian/QP
SJCA Inc.
9102 North Meridian Street, Suite 200
Indianapolis, Indiana 46260

p. 317.634.4110 f. 866.422.2046 e. cjackson@sjcainc.com

ABSTRACT

Clark Dietz contracted SJCA, Inc. to conduct a Phase Ia archaeological records review and reconnaissance survey for the proposed Schenck Road extension project (Des 1902752) that is approximately 1.3 miles southwest of downtown Crawfordsville in Montgomery County. The proposed project will entail the extension of Schenck Road from Big 4 Arch Road to State Road 32.

The survey area (area examined by this investigation), which encompassed 15.9 acres, is situated in the southeastern quarter of the southeastern quarter of the northeastern quarter, and the southeastern quarter of Section 1, Township 18 North, Range 5 West, on the 1992 USGS Crawfordsville quadrangle (7.5' topographic map) Union Township, Montgomery County.

The records review indicated that no section of the survey area has been previously examined; it was also ascertained that no previously documented sites have been inventoried in the survey area or its vicinity. No National Register of Historic Places (NRHP) listed properties/districts or cemeteries have been reported either in, or within 100 feet of the survey area.

The field investigation recorded one previously undocumented prehistoric site (12-My-727). The site was comprised of a small ephemeral camp/lithic scatter. No diagnostic artifacts were collected; thus, the cultural/temporal association of the site could not be determined.

While it is recognized that further work on the site could yield additional artifacts, it is believed that neither the work nor the artifacts would provide data that would increase the knowledge of the prehistory of this area; therefore, the site fails to meet the minimum criteria for placement in the NRHP under Criterion D. No further work is recommended on site 12-My-727.

INTRODUCTION

Clark Dietz contracted SJCA, Inc. to conduct a Phase Ia archaeological records review and reconnaissance survey for the proposed Schenck Road extension project (Des 1902752) that is approximately 1.3 miles southwest of downtown Crawfordsville in Montgomery County (Figure 1). The proposed project will entail the extension of Schenck Road from Big 4 Arch Road to State Road (SR) 32 (Figures 2 and 3). The proposed plans are provided in Appendix A.

The archaeological investigation for this project was conducted in response to Section 106 of the National Historic Preservation Act of 1966, as amended in 1992, U.S.C. 470f. The document is congruent with the standards established by the Advisory Council of Historic Preservation and all Section 106 (36 CFR Part 800) regulations. The federal standards and guidelines are supplemented by the procedures presented by the Cultural Resources Section of the Indiana Department of Transportation (INDOT) and the Division of Historic Preservation and Archaeology (DHPA). The goals of this survey are to determine if archaeological resources exist within the project area and to determine whether the identified archaeological resources meet the National Register of Historic Places (NRHP) Criteria for Evaluation.

The City of Crawfordsville is proposing the construction of an extension of Schenck Road to provide a direct connection to SR 32. The need for this project is the lack of connectivity to SR 32 on the western boundary of the City of Crawfordsville, resulting in reduced mobility. At the existing intersection of Schenck Road and Big 4 Arch Road, an existing western connection, there is inadequate sight distance. The purpose of the project is to increase motorized connectivity within the City of Crawfordsville as it expands west and address the inadequate sight distance at the intersection of Schenck Road and Big 4 Arch Road.

The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

The survey area (area examined by this investigation), which encompassed 15.9 acres, is situated in the southeastern quarter of the southeastern quarter of the northeastern quarter, and the southeastern quarter of Section 1, Township 18 North, Range 5 West, on the 1992 USGS Crawfordsville quadrangle (7.5' topographic map) Union Township, Montgomery County (Figure 2).

Christopher Jackson, M.S., RPA, undertook the cultural resources records review on October 22, 2021. The fieldwork, which was directed by Mr. Jackson, occurred between October 27 and November 2, 2021. The field crew was Shelby Lutz. Mr. Jackson is the Principal Investigator for this project, while Ty Gallahan did the figures and GIS work for this report.

A total of 65 shovel probes were excavated; two shovel probes were not excavated due to the disturbance from the drainage ditch. All of the shovel probes were negative and no subsurface in situ archaeological deposits were encountered; thus, no sites were inventoried in this section.

The soil profile documented in the low wet area in the southern portion of this area was a dark gray brown (10YR4/2) clay loam that was followed by either a yellow brown (10YR5/4) clay with Manganese, or a light brownish gray (10YR6/2) intermixed with a brown (10YR5/3) silt clay. The base horizons indicated that this portion of the survey area lies in very poorly drained soils. The depth of the dark gray brown stratum ranged from 23 cm to 40 cm.

On the side-slope and ridge, the soil profile was a brown (10YR4/3) clay loam or a dark gray brown (10YR4/2) clay loam that was followed by a yellow brown (10YR5/6) clay. The depth of the upper horizon was between 14 cm and 35 cm.

INTERPRETATIONS OF THE FINDINGS INTO A REGIONAL CONTEXT

One previously unrecorded archaeological site (12-My-727) was documented by this investigation. The site consisted of a small ephemeral camp/lithic scatter in which no diagnostic artifacts were collected; therefore, the cultural/temporal affiliation of the site could not be ascertained. The site compares favorably with those sites that have been previously recorded in the study area. As noted, two sites with a prehistoric component were inventoried in the study area; the sites were comprised of an isolated find and a small lithic scatter/camp. These sites would suggest that in this section of Montgomery County, prehistoric sites consisted of small camps (probably for hunting and/or the processing of game) that were inhabited for brief periods. One of the reasons for this is due to the lack of a permanent drainage/water source in the vicinity of these sites.

SUMMARY AND CONCLUSIONS

Clark Dietz contracted SJCA, Inc., to conduct a Phase Ia archaeological records review and reconnaissance survey for the proposed Schenck Road extension project (Des 1902752) that is approximately 1.3 miles southwest of downtown Crawfordsville in Montgomery County. The proposed project will entail the extension of Schenck Road from Big 4 Arch Road to SR 32.

The survey area, which encompassed 15.9 acres, is situated in the southeastern quarter of the southeastern quarter of the northeastern quarter, and the southeastern quarter of Section 1, Township 18 North, Range 5 West, on the 1992 USGS Crawfordsville quadrangle (7.5' topographic map) Union Township, Montgomery County.

The records review indicated that no section of the survey area has been previously examined; it was also ascertained that no previously documented sites have been inventoried in the survey area or its vicinity. No NRHP listed properties/districts or cemeteries have been reported either in or within 100 feet of the survey area.

The field investigation recorded one previously undocumented prehistoric site (12-My-727). The site was comprised of a small ephemeral camp/lithic scatter. No diagnostic artifacts were collected; thus, the cultural/temporal association of the site could not be determined.

While it is recognized that further work on the site could yield additional artifacts, it is believed that neither the work nor the artifacts would provide data that would increase the knowledge of the prehistory of this area. Therefore, the site fails to meet the minimum criteria for placement in the NRHP under Criterion D and no further work is recommended on site 12-My-727.

It should be noted that if any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery needs to be reported to the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology within two business days, as well as to the Cultural Resources Office of the Indiana Department of Transportation. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

From:	Coon, Matthew
To:	Anne M. Shaw; Korzeniewski, Patricia J
Cc:	Kevin M. Hetrick; Joe Bell; Joe Wright; ballen@crawfordsville-in.gov; SHesler@crawfordsville-in.gov; Lillian M. Hutzell; mkennedy@indot.in.gov; sbranigin@indot.in.gov
Subject:	RE: Des. No. 1902752 800.11 Documentation (revised)
Date:	Monday, July 18, 2022 12:59:24 PM

Anne,

The signed 800.11 documentation is available in ProjectWise for upload to IN SCOPE: Schenck Rd_DES 1902752_800.11_2022-07-12_signed.pdf

Since Mary is out of the office, please select Patty Jo as the IN SCOPE approver.

Once the documents are released, please check IN SCOPE and verify that the documents are available for viewing and that all of the information is correct. In particular, ensure that the project name is consistent with other project documents. If any information needs to be corrected, consultants should contact INDOT-CRO.

Once the documents are verified in IN SCOPE, please submit a hard copy and PDF copy to the SHPO** and email the non-tribal consulting parties to notify them that the documents have been posted and are ready for their review. Please cc the CRO reviewers on that email as well; when they receive that email, they will notify the Tribes.
***NOTE: In addition to the hard copies SHPO requires, they have also asked requested during this time for PDF copies of all documents, along with the Review Request Submittal form, be sent to Miriam Burkett at dhpareview@dnr.IN.gov. They still require hard copies to be submitted via mail as usual.*

Don't hesitate to let us know if you have any questions.

Thanks,

Matt Coon
Archaeology Team Lead
Acting Manager, Cultural Resources Office
Environmental Services
Indiana Department of Transportation
100 North Senate Ave., N758-ES
Indianapolis, IN 46204
Phone: 317-697-9752

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Daniel W. Bortner, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov ·

July 27, 2022

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: Indiana Department of Transportation's finding of "no historic properties affected" on behalf of the Federal Highway Administration for the Schenck Road new alignment project (Des. No. 1902752; DHPA No. 27390)

Dear Ms. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has reviewed your July 18, 2022, submission, which enclosed INDOT's finding and supporting documentation, received by our office the same day for this project in Crawfordsville, Montgomery County, Indiana.

As previously indicated, there are no historic properties listed or eligible for inclusion in the National Register of Historic Places ("NRHP") located within this project's area of potential effects. Also as previously indicated, regarding archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, that site 12MY727 does not appear eligible for inclusion in the NRHP and that no further archaeological investigations are necessary.

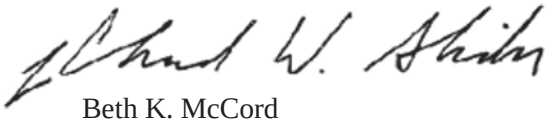
Accordingly, we concur with INDOT's July 18, 2022, Section 106 finding of "No Historic Properties Affected" on behalf of FHWA for this federal undertaking.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Beth McCord, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the Schenck Road new alignment project in Montgomery County (Des. No. 1902752), please refer to DHPA No. 27390.

Very truly yours,



Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:dmk

emc: Kari Carmany-George, FHWA
Matt Coon, INDOT
Susan Branigin, INDOT
Anne Shaw, Clark Dietz
Beth McCord, DNR-DHPA
Danielle Kauffmann, DNR-DHPA

FEDERAL HIGHWAY ADMINISTRATION'S
SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties) AND
SECTION 106 FINDINGS AND DETERMINATIONS
AREA OF POTENTIAL EFFECT
ELIGIBILITY DETERMINATIONS
EFFECT FINDING
Schenck Road New Alignment
in the City of Crawfordsville, Union Township
Montgomery County, Indiana
DES. NO.: 1902752; DHPA #27390

AREA OF POTENTIAL EFFECTS
(Pursuant to 36 CFR Section 800.4(a)(1))

The APE includes the existing and proposed right-of-way (ROW), immediately adjacent properties, and those areas where a visual differentiation may occur between an existing structure and the project area. The APE is roughly a rectangular shape. Properties within the APE are agricultural to the west, suburban to the north and south, and industrial to the east. The archaeological APE is represented by the project area which consists of the existing and proposed right of way for the project that was investigated for the presence of archaeological deposits. Maps of the APE can be found in Appendix A.

ELIGIBILITY DETERMINATIONS
(Pursuant to 36 CFR 800.4(c)(2))

No properties within the APE are listed in or recommended eligible for listing in the National Register of Historic Places (NRHP).

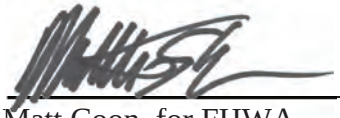
EFFECT FINDING
(Pursuant to 36 CFR 800.4(d)(1))

The Indiana Department of Transportation (INDOT), acting on behalf of the Federal Highway Administration (FHWA), has determined a “No Historic Properties Affected” finding is appropriate for this undertaking.

INDOT respectfully requests the Indiana State Historic Preservation Officer provide written concurrence with the Section 106 determination of effect.

SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties)

This undertaking will not convert property from any Section 4(f) historic property to a transportation use; the INDOT, acting on FHWA’s behalf, has determined the appropriate Section 106 finding is “No Historic Properties Affected”; therefore, no Section 4(f) evaluation is required.



Matt Coon, for FHWA
Acting Manager
INDOT Cultural Resources

July 18, 2022
Approved Date

FEDERAL HIGHWAY ADMINISTRATION
DOCUMENTATION OF SECTION 106 FINDING OF
NO HISTORIC PROPERTIES AFFECTED
SUBMITTED TO THE STATE HISTORIC PRESERVATION OFFICER
PURSUANT TO 36 CFR Section 800.4(d)(1)
Schenck Road New Alignment
in the City of Crawfordsville, Union Township
Montgomery County, Indiana
DES. NO.: 1902752; DHPA #27390

1. DESCRIPTION OF THE UNDERTAKING

The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Union Township, Montgomery County, Indiana. The project is located on the Crawfordsville, Indiana 7.5' USGS Topographic Quadrangle in Section 1, Township 18 North, Range 5 West. (Appendix A, page A-2)

The City of Crawfordsville is proposing the construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

The project location is located approximately 1.3 miles southwest of downtown Crawfordsville. Land use in the project area is mixed, consisting of agricultural, residential, and industrial properties. The immediate project area is rolling hills with wooded areas and large open agricultural fields. A large industrial facility (LSC Communications) sits to the east and there is a housing development to the south and east. See preliminary plans in Appendix E.

The Area of Potential Effects (APE) includes the vicinity that would be physically and visually impacted by the project. Due to the scope of work, which is limited to the ground level, the APE includes the existing and proposed right-of-way (ROW), immediately adjacent properties, and those areas where a visual differentiation may occur between an existing structure and the project area. The APE is roughly a rectangular shape. Properties within the APE are agricultural to the west, suburban to the north and south, and industrial to the east. The archaeological APE is represented by the project area which consists of the existing and proposed right of way for the project that was investigated for the presence of archaeological deposits. Please see Appendix A for APE maps.

2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES

The National Register of Historic Places (NRHP) and the Indiana Register of Historic Sites and Structures were searched for listings in Montgomery County. No listed properties are located within the APE.

The Indiana Historic Sites and Structures Inventory (IHSSI) for Montgomery County were examined using the State Historic Architectural and Archaeological Research Database (SHAARD) and Indiana Historic Buildings, Bridges, and Cemeteries Map (IHBBCM). The *Montgomery County Interim Report* (Historic Landmarks of Foundation Indiana, 1985) was also inspected. The Union Township map within the *Montgomery County Interim Report* was studied and compared with the IHBBCM. A search of INSCOPE, INDOT's Section 106 portal (http://erms.indot.in.gov/Section106Documents/) did not reveal any previous investigations near the project area.

An historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP on March 12, 2021. As a result of the historic property identification and evaluation efforts, no districts or properties were recommended for inclusion in the NRHP (Shaw, 7-29-2021) (the report abstract, and conclusions are included in Appendix D).

With regard to archaeological resources, a qualified professional archaeologist reviewed the proposed project area between October 27 and November 2, 2021. The field investigation recorded one previously undocumented prehistoric site (12-My-727). The site was comprised of a small ephemeral camp/lithic scatter. No diagnostic artifacts were collected; thus, the cultural/temporal association of the site could not be determined. While it is recognized that further work on the site could yield additional artifacts, it is believed that neither the work nor the artifacts would provide data that would increase the knowledge of the prehistory of this area; therefore, the site fails to meet the minimum criteria for placement in the NRHP under Criterion D. No further work is recommended on site 12-My-727 (Jackson 1-3-2022). The archaeological report and conclusions are included in Appendix D.

An early coordination letter (ECL) was sent on April 21, 2021 to the following list:

State Historic Preservation Office (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

The following responses were received to join consultation as consulting parties (See Appendix C: Consulting Parties and Correspondence):

SHPO

SHPO responded to the ECL on May 7, 2021, stating that "We are not aware of any parties who should be invited to participate in the Section 106 consultation on this federal undertaking, beyond those whom INDOT already has invited. However, if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of that property as soon as possible. In your next regular correspondence on this project, please advise us as to which of the invited consulting parties has accepted the invitation."

An Historic Properties Short Report (HPSR) was distributed on July 29, 2021 to the SHPO and uploaded to INSCOPE (See Appendix C: Consulting Parties and Correspondence and Appendix D for the abstract and summary of the HPSR.)

The SHPO responded to the HPSR on August 10, 2021 stating that "The proposed area of potential effects ("APE") proposed in the HPSR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur." They also stated that "For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed or eligible for inclusion in the National Register of Historic Places ("NRHP") located within the APE."

A Phase Ia Archaeological Literature Review and Reconnaissance Report was distributed on January 25, 2022 to the SHPO and Tribes. (See Appendix C: Consulting Parties and Correspondence and Appendix D for the abstract and summary of the Archaeology Report.)

In a letter dated January 26, 2022, the Eastern Shawnee Tribe of Oklahoma responded to the Archaeology Report stating that "As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes NO Adverse Effect or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted."

In a letter dated January 26, 2022, the Director of Cultural Preservation for the Peoria Tribe of Indians of Oklahoma responded to the Archaeology Report stating that "The Peoria Tribe of Indians of Oklahoma is unaware of a direct link to the newly proposed project location. The Peoria Tribe of Indians of Oklahoma is also unaware of items covered under Native American Graves Protection and Repatriation Act (NAGPRA) to be associated with the proposed project site, including funerary or sacred objects; objects of cultural patrimony; or ancestral human remains. The Peoria Tribe has no objection at this time to the proposed project. If, however, at any time items are discovered which fall under the protection of NAGPRA, the Peoria Tribe requests immediate notification and consultation. In addition, state, local and tribal authorities should be advised as to the findings and construction halted until consultation with all concerned parties has occurred."

SHPO responded on February 10, 2022 to the archaeology report stating that "based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, as expressed in the submitted archaeological reconnaissance survey report (Jackson, 1/3/2022), that site 12MY727 does not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary."

No other consulting party comments were received.

No further efforts to identify cultural resources took place.

Please see Appendix C for Consulting Parties and Correspondence and Appendix D for summaries of the HPSR and Archaeological Report.

A public notice of the "No Historic Properties Affected" finding will be published in the *Journal Review* and the public will be afforded thirty (30) days to respond. This document will be revised, if necessary, after the expiration of the public comment period.

3. BASIS FOR FINDING

Based on identification efforts, a finding of "No Historic Properties Affected" is appropriate because there are no historic properties that are recommended eligible for listing in the NRHP within the APE.

APPENDICES

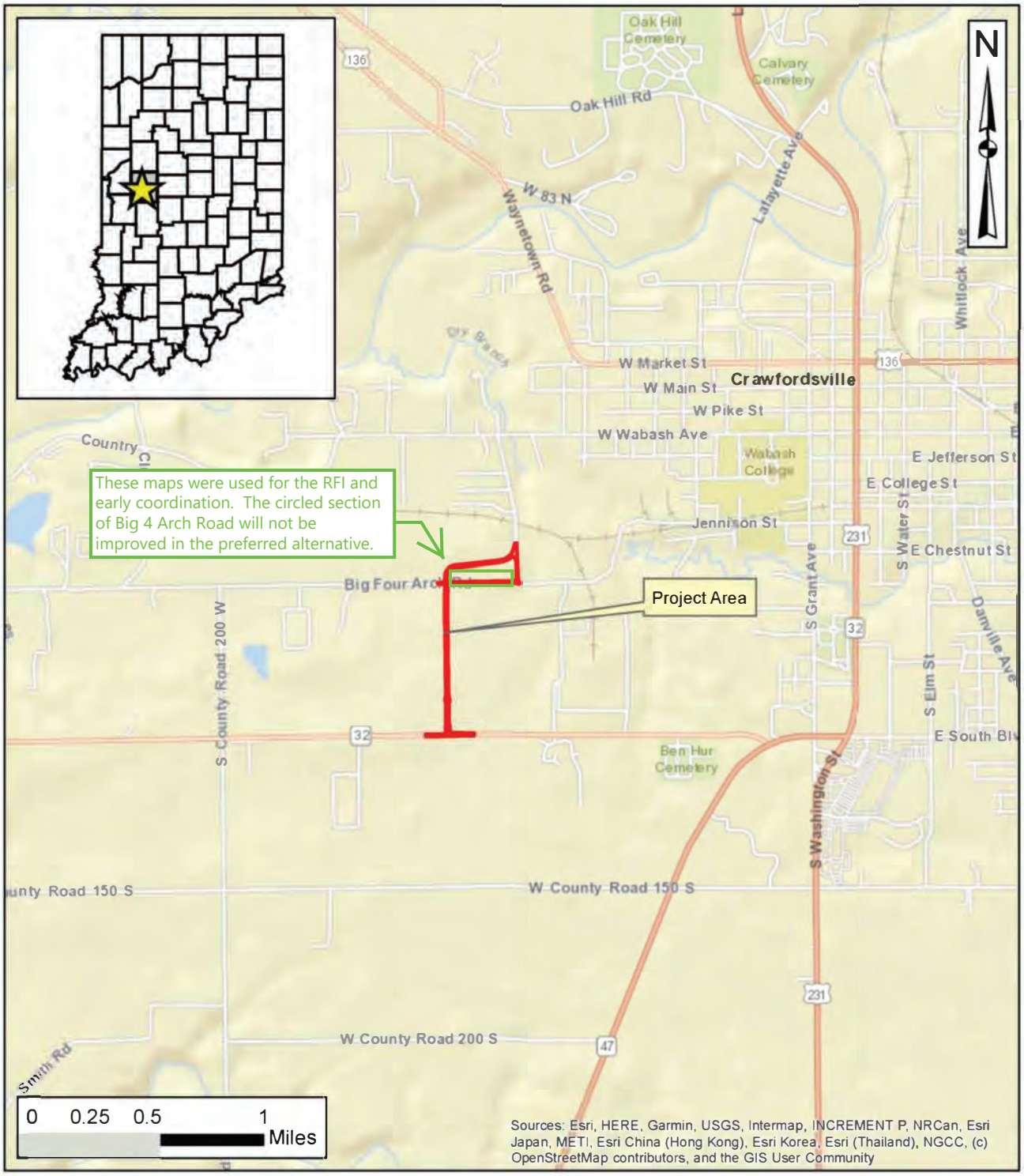
Removed to avoid redundancy

Appendix A: Maps
Appendix B: Photographs
Appendix C: Consulting Parties and Correspondence
Appendix D: Historic Property Short Report and Archaeology Report Summaries
Appendix E: Preliminary Plans

Removed to avoid redundancy

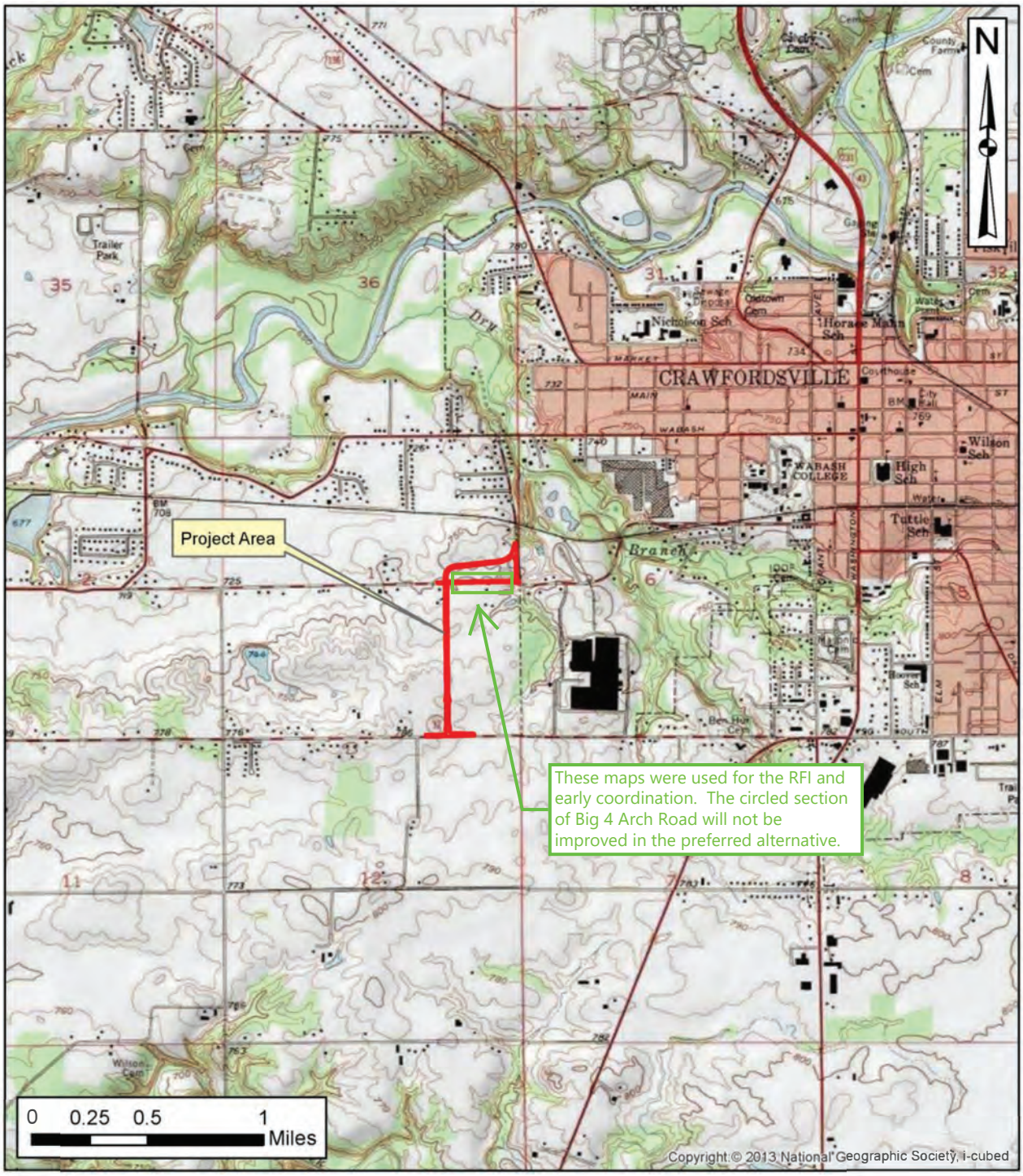
APPENDIX A

Maps



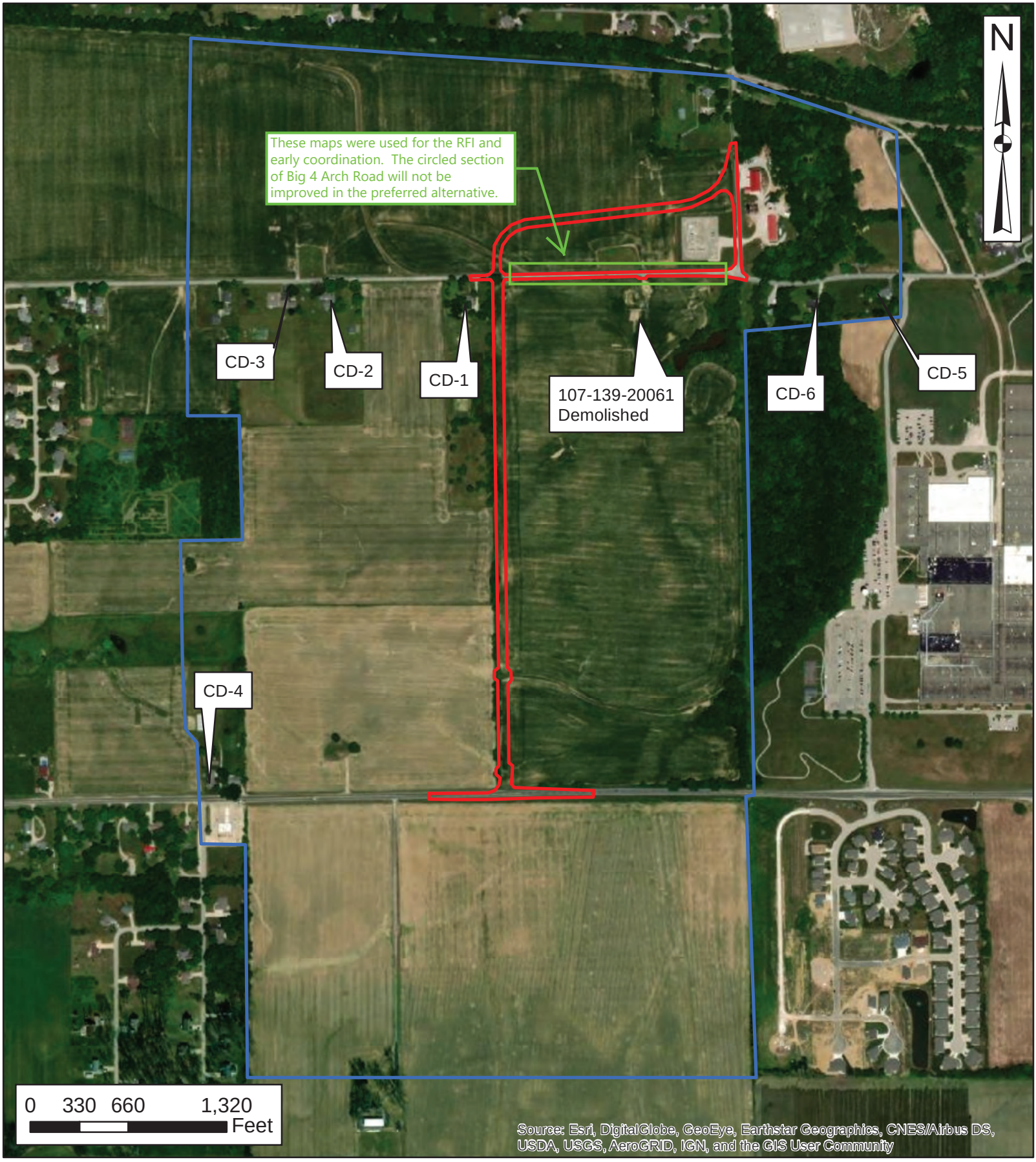
Des. No. 1902752
Schenck Road
New Road Construction
Crawfordsville, Indiana

Clark Dietz
Engineering Quality of Life®



Des. No. 1902752
Schenck Road
New Road Construction
Crawfordsville Topographic Quadrangle

ClarkDietz
Engineering Quality of Life®



Des. No. 1902752
Schenck Road

Legend

- Area of Potential Effects
- Project Area

ClarkDietz

Engineering Quality of Life®

APPENDIX C
Consulting Parties
and
Correspondence

List of Consulting Parties:

An early coordination letter (ECL) was sent on April 21, 2021 to the following list (accepted in bold):

State Historic Preservation Office (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

Anne M. Shaw

From: Anne M. Shaw
Sent: Wednesday, April 21, 2021 3:23 PM
To: contactus@rotaryjailmuseum.org; info@lane-mchs.org; carnegie@cdpl.lib.in.us; dianmoore@wildblue.net; john.frey@montgomerycounty.in.gov; Fulwider, Jim; Guard, Dan; abiddle@crawfordsville-in.gov; reidy@wabash.edu; jlucas@crawfordsville-in.gov; ehollander@crawfordsville-in.gov; kpriebe@crawfordsville-in.gov; jlowe@crawfordsville-in.gov; shamilton@crawfordsville-in.gov; mhuckstep@crawfordsville-in.gov; west@indianalandmarks.org
Cc: sbranigin@indot.in.gov; Ross, Anthony; Miller, Shaun (INDOT); Kevin M. Hetrick; Joe Bell; tmontgomery@indot.in.gov; Todd Barton; ballen@crawfordsville-in.gov; shesler@crawfordsville-in.gov
Subject: FHWA Project: Des. No. 1902752; ECL, Schenck Road New Alignment, Montgomery County, Indiana
Attachments: Schenck Rd_Des 1902752_ECL_2021-04-21.pdf

Des. No.: 1902752
Project Description: Schenck Road New Alignment
Location: Crawfordsville, Montgomery County, Indiana

The City of Crawfordsville, with funding from the Federal Highway Administration and administrative oversight from the Indiana Department of Transportation (INDOT), proposes to proceed with a project extension of Schenck Road in Crawfordsville, Montgomery County, Indiana.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

Indiana State Historic Preservation Officer (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comments. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Thank you in advance for your input,

Anne Shaw

ClarkDietz
Engineering Quality of Life

Anne M. Shaw
Clark Dietz, Inc. 8900 Keystone Crossing, Suite 475, Indianapolis, IN 46240
p 317.808.3160 / **c** 859.797.0097
anne.shaw@clarkdietz.com / clarkdietz.com

Clark Dietz is working diligently to protect the interests of our employees, clients, and partners during the pandemic. If you want more information, please click this link.

Anne M. Shaw

From: Miller, Shaun (INDOT) <smiller@indot.IN.gov>
Sent: Thursday, April 22, 2021 7:17 AM
To: 'thpo@estoo.net'; Diane Hunter; 'lpappenfort@peoriatribe.com'; Matthew Bussler (Matthew.Bussler@pokagonband-nsn.gov); tonya@shawnee-tribe.com; 'michael.laronge@fcpotawatomi-nsn.gov'
Cc: Anne M. Shaw; mkennedy@indot.in.gov; Carmany-George, Karstin (FHWA)
Subject: FHWA Project: Des. No. 1902752; ECL, Schenck Road New Alignment, Montgomery County, Indiana
Attachments: Schenck Rd_Des 1902752_ECL_2021-04-21.pdf

Des. No.: 1902752
Project Description: Schenck Road New Alignment
Location: Crawfordsville, Montgomery County, Indiana

The City of Crawfordsville, with funding from the Federal Highway Administration and administrative oversight from the Indiana Department of Transportation (INDOT), proposes to proceed with a project extension of Schenck Road in Crawfordsville, Montgomery County, Indiana.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. The following agencies/individuals are being invited to become consulting parties:

Indiana State Historic Preservation Officer (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

Please review the attached letter, which is also located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with your comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also

welcome your related opinions and other input to be considered in the preparation of the environmental document. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comments. If we do not receive a response from an invited consulting party within the time allotted, the project will proceed consistent with the proposed design. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Thank you in advance for your input,

Shaun Miller
INDOT, Cultural Resources Office
Archaeology Team Lead
(317)416-0876

INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 296-0799

Eric Holcomb, Governor
Joe McGuinness, Commissioner

April 21, 2021

This letter was sent to the listed parties.

RE: Early Coordination Letter, Des. No. 1902752, Schenck Road New Alignment, Montgomery County, Indiana

Dear Consulting Party (see attached list),

The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752).

This letter is part of the early coordination phase of the environmental review process requesting comments associated with this project. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

The proposed undertaking is on Schenck Road at Big 4 Arch Road from CCX Railroad to Indiana State 32 Highway in Montgomery, Indiana. It is within Union Township, USGS Crawfordsville Topographic Quadrangle, in Section 6, Township 18 N, Range 55 W.

The City of Crawfordsville is proposing construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a 2-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be corrected as part of this project. The project will require added turn lanes along SR 32.

New right-of-way is generally along existing property lines with a portion of farmland being converted at the northern end of the project. Right-of-way amounts have not been determined yet, but will likely be over 0.5 acre. The land use in the vicinity of the project is rural. Construction is anticipated to begin in winter 2024.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. In accordance with 36 CFR 800.2 (c), you are hereby requested to be a consulting party to participate in the Section 106 process. Entities that have been invited to participate in the Section 106 consultation process for this project are identified in the attached list. Per 36 CFR 800.3(f), we hereby request that the Indiana State Historic Preservation Officer (SHPO) notify this office if the SHPO staff is aware of any other parties that may be entitled to be consulting parties or should be contacted as potential consulting parties for the project.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic

Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf .

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. At this time, no cultural resource investigations have occurred; however, the results of cultural resource identification and evaluation efforts, both above-ground and archaeological, will be forthcoming. Consulting parties will receive notification when these reports are completed.

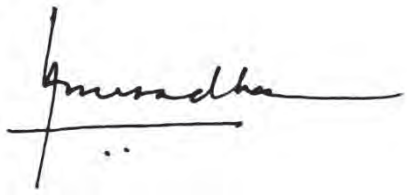
Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party, or if you do not respond, you will not be included on the list of consulting parties for this project. If we do not receive your response in the time allotted, the project will proceed consistent with the proposed design and you will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Anne Shaw of Clark Dietz at 859-797-0097 or anne.shaw@clarkdietz.com. All future responses regarding the proposed project should be forwarded to Anne Shaw at the following address:

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240
anne.shaw@clarkdietz.com

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Sincerely,



Anuradha V. Kumar, Manager
Cultural Resources Office
Environmental Services

Removed to avoid redundency

Enclosures:
Topographic map showing project location
Aerial map showing project location

Distribution List:

Indiana State Historic Preservation Officer (SHPO)
Indiana Landmarks, West Regional Office
Montgomery County Cultural Foundation
Montgomery County Historical Society
Montgomery County Historian
Montgomery County Commissioners
Montgomery County Highway Director
Mayor of Crawfordsville
Crawfordsville City Council Members
Crawfordsville Historic Preservation Commission
Crawfordville Redevelopment Commission
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomi Community

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Daniel W. Bortner, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov · www.IN.gov/dnr/historic

May 7, 2021

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: Early coordination letter for the Schenck Road New Alignment, Crawfordsville, Montgomery County, Indiana (Des. No. 1902752; DHPA No. 27390)

Dear Ms. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has reviewed INDOT's April 21, 2021 early coordination letter, received by our office the same day for this project.

We are not aware of any parties who should be invited to participate in the Section 106 consultation on this federal undertaking, beyond those whom INDOT already has invited. However, if right-of-way is likely to be taken from a potentially historic property, it might be advisable to invite the owner of that property as soon as possible. In your next regular correspondence on this project, please advise us as to which of the invited consulting parties has accepted the invitation.

We look forward to reviewing the proposed area of potential effects and the reports on investigations of above-ground cultural resources and archaeological resources that the early coordination letter indicated will be forthcoming.

The Indiana SHPO staff's archaeological reviewer for this project is Beth McCord, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project. In all future correspondence about the Schenck Road New Alignment in Montgomery County (Des. No. 1902752), please refer to DHPA No. 27390.

Very truly yours,

Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:dmk

emc: Anuradha Kumar, INDOT
Shaun Miller, INDOT
Susan Branigin, INDOT
Anne Shaw, Clark Dietz
Beth McCord, DNR-DHPA
Danielle Kauffmann, DNR-DHPA

Anne M. Shaw

From: Anne M. Shaw
Sent: Thursday, July 29, 2021 2:49 PM
To: Kauffmann, Danielle M
Cc: Kennedy, Mary; sbranigin@indot.in.gov; Miller, Shaun (INDOT)
Subject: FHWA Project: Des. No. 1902752; Historic Properties Report, Schenck Road New Alignment, Montgomery County, Indiana; DHPA No. 27390

Des. No.: 1902752
Project Description: Schenck Road New Alignment
Location: Crawfordsville, Montgomery County, Indiana

The City of Crawfordsville, with funding from the Federal Highway Administration and administrative oversight from the Indiana Department of Transportation, proposes to proceed with an extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752). The Section 106 Early Coordination Letter for this project was originally distributed on April 16, 2021.

As part of Section 106 of the National Historic Preservation Act, an Historic Property Report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Thank you in advance for your input,

Anne

ClarkDietz
Engineering Quality of Life

Anne M. Shaw
Clark Dietz, Inc. 8900 Keystone Crossing, Suite 475, Indianapolis, IN 46240
p 317.808.3160 / **c** 859.797.0097
anne.shaw@clarkdietz.com / clarkdietz.com

INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 296-0799

Eric Holcomb, Governor
Joe McGuinness, Commissioner

July 29, 2021

This letter was sent to the listed parties.

RE: Des. No. 1902752, Schenck Road New Alignment, Montgomery County, Indiana, DHPA #27390

Dear Consulting Party,

The City of Crawfordsville, with funding from the Federal Highway Administration (FHWA) and administrative oversight from the Indiana Department of Transportation (INDOT), proposes to proceed with a project involving the extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on April 16, 2021.

The proposed undertaking is on Schenck Road at Big 4 Arch Road from CCX Railroad to Indiana State 32 Highway in Crawfordsville, Montgomery County, Indiana. It is within Union Township, USGS Crawfordsville Topographic Quadrangle, in Section 6, Township 18 N, Range 55 W.

Clark Dietz is under contract with the City of Crawfordsville to advance the environmental documentation for the referenced project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources listed in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

An archaeologist who meets the Secretary of the Interior's Professional Qualification Standards is conducting a survey of archaeological resources within the APE for potential eligibility for listing in the NRHP. A report of that investigation is forthcoming and will be distributed to the appropriate consulting parties for review at a later date.

The State Historic Preservation Office (SHPO) is the only consulting party that accepted the invitation.

The Historic Property Report is available for review in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If you prefer a hard-copy of this material, please respond to this email with your request as soon as you can.

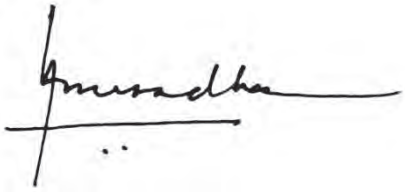
Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Anne Shaw of Clark Dietz at 859-797-0097 or anne.shaw@clarkdietz.com. All future responses regarding the proposed project should be forwarded to Clark Dietz at the following address:

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240
anne.shaw@clarkdietz.com

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Sincerely,



Anuradha V. Kumar, Manager
Cultural Resources Office
Environmental Services

Distribution List:
SHPO

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Daniel W. Bortner, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov ·

August 10, 2021

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: Historic property short report (Shaw, 7/29/2021) for the Schenck Road New Alignment project, Crawfordsville, Montgomery County, Indiana (Des. No. 1902752; DHPA No. 27390)

Dear Ms. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has reviewed your July 29, 2021, review request submittal form which enclosed the historic property short report ("HPSR"; Shaw, 7/29/2021), received by our office the same day for this project in Crawfordsville, Montgomery County, Indiana.

The proposed area of potential effects ("APE") proposed in the HPSR appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature could occur.

For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the HPSR that there are no historic properties listed or eligible for inclusion in the National Register of Historic Places ("NRHP") located within the APE.

As INDOT's July 29, 2021, letter indicates, the report on investigations of archaeological resources is forthcoming. We look forward to reviewing and commenting on that report.

If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

The Indiana SHPO staff's archaeological reviewer for this project is Beth McCord, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the Schenck Road new alignment project in Montgomery County (Des. No. 1902752), please refer to DHPA No. 27390.

Very truly yours,

Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:dmk

emc: Kari Carmany-George, FHWA
Anuradha Kumar, INDOT
Shaun Miller, INDOT
Susan Branigin, INDOT
Anthony Ross, INDOT
Anne Shaw, Clark Dietz
Beth McCord, DNR-DHPA
Danielle Kauffmann, DNR-DHPA

Anne M. Shaw

From: Anne M. Shaw
Sent: Tuesday, January 25, 2022 2:56 PM
To: McCord, Beth K; Kauffmann, Danielle M
Cc: Korzeniewski, Patricia J; Montgomery, Tamara; Kevin M. Hetrick; Joe Bell; ballen@crawfordsville-in.gov; SHesler@crawfordsville-in.gov; mkennedy@indot.in.gov
Subject: FHWA Project: Des. No. 1902752; Archaeology Report, Schenck Road New Alignment, Montgomery County, Indiana; DHPA No. 27390
Attachments: Schenck Rd_DES 1902752_Archaeology Report RDL_2022-1-25.pdf

Des. No.: 1902752
Project Description: Schenck Road New Alignment
Location: Crawfordsville, Montgomery County, Indiana

The City of Crawfordsville, with funding from the Federal Highway Administration and administrative oversight from the Indiana Department of Transportation, proposes to proceed with an extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752). The Section 106 Early Coordination Letter for this project was originally distributed on April 21, 2021.

As part of Section 106 of the National Historic Preservation Act, an Archaeology Report (Tribes only) has been prepared and is ready for review and comment by consulting parties (Tribes only). In addition, an archaeological assessment has been prepared and is included in the attached Report Distribution Letter.

Please review this documentation located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.
Thank you in advance for your input,

Anne Shaw

Anne M. Shaw
Clark Dietz, Inc. 8900 Keystone Crossing, Suite 475, Indianapolis, IN 46240
p 317.808.3160 / **c** 859.797.0097
anne.shaw@clarkdietz.com / clarkdietz.com

Anne M. Shaw

From: Korzeniewski, Patricia J <PKorzeniewski@indot.IN.gov>
Sent: Tuesday, January 25, 2022 3:02 PM
To: thpo@estoo.net; Diane Hunter; tonya@shawnee-tribe.com; tonya@shawnee-tribe.com; cechohawk@peoriatribe.com; michael.laronge@fcpotawatomi-nsn.gov
Cc: Miller, Shaun (INDOT); Korzeniewski, Patricia J; Anne M. Shaw; mkennedy@indot.in.gov; Carmany-George, Karstin (FHWA)
Subject: FHWA Project: Des. No. 1902752; Archaeology Report, Schenck Road New Alignment, Montgomery County, Indiana; DHPA No. 27390
Attachments: Schenck Rd_DES 1902752_Archaeology Report RDL_2022-1-25.pdf

Des. No.: 1902752
Project Description: Schenck Road New Alignment
Location: Crawfordsville, Montgomery County, Indiana

The City of Crawfordsville, with funding from the Federal Highway Administration and administrative oversight from the Indiana Department of Transportation, proposes to proceed with an extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752). The Section 106 Early Coordination Letter for this project was originally distributed on April 21, 2021.

As part of Section 106 of the National Historic Preservation Act, an Archaeology Report (Tribes only) has been prepared and is ready for review and comment by consulting parties (Tribes only). In addition, an archaeological assessment has been prepared and is included in the attached Report Distribution Letter.

Please review this documentation located in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.
Thank you in advance for your input,

Patricia Jo Korzeniewski
Archaeologist and Environmental Manager
INDOT, Cultural Resources Office
100 North Senate Avenue, N758-ES
Indianapolis, Indiana 46204
PKorzeniewski@indot.in.gov
1-317-416-4377
M-F 8:00 – 4:00

INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 296-0799

Eric Holcomb, Governor
Joe McGuinness, Commissioner

January 25, 2022

This letter was sent to the listed parties.

RE: Des. No. 1902752, Schenck Road New Alignment, Montgomery County, Indiana, DHPA #27390

Dear Consulting Party,

The City of Crawfordsville, with funding from the Federal Highway Administration (FHWA) and administrative oversight from the Indiana Department of Transportation (INDOT), proposes to proceed with a project involving the extension of Schenck Road in Crawfordsville, Montgomery County, Indiana (Des. No. 1902752).

This letter is part of the Section 106 review process for this project. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic and archaeological properties. We are requesting comments from you regarding the possible effects of this project. Please use the above Des. Number and project description in your reply and your comments will be incorporated into the formal environmental study.

A Section 106 early coordination letter was distributed on April 21, 2021. In addition, a letter distributed on July 29, 2021 notified consulting parties that a historic property report was available for review and comment.

The proposed undertaking is on Schenck Road at Big 4 Arch Road from CCX Railroad to Indiana State 32 Highway in Crawfordsville, Montgomery County, Indiana. It is within Union Township, USGS Crawfordsville Topographic Quadrangle, in Section 1, Township 18 N, Range 5 W.

The need for this project is the lack of connectivity to SR 32 on the western boundary of the City of Crawfordsville, resulting in reduced mobility in and out of the city. At the existing intersection of Schenck Road and Big Four Arch Road, an existing western connection, there is inadequate sight distance. The purpose of the project is to increase motorized connectivity within the City of Crawfordsville as it expands west and address the inadequate sight distance at the intersection of Schenck Road and Big Four Arch Road. This would connect the western boundary of the City of Crawfordsville to SR 32 and increase mobility. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big Four Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32. The archaeology survey area encompassed 15.9 acres.

Clark Dietz (above-ground) and SJCA (archaeology) have been subcontracted to complete the Section 106 documentation for the project.

In accordance with 36 CFR 800.2 (c), you were invited to become a consulting party as part of the Section 106 process, or you are hereby invited to become a consulting party as part of the Section 106 process. Entities that have previously accepted consulting party status--as well as additional entities that are currently being invited to become consulting parties--are identified in the attached list.

The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, to assess the undertaking's effects and to seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. For more information regarding the protection of historic resources, please see the Advisory Council on Historic Preservation's guide: *Protecting Historic Properties: A Citizen's Guide to Section 106 Review* available online at https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The APE contains no resources in the National Register of Historic Places (NRHP).

A historian who meets the Secretary of the Interior's Professional Qualification Standards identified and evaluated above-ground resources within the APE for potential eligibility for the NRHP. As a result of the historic property identification and evaluation efforts, no above-ground resources are recommended as eligible for listing in the NRHP.

With regard to archaeological resources, Chris Jackson, a qualified professional archaeologist, reviewed the proposed project area and determined that it will not likely affect archaeological resources due to the lack of intact features or other archaeological sites. According to SHAARD, there are no archaeological sites within or adjacent to the project area and the potential for such sites to be present within the project area is considered extremely low. Given these factors, it is recommended that the project be allowed to proceed without additional archaeological study. However, state law (Indiana Code 14-21-1-27 and -29) requires that if any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earth moving activities, that the discovery must be reported to the Department of Natural Resources within two (2) business days.

SHPO responded to the Historic Properties Short Report on August 10, 2021 stating that the APE for the HPSR "appears to be of adequate size" and that they agreed with the conclusions of the HPSR.

The Archaeology Report (Tribes only) are available for review in IN SCOPE at http://erms.indot.in.gov/Section106Documents/ (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these documents and to respond with comments on any historic resource impacts incurred as a result of this project so that an environmental report can be completed. We also welcome your related opinions and other input to be considered in the preparation of the environmental document. If you prefer a hard-copy of this material, please respond to this email with your request as soon as you can.

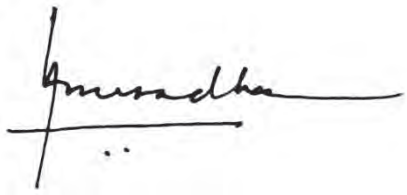
Please review the information and comment within thirty (30) calendar days of receipt. If you indicate that you do not desire to be a consulting party or if you have not previously accepted consulting party status and you do not respond to this letter, you will not be included on the list of consulting parties for this project and will not receive further information about the project unless the design changes. Tribal consulting parties may enter the process at any time and are encouraged to respond to this notification with any comments or concerns at their earliest convenience.

For questions concerning specific project details, you may contact Anne Shaw of Clark Dietz at 859-797-0097 or anne.shaw@clarkdietz.com. All future responses regarding the proposed project should be forwarded to Clark Dietz at the following address:

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240
anne.shaw@clarkdietz.com

Tribal contacts may contact Shaun Miller at smiller@indot.in.gov or 317-416-0876 or Kari Carmany-George at FHWA at K.CarmanyGeorge@dot.gov or 317-226-5629.

Sincerely,



Anuradha V. Kumar, Manager
Cultural Resources Office
Environmental Services

Distribution List:
SHPO
Eastern Shawnee Tribe of Oklahoma
Miami Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Pokagon Band of Potawatomi Indians
Shawnee Tribe
Forest County Potawatomie Community

EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT
70500 East 128 Road, Wyandotte, OK 74370

January 26, 2022

INDOT - Indiana Department of Transportation
100 N. Senate Ave. IGCN642
Indianapolis, IN 46201

RE: ***Des No. 1902752, Crawfordsville, DHPA #27390, Montgomery County, IN***

Dear Mr. Miller,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Montgomery County, IN. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
(918) 666-5151 Ext:1833

PEORIA TRIBE OF INDIANS OF OKLAHOMA
118 S. Eight Tribes Trail (918) 540-2535 FAX (918) 540-2538
P.O. Box 1527
MIAMI, OKLAHOMA 74355

CHIEF
Craig Harper

SECOND CHIEF
Rosanna Dobbs

January 26, 2022

Shaun Miller
Tribal Contact
INDOT
100 N Senate Ave., Rm N642
Indianapolis, IN 46204

Re: DES#1902752: DHPA#27390, Schenck Rd. new Alignment, Montgomery County

Thank you for providing notice of the referenced project. The Peoria Tribe of Indians of Oklahoma is unaware of a direct link to the newly proposed project location.

The Peoria Tribe of Indians of Oklahoma is also unaware of items covered under Native American Graves Protection and Repatriation Act (NAGPRA) to be associated with the proposed project site, including funerary or sacred objects; objects of cultural patrimony; or ancestral human remains.

The Peoria Tribe has no objection at this time to the proposed project. If, however, at any time items are discovered which fall under the protection of NAGPRA, the Peoria Tribe requests immediate notification and consultation. In addition, state, local and tribal authorities should be advised as to the findings and construction halted until consultation with all concerned parties has occurred.

Please feel free to contact me directly at the number above if additional consultation is necessary. Thank you again for your consideration with this matter.

Sincerely,

Charla K. EchoHawk

Charla K. EchoHawk
Director of Cultural Preservation

TREASURER
Hank Downum

SECRETARY
Tonya Mathews

FIRST COUNCILMAN
Carolyn Ritchey

SECOND COUNCILMAN
Kara North

THIRD COUNCILMAN
Isabella Burrell

DNR Indiana Department of Natural Resources

Eric Holcomb, Governor
Daniel W. Bortner, Director

Division of Historic Preservation & Archaeology · 402 W. Washington Street, W274 · Indianapolis, IN 46204-2739
Phone 317-232-1646 · Fax 317-232-0693 · dhpa@dnr.IN.gov ·

February 10, 2022

Anne Shaw
Principal Investigator
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, Indiana 46240

Federal Agency: Indiana Department of Transportation ("INDOT"),
on behalf of Federal Highway Administration, Indiana Division ("FHWA")

Re: Phase Ia archaeological literature review and reconnaissance survey report (Jackson, 1/3/2022) for the Schenck Road New Alignment project, Crawfordsville, Montgomery County, Indiana (Des. No. 1902752; DHPA No. 27390)

Dear Ms. Shaw:

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), 36 C.F.R. Part 800, and the "Programmatic Agreement (PA) Among the Federal Highway Administration, the Indiana Department of Transportation, the Advisory Council on Historic Preservation and the Indiana State Historic Preservation Officer Regarding the Implementation of the Federal Aid Highway Program In the State of Indiana," the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO") has reviewed your January 25, 2022, review request submittal form which enclosed the archaeological report, received by our office the same day for this project in Crawfordsville, Montgomery County, Indiana.

As previously indicated, for the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions of the historic property short report that there are no historic properties listed or eligible for inclusion in the National Register of Historic Places ("NRHP") located within the project's area of potential effects.

Regarding the archaeological resources, based upon the submitted information and the documentation available to the staff of the Indiana SHPO, we concur with the opinion of the archaeologist, as expressed in the submitted archaeological reconnaissance survey report (Jackson, 1/3/2022), that site 12MY727 does not appear eligible for inclusion in the NRHP and no further archaeological investigations are necessary. Thank you for submitting the archaeological site survey form for site 12MY727 to SHAARD. It has been approved.

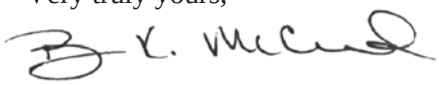
If any prehistoric or historic archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and -29) requires that the discovery be reported to the Indiana SHPO within two (2) business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and -29 does not obviate the need to adhere to applicable federal statutes and regulations, including but not limited to 36 C.F.R. Part 800.

Unless another consulting party expresses a different opinion about this project and its effects on historic properties, it might now be appropriate to ask INDOT for a finding.

The Indiana SHPO staff's archaeological reviewer for this project is Beth McCord, and the structures reviewer is Danielle Kauffmann. However, if you have a question about the Section 106 process, please contact initially the INDOT Cultural Resources staff members who are assigned to this project.

In all future correspondence about the Schenck Road new alignment project in Montgomery County (Des. No. 1902752), please refer to DHPA No. 27390.

Very truly yours,



Beth K. McCord
Deputy State Historic Preservation Officer

BKM:DMK:bkm

emc: Kari Carmany-George, FHWA
Anuradha Kumar, INDOT
Matt Coon, INDOT
Susan Branigin, INDOT
Anthony Ross, INDOT
Anne Shaw, Clark Dietz
Beth McCord, DNR-DHPA
Danielle Kauffmann, DNR-DHPA

Public Notice
Des. No. 1902752

The City of Crawfordsville is planning to undertake a new road alignment funded in part by the Federal Highway Administration, with administrative oversight from the Indiana Department of Transportation (INDOT). The project is located City of Crawfordsville, Union Township, Montgomery County, Indiana.

Under the preferred alternative, the proposed project would involve the construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/ Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

The proposed action does not impact properties listed in or eligible for the National Register of Historic Places. The Indiana Department of Transportation (INDOT), on behalf of the FHWA, has issued a "No Historic Properties Affected" finding for the project due to the fact that no historic properties eligible to be listed with the National Register of Historic Places (NRHP) are present within the Area of Potential Effects (APE). In accordance with the National Historic Preservation Act, the views of the public are being sought regarding the effect of the proposed project on the historic elements as per 36 CFR 800.2(d), 800.3(e) and 800.6(a)(4). Pursuant to 36 CFR 800.4(d)(1), the documentation specified in 36 CFR 800. 11(d) is available for inspection in Clark Dietz. Additionally, this documentation can be viewed electronically by accessing INDOT's Section 106 document posting website IN SCOPE at http://erms.indot.in.gov/Section106Documents. This documentation serves as the basis for the "No Historic Properties Affected" finding. The views of the public on this effect finding are being sought. Please reply with any comments to Clark Dietz, Inc., 8900 Keystone Crossing, Suite 475, Indianapolis, IN 46240, 859-797-0097, anne.shaw@clarkdietz.com no later than August 22, 2022.

In accordance with the "Americans with Disabilities Act", if you have a disability for which the City of Crawfordsville needs to provide accessibility to the document(s) such as interpreters or readers, please contact Scott Hesler, (765) 364-5166, SHesler@crawfordsville-in.gov.

hspaxlp 7/21 1t

PUBLISHER'S AFFIDAVIT

State of Indiana)
) ss:
Montgomery County)

Personally appeared before me, a notary public in and for said county and state, the undersigned Shawn Storie who, being duly sworn, says that he is Publisher of the Journal Review newspaper of general circulation printed and published in the English language in the City of Crawfordsville in state and county afore-said, and that the printed matter attached hereto is a true copy, which was duly published in said paper for 1 time(s), the date(s) of publication being as follows:

INDOT Project Public Notice - July 21, 2022

The undersigned further states that the Journal Review newspaper maintains an Internet website, which is located at www.journalreview.com and that a copy of the above referenced printed matter was posted on such website on the date(s) of publication set forth above.

Subscribed and sworn to before me this 21st day of July 2022

Richard Holtz Jr.

Notary Public

My Commission expires: 2/04/2028

ATTACH COPY OF ADVERTISEMENT HERE

Prescribed by State Board of Accounts

General Form No. 99P (Rev. 2009A)

City of Crawfordsville
(Governmental Unit)

To.....

.....County, Indiana

.....

PUBLISHER'S CLAIM

LINE COUNT

Display Master (Must not exceed two actual lines, neither of which shall total more than four solid lines of the type in which the body of the advertisement is set) -- number of equivalent lines .....

Head -- number of lines ....

Body -- number of lines ....

Tail -- number of lines ....

Total number of lines in notice ....

COMPUTATION OF CHARGES

.47..... lines, ..3..... columns wide equals 141 equivalent lines at ..2831 cents per line ..... $ 39.9171

Additional charges for notices containing rule or tabular work (50 per cent of above amount) ....

Charge for extra proofs of publication ($1.00 for each proof in excess of two) ....

TOTAL AMOUNT OF CLAIM ..... $ 39.9171

DATA FOR COMPUTING COST

Width of single column in picas...6..... Size of type...8....point.

Number of insertions:..1.....

Pursuant to the provisions and penalties of IC 5-11-10-1, I hereby certify that the foregoing account is just and correct, that the amount claimed is legally due, after allowing all just credits, and that no part of the same has been paid.

I also certify that the printed matter attached hereto is a true copy, of the same columm width and type size, which was duly published in said paper .1..... times. The dates of publication being as follows:

July 21, 2022

.....

Additionally, the statement checked below is true and correct:

..... Newspaper does not have a Web site.

..✓.. Newspaper has a Web site and this public notice was posted on the same day as it was published in the newspaper.

..... Newspaper has a Web site, but due to technical problem or error, public notice was posted on .....

..... Newpaper has a Web site but refuses to post the public notice.

Richard Holtz Jr.
.....

Date 7/21/22, ...

Title..Legal BookKeeper.....

PLEASE INCLUDE THIS NUMBER WITH YOUR REMITTANCE

#13312 / Ad ID 69090

LEGAL ADVERTISING

See table of legal rates in the applicable State Board of Accounts Bulletin

Claim No. _____ Warrant No. _____

IN FAVOR OF

$_____

ON ACCOUNT OF APPROPRIATION FOR

Appropriation No. _____

ALLOWED _____

IN THE SUM OF $_____

FED. ID. 35-2000600

I have examined the within claim and hereby certify as follows:

That it is in proper form.

That it is duly authenticated as required by law.

That it is based upon statutory authority.

That it is apparently correct / incorrect

I certify that the within claim is true and correct; that the services there in itemized and for which charge is made were ordered by me and were necessary to the public business

APPENDIX E
RED FLAG AND HAZARDOUS MATERIALS

Red Flag Investigation (E-1 to E-10)

Clark Dietz
Engineering Quality of Life®

Date: November 5, 2021

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

From: Anne Shaw
Clark Dietz
8900 Keystone Crossing, Suite 475
Indianapolis, IN 46240
anne.shaw@clarkdietz.com

Re: RED FLAG INVESTIGATION
DES # 1902752, Local Project
Schenck Road New Alignment
Montgomery County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The City of Crawfordsville, with funding from Federal Highway Administration (FHWA), and administrative oversight from the Indiana Department of Transportation (INDOT), intends to proceed with a project involving the extension of Schenck Road in Crawfordsville, Montgomery County, Indiana.

The City of Crawfordsville is proposing construction of an extension of Schenck Road to provide a direct connection to SR 32. The new roadway will provide a 2-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be corrected as part of this project. The project will require added turn lanes along SR 32. New right-of-way is generally along existing property lines with a portion of farmland being converted at the northern end of the project. The land use in the vicinity of the project is rural.

Bridge and/or Culvert Project: Yes ☐ No ☒ Structure # _____

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 Approx. 5.0, Not Applicable ☐

Type and proposed depth of excavation: Excavation for the new alignment will likely exceed 6 feet in some places, less in others.

Maintenance of traffic (MOT): Although details of the MOT have yet to be determined, the MOT design will follow the criteria outlined in the *Indiana Design Manual.*

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

State Project: ☐ LPA: ☒

Any other factors influencing recommendations: The project description is subject to additional details as design progresses.

INFRASTRUCTURE TABLE AND SUMMARY

Infrastructure Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Religious Facilities	N/A	Recreational Facilities	N/A
Airports[1]	1	Pipelines	1
Cemeteries	N/A	Railroads	4
Hospitals	N/A	Trails	3
Schools	N/A	Managed Lands	N/A

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

Explanation:

Airports: Although not located within the 0.5 mile search radius, one (1) public-use airport, Crawfordsville Municipal Airport, is located within 3.8 miles (20,000 feet) of the project area. The public-use airport is located approximately 3.4 miles southeast of the project area; therefore, early coordination with INDOT Aviation will occur.

Pipelines: One (1) pipeline segment is located within the 0.5 mile search radius. The nearest segment, Indiana Gas Company, Inc., is located approximately 0.34 mile southeast of the project area. No impact is expected.

Railroads: Four (4) railroad segments are located within the 0.5 mile search radius. One (1) railroad segment, CSX, is located approximately 0.06 mile north of the project area. No impact is expected.

Trails: Three (3) trail segments are located within the 0.5 mile search radius. One (1) trail segment, Donnelley Trailhead NW to Rail Trail is located approximately 0.06 mile north of the project area. No impact is expected.

WATER RESOURCES TABLE AND SUMMARY

Water Resources Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
NWI - Points	N/A	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	10
Canal Structures – Historic	N/A	Lakes	10
NPS NRI Listed	N/A	Floodplain - DFIRM	28
NWI-Lines	**2**	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	N/A	Sinkhole Areas	N/A
Rivers and Streams	14	Sinking-Stream Basins	N/A

Explanation:
NWI-Lines: Two (2) NWI-Line segments are located within the 0.5 mile search radius. The nearest NWI Line is located 0.25 mile north of the project area. No impact is expected.

Rivers and Streams: Fourteen (14) river and stream segments are located within the 0.5 mile search radius. The nearest stream, an unnamed tributary, is located 0.01 mile east of the project area and appears to extend into the project area. A Waters of the US Report is recommended and coordination with the appropriate agency, if applicable, will occur.

NWI – Wetlands: Ten (10) NWI wetland polygons are located within the 0.5 mile search radius. The nearest NWI wetland is located 0.05 mile south of the project area. No impact is expected.

Lakes: Ten (10) lakes are located within the 0.5 mile search radius. The nearest lake is located 0.05 mile east of the project area. No impact is expected.

Floodplains: Twenty-eight (28) floodplain polygons are located within the 0.5 mile search radius. The nearest floodplain polygon is located 0.03 mile east of the project area. No impact is expected.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

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

Explanation: No mining/mineral resources were identified within the 0.5 mile search radius.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	1*	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	N/A	Confined Feeding Operations (CFO)	N/A
Voluntary Remediation Program	N/A	Brownfields	N/A
Construction Demolition Waste	N/A	Institutional Controls	N/A
Solid Waste Landfill	N/A	NPDES Facilities	5*
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	2
Leaking Underground Storage (LUST) Sites	2*	Notice of Contamination Sites	N/A

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

Explanation:

State Cleanup Sites*: One (1) State Cleanup site located within the 0.5 mile search radius. Upon review, LLL Transport Site, SR 32 at CR 625 East, Crawfordsville, Montgomery County, AI #41750 is mapped incorrectly within the project 0.5 mile radius. This facility is actually located on the other side of the county. No impact is expected.

Leaking Underground Storage (LUST) Sites*: Two (2) LUST Sites are mapped within the 0.5 mile search radius.
Grab N' Go, 1109 SR 32 West, Crawfordsville, IN, LUST Site (AID# 44258) is marked in the wrong location. The correct location of the LUST Site (AID# 44258) is 0.19 mile west of current location. No impact is expected.

NPDES Facilities*: Five (5) NPDES facilities are mapped within the 0.5 mile search radius. The nearest NPDES Facility, Crawfordsville Transload Detroit Salt Company, was mapped 0.09 mile southwest of the project area, however, the NPDES Facility is outside the 0.5 mile search radius. No impact is expected.

NPDES Pipe Locations: Two (2) NPDES Pipe Locations are mapped within the 0.5 mile search radius. The nearest NPDES Pipe Location, IN0002097 LSC Communications INC North Plant, is located approximately 0.35 mile northeast of the project area. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

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

A review of the USFWS database did not indicate the presence of endangered bat species in or within 0.5 mile of the project area. The range-wide programmatic consultation for the Indiana Bat and Northern Long-eared Bat will be completed according to the most recent "Using the USFWS's IPaC System for Listed Bat Consultation for INDOT Projects".

RECOMMENDATIONS SECTION

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

INFRASTRUCTURE: Airports: Although not mapped within the 0.5 mile search radius, one (1) public-use airport, Crawfordsville Municipal Airport, is located within 3.8 miles (20,000 feet) of the project area. Coordination with INDOT Aviation will occur.

WATER RESOURCES: A Waters of the US Report is recommended and coordination with the appropriate agency, if applicable, will occur for the following features:

- One (1) unnamed tributary is located 0.01 mile east of the project area and appears to extend into the project area.

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 ESD concurrence: Nicole Fohey-Breting Digitally signed by Nicole Fohey-Breting Date: 2021.11.18 15:15:04 -05'00' (Signature)

Prepared by:
Anne Shaw
Environmental Specialist
Clark Dietz

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

SITE LOCATION: YES

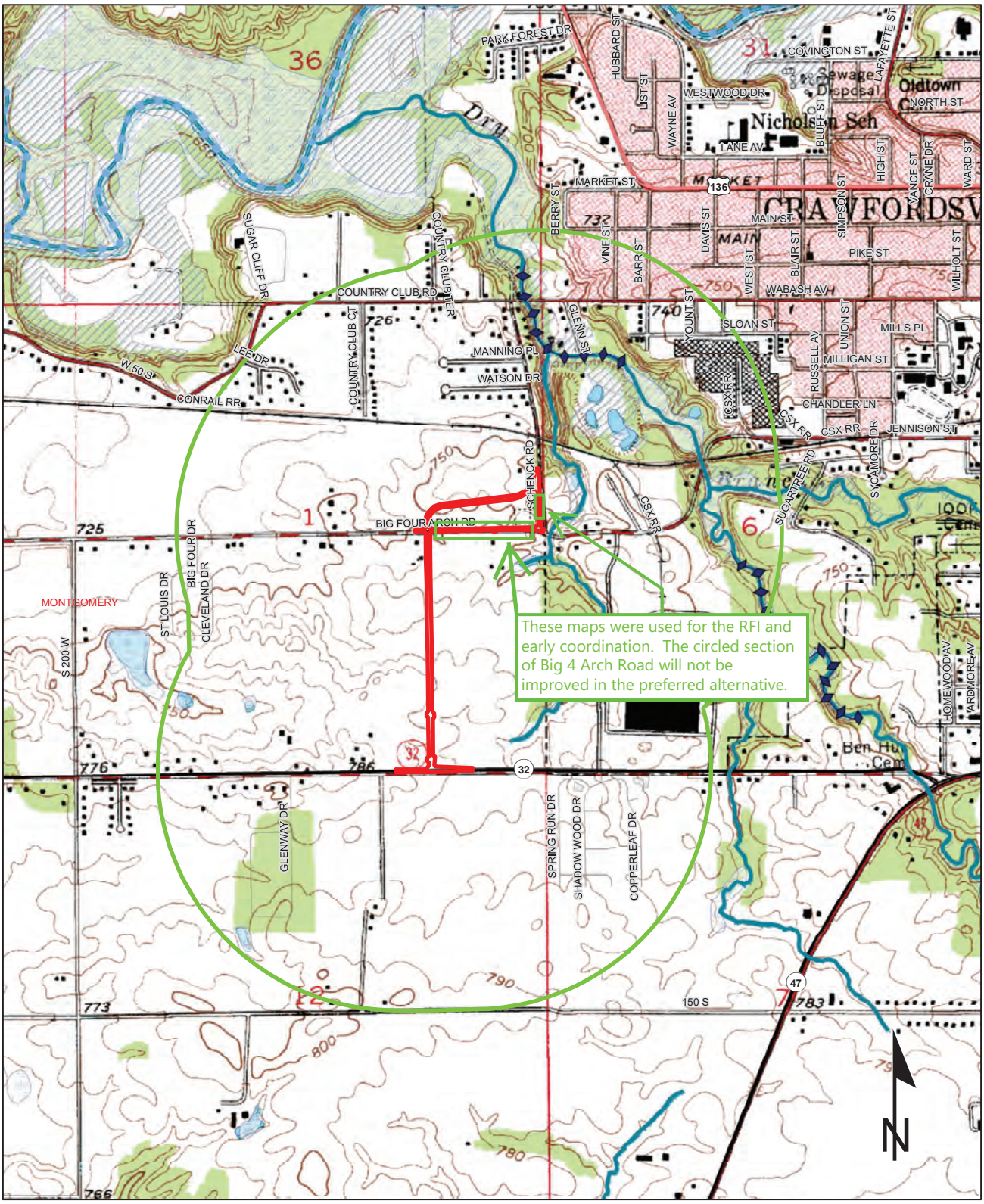
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
Schenck Road at Big 4 Arch Road
Des. No. 1902752, New Alignment
Montgomery County, Indiana



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

0.25 0.125 0 0.25 Miles

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

CRAWFORDSVILLE
QUADRANGLE
INDIANA
7.5 MINUTE SERIES

Red Flag Investigation - Infrastructure
Schenck Road at Big 4 Arch Road
Des. No. 1902752, New Alignment
Montgomery County, Indiana

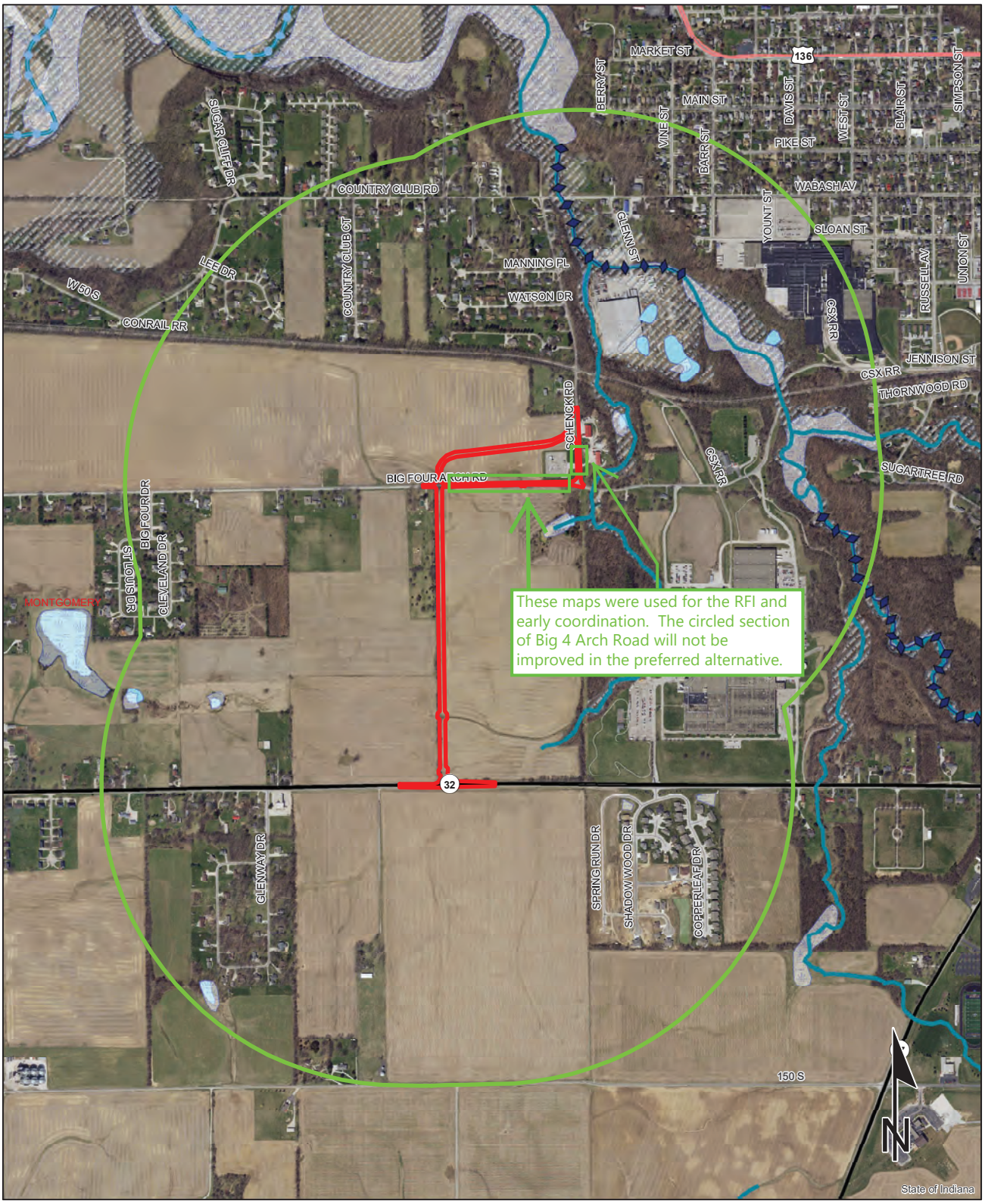
0.2 0.1 0 0.2 Miles

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

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

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

Red Flag Investigation - Water Resources
Schenck Road at Big 4 Arch Road
Des. No. 1902752, New Alignment
Montgomery County, Indiana



0.2 0.1 0 0.2 Miles

Sources:

Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

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

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

Red Flag Investigation - Hazardous Material Concerns
Schenck Road at Big 4 Arch Road
Des. No. 1902752, New Alignment
Montgomery County, Indiana

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

0.25 0.125 0 0.25 Miles

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

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

APPENDIX F

WATER RESOURCES

Wetland Delineation and Waters of the U.S. Report (F-1 to F-38)

IDNR Floodplain Map (F-39)

Waters Report
Schenck Road
Montgomery County, Indiana
Road Extension Project
Des. 1902752

Report Completed on: January 6, 2022

Prepared for:
Clark Dietz

Prepared By:

Jeegar Panchal
SJCA Inc.
9102 N Meridian St, Suite 200
Indianapolis, IN 46260

p. 317.566.0629 f. 317.566.0633 e. jpanchal@sjcainc.com

Site Location:
Sections 1 & 6, Township 18 N, Range 4 W & 5 W
Crawfordsville 24K Quadrangle
Montgomery County, Indiana
Mill Creek-Sugar Creek Subwatershed, 12-Digit HUC: 051201100604
Northern Project Terminus
Latitude: 40.033545° Longitude: -86.922851°
Location of Planned Crossing of Big 4 Arch Road
Latitude: 40.032325° Longitude: -86.927031°
Southern Project Terminus
Latitude: 40.025116° Longitude: -86.926789°

Field Investigation Date: October 12, 2021

Project Description

The City of Crawfordsville is proposing the construction of an extension of Schenck Road, approximately 1.3 miles southwest of downtown Crawfordsville in Montgomery County, Indiana. The purpose of the project is to increase motorized connectivity within the city of Crawfordsville as it expands west and address the inadequate sight distance at the intersection of Schenck Road and Big 4 Arch Road. The new roadway will provide a two-lane asphalt pavement with paved shoulders. Inadequate sight distance at the existing intersection of Schenck Road/Big 4 Arch Road will be improved as part of this project. The project will require added turn lanes along SR 32.

Methodology

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

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

Results/Discussion

Site Description and Conditions

- **Topography**: The topography within the investigated area is relatively level, with the raised roadway of Schenck Road and State Road 32 sloping down toward the flat roadside areas.
- **Existing Land-Use**: Adjacent land use is primarily agricultural.
- **Plant Communities**: Vegetation in the investigated area is primarily herbaceous and typical of upland roadsides. The vegetation on either side of Schenck Road is dominated by tall fescue (*Schedonorus arundinaceus*, FACU), white clover (*Trifolium repens*, FACU), and common dandelion (*Taraxacum officinale*, FACU). Vegetation along west side of the fence row, at the edge of the farm field and south of Big Four Arch Road is upland vegetation and dominated by green foxtail (*Setaria viridis*, NI), Canadian horseweed (*Conyza canadensis*, FACU), Queen Anne's lace (*Daucus carota*, UPL), Canada goldenrod (*Solidago altissima*, FACU), smooth brome (*Bromus inermis*, FACU), hackberry (*Celtis occidentalis*, FAC), black walnuts (*Juglans nigra*, FACU), and white mulberry (*Morus alba*, FAC). The surrounding agricultural field, north of Big Four Arch Road was planted with corn (*Zea mays*, NI) and south of Big Four Arch Road was planted with soybean (*Glycine max*, UPL) crops.
- **Soils**: According to the Montgomery County Soil Survey, soils mapped within the project area include:

Table 1. Soil Types Within the Project Area

Soil Abbreviation	Soil Unit Name	Hydric Rating in Area IN135
CbB	*Camden silt loam, 2 to 6 percent slopes*	Nonhydric
FgB2	*Fincastle-Miami silt loams, 2 to 6 percent slopes, eroded*	Predominantly Nonhydric
MeB	*Martinsville-Ockley silt loams, till substratums, 2 to 6 percent slopes*	Predominantly Nonhydric
MeC	*Martinsville-Ockley silt loams, till substratums, 6 to 12 percent slopes*	Predominantly Nonhydric
MpC3	*Miami clay loam, 6 to 12 percent slopes, severely eroded*	Nonhydric
Wb	*Washtenaw silt loam, frequently flooded*	Hydric

- **Hydrology**: According to the Federal Emergency Management Agency (FEMA) Flood Rate Insurance Map (FIRM) dataset (see attached Floodplain Map), the investigated area is not mapped in a floodplain. Based on the National Hydrography Dataset (NHD) (see attached NHD Flowlines map), five unclassified flowline segments are mapped within the project area. These unclassified flowline segments correspond with drainage paths or buried drainage carried through agricultural fields.
- **NWI Data**: According to the NWI map, no wetlands are mapped within the investigated area.
- **Site Conditions**: Site conditions were typical for mid-October, with light precipitation occurring within the last five days prior to the site investigation (according to

weather.com) and a light misting of precipitation occurring during the investigation. Temperatures were in average during the site investigation, with temperatures in the low-sixties (° F).

Findings

Soil Sample Points (SP)

Table 2. Sample Point Summary Table

Data Point	Photos	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Wetland	Date
1	9-13	No	No	No	No	10/12/21
2	17-20	No	Yes	No	No	10/12/21
3	27-30	No	Yes	Yes	No	10/12/21
4	32-35	No	Yes	No	No	10/12/21

Site Analysis

The investigated area included roadside right-of-way along Schenck Road, State Road 32, and Big 4 Arch Road and the surrounding agricultural fields. Hydrology within the project area is influenced by roadway runoff and the drainage from existing agricultural fields. The investigated area is located within the Mill Creek-Sugar Creek Subwatershed. According to the NWI map and USGS topographic map, there are no wetlands and no streams mapped within or adjacent to the project area. No unmapped wetlands or streams were identified within the investigated area during the site visit.

Sample Points

Sample Point 1 (SP 1) was taken near the northern-most terminus of the investigated area, along east side of Schenck Road within what appears to be an excavated vehicle path and depression. SP 1 was dominated by common hackberry (*Celtis occidentalis*, FAC), black walnut (*Juglans nigra*, FACU), eastern redbud (*Cercis canadensis*, FACU), summer grape (*Vitis aestivalis*, FACU), and orchard grass (*Dactylis glomerata*, FACU) and does not meet any indicators for hydrophytic vegetation. Soil at SP 1 has a layer of 10 YR 3/2 (100%) from 0-11 inches and 10 YR 3/3 (100%) from 11-16 inches. Soil texture is silty clay loam from 0-16 inches. SP 1 does not meet any indicators of hydric soil. One secondary indicator for wetland hydrology was observed, Geomorphic Position. The sample point lacked hydrophytic vegetation, hydric soil, and wetland hydrology. Therefore, SP 1 is not within a wetland.

Sample Point 2 (SP 2) was taken in the agricultural field, north of Big 4 Arch Road, along the proposed roadway within a slightly depressional area (likely a drainage path during heavy rains or buried drainage). The path shows up as an unclassified flowline segment on the NHD Flowlines map. SP 2 was dominated by tall fescue (*Schedonorus arundinaceus*, FACU) and did not meet any indicators for hydrophytic vegetation. The soil met the Depleted Matrix indicator for hydric soil with a layer of 10 YR 3/3 (100%) from 0-3 inches, 10 YR 4/1 (96%) with redox concentrations in the matrix of 2.5 YR 4/8 (4%) from 3-10 inches and 10 YR 3/1 (100%) from

10-16 inches. The soil texture was silty clay loam 0-10 inches and clay from 10-16 inches. No indicators for wetland hydrology were observed. The sample point lacked hydrophytic vegetation and wetland hydrology. Therefore, SP 2 is not within a wetland. The presence of hydric soils can likely be attributed to the location along a farm drainage path that likely receives drainage very briefly during heavy rain.

Sample Point 3 (SP 3) was taken in the agricultural field, south of Big 4 Arch Road, within the drainage path approximately 610 feet north of State Road 32. The drainage depression shows up as an unclassified flowline segment on the NHD Flowlines map. SP 3 was dominated by barnyard grass (*Echinochloa crus-galli*, FACW) and tall fescue (*Schedonorus arundinaceus*, FACU) and did not meet any indicators for hydrophytic vegetation. The soil met the Depleted Matrix indicator for hydric soil with a layer of 10 YR 3/2 (100%) from 0-2 inches, and 10 YR 4/2 (85%) with redox concentrations in the matrix of 2.5 YR 4/8 (15%) from 2-16 inches. The soil texture was silty clay loam 0-16 inches. One primary indicator, Saturation and one secondary indicator, Geomorphic Position were observed for wetland hydrology. The sample point lacked hydrophytic vegetation. Therefore, SP 3 is not within a wetland. It is likely that the drainage path only receives drainage during heavy rain and is too infrequent and too disturbed by farming to develop hydrophytic plants.

Sample Point 4 (SP 4) was taken in the agricultural field, south of Big 4 Arch Road, within the drainage path approximately 113 feet north of State Road 32. SP 4 was dominated by common hackberry (*Celtis occidentalis*, FAC), white mulberry (*Morus alba*, FAC), Japanese bristlegrass (*Setaria faberi*, FACU), and redroot amaranth (*Amaranthus retroflexus*, FACU) anddid not meet any indicators for hydrophytic vegetation. The soil met the Depleted Matrix indicator for hydric soil with a layer of 10 YR 3/2 (100%) from 0-3 inches, 10 YR 4/1 (80%) with redox concentration in the matrix of 7.5 YR 5/8 (20%) from 3-9 inches and 10 YR 5/1 (80%) with redox concentrations in the matrix of 7.5 YR 5/8 (20%) from 9-16 inches. The soil texture was silty clay loam 0-16 inches. One secondary indicator for wetland hydrology was observed, Geomorphic Position. The sample point lacked wetland hydrology and hydrophytic vegetation. Therefore, SP 4 is not within a wetland. The presence of hydric soils can likely be attributed to the location along a farm drainage path that appears to receive drainage very briefly during heavy rain.

Other Water Features

The project area was reviewed for the presence of other water features such as open water, areas that do not have an OHWM but have concentrated flow, all roadside ditches, historic drainage, and unusual circumstances. None of the drainage depressions within the investigated area exhibited a discernable OHWM, bed and bank, or evidence of frequent flow. No open water or other water features were identified in the investigated area.

Conclusions

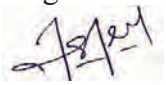
The majority of the investigated area was considered typical of roadside right-of-way and agricultural areas, with upland vegetation and quick draining soils, and no hydrology indicators. It is likely that the drainage paths within the investigated area only receive drainage during heavy rain and does not hold water for long periods.

The final determination of jurisdictional waters is ultimately made by the appropriate regulatory staff of the USACE. This report is our best judgment based on the guidelines set forth by the Corps.

Acknowledgement

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

Jeegar Panchal

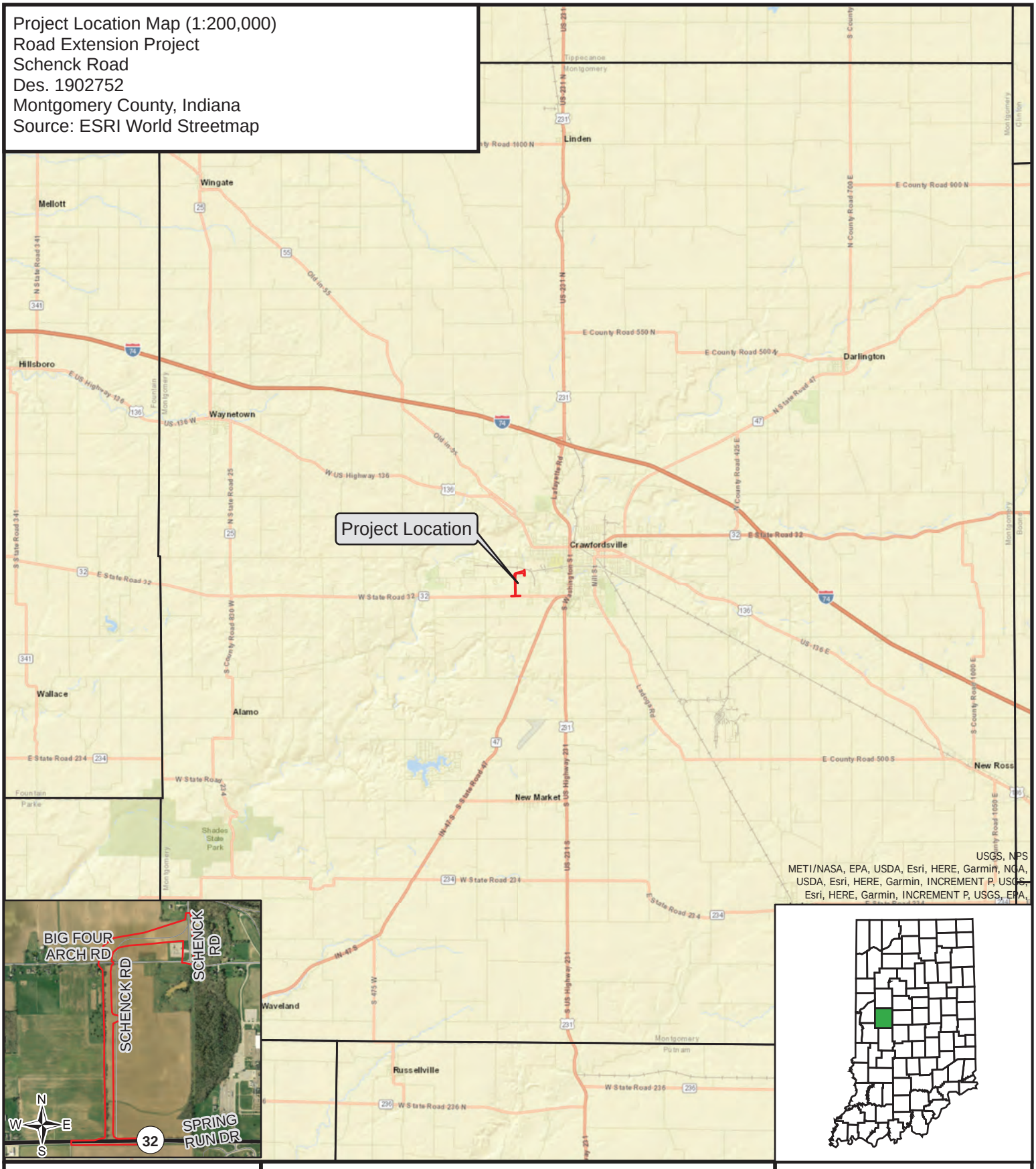


Ecologist
SJCA Inc.
Date: January 6, 2022

Supporting Documentation

- Site Location Map
- USGS Topographic Maps
- Floodplain Map
- NHD Flowlines Map
- USFWS NWI Map
- NRCS Hydric Soil Map
- Water Resources Map
- Photograph Location Map
- Site Photographs
- Sample Point Data Sheets

Project Location Map (1:200,000)
Road Extension Project
Schenck Road
Des. 1902752
Montgomery County, Indiana
Source: ESRI World Streetmap



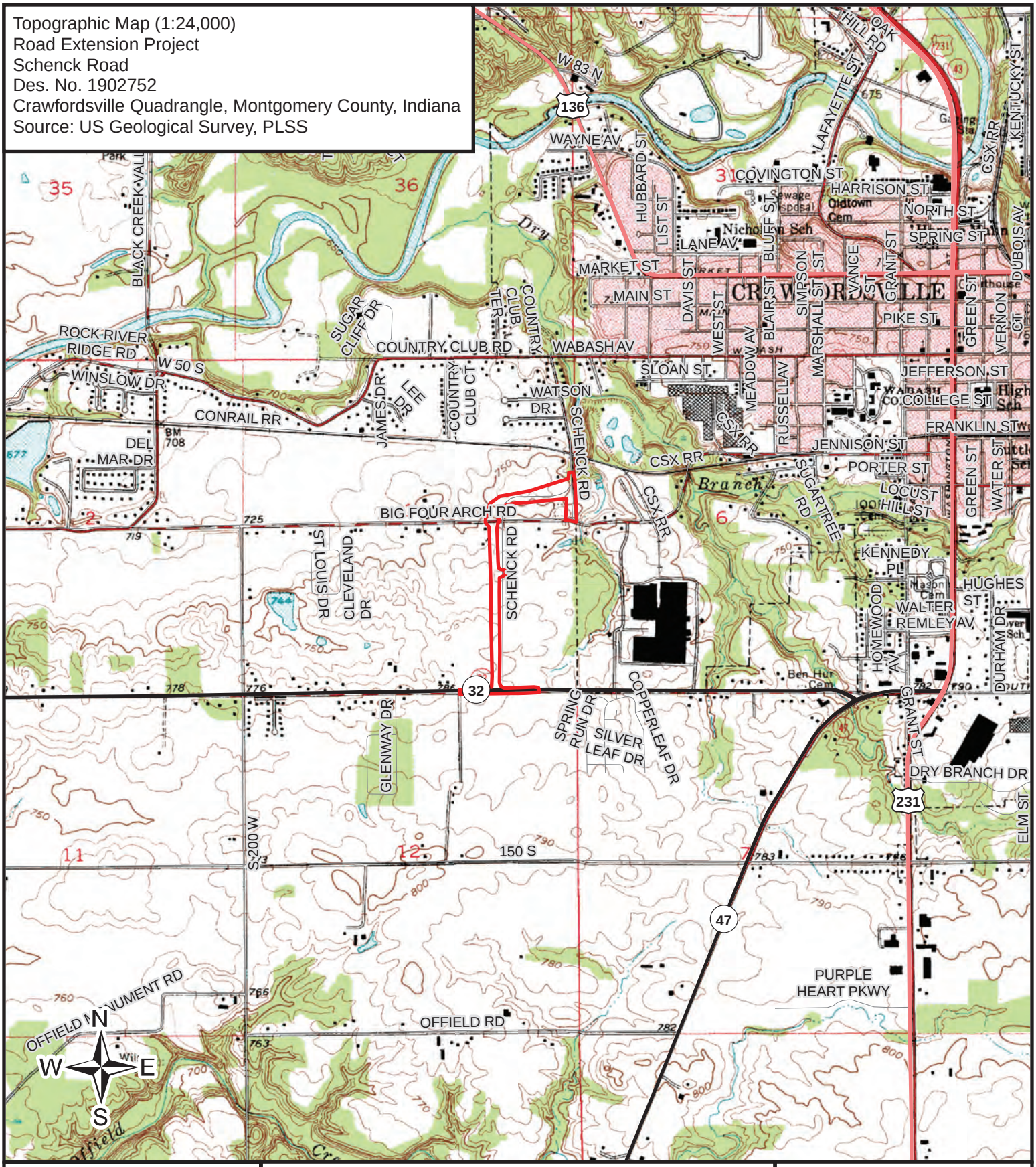
USGS, NPS
METI/NASA, EPA, USDA, Esri, HERE, Garmin, NGA,
USDA, Esri, HERE, Garmin, INCREMENT P, USGS,
Esri, HERE, Garmin, INCREMENT P, USGS, EPA,

0 2.25 4.5
Miles

County Boundary
Project County
Investigated Area

SJCA

Topographic Map (1:24,000)
Road Extension Project
Schenck Road
Des. No. 1902752
Crawfordsville Quadrangle, Montgomery County, Indiana
Source: US Geological Survey, PLSS



0 0.28 0.55 Miles

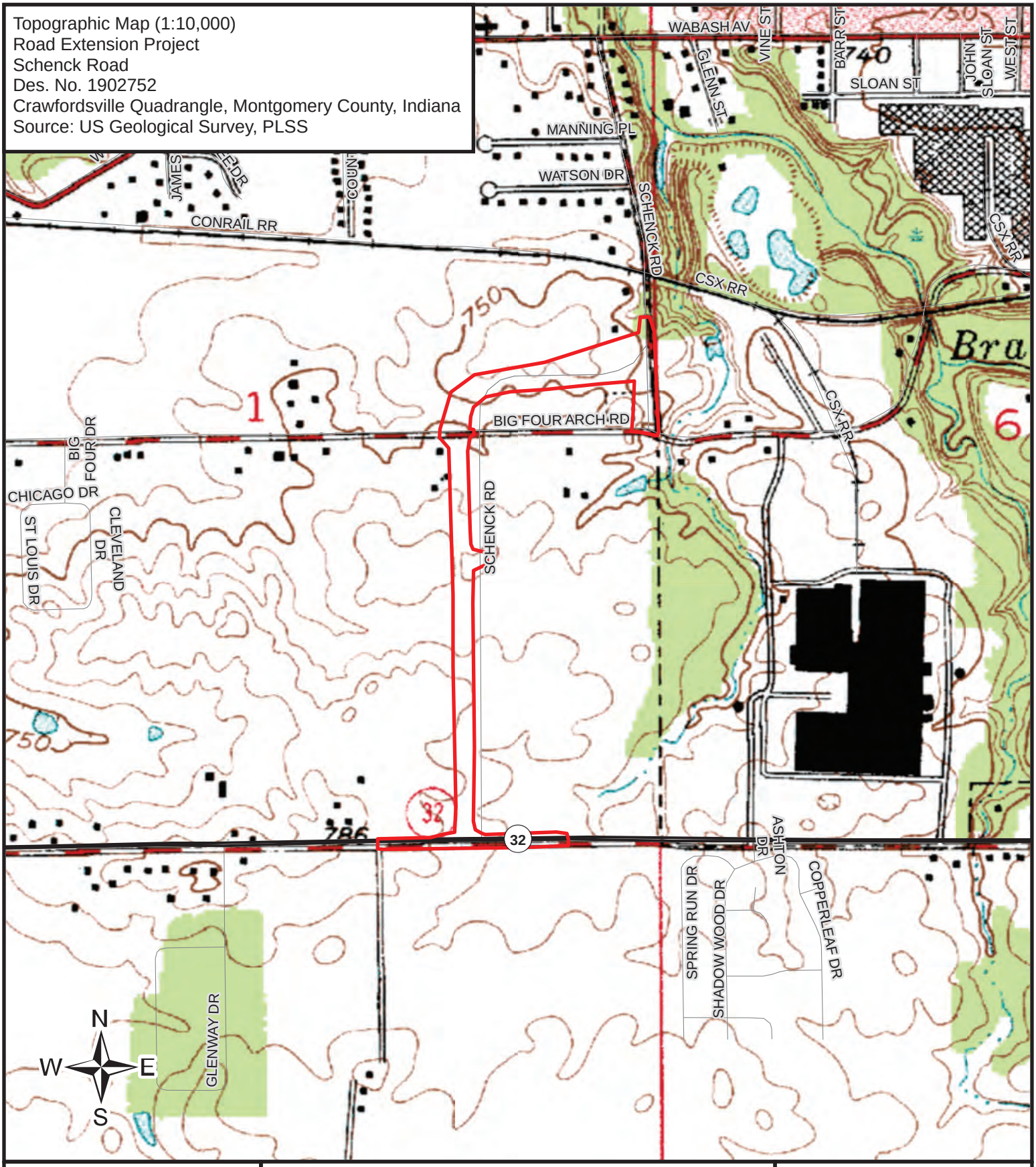
Investigated Area

12/20/2021

SJCA

F-8

Topographic Map (1:10,000)
Road Extension Project
Schenck Road
Des. No. 1902752
Crawfordsville Quadrangle, Montgomery County, Indiana
Source: US Geological Survey, PLSS



0 0.1 0.2 Miles

Investigated Area

12/20/2021

SJCA

Floodplain Map (1:5,067)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: FEMA, IDNR, & NAIP 2016 Imagery

0 0.05 0.1 Miles

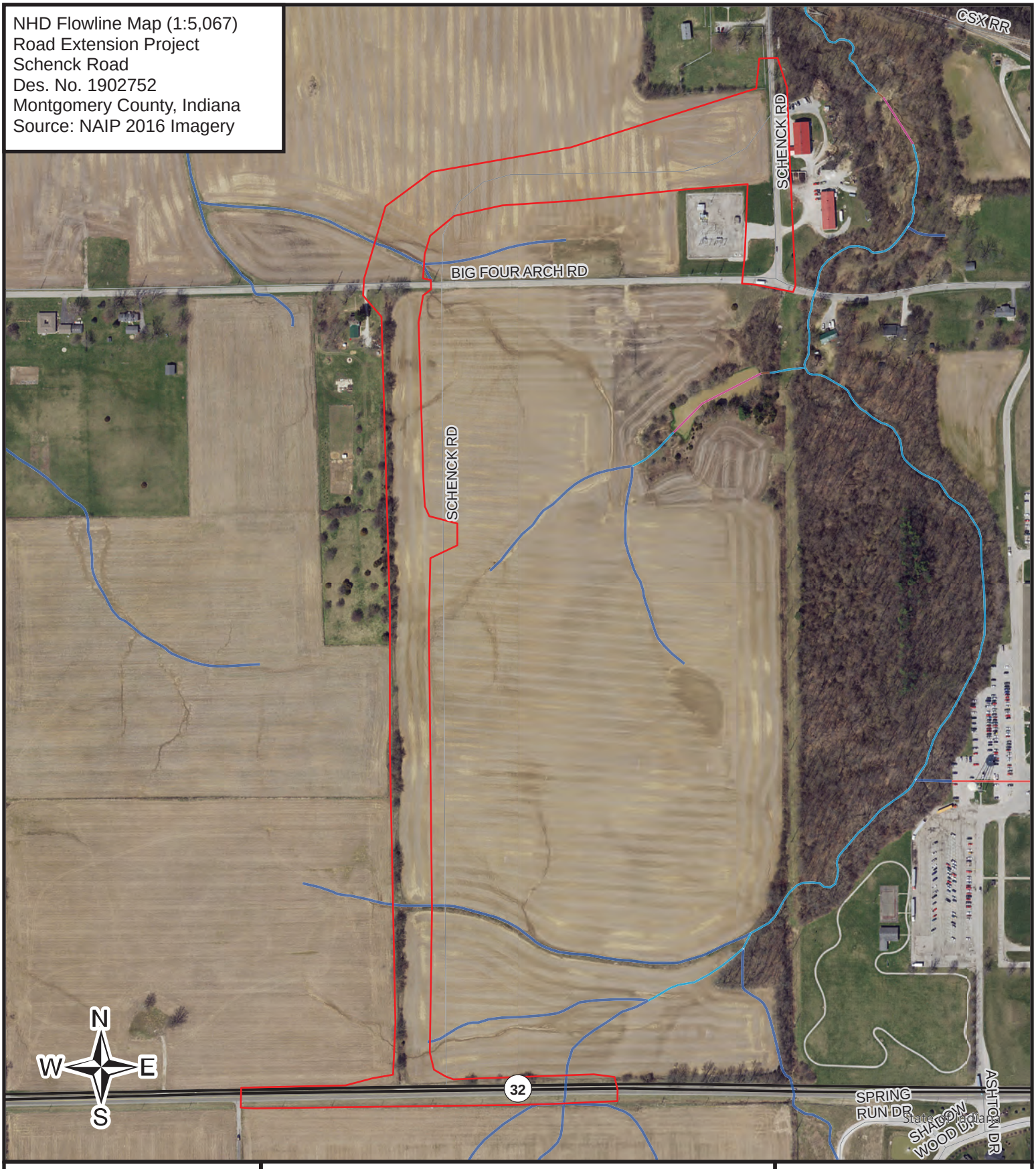
Investigated Area

- FEMA Zone AE Floodway; FEMA Administrative Floodway
- DNR Detailed Floodway
- DNR Approximate Floodway
- FEMA Zone A
- FEMA Zone AE
- DNR Detailed Fringe
- DNR Approximate Fringe
- Additional Floodplain Area; DNR .2 Percent Flood Hazard
- FEMA Protected by Levee
- FEMA Floodplain - Ponding (Depth)
- FEMA Floodplain - Sheet Flow (Depth)
- Not Mapped
- Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance, Protected by Levee
- 0.2% Annual Chance Flood Hazard

1/5/2022

SJCA

NHD Flowline Map (1:5,067)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: NAIP 2016 Imagery



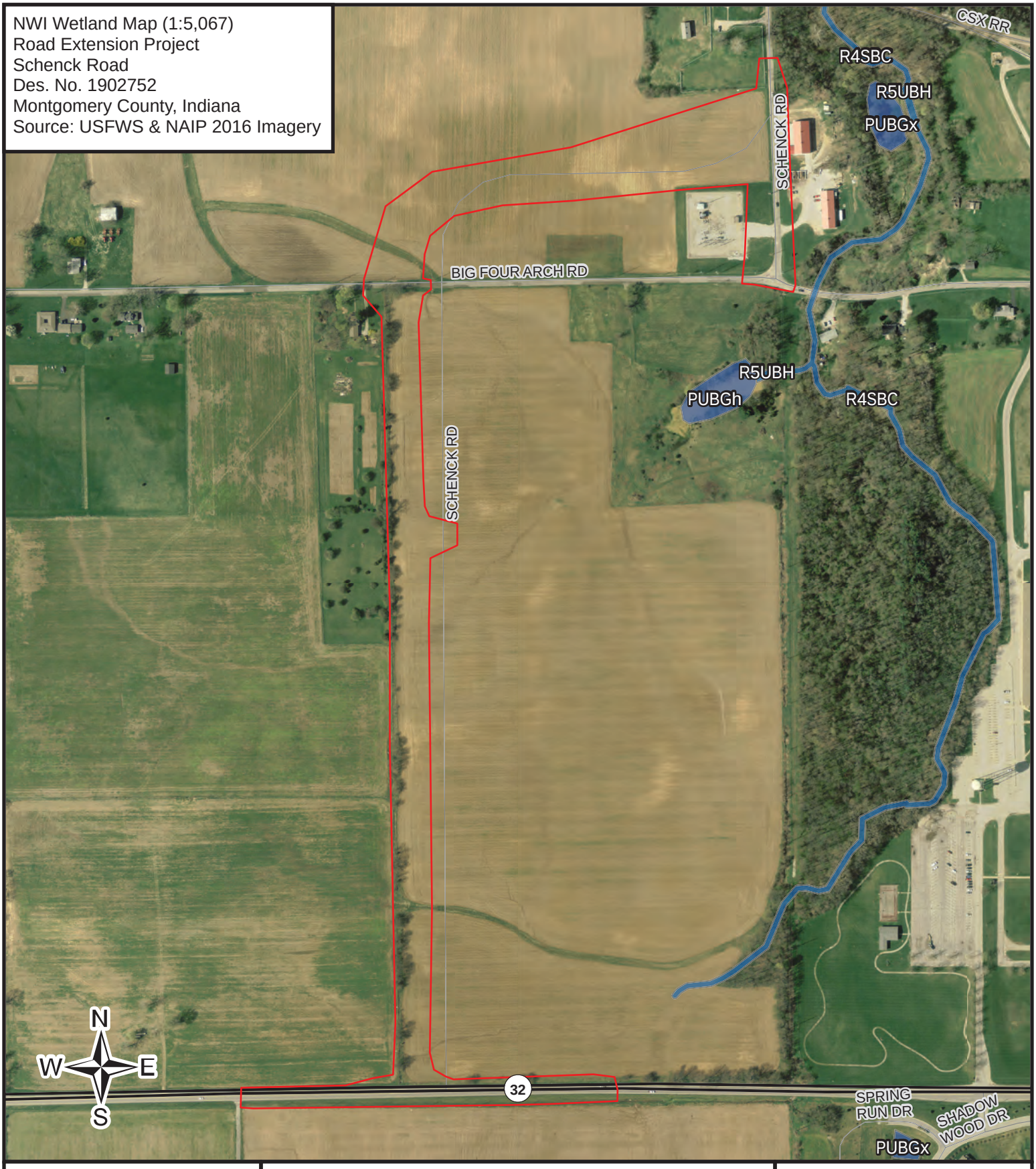
0 0.05 0.1 Miles

Investigated Area
Stream/River
Artificial Path
Pipeline
Connector
NHD Flowline - Unclassified

SJCA

12/20/2021

NWI Wetland Map (1:5,067)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: USFWS & NAIP 2016 Imagery



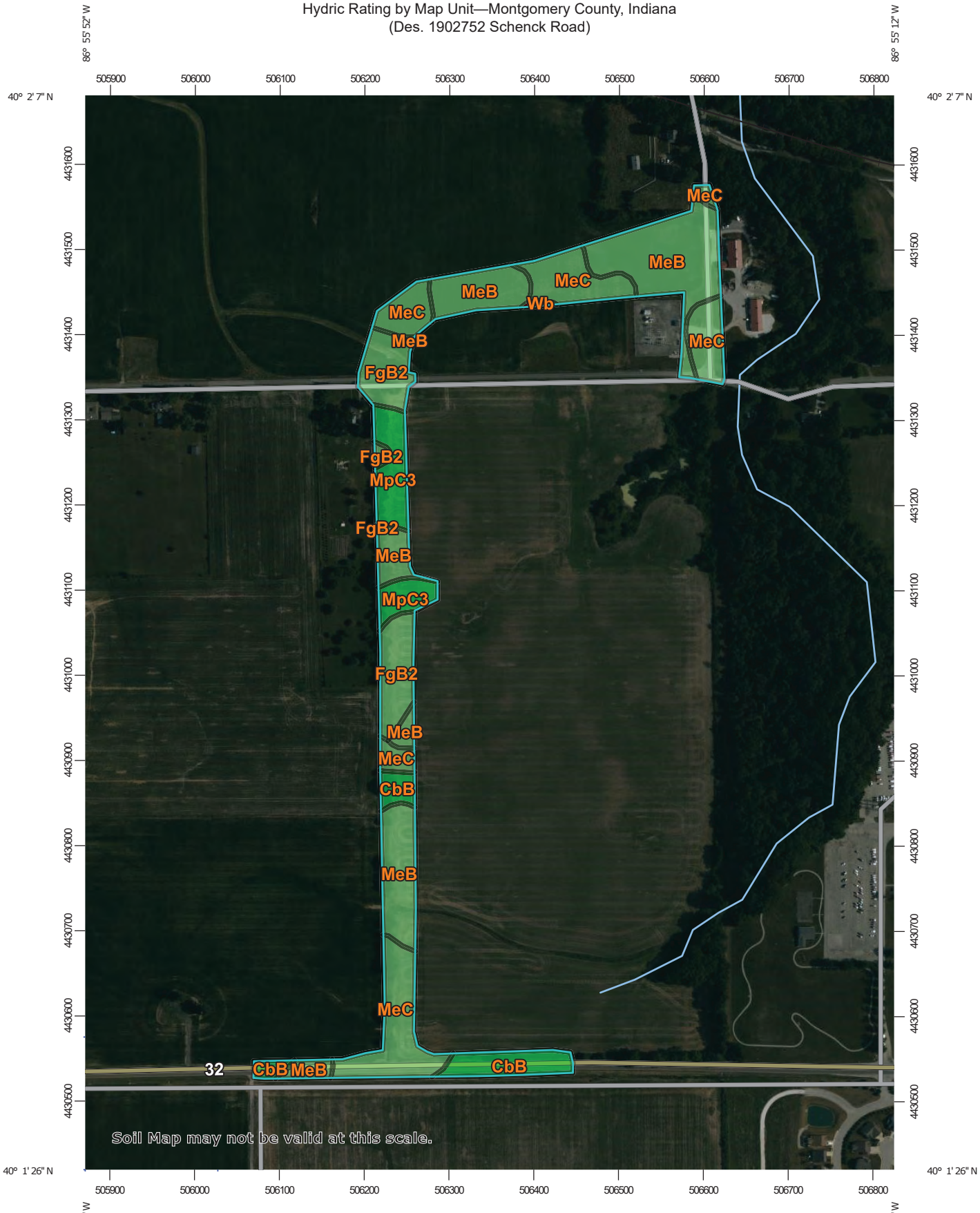
0 0.05 0.1 Miles

Investigated Area
NWI Wetlands
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
Other

12/20/2021

SJCA

F-12



Map Scale: 1:6,150 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Montgomery County, Indiana
Survey Area Data: Version 26, Sep 9, 2021

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

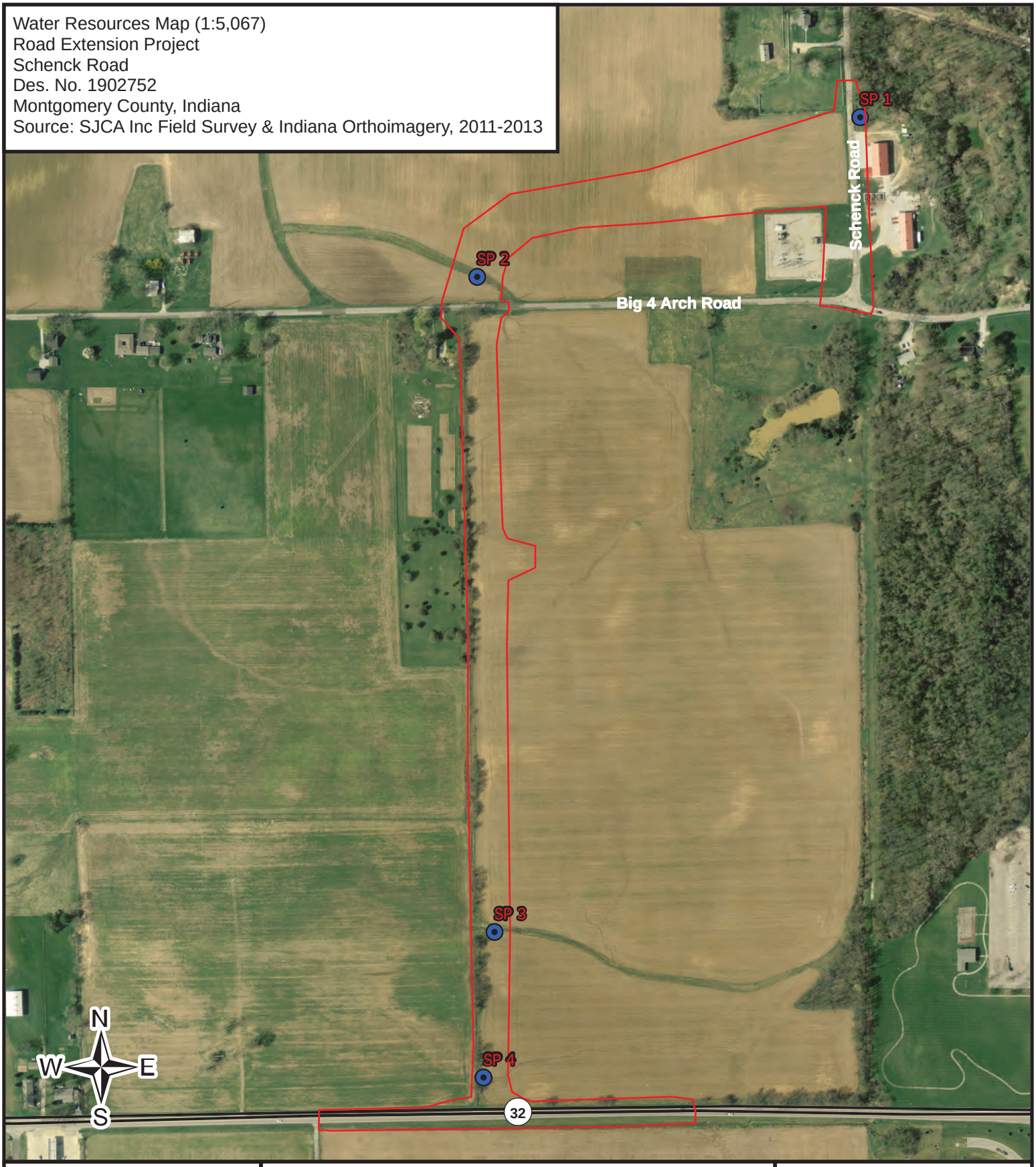
Date(s) aerial images were photographed: Jun 29, 2019—Jul 25, 2019

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

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CbB	Camden silt loam, 2 to 6 percent slopes	0	1.6	8.5%
FgB2	Fincastle-Miami silt loams, 2 to 6 percent slopes, eroded	6	2.5	13.3%
MeB	Martinsville-Ockley silt loams, till substratums, 2 to 6 percent slopes	5	7.3	38.8%
MeC	Martinsville-Ockley silt loams, till substratums, 6 to 12 percent slopes	5	5.6	29.4%
MpC3	Miami clay loam, 6 to 12 percent slopes, severely eroded	0	1.8	9.7%
Wb	Washtenaw silt loam, frequently flooded	100	0.0	0.3%
Totals for Area of Interest			**18.9**	**100.0%**

Water Resources Map (1:5,067)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: SJCA Inc Field Survey & Indiana Orthoimagery, 2011-2013



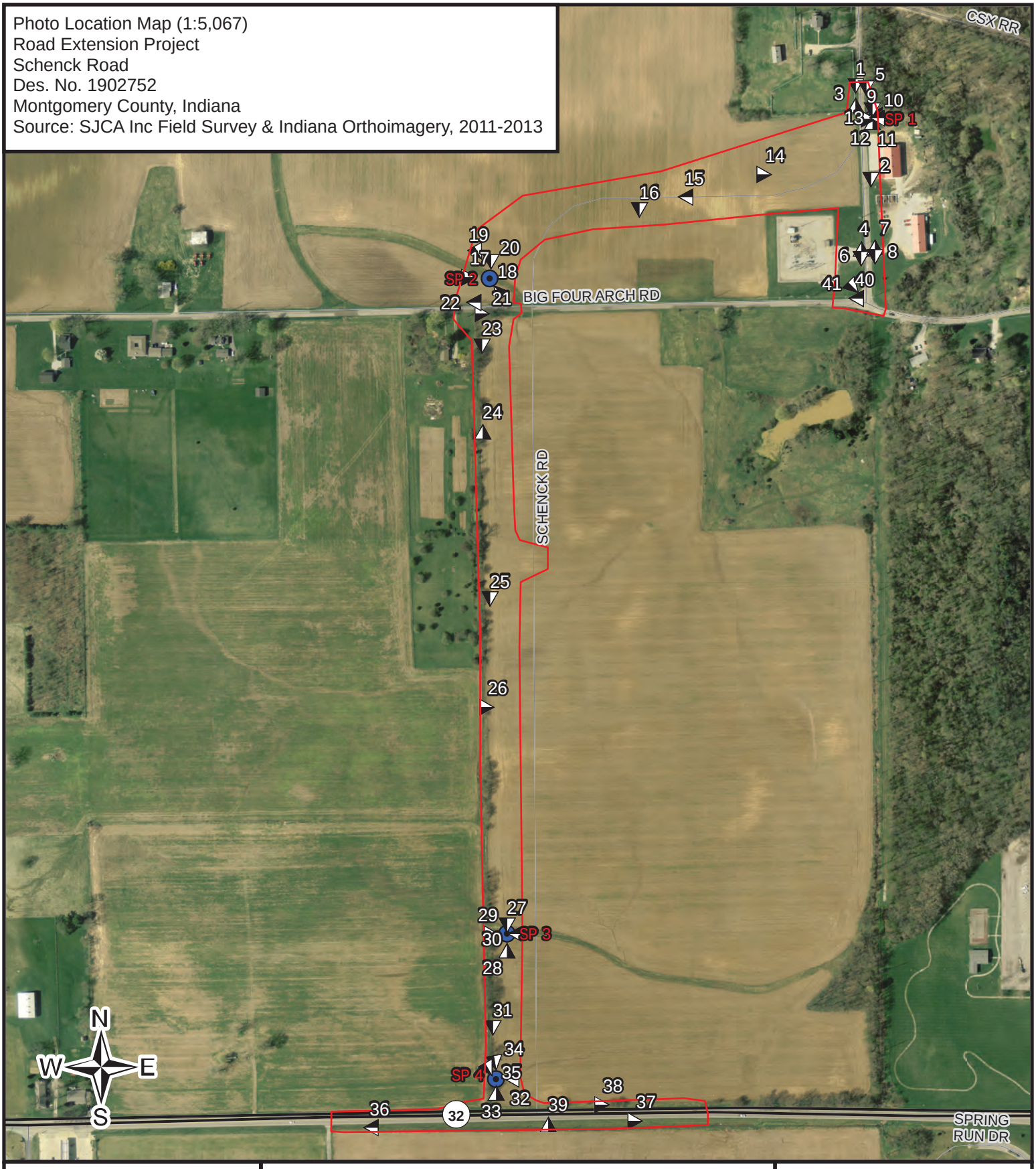
0 0.05 0.1
Miles

Sample Points
Investigated Area

SJCA

1/5/2022

Photo Location Map (1:5,067)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: SJCA Inc Field Survey & Indiana Orthoimagery, 2011-2013



0 0.05 0.1 Miles

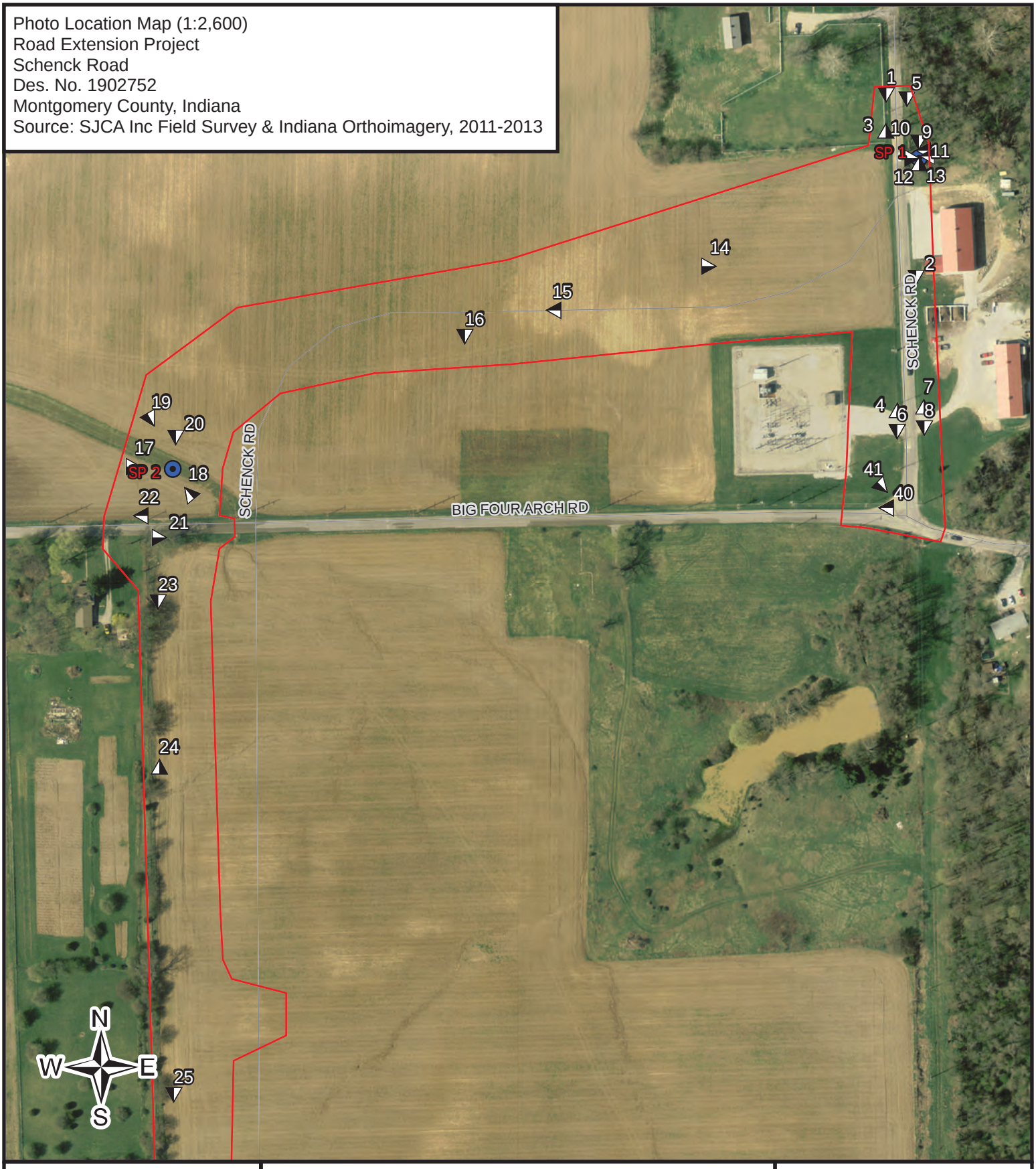
Photo Point
Sample Points
Investigated Area

1/5/2022

SJCA

F-17

Photo Location Map (1:2,600)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: SJCA Inc Field Survey & Indiana Orthoimagery, 2011-2013



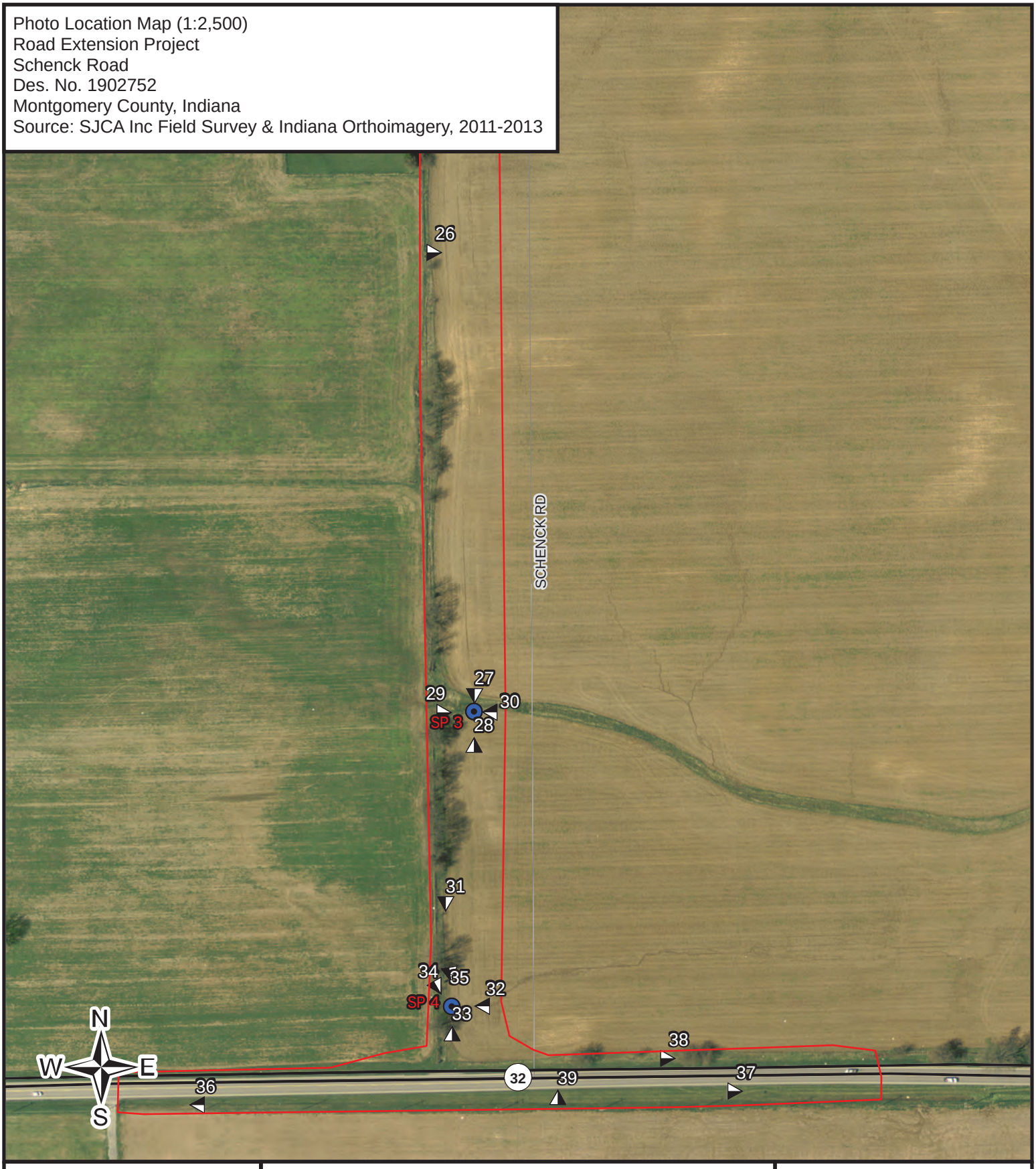
0 0.03 0.06 Miles

Photo Point
Sample Points
Investigated Area

1/5/2022

SJCA

Photo Location Map (1:2,500)
Road Extension Project
Schenck Road
Des. No. 1902752
Montgomery County, Indiana
Source: SJCA Inc Field Survey & Indiana Orthoimagery, 2011-2013



0 0.03 0.06 Miles

Photo Point
Sample Points
Investigated Area

1/5/2022

SJCA

F-19

Photo 1. Facing south from north end of the investigated area, along with west side of Schenck Road.

Photo 2. Facing south toward Big 4 Arch Road, along with east side of Schenck Road.

Photo 3. Facing north from north end of the investigated area, along with west side of Schenck Road.

Photo 4. Facing north along with west side of Schenck Road.

Photo 5. Facing south from north end of the investigated area, along east side of the Schenck Road.

Photo 6. Facing south toward Big 4 Arch Road, along with west side of Schenck Road.

Photo 7. Facing north along east side of Schenck Road.

Photo 8. Facing south toward Big 4 Arch Road, along with east side of Schenck Road.

Photo 9. Facing west from SP 1 toward Schenck Road.

Photo 10. View of SP 1 (upland), taken along east side of Schenck Road.

Photo 11. Facing north from SP 1.

Photo 12. Facing east from SP 1, down sloping path.

Photo 13. Facing south from SP 1.

Photo 14. Facing east toward Schenck Road along with agricultural filed.

Photo 15. Facing west along with agricultural field.

Photo 16. Facing south toward Big 4 Arch Road from agricultural filed.

Photo 17. View of SP 2 (upland), taken within drainage path in the farm field, north of Big 4 Arch Road.

Photo 18. Facing northwest from SP 2.

Photo 19. Facing southeast from SP 2.

Photo 20. Facing south from SP 2.

Photo 21. Facing east along with Big 4 Arch Road.

Photo 22. Facing west along with Big 4 Arch Road.

Photo 23. Facing south along edge of the agricultural field from south of Big 4 Arch Road.

Photo 24. Facing north toward Big 4 Arch Road, along with fence row of the agricultural field.

Photo 25. Facing south along fence row of agricultural field.

Photo 26. Facing east from edge of the agricultural filed.

Photo 27. View of SP 3 (upland), taken withing drainage path in the agricultural field, south of Big 4 Arch Road.

Photo 28. Facing north from SP 3.

Photo 29. Facing east from SP 3.

Photo 30. Facing west from SP 3.

Photo 31. Facing south toward SR 32, along the edge of the agricultural field.

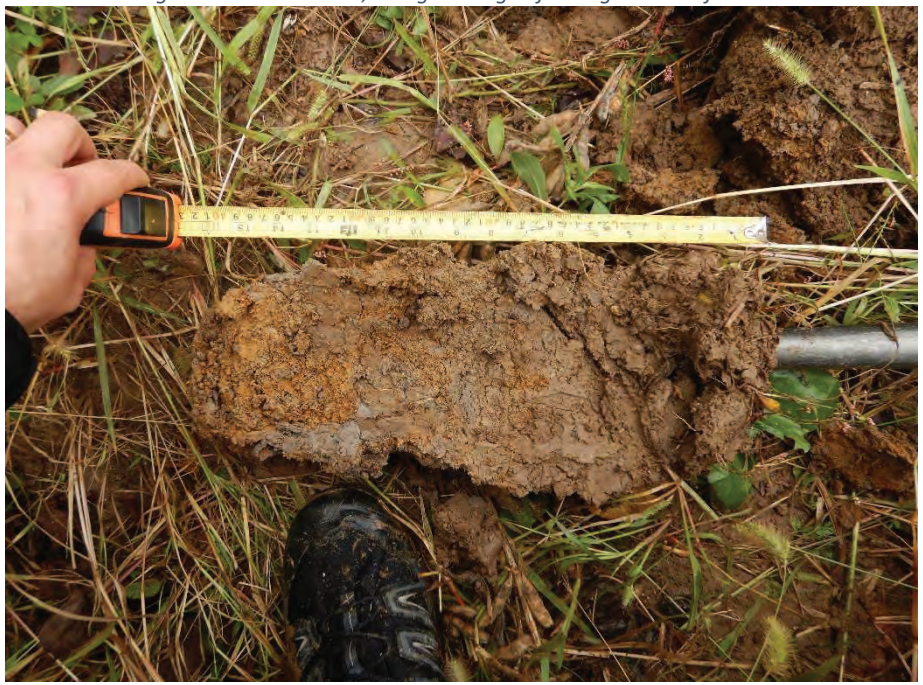


Photo 32. View of SP 4 (upland), taken along edge of the agricultural field, north of SR 32.

Photo 33. Facing north from SP 4.

Photo 34. Facing south from SP 4.

Photo 35. Facing southeast from SP 4.

Photo 36. Facing west along south side of SR 32.

Photo 37. Facing east along south side of SR 32.

Photo 38. Facing east along the north side of SR 32.

Photo 39. Facing north from the south side of SR 32.

Photo 40. Facing west along the north side of Big 4 Arch Rd, from Schenck Rd.

Photo 41. Facing southeast toward the intersection of Schenck Rd and Big 4 Arch Rd.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Schenck Rd Project, Des. 1902752 City/County: Crawfordsville/Montgomery Sampling Date: 10/12/21

Applicant/Owner: City of Crawfordsville State: IN Sampling Point: SP 1

Investigator(s): K. McLane & M. Meyer Section, Township, Range: Section 1, TWP 18 N, RNG 5 W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave

Slope (%): 6-10 Lat: 40.034051° Long: -86.922500° Datum: WGS 84

Soil Map Unit Name: MeB and MeC - Martinsville-Ockley silt loams, till substratums NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ☐ (If no, explain in Remarks.)

Are Vegetation ✔, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ✔	**Is the Sampled Area within a Wetland?** Yes ☐ No ✔
Hydric Soil Present?	Yes ☐	No ✔	
Wetland Hydrology Present?	Yes ☐	No ✔	

Remarks:

Taken in what appears to be an excavated path down a slope from the adjacent commercial property. Appears to be mowed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis occidentalis (common hackberry)*	45	Y	FAC
2. *Juglans nigra (black walnut)*	40	Y	FACU
3.			
4.			
5.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Celtis occidentalis (common hackberry)*	5	Y	FAC
2. *Cercis canadensis (eastern redbud)*	2	Y	FACU
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Dactylis glomerata (orchardgrass)*	50	Y	FACU
2. *Taraxacum officinale (common dandelion)*	10		FACU
3. *Toxicodendron radicans (eastern poison ivy)*	5		FAC
4. *Polygonum longisetum (Oriental lady's thumb)*	5		FAC
5. *Oxalis stricta (common yellow oxalis)*	5		FACU
6.			
7.			
8.			
9.			
10.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1. *Vitis aestivalis*	2	Y	FACU
2.			
	2	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	60	x 3 =	180
FACU species	109	x 4 =	436
UPL species		x 5 =	
Column Totals:	169 (A)		616 (B)

Prevalence Index = B/A = 3.64

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ✔

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

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/2	100					SiCL	
11-16	10YR 3/3	100					SiCL	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☑

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Schenck Rd Project, Des. 1902752 City/County: Crawfordsville/Montgomery Sampling Date: 10/12/21

Applicant/Owner: City of Crawfordsville State: IN Sampling Point: SP 2

Investigator(s): K. McLane & M. Meyer Section, Township, Range: Section 1, TWP 18 N, RNG 5 W

Landform (hillslope, terrace, etc.): field/terrace Local relief (concave, convex, none): concave

Slope (%): 0-2 Lat: 40.032614° Long: -86.926998° Datum: WGS 84

Soil Map Unit Name: FgB2 - Fincastle-Miami silt loams, 2-6% slopes, eroded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☑	
Hydric Soil Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Wetland Hydrology Present?	Yes ☐	No ☑	

Remarks:

Point was taken along a depression through the corn field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Schedonorus arundinaceus (tall fescue)*	90	Y	FACU
2. *Rumex cripsus (curly dock)*	15		FAC
3. *Setaria faberi (Japanese bristlegrass)*	10		FACU
4. *Eclipta prostrata (false daisy)*	5		FACW
5.			
6.			
7.			
8.			
9.			
10.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species	100	x 4 =	400
UPL species		x 5 =	
Column Totals:	120 (A)		455 (B)

Prevalence Index = B/A = 3.79

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Vegetation receives mowing.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/3	100					SiCL	
3-10	10YR 4/2	96	2.5YR 4/8	4	C	M	SiCL	
10-16	10YR 3/1	100					CL	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required: check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Schenck Rd Project, Des. 1902752 City/County: Crawfordsville/Montgomery Sampling Date: 10/12/21

Applicant/Owner: City of Crawfordsville State: IN Sampling Point: SP 3

Investigator(s): K. McLane & M. Meyer Section, Township, Range: Section 1, TWP 18 N, RNG 5 W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave

Slope (%): 2-5 Lat: 40.026705° Long: -86.926801° Datum: WGS 84

Soil Map Unit Name: MeB - Martinsville-Ockley silt loam, till substratums, 2-6% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☑ No ☐ (If no, explain in Remarks.)

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ☐	No ☑	
Hydric Soil Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☑
Wetland Hydrology Present?	Yes ☑	No ☐	

Remarks:

Point was taken along a depression through the soybean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. *Echinochloa crus-galli (barnyard grass)*	50	Y	FACW
2. *Schedonorus arundinaceus (tall fescue)*	40	Y	FACU
3. *Solidago altissima (Canada goldenrod)*	25		FACU
4. *Symphyotrichum lanceolatum (white panicle aster)*	25		FAC
5. *Setaria faberi (Japanese bristlegrass)*	20		FACU
6.			
7.			
8.			
9.			
10.			
	160 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 50	x 2 =	100
FAC species 25	x 3 =	75
FACU species 85	x 4 =	340
UPL species	x 5 =	
Column Totals: 160 (A)		515 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ☐ No ☑

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

Vegetation receives mowing.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	100					SiCL	
2-16	10YR 4/2	85	2.5YR 4/8	15	C	M	SiCL	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☑ No ☐ Depth (inches): 15

Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches): 12

Wetland Hydrology Present? Yes ☑ No ☐

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

Remarks:

Point was taken is what appears to be a drainage path through the soybean field (based on aerial imagery and topography). However, no evidence of concentrated or frequent flow was observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Schenck Rd Project, Des. 1902752 City/County: Crawfordsville/Montgomery Sampling Date: 10/12/21

Applicant/Owner: City of Crawfordsville State: IN Sampling Point: SP 4

Investigator(s): K. McLane & M. Meyer Section, Township, Range: Section 1, TWP 18 N, RNG 5 W

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): convex

Slope (%): 2-5 Lat: 40.025392° Long: -86.926931° Datum: WGS 84

Soil Map Unit Name: MeC - Martinsville-Ockley silt loam, till substratums, 6-12% slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [✔] No [ ] (If no, explain in Remarks.)

Are Vegetation [✔], Soil [ ], or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes [✔] No [ ]

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes [ ]	No [✔]	
Hydric Soil Present?	Yes [✔]	No [ ]	**Is the Sampled Area within a Wetland?** Yes [ ] No [✔]
Wetland Hydrology Present?	Yes [ ]	No [✔]	

Remarks:

Point was taken along a depression through the soybean field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Morus alba (white mulberry)*	2	Y	FAC
2.			
3.			
4.			
5.			
	7	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Celtis occidentalis (common hackberry)*	5	Y	FAC
2.			
3.			
4.			
5.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Setaria faberi (Japanese bristlegrass)*	25	Y	FACU
2. *Amaranthus retroflexus (redroot amaranth)*	20	Y	FACU
3. *Trifolium repens (white clover)*	10		FACU
4. *Glycine max (soybean)*	10		UPL
5. *Echinochloa crus-galli (barnyard grass)*	5		FACW
6. *Muhlenbergia schreberi (nimblewill)*	5		FAC
7. *Daucus carota (Queen Anne's lace)*	5		UPL
8. *Polygonum longisetum (Oriental lady's thumb)*	2		FAC
9. *Conyza canadensis (Canadian horseweed)*	2		FACU
10.			
	84	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species 5	x 2 =	10
FAC species 14	x 3 =	42
FACU species 57	x 4 =	228
UPL species 15	x 5 =	75
Column Totals: 91 (A)		355 (B)

Prevalence Index = B/A = 3.90

Hydrophytic Vegetation Indicators:

- [ ] 1 - Rapid Test for Hydrophytic Vegetation
- [ ] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes [ ] No [✔]

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

Vegetation likely receives occasional spraying and mowing.

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100					SiCL	
3-9	10YR 4/1	80	7.5YR 5/8	20	C	M	SiCL	
9-16	10YR 5/1	80	7.5YR 5/8	20	C	M	SiCL	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron-Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☑ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☑

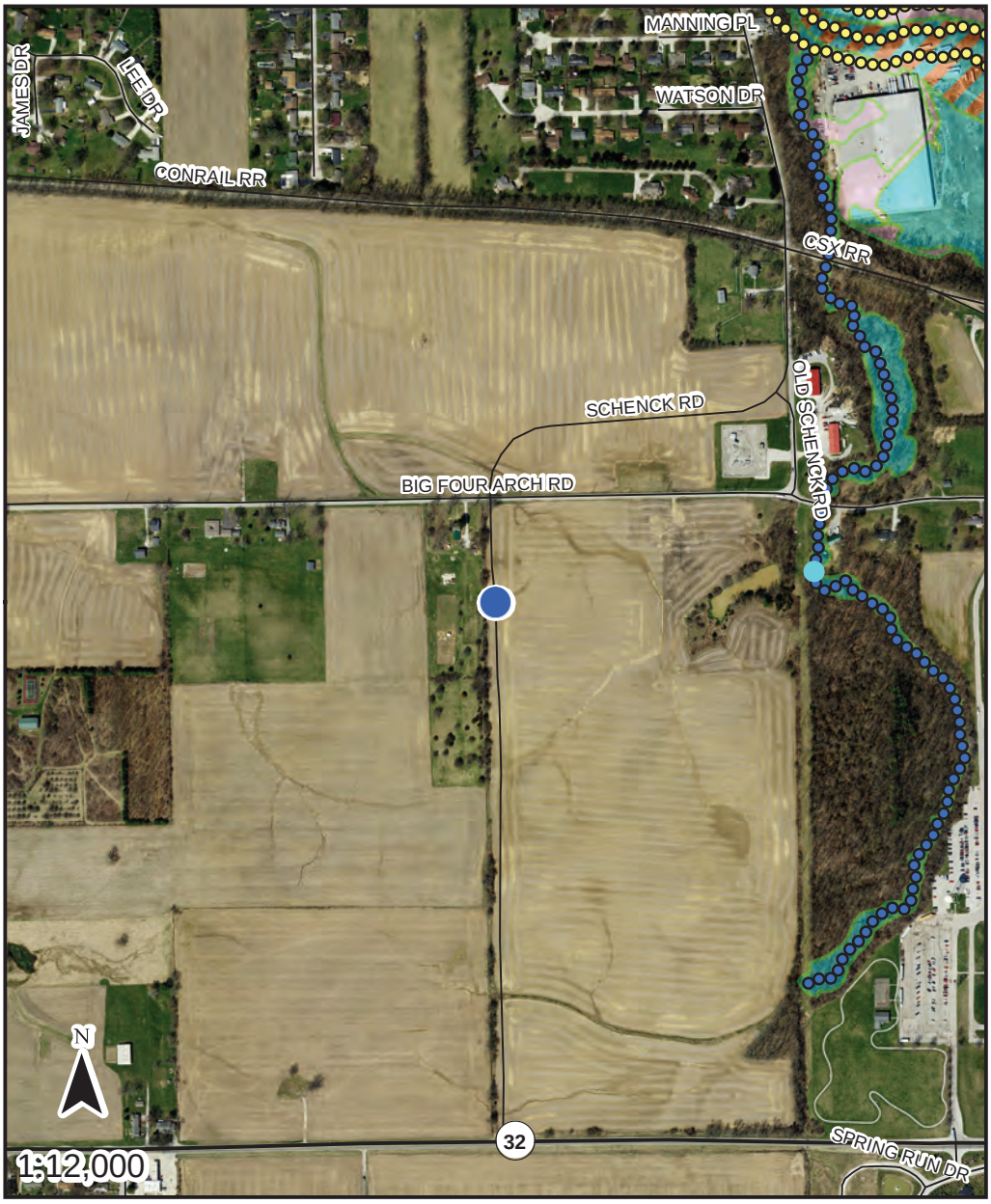
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Point was taken is what appears to be a drainage path through the soybean field (based on aerial imagery and topography). Evidence of concentrated flow was observed just to the west near the fence line, but no discernible OHWM or bed and bank was visible at the point or to the east.

DNR Indiana Department of Natural Resources

Floodplain Analysis & Regulatory Assessment (FARA)



Point of Interest

Base Flood Elevation Point

Flood Elevation Points

STUDIED STREAM

STUDIED STREAM

Rivers and Streams at least 1 square mile

Drainage Area (sq. miles)

1 - 10

FEMA Zone AE Floodway; FEMA Administrative Floodway

FEMA Zone A

FEMA Zone AE

Additional Floodplain Area; DNR .2 Percent Flood Hazard

Point of Interest Coordinates (WGS84)

Long: **-86.9269482662**

Lat: **40.0311807752**

The information provided below is based on the point of interest shown in the map above.

County: **Montgomery**

Stream Name: **Unnamed Tributary Dry Branch**

Approximate Ground Elevation: **759.3 feet (NAVD88)**

Base Flood Elevation: **733.2 feet (NAVD88)**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **Not Mapped**

National Flood Hazard Zone: **Not Mapped**

Is a Flood Control Act permit from the DNR needed for this location? **See following pages**

Is a local floodplain permit needed for this location? **Contact your local Floodplain Administrator-**

Floodplain Administrator: **Marc Bonwell, Building Administrator**

Community Jurisdiction: **Montgomery County, County proper**

Phone: **(765) 364-6490**

Email: **marc.bonwell@montgomerycounty.in.gov**

US Army Corps of Engineers District: **Louisville**

Date Generated: 10/27/2022

APPENDIX G
PUBLIC INVOLVEMENT

Notice of Entry Letters (G-1)

HWC ENGINEERING

Confidence in the built environment.
135 N. Pennsylvania, Suite 2800
Indianapolis, Indiana 46204
www.hwcengineering.com

January 13, 2021

RE: Des No.: 1902752
Road: Schenck Rd

Notice of Survey/Entry

Dear Property Owner:

The Indiana Department of Transportation (INDOT) will perform a survey for the proposed project. A portion of this survey work may be performed on your property in order to provide design engineers information for project design. The survey work will include mapping the location of features such as trees, buildings, fences, drives, ground elevations, etc. The survey is needed for the proper planning and design of this project.

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

INDOT employees or subcontractors will show you their identification, if you are available, before coming onto your property.

If you own but are not the tenant of this property (i.e. rental, sharecrop), please inform us so that we may also contact the actual tenant of the property prior to commencement of our work.

If you have any questions or concerns regarding our proposed survey work or schedule, please contact one of the following listed below. This contact information is as follows:

General Questions:
Joseph Bell, PE, PMP
Senior Project Manager
HWC Engineering, Inc.
135 N. Pennsylvania Street, Suite 2800
Indianapolis, IN 46204
317-419-6774
jbell@hwcengineering.com

Survey Questions:
Austin Yake, PS
Survey Project Manager
HWC Engineering, Inc.
135 N. Pennsylvania Street, Suite 2800
Indianapolis, IN 46204
812-787-0969
ayake@hwcengineering.com

Thank you in advance for your cooperation in this matter.

Sincerely,

Joseph Bell

Joseph Bell, PE, PMP
Project Engineer

SAMPLE

APPENDIX H AIR QUALITY

2022-2026 STIP (H-1 to H-3)

Federal Transit Administration
Region V
200 West Adams St., Suite 320
Chicago, IL 60606-5253

U.S. Department
of Transportation

Federal Highway Administration
Indiana Division
575 N. Pennsylvania St., Rm 254
Indianapolis, IN 46204-1576

June 17, 2022

Mr. Michael Smith
Commissioner
Indiana Department of Transportation
100 N Senate Ave. N955
Indianapolis, IN 46204

SUBJECT: Indiana FY2022-2026 STIP Approval and Associated Federal Planning Finding

Dear Mr. Smith:

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the FY2022-2026 Indiana Statewide Transportation Improvement Program (INSTIP), which was submitted by the INDOT request letter dated April 27, 2022.

Based on our review of the information provided, certifications of the Statewide and Metropolitan transportation planning processes for and within the state of Indiana, and our participation in those transportation planning processes (including planning certification reviews conducted in Transportation Management Areas), FHWA and FTA are jointly approving the FY2022-2026 STIP, including the Metropolitan Planning Organization (MPO) Transportation Improvement Programs (TIPs) directly incorporated into the STIP, subject to the corrective actions identified in the attached Federal Planning Finding (FPF) report. FHWA and FTA consider the projects in the 5th year for informational purposes only, and our approval does not exceed four years per 23 CFR 450.220(c).

FHWA and FTA are required under 23 CFR 450.220(b) to document and issue an FPF in conjunction with the approval of the FY2022-2026 STIP. At a minimum, the FPF verifies that the development of the STIP is consistent with the provisions of both the Statewide and Metropolitan transportation planning requirements. FHWA and FTA find that the Indiana FY2022-2026 STIP substantially meets the transportation planning requirements and are approving the STIP subject to the corrective actions outlined in the FPF. This approval is effective June 17, 2022, and is given with the understanding that an eligibility determination of individual projects for funding must be met, and INDOT must ensure the satisfaction of all administrative and statutory requirements, as well as address the corrective actions outlined in the attached report. FHWA and FTA will continue to partner with INDOT to ensure the previously developed action plan (attached) is implemented to address the corrective actions. If progress is not made in addressing the corrective actions, future amendments to the FY2022-2026 STIP, or adoption of the FY2024-2028 STIP, may not be approved by USDOT.

If you have questions or need additional information concerning our approval and the FPF, please contact Ms. Michelle Allen of the FHWA Indiana Division at (317) 226-7344, or by email at michelle.allen@dot.gov, or Mr. Jason Ciavarella of the FTA Region 5 Office at (312) 353-1653, or by email at jason.ciavarella@dot.gov.

Sincerely,

KELLEY BROOKINS Digitally signed by KELLEY BROOKINS Date: 2022.06.13 10:08:34 -05'00'

Kelley Brookins
Regional Administrator
FTA Region V

Sincerely,

JERMAINE R HANNON Digitally signed by JERMAINE R HANNON Date: 2022.06.13 15:57:46 -04'00'

Jermaine R. Hannon
Division Administrator
FHWA Indiana Division

cc: (transmitted by e-mail)
Louis Feagans, INDOT
Roy Nunnally, INDOT
Karen Hicks, INDOT

Attachments have been removed for the purposes of this NEPA document.

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2022 - 2026

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2022	2023	2024	2025	2026
Indiana Department of Transportation	42242 / 1900335	Init.	SR 234	Bridge Rehab-Pipe Lining	Crawfordsville	0	STBG	$1,361,950.00	Bridge ROW	RW	$24,000.00	$6,000.00		$30,000.00			
									Bridge Construction	CN	$770,744.00	$192,686.00			$963,430.00		
Performance Measure Impacted: Bridge Condition																	
Location: over BR Indian Creek; 01.12 mi W of SR 47																	
Comments:Include DES 1900303, 1900305, 1900335																	
Indiana Department of Transportation	42256 / 1900356	Init.	US 231	HMA Overlay, Preventive Maintenance	Crawfordsville	2.08	NHPP	$7,871,861.00	Road Construction	CN	$5,776,576.80	$1,444,144.20	$20,000.00		$7,200,721.00		
									Road ROW	RW	$16,000.00	$4,000.00	$20,000.00				
Performance Measure Impacted: Pavement Condition																	
Location: from 0.28 mi N of US 136 to 0.36 mi S of I-74 (SL 165.63-167.67)																	
Comments:Include DES 2000887, 1900356																	
Indiana Department of Transportation	42256 / 1900356	M 01	US 231	HMA Overlay, Preventive Maintenance	Crawfordsville	2.08	STBG	$7,220,721.00	Road Construction	CN	$0.00	$0.00	($20,000.00)	$20,000.00			
Performance Measure Impacted: Pavement Condition																	
Location: from 0.28 mi N of US 136 to 0.36 mi S of I-74 (SL 165.63-167.67)																	
Comments:moved FY22 CN to FY23 $20,000																	
Crawfordsville	42763 / 1902752	Init.	ST 5081	New Road Construction	Crawfordsville	.5	STBG	$3,974,225.87	Local Funds	CN	$0.00	$636,790.00				$636,790.00	
									Group III Program	RW	$258,780.00	$0.00			$258,780.00		
									Local Funds	RW	$0.00	$64,685.00			$64,685.00		
									Group III Program	CN	$2,547,160.00	$0.00				$2,547,160.00	
Performance Measure Impacted: Pavement Condition																	
Location: Extension of Schenck Road from Big 4 Arch Road to SR 32																	
Comments:Include DES 1902752																	
Indiana Department of Transportation	42922 / 2000113	Init.	US 231	Bridge Painting	Crawfordsville	0	NHPP	$1,191,133.00	Bridge Construction	CN	$952,906.40	$238,226.60		$1,191,133.00			
									Bridge Consulting	PE	$0.00	$0.00		$0.00			
Performance Measure Impacted: Bridge Condition																	
Location: 0.32 mi N of US 136, over Sugar Creek																	
Comments:Include DES 2000113																	

*Estimated Costs left to Complete Project column is for costs that may extend beyond the four years of a STIP. This column is not fiscally constrained and is for information purposes.

APPENDIX I

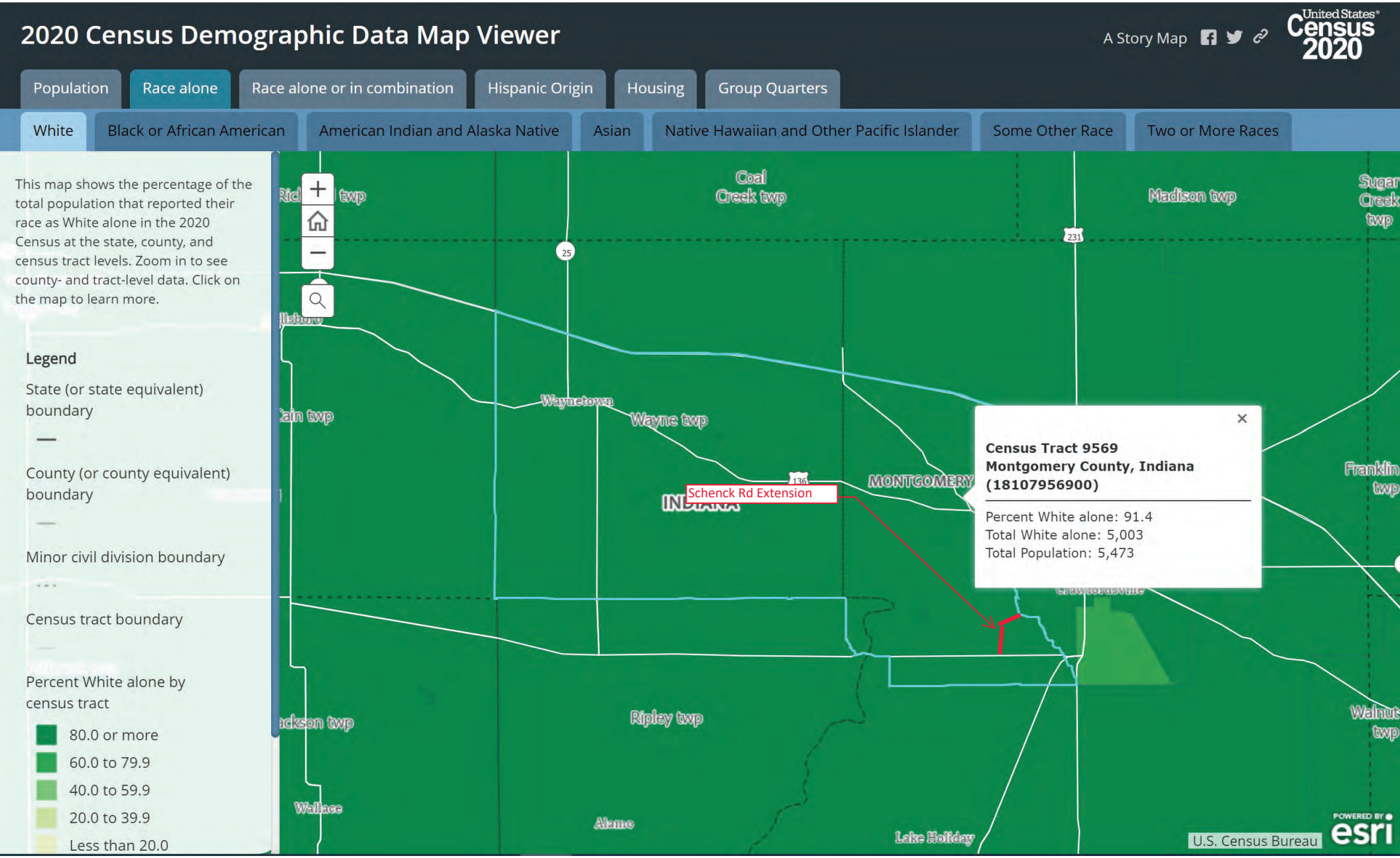
Additional Information

LWCF Information (I-1)

Environmental Justice (I-2 to I-6)

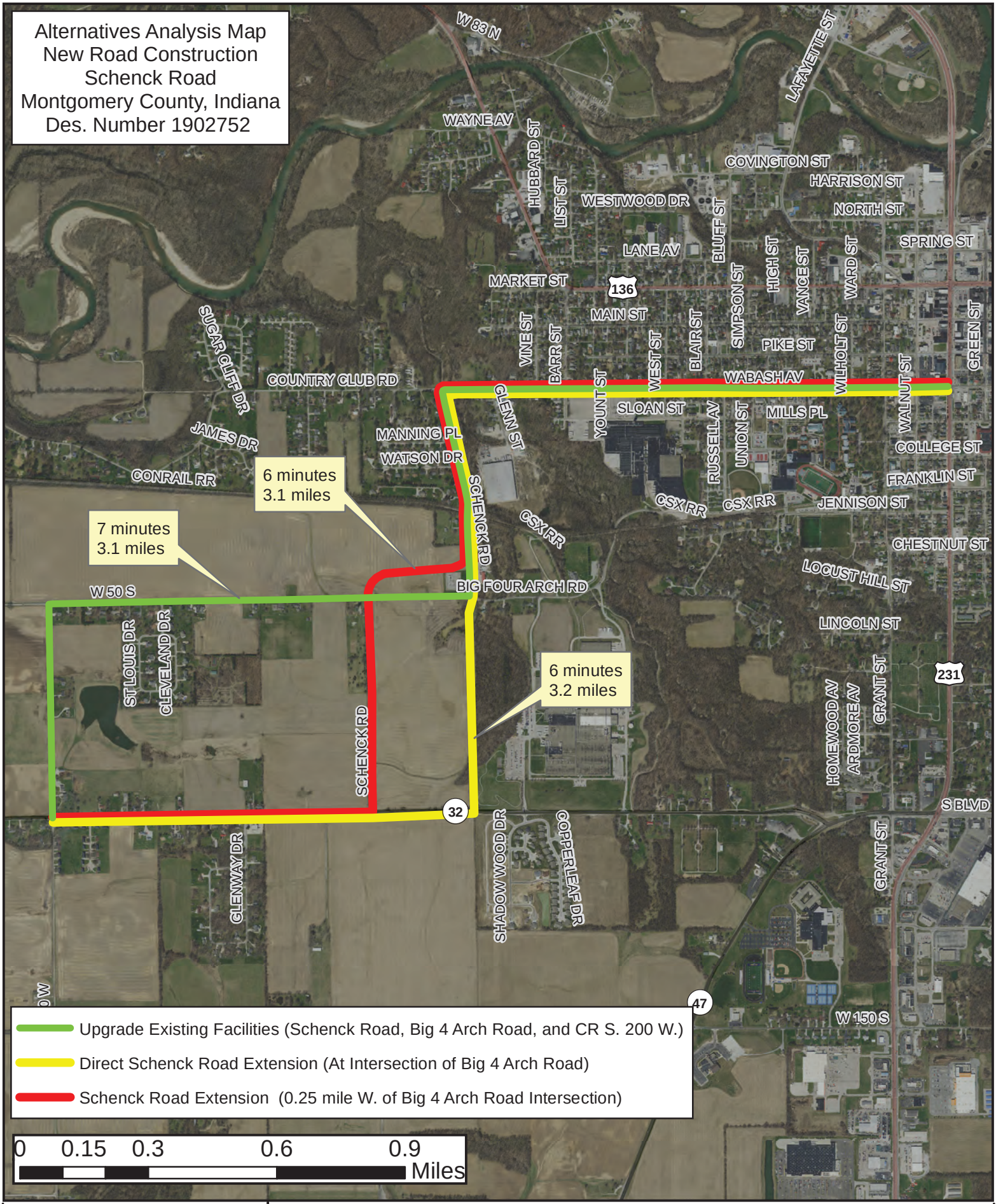
Alternatives Analysis Map (I-5)

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated July 2020)			
ProjectNumber	SubProjectCode	County	Property
1800133	1800133	Montgomery	Lincoln Activity Area (Lincoln Recreation Center)
1800161	1800161E	Montgomery	Shades State Park
1800171	1800171L	Montgomery	Shades State Park
1800211	1800211	Montgomery	Lake Waveland Park
1800308	1800308	Montgomery	Shades State Park
1800312	1800312N	Montgomery	Shades State Park
1800327	1800327I	Montgomery	Shades State Park
1800363	1800363BB	Montgomery	Shades State Park
1800405	1800405A	Montgomery	Calvert and Porter Woods
1800413	1800413R	Montgomery	Shades State Park
1800456	1800456	Montgomery	Shades State Park
1800480	1800480	Montgomery	Darlington Old School Park


2020 Census Demographic Data Map Viewer
A Story Map
United States Census 2020
Population
Race alone
Race alone or in combination
Hispanic Origin
Housing
Group Quarters
White
Black or African American
American Indian and Alaska Native
Asian
Native Hawaiian and Other Pacific Islander
Some Other Race
Two or More Races
This map shows the percentage of the total population that reported their race as White alone in the 2020 Census at the state, county, and census tract levels. Zoom in to see county- and tract-level data. Click on the map to learn more.
Legend
State (or state equivalent) boundary
County (or county equivalent) boundary
Minor civil division boundary
Census tract boundary
Percent White alone by census tract
80.0 or more
60.0 to 79.9
40.0 to 59.9
20.0 to 39.9
Less than 20.0
Coal Creek twp
Madison twp
Waynetown
Wayne twp
MONTGOMERY
Schenck Rd Extension
Census Tract 9569
Montgomery County, Indiana
(18107956900)
Percent White alone: 91.4
Total White alone: 5,003
Total Population: 5,473
Ripley twp
Wallace
Alamo
Lake Holiday
U.S. Census Bureau
POWERED BY esri

Analysis of Minority in Montgomery County and Census Tract 9569 in Indiana			
		COC	AC-1
	Label	Montgomery County, Indiana	Census Tract 9569, Montgomery County, Indiana
		Estimate	Estimate
B03002001	**Total:**	**38,295**	**5,330**
B03002002	Not Hispanic or Latino:	36,423	5,209
B03002003	**White alone**	**35,084**	**4,984**
B03002004	Black or African American alone	323	0
B03002005	American Indian and Alaska Native alone	38	7
B03002006	Asian alone	262	132
B03002007	Native Hawaiian and Other Pacific Islander alone	14	0
B03002008	Some other race alone	37	0
B03002009	Two or more races:	665	86
B03002010	Two races including Some other race	49	1
B03002011	Two races excluding Some other race, and three or more races	616	85
B03002012	Hispanic or Latino:	1,872	121
B03002013	White alone	1,122	69
B03002014	Black or African American alone	44	0
B03002015	American Indian and Alaska Native alone	0	0
B03002016	Asian alone	0	0
B03002017	Native Hawaiian and Other Pacific Islander alone	0	0
B03002018	Some other race alone	315	0
B03002019	Two or more races:	391	52
B03002020	Two races including Some other race	206	47
B03002021	Two races excluding Some other race, and three or more races	185	5
(B03002001-B03002003)	**Number Non-White/Minority**	3211	346
(B03002001-B03002003)/ (B03002001)	**Percent Non-White/ Minority**	8.4%	6.5%
((B03002001-B03002003)/ (B03002001)) x 125%	**125 Percent of COC**	10.5%	AC < 125% COC
	Potential Minority EJ Impact?		No

Analysis of Low Income in Montgomery County and Census Tract 9569 in Indiana			
		COC	AC-1
	Label	Montgomery County, Indiana	Census Tract 9569, Montgomery County, Indiana
		Estimate	Estimate
B1700101	**Total:**	**36,773**	**5,219**
B1700102	**Income in the past 12 months below poverty level:**	**4,371**	**538**
B1700103	Male:	1,844	122
B1700104	Under 5 years	218	17
B1700105	5 years	37	0
B1700106	6 to 11 years	158	2
B1700107	12 to 14 years	146	28
B1700108	15 years	13	0
B1700109	16 and 17 years	70	0
B1700110	18 to 24 years	338	41
B1700111	25 to 34 years	193	3
B1700112	35 to 44 years	144	0
B1700113	45 to 54 years	190	0
B1700114	55 to 64 years	189	25
B1700115	65 to 74 years	100	2
B1700116	75 years and over	48	4
B1700117	Female:	2,527	416
B1700118	Under 5 years	173	5
B1700119	5 years	62	0
B1700120	6 to 11 years	108	1
B1700121	12 to 14 years	182	53
B1700122	15 years	17	0
B1700123	16 and 17 years	165	69
B1700124	18 to 24 years	392	2
B1700125	25 to 34 years	277	29
B1700126	35 to 44 years	330	63
B1700127	45 to 54 years	203	34
B1700128	55 to 64 years	253	2
B1700129	65 to 74 years	163	45
B1700130	75 years and over	202	113
B1700131	Income in the past 12 months at or above poverty level:	32,402	4,681
B1700132	Male:	16,438	2,247
B1700133	Under 5 years	956	44
B1700134	5 years	236	52
B1700135	6 to 11 years	1,206	323
B1700136	12 to 14 years	550	58
B1700137	15 years	225	32
B1700138	16 and 17 years	429	22
B1700139	18 to 24 years	1,034	100
B1700140	25 to 34 years	2,107	288
B1700141	35 to 44 years	2,049	139
B1700142	45 to 54 years	2,296	457
B1700143	55 to 64 years	2,495	294
B1700144	65 to 74 years	1,632	307
B1700145	75 years and over	1,223	131
B1700146	Female:	15,964	2,434
B1700147	Under 5 years	844	118
B1700148	5 years	282	39
B1700149	6 to 11 years	1,139	128
B1700150	12 to 14 years	544	91
B1700151	15 years	151	55
B1700152	16 and 17 years	376	112
B1700153	18 to 24 years	987	203
B1700154	25 to 34 years	1,929	319
B1700155	35 to 44 years	1,744	185
B1700156	45 to 54 years	2,201	408
B1700157	55 to 64 years	2,448	341
B1700158	65 to 74 years	1,872	302
B1700159	75 years and over	1,447	133
B1700102/ B1700101	**Percent Low-Income**	11.9%	10.3%
(B1700102/ B1700101) x 125 %	**125% of COC**	14.9%	AC < 125% COC
	Potential Minority EJ Impact?		No



ClarkDietz

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

Map Datum: NAD 83
Map Projection: UTM Zone 16 North
(2016 aerial)

N

APPENDIX J

Noise Study

Traffic Noise Technical Report (J-1 to J-33)
INDOT Notice of Technical Sufficient for the Noise Analysis (J-34)

TRAFFIC NOISE TECHNICAL REPORT

Schenck Road Project

Des. No. 1902752
City of Crawfordsville
Montgomery County

Prepared for:

Indiana Department of Transportation
Environmental Services Division

Prepared by:

WSP USA

November 2021

EXECUTIVE SUMMARY

The City of Crawfordsville proposes the extension of Schenck Road on new alignment. The project is listed as DES No. 1902752. The project involves the construction of a two-lane roadway to connect Schenck Road to State Route (SR) 32. Per Federal Highway Administration (FHWA) Title 23 CFR 772.5(2) and INDOT *Traffic Noise Analysis Procedure* Policy, the proposed project is "Type I" because of the constructed travel lanes on new location. A detailed description of the proposed improvements can be found in Section 1.0 and a project location map is shown as Figure 1.

A federal Categorical Exclusion (CE) is being prepared. The Date of Public Knowledge will be the approval date of the CE. After this date, federal and state governments are no longer responsible for providing noise abatement measures for new development within the noise impact area of the proposed project. INDOT advocates use of local government authority to regulate land development, planning, design, and construction in such a way that noise impacts are minimized and is willing to help local government by providing guidance on noise-related issues.

Existing land use in the vicinity of the Schenck Road project is predominately single-family residences and agricultural use. Other land uses in the study area include commercial and utility.

The build alternative is not predicted to result in traffic noise impacts; thus, no traffic noise abatement measures have been determined to be likely for the project.

In addition to noise from traffic, construction activities themselves can temporarily increase noise levels. INDOT will be sensitive to local needs and may make adjustments to work practices in order to reduce inconvenience to the public.

This report presents a preliminary analysis of traffic noise impacts and consideration of noise abatement measures for feasibility and reasonableness. The report documents the methodologies, results, and recommendations of the study in compliance with the FHWA Title 23 Code of Federal Regulations (CFR) 772 Procedures for Abatement of Highway Traffic Noise and Construction Noise and the 2017 INDOT *Traffic Noise Analysis Procedure.*

Unless substantial design modifications occur, additional alternatives are considered, or substantial changes to 2044 Design Year traffic volumes are predicted, noise abatement measures are not likely for incorporation into the project design plans for the Schenck Road project. This analysis completes the traffic noise requirements of Title 23 CFR Part 772 and INDOT *Traffic Noise Analysis Procedure (July 1, 2017).*

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Appendices

Appendix A: Noise Measurement Data Sheets

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Traffic Noise Technical Report

Schenck Road Project
City of Crawfordsville
Montgomery County
Des. No. 1902752

1.0 INTRODUCTION

In cooperation with the Federal Highway Administration (FHWA), the City of Crawfordsville proposes the extension of Schenck Road on new alignment in the City of Crawfordsville, Indiana. The project length is approximately 0.8 miles. The planned extension will connect Schenck Road to State Route 32 (SR 32) and will include an entrance to a planned subdivision, Lift Station. The project location is shown in Figure 1.

2.0 LEGISLATION AND NOISE FUNDAMENTALS

2.1 Regulatory Requirements

FHWA developed standards for mitigating adverse highway traffic noise effects through the *Federal Highway Act of 1970.* Through this Act, FHWA established traffic noise level criteria and prohibited the approval of federally funded highway projects without complying to these standards and adequately considering noise abatement measures.

These established regulations for federally funded highway projects are set forth in 23 CFR Part 772. The regulations do not mandate that abatement criteria be met in all situations but require that efforts must be made to provide mitigation where feasible and reasonable.

FHWA policy also requires each state Department of Transportation to adopt a noise policy to be approved by FHWA, which defines state specific noise standards. The effective date of the most recent FHWA-approved *INDOT Traffic Noise Analysis Procedure* is July 1, 2017. This policy is applicable to Type I federal-aid highway projects which involve the construction of a highway on a new location or the physical alteration of an existing highway that significantly changes either its horizontal or vertical alignment or increases the number of through traffic lanes. The Schenck Road Project is a Type I project because a road is being built on new location. The structure of the policy focuses on the following principal elements:

- Identification of Noise-Sensitive Land Uses
- Determination of Existing Noise Levels
- Prediction of Future Noise Levels
- Identification of Traffic Noise Impacts

- Identification and Consideration of Abatement
- Consideration of Construction Noise
- Coordination with Local Government Officials

2.2 Traffic Noise

Noise is defined as unwanted sound. It is emitted from many natural and man-made sources. Highway traffic noise is usually a composite of noises from engine exhaust, drive train, and tire-roadway interaction.

The magnitude of noise is usually described by a ratio of its sound pressure to a reference sound pressure, typically twenty micro-Pascals (20μPa). Since the range of sound pressure ratios varies greatly – over many orders of magnitude, a base-10 logarithmic scale is used to express sound levels in dimensionless units of decibels (dB). The commonly accepted limits of detectable human hearing sound magnitude is between the threshold of hearing at 0 decibels and the threshold of pain at 140 decibels.

Sound frequencies are reported in units of Hertz (Hz), which correspond to the number of vibrations per second of a given tone. A cumulative 'sound level' is equivalent to ten times the base-10 logarithm of the ratio of the sum of the sound pressures of all frequencies to the reference sound pressure. To simplify the mathematical process of determining sound levels, sound frequencies are grouped into ranges, or 'bands.' Sound levels are then calculated by adding the cumulative sound pressure levels within each band – which are typically defined as one 'octave' or '1/3 octave' of the sound frequency spectrum.

The commonly accepted limitation of human hearing to detect sound frequencies is between 20 Hz and 20,000 Hz, and human hearing is most sensitive to the frequencies between 1,000 Hz – 6,000 Hz. Although people are generally not as sensitive to lower-frequency sounds as they are to higher frequencies, most people lose the ability to hear high-frequency sounds as they age. To accommodate varying receptor sensitivities, frequency sound levels are commonly adjusted, or 'filtered', before being logarithmically added and reported as a single 'sound level' magnitude of that filtering scale. The 'A-weighted' decibel filtering scale applies numerical adjustments to sound frequencies to emphasize the frequencies at which human hearing is sensitive and to minimize the frequencies to which human hearing is not as sensitive, as shown for an example truck noise level spectrum in Table 1.

Table 1: Comparison of Unweighted vs. A-Weighted Sound Levels for a Truck			
Octave-Band Center Frequency (Hz)	**A**	**B**	**C = A + B**
	Unweighted Sound Level from a Truck (dB)	**A-Weighting Adjustment of Unweighted Sound to Reflect What Human Ear Perceives (dB)**	**Sound Level that Human Ear Perceives = A-Weighted Sound Level (dB(A))**
31	75	-39	36
63	78	-26	52
125	83	-16	67
250	84	-9	75
500	81	-3	78
1,000	75	0	75
2,000	71	1	72
4,000	63	1	64
8,000	54	-1	53
Total Unweighted Sound Level	**89**	**Total A-Weighted Sound Level in dB(A)**	**82**

The A-weighted scale is commonly used in highway traffic noise studies because the typical frequency spectrum of traffic noise is higher in magnitude at the frequencies at which human hearing is noise sensitive (1,000 Hz to 6,000 Hz).

Several examples of common noise levels expressed in dB(A) are listed in Table 2. A review of Table 2 indicates that most individuals are exposed to fairly high noise levels from many sources on a regular basis. In order to perceive sounds of greatly varying pressure levels, human hearing has a non-linear sensitivity to sound pressure exposure. For example, doubling the sound pressure results in a three decibel change in the noise level; however, variations of three decibels (3 dB(A)) or less are commonly considered “barely perceptible” to normal human hearing. A five decibel (5 dB(A)) change is more readily noticeable. By definition, a ten-fold increase in the sound pressure level correlates to a 10 decibel (10 dB(A)) noise level increase; however, it is judged by most people as only a doubling of the loudness – sounding “twice as loud”.

Table 2: Common Indoor and Outdoor Noise Levels		
Common Outdoor Noise Levels	**Noise Level (dB(A))**	**Common Indoor Noise Levels**
	110	**Rock Band**
Jet Flyover at 1,000 feet	**100**	**Inside Subway Train (NY)**
Gas Lawn Mower at 3 feet		
Diesel Truck at 50 feet	**90**	**Food Blender at 3 feet**
Noisy Urban Daytime	**80**	**Garbage Disposal at 3 feet**
Gas Lawn Mower at 100 feet	**70**	**Vacuum Cleaner at 10 feet**
Commercial Area		**Normal Speech at 3 feet**
	60	
		Large Business Office
Quiet Urban Daytime	**50**	**Dishwasher Next Room**
Quiet Urban Nighttime	**40**	**Small Theater, Large Conference Room (Background)**
Quiet Suburban Nighttime		**Library**
	30	
Quiet Rural Nighttime		**Bedroom at Night, Concert Hall (Background)**
	20	
		Broadcast and Recording Studio
	10	
	0	**Threshold of Hearing**

Adapted from Guide on Evaluation and Attenuation of Traffic Noise, American Association of State Highway and Transportation Officials (AASHTO). 1974 (revised 1993).

3.0 IMPACT CRITERIA

3.1 Noise Abatement Criteria

The FHWA has developed Noise Abatement Criteria (NAC) and procedures to be used in the planning and design of highways. The purpose of Title 23 CFR Part 772 is, "to provide procedures for noise studies and noise abatement measures to help protect the public's health, welfare and livability, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways approved pursuant to title 23 U.S.C."

The abatement criteria and procedures are set forth in Title 23 CFR Part 772, which also states, "In abating traffic noise impacts, a highway agency shall give primary consideration to exterior areas where frequent human use occurs." A summary of the NAC for various land uses is presented in Table 3. The L_{eq}, or equivalent sound level, metric represents the equivalent steady-state sound level which in a defined time period contains the same acoustic energy as a time-varying sound level during the same time period. Traffic noise is assessed using the 1-hour equivalent sound level metric ($L_{eq(h)}$) expressed in A-weighted decibels (dB(A)).

Table 3: Noise Abatement Criteria

Hourly Equivalent A-Weighted Sound Level (decibels (dB(A))			
Activity Category	**Activity Criteria[1] $L_{eq(h)}$[2]**	**Evaluation Location**	**Activity Description**
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B [3]	67	Exterior	Residential
C [3]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section4(f) sites, schools, television studios, trails, and trail crossings
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E [3]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A- D or F
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing
G	--	--	Undeveloped lands that are not permitted

1 The $L_{eq(h)}$ Activity Criteria values are for impact determination only and are not design standards for noise abatement measures.

2 The equivalent steady-state sound level which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same time period, with $L_{eq(h)}$ being the hourly value of L_{eq}.

3 Includes undeveloped lands permitted for this activity category.

Source: FHWA Title 23 CFR Part 772, July 2010.

3.2 INDOT Definition of Noise Impacts

Traffic noise impacts, as defined in the INDOT *Traffic Noise Analysis Procedure,* occur if either of the following conditions are met:

- Noise levels "approach" (defined as reaching one decibel less than) or exceed the FHWA NAC, as shown in Table 3; or
- Noise levels "substantially exceed" existing noise levels as defined by INDOT. An impact "substantially exceeds" existing noise levels when predicted noise levels are 15 dB(A) or more greater than existing noise levels.

4.0 NOISE STUDY METHODOLOGY

4.1 Identification of Land Uses

The project is located in the City of Crawfordsville, Indiana and consists of primarily single-family residences (Activity Category B) and non-noise sensitive industrial/commercial properties (Activity Category F). The area also includes a future residential development, Lift Station, and undeveloped farmland.

4.2 Common Noise Environments (CNE) Descriptions

The noise sensitive land uses in the project area have been grouped into four Common Noise Environments (CNEs) based on their geographical proximity and exposure to similar noise sources, which are described below.

- **CNE 1** is located north of the new Schenck Road alignment and west of existing Schenck Road. This area represents four single-family residences and includes an electrical grid substation, two commercial properties, and undeveloped farmland.
- **CNE 2** is located south of Big Four Arch Road and west of the new Schenck Road alignment. This area represents four single-family residences and undeveloped farmland.
- **CNE 3** is located South of Big Four Arch Road and east of the new Schenck Road alignment. This area represents three existing single-family residences and 63 future single-family residences, which are currently platted, representing development Phase I of Lift Station. The remaining undeveloped farmland is planned to be developed during Phases II and III of Lift Station.
- **CNE 4** is located north of SR 32 and west of the new Schenck Road alignment. This area represents two single-family residences and undeveloped farmland.

4.3 Traffic Noise Model

This report utilized validated computer models created with FHWA's Traffic Noise Model® (FHWA TNM v.2.5) to predict Base Year 2024 and Design Year 2044 hourly equivalent traffic

noise levels to assess traffic noise impacts and potential noise abatement measures along the Schenck Road project limits.

Traffic noise is not constant; it varies over time depending upon the number, speed, type, and frequency of vehicles that pass by a given receptor. Furthermore, since traffic noise emissions are different for various types of vehicles, the TNM algorithm distinguishes between the source emissions from the following vehicle types: automobiles, medium trucks, heavy trucks, buses, and motorcycles, as shown in Table 4. The computer traffic noise prediction model uses the number and type of vehicles on the planned roadway, vehicle speeds, the physical characteristics of the road (curves, hills, depressions, elevations, etc.), receptor location and height, barrier ground elevation, and barrier segment top elevations.

Table 4: Traffic Noise Model (TNM) Vehicle Classification Types

TNM Vehicle Type	Description
Autos	All vehicles with two axles and four tires, including passenger cars and light trucks, weighing 9,900 pounds or less
Medium Trucks	All vehicles having two axles and six tires, weighing between 9,900 and 26,400 pounds
Heavy Trucks	All vehicles having three or more axles, weighing more than 26,400 pounds
Buses	All vehicles designed to carry more than nine passengers
Motorcycles	All vehicles with two or three tires and an open-air driver / passenger compartment

4.4 Determination of Existing Noise Levels and Model Validation

Ambient noise is noise all around us caused by natural and man-made events. It includes the wind, rain, thunder, birds chirping, insects, household appliances, commercial operations, lawn mowers, airplanes, automobiles, etc. It is a combination of all noise present in an area.

Existing traffic noise exposure varies within the Schenck Road project study area. Schenck Road, Big Four Arch Road, and SR 32 are the dominant noise sources for receptors in the study area. The purpose of noise monitoring is to gather data to compare with the output obtained from the noise prediction model. This exercise is performed to validate the traffic noise model for local conditions so that it can be used with confidence to predict the future noise levels.

Ambient noise monitoring was conducted on September 14, 2021. Short-term noise measurements were collected over 20-minute periods, with data stored in 1-minute intervals, at three locations

along the project corridor. At each of those locations, one monitor was placed approximately 50-feet from the nearest traffic source. The ambient noise monitoring locations are shown in Figure 2-1. The measured short-term ambient noise levels at those locations ranged from 53.3 dB(A) to 62.5 dB(A) and is summarized in Table 5. The noise monitoring data sheets are included in Appendix C.

For all short-term monitoring locations, TNM model validation was performed by comparing monitored ambient noise levels to TNM-predicted traffic noise levels generated by the classified traffic volumes (normalized to 1-hour volumes) and speeds on project-area roadways during each short-term monitoring session. The INDOT-accepted tolerance for TNM model validation is ±3.0 dB(A) difference between measured and predicted noise levels. The TNM models were validated at all sites as is summarized in Table 6.

Table 5: Measured Existing Noise Levels

Measurement Site	Site Description	Date	Start/Stop Time	20-min Traffic Volumes						Speed, mph	Leq Noise Level, dB(A)
				Roadway	Auto	Med Truck	Heavy Truck	Moto	Bus		
ST1	Residential	9/14/21	10:10-10:30	Big 4 Arch Rd EB	5	0	1	0	0	45	54.4
				Big 4 Arch Rd EB	4	0	0	0	0	45	
ST2	Residential	9/14/21	8:22-8:42	Schenck Road NB	11	0	0	0	0	35	53.3
				Schenck Road SB	7	0	0	0	0	35	
ST3	Residential	9/14/21	9:31-9:51	SR 32 EB	31	2	0	0	0	55	62.5
				SR 32 WB	43	0	0	0	0	55	

Table 6: TNM Validation Results

Measurement Site	Measured Leq, dB(A)	TNM-Predicted Leq, dB(A)	Validation Delta (Pred – Meas), dB(A)
ST1	54.4	54.0	-0.4
ST2	53.3	50.4	-2.9
ST3	62.5	60.7	-1.8

5.0 NOISE MODELING

This analysis utilized traffic volumes for both Base Year 2024 existing conditions and Design Year 2044, build alternative conditions that represented the loudest hourly noise levels. These volumes were obtained by identifying the forecasted peak hour traffic volumes. The sources of traffic data used for the noise analysis included AADT growth calculations (HWC Engineering, September 2021) and the Project Traffic Forecast Report (INDOT, September 2021),

Preliminary roadway design plans for the Schenck Road project were used in this noise analysis. Per FHWA guidance, the predictions documented in this report are based upon the Design Year 2044 build traffic conditions resulting in the loudest predicted hourly-equivalent traffic noise level for each receptor.

A total of 76 TNM noise receptors, numbered R01 through R76, were modeled for existing and build conditions. All modeled receptors are residential (Activity Category B) and were modeled five feet above ground level. It is assumed that receptors R14 through R76, representing Phase I of Lift Station, will be built prior to the base year of 2024. Predicted noise levels at these receptors do not account for shielding from corresponding buildings to represent a worst-case noise scenario. The location of each receptor is shown in Figures 2-1 and 2-2.

6.0 NOISE IMPACTS AND ABATEMENT

6.1 Noise Impact Assessment

Predicted Base Year 2024 existing noise levels range from 38 dB(A) to 63 dB(A). In Design Year 2044 the build condition results in noise levels ranging from 39 dB(A) to 64 dB(A). The predicted existing and design year noise levels for each receptor are shown in Appendix C. The locations of the receptors are shown in Figures 2-1 and 2-2.

Predicted Design Year 2044 noise levels for the build condition do not approach or exceed the Activity Category B NAC at any receptors within the project limits. Additionally, the predicted build condition noise levels do not meet the substantial increase impact criteria of 15 dB(A) above existing noise levels at any receptor location. Therefore, the Schenck Road project is not predicted to result in traffic noise impacts.

6.2 Noise Abatement Measures

FHWA and INDOT require that noise abatement measures be considered and evaluated for the benefit of all predicted traffic noise impacts. No traffic noise impacts are predicted for the Schenck Road project; therefore, noise abatement measures are not warranted.

6.3 Noise Contours for Undeveloped Land

Per 23 CFR 772.9(c) and the INDOT Noise Policy, noise contour lines shall not be used for determining highway traffic noise impacts. However, noise level contour information can assist local authorities in exercising land use control over the remaining undeveloped lands (NAC

"G") and to avoid development of incompatible activities in the vicinity of the Schenck Road project. Therefore, 71 dB(A) and 66 dB(A) noise level contours have been developed as part of this project. These contours represent the approximate distance from the centerline of the new Schenck Road to the limits of the area predicted to approach [i.e., within 1 dB(A)] or exceed the NAC in the Design Year 2044. The 71 dB(A) noise level contour correlates to the traffic noise impact threshold for FHWA NAC "E" land uses. The 66 dB(A) noise level contour correlates to the traffic noise impact threshold for FHWA NAC "B" and "C". Table 7 provides noise contour estimates based on the Design Year 2044 build Alternative. Note that due to the low traffic volumes on roadways for this project, the contours distances do not extend much beyond the edge of the roadway shoulder.

Table 7: Design Year 2044 Build Alternative Noise Contours

Roadway Segment	Maximum Contour Distances (feet from center of roadway)	
	66 dB(A)	71 dB(A)
Adjacent to Schenck Road	< 20	< 10

7.0 CONSTRUCTION NOISE

The predominant construction activities associated with this project are expected to be earth removal, hauling, grading, and paving. Temporary and localized construction noise impacts may occur as a result of these activities. During daytime hours, the predicted effects of these impacts could be temporary speech interference for passers-by and those individuals living or working near the project.

Table 8 shows typical noise levels for various types of construction equipment. Construction activities that will produce extremely loud noises, such as demolition using impact hammers, should be scheduled during times of the day when such noises will create as minimal disturbance as possible. Generally, low-cost and easily implemented construction noise control measures should be incorporated into the project plans and specifications to the extent possible. These measures include, but are not limited to, work-hour limits, equipment exhaust muffler requirements, haul-road locations, elimination of "tail gate banging", ambient-sensitive backup alarms, construction noise complaint mechanisms, and consistent and transparent community communication.

Considering the temporary nature of specific construction phases and noise associated with those activities in a particular location, impacts due to construction noise for the Schenck Road project are not expected to be substantial. INDOT will be sensitive to local needs and may make adjustments to work practices in order to reduce inconvenience to the public.

For additional information on construction noise, please refer to the FHWA Construction Noise Handbook (FHWA-HEP-06-015) and the Roadway Construction Noise Model (RCNM), available online at: https://www.fhwa.dot.gov/environment/noise/construction_noise/index.cfm

Table 8: Construction Equipment Typical Noise Levels Emissions[1]

	Noise Level Emissions (dB(A)) at 50 Feet From Equipment[2]				
	70	80	90	100	
Pile Driver[3]					
Jack Hammer					
Tractor					
Road Grader					
Backhoe					
Truck					
Paver					
Pneumatic Wrench					
Crane					
Concrete Mixer					
Compressor					
Front-End Loader					
Generator					
Saws					
Roller (Compactor					

1. Adapted from Noise Construction Equipment and Operations, Building Equipment, and Home Appliances. U.S. Environmental Protection Agency. Washington D.C. 1971.
2. Cited noise level ranges are typical for the respective equipment. For point sources such as the construction equipment listed above, noise levels generally dissipate at a rate of -6 dB(A) for every doubling of distance over a hard surface or through the air. For example, if the noise level from a pile driver at a distance of 50 feet = 100 decibels (dB(A)), then at 400 feet, it will generally be 82 decibels (dB(A)) or less.
3. Due to project safety and potential construction noise concerns, pile driving activities are typically limited to daytime hours

8.0 STATEMENT OF LIKELIHOOD

Based on the studies completed to date, the City of Crawfordsville has not identified any impacted receptors due to the Schenck Road project and has determined that noise abatement in not likely to be included in the project. A reevaluation of the noise analysis will occur during final design. If during final design it has been determined that conditions have changed such that noise abatement is feasible and reasonable, the abatement measures might be provided. The final decision on the installation of any abatement measure(s) will be made upon the completion of the project's final

design and the public involvement processes.

9.0 CONCLUSION

Traffic noise and temporary construction noise can be consequences of transportation projects, especially in areas near existing high-volume and high-speed steady-state traffic noise sources. This noise report utilized computer models created with the FHWA Traffic Noise Model software (TNM 2.5), which were validated with field-collected traffic noise monitoring data, to predict Design Year 2044 noise levels and assess noise impacts along the proposed Schenck Road project.

The build alternative is not predicted to result in any traffic noise impacts. Thus, traffic noise abatement measures have been determined not to be likely for inclusion in the project.

In addition to noise from traffic, construction activities themselves can temporarily increase noise levels. INDOT will be sensitive to local needs and may make adjustments to work practices in order to reduce inconvenience to the public.

Unless substantial design modifications occur, additional alternatives are considered, or substantial changes to 2044 Design Year traffic volumes are predicted, noise abatement measures are not likely for incorporation into the project design plans for the Schenck Road project. This analysis completes the traffic noise requirements of Title 23 CFR Part 772 and INDOT *Traffic Noise Analysis Procedure (July 1, 2017)*.

10.0 REFERENCES

Federal Highway Administration. CFR 23 Part 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise. [75 FR 39820-39838, July 13, 2010].

Federal Highway Administration. Highway Traffic Noise: Analysis and Abatement Guidance. 2011.

HWC Engineering. Traffic Growth Counts. September 2021.

Indiana Department of Transportation. Project Traffic Forecast Report. *DES No.: 1902752*. September 2021.

Indiana Department of Transportation. *Traffic Noise Analysis Procedure*. July 1, 2017.

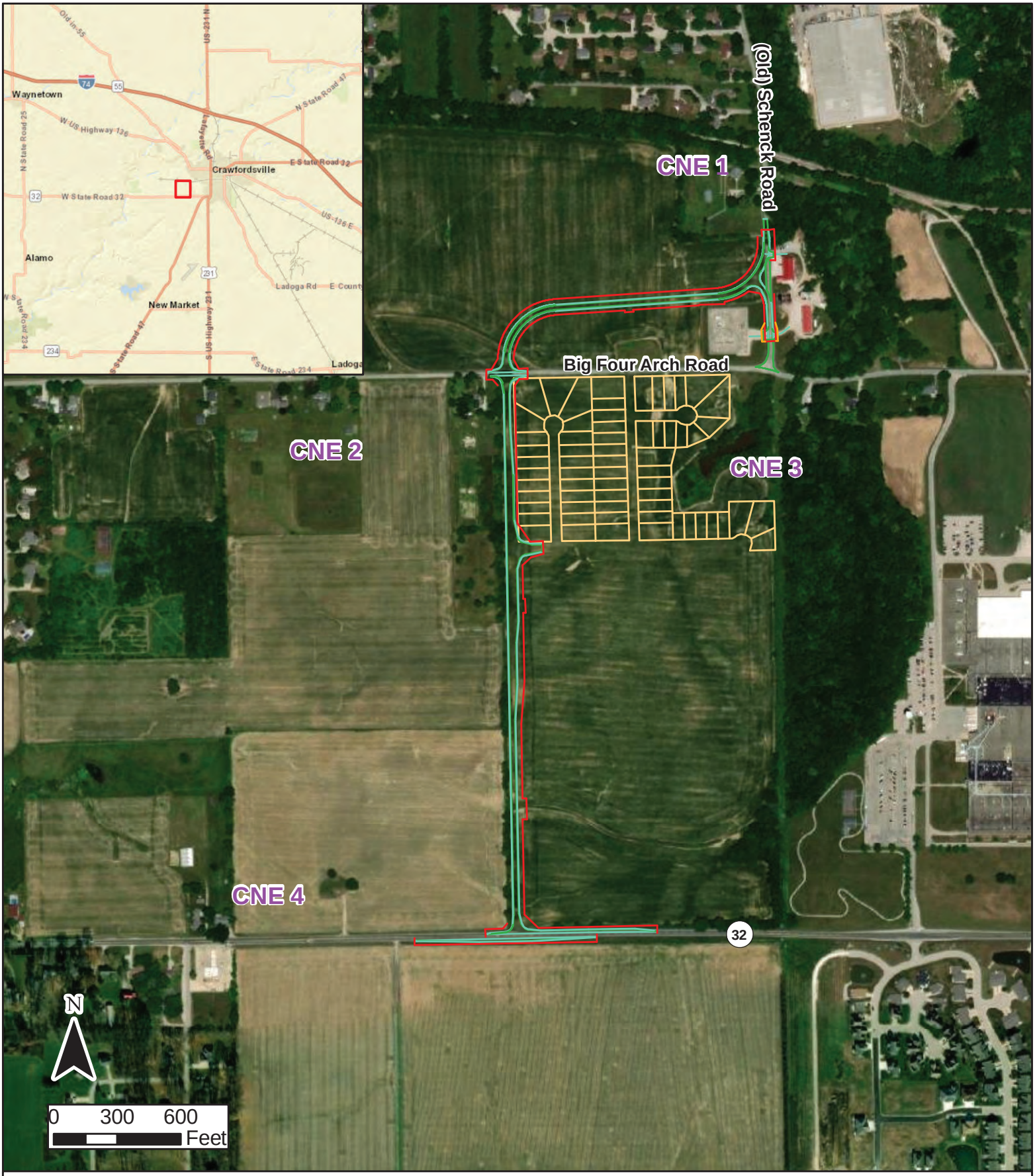


Figure 1

Schenck Road - New Roadway
DES 1902752
City of Crawfordsville
Project Overview Map
November 2021

Legend

- Future Permitted Residential Development - Phase I
- Proposed Edge of Pavement
- Proposed Edge of Travel
- Proposed Right of Way
- Proposed Construction Easement

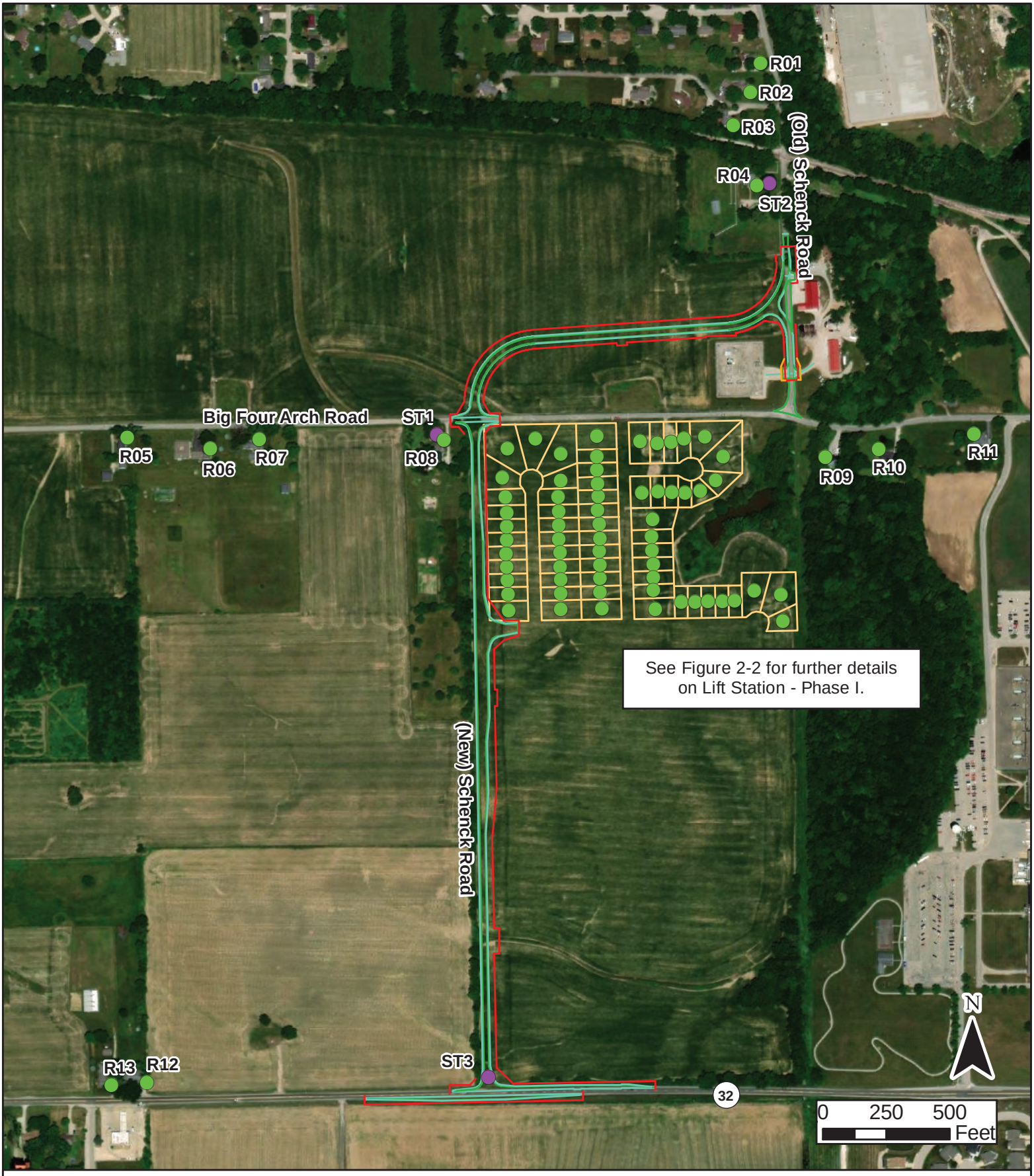


Figure 2-1

Schenck Road - New Roadway
DES 1902752
City of Crawfordsville
Noise Analysis Maps
November 2021

Legend

- Not Impacted Receptor
- Measurement Site
- Proposed Edge of Pavement
- Proposed Edge of Travel
- Future Permitted Residential Development - Phase I
- Proposed Right of Way
- Proposed Construction Easement

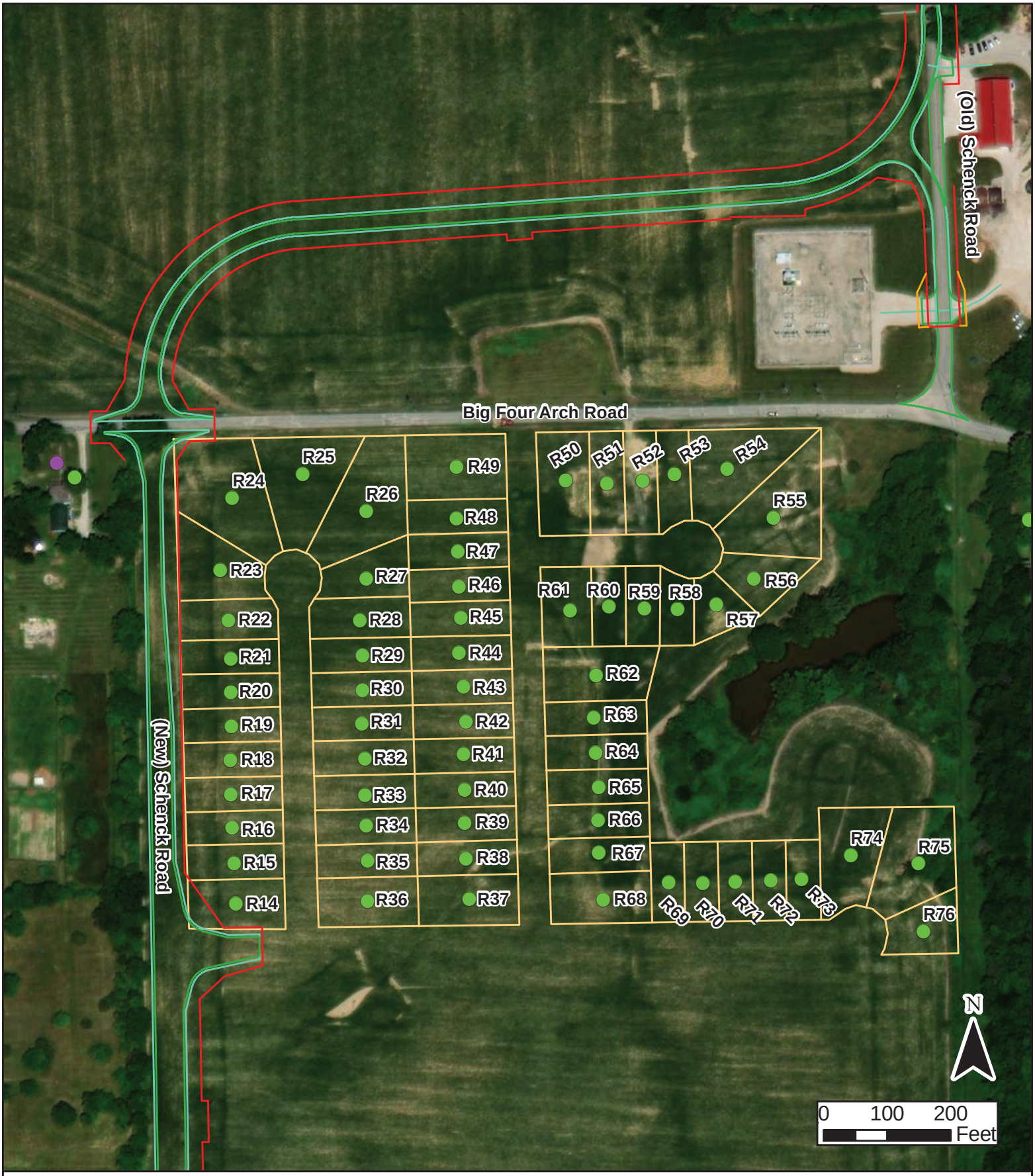


Figure 2-2

Schenck Road - New Roadway
DES 1902752
City of Crawfordsville
Noise Analysis Maps
November 2021

Legend

- Receptors
- Measurement Site
- Proposed Edge of Pavement
- Proposed Edge of Travel
- Future Permitted Residential Development - Phase I
- Proposed Right of Way
- Proposed Construction Easement

Appendix A

Noise Measurement Data Sheets

PROJECT: Schneck Rd - New Road

MEAS SITE: ST 1

DATE: 14 Sep 2021 **STAFF:** Sam Pendley

MEAS NO	1		
START TIME	8:55am		
END TIME	9:17am		
INSTRUMENT	LD LxT		
BATTERY	85-95%		
LEQ	54.4dBA		
FILE NAME	LxT.Data.059		
CALIBRATION	-0.1 10:06	1	1

TRAFFIC

ROADWAY	Big 4 Arch Road		
VEH SPEED	40mph, Some 50mph		
AUTO	5 EB	4 WB	
MT			
HT	1		
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			

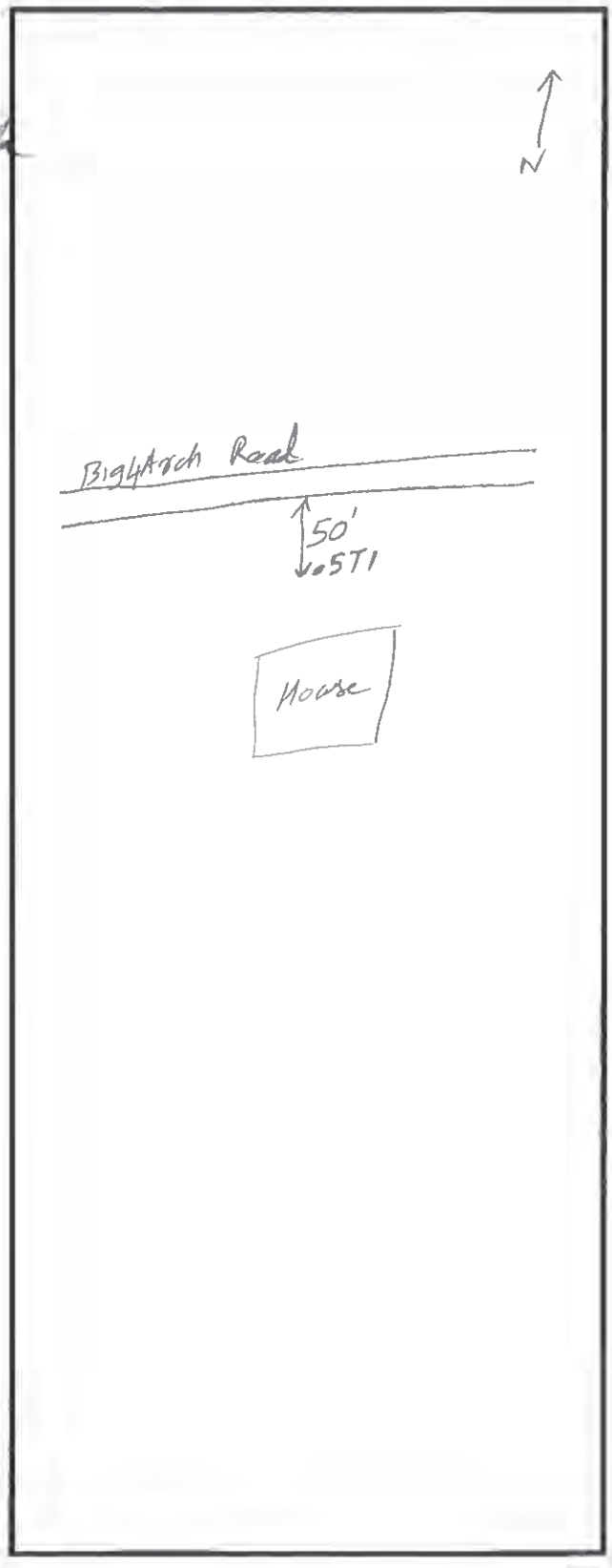
WEATHER

GENERAL	Clear Sky
TEMP	22°C
% RH	85%
WIND SPD/DIR	8 km/hr
ROAD COND	Paved Road, No boulder

SITE

LATITUDE	48°1'56" N		
LONGITUDE	86°55'39" W		
PICTURES			

SITE SKETCH / NOTES:



NOISE SOURCES: Traffic Noise
Some industrial Hum

PROJECT: Schenck Rd - New Road

MEAS SITE: ST 2

DATE: 14 Sep, 2021 **STAFF:** Sam Pendyala

MEAS NO	2		
START TIME	10:10am		
END TIME	10:30am		
INSTRUMENT	LD LxT		
BATTERY	85%		
LEQ	53.3 dBA		
FILE NAME	LxT_Data.061		
CALIBRATION	-0.14 1000	1	1

TRAFFIC

ROADWAY	Schenck Rd		
VEH SPEED	30mph, Slowing down due to Rly Trk		
AUTO	11 - NB	7 - SB	
MT			
HT			
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			

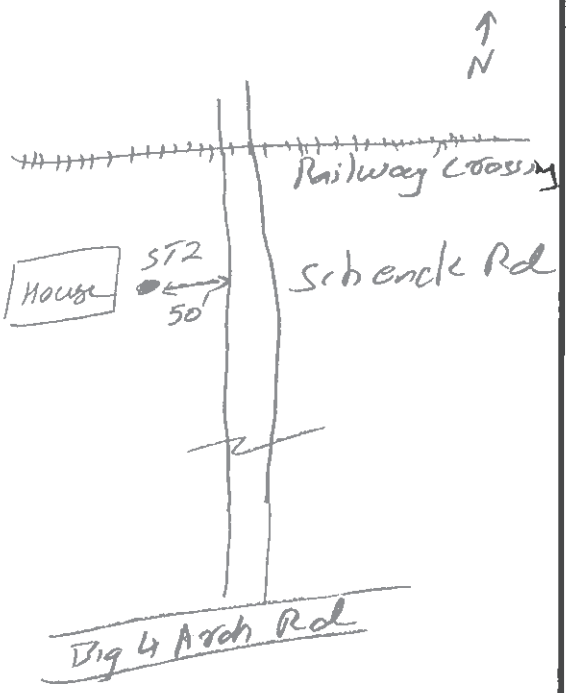
WEATHER

GENERAL	Clear Sky
TEMP	25°C
% RH	76%
WIND SPD/DIR	21 km/hr SSW
ROAD COND.	Paved

SITE

LATITUDE	40° 1' 31" N		
LONGITUDE	86° 55' 36" W		
PICTURES			

SITE SKETCH / NOTES:



NOISE SOURCES: Traffic Noise, Industrial hum, Traffic slowing down due to Rly Trk

PROJECT: Schenck Rd - New Road

MEAS SITE: ST3

DATE: 14 Sept 2021 **STAFF:** Sam Pendgaonkar

MEAS NO	1		
START TIME	9:31 am		
END TIME	9:53 am		
INSTRUMENT	LD LxT		
BATTERY	85%		
LEQ	62.5 dBA		
FILE NAME	LxT. Data 060		
CALIBRATION	0.1 1-0.15	1	1

TRAFFIC

ROADWAY	IN32 Highway		
VEH SPEED	50-55 mph		
AUTO	31 - WB	43 EB	
MT	2 WB		
HT			
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			
ROADWAY			
VEH SPEED			
AUTO			
MT			
HT			
BUS			
MOTO			

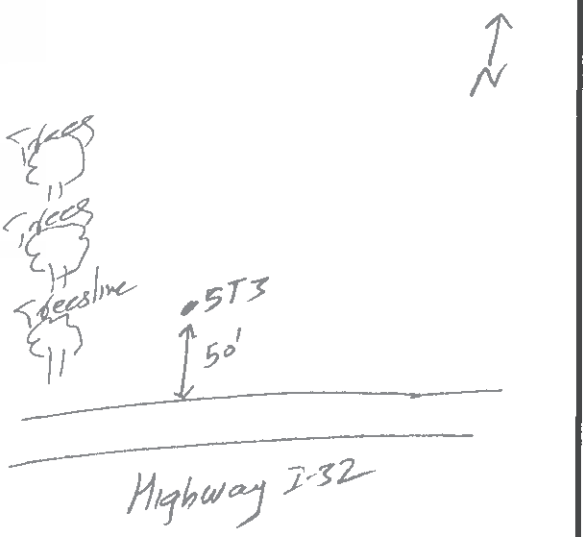
WEATHER

GENERAL	Clear, light wind
TEMP	24°C
% RH	79%
WIND SPD/DIR	21 km/hr, SSW
ROAD COND.	Paved, No shoulder

SITE

LATITUDE	40°1'31"N		
LONGITUDE	86° 55' 36"W		
PICTURES			

SITE SKETCH / NOTES:



NOISE SOURCES: Traffic Noise mostly Light Pick-up trucks
Insect noise occassional birdchirping
Posted Speed 50 mph

Appendix B

Certificates of Calibration

CERTIFICATE OF CALIBRATION
26362-1
FOR LARSON DAVIS PRECISION INTEGRATING SOUND LEVEL METER

Model **LxT1** Serial No. **0003980**
ID No. **N/A**

With Microphone **377B02** Serial No. **146338**
With Preamplifier **PRMLxT1L** Serial No. **035954**

Customer: **WSP USA**
New York, NY 10119 P.O. No. **Verbal-Brian Isoldi**

was tested and met Larson Davis specifications at the points tested and as outlined in ANSI S1.4-1983 Type 1; IEC 61672-2002 Class1; 60651-2001 Type 1

on **17 MAY 2021** **BY HAROLD LYNCH**
Service Manager

As received and as left condition: Within Specification.
Re-calibration due on: **17 MAY 2022**

Certified References*

Mfg.	Type	Serial No.	Cal Date	Due Date
B&K	1051	1777523	28 SEP 2020	28 SEP 2021
B&K	2636	1423390	04 JAN 2021	04 JAN 2022
B&K	4226	3274134	30 NOV 2020	30 NOV 2021
B&K	4231	1770857	10 SEP 2020	10 SEP 2021
HP	34401A	MY45023668	28 JAN 2021	28 JAN 2022
HP	3458A	2823A07179	21 JUL 2020	21 JUL 2021

Performed in Compliance with ANSI, NCSL Z-540-1, 1994
and ISO 17025, ISO 9001:2015 Certification NQA No. 11252
*References are traceable to NIST (National Institute of Standards and Technology).

Note: For calibration data see enclosed pages.
The data represent both "as found" and "as left" conditions.

Reference Test Procedure: **ACCT Procedure LxT-831 Version 0.5.1.**

Temperature	Relative Humidity	Barometric Pressure
23°C	**42 %**	**990.52** hPa

Note: This calibration report shall not be reproduced, except in full, without written consent by Odin Metrology, Inc.

Signed: Harold Lynch

ODIN METROLOGY, INC.
CALIBRATION OF SOUND & VIBRATION INSTRUMENTATION
3533 OLD CONEJO ROAD, SUITE 125 THOUSAND OAKS CA 91320
PHONE: (805) 375-0830 FAX: (805) 375-0405

Odin Metrology, Inc.
Calibration of Sound & Vibration Instruments

Certificate Number: **26362-2**

Certificate of Calibration for PCB 1/2" Free-field Microphone

This calibration is performed by comparison with measurement reference standard microphone:

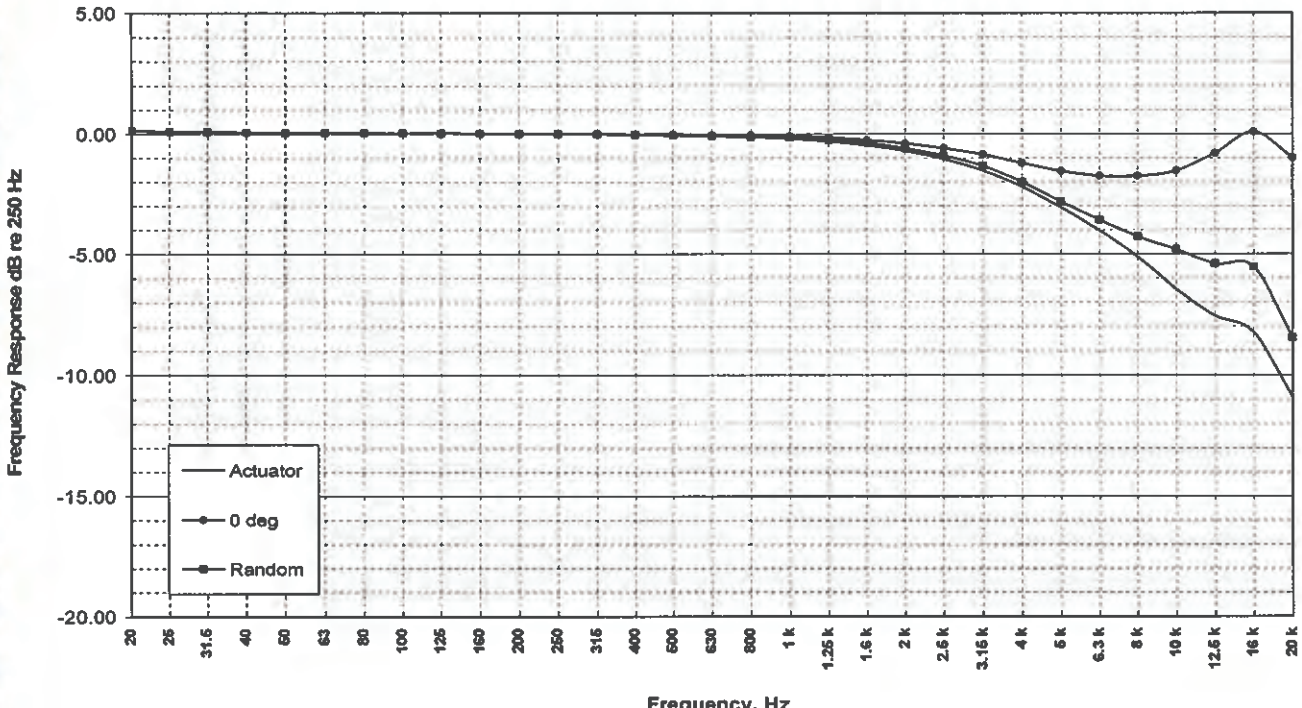
REFERENCE STANDARDS	
Type No.	4134/UA0825
Serial No.	1866523
Calibrated by	DANAK
Cal Date	28 OCT 2020
Due Date	28 OCT 2022

Type no.	**377B02**
Serial no.	**146338**
With preamplifier type no.	**N/A**
Preamplifier Serial no.	**N/A**
Submitted by	**WSP USA**
	New York, NY 10119
Purchase order no.	**Verbal-Brian Isoldi**
Asset no.	**N/A**

a) Estimated uncertainty of comparison: **± 0.06 dB**
b) Estimated uncertainty of reference microphone: **± 0.04 dB**
c) Total uncertainty: $\sqrt{a^2+b^2}$ = **± 0.07 dB**
d) Expanded uncertainty (coverage factor k = 2 for 95% confidence level): = **± 0.14 dB**

PERFORMANCE DATA		
Open circuit sensitivity at 1,013 hPa, 23°C, 50% RH, 251.2 Hz	**-23.93**	dB re 1 V/Pa
	63.58	mV/Pa
System sensitivity (with preamplifier) at 251.2 Hz	**N/A**	dB re 1 V/Pa
	N/A	mV/Pa

Microphone Frequency Response Type 377B02
S/N 146338 : Measured 14 May 2021



Calibration performed by

Harold Lynch, Service Manager

CONDITION OF TEST		
Ambient Pressure	**989.26**	hPa
Temperature	**23**	°C
Relative Humidity	**42**	%
Polarization Voltage	**0**	V
Frequency	**251.2**	Hz
Date of Calibration	**14 MAY 2021**	
Re-calibration due on	**14 MAY 2022**	

ODIN METROLOGY, INC.
3533 OLD CONEJO ROAD, SUITE 125
THOUSAND OAKS, CA 91320
PHONE: (805) 375-0830; FAX: (805) 375-0405

The calibration data is both "as found" and "as final." At the time of calibration this microphone was found to be **within** the manufacturer's specifications.
Calibration Procedure: **OM-P-1008-Microphone Rev. 1.2 20130618.**

This calibration is traceable to DANAK/DPLA No. **M2.10-1423-3.1** and through inter-laboratory comparisons to NIST Test Number: **683/289533-17.** *See page 2 Traceability.

Note: This calibration report shall not be reproduced, except in full, without written consent of Odin Metrology, Inc.

Appendix C

Predicted Noise Levels

Table C.1: Schenck Road Project
Noise-Sensitive Receptors and Predicted Hourly Equivalent Noise Levels

Receptors					Predicted Noise Levels, $L_{eq(h)}$ (dB(A))		
Rec. No.	Land Use	NAC	Criteria, $L_{eq(h)}$ (dB(A))	ERs	2024 Existing	2044 Build	Δ
R01	Residential	B	66	1	57.6	57.6	0.0
R02	Residential	B	66	1	49.7	49.7	0.0
R03	Residential	B	66	1	45.6	45.7	0.1
R04	Residential	B	66	1	50.4	50.5	0.1
R05	Residential	B	66	1	58.4	58.7	0.3
R06	Residential	B	66	1	51.6	51.9	0.3
R07	Residential	B	66	1	56.2	56.5	0.3
R08	Residential	B	66	1	52.9	55.0	2.1
R09	Residential	B	66	1	49.3	49.3	0.0
R10	Residential	B	66	1	52.0	52.1	0.1
R11	Residential	B	66	1	55.8	56.1	0.3
R12	Residential	B	66	1	62.9	63.6	0.7
R13	Residential	B	66	1	63.4	64.1	0.7
R14	Residential	B	66	1	37.6	52.0	14.4
R15	Residential	B	66	1	37.9	52.1	14.2
R16	Residential	B	66	1	38.2	52.3	14.1
R17	Residential	B	66	1	38.6	52.7	14.1
R18	Residential	B	66	1	39.0	52.8	13.8
R19	Residential	B	66	1	39.5	52.6	13.1
R20	Residential	B	66	1	40.3	52.5	12.2
R21	Residential	B	66	1	40.9	52.4	11.5
R22	Residential	B	66	1	41.9	52.5	10.6
R23	Residential	B	66	1	44.0	53.1	9.1
R24	Residential	B	66	1	49.3	53.4	4.1
R25	Residential	B	66	1	52.6	53.8	1.2
R26	Residential	B	66	1	47.7	49.4	1.7
R27	Residential	B	66	1	43.7	46.7	3.0
R28	Residential	B	66	1	42.0	46.0	4.0
R29	Residential	B	66	1	41.1	45.6	4.5
R30	Residential	B	66	1	40.3	45.3	5.0

Table C.1: Schenck Road Project
Noise-Sensitive Receptors and Predicted Hourly Equivalent Noise Levels

Receptors					Predicted Noise Levels, $L_{eq(h)}$ (dB(A))		
Rec. No.	Land Use	NAC	Criteria, $L_{eq(h)}$ (dB(A))	ERs	2024 Existing	2044 Build	Δ
R31	Residential	B	66	1	39.7	45.1	5.4
R32	Residential	B	66	1	39.1	44.9	5.8
R33	Residential	B	66	1	38.7	44.8	6.1
R34	Residential	B	66	1	38.3	44.7	6.4
R35	Residential	B	66	1	38.0	44.7	6.7
R36	Residential	B	66	1	37.6	44.6	7.0
R37	Residential	B	66	1	37.7	42.2	4.5
R38	Residential	B	66	1	38.1	42.4	4.3
R39	Residential	B	66	1	38.4	42.6	4.2
R40	Residential	B	66	1	38.8	42.8	4.0
R41	Residential	B	66	1	39.3	43.0	3.7
R42	Residential	B	66	1	39.9	43.2	3.3
R43	Residential	B	66	1	40.5	43.7	3.2
R44	Residential	B	66	1	41.3	44.2	2.9
R45	Residential	B	66	1	42.2	44.7	2.5
R46	Residential	B	66	1	43.3	45.5	2.2
R47	Residential	B	66	1	44.9	46.7	1.8
R48	Residential	B	66	1	47.0	48.3	1.3
R49	Residential	B	66	1	52.9	53.5	0.6
R50	Residential	B	66	1	50.7	51.3	0.6
R51	Residential	B	66	1	50.5	51.0	0.5
R52	Residential	B	66	1	50.9	51.4	0.5
R53	Residential	B	66	1	52.0	52.4	0.4
R54	Residential	B	66	1	52.8	53.1	0.3
R55	Residential	B	66	1	48.1	48.4	0.3
R56	Residential	B	66	1	44.8	45.2	0.4
R57	Residential	B	66	1	43.7	44.3	0.6
R58	Residential	B	66	1	43.3	44.3	1.0
R59	Residential	B	66	1	43.2	44.3	1.1
R60	Residential	B	66	1	43.1	44.4	1.3

Table C.1: Schenck Road Project
Noise-Sensitive Receptors and Predicted Hourly Equivalent Noise Levels

Receptors					Predicted Noise Levels, $L_{eq(h)}$ (dB(A))		
Rec. No.	**Land Use**	**NAC**	**Criteria, $L_{eq(h)}$ (dB(A))**	**ERs**	**2024 Existing**	**2044 Build**	**Δ**
R61	Residential	B	66	1	42.8	44.4	1.6
R62	Residential	B	66	1	41.1	42.9	1.8
R63	Residential	B	66	1	40.2	42.3	2.1
R64	Residential	B	66	1	39.7	41.8	2.1
R65	Residential	B	66	1	39.2	41.5	2.3
R66	Residential	B	66	1	38.7	41.2	2.5
R67	Residential	B	66	1	38.3	40.9	2.6
R68	Residential	B	66	1	37.8	40.6	2.8
R69	Residential	B	66	1	38.2	40.2	2.0
R70	Residential	B	66	1	38.3	40.1	1.8
R71	Residential	B	66	1	38.4	40.0	1.6
R72	Residential	B	66	1	38.5	39.9	1.4
R73	Residential	B	66	1	38.8	39.9	1.1
R74	Residential	B	66	1	39.5	40.0	0.5
R75	Residential	B	66	1	39.8	39.8	0.0
R76	Residential	B	66	1	39.0	39.3	0.3
Predicted Traffic Noise Impacts					0	0[1]	0[2]

Impact = Right-of-Way Acquisition =

1. Predicted traffic noise impact due to approaching or exceeding NAC.
2. Predicted traffic noise impat due to a “substantial increase” above existing noise levels of 15 dB(A) or more.

Appendix D

Predicted Traffic

Traffic forecasts from *Traffic Growth Counts* (HWC Engineering, September 2021) and *Project Traffic Forecast Report* (InDOT, September 2021) were reviewed for the Schenck Road Project. Tables D-1 and D-2 show the loudest hour traffic volumes and vehicle classification percentages utilized in the noise modeling.

D-1: Base Year 2024 Traffic Volumes

Roadway	Segment	No. lanes (each direction)	Design Speed (mph)	Vehicle Percentages			Total Hourly Volume (vph)		
				Auto	Medium Truck	Heavy Truck	Auto	Medium Truck	Heavy Truck
Schenck Road	Entire Project	1	35	95	2.5	2.5	62	2	2
SR 32	Entire Project	1	55	96.5	1.75	1.75	200	4	4
Big 4 Arch Road	Entire Project	1	35	95	2.5	2.5	80	2	2

D-2: Design Year 2044 Traffic Volumes

Roadway	Segment	No. lanes (each direction)	Design Speed (mph)	Vehicle Percentages			Total Hourly Volume (vph)		
				Auto	Medium Truck	Heavy Truck	Auto	Medium Truck	Heavy Truck
Schenck Road	Entire Project	1	35	95	2.5	2.5	75	2	2
SR 32	Entire Project	1	55	96.5	1.75	1.75	244	4	4
Big 4 Arch Road	Entire Project	1	35	95	2.5	2.5	88	2	2

From: Robinson, Emily B. <Emily.Robinson@wsp.com>
Sent: Monday, May 16, 2022 8:26 AM
To: Anne M. Shaw <Anne.Shaw@clarkdietz.com>
Subject: FW: Schenck Road (DES 1902752) Draft Traffic Noise Technical Report Review

Anne,

See below for Ron Bales approval of the document. I've attached a "final" version though there were no changes from the 11/23 draft. If you could upload this as the final document, that would be appreciated. Thanks!

Emily Robinson, PE

From: Bales, Ronald <rbales@indot.IN.gov>
Sent: Monday, November 29, 2021 12:33 PM
To: Robinson, Emily B. <Emily.Robinson@wsp.com>; Miller, Brandon <BraMiller1@indot.IN.gov>
Cc: Montgomery, Tamara <TMontgomery@indot.IN.gov>; SHesler@crawfordsville-in.gov; Kevin M. Hetrick <Kevin.Hetrick@clarkdietz.com>; Anne M. Shaw <Anne.Shaw@clarkdietz.com>; Lane, Stephen M. [Steve] <Steve.Lane@wsp.com>; Poling, Jacob <Jacob.Poling@wsp.com>; Joe Bell <jbell@hwcengineering.com>
Subject: RE: Schenck Road (DES 1902752) Draft Traffic Noise Technical Report Review

INDOT Environmental Services Division (ESD) has reviewed the noise analysis for the above-referenced project and found it to be technically sufficient. As you are aware, INDOT no longer comments on recommendations provided in noise studies for local agency projects. However, it is our assessment that the study has been completed in accordance with federal guidelines and state policy. Thank you.

Ron Bales
INDOT-Environmental Services Division
Office: (317) 515-7908
Email: rbales@indot.in.gov