

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

Road No./County:

Indiana State Route (SR) 32 and County Road (CR) 925 W (Main Street) / Madison

Designation Number(s):

2000161

Project
Description/Termini:

Intersection improvement project at SR 32 and CR 925 W (Main Street), in Madison County, Indiana. The project will extend from 0.1275 mile west of Main St./CR925W to 0.1195 mile east of Main St./CR925W, and from 0.0485 mile south of SR32 to 0.0616 mile north of SR32.

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

Approval

INDOT DE Signature and Date

INDOT ESD Signature and Date

FHWA Signature and Date

Release for Public Involvement

N/A

INDOT DE Initials and Date

ADWP

October 15, 2024

INDOT ESD Initials and Date

Certification of Public Involvement

INDOT Consultant Services Signature and Date

INDOT DE/ESD Reviewer Signature and Date:

Name and Organization of CE/EA Preparer:

Chad Kelly, Kaskaskia Engineering Group, LLC

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Part I – Public Involvement

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

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

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

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

Notice of Survey letters were mailed to potentially affected property owners near the project area on August 10, 2022, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Survey letter is included in Appendix G, page 1.

Pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4), the public will be provided an opportunity to comment on FHWA's finding of "No Historic Properties Affected". Upon release of the CE for public involvement, a legal advertisement will be placed in a local publication soliciting public input on FHWA's Section 106 effects finding. Comments from the public will be accepted for 30 days following the publication of the notice. If any substantive comments are received during this period, the appropriate Section 106 documents will be revised. The Cultural Resources section (Section D below) will be revised following the comment period.

The project will meet the minimum requirements described in the current *Indiana Department of Transportation (INDOT) Project Development Public Involvement Procedures Manual* which requires the project sponsor to offer the public an opportunity to submit comments and/or request a public hearing. INDOT has decided to hold a public hearing for this project. 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.

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

Sponsor of the Project: Indiana Department of Transportation (INDOT) INDOT District: GreenfieldLocal Name of the Facility: SR 32 & CR 925 W (Main Street)Funding Source (mark all that apply): Federal ☒ State ☒ Local ☐ Other* ☐

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

PURPOSE AND NEED:

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

Per the September 27, 2019, Engineering Assessment Report, (Appendix I, pages 1 to 36), the purpose of the project is to reduce or eliminate the right angle and rear-end crashes and therefore reduce the number of injury crashes. The need for this project is due to the above average crash severity at the existing intersection. Warrant 7 on INDOT's Traffic Signal Warrant Summary Worksheet indicates that five or more reported crashes of types susceptible to correction by signal, have occurred within a 12 month period. Six crashes have occurred over a 12-month period. Per RoadHAT 3.0 analysis (INDOT traffic engineering safety modeling software) of 2016-2018 crash data, the most recent data available at the time of this analysis, the index of crash frequency (ICF) is 2.53 (well above average) and the index of crash cost (ICC) is 2.86. These indices compare the crash cost and crash frequency for this intersection to intersections with similar volumes, roadway classifications, and control type throughout Indiana. The ICF and ICC values would be 0.0 for a corridor or intersection that has an equal number of crashes with equal severity when compared to the statewide average for the same/similar corridor or intersection type. The ICF and ICC exceed the threshold of 1.00 set by INDOT's Office of Traffic Safety, indicating that the intersection is a safety concern.

The purpose of the project is to reduce crash potential, improve the ICF and ICC to below 1.00, and provide safe operation of the intersection.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Madison Municipality: GreenfieldLimits of Proposed Work: The project will occur at the intersection of SR 32 and CR 925 W (Main Street), extending from 0.1275 mile west of Main St./CR925W to 0.1195 mile east of Main St./CR925W, and from 0.0485 mile south of SR32 to 0.0616 mile north SR32.Total Work Length: 0.25 Mile(s) Total Work Area: 3.647 Acre(s)Is an Interstate Access Document (IAD)¹ required?

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

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

Yes ¹	No
☐	☒
Date:	

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 INDOT and the Federal Highway Administration (FHWA) intend to proceed with this intersection improvement project.

The project is located at the intersection of SR 32 and CR 925 W (Main Street), approximately 0.72 mile north of reference SR 13 in

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Section 21, Township 19 North, Range 6 East, Stony Creek Township, Madison County, Indiana (Appendix B, page 1).

This section of SR 32 is a two-lane rural Minor Arterial, and CR 925 W is a two-lane rural Local Road. The existing SR 32 and CR 925 W cross section consist of two 12-foot travel lanes with no shoulders. The project is located in a rural/suburban area consisting of predominantly agricultural land with forested tracts and nearby residential and commercial properties. The northeast and northwest quadrants of the intersection include predominantly agricultural fields and forested acreage. The southeast and southwest quadrants of the intersection include forested acreage, a gas station and a medical building. Per the September 27, 2019, Engineering Assessment Report, the intersection experiences elevated crash rates with a significant pattern of right-angle crashes. Crash data from 2016 to 2018 was analyzed at this intersection. During this time period, there were 16 crashes, of which, seven were right angle crashes, three rear end crashes, one left turn crash, one right turn crash, and three other crashes. Ten of these crashes resulted in injury (incapacitating). The remaining six crashes resulted in property damage only. This resulted in the RoadHAT analysis and the aforementioned ICF value of 2.53 and ICC value of 2.86 in the purpose and need section of this report.

The preferred alternative for this project will convert the existing intersection into a single lane roundabout. The approach alignments will be curved to facilitate traffic calming approaching the circulatory roadway. Proposed roadway elements include 12-foot travel lanes with a mix of open and curbed shoulders. A central island and truck apron will be provided, as well as exterior truck aprons to facilitate turning movements. Additionally, drainage improvements will include the construction of a drainage basin at the northwest quadrant of the intersection. Utility relocations for utility poles will be required at the corners of the existing intersection. Intersection improvements will also include new lighting, pavement markings, signage, and landscaping to better delineate the revised approaches at the intersection. The project will require approximately 2.0514 acres of permanent right-of-way (ROW), and approximately 0.1820 acre of temporary ROW. Anticipated impacts include 0.9 acre of tree removal affecting terrestrial habitat. Since the project will disturb at least one acre of soil, a Construction Stormwater General Permit (CSGP) will be required. Every effort to avoid, minimize, and/or mitigate project impacts will be made. Preliminary project plans are included in Appendix B, pages 6 to 67.

The proposed maintenance of traffic (MOT) will include phased construction utilizing temporary signals (Appendix B, pages 15 to 24). The MOT for the project is discussed in further detail in the MOT During Construction section of this document.

The project will reduce crash potential, improve the ICF and ICC to below 1.00, and provide safe operation of the intersection. This improves overall safety in the area and meets the purpose and need.

The construction limits extend from approximately 0.1275 mile west of Main St./CR925W to 0.1195 mile east of Main St./CR925W, and from 0.0485 mile south of SR32 to 0.0616 mile north SR32, which are the logical termini for the project since these are the rational end points of the transportation improvement and subsequent review of its environmental impacts. This project demonstrates independent utility because it will improve the intersection as an independent project and does not depend on any other planned projects.

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.

Traffic Signal: Installation of a traffic signal was considered. This alternative will require dedicated left turn lanes at all approaches and would require all appropriate traffic signal infrastructure. This alternative theoretically reduces total crashes, but results in an increase in rear end crashes, and the predominant pattern of right-angle crashes remains. This alternative will not address the purpose and need. Therefore, this alternative was discarded.

All-Way Stop Control: Installation of an all-way stop control was considered. This alternative would require traffic from each cardinal direction to stop at a stop sign. Making traffic on SR 32 stop would not be practical in reducing total crashes. Therefore, this alternative was discarded.

No Build: The no build alternative does not address the safety concerns of the intersection. If no action is taken, the intersection safety issues will persist. The severe right-angle crashes will not be addressed with the no build alternative. This would not address the purpose and need. Therefore, this alternative was discarded.

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

It would not correct existing capacity deficiencies;

It would not correct existing safety hazards;

It would not correct the existing roadway geometric deficiencies;

It would not correct existing deteriorated conditions and maintenance problems; or

It would result in serious impacts to the motoring public and general welfare of the economy.

Other (Describe):

X

ROADWAY CHARACTER:

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

Name of Roadway SR 32
 Functional Classification: Minor Arterial
 Current ADT: 6,017 (2025) Design Year ADT: 6,533 (2045)
 Design Hour Volume (DHV): 734 Truck Percentage (%) 2.35
 Designed Speed (mph): 45 Legal Speed (mph): 45

	Existing		Proposed	
Number of Lanes:	2		1	
Type of Lanes:	2 through lanes		1 through lanes	
Pavement Width:	12	ft.	12	ft.
Shoulder Width:	N/A	ft.	4	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting: ☐ Urban ☐ Suburban ☒ Rural
 Topography: ☒ Level ☐ Rolling ☐ Hilly

Name of Roadway CR 925 W (Main Street)
 Functional Classification: Local Road
 Current ADT: 1,445 (2025) Design Year ADT: 1,445 (2045)
 Design Hour Volume (DHV): 140 Truck Percentage (%) 3.57
 Designed Speed (mph): 20 Legal Speed (mph): 20

	Existing		Proposed	
Number of Lanes:	2		1	
Type of Lanes:	2 through lanes		1 through lanes	
Pavement Width:	12	ft.	12	ft.
Shoulder Width:	N/A	ft.	4	ft.
Median Width:	N/A	ft.	N/A	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting: ☐ Urban ☐ Suburban ☒ Rural
 Topography: ☒ Level ☐ Rolling ☐ Hilly

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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.

One small pipe structure (CLV-032-048-94.35) is located within the project area. The small structure is a corrugated metal pipe with a width of 15 inches, located on the south portion of the subject intersection.

Adjacent to the north side of the project area on CR 925 W is a single-span concrete bridge (Str. 036-33-06618; NBI 011740) over Deer Creek that is 84 feet in length, with an out-to-out width of 46.5 feet. Per a review of the INDOT *Historic Bridges Inventory*, this structure is not listed as a select or non-select historic structure.

No work associated with the bridge, or the small pipe structure, is anticipated as part of this project.

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

The MOT for the project will require phased construction utilizing temporary signals along SR 32 to allow for partial lane closures with a detour. The detour includes SR 13, CR925W, and CRW100S during Phase I, and additionally Main St. and Old SR13 during Phase II, adding as much as 3.68 miles of commuter travel. No pedestrian MOT is planned due to the absence of existing pedestrian facilities at the intersection. The detours will remain for the duration of construction for the project, approximately one construction season. MOT plans are included in Appendix B, pages 15 to 24.

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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: \$ 702,000.00
(FY 2024-2028)Right-of-Way: \$ 990,00.00
(FY 2024)Construction: \$ 2,690,000.00
(FY 2025)Anticipated Start Date of Construction: Summer 2025

RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.000	0.000
Commercial	0.507	0.000
Agricultural	1.333	0.182
Forest	0.211	0.000
Wetlands	0.000	0.000
TOTAL	2.051	0.182

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.

The existing ROW is approximately 35 feet on each side of centerline on SR 32, 12 feet each side of centerline on CR 925 W north leg, and 25 feet each side of centerline on CR 925 W south leg and consists of mowed grasses and scrub shrub typical of being adjacent to a rural roadway. Areas of proposed ROW include agricultural acreage at the northwest and northeast quadrants of the intersection and maintained grassed areas at the southwest and southeast quadrants of the intersection.

The project requires approximately 2.051 acres of permanent ROW consisting of agricultural acreage in the northwest and northwest quadrants of the intersection and roadside vegetation and mowed grasses in the southwest and southeast quadrants of the intersection. The project will also require 0.182 acre of temporary ROW consisting of mowed vegetation associated with commercial land in the southeast quadrant of the intersection and roadside vegetation at the northeast quadrant of the intersection. Proposed ROW widths vary along SR 32 from 45 feet to 57 feet from centerline and vary along CR 925 W from 42 feet to 50 feet from centerline. ROW locations are denoted in the preliminary ROW plans in Appendix B, pages 50 and 62 to 66.

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

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 December 22, 2022, and February 13, 2024 (Appendix C, pages 1 to 2).

Agency	Date Sent	Response Date	Appendix
Federal Highway Administration (FHWA)	December 22, 2022	No response received	N/A
Indiana Geological and Water Survey (IGWS)	December 22,	December 23,	Appendix C, pages 3 to 4

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(Automated Response)	2022	2022	
U.S. Department of Housing and Urban Development (HUD)	December 22, 2022	No response received	N/A
Natural Resources Conservation Service (NRCS)	December 22, 2022 & February 13, 2024	March 6, 2024	Appendix C, pages 5 to 6
Indiana Department of Environmental Management (IDEM) – Wetlands and Stormwater Programs	December 22, 2022	No response received	N/A
IDEM - Groundwater Section	December 22, 2022 & February 13, 2024	December 28, 2022	Appendix C, pages 7 to 8
Indiana Department of Natural Resources, Division of Fish and Wildlife (IDNR-DFW)	December 22, 2022	January 20, 2023	Appendix C, pages 9 to 11
National Park Service (NPS)	December 22, 2022	No response received	N/A
INDOT Greenfield Environmental Section Manager (Supervisor)	December 22, 2022	No response received	N/A
INDOT Project Manager	December 22, 2022	No response received	N/A
U.S. Army Corps of Engineers (USACE)	December 22, 2022 & February 13, 2024	No response received	N/A
Henry County Planning Commission - Floodplain and Zoning Administrator	December 22, 2022	No response received	N/A
Madison County Highway Department – Highway Superintendent	December 22, 2022	No response received	N/A
Madison County Surveyor	December 22, 2022	No response received	N/A
Madison County Planning Department – Executive Director	December 22, 2022	No response received	N/A
Madison County Planning Commission – Floodplain Administrator/Director of Planning	December 22, 2022	No response received	N/A
Town of Lapel Police Department - Chief	December 22, 2022	No response received	N/A
Town of Lapel High School - Principal	December 22, 2022	No response received	N/A
Town of Lapel - Parks Department	December 22, 2022	No response received	N/A
Town of Lapel - Town Council President	December 22, 2022	No response received	N/A
Lapel Stony Creek Township Fire Territory - Chief	December 22, 2022	No response received	N/A
Citizens Water – Indianapolis	March 28, 2024	April 28, 2024	Appendix C, page 12
Heartland Metropolitan Planning Organization – Principal Transportation Planner, Federal Funding and Programming Lead	December 22, 2022	No response received	N/A
Daybreak Community Church	December 22, 2022	No response received	N/A

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

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SECTION B – ECOLOGICAL RESOURCES:

Streams, Rivers, Watercourses & Other Jurisdictional Features

Federal Wild and Scenic Rivers
State Natural, Scenic or Recreational Rivers
Nationwide Rivers Inventory (NRI) listed
Outstanding Rivers List for Indiana
Navigable Waterways

Presence

Impacts

Yes

No

Total stream(s) in project area: N/A Linear feet Total impacted stream(s): N/A Linear feet

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

Based on the desktop review, the aerial map of the project area, and the Red Flag Investigation (RFI) report (Appendix E), there are three streams, rivers, watercourses, or other jurisdictional features within the 0.5-mile search radius. There is one stream, river, watercourse, or other jurisdictional features adjacent to the project area. That number was confirmed by the site visit on October 13, 2022, by Kaskaskia Engineering Group, LLC (KEG). Updated project limits no longer indicate a waterway within the project area. No impacts are expected.

No Federal, Wild and Scenic Rivers; State Natural, Scenic, and Recreational Rivers; Outstanding Rivers for Indiana; navigable waterways or National Rivers Inventory waterway are present within or adjacent to the project area.

A Waters of the U.S. Determination Report was deemed unnecessary for the project by INDOT Ecology, Waterway Permitting, and Stormwater Office (EWPSO) on March 31, 2023, since there is no proposed work occurring in the waterway (Hogan Creek). Please refer to Appendix F for the no Waters of the U.S. (WOTUS) concurrence.

Stony Creek is listed as impaired for *E. coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. This is included as a firm commitment in the Environmental Commitments section of this CE document.

Open Water Feature(s)

Reservoirs
Lakes
Farm Ponds
Retention/Detention Basin
Storm Water Management Facilities
Other: _____

Presence

Impacts

Yes

No

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

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E), there are no open water features 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 site visit on October 13, 2022, by KEG.

No open water features were identified within or adjacent to the project area. No direct or indirect impacts are anticipated to open water features are anticipated. Therefore, no impacts are expected.

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Wetlands

Presence

☐

Impacts

Yes

☐

No

☐

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

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

Wetlands (Mark all that apply)

Wetland Determination
Wetland Delineation
USACE Isolated Waters Determination

Documentation

N/A
N/A
N/A

ESD Approval Dates

N/A
N/A
N/A

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.

N/A
N/A
N/A
N/A
N/A

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

Based on the desktop review, the aerial map of the project area, and the RFI report (Appendix E), there are ten wetlands within the 0.5-mile search radius. There are no wetlands within or adjacent to the project area, which was confirmed by the site visit on October 13, 2022, by KEG.

No wetlands were identified within or adjacent to the project area. No direct or indirect impacts are anticipated to wetlands are anticipated. Therefore, no impacts are expected.

Terrestrial Habitat

Presence

☒

Impacts

Yes

☒

No

☐

Total terrestrial habitat in project area: 1.702 Acre(s) Total tree clearing: 0.9 Acre(s)

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

Based on a desktop review, a site visit on October 13, 2022, by KEG, and the aerial map of the project area (Appendix B, page 3), there are agricultural fields, grassy areas, shrubs, and trees, typical of a rural setting, surrounding the project area. The dominant species include tall fescue (*Festuca arundinaces*), kentucky bluegrass (*Poa pratensis*), amur honeysuckle (*Lonicera maackii*), black walnut (*Juglans nigra*), red mulberry (*Morus rubra*), and giant fox tail (*Setaria faberi*). Of the total 1.702 acres of terrestrial habitat in the project area, approximately 0.9 acre of terrestrial habitat will be disturbed due to construction of the single lane roundabout/drainage basin construction. Disturbed areas will be re-seeded post-construction to return the site as close as possible to pre-construction conditions. An estimated ten trees (0.9 acre), two near the northeast corner of the project area and one near the southeast corner of the project area, will be removed. The dominate species of trees to be removed include silver maple (*Acer saccharinum*), red mulberry (*Morus rubra*), American sycamore (*Platanus occidentalis*), and black walnut (*Juglans nigra*). Avoidance alternatives would not be

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practical as the project limits have been constrained to the smallest area possible to complete the project. Mitigation is not anticipated.

The IDNR-DFW responded on January 20, 2023, regarding tree removal dates, revegetation, and erosion control (Appendix C, pages 9 to 11). All applicable recommendations are included in the Environmental Commitments section of this CE document.

Protected Species

Federally Listed Bats

Information for Planning and Consultation (IPaC) determination key completed
Section 7 informal consultation completed (IPaC cannot be completed)
Section 7 formal consultation Biological Assessment (BA) required

Yes

X

No

Determination Received for Listed Bats from USFWS:

NE ☐NLAA ☒LAA ☐

Other Species not included in IPaC

Additional federal species found in project area (based on IPaC species list)
State species (not bird) found in project area (based upon consultation with IDNR)

Yes

No

X
X

Migratory Birds

Known usage or presence of birds (i.e. nests)
State bird species based upon coordination with IDNR

Yes

No

X
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), completed by KEG on July 19, 2022, the IDNR Madison County Endangered, Threatened and Rare (ETR) Species List has been checked. According to the IDNR-DFW early coordination response letter dated January 20, 2023 (Appendix C, pages 9 to 11), the Natural Heritage Program's Database has been checked and to date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity. An INDOT 0.5-mile bat review occurred on September 7, 2022, and did not indicate the presence of endangered bat species in or within the project area.

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 13 to 23). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (NLEB) (*Myotis septentrionalis*). The USFWS official species list also identified three additional species as potentially occurring in the project area (Appendix C, pages 17 to 18). The project is in the range of the monarch butterfly (*Danaus plexippus*), which is a candidate species, but it is not considered a protected species. The project is in the range of the tricolored bat (*Perimyotis subflavus*), which is a proposed endangered species. This project will not jeopardize the continued existence of the tricolored bat. No protected critical habitat has been proposed for the tricolored bat; therefore, no further action is required. The project is in the range of a "non-essential experimental population" of the whooping crane (*Grus americana*), but this population is not covered by protections provided for the natural endangered population of whooping crane. Therefore, no further coordination is required for these species.

The project qualifies for the *Rangewide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between the FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on February 14, 2024, and based on the responses provided, the project was found to "May Affect – Not Likely to Adversely Affect" the Indiana bat and/or the NLEB (Appendix C, pages 24 to 37). INDOT reviewed and verified the effect finding on February 14, 2024, and requested USFWS's review of the finding. No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. General construction, lighting, and tree removal Avoidance and Minimization Measures (AMMs) are applicable to this project. AMMs and/or commitments are included as firm commitments in the *Environmental Commitments* section of this document.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, USFWS will be contacted for consultation.

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Geological and Mineral Resources

Project located within the Potential Karst Features Area of Indiana
Karst features identified within or adjacent to the project area
Oil/gas or exploration/abandoned wells identified in the project area

Yes

No

X
X
X

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

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

Based on a desktop review and the Indiana Karst Region Map, the project is not located in the designated Indiana Karst Region as outlined in the most current *Protection of Karst Features during Project Development and Construction*. According to the topo map of the project area (Appendix B, page 2) and the RFI report (Appendix E), there are no karst features identified within or adjacent to the project area. No petroleum wells were identified within the project area. In the early coordination response on December 23, 2022, the IGWS did not indicate that karst features exist in the project area (Appendix C, pages 3 to 4). IGWS did indicate moderate liquefaction potential, one percent annual chance flood hazard, high potential for bedrock resources, low potential for sand and gravel resource, and the potential for petroleum exploration wells and abandoned industrial mineral quarries. The RFI report identified six petroleum wells located within 0.5 mile of the project area (Appendix E). The features will not be affected because the project is not within the vicinity of these wells. Response from IGWS has been communicated with the designer on November 3, 2023. No impacts are expected.

SECTION C – OTHER RESOURCES

Drinking Water Resources

Wellhead Protection Area(s)
Source Water Protection Area(s)
Water Well(s)
Urbanized Area Boundary
Public Water System(s)

Presence

Impacts

Yes

No

Is the project located in the St. Joseph Sole Source Aquifer (SSA):

If Yes, is the FHWA/EPA SSA MOU Applicable?

If Yes, is a Groundwater Assessment Required?

Yes

No

X

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.

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

In an early coordination letter dated December 28, 2022, IDEM stated the project is not located within a Wellhead Protection Area, but is located within 3,300 feet of a Wellhead Protection Area. The project is also located within a Source Water Assessment Area for a Public Water Supply System (Appendix C, page 7 to 8). Early coordination was sent to contact via Citizens Water – Indianapolis on March 28, 2024. A response from Citizens Water – Indianapolis was received on April 8, 2024 (Appendix C, page 12) stating no

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comments regarding the project. The features will not be affected since the scope of work is limited to roadway improvements and the immediately adjacent land. No impacts are expected.

The IDNR Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on March 28, 2024, by KEG. No wells are located near this project. Therefore, no impacts are expected.

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by KEG on March 28, 2024, this project is not located in an Urban Area Boundary. No impacts are expected.

Based on a desktop review, a site visit on October 12-13, 2022, by KEG, and the aerial map of the project area (Appendix B, page 3), no public water systems were identified. Therefore, no impacts are expected.

Floodplains

Project located within a regulated floodplain

Longitudinal encroachment

Transverse encroachment

Homes located in floodplain within 1000' up/downstream from project

Presence

X

Impacts

Yes	No
	X

If applicable, indicate the Floodplain Level?

Level 1 ☐

Level 2 ☐

Level 3 ☒

Level 4 ☐

Level 5 ☐

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

Based on a desktop review of The IDNR's Indiana Floodway Information Portal website ([Indiana Floodplain Information Portal 2.0 \(arcgis.com\)](https://arcgis.com/)) by KEG on October 3, 2023, and the RFI report, this project is located in a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page 3). An early coordination letter was sent on December 22, 2022, to the local Floodplain Administrator. The Floodplain Administrator did not respond within the 30-day time frame. Ditch grading at each corner of the intersection with conveyance toward the stream, curb turnouts, and catch basins will cause 0.014 acre of permanent impacts below flood elevation (BFE) and 0.024 acre of temporary impacts BFE. This project will not require a Construction in a Floodway (CIF) permit, because the work falls under the category of drainage maintenance according to coordination with INDOT Ecology, Waterway Permitting, and Stormwater Office (EWPSO). This project qualifies as Category 3 per the current INDOT CE Manual, which states the modifications to drainage structures included in this project will result in an insubstantial change in their capacity to carry flood water. This change could cause a minimal increase in flood heights and flood limits. These minimal increases will not result in any substantial adverse impacts on the natural and beneficial floodplain values; they will not result in substantial change in flood risks or damage; and they do not have substantial potential for interruption or termination of emergency service or emergency routes; therefore, it has been determined that this encroachment is not substantial.

Farmland

Agricultural Lands

Prime Farmland (per NRCS)

Presence

X

Impacts

Yes	No
X	

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

151

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

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

Based on a desktop review, a site visit on October 12-13, 2023, by KEG, and the aerial map of the project area (Appendix B, page 3), there is farmland as defined by the Farmland Protection Policy Act adjacent to the project. The project will likely convert approximately

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0.741 acre of farmland in the northwest and northeast quadrants of the project area. The farmland that will likely be converted to a transportation use for this project will be impacted because the roadway ROW will be expanded to address engineering design and erosion control constraints. There are no practicable avoidance alternatives that provide adequate geometrics to address current design requirements or protection from erosion control constraints. An early coordination letter was sent on March 15, 2023, and again on February 13, 2024, to disclose updated project limits, to NRCS. Coordination with NRCS resulted in a score of 151 on the AD 1006 Form (Appendix C, page 6). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project's 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.

SECTION D – CULTURAL RESOURCES

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

Full 106 Effect Finding

No Historic Properties Affected ☒ No Adverse Effect ☐ Adverse Effect ☐

Eligible and/or Listed Resources Present

NRHP Building/Site/District(s) ☐ Archaeology ☒ NRHP Bridge(s) ☐

Documentation Prepared (mark all that apply)

APE, Eligibility and Effect Determination ☒
800.11 Documentation ☒
Historic Properties Report or Short Report ☒
Archaeological Records Check and Assessment ☐
Archaeological Phase Ia Survey Report ☒
Archaeological Phase Ic Survey Report ☐
Other: Cemetery Development Plan ☒

ESD Approval Date(s)

September 11, 2024
September 11, 2024
August 2, 2023
May 30, 2024
May 30, 2024

SHPO Approval Date(s)

September 18, 2023
July 18, 2024
July 18, 2024

Memorandum of Agreement (MOA) ☐

MOA Signature Dates (List all signatories)

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

Area of Potential Effects (APE): Pursuant to 36 CFR 800.16(d), the APE for aboveground resources included properties adjacent to and/or within view of the project (Appendix D, page 9). The APE for archaeology included all existing and proposed ROW.

Coordination with Consulting Parties: Early coordination was initiated on February 16, 2023, with a letter inviting organizations and individuals to become consulting parties (Appendix D, pages 20 to 21). The Indiana State Historic Preservation Officer (SHPO) from IDNR Division of Historic Preservation (DHPA) is a designated consulting party. The following is a list of the organizations formally invited to become a consulting party (those who agreed to be consulting parties are shown in bold).

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- **Beth McCord, State Historic Preservation Officer (automatic consulting party)**
- Noah Bozell, Town Council President, Town of Lapel
- Darlene Likens, Commissioner, Madison County
- John Richwine, Commissioner, Madison County
- Olivia Pratt, Commissioner, Madison County
- Jerrold Bridges, Regional Director, Madison County Council of Governments (MCCOG)
- Brittany Miller, Eastern Regional Office, Director, Indiana Landmarks
- Stephen T. Jackson, Madison County Historian
- Melody Hull, President, Madison County Historical Society
- Scott Harless, Highway Superintendent, Madison County
- Nola Martin, interested member of the public
- Absentee Shawnee Tribe of Oklahoma
- **Delaware Nation of Oklahoma**
- Delaware Tribe of Indians
- **Eastern Shawnee Tribe of Oklahoma**
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe

The following is a summary of the comments of the consulting parties following the distribution of the early coordination materials:

- March 16, 2023: A letter from SHPO stated that they were unaware of any additional consulting parties that should be invited to participate in the Section 106 process beyond those who already invited. If ROW is to be taken from a potentially historic property, owners of the property should be invited as soon as possible (Appendix D, page 22).
- March 22, 2023: An email from the Historic Preservation Director of the Delaware Nation of Oklahoma was received accepting the invitation for consultation regarding the project. The Preservation Director indicated the location of the project does not endanger any known cultural or religious sites of interest to the Delaware Nation; however, there is always the potential for discovery of archaeological resources (Appendix D page 23).
- April 6, 2023: An email from the Tribal Historic Preservation Officer (THPO) of the Eastern Shawnee Tribe of Oklahoma stated that the project proposes no adverse effect or endangerment to known sites of interest of the Eastern Shawnee Tribe of Oklahoma. Additionally, the THPO requested if the project inadvertently discovers an archaeological site or object(s) to contact the Eastern Shawnee Tribe of Oklahoma, as well as appropriate state agencies within 24 hours (Appendix D, page 24).

Archaeology: Staff for Michael Baker International, Inc. (MBI) conducted a Cemetery Development Plan on April 18, 2024, adjoined with a geophysical survey conducted by Gray & Pape Heritage Management. Archival information suggests the existence of a 19th-century cemetery, "Hidden Cemetery", near the southwest quadrant of the subject intersection of SR 32 and CR 925 W (Appendix D, pages 55 to 56). Results of the investigation and geophysical survey state that it is unlikely that graves exist within the proposed project limits.

Staff for MBI conducted a (revised) Phase Ia records check on April 18, 2024, and a field reconnaissance on October 18 and 19, 2022. An *Archaeology Phase Ia Reconnaissance Report (AR)* was prepared, which identified one new archaeological site – 12M0881, through subsurface sampling (Appendix D, pages 51 to 54). The site was found to lack integrity and significance with the potential to yield important features or information that would satisfy National Register eligibility. MBI recommended project clearance and no further archeological investigations necessary for the site.

The AR was distributed to consulting parties on May 30, 2024. On July 18, 2024, the SHPO responded to the AR with concurrence of the finding that further archaeological investigation of site 12M0881 surveyed for the project are unlikely to produce additional important information and no further work in these areas is warranted (Appendix D, pages 29 to 30). Additionally, the SHPO noted that in the event any prehistoric or archaeological artifacts or human remains are

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uncovered during construction, demolition, or earthmoving activities, must be reported under state law within two (2) business days to IDNR-DHPA.

Historic Properties: MBI prepared a *Historic Property Short Report (HPSR)* that determined there are no properties listed in the NRHP, and no resources were recommended eligible for listing in the NRHP for the purpose of this project (Appendix D, pages 49 to 50).

On August 1, 2024, the Historic Property Short Report (HPSR) was made available to the consulting parties via INDOT's online document portal INSCOPE. The following is a summary of the comments following the distribution of the HPSR:

September 18, 2023: The SHPO responded to the letter stating that the APE appears to be of adequate size to encompass the geographic area in which direct and indirect effects of a project of this nature should occur. Additionally, the SHPO agreed with the conclusions of the HPSR that there are no previously recorded National Register of Historic Places (NRHP) listed or eligible resources located within the APE, and the ineligibility of the remaining properties surveyed within the APE for inclusion in the NRHP (Appendix D, page 25).

Documentation Finding: INDOT, acting on behalf of FHWA, issued a "No Historic Properties Affected" finding on September 11, 2024 (Appendix D, pages 1 to 2).

Consulting parties were notified of the finding on September 16, 2024 (Appendix D, pages 57 to 61), and provided 30 days to comment on the effect finding. This document will be revised once the comment period has been completed.

Public Involvement: Pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4), the public will be provided an opportunity to comment on FHWA's finding of "No Historic Properties Affected". Upon release of the CE document for public involvement, a legal advertisement will be placed in a local publication soliciting public input on FHWA's Section 106 effect finding. Comments from the public will be accepted for 30 days following the publication of the notice. If any substantive comments are received during this period, the appropriate Section 106 documents will be revised. The Cultural Resources section will be revised following the comment period.

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

	<u>Presence</u>	<u>Use</u>	
		Yes	No
Parks and Other Recreational Land			
Publicly owned park			
Publicly owned recreation area			
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			
<u>Evaluations</u>			
<u>Prepared</u>			
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).

This is page 16 of 22 Project name: Intersection Improvement Date: October 11, 2024

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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 3), and the RFI report (Appendix E), there are four potential 4(f) resources located within the 0.5 mile search radius. According to additional research and by the site visit on October 12-13, 2022, by KEG, there are no Section 4(f) resources within or adjacent to the project area. Therefore, no 4(f) 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 the conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the INDOT ESD website revealed a total of 25 properties in Madison County (Appendix I, page 37). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources.

SECTION F – Air Quality**STIP/TIP and Conformity Status of the Project**

Is the project in the most current STIP/TIP?

Yes**No**☒☐

Is the project located in an MPO Area?

☒☐

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

☒☐

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 2024-2028,
Initial, September 1, 2023

Name of MPO (if applicable):

Madison County Council of Governments; FY
2022-2026

Location in TIP (if applicable):

Level of MSAT Analysis required?

Level 1a

☐

Level 1b

☐

Level 2

☐

Level 3

☐

Level 4

☐

Level 5

☐

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

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This project is included in the Fiscal Year (FY) 2022-2026 Madison County Council of Governments (MCCOG) Transportation Improvement Program (TIP), which has been directly incorporated into the FY 2024-2028 Statewide Transportation Improvement Program (STIP) (Appendix H, pages 1 to 3).

This project is located in Madison County, which is currently a maintenance area for 8-Hour Ozone according to the United States Environmental Protection Agency (EPA) (https://www3.epa.gov/airquality/greenbook/anayo_in.html). This project has been identified as being exempt from air quality analysis in accordance with 40 CFR Part 93.126 and this project is not a project of air quality concern (40 CFR Part 93.123). Therefore, the project will have no significant impact on air quality.

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

SECTION G - NOISE

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

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

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

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

SECTION H - COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors**Yes****No**

Will the proposed action comply with the local/regional development patterns for the area?

☒☐

Will the proposed action result in substantial impacts to community cohesion?

☐☒

Will the proposed action result in substantial impacts to local tax base or property values?

☐☒

Will construction activities impact community events (festivals, fairs, etc.)?

☐☒

Does the community have an approved transition plan?

☒☐

If No, are steps being made to advance the community's transition plan?

☐☐

Does the project comply with the transition plan? (explain in the discussion below)

☒☐

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 "Forward Madison County 2035" comprehensive plan (<https://www.forwardmadisoncounty.com>) was reviewed by KEG on April 1, 2024. The Plan has adopted goals and objectives for Madison County's growth and prosperity, which includes such items as: administration, enhancing service amenities, improving infrastructure, managing growth, promoting environmental stewardship, and strengthening economic prosperity. The project is not anticipated to negatively affect community cohesion, the local tax base, or property values, since transportation within the community and connectivity to community resources will not be permanently affected.

On April 1, 2024, KEG reviewed www.indianafestivals.org for any special events or festivals in Madison County throughout the year. The following special events or festivals were noted and is anticipated to occur annually: Highway 38 Sale (May 6-7), Celebration in the Ville (May 11), Mayor's Cup Go Kart Grand Prix (May 13-14), Redbud Quilt Guild Quilt Show (May 17-18), Pendleton Lions Club June Jamboree (June 6-10), Orestes "Oak Street" Fair (June 29), Indiana Black Expo/Anderson Chapter Summer Festival (July 12-14), Lapel Village Fair (July 12-13), Madison County 4-H Fair (July 21-27), Elwood Glass Festival (August 16-18), Downtown Pendleton

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Fall Festival (September 9-7), Pendleton Fall Creek Heritage Fair (September 6-7), Andersontown Powwow and Indian Market (September 7-8), Frankton Heritage Days Festival (September 20-22), Annual Crush Hunger Saturday (October 21), Christmas in Pendleton (November 11), and Festival of Trees (November 19-December 6). If any event is held during the proposed construction activities, the commute times to events may be impacted causing a short-term impact. Announcements regarding construction activities will be published on the INDOT social media pages and coordination with the community will occur to minimize disruption to the extent possible.

Delays associated with SR 32 and CR 925 W MOT shall occur during construction but will cease with project completion. Temporary community and economic impacts will occur due to increased travel time and expense; therefore, no long-term negative impacts to the community or its economy are expected.

In 2015, Madison County adopted the 2010 ADA Standards for Accessible Design <https://www.forwardmadisoncounty.com>. The "Forward Madison County" comprehensive plan includes objectives to confirm compliance with the ADA standards. The plan includes Title VI assurances with INDOT and FHWA standards.

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 3), and the RFI report (Appendix E) there are three public facilities within the 0.5-mile search radius. There are no public or known private utilities within or adjacent to the project area, which was confirmed by the site visit on October 12-13, 2023, by KEG. Public and private utility coordination was completed by the designer. Therefore, no impacts are expected. Access to all properties will be maintained during construction.

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

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?

Does the project require an EJ analysis?

If YES, then:

Are any EJ populations located within the project area?

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

Yes	No
☐	☒
☒	☐
☐	☒
☐	☒

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

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an EJ Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent ROW. No relocations are required for this project. The project will require 2.05 acres of permanent ROW. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exist and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is Madison County. The community that overlaps the project area is called the affected community (AC). In this project, the AC is Census Tract 111, in Madison County. 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 2022 ACS 5-Year Estimates was obtained from the U.S. Census website (<https://data.census.gov/cedsci/>) on March 20, 2024, by KEG. The data collected for minority and low-income populations within the AC are summarized in the below table.

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Table: Minority and Low-Income Data (2022: US Census Bureau, ACS 5-Year Estimates)

	COC – Madison County	AC-1 – Census Tract 111, Madison County
Percent Minority	17	7
125% of COC	21	AC < 125% COC
EJ Population of Concern		No
Percent Low-Income	14	7
125% of COC	18	AC < 125% COC
EJ Population of Concern		No

AC-1, Census Tract 111, Madison County has a percent minority of 7% which is below 50% and is below the 125% COC threshold. Therefore, AC-1 does not contain minority populations of EJ concern.

AC-1, Census Tract 111, Madison County has a percent low-income of 7% which is below 50% and is below the 125% COC threshold. Therefore, AC-1 does not contain low-income populations of EJ concern.

The census data sheets, map, and calculations can be found in Appendix I, pages 38 to 41. The project will result in positive impacts to all populations within the project area in the form of improved traffic flow and connectivity. No further environmental justice analysis is warranted.

Relocation of People, Businesses or Farms

Will the proposed action result in the relocation of people, businesses or farms?
Is a BIS or CSRS required?

Yes	No
☐	☒
☐	☒

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

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)

Red Flag Investigation (RFI)
Phase I Environmental Site Assessment (Phase I ESA)
Phase II Environmental Site Assessment (Phase II ESA)
Design/Specifications for Remediation required?

Documentation

☒
☐
☐
☐

Date RFI concurrence by INDOT SAM (if applicable): December 30, 2022

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 October 7, 2022, by KEG and INDOT SAM provided their concurrence on December 30, 2022 (Appendix E). Four Underground Storage Tanks (UST) sites, one Leaking Underground Storage (LUST) site, two National Pollutant Discharge Elimination System (NPDES) facilities, two NPDES Pipe Locations, and one Confined Feeding Operations (CFO) facility are located within 0.5 mile of the project area. Due to a project design change that expanded the project limits and ROW acquisition, following INDOT SAM concurrence of the RFI on November 29, 2022, INDOT deemed an addendum unnecessary based on no additional impacts. One UST facility could affect the project area. UST: One (1) UST, Rickers Petro Mart, 1700 Main Street, AI ID# 41231, is adjacent to the project area in the southeast quadrant. Four (4) USTs are reported to exist at the property. IDEM conducted a UST Inspection on April 20, 2021, and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9; however, documentation reviewed does not indicate that a release occurred. IDEM issued a Return to Compliance letter on May 20, 2021. If excavation occurs

Indiana Department of Transportation

County Madison

Route SR 32/CR 925 W

Des. No. 2000161

in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for contamination will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

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

Rule 5

Other

X

IN Department of Natural Resources

Construction in a Floodway

Navigable Waterway Permit

Other

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."

Per coordination with INDOT EWPSO on June 27, 2023, and INDOT Stormwater Specialists on November 8, 2023, a Construction Stormwater General Permit (CSGP) (formerly Rule 5) will be required. This project will not require a CIF permit since the project falls under the category of drainage maintenance.

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

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

Indiana Department of Transportation

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Route SR 32/CR 925 W

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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 ROW amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT Greenfield District)
2. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access (INDOT ESD)
3. Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT ESD)
4. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
5. Lighting AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. (USFWS)
6. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
7. Tree Removal AMM2: Apply time of year restrictions for tree removal when bats are not likely to be present, or limit tree removal to 10 or fewer trees per project at any time of year within 100 feet of existing road/ rail surface and outside of documented roosting/foraging habitat or travel corridors; visual emergence survey must be conducted with no bats observed. (USFWS and IDNR)
8. Tree Removal AMM3: 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)
9. 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)
10. 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)
11. Deer Creek is listed as impaired for *E. Coli*. Workers who are working in or near water with *E. coli* should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure. (INDOT SAM)
12. The nearest UST, Rickers Petro Mart, 1700 Main Street, AI ID # 41231, is adjacent to the project area in the southeast quadrant. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for contamination will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination. (INDOT SAM)

Further Consideration:

13. Impacts to non-wetland forest of one (1) acre or more in a rural or urban area should be mitigated at a minimum 2:1 ratio based on area of impact. Impacts to non-wetland forest under one (1) acre but at least 0.10 acre in a rural or urban area should be mitigated at a minimum 1:1 ration based on area of impact. Impacts under 0.10 acre in a rural area typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed area, though there are exceptions for high quality habitat sites. Impacts under 0.10 acre in an urban area should be mitigated by replacing trees that are 10" diameter-at-breast height (dbh) or greater by planting five trees, 1" to 2" in dbh, for each tree which is removed that is 10" dbh or greater (IDNR-DFW)

Categorical Exclusion Level 2
SR 32 and CR 925 W (Main Street)
DES 2000161, Intersection Improvement
Madison County, Indiana

APPENDICES

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APPENDIX A

INDOT Supporting Documents

Categorical Exclusion Level Thresholds

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

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

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

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

⁴ US Army Corps of Engineers Individual 404 Permit

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

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

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

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

⁹ Potential for causing a disproportionately high and adverse impact.

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

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

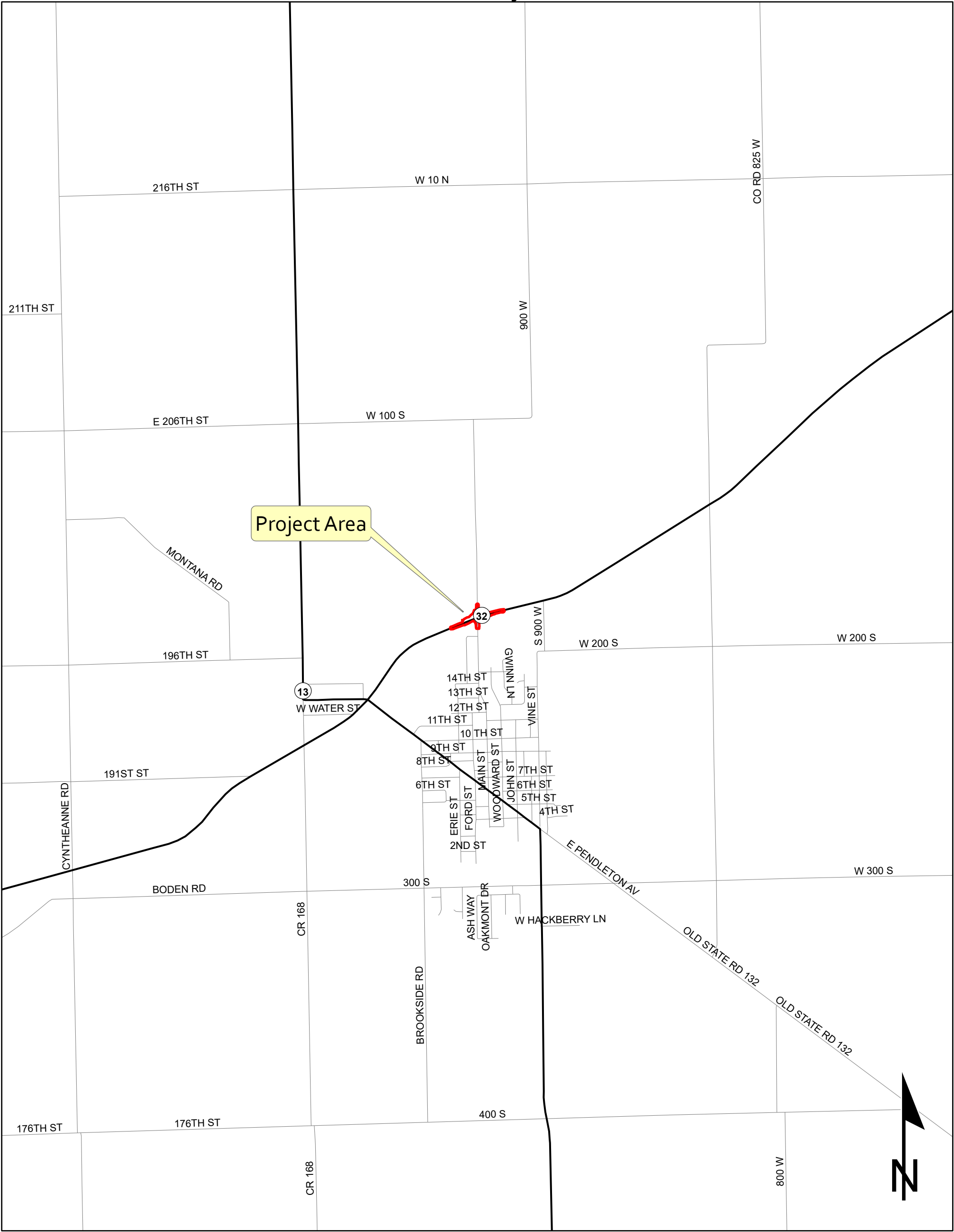
* Includes the threatened/endangered species critical habitat

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

APPENDIX B

Graphics

Site Location Map
SR 32 & CR 925 W/Main Street
Des No. 2000161, Intersection Improvement
Madison County, Indiana



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



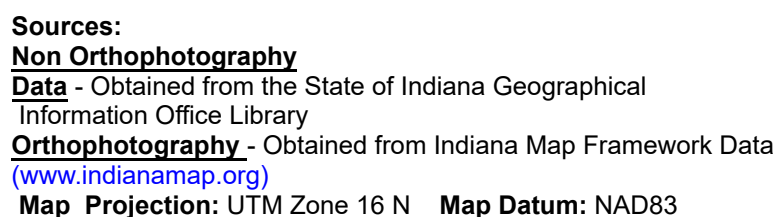
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Topographic Map
SR 32 & CR 925 W/Main Street
Des No. 2000161, Intersection Improvement
Madison County, Indiana



Sources: 0.25 0.13 0 0.25 Miles
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N Map Datum: NAD83
This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

LAPEL
QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)



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

Photo Log
Des. No. 2000161

Intersection Improvement of SR 32 at CR 925 W (Main Street)
Photos Taken: 10/13/2022



1. SR 32 looking east.



2. Southeast corner of SR 32 and CR 925 W.



3. CR 925 W looking north.



4. CR 925 W looking south.

Photo Log
Des. No. 2000161

Intersection Improvement of SR 32 at CR 925 W (Main Street)
Photos Taken: 10/13/2022

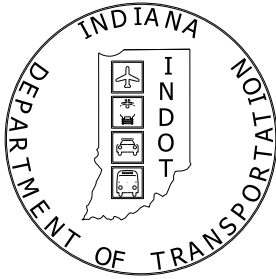


5. Northwest corner of SR 32 and CR 925 W.

PROJECT	DESIGNATION
2000161	2000161
CONTRACT	BRIDGE FILE
R-43476	.

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
2000156	INTERSECTION IMPROVEMENT - SR 32 & SR 13
2000161	INTERSECTION IMPROVEMENT - SR 32 & CR 925 W (LEAD)
2000162	INTERSECTION IMPROVEMENT - SR 32 & CR 600 W

INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

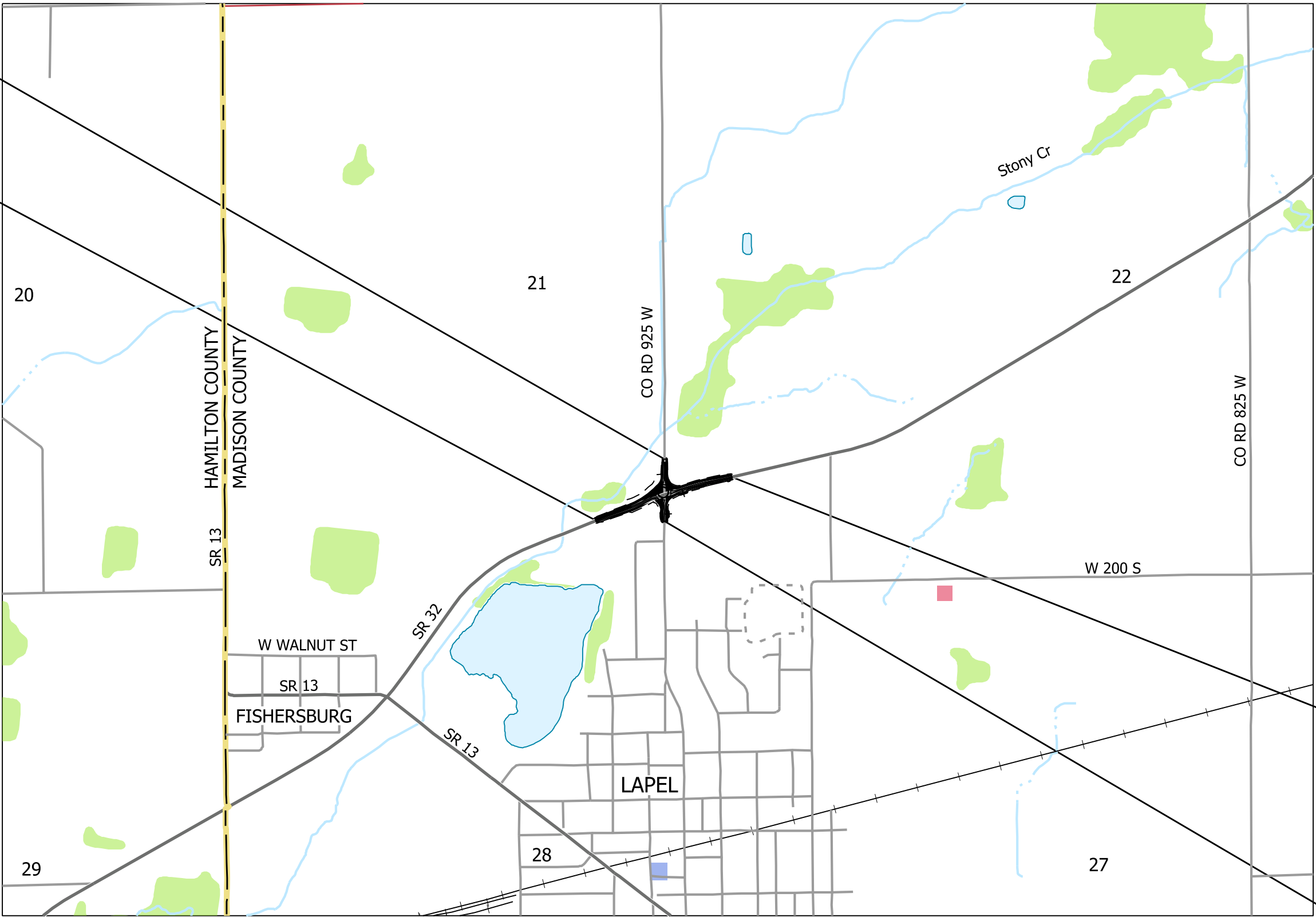
ROUTE: SR 32 FROM: RP 94+25 TO: RP 94+50
PROJECT NO. 2000161 P.E.
2000161 R/W
2000161 CONST.

TRAFFIC DATA	SR 32	CR 925 W
A.A.D.T. (2025)	6,017 V.P.D.	1,445 V.P.D.
A.A.D.T. (2045)	6,533 V.P.D.	1,445 V.P.D.
D.H.V (2045)	734 V.P.H.	140 V.P.H.
DIRECTIONAL DISTRIBUTION	52.39 %	53.84 %
TRUCKS	2.35 % D.H.V.	3.57 % D.H.V.
	1.34 % A.D.T	2.84 % A.D.T
DESIGN DATA		
DESIGN SPEED	45 M.P.H.	20 M.P.H.
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	LOCAL ROAD
RURAL/URBAN	RURAL	RURAL
TERRAIN	LEVEL	LEVEL
ACCESS CONTROL	NONE	NONE

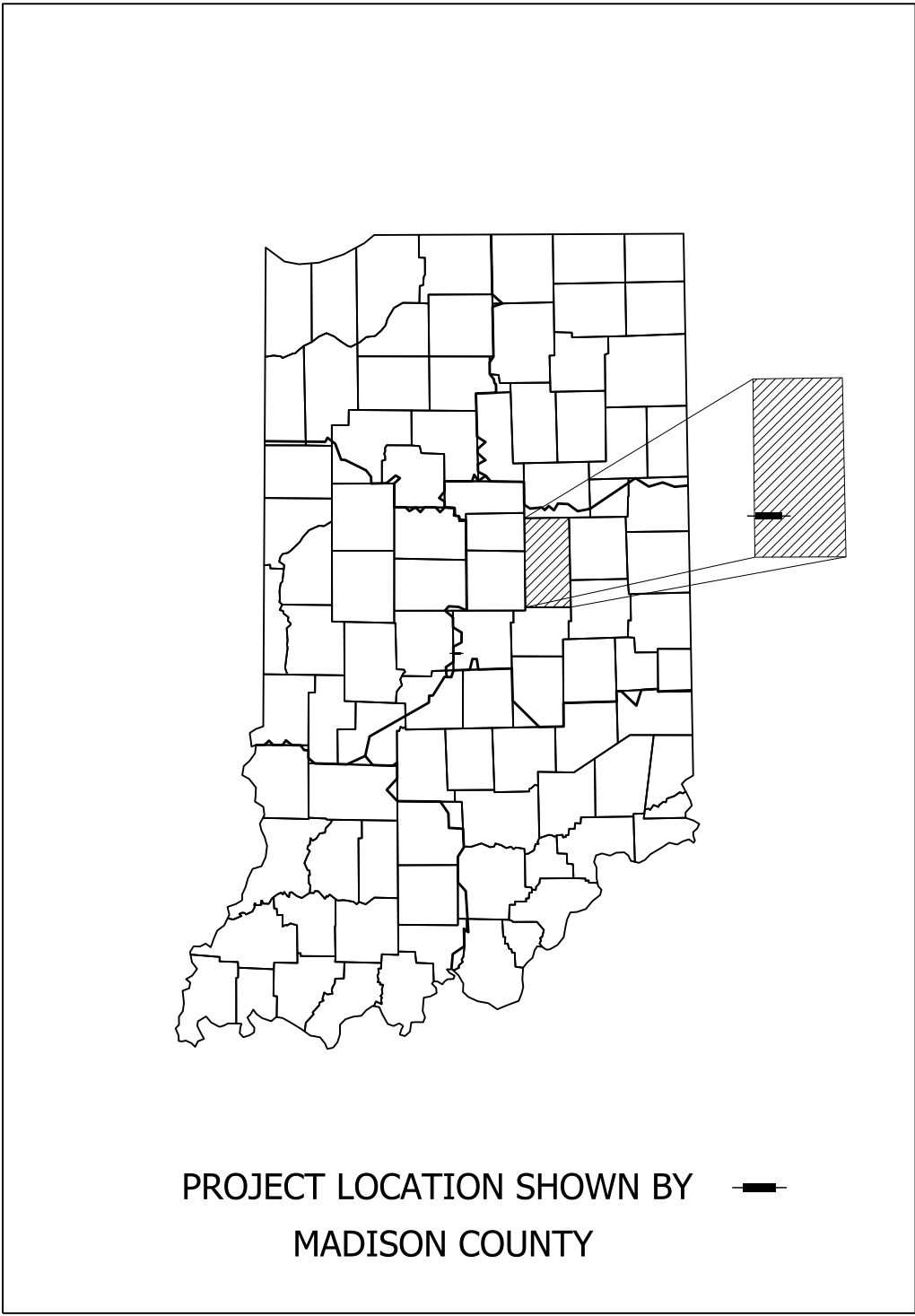
ROUNDBOUT CONSTRUCTION AT THE INTERSECTION OF SR 32 AND COUNTY ROAD 925 W.
LOCATED IN SECTION 21, T-19-N, R-6-E IN STONY CREEK TOWNSHIP, MADISON COUNTY, INDIANA

END CONSTRUCTION
STA. 16+37.74 "PR-S-1-E"

BEGIN PROJECT NO. 2000161
STA. 11+00.00 "PR-E"



LOCATION MAP
MADISON COUNTY



LATITUDE: 40° 04' 37" N LONGITUDE: 85° 50' 56" W
HUC 14: 05120201070040

BRIDGE LENGTH:	N/A	MI.
ROADWAY LENGTH:	0.25	MI.
TOTAL LENGTH:	0.25	MI.
MAX. GRADE:	2.05	%

END PROJECT NO. 2000161
STA. 24+06.21 "PR-E"

BEGIN CONSTRUCTION
STA. 11+00.00 "PR-S-1-E"

STAGE 2 SUBMITTAL,
08/10/2023

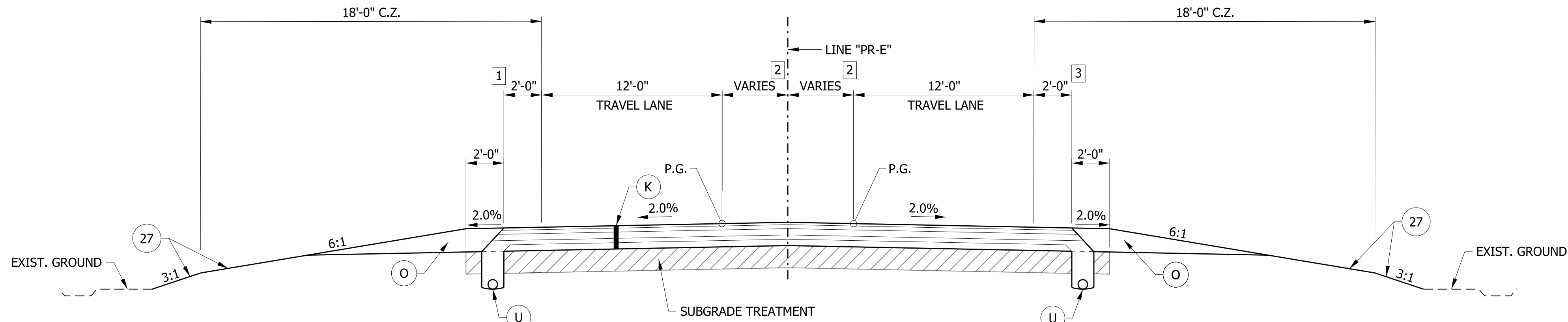
INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2024
TO BE USED WITH THESE PLANS.

Michael Baker
INTERNATIONAL

Michael Baker International, Inc.
3815 River Crossing Parkway, Suite 120
Indianapolis, IN 46240
Tel: 317-663-8430 Fax: 317-663-8410
www.mbakertntl.com

PLANS PREPARED BY:	Michael Baker International, Inc.	317-663-8430 PHONE NUMBER
CERTIFIED BY:		DATE
RECOMMENDED FOR LETTING:	INDIANA DEPARTMENT OF TRANSPORTATION	DATE

	BRIDGE FILE	
	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
	1	of 74
CONTRACT	PROJECT	
R-43476	2000161	

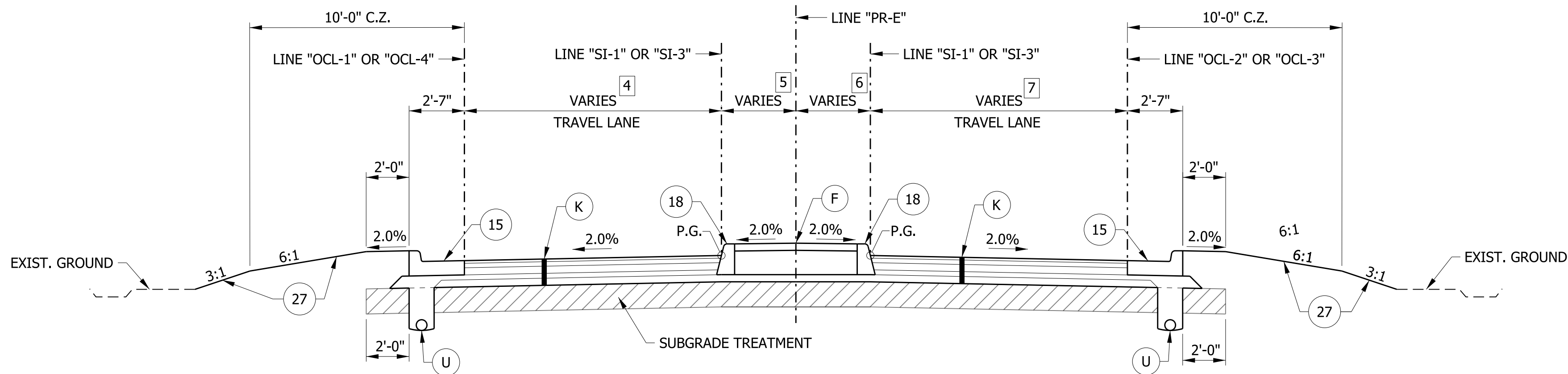


TYPICAL SECTION - ROUNDABOUT APPROACH

STA. 11+00.00 TO STA. 14+32.33 LINE "PR-E"
STA. 20+93.50 TO STA. 24+06.21 LINE "PR-E"

1 WIDTH VARIES FROM 3.40' AT STA. 11+00.00 TO 2.00' AT STA. 14+32.33
WIDTH EQUALS 2' FROM STA. 20+93.50 TO STA. 21+16.00
WIDTH VARIES FROM 2.00' AT STA. 21+16.00 TO 4.63' AT STA. 24+06.20

2 WIDTH VARIES FROM 0.00' AT STA. 11+00.00 TO 6.00' AT STA. 14+32.33
3 WIDTH VARIES FROM 3.40' AT STA. 11+00.00 TO 2.00' AT STA. 11+64.00
WIDTH EQUALS 2' FROM STA. 11+64.00 TO STA. 14+32.33
WIDTH VARIES FROM 3.86' AT STA. 20+93.50 TO 3.41' AT STA. 24+06.20



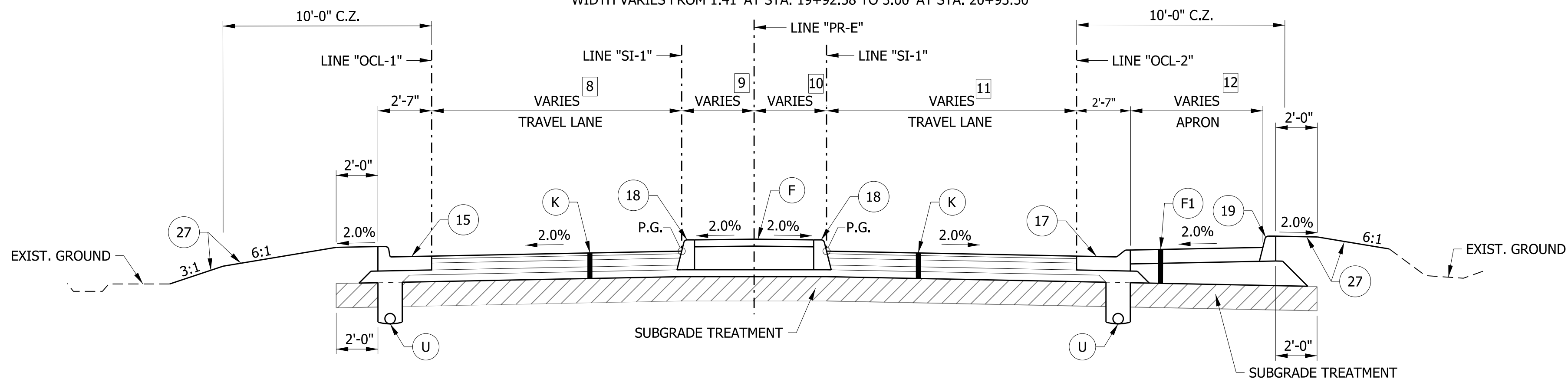
TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND

STA. 14+32.33 TO STA. 16+44.46 LINE "PR-E"
STA. 19+25.23 TO STA. 20+93.50 LINE "PR-E"

4 WIDTH VARIES FROM 17.75' AT STA. 14+32.33 TO 14.00' AT STA. 14+35.31
WIDTH VARIES FROM 14.00' AT STA. 14+35.31 TO 19.60' AT STA. 16+44.46
WIDTH EQUALS 14.00' FROM STA. 19+25.23 TO STA. 20+24.82
WIDTH VARIES FROM 14.00' AT STA. 20+24.82 TO 16.00' AT STA. 20+90.50
WIDTH VARIES FROM 16.00' AT STA. 20+90.50 TO 0.00' AT STA. 20+93.50

5 WIDTH VARIES FROM 3.77' AT STA. 14+35.31 TO 2.67' AT STA. 15+26.55
WIDTH VARIES FROM 2.67' AT STA. 15+26.55 TO 2.82' AT STA. 16+44.46
WIDTH VARIES FROM 1.47' AT STA. 19+25.23 TO 1.41' AT STA. 19+92.58
WIDTH VARIES FROM 1.41' AT STA. 19+92.58 TO 3.00' AT STA. 20+93.50
6 WIDTH VARIES FROM 0.00' AT STA. 14+32.33 TO 2.19' AT STA. 14+34.83
WIDTH VARIES FROM 2.19' AT STA. 14+34.83 TO 4.36' AT STA. 14+56.27
WIDTH VARIES FROM 4.36' AT STA. 14+56.27 TO 7.20' AT STA. 16+44.46
WIDTH VARIES FROM 1.47' AT STA. 19+25.23 TO 1.41' AT STA. 19+92.58
WIDTH VARIES FROM 1.41' AT STA. 19+92.58 TO 3.00' AT STA. 20+93.50

7 WIDTH VARIES FROM 18.25' AT STA. 14+32.33 TO 14.00' AT STA. 14+56.27
WIDTH EQUALS 14.00' FROM STA. 14+56.27 TO STA. 16+44.46
WIDTH VARIES FROM 16.00' AT STA. 19+25.23 TO 14.71' AT STA. 19+53.48
WIDTH VARIES FROM 14.71' AT STA. 19+53.48 TO 14.00' AT STA. 19+84.25
WIDTH EQUALS 14.00' FROM STA. 19+84.25 TO STA. 20+90.50
WIDTH VARIES FROM 14.00' AT STA. 20+90.50 TO 0.00' AT STA. 20+93.50



TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, RIGHT APRON

STA. 16+44.46 TO STA. 16+93.15 LINE "PR-E"

8 WIDTH VARIES FROM 19.60' AT STA. 16+44.46 TO 25.41' AT STA. 16+88.83

9 WIDTH VARIES FROM 2.82' AT STA. 16+44.46 TO 12.19' AT STA. 16+88.83

10 WIDTH VARIES FROM 7.20' AT STA. 16+44.46 TO 10.69' AT STA. 16+92.65

11 WIDTH VARIES FROM 14.00' AT STA. 16+44.46 TO 19.72' AT STA. 16+92.65

12 WIDTH VARIES FROM 0.00' AT STA. 16+44.46 TO 19.25' AT STA. 16+93.15

LEGEND

- (K) FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (U) UNDERDRAIN, TYPE 4, 6"
- (F) SIDEWALK, CONCRETE
- (O) COMPACTED AGGREGATE NO. 53
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB AND GUTTER, ROLL CURB, MODIFIED
- (26) SODDING
- (27) MULCHED SEEDING, R

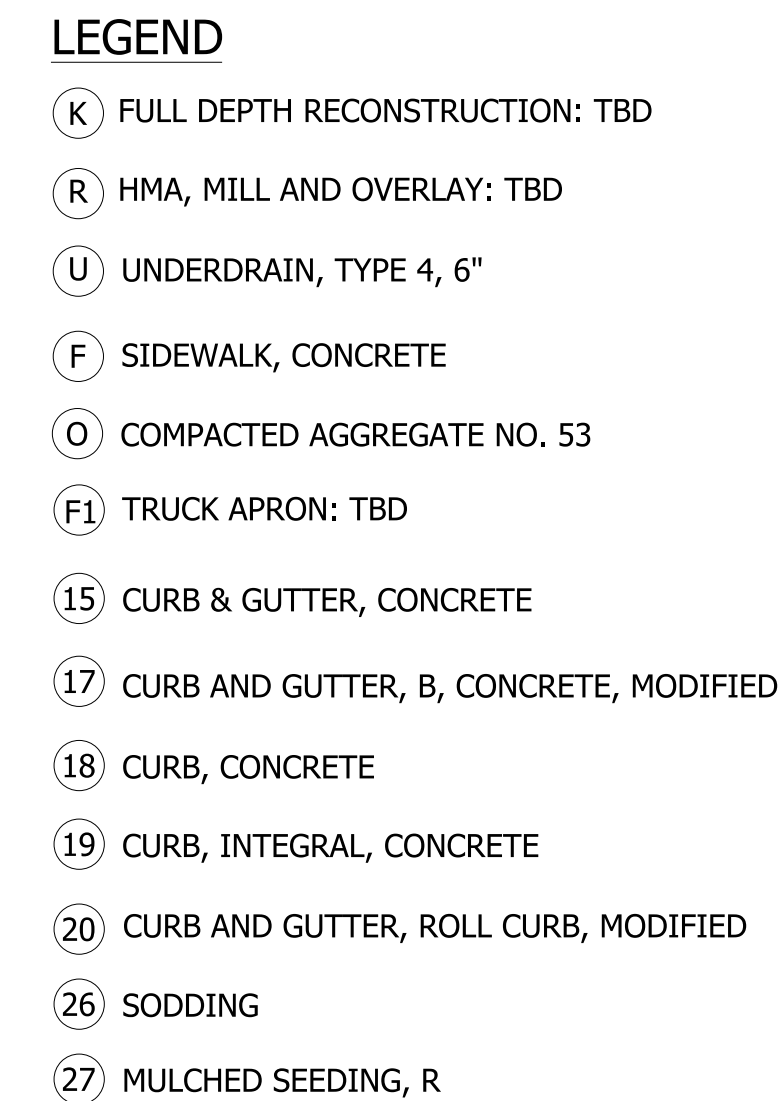
RECOMMENDED
FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: MRW DRAWN: MRW
CHECKED: WRC CHECKED: JEC

INDIANA
DEPARTMENT OF TRANSPORTATION

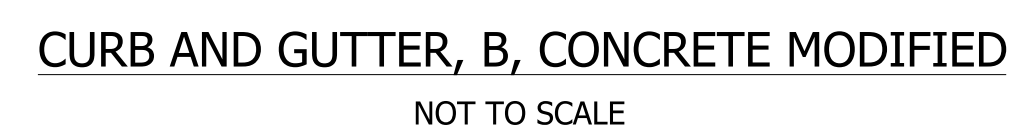
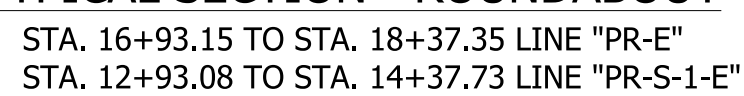
TYPICAL CROSS SECTIONS
LINE "PR-E"

HORIZONTAL SCALE	BRIDGE FILE
1/4" = 1'-0"	
VERTICAL SCALE	DESIGNATION
1/4" = 1'-0"	2000161
SURVEY BOOK	SHEETS
	3 of 74
CONTRACT	PROJECT
R-43476	2000161

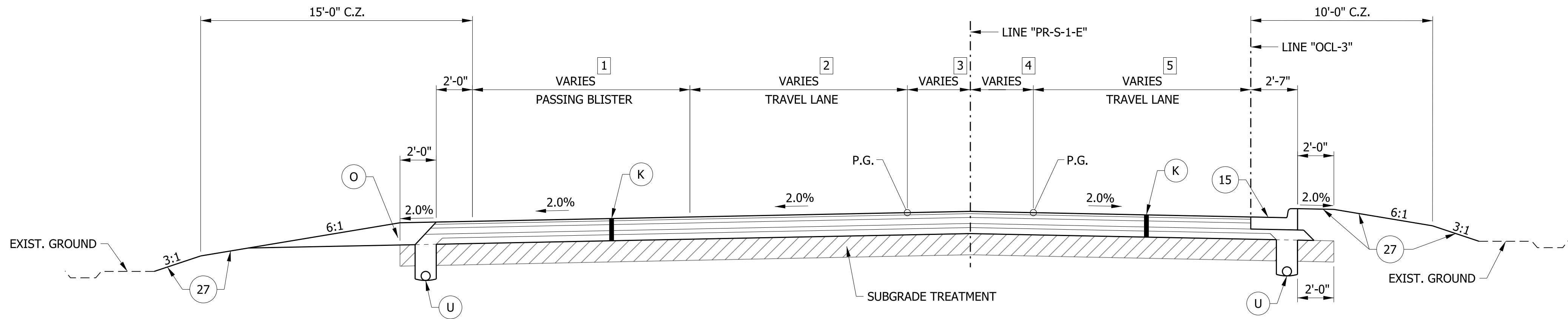


STA. 18+37.35 TO STA. 19+25.23 LINE "PR-E"

- | | | | | | |
|---|--|---|---|---|--|
| 1 | WIDTH VARIES FROM 15.65' AT STA. 18+37.35 TO 0.00' AT STA. 19+25.23 | 3 | WIDTH VARIES FROM 11.64' AT STA. 18+38.59 TO 1.47' AT STA. 19+25.23 | 5 | WIDTH VARIES FROM 22.44' AT STA. 18+38.59 TO 16.00' AT STA. 19+25.23 |
| 2 | WIDTH VARIES FROM 25.73' AT STA. 18+38.59 TO 14.00' AT STA. 19+25.23 | 4 | WIDTH VARIES FROM 13.66' AT STA. 18+38.59 TO 1.48' AT STA. 19+25.23 | | |



HORIZONTAL SCALE	BRIDGE FILE		
1/4" = 1'-0"			
VERTICAL SCALE	DESIGNATION		
1/4" = 1'-0"	2000161		
SURVEY BOOK	SHEETS		
	4	of	74
CONTRACT	PROJECT		
R-43476	2000161		

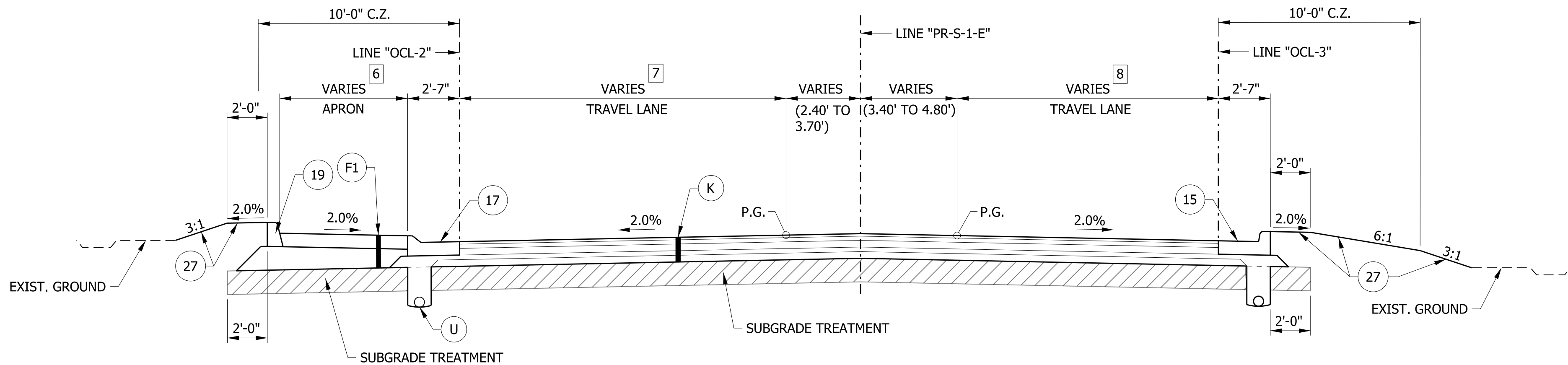


NOTE TO REVIEWER:
ONCE A FINAL DETERMINATION ON PEDESTRIAN FACILITIES
HAS BEEN CONCLUDED, A TYPICAL SECTION SHOWING SIDEWALK
OR REMOVAL WILL BE ADDED FOR STA. 11+00.00 TO STA. 11+32.10

- 1 WIDTH VARIES FROM 5.29' AT STA. 11+00.00 TO 12.00' AT STA. 11+45.51
WIDTH EQUALS 12.00' FROM STA. 11+45.51 TO STA. 11+85.88
WIDTH VARIES FROM 12.00' AT STA. 11+85.88 TO 0' AT STA. 12+45.16
- 2 WIDTH EQUALS 12.00' FROM STA. 11+00 TO STA. 11+56.17
WIDTH VARIES FROM 12.00' AT STA. 11+56.17 TO 16.23' AT STA. 12+45.16
- 3 WIDTH EQUALS 0' FROM STA. 11+00 TO STA. 11+75.04
WIDTH VARIES FROM 0' AT STA. 11+75.04 TO 2.40' AT STA. 12+45.16

TYPICAL SECTION - ROUNDABOUT APPROACH w/ PASSING BLISTER
STA. 11+00.00 TO STA. 12+45.16 LINE "PR-S-1-E"

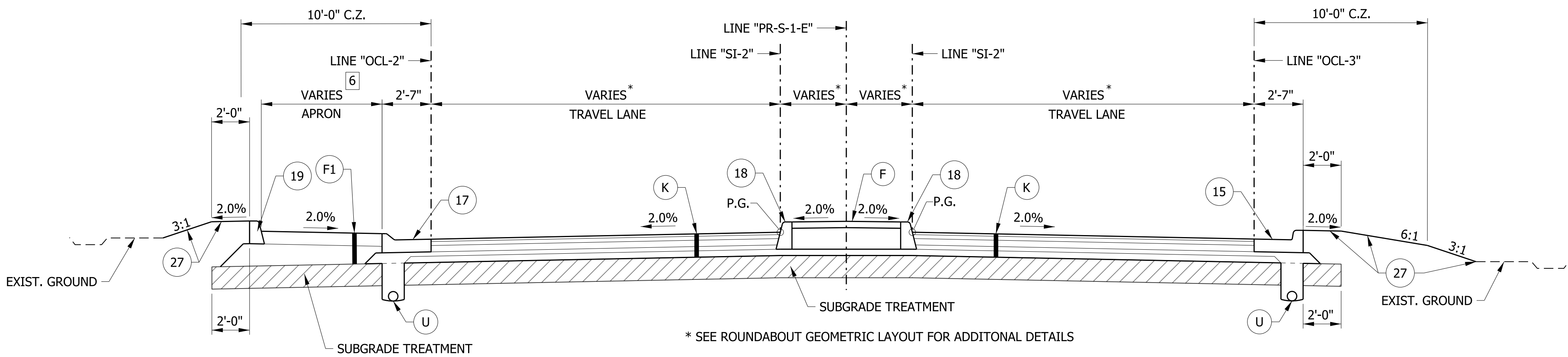
- 4 WIDTH EQUALS 0' FROM STA. 11+00 TO STA. 11+75.04
WIDTH VARIES FROM 0' AT STA. 11+75.04 TO 3.40' AT STA. 12+45.16
- 5 WIDTH EQUALS 12.00' FROM STA. 11+00 TO STA. 12+30.89
WIDTH VARIES FROM 12.00' AT STA. 12+30.89 TO 12.99' AT STA. 12+45.16



- 6 WIDTH VARIES FROM 1.70' AT STA. 12+45.16 TO 9.69' AT STA. 12+93.08
- 7 WIDTH VARIES FROM 16.23' AT STA. 12+45.16 TO 18.11' AT STA. 12+93.08

TYPICAL SECTION - ROUNDABOUT APPROACH, CURB AND GUTTER, LEFT APRON
STA. 12+45.16 TO STA. 12+57.40 LINE "PR-S-1-E"

- 8 WIDTH VARIES FROM 12.99' AT STA. 12+45.16 TO 18.00' AT STA. 12+93.08



TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, LEFT APRON
STA. 12+57.40 TO STA. 12+93.08 LINE "PR-S-1-E"

LEGEND

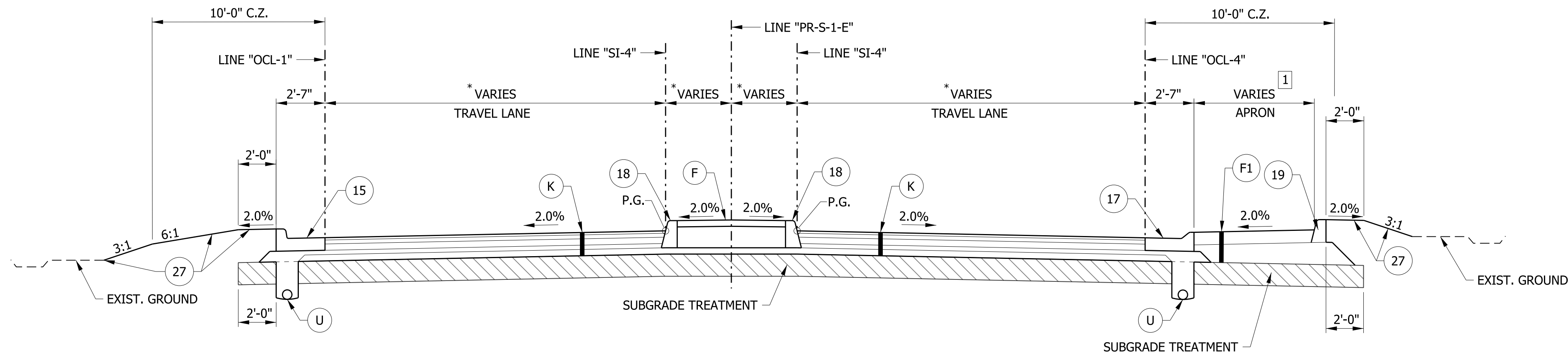
- (K) FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (U) UNDERDRAIN, TYPE 4, 6"
- (F) SIDEWALK, CONCRETE
- (O) COMPACTED AGGREGATE NO. 53
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB AND GUTTER, ROLL CURB, MODIFIED
- (26) SODDING
- (27) MULCHED SEEDING, R

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

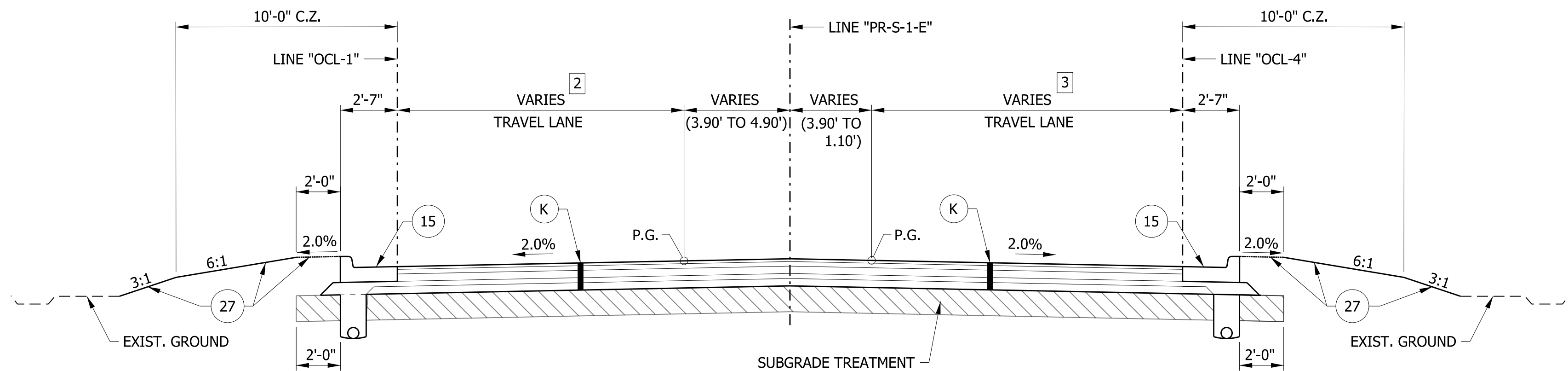
TYPICAL CROSS SECTIONS
LINE "PR-S-1-E"

HORIZONTAL SCALE	BRIDGE FILE		
1/4" = 1'-0"			
VERTICAL SCALE	DESIGNATION		
1/4" = 1'-0"	2000161		
SURVEY BOOK	SHEETS		
	5	of	74
CONTRACT	PROJECT		
R-43476	2000161		



TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, RIGHT APRON
STA. 14+37.73 TO STA. 14+90.01 LINE "PR-S-1-E"

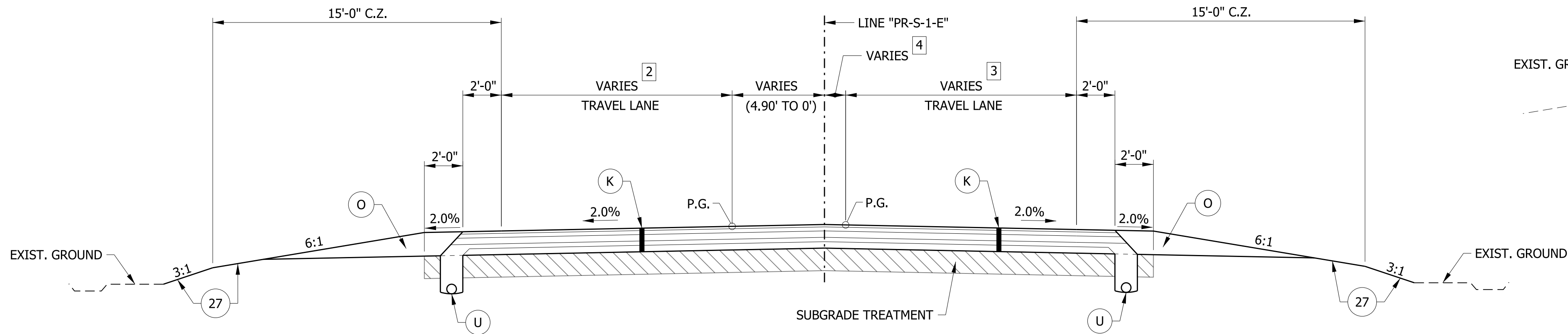
1 WIDTH VARIES FROM 7.53' AT STA. 14+37.73 TO 0' AT STA. 14+90.01



TYPICAL SECTION - ROUNDABOUT APPROACH w/ CURB AND GUTTER
STA. 14+90.01 TO STA. 15+17.39 LINE "PR-S-1-E"

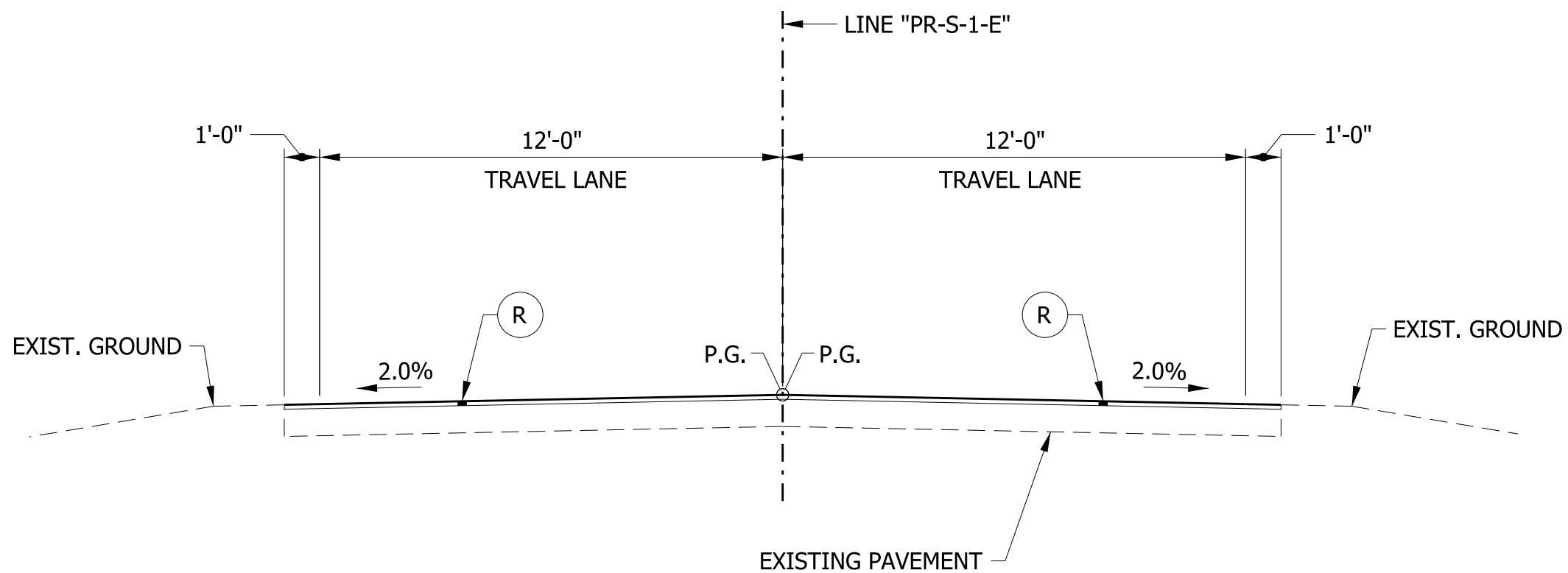
2 WIDTH VARIES FROM 12.75' AT STA. 14+90.01 TO 12.00' AT STA. 15+03.57
WIDTH EQUALS 12.00' FROM STA. 15+03.57 TO 15+18.10

3 WIDTH VARIES FROM 14.47' AT STA. 14+90.01 TO 12.00' AT STA. 15+38.37
WIDTH EQUALS 12.00' FROM STA. 15+38.37 TO STA. 15+19.28



TYPICAL SECTION - ROUNDABOUT APPROACH
STA. 15+17.39 TO STA. 16+37.74 LINE "PR-S-1-E"

4 WIDTH VARIES FROM 1.10' AT STA. 15+17.39 TO 0' AT STA. 15+64.15
WIDTH EQUALS 0' FROM STA. 15+64.15 TO STA. 16+37.74



TYPICAL SECTION - INCIDENTAL OVERLAY
STA. 16+37.74 TO STA. 16+67.74 LINE "PR-S-1-E"

LEGEND

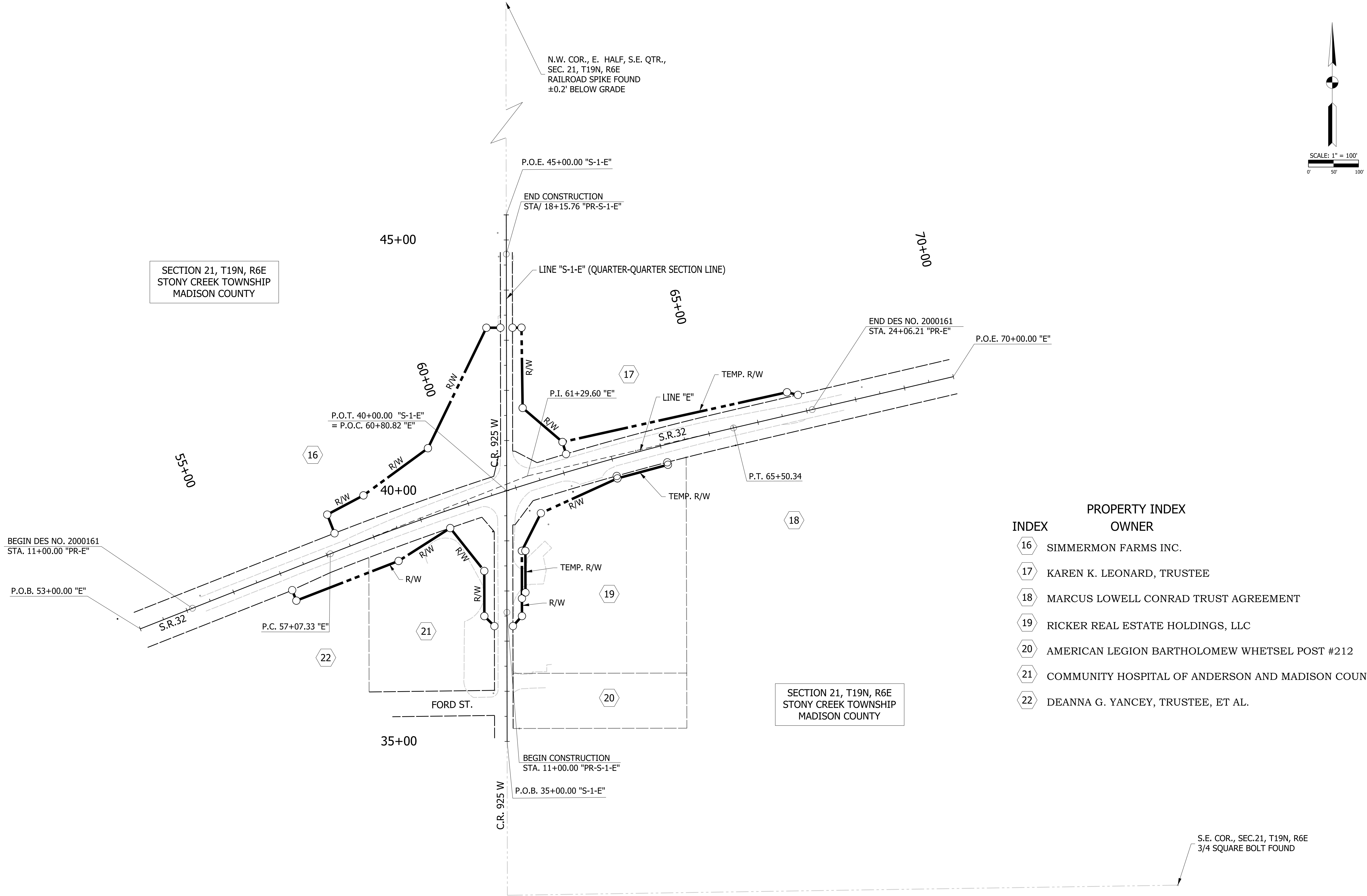
- (K) FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (U) UNDERDRAIN, TYPE 4, 6"
- (F) SIDEWALK, CONCRETE
- (O) COMPACTED AGGREGATE NO. 53
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB AND GUTTER, ROLL CURB, MODIFIED
- (26) SODDING
- (27) MULCHED SEEDING, R

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
LINE "PR-S-1-E"

HORIZONTAL SCALE	BRIDGE FILE		
1/4" = 1'-0"			
VERTICAL SCALE	DESIGNATION		
1/4" = 1'-0"	2000161		
SURVEY BOOK	SHEETS		
	6	of	74
CONTRACT	PROJECT		
R-43476	2000161		

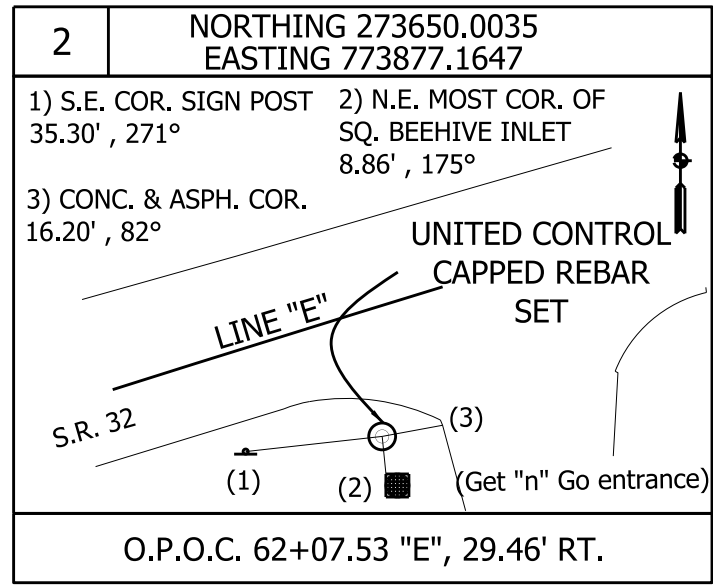


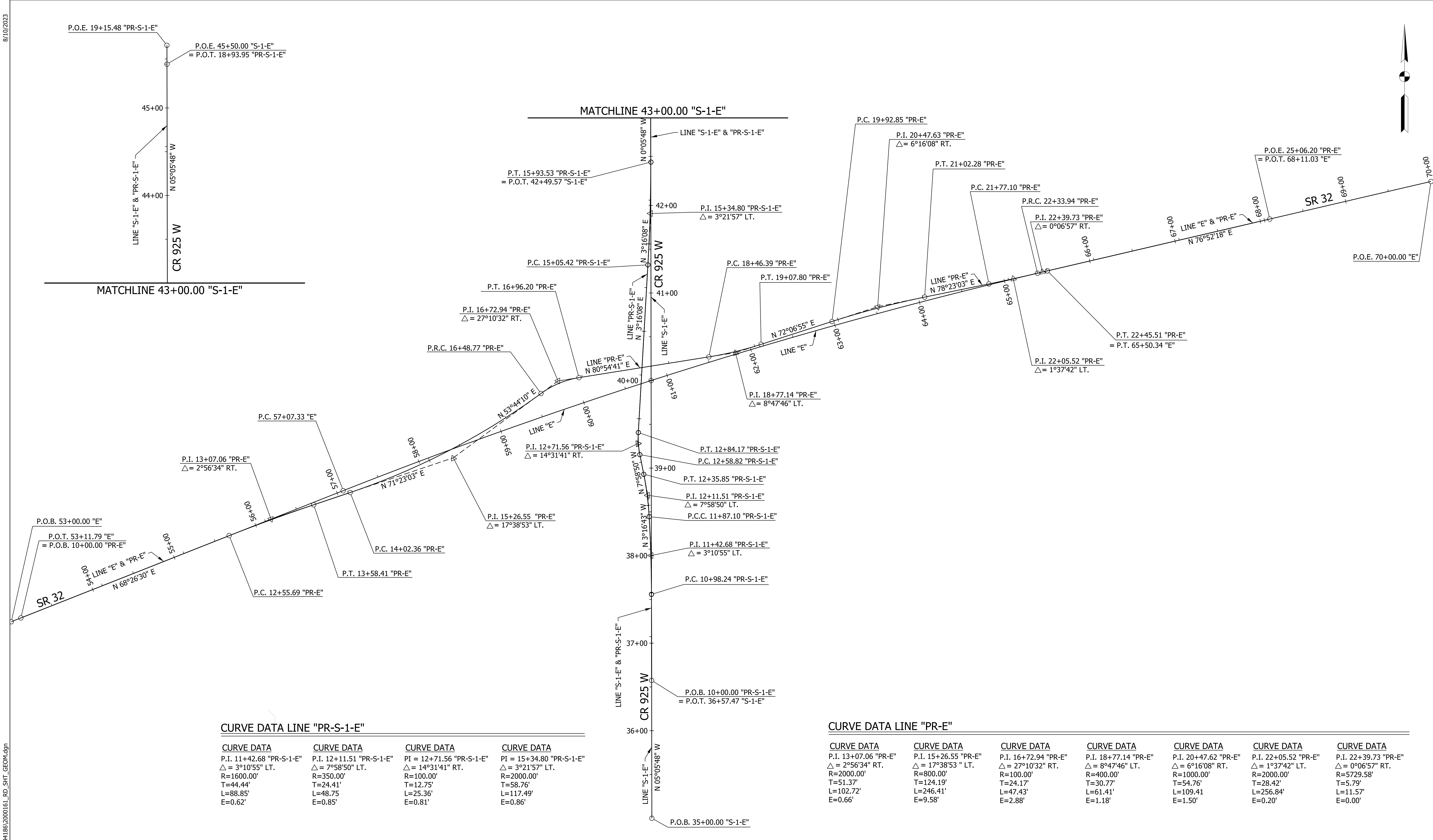
PROPERTY INDEX	
INDEX	OWNER
16	SIMMERMON FARMS INC.
17	KAREN K. LEONARD, TRUSTEE
18	MARCUS LOWELL CONRAD TRUST AGREEMENT
19	RICKER REAL ESTATE HOLDINGS, LLC
20	AMERICAN LEGION BARTHOLOMEW WHETSEL POST #212
21	COMMUNITY HOSPITAL OF ANDERSON AND MADISON COUNTY
22	DEANNA G. YANCEY, TRUSTEE, ET AL.

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA DEPARTMENT OF TRANSPORTATION	
PLAT NO. 1	

HORIZONTAL SCALE 1"=100'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 7 of 74
CONTRACT R-43476	PROJECT 2000161





CURVE DATA LINE "PR-S-1-E"

CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
P.I. 11+42.68 "PR-S-1-E" Δ = 3°10'55" LT. R=1600.00' T=44.44' L=88.85' E=0.62'	P.I. 12+11.51 "PR-S-1-E" Δ = 7°58'50" LT. R=350.00' T=24.41' L=48.75' E=0.85'	PI = 12+71.56 "PR-S-1-E" Δ = 14°31'41" RT. R=100.00' T=12.75' L=25.36' E=0.81'	PI = 15+34.80 "PR-S-1-E" Δ = 3°21'57" LT. R=2000.00' T=58.76' L=117.49' E=0.86'

CURVE DATA LINE "PR-E"

CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA	CURVE DATA
P.I. 13+07.06 "PR-E" Δ = 2°56'34" RT. R=2000.00' T=51.37' L=102.72' E=0.66'	P.I. 15+26.55 "PR-E" Δ = 17°38'53" LT. R=800.00' T=124.19' L=246.41' E=9.58'	P.I. 16+72.94 "PR-E" Δ = 27°10'32" RT. R=100.00' T=24.17' L=47.43' E=2.88'	P.I. 18+77.14 "PR-E" Δ = 8°47'46" LT. R=400.00' T=30.77' L=61.41' E=1.18'	P.I. 20+47.62 "PR-E" Δ = 6°16'08" RT. R=1000.00' T=54.76' L=109.41' E=1.50'	P.I. 22+05.52 "PR-E" Δ = 1°37'42" LT. R=2000.00' T=28.42' L=256.84' E=0.20'

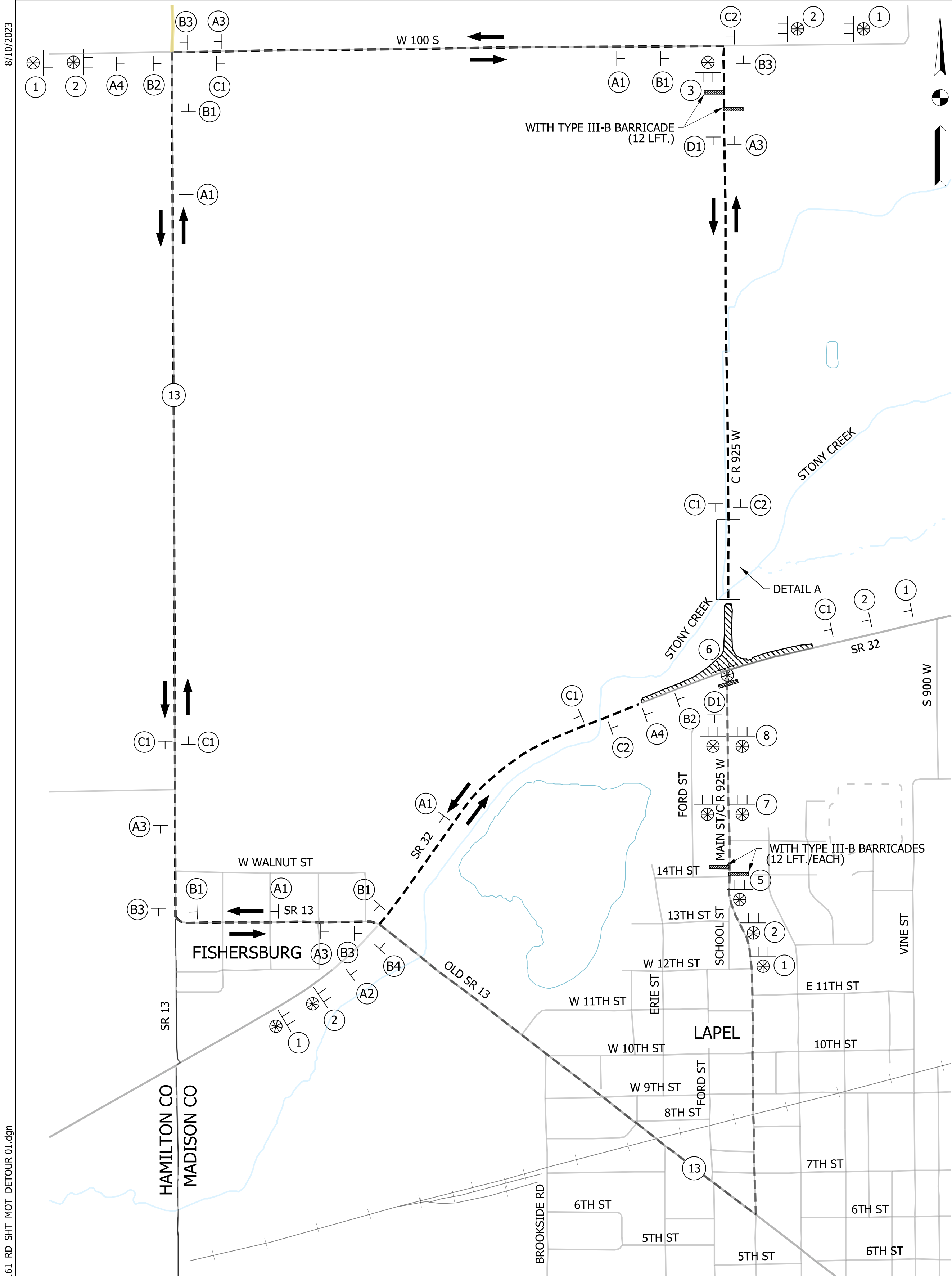
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

INDIANA
DEPARTMENT OF TRANSPORTATION

GEOMETRIC
TIE-UP

HORIZONTAL SCALE 1"=50'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 9 of 74
CONTRACT R-43476	PROJECT 2000161

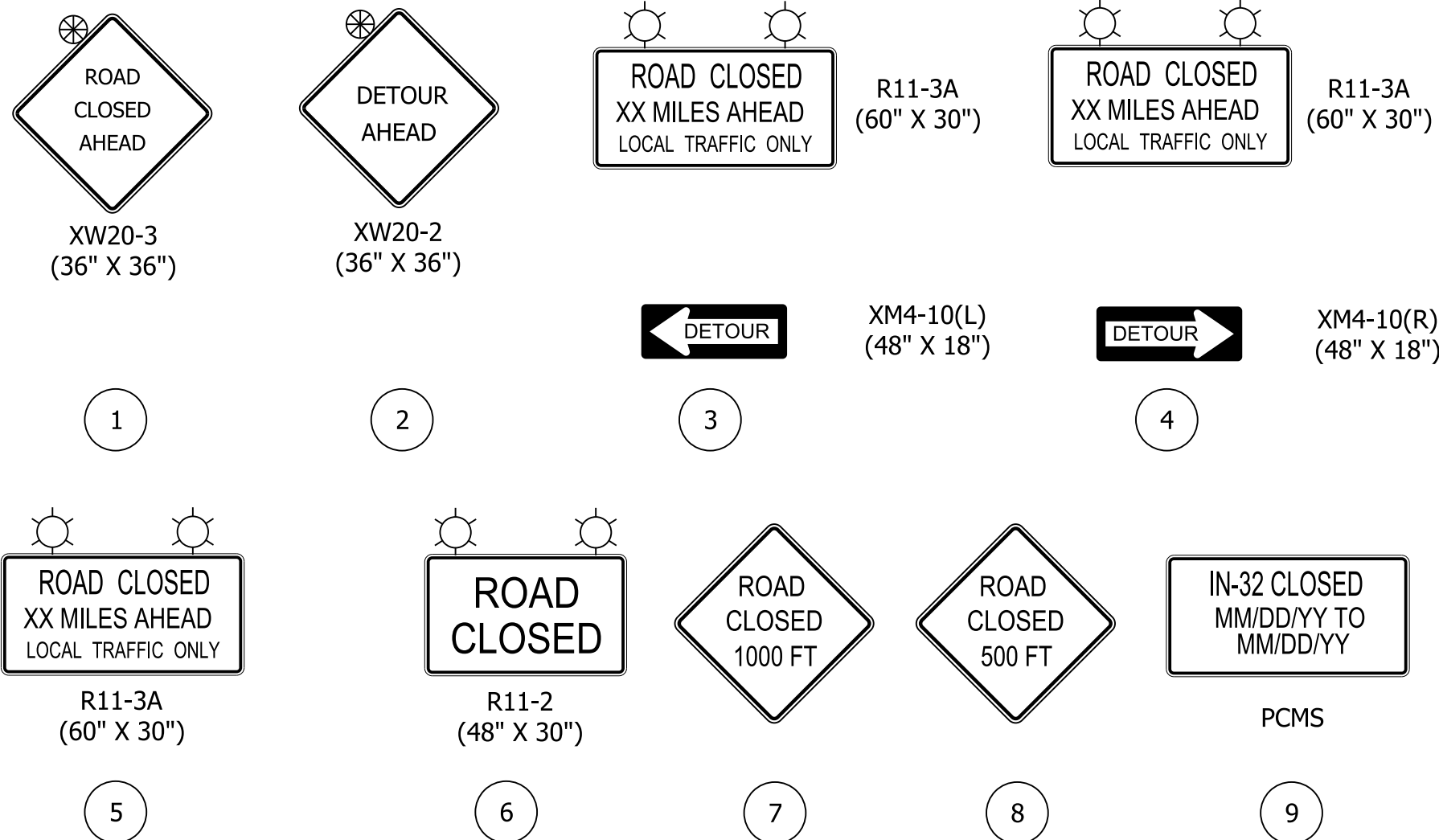
C:\users\public\mjb\pww\3\dm94186\2000161_RD_SHT_MOT_DETOUR 01.dgn



DETOUR PLAN
NOT TO SCALE

- LEGEND**
- DETOUR ROUTE MARKER ASSEMBLY
 - CONSTRUCTION SIGN, TYPE A
 - TYPE "A" CONSTRUCTION WARNING LIGHT
 - TYPE "B" CONSTRUCTION WARNING LIGHT
 - STANDARD BARRICADE, TYPE III-B
 - DETOUR ROUTE
 - CONSTRUCTION AREA
 - DIRECTION OF DETOUR TRAFFIC FLOW

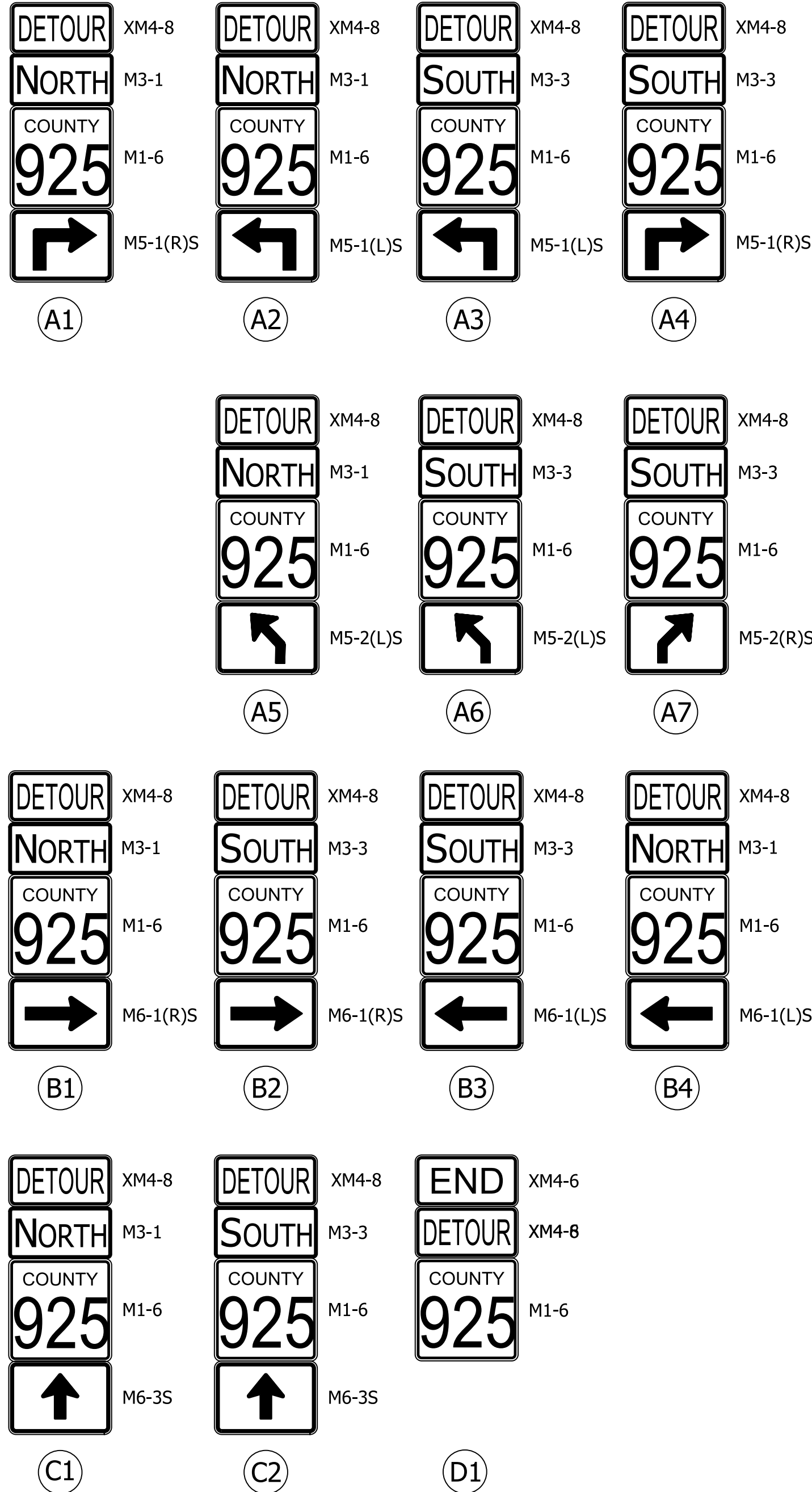
ROAD CLOSURE SIGN ASSEMBLY (RCSA)



MAINTENANCE OF TRAFFIC QUANTITIES

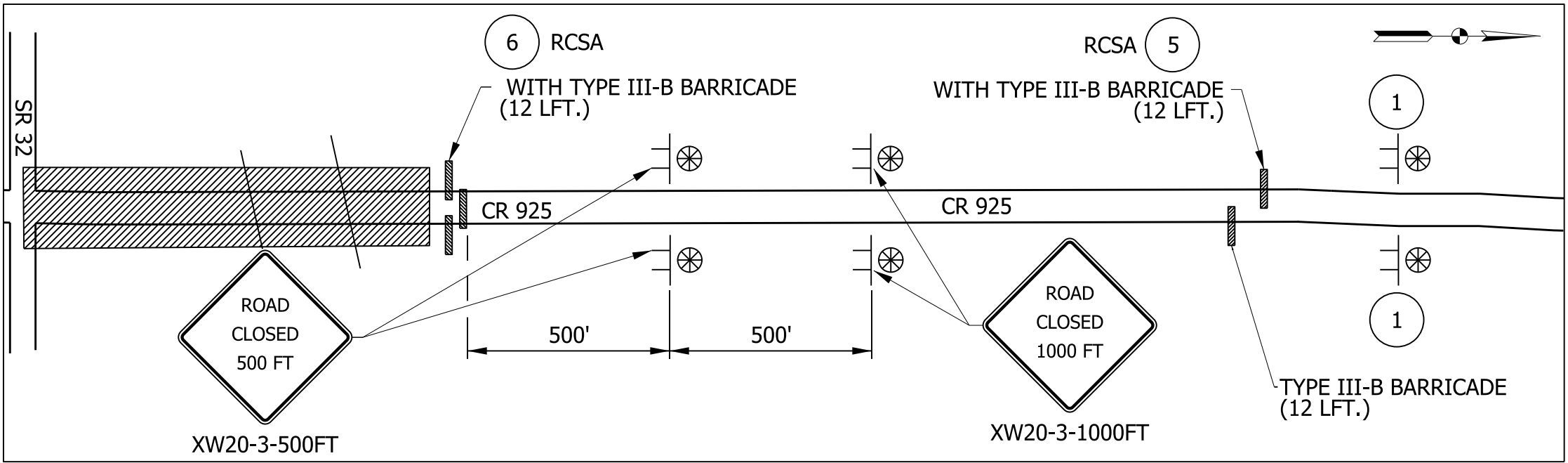
ITEM	UNIT	QUANTITY
MAINTAINING TRAFFIC	LSUM	1
CONSTRUCTION SIGN, TYPE A	EACH	7
ROAD CLOSURE SIGN ASSEMBLY	EACH	2
DETOUR ROUTE MARKER ASSEMBLY	EACH	18
BARRICADE, III-B	LFT	48 - LFT.

DETOUR ROUTE MARKER ASSEMBLIES



NOTES:

- POSTED SPEED LIMIT ON SR 32 IS 45 MPH.
- ACCESS TO PROPERTIES TO BE MAINTAINED AT ALL TIMES.
- REFER TO INDOT STANDARD DRAWINGS E801-TCDT, E 801-TCDV, E801-TCLG AND E 801-TCSN FOR FURTHER DETAILS OF TRAFFIC CONTROL SIGNS AND PLACEMENT.
- CONTRACTOR SHALL PROVIDE CONSTRUCTION SCHEDULE TO EMERGENCY SERVICES, RESIDENTS ALONG PROJECT LIMITS AND NEARBY SCHOOLS WITH BUSING ROUTES THROUGH THE PROJECT LIMITS.
- CONSTRUCTION SIGN PLACEMENT SHALL BE PER THE INDIANA MUTCD.



DETAIL A
NOT TO SCALE

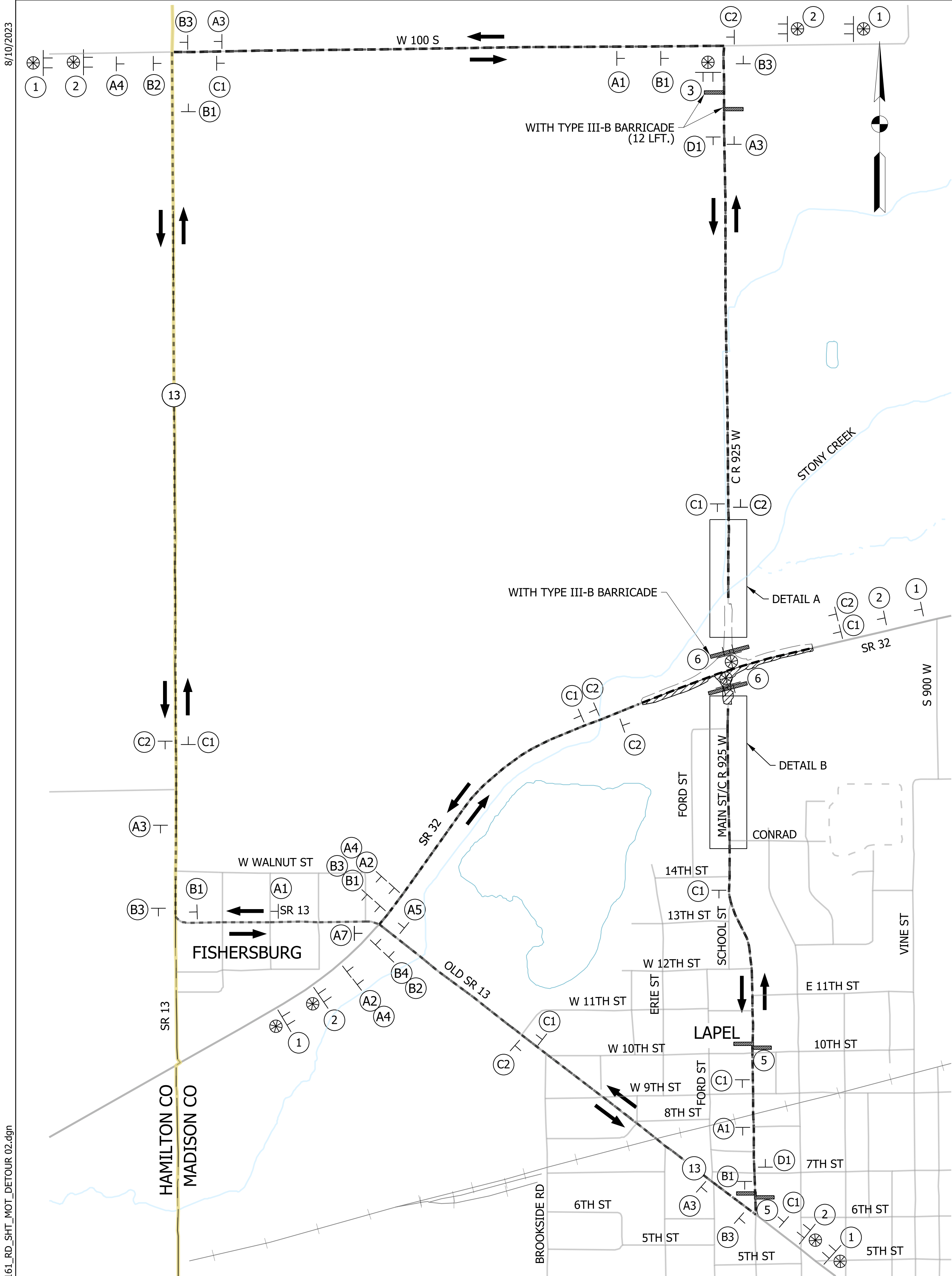
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
DETOUR ROUTE - CR 925 (MOT PHASE I)

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	2000161
SURVEY BOOK	SHEETS
	11 of 74
CONTRACT R-43476	PROJECT 2000161

c:\users\public\mjbipw\3\dm94186\2000161_RD_SHT_MOT_DETOUR 02.dgn

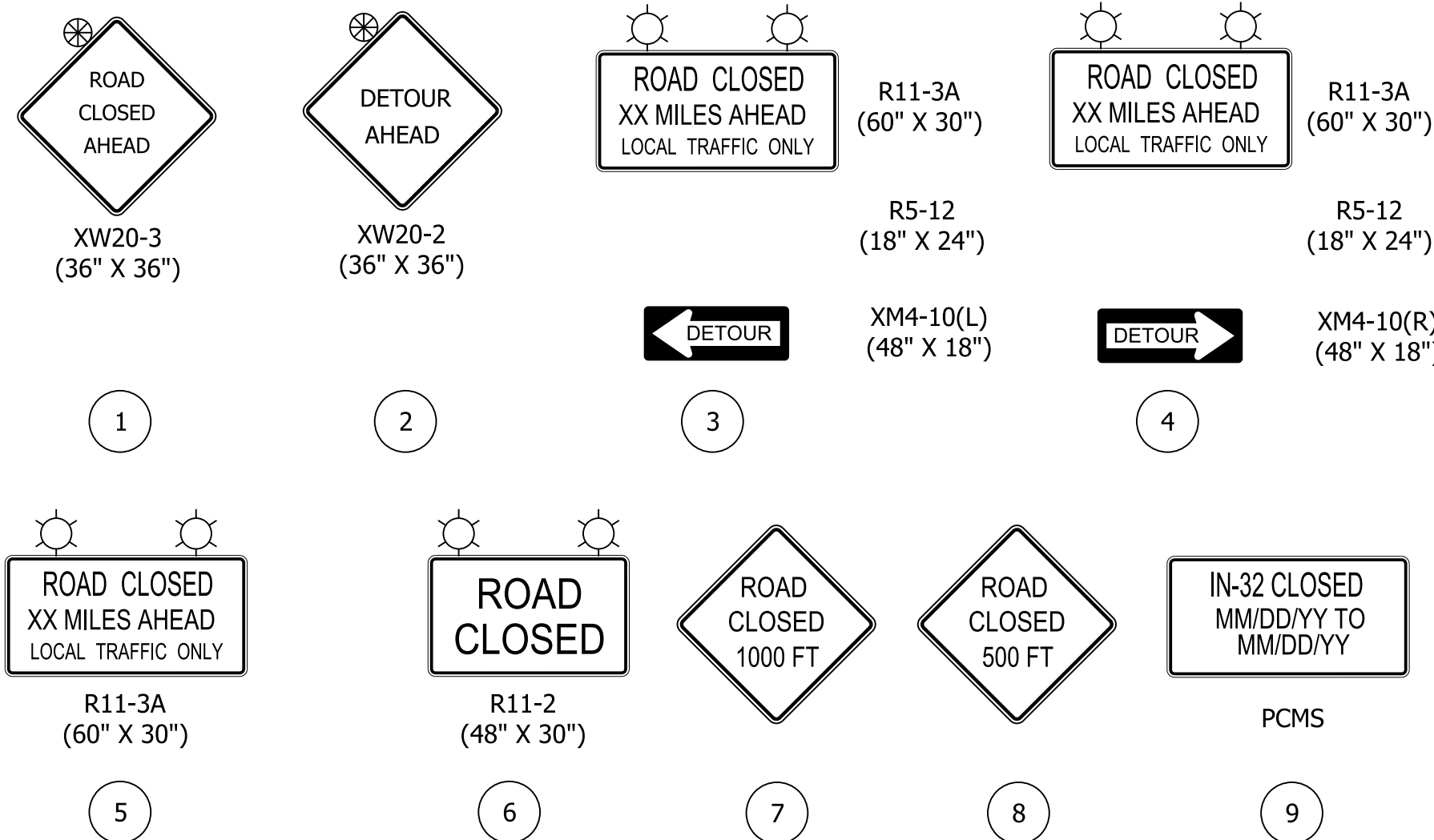


DETOUR PLAN
NOT TO SCALE

- LEGEND**

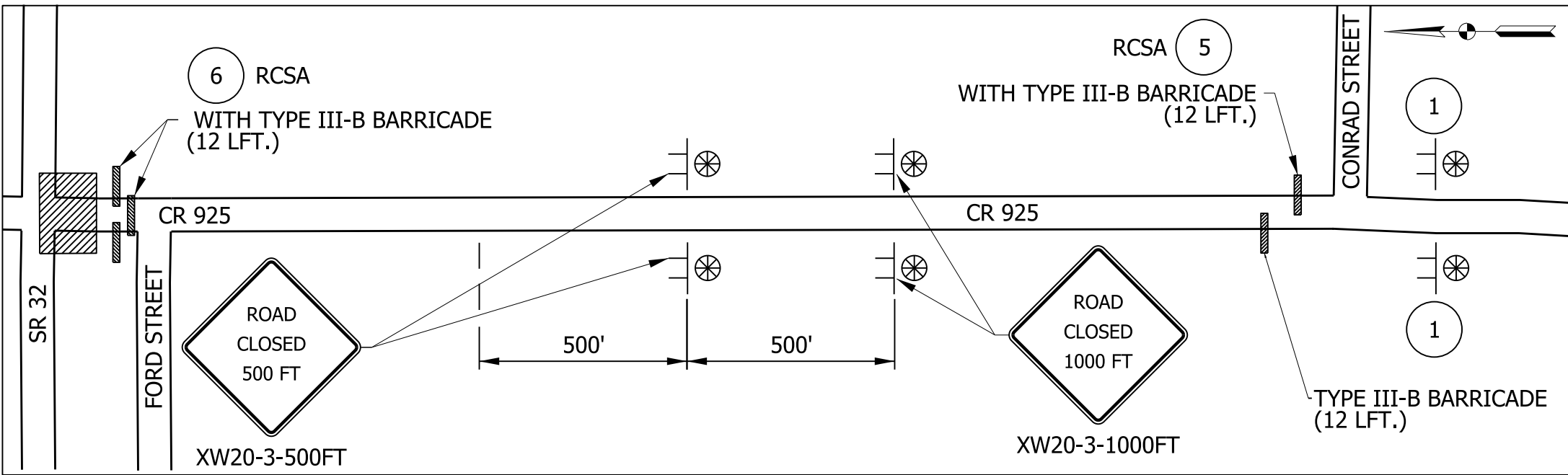
 - DETOUR ROUTE MARKER ASSEMBLY
 - CONSTRUCTION SIGN, TYPE A
 - TYPE "A" CONSTRUCTION WARNING LIGHT
 - TYPE "B" CONSTRUCTION WARNING LIGHT
- STANDARD BARRICADE, TYPE III-B
 - DETOUR ROUTE
 - CONSTRUCTION AREA
 - DIRECTION OF DETOUR TRAFFIC FLOW

ROAD CLOSURE SIGN ASSEMBLY (RCSA)

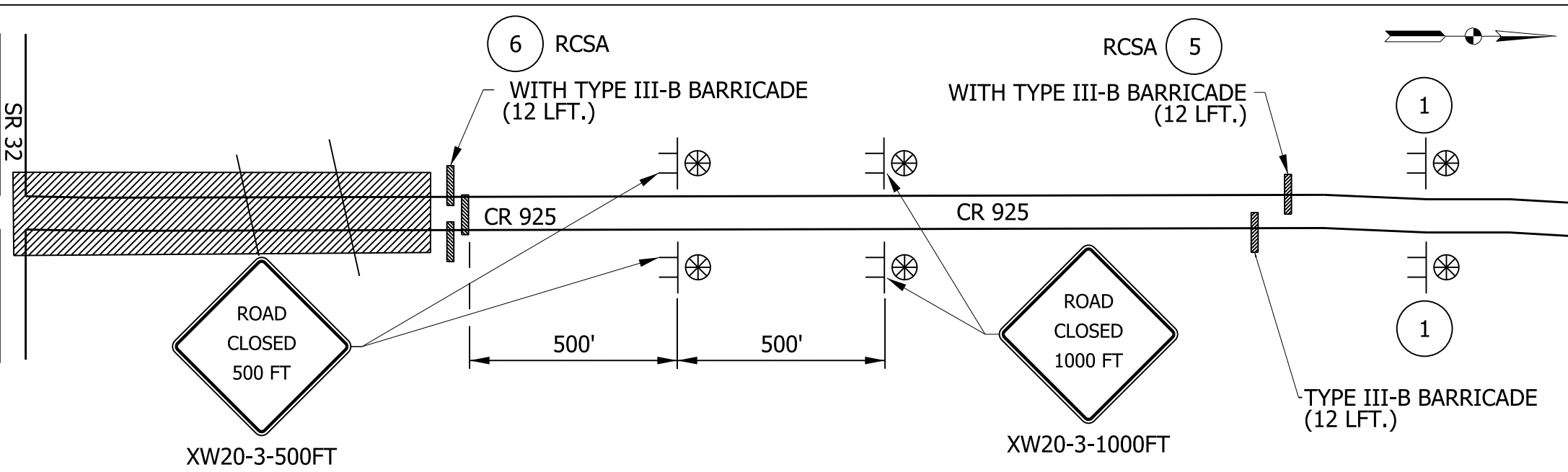


MAINTENANCE OF TRAFFIC QUANTITIES

ITEM	UNIT	QUANTITY
MAINTAINING TRAFFIC	LSUM	1
CONSTRUCTION SIGN, TYPE A	EACH	13
ROAD CLOSURE SIGN ASSEMBLY	EACH	4
DETOUR ROUTE MARKER ASSEMBLY	EACH	30
BARRICADE, III-B	LFT	80 - LFT.

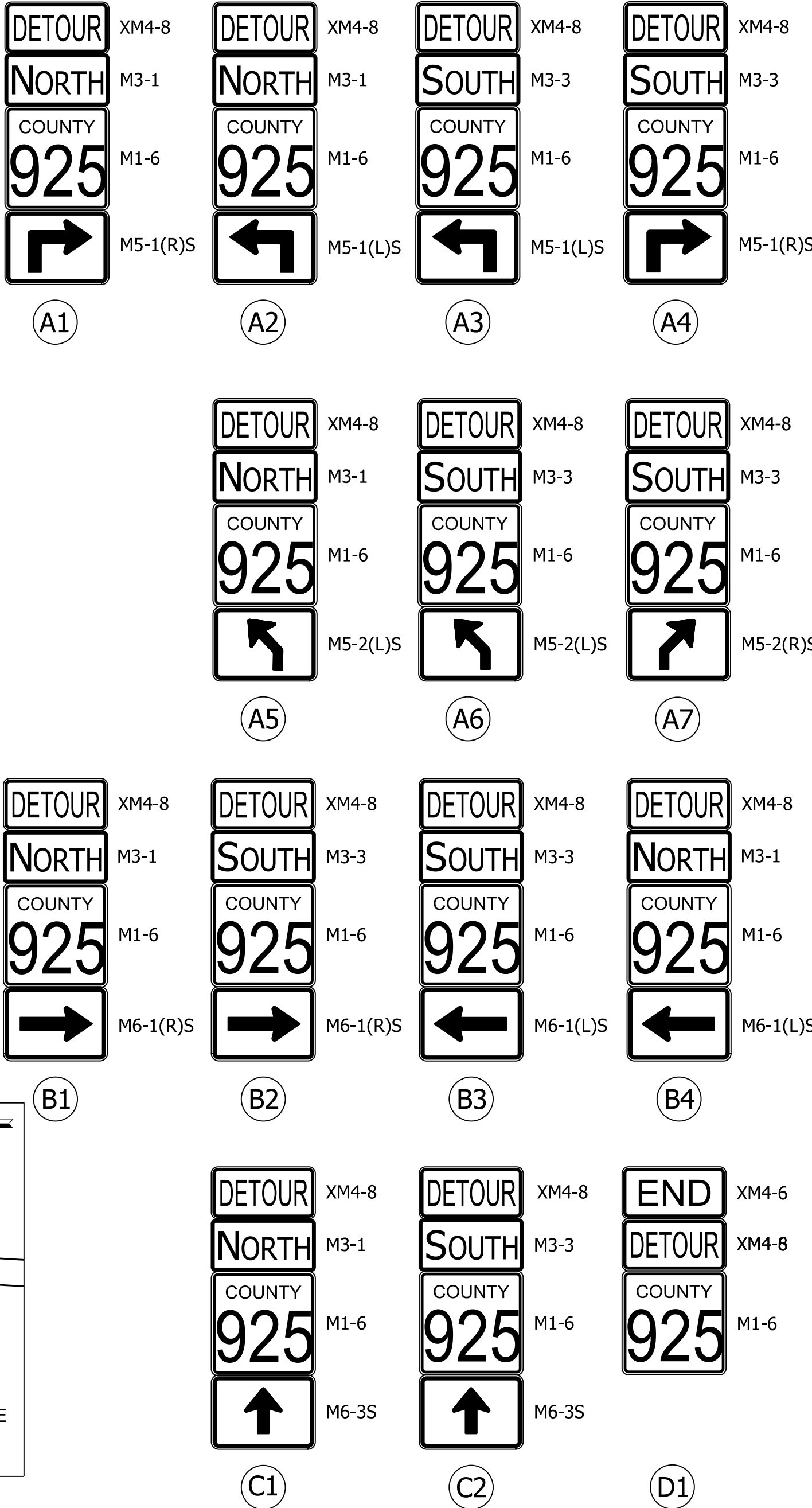


DETAIL A
NOT TO SCALE



DETAIL B
NOT TO SCALE

DETOUR ROUTE MARKER ASSEMBLIES



NOTES:

- POSTED SPEED LIMIT ON SR 32 IS 45 MPH.
- ACCESS TO PROPERTIES TO BE MAINTAINED AT ALL TIMES.
- REFER TO INDOT STANDARD DRAWINGS E801-TCDT, E 801-TCDV, E801-TCLG AND E 801-TCSN FOR FURTHER DETAILS OF TRAFFIC CONTROL SIGNS AND PLACEMENT.
- CONTRACTOR SHALL PROVIDE CONSTRUCTION SCHEDULE TO EMERGENCY SERVICES, RESIDENTS ALONG PROJECT LIMITS AND NEARBY SCHOOLS WITH BUSING ROUTES THROUGH THE PROJECT LIMITS.
- CONSTRUCTION SIGN PLACEMENT SHALL BE PER THE INDIANA MUTCD.

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
DETOUR ROUTE - CR925 (MOT PHASE II)

HORIZONTAL SCALE	BRIDGE FILE
AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	2000161
SURVEY BOOK	SHEETS
	12 of 74
CONTRACT R-43476	PROJECT 2000161

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

NOTES:

PRE-PHASE 1:

1. TEMPORARY PAVEMENT WILL BE INSTALLED
ALONG THE SOUTH SIDE OF SR 32 FOR USE IN PHASE I UTILIZING FLAGGERS

PHASE 1:

2. SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING
A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.

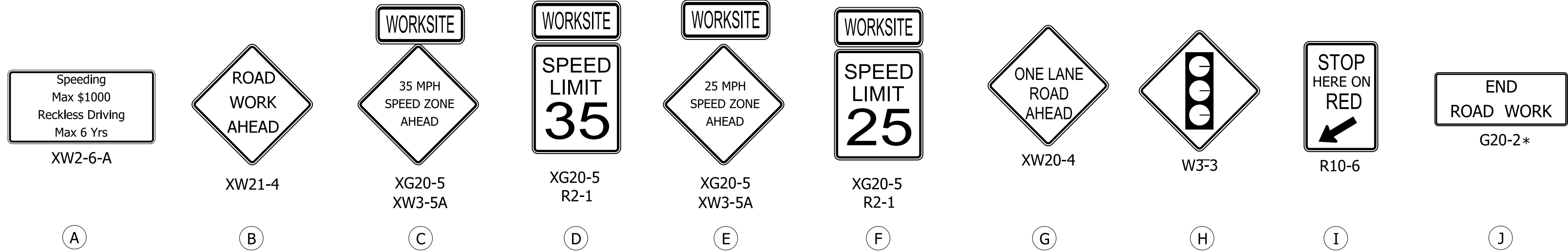
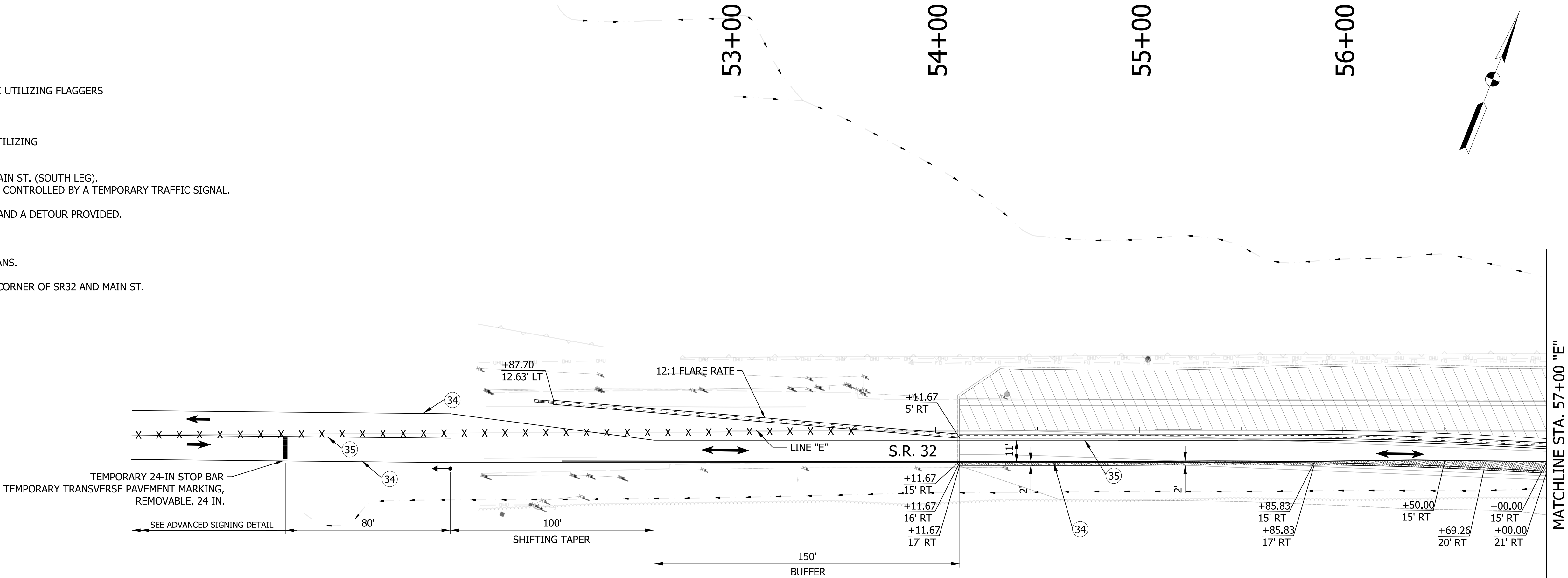
4. TWO-WAY TRAFFIC WILL BE MAINTAINED ALONG MAIN ST. (SOUTH LEG).
ACCESS TO EB AND WB SR 32 FROM MAIN ST. WILL BE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL.

5. CR 925 (NORTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.

6. CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.

7. DRUM SPACING TO BE 20 FEET OR AS NOTED IN PLANS.

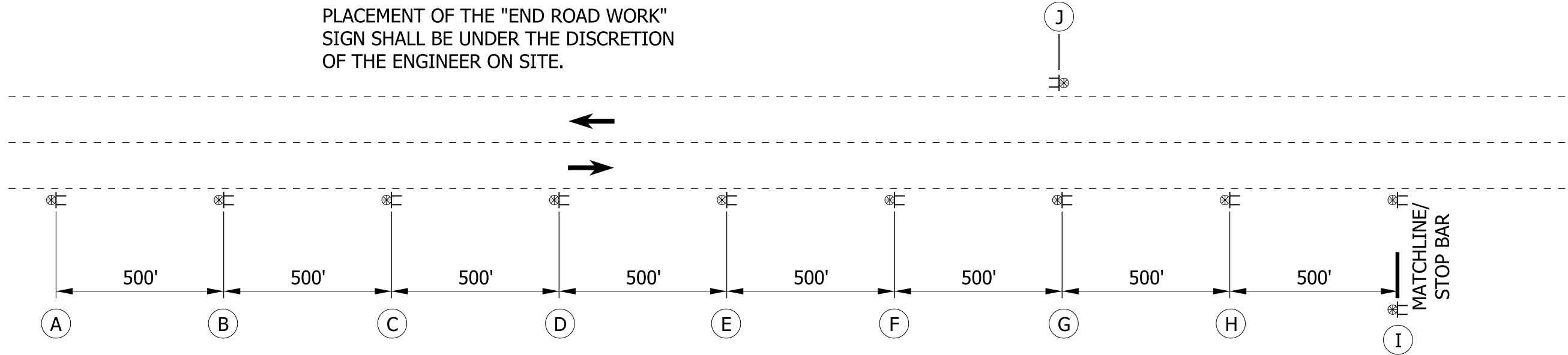
8. ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR32 AND MAIN ST.
WILL BE FROM MAIN ST. ONLY.



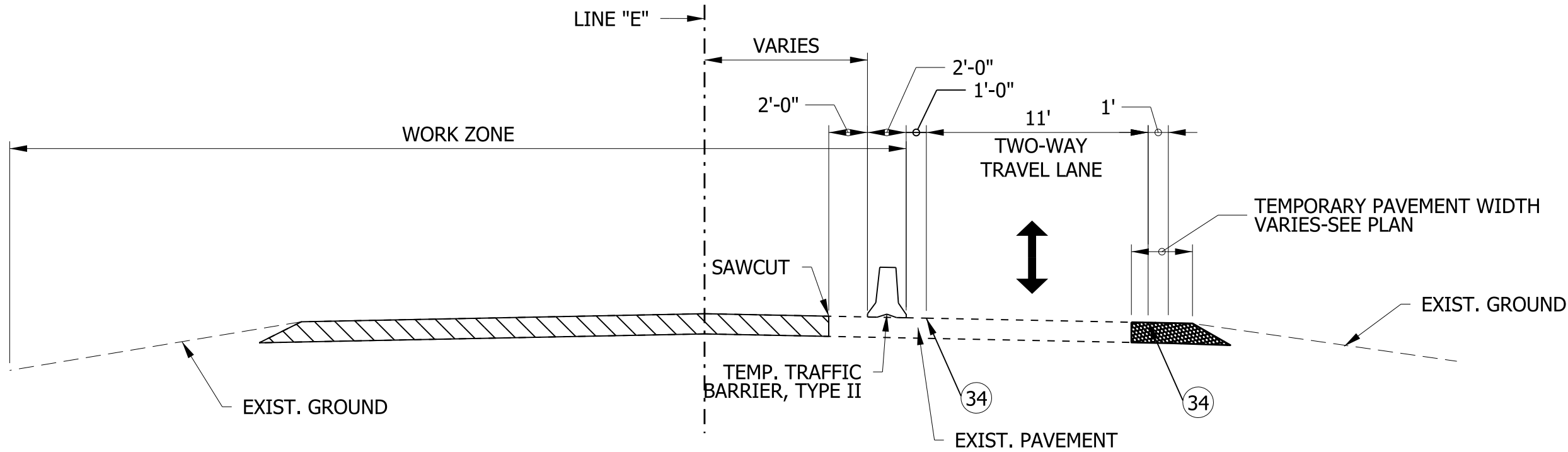
LEGEND

- (34) TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- (35) TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

PLACEMENT OF THE "END ROAD WORK"
SIGN SHALL BE UNDER THE DISCRETION
OF THE ENGINEER ON SITE.



ADVANCED SIGNING DETAIL
(NOT TO SCALE)



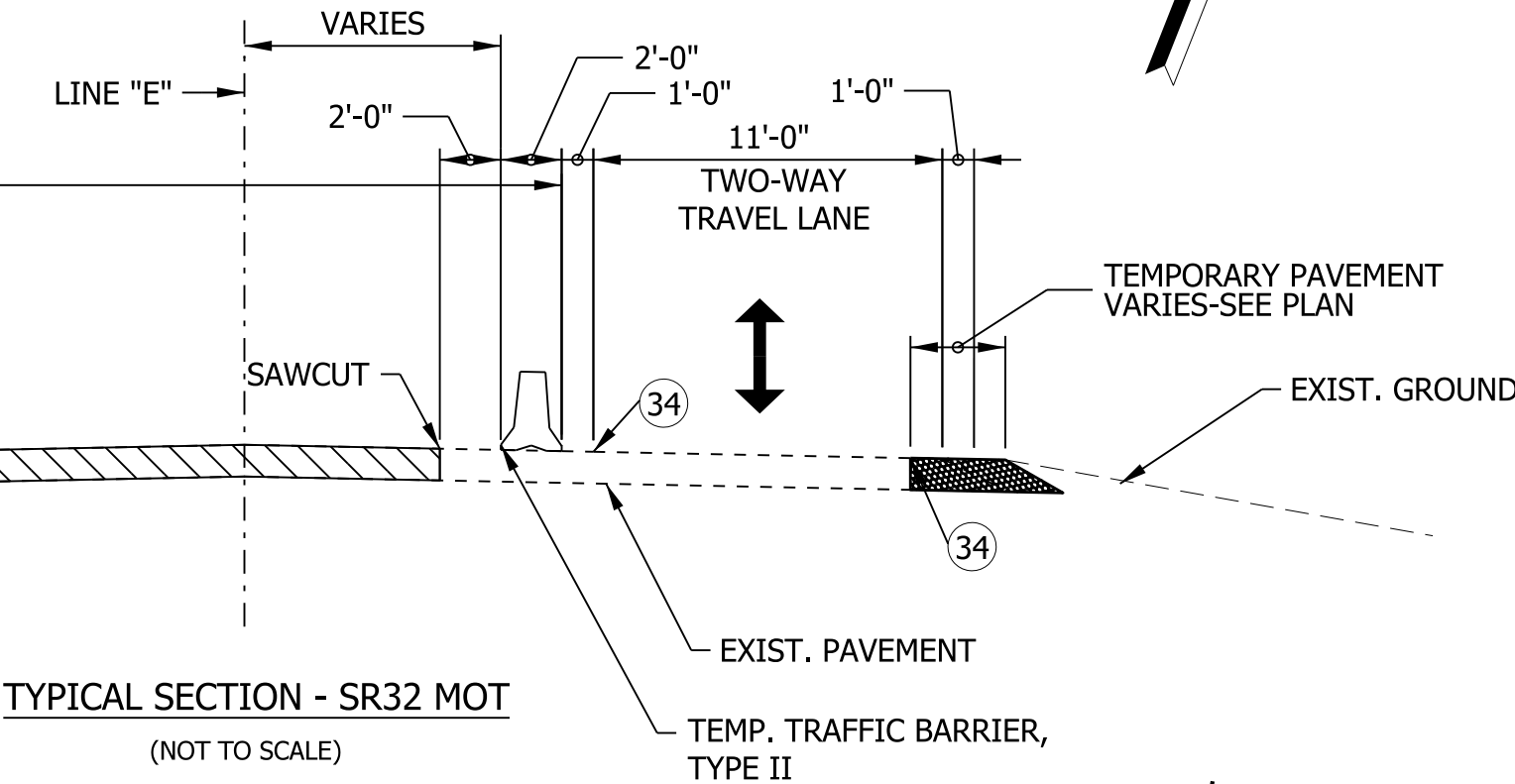
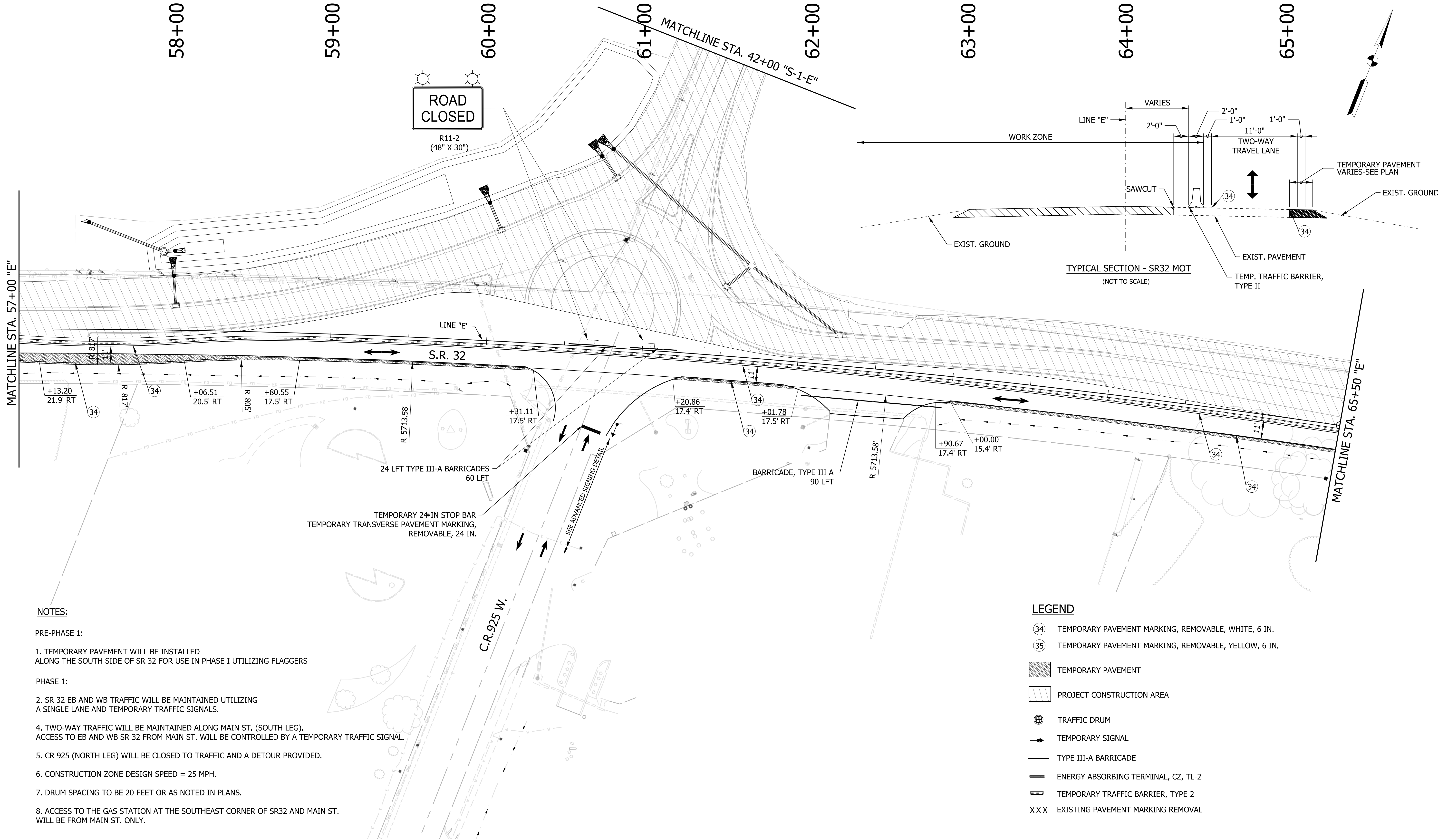
TYPICAL SECTION - SR32 MOT
(NOT TO SCALE)

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE I
LINE "E"

HORIZONTAL SCALE	BRIDGE FILE	
1"=30'		
VERTICAL SCALE	DESIGNATION	
N/A	2000161	
SURVEY BOOK	SHEETS	
	13	of 74
CONTRACT	PROJECT	
R-43476	2000161	



NOTES:

- PRE-PHASE 1:
- TEMPORARY PAVEMENT WILL BE INSTALLED ALONG THE SOUTH SIDE OF SR 32 FOR USE IN PHASE I UTILIZING FLAGGERS
- PHASE 1:
- SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
 - TWO-WAY TRAFFIC WILL BE MAINTAINED ALONG MAIN ST. (SOUTH LEG). ACCESS TO EB AND WB SR 32 FROM MAIN ST. WILL BE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL.
 - CR 925 (NORTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
 - CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
 - DRUM SPACING TO BE 20 FEET OR AS NOTED IN PLANS.
 - ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY.

LEGEND

- (34) TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- (35) TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

RECOMMENDED FOR APPROVAL _____	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA DEPARTMENT OF TRANSPORTATION	
MOT PHASE 1 LINE "E"	

HORIZONTAL SCALE 1"=30'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
CONTRACT R-43476	14 of	74
	PROJECT 2000161	

66+00

67+00

68+00

69+00

70+00

LEGEND

- 34 TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- 35 TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

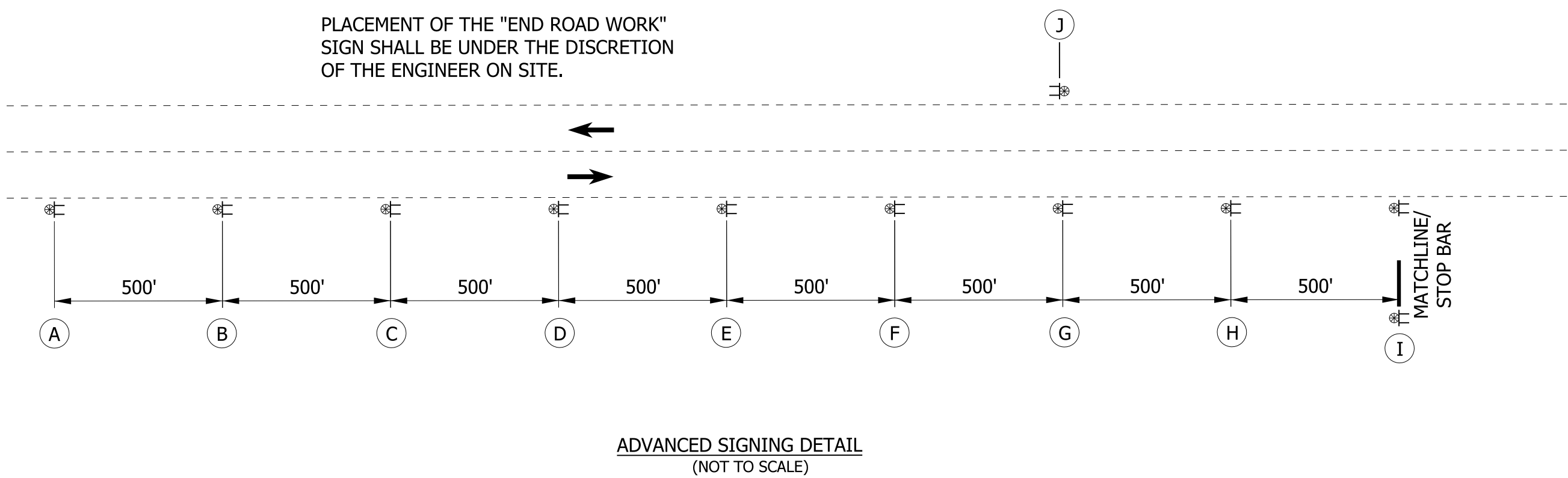
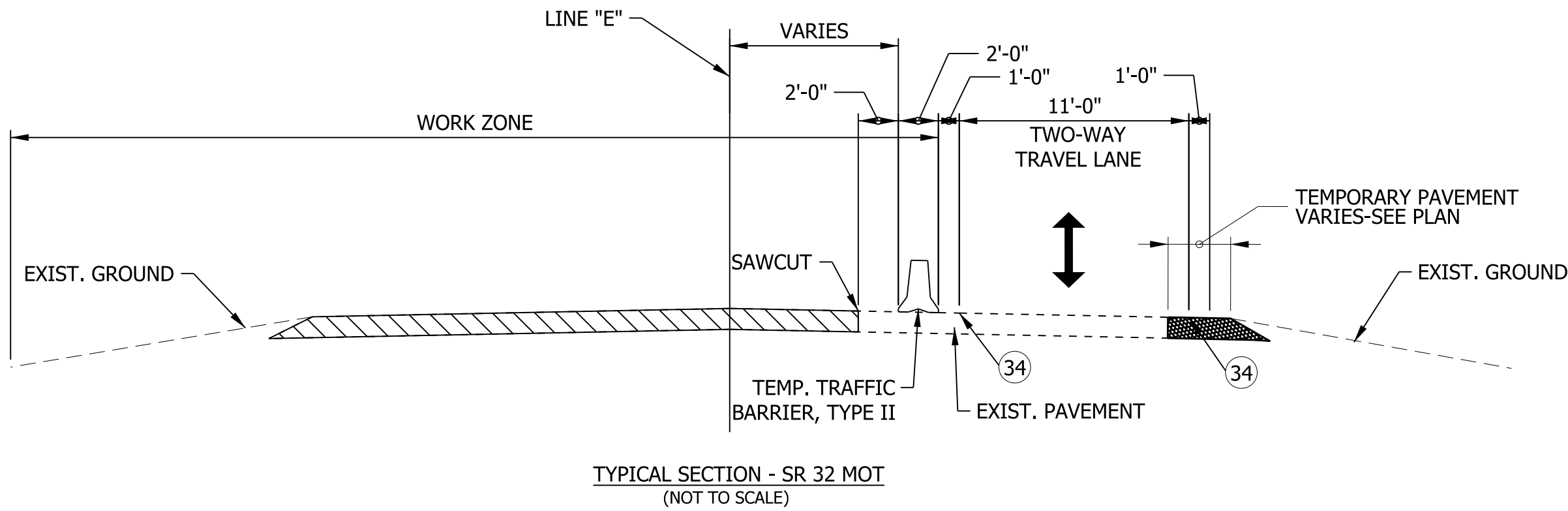
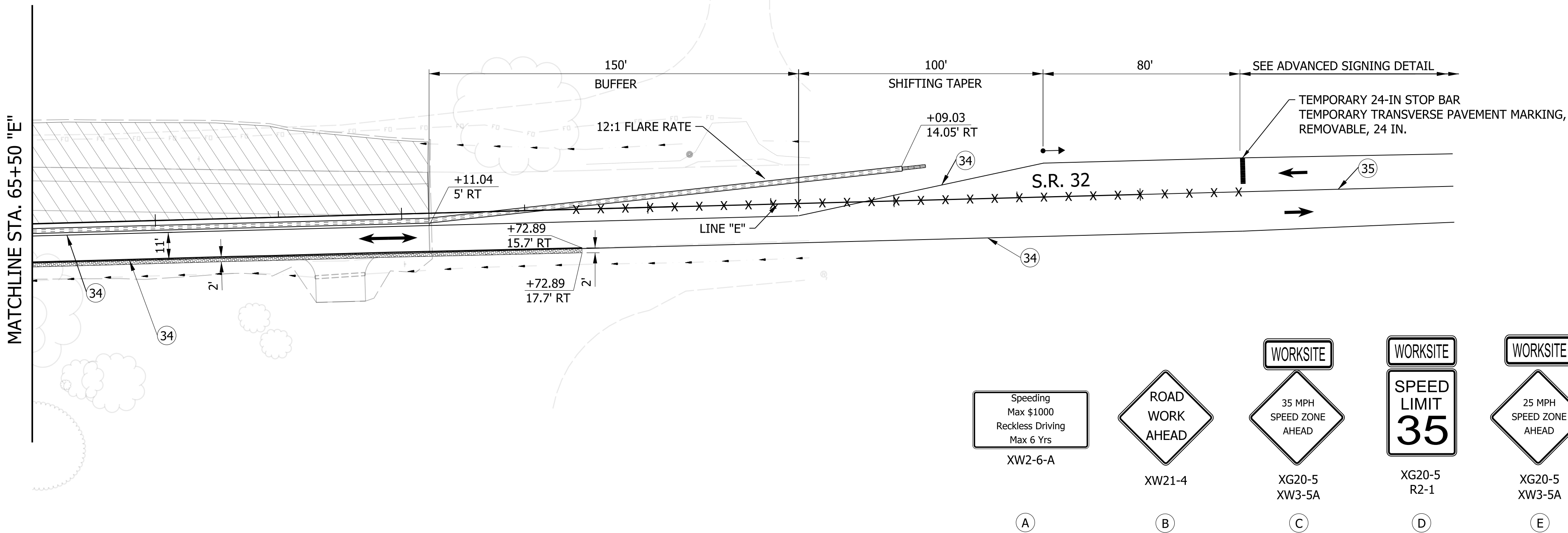
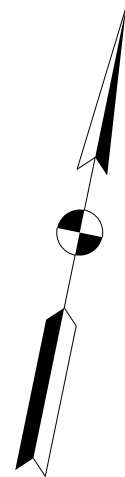
NOTES:

PRE-PHASE 1:

1. TEMPORARY PAVEMENT WILL BE INSTALLED ALONG THE SOUTH SIDE OF SR 32 FOR USE IN PHASE 1 UTILIZING FLAGGERS

PHASE 1:

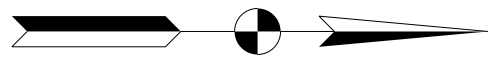
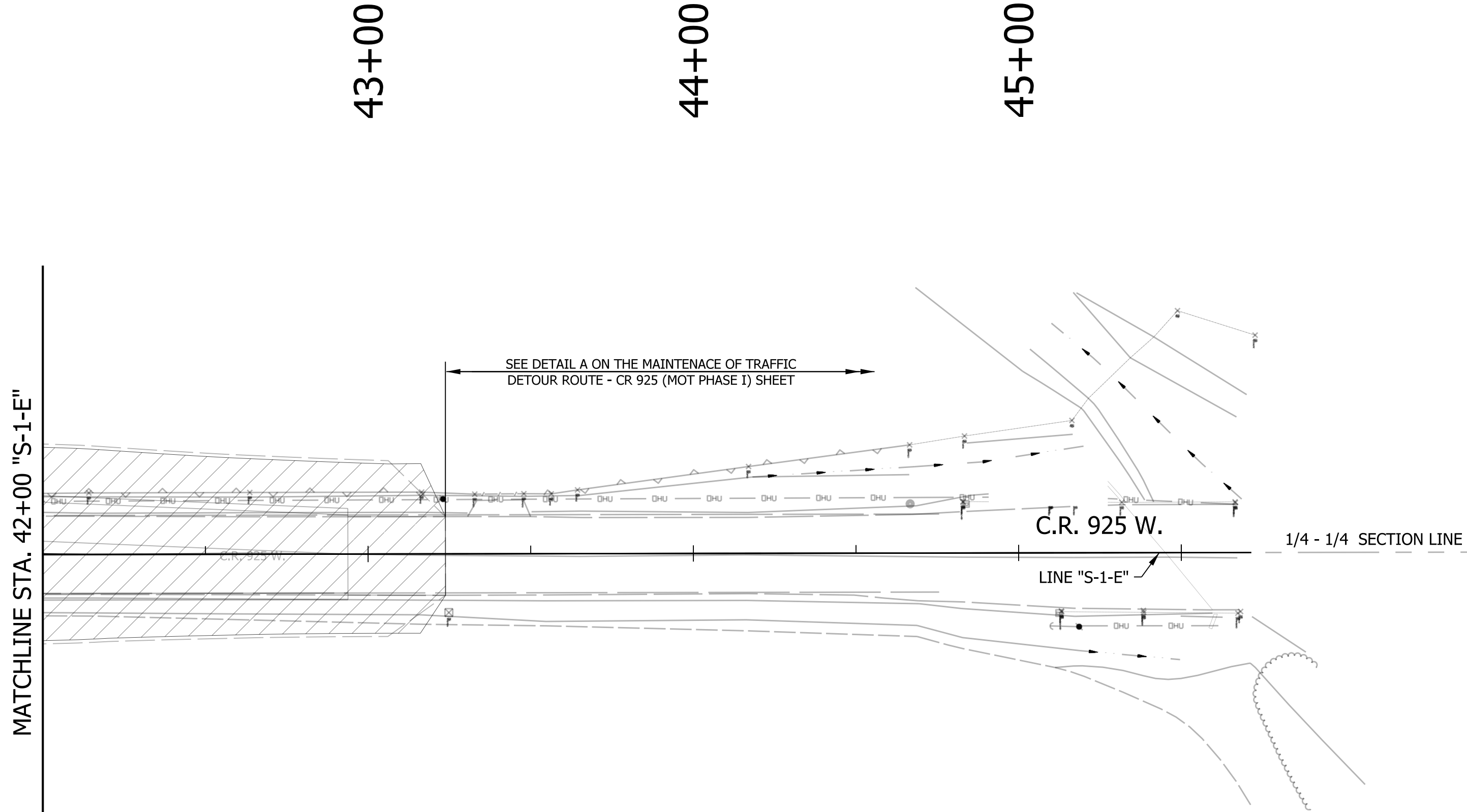
- 2. SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
- 4. TWO-WAY TRAFFIC WILL BE MAINTAINED ALONG MAIN ST. (SOUTH LEG). ACCESS TO EB AND WB SR 32 FROM MAIN ST. WILL BE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL.
- 5. CR 925 (NORTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
- 6. CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
- 7. DRUM SPACING TO BE 20 FEET OR AS NOTED IN PLANS.
- 8. ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY.



RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA DEPARTMENT OF TRANSPORTATION	
MOT PHASE I LINE "E"	

HORIZONTAL SCALE	BRIDGE FILE		
1"=30'			
VERTICAL SCALE	DESIGNATION		
N/A	2000161		
SURVEY BOOK	SHEETS		
	15	of	74
CONTRACT	PROJECT		
R-43476	2000161		



LEGEND

- ③4 TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- ③5 TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

NOTES:

- PRE-PHASE 1:
1. TEMPORARY PAVEMENT WILL BE INSTALLED ALONG THE SOUTH SIDE OF SR 32 FOR USE IN PHASE I UTILIZING FLAGGERS
- PHASE 1:
2. SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
 4. TWO-WAY TRAFFIC WILL BE MAINTAINED ALONG MAIN ST. (SOUTH LEG). ACCESS TO EB AND WB SR 32 FROM MAIN ST. WILL BE CONTROLLED BY A TEMPORARY TRAFFIC SIGNAL.
 5. CR 925 (NORTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
 6. CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
 7. DRUM SPACING TO BE 20 FEET OR AS NOTED IN PLANS.
 8. ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY.

RECOMMENDED FOR APPROVAL _____	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE 1
LINE "S-1-E"

HORIZONTAL SCALE		BRIDGE FILE	
1"=30'			
VERTICAL SCALE		DESIGNATION	
N/A		2000161	
SURVEY BOOK		SHEETS	
		16 of 74	
CONTRACT		PROJECT	
R-43476		2000161	

NOTES:

PHASE 2:

1. SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
2. CR 925 W/MAIN ST. (NORTH AND SOUTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
3. CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
4. ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR 32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY

LEGEND

- (34) TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- (35) TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

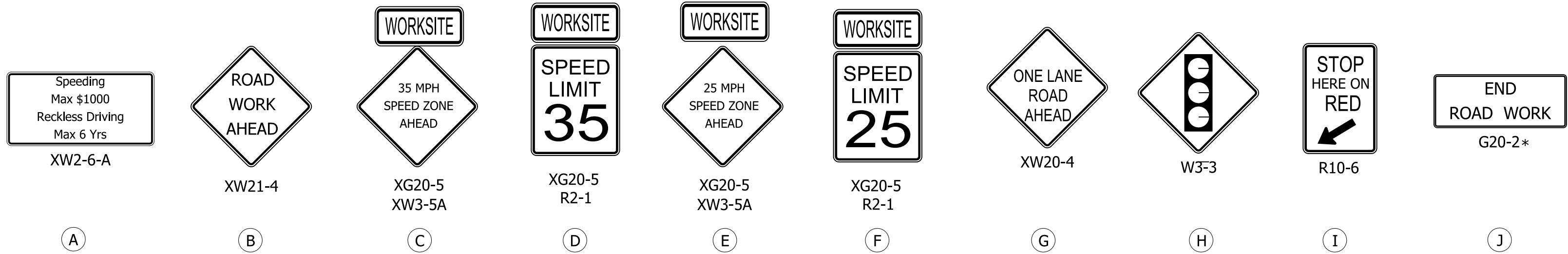
TEMPORARY 24-IN STOP BAR
TEMPORARY TRANSVERSE PAVEMENT MARKING,
REMOVABLE, 24 IN.

SEE ADVANCED SIGNING DETAIL

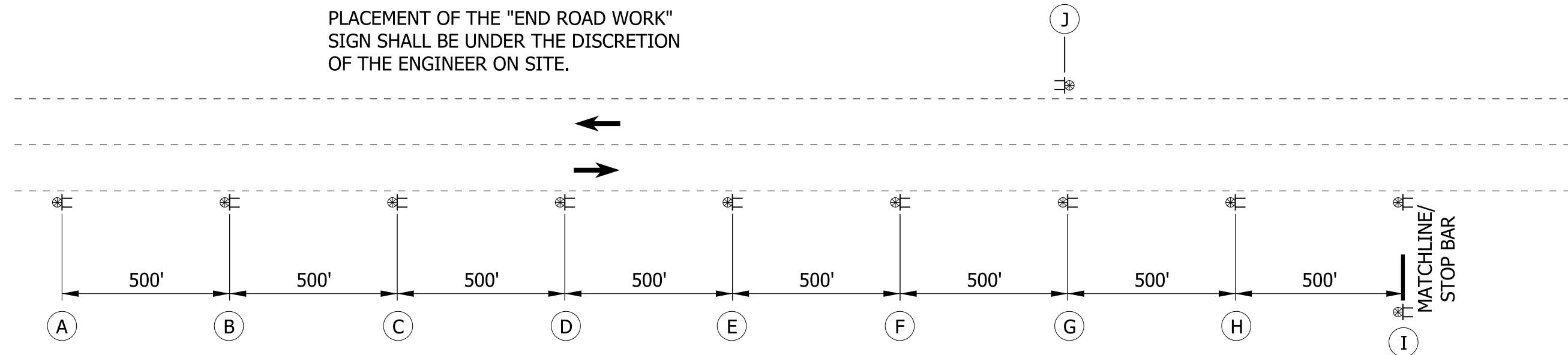
SHIFTING TAPER

BUFFER

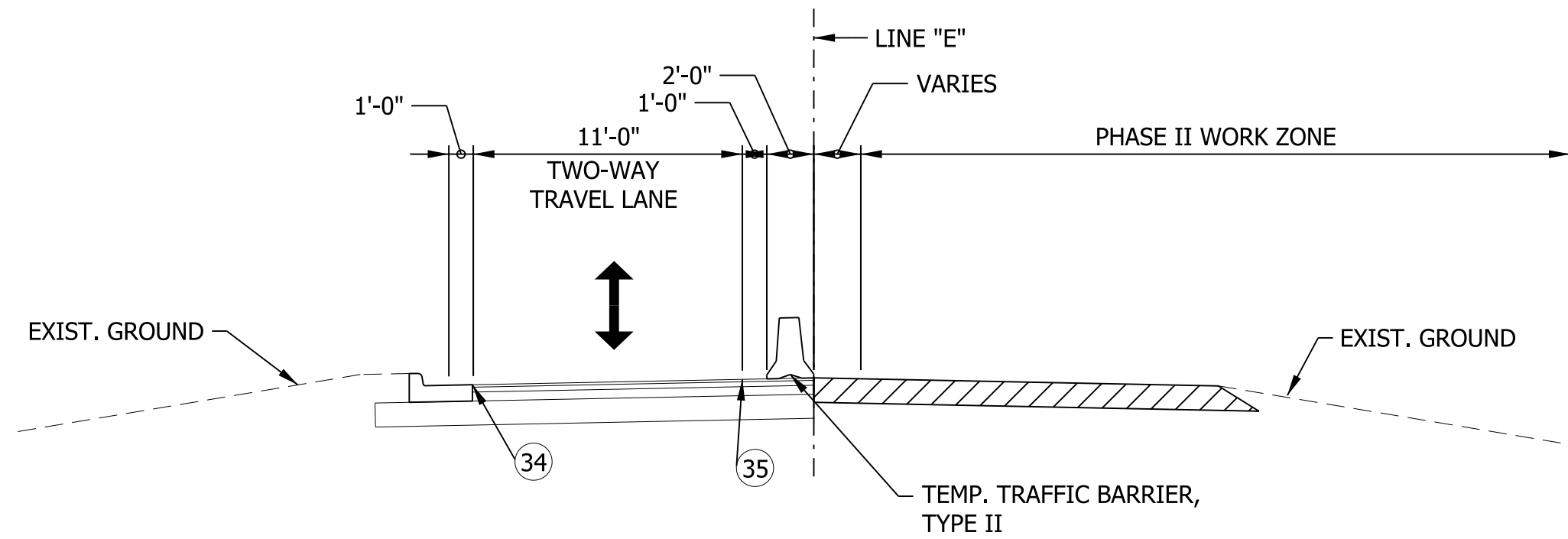
MATCHLINE STA. 57+00 "E"



PLACEMENT OF THE "END ROAD WORK"
SIGN SHALL BE UNDER THE DISCRETION
OF THE ENGINEER ON SITE.



ADVANCED SIGNING DETAIL
(NOT TO SCALE)



TYPICAL SECTION - SR32 MOT
(NOT TO SCALE)

MAINTENANCE OF TRAFFIC SPEED LIMIT = 25 MPH

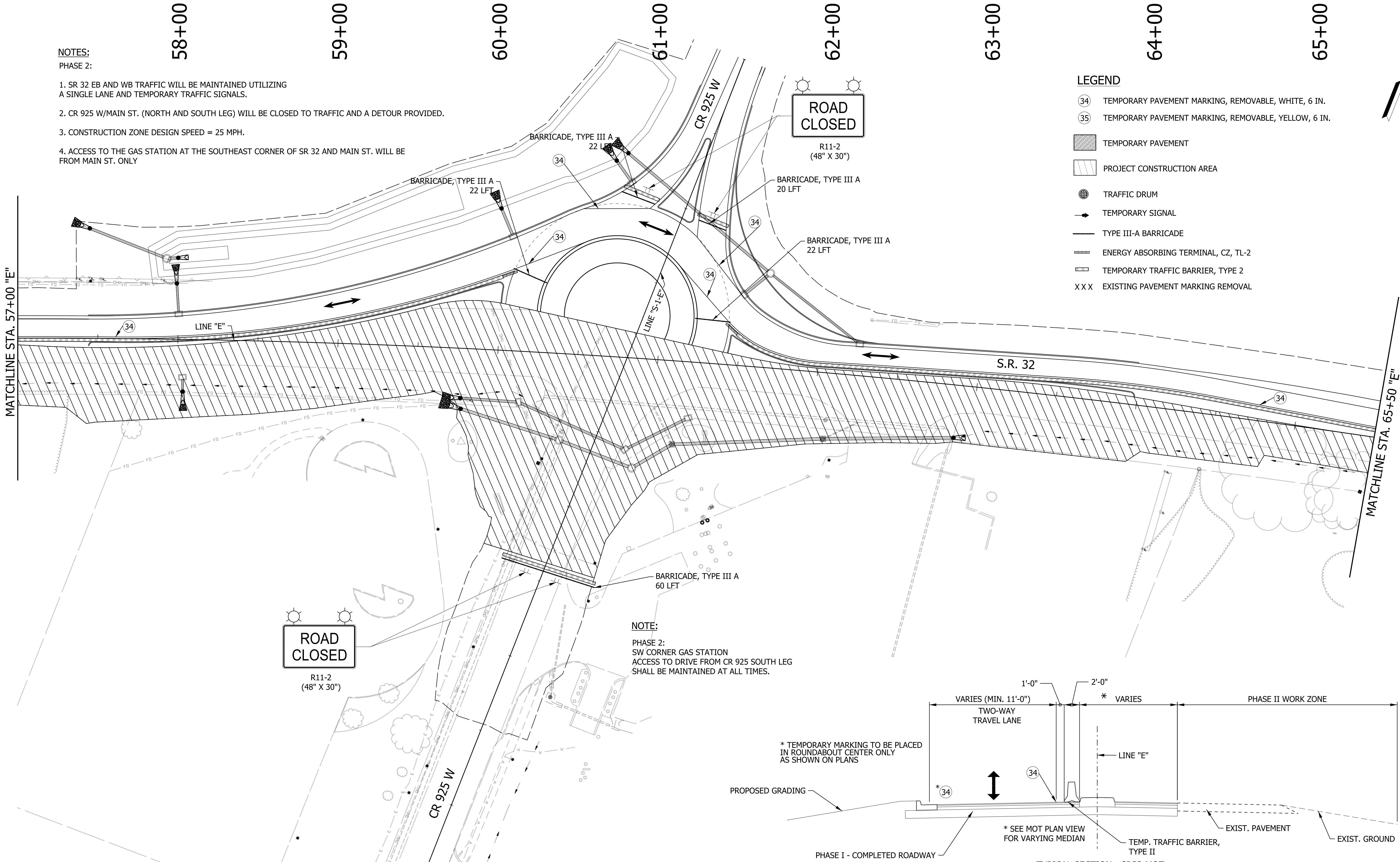
RECOMMENDED FOR APPROVAL		
DESIGN ENGINEER		DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE II
LINE "E"

HORIZONTAL SCALE 1"=30'	BRIDGE FILE		
VERTICAL SCALE N/A	DESIGNATION 2000161		
SURVEY BOOK	SHEETS		
	17	of	74
CONTRACT R-43476	PROJECT 2000161		

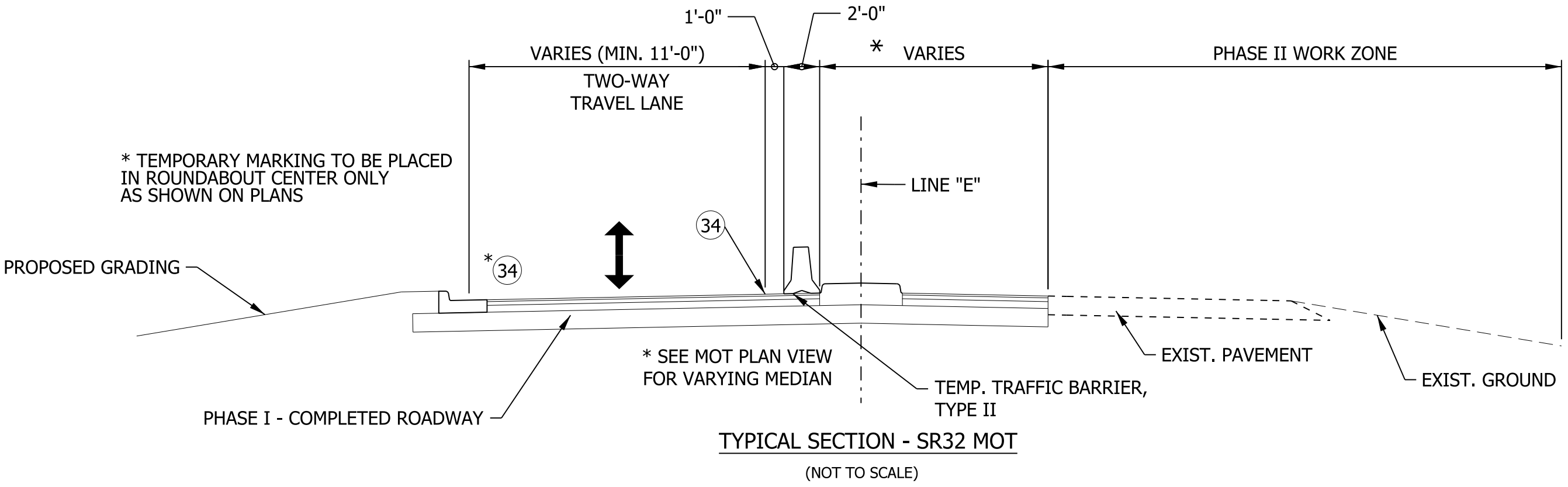
- NOTES:
- PHASE 2:
- SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
 - CR 925 W/MAIN ST. (NORTH AND SOUTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
 - CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
 - ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR 32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY



- LEGEND
- (34) TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
 - (35) TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
 - TEMPORARY PAVEMENT
 - PROJECT CONSTRUCTION AREA
 - TRAFFIC DRUM
 - TEMPORARY SIGNAL
 - TYPE III-A BARRICADE
 - ENERGY ABSORBING TERMINAL, CZ, TL-2
 - TEMPORARY TRAFFIC BARRIER, TYPE 2
 - X X X EXISTING PAVEMENT MARKING REMOVAL

NOTE:

PHASE 2:
SW CORNER GAS STATION
ACCESS TO DRIVE FROM CR 925 SOUTH LEG
SHALL BE MAINTAINED AT ALL TIMES.



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE II
LINE "E"

HORIZONTAL SCALE	BRIDGE FILE
1"=30'	
VERTICAL SCALE	DESIGNATION
N/A	2000161
SURVEY BOOK	SHEETS
	18 of 74
CONTRACT	PROJECT
R-43476	2000161

66+00

67+00

68+00

69+00

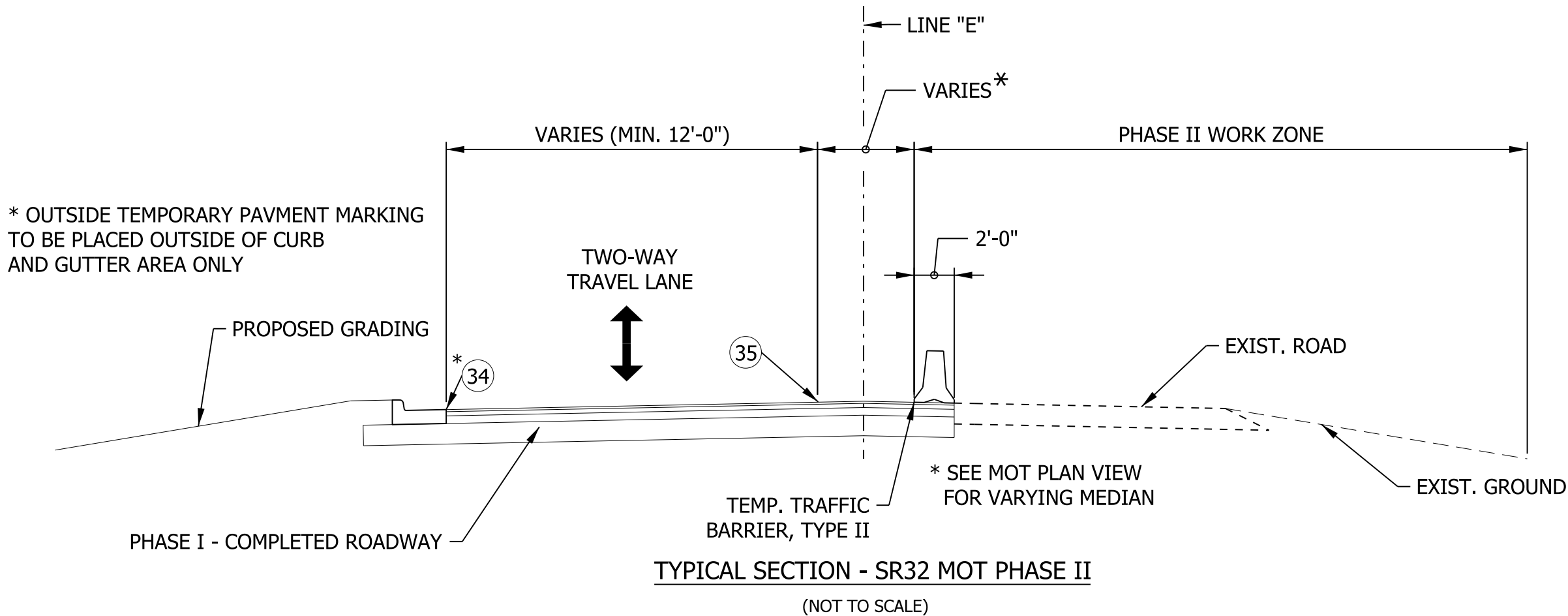
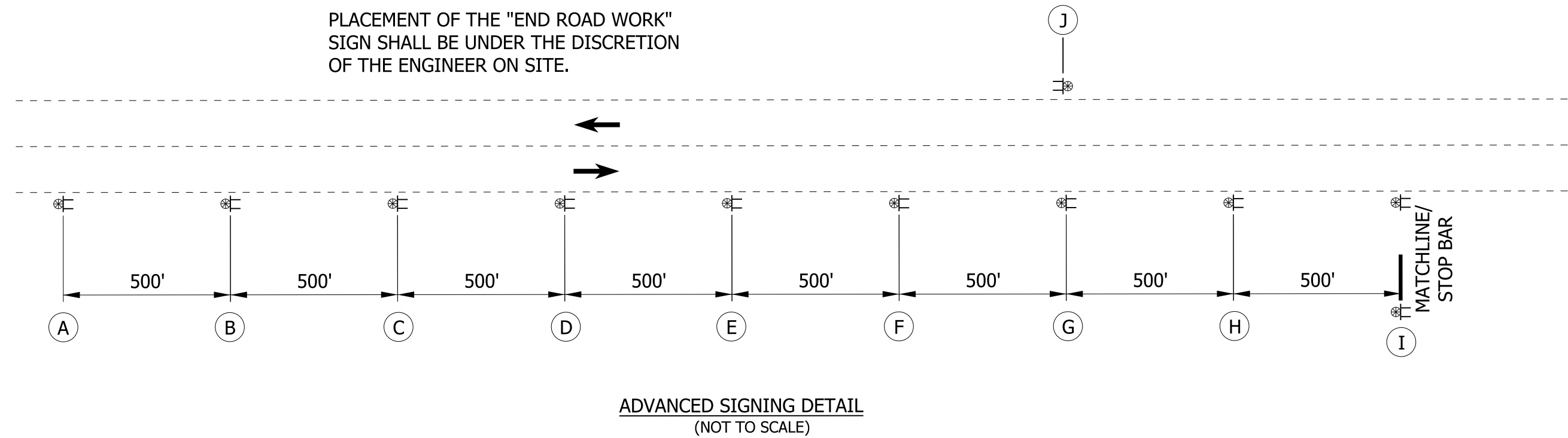
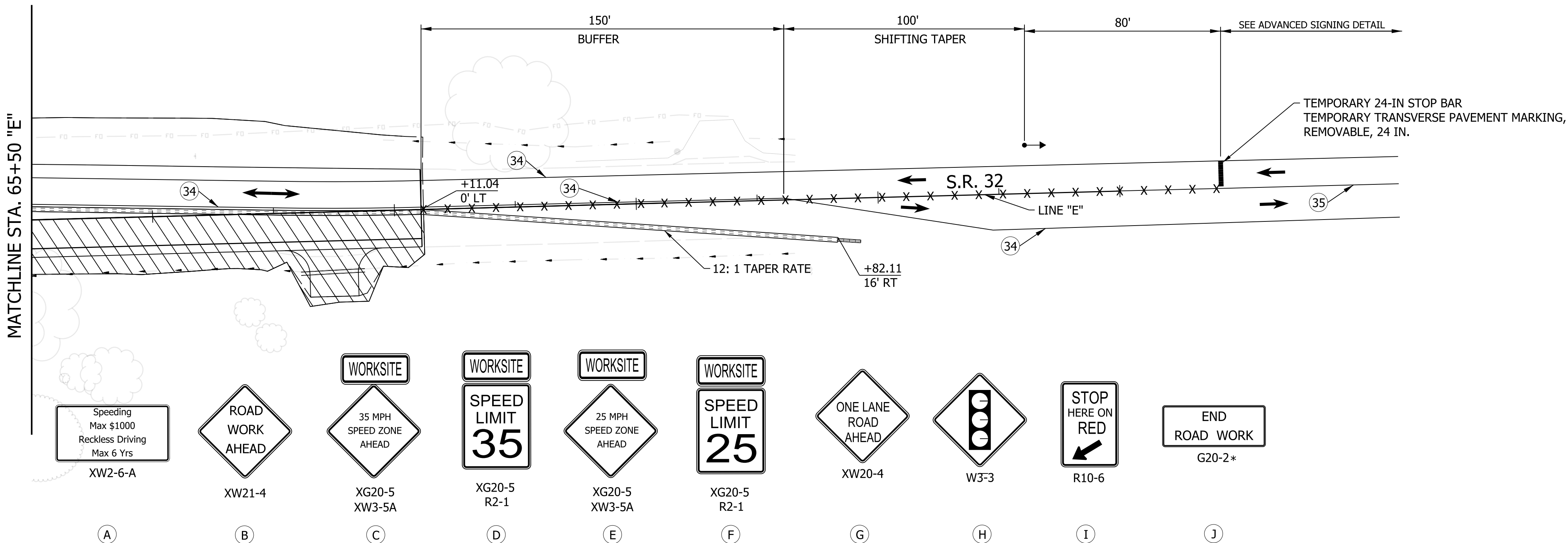
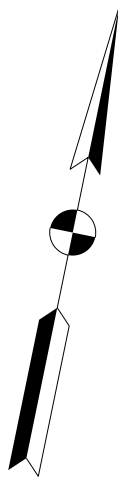
70+00

NOTES:
PHASE 2:

1. SR 32 EB AND WB TRAFFIC WILL BE MAINTAINED UTILIZING A SINGLE LANE AND TEMPORARY TRAFFIC SIGNALS.
2. CR 925 W/MAIN ST. (NORTH AND SOUTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
3. CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
4. ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR 32 AND MAIN ST. WILL BE FROM MAIN ST. ONLY

LEGEND

- ③4 TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- ③5 TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL



RECOMMENDED FOR APPROVAL _____		
DESIGN ENGINEER		DATE
DESIGNED: MRW	DRAWN: JEC	
CHECKED: WRC	CHECKED: MRW	

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE II
LINE "E"

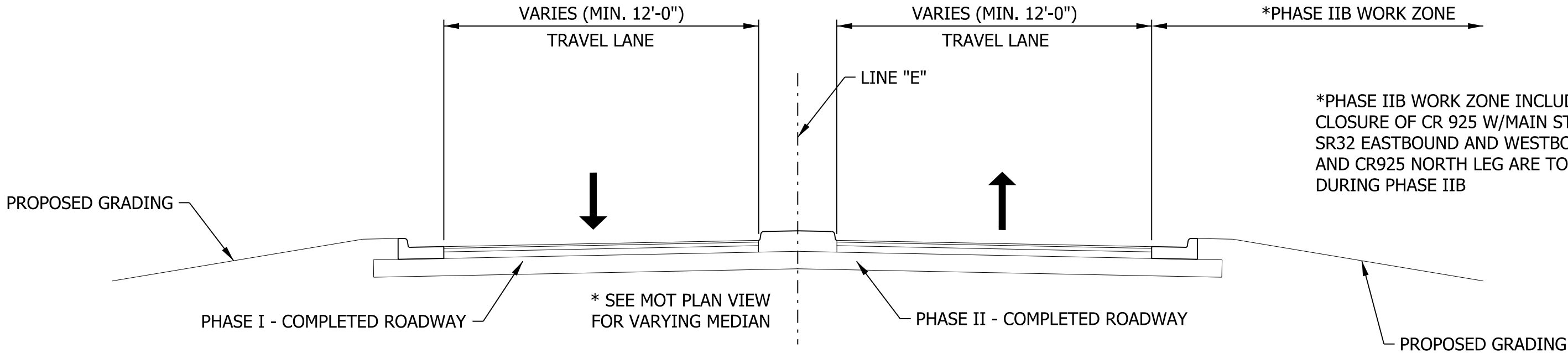
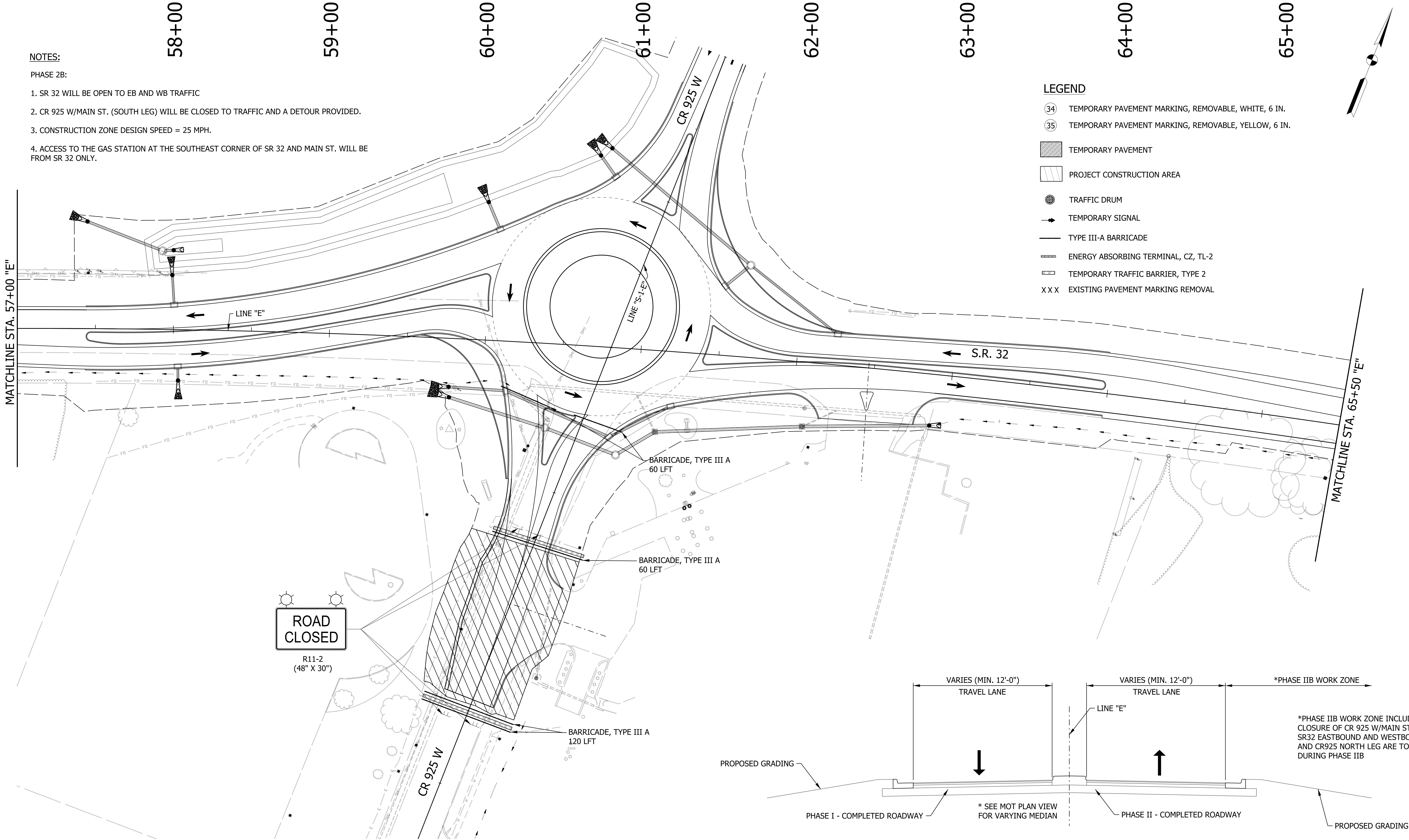
HORIZONTAL SCALE		BRIDGE FILE	
1"=30'			
VERTICAL SCALE		DESIGNATION	
N/A		2000161	
SURVEY BOOK		SHEETS	
		19 of 74	
CONTRACT		PROJECT	
R-43476		2000161	

NOTES:

- PHASE 2B:
- SR 32 WILL BE OPEN TO EB AND WB TRAFFIC
 - CR 925 W/MAIN ST. (SOUTH LEG) WILL BE CLOSED TO TRAFFIC AND A DETOUR PROVIDED.
 - CONSTRUCTION ZONE DESIGN SPEED = 25 MPH.
 - ACCESS TO THE GAS STATION AT THE SOUTHEAST CORNER OF SR 32 AND MAIN ST. WILL BE FROM SR 32 ONLY.

LEGEND

- 34 TEMPORARY PAVEMENT MARKING, REMOVABLE, WHITE, 6 IN.
- 35 TEMPORARY PAVEMENT MARKING, REMOVABLE, YELLOW, 6 IN.
- TEMPORARY PAVEMENT
- PROJECT CONSTRUCTION AREA
- TRAFFIC DRUM
- TEMPORARY SIGNAL
- TYPE III-A BARRICADE
- ENERGY ABSORBING TERMINAL, CZ, TL-2
- TEMPORARY TRAFFIC BARRIER, TYPE 2
- X X X EXISTING PAVEMENT MARKING REMOVAL

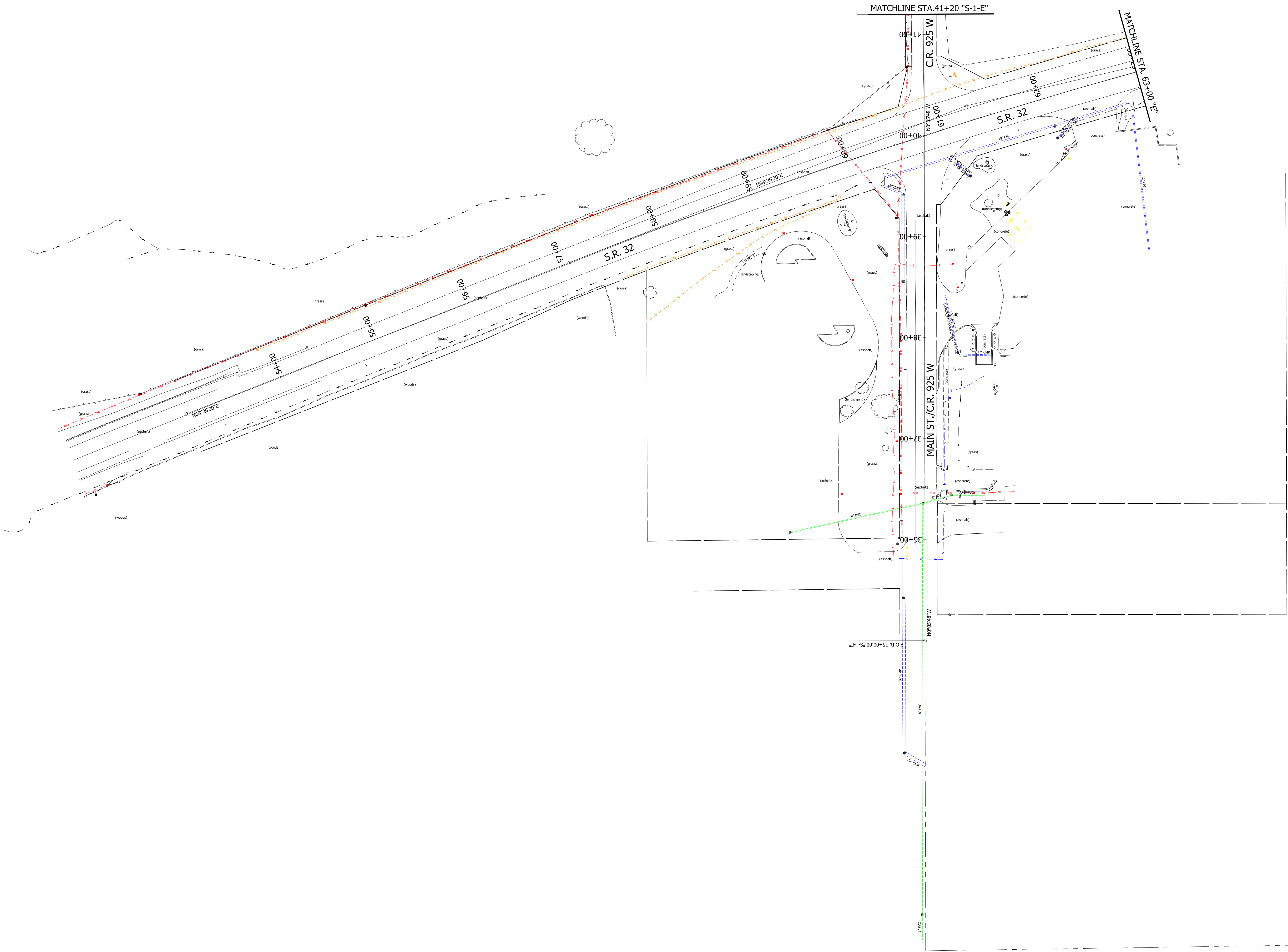


RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____		DATE _____	
DESIGNED: MRW		DRAWN: JEC			
CHECKED: WRC		CHECKED: MRW			

INDIANA
DEPARTMENT OF TRANSPORTATION

MOT PHASE II-B
LINE "S-1-E"

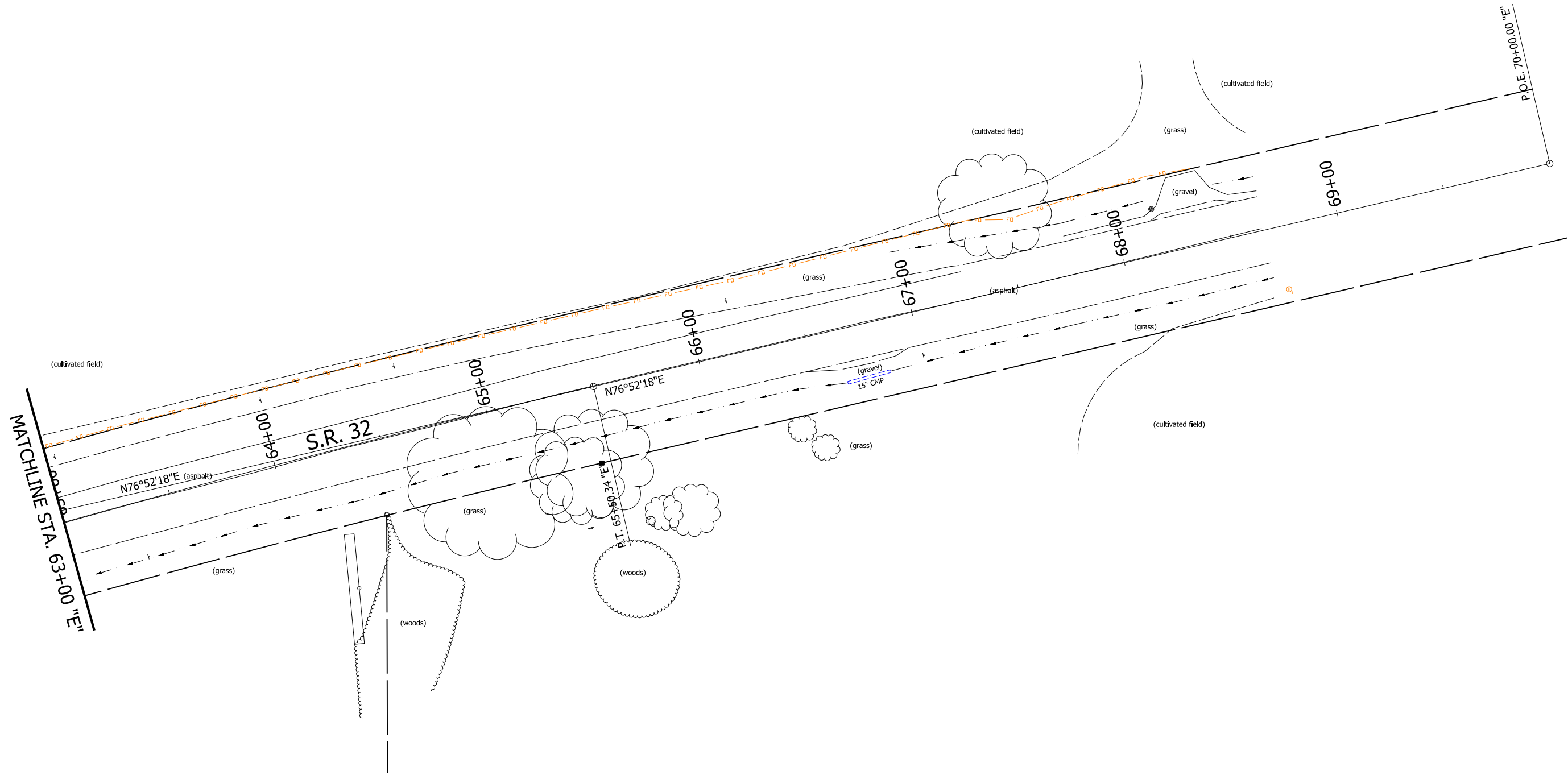
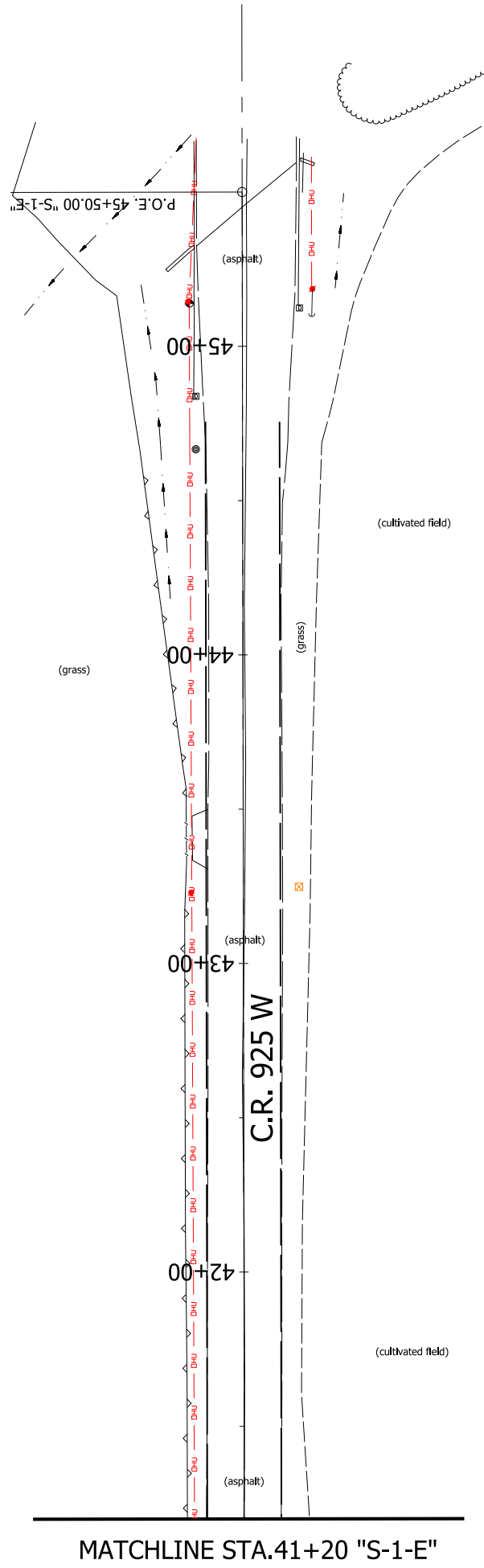
HORIZONTAL SCALE		BRIDGE FILE	
1"=30'			
VERTICAL SCALE		DESIGNATION	
N/A		2000161	
SURVEY BOOK		SHEETS	
		20 of 74	
CONTRACT		PROJECT	
R-43476		2000161	



RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: MRW
CHECKED: WRC	CHECKED: WRC

INDIANA DEPARTMENT OF TRANSPORTATION	
EXISTING UTILITIES	

HORIZONTAL SCALE 1"=50'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
	21 of	74
CONTRACT R-43476	PROJECT 2000161	

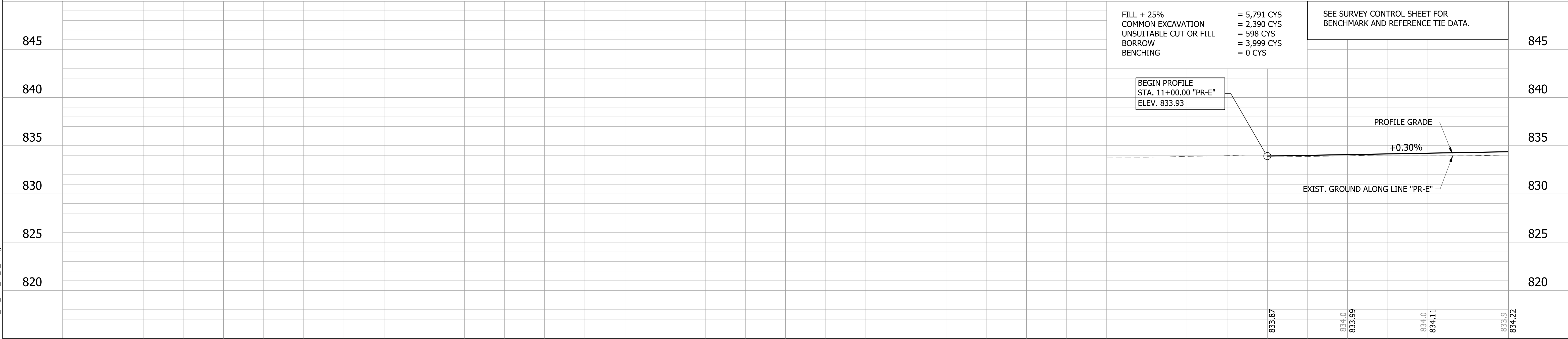
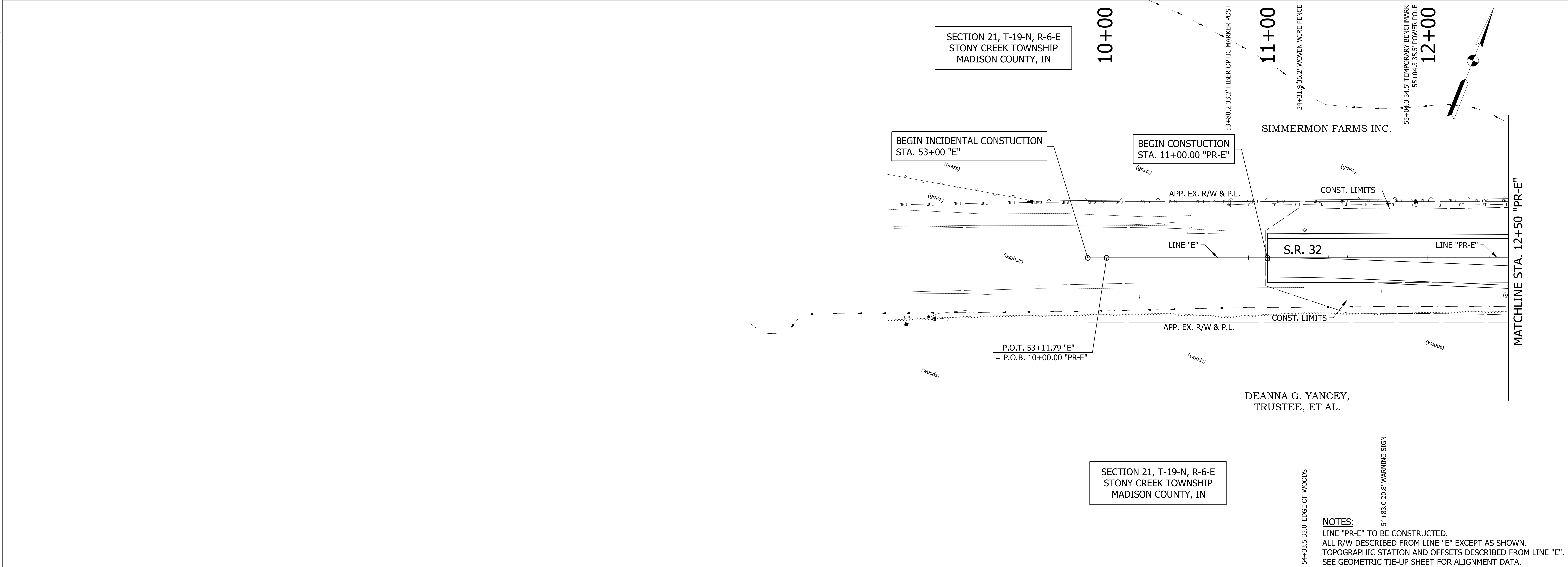


RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW _____	DRAWN: MRW _____
CHECKED: WRC _____	CHECKED: WRC _____

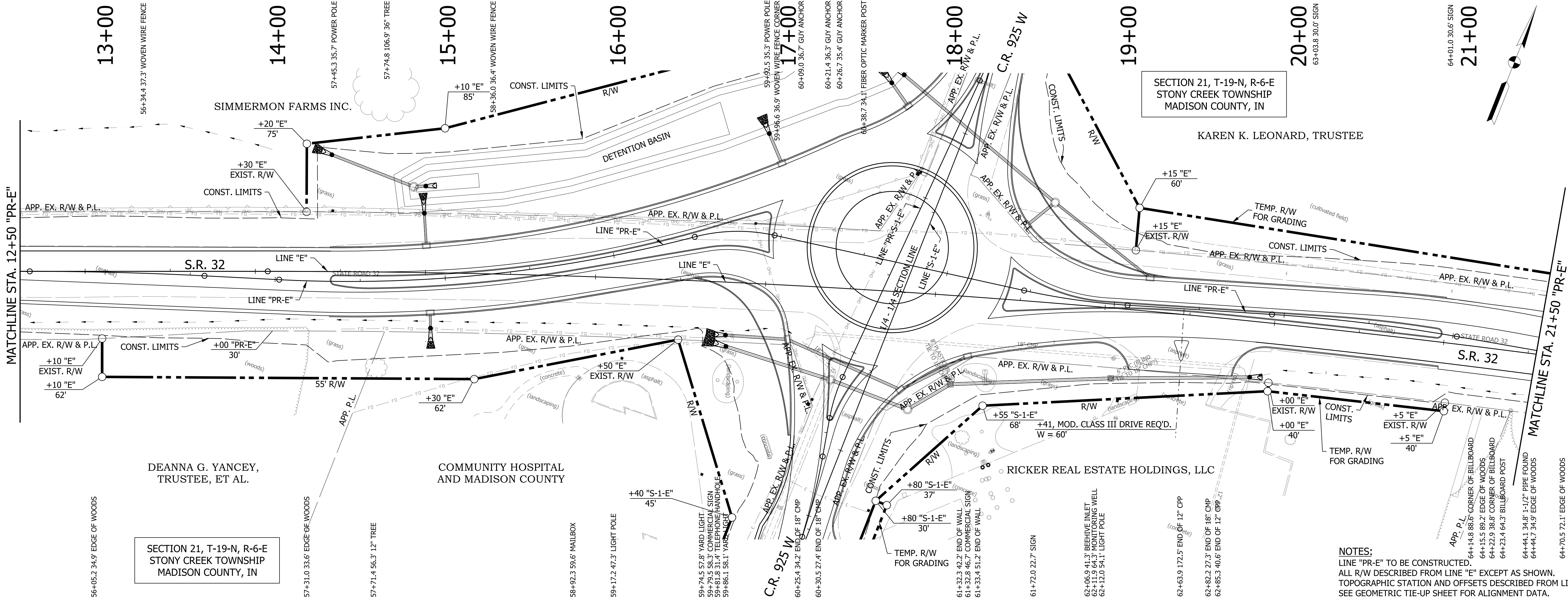
INDIANA
DEPARTMENT OF TRANSPORTATION

EXISTING
UTILITIES

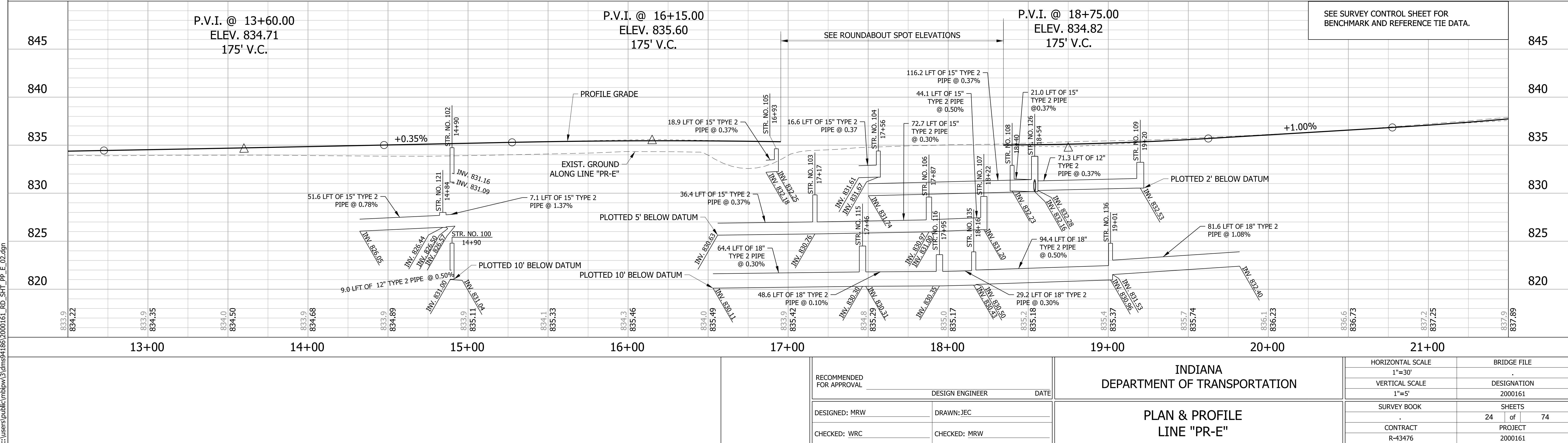
HORIZONTAL SCALE 1"=50'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 22 of 74
CONTRACT R-43476	PROJECT 2000161



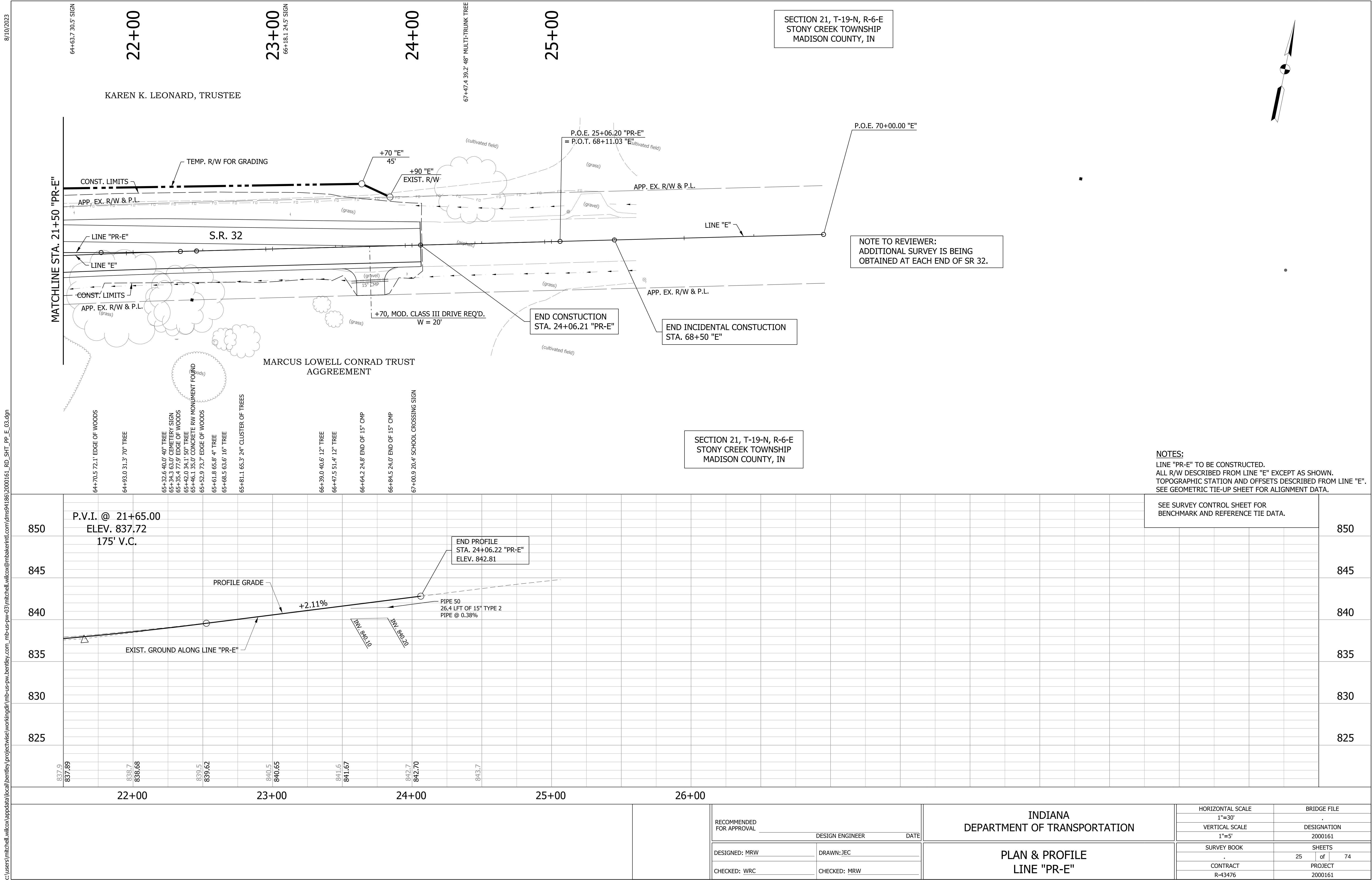
				10+00		11+00		12+00		
			RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
							1"=30'		.	
							VERTICAL SCALE		DESIGNATION	
							1"=5'		2000161	
			DESIGNED: MRW		DRAWN: JEC		PLAN & PROFILE LINE "PR-E"		SURVEY BOOK	
				.		23 of 74				
CHECKED: WRC		CHECKED: MRW		CONTRACT		PROJECT				
						R-43476		2000161		



NOTES:
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "E".
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

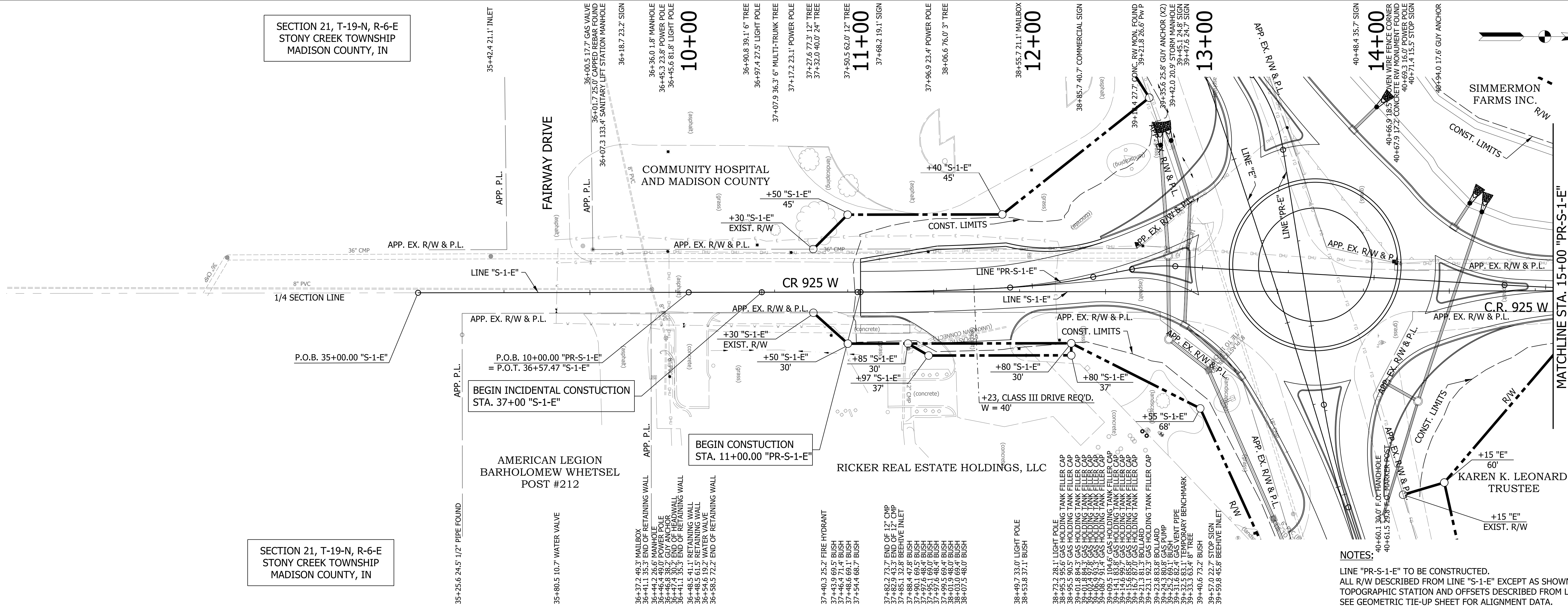


RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____			INDIANA DEPARTMENT OF TRANSPORTATION			HORIZONTAL SCALE		BRIDGE FILE	
						1"=30'		.	
						VERTICAL SCALE		DESIGNATION	
						1"=5'		2000161	
DESIGNED: MRW _____			DRAWN: JEC _____			SURVEY BOOK		SHEETS	
						.		24 of 74	
CHECKED: WRC _____			CHECKED: MRW _____			CONTRACT		PROJECT	
						R-43476		2000161	

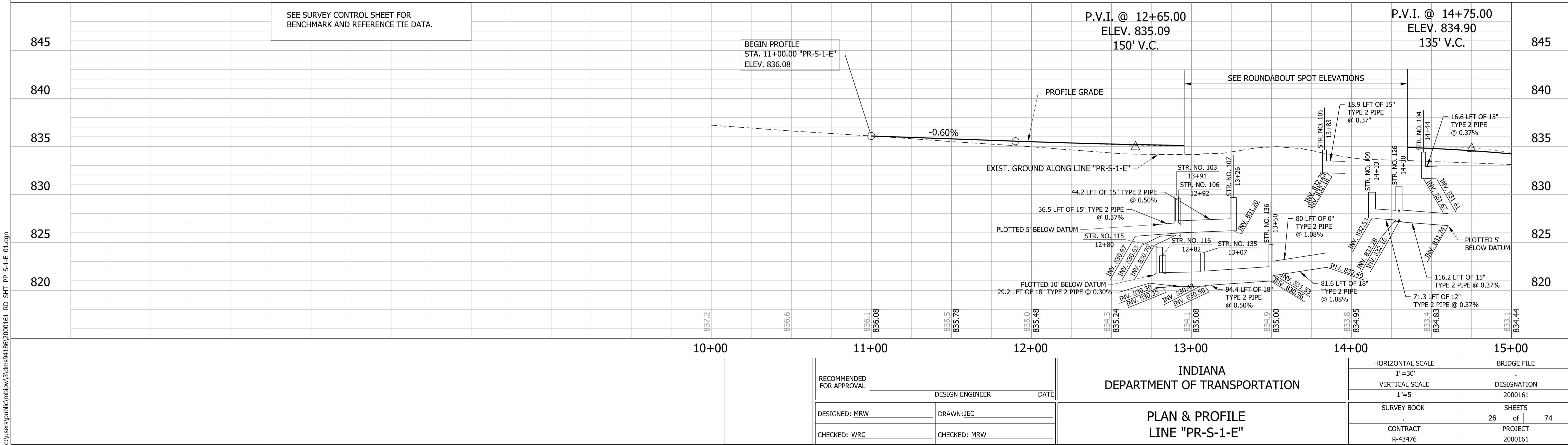


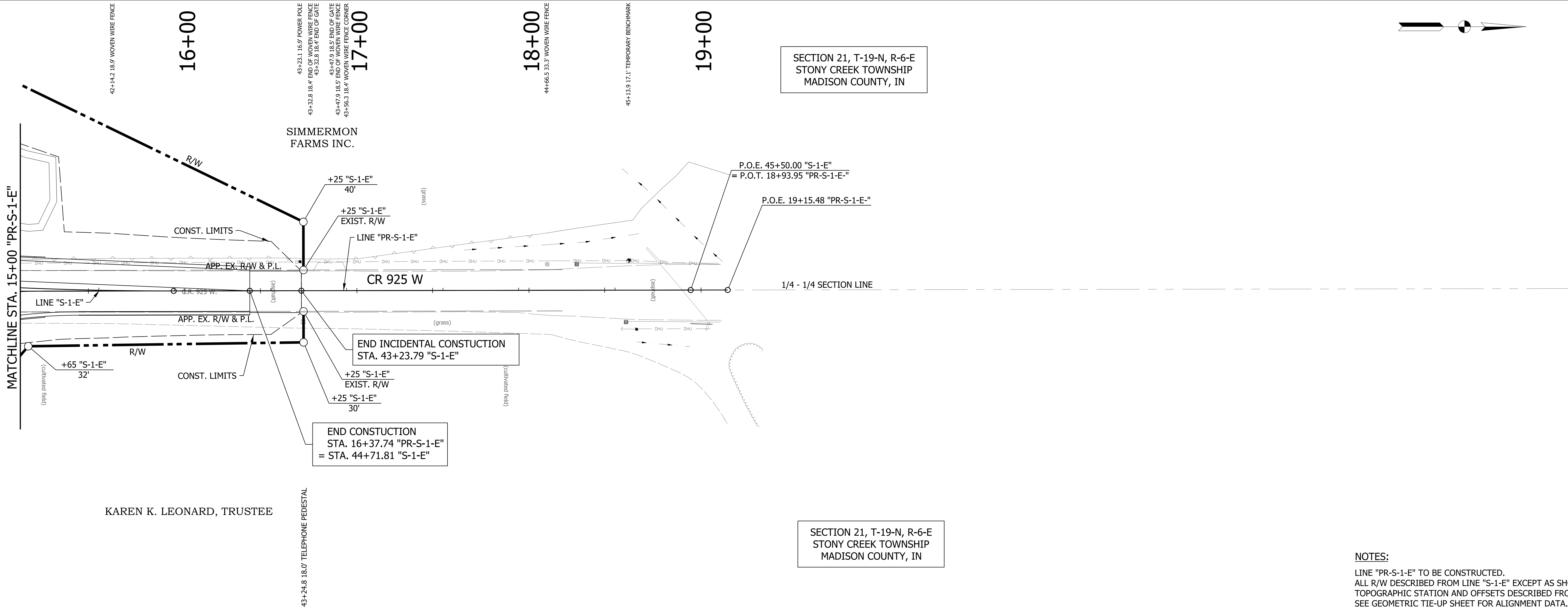
SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

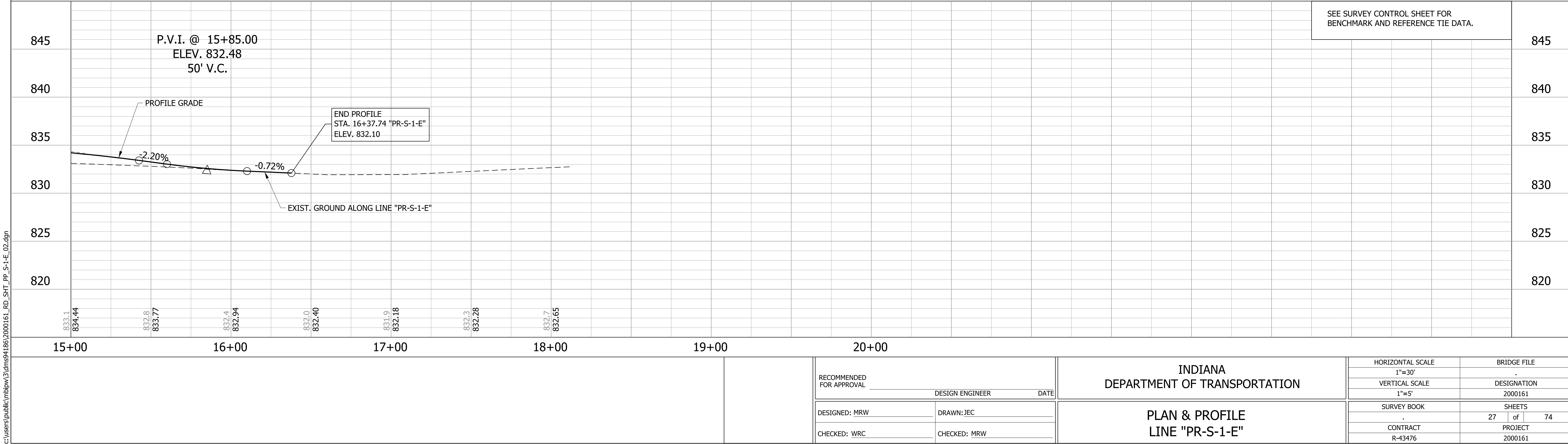


NOTES:
LINE "PR-S-1-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "S-1-E".
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.





NOTES:
LINE "PR-S-1-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "S-1-E".
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.



SEE SURVEY CONTROL SHEET FOR BENCHMARK AND REFERENCE TIE DATA.					845
					840
					835
					830
					825
					820

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE			
				1"=30'		.			
				VERTICAL SCALE		DESIGNATION			
				1"=5'		2000161			
DESIGNED: MRW		DRAWN: JEC		PLAN & PROFILE LINE "PR-S-1-E"		SURVEY BOOK		SHEETS	
						27 of 74			
CHECKED: WRC		CHECKED: MRW				CONTRACT		PROJECT	
						R-43476		2000161	

11+00

12+00

13+00

14+00

SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

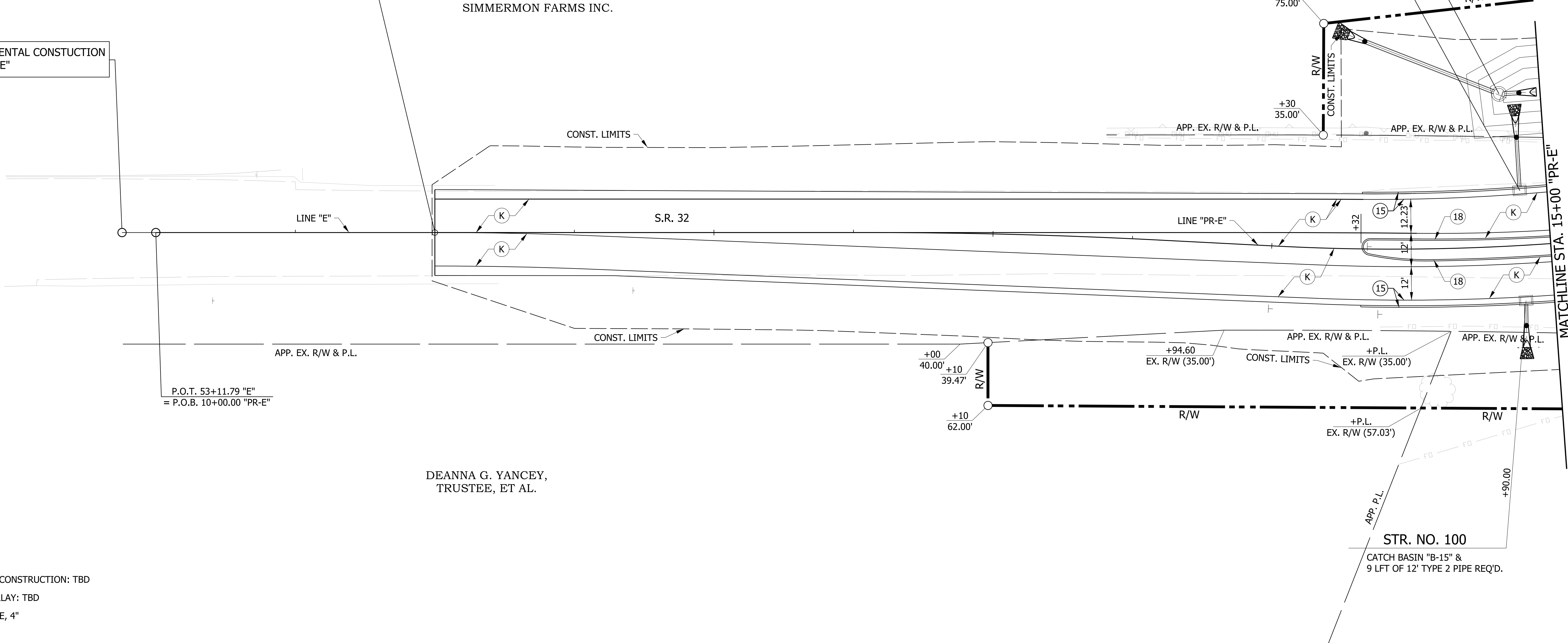
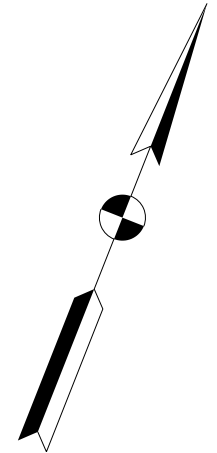
BEGIN PROJECT NO. 2000161
STA. 11+00.00 "PR-E"

BEGIN INCIDENTAL CONSTRUCTION
STA. 53+00 "E"

SIMMERMON FARMS INC.

STR. NO. 121
MOD. MANHOLE TYPE "C-4" &
54 LFT OF 15' TYPE 2 PIPE REQ'D.

STR. NO. 102
CATCH BASIN TYPE "B-15" &
19 LFT OF 12' TYPE 2 PIPE REQ'D.



LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

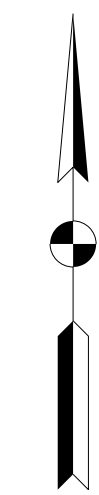
NOTES:
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
LINE "PR-E"

HORIZONTAL SCALE 1"=20'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
CONTRACT R-43476	28	of 74
	PROJECT 2000161	

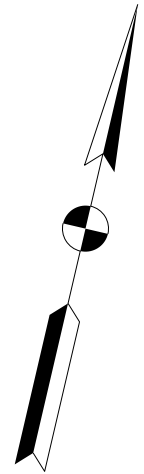


- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

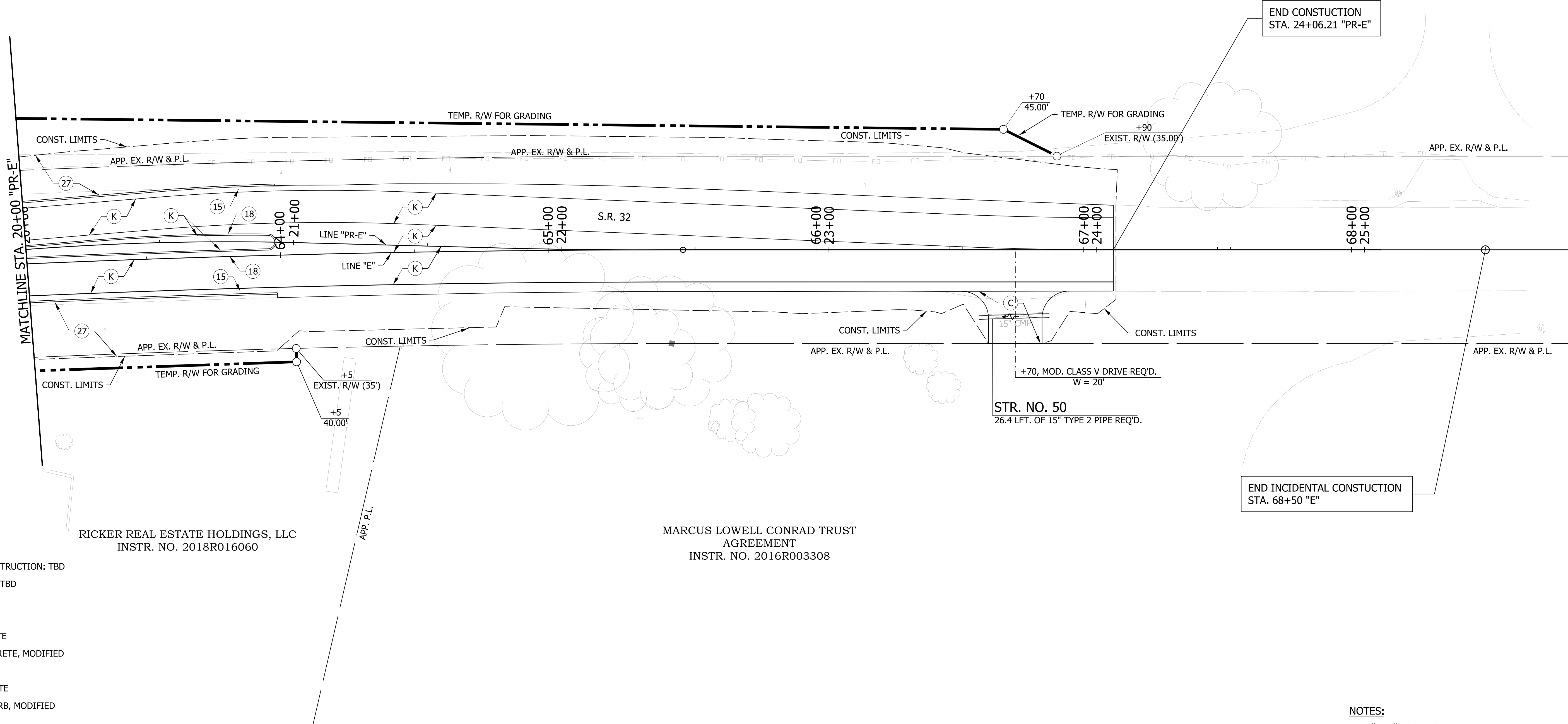
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "PR-E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE		BRIDGE FILE		
				1"=20'				
				VERTICAL SCALE		DESIGNATION		
				N/A		2000161		
DESIGNED: MRW	DRAWN: JEC		CONSTRUCTION DETAIL LINE "PR-E"	SURVEY BOOK		SHEETS		
						29	of	74
CHECKED: WRC	CHECKED: JRW					PROJECT		
				CONTRACT		2000161		
				R-43476				

SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN



KAREN K. LEONARD, TRUSTEE
INSTR. NO. 2019R000151



LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

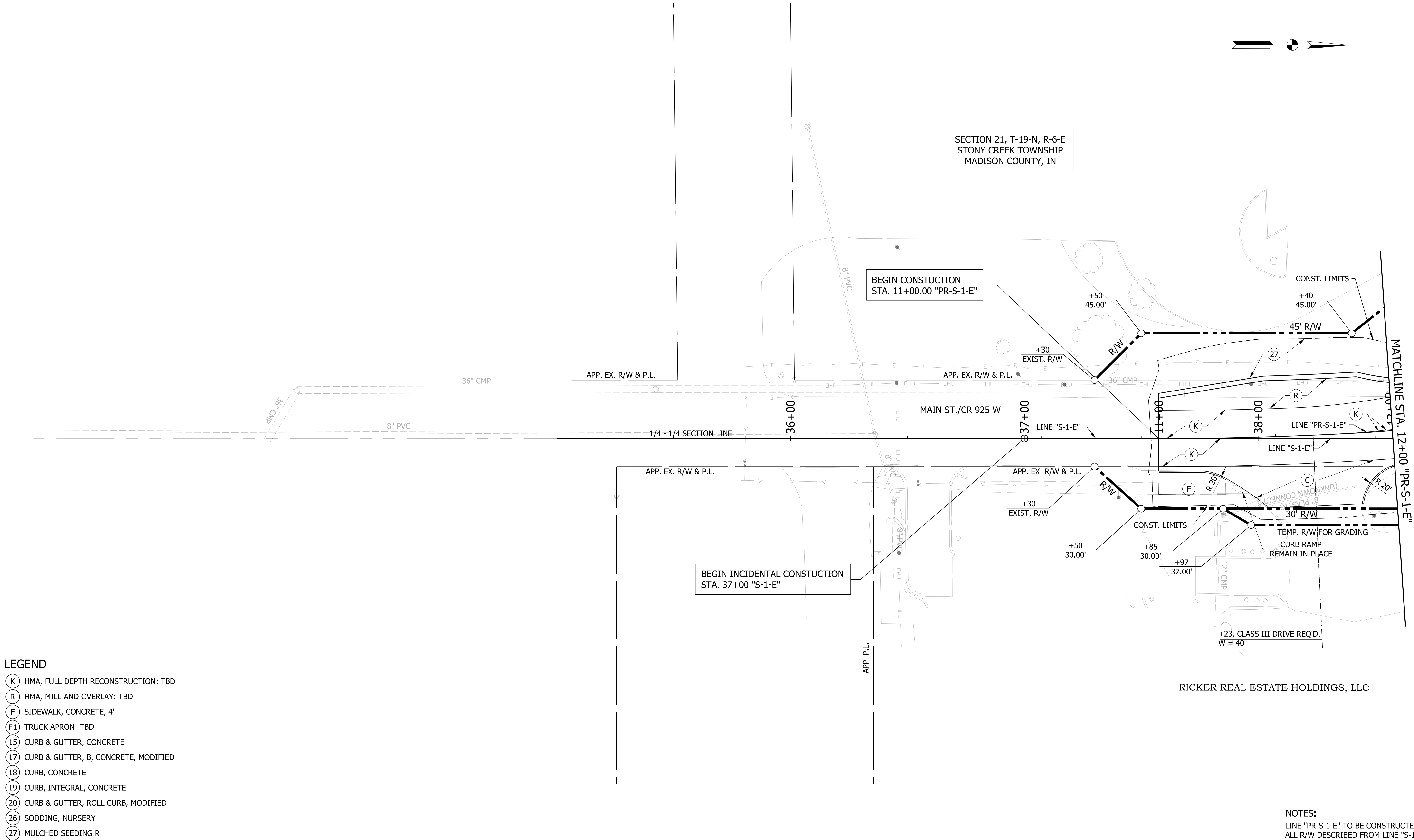
NOTES:
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW _____	DRAWN: JEC _____
CHECKED: WRC _____	CHECKED: JRW _____

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAIL
LINE "PR-E"

HORIZONTAL SCALE 1"=20'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS 30 of 74	
CONTRACT R-43476	PROJECT 2000161	



LEGEND

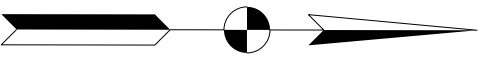
- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

NOTES:
LINE "PR-S-1-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: JRW

INDIANA DEPARTMENT OF TRANSPORTATION	CONSTRUCTION DETAIL LINE "PR-S-1-E"	

HORIZONTAL SCALE 1"=20'		BRIDGE FILE	
VERTICAL SCALE N/A		DESIGNATION 2000161	
SURVEY BOOK		SHEETS	
CONTRACT R-43476		31 of 74	PROJECT 2000161

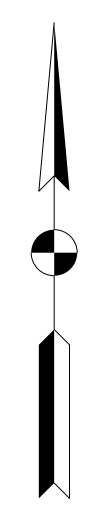


LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

NOTES:
 LINE "PR-S-1-E" TO BE CONSTRUCTED.
 ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
 SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
						1"=20'			
						VERTICAL SCALE		DESIGNATION	
						N/A		2000161	
DESIGNED: MRW		DRAWN: JEC		CONSTRUCTION DETAIL LINE "PR-S-1-E"		SURVEY BOOK		SHEETS	
						32		of	74
CHECKED: WRC		CHECKED: JRW				CONTRACT		PROJECT	
						R-43476		2000161	



RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
				1" = 40'			
				VERTICAL SCALE		DESIGNATION	
				N/A		2000161	
DESIGNED: MRW		DRAWN: MRW		SURVEY BOOK		SHEETS	
						33 of 74	
CHECKED: WRC		CHECKED: JEC		CONTRACT		PROJECT	
				R-43476		2000161	

NAME	ALIGN	STATION	OFFSET	ELEVATION
1	SI-1	5+00.00	0.00	834.97
2	SI-1	5+20.00	0.00	835.04
3	SI-1	5+40.00	0.00	835.11
4	SI-1	5+60.00	0.00	835.18
5	SI-1	5+80.00	0.00	835.25
6	SI-1	6+00.00	0.00	835.32
7	SI-1	6+20.00	0.00	835.37
8	SI-1	6+40.00	0.00	835.42
9	SI-1	6+60.00	0.00	835.45
10	SI-1	6+80.00	0.00	835.46
11	SI-1	7+00.00	0.00	835.46
12	SI-1	7+20.00	0.00	835.44
13	SI-1	7+40.00	0.00	835.53
14	SI-1	7+56.98	0.00	835.38
15	SI-1	7+58.96	0.00	835.43
16	SI-1	7+78.69	0.00	835.32
17	SI-1	7+84.77	0.00	835.38
18	SI-1	8+00.00	0.00	835.41
19	SI-1	8+20.00	0.00	835.60
20	SI-1	8+40.00	0.00	835.75
21	SI-1	8+60.00	0.00	835.54
22	SI-1	8+80.00	0.00	835.59
23	SI-1	9+00.00	0.00	835.52
24	SI-1	9+20.00	0.00	835.49
25	SI-1	9+40.00	0.00	835.62
26	SI-1	9+60.00	0.00	835.30
27	SI-1	9+80.00	0.00	835.32
28	SI-1	10+00.00	0.00	835.39
29	SI-1	10+20.00	0.00	835.14
30	SI-1	10+40.00	0.00	834.98

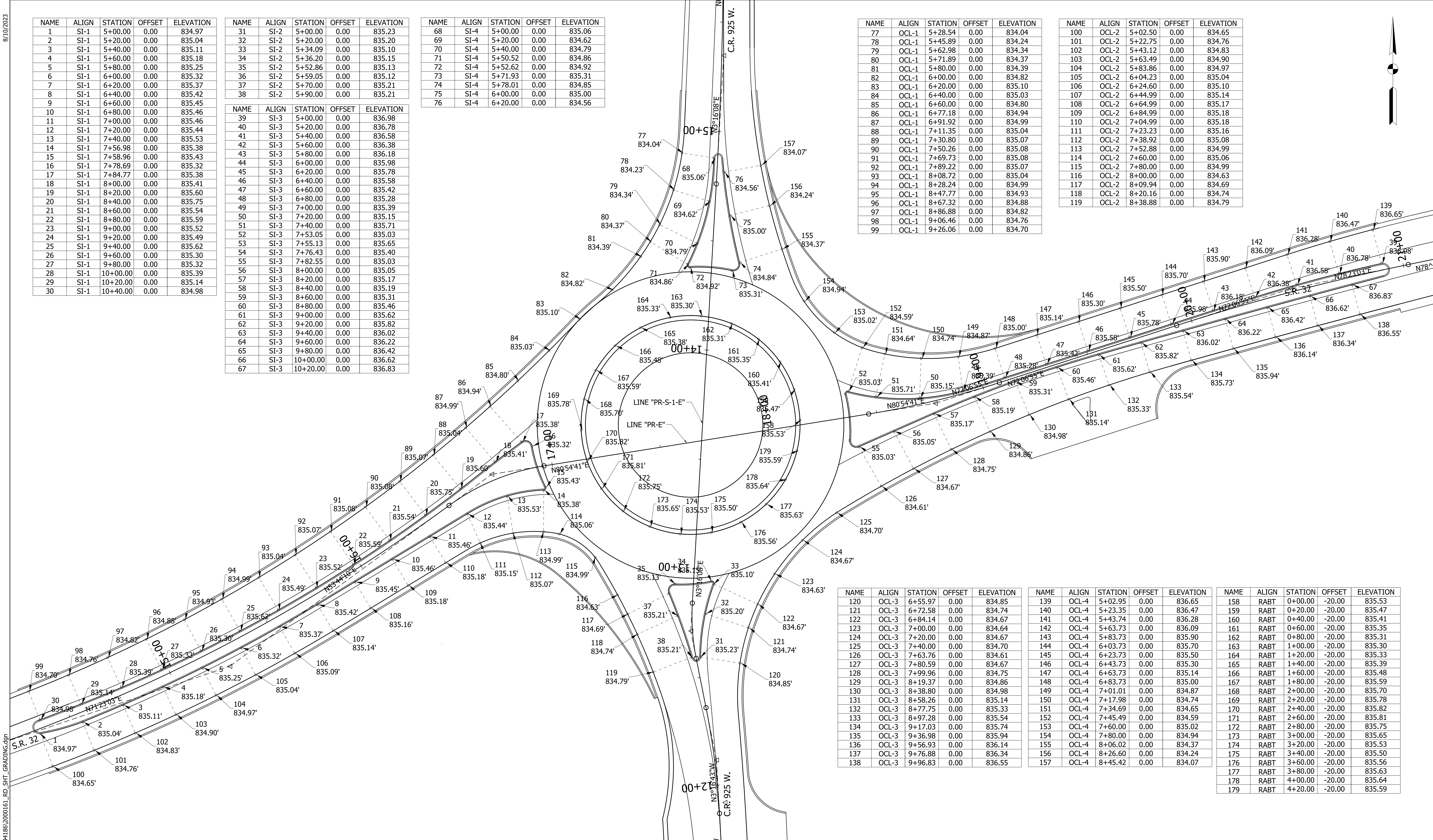
NAME	ALIGN	STATION	OFFSET	ELEVATION
31	SI-2	5+00.00	0.00	835.23
32	SI-2	5+20.00	0.00	835.20
33	SI-2	5+34.09	0.00	835.10
34	SI-2	5+36.20	0.00	835.15
35	SI-2	5+52.86	0.00	835.13
36	SI-2	5+59.05	0.00	835.12
37	SI-2	5+70.00	0.00	835.21
38	SI-2	5+90.00	0.00	835.21

NAME	ALIGN	STATION	OFFSET	ELEVATION
39	SI-3	5+00.00	0.00	836.98
40	SI-3	5+20.00	0.00	836.78
41	SI-3	5+40.00	0.00	836.58
42	SI-3	5+60.00	0.00	836.38
43	SI-3	5+80.00	0.00	836.18
44	SI-3	6+00.00	0.00	835.98
45	SI-3	6+20.00	0.00	835.78
46	SI-3	6+40.00	0.00	835.58
47	SI-3	6+60.00	0.00	835.42
48	SI-3	6+80.00	0.00	835.28
49	SI-3	7+00.00	0.00	835.39
50	SI-3	7+20.00	0.00	835.15
51	SI-3	7+40.00	0.00	835.71
52	SI-3	7+53.05	0.00	835.03
53	SI-3	7+55.13	0.00	835.65
54	SI-3	7+76.43	0.00	835.40
55	SI-3	7+82.55	0.00	835.03
56	SI-3	8+00.00	0.00	835.05
57	SI-3	8+20.00	0.00	835.17
58	SI-3	8+40.00	0.00	835.19
59	SI-3	8+60.00	0.00	835.31
60	SI-3	8+80.00	0.00	835.46
61	SI-3	9+00.00	0.00	835.62
62	SI-3	9+20.00	0.00	835.82
63	SI-3	9+40.00	0.00	836.02
64	SI-3	9+60.00	0.00	836.22
65	SI-3	9+80.00	0.00	836.42
66	SI-3	10+00.00	0.00	836.62
67	SI-3	10+20.00	0.00	836.83

NAME	ALIGN	STATION	OFFSET	ELEVATION
68	SI-4	5+00.00	0.00	835.06
69	SI-4	5+20.00	0.00	834.62
70	SI-4	5+40.00	0.00	834.79
71	SI-4	5+50.52	0.00	834.86
72	SI-4	5+52.62	0.00	834.92
73	SI-4	5+71.93	0.00	835.31
74	SI-4	5+78.01	0.00	834.85
75	SI-4	6+00.00	0.00	835.00
76	SI-4	6+20.00	0.00	834.56

NAME	ALIGN	STATION	OFFSET	ELEVATION
77	OCL-1	5+28.54	0.00	834.04
78	OCL-1	5+45.89	0.00	834.24
79	OCL-1	5+62.98	0.00	834.34
80	OCL-1	5+71.89	0.00	834.37
81	OCL-1	5+80.00	0.00	834.39
82	OCL-1	6+00.00	0.00	834.82
83	OCL-1	6+20.00	0.00	835.10
84	OCL-1	6+40.00	0.00	835.03
85	OCL-1	6+60.00	0.00	834.80
86	OCL-1	6+77.18	0.00	834.94
87	OCL-1	6+91.92	0.00	834.99
88	OCL-1	7+11.35	0.00	835.04
89	OCL-1	7+30.80	0.00	835.07
90	OCL-1	7+50.26	0.00	835.08
91	OCL-1	7+69.73	0.00	835.08
92	OCL-1	7+89.22	0.00	835.07
93	OCL-1	8+08.72	0.00	835.04
94	OCL-1	8+28.24	0.00	834.99
95	OCL-1	8+47.77	0.00	834.93
96	OCL-1	8+67.32	0.00	834.88
97	OCL-1	8+86.88	0.00	834.82
98	OCL-1	9+06.46	0.00	834.76
99	OCL-1	9+26.06	0.00	834.70

NAME	ALIGN	STATION	OFFSET	ELEVATION
100	OCL-2	5+02.50	0.00	834.65
101	OCL-2	5+22.75	0.00	834.76
102	OCL-2	5+43.12	0.00	834.83
103	OCL-2	5+63.49	0.00	834.90
104	OCL-2	5+83.86	0.00	834.97
105	OCL-2	6+04.23	0.00	835.04
106	OCL-2	6+24.60	0.00	835.10
107	OCL-2	6+44.99	0.00	835.14
108	OCL-2	6+64.99	0.00	835.17
109	OCL-2	6+84.99	0.00	835.18
110	OCL-2	7+04.99	0.00	835.18
111	OCL-2	7+23.23	0.00	835.16
112	OCL-2	7+38.92	0.00	835.08
113	OCL-2	7+52.88	0.00	834.99
114	OCL-2	7+60.00	0.00	835.06
115	OCL-2	7+80.00	0.00	834.99
116	OCL-2	8+00.00	0.00	834.63
117	OCL-2	8+09.94	0.00	834.69
118	OCL-2	8+20.16	0.00	834.74
119	OCL-2	8+38.88	0.00	834.79



NAME	ALIGN	STATION	OFFSET	ELEVATION
120	OCL-3	6+55.97	0.00	834.85
121	OCL-3	6+72.58	0.00	834.74
122	OCL-3	6+84.14	0.00	834.67
123	OCL-3	7+00.00	0.00	834.64
124	OCL-3	7+20.00	0.00	834.67
125	OCL-3	7+40.00	0.00	834.70
126	OCL-3	7+63.76	0.00	834.61
127	OCL-3	7+80.59	0.00	834.67
128	OCL-3	7+99.96	0.00	834.75
129	OCL-3	8+19.37	0.00	834.86
130	OCL-3	8+38.80	0.00	834.98
131	OCL-3	8+58.26	0.00	835.14
132	OCL-3	8+77.75	0.00	835.33
133	OCL-3	8+97.28	0.00	835.54
134	OCL-3	9+17.03	0.00	835.74
135	OCL-3	9+36.98	0.00	835.94
136	OCL-3	9+56.93	0.00	836.14
137	OCL-3	9+76.88	0.00	836.34
138	OCL-3	9+96.83	0.00	836.55

NAME	ALIGN	STATION	OFFSET	ELEVATION
139	OCL-4	5+02.95	0.00	836.65
140	OCL-4	5+23.35	0.00	836.47
141	OCL-4	5+43.74	0.00	836.28
142	OCL-4	5+63.73	0.00	836.09
143	OCL-4	5+83.73	0.00	835.90
144	OCL-4	6+03.73	0.00	835.70
145	OCL-4	6+23.73	0.00	835.50
146	OCL-4	6+43.73	0.00	835.30
147	OCL-4	6+63.73	0.00	835.14
148	OCL-4	6+83.73	0.00	835.00
149	OCL-4	7+01.01	0.00	834.87
150	OCL-4	7+17.98	0.00	834.74
151	OCL-4	7+34.69	0.00	834.65
152	OCL-4	7+45.49	0.00	834.59
153	OCL-4	7+60.00	0.00	835.02
154	OCL-4	7+80.00	0.00	834.94
155	OCL-4	8+06.02	0.00	834.37
156	OCL-4	8+26.60	0.00	834.24
157	OCL-4	8+45.42	0.00	834.07

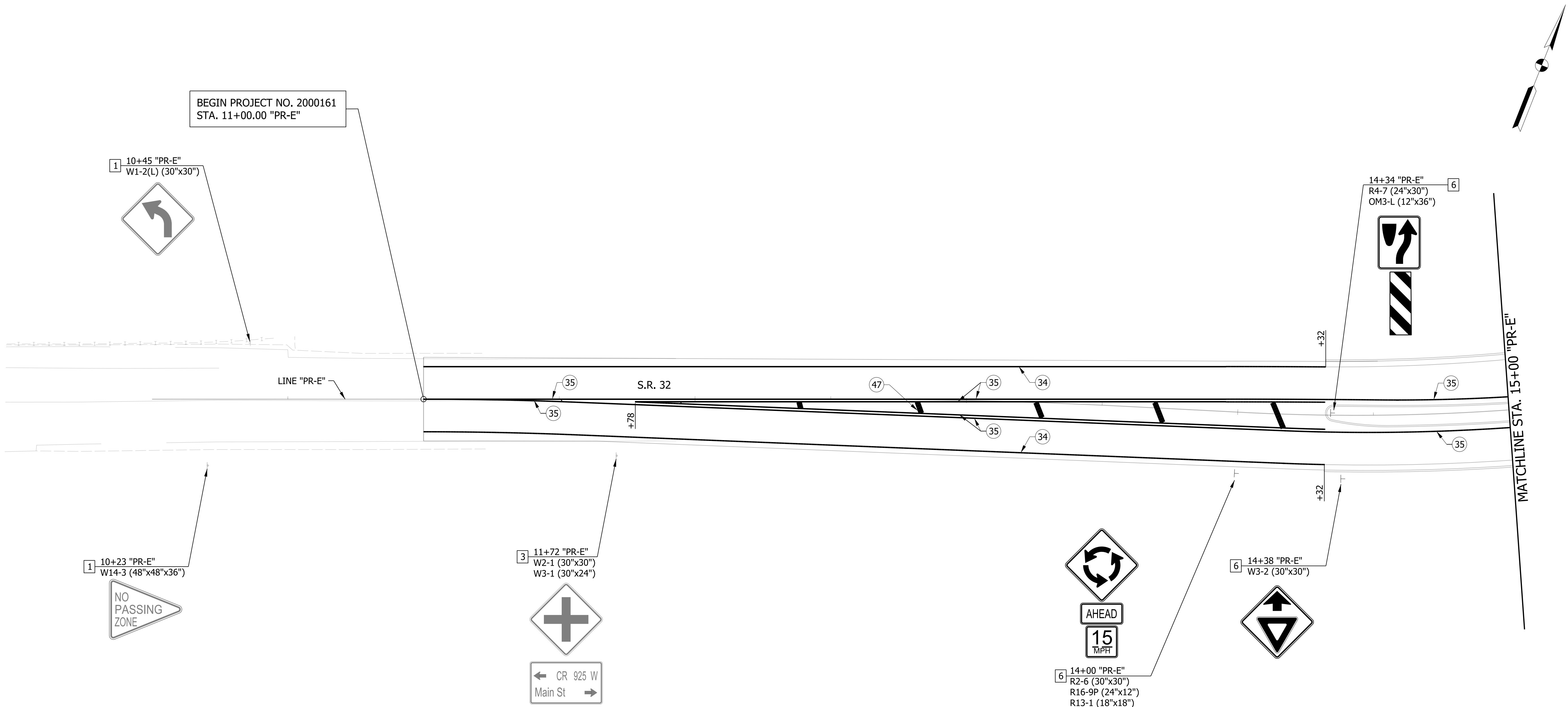
NAME	ALIGN	STATION	OFFSET	ELEVATION
158	RABT	0+00.00	-20.00	835.53
159	RABT	0+20.00	-20.00	835.47
160	RABT	0+40.00	-20.00	835.41
161	RABT	0+60.00	-20.00	835.35
162	RABT	0+80.00	-20.00	835.31
163	RABT	1+00.00	-20.00	835.30
164	RABT	1+20.00	-20.00	835.33
165	RABT	1+40.00	-20.00	835.39
166	RABT	1+60.00	-20.00	835.48
167	RABT	1+80.00	-20.00	835.59
168	RABT	2+00.00	-20.00	835.70
169	RABT	2+20.00	-20.00	835.78
170	RABT	2+40.00	-20.00	835.82
171	RABT	2+60.00	-20.00	835.81
172	RABT	2+80.00	-20.00	835.75
173	RABT	3+00.00	-20.00	835.65
174	RABT	3+20.00	-20.00	835.53
175	RABT	3+40.00	-20.00	835.50
176	RABT	3+60.00	-20.00	835.56
177	RABT	3+80.00	-20.00	835.63
178	RABT	4+00.00	-20.00	835.64
179	RABT	4+20.00	-20.00	835.59

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: MRW
CHECKED: WRC	CHECKED: WRC

INDIANA
DEPARTMENT OF TRANSPORTATION

ROUNDABOUT GRADING DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
NA	2000161
SURVEY BOOK	SHEETS
	34 of 74
CONTRACT	PROJECT
R-43476	2000161



SIGNING LEGEND

- 1 NO CHANGE REQUIRED TO EXIST. SIGN AND SUPPORTS
- 2 REMOVE EXIST. SHEET SIGN
- 3 REMOVE EXIST. SHEET SIGN AND SUPPORTS
- 4 NEW SHEET SIGN ON EXIST. SUPPORTS
- 5 NEW SHEET SIGN ON EXIST. POLE
- 6 NEW SHEET SIGN AND SUPPORTS

LEGEND

- | | | | |
|----|--|----|--|
| 33 | LINE, THERMOPLASTIC, DOTTED, WHITE, 8 IN. | 37 | LINE, THERMOPLASTIC, DOUBLE, YELLOW, 6 IN. |
| 34 | LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN. | 39 | TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN. |
| 35 | LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN. | 46 | TRANSVERSE MARKING, THERMOPLASTIC, YIELD LINE, WHITE, 27 IN. |
| 36 | LINE, THERMOPLASTIC, BROKEN, YELLOW, 6 IN. | 47 | TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 24 IN. AT 40' SPACING. |

RECOMMENDED
FOR APPROVAL

DESIGN ENGINEER

DATE

DESIGNED: MRW

DRAWN: JWM

CHECKED: WRC

CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING
LINE "PR-E"

HORIZONTAL SCALE

1"=20'

VERTICAL SCALE

N/A

SURVEY BOOK

CONTRACT

R-43476

BRIDGE FILE

DESIGNATION

2000161

SHEETS

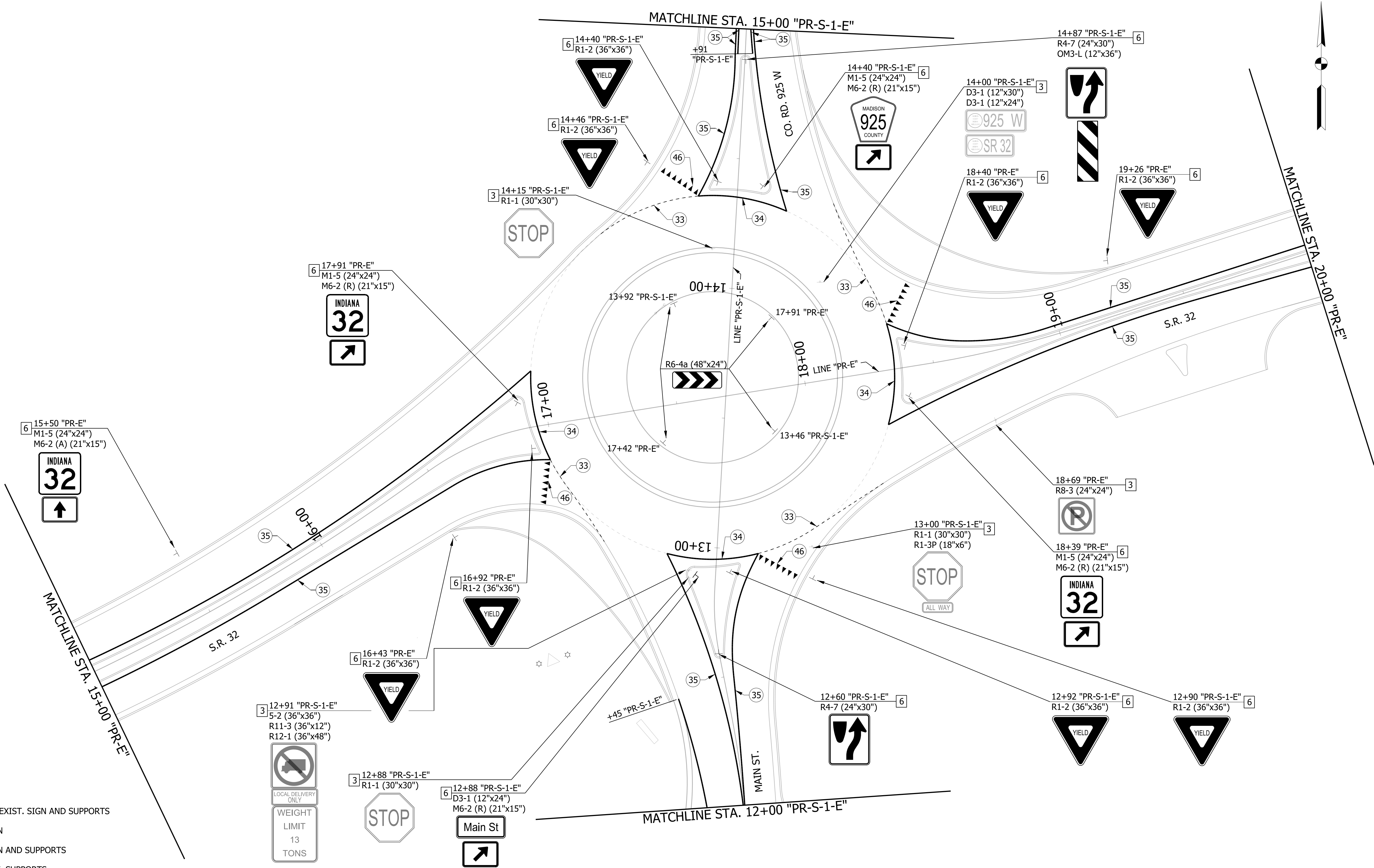
35

of

74

PROJECT

2000161



SIGNING LEGEND

- 1 NO CHANGE REQUIRED TO EXIST. SIGN AND SUPPORTS
- 2 REMOVE EXIST. SHEET SIGN
- 3 REMOVE EXIST. SHEET SIGN AND SUPPORTS
- 4 NEW SHEET SIGN ON EXIST. SUPPORTS
- 5 NEW SHEET SIGN ON EXIST. POLE
- 6 NEW SHEET SIGN AND SUPPORTS

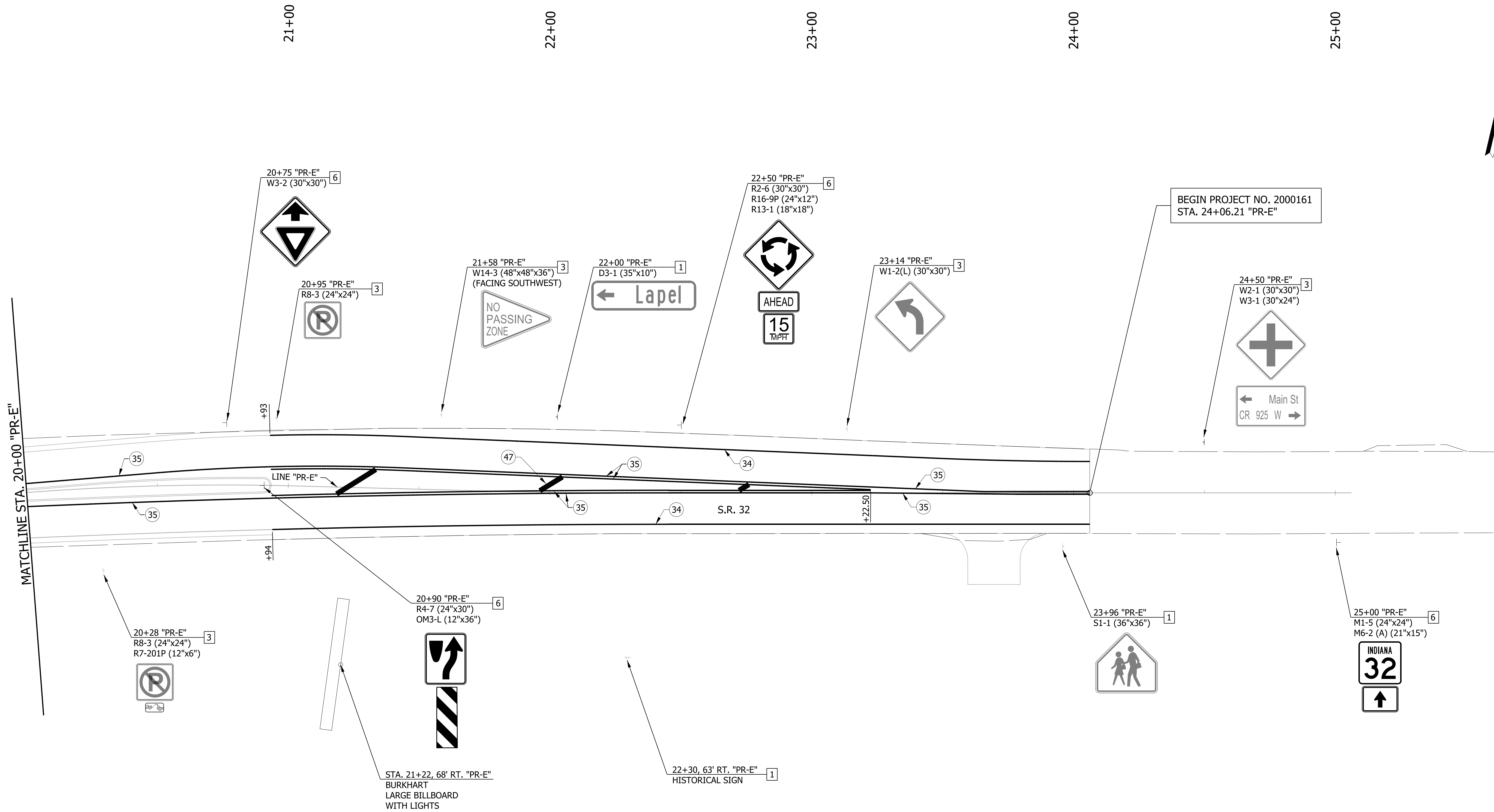
LEGEND

- 33 LINE, THERMOPLASTIC, DOTTED, WHITE, 8 IN.
- 34 LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.
- 35 LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.
- 36 LINE, THERMOPLASTIC, BROKEN, YELLOW, 6 IN.
- 37 LINE, THERMOPLASTIC, DOUBLE, YELLOW, 6 IN.
- 39 TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.
- 46 TRANSVERSE MARKING, THERMOPLASTIC, YIELD LINE, WHITE, 27 IN.
- 47 TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 24 IN. AT 40' SPACING

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN:JWM
CHECKED: WRC	CHECKED: MRW

INDIANA DEPARTMENT OF TRANSPORTATION	
PAVEMENT MARKINGS AND SIGNING LINE "PR-E"	

HORIZONTAL SCALE 1"=20'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
CONTRACT R-43476	36 of 74	PROJECT 2000161



SIGNING LEGEND

- 1 NO CHANGE REQUIRED TO EXIST. SIGN AND SUPPORTS
- 2 REMOVE EXIST. SHEET SIGN
- 3 REMOVE EXIST. SHEET SIGN AND SUPPORTS
- 4 NEW SHEET SIGN ON EXIST. SUPPORTS
- 5 NEW SHEET SIGN ON EXIST. POLE
- 6 NEW SHEET SIGN AND SUPPORTS

LEGEND

- 33 LINE, THERMOPLASTIC, DOTTED, WHITE, 8 IN.
- 34 LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.
- 35 LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.
- 36 LINE, THERMOPLASTIC, BROKEN, YELLOW, 6 IN.
- 37 LINE, THERMOPLASTIC, DOUBLE, YELLOW, 6 IN.
- 39 TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.
- 46 TRANSVERSE MARKING, THERMOPLASTIC, YIELD LINE, WHITE, 27 IN.
- 47 TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 24 IN. AT 40' SPACING

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JWM
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING
LINE "PR-E"

HORIZONTAL SCALE	BRIDGE FILE	
1"=20'		
VERTICAL SCALE	DESIGNATION	
N/A	2000161	
SURVEY BOOK	SHEETS	
	37	of 74
CONTRACT	PROJECT	
R-43476	2000161	

SIGNING LEGEND

- 1

NO CHANGE REQUIRED TO EXIST. SIGN AND SUPPORTS
- 2

REMOVE EXIST. SHEET SIGN
- 3

REMOVE EXIST. SHEET SIGN AND SUPPORTS
- 4

NEW SHEET SIGN ON EXIST. SUPPORTS
- 5

NEW SHEET SIGN ON EXIST. POLE
- 6

NEW SHEET SIGN AND SUPPORTS

LEGEND

- 33

LINE, THERMOPLASTIC, DOTTED, WHITE, 8 IN.
- 34

LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN.
- 35

LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN.
- 36

LINE, THERMOPLASTIC, BROKEN, YELLOW, 6 IN.
- 37

LINE, THERMOPLASTIC, DOUBLE, YELLOW, 6 IN.
- 39

TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN.
- 46

TRANSVERSE MARKING, THERMOPLASTIC, YIELD LINE, WHITE, 27 IN.
- 47

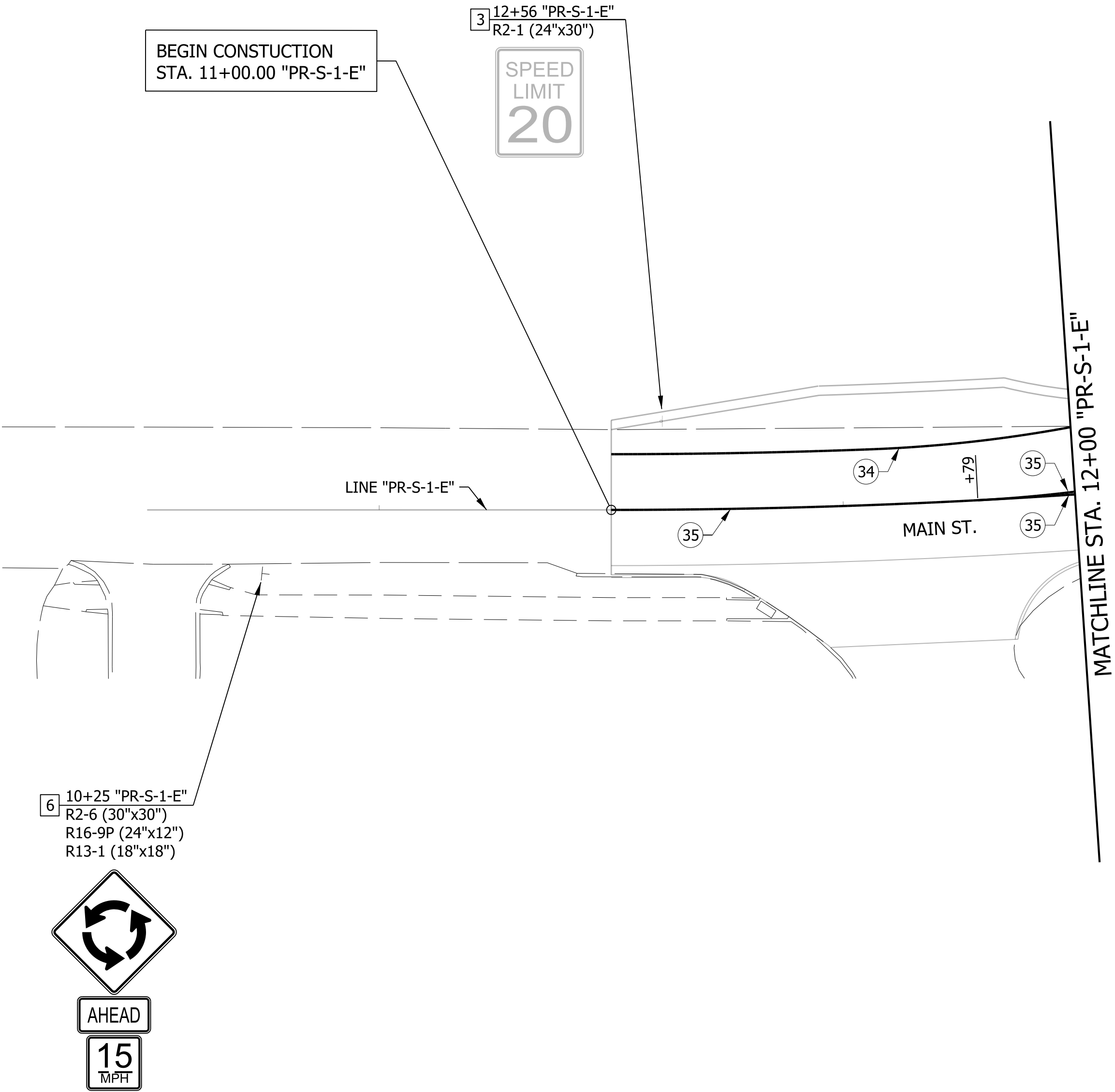
TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 24 IN. AT 40' SPACING

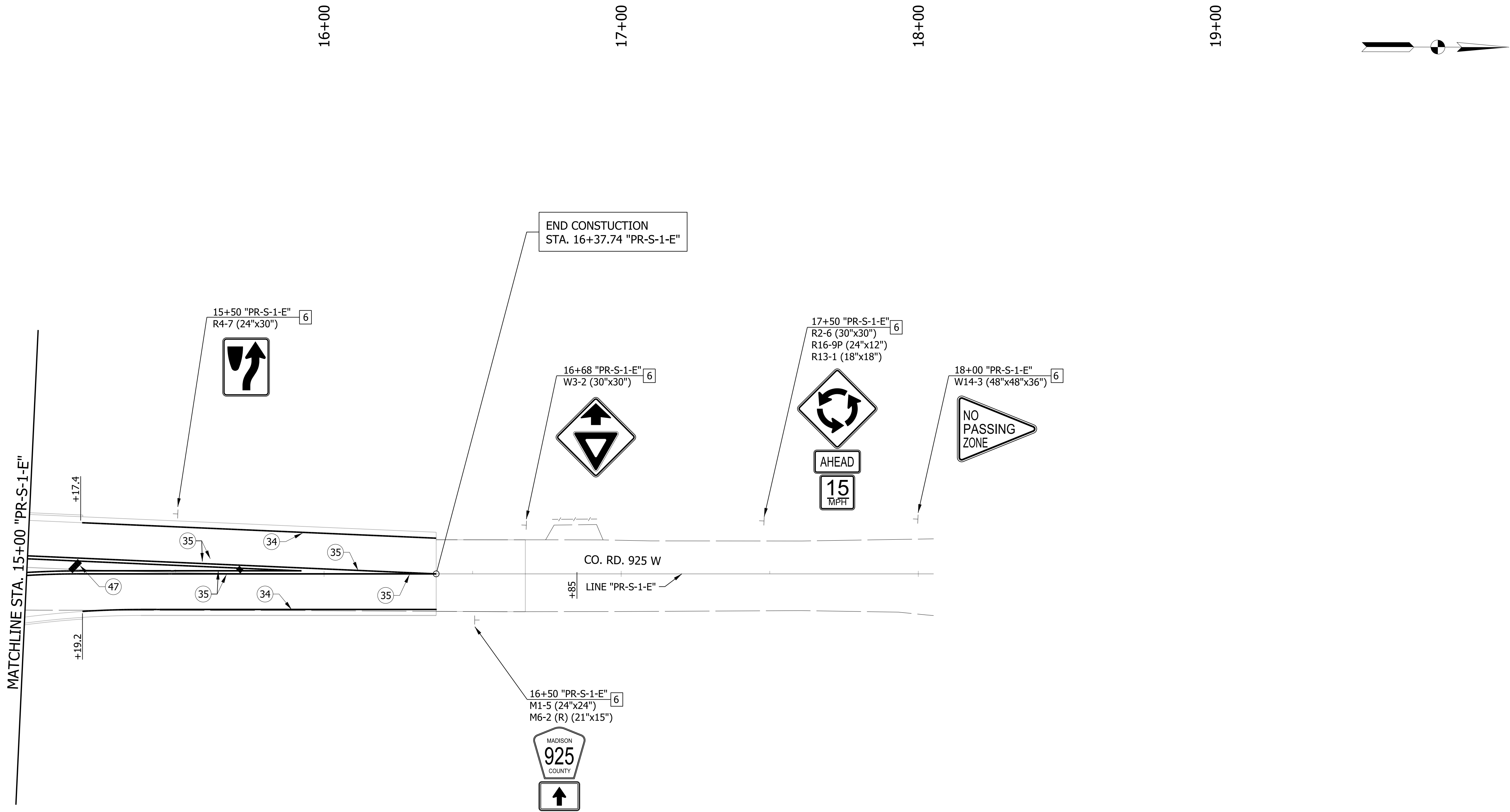
RECOMMENDED FOR APPROVAL _____	
DESIGN ENGINEER _____ DATE _____	
DESIGNED: MRW _____	DRAWN:JWM _____
CHECKED: WRC _____	CHECKED: MRW _____

INDIANA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING
LINE "PR-S-1-E"

HORIZONTAL SCALE	BRIDGE FILE		
1"=20'			
VERTICAL SCALE	DESIGNATION		
N/A	2000161		
SURVEY BOOK	SHEETS		
	38	of	74
CONTRACT R-43476	PROJECT 2000161		





SIGNING LEGEND

- | | |
|---|--|
| 1 | NO CHANGE REQUIRED TO EXIST. SIGN AND SUPPORTS |
| 2 | REMOVE EXIST. SHEET SIGN |
| 3 | REMOVE EXIST. SHEET SIGN AND SUPPORTS |
| 4 | NEW SHEET SIGN ON EXIST. SUPPORTS |
| 5 | NEW SHEET SIGN ON EXIST. POLE |
| 6 | NEW SHEET SIGN AND SUPPORTS |

LEGEND

- | | | | |
|----|--|----|---|
| 33 | LINE, THERMOPLASTIC, DOTTED, WHITE, 8 IN. | 37 | LINE, THERMOPLASTIC, DOUBLE, YELLOW, 6 IN. |
| 34 | LINE, THERMOPLASTIC, SOLID, WHITE, 6 IN. | 39 | TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 24 IN. |
| 35 | LINE, THERMOPLASTIC, SOLID, YELLOW, 6 IN. | 46 | TRANSVERSE MARKING, THERMOPLASTIC, YIELD LINE, WHITE, 27 IN. |
| 36 | LINE, THERMOPLASTIC, BROKEN, YELLOW, 6 IN. | 47 | TRANSVERSE MARKING, THERMOPLASTIC, CROSSHATCH LINE, YELLOW, 24 IN. AT 40' SPACING |

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: JWM
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

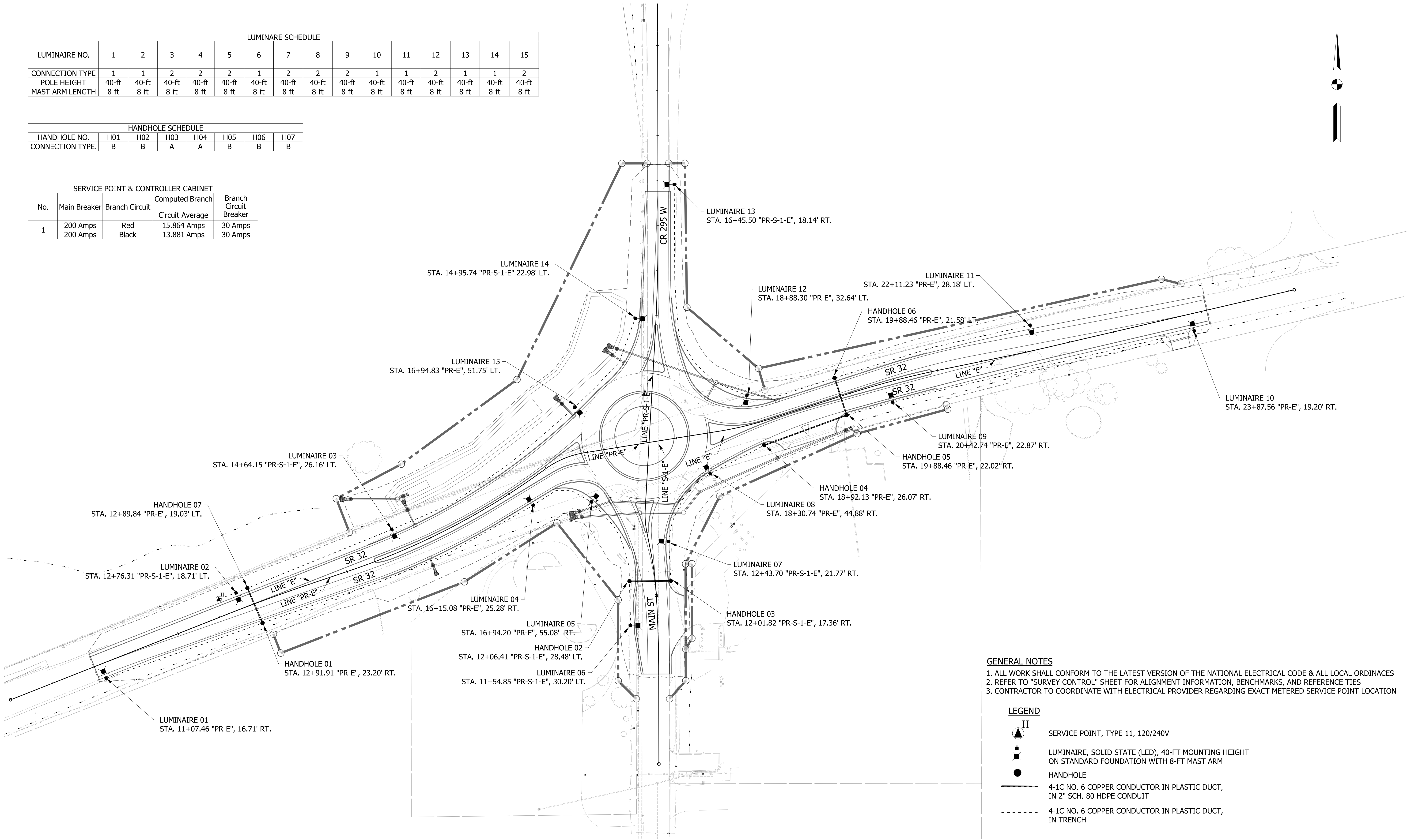
PAVEMENT MARKINGS AND SIGNING
LINE "PR-S-1-E"

HORIZONTAL SCALE	BRIDGE FILE	
1"=20'		
VERTICAL SCALE	DESIGNATION	
N/A	2000161	
SURVEY BOOK	SHEETS	
	39	of 74
CONTRACT	PROJECT	
R-43476	2000161	

LUMINAIRE SCHEDULE															
LUMINAIRE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CONNECTION TYPE	1	1	2	2	2	1	2	2	2	1	1	2	1	1	2
POLE HEIGHT	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft	40-ft
MAST ARM LENGTH	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft	8-ft

HANDHOLE SCHEDULE							
HANDHOLE NO.	H01	H02	H03	H04	H05	H06	H07
CONNECTION TYPE.	B	B	A	A	B	B	B

SERVICE POINT & CONTROLLER CABINET				
No.	Main Breaker	Branch Circuit	Computed Branch Circuit Average	Branch Circuit Breaker
1	200 Amps 200 Amps	Red Black	15.864 Amps 13.881 Amps	30 Amps 30 Amps



- GENERAL NOTES**
- 1. ALL WORK SHALL CONFORM TO THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE & ALL LOCAL ORDINANCES
 - 2. REFER TO "SURVEY CONTROL" SHEET FOR ALIGNMENT INFORMATION, BENCHMARKS, AND REFERENCE TIES
 - 3. CONTRACTOR TO COORDINATE WITH ELECTRICAL PROVIDER REGARDING EXACT METERED SERVICE POINT LOCATION

LEGEND

- SERVICE POINT, TYPE 11, 120/240V
- LUMINAIRE, SOLID STATE (LED), 40-FT MOUNTING HEIGHT ON STANDARD FOUNDATION WITH 8-FT MAST ARM
- HANDHOLE
- 4-1C NO. 6 COPPER CONDUCTOR IN PLASTIC DUCT, IN 2" SCH. 80 HDPE CONDUIT
- 4-1C NO. 6 COPPER CONDUCTOR IN PLASTIC DUCT, IN TRENCH

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN:JWM
CHECKED: WRC	CHECKED: MRW

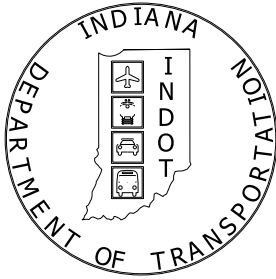
INDIANA DEPARTMENT OF TRANSPORTATION	
LIGHTING DETAILS	

HORIZONTAL SCALE 1"=50'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 40 of 74
CONTRACT R-43476	PROJECT 2000161

PROJECT	DESIGNATION
2000161	2000161
CONTRACT	BRIDGE FILE
R-43476	.

KIN PROJECT INFORMATION	
DESIGNATION	PROJECT DESCRIPTION
2000156	INTERSECTION IMPROVEMENT - SR 32 & SR 13
2000161	INTERSECTION IMPROVEMENT - SR 32 & CR 925 W (LEAD)
2000162	INTERSECTION IMPROVEMENT - SR 32 & CR 600 W

INDIANA DEPARTMENT OF TRANSPORTATION



RIGHT-OF-WAY PLANS

ROUTE: SR 32

FROM: RP 94+25 TO: RP 94+50

PROJECT NO. 2000161 P.E.

2000161 R/W

2000161 CONST.

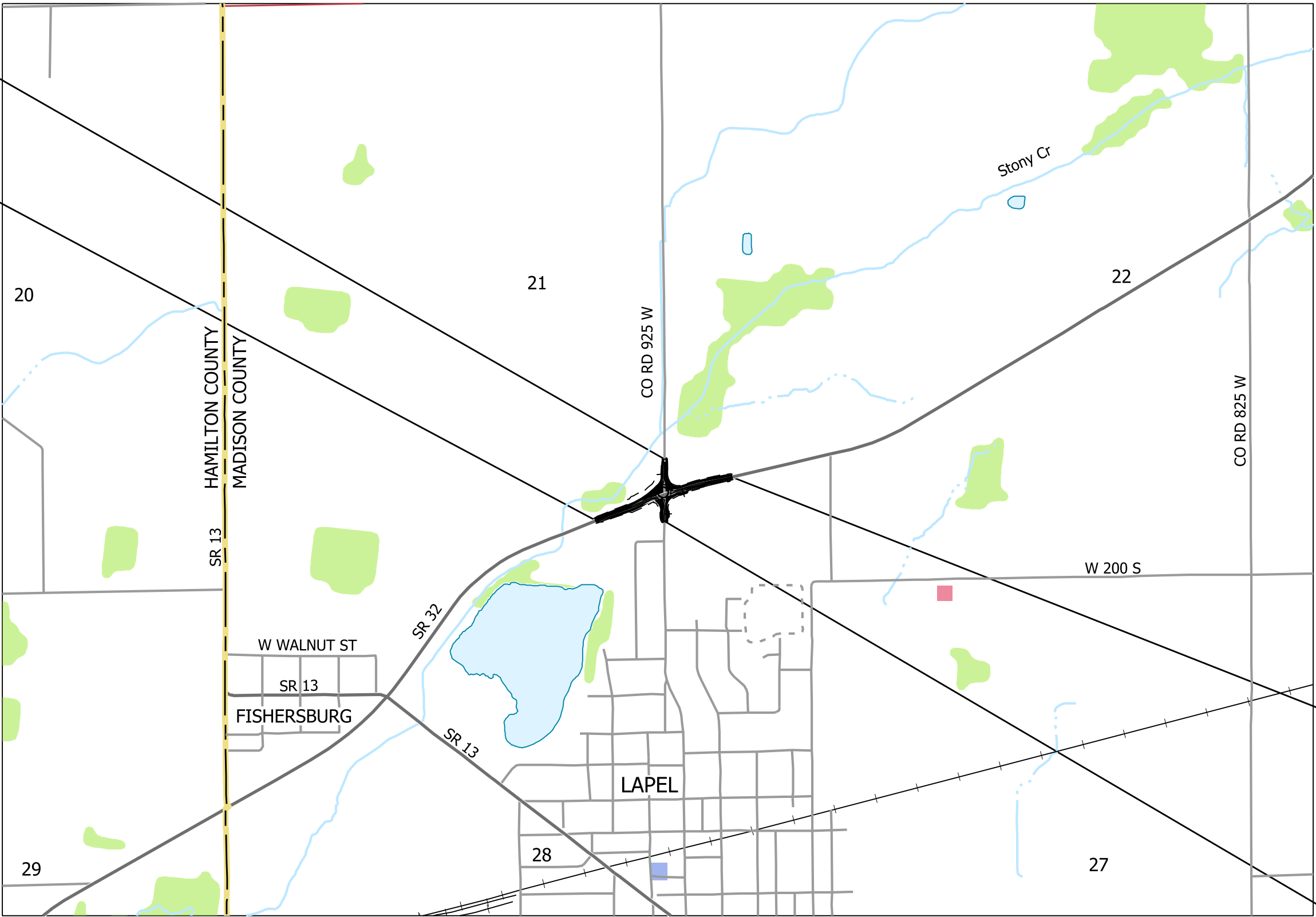
L.A. CODE: 7573

DES. NO.: 2000161

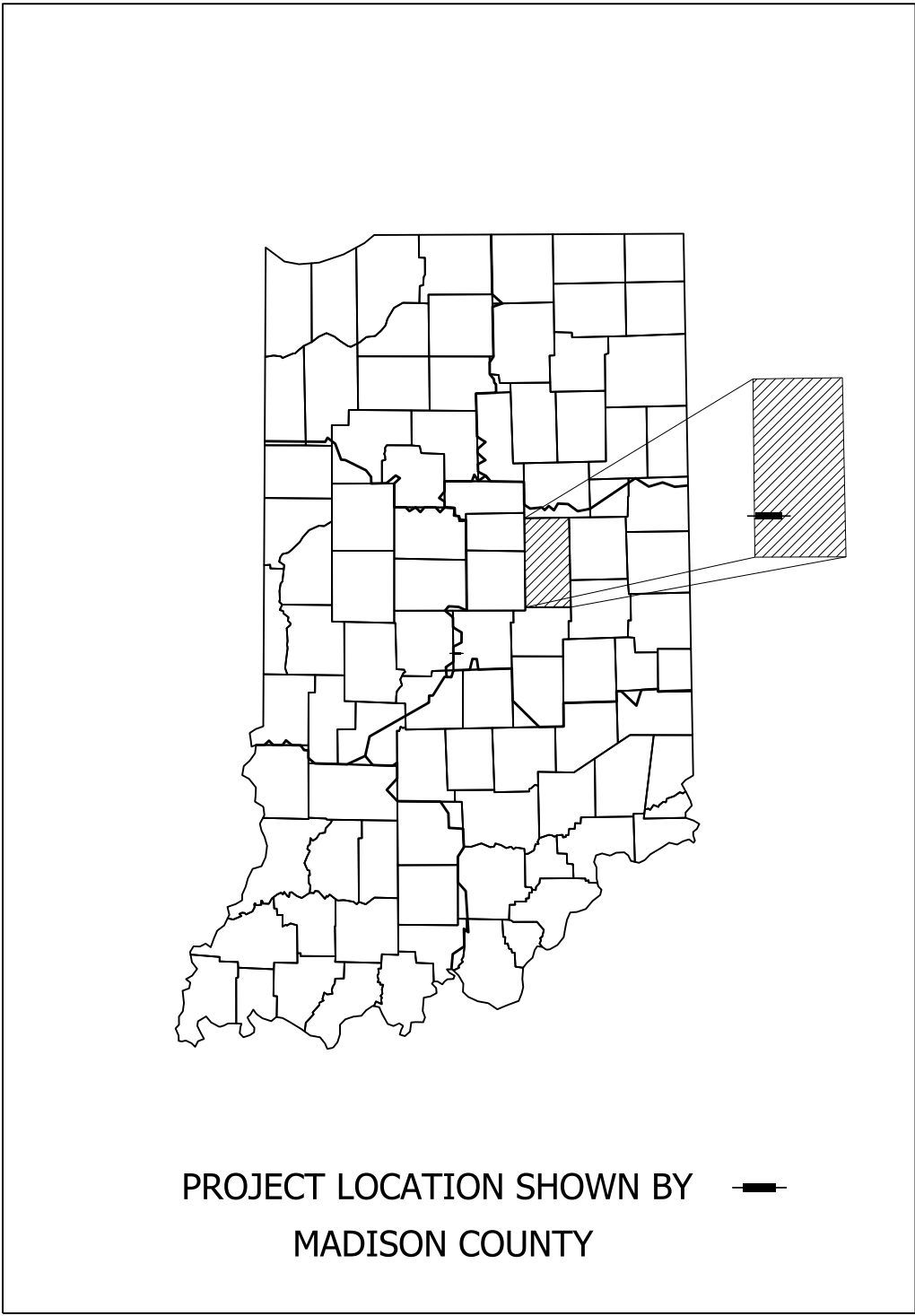
ROUNDBOUT CONSTRUCTION AT THE INTERSECTION OF SR 32 AND COUNTY ROAD 925 W.
LOCATED IN SECTION 21, T-19-N, R-6-E IN STONY CREEK TOWNSHIP, MADISON COUNTY, INDIANA

END CONSTRUCTION
STA. 16+37.74 "PR-S-1-E"

BEGIN PROJECT NO. 2000161
STA. 11+00.00 "PR-E"



LOCATION MAP
MADISON COUNTY



LATITUDE: 40° 04' 37" N LONGITUDE: 85° 50' 56" W
HUC 14: 05120201070040

BRIDGE LENGTH:	N/A	MI.
ROADWAY LENGTH:	0.25	MI.
TOTAL LENGTH:	0.25	MI.
MAX. GRADE:	2.05	%

END PROJECT NO. 2000161
STA. 24+06.21 "PR-E"

BEGIN CONSTRUCTION
STA. 11+00.00 "PR-S-1-E"

PRELIMINARY RIGHT-OF-WAY
01/31/2024

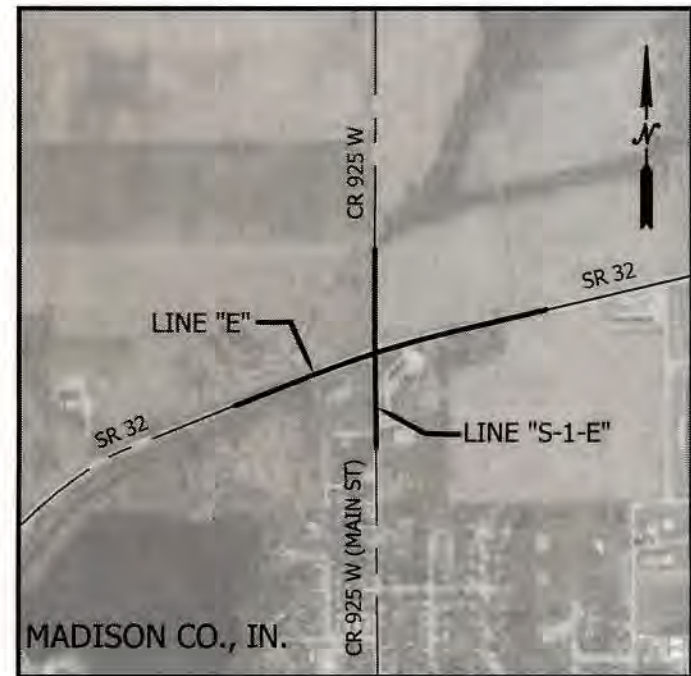
Michael Baker
INTERNATIONAL

Michael Baker International, Inc.
3815 River Crossing Parkway, Suite 120
Indianapolis, IN 46240
Tel: 317-663-8430 Fax: 317-663-8410
www.mbakertntl.com

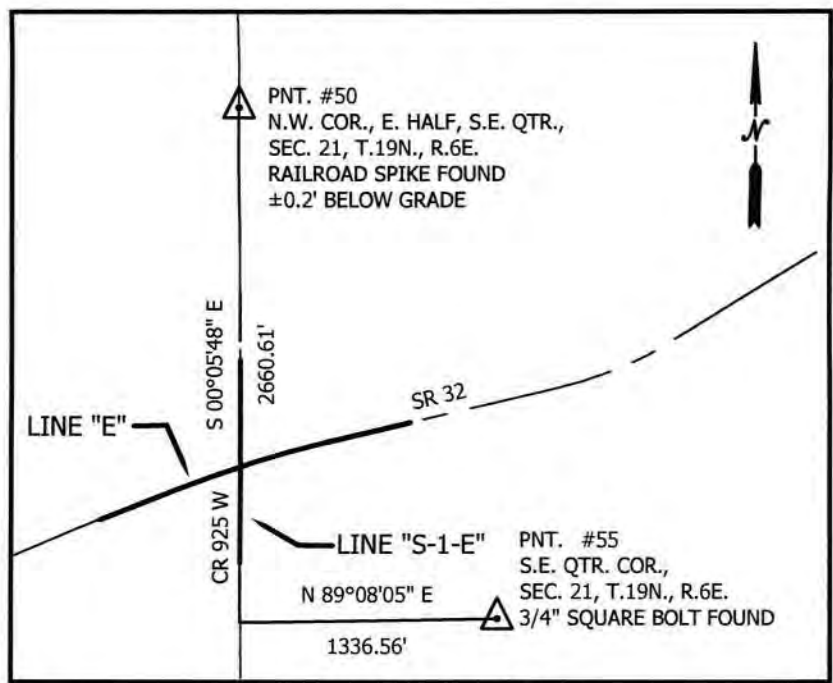
APPROVED: _____ CHIEF, DIVISION OF REAL ESTATE DATE _____

RECOMMENDED FOR APPROVAL: _____ MANAGER, R/W ENGINEERING SECTION DATE _____

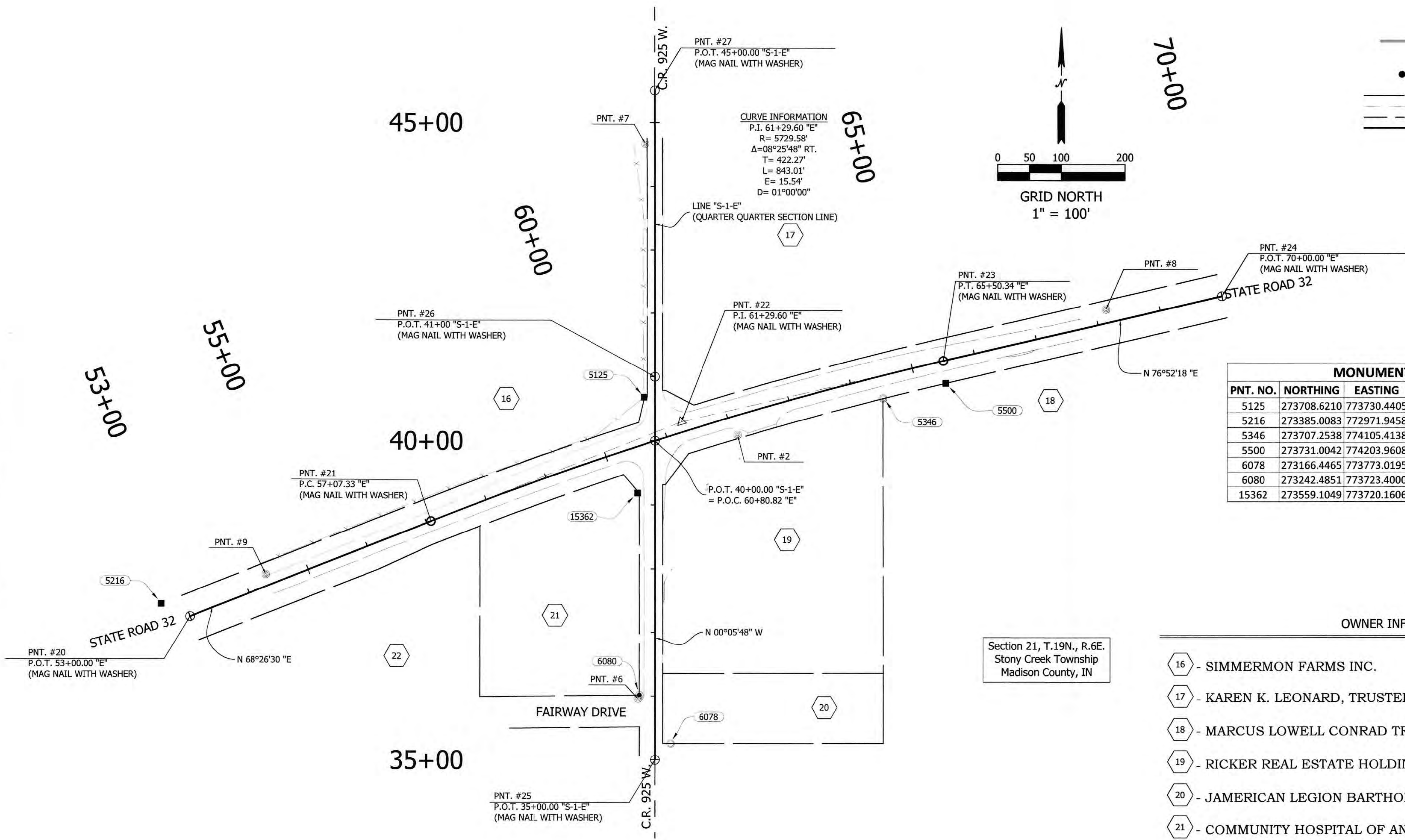
	BRIDGE FILE	
	DESIGNATION	
	2000161	
SURVEY BOOK	SHEETS	
	01	of 25
	PROJECT	
CONTRACT	PROJECT	
R-43476	2000161	



VICINITY MAP
1" = 1000'



SECTION DETAIL
1" = 1000'



LEGEND	
	- CONTROL POINT
	- CONCRETE RIGHT-OF-WAY MARKER
	- MONUMENT FOUND
	- SECTION CORNER
	- APPARENT PROPERTY LINE
	- LOT LINE
	- SECTION LINE
	- ALIGNMENT

MONUMENTATION INFORMATION			
PNT. NO.	NORTHING	EASTING	DESCRIPTION
5125	273708.6210	773730.4405	RIGHT OF WAY MONUMENT FOUND
5216	273385.0083	772971.9458	RIGHT OF WAY MONUMENT FOUND
5346	273707.2538	774105.4138	1.5" PIPE FOUND
5500	273731.0042	774203.9608	RIGHT OF WAY MONUMENT FOUND
6078	273166.4465	773773.0195	1/2" PIPE FOUND
6080	273242.4851	773723.4000	MILLER SURVEYING S0383 CAPPED REBAR FOUND
15362	273559.1049	773720.1606	RIGHT OF WAY MONUMENT FOUND

OWNER INFORMATION

- 16 - SIMMERMON FARMS INC.
- 17 - KAREN K. LEONARD, TRUSTEE
- 18 - MARCUS LOWELL CONRAD TRUST AGREEMENT
- 19 - RICKER REAL ESTATE HOLDINGS, LLC
- 20 - JAMERICAN LEGION BARTHOLOMEW WHETSEL POST #212
- 21 - COMMUNITY HOSPITAL OF ANDERSON AND MADISON COUNTY
- 22 - DEANNA G. YANCEY, TRUSTEE, ET AL.

File Name: P:\SV\CD\21-802 SR32 Intersections - Madison Co\dwg\survey.dwg Plot Date: 9/1/2022 4:06 PM Plotted By: Taylor DeGolyer

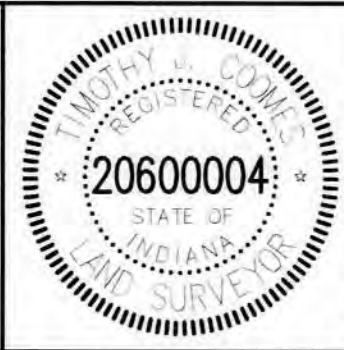
SURVEY STARTED	
10/27/211	
SURVEY COMPLETED	
7/27/2022	
ROUTE PLAT SHEET	
2	of 6



8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

SURVEYOR CERTIFICATION

I CERTIFY THAT THIS SURVEY (PERFORMED IN THE FIELD FROM OCTOBER 27, 2021 TO JULY 25, 2022) WAS PERFORMED IN WHOLE UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, WAS EXECUTED ACCORDING TO THE SURVEY REQUIREMENTS CONTAINED WITHIN TITLE 865, ARTICLE 1, RULE 12 OF THE INDIANA ADMINISTRATIVE CODE.

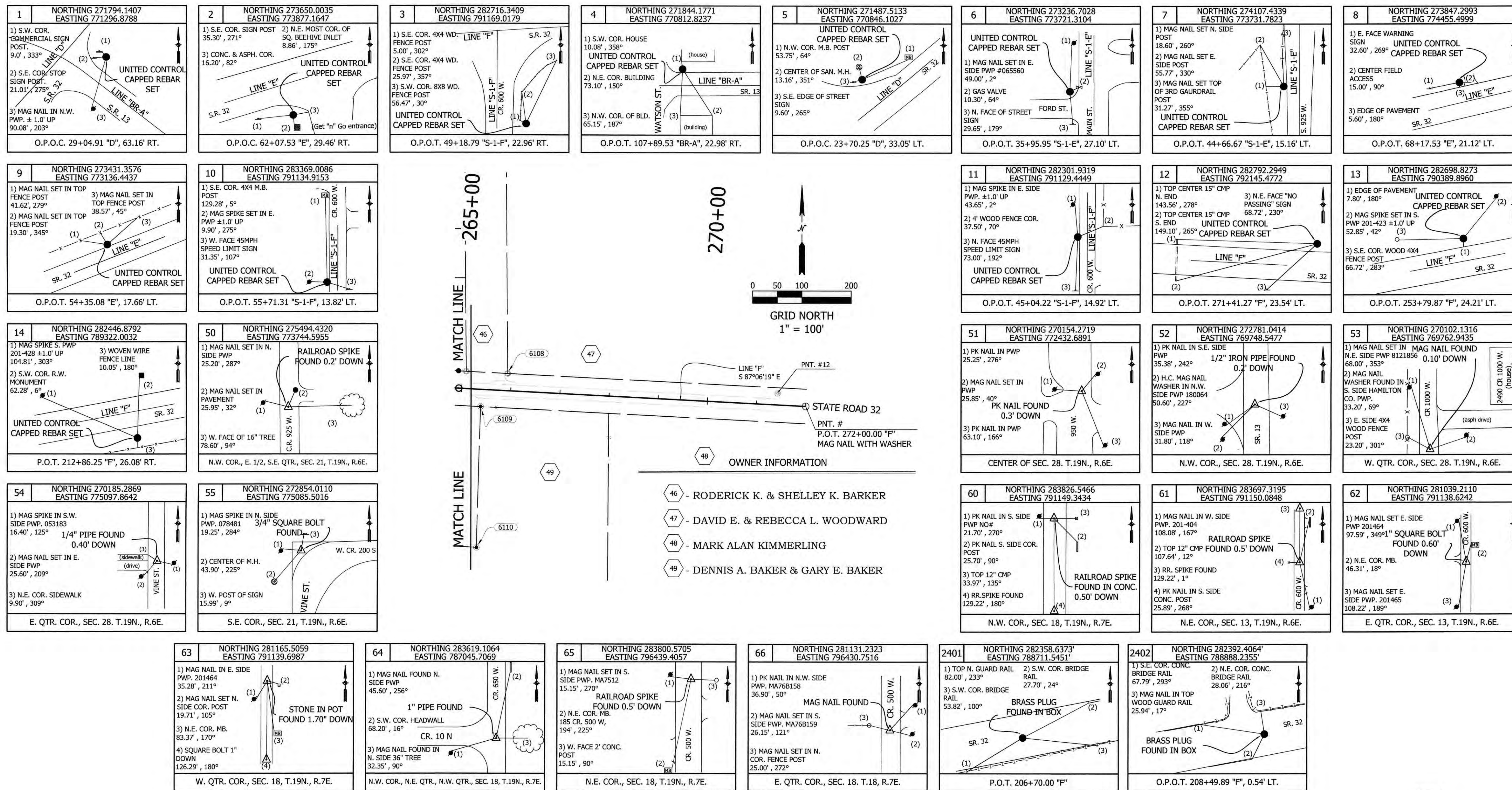


RECOMMENDED FOR APPROVAL	
REGISTERED LAND SURVEYOR	
DATE 9/6/2022	
DRAWN BY: T. DEGOLYER	CHECKED BY: T. COOMES
FIELD CREW: M. MULRYAN	FIELD CREW: S. HOWELL

Prepared for the
INDIANA
DEPARTMENT OF TRANSPORTATION

LOCATION CONTROL ROUTE SURVEY
SR. 32 INTERSECTION IMPROVEMENTS
Madison County, Indiana

HORIZONTAL SCALE	1"=100'
VERTICAL SCALE	N/A
SURVEY JOB NO.	21-802
DESIGNATION NO.	2000161
REVISIONS:	
SHEETS	
3	of 25
PROJECT	



MONUMENTATION INFORMATION			
PNT. NO.	NORTHING	EASTING	DESCRIPTION
6108	282831.5116	791597.7006	1/2" PIPE FOUND
6109	282764.5303	791542.1108	VANWIENEN LS20500018 CAPPED REBAR FOUND
6110	282477.9472	791534.2928	VANWIENEN LS20500018 CAPPED REBAR FOUND

LEGEND	
	- CONTROL POINT
	- CONCRETE RIGHT-OF-WAY MARKER
	- MONUMENT FOUND
	- SECTION CORNER
	- APPARENT PROPERTY LINE
	- LOT LINE
	- SECTION LINE
	- ALIGNMENT

File Name: P:\SV\CD\21-802 SR32 Intersections - Madison Co\DWG\survey.dwg Plot Date: 9/17/2022 4:05 PM Plotted By: Taylor DeGolyer

SURVEY STARTED	
10/27/21	
SURVEY COMPLETED	
7/25/22	
ROUTE PLAT SHEET	
4	of 6



8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

SURVEYOR CERTIFICATION

I CERTIFY THAT THIS SURVEY (PERFORMED IN THE FIELD FROM OCTOBER 27, 2021 TO JULY 25, 2022) WAS PERFORMED IN WHOLE UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, WAS EXECUTED ACCORDING TO THE SURVEY REQUIREMENTS CONTAINED WITHIN TITLE 865, ARTICLE 1, RULE 12 OF THE INDIANA ADMINISTRATIVE CODE.



RECOMMENDED FOR APPROVAL

T. Coomes 9/6/2022
REGISTERED LAND SURVEYOR DATE

DRAWN BY: T. DEGOLYER

CHECKED BY: T. COOMES

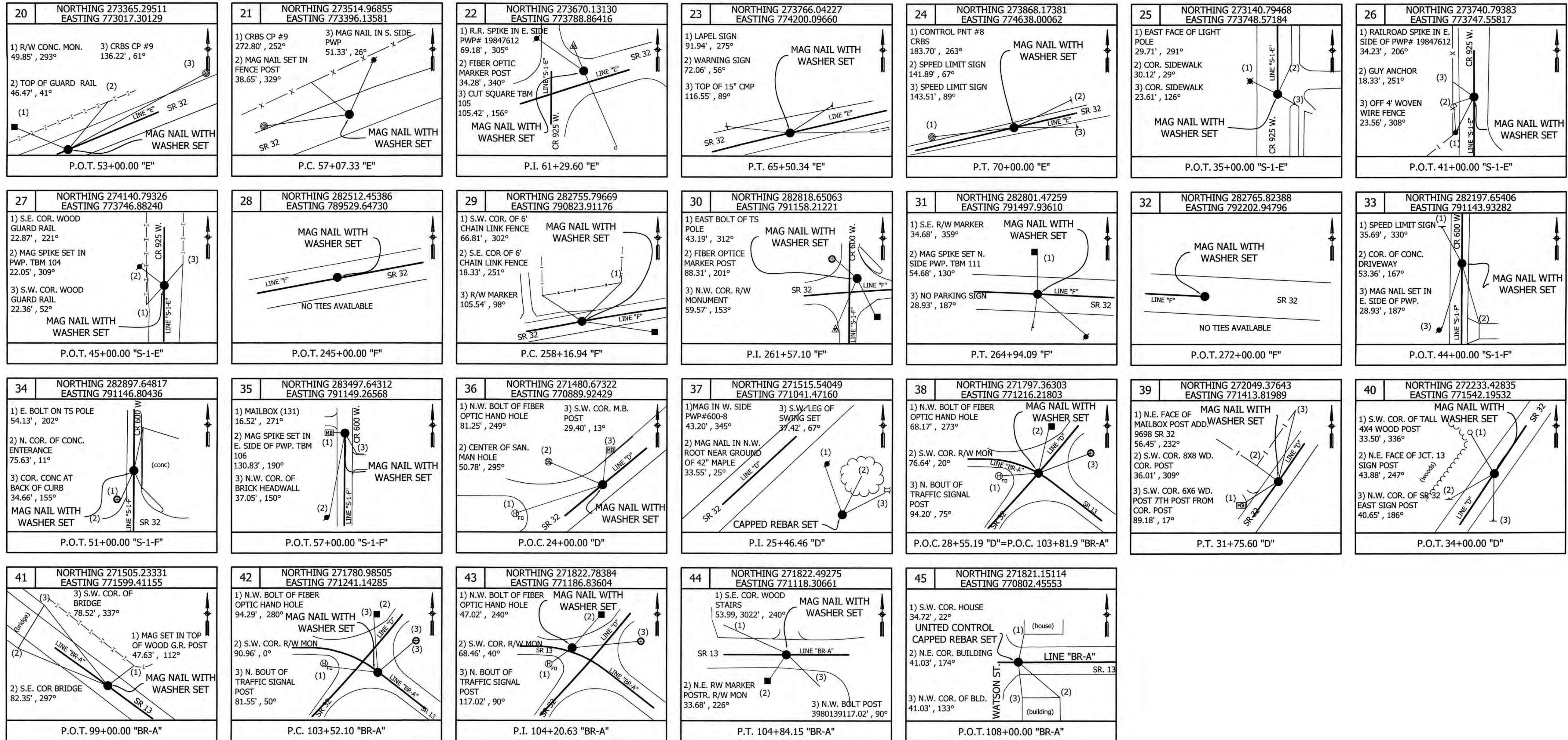
FIELD CREW: M. MULRYAN

FIELD CREW: S. HOWELL

Prepared for the
INDIANA
DEPARTMENT OF TRANSPORTATION

LOCATION CONTROL ROUTE SURVEY
SR. 32 INTERSECTION IMPROVEMENTS
Madison County, Indiana

HORIZONTAL SCALE		REVISIONS:	
1"=100'			
VERTICAL SCALE			
N/A			
SURVEY JOB NO.		SHEETS	
21-802		4	of 25
DESIGNATION NO.		PROJECT	
2000162			



File Name: P:\SV\CD\21-802 SR32 Intersections - Madison Co\Drawings\survey.dwg Plot Date: 9/1/2022 4:05 PM Plotted By: Taylor DeGolyer

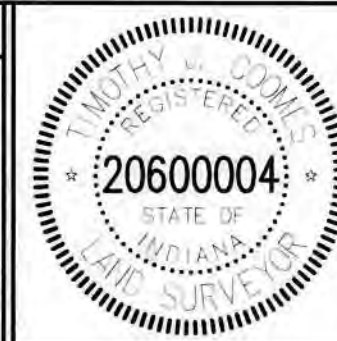
SURVEY STARTED	10/27/21
SURVEY COMPLETED	7/25/22
ROUTE PLAT SHEET	5 of 6



8440 Allison Pointe Boulevard, Suite 200
Indianapolis, IN 46250
Phone 317-895-2585
www.ucindy.com

SURVEYOR CERTIFICATION

I CERTIFY THAT THIS SURVEY (PERFORMED IN THE FIELD FROM OCTOBER 27, 2021 TO JULY 25, 2022 WAS PERFORMED IN WHOLE UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, WAS EXECUTED ACCORDING TO THE SURVEY REQUIREMENTS CONTAINED WITHIN TITLE 865, ARTICLE 1, RULE 12 OF THE INDIANA ADMINISTRATIVE CODE.



RECOMMENDED FOR APPROVAL: *[Signature]* 9/6/2022
REGISTERED LAND SURVEYOR
DATE
DRAWN BY: T. DEGOLYER
CHECKED BY: T. COOMES
FIELD CREW: M. MULRYAN
FIELD CREW: S. HOWELL

Prepared for the
INDIANA
DEPARTMENT OF TRANSPORTATION
LOCATION CONTROL ROUTE SURVEY
SR. 32 INTERSECTION IMPROVEMENTS
Madison County, Indiana

HORIZONTAL SCALE	1"=100'
VERTICAL SCALE	N/A
SURVEY JOB NO.	21-802
DESIGNATION NO.	
REVISIONS:	
SHEETS	5 of 25
PROJECT	

SURVEYOR REPORT:
Project: S.R. 32 Intersection Improvements

Client: Indiana Department of Transportation

These projects are located in Section 18, Township 19 North, Range 7 East and Sections 13, 21, & 28, Township 19 North, Range 6 East, of the Second Principal Meridian, Stony Creek Township, Madison County, Indiana. The scope of the project was to obtain data to be used for the intersection improvements along S.R. 32. at S.R. 13, CR 925 W., and CR 600 W. An original survey field book and topographic data was to be provided to the client. Any apparent property lines and corners, subdivision lines and corners, or section lines and corners are based on physical evidence or testimony. If additional U.S.P.L.S. corners are required for said improvements, they should be tied into and referenced to this survey.

Lines "F" (SR32) from Sta. 205+00.00 to 215+02.44 is the re-establishment of Line "Br A" from Proj. ST-088-6(1) from Indiana State Highway Commission plans dated 9/5/1984 for the replacement of the SR32 bridge over Stony Creek. The stationing matches said plans. The remainder of Line "F", as well as Line "D" and "E" are the re-establishment of Line "A" from F.A. Project No. 251 Sec. C from State of Indiana State Highway Commission plans dated 3/7/1932.

Line "BR-A" (SR13) from Sta. 99+00.00 to 103+81.95 is the re-establishment of Line "BRA" from Proj. RS-4648(1) from Indiana State Highway Commission plans dated 2/29/1980 for the replacement of the SR13 bridge over Stony Creek. The stationing matches said plans. The remainder of Line "BR-A" is along the physical centerline of SR13 (Main Street) and the stationing was a continuation from said Proj. RS-4648(1).

Line "S-1-E" (C.R. 925 W.) was established along the west line of the east half of the Southeast Quarter of Section 21, T19N, R6E. Stationing is assumed.

Line "S-1-F" (C.R. 600 W.) was established along the east line of the Northeast Quarter of Section 13, T19N, R6E. Stationing is assumed.

The Basis of Bearings for the survey is the Indiana Geospatial Coordinate System's (InGCS) "Madison" Zone per NAD 83 (2011) EPOCH 2010.0000. The horizontal control system was established by using the National Geodetic Survey's Online Positioning User Service (OPUS). Using Trimble R10 GPS equipment, an OPUS solution was performed at Control Point #1, Control Point #2, and Control Point #3. The following information resulted from said solution:

Control Point #1
Latitude (NAD_83(2011)(EPOCH:2010.0000)): N 40°04'18.68963"
Longitude (NAD_83(2011)(EPOCH:2010.0000)): W 85°51'27.12949"
Northing (ISPCS-EZ): 1,756,930.9698
Easting (ISPCS-EZ): 274,666.6734
Elevation (NAVD 88): 832.45'

Control Point #2
Latitude (NAD_83(2011)(EPOCH:2010.0000)): N 40°04'37.04416"
Longitude (NAD_83(2011)(EPOCH:2010.0000)): W 85°50'53.95304"
Northing (ISPCS-EZ): 1,758,782.8418
Easting (ISPCS-EZ): 277,249.5650
Elevation (NAVD 88): 834.995'

Control point #3
Latitude (NAD_83(2011)(EPOCH:2010.0000)): N 40°06'06.66965"
Longitude (NAD_83(2011)(EPOCH:2010.0000)): W 85°47'11.49900"
Northing (ISPCS-EZ): 1,767,822.6464
Easting (ISPCS-EZ): 294,553.8207
Elevation (NAVD 88): 867.85'

Using said results, the project was established on the Indiana Geospatial Coordinate System's (INGCS) "Madison" zone per NAD83 (2011) EPOCH 2010.0000 using Trimble Business Center (TBC) software. the following are the resulting coordinates for CP #1, CP #2, and CP#3 on said "Madison" zone.

CP #1
Northing (InGCS-MADISON): 271,794.1407
Easting (InGCS-MADISON): 771,296.8788

CP #2
Northing (InGCS-MADISON): 273,650.0035
Easting (InGCS-MADISON): 773,877.1647

CP #3
Northing (InGCS-MADISON): 282,716.3409
Easting (InGCS-MADISON): 791,169.0179

The vertical datum of the project is the North American Vertical Datum of 1988 (NAVD 88). It was established by holding the OPUS solution elevations of 832.45' and 867.85' for CP #1 and #2, respectively. Additional temporary benchmarks and control points were established throughout the project through differential leveling using a Trimble DiNI digital level.

Cross-section and topographic information within the project limits was collected using Trimble R10, R12, and R12i GPS equipment, a Trimble S5 robotic total station, TSC7 and TSC5 data collectors and an electronic field book. The topography of the project is graphically represented in AutoCAD 2019 format, and coordinate information is provided in a ".txt" file in the following format:

Point Number, Northing, Easting, Elevation, Description

Deed line and existing right-of-way information is shown per records on file with the Madison County Recorder's Office and land acquisition grants and deeds provided by INDOT for F.A. Project No. 251 Sec. C. The land acquisition grants from this project were signed in the 1930's and recorded later in the 1970's. Existing right of way is shown per grants as several right of way monuments were found at each of these three SR32 intersections. Also, many of the current property deeds reference the SR32 right of way. Additional land acquisition deeds were provided by INDOT for Proj. RS-4648(1) and Proj. ST-088-6(1). Owner information shown is based on current tax records in the Auditor's Office of said Madison County.

The uncertainty associated with the locations of any of the route survey control lines due to occupation or possession lines is, in my opinion, negligible.

Monuments were called for and found at the following section and quarter section per Madison County Surveyors Office (M.C.S.O.) reference ties. The uncertainty associated with the location of these monuments is, in my opinion, negligible.

- Pnt. #50 - A Railroad Spike was found 0.2' below grade at the northwest corner of the east half of the southeast quarter of Section 21, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #51 - A PK Nail was found 0.3' below grade at the center of Section 28, Township 19 North, Range 6 East.
- Pnt. #52 - A 1/2" Iron Pin was found 0.2' below grade at the northwest corner of Section 28, Township 19 North, Range 6 East.
- Pnt. #53 - A Mag Nail was found 0.1' below grade at the west quarter corner of Section 28, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #54 - A 1/4" Pipe was found at the east quarter corner of Section 28, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were referenced.
- Pnt. #55 - A 3/4" Square Bolt was found 0.1" below grade at the southeast corner of Section 21, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.

SURVEYOR REPORT CONT. :

- Pnt. #60 - A Railroad Spike in concrete was found 0.5' below grade at the northwest corner of Section 18, Township 19 North, Range 7 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #61 - A Railroad Spike was found 0.5' below grade at the northeast corner of Section 13, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #62 - A 1" Square Bolt was found 0.6' below grade at the east quarter corner of Section 13, Township 19 North, Range 6 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #63 - A Stone in Pot was found 1.70' below grade at the west quarter corner of Section 18, Township 19 North, Range 7 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #64 - A 1" Pipe was found at the northwest corner of the northeast quarter corner of Section 18, Township 19 North, Range 7 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #65 - A Railroad Spike was found 0.5' below grade at the northeast corner of Section 18, Township 19 North, Range 7 East. A reference tie sheet for said corner was available from MCSO, but said ties were no longer there. New ties were set and referenced.
- Pnt. #66 - A Mag Nail was found at the east quarter corner of Section 18, Township 19 North, Range 7 East.

Monuments set during this survey for Line "D", "BR-A", "E", "F", "S-1-E", and "S-1-F" are considered original monuments and therefore have no uncertainty associated with their locations.

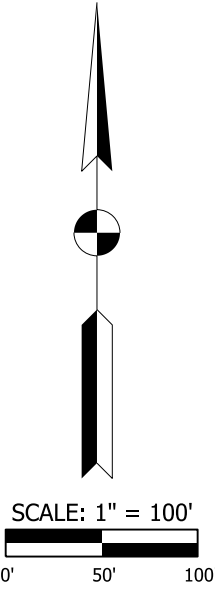
This survey (performed in the field from October 27, 2021 to July 25, 2022 under my supervision), to the best of my knowledge and belief, was executed according to the provisions of Title 965 of the Indiana

MONUMENTS ISPCS-EZ		
POINT NUMBER	NORTHING	EASTING
1	1756930.9698	274666.6734
2	1758782.8418	277249.5650
3	1767822.6464	294553.8207
4	1756981.7279	274182.7259
5	1756625.0383	274215.4683
6	1758369.8025	277093.1021
7	1759240.4590	277104.8777
8	1758979.2577	277828.1566
9	1758565.3203	276508.5666
10	1768475.3201	294520.6987
11	1767408.3254	294513.6293
12	1767897.1316	295530.3262
13	1767806.3019	293774.7264
14	1767555.9719	292706.5297
20	1758499.4408	276389.3333
21	1758648.5366	276768.3664
22	1758803.1005	277161.3006
23	1758898.3889	277572.6489
24	1758999.8574	278010.6762
25	1758273.8601	277120.2180
26	1758873.8201	277120.1033
27	1759273.7935	277120.0268
28	1767621.2308	292914.2578
29	1767862.6168	294208.7976
30	1767924.9653	294543.1691
31	1767907.2793	294882.8437
32	1767870.5763	295587.7534
33	1767304.0331	294527.9599
34	1768003.9745	294531.8805
35	1768603.9242	294535.2410
36	1756618.1330	274259.2767
37	1756652.7710	274410.8660
38	1756934.3127	274586.0228
39	1757186.0131	274783.9889
40	1757369.8604	274912.6313
41	1756641.6287	274968.7530
42	1756917.8986	274610.9215
43	1756959.7758	274556.6809
44	1756959.5875	274488.1557
45	1756958.7190	274172.3239
50	1760627.3440	277119.7681
51	1755289.5104	275799.9506
52	1757920.1234	273119.9250
53	1755241.3725	273130.3070
54	1755316.5313	278464.9917
55	1757985.0930	278456.6276
60	1768932.8048	294535.8117
61	1768803.5856	294536.3593
62	1766145.6781	294520.9154

MONUMENTS ISPCS-EZ		
POINT NUMBER	NORTHING	EASTING
63	1766271.9627	294522.1791
64	1768731.5303	290432.1474
65	1768898.9008	299825.4679
66	1766229.7614	299812.8134
1039	1757009.1287	274604.6693
1082	1756853.8004	274463.5858
1515	1756937.3929	274462.6399
1552	1756918.1653	274679.0252
2171	1756604.3152	274298.8897
2310	1757206.0684	274755.3075
2395	1756925.8626	274223.7962
2396	1756709.0457	274311.9184
2401	1767468.6510	292095.9815
2402	1767502.1530	292272.7103
2671	1767573.1555	292463.3608
2707	1767618.8316	292709.6020
3004	1767755.0253	293437.7977
3651	1767842.8700	294511.8463
5125	1758841.6751	277102.9386
5216	1758519.2206	276344.0104
5346	1758839.7462	277477.8844
5500	1758863.3474	277576.4603
6078	1758299.4735	277144.7024
6080	1758375.5813	277095.2002
6106	1767942.4324	294882.5304
6107	1767941.7163	294898.2879
6108	1767937.1666	294982.6463
6109	1767870.2733	294926.9600
6110	1767583.7217	294918.7130
6111	1767622.0754	294728.8505
6112	1767712.7428	294729.0807
6113	1767728.7240	294755.0497
6114	1767876.6501	294760.2567
6115	1767872.2007	294568.1986
6116	1767870.8708	294569.4034
6117	1767848.0839	294549.9173
6118	1767722.5949	294549.3942
6119	1767622.8422	294548.8056
6120	1767522.5634	294547.5444
6121	1767322.7646	294547.3598
6645	1767880.7748	294118.4863
6646	1768265.2727	294509.2314
6647	1768485.2085	294509.6516
6648	1768803.2472	294511.5352
6649	1768699.0286	294559.1500
6650	1768464.7438	294557.5128
15362	1758692.1845	277092.4354
15706	1767942.3077	294575.9260

File Name: P:\SV\CD\21-802 SR32 Intersections - Madison Co\DWG\survey.dwg Plot Date: 9/1/2022 4:04 PM Plotted By: Taylor DeGolyer

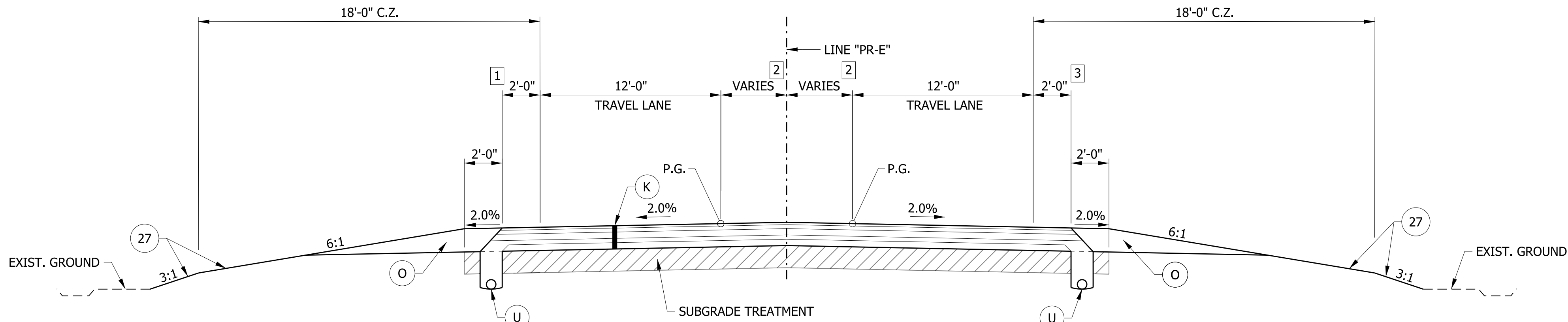
SURVEY STARTED 10/27/21 SURVEY COMPLETED 7/25/22 ROUTE PLAT SHEET 6 of 6	 8440 Allison Pointe Boulevard, Suite 200 Indianapolis, IN 46250 Phone 317-895-2585 www.ucindy.com	SURVEYOR CERTIFICATION I CERTIFY THAT THIS SURVEY (PERFORMED IN THE FIELD FROM OCTOBER 27, 2021 TO JULY 25,2022 WAS PERFORMED IN WHOLE UNDER MY DIRECT SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, WAS EXECUTED ACCORDING TO THE SURVEY REQUIREMENTS CONTAINED WITHIN TITLE 865, ARTICLE 1, RULE 12 OF THE INDIANA ADMINISTRATIVE CODE.	 RECOMMENDED FOR APPROVAL  9/6/2022 REGISTERED LAND SURVEYOR DATE DRAWN BY: T. DEGOLYER CHECKED BY: T. COOMES FIELD CREW: S. HOWELL FIELD CREW: M. MULRYAN	Prepared for the INDIANA DEPARTMENT OF TRANSPORTATION LOCATION CONTROL ROUTE SURVEY SR. 32 INTERSECTION IMPROVEMENTS Madison County, Indiana	HORIZONTAL SCALE 1"=100' VERTICAL SCALE N/A SURVEY JOB NO. 21-802 DESIGNATION NO. REVISIONS: SHEETS 6 of 25 PROJECT
--	---	--	--	--	--



RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE		BRIDGE FILE	
				1"=100'			
				VERTICAL SCALE		DESIGNATION	
				N/A		2000161	
DESIGNED: MRW	DRAWN: JEC		PLAT NO. 1	SURVEY BOOK		SHEETS	
					07	of	25
CHECKED: WRC	CHECKED: MRW			CONTRACT		PROJECT	
				R-43476		2000161	

1/31/2024

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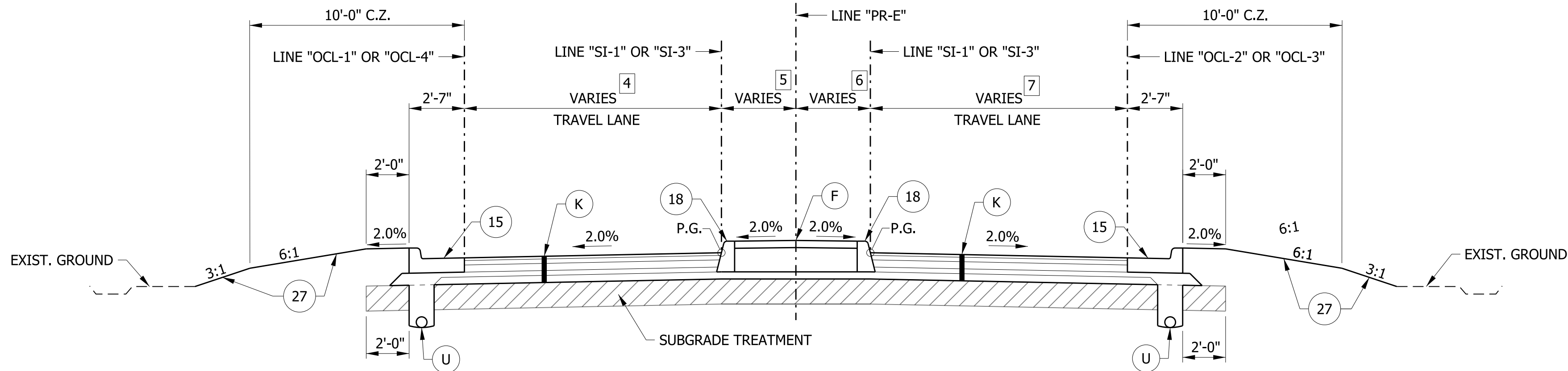


1 WIDTH VARIES FROM 3.40' AT STA. 11+00.00 TO 2.00' AT STA. 14+32.33
WIDTH EQUALS 2' FROM STA. 20+93.50 TO STA. 21+16.00
WIDTH VARIES FROM 2.00' AT STA. 21+16.00 TO 4.63' AT STA. 24+06.20

TYPICAL SECTION - ROUNDABOUT APPROACH

STA. 11+00.00 TO STA. 14+32.33 LINE "PR-E"
STA. 20+93.50 TO STA. 24+06.21 LINE "PR-E"

2 WIDTH VARIES FROM 0.00' AT STA. 11+00.00 TO 6.00' AT STA. 14+32.33
3 WIDTH VARIES FROM 3.40' AT STA. 11+00.00 TO 2.00' AT STA. 11+64.00
WIDTH EQUALS 2' FROM STA. 11+64.00 TO STA. 14+32.33
WIDTH VARIES FROM 3.86' AT STA. 20+93.50 TO 3.41' AT STA. 24+06.20



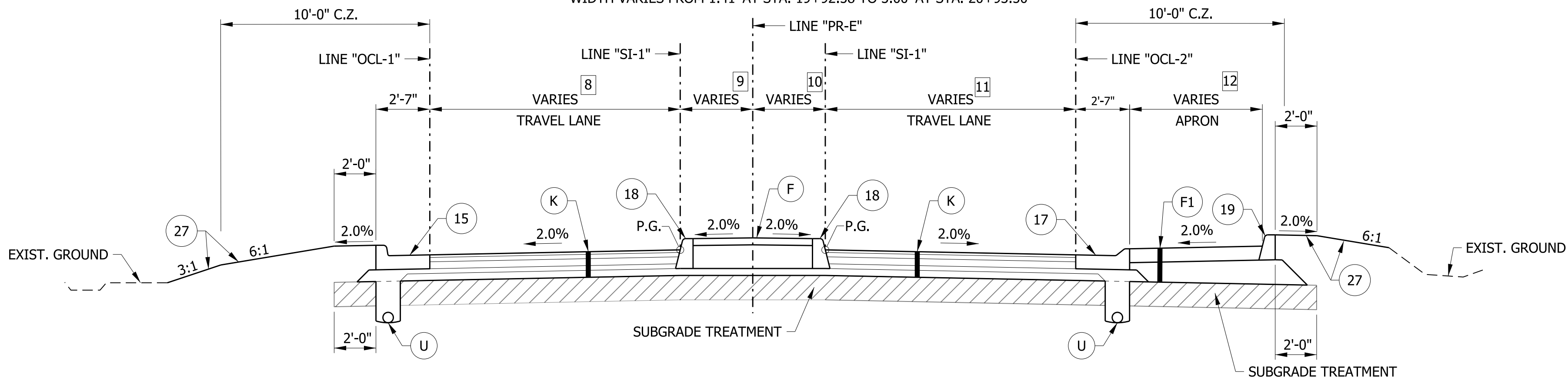
TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND

STA. 14+32.33 TO STA. 16+44.46 LINE "PR-E"
STA. 19+25.23 TO STA. 20+93.50 LINE "PR-E"

4 WIDTH VARIES FROM 17.75' AT STA. 14+32.33 TO 14.00' AT STA. 14+35.31
WIDTH VARIES FROM 14.00' AT STA. 14+35.31 TO 19.60' AT STA. 16+44.46
WIDTH EQUALS 14.00' FROM STA. 19+25.23 TO STA. 20+24.82
WIDTH VARIES FROM 14.00' AT STA. 20+24.82 TO 16.00' AT STA. 20+90.50
WIDTH VARIES FROM 16.00' AT STA. 20+90.50 TO 0.00' AT STA. 20+93.50

5 WIDTH VARIES FROM 3.77' AT STA. 14+35.31 TO 2.67' AT STA. 15+26.55
WIDTH VARIES FROM 2.67' AT STA. 15+26.55 TO 2.82' AT STA. 16+44.46
WIDTH VARIES FROM 1.47' AT STA. 19+25.23 TO 1.41' AT STA. 19+92.58
WIDTH VARIES FROM 1.41' AT STA. 19+92.58 TO 3.00' AT STA. 20+93.50
6 WIDTH VARIES FROM 0.00' AT STA. 14+32.33 TO 2.19' AT STA. 14+34.83
WIDTH VARIES FROM 2.19' AT STA. 14+34.83 TO 4.36' AT STA. 14+56.27
WIDTH VARIES FROM 4.36' AT STA. 14+56.27 TO 7.20' AT STA. 16+44.46
WIDTH VARIES FROM 1.47' AT STA. 19+25.23 TO 1.41' AT STA. 19+92.58
WIDTH VARIES FROM 1.41' AT STA. 19+92.58 TO 3.00' AT STA. 20+93.50

7 WIDTH VARIES FROM 18.25' AT STA. 14+32.33 TO 14.00' AT STA. 14+56.27
WIDTH EQUALS 14.00' FROM STA. 14+56.27 TO STA. 16+44.46
WIDTH VARIES FROM 16.00' AT STA. 19+25.23 TO 14.71' AT STA. 19+53.48
WIDTH VARIES FROM 14.71' AT STA. 19+53.48 TO 14.00' AT STA. 19+84.25
WIDTH EQUALS 14.00' FROM STA. 19+84.25 TO STA. 20+90.50
WIDTH VARIES FROM 14.00' AT STA. 20+90.50 TO 0.00' AT STA. 20+93.50



TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, RIGHT APRON

STA. 16+44.46 TO STA. 16+93.15 LINE "PR-E"

8 WIDTH VARIES FROM 19.60' AT STA. 16+44.46 TO 25.41' AT STA. 16+88.83

9 WIDTH VARIES FROM 2.82' AT STA. 16+44.46 TO 12.19' AT STA. 16+88.83

10 WIDTH VARIES FROM 7.20' AT STA. 16+44.46 TO 10.69' AT STA. 16+92.65

11 WIDTH VARIES FROM 14.00' AT STA. 16+44.46 TO 19.72' AT STA. 16+92.65

12 WIDTH VARIES FROM 0.00' AT STA. 16+44.46 TO 19.25' AT STA. 16+93.15

LEGEND

- (K) FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (U) UNDERDRAIN, TYPE 4, 6"
- (F) SIDEWALK, CONCRETE
- (O) COMPACTED AGGREGATE NO. 53
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB AND GUTTER, ROLL CURB, MODIFIED
- (26) SODDING
- (27) MULCHED SEEDING, R

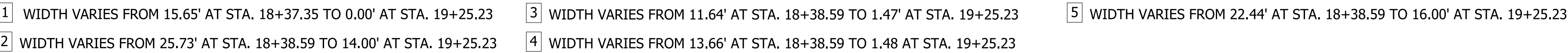
RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: MRW DRAWN: MRW
CHECKED: WRC CHECKED: JEC

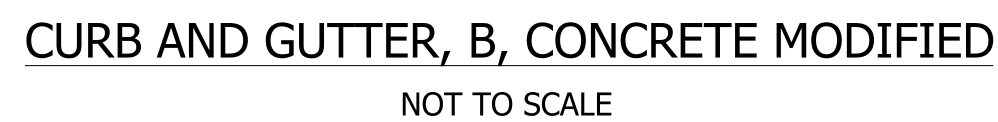
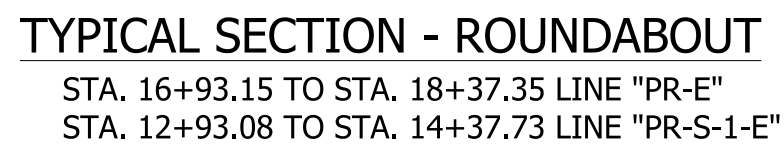
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
LINE "PR-E"

HORIZONTAL SCALE	BRIDGE FILE
1/4" = 1'-0"	
VERTICAL SCALE	DESIGNATION
1/4" = 1'-0"	2000161
SURVEY BOOK	SHEETS
	08 of 25
CONTRACT	PROJECT
R-43476	2000161



- ## LEGEND
- (K) FULL DEPTH RECONSTRUCTION: TBD
 - (R) HMA, MILL AND OVERLAY: TBD
 - (U) UNDERDRAIN, TYPE 4, 6"
 - (F) SIDEWALK, CONCRETE
 - (O) COMPACTED AGGREGATE NO. 53
 - (F1) TRUCK APRON: TBD
 - (15) CURB & GUTTER, CONCRETE
 - (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
 - (18) CURB, CONCRETE
 - (19) CURB, INTEGRAL, CONCRETE
 - (20) CURB AND GUTTER, ROLL CURB, MODIFIED
 - (26) SODDING
 - (27) MULCHED SEEDING, R



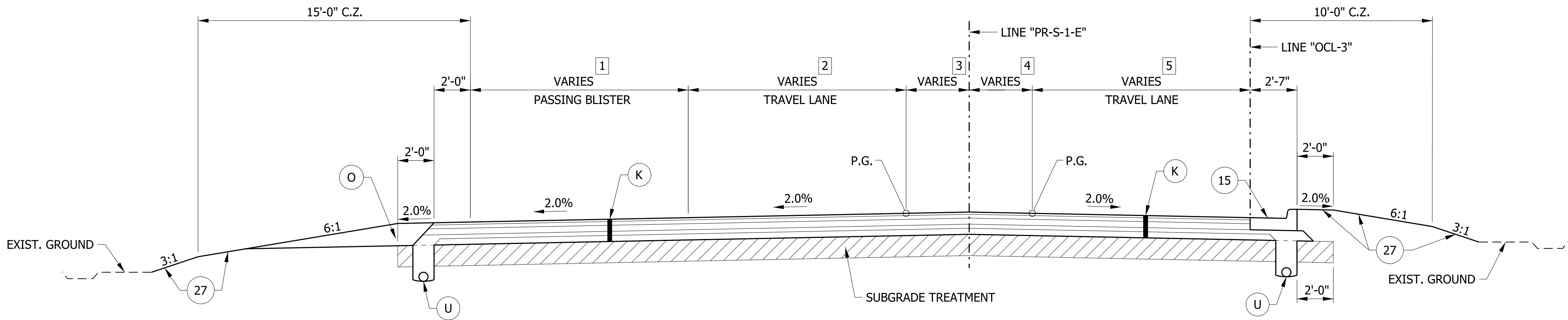
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS
LINE "PR-E" & LINE "PR-S-1-E"

HORIZONTAL SCALE 1/4" = 1'-0"	BRIDGE FILE		
VERTICAL SCALE 1/4" = 1'-0"	DESIGNATION 2000161		
SURVEY BOOK	SHEETS		
	09	of	25
CONTRACT R-43476	PROJECT 2000161		

1/31/2024

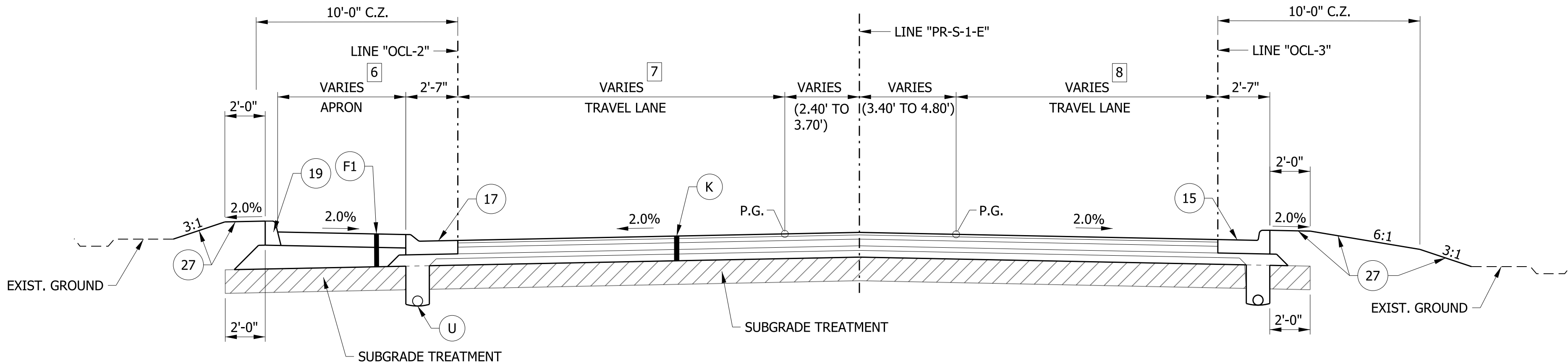
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- 1 WIDTH VARIES FROM 5.29' AT STA. 11+00.00 TO 12.00' AT STA. 11+45.51
WIDTH EQUALS 12.00' FROM STA. 11+45.51 TO STA. 11+85.88
WIDTH VARIES FROM 12.00' AT STA. 11+85.88 TO 0' AT STA. 12+45.16
- 2 WIDTH EQUALS 12.00' FROM STA. 11+00 TO STA. 11+56.17
WIDTH VARIES FROM 12.00' AT STA. 11+56.17 TO 16.23' AT STA. 12+45.16
- 3 WIDTH EQUALS 0' FROM STA. 11+00 TO STA. 11+75.04
WIDTH VARIES FROM 0' AT STA. 11+75.04 TO 2.40' AT STA. 12+45.16

TYPICAL SECTION - ROUNDABOUT APPROACH w/ PASSING BLISTER
STA. 11+00.00 TO STA. 12+45.16 LINE "PR-S-1-E"

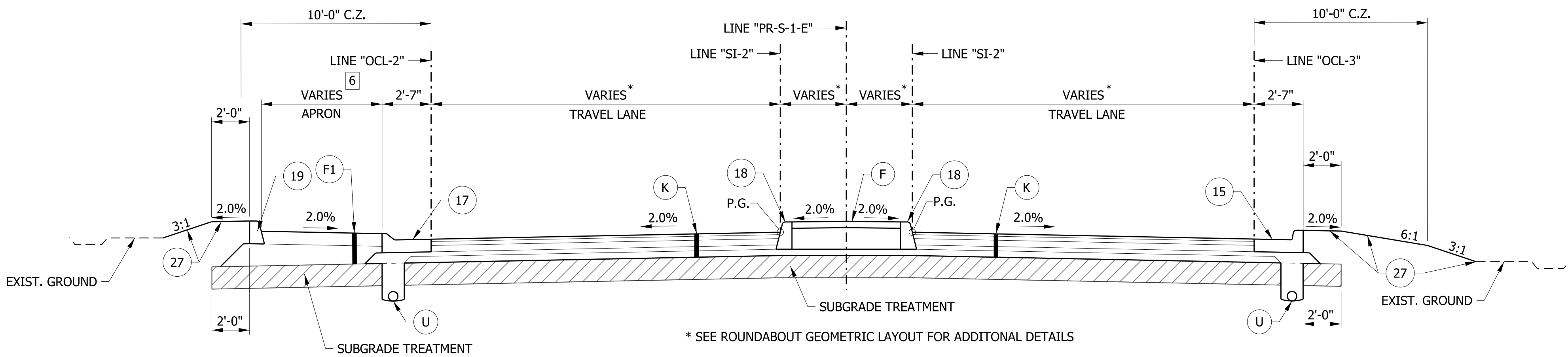
- 4 WIDTH EQUALS 0' FROM STA. 11+00 TO STA. 11+75.04
WIDTH VARIES FROM 0' AT STA. 11+75.04 TO 3.40' AT STA. 12+45.16
- 5 WIDTH EQUALS 12.00' FROM STA. 11+00 TO STA. 12+30.89
WIDTH VARIES FROM 12.00' AT STA. 12+30.89 TO 12.99' AT STA. 12+45.16



- 6 WIDTH VARIES FROM 1.70' AT STA. 12+45.16 TO 9.69' AT STA. 12+93.08
- 7 WIDTH VARIES FROM 16.23' AT STA. 12+45.16 TO 18.11' AT STA. 12+93.08

TYPICAL SECTION - ROUNDABOUT APPROACH, CURB AND GUTTER, LEFT APRON
STA. 12+45.16 TO STA. 12+57.40 LINE "PR-S-1-E"

- 8 WIDTH VARIES FROM 12.99' AT STA. 12+45.16 TO 18.00' AT STA. 12+93.08



TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, LEFT APRON
STA. 12+57.40 TO STA. 12+93.08 LINE "PR-S-1-E"

LEGEND

- (K) FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (U) UNDERDRAIN, TYPE 4, 6"
- (F) SIDEWALK, CONCRETE
- (O) COMPACTED AGGREGATE NO. 53
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB AND GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB AND GUTTER, ROLL CURB, MODIFIED
- (26) SODDING
- (27) MULCHED SEEDING, R

RECOMMENDED FOR APPROVAL _____	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

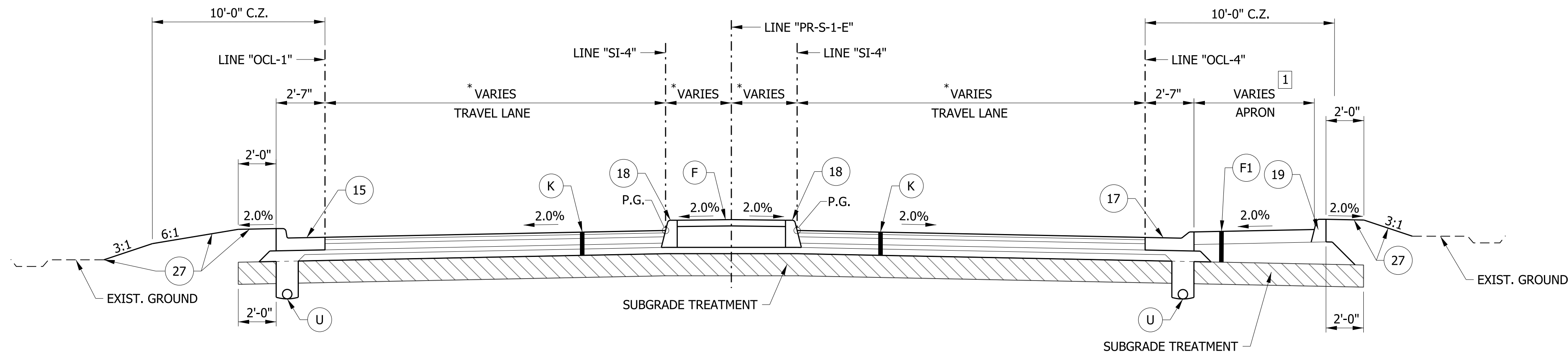
INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
LINE "PR-S-1-E"

HORIZONTAL SCALE	BRIDGE FILE		
1/4" = 1'-0"			
VERTICAL SCALE	DESIGNATION		
1/4" = 1'-0"	2000161		
SURVEY BOOK	SHEETS		
	10	of	25
CONTRACT	PROJECT		
R-43476	2000161		

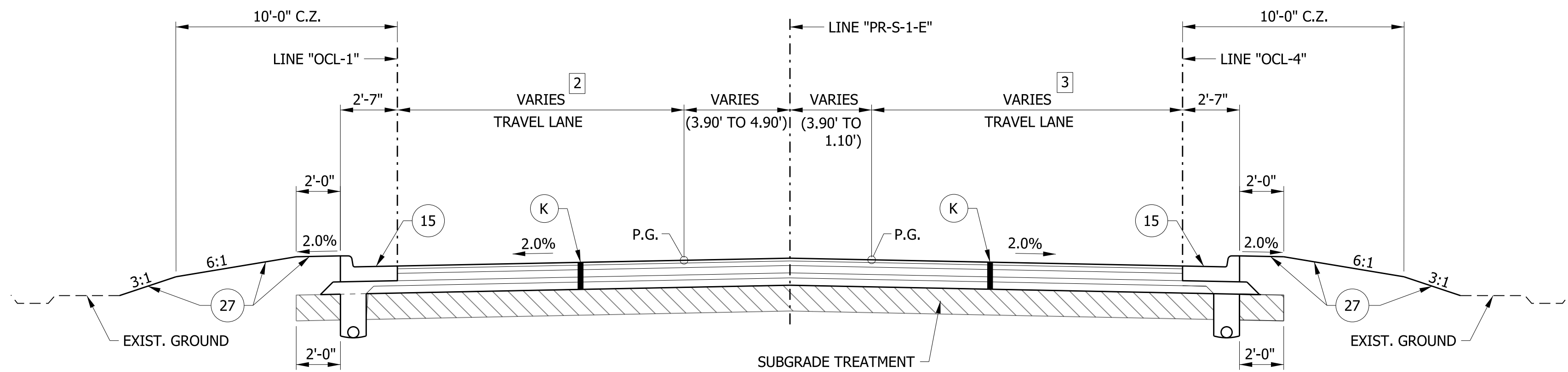
1/31/2024

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TYPICAL SECTION - COMBINED CURB & GUTTER, MEDIAN CONCRETE ISLAND, RIGHT APRON
STA. 14+37.73 TO STA. 14+90.01 LINE "PR-S-1-E"

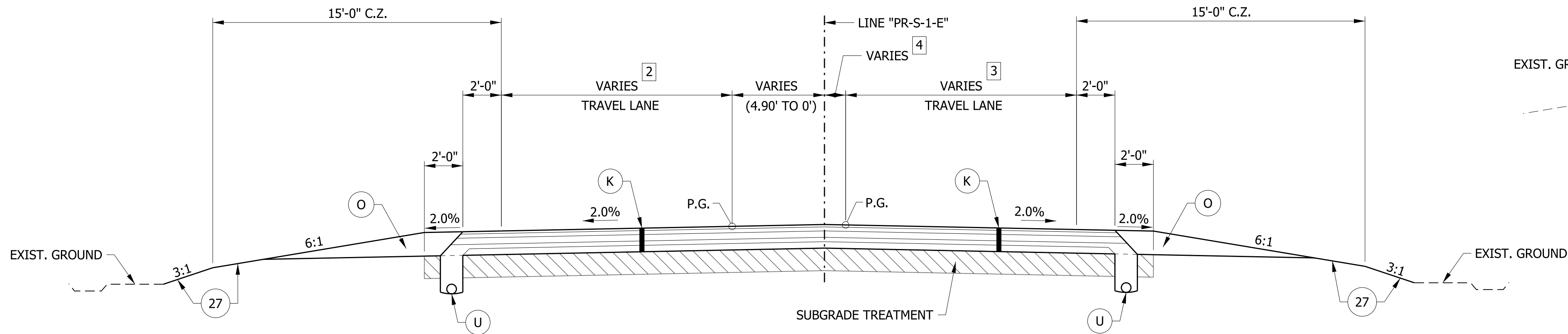
1 WIDTH VARIES FROM 7.53' AT STA. 14+37.73 TO 0' AT STA. 14+90.01



TYPICAL SECTION - ROUNDABOUT APPROACH w/ CURB AND GUTTER
STA. 14+90.01 TO STA. 15+17.39 LINE "PR-S-1-E"

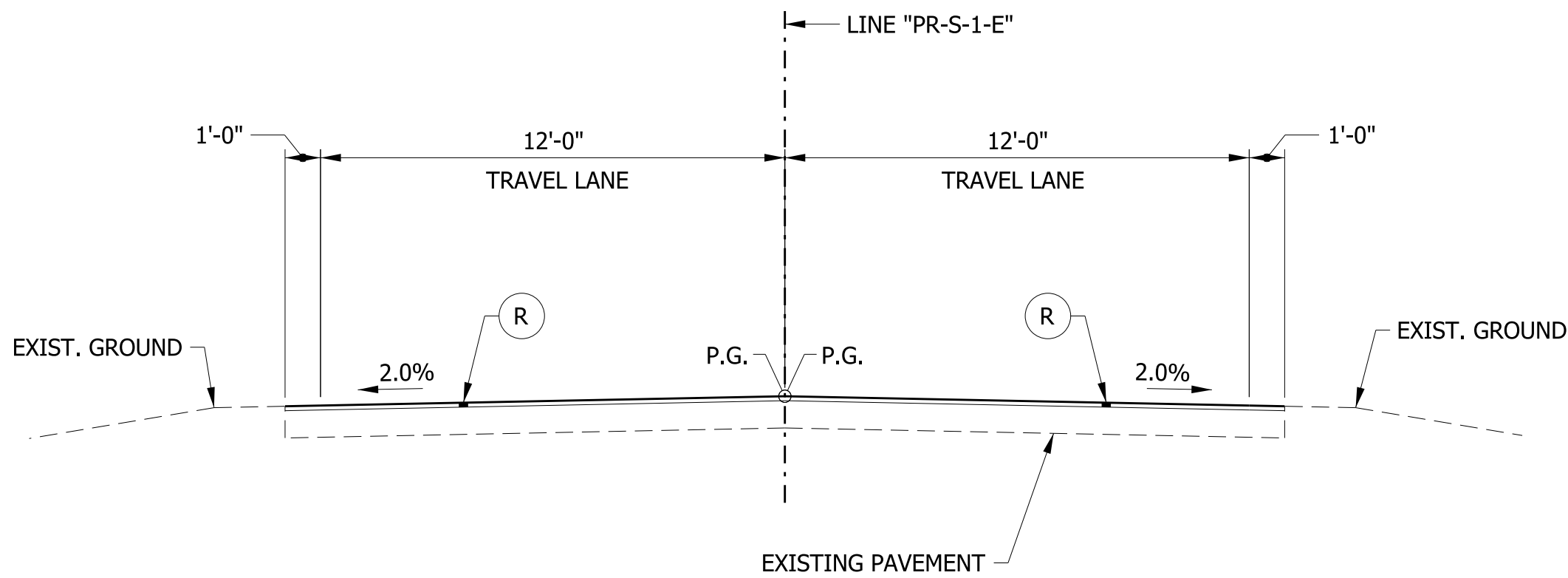
2 WIDTH VARIES FROM 12.75' AT STA. 14+90.01 TO 12.00' AT STA. 15+03.57
WIDTH EQUALS 12.00' FROM STA. 15+03.57 TO 15+18.10

3 WIDTH VARIES FROM 14.47' AT STA. 14+90.01 TO 12.00' AT STA. 15+38.37
WIDTH EQUALS 12.00' FROM STA. 15+38.37 TO STA. 15+19.28



TYPICAL SECTION - ROUNDABOUT APPROACH
STA. 15+17.39 TO STA. 16+37.74 LINE "PR-S-1-E"

4 WIDTH VARIES FROM 1.10' AT STA. 15+17.39 TO 0' AT STA. 15+64.15
WIDTH EQUALS 0' FROM STA. 15+64.15 TO STA. 16+37.74



TYPICAL SECTION - INCIDENTAL OVERLAY
STA. 16+37.74 TO STA. 16+67.74 LINE "PR-S-1-E"

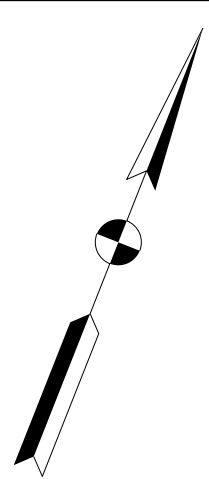
RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

TYPICAL CROSS SECTIONS
LINE "PR-S-1-E"

LEGEND	
K	FULL DEPTH RECONSTRUCTION: TBD
R	HMA, MILL AND OVERLAY: TBD
U	UNDERDRAIN, TYPE 4, 6"
F	SIDEWALK, CONCRETE
O	COMPACTED AGGREGATE NO. 53
F1	TRUCK APRON: TBD
15	CURB & GUTTER, CONCRETE
17	CURB AND GUTTER, B, CONCRETE, MODIFIED
18	CURB, CONCRETE
19	CURB, INTEGRAL, CONCRETE
20	CURB AND GUTTER, ROLL CURB, MODIFIED
26	SODDING
27	MULCHED SEEDING, R

HORIZONTAL SCALE	BRIDGE FILE		
1/4" = 1'-0"			
VERTICAL SCALE	DESIGNATION		
1/4" = 1'-0"	2000161		
SURVEY BOOK	SHEETS		
	11	of	25
CONTRACT	PROJECT		
R-43476	2000161		



NOTES:

LINE "PR-E" TO BE CONSTRUCTED.

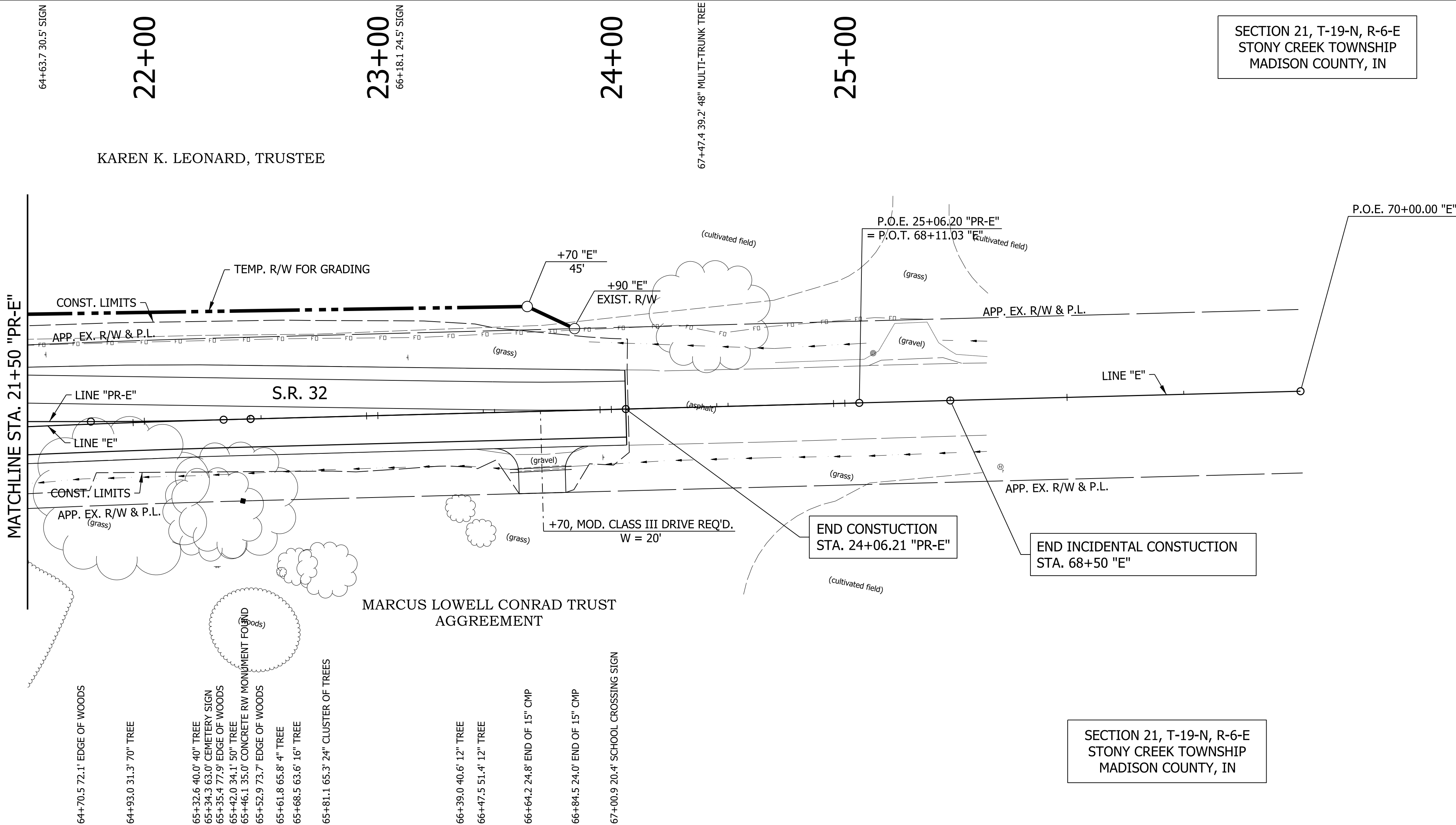
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.

TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "E".

SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

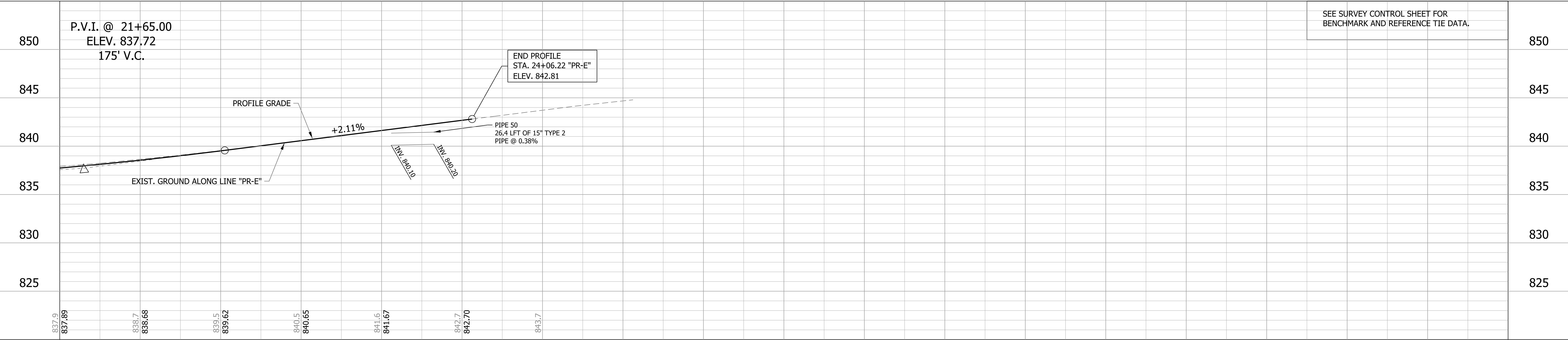
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE		
				1"=30'	.		
				VERTICAL SCALE	DESIGNATION		
				1"=5'	2000161		
DESIGNED: MRW	DRAWN: JEC		PLAN & PROFILE LINE "PR-E"	SURVEY BOOK	SHEETS		
				.	13	of	25
CHECKED: WRC	CHECKED: MRW			CONTRACT	PROJECT		
				R-43476	2000161		

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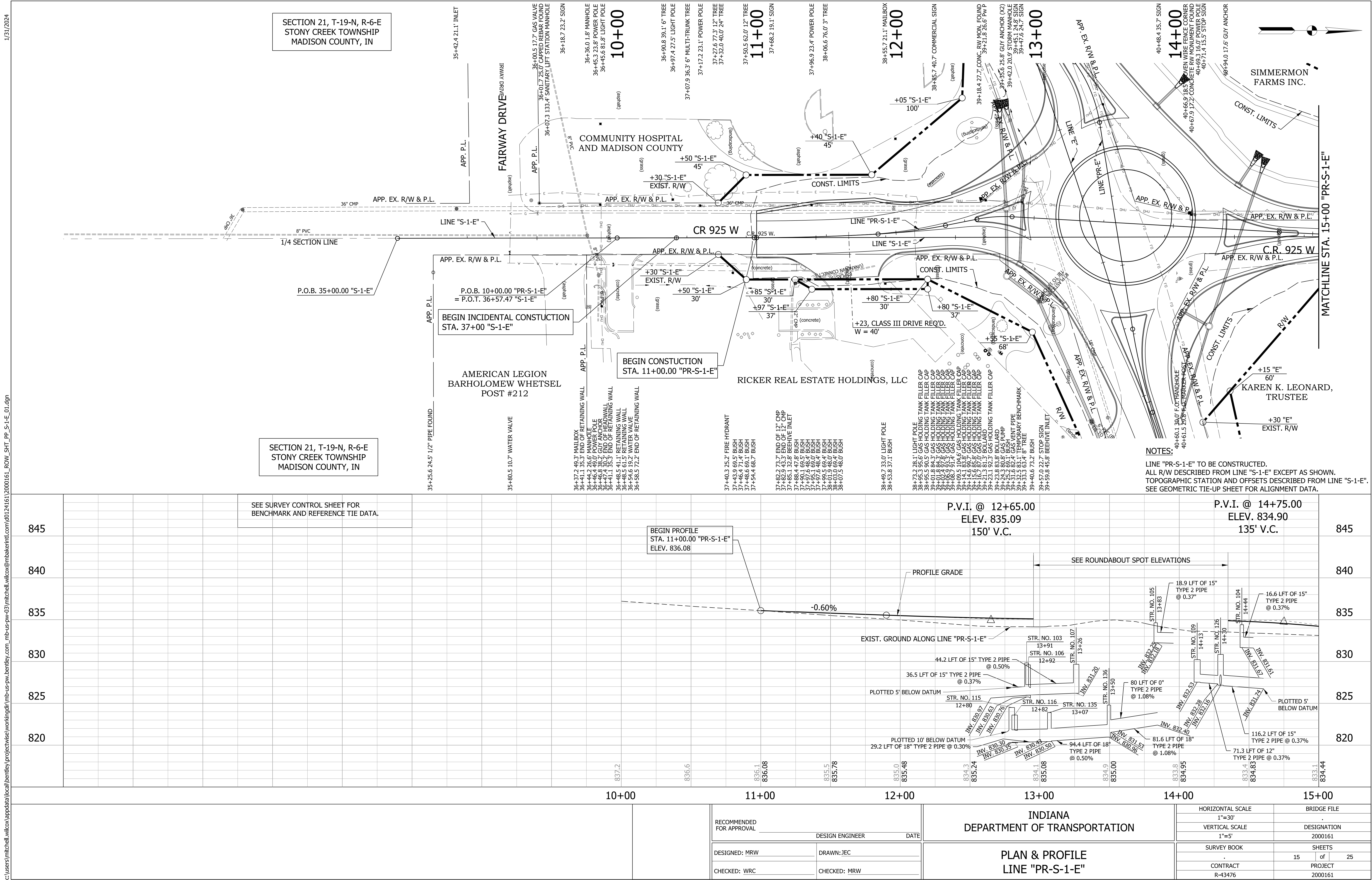


SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

NOTES:
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "E".
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

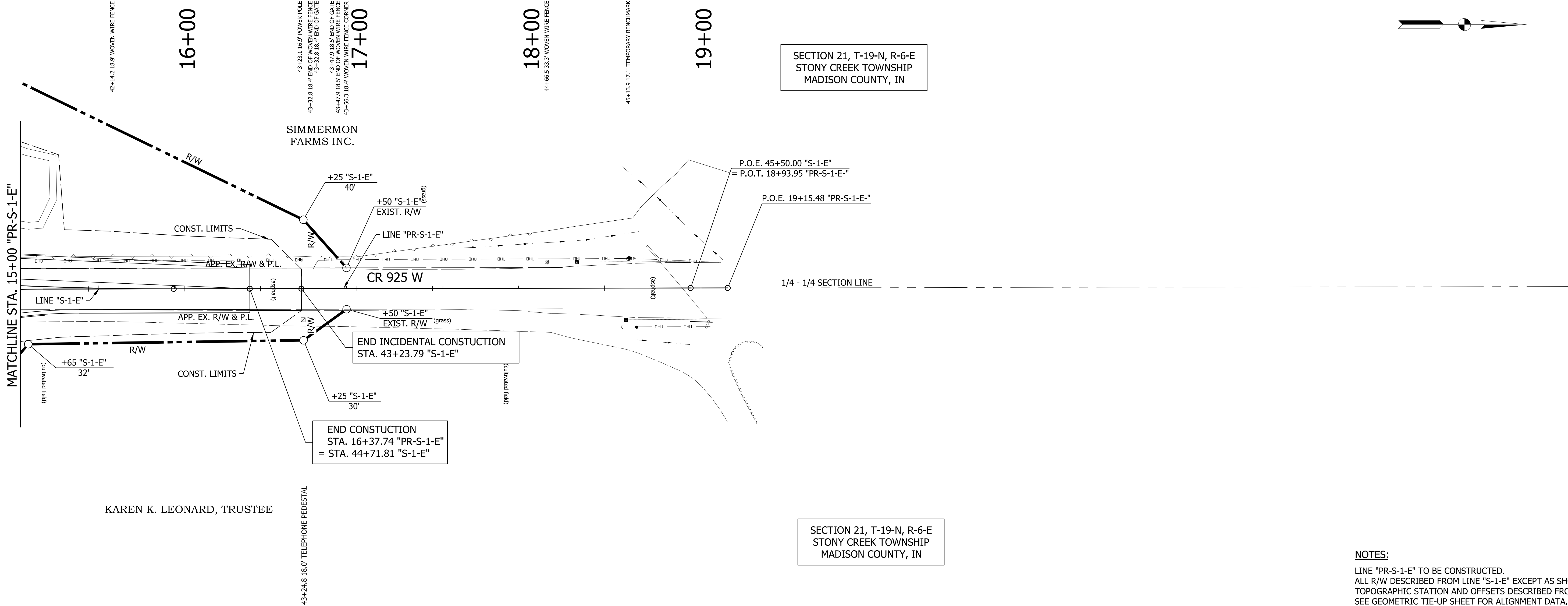


22+00		23+00		24+00		25+00		26+00									
RECOMMENDED FOR APPROVAL DESIGN ENGINEER DATE										INDIANA DEPARTMENT OF TRANSPORTATION				HORIZONTAL SCALE		BRIDGE FILE	
														1"=30'		.	
										DESIGNED: MRW DRAWN: JEC CHECKED: WRC CHECKED: MRW							
1"=5'		2000161															
SURVEY BOOK		SHEETS															
.		14		of		25		CONTRACT		PROJECT							
R-43476		2000161															



1/31/2024

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NOTES:

LINE "PR-S-1-E" TO BE CONSTRUCTED.

ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.

TOPOGRAPHIC STATION AND OFFSETS DESCRIBED FROM LINE "S-1-E".

SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.



SEE SURVEY CONTROL SHEET FOR
BENCHMARK AND REFERENCE TIE DATA.

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
LINE "PR-S-1-E"

HORIZONTAL SCALE 1"=30'	BRIDGE FILE	
VERTICAL SCALE 1"=5'	DESIGNATION 2000161	
SURVEY BOOK	SHEETS	
CONTRACT R-43476	16	of 25
	PROJECT 2000161	

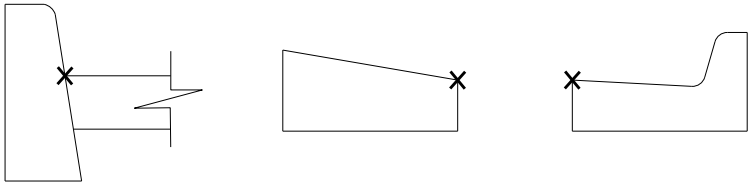
1/31/2024

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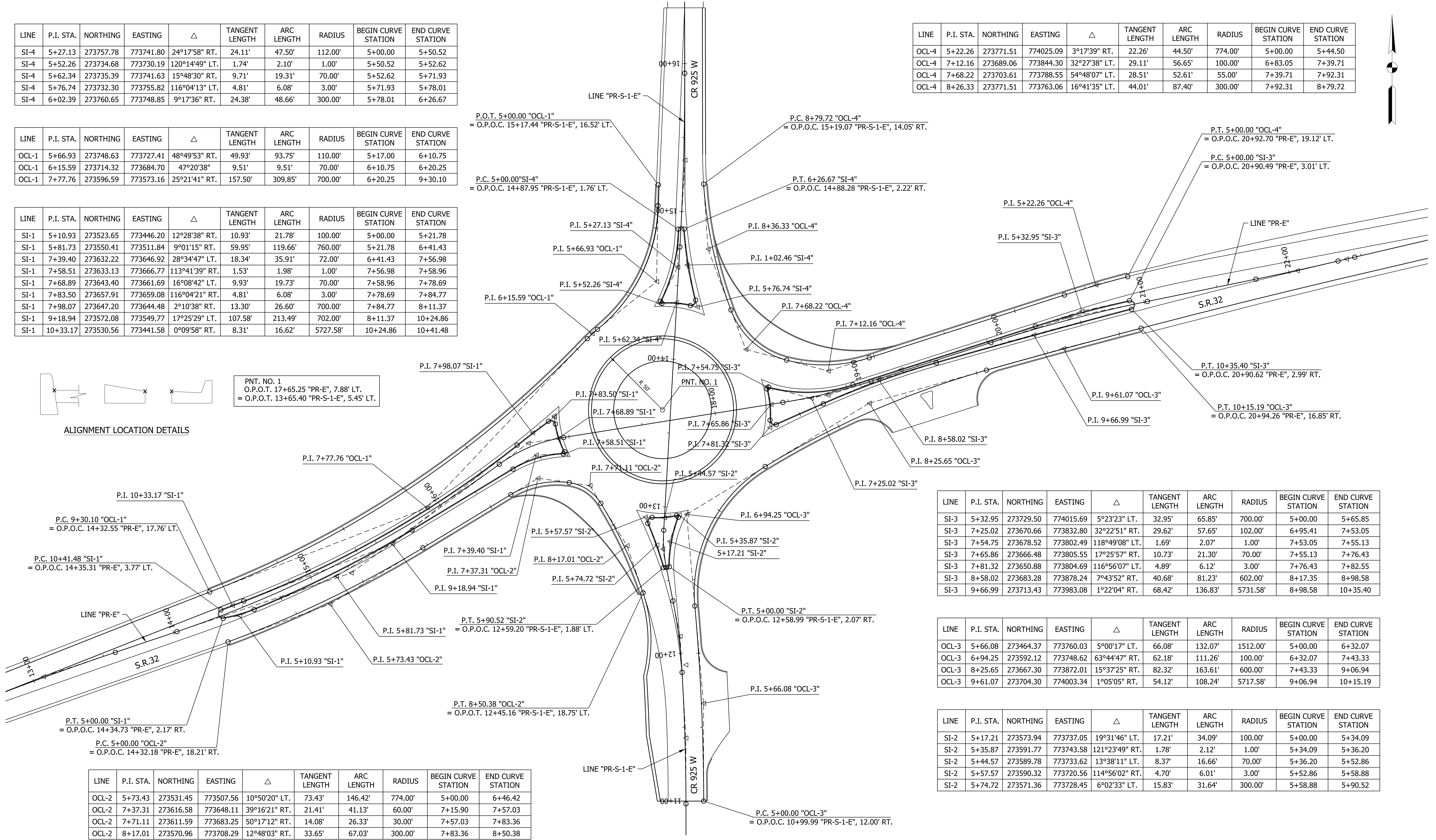
LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
SI-4	5+27.13	273757.78	773741.80	24°17'58" RT.	24.11'	47.50'	112.00'	5+00.00	5+50.52
SI-4	5+52.26	273734.68	773730.19	120°14'49" LT.	1.74'	2.10'	1.00'	5+50.52	5+52.62
SI-4	5+62.34	273735.39	773741.63	15°48'30" RT.	9.71'	19.31'	70.00'	5+52.62	5+71.93
SI-4	5+76.74	273732.30	773755.82	116°04'13" LT.	4.81'	6.08'	3.00'	5+71.93	5+78.01
SI-4	6+02.39	273760.65	773748.85	9°17'36" RT.	24.38'	48.66'	300.00'	5+78.01	6+26.67

LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
OCL-1	5+66.93	273748.63	773727.41	48°49'53" RT.	49.93'	93.75'	110.00'	5+17.00	6+10.75
OCL-1	6+15.59	273714.32	773684.70	47°20'38" RT.	9.51'	9.51'	70.00'	6+10.75	6+20.25
OCL-1	7+77.76	273596.59	773573.16	25°21'41" RT.	157.50'	309.85'	700.00'	6+20.25	9+30.10

LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
SI-1	5+10.93	273523.65	773446.20	12°28'38" RT.	10.93'	21.78'	100.00'	5+00.00	5+21.78
SI-1	5+81.73	273550.41	773511.84	9°01'15" RT.	59.95'	119.66'	760.00'	5+21.78	6+41.43
SI-1	7+39.40	273632.22	773646.92	28°34'47" LT.	18.34'	35.91'	72.00'	6+41.43	7+56.98
SI-1	7+58.51	273633.13	773666.77	113°41'39" RT.	1.53'	1.98'	1.00'	7+56.98	7+58.96
SI-1	7+68.89	273643.40	773661.69	16°08'42" LT.	9.93'	19.73'	70.00'	7+58.96	7+78.69
SI-1	7+83.50	273657.91	773659.08	116°04'21" RT.	4.81'	6.08'	3.00'	7+78.69	7+84.77
SI-1	7+98.07	273647.20	773644.48	2°10'38" RT.	13.30'	26.60'	700.00'	7+84.77	8+11.37
SI-1	9+18.94	273572.08	773549.77	17°25'29" LT.	107.58'	213.49'	702.00'	8+11.37	10+24.86
SI-1	10+33.17	273530.56	773441.58	0°09'58" RT.	8.31'	16.62'	5727.58'	10+24.86	10+41.48



PNT. NO. 1
O.P.O.T. 17+65.25 "PR-E", 7.88' LT.
= O.P.O.T. 13+65.40 "PR-S-1-E", 5.45' LT.



LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
SI-3	5+32.95	273729.50	774015.69	5°23'23" LT.	32.95'	65.85'	700.00'	5+00.00	5+65.85
SI-3	7+25.02	273670.66	773832.80	32°22'51" RT.	29.62'	57.65'	102.00'	6+95.41	7+53.05
SI-3	7+54.75	273678.52	773802.49	118°49'08" LT.	1.69'	2.07'	1.00'	7+53.05	7+55.13
SI-3	7+65.86	273666.48	773805.55	17°25'57" RT.	10.73'	21.30'	70.00'	7+55.13	7+76.43
SI-3	7+81.32	273650.88	773804.69	116°56'07" LT.	4.89'	6.12'	3.00'	7+76.43	7+82.55
SI-3	8+58.02	273683.28	773878.24	7°43'52" RT.	40.68'	81.23'	602.00'	8+17.35	8+98.58
SI-3	9+66.99	273713.43	773983.08	1°22'04" RT.	68.42'	136.83'	5731.58'	8+98.58	10+35.40

LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
OCL-3	5+66.08	273464.37	773760.03	5°00'17" LT.	66.08'	132.07'	1512.00'	5+00.00	6+32.07
OCL-3	6+94.25	273592.12	773748.62	63°44'47" RT.	62.18'	111.26'	100.00'	6+32.07	7+43.33
OCL-3	8+25.65	273667.30	773872.01	15°37'25" RT.	82.32'	163.61'	600.00'	7+43.33	9+06.94
OCL-3	9+61.07	273704.30	774003.34	1°05'05" RT.	54.12'	108.24'	5717.58'	9+06.94	10+15.19

LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
SI-2	5+17.21	273573.94	773737.05	19°31'46" LT.	17.21'	34.09'	100.00'	5+00.00	5+34.09
SI-2	5+35.87	273591.77	773743.58	121°23'49" RT.	1.78'	2.12'	1.00'	5+34.09	5+36.20
SI-2	5+44.57	273589.78	773733.62	13°38'11" LT.	8.37'	16.66'	70.00'	5+36.20	5+52.86
SI-2	5+57.57	273590.32	773720.56	114°56'02" RT.	4.70'	6.01'	3.00'	5+52.86	5+58.88
SI-2	5+74.72	273571.36	773728.45	6°02'33" LT.	15.83'	31.64'	300.00'	5+58.88	5+90.52

LINE	P.I. STA.	NORTHING	EASTING	△	TANGENT LENGTH	ARC LENGTH	RADIUS	BEGIN CURVE STATION	END CURVE STATION
OCL-2	5+73.43	273531.45	773507.56	10°50'20" LT.	73.43'	146.42'	774.00'	5+00.00	6+46.42
OCL-2	7+37.31	273616.58	773648.11	39°16'21" RT.	21.41'	41.13'	60.00'	7+15.90	7+57.03
OCL-2	7+71.11	273611.59	773683.25	50°17'12" RT.	14.08'	26.33'	30.00'	7+57.03	7+83.36
OCL-2	8+17.01	273570.96	773708.29	12°48'03" RT.	33.65'	67.03'	300.00'	7+83.36	8+50.38

RECOMMENDED FOR APPROVAL _____
DESIGN ENGINEER DATE

DESIGNED: MRW DRAWN: JWM
CHECKED: WRC CHECKED: MRW

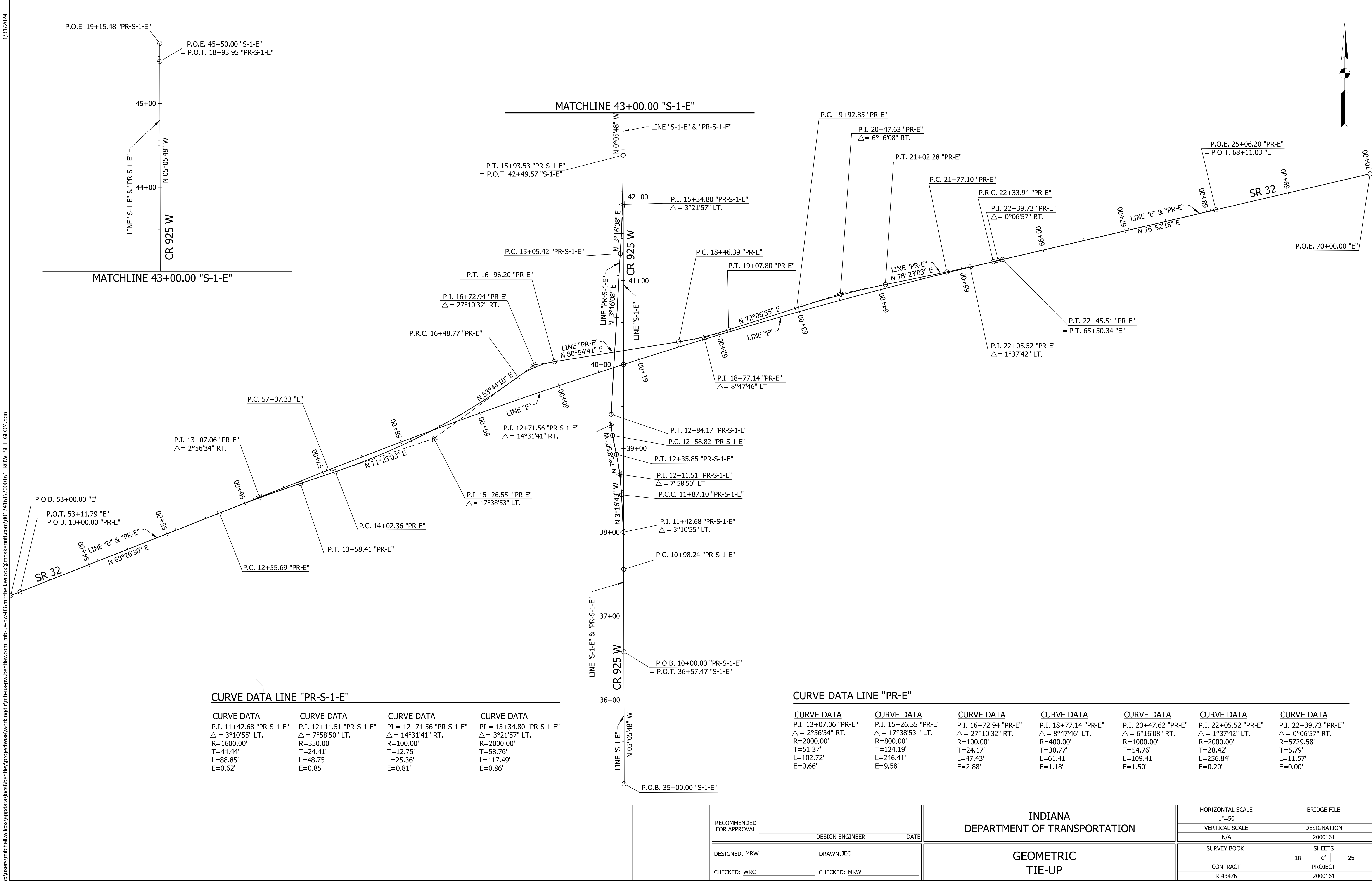
INDIANA
DEPARTMENT OF TRANSPORTATION

ROUNDABOUT
GEOMETRIC LAYOUT

HORIZONTAL SCALE 1"=30'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 17 of 25
CONTRACT R-43476	PROJECT 2000161

1/31/2024

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1/31/2024

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11+00

12+00

13+00

14+00

SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

BEGIN PROJECT NO. 2000161
STA. 11+00.00 "PR-E"

BEGIN INCIDENTAL CONSTRUCTION
STA. 53+00 "E"

SIMMERMON FARMS INC.

CONST. LIMITS

LINE "E"

S.R. 32

LINE "PR-E"

CONST. LIMITS

APP. EX. R/W & P.L.

+80
40.00'

P.O.T. 53+11.79 "E"
= P.O.B. 10+00.00 "PR-E"

+10
62.00'

R/W

DEANNA G. YANCEY,
TRUSTEE, ET AL.

STR. NO. 121

MOD. MANHOLE TYPE "C-4" &
54 LFT OF 15' TYPE 2 PIPE REQ'D.

STR. NO. 102

CATCH BASIN TYPE "B-15" &
19 LFT OF 12' TYPE 2 PIPE REQ'D.

+30
85.00'

R/W

+80
35.00'

APP. EX. R/W & P.L.

APP. EX. R/W & P.L.

CONST. LIMITS

+40.00'

R/W

(K)

(K)

(K)

(K)

(K)

(K)

(K)

(K)

(K)

(K)

(15)

(12')

(12')

(12')

(18)

(12')

(12')

(12')

APP. EX. R/W & P.L.

+94.60
EX. R/W (35.00')

CONST. LIMITS

+P.L.
EX. R/W (35.00')

+P.L.
EX. R/W (57.03')

+00
70.00'

APP. P.L.

STR. NO. 100

CATCH BASIN "B-15" &
9 LFT OF 12' TYPE 2 PIPE REQ'D.

MATCHLINE STA. 15+00 "PR-E"

LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

NOTES:

LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED
FOR APPROVAL

DESIGN ENGINEER

DATE

DESIGNED: MRW

DRAWN: JEC

CHECKED: WRC

CHECKED: MRW

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAILS
LINE "PR-E"

HORIZONTAL SCALE

1"=20'

VERTICAL SCALE

N/A

SURVEY BOOK

CONTRACT

R-43476

BRIDGE FILE

DESIGNATION

2000161

SHEETS

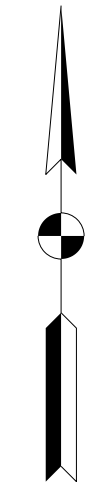
19

of

25

PROJECT

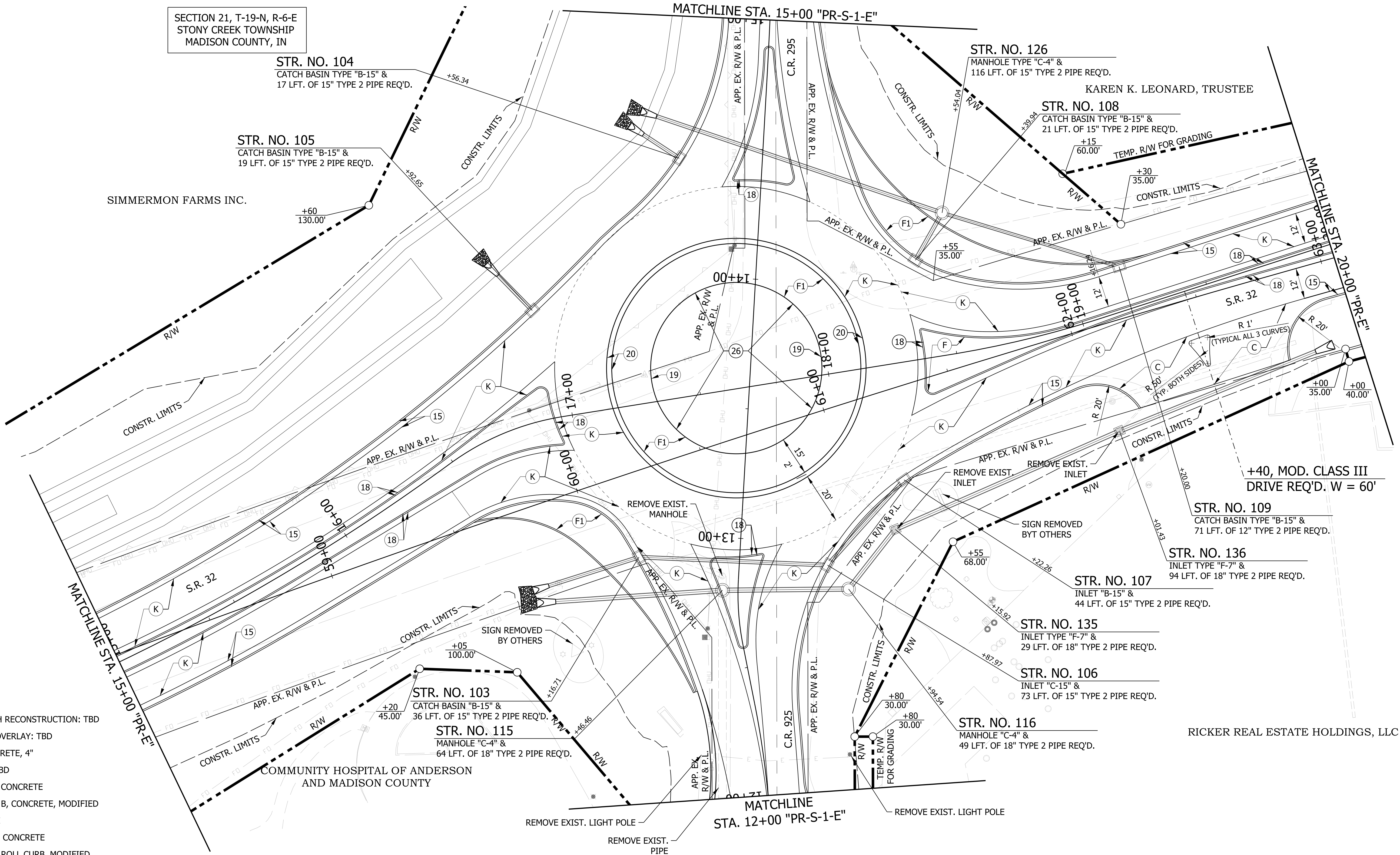
2000161



1/31/2024
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LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R



NOTES:

LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "PR-E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL	
DESIGN ENGINEER	DATE
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: JRW

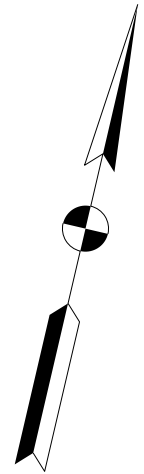
INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAIL
LINE "PR-E"

HORIZONTAL SCALE	BRIDGE FILE	
1"=20'		
VERTICAL SCALE	DESIGNATION	
N/A	2000161	
SURVEY BOOK	SHEETS	
	20	of 25
CONTRACT	PROJECT	
R-43476	2000161	

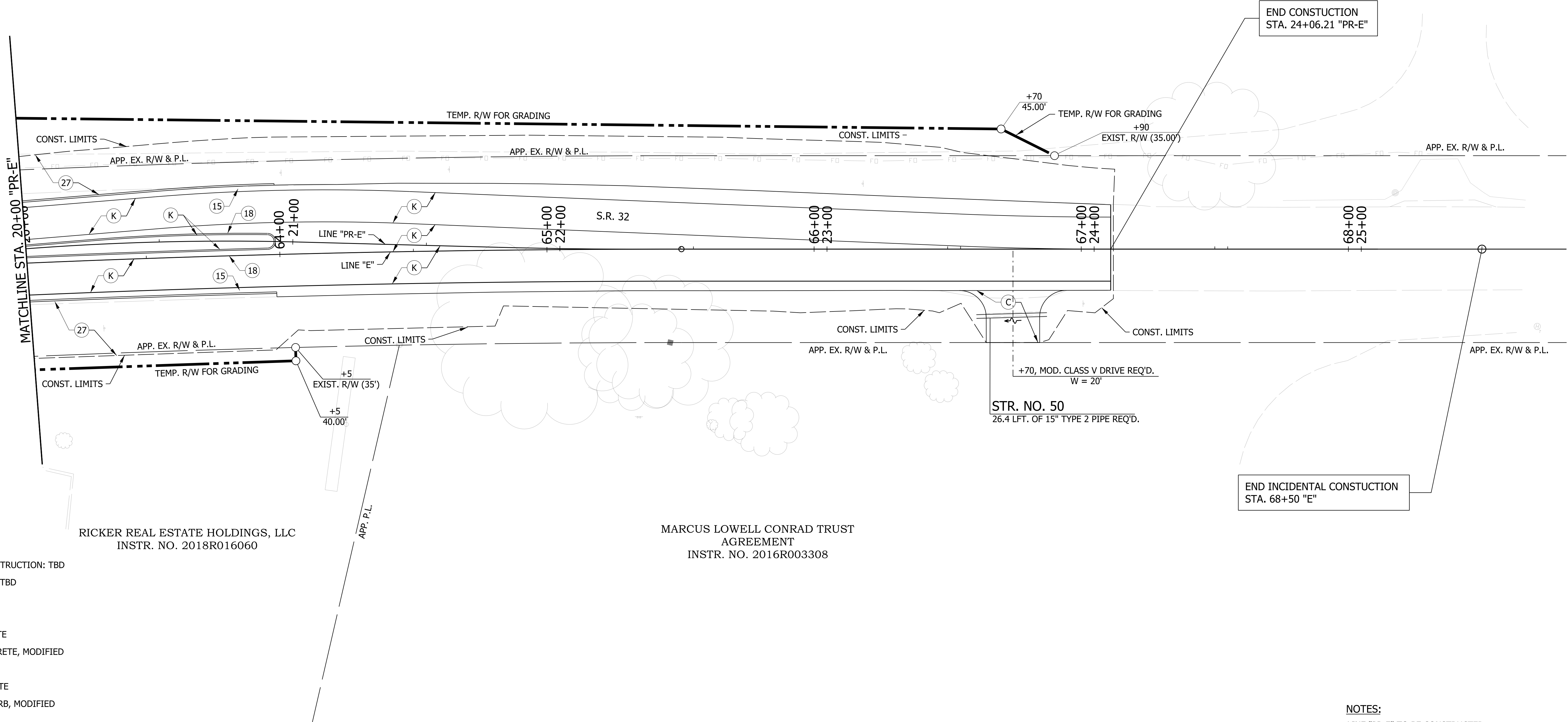
1/31/2024

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SECTION 21, T-19-N, R-6-E
STONY CREEK TOWNSHIP
MADISON COUNTY, IN

KAREN K. LEONARD, TRUSTEE
INSTR. NO. 2019R000151



LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

NOTES:
LINE "PR-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: JRW

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAIL
LINE "PR-E"

HORIZONTAL SCALE 1"=20'	BRIDGE FILE
VERTICAL SCALE N/A	DESIGNATION 2000161
SURVEY BOOK	SHEETS 21 of 25
CONTRACT R-43476	PROJECT 2000161

1/31/2024

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LEGEND

- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

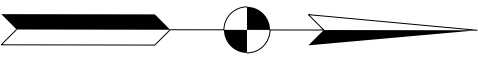
NOTES:
LINE "PR-S-1-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	
DESIGNED: MRW	DRAWN: JEC
CHECKED: WRC	CHECKED: JRW

INDIANA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION DETAIL
LINE "PR-S-1-E"

HORIZONTAL SCALE 1"=20'		BRIDGE FILE	
VERTICAL SCALE N/A		DESIGNATION 2000161	
SURVEY BOOK		SHEETS	
CONTRACT R-43476		22 of 25	PROJECT 2000161



END INCIDENTAL CONSTRUCTION
STA. 43+23.79 "S-1-E"

END CONSTRUCTION
STA. 16+37.74 "PR-S-1-E"
= STA. 44+71.81 "S-1-E"

LEGEND

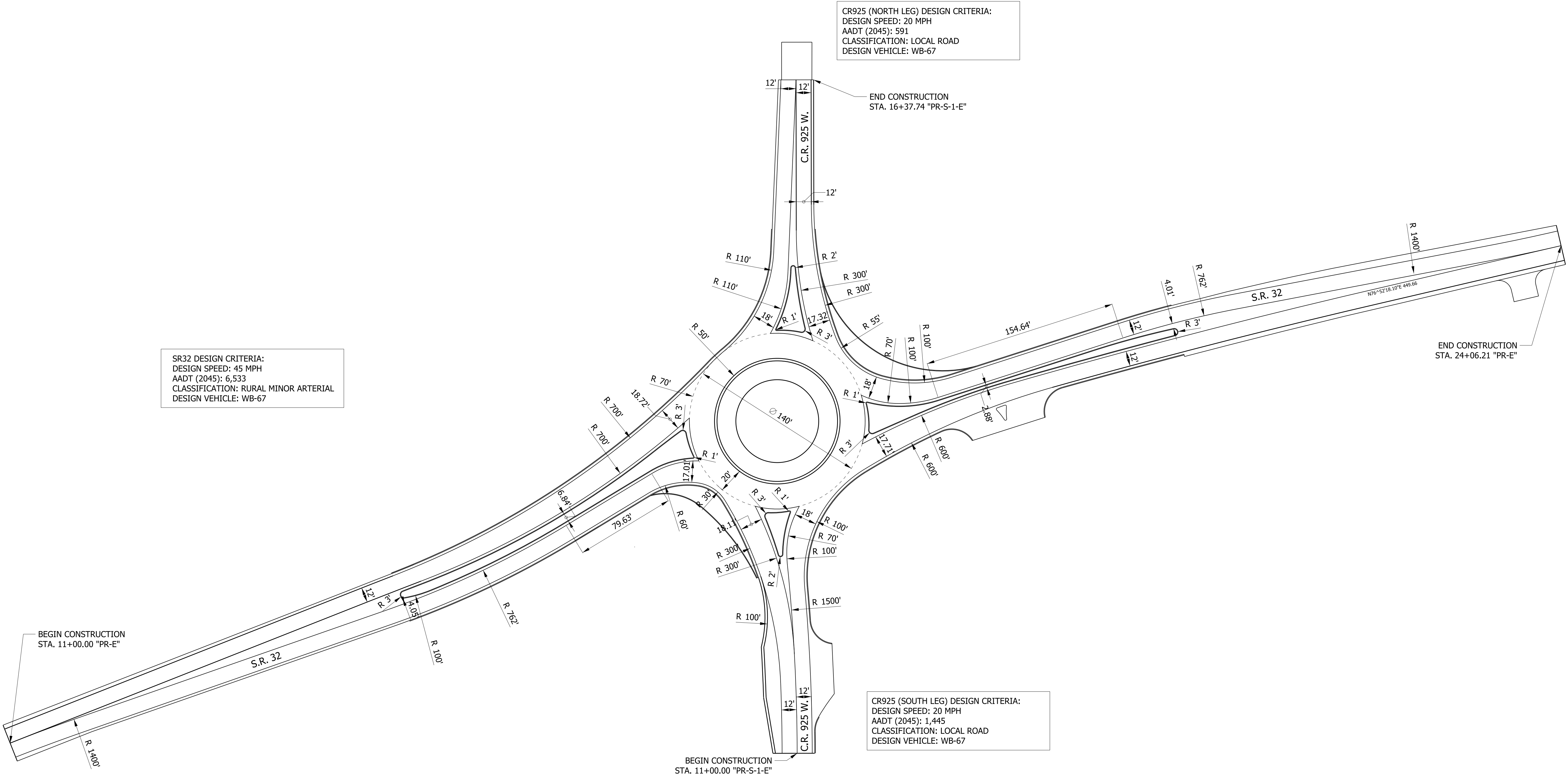
- (K) HMA, FULL DEPTH RECONSTRUCTION: TBD
- (R) HMA, MILL AND OVERLAY: TBD
- (F) SIDEWALK, CONCRETE, 4"
- (F1) TRUCK APRON: TBD
- (15) CURB & GUTTER, CONCRETE
- (17) CURB & GUTTER, B, CONCRETE, MODIFIED
- (18) CURB, CONCRETE
- (19) CURB, INTEGRAL, CONCRETE
- (20) CURB & GUTTER, ROLL CURB, MODIFIED
- (26) SODDING, NURSERY
- (27) MULCHED SEEDING R

NOTES:
LINE "PR-S-1-E" TO BE CONSTRUCTED.
ALL R/W DESCRIBED FROM LINE "S-1-E" EXCEPT AS SHOWN.
SEE GEOMETRIC TIE-UP SHEET FOR ALIGNMENT DATA.

RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE _____		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE			
				1"=20'					
				VERTICAL SCALE		DESIGNATION			
				N/A		2000161			
DESIGNED: MRW		DRAWN: JEC		CONSTRUCTION DETAIL LINE "PR-S-1-E"		SURVEY BOOK		SHEETS	
						23		of 25	
CHECKED: WRC		CHECKED: JRW				CONTRACT		PROJECT	
						R-43476		2000161	

1/31/2024

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RECOMMENDED FOR APPROVAL _____	
DESIGNED: MRW	DRAWN: MRW
CHECKED: WRC	CHECKED: JEC

INDIANA DEPARTMENT OF TRANSPORTATION	
GEOMETRY DETAILS	

HORIZONTAL SCALE 1" = 40'	BRIDGE FILE	
VERTICAL SCALE N/A	DESIGNATION 2000161	
SURVEY BOOK	SHEETS 24 of 25	
CONTRACT R-43476	PROJECT 2000161	

APPENDIX C

Early Coordination



INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (317) 694-8283

Eric Holcomb, Governor
Michael Smith, Commissioner

December 22, 2022

Sample Early Coordination Letter

RE: Early Coordination Letter, Des No.: 2000161, Intersection Improvement at the intersection of SR 32 and CR 925 W (Main Street), 0.72 Mile North of SR 13, in Madison County, Indiana
KEG No. 21-1029.01

Additional coordination
was also conducted on
February 13, 2024.

Dear Interested Party,

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

The project is located at the intersection of State Road (SR) 32 and County Road (CR) 925 W, approximately 0.72 mile north of SR 13, in Madison County, Indiana. This section of SR 32 is a two-lane *Minor Arterial*. The existing SR 32 cross section consists of two 12-foot travel lanes with no shoulders. SR 32 intersects with CR 925 W and is controlled by a stop condition on the minor road. The draft need is due to drivers on the minor road underestimating the time to cross SR 32 with oncoming traffic, resulting in a high number of incidents. The draft purpose is to reduce crash potential and provide a long-term solution to ensure safe and efficient operation of the intersection. The approximate existing right-of-way (ROW) on SR 32 is 35 feet each side of the centerline. The approximate existing ROW on CR 925 W north leg is 12 feet each side of the centerline. The approximate existing ROW on CR 925 W south leg is 25 feet each side of the centerline.

The proposed project is anticipated to construct a single-lane roundabout at the intersection requiring all approaches to yield to traffic from the left. The project requires the acquisition of 1.19 acres of temporary right-of-way and 0.89 acre of permanent right-of-way. Proposed ROW widths along SR 32 are 50 to 55 feet left of centerline and 45 to 57 feet right of centerline. Proposed ROW widths along CR 925 W are 48 to 50 left of centerline, and 42 to 44 feet right of centerline. The project will be approximately 1,320 feet in length. The proposed method of traffic maintenance is anticipated to require phased construction utilizing temporary signals along SR 32 to allow partial lane closures. Approximately 10 trees will be cleared as part of this project. The project is anticipated to begin construction in Spring 2025.

Land use in the vicinity of the project is typical of a rural suburban area with residential, commercial, agricultural, and forested acreage adjacent. Kaskaskia Engineering Group, LLC (KEG) will perform waters and wetlands determinations to identify water resources that may be present. The project is anticipated to qualify for the Rangewide Programmatic Agreement for the Indiana bat and northern long-eared bat by completing the Information for Planning and Consultation (IPaC). Coordination will occur with INDOT Cultural Resources Office (CRO) to

evaluate the project area for archaeological and historic resources and for Section 106 compliance. The results of this investigation will be forwarded to the State Historic Preservation Officer (SHPO) for review and concurrence as appropriate.

Please provide your response within thirty (30) calendar days from the date of this letter. However, should you find that an extension to the response time is necessary; a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact me, at 618-233-5877 or bmoneymaker@kaskaskiaeng.com, or Kim Szewczak , INDOT Project Manager at 317-289-3193 or Kzewczak@indot.in.gov. Thank you in advance for your input.

Sincerely,



Brigitte Money maker
Environmental Scientist
Kaskaskia Engineering Group, LLC

Attachment -

- Early Coordination Letter Recipient List
- Maps (Location, Aerial, Topographic)
- Photo Log

Attachments omitted to avoid duplication.

cc: Melissa Effinger, MBI
Mary Matrisciano, MBI

Organization and Project Information

Project ID: 21-1029.01
Des. ID: 2000161
Project Title: Intersection Improvement of SR 32 and 925 W (Main Street)
Name of Organization: Kaskaskia Engineering Group, LLC
Requested by: Brigitte Moneyemaker

Environmental Assessment Report

1. Geological Hazards:
 - Moderate liquefaction potential
 - 1% Annual Chance Flood Hazard
2. Mineral Resources:
 - Bedrock Resource: High Potential
 - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
 - Petroleum Exploration Wells
 - Abandoned Industrial Minerals Quarries

*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.

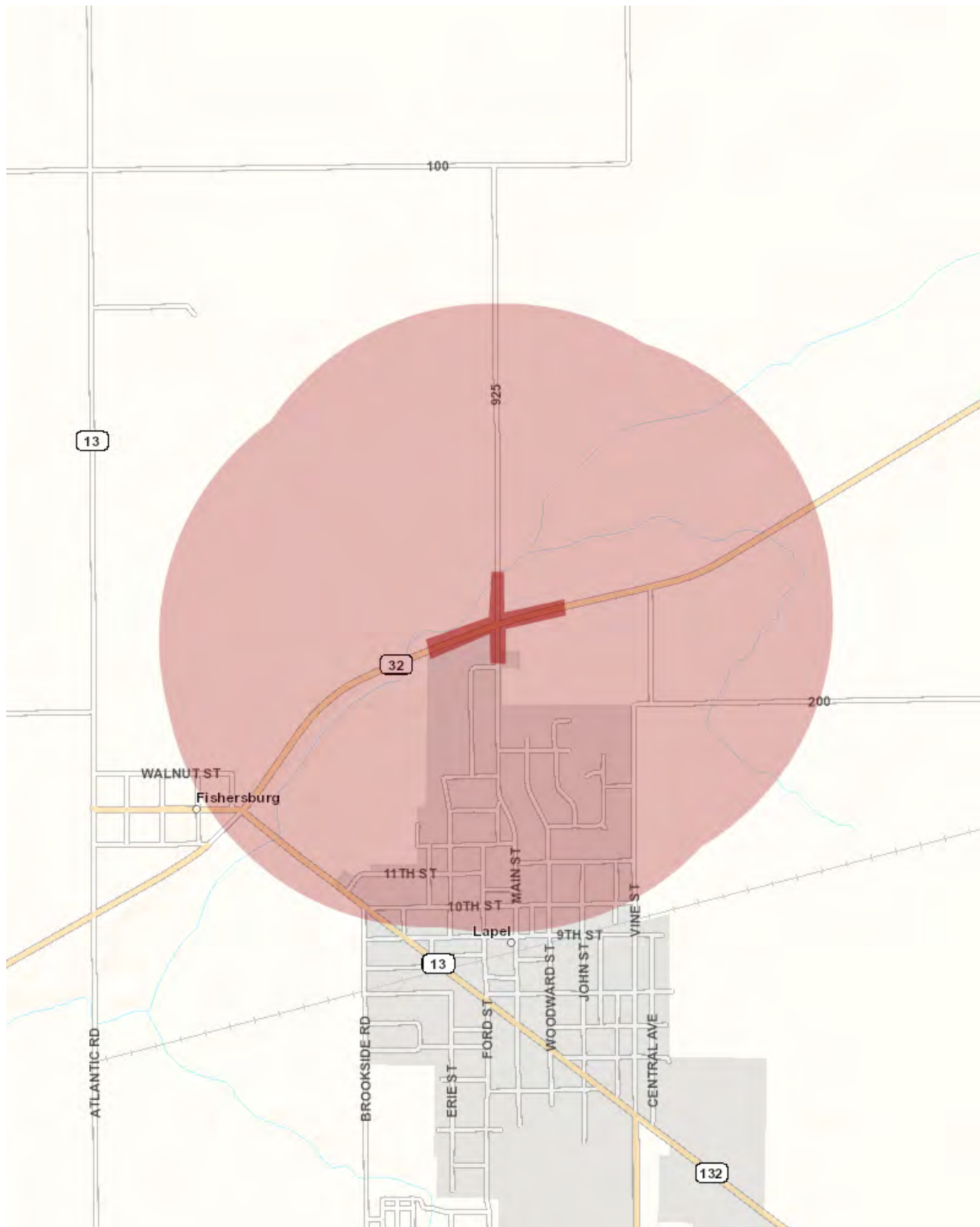
This information was furnished by Indiana Geological Survey

Address: 1001 E. 10th St., Bloomington, IN 47405

Email: IGSEnvir@indiana.edu

Phone: 812 855-7428

Date: December 23, 2022





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

March 6, 2024

Chad Kelly
208 E Main Street #100
Belleville, Illinois 62220

Dear Mr. Kelly:

The proposed Intersection Improvement of SR 32 at CR 925 W (Main Street), Madison County (Des.No.2000161) as referred to in your letter received February 13, 2024, 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 Digitally signed by JOHN ALLEN
Date: 2024.03.06 14:15:38 -05'00'

JOHN ALLEN
State Soil Scientist

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request				
Name of Project DES2000161 Intersec Improv SR32 CF		Federal Agency Involved				
Proposed Land Use		County and State Madison County, IN				
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form: JRA		
Does the site 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 ☐	Acres Irrigated	Average Farm Size 312 ac	
Major Crop(s) Corn	Farmable Land In Govt. Jurisdiction Acres: 281875 % 97	Amount of Farmland As Defined in FPPA Acres: 27012 % 93				
Name of Land Evaluation System Used LESA	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS 3/6/2024				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		1.307				
B. Total Acres To Be Converted Indirectly		0.858				
C. Total Acres In Site		2.165				
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		1.05				
B. Total Acres Statewide Important or Local Important Farmland		0.00				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		<0.001				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		31				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		92				
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use	(15)	10				
2. Perimeter In Non-urban Use	(10)	4				
3. Percent Of Site Being Farmed	(20)	10				
4. Protection Provided By State and Local Government	(20)	20				
5. Distance From Urban Built-up Area	(15)	0				
6. Distance To Urban Support Services	(15)	0				
7. Size Of Present Farm Unit Compared To Average	(10)	0				
8. Creation Of Non-farmable Farmland	(10)	10				
9. Availability Of Farm Support Services	(5)	0				
10. On-Farm Investments	(20)	0				
11. Effects Of Conversion On Farm Support Services	(10)	0				
12. Compatibility With Existing Agricultural Use	(10)	5				
TOTAL SITE ASSESSMENT POINTS		160	59	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	92	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	59	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	151	0	0	0
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES ☐ NO ☐				
Reason For Selection:						
Name of Federal agency representative completing this form: Brigitte Moneymaker						
Date: 3/28/24						

(See Instructions on reverse side)

Form AD-1006 (03-02)



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

December 28, 2022

Kaskaskia Engineering Group, LLC
Attention: Brigitte Moneymaker
208 East Main Street #100
Belleville, IL 62220

Dear Brigitte Moneymaker:

Re: Wellhead Protection Area
Proximity Determination
Des No 2000161
Intersection Improvement of
SR 32 and CR 925 W (Main Street),
0.72 Mile North of SR 13, in
Madison 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. However, the above referenced project site **is located within 3,300 feet** of a Wellhead Protection Area. If the contact information is needed for the WHPA, please contact the reference located at the bottom of the letter for the appropriate information. The information is accurate to the best of our knowledge; however, there are in some cases a few factors that could impact the accuracy of this determination. Some Wellhead Protection Area Delineations have not been submitted, and many have not been approved by this office. In these cases, we use a 3,000-foot fixed radius buffer to make the proximity determination. To find the status of a Public Water Supply System's (PWSS's) Wellhead Protection Area Delineation please visit our tracking database at <http://www.in.gov/idem/cleanwater/2456.htm> and scroll to the bottom of the page.

The project area **is 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. The PWSS that could be impacted by the project is Citizens Water – Indianapolis. A contact person for Citizens Water – Indianapolis is John Havard, and they could be reached via e-mail and/or phone at: JHavard@citizensenergygroup.com and 317-693-8716. The contact information is provided as a courtesy and reference for you if any issues arise that could potentially impact the water quality for the PWSS during the course of the project. It is not a requirement of IDEM that you contact the system regarding the project.



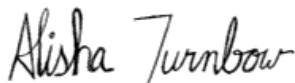
Please Reduce, Reuse, Recycle

Brigitte Moneymaker
Page 2

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

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

Sincerely,

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

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

Electronic cc: John Havard, Citizens Water – Indianapolis

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

DNR #: ER-25219**Request Received:** December 23, 2022

Requestor: Kaskaskia Engineering Group, LLC
 Brigitte Moneymaker
 208 East Main Street, Suite 100
 Belleville, IL 62220

Project: SR 32 intersection roundabout construction (2 locations), Lapel; KEG #21-1029.01:
 1) At SR 13, 3.67 Miles North of SR 38; Des #2000156
 2) At CR 925 W/Main St., 0.72 Mile North of SR 13; Des #2000161

County/Site info: Madison

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: These proposals may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of Stony Creek. Please submit more detailed plans to the Division of Water's Technical Services Section if you are unsure whether or not a permit will be required.

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

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

1) Riparian & Urban Tree Habitat:

The Division of Fish & Wildlife recommends avoiding removing urban trees to the greatest extent possible and replacing trees that must be removed. Street trees are important to fish and wildlife resources in urban areas. Indiana's street trees also provide millions of dollars of tangible benefits to Indiana communities by their presence in the urban environment. Their shade and beauty contribute to the quality of life. They provide significant increases in real estate values, create attractive settings for commercial businesses, and improve community neighborhood appeal. Trees decrease energy consumption by providing shade and acting as windbreaks. They reduce water treatment costs and impede soil erosion by slowing the runoff of stormwater. Trees also cool the air temperature, cleanse pollutants from the air, and produce oxygen while absorbing carbon dioxide. Trees are an integral component of the urban environment. Proactively managing and maintaining a street tree population will ultimately maximize the benefits afforded by their aesthetic and ecological functions. The following links give a good overview of the benefits of a street tree program and how to select the right species to avoid the negative impacts of non-native invasive species such as the common and popular Bradford pear:

<https://www.in.gov/dnr/forestry/forestry-publications-and-presentations/> (scroll down to the Community & Urban Forestry section).

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

Impacts to non-wetland forest of one (1) acre or more in a rural or urban area should be mitigated at a minimum 2:1 ratio based on area of impact. Impacts to non-wetland forest under one (1) acre but at least 0.10 acre in a rural or urban area should be mitigated at a minimum 1:1 ratio based on area of impact. Impacts under 0.10 acre in a rural area typically do not require mitigation or additional plantings beyond seeding and stabilizing disturbed areas, though there are exceptions for high quality habitat sites. Impacts under 0.10 acre in an urban area should be mitigated by replacing trees that are 10" diameter-at-breast height (dbh) or greater by planting five trees, 1" to 2" in dbh, for each tree which is removed that is 10" dbh or greater. Seeding and stabilizing disturbed areas is required regardless of the impact amount and location. If floodway impacts to wetland and non-wetland habitat areas combine to be 0.10 acres or more, mitigation should be done and coordinated with the biologist, as needed.

2) Drainage & Stormwater Management:

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

<https://www.epa.gov/greeningepa/epa-facility-stormwater-management>;

<https://www.epa.gov/greeningepa/stormwater-management-practices-epa-facilities>

3) Pavement Rehabilitation:

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

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 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. Do not excavate in the waterway and minimize disturbance to bank vegetation and

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Division of Fish and Wildlife
Early Coordination/Environmental Assessment

contain disturbance to within the project limits.

3. Do not cut any trees suitable for Indiana bat or Northern Long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30.

4. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the waterbody or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

5. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.

Contact Staff:

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife

Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

Christie L. Stanifer

Date: January 20, 2023

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

Chad Kelly

From: Havard, John E. <JHavard@citizensenergygroup.com>
Sent: Monday, April 8, 2024 10:18 AM
To: Chad Kelly
Cc: Virginia Flynn
Subject: RE: Early Coordination, Des. No. 2000161, SR 32 and CR 925 W (Main Street), Intersection Improvement, Madison County, IN [21-1029.01]

Categories: Saved to SharePoint by Managed Filing,
<https://kaskaskiaeng.sharepoint.com/sites/21-1029.01/Emails>

Hi Chad,

I do not have any comments for this project. Thank you for alerting us about the project.

John Havard, PE
 Manager, Environmental Technical Programs
 O: 317.693.8716



From: Chad Kelly <ckelly@kaskaskiaeng.com>
Sent: Thursday, March 28, 2024 1:03 PM
To: Havard, John E. <JHavard@citizensenergygroup.com>
Cc: Virginia Flynn <VFlynn@kaskaskiaeng.com>
Subject: Early Coordination, Des. No. 2000161, SR 32 and CR 925 W (Main Street), Intersection Improvement, Madison County, IN [21-1029.01]

WARNING: This email originated outside of Citizens Energy Group. **DO NOT CLICK** links or attachments unless you recognize the sender and know the content is safe.

Hello John,

Please see the attached early coordination letter regarding the above referenced INDOT project. Standard coordination with IDEM found the project located within Citizens Water Source Water Assessment Area.

Thank you,



Chad Kelly
 Environmental Scientist
Certified: WBE/DBE/WOSB/EDWOSB
 630.333.7282 cell | 630.332.9157 office



United States Department of the Interior

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



In Reply Refer To:

February 14, 2024

Project Code: 2024-0049276

Project Name: SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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

Attachment(s):

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

OFFICIAL SPECIES LIST

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

This species list is provided by:

Indiana Ecological Services Field Office

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

PROJECT SUMMARY

Project Code: 2024-0049276

Project Name: SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161

Project Type: Road/Hwy - Maintenance/Modification

Project Description: This project is located at the intersection of SR 32 and CR 925 W (Main Street), approximately 0.72 mile north of SR 13 in Madison County. The proposed project includes the construction of a single-lane roundabout at the intersection requiring all approaches to yield to traffic from the left. Additionally, utilities will be relocated, an enclosed drainage system with pipes will be installed, and lighting added. Also, a new drainage basin will be constructed near the northwest portion of the intersection. There is suitable summer habitat within the project area. Approximately 10 trees within 100 feet from the existing roadway are anticipated for removal during the inactive season. No tree trimming or removal is anticipated between 100-300 feet from the existing roadway. The dominant species of trees to be removed include: silver maple (*Acer saccharinum*), red mulberry (*Morus rubra*), American sycamore (*Platanus occidentalis*) and black walnut (*Juglans nigra*). INDOT personnel from the Greenfield District stated on September 7, 2022, that 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. Construction is anticipated to begin in Spring of 2025. Permanent lighting changes are anticipated with the reconstruction of the intersection. Temporary lighting is assumed due to the potential for night work. The project will not require mitigation.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.07703085,-85.84867182146516,14z>



Counties: Madison County, Indiana

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

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

INSECTS

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

CRITICAL HABITATS

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

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

BALD & GOLDEN EAGLES

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

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

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

There are bald and/or golden eagles in your project area.

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> 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

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "[Supplemental](#)

[Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

Breeding Season (■)

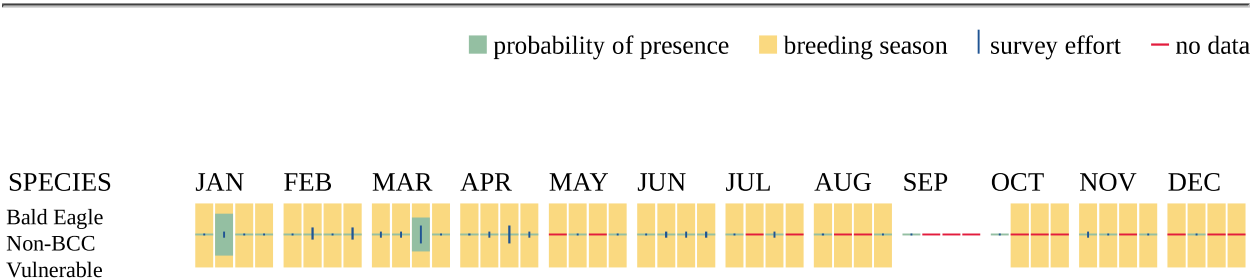
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

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

No Data (—)

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



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

MIGRATORY BIRDS

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

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

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> 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
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper <i>Calidris melanotos</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere

PROBABILITY OF PRESENCE SUMMARY

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

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

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

Breeding Season (■)

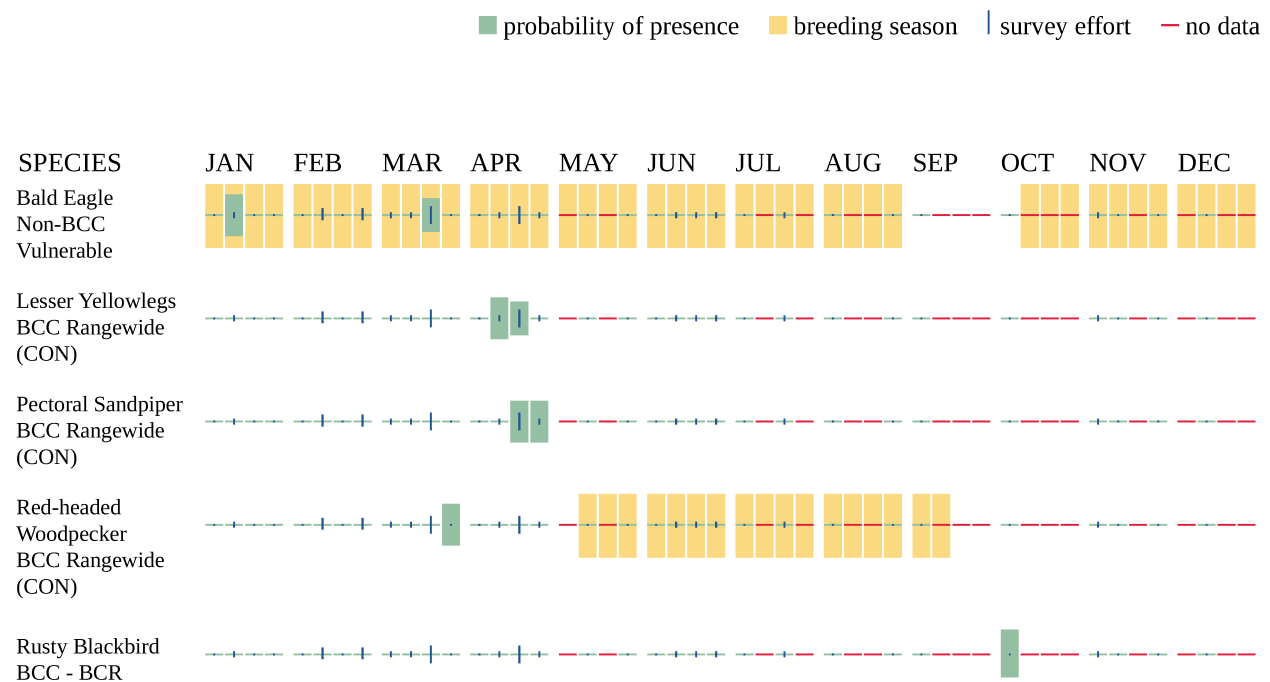
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

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

No Data (—)

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



Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

WETLANDS

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

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

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

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

IPAC USER CONTACT INFORMATION

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Name: Chad Kelly

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United States Department of the Interior

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



In Reply Refer To:

February 15, 2024

Project code: 2024-0049276

Project Name: SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161

Subject: Concurrence verification letter for the 'SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161' project under the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (NLEB).

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request dated February 15, 2024 to verify that the **SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161** (Proposed Action) may rely on the concurrence provided in the amended February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion (dated March 23, 2023) for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 *et seq.*).

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

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

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

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

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

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

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

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

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

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

PROJECT DESCRIPTION

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

NAME

SR 32 & CR 925 W (Main Street), Intersection Improvement, DES 2000161

DESCRIPTION

This project is located at the intersection of SR 32 and CR 925 W (Main Street), approximately 0.72 mile north of SR 13 in Madison County. The proposed project includes the construction of a single-lane roundabout at the intersection requiring all approaches to yield to traffic from the left. Additionally, utilities will be relocated, an enclosed drainage system with pipes will be installed, and lighting added. Also, a new drainage basin will be constructed near the northwest portion of the intersection. There is suitable summer habitat within the project area. Approximately 10 trees within 100 feet from the existing roadway are anticipated for removal during the inactive season. No tree trimming or removal is anticipated between 100-300 feet from the existing roadway. The dominant species of trees to be removed include: silver maple (*Acer saccharinum*), red mulberry (*Morus rubra*), American sycamore (*Platanus occidentalis*) and black walnut (*Juglans nigra*). INDOT personnel from the Greenfield District stated on September 7, 2022, that 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. Construction is anticipated to begin in Spring of 2025. Permanent lighting changes are anticipated with the reconstruction of the intersection. Temporary lighting is assumed due to the potential for night work. The project will not require mitigation.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.07703085,-85.84867182146516,14z>



DETERMINATION KEY RESULT

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

QUALIFICATION INTERVIEW

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

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

Automatically answered

Yes

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

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

Automatically answered

Yes

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

A) Federal Highway Administration (FHWA)

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

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

No

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

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

No

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

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

No

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

No

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

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

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

Yes

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

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

Yes

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

No

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

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

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

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

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

No

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

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

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

No

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

Yes

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

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

B) During the inactive season

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

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

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

No

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

Yes

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

B) During the inactive season

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

Yes

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

No

20. Are *all* trees that are being removed clearly demarcated?
Yes
21. Will the removal of habitat or the removal/trimming of trees include installing new or replacing existing **permanent** lighting?
Yes
22. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?
No
23. Does the project include slash pile burning?
No
24. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?
No
25. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)
No
26. Will the project involve the use of **temporary** lighting *during* the active season?
Yes
27. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?
Yes
28. Will the project install *any* new or replace any existing **permanent** lighting in addition to the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities?
Yes
29. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting (other than the lighting already indicated for habitat removal (including the removal or trimming of trees) or bridge/structure removal, replacement or maintenance activities) will be installed or replaced?
Yes
30. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?
No

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

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

Yes

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

No

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

Automatically answered

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

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

Automatically answered

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

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

Automatically answered

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

36. **General AMM 1**

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

Yes

37. **Tree Removal AMM 1**

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

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

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

Yes

38. **Tree Removal AMM 3**

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

Yes

39. **Tree Removal AMM 4**

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

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

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

Yes

40. **Lighting AMM 2**

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

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

Yes

41. **Lighting AMM 2**

Will the **permanent** lighting used during removal of suitable habitat and/or the removal/trimming of trees within suitable habitat be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

Yes

42. Lighting AMM 1

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

Yes

43. Lighting AMM 2

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

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

Yes

44. Lighting AMM 2

Will the **permanent** lighting (other than any lighting already indicated for tree clearing or bridge/structure removal, replacement or maintenance activities) be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

Yes

PROJECT QUESTIONNAIRE

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

N/A

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

N/A

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

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

0.9

AVOIDANCE AND MINIMIZATION MEASURES (AMMS)

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

TREE REMOVAL AMM 1

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

LIGHTING AMM 1

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

TREE REMOVAL AMM 2

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

LIGHTING AMM 2

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

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.

GENERAL AMM 1

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

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

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

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

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

IPAC USER CONTACT INFORMATION

Agency: Indiana Department of Transportation

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Address: 32 South Broadway

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State: IN

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Phone: 3174673970

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Highway Administration

APPENDIX D

Section 106 of the NHPA

**FEDERAL HIGHWAY ADMINISTRATION'S
SECTION 4(F) COMPLIANCE REQUIREMENTS (for historic properties) AND
SECTION 106 FINDINGS AND DETERMINATIONS
AREA OF POTENTIAL EFFECT
ELIGIBILITY DETERMINATIONS 106
EFFECT FINDING
SR 32 AT CR 925 INTERSECTION IMPROVEMENT PROJECT
DES. NO. 2000161**

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

The area of potential effects (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, if any such properties exist. The APE is influenced by the scale and nature of the undertaking...” (36 CFR 800.16[d]).

The above-ground resources APE complies with INDOT’s directive regarding APEs for streetscape improvements and roundabout projects. Per the INDOT Cultural Resources Manual, the suggested APE for streetscape improvements, roundabouts, and trail projects includes adjacent properties and properties within the project viewshed (Part II, Chapter 5, Page 4). The resultant APE is one-parcel deep on all sides surrounding the immediate project footprint with consideration given to broadened areas as appropriate for potential auditory or visual impacts. For several large parcels, the APE truncates after partial inclusion of those lots to include all areas with direct or potential for indirect impacts. The proposed APE generally follows parcel lines, except where prudent to truncate or expand the survey area in consideration of potential visual impacts, thus resulting in an irregularly shaped polygon. It includes 60.7 acres (0.1 square mile) and contains a mixture of agricultural and commercial uses.

The archaeological APE for this project includes all areas with the potential for direct impact, including the project area, utility easement, existing right-of-way, and proposed right-of-way.

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

There are no historic properties present within the APE.

EFFECT FINDING

INDOT, acting on FHWA’s behalf, 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.



Matthew S. Coon, for FHWA
Manager
INDOT Cultural Resources

September 11, 2024

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)
SR 32 at CR 925 Intersection Improvement Project
Des. No. 2000161**

1. DESCRIPTION OF THE UNDERTAKING

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project (Des. No. 2000161). The undertaking is located at the intersection of SR 32 and CR 925 W, Lapel, Stony Creek Township, Madison County, Indiana. The project is within Stony Creek Township on the *Lapel, IN*, United States Geological Survey (USGS) 7.5-minute topographic quadrangle map, in Section 21, Township 19N, Range 6E.

Purpose and Need

The purpose of the project is to reduce the right-angle and rear-end crashes at this intersection, increase mobility, and to improve the Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) to below 1.00.

The identified need at this location stems from safety and mobility issues for motorists. According to the September 2019 Engineering Assessment Report, the most significant crash pattern in a review of crash data from 2016-2018 was right-angle crashes (56%) due to motorists attempting to cross or turn onto SR 32 from CR 925 W. The second most significant crash pattern was rear-end crashes (22%) due to congestion accessing the gas station on the southeast corner of the intersection. The ICF for the intersection, which measures the performance of the intersection per the number of crashes, was 2.53 for the years between 2016-2018. The ICC for the intersection, which measures the severity of crashes, was 2.86 for the years between 2016-2018. An ICF and an ICC of 0 indicates that the roadway is performing as expected; over 1.00 indicates that the intersection is a safety concern; 2.00 or higher is considered a high crash location.

Project Description/ Preferred Alternative

INDOT and the FHWA intend to proceed with the preferred alternative, which includes replacing the existing two-way stop control with a single-lane roundabout (RAB). The RAB will include raised concrete islands, outside truck aprons in the northeast and southwest quadrants, outside curb and gutter, a stormwater system (pipes and outlet culverts), a passing blister for southbound traffic along the south approach, and lighting throughout the intersection. Fiber optic and overhead electric utilities will need to be relocated into the right-of-way (ROW) and lighting facilities (poles and wiring) will run along the outside of the roundabout limits within the area of construction.

Portions of the project area contain undisturbed soils. Proposed excavation along the project corridor includes the removal of the existing roadway and roadbed to a depth of approximately 2.5 feet; a drainage system with pipes and structure depths ranging from 4 to 6 feet deep; and excavation to install lighting foundations at a depth of 8 feet.

The project will require the acquisition of approximately 1.95 acres of permanent ROW and 0.18 acre of temporary ROW. The proposed maintenance of traffic (MOT) includes the use of temporary portable signals along SR 32 to allow traffic flow in each direction to be partly open using a single lane with phasing.

Area of Potential Effects

The area of potential effects (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, if any such properties exist. The APE is influenced by the scale and nature of the undertaking...” (36 CFR 800.16[d]).

The proposed above-ground resources APE complies with INDOT’s directive regarding APEs for streetscape improvements and roundabout projects. Per the INDOT Cultural Resources Manual, the suggested APE for streetscape improvements, roundabouts, and trail projects includes adjacent properties and properties within the project viewshed (Part II, Chapter 5, Page 4). The proposed APE is one-parcel deep on all sides surrounding the immediate project footprint with consideration given to broadened areas as appropriate for potential auditory or visual impacts. For several large parcels, the APE truncates after partial inclusion of those lots to include all areas with direct or potential for indirect impacts. The proposed APE generally follows parcel lines, except where prudent to truncate or expand the survey area in consideration of potential visual impacts, thus resulting in an irregularly shaped polygon. It includes 60.7 acres (0.1 square mile) and contains a mixture of agricultural and commercial uses.

The archaeological APE for this project includes all areas with the potential for direct impact, including the project area, utility easement, existing right-of-way, and proposed right-of-way. Please see Appendix A for a map illustrating the APE and Appendix C for project area photographs.

2. EFFORTS TO IDENTIFY HISTORIC PROPERTIES

Consulting Party Input

An Early Coordination Letter (ECL) was sent to potential non-tribal consulting parties on February 13, 2023, and to potential tribal consulting parties on February 16, 2023. Identified consulting parties are enumerated in Appendix B.

On March 16, 2023, a letter received from the Indiana Division of Historic Preservation and Archaeology / State Historic Preservation Office (DHPA-SHPO) indicated that the consulting party list was appropriate.

On March 22, 2023, Carissa Speck of the Delaware Nation Historic Preservation Department sent a letter indicating that the Delaware Nation accepted the consulting party invitation for the project, and that the area has a potential for discovery of archaeological resources.

On April 6, 2023, Paul Barton, Tribal Historic Preservation Officer for the Eastern Shawnee Tribe of Oklahoma sent a letter indicating that the proposed project poses no adverse effect to known sites of interest to the Eastern Shawnee Tribe. Mr. Barton asked to be made aware of any archaeological discoveries during construction.

On September 18, 2023, a letter received from the DHPA-SHPO agreed with the findings of the Historic Property Short Report.

No Historic Properties Affected

On May 30, 2024, INDOT CRO informed Tribal consulting parties that an archaeological report was available on IN SCOPE for review and comment.

On July 18, 2024, the Indiana SHPO sent a comment letter regarding the Cemetery Development Plan (CDP) submitted regarding the Hidden Cemetery. The SHPO indicated that the plan was “acceptable” with conditions.

On July 18, 2024, the Indiana SHPO sent a second letter in response to the archaeological short report. The SHPO concurred with the findings of the report and its findings.

Copies of all consulting party coordination letters are included in Appendix B.

Identification of Historic Properties

Project historians used historical maps and aerial photographs to determine the historic development of the project area/APE. In this way, historians were able to locate above-ground resources not previously surveyed that will be 50 years of age or older by the time of project letting. Cartographic resources used for this purpose include USGS topographic quadrangle maps and historic aerial photographs. Coupled with field work, the project historians identified one above-ground resource that is 50 years of age or older within the APE: the American Legion (1950) (1600 N Main Street, Lapel, Indiana).

After project historians identified the above-ground resources, they conducted research to determine whether any previously recorded or newly identified above-ground resources might merit a Notable or Outstanding rating in the Indiana Historic Sites and Structures Inventory (IHSSI). The American Legion Building is potentially a Contributing resource but is not Notable or Outstanding.

A field survey, consisting of a vehicular and pedestrian examination of the APE was conducted November 2-3, 2022, to verify the condition of any previously recorded resources [there were none] and to identify and evaluate previously unrecorded resources within the APE that are at least 50 years of age by the time of project letting, meaning they were constructed in or before 1975. Documentation of each resource included, where appropriate, the completion of historic resource field forms, field notes, sketches, site plans, and digital photography.

The Historic Property Short Report (HPSR) was first distributed to consulting parties on August 2, 2023. The Indiana SHPO concurred with the findings of the HPSR in a letter dated September 18, 2023.

The Archaeological Report (AR) was first distributed to tribal consulting parties on May 30, 2024. The report identified one site, 12M881, which was recommended not eligible for listing in the National Register of Historic Places (National Register). The Indiana SHPO concurred with the report findings in a letter dated July 18, 2024. In a separate letter from the same day, the Indiana SHPO accepted the Cemetery Development Plan for Hidden Cemetery.

Copies of the abstracts and summary/conclusion pages from the HPSR and AR are included in Appendix D.

3. BASIS FOR FINDING

No historic properties are present within the APE.

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Appendix A. Map

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Figure 1. Detail map of the APE showing the locations of all surveyed resources (properties 50 years of age or older).

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

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No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project



Appendix B. Consulting Party Correspondence

Identified consulting parties included the following (entities who accepted consulting party status are highlighted in **bold** font):

- **Beth McCord, Director and Deputy State Historic Preservation Officer, Indiana Division of Historic Preservation and Archaeology (DHPA-SHPO)**
- Noah Bozell, Town Council President, Town of Lapel
- Darlene Likens, Commissioner, Madison County
- John Richwine, Commissioner, Madison County
- Olivia Pratt, Commissioner, Madison County
- Jerrold Bridges, Regional Director, Madison County Council of Governments (MCCOG)
- Brittany Miller, Eastern Regional Office, Director, Indiana Landmarks
- Stephen T. Jackson, Madison County Historian
- Melody Hull, President, Madison County Historical Society
- Scott Harless, Highway Superintendent, Madison County
- Nola Martin, interested member of the public
- Absentee Shawnee Tribe of Oklahoma
- **Delaware Nation of Oklahoma**
- Delaware Tribe of Indians
- **Eastern Shawnee Tribe of Oklahoma**
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe

Molnar, Katherine J

From: Molnar, Katherine J
Sent: Monday, February 13, 2023 9:58 AM
To: BMccord@dnr.IN.gov; noah@lapelindiana.org; dlikens@madisoncounty.in.gov; jrichwine@madisoncounty.in.gov; opratt@madisoncounty.in.gov; jerry@heartlandmpo.org; bmiller@indianalandmarks.org; madisoncountyhistorian@comcast.net; madisonCHS@sbcglobal.net; NolaMrt1@aol.com; sharless@madisoncounty.in.gov
Cc: Szewczak, Kimberly; Bales, Ronald; Heustis, Tom; Jack, Laura; Effinger, Melissa; Zinn, Timothy; Curtis, William; Bodor, Thomas
Subject: FHWA Project; Des. No. 2000161; SR 32 at CR 925 Intersection Improvement Project, Madison County, Indiana
Attachments: SR 32-CR 925_Des2000161_ECL_20230213.pdf
Categories: SUBMISSION DATE

Des. No.: 2000161**Project Description: SR 32 at CR 925 Intersection Improvement Project****Location: Lapel, Madison County, Indiana**

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project (Des. No. 2000161).

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:

- Beth McCord, Director and Deputy State Historic Preservation Officer, Indiana Division of Historic Preservation and Archaeology (DHPA-SHPO)
- Noah Bozell, Town Council President, Town of Lapel
- Darlene Likens, Commissioner, Madison County
- John Richwine, Commissioner, Madison County
- Olivia Pratt, Commissioner, Madison County
- Jerrold Bridges, Regional Director, Madison County Council of Governments (MCCOG)
- Brittany Miller, Eastern Regional Office, Director, Indiana Landmarks
- Stephen T. Jackson, Madison County Historian
- Melody Hull, President, Madison County Historical Society
- Scott Harless, Highway Superintendent, Madison County
- Nola Martin, interested member of the public
- Absentee Shawnee Tribe of Oklahoma
- Delaware Nation of Oklahoma
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe

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://erms12c.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 property 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 within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. 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. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon at mcoon@indot.in.gov (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at K.CarmanyGeorge@dot.gov (317-226-5629).

Thank you in advance for your input.

Katie

Katherine J Molnar | Architectural Historian
Rapid City, SD | [O] 602-294-2250 | [M] 970-482-8094
katherine.molnar@mbakerintl.com | www.mbakerintl.com f t @ in

Michael Baker
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INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE (855) 463-6848

Eric Holcomb, Governor
Michael Smith, Commissioner

February 13, 2023

This letter was sent to the listed parties.

RE: SR 32 at CR 925 Intersection Improvement Project
Lapel, Madison County, Indiana
Des. No. 2000161

Dear Consulting Party (see attached list),

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project in Lapel, Indiana (Des. No. 2000161). Michael Baker International, Inc. (Michael Baker) is under contract with INDOT to advance the environmental documentation for the referenced project.

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 located at the intersection of SR 32 and CR 925 W in Madison County, Indiana. It is within Stony Creek Township, *Lapel, IN*, USGS quadrangle, in Section 21, Township 19N, Range 6E. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

Purpose and Need

The purpose of the project is to reduce the right-angle and rear-end crashes at this intersection, increase mobility, and to improve the Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) to below 1.00.

The identified need at this location stems from safety and mobility issues for motorists. According to the September 2019 Engineering Assessment Report, the most significant crash pattern in a review of crash data from 2016-2018 was right-angle crashes (56%) due to motorists attempting to cross or turn onto SR 32 from CR 925 W. The second most significant crash pattern was rear-end crashes (22%) due to congestion accessing the gas station on the southeast corner of the intersection. The ICF for the intersection, which measures the performance of the intersection per the number of crashes, was 2.53 for the years between 2016-2018. The ICC for the intersection, which measures the severity of crashes, was 2.86 for the years between 2016-2018. An ICF and an

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ICC of 0 indicates that the roadway is performing as expected; over 1.00 indicates that the intersection is a safety concern; 2.00 or higher is considered a high crash location.

Preferred Alternative

INDOT and the FHWA intend to proceed with the preferred alternative, which includes replacing the existing two-way stop control with a single-lane roundabout (RAB). The RAB will include raised concrete islands, outside truck aprons in the northeast and southwest quadrants, outside curb and gutter, a stormwater system (pipes and outlet culverts), a passing blister for southbound traffic along the south approach, and lighting throughout the intersection. Fiber optic and overhead electric utilities will need to be relocated into the right-of-way (ROW) and lighting facilities (poles and wiring) will run along the outside of the roundabout limits within the area of construction.

The project will require the acquisition of approximately 1.62 acres of permanent ROW and 0.19 acre of temporary ROW. The proposed maintenance of traffic (MOT) includes the use of temporary portable signals along SR 32 to allow traffic flow in each direction to be partly open using a single lane with phasing.

Portions of the project area contain undisturbed soils. Proposed excavation along the project corridor includes the removal of the existing roadway and roadbed to a depth of approximately 2.5 feet; a drainage system with pipes and structure depths ranging from 4 to 6 feet deep; and excavation to install lighting foundations at a depth of 8 feet.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic 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 properties, 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 results of the cultural resources identification and evaluation efforts for both above-ground and archaeological resources are 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.

For questions concerning specific project details, you may contact Laura Jack of Michael Baker at 312-575-3902 or laura.jack@mbakerintl.com. All future responses regarding the proposed project should be forwarded to Michael Baker at the following address:

Laura Jack
Environmental Scientist
Michael Baker International, Inc.
200 West Adams St., Suite 1800
Chicago, IL 60606
laura.jack@mbakerintl.com

Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon at mcoon@indot.in.gov (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at K.CarmanyGeorge@dot.gov (317-226-5629).

Sincerely,



Matthew S. Coon, Acting Manager
Cultural Resources Office
Environmental Services

Enclosures:

- ☒ Project area as depicted on a topographic quadrangle map.

Distribution List:

- | | |
|---|---|
| <ul style="list-style-type: none"> ☒ Beth McCord, Director and Deputy State Historic Preservation Officer, Indiana Division of Historic Preservation and Archaeology (DHPA-SHPO) ☒ Noah Bozell, Town Council President, Town of Lapel ☒ Darlene Likens, Commissioner, Madison County | <ul style="list-style-type: none"> ☒ John Richwine, Commissioner, Madison County ☒ Olivia Pratt, Commissioner, Madison County ☒ Jerrold Bridges, Regional Director, Madison County Council of Governments (MCCOG) ☒ Brittany Miller, Eastern Regional Office, Director, Indiana Landmarks ☒ Stephen T. Jackson, Madison County Historian |
|---|---|

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- | | |
|---|---|
| ☒ Melody Hull, President, Madison County Historical Society | ☒ Eastern Shawnee Tribe of Oklahoma |
| ☒ Scott Harless, Highway Superintendent, Madison County | ☒ Miami Tribe of Oklahoma |
| ☒ Nola Martin, interested member of the public | ☒ Peoria Tribe of Indians of Oklahoma |
| ☒ Absentee Shawnee Tribe of Oklahoma | ☒ Pokagon Band of Potawatomi Indians |
| ☒ Delaware Nation of Oklahoma | ☒ Shawnee Tribe |
| ☒ Delaware Tribe of Indians | |

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No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix B-8



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No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix B-9

From: Brinker, Haley <HBrinker@indot.IN.gov>
Sent: Thursday, February 16, 2023 11:11 AM
To: snease@astribe.com; cspeck@delawarenation-nsn.gov; lheady@delawaretribe.org; sbachor@delawaretribe.org; thpo@estoo.net; THPO@MiamiNation.com; bfletcher@peoriatribe.com; matthew.bussler@pokaqonband-nsn.gov; Section106@shawnee-tribe.com
Cc: Molnar, Katherine J; Coon, Matthew; Carmany-George, Karstin (FHWA); Alexander, Kelyn
Subject: EXTERNAL: FW: FHWA Project: Des. No. 2000161; SR 32 at CR 925 Intersection Improvement Project, Madison County, Indiana
Attachments: SR 32-CR 925_Des2000161_ECL_20230213.pdf
Categories: SUBMISSION DATE

Des. No.: 2000161

Project Description: SR 32 at CR 925 Intersection Improvement Project

Location: Lapel, Madison County, Indiana

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration, proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project (Des. No. 2000161).

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:

- Beth McCord, Director and Deputy State Historic Preservation Officer, Indiana Division of Historic Preservation and Archaeology (DHPA-SHPO)
- Noah Bozell, Town Council President, Town of Lapel
- Darlene Likens, Commissioner, Madison County
- John Richwine, Commissioner, Madison County
- Olivia Pratt, Commissioner, Madison County
- Jerrold Bridges, Regional Director, Madison County Council of Governments (MCCOG)
- Brittany Miller, Eastern Regional Office, Director, Indiana Landmarks
- Stephen T. Jackson, Madison County Historian
- Melody Hull, President, Madison County Historical Society
- Scott Harless, Highway Superintendent, Madison County
- Nola Martin, interested member of the public
- Absentee Shawnee Tribe of Oklahoma
- Delaware Nation of Oklahoma
- Delaware Tribe of Indians
- Eastern Shawnee Tribe of Oklahoma
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Shawnee Tribe

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.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix B-10

Please review the attached letter, which is also located in IN SCOPE at <http://erms12c.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 property 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 within seven (7) days.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. 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. Therefore, if we do not receive a response within thirty (30) days, your agency or organization will not receive any further information on the project unless the scope of work changes.

Tribal Contacts please respond to INDOT's Tribal Liaison, Matt Coon at mcoon@indot.in.gov (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at K.CarmanyGeorge@dot.gov (317-226-5629).

Thank you in advance for your input,

Katie

Katherine J Molnar | Architectural Historian
Rapid City, SD | [O] 602-294-2250 | [M] 970-482-8094
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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 · dhp@dnr.IN.gov



March 16, 2023

Laura Jack
Environmental Scientist
Michael Baker International, Inc.
200 West Adams Street, Suite 1800
Chicago, Illinois 60606

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

Re: Early coordination letter for the SR 32 at CR 925 intersection improvement (Des. No. 2000161; DHPA No. 30353)

Dear Ms. Jack:

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 February 13, 2023 submission which enclosed INDOT's early coordination letter, received by our office on February 15, 2023, for this project in the Town of Lapel, Madison County, Indiana.

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. 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 Wade T. Tharp, and the structures reviewer is Toni Lynn Giffin. 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 SR 32 at CR 925 intersection improvement project in Lapel, Madison County (Des. No. 2000161), please refer to DHPA No. 30353.

Very truly yours,

Beth K. McCord
Deputy State Historic Preservation Officer

BKM:TLG:WTT:wtt

emc: Matt Coon, Ph.D., INDOT
Susan Branigin, INDOT
Laura Jack, Michael Baker International
Toni Lynn Giffin, Indiana DNR-DHPA
Wade T. Tharp, Indiana DNR-DHPA

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**Delaware Nation
Historic Preservation Department**

31064 State Highway 281
Anadarko, OK 73005
(405) 247-2448

March 22, 2023

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s).

Project(s): INDOT; FHWA Project: Des. No. 2000161; SR 32 at CR 925 Intersection Improvement Project, Madison County, Indiana

Our office is committed to protecting tribal heritage, culture and religion with particular concern for archaeological sites potentially containing burials and associated funerary objects.

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f), and implementing regulation 36 CFR 800, "Protection of Historic Properties," **Delaware Nation accepts your invitation for consultation on this project.**

The Lenape people occupied the area indicated in your letter during and prior to European contact until their eventual removal to our present locations. According to our files, the location of the proposed project does not endanger any known cultural or religious sites of interest to the Delaware Nation. However, there is always the potential for discovery of archaeological resources in this area.

Please note the Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Band of Mohican Indians are the only Federally Recognized Delaware/Lenape entities in the United States and consultation must be made only with designated staff of these three tribes. We appreciate your cooperation in contacting the Delaware Nation Historic Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

Carissa Speck

Carissa Speck
Historic Preservation Director
Delaware Nation
Ph. 405-247-2448 ext. 1403
cspeck@delawarenation-nsn.gov



EASTERN SHAWNEE CULTURAL PRESERVATION DEPARTMENT

70500 East 128 Road, Wyandotte, OK 74370

April 6, 2023

INDOT – Indiana Department of Transportation
100 N. Senate Ave. IGCN642
Indianapolis, IN 46201

RE: Des No. 2000161, Madison County, Indiana

Dear Mr. Coon,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Madison County, Indiana. 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
THPO@estoo.net



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



September 18, 2023

Laura Jack
Environmental Scientist
Michael Baker International, Inc.
200 West Adams St., Suite 1800
Chicago, Illinois 60606

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

Re: Historic property short report (Molnar, 08/2023) for SR 32 at CR 925 Intersection Improvement Project
(Des. No. 2000161; DHPA No. 30353)

Dear Ms. Jack:

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 August 22, 2023, submission which enclosed the historic property short report ("HPSR"; Molnar, 08/2023), received by our office August 22, 2023, for this project in the Town of Lapel, Madison County, Indiana.

The 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.

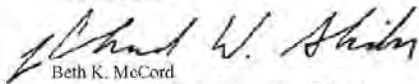
For the purposes of the Section 106 review of this federal undertaking, we agree with the conclusions in the HPSR that there are no previously recorded National Register of Historic Places ("NRHP")-listed or -eligible resources located within the APE. Furthermore, we agree with the conclusions in the HPSR regarding the ineligibility of the remaining properties surveyed within the APE for inclusion in the NRHP.

As INDOT's August 22, 2023, letter indicates, the report on investigations of archaeological resources is forthcoming. We look forward to reviewing and commenting on that report.

The Indiana SHPO staff's archaeological reviewer for this project is Wade T. Sharp, and the structures reviewer is Toni Lynn Giffin. 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 SR 32 at CR 925 intersection improvement project in Town of Lapel, Madison County, Indiana (Des. No. 2000161), please refer to DHPA No. 30353.

Very truly yours,


Beth K. McCord
Deputy State Historic Preservation Officer

BKM:TLG:WTT:wtt

emc: Matt Coon, Ph.D., Indiana Department of Transportation
Susan Branigan, Indiana Department of Transportation
Laura Jack, Michael Baker International, Inc.
Toni Lynn Giffin, Indiana DNR-DHPA
Wade T. Sharp, Indiana DNR-DHPA

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From: [Blum, Kaylee](#)
To: [thpo@estoo.net](#); [thpo@miamination.com](#); [bfletcher@peoriatribe.com](#); [Matthew Bussler](#); [Section106@shawnee-tribe.com](#); [snease@astribe.com](#); [cspeck@delawarenation-nsn.gov](#); [sbachor@delawaretribe.org](#); [Martina Thomas](#)
Cc: [Coon, Matthew](#); [Blum, Kaylee](#); [Molnar, Katherine J](#); [Rodor, Thomas](#)
Subject: EXTERNAL: Notification for FHWA Project: Des. No. 2000161, SR 32 at CR 925 Intersection Improvement Project, Madison County, Indiana
Date: Thursday, May 30, 2024 10:36:21 AM
Attachments: [image004.png](#)
[image008.png](#)

EXTERNAL EMAIL

Notification for FHWA Project: Des. No. 2000161, SR 32 at CR 925 Intersection Improvement Project, Madison County, Indiana

Des. No.: 2000161
 Project Description:
 Location: Madison County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project (INDOT Des. No. 2000161). The Section 106 Early Coordination Letter for this project was originally distributed in a letter on February 16, 2023, and additional information was distributed in a letter on August 2, 2023.

As part of Section 106 of the National Historic Preservation Act, an Archaeology report has been prepared and is ready for review and comment by consulting parties.

Please review this documentation located in IN SCOPE at <https://erms12c.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 within seven (7) days. Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment.

Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon mcoon@indot.in.gov (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at K.CarmanyGeorge@dot.gov (317-226-5629).

Thank you,

KayLee A. Blum, M.S.

Archaeologist

Indiana Department of Transportation, Cultural Resources Office
 100 North Senate Ave., N758 — Environmental Services
 Indianapolis, IN 46204

Office: (317) 439-3337

Email: kblum@indot.in.gov





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 18, 2024

Thomas W. Bodor, MA, RPA
Department Manager – Archaeology
Michael Baker International, Inc.
100 Airside Drive
Airside Business Park
Moon Township, Pennsylvania 15108

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

Re: Cemetery Development Plan (“CDP”) for Hidden Cemetery (CR-48-114) (Robinson and Bodor,
04/2024), related to the State Road 32 at County Road 925 Intersection Improvement Project
(Des. No. 2000161; DHPA No. 30353)

Dear Mr. Bodor:

Pursuant to IC 14-21-1-26.5, the Division of Historic Preservation and Archaeology (DHPA) has reviewed the Cemetery Development Plan for Hidden Cemetery (CR-48-114) (Robinson and Bodor, 04/2024), that was which were received by our office May 2, 2024, with additional information, revisions, and clarifications received June 18, 2024; and which relates to the State Road 32 at County Road 925 Intersection Improvement Project (Des. No. 2000161; DHPA No. 30353), which is proposed for areas located at the Town of Lapel, in Madison County, Indiana. It is our understanding, from the CDP, that, although historical documentation indicates that interments at Hidden Cemetery were moved by 1930, the remains of Mary Gwinn Freel may yet be extant in the area. It is also our understanding, from the CDP, that, although portions of the proposed project area lie within 100 feet of the location of an historical marker memorializing Hidden Cemetery (CR-48-114 in the Indiana DNR-DHPA SHAARD system database), the historical marker likely is not placed at the location of the cemetery.

Thank you for submitting the above-referenced Cemetery Development Plan. The plan that you submitted is acceptable, with the following conditions:

1. If, during any phase of the proposed project-related ground-disturbing activities, any human remains are disturbed, the Department of Natural Resources, Division of Historic Preservation and Archaeology, must be notified of the discovery within two (2) business days, per IC 14-21-1-27. In that event, please call (317) 232-1646. If human remains or burials are discovered, the relevant state statutes, including IC 23-14, IC 14-21-1, and 312 IAC 22, will be adhered to.
2. If, during any phase of the proposed project-related ground-disturbing activities, any artifacts or burial objects are discovered, the person shall “immediately cease disturbing the ground and the area within one hundred (100) feet of the artifact or burial object,” and the Department of Natural Resources, Division of Historic Preservation and Archaeology, will be notified within two business days, per IC 14-21-1-29. In that event, please call (317) 232-1646.
3. Written permission from all landowners must be provided to our office prior to the beginning of any fieldwork.
4. Any proposed changes or modifications to this Cemetery Development Plan shall be submitted to the Indiana DNR-DHPA in writing for review and comment prior to implementation.
5. This approved Cemetery Development Plan is not transferable.

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Thomas Bodor
July 18, 2024
Page 2

The Indiana SHPO staff's archaeological reviewer for this project is Wade T. Tharp, and the structures reviewer is Toni Lynn Giffin. 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 State Road 32 at County Road 925 Intersection Improvement Project (Des. No. 2000161), which is proposed for areas located at the Town of Lapel, in Madison County, Indiana, please refer to DHPA No. 30353.

Very truly yours,



Beth K. McCord
Deputy State Historic Preservation Officer

BKM:WTT:wt

emc: Matt Coon, Ph.D., Indiana Department of Transportation
Susan Branigin, Indiana Department of Transportation
Thomas W. Bodor, MA, RPA, Michael Baker International, Inc.
Laura Jack, Michael Baker International, Inc.
Toni Lynn Giffin, Indiana DNR-DHPA
Wade T. Tharp, Indiana DNR-DHPA



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 18, 2024



Thomas W. Bodor, MA, RPA
Department Manager – Archaeology
Michael Baker International, Inc.
100 Airside Drive
Airside Business Park
Moon Township, Pennsylvania 15108

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

Re: (Revised) Phase Ia archaeological field reconnaissance survey report (Robinson et al., 04/18/2024), and Cemetery Development Plan (Robinson and Bodor, 04/2024), related to the State Road 32 at County Road 925 Intersection Improvement Project (Des. No. 2000161; DHPA No. 30353)

Dear Mr. Bodor:

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 the above-indicated materials, which were received by our office May 2, 2024, with additional information, revisions, and clarifications received June 18, 2024; and which relate to the State Road 32 at County Road 925 Intersection Improvement Project (Des. No. 2000161; DHPA No. 30353), which is proposed for areas located at the Town of Lapel, in Madison County, Indiana.

As a note, we acknowledge receipt of the Cemetery Development Plan for Hidden Cemetery (CR-48-114) within this submission. We will provide our comments regarding that plan under separate cover.

In terms of archaeological resources, based on the submitted information and the documentation available to the staff of the Indiana SHPO, we have not identified any currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places (“NRHP”) within the proposed project area. We concur with the opinions of the archaeologist, as expressed in the (revised) Phase Ia archaeological field reconnaissance survey report (Robinson et al., 04/18/2024), that archaeological site 12-M-0881 (which was identified during archaeological investigations) does not appear to be eligible for inclusion in the National Register of Historic Places (“NRHP”), and that no further archaeological investigations appear necessary at the proposed project area.

Thank you for uploading the (revised) Phase Ia archaeological field reconnaissance survey report (Robinson et al., 04/18/2024) to the Indiana DNR-DHPA SHARD system database; the report has been assigned the identifier *AR-48-00405*. Additionally, thank you for uploading the archaeological site survey record forms for archaeological site 12-M-0881. The archaeological report and the archaeological site survey record form have been reviewed and 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 Indiana Code 14-21-1-29) requires that the discovery be reported to the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology within two (2)

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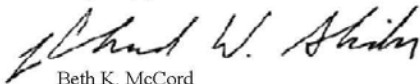
Thomas Bodor
 July 18, 2024
 Page 2

business days. In that event, please call (317) 232-1646. Be advised that adherence to Indiana Code 14-21-1-27 and Indiana Code 14-21-1-29 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 Wade T. Tharp, and the structures reviewer is Toni Lynn Giffin. 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 State Road 32 at County Road 925 Intersection Improvement Project (Des. No. 2000161; DHPA No. 30353), which is proposed for areas located at the Town of Lapel, in Madison County, Indiana, please refer to DHPA No. 30353.

Very truly yours,



Beth K. McCord
 Deputy State Historic Preservation Officer

BKM:WTT:wt

emc: Matt Coon, Ph.D., Indiana Department of Transportation
 Susan Branigin, Indiana Department of Transportation
 Thomas W. Bodor, MA, RPA, Michael Baker International, Inc.
 Laura Jack, Michael Baker International, Inc.
 Toni Lynn Giffin, Indiana DNR-DHPA
 Wade T. Tharp, Indiana DNR-DHPA



Appendix C. Project Area Photographs

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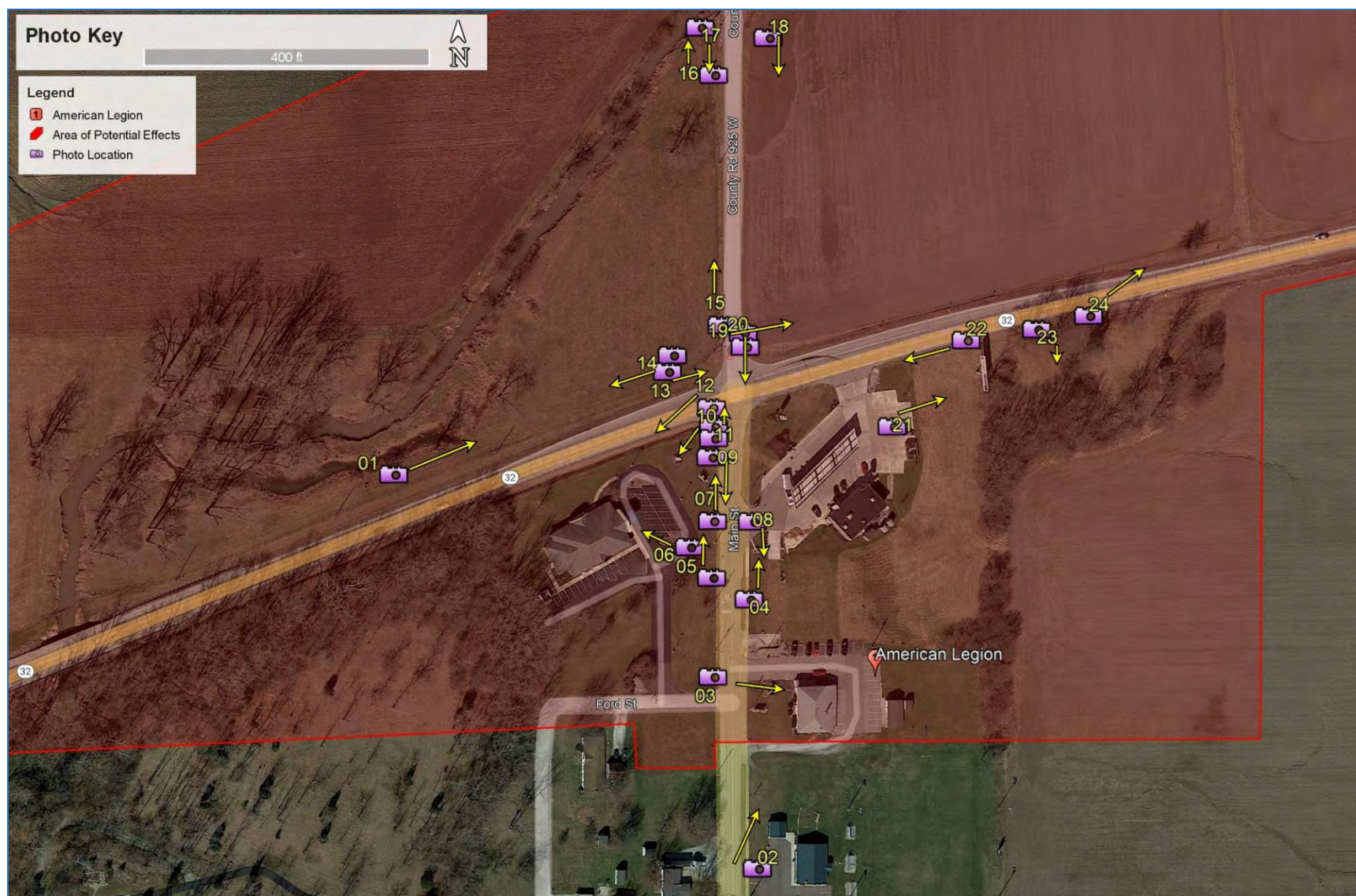


Figure 2. Photo key on an aerial background.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

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No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project



Photo 1. View from the western edge of the APE, near Stony Creek, looking toward the intersection of CR 925 W and SR 32, facing northeast.



Photo 2. View from the southern edge of the APE, looking toward the American Legion building, facing northeast.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-3



Photo 3. View toward the American Legion building, in the southeast quadrant of the intersection of CR 925 W and SR 32, facing east.



Photo 4. View along the sidewalk in the project's southeastern quadrant, along the eastern side of CR 925 W, facing north.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-4



Photo 5. View toward the intersection of SR 32 and CR 925, facing north.



Photo 6. View toward the medical office building, facing northwest.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-5



Photo 7. View toward the intersection of SR 32 and CR 925, from the medical office building, facing north.



Photo 8. View along the eastern side of CR 925 W, looking away from the intersection of SR 32 and CR 925, facing south.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-6



Photo 9. View along the western side of CR 925 W, looking away from the intersection of SR 32 and CR 925, facing south.



Photo 10. View toward the medical office building from the southwestern quadrant of the intersection of CR 925 W and SR 32, facing southwest.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-7



Photo 11. View toward the intersection of CR 925 W and CR 32, from the southwest quadrant of the intersection, facing north.



Photo 12. View from the intersection of CR 925 W and SR 32, from the southwest quadrant, facing southwest (medical office building in background).

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-8



Photo 13. View showing the northwest quadrant of the intersection of CR 925 W and SR 32, facing northeast.



Photo 14. View showing the northwest quadrant of the intersection of CR 925 W and SR 32, facing southwest.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project



Photo 15. View from the western side of CR 925 W, north of the intersection with SR 32, facing north.



Photo 16. View from the northern end of the APE, along the western side of CR 925 W, near Stony Creek, facing north.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-10



Photo 17. View from the northern end of the APE, along the western side of CR 925 W, near Stony Creek, facing south.



Photo 18. View from the northern end of the APE, along the eastern side of CR 925 W, near Stony Creek, facing south.



Photo 19. View from the northeast quadrant of the intersection of CR 925 W and SR 32, showing SR 32 in the upper right corner of the photograph, facing northeast.



Photo 20. View from the northeast quadrant of the intersection of CR 925 W and SR 32, showing the gas station and American Legion building, facing south.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-12



Photo 21. View from the gas station parking lot, showing the southeast quadrant of the intersection of CR 925 W and SR 32, facing northeast.



Photo 22. View from the south side of SR 32 looking toward the gas station, facing southwest.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project



Photo 23. Sign for "Hidden Cemetery," erected in memoriam, though in likely an incorrect location, facing south.



Photo 24. View across SR 32, from a location east of the intersection of CR 925 W and SR 32, facing northeast.

No Historic Properties Affected

SR 32 at CR 925 Intersection Improvement Project

Appendix C-14



Appendix D. Report Abstracts

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Historic Property Short Report

SR 32 at CR 925 Intersection Improvement Project

Intersection of SR 32 and CR 925 W
Lapel, Stony Creek Township

Madison County, Indiana

Des. No. 2000161

August 2023

Prepared For:
Indiana Department of Transportation
Indianapolis, Indiana

Prepared By:
Michael Baker International, Inc.
100 Airside Drive Moon Township, Pennsylvania 15108

Authors: Katherine Molnar, MS, Principal Investigator
Timothy G. Zinn, MA
Justin Greenawalt, MS
Tom Lucy, BA
Rebekah Perry, PhD

Tzinn@mbakerintl.com
412-269-4619



Abstract

This report documents the identification and evaluation efforts for properties included in the Area of Potential Effects (APE) for the SR 32 at CR 925 Intersection Improvement Project, located at the intersection of SR 32 and CR 925 W, Lapel, Stony Creek Township, Madison County, Indiana. 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 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.

5.0 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 eligible for listing in the NRHP.

****Please note that the report in its entirety is available for review in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE).**

**PHASE IA AND IB ARCHAEOLOGICAL RECONNAISSANCE
FOR THE
SR 32 at CR 925 INTERSECTION IMPROVEMENT PROJECT,
MADISON COUNTY, INDIANA**

INDOT Des No. 2000161

Prepared for:

Federal Highway Administration
and
Indiana Department of Transportation

Prepared by:

Ryan Robinson
Thomas Bodor
Bryan C. Cuning

With contributions by:

Seth A. Van Dam

Principal Investigator:



Thomas W. Bodor, MA, RPA

Michael Baker International, Inc.
100 Airside Drive
Moon Township, PA 15108

April 2024

ABSTRACT

This report presents the results of the Phase Ia and Ib archaeological reconnaissance for the SR 32 at County Road (CR) 925 W Intersection Improvement Project in Lapel, Stony Creek Township, Madison County, Indiana (Des. No. 2000161). The Indiana Department of Transportation (INDOT) with funding from the Federal Highway Administration (FHWA), proposes the undertaking located along SR 32 and CR 925 W (Main Street) in Lapel, Madison County, Indiana. The project is located on the *Lapel, IN*, United States Geological Survey 7.5-minute topographic quadrangle map, in Section 21, Township 19N, Range 6E.

The purpose of the project is to reduce the right-angle and rear-end crashes at this intersection, increase mobility, and to improve the Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) to below 1.00. The identified need at this location stems from safety and mobility issues for motorists. The ICF for the intersection, which measures the performance of the intersection per the number of crashes, was 2.53 for the years between 2016-2018. The ICC for the intersection, which measures the severity of crashes, was 2.86 for the years between 2016-2018. An ICF and an ICC of 0 indicates that the roadway is performing as expected; over 1.00 indicates that the intersection is a safety concern; 2.00 or higher is considered a high-crash location.

The archaeological survey area encompasses approximately 1.994 acres of permanent right-of-way (ROW) and approximately 0.182 acre of temporary ROW. Archaeological field investigations were conducted on October 18-19, 2022, and consisted of visual walkover and the excavation of shovel test probes (STPs).

Phase Ia archaeological reconnaissance resulted in the identification of one archaeological site, 12M881, based on the recovery of three lithic artifacts and one .40 caliber round lead ball from plowzone contexts in four STPs. The site is recommended as not eligible for the National Register of Historic Places (NRHP).

In addition, archival information indicates that a nineteenth-century cemetery – the Hidden Cemetery – is/was located on the parcel that contains the southwest quadrant of the SR 32 and CR 925 W intersection. Results of research also suggest that at least one grave associated with the Hidden Cemetery might be located adjacent to the southeast quadrant of the intersection. A Phase Ib geophysical survey of the southwest quadrant was not able to identify archaeological features, burial features, or other indicators of the Hidden Cemetery within the area inspected. No graves or physical indicators of burials were identified within the APE and based on the results of the geophysical survey, archival information, and visual inspection of the southwest and southeast quadrants, the APE is not likely to contain human graves or other physical remnants of the Hidden Cemetery.

Based on the results of the Phase Ia and Ib archaeological reconnaissance, it is the opinion of Michael Baker International (Michael Baker) that the archaeological survey area for the proposed SR 32 at CR 925 W Intersection Improvement Project does not contain archaeological resources that are eligible for the NRHP. Furthermore, the survey area is unlikely to contain graves or other materials associated with the Hidden Cemetery. Michael Baker recommends no additional archaeological investigations are warranted with the survey area as the project is currently designed.

CONCLUSIONS AND RECOMMENDATIONS

Summary

Michael Baker completed Phase Ia archaeological reconnaissance for proposed improvements to the SR 32 intersection with CR 925 W in Madison County, Indiana on behalf of the INDOT and FHWA. The archaeological survey area for the proposed undertaking measures 0.84 ha (2.08 ac) and consists of permanent and temporary ROW. Field investigations were conducted on October 18-19, 2022, and consisted of visual walkover and subsurface sampling through excavation of 44 STPs.

One multicomponent archaeological site, 12M881, was identified within the Northeast Quadrant of the SR 32 and CR 925 W intersection. The site is identified based on the recovery of three lithic artifacts in total from three separate STPs (STP NE 14, 15, and 17) and one lead artifact from STP NE 21. The lithic artifact assemblage consists of two whole flakes and one proximal section of a broken flake. The lead artifact is a 0.40 caliber round ball that exhibits impact damage. All artifacts were recovered from plow zone contexts.

The archaeological survey area overlaps with the edge of a parcel that contains the possible location of a nineteenth-century cemetery. Archival information suggests that the "Hidden Cemetery" existed within a tract at the southwest quadrant of the intersection of SR 32 and CR 925 W. There are currently no obvious indications of a cemetery at the tract. Although a commemorative marker is located on property that contains the project's southeast quadrant, research indicates that this was not the location of the majority of the Hidden Cemetery, rather, at least one individual – Mary Gwinn Freel – may have been buried in the vicinity of the project's southeast quadrant.

Given the possibility of a cemetery within or adjacent to the survey area, Michael Baker, in coordination with the INDOT, retained Gray and Pape to conduct geophysical survey of the project's Southwest Quadrant to aid in identifying graves, possible graves, or other indications of the Hidden Cemetery. The geophysical survey was performed using GPR that penetrated to a depth of 1.20 m (3.93 ft) before attenuation. The geophysical survey was not able to identify archaeological features, burial features, or other indicators of the Hidden Cemetery within the area inspected. Based on the results of the geophysical survey, in addition to current design plans, archival information, and visual inspection of the property, it is the opinion of Michael Baker that the Southwest Quadrant is not likely to contain human graves or other physical remnants of the Hidden Cemetery.

Recommendations

Phase Ia archaeological reconnaissance resulted in the identification of one archaeological site within the survey area. Three lithic artifacts and one lead artifact – a .40 caliber lead ball – were recovered 12M881 during the current investigation. All four artifacts were recovered from plowzone contexts in each of four separate STPs. None of the artifacts are temporally diagnostic beyond their broad Precontact/historic period ascriptions and the site occupations are not attributable to specific cultural groups. It is the opinion of Michael Baker that 12M881 lacks integrity and significance and, therefore, is unlikely to yield information important to the interpretation of Indiana prehistory or history. Michael Baker recommends that 12M881 is not eligible for the NRHP. No additional archaeological investigations are recommended at 12M881. In addition, based on the results of the Phase Ia reconnaissance, Michael Baker recommends that the survey area is unlikely to contain archaeological resources that are eligible for the NRHP and that no additional archaeological investigations are warranted within the survey area based on the current design.

Should any human remains, burial objects, or features be uncovered during construction, work must immediately cease in the location of the discovery and INDOT-CRO and INDR, DHPA be notified immediately.

In the unlikely event that any archaeological deposits or human remains are encountered during the construction phase of the project, all construction, demolition, and earth-moving activities must cease within 100 ft of the discovery, and INDOT, CRO and the IDNR, DHPA must be notified immediately.

**Please note that the report in its entirety is available for review in IN SCOPE at
<http://erms12c.indot.in.gov/Section106Documents/>
(the Des. No. is the most efficient search term, once in IN SCOPE).

**CEMETERY DEVELOPMENT PLAN
FOR THE
SR 32 at CR 925 INTERSECTION IMPROVEMENT PROJECT,
MADISON COUNTY, INDIANA**

Des No. 2000161

Prepared for:

Federal Highway Administration
and
Indiana Department of Transportation

Prepared by:

Ryan Robinson
Thomas Bodor

Principal Investigator:



Thomas W. Bodor, MA, RPA

Michael Baker International, Inc.
100 Airside Drive
Moon Township, PA 15108

April 2024

SUMMARY

The INDOT, with funding from the FHWA, proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project (Des. No. 2000161). The proposed undertaking is located at the intersection of SR 32 and CR 925 W, Lapel, Stony Creek Township, Madison County, Indiana. The proposed project area is within the immediate vicinity of the possible location of a nineteenth-century cemetery. Archival information suggests that the “Hidden Cemetery” existed within a tract at the southwest quadrant of the intersection of SR 32 and CR 925 W. There are currently no obvious indications of a cemetery at the tract. A commemorative marker is located on property that contains the project’s southeast quadrant; however, research indicates that the marker is not at the exact location of the location of the majority of the Hidden Cemetery, rather, at least one individual – Mary Gwinn Freel – may have been buried in the vicinity at a time when the Hidden Cemetery was flooded.

Based on a review of archival information, visual inspection of the property, and results geophysical survey at the location, it is the opinion of Michael Baker that it is unlikely that graves exist within the proposed project limits as the project is currently designed.

In the unlikely event that any archaeological deposits or human remains are encountered during the construction phase of the project, all construction, demolition, and earth-moving activities must cease within 100 ft of the discovery, and INDOT, CRO and the IDNR, DHPA must be notified immediately.

**Please note that the report in its entirety is available for review in IN SCOPE at
<http://erms12c.indot.in.gov/Section106Documents/>
 (the Des. No. is the most efficient search term, once in IN SCOPE).



INDIANA DEPARTMENT OF TRANSPORTATION

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

PHONE: (855) 463-6848

Eric Holcomb, Governor
Michael Smith, Commissioner

September 16, 2024

This letter was sent to the listed parties.

RE: SR 32 at CR 925 Intersection Improvement Project
Lapel, Madison County, Indiana
Des. No. 2000161

Dear Consulting Party,

The Indiana Department of Transportation (INDOT), with funding from the Federal Highway Administration (FHWA), proposes to proceed with the SR 32 at CR 925 Intersection Improvement Project in Lapel, Indiana (Des. No. 2000161).

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 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 to potential non-tribal consulting parties on February 13, 2023, and to potential tribal consulting parties on February 16, 2023. In addition, a letter distributed on August 2, 2023, notified consulting parties that a Historic Property Short Report (HPSR) was available for review and comment. The Phase Ia and Ib Archaeology Report was distributed to consulting parties on May 30, 2024 (Tribes only).

The proposed undertaking is located at the intersection of SR 32 and CR 925 W in Madison County, Indiana. It is within Stony Creek Township, Lapel, IN, USGS quadrangle, in Section 21, Township 19N, Range 6E. The project area can be viewed online at <https://arcg.is/jqueP> (the Des. No. is the most efficient search term once in the CRO - Public Web Map App).

Purpose and Need

The purpose of the project is to reduce the right-angle and rear-end crashes at this intersection, increase mobility, and to improve the Index of Crash Frequency (ICF) and Index of Crash Cost (ICC) to below 1.00.

The identified need at this location stems from safety and mobility issues for motorists. According to the September 2019 Engineering Assessment Report, the most significant crash pattern in a review of crash data from 2016-2018 was right-angle crashes (56%) due to motorists attempting to cross or turn onto SR 32 from CR 925 W. The second most significant crash pattern was rear-end crashes (22%) due to congestion accessing the gas station on the southeast corner of the intersection. The ICF for the intersection, which measures the performance of the intersection per the number of crashes, was 2.53 for the years between 2016-2018. The ICC for the intersection, which measures the severity of crashes, was 2.86 for the years between 2016-2018. An ICF and an ICC of 0 indicates that the roadway is performing as expected; over 1.00 indicates that the intersection is a safety concern; 2.00 or higher is considered a high crash location.

Preferred Alternative

INDOT and the FHWA intend to proceed with the preferred alternative, which includes replacing the existing two-way stop control intersection with a single-lane roundabout (RAB). The RAB will include raised concrete islands, outside truck aprons in the northeast and southwest quadrants, outside curb and gutter, a stormwater system (pipes and outlet culverts), a passing blister for southbound traffic along the south approach, and lighting throughout the intersection. The stormwater system will include inlet structures which outlet into culverts and side ditches. The water collected on the north side of the intersection will outlet into a dry detention basin in the northwest quadrant of the intersection before leaving the right of way. Fiber optic and overhead electric utilities will need to be relocated into the right-of-way (ROW) and lighting facilities (poles and wiring) will run along the outside of the roundabout limits within the area of construction.

Portions of the project area contain undisturbed soils. Proposed excavation along the project corridor includes the removal of the existing roadway and roadbed to a depth of approximately 2.5 feet; a drainage system with pipes and structure depths ranging from 4 to 6 feet deep; excavation of the detention basin at a depth of 3 feet; and excavation to install lighting foundations at a depth of 8 feet.

The project will require the acquisition of approximately 1.95 acres of permanent ROW and 0.18 acre of temporary ROW. The proposed maintenance of traffic (MOT) plan includes the use of temporary portable signals along SR 32 to allow traffic flow in each direction to be partly open using a single lane with phasing.

Michael Baker International, Inc. (Michael Baker) is under contract with INDOT 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.

With regard to archaeological resources, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards identified one site within the project area. As a result of these efforts, site 12M881 was recommended as not eligible for listing in the NRHP and no further work is recommended. In addition, a Cemetery Development Plan (CDP) based on archival information, visual inspection, and a geophysical survey, found the presence of graves unlikely within the proposed project limits.

On March 16, 2023, a letter received from the Indiana Division of Historic Preservation and Archaeology / State Historic Preservation Office (DHPA-SHPO) indicated that the consulting party list was appropriate.

On March 22, 2023, Carissa Speck of the Delaware Nation Historic Preservation Department sent a letter indicating that the Delaware Nation accepted the consulting party invitation for the project, and that the area has a potential for discovery of archaeological resources.

On April 6, 2023, Paul Barton, Tribal Historic Preservation Officer for the Eastern Shawnee Tribe of Oklahoma sent a letter indicating that the proposed project possesses no adverse effect to known sites of interest to the Eastern Shawnee Tribe. Mr. Barton asked to be made aware of any archaeological discoveries during construction.

On September 18, 2023, the DHPA-SHPO sent a letter concurring with the project APE and agreeing with the NRHP eligibility findings.

The project's signed Section 106 Findings and Determinations, as well as the Documentation of Section 106 Finding of No Historic Properties Affected (800.11d) are available for review in IN SCOPE at <http://erms12c.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE). You are invited to review these document 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 a hard copy of the materials is needed, please respond to this email with your request within seven (7) days.

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.

For questions concerning specific project details, you may contact Katherine Molnar of Michael Baker International, Inc. at 602-294-2250 or Katherine.molnar@mbakerintl.com. All future responses regarding the proposed project should be forwarded to Michael Baker International, Inc. at the following address:

Katherine Molnar
Architectural Historian
Michael Baker International, Inc.
3815 River Crossing Parkway, Suite 20
Indianapolis, IN 46240
Katherine.molnar@mbakerintl.com

Tribal Contacts please respond to INDOT's Acting Tribal Liaison, Matt Coon mcoon@indot.in.gov; (317-697-9752) with any responses pertaining to this project including to provide INDOT/Indiana FHWA additional information about Tribal resources/concerns and questions/comments regarding cultural resources. The FHWA point of contact is Kari Carmany-George at K.CarmanyGeorge@dot.gov (317-226-5629).

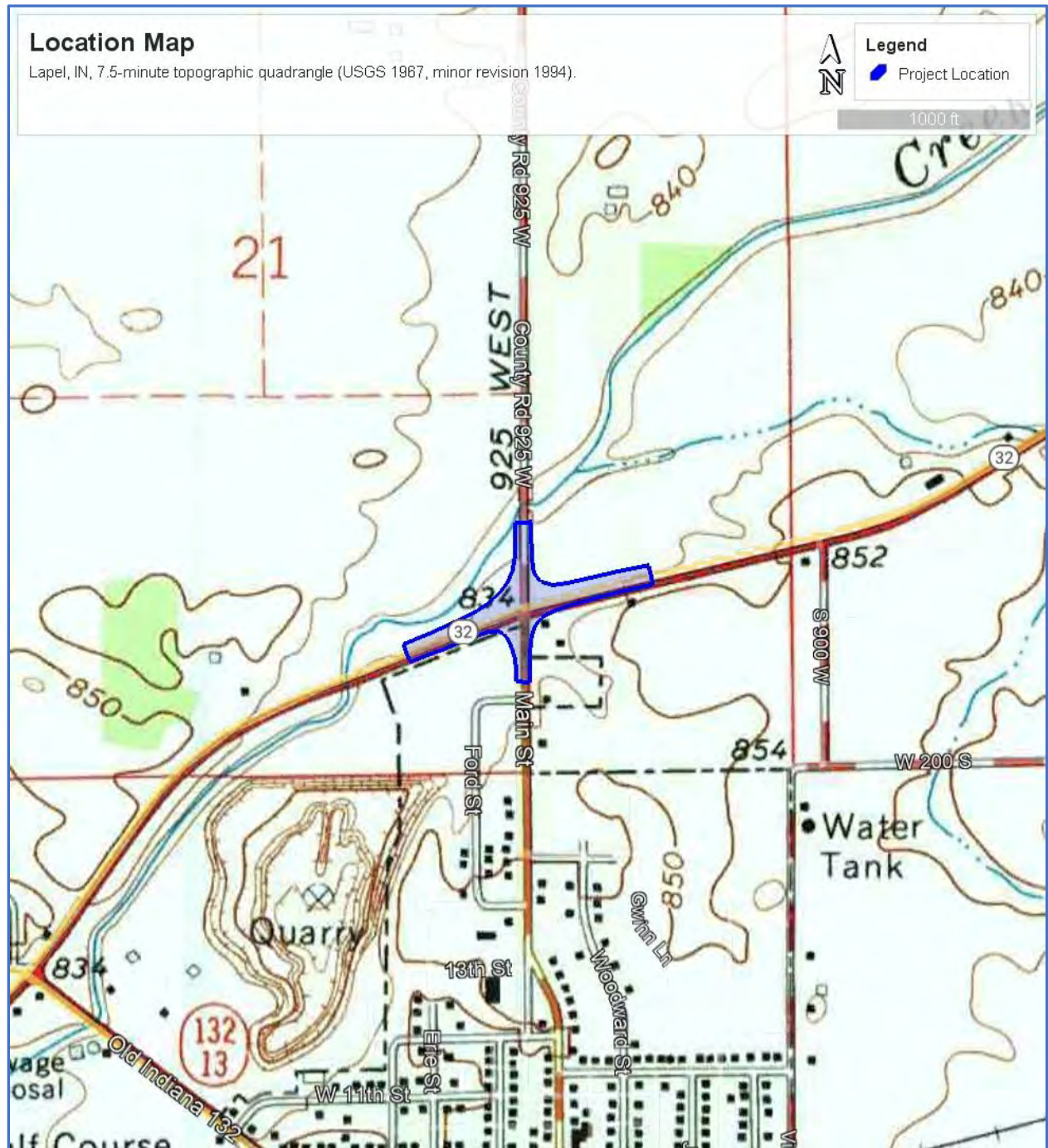
Sincerely,



Matthew S. Coon, Manager
Cultural Resources Office
Environmental Services

Attachments:

- Project Location Map
- Distribution List:
[invited consulting parties who responded to the Early Coordination Letter thereby accepting consulting party status]:
 - ☒ Beth McCord, Director and Deputy State Historic Preservation Officer, Indiana Division of Historic Preservation and Archaeology (DHPA-SHPO)
 - ☒ Delaware Nation of Oklahoma
 - ☒ Eastern Shawnee Tribe of Oklahoma



APPENDIX E

Red Flag Investigation and Hazardous Materials



INDIANA DEPARTMENT OF TRANSPORTATION

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

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

Eric Holcomb, Governor
Michael Smith, Commissioner

Date: December 30, 2022

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

From: Chad Kelly
Kaskaskia Engineering Group, LLC 477
South Third Street, Suite 280 Geneva,
IL 60134
CKelly@kaskaskiaeng.com

Re: RED FLAG INVESTIGATION
DES 2000161, State Project
Intersection Improvement
SR 32 at CR 925 Main Street West
Madison County, Indiana

PROJECT DESCRIPTION

Brief Description of Project: The Indiana Department of Transportation (INDOT) has identified the need to address safety concerns at the intersection of SR 32 and CR 925 Main Street West, located in Madison County, Indiana. INDOT proposes to construct a single-lane roundabout at the intersection requiring all approaches to yield to traffic from the left. East and west legs of the roundabout will utilize high-speed approach geometry for safety along SR 32, while north and south approaches will use traditional approach geometry. The south leg of the roundabout will include pavement widening to accommodate a passing blister for thru traffic needing to pass left-turning vehicles. The intersection does not include pedestrian facilities but will include new drainage structures and lighting structures. Roundabout design has been thoughtful to reduce utility impacts, however overhead electric and buried fiber optic utilities in the area will be relocated within proposed right-of-way (ROW). Permanent and temporary ROW is anticipated.

Bridge Work Included in Project: Yes ☐ No ☒ Structure #(s) N/A

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

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

Culvert Work Included in Project: Yes ☐ No ☒ Structure #(s) N/A

Proposed right of way: Temporary ☒ # Acres 1.19 Permanent ☒ # Acres 0.89, Not Applicable ☐

Type and proposed depth of excavation: Roadway excavation will include removal of the existing roadway and roadbed to a depth of approximately 2.5 feet below ground surface (ft-bgs). Drainage system excavation will include the

installation of an enclosed drainage system with pipes and structure depth ranging from approximately 4 to 6 ft-bgs. Lighting excavation will include the installation of lighting foundations to a depth of approximately 8 ft-bgs. Maintenance of traffic (MOT): Phased construction utilizing temporary signals along SR 32 to allow partial lane closures. Work in waterway: Yes ☐ No ☒ Below ordinary high water mark: Yes ☐ No ☒ State Project: ☒ LPA: ☐ Any other factors influencing recommendations: N/A

INFRASTRUCTURE TABLE AND SUMMARY

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

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

Explanation:

Religious Facilities*: Although not mapped on the GIS layer, two (2) religious facilities were identified within the 0.5 mile search radius. Daybreak Community Church is located approximately 0.29 mile south of the project area. No impact is expected.

Schools*: Although not mapped on the GIS layer, one (1) school was identified within the 0.5 mile search radius. Lapel High School is located approximately 0.16 mile east of the project area. No impact is expected.

Trails: One (1) trail segment is located within the 0.5 mile search radius. Woodward Park Trail is located approximately 0.17 mile southeast of the project area. No impact is expected.

Managed Lands: Two (2) Managed Lands are located within the 0.5 mile search radius. The nearest Managed Lands, Todd C. Woodward Park, is located approximately 0.16 mile southeast 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	2	Canal Routes - Historic	N/A
Karst Springs	N/A	NWI - Wetlands	10
Canal Structures – Historic	N/A	Lakes	N/A
NPS NRI Listed	N/A	Floodplain - DFIRM	1
NWI-Lines	5	Cave Entrance Density	N/A
IDEM 303d Listed Streams and Lakes (Impaired)	2	Sinkhole Areas	N/A

Rivers and Streams	3	Sinking-Stream Basins	N/A
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If unmapped water features are identified that might impact the project area, direct coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Explanation:

NWI – Points: Two (2) NWI points are located within the 0.5 mile search radius. The nearest point is located approximately 0.12 mile southwest of the project area. No impact is expected.

NWI – Lines: Five (5) NWI lines are located within the 0.5 mile search radius. One (1) segment is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

IDEM 303d Listed Streams and Lakes (Impaired): Two (2) 303d Listed Stream segments are located within the 0.5 mile search radius. Stony Creek is located within the project area. Stony Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

Rivers and Streams: Three (3) rivers and streams segments are located within the 0.5 mile search radius. Stony Creek is located within the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

NWI – Wetlands: Ten (10) NWI wetland polygons are located within the 0.5 mile search radius. The nearest wetland polygon is located adjacent to the northeast of the project area. A Waters of the US Report is recommended based on mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur.

Floodplain – DFIRM: One (1) floodplain polygon is located within the 0.5 mile search radius. The project area is located within the floodplain polygon. Coordination with INDOT ESD Ecology and Waterway Permitting will occur.

MINING AND MINERAL EXPLORATION TABLE AND SUMMARY

Mining/Mineral Exploration			
Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Petroleum Wells	6	Mineral Resources	N/A
Mines – Surface	N/A	Mines – Underground	N/A

Explanation:

Petroleum Wells: Six (6) petroleum wells are located within the 0.5 mile search radius. The nearest well is located approximately 0.16 mile west of the project area. No impact is expected.

HAZARDOUS MATERIAL CONCERNS TABLE AND SUMMARY

Hazardous Material Concerns Indicate the number of items of concern found within the 0.5 mile search radius. If there are no items, please indicate N/A:			
Superfund	N/A	Manufactured Gas Plant Sites	N/A
RCRA Generator/ TSD	N/A	Open Dump Waste Sites	N/A
RCRA Corrective Action Sites	N/A	Restricted Waste Sites	N/A
State Cleanup Sites	N/A	Waste Transfer Stations	N/A
Septage Waste Sites	N/A	Tire Waste Sites	N/A
Underground Storage Tank (UST) Sites	4	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	2
Infectious/Medical Waste Sites	N/A	NPDES Pipe Locations	2
Leaking Underground Storage (LUST) Sites	1	Notice of Contamination Sites	N/A

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

Explanation:

Underground Storage Tanks (UST) Sites:

- Four (4) UST sites are located within the 0.5 mile search radius. The nearest UST, Rickers Petro Mart, 1700 Main Street, AI ID# 41231, is adjacent to the project area in the southeast quadrant. Four (4) USTs are reported to exist at the property. IDEM conducted an UST Inspection on April 20, 2021, and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9; however, documentation reviewed does not indicate that a release occurred. IDEM issued a Return to Compliance letter on May 20, 2021. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for contamination will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

Leaking Underground Storage (LUST) Sites:

- One (1) LUST site is located within the 0.5 mile search radius. The Lapel Wastewater Treatment Plant, 705 West Pendleton Avenue, AI ID# 42948, is located approximately 0.47 mile southwest of the project area. IDEM issued a No Further Action Approval Determination Pursuant to 2006 RISC Guidance on March 18, 2006. No impact is expected.

NPDES Facilities:

- Two (2) NPDES facilities are located within the 0.5 mile search radius. The nearest NPDES facility, Meadowview Apartments, 1520 North Main Street, is located approximately 0.14 miles southeast of the project area. The associated permit expired September 6, 2021. No impact is expected.

NPDES Pipe Locations:

- Two (2) NPDES pipe locations are located within the 0.5 mile search radius. The nearest NPDES Pipe Location, Lapel Wastewater Treatment Plant, is approximately 0.47 mile southwest of the project area. No impact is expected.

Confined Feeding Operations (CFO):

- One (1) CFO facility is mapped within the 0.5 mile search radius. Although the icon associated with Simmermon Farms Incorporated is mapped within the 0.5 mile radius, the facility is actually located approximately 0.52 mile north from the project area. No impact is expected.

ECOLOGICAL INFORMATION SUMMARY

The Madison County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is provided at https://www.in.gov/dnr/nature-preserves/files/np_madison.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. Due to the nature of project activities, this project may fall under the guidelines set forth under USFWS Interim Policy for the Review of Highway Transportation Projects in Indiana dated May 29, 2013. However, if a Waters of the US Report is prepared for the project, coordination will need to occur with IDNR at a minimum.

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: N/A

WATER RESOURCES:

A Waters of the US Report is recommended based on the presence of mapped features, and coordination with INDOT ESD Ecology and Waterway Permitting will occur for the following features:

- One (1) NWI line segment is located within the project area.
- One (1) stream segment, Stony Creek, flows through the project area.
- One (1) wetland polygon is located adjacent to the project area.

- The project area is located within a floodplain polygon(coordination only).

Stony Creek is listed as impaired for E. coli. Workers who are working in or near water with E. coli should take care to wear appropriate PPE, observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

MINING/MINERAL EXPLORATION: N/A

HAZARDOUS MATERIAL CONCERNS:

- UST: One (1) UST, Rickers Petro Mart, 1700 Main Street, AI ID# 41231, is adjacent to the project area in the southeast quadrant. Four (4) USTs are reported to exist at the property. IDEM conducted a UST Inspection on April 20, 2021, and the facility was found to be out of compliance with equipment, operating, and maintenance requirements set forth in Indiana's UST Rule 329 IAC 9; however, documentation reviewed does not indicate that a release occurred. IDEM issued a Return to Compliance letter on May 20, 2021. If excavation occurs in this area, it is possible that petroleum contamination may be encountered. Proper handling, removal, and disposal of soil and/or groundwater may be necessary. Before proper removal and disposal of soil and/or groundwater, analysis for contamination will be necessary. Refer to Appendix G of the SAM Manual for the recommended procedure to manage and report contamination.

ECOLOGICAL INFORMATION: Coordination with 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: Peter Washburn (Signature)

Digitally signed by Peter Washburn
Date: 2022.12.30 11:08:04 -05'00'



Prepared by:
Chad Kelly
Environmental Scientist
Kaskaskia Engineering Group, LLC

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

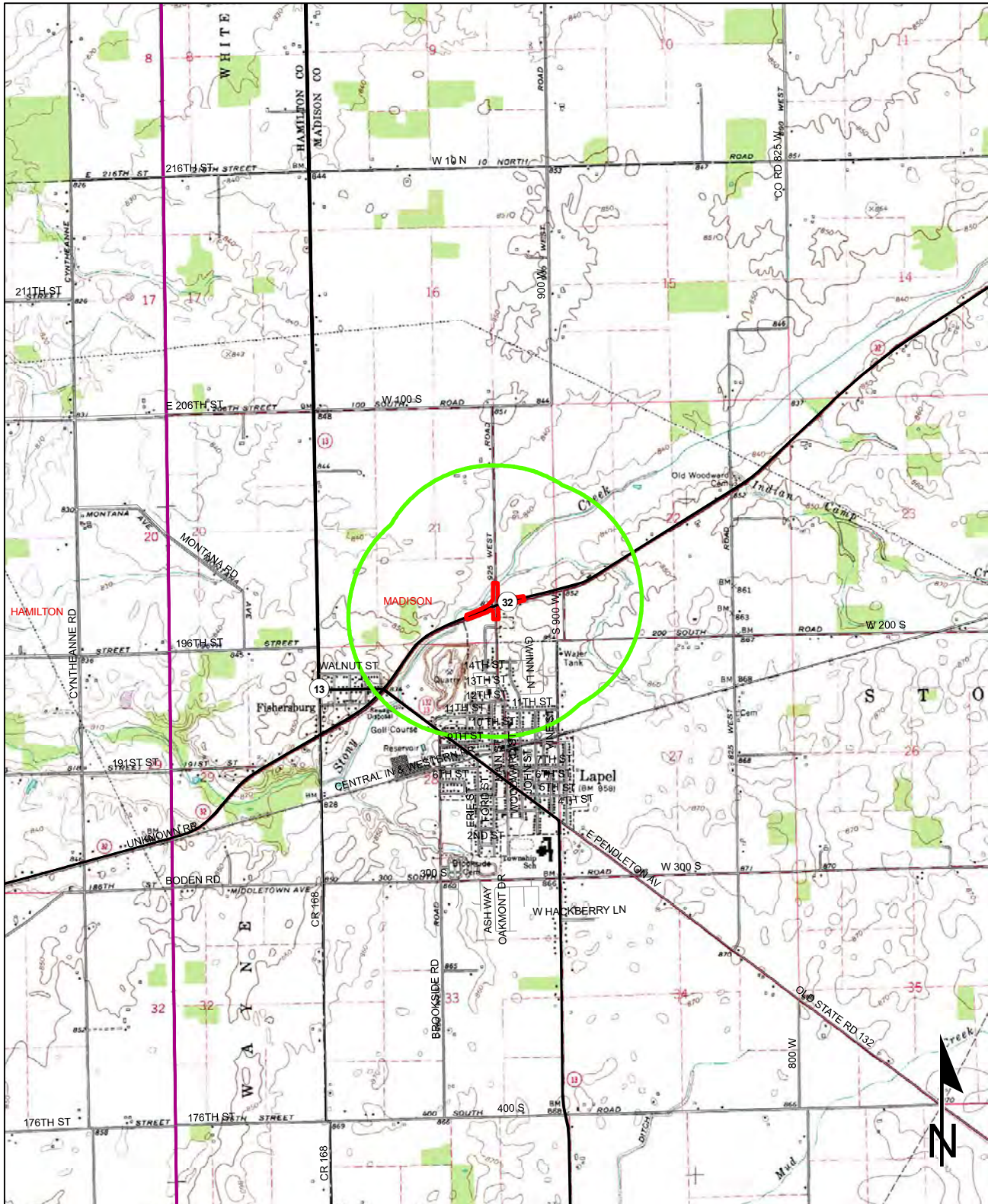
INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZARDOUS MATERIAL CONCERNS: YES

Red Flag Investigation - Site Location
SR 32 & CR 925 Main Street West
Des. No. 2000161, Intersection Improvement
Madison County, Indiana

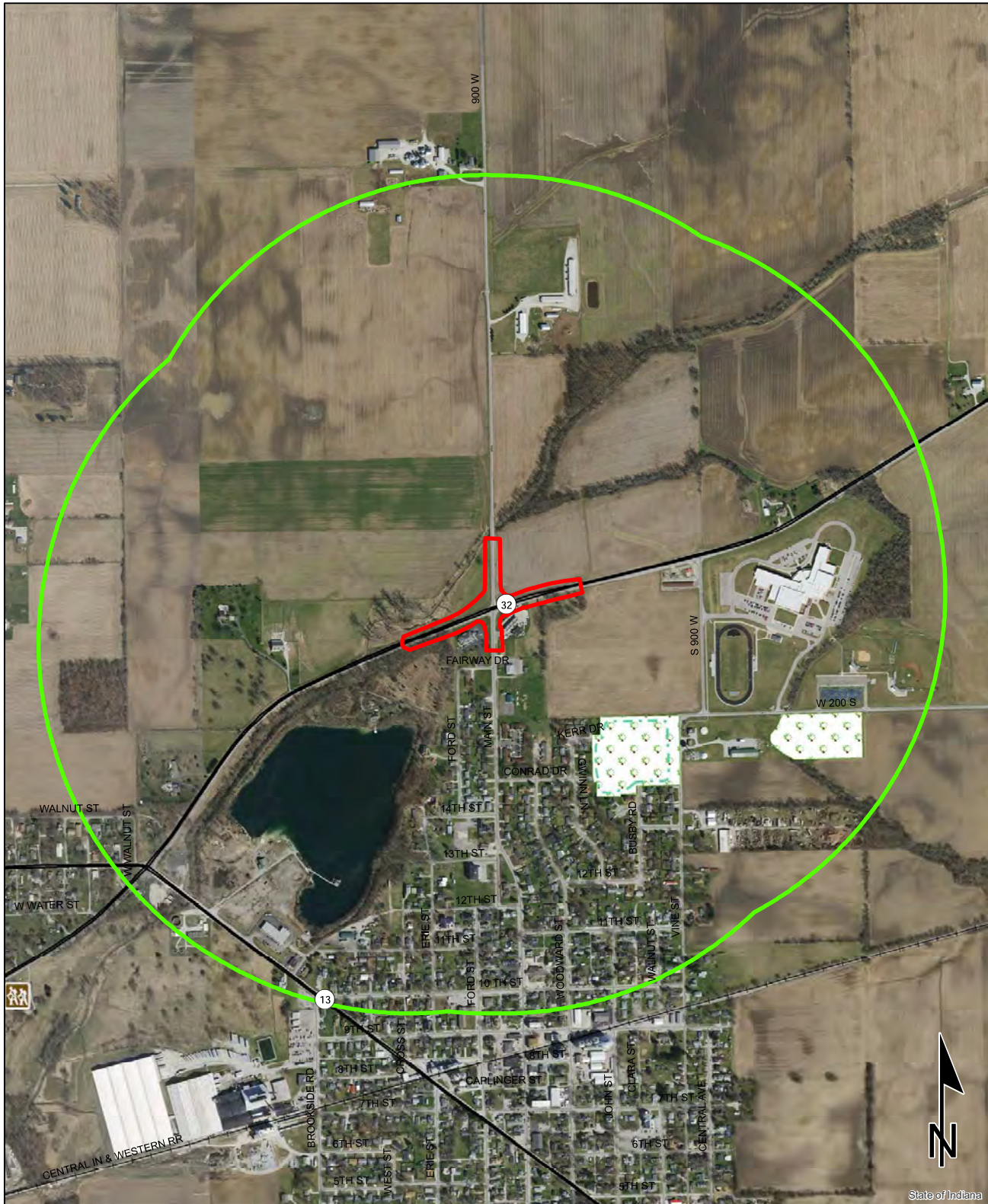


Sources: 0.5 0.25 0 0.5 Miles
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83
 This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

LAPEL QUADRANGLE
INDIANA
7.5 MINUTE SERIES
(TOPOGRAPHIC)

Red Flag Investigation - Infrastructure
 SR 32 & CR 925 Main Street West
 Des. No. 2000161, Intersection Improvement
 Madison County, Indiana

E-8



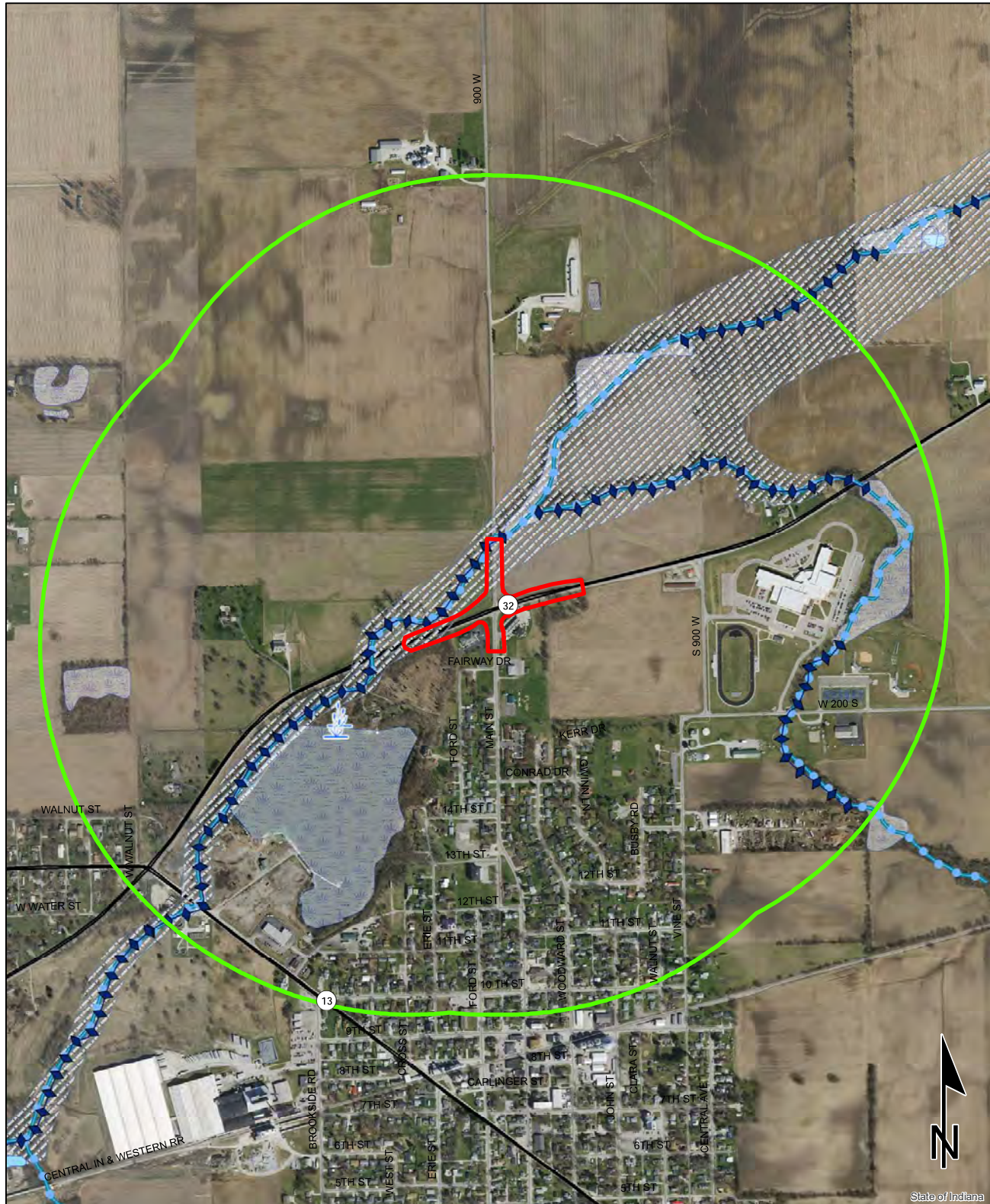
State of Indiana

Sources: 0.15 0.075 0 0.15 Miles
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 Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83
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	Religious Facility		Recreation Facility		Project Area
	Airport		Pipeline		Half Mile Radius
	Cemeteries		Railroad		Toll
	Hospital		Trails		Interstate
	School		Managed Lands		State Route
			County Boundary		US Route
					Local Road

Red Flag Investigation - Water Resources
 SR 32 & CR 925 Main Street West
 Des. No. 2000161, Intersection Improvement
 Madison County, Indiana

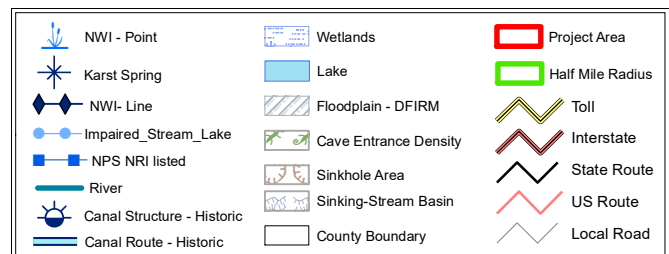
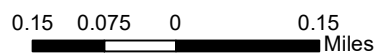
E-9



State of Indiana

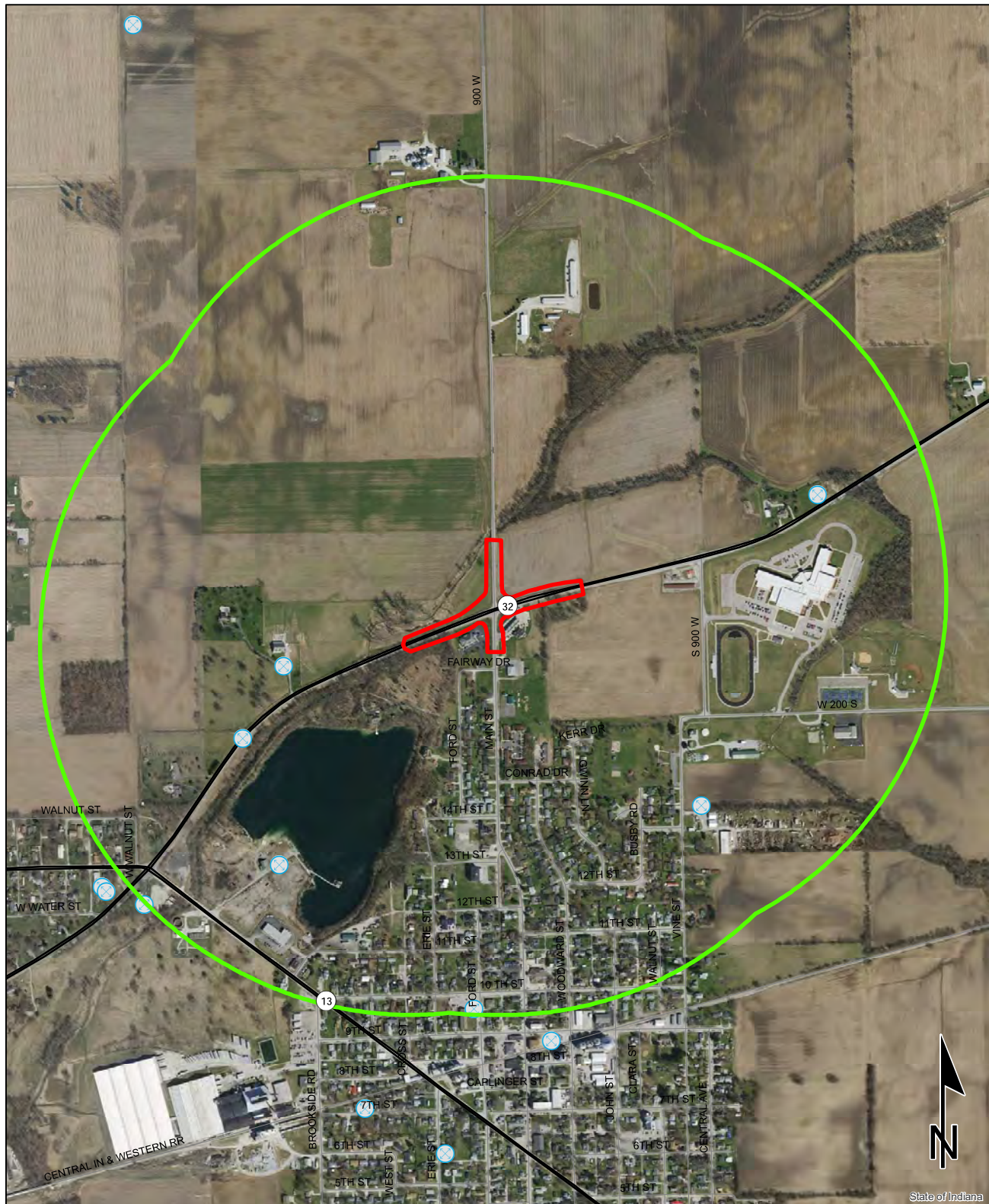
Sources:
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 Data - Obtained from the State of Indiana Geographical
 Information Office Library
 Orthophotography - Obtained from Indiana Map Framework Data
 (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83

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 representation only. This information is not warranted
 for accuracy or other purposes.



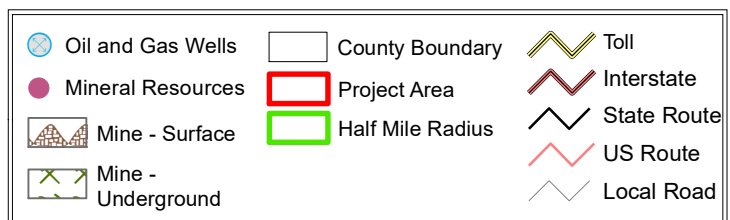
Red Flag Investigation - Mining & Mineral Exploration
SR 32 & CR 925 Main Street West
Des. No. 2000161, Intersection Improvement
Madison County, Indiana

E-10



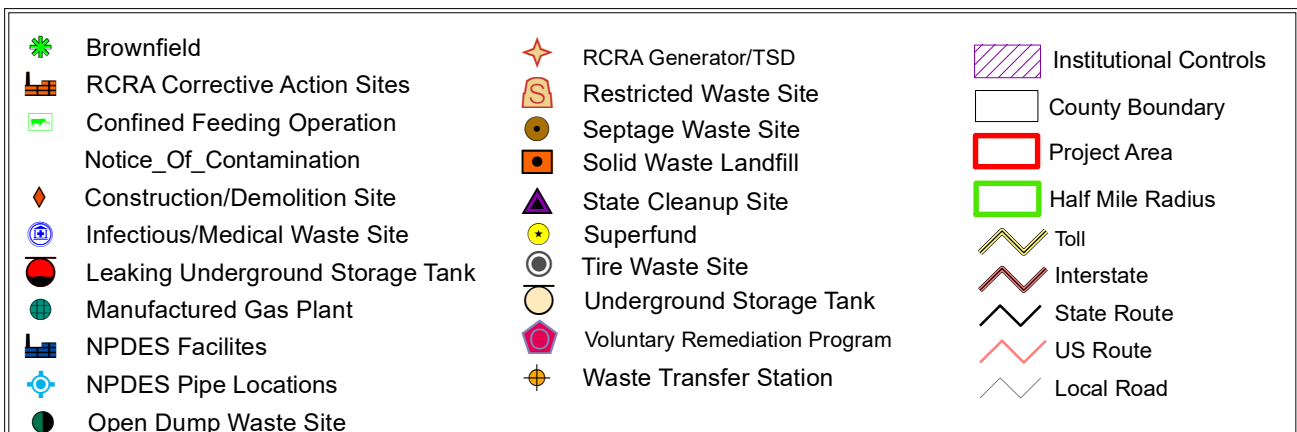
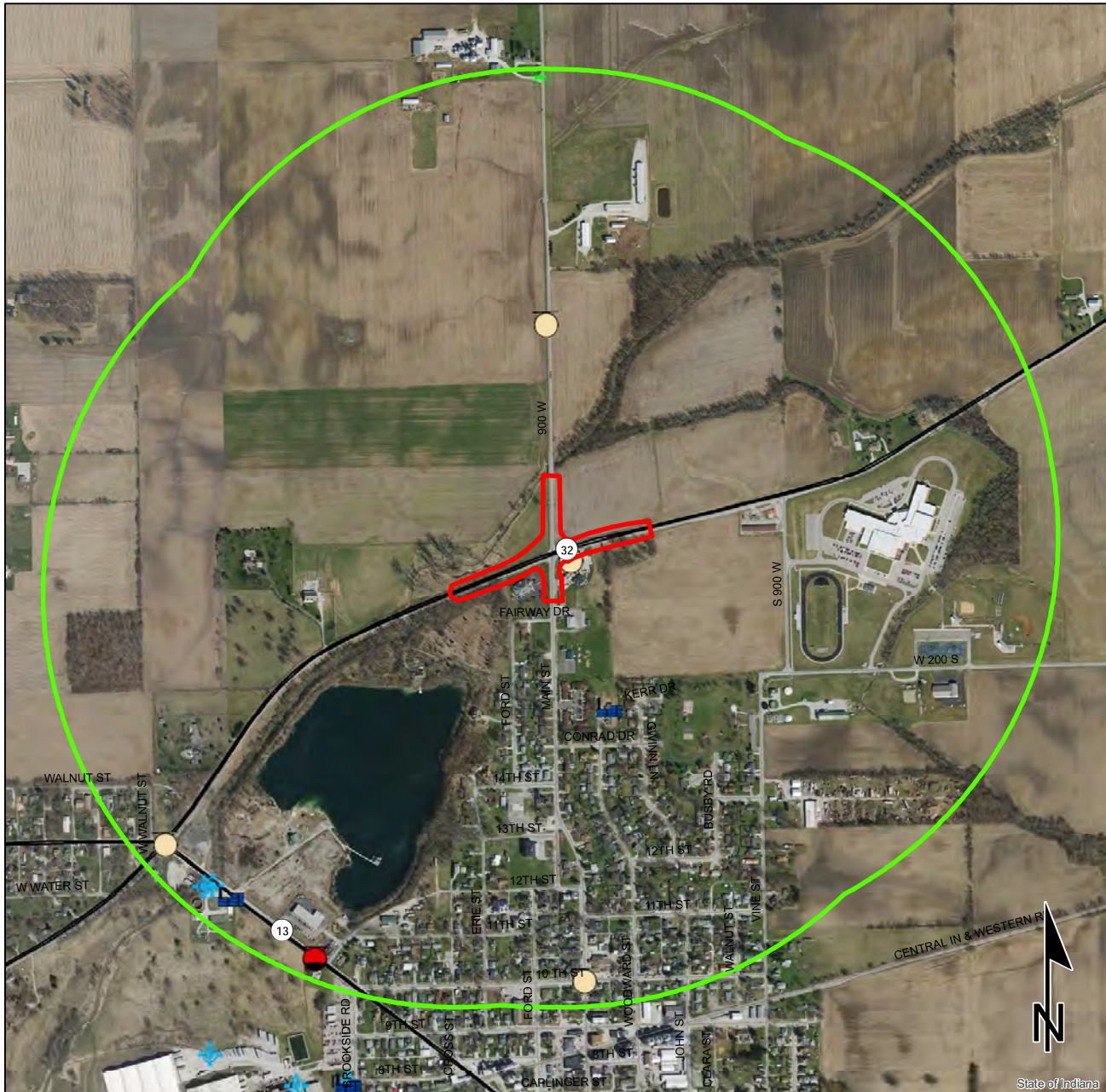
Sources:
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Map Projection: UTM Zone 16 N Map Datum: NAD83
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0.15 0.075 0 0.15 Miles



Red Flag Investigation - Hazardous Material Concerns
SR 32 & CR 925 Main Street West
Des. No. 2000161, Intersection Improvement
Madison County, Indiana

E-11



0.15 0.075 0 0.15
Miles

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

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

APPENDIX F

Water Resources

From: [Geissler, Aidan](#)
To: [April C. Arroyo-Monroe](#)
Cc: [Curry, Jennifer](#); [Molly Barletta](#); [Virginia Flynn](#); [Szewczak, Kimberly](#)
Subject: RE: Des No 2000156 No Waters of the US Concurrence Request [21-1029.01]
Date: Friday, March 31, 2023 9:52:57 AM
Attachments: [image001.png](#)

Hi April,

I also want to confirm that this is for DES 2000161 as listed in the body of the email, NOT DES 2000156 as listed in the subject line?

Take care,

Aidan Geissler

Ecology and Waterway Permitting Office, INDOT

100 N Senate Ave. Indianapolis, IN 46204

Cell: (317)-694-7134

Email: ageissler@indot.in.gov

From: Geissler, Aidan

Sent: Friday, March 31, 2023 10:39 AM

To: april@kaskaskiaeng.com

Cc: Curry, Jennifer <JCurry1@indot.IN.gov>; Molly Barletta <MBarletta@kaskaskiaeng.com>; Virginia Flynn <VFlynn@kaskaskiaeng.com>; Szewczak, Kimberly <KSzewczak@indot.IN.gov>

Subject: RE: Des No 2000156 No Waters of the US Concurrence Request [21-1029.01]

Hi April,

My apologies for the delay. I never got this email since it appears that my email address was entered as “.com” instead of “.gov” Thankfully, Jenni just passed this along to me. Just something to be careful about in the future!

Anyway, I have reviewed this, and I agree that there are no WOTUS in the investigated area, and that no 401/404 or CIF permits will be required for this project. We will not require the submittal of a Waters Report.

However, there is a chance that a CSGP permit could be required. Please reach out to our Stormwater team at CSGP@indot.in.gov to determine if a CSGP permit will be required. Thanks!

Take care,

Aidan Geissler

Ecology and Waterway Permitting Office, INDOT

100 N Senate Ave. Indianapolis, IN 46204

Cell: (317)-694-7134

Email: ageissler@indot.in.gov

From: April C. Arroyo-Monroe <april@kaskaskiaeng.com>

Sent: Monday, March 13, 2023 12:48 PM

To: ageissler@indot.in.com

Cc: Curry, Jennifer <JCurry1@indot.IN.gov>; Molly Barletta <MBarletta@kaskaskiaeng.com>; Virginia Flynn <VFlynn@kaskaskiaeng.com>

Subject: Des No 2000156 No Waters of the US Concurrence Request [21-1029.01]

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

Dear Aidan Geissler,

This is a request for a No Waters of the US Concurrence for **Des No 2000161** . I have attached the necessary maps and photos for your review.

Location of Project: SR 32 at CR 925 W (Main St), Lapel, Madison County, In

County and District: Madison County, Greenfield District

Brief Description of Project: This is a state funded project. The Indiana Department of Transportation (INDOT) proposes to construct a single-lane roundabout at the intersection requiring all approaches to yield to traffic from the left. The east and west legs of the roundabout will utilize high-speed approach geometry for safety along SR 32, while north and south approaches will use traditional approach geometry. The south leg of the roundabout will include pavement widening to accommodate a passing blister for thru traffic needing to pass left-turning vehicles. The intersection does not include pedestrian facilities but will include new drainage structures and lighting structures.

Field Work: October 13, 2022

Notes: Map 4 NWI Map shows the wetland in the investigated area but the alignment of the NWI layer is off. The R2UBHx wetland should follow the stream on the aerial photo which is outside of the investigated area.

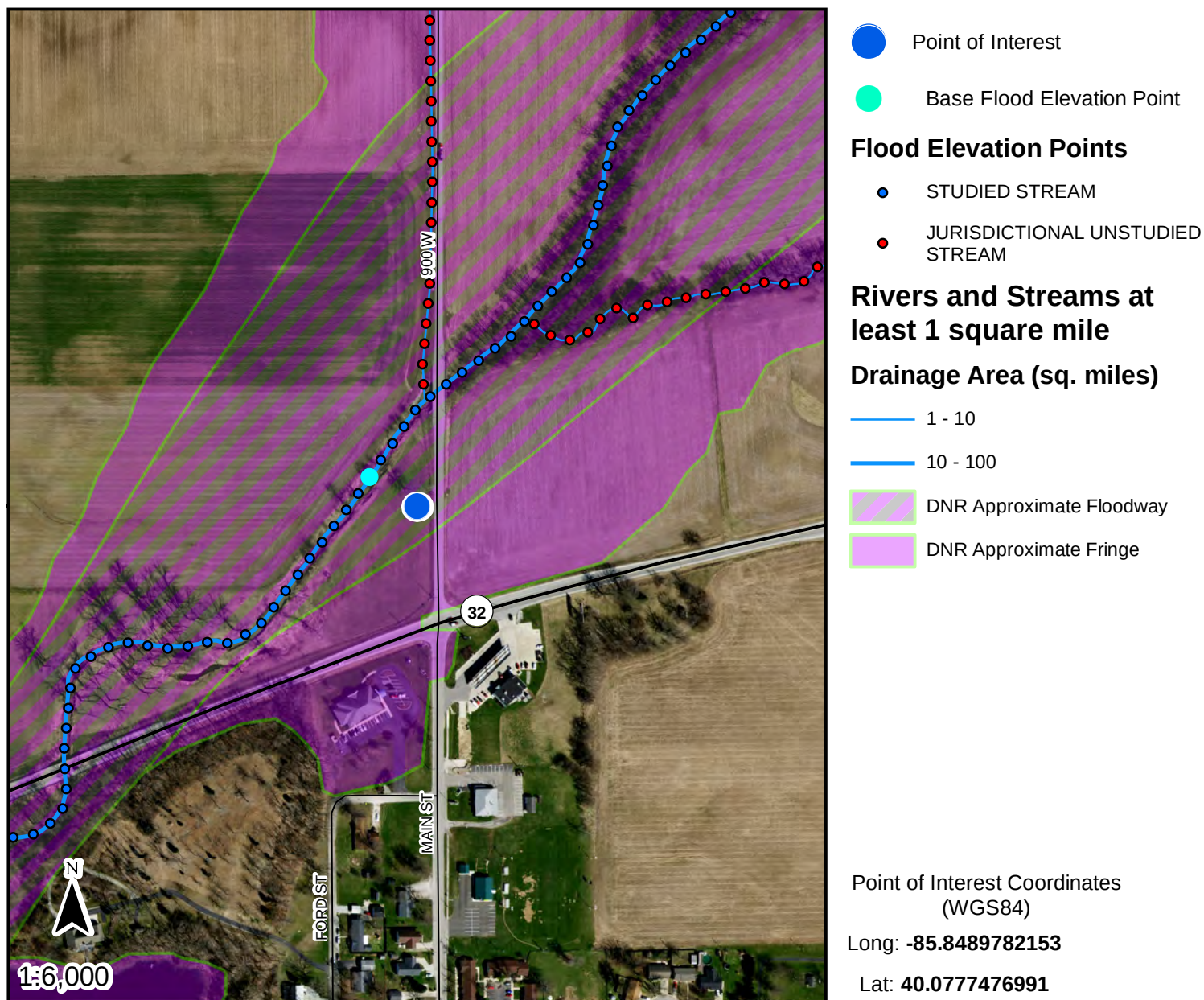
If you have any questions or need more information, please do not hesitate to contact me.

Thank you,

April Arroyo-Monroe



April Arroyo-Monroe



The information provided below is based on the point of interest shown in the map above.

County: **Madison**

Approximate Ground Elevation: **830.3 feet (NAVD88)**

Stream Name:
Stony Creek

Base Flood Elevation: **834.9 feet (NAVD88)**

Drainage Area: **Not available**

Best Available Flood Hazard Zone: **DNR Approximate Floodway**

National Flood Hazard Zone: **FEMA Zone A**

Is a Flood Control Act permit from the DNR needed for this location? **yes**

Is a local floodplain permit needed for this location? **yes-**

Floodplain Administrator: **Brad Newman, Director Plan Commisssion**

Community Jurisdiction: **Madison County, County proper**

Phone: **(765) 641-9540**

Email: **bnewman@MadisonCounty.IN.Gov**

US Army Corps of Engineers District: **Louisville**

Date Generated: 3/9/2023

APPENDIX G

Public Involvement



We Make a Difference

«owner_name»
 «owner_address»
 «owner_city», «owner_state» «owner_zip»

SAMPLE

Re: Designation Number: 2000161, Roadway Project on SR 32, Lapel, Madison County, Indiana

Notice of Entry for Survey or Investigation

August 10, 2022

Dear Property Owner,

Our information indicates that you own/or reside at a property near a proposed transportation project located at the State Road (SR) 32 and County Road (CR) N 925 W within Lapel, in Madison, Indiana. Representatives of the Indiana Department of Transportation will be conducting environmental surveys of the project area in the near future. These studies will evaluate the roadway as well as the surrounding area near the intersection. It may be necessary for them to enter onto your property to complete this work. This is permitted under Indiana Code § 8-23-7-26. Anyone performing this type of work has been instructed to identify him or herself to you, if you are available, before they enter your property. If you no longer own this property or it is currently occupied by someone else, please let us know the name of the new owner or occupant so that we can contact them about the survey.

Please read the attached notice to inform you of what the “Notice of Entry for Survey or Investigation” means. The survey work may include the identification and mapping of wetlands, measuring and identification of trees and/or vegetation, archaeological investigations (which may involve the survey, testing, or excavation of identified archaeological sites), and various other environmental studies. Any excavation work conducted as part of this project will involve hand tools only. Excavations will be backfilled upon completion. The information we obtain from such studies is necessary for the proper planning and design of this highway project.

Staff performing this work will retain a copy of this letter and will attempt to identify themselves to the occupant before they enter the property. We anticipate these field investigations will occur between mid-August to January 2023. (Weather dependent).

If any problems do occur, please communicate with the field crew or INDOT Project Manager, Kim Szewczak at 317-289-3193, email: kszewczak@indot.in.gov or Consultant Project Manager, Melissa Effinger at 317-467-3438, email: melissa.effinger@mbakerintl.com.

Please be aware that you have the right to request any or all archaeological artifacts collected from your property. If you do not ask that artifacts be returned to you, all recovered archaeological material will be curated at a state-approved Qualified Curation Facility. If you wish to have artifacts returned to you, please call or email Matt Coon at mcoon@indot.in.gov or 317-697-6752.

It is our sincere desire to cause as little inconvenience as possible during this survey, and we thank you in advance for your cooperation.

Sincerely,
 Melissa Effinger
 Highway Department Manager Michael
 Baker International Inc.

Attachments:

Notice of Survey

Indiana Code

APPENDIX H

Air Quality

Indiana Department of Transportation (INDOT)

State Preservation and Local Initiated Projects FY 2024 - 2028

SPONSOR	CONTRACT # / LEAD DES	STIP NAME	ROUTE	WORK TYPE	DISTRICT	MILES	FEDERAL CATEGORY	Total Cost of Project*	PROGRAM	PHASE	FEDERAL	MATCH	2024	2025	2026	2027	2028
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Madison County

Summitville	2000843	Init.	ST 1090	Railroad Protection	LaPorte	0	STBG	\$550,000.00	Local Safety Program - 130	CN	\$550,000.00	\$0.00			\$550,000.00		
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Performance Measure Impacted: Transit

Location: Mill St DOT# 539649E on Norfolk Southern

Alexandria	40831 / 1800243	M 29	ST 1002	Road Reconstruction (3R/4R Standards)	Greenfield	.3	STBG	\$6,655,267.88	Local Funds	CN	\$0.00	\$6,056,000.00	\$6,056,000.00				
									Anderson MPO	CN	\$4,951,000.00	\$0.00	\$4,951,000.00				

Location: Washington St phase3 - Chestnut to SR 9 (Park Ave)

Comments:See document for Federal Appropriation splits

Indiana Department of Transportation	41837 / 1702936	M 21	US 36	Added Travel Lanes	Greenfield	.44	STBG	\$14,180,192.00	Local Funds	CN	-\$1,858,400.00	-\$464,600.00		(\$2,323,000.00)			
									Local Funds	PE	-\$30,124.80	-\$7,531.20	(\$37,656.00)				

Performance Measure Impacted: Pavement Condition

Location: from .28 mi. S. of SR 38 to SR9/SR67 N. Jct.

Comments:Decrease of \$37,656 STBG to PE

Decrease of \$2,323,000 of CN in FY 25

includes des 1802854 and 2001127

MCCOG Mod 12-27-23

"Exempt" for Air Quality

Indiana Department of Transportation	43476 / 2000161	M 21	SR 32	Intersection Improvement, Roundabout	Greenfield	.02	STBG	\$7,146,110.81	Safety Consulting	PE	\$561,600.00	\$140,400.00	\$702,000.00				
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Performance Measure Impacted: Safety

Location: 3 intersection improvement projects2000161, 2000162 SR 13 @ SR32; SR 32 @t CR 925W; SR 32 @ CR 600W

Comments:Move PE \$701,523 from FY 22 to FY 24

MCCOG Mod 12-27-23

"Exempt" for Air Quality

Indiana Department of Transportation	44634 / 2200921	M 21	SR 38	Pavement Replacement	Greenfield	.645	STBG	\$5,621,994.00	Road Consulting	PE	\$740,000.00	\$185,000.00	\$925,000.00				
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Performance Measure Impacted: Pavement Condition

Location: SR 109 to 3.42 mi E of SR 109 (CR 975 W)

Comments:Move PE \$925,000 from FY 23 to FY 24

MCCOG 12-27-23

"Exempt" for Air Quality

Madison County Total

Federal: \$4,914,075.20 Match :\$5,909,268.80 2024: \$12,596,344.00 2025: -\$2,323,000.00 2026: \$550,000.00 2027: 2028:

**Madison County Council of Governments (Anderson MPO)
FY 2022-2026 Transportation Improvement Program (TIP)**

All Projects: Current Through 5-1-23

PROJECT DETAILS					PROJECT FUNDING										PERFORMANCE MEASURES					MTP PLANNING		AIR QUALITY CONFORMITY				REFERENCE DOCUMENTS		
REF	DEC	Sponsor Name	Work Category (Work Type)	Location & Description	County	Funding Obligation Year (State Fiscal)	Project Phase	Federal Funds by Phase	Required Local/State Matching Funds	Total Funds by Phase	Federal Funding Program	Letting Date (13 weeks prior to Obligation Date of CR Phase)	Contract Number (CR Phase)	Total Project Cost	Complete Streets (MPO)	Safety (MPO/INDOT)	Pavement Condition (MPO/INDOT)	Bridge Condition (MPO/INDOT)	Reliability & Freight Reliability (MPO/INDOT)	Congestion Mitigation & Air Quality (CMAQ) (MPO/INDOT)	Transit (MPO/INDOT)	MTP Project Category	Analysis Period	AQ Conformity Analysis	Exempt Project Type (AQ)		Reference (AQ)	
122	1800061	INDOT	New Sign Installation	Statewide Installation of Signal & Speed Placards in various locations with Schools or Signals (MPO Locations: SR 8 & SR 28 (Jewettsville), SR 37 & SR 28 (Hewitt), US 36 & SR 9 (Pawnee), US 36 (East Elementary School), SR 13 (Lapeer), SR 128 (Frankton), Clyde Street (Frankton), SR 67 & CR 800 W (Jewettsville))	18/48	2022	CN	\$ 232,000	\$ 58,000	\$ 290,000	Multiple	N/A	Unknown	\$ 290,000	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21
123	1900128	INDOT	Bridge Deck Replacement	SR 236 Bridge @ 1-49, 3.16 miles E. of SR 9 (Scatterfield Road)	48	2022	RW	\$ 24,000	\$ 6,000	\$ 30,000	STBG	7/12/2023	8-42322	\$ 1,722,000	Exempt			X					N/A	2020-2025	AQ Exempt - 8-5-20 & 1-6-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
124	1900128	INDOT	Bridge Deck Replacement	SR 236 Bridge @ 1-49, 3.16 miles E. of SR 9 (Scatterfield Road)	48	2024	CN	\$ 1,353,600	\$ 338,400	\$ 1,692,000	STBG	7/12/2023	8-42322	\$ 1,722,000	Exempt			X					N/A	2020-2025	AQ Exempt - 8-5-20 & 1-6-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
125	1900146	INDOT	Access Control	SR 9 (Scatterfield) @ 38th Street (Anderson)	48	2023	RW	\$ 12,000	\$ 3,000	\$ 15,000	STBG	7/12/2023	8-42409	\$ 150,893	Exempt				X				N/A	2020-2025	AQ Exempt - 8-5-20, 1-6-21, & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Mod. 12-8-22
126	1900146	INDOT	Access Control	SR 9 (Scatterfield) @ 38th Street (Anderson)	48	2024	CN	\$ 108,800	\$ 27,200	\$ 136,000	STBG	7/12/2023	8-42409	\$ 150,893	Exempt				X				N/A	2020-2025	AQ Exempt - 8-5-20, 1-6-21, & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Mod. 12-8-22
127	1900194	INDOT	Small Structure Replacement	SR 32 over Stony Creek, 3.674 miles E. of SR 13 (Old SR 132/Pendleton Avenue) (Lapeer)	48	2022	RW	\$ 12,000	\$ 3,000	\$ 15,000	STBG	7/12/2023	8-42339	\$ 293,000	Exempt				X				N/A	2020-2025	AQ Exempt - 8-5-20	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
128	1900194	INDOT	Small Structure Replacement	SR 32 over Stony Creek, 3.674 miles E. of SR 13 (Old SR 132/Pendleton Avenue) (Lapeer)	48	2024	CN	\$ 222,400	\$ 55,600	\$ 278,000	STBG	7/12/2023	8-42339	\$ 293,000	Exempt				X				N/A	2020-2025	AQ Exempt - 8-5-20	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 8-6-20, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
129	1900251	INDOT	Pavement Replacement	SR 128 (CR 600 W) to SR 128 (J. Clyde Street) (Frankton)	48	2022	RW	\$ 80,000	\$ 20,000	\$ 100,000	STBG	TBD	8-42308	\$ 1,671,704	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 1-8-21
130	1900251	INDOT	Pavement Replacement	SR 128 (CR 600 W) to SR 128 (J. Clyde Street) (Frankton)	48	2024	CN	\$ 1,257,600	\$ 314,400	\$ 1,572,000	STBG	TBD	8-42308	\$ 1,671,704	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
131	1900254	INDOT	Pavement Replacement	SR 28, .07 miles W. of New Harmony Drive to SR 37 (Hewitt)	48	2024	CN	\$ 738,000	\$ 182,000	\$ 920,000	STBG	7/12/2023	8-42307	\$ 8,633,352	Exempt	X							N/A	2020-2025	USDOT Conformity Letter 7-12-21 & AQ Exempt 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
132	1900254	INDOT	Pavement Replacement	SR 28, .07 miles W. of New Harmony Drive to SR 37 (Hewitt)	48	2024	CN	\$ 6,178,380	\$ 1,544,595	\$ 7,722,975	STBG	7/12/2023	8-42307	\$ 8,633,352	Exempt	X							N/A	2020-2025	USDOT Conformity Letter 7-12-21 & AQ Exempt 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-5-19, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
133	1902870	INDOT	Small Structure Replacement	Various Locations in Greenfield District, Small Structure Replacements on SR 9, SR 3, & SR 38	48	2023	CN	\$ 570,400	\$ 142,600	\$ 713,000	STBG	N/A	Unknown	\$ 713,000	Exempt			X					N/A	2020-2025	AQ Exempt - 1-6-21	Safety: Widening Narrow Pavements or Reconstructing Bridges (see additional travel lanes) (15)	40 CFR 93.126.15	Res. 1-8-21
134	2000033	INDOT	Standard Rail Alteration, New or Modernized	Various Locations in Greenfield District, Guard Rail Improvements	48	2023	CN	\$ 4,778,400	\$ 1,065,600	\$ 5,844,000	STBG	N/A	Unknown	Unknown	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21	Safety: Traffic Control Devices & Operating Assistance other than Signalization Projects (7)	40 CFR 93.126.7	Res. 1-8-21, Mod. 12-8-22
135	2000156	INDOT	Intersection Improvement, Roundabout	SR 13 @ SR 32, Intersection Improvement Project (Roundabout) (Lapeer)	48	2022	PE	\$ 320,000	\$ 80,000	\$ 400,000	STBG	7/10/2024	8-43476	Unknown	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21, Res. 12-8-22
136	2000156	INDOT	Intersection Improvement, Roundabout	SR 13 @ SR 32, Intersection Improvement Project (Roundabout) (Lapeer)	48	2024	RW	\$ 488,000	\$ 122,000	\$ 610,000	STBG	7/10/2024	8-43476	Unknown	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21, Res. 12-8-22
137	2000156	INDOT	Intersection Improvement, Roundabout	SR 13 @ SR 32, Intersection Improvement Project (Roundabout) (Lapeer)	48	2025	CN	\$ 2,569,300	\$ 642,348	\$ 3,211,718	STBG	7/10/2024	8-43476	Unknown	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21, Res. 12-8-22
138	2000161	INDOT	Intersection Improvement, Roundabout	SR 32 @ CR 925 W, Intersection Improvement Project (Roundabout)	48	2022	PE	\$ 631,371	\$ 75,152	\$ 705,523	HSP	7/10/2024	8-43476	\$ 1,859,788	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21, 9-9-22, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 3-3-22, Res. 12-8-22
139	2000161	INDOT	Intersection Improvement, Roundabout	SR 32 @ CR 925 W, Intersection Improvement Project (Roundabout)	48	2024	RW	\$ 792,000	\$ 198,000	\$ 990,000	STBG	7/10/2024	8-43476	\$ 1,859,788	Exempt	X							N/A	2020-2025	AQ Exempt - 1-6-21, 9-9-22, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.2	Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 3-3-22, Res. 12-8-22

**Madison County Council of Governments (Anderson MPO)
FY 2022-2026 Transportation Improvement Program (TIP)**

All Projects: Current Through 5-1-23

REF	PROJECT DETAILS					PROJECT FUNDING								PERFORMANCE MEASURES							MTP PLANNING		AIR QUALITY CONFORMITY				REFERENCE DOCUMENTS	
	DIS	Sponsor Name	Work Category (Work Type)	Location & Description	County	Funding Obligation Year (State Fiscal)	Project Phase	Federal Funds by Phase	Required Local/State Matching Funds	Total Funds by Phase	Federal Funding Program	Listing Date (8 Weeks prior to Obligation Date if CMAQ Phase)	Contract Number (CMAQ Phase)	Total Project Cost	Complete Streets (MPO)	Safety (MPO/INDOT)	Payment Condition (MPO/INDOT)	Bridge Condition (MPO/INDOT)	Reliability & Freight Resiliability (MPO/INDOT)	Congestion Mitigation & Air Quality (CMAQ) (MPO/INDOT)	Transit (MPO/INDOT)	MTP Project Category	Analysis Period	AQ Conformity Analysis	Exempt Project Type (AQ)	Reference (AQ)		
140	2001161	INDOT	Intersection Improvement, Roundabout	SR 32 @ CR 925 W, Intersection Improvement Project (Roundabout)	48	2026	CN	\$ 1,323,200	\$ 130,800	\$ 1,654,000	STBG	7/10/2024	R-43476	\$ 1,855,788	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21, 9-3-22, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 3-9-22, Res. 12-8-22
141	2001161	INDOT	Intersection Improvement, Roundabout	SR 32 @ CR 925 W, Intersection Improvement Project (Roundabout)	48	2026	CN	\$ 290,800	\$ 745,200	\$ 1,036,000	STBG	7/10/2024	R-43476	\$ 1,855,788	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21, 9-3-22, 12-7-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 3-9-22, Res. 12-8-22
142	2001162	INDOT	Intersection Improvement, Roundabout	SR 32 @ S CR 600 W, Intersection Improvement Project (Roundabout)	48	2022	PE	\$ 182,816	\$ 45,704	\$ 228,520	STBG	7/10/2024	R-43476	Unknown	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21, 12-8-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21, Res. 12-8-22
143	2001162	INDOT	Intersection Improvement, Roundabout	SR 32 @ S CR 600 W, Intersection Improvement Project (Roundabout)	48	2024	RW	\$ 304,000	\$ 76,000	\$ 380,000	STBG	7/10/2024	R-43476	Unknown	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21, 12-8-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21, Res. 12-8-22
144	2001162	INDOT	Intersection Improvement, Roundabout	SR 32 @ S CR 600 W, Intersection Improvement Project (Roundabout)	48	2025	CN	\$ 2,230,013	\$ 555,004	\$ 2,775,017	STBG	7/10/2024	R-43476	Unknown	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21, 12-8-22, & 4-24-23	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21, Res. 12-8-22
145	2001170	INDOT	Bridge Painting	I-49 NB Bridge over Old SR 109/Columbus Avenue	48	2023	CN	\$ 103,995	\$ 25,889	\$ 129,944	NHS	7/3/2022	R-43067	\$ 281,854	Exempt			X					N/A	2020-2025	AQC Exempt - 8-5-20 & 1-6-21	Other: Other Specific Activities that Do Not Involve or Lead Directly to Construction (47)	40 CFR 93.126.47	Res. 8-6-20, Res. 1-8-21, Mid. 12-8-22
146	2001171	INDOT	Bridge Painting	I-49 SB Bridge over Old SR 109/Columbus Avenue	48	2023	CN	\$ 136,494	\$ 15,568	\$ 151,660	NHPP	7/3/2022	R-43067	Unknown	Exempt			X					N/A	2020-2025	AQC Exempt - 8-5-20	Other: Other Specific Activities that Do Not Involve or Lead Directly to Construction (47)	40 CFR 93.126.47	Res. 8-6-20
147	200508	INDOT	HMA Overlay, Preventive Maintenance	SR 13, I-49 to 30 miles S. of SR 32	48	2023	CN	\$ 1,281,582	\$ 320,395	\$ 1,601,977	STBG	10/13/2022	R-41499	\$ 194,991	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 1-6-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 1-8-21
148	200508	INDOT	HMA Overlay, Preventive Maintenance	SR 13, I-49 to 30 miles S. of SR 32	48	2023	CN	\$ 597,870	\$ 149,468	\$ 747,338	STBG	10/13/2022	R-41499	\$ 2,355,315	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 1-6-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 1-8-21
149	200584	INDOT	HMA Overlay, Preventive Maintenance	SR 109, SR 38 to I-49	48	2023	CN	\$ 2,818,045	\$ 728,511	\$ 3,547,556	STBG	7/13/2022	R-43076	\$ 2,991,012	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 12-7-22	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 12-7-22
150	200584	INDOT	HMA Overlay, Preventive Maintenance	SR 109, SR 38 to I-49	48	2023	CN	\$ 2,392,810	\$ 588,202	\$ 2,981,012	STBG	7/13/2022	R-43076	\$ 2,991,012	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 12-7-22	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 12-7-22
151	200597	INDOT	HMA Overlay, Preventive Maintenance	SR 13, US 36 to I-49	30/48	2023	RW	\$ 160,000	\$ 40,000	\$ 200,000	STBG	7/12/2023	R-43131	\$ 2,162,765	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 4-7-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
152	200597	INDOT	HMA Overlay, Preventive Maintenance	SR 13, US 36 to I-49	30/48	2024	CN	\$ 1,570,400	\$ 392,600	\$ 1,963,000	STBG	7/12/2023	R-43131	\$ 2,162,765	Exempt		X						N/A	2020-2025	AQC Exempt - 8-5-20 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Res. 8-6-20, Res. 4-7-21, Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
153	201162	INDOT	Intersect. Improve. W/ New Signals	SR 37 @ CR 1100 N (Madison Avenue/"P" Street), Intersection Improvement Project (Signal)	48	2022	CN	\$ 175,762	\$ 43,941	\$ 228,703	STBG	3/8/2022	T-43123	\$ 218,703	Exempt	X							N/A	2020-2025	AQC Exempt - 1-6-21	Safety: Projects that Correct, Improve, or Eliminate a Hazardous Location or Feature (2)	40 CFR 93.126.1	Res. 1-8-21
154	201163	INDOT	HMA Overlay, Preventive Maintenance	SR 37, SR 37 S Junction to SR 37 N Junction	48	2025	CN	\$ 2,108,615	\$ 577,158	\$ 2,685,794	STBG	7-10-24	R-43540	Unknown	Exempt		X						N/A	2020-2025	USDOT Conformity Letter 7-12-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)
155	201167	INDOT	HMA Overlay, Preventive Maintenance	SR 9, SR 32 S Junction to SR 32 N Junction	48	2023	PE	\$ 280,000	\$ 70,000	\$ 350,000	STBG	8/11/2024	R-43552	\$ 1,304,688	Exempt		X						N/A	2020-2025	AQC Exempt - MCCOG MPO FY2022-2026 TIP Approval Letter 9-13-22 & AQC Exempt 12-7-22 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 12-7-22
156	201167	INDOT	HMA Overlay, Preventive Maintenance	SR 9, SR 32 S Junction to SR 32 N Junction	48	2025	CN	\$ 1,044,000	\$ 261,000	\$ 1,305,000	STBG	8/11/2024	R-43552	\$ 1,304,688	Exempt		X						N/A	2020-2025	AQC Exempt - MCCOG MPO FY2022-2026 TIP Approval Letter 9-13-22 & AQC Exempt 12-7-22 & 4-24-23	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt), Res. 12-7-22
157	201178	INDOT	HMA Overlay, Preventive Maintenance	SR 37, SR 13 N Junction to SR 28	48	2025	CN	\$ 866,844	\$ 216,711	\$ 1,083,555	STBG	7/10/2024	R-43540	Unknown	Exempt		X						N/A	2020-2025	USDOT Conformity Letter 7-12-21	Safety: Pavement Resurfacing and/or Rehabilitation (10)	40 CFR 93.126.10	Adopted with 2022-2026 TIP (Courtesy TIP Amendment - Exempt)

APPENDIX I

Additional Information

Engineering Assessment Report

SR 32 at CR 925 W Intersection in Lapel, IN, Roundabout

Safety Project
Proposed Fiscal Year: 2025
Score: 94

Greenfield District
Tipton Sub-District
Madison County, Indiana
9/27/19

Prepared by:
Taylor Hartman
Greenfield District Traffic Staff Engineer

Approved by:
Luis Laracuenta, P.E.
District Traffic Engineer

Indiana Department of Transportation
Traffic Engineering
Greenfield District
32 South Broadway Greenfield IN 46140

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Executive Summary

The purpose of this report is to document the engineering assessment phase of project development, including all coordination that has been completed in preparation for this project. This document outlines the proposal and is intended to serve as a guide for subsequent survey, design, environmental, right of way and other project activities leading to construction. The preferred alternative identified in this document is considered pre-decisional, pending the outcome of environmental studies. An alternative other than the preferred alternative may not be selected without consultation with the preparer of this report.

SR 32 is a two-lane highway functionally classified as a Minor Arterial. It intersects with CR 925W/Main St at the northern edge of the town of Lapel. The intersection is controlled by a stop condition on the minor road. The total length of the segment is approximately 1100 ft. A safety study of the most recent 3-years of crash history (2016-2018) indicates that there is a significant pattern of right-angle crashes (56%). A study of the crash reports for these crashes lead us to conclude that drivers from the minor road are getting into serious accidents when attempting to get across or turn. Rear-end crashes were the second-highest crash pattern that occurred at this location (22%) on the South and East approach. This is typically indicative of congestion. The Index of Crash Cost (ICC) was 2.86 for the study period, which indicates that this intersection is having a high frequency of severe crashes. A traffic control study was completed to study alternative traffic control options. All-Way stop control, roundabout and traffic signal control were considered. Stopping SR 32 is inefficient and does not eliminate the right angle conflict. A traffic signal warrant study indicates that current volumes do not meet the 8-hour or 4-hour warrant. In addition, the intersection is between two curves that limit sight distance for all approaches. Also, this is a rural section of the highway and there are no traffic signals nearby. Based on the geometry, crash patterns and existing traffic volumes. It was determined that a roundabout would help reduce the crashes and their severity at this location. With a roundabout, traffic would be able to safely cross-traffic or merge with traffic. The estimated cost of the preferred alternative is \$1,786,000.

Project Location

Table 1: Project Location Information

Location Description			
Route	SR 32	Latitude	40.076929
City	Lapel	Longitude	-85.848824
County	MadisonMadisonMadison	Nearest Cross Street	SR 32 and CR 925 W
District	Greenfield	Distance From	0
Sub District	TiptonTiptonTipton	RP From	94.27
MPO	Madison (MCCOG)	RP To	94.50

NHS Route?	No	Length	0.23 mi
Functional Class	Minor Arterial Arterial Minor Arterial	Work Type	Intersection Improvement, Roundabout
Rural or Urban	Rural Rural Rural	Work Category	District Intersection Improvement Project
Other Location Info:			

See attachments for a map showing the project location and for other pictures of the site.

Purpose and Need

The identified need at this location involves crashes where drivers on the minor road underestimated the time to get across SR 32 with oncoming traffic. In addition, start-and-stop rear-end crashes are common at this intersection from the minor road.

The purpose of the project is to reduce or eliminate the right angle and rear-end crashes and therefore reduce the number of injury crashes.

Project History

A pavement rehab is planned for 2020, DES 1593196, that is planned for SR 32 through this intersection. The planned work is starting at SR 37 to 6.78 miles E of SR 13.

Existing Conditions

Roadway Geometrics and Pavement Information

Table 2: Roadway Geometrics and Pavement Information

Lane Width	12 ft
Curbed	No
Shoulder Width	none
Number of lanes in each direction	1
Intersection Traffic Control	Two Way Stop
Speed Limit	EB/WB 45 mph, NB/SB 20 mph
Pavement Type	Asphalt
Median Type	None

Table 3&4: Capacity Analysis

ROAD	AM Peak							
	EB		WB		NB		SB	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Existing	A	0	A	1	C	15.5	C	16.7
Design Year Base	A	0	A	1.1	C	22.7	C	22.7
Design Year Proposed	A	5.2	A	7.5	A	5.2	A	5.2

ROAD	PM Peak							
	EB		WB		NB		SB	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Existing	A	0.1	A	0.8	C	16	C	18.4
Design Year Base	A	0.1	A	1	C	23.7	D	26.4
Design Year Proposed	A	8.3	A	5.3	A	6.5	A	4.6

For more information on the capacity analysis, see attached reports.

Crash Information

Table 5: Crash History

ICC	2.86	Number of Crashes	16
ICF	2.53	Number of Fatal and Incapacitating Crashes	6
First Year of Crash Data	2016	Number of Non-Incapacitation Crashes	0
Last Year of Crash Data	2018	Number of Property Damage Only Crashes	10

The most significant crash pattern was the right-angle crashes (approx. 56% of all crashes). This caused by the minor street not having enough time to turn or get across the major road. The deficient amount of time and poor judgment on the drivers has caused the increasing number of these crashes. Following right-angle crashes, rear-end crashes come as the second highest (approx. 22%). This is associated with congestion of cars waiting to turn onto or off the minor street or into the gas station that is in the SW corner of the intersection.

The RoadHAT output, crash statistics summary, and a crash diagram has been included in the attachments to this report.

Design Considerations

Three design constraints identified at this location and taken into consideration when designing the alternatives. On the southwest corner, there is a doctor's office and on the southeast corner, there is a gas station. The last design constraint involves upgrading curb ramps to be compliant with ADA standards. The town is planning to upgrade the sidewalks after this project completed. With the curb ramps already up to code at the approaches, the city will be able to tie into our ramps without having to work on them.

Table 6: Other Design Considerations

Land Survey Location	S21T19NR6E
Civil Township	Stony Creek
Federal Aid System	No
National Truck Network	Yes
Urban Area Boundary	none
Adjacent Land Use	Farming and commercial

Community/External Stakeholder Context

A meeting with two town board members took place in September 2019. After the meeting, the town board president sent an email indicating that the town board supported the proposed roundabout at the CR 925W intersection.

Adjacent INDOT Projects

This intersection is NW of SR 32 and SR 13. SR 32 & SR 13 intersection submitted for the FY 2025 call for projects as a roundabout. This project is expected to be funded for the 2025 construction season.

Other Miscellaneous Information

Speed limit signs changed in 2017. It was for safety concerns and the current environment. The speed limit changed from 55 mph to 45 mph.

Analysis and Alternatives

Description of Alternatives

Alternative 1 – Single Lane Roundabout

A single-lane roundabout to control traffic at the intersection is being proposed. The roundabout requires that all approaches yield to traffic from the left in the circulatory road.

Alternative 2 – Signalized Intersection

Construct a traffic signal for traffic control. This would require all the traffic signal infrastructure and constructing left-turn lanes along SR 32.

Alternative 3 – All-Way Stop Control

All-way stop control traffic was proposed for this location. However, making SR 32 stop would not be a practical idea.

Alternative 4 – No Build.

The No build option was considered for this project. However, this option does nothing to address the elevated number and rate of incapacitation or fatal crashes. This option is not beneficial to the motoring public.

Cost Estimates

Table 7: Cost Estimate Summary

Alternative	Funding Category	Estimated Cost
Alternative 1 Roundabout with concrete islands and lighting	CN	\$1,504,718
	PE	\$206,282
	Utility	\$15,000
	RoW	\$60,000
	Environmental	\$40,000
	Total Cost	\$1,786,000
Alternative 2	CN	\$650,000
	PE	\$30,000
	Utility	\$15,000

Signalized Intersection	RoW	\$20,000
	Environmental	\$40,000
	Total Cost	\$755,000
Alternative 3 All-Way Stop Control	CN	\$1000
	PE	\$0
	Utility	\$0
	RoW	\$0
	Environmental	\$0
	Total Cost	\$1000
Alternative 4 No Build	CN	\$0
	PE	\$0
	Utility	\$0
	RoW	\$0
	Environmental	\$0
	Total Cost	\$0

Complete and detailed cost estimates for all considered alternatives are included in the attachments of this report.

Preliminary Maintenance of Traffic Plan (MOT)

The work for this project should be accomplished with temporary portable signals along SR 32 to allow each direction to be open partly. Half of the road closed to allow construction of the roundabout to continue. There will likely be congestion for the duration of the construction. Diversion should be encouraged. It is likely that the SR 32 and SR 13 intersection will also be funded for a roundabout for FY 2025. Coordination for construction will be essential.

The above information is preliminary and conceptual in nature. The designer of record for this project shall be responsible for the determination of the MOT scheme and the full design of that scheme. The above information can be used to inform the decision making of the designer but it does not absolve him of the responsibility of the design.

The provisions of the Indiana Manual on Uniform Traffic Control Devices, the Indiana Design Manual and the INDOT Standard Drawings concerning the design of an MOT zone shall be adhered to. A detailed design showing the MOT layout should be included in the final set of plans. The provisions of the Interstate Highway Congestion Policy shall be followed.

Pavement and Roadway Design

A roundabout requires specialized geometric design knowledge. The modified road will accommodate a circular road and approaches with raised concrete islands and lighting.

Right-of-Way and Survey

The amount estimated for this location was \$60,000 for buying and appraising only. This amount did not include right-of-way engineering. A survey will be necessary for the roundabout design.

Utilities and Railroads

At this location, there are several utilities that will need to be relocated; however, none are on the easements. The relocation of the utilities should cost \$15,000.

Environmental and Historic Considerations

This project will need a full 106. Environmental will need to be done 1 year in advance of letting to allow for right-of-way acquisition. Environmental will take 9-12 months to complete. In addition, a CIF permit will be needed, which takes 9-12 months to complete after the CE.

This project will require an environmental document level CE2.

Design Criteria

The design of this project shall adhere to New ConstructionNew ConstructionNew Construction standards per the Indiana Design Manual.

SEE IDM 40-06.01 FOR MORE INFORMATION.

Recommended Alternative

Alternative 1. Roundabout control is the recommended alternative. The total estimated cost for this alternative is \$1,786,000. The TSAM score for this alternative is a 94. This alternative best addresses the crash problem along this corridor.

Changes to Proposal

Contact the Greenfield District Traffic Engineer if deviation from this document is determined to be necessary during a later phase of project development, including but not limited to scope of work or letting changes. Any desired changes should include justification for the change and the estimated cost.

Concurrence and Approval

This document was prepared by:

NAME Taylor Hartman

TITLE Traffic Staff Engineer

DATE 9/30/19

This document was approved by:

NAME Luis Laracuente

TITLE District Traffic Engineer

DATE



TSAM Team
Safety Project Scoring Sheet

DES:			Date:	12/31/2019
Analyst:			Total Project Cost (today's dollars):	\$1,786,000
District:	Greenfield		City:	Lapel
Route:	SR-32 @ CR 925 W		County:	Madison
Location:				
Treatment:	Roundabout			
LAT, LONG:	40.076938	-85.848793	Final Score:	94
Notes and CRF Source Information:	CMF ID: 5230: Conversion of intersection into high-speed roundabout			

Core Safety Factors	Rating (Type Number)	Score Received	Points Possible	Comments
#1 Crash Severity (I_{cc} -based)	2.86	40.00	40	RoadHAT output PDF is required. Enter w/ two decimal places.
#2 Crash Frequency (I_{cf} -based)	2.53	10.00	10	RoadHAT output PDF is required. Enter w/ two decimal places.
#3 Benefit-Cost Ratio (Imported from Factor 3 Tab)	4.27	35.00	35	CRF source must be cited above. Enter Data into Factor 3 Tab.
Core Safety Factors Subtotal:		85	85	Scores are rounded to the nearest integer.

Supplemental Factors	Rating (Choose From Menu)	Score Received	Points Possible	Comments
#4 Mobility Improvement	2 Points: Neutral Effect on Mobility	2	5	See business rules for more information. Must be documented with analysis: inputs and outputs. Design year is 20 years from construction. Growth rate is 1% by default.
#5 Public and Other Interests	5 Points: Multiple Government Officials Support Chosen Countermeasure (Documented)	5	5	Documentation from Elected Officials or Public is required.
#6 Route Continuity and Corridor Completion	2 Points: Neutral Effect on Uniformity	2	5	See business rules for more information.
#7 Earmarks & External Contributions	0 Points: No Earmarks or External Contributions	0	25	See business rules for more information. Must be documented. Benefit/Cost Ratio must still be calculated using total project cost.
Supplemental Factors Subtotal:		9	15	
Final Score:		94	100	Scores greater than 100 will be lowered to 100

Score Justifications:

Factor #4:	Type justification for selection here with all necessary background information. If points were received in this category, justification is required.
Factor #5:	After meeting with Lapel town board members, Luis Laracuente received an email of support from 2 elected officials.
Factor #6:	Type justification for selection here with all necessary background information. If points were received in this category, justification is required.
Factor #7:	Type justification for selection here with all necessary background information. If points were received in this category, justification is required.
Other Notes:	Provide other information in this space as needed.



Proposed
Roundabout

SR 32 and CR 925 W

Study Period: 2019
District: Greenfield County: Madison
Analyst: Taylor Hartman Date: 7/26/19

Location: 40.076929, -85.848824
City/Town: Lapel
DES: TBD Letting Year: 2025





COLLISION DIAGRAM

SR 32 @ CR 925 W. (48)

Study Period: 2016-2018

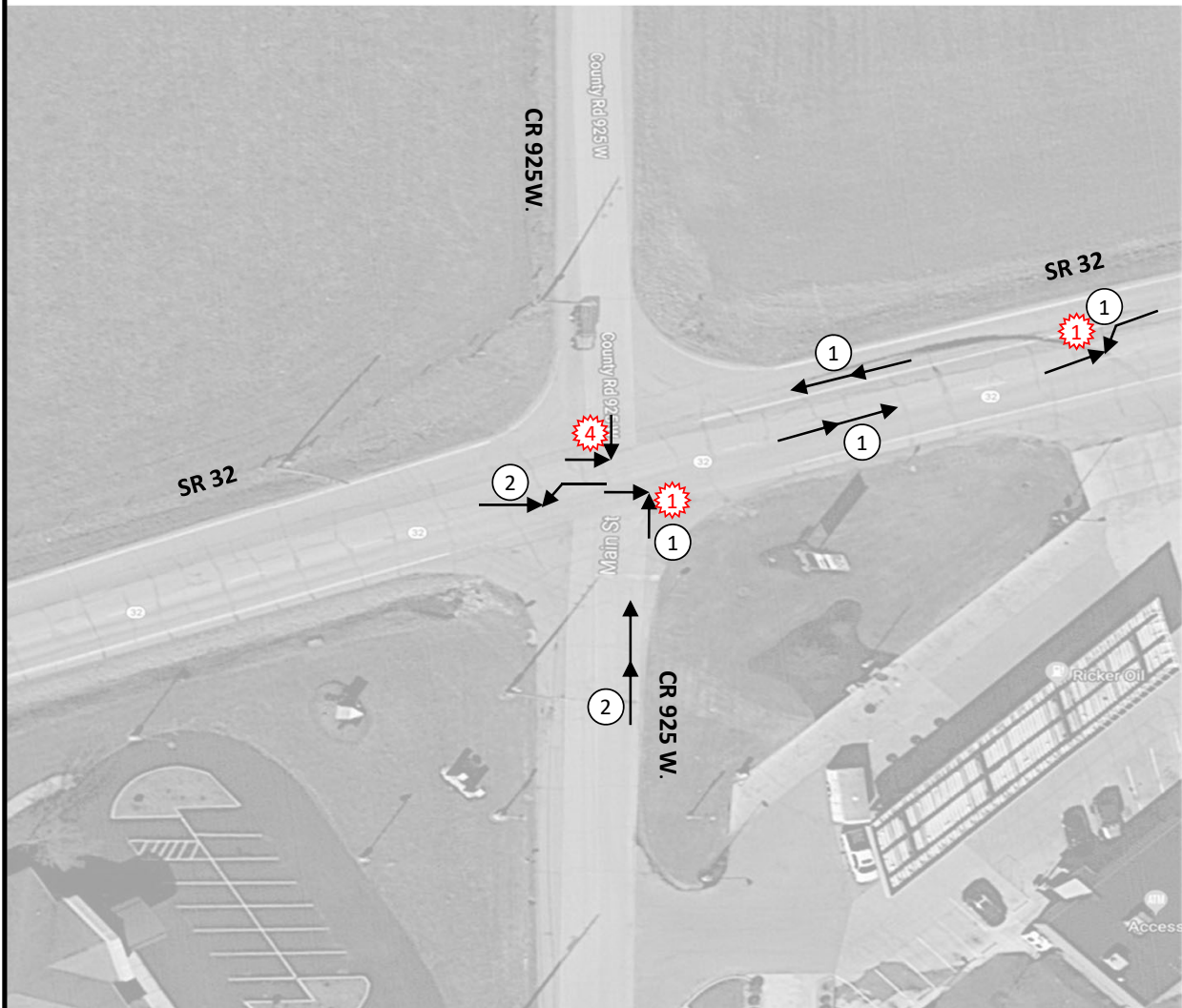
District: Greenfield County: Madison (48)

Analyst: J. WILLIAMS Date: 01/18/2019

Location: 40.076944, -85.848779

City/Town: Lapel

DES: Number Letting Year: YYYY



* Diagram not to scale

Aerial imagery from Google Maps

Year	Fatal / Inc	Non-Inc	PDO	Total
2016	2	0	2	4
2017	4	0	6	10
2018	0	0	2	2
Total	6	0	10	16

ICF	2.53
ICC	2.86

Additional Comments

- Start comments here

Object Symbols

	Moving Vehicle		Animal		Signalized Intersection
	Turning Vehicle		Debris in Roadway		Stop Sign
	Backing Vehicle		Fixed Object (see table for #)		
	Sliding Vehicle		Incapacitating/Fatal		
	Parked Vehicle		Non-Incapacitating		
	Pedestrian		PDO (If > 1)		
	Bicycle				

Collision Symbols

	Rear End
	Head On
	Sideswipe - Same
	Sideswipe - Opposite
	Right Angle
	Right Turn
	Left Turn

Fixed Object Codes

01	Bridge or Overpass
02	Building
03	Culvert or ditch
04	Curb
05	Guardrail or Barrier
06	Embankment
07	Fence
08	Traffic Pole
09	Utility Pole
10	Sign
11	Tree / Shrub
12	Construction Barrier
13	Crash Attenuator
88	Other
99	Unknown

INDOT - GREENFIELD TRAFFIC CRASH SUMMARY AND DIAGRAM			
Location		SR 32 @ CR 925W. (48)	
District	630	Period	16-18
Total Crashes	16	Fatal	0
PD Crashes	10	Total Injuries	10
PI Crashes	6	Total Fatalities	0
SURFACE CONDITION			
Dry	15	Snow/Slush	0
Wet	1	Ice	0
Muddy	0	Water(Standing or Moving)	0
Loose Material On Road	0	Other/Unknown	0
LIGHT CONDITION			
Daylight	12	Dark (Not Lighted)	0
Dawn/Dusk	2	Unknown	1
Dark (Lighted)	1		
CRASH TYPE			
Rear End	3	Left Turns	1
Head On	0	Right Turns	1
Same Dir Sideswipe	0	Ran Off Road	0
Opposite Dir Sideswipe	0	Other	3
Right Angle	7	Unknown	0

Crash Details				
1	REAR END	2/21/2016	1358	
	DAYLIGHT DRY	PD 0	F 0	
2	RIGHT ANGLE	8/5/2016	1621	
	DAYLIGHT DRY	PI 1	F 0	
3	RIGHT ANGLE	11/21/2016	1617	
	DAYLIGHT DRY	PI 1	F 0	
4	REAR END	12/15/2016	0950	
	DAYLIGHT DRY	PD 0	F 0	
5	RIGHT ANGLE	4/19/2017	0815	
	DAYLIGHT DRY	PI 1	F 0	
6	REAR END	5/24/2017	0730	
	DAYLIGHT DRY	PD 0	F 0	
7	RIGHT ANGLE	6/27/2017	0659	
	DAYLIGHT DRY	PI 1	F 0	
8	RIGHT ANGLE	7/6/2017	1309	
	DAYLIGHT WET	PI 4	F 0	
9	RIGHT ANGLE	8/11/2017	1136	
	DAYLIGHT DRY	PD 0	F 0	
10	OTHER - EXPLAIN IN NARRATIVE	9/1/2017	1545	
	DAYLIGHT DRY	PI 2	F 0	
11	OTHER - EXPLAIN IN NARRATIVE	11/24/2017	1455	
	DAYLIGHT DRY	PD 0	F 0	
12	LEFT TURN	12/20/2017	1748	
	DARK (LIGHTED) DRY	PD 0	F 0	
13	LEFT/RIGHT TURN		0641	
	DAYLIGHT DRY	PD 0	F 0	
14	RIGHT ANGLE		0743	
	DAWN/DUSK DRY	PD 0	F 0	
15	RIGHT TURN		0733	
	UNKNOWN DRY	PD 0	F 0	
16	BACKING CRASH		0810	
	DAWN/DUSK DRY	PD 0	F 0	

Index of Crash Frequency and Cost - Form F1		Page 1/2
Location	SR 32 and CR 925 W	
Lapel, IN		
GIS		
Post		
Analyst		
Date	12/11/2019	
INPUT		
Road Facility Type	Unsignalized Urban State-Local Intersection	
Major Road AADT (veh/day)	6281	
T-intersection Indicator (1 if present, 0 otherwise)	0	
Major Collector Indicator for Crossing Local Road (1 if present, 0 otherwise)	0	
First Year with Crash Data (yyyy)	2016	
Last Year with Crash Data (yyyy)	2018	
Number of Crashes (crash/period)		
Fatal and Incapacitating Injury Crashes	0	
Non-Incapacitating and Possible Injury Crashes	10	
Property Damage Only Crashes	6	
Route or Road Type	Unsignalized Urban State-Local Intersection	
Average Crash Costs (\$)		
Fatal and Incapacitating Injury Crashes	279300	
Non-Incapacitating and Possible Injury Crashes	31400	
Property Damage Only Crashes	6500	
Crash Cost Year (yyyy)	2013	
OUTPUT		
Expected Crash Frequency (crash/year)		
Fatal and Incapacitating Injury Crashes	0.018	
Non-Incapacitating and Possible Injury Crashes	0.15	
Property Damage Only Crashes	0.69	
All Crashes	0.86	
Index of Crash Frequency	2.86	
Index of Crash Cost	2.53	

Index of Crash Frequency and Cost - Form F1		Page 2/2
Location	SR 32 and CR 925 W	
Lapel, IN		
GIS		
Post		

Attachment 5: CMF Information

Category	Countermeasure	Area Type	Facility type	Crash Type	CRF	CMF	States and (reference number)
Intersection geometry	Convert all-way stop-controlled intersection to a roundabout	Urban and rural	Intersections on two- or four-lane roads	Total	-7.4	1.074	CA, CO, CT, FL, KS, MD, ME, MI, MO, MS, NV, OR, SC, UT, VT, WA WI (31,33)
				KABC	8.7	0.913	
Intersection geometry	Convert signalized intersection to a roundabout	Urban	Intersections on two- or four-lane roads	Total	12.4	0.876	CA, CO, CT, FL, IN, KS, MD, ME, MI, MO, MS, NC, NV, NY, OR, SC, UT, VT, WA, WI (15,31,33)
				KABC	66.1	0.339	
		Rural	Intersections on two- or four-lane roads	Total	26.2	0.738	
				KABC	71.5	0.285	
Intersection geometry	Convert a non-controlled or yield-controlled intersection to a roundabout	Urban and rural	Intersections on two- or four-lane roads	Total	-24.2	1.242	WI (31)
				KABC	100.0	0	
Intersection geometry	Convert two-way stop-controlled intersection to J-turn intersection	Rural	Intersections of four-lane divided, high-speed roads and minor roads	Total	34.8	0.652	MO (8)
				KABC	53.7	0.463	
Intersection geometry	Improve left-turn lane offset to create positive offset	Urban and rural	Four-leg intersections	Total	33.8	0.662	WI (30)
				KABC	35.6	0.644	
				Left-turn	38.0	0.62	
				Rear-end	31.7	0.683	
Intersection geometry	Improve intersection sight distance	Urban and rural	Not specified	Total	33.0	0.67	Based on AK, AZ, CA, IA, KY, MO (13)
				Right-angle	21.0	0.79	Based on AZ, MO, MN (13)
				Left-turn	13.0	0.87	Based on AZ, MO (13)
				Sideswipe	43.0	0.57	Based on AK, MO (13)
Intersection traffic control	Change left-turn phasing on one approach from permitted to protected/permitted phasing	Urban	Four-leg intersections	Total	-8.1	1.081	NC, Toronto (39)
				KABC	0.5	0.995	
				Left-turn	7.5	0.925	
				Rear-end	-9.4	1.094	
Intersection traffic control	Change left-turn phasing on more than one approach from permitted to protected/permitted phasing	Urban	Four-leg intersections	Total	4.2	0.958	NC, Toronto (39)
				KABC	8.6	0.914	
				Left-turn	21.3	0.787	
				Rear-end	-5.0	1.050	



PROJECT COST
ESTIMATE

SR 32 and CR 925 W

Study Period: March 2019

District: Greenfield County: Shelby

Analyst: Mark Muenz Date: 06/10/2019

Location: SR 32 and CR 925 W

City/Town: Lapel

DES: NA Letting Year: 2025

Description	Quantity	Unit	Bid Price	Extension
Excavation Common	2168	CY	\$20.00	\$43,360
Pavement	5478	SYS	\$125.00	\$684,750
Curb, Island Concrete	1025	SYS	\$100.00	\$102,500
Curb, Concrete	4490	LF	\$20.00	\$89,800
Lighting	1	LS	\$65,000.00	\$65,000
Signage	1	LS	\$10,000.00	\$10,000
Pavement Markings	1	LS	\$10,000.00	\$10,000
B Borrow	1000	CY	\$26.00	\$26,000
			Subtotal	\$1,031,410
Maintenance of Traffic (10-20%)	15%	LS	\$154,711.50	\$154,712
Project Estimate Adjustment, Contingency (10-20%)	20%	LS	\$206,282	\$206,282
Construction Engineering (2-5%)	2%	LS	\$20,628	\$20,628
Mobilization and Demobilization (5-10%)	5%	LS	\$51,571	\$51,571
Preliminary Engineering (15-20%)	20%	LS	\$206,282	\$206,282
Environmental (Varies)	\$40,000.00	LS	\$40,000	\$40,000
Utilities (Varies)	\$15,000.00	LS	\$15,000	\$15,000
Right of Way (Varies)	\$60,000.00	LS	\$60,000	\$60,000
			TOTAL	\$1,786,000

Hartman, Taylor N

From: Laracuente, Luis A
Sent: Friday, September 27, 2019 9:32 AM
To: Hartman, Taylor N
Subject: FW: Town of Lapel

From: Town of Lapel [<mailto:info@lapelindiana.org>]
Sent: Friday, September 6, 2019 9:54 AM
To: Laracuente, Luis A <LuLaracuente@indot.IN.gov>
Subject: Town of Lapel

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

Good morning,

I am writing to let you know that the Town Board is in favor of the changes to State Road 32 & 13 and County Road 925 W and State Road 32. Deb Wainscott and Tom Marvel were happy to meet with you and are available for any future meetings or input you may need.

Thank you,

Paula Lee
Deputy Clerk
Town of Lapel
info@lapelindiana.org

Attachment 8: Traffic Volumes

Study Name GF- SR 32 & Main Lapel
Start Date Tuesday, March 12, 2019 12:00 AM
End Date Wednesday, March 13, 2019 12:00 AM
Site Code

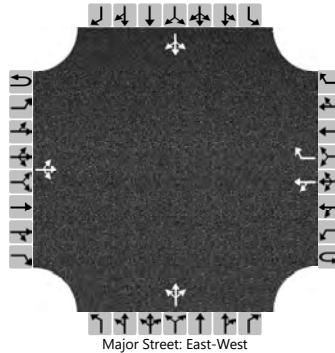
Report Summary

Time Period	Class.	Southbound						Westbound						Northbound						Eastbound						Total
		R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	R	T	L	U	I	O	
Peak 1	Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Specified Period	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12:00 AM - 12:00 PM	Cars	0	5	8	0	13	19	13	301	24	0	338	221	29	6	24	0	59	44	15	184	0	0	199	325	609
One Hour Peak	%	0%	83%	73%	0%	72%	66%	65%	86%	67%	0%	83%	84%	78%	67%	62%	0%	69%	76%	94%	85%	0%	0%	86%	83%	82%
7:30 AM - 8:30 AM	Light Goods Vehicle	0	1	3	0	4	9	6	45	9	0	60	34	4	3	12	0	19	11	1	27	0	0	28	57	111
	%	0%	17%	27%	0%	22%	31%	30%	13%	25%	0%	15%	13%	11%	33%	31%	0%	22%	19%	6%	13%	0%	0%	12%	15%	15%
	Buses	0	0	0	0	0	0	0	1	3	0	4	5	3	0	1	0	4	3	0	2	0	0	2	2	10
	%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	1%	2%	8%	0%	3%	0%	5%	5%	0%	1%	0%	0%	1%	1%	1%
	Single-Unit Truck	1	0	0	0	1	1	1	1	0	0	2	4	1	0	1	0	2	0	0	3	0	0	3	3	8
	%	100%	0%	0%	0%	6%	3%	5%	0%	0%	0%	0%	2%	3%	0%	3%	0%	2%	0%	0%	1%	0%	0%	1%	1%	1%
	Tractor-Trailer Truck	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3	3
	%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	3%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%
	Total	1	6	11	0	18	29	20	350	36	0	406	264	37	9	39	0	85	58	16	216	0	0	232	390	741
	2045 Total	1	8	14	0	23	38	26	453	47	0	526	342	48	12	51	0	110	75	21	280	0	0	300	505	960
	PHF	0.25	0.5	0.69	0	0.64	0.72	0.62	0.87	0.82	0	0.93	0.8	0.77	0.75	0.7	0	0.76	0.85	0.67	0.76	0	0	0.77	0.92	0.97
	Approach %					2%	4%					55%	36%					11%	8%					31%	53%	
Peak 2	Motorcycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Specified Period	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
12:00 PM - 12:00 AM	Cars	2	9	7	0	18	16	7	187	15	0	209	354	26	6	25	0	57	56	32	321	3	0	356	214	640
One Hour Peak	%	100%	69%	64%	0%	69%	70%	64%	83%	75%	0%	82%	75%	60%	75%	93%	0%	73%	74%	74%	77%	75%	0%	77%	85%	78%
4:45 PM - 5:45 PM	Light Goods Vehicle	0	3	3	0	6	7	4	34	4	0	42	111	17	2	2	0	21	16	9	91	1	0	101	36	170
	%	0%	23%	27%	0%	23%	30%	36%	15%	20%	0%	16%	24%	40%	25%	7%	0%	27%	21%	21%	22%	25%	0%	22%	14%	21%
	Buses	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Single-Unit Truck	0	1	0	0	1	0	0	3	1	0	4	3	0	0	0	0	0	2	0	3	0	0	3	3	8
	%	0%	8%	0%	0%	4%	0%	0%	1%	5%	0%	2%	1%	0%	0%	0%	0%	0%	3%	0%	1%	0%	0%	1%	1%	1%
	Tractor-Trailer Truck	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	2	0	0	0	2	0	3
	%	0%	0%	9%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	5%	0%	0%	0%	0%	0%	0%
	Total	2	13	11	0	26	23	11	224	20	0	255	470	43	8	27	0	78	76	43	416	4	0	463	253	822
	2045 total	3	17	14	0	34	30	14	290	26	0	330	609	56	10	35	0	101	98	56	539	5	0	600	328	1065
	PHF	0.5	0.65	0.55	0	0.81	0.82	0.55	0.82	0.56	0	0.86	0.93	0.72	0.5	0.61	0	0.89	0.79	0.67	0.95	0.33	0	0.95	0.8	0.93
	Approach %					3%	3%					31%	57%					9%	9%					56%	31%	

General Information

Analyst	Mark Muenz	Intersection	SR-32 @ 925 W - Main St.
Agency/Co.	INDOT	Jurisdiction	Greenfield
Date Performed	5/23/2019	East/West Street	SR-32
Analysis Year	2019	North/South Street	925 W
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		0	216	16		36	350	20		39	9	37		11	6	1
Percent Heavy Vehicles (%)		0				8				9	0	11		0	0	100
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					Yes											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.18				7.19	6.50	6.31		7.10	6.50	7.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.27				3.58	4.00	3.40		3.50	4.00	4.20

Delay, Queue Length, and Level of Service

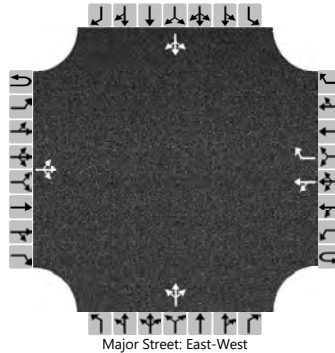
Flow Rate, v (veh/h)		0				39					92				20	
Capacity, c (veh/h)		1189				1279					436				327	
v/c Ratio		0.00				0.03					0.21				0.06	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.8				0.2	
Control Delay (s/veh)		8.0				7.9					15.5				16.7	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.0				1.0				15.5				16.7			
Approach LOS									C				C			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	Mark Muenz	Intersection	SR-32 @ 925 W - Main St.
Agency/Co.	INDOT	Jurisdiction	Greenfield
Date Performed	5/23/2019	East/West Street	SR-32
Analysis Year	2019	North/South Street	925 W
Time Analyzed	4:45-5:45 PM	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		4	416	43		20	224	11		27	8	43		11	13	2
Percent Heavy Vehicles (%)		0				5				0	0	0		9	8	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					Yes											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.15				7.10	6.50	6.20		7.19	6.58	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.25				3.50	4.00	3.30		3.58	4.07	3.30

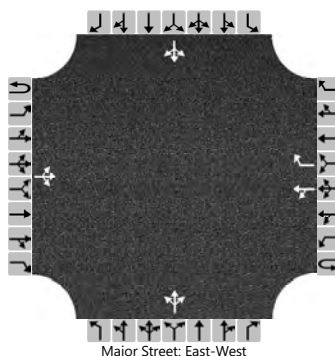
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				22					85				28	
Capacity, c (veh/h)		1335				1050					413				298	
v/c Ratio		0.00				0.02					0.21				0.09	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.8				0.3	
Control Delay (s/veh)		7.7				8.5					16.0				18.4	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.1				0.8				16.0				18.4			
Approach LOS									C				C			

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Mark Muenz	Intersection	SR-32 @ 925 W - Main St.
Agency/Co.	INDOT	Jurisdiction	Greenfield
Date Performed	5/23/2019	East/West Street	SR-32
Analysis Year	2045	North/South Street	925 W
Time Analyzed	7:30-8:30 AM	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		0	280	21		47	453	26		51	12	48		14	8	1
Percent Heavy Vehicles (%)		0				8				9	0	11		0	0	100
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					Yes											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.18				7.19	6.50	6.31		7.10	6.50	7.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.27				3.58	4.00	3.40		3.50	4.00	4.20

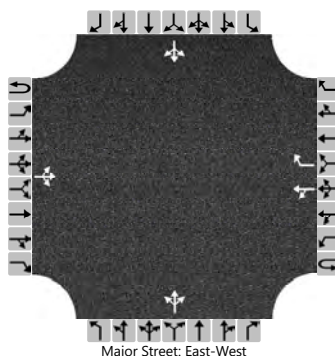
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				51					121				25	
Capacity, c (veh/h)		1082				1199					324				228	
v/c Ratio		0.00				0.04					0.37				0.11	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					1.7				0.4	
Control Delay (s/veh)		8.3				8.1					22.7				22.7	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)	0.0				1.1				22.7				22.7			
Approach LOS									C				C			

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Mark Muenz	Intersection	SR-32 @ 925 W - Main St.
Agency/Co.	INDOT	Jurisdiction	Greenfield
Date Performed	5/23/2019	East/West Street	SR-32
Analysis Year	2045	North/South Street	925 W
Time Analyzed	4:45-5:45 PM	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description			

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	1		0	1	0		0	1	0
Configuration			LTR			LT		R			LTR				LTR	
Volume (veh/h)		5	539	56		26	290	14		35	10	56		14	17	3
Percent Heavy Vehicles (%)		0				5				0	0	0		9	8	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized					Yes											
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.15				7.10	6.50	6.20		7.19	6.58	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.25				3.50	4.00	3.30		3.58	4.07	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				28					110				37	
Capacity, c (veh/h)		1256				925					302				205	
v/c Ratio		0.00				0.03					0.36				0.18	
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					1.7				0.7	
Control Delay (s/veh)		7.9				9.0					23.7				26.4	
Level of Service (LOS)		A				A					C				D	
Approach Delay (s/veh)	0.1				1.0				23.7				26.4			
Approach LOS									C				D			

DELAY (CONTROL)

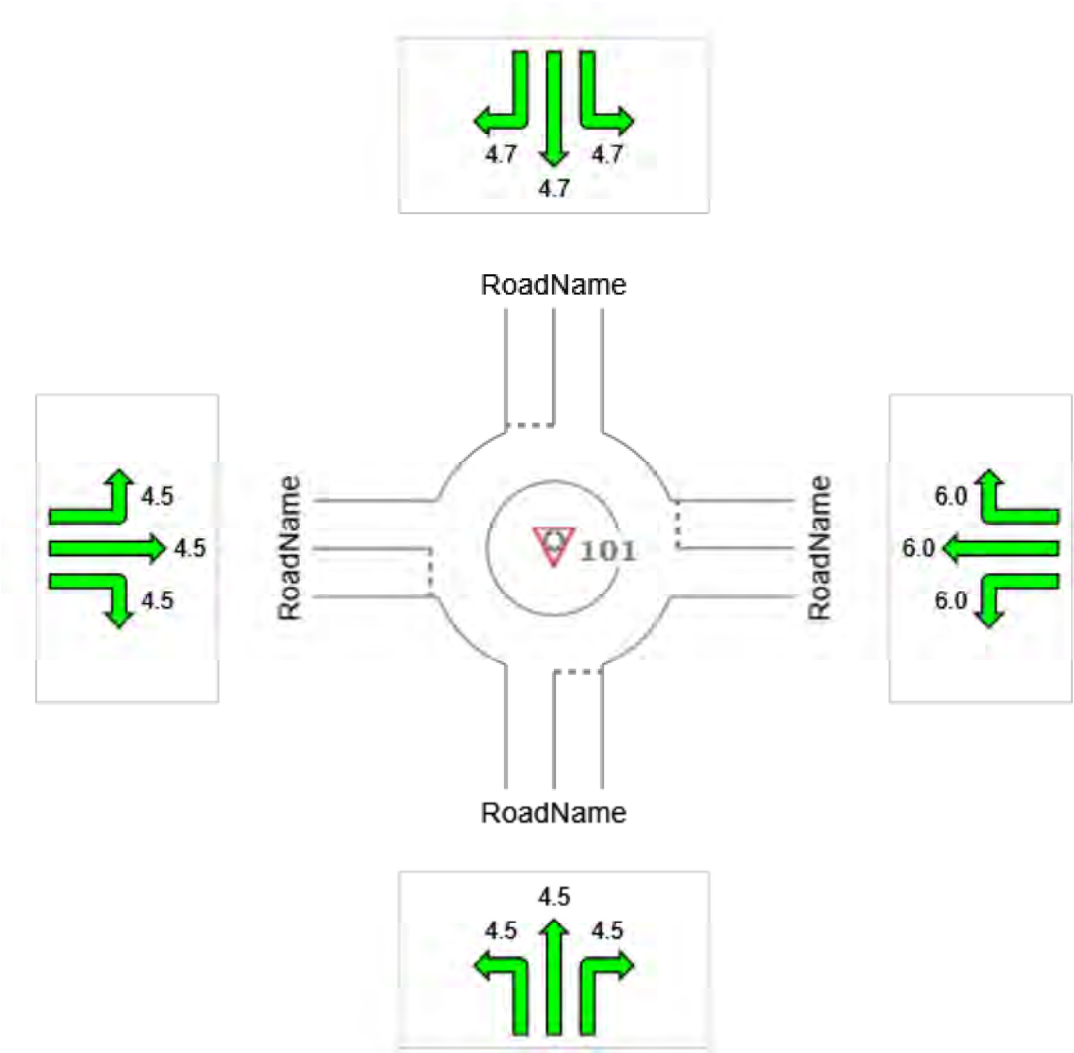
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: 101 [SR-32 @ 925 W]

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	4.5	6.0	4.7	4.5	5.3
LOS	A	A	A	A	A



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

DELAY (CONTROL)

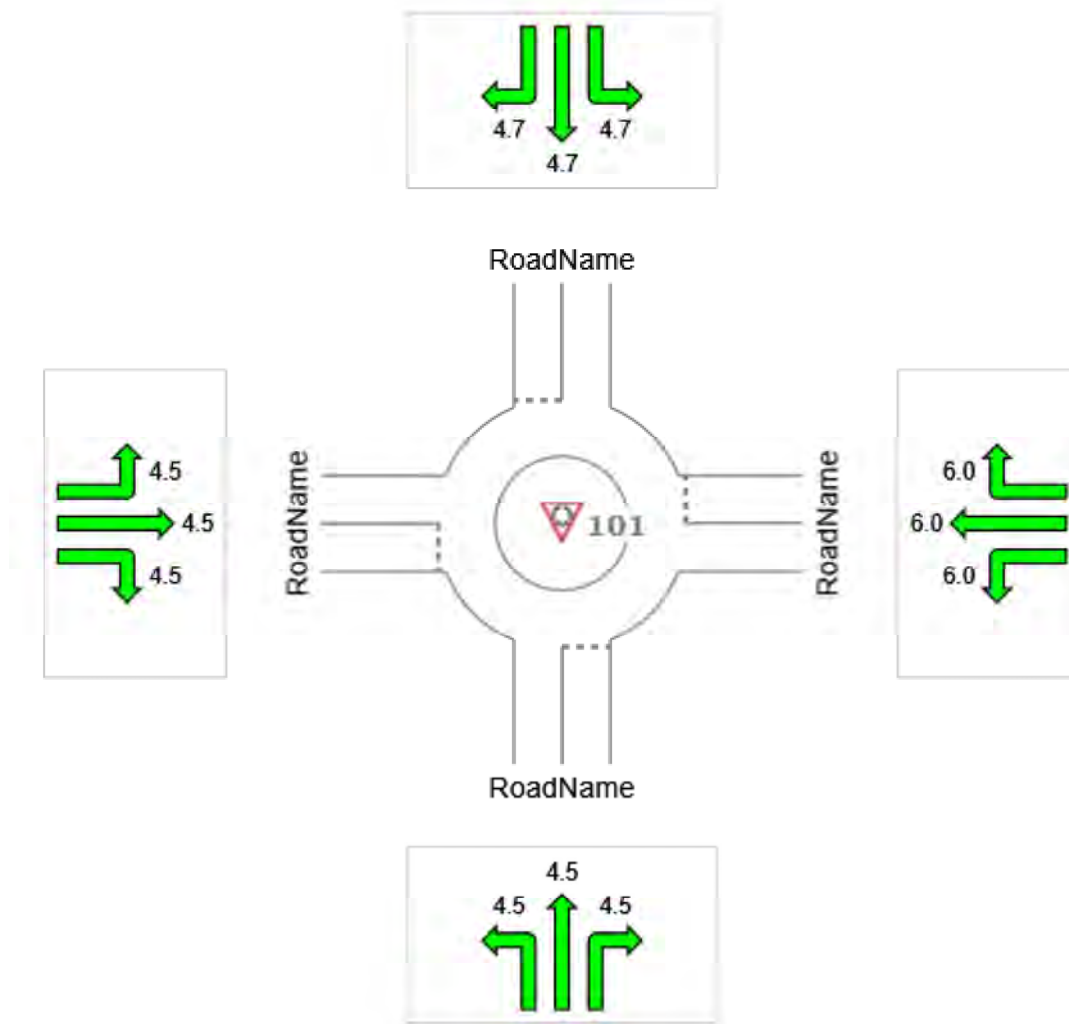
Average control delay per vehicle, or average pedestrian delay (seconds)

 **Site: 101 [SR-32 @ 925 W]**

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	4.5	6.0	4.7	4.5	5.3
LOS	A	A	A	A	A



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

DELAY (CONTROL)

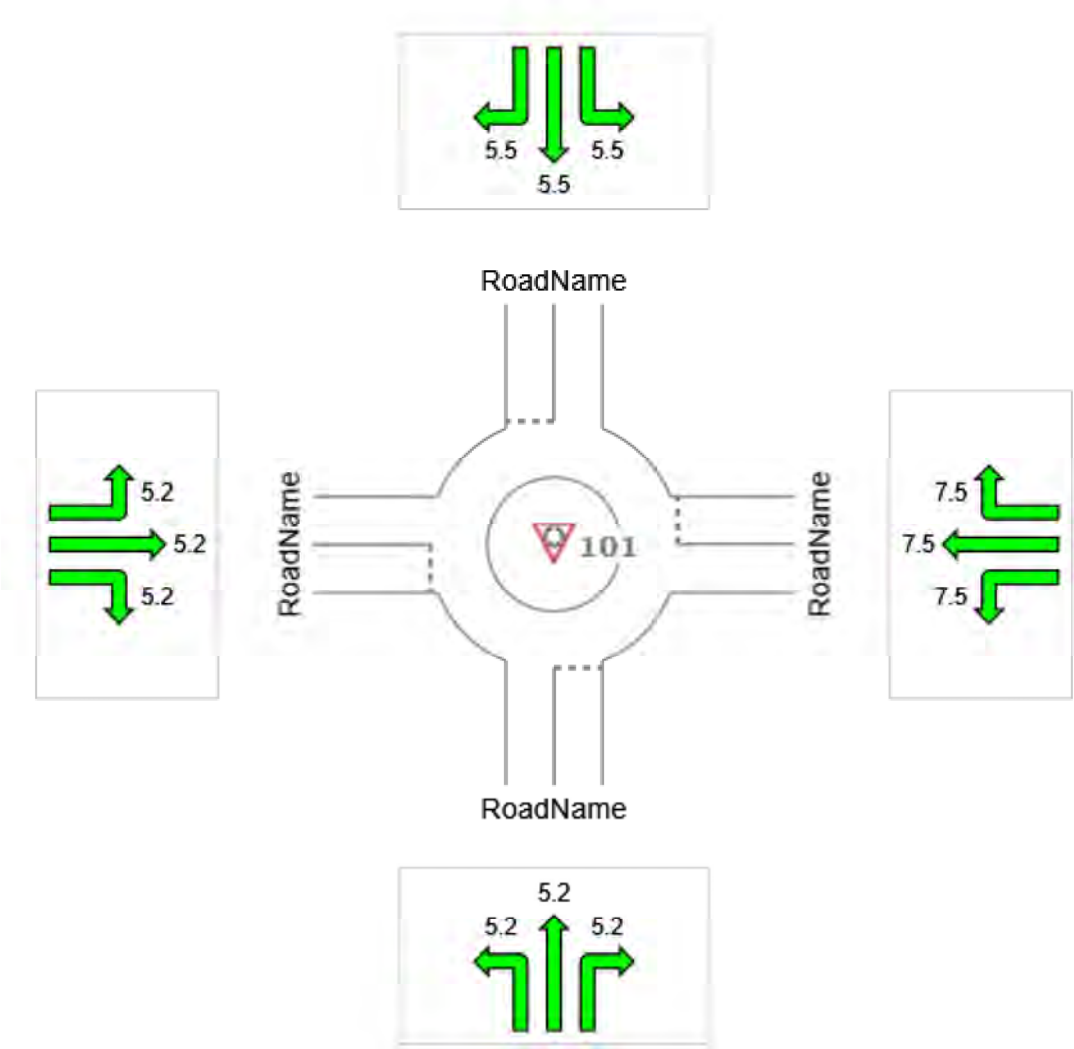
Average control delay per vehicle, or average pedestrian delay (seconds)

 Site: 101 [SR-32 @ 925 W]

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	5.2	7.5	5.5	5.2	6.5
LOS	A	A	A	A	A



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

DELAY (CONTROL)

Average control delay per vehicle, or average pedestrian delay (seconds)

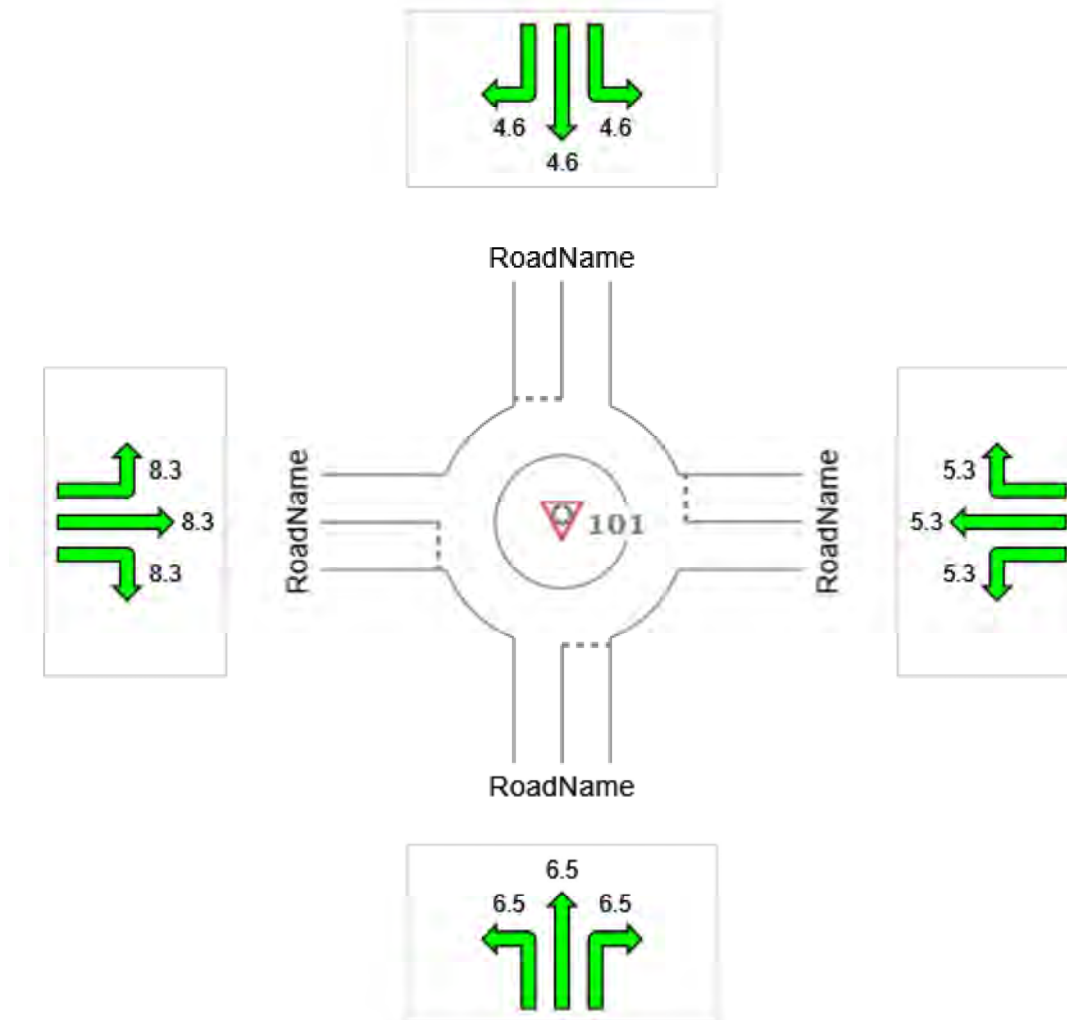


Site: 101 [SR-32 @ 925 W]

New Site
Roundabout

All Movement Classes

	South	East	North	West	Intersection
Delay (Control)	6.5	5.3	4.6	8.3	7.1
LOS	A	A	A	A	A



Colour code based on Level of Service



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

LOS F will result if $v/c > 1$ irrespective of movement delay value (does not apply for approaches and intersection).

Roundabout Level of Service Method: Same as Sign Control

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

HCS7 All-Way Stop Control Report

I-28

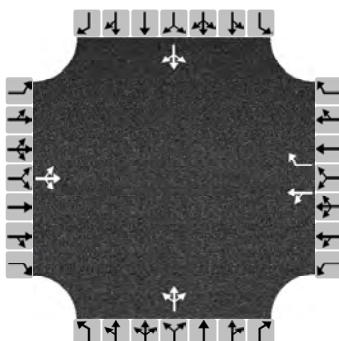
General Information

Analyst	Mark Muenz
Agency/Co.	INDOT
Date Performed	5/23/2019
Analysis Year	2019
Analysis Time Period (hrs)	1.00
Time Analyzed	7:30-8:30 AM
Project Description: AM Volume	

Site Information

Intersection	SR-32 @ 925 W
Jurisdiction	Greenfield
East/West Street	SR-32
North/South Street	925 W
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	216	16	36	350	20	39	9	37	11	6	1
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LTR		
Flow Rate, v (veh/h)	252			420	22		92			20		
Percent Heavy Vehicles	0			8	1		9			0		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.224			0.373	0.019		0.082			0.017		
Final Departure Headway, hd (s)	4.84			5.24	4.37		5.59			5.86		
Final Degree of Utilization, x	0.339			0.611	0.026		0.144			0.032		
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.0		
Service Time, ts (s)	2.84			2.94	2.07		3.59			3.86		

Capacity, Delay and Level of Service

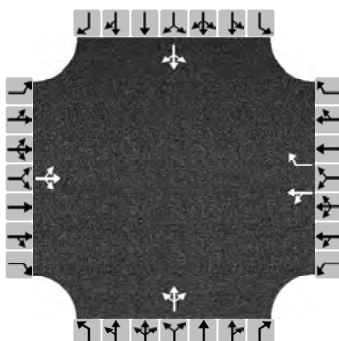
Flow Rate, v (veh/h)	252			420	22		92			20		
Capacity	745			687	824		644			614		
95% Queue Length, Q ₉₅ (veh)	1.5			4.5	0.1		0.5			0.1		
Control Delay (s/veh)	10.3			16.1	7.2		9.5			9.1		
Level of Service, LOS	B			C	A		A			A		
Approach Delay (s/veh)	10.3			15.6			9.5			9.1		
Approach LOS	B			C			A			A		
Intersection Delay, s/veh LOS	13.1						B					

HCS7 All-Way Stop Control Report

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General Information				Site Information			
Analyst	Mark Muenz	Intersection	SR-32 @ 925 W				
Agency/Co.	INDOT	Jurisdiction	Greenfield				
Date Performed	5/23/2019	East/West Street	SR-32				
Analysis Year	2019	North/South Street	925 W				
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.92				
Time Analyzed	4:45-5:45 PM						
Project Description: PM Volume							

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	4	416	43	20	224	11	27	8	43	11	13	2
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LTR		
Flow Rate, v (veh/h)	503			265	12		85			28		
Percent Heavy Vehicles	0			5	1		0			9		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.447			0.236	0.011		0.075			0.025		
Final Departure Headway, hd (s)	4.64			5.39	4.57		5.52			6.10		
Final Degree of Utilization, x	0.648			0.397	0.015		0.130			0.048		
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.0		
Service Time, ts (s)	2.64			3.09	2.27		3.52			4.10		

Capacity, Delay and Level of Service

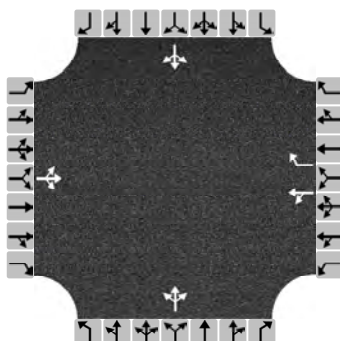
Flow Rate, v (veh/h)	503			265	12		85			28		
Capacity	776			668	787		652			590		
95% Queue Length, Q ₉₅ (veh)	5.3			2.0	0.0		0.4			0.2		
Control Delay (s/veh)	16.1			11.6	7.3		9.3			9.4		
Level of Service, LOS	C			B	A		A			A		
Approach Delay (s/veh)	16.1			11.4			9.3			9.4		
Approach LOS	C			B			A			A		
Intersection Delay, s/veh LOS	13.8						B					

HCS7 All-Way Stop Control Report

I-30

General Information				Site Information			
Analyst	Mark Muenz	Intersection	SR-32 @ 925 W				
Agency/Co.	INDOT	Jurisdiction	Greenfield				
Date Performed	5/23/2019	East/West Street	SR-32				
Analysis Year	2045	North/South Street	925 W				
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.92				
Time Analyzed	7:30-8:30 AM						
Project Description: AM 2045 Volume							

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	0	280	21	47	453	26	51	12	48	14	8	1
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LTR		
Flow Rate, v (veh/h)	327			543	28		121			25		
Percent Heavy Vehicles	0			8	1		9			0		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.291			0.483	0.025		0.107			0.022		
Final Departure Headway, hd (s)	5.22			5.51	4.64		6.20			6.60		
Final Degree of Utilization, x	0.474			0.832	0.036		0.208			0.046		
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.0		
Service Time, ts (s)	3.22			3.21	2.34		4.20			4.60		

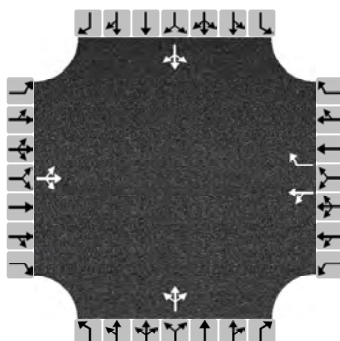
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	327			543	28		121			25		
Capacity	690			653	777		581			545		
95% Queue Length, Q ₉₅ (veh)	2.7			12.1	0.1		0.8			0.1		
Control Delay (s/veh)	12.9			33.3	7.5		10.8			9.9		
Level of Service, LOS	B			D	A		B			A		
Approach Delay (s/veh)	12.9			32.1			10.8			9.9		
Approach LOS	B			D			B			A		
Intersection Delay, s/veh LOS	23.1						C					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Mark Muenz	Intersection	SR-32 @ 925 W
Agency/Co.	INDOT	Jurisdiction	Greenfield
Date Performed	5/23/2019	East/West Street	SR-32
Analysis Year	2045	North/South Street	925 W
Analysis Time Period (hrs)	1.00	Peak Hour Factor	0.92
Time Analyzed	4:45-5:45 PM		
Project Description: PM 2045 Volume			

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	5	539	56	26	290	14	35	10	56	14	17	3
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LT	R		LTR			LTR		
Flow Rate, v (veh/h)	652			343	15		110			37		
Percent Heavy Vehicles	0			5	1		0			9		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20	3.20		3.20			3.20		
Initial Degree of Utilization, x	0.580			0.305	0.014		0.098			0.033		
Final Departure Headway, hd (s)	4.96			5.77	4.96		6.22			6.90		
Final Degree of Utilization, x	0.898			0.551	0.021		0.190			0.071		
Move-Up Time, m (s)	2.0			2.3	2.3		2.0			2.0		
Service Time, ts (s)	2.96			3.47	2.66		4.22			4.90		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	652			343	15		110			37		
Capacity	726			623	727		579			522		
95% Queue Length, Q ₉₅ (veh)	17.9			3.6	0.1		0.7			0.2		
Control Delay (s/veh)	44.5			15.5	7.8		10.7			10.4		
Level of Service, LOS	E			C	A		B			B		
Approach Delay (s/veh)	44.5			15.2			10.7			10.4		
Approach LOS	E			C			B			B		
Intersection Delay, s/veh LOS	31.1						D					

Indiana Department of Transportation Traffic Signal Warrant Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: SR 32 @ CR 925 W

County: Madison

Select one: Lapel

Major Street: SR 32

Critical Approach Speed: 45 mph

Lanes: 1 lane

Minor Street: CR 925/ Main Street

Critical Approach Speed: 30 mph

Lanes: 1 lane

% Right Turns Included

From North (SB) 100%

From East (WB) 0%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? No

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%? No

Manually set volume level? No

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
3/12/2019	Tuesday	12	AM	12	AM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	N/A
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	No
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Nathan Sturdevant

Agency: INDOT

Date: 11/15/2016

Warrant 1: Eight - Hour Vehicular Volume

70%

Warrant Evaluated? Yes

Condition A :		
Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	350	280
Minor Rd. Req	105	84
Number of Hours	0	0

Satisfied? No

Condition B:		
Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	525	420
Minor Rd. Req	53	42
Number of Hours	4	6

Satisfied? No

Condition C:		
Combination of A & B at 56%		

Satisfied? No

Warrant Satisfied? No

6:00 AM

Enter Start Time (Military Time) (HH:MM)

Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	Total
1	6:00	7:00	403	48	451
2	7:00	8:00	551	69	620
3	8:00	9:00	507	74	581
4	9:00	10:00	310	44	354
5	10:00	11:00	244	27	271
6	11:00	12:00	264	26	290
7	12:00	13:00	280	51	331
8	13:00	14:00	287	40	327
9	14:00	15:00	399	51	450
10	15:00	16:00	553	75	628
11	16:00	17:00	676	74	750
12	17:00	18:00	702	75	777
13	18:00	19:00	495	70	565
14	19:00	20:00	318	37	355
15	20:00	21:00	298	45	343
16	21:00	22:00	171	21	192

Warrant 2: Four-Hour Volume

70%

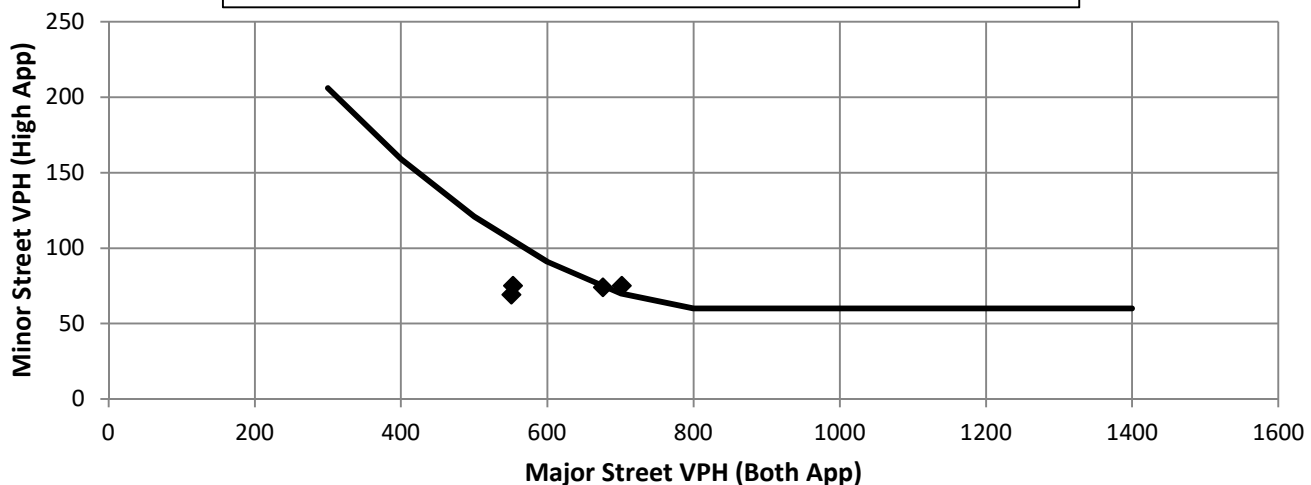
Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Hour Start	17:00	16:00	15:00	7:00
Major Road Vol.	702	676	553	551
Minor Road Vol.	75	74	75	69

Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Warrant 3: Peak Hour Volume

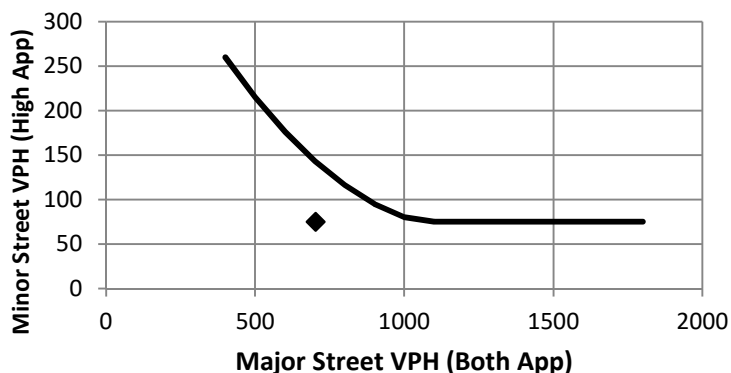
70%
Warrant Evaluated? No
Warrant Satisfied? N/A
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	702	75

Figure 4C-4 Warrant 3, Peak Hour (70% Factor)


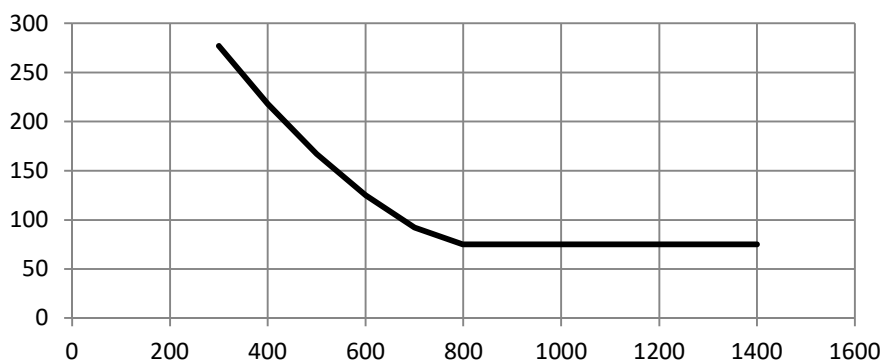
Warrant 4: Pedestrian Volume

70%
Warrant Evaluated?
Warrant Satisfied? N/A
Manually Set To:
Criterion A: Four Hour

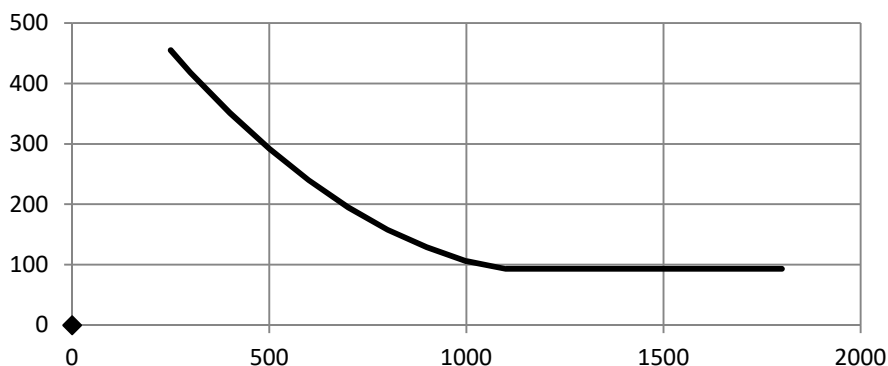
Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?
Figure 4C-6 Warrant 4, Pedestrian Four-Hour Volume (70% Factor)

Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?
Figure 4C-8 Warrant 4, Pedestrian Peak Hour (70% Factor)


Warrant 5: School Crossing**70%****Warrant Evaluated? No****Warrant Satisfied? N/A****Manually Set To:****Criteria****Fulfilled?**

1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System**70%****Warrant Evaluated? No****Warrant Satisfied? N/A****Manually Set To:****Criteria****Fulfilled?**

1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience**70%****Warrant Evaluated? Yes****Warrant Satisfied? No****Manually Set To:****Criteria****Met?****Fulfilled?**

1	Adequate trial of other remedial measures has failed to reduce crash frequency.			Yes
	Measures Tried:	Reduce speed		
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months		Yes
		6		
3	Warrant 1, Condition A (80%)		No	No
	Warrant 1, Condition B (80%)		No	
	Warrant 4, Criterion A (80%)		No	
	Warrant 4, Criterion B (80%)		No	

Warrant 8: Roadway Network**70%****Warrant Evaluated?****Warrant Satisfied? N/A****Manually Set To:****Criteria****Met?****Fulfilled?**

1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour		777	No	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			No	
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				
	Hour				
	Volume				

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic**Fulfilled?**

1	Part of the road or highway system that serves as the principal roadway network for through traffic flow	
2	Rural or suburban highway outside of, entering, or traversing a city	
3	Appears as a major route on an official plan	

Warrant 9: Intersection Near a Grade Crossing

70%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	17:00	702	75	25.125

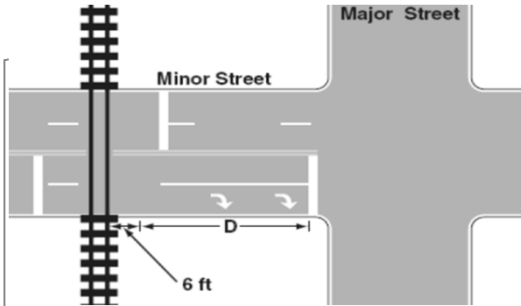
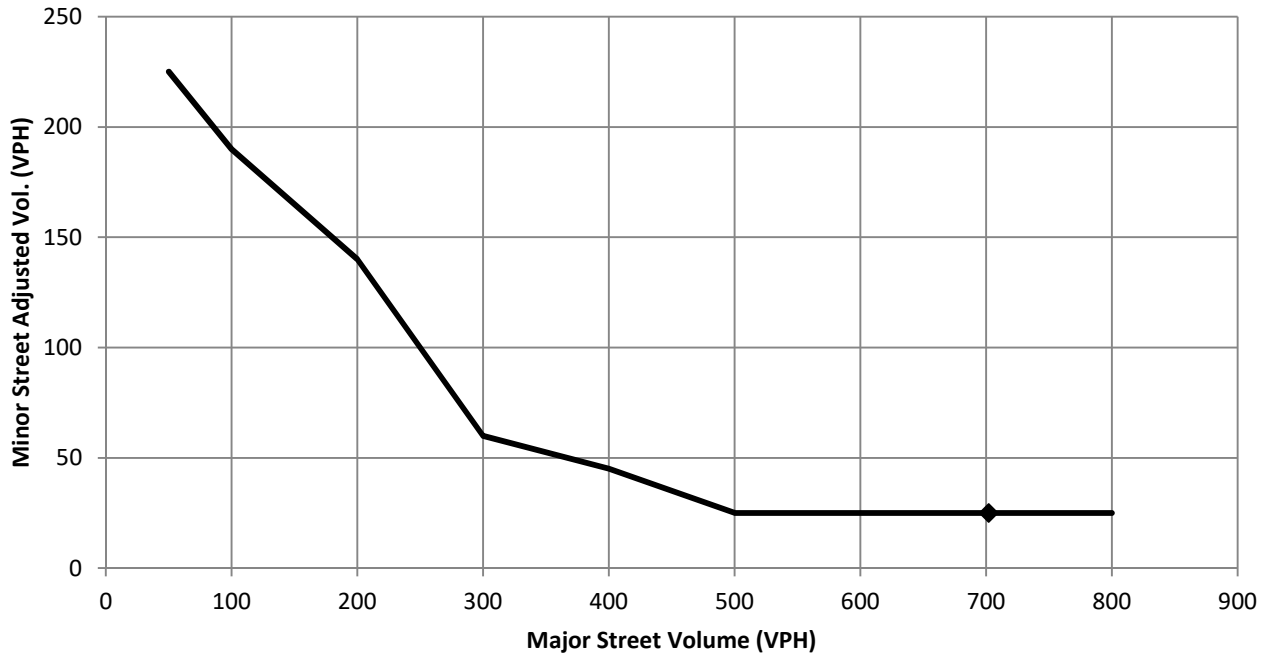


Figure 4C-9 Warrant9, Intersection Near a grade Crossing (One Approach Lane at the Track Crossing)


Conclusions/Comments:

Updated: 2/18/2016

Land and Water Conservation Fund (LWCF) County Property List for Indiana (Last Updated March 2022)

ProjectNumber	SubProjectCode	County	Property
1800136	1800136	Madison	Funk Historic (8th St.) Park
1800139	1800139	Madison	General Pulaski ParkE. 38th St. Park
1800143	1800143	Madison	Streaty Park
1800145	1800145	Madison	Southside Sports Complex
1800169	1800169	Madison	Shadyside Recreation Complex (Aqua Gardens)
1800169.6	1800169.6	Madison	Crawford Field
1800171	1800171H	Madison	Mounds State Park
1800204	1800204	Madison	Beulah Park
1800238	1800238	Madison	Beulah Park
1800254	1800254	Madison	Falls Park
1800255	1800255	Madison	Alvin D. Brown Memorial Pool
1800258	1800258	Madison	Athletic Park
1800287	1800287	Madison	Shepherd Park
1800292	1800292	Madison	Elwood Municipal Swimming Pool
1800299	1800299	Madison	Alvin D. Brown Memorial Pool
1800305	1800305G	Madison	Mounds State Park
1800312	1800312I	Madison	Mounds State Park
1800370	1800370	Madison	Maple Meadows Park/Frankton Community Park
1800382	1800382	Madison	Mounds State Park
1800413	1800413O	Madison	Mounds State Park
1800442	1800442	Madison	Walbridge Acres Park
1800466	1800466	Madison	Grand Avenue Wetlands & Killbuck Walkway
1800477	1800477a	Madison	Anderson Riverwalk
1800534	1800534	Madison	General Pulaski Park
1800587	1800587	Madison	Bodenhorn Park

*Park names may have changed. If acquisition of publically owned land or impacts to publically owned land is anticipated, coordination with IDNR, Division of Outdoor Recreation, should occur.

Table: ACSDT5Y2022.B03002

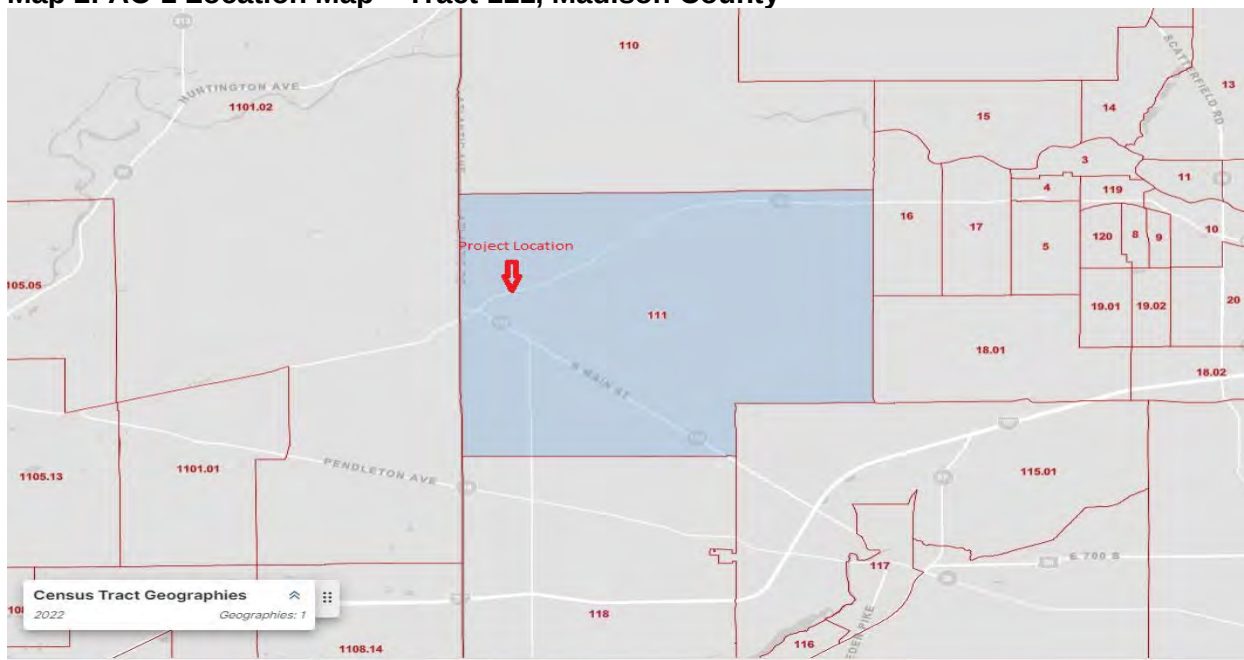
	Madison County, Indiana	Census Tract 111; Madison County; Indiana
Label	Estimate	Estimate
Total:	130,545	3,927
Not Hispanic or Latino:	124,492	3,840
White alone	108,813	3,662
Black or African American alone	10,336	54
American Indian and Alaska Native alone	89	0
Asian alone	765	0
Native Hawaiian and Other Pacific Islander alone	2	2
Some other race alone	510	0
Two or more races:	3,977	122
Two races including Some other race	774	41
Two races excluding Some other race, and three or more races	3,203	81
Hispanic or Latino:	6,053	87
White alone	2,924	75
Black or African American alone	66	0
American Indian and Alaska Native alone	194	0
Asian alone	4	0
Native Hawaiian and Other Pacific Islander alone	0	0
Some other race alone	1,605	0
Two or more races:	1,260	12
Two races including Some other race	1,155	0
Two races excluding Some other race, and three or more races	105	12

Table: ACSDT5Y2022.B17001

	Madison County, Indiana	Census Tract 111; Madison County; Indiana
Label	Estimate	Estimate
Total:	124,458	3,917
Income in the past 12 months below poverty level:	17,600	275
Male:	7,807	147
Under 5 years	1,041	35
5 years	275	0
6 to 11 years	564	14
12 to 14 years	520	0
15 years	291	27
16 and 17 years	284	2
18 to 24 years	912	0
25 to 34 years	611	12
35 to 44 years	956	44
45 to 54 years	679	5
55 to 64 years	967	8
65 to 74 years	422	0
75 years and over	285	0
Female:	9,793	128
Under 5 years	828	0
5 years	192	0
6 to 11 years	643	0
12 to 14 years	539	0
15 years	149	0
16 and 17 years	346	16
18 to 24 years	1,187	22
25 to 34 years	1,408	3
35 to 44 years	958	51
45 to 54 years	1,033	14
55 to 64 years	1,301	17
65 to 74 years	663	4
75 years and over	546	1
Income in the past 12 months at or above poverty level:	106,858	3,642
Male:	53,648	1,682
Under 5 years	2,486	67
5 years	740	16
6 to 11 years	3,886	96
12 to 14 years	1,854	58
15 years	618	9
16 and 17 years	1,398	54
18 to 24 years	4,389	7
25 to 34 years	6,928	277
35 to 44 years	6,676	228
45 to 54 years	7,502	267
55 to 64 years	7,456	329
65 to 74 years	5,961	198
75 years and over	3,754	76
Female:	53,210	1,960
Under 5 years	2,493	161
5 years	576	24
6 to 11 years	3,365	166
12 to 14 years	1,797	62
15 years	480	7
16 and 17 years	1,457	21
18 to 24 years	3,697	132
25 to 34 years	6,430	282
35 to 44 years	6,608	205
45 to 54 years	7,132	347
55 to 64 years	7,468	268
65 to 74 years	6,727	170
75 years and over	4,980	115

Map 1: COC Location Map – Madison County

Source: US Census Bureau Maps, accessed March 20, 2024

Map 2: AC-1 Location Map – Tract 111, Madison County

Source: US Census Bureau Maps, accessed March 20, 2024

Census Table	Census Table Line Item	COC	AC-1	Notes
		Madison County	Census Tract 111, Madison County	
Low-Income				
B17001	Pop, for whom Poverty Status Determined: Total	124,458	3,917	
B17001	Pop, for whom Poverty Status Determined: Income past 12 mos below poverty level	17,600	275	
	<i>% Low-Income</i>	14	7	
	<i>125 % COC</i>	18	9	
	<i>Potential Low-Income EJ Impact?</i>		No	Is the AC greater than 50%?
			No	Is the AC 125% higher than the COC?
Minority				
B03002	Total Population: Total	130,545	3,927	
B03002	Total Population - Not Hispanic or Latino: White Alone	108,813	3,662	
	<i>Number Non-White/Minority</i>	21,732	265	
	<i>% Non-White/Minority</i>	17	7	
	<i>125 % COC</i>	21	8	
	<i>Potential Minority EJ Impact?</i>		No	Is the AC greater than 50%?
			No	Is the AC 125% higher than the COC?