

Indiana Department of Transportation

County Putnam Route US 231 and CR 800 South Des. No. 1700091

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

Road No./County:	United States Highway (US) 231 and County Road (CR) 800 South / Putnam County
Designation Number:	1700091
Project Description/Termini:	Added auxiliary lanes (acceleration, deceleration, and turn lanes) project on US 231, from approximately 0.27 mile north of Interstate (I)-70 to approximately 1.05 miles north of I-70. A portion of the project will take place along CR 800 South, extending from approximately 0.10 mile west of the US 231 intersection to approximately 0.03 mile east of the US 231 intersection.

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

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

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

Approval _____
 ESM Signature _____ Date _____ ES Signature _____ Date _____

 FHWA Signature _____ Date _____

Release for Public Involvement

N/A _____ 12-3-2020
 ESM Initials _____ Date _____ ES Initials REB _____ Date _____

Certification of Public Involvement _____
 Office of Public Involvement _____ Date _____

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

INDOT ESD/District
 Env. Reviewer Signature: _____ Date: _____
 Name and Organization of CE/EA Preparer: Cameron Fraser / RQAW Corporation

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Part I - PUBLIC INVOLVEMENT

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

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

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

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

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

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

Remarks:

Notice of Entry letters were mailed to potentially affected property owners near the project area on February 25, 2019, notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G, pages G-1 to G-2.

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

Public Controversy on Environmental Grounds

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

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

Remarks:

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

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

Sponsor of the Project: INDOT INDOT District: Crawfordsville
Local Name of the Facility: US 231

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

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

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PURPOSE AND NEED:

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

The need for the project is due to the poor Level of Service (LOS) along this corridor of US 231 and at the US 231 and CR 800 South intersection. As defined by INDOT, LOS standards range from A (free flow of traffic) to F (breakdown flow of traffic). Per the Abbreviated Engineer's Assessment, completed for INDOT by RQAW in August 2020, the corridor and intersection are currently functioning at a LOS of D (approaching unstable flow) due to large vehicle (trucks) queuing. According to the Project Traffic Forecast Report, completed by INDOT on June 11 2019, the LOS for this corridor and intersection is projected to drop to a LOS of E (unstable flow) in less than 20 years, due to the projected Annual Average Daily Traffic (AADT) growth rate of 0.47% (Appendix I, pages I-2 to I-5). Another need for the project is due to the number of accidents at the US 231 and CR 800 South intersection. According to INDOT's Index of Crash Frequency and Cost data, dated December 21, 2016, there were 11 crashes recorded at the US 231 and CR 800 South intersection, 3 of which were fatal and incapacitating injury crashes, between 2012 and 2016 (Appendix I, pages I-6 to I-9).

The purpose of this project is to provide a LOS of C (stable flow, at or near free flow) or better for this corridor of US 231 and the US 231 and CR 800 South intersection. Another purpose of the project is to reduce the number of crashes at the US 231 and CR 800 South intersection.

PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Putnam Municipality: Cloverdale

Limits of Proposed Work: The project limits extend along US 231 from approximately 0.27 mile north of I-70 to approximately 1.05 miles north of I-70, for a total length of 0.78 mile. A portion of the project will take place along CR 800 South, extending from approximately 0.10 mile west of the US 231 intersection to approximately 0.03 mile east of the US 231 intersection, for a total length of approximately 0.13 mile.

Total Work Length: 0.78 Mile(s) Total Work Area: 16 Acre(s)

Is an Interchange Modification Study / Interchange Justification Study (IMS/IJS) required?
If yes, when did the FHWA grant a conditional approval for this project?

	Yes ¹	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Date:		

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

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

Please note: This project was initially programmed by INDOT as an added travel lanes project. However, on August 25, 2020 INDOT determined that this project should actually be programmed as an added auxiliary lanes (acceleration, deceleration, and turn lanes) project since the project will not add capacity or involve the construction of any additional travel lanes.

The INDOT Crawfordsville District and the Federal Highway Administration (FHWA) propose to proceed with an added

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auxiliary lanes project on US 231 in Putnam County, Indiana. Specifically, the project is within Warren Township, Sections 24 and 25 of Township 13 North, and Range 4 West of the Cloverdale U.S. Geological Survey (USGS) Quadrangle. The project limits extend along US 231 from approximately 0.27 mile north of I-70 to approximately 1.05 miles north of I-70, for a total length of 0.78 mile. A portion of the project will take place along CR 800 South, extending from approximately 0.10 mile west of the US 231 intersection to approximately 0.03 mile east of the US 231 intersection, for a total length of approximately 0.13 mile (Appendix B, pages B-1 and B-2).

Existing Conditions: This section of US 231 is classified as an Other Principal Arterial and is part of the National Highway System (NHS). Within the project area, US 231 consists of two travel lanes in each direction (northbound and southbound) from I-70 to approximately 0.16 mile south of CR 800 South, where it then reduces to one travel lane in each direction to the northern terminus of the project. The travel lanes are 12 feet wide with 8 feet wide paved shoulders. From I-70 to approximately 0.16 mile south of CR 800 South, the northbound and southbound lanes are separated by an approximately 30-foot wide asphalt median with drainage inlets. From approximately 0.16 mile south of CR 800 South to approximately 200 feet north, the asphalt median reduces in width until it is no longer present. The existing INDOT right-of-way width along US 231 varies from approximately 70 feet to 200 feet from the roadway centerline throughout the project corridor. Adjacent land use primarily consists of agricultural land and industrial properties.

CR 800 South consists of one travel in each direction (eastbound and westbound). The travel lanes along CR 800 South, west of US 231, are 12 feet wide. The travel lanes along CR 800 South, east of US 231, vary in width from 8 feet 2 inches to 12 feet 5 inches. The shoulders along CR 800 South are 4 feet wide (unpaved). The intersection of US 231 and CR 800 South does not have traffic signals and is a two-way stop for eastbound and westbound traffic along CR 800 South. The existing INDOT right-of-way width along CR 800 South varies from approximately 35 feet to 80 feet throughout the project corridor (Appendix B, pages B-3 to B-9).

Preferred Alternative: The project will include the addition of turn lanes on US 231 at the following locations:

- one southbound left turn lane will be added at the High Street intersection;
- one northbound left turn lane will be added at the PEI Pipeline Service entrance (approximately 0.16 mile north of the High Street and US 231 intersection);
- one northbound left turn lane and one northbound right turn lane will be added at the CR 800 South intersection;
- and one southbound left turn lane and one southbound right turn lane will be added at the CR 800 South intersection.

The turn lanes will each be 11 feet in width. The project will also include the addition of one 12-foot wide acceleration lane with a 10-foot wide paved shoulder on northbound US 231 and one 12-foot wide acceleration lane with a 10-foot wide paved shoulder on southbound US 231. The northbound acceleration lane will extend north from CR 800 South to the northern project area terminus, where it will merge left into the existing northbound travel lane. The southbound acceleration lane will extend from CR 800 South to approximately 0.16 mile south, where it will connect directly into the existing right-side southbound travel lane. Through lanes within the project area will be 12 feet in width. In order to meet current INDOT design standards, a raised concrete median will be constructed for the entire length of the project. The proposed median width will vary from 0 to 15 feet, with the majority of the median being 4 feet in width.

Segments of US 231 will be widened approximately 4 to 6 feet, along the east side of the roadway to accommodate the addition of the turn lanes and acceleration lanes. Widening the roadway will also require regrading the roadside ditches and roadside slope, generally on both sides of US 231, for the entire length of the project. At the intersection of US 231 and CR 800 South, the profile grade will be increased to reduce the existing slope. This will require full depth pavement replacement on CR 800 South, extending approximately 530 feet west and approximately 155 feet east of the US 231 intersection.

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The proposed project will also include the installation and replacement of multiple drive culverts and cross culverts at various locations within the project area. This will require trenching the location and adding, or replacing, the pipe. One new 15-inch diameter by 68-foot long drainage pipe (Structure Number P101) will be installed beneath High Street. Nine existing drainage pipes (Structure Numbers P100, P102, P103, P107, P108, P109, P110, P111, and P112) located beneath US 231 and the adjacent drives will be replaced. Structure Number P100 will be an 18-inch diameter by 115-foot long corrugated metal pipe (CMP). Structure Number P102 will be a 30-inch diameter by 62-foot long CMP. Structure Number P103 will be a 24-inch diameter by 64-foot long CMP. Structure Number P107 will be a 42-inch diameter by 204-foot long CMP. Structure Number P108 will be a 36-inch diameter by 156-foot long CMP. Structure Number P109 will be a 36-inch diameter by 125-foot long CMP. Structure Number P110 will be an 18-inch diameter by 36-foot long CMP. Structure Number P111 will be a 24-inch diameter by 46-foot long CMP. Structure Number P112 will be a 30-inch diameter by 53-foot long CMP (Appendix B, pages B-30 to B-37). Refer to *Design Criteria for Bridges* section of this CE for more details.

For a majority of the project, the depth of excavation will be approximately 2 to 4 feet below ground surface (bgs); however, excavation to a depth of approximately 21 feet bgs will be required for the replacement of Structure Number P107, and approximately 6 feet bgs for all other structure work.

Approximately 2.59 acres of permanent right-of-way and approximately 0.07 acre of temporary right-of-way will be needed for this project. The proposed right-of-way width along US 231 will vary from approximately 70 to 130 feet from the roadway centerline. The proposed right-of-way width along CR 800 South will vary from approximately 30 to 120 feet from the roadway centerline (Appendix B, pages B-10 to B-41).

No residences or businesses will be relocated as part of this project. The maintenance of traffic (MOT) plan will utilize phased construction on US 231 to allow continued two-way traffic flowing to and from Cloverdale and surrounding areas. The east-leg of CR 800 South will remain open during construction, allowing traffic to and from US 231. The west-leg of CR 800 South will be closed at the US 231 intersection for approximately 2 to 4 weeks during construction. Access to the adjacent facilities along CR 800 South to the west of US 231 (Martin Marietta-Cloverdale Quarry and POET Biorefining) will be provided. Coordination with the adjacent facilities will occur throughout the design process. Local detours utilizing adjacent roadways will be used to guide drivers back to US 231 in either direction. Access to all properties will be maintained during construction (Appendix B, pages B-15 to B-29). The estimated project cost is \$3,627,047 (fiscal year [FY] 2022) with construction anticipated to take place during Spring 2022.

The termini for the project along US 231 are logical because the project extends north on US 231 to allow for the addition of the northbound acceleration lane and extends south on US 231 to allow for the addition of the southbound acceleration lane, the left turn lanes at the High Street intersection and the PEI Pipeline Service entrance, and the raised concrete median. The termini for the project along CR 800 South are logical because the project extends east and west to tie the new pavement, required for slope reduction, into the existing pavement. The project also has independent utility because construction of this project is not dependent on any other projects in the area; there are no other known plans for expansion of US 231.

The preferred alternative satisfies the purpose and need of the project by improving the LOS to a C (stable flow, at or near free flow) or better along this corridor of US 231 and at the US 231 and CR 800 South intersection, and by reducing the number of crashes at the US 231 and CR 800 South intersection.

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OTHER ALTERNATIVES CONSIDERED:

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

Two other alternatives were considered for this project

Do Nothing Alternative: This alternative would not involve any improvements to the existing roadway. This alternative would not involve any immediate cost or result in any environmental impacts. If this alternative were chosen, then US 231 would continue to operate at a less than desirable LOS of D which will drop to a LOS of E in less than 20 years. Additionally, the number of crashes at the US 231 and CR 800 South intersection would not be reduced. This alternative was dismissed because it would not address the purpose and need of the project.

Intersection Improvement at CR 800 South only: This alternative would involve improving the intersection at CR 800 South. The estimated project cost would be approximately \$2,000,000. This alternative does little to improve the LOS along US 231 because it does not include the addition of the US 231 southbound acceleration lane, or the left turn lanes at the High Street intersection and the PEI Pipeline Service entrance. It would leave a very short stretch of 2-lane roadway on US 231 between the CR 800 intersection and the existing 4-lane roadway on US 231, north of I-70; which would create an inconsistent corridor along US 231. This alternative was dismissed because it would not address the purpose and need of the project by improving the LOS to a C (stable flow, at or near free flow) or better for the US 231 mainline pavement.

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

It would not correct existing capacity deficiencies;

It would not correct existing safety hazards;

It would not correct the existing roadway geometric deficiencies;

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

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

Other (Describe)

✓

ROADWAY CHARACTER:

US 231

Functional Classification:	<u>Other Principal Arterial</u>			
Current ADT:	<u>12,129</u>	VPD (2021)	Design Year ADT:	<u>13,246</u>
				VPD (2041)
Design Hour Volume (DHV):	<u>1,137</u>	Truck Percentage (%)	<u>9.89</u>	
Designed Speed (mph):	<u>45-55</u>	Legal Speed (mph):	<u>45-55</u>	

	Existing	Proposed
Number of Lanes:	2 to 4	4 to 5
Type of Lanes:	Two to four 12-foot wide travel lanes	Three to four 12-foot wide travel lanes, one to two turn lanes, and one acceleration lane
Pavement Width:	Varies 42 to 87	42 to 87
Shoulder Width:	Varies 8 to 10	10
Median Width:	Varies 0 to 30	Varies 4 to 15
Sidewalk Width:	N/A	N/A

Setting:

Topography:

✓

Urban
Level

Suburban
Rolling

✓

Rural
Hilly

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CR 800 South

Functional Classification: Local Road
 Current ADT: 785 VPD (2021) Design Year ADT: 870 VPD (2041)
 Design Hour Volume (DHV): 90 VPH Truck Percentage (%) 10
 Designed Speed (mph): 30 Legal Speed (mph): 30

Existing		Proposed	
Number of Lanes:	2	2	
Type of Lanes:	Two 8-foot 2-inch to 12-foot 5-inch wide travel lanes		Two 12-foot wide travel lanes
Pavement Width:	Varies 17.5 to 24	24	ft.
Shoulder Width:	4	4	ft.
Median Width:	N/A	N/A	ft.
Sidewalk Width:	N/A	N/A	ft.

Setting: Urban Suburban Rural
 Topography: Level Rolling Hilly

DESIGN CRITERIA FOR BRIDGES:

Structure/NBI Number(s): Structure Number P108 Sufficiency Rating: N/A
(Rating, Source of Information)

Existing		Proposed	
Bridge Type:	18-inch diameter x 98-foot long CMP		36-inch diameter x 156-foot long CMP
Number of Spans:	1		1
Weight Restrictions:	N/A	ton	N/A
Height Restrictions:	N/A	ft.	N/A
Curb to Curb Width:	N/A	ft.	N/A
Outside to Outside Width:	N/A	ft.	N/A
Shoulder Width:	N/A	ft.	N/A
Length of Channel Work:	N/A	ft.	345

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

Remarks: An existing 18-inch diameter by 98-foot long CMP is located beneath US 231, approximately 500 feet south of the CR 800 South intersection. An unnamed Tributary (UNT) to Limestone Creek travels east through the existing CMP. The existing CMP will be removed and replaced with a 36-inch diameter by 156-foot long CMP (Structure Number P108) (Appendix B, page B-33). Approximately 345 linear feet of UNT to Limestone Creek will be impacted to replace the existing CMP with Structure Number P108. Please refer to the *Streams, Rivers, Watercourses & Jurisdictional Ditches* section of this document for further details of stream impacts.

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Structure/NBI Number(s): Structure Number P111 Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed
Bridge Type:	24-inch diameter x 42-foot long CMP		24-inch diameter x 46-foot long CMP
Number of Spans:	1		1
Weight Restrictions:	N/A	ton	N/A
Height Restrictions:	N/A	ft.	N/A
Curb to Curb Width:	N/A	ft.	N/A
Outside to Outside Width:	N/A	ft.	N/A
Shoulder Width:	N/A	ft.	N/A
Length of Channel Work:	N/A		N/A

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

Remarks: One 15-inch diameter by 42-foot long CMP is located under an access drive adjacent to the east of US 231, approximately 1,060 feet north of the CR 800 South intersection. The existing structure conveys stormwater to the north under the adjacent access drive. The existing structure will be removed and replaced with a 24-inch diameter by 46-foot long CMP (Structure Number P111) (Appendix B, page B-35). Structure Number P111 will convey stormwater to the north under the adjacent access drive, within roadside ditch (RSD) 5. The installation of Structure Number P111 will impact Wetland B, a *Waters of the United States* (jurisdictional water resource). Refer to the *Wetlands* section of this CE for more details.

Structure/NBI Number(s): Structure Number P112 Sufficiency Rating: N/A
(Rating, Source of Information)

	Existing		Proposed
Bridge Type:	15-inch diameter x 40-foot long CMP		30-inch diameter x 53-foot long CMP
Number of Spans:	1		1
Weight Restrictions:	N/A	ton	N/A
Height Restrictions:	N/A	ft.	N/A
Curb to Curb Width:	N/A	ft.	N/A
Outside to Outside Width:	N/A	ft.	N/A
Shoulder Width:	N/A	ft.	N/A
Length of Channel Work:	N/A		N/A

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

Remarks: One 24-inch diameter by 40-foot long CMP is located under an access drive adjacent to the west of US 231, approximately 1,060 feet north of the CR 800 South intersection. The existing structure conveys stormwater to the north under the adjacent access drive. The existing structure will be removed and replaced with a 30-inch diameter by 53-foot long CMP (Structure Number P112) (Appendix B, page B-35). Structure Number P112 will convey stormwater to the north under the adjacent access drive, within RSD 6. The installation of Structure Number P112 will impact Wetland C, a *Waters of the United States* (jurisdictional water resource). Refer to the *Wetlands* section of this CE for more details.

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Structure/NBI Number(s): Structure Numbers P100, P101, P102, P103, P107, P109, and P110 (7 total) Sufficiency Rating: N/A
 (Rating, Source of Information)

	Existing	Proposed
Bridge Type:	Various CMPs ranging from 15 to 36 inches in diameter by 18 to 42 feet in length	Various CMPs ranging from 18 to 42 inches in diameter by 36 to 204 feet in length
Number of Spans:	1	1
Weight Restrictions:	N/A	N/A
Height Restrictions:	N/A	N/A
Curb to Curb Width:	N/A	N/A
Outside to Outside Width:	N/A	N/A
Shoulder Width:	N/A	N/A
Length of Channel Work:	N/A	N/A

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

Remarks: One existing 18-inch diameter by 62-foot long CMP is located beneath High Street adjacent to the east of US 231. The existing structure conveys stormwater north under High Street. The existing structure will be removed and replaced with an 18-inch diameter by 115-foot long CMP (Structure Number P100) (Appendix B, page B-30). Structure Number P100 will convey stormwater to the north under High Street, within RSD 1 and RSD 2. The installation of Structure Number P100 will not impact any jurisdictional waterways.

One 15-inch diameter by 69-foot long CMP (Structure Number P101) will be installed under a commercial property drive located adjacent to the west of US 231, immediately northwest of the High Street intersection (Appendix B, page B-30). Structure Number P101 will convey stormwater to the north under the commercial property drive, and into RSD 3. The installation of Structure Number P101 will not impact any jurisdictional waterways.

One 24-inch diameter by 33-foot long CMP is located adjacent to the east of US 231, approximately 550 feet north of the High Street intersection. The existing structure conveys stormwater north under an access drive to Old SR 43. The existing structure will be replaced with 30-inch diameter by 62-foot long CMP (Structure Number P102) (Appendix B, page B-31). Structure Number P102 will convey stormwater to the north under the access drive, within RSD 2. The installation of Structure Number P102 will not impact any jurisdictional waterways.

One 18-inch wide by 12-inch tall by 37-foot long elliptical CMP is located adjacent to the west of US 231, approximately 910 feet north of the High Street intersection. The existing structure conveys stormwater north under a commercial property drive. The existing structure will be replaced with 24-inch diameter by 64-foot long CMP (Structure Number P103) on new alignment (Appendix B, page B-31). Structure Number P103 will convey stormwater to the north under the commercial property drive, within RSD 3. The installation of Structure Number P103 will not impact any jurisdictional waterways.

One 36-inch diameter by 192-foot long CMP is located under US 231, approximately 1,080 feet south of the CR 800 South intersection. The existing structure conveys stormwater to the east/northeast under US 231. The existing structure will be removed and replaced with a 42-inch diameter by 204-foot long CMP (Structure Number P107) (Appendix B, page B-32). Structure Number P107 will convey storm water to the

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east/northeast under US 231, from RSD 3 to RSD 2. The installation of Structure Number P107 will not impact any jurisdictional waterways.

One 30-inch diameter by 89-foot long CMP is located under US 231, just south of the CR 800 South intersection. The existing structure conveys stormwater to the east under US 231. The existing structure will be removed and replaced with a 36-inch diameter by 125-foot long CMP (Structure Number P109) on new alignment (Appendix B, page B-33). Structure Number P109 will convey stormwater to the east under US 231, from RSD 7 to RSD 4. The installation of Structure Number P109 will not impact any jurisdictional waterways.

One 15-inch diameter by 25-foot long CMP is located under an access drive adjacent to the east of US 231, approximately 490 feet north of the CR 800 South intersection. The existing structure conveys stormwater to the north under the access drive. The existing structure will be removed and replaced with an 18-inch diameter by 36-foot long CMP (Structure Number P110) on new alignment (Appendix B, page B-34). Structure Number P110 will convey stormwater to the north under the adjacent access drive, within RSD 5. The installation of Structure Number P110 will not impact any jurisdictional waterways.

MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

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

Remarks: The MOT will utilize phased construction on US 231 to keep two-way traffic flowing to and from Cloverdale and surrounding areas. For phase 1, northbound traffic will be directed to one of the southbound travel lanes while the northbound lanes are under construction. For phase 2, southbound traffic will be directed to one of the northbound lanes while the southbound lanes are under construction. The east-leg of CR 800 South will remain open during construction, allowing traffic to and from US 231. The west-leg of CR 800 South will be closed to through traffic at the US 231 intersection for approximately 2 to 4 weeks during construction. Access to the adjacent facilities along CR 800 South to the west of US 231 (Martin Marietta-Cloverdale Quarry and POET Biorefining) will be provided. Coordination with the adjacent facilities will occur throughout the design process. Local detours utilizing adjacent roadways will be used to guide drivers back to US 231 in either direction (Appendix B, pages B-15 to B-29).

The lane closures on US 231 and closure of CR 800 South will pose a temporary inconvenience to traveling motorists (including school buses and emergency services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion.

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ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 390,000 Right-of-Way: \$ 100,000 Construction: \$ 3,578,047 (2022)

Anticipated Start Date of Construction: This project is anticipated to begin in Spring of 2022

Date project incorporated into STIP July 2, 2019 (Appendix H, page H-1)

Is the project in an MPO Area? Yes No
 If yes,

Name of MPO N/A

Location of Project in TIP The project area is not located within a Metropolitan Planning Organization (MPO); as such, it is not listed within an MPO Transportation Improvement Program (TIP).

Date of incorporation by reference into the STIP N/A

RIGHT OF WAY:

Amount (acres)		
Land Use Impacts	Permanent	Temporary
Residential	0	0.07
Commercial	2.12	0
Agricultural	0	0
Forest	0.47	0
Wetlands	0	0
Other	0	0
TOTAL	2.59	0.07

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

Remarks:
 The existing right-of-way width along US 231 varies from approximately 70 feet to 200 feet from the roadway centerline throughout the project area. The existing right-of-way width along CR 800 South varies from approximately 35 feet to 80 feet from the roadway centerline throughout the project area. The proposed right-of-way width along US 231 will vary from approximately 70 to 130 feet from the roadway centerline. The proposed right-of-way width along CR 800 South will vary from approximately 30 to 120 feet from the roadway centerline.

 The project will require approximately 2.59 acres of permanent right-of-way, consisting of 2.12 acres of commercial land and 0.47 acre of forested land. The right-of-way required from commercial land is primarily

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located along the west side of US 231, south of the CR 800 South intersection. The right-of-way required from forested land is located along US 231, adjacent to the north of the High Street intersection. The project will require approximately 0.07 acre of temporary right-of-way. The required temporary right-of-way consists of residential land in the northeast quadrant of US 231 and CR 800 South (Appendix B, pages B-3 and B-10 to B-41).

Please note that the early coordination letter sent to agencies on March 17 and April 17, 2020, stated approximately 2.66 acres of permanent right-of-way and no temporary right-of-way would be needed (Appendix C, pages C-1 to C-3). Since that time, the design has been refined and 0.07 acre of permanent right-of-way was converted to temporary right-of-way.

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

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

SECTION A – ECOLOGICAL RESOURCES

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

Remarks: Per a desktop review, a field visit conducted on September 23, 2019 by RQAW, an aerial photograph of the project area (Appendix B, page B-3), USGS topographic map (Appendix B, page B-2), and the water resources map in the Red Flag Investigation (RFI) report (Appendix E, page E-9), twenty stream segments are mapped within 0.5 mile of the project area. Two stream segments, associated with an unnamed tributary (UNT) to limestone Creek, are mapped within the project area.

A *Waters of the U.S. Determination Report* was completed by RQAW and approved by the INDOT Ecology and Waterway Permitting Office on February 25, 2020 (Appendix F, pages F-1 to F-29). It was determined that one stream, UNT to limestone Creek (documented as UNT 1 in the *Waters of the U.S. Determination Report*), is located within the project area and is likely to be considered jurisdictional (i.e. *Waters of the United States*). The U.S. Army Corps of Engineers (USACE) makes all determinations regarding jurisdiction.

Per the field visit, and as described in the *Waters of the U.S. Determination Report*, seven roadside ditches (RSD 1 through RSD 7) were identified within the project area (Appendix B, page B-3; and Appendix F, pages F-1 to F-6). The ditches are located along the east and west sides of US 231 and convey stormwater drainage from the existing roadway and surrounding landscape to the UNT to Limestone Creek. The roadside ditches did not exhibit ordinary high water mark (OHWM) characteristics and are not captured streams. Therefore, the roadside ditches are not likely to be considered jurisdictional (i.e. *Waters of the United States*).

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UNT to Limestone Creek flows in a northwest to southeast direction under US 213 (Appendix B, page B-3). The stream was not flowing at the time of the field investigation. No data was available for UNT to Limestone Creek on the USGS StreamStats website (<https://streamstats.usgs.gov/ss/>); thus, the upstream drainage area for the stream was not provided. Since no data was available through USGS Streamstats, the upstream drainage area of UNT to Limestone Creek is assumed to have an upstream drainage area less than one square mile. This stream has OHWM characteristics of 1.75 feet in width and 6 inches in depth. UNT to Limestone Creek flows into Limestone Creek, which then flows into Deer Creek, which converges with Mill Creek and Big Walnut Creek, which then merges into Eel River. Eel River then flows into the Wabash River, a Traditionally Navigable Waterway (TNW) (Appendix F, pages F-1 to F-6). Based on these criteria, this stream is likely to be considered jurisdictional (i.e. *Waters of the United States*). The UNT to limestone Creek is not listed as a Federal Wild and Scenic River or on the National Rivers Inventory. The UNT to limestone Creek is also not listed as a State Natural, Scenic and Recreational River or as an Outstanding River for Indiana.

Work within the stream channel of UNT to Limestone Creek includes replacing the existing 18-inch diameter by 98-foot long CMP with a 36-inch diameter by 156-foot long CMP (Structure Number P108) (Appendix B, page B-33), regrading the existing ditch, realigning the stream channel, and the placement of riprap. Work within the stream channel will permanently impact approximately 345 linear feet of the UNT to Limestone Creek below the OHWM. Stream mitigation will not be required since new impacts (247 linear feet) will not exceed 300 linear feet. A USACE Section 404 Regional General Permit and Indiana Department of Environmental Management (IDEM) Section 401 Water Quality Certification Permit will be required due to stream impacts.

Early coordination letters were sent electronically to the USACE, Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife, and IDEM on April 17, 2020 (Appendix C, pages C-1 to C-3). The USACE did not respond to the early coordination letter. An automated response was received from IDEM on April 17, 2020; however, the response did not contain project specific comments (Appendix C, pages C-4 to C-13).

The IDNR Division of Fish and Wildlife responded to early coordination efforts on May 15, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources (Appendix C, pages C-14 to C-15). Recommendations regarding streams generally include implementing erosion and sediment control measures and stream bank stabilization measures, not working within the stream channel from April 1 through June 30, and proper use of riprap. All applicable agency recommendations are included in the *Environmental Commitments* section of this CE document.

Other Surface Waters

- Reservoirs
- Lakes
- Farm Ponds
- Detention Basins
- Storm Water Management Facilities
- Other: _____

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Reservoirs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lakes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farm Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Detention Basins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water Management Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Remarks: Per a desktop review, a field visit conducted on September 23, 2019 by RQAW, an aerial photograph of the project area (Appendix B, page B-3), USGS topographic map (Appendix B, page B-2), and the water resources map in the RFI report (Appendix E, page E-9), eleven lakes are located within 0.5 mile of the project area. The nearest lake is mapped within the project area.

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A *Waters of the U.S. Determination Report* was completed by RQAW and approved by the INDOT Ecology and Waterway Permitting Office on February 25, 2020 (Appendix F, pages F-1 to F-29). It was determined that the portion of the lake mapped within the project area is actually identified as a wetland. No other surface waters were determined to be located within the project area. See the *Wetlands* section of this CE document for more information on the wetland.

Early coordination letters were sent electronically to the USACE, IDNR Division of Fish and Wildlife, and IDEM on April 17, 2020 (Appendix C, pages C-1 to C-3). The USACE did not respond to the early coordination letter. An automated response was received from IDEM on April 17, 2020; however, the response did not contain project specific comments (Appendix C, pages C-4 to C-13).

The IDNR Division of Fish and Wildlife responded to early coordination efforts on May 15, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources (Appendix C, pages C-14 to C-15). The response did not contain specific comments on other surface waters. All applicable agency recommendations are included in the *Environmental Commitments* section of this CE document.

Wetlands Presence Impacts

Yes No

Total wetland area: 0.238 acre(s) Total wetland area impacted: 0.054 acre(s)

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

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland A	PEM	0.032	0.006	located on the east side of US 231, approximately 0.35 mile south of CR 800 South
Wetland B	PEM	0.007	0.003	located on the east side of US 231, approximately 0.20 mile north of CR 800 South
Wetland C	PEM	0.031	0.016	located on the west side of US 231, approximately 0.20 mile north of CR 800 South
Wetland D	PSS	0.168	0.029	located on the west side of US 231, approximately 0.13 mile south of CR 800 South

Wetlands (Mark all that apply)	Documentation	ES Approval Dates
Wetland Determination	<input checked="" type="checkbox"/>	February 25, 2020
Wetland Delineation	<input checked="" type="checkbox"/>	February 25, 2020
USACE Isolated Waters Determination	<input type="checkbox"/>	
Mitigation Plan	<input type="checkbox"/>	

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

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

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

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Remarks:

Per a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/mapper.html>) on August 20, 2020 by RQAW, USGS topographic map (Appendix B, page B-2), and the water resources map in the RFI report (Appendix E, page E-9), eight wetlands are located within 0.5 mile of the project area. The nearest wetland is mapped approximately 0.05 mile west of the project area.

A *Waters of the U.S. Determination Report* was completed by RQAW and was approved by the INDOT Ecology and Waterway Permitting Office on February 25, 2020 (Appendix F, pages F-1 to F-29). It was determined that four wetlands (wetland A through wetland D) are located within the project area. The USACE makes all final determinations regarding jurisdiction.

Wetland A is approximately 0.032 acre in size and is a palustrine emergent wetland (PEM) located on the east side of US 231, approximately 0.35 mile south of CR 800 South (Appendix B, page B-3). Wetland A drains into the UNT to Limestone Creek. Two data points (A-1 and A-2) were taken to determine the boundary of Wetland A (Appendix F, pages F-10 to F-13). Data point A-1 was taken within Wetland A and exhibited hydrophytic vegetation, hydric soils, and wetland hydrology; thus, meeting the three criteria to be classified as a wetland per the *Corps of Engineers Wetland Delineated Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 (2010)*. Data point A-2 was collected north of Wetland A and did not meet all three of the criteria to be considered within a wetland. This wetland is likely to be considered jurisdictional (i.e. *Waters of the United States*) due to its connectivity to the Wabash River (Appendix F, page F-5). Work within Wetland A will include regrading the existing ditch, permanently impacting approximately 0.006 acre of Wetland A.

Wetland B is approximately 0.007 acre in size and is a PEM located on the east side of US 231, approximately 0.20 mile north of CR 800 South (Appendix B, page B-3). Wetland B drains into Limestone Creek. Two data points (B-1 and B-2) were taken to determine the boundary of Wetland B (Appendix F, pages F-14 to F-17). Data point B-1 was taken within Wetland B and exhibited hydrophytic vegetation, hydric soils, and wetland hydrology; thus, meeting the three criteria to be classified as a wetland per the *Corps of Engineers Wetland Delineated Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 (2010)*. Data point B-2 was collected north of Wetland B and did not meet all three of the criteria to be considered within a wetland. This wetland is likely to be considered jurisdictional (i.e. *Waters of the United States*) due to its connectivity to the Wabash River (Appendix F, page F-5). The project will permanently impact approximately 0.003 acre of Wetland B within the construction limits.

Wetland C is approximately 0.031 acre in size and is a PEM located on the west side of US 231, approximately 0.20 mile north of CR 800 South (Appendix B, page B-3). Wetland C drains into the UNT to Limestone Creek. Two data points (C-1 and C-2) were taken to determine the boundary of Wetland C (Appendix F, pages F-18 to F-21). Data point C-1 was taken within Wetland C and exhibited hydrophytic vegetation, hydric soils, and wetland hydrology; thus, meeting the three criteria to be classified as a wetland per the *Corps of Engineers Wetland Delineated Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 (2010)*. Data point C-2 was collected west of Wetland C and did not meet all three of the criteria to be considered within a wetland. This wetland is likely to be considered jurisdictional (i.e. *Waters of the United States*) due to its connectivity to the Wabash River (Appendix F, page F-5). The project will impact approximately 0.016 acre of Wetland C within the construction limits.

Wetland D is approximately 0.168 acre in size and is a palustrine scrub-shrub wetland (PSS) located on the west side of US 231, approximately 0.13 mile south of CR 800 South (Appendix B, page B-3). Wetland D drains into the UNT to Limestone Creek. Two data points (D-1 and D-2) were taken to determine the boundary of

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Wetland D (Appendix F, pages F-22 to F-25). Data point D-1 was taken within Wetland D and exhibited hydrophytic vegetation, hydric soils, and wetland hydrology; thus, meeting the three criteria to be classified as a wetland per the *Corps of Engineers Wetland Delineated Manual (1987)* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region Version 2.0 (2010)*. Data point D-2 was collected east of Wetland D and did not meet all three of the criteria to be considered within a wetland. This wetland is likely to be considered jurisdictional (i.e. *Waters of the United States*) due to its connectivity to the Wabash River (Appendix F, page F-5). The project will impact approximately 0.029 acre of Wetland D within the construction limits.

The project will result in approximately 0.054 acre of total wetland area impacts. Wetland impacts are necessary along the roadway to provide clearance for pavement widening and the associated ditch and slope regrading. Avoidance alternatives would not be practicable because the wetlands are present within the construction limits and would inhibit construction activities associated with pavement widening necessary to construct the added auxiliary lanes (acceleration, deceleration, and turn lanes). Because wetland impacts will not exceed 0.1 acre, wetland mitigation will not be required.

Early coordination letters were sent electronically to the USACE, IDNR Division of Fish and Wildlife, and IDEM on April 17, 2020 (Appendix C, pages C-1 to C-3). The USACE did not respond to the early coordination letter. An automated response was received from IDEM on April 17, 2020; however, the response did not contain project specific comments (Appendix C, pages C-4 to C-13).

The IDNR Division of Fish and Wildlife responded to early coordination efforts on May 15, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources (Appendix C, pages C-14 to C-15). Recommendations regarding wetlands generally include implementing erosion and sediment control measures and mitigating at the appropriate ratio. All applicable agency recommendations are included in the *Environmental Commitments* section of this CE document.

Presence

Impacts

Yes No

Terrestrial Habitat

Unique or High Quality Habitat

✓

✓

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

Remarks:

Per a desktop review, a field visit conducted on September 23, 2019 by RQAW, and an aerial photograph of the project area (Appendix B, page B-3), terrestrial habitat within the project area consists of maintained roadside grass with wooded and riparian habitat. Dominant tree species included silver maple (*Acer Saccharinum*) and black walnut (*Juglans nigra*). Dominant vegetation included bush honeysuckle (*Lonicera maackii*), multiflora rose (*Rosa multiflora*), poison ivy (*Toxicodendron radicans*), tall fescue (*Schedonorus arundinaceus*). Although no animals were observed, it is assumed that certain common animals are likely present within the project area (e.g. squirrels, raccoons, birds, etc.).

The total area of land disturbance is approximately 11 acres. Trees greater than three inches in diameter-at-breast-height (dbh) are within the construction limits. Approximately 0.76 acre of tree clearing will be needed along the southeast section of the project area. Tree clearing is necessary along the roadway to provide clearance for regrading. Avoidance alternatives would not be practicable because the trees are present within the construction limits and would inhibit construction activities associated with regrading.

Early coordination letters were sent electronically to the USACE, IDNR Division of Fish and Wildlife, and IDEM on April 17, 2020 (Appendix C, pages C-1 to C-3). The USACE did not respond to the early coordination letter.

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An automated response was received from IDEM on April 17, 2020; however, the response did not contain project specific comments (Appendix C, pages C-4 to C-13).

The IDNR Division of Fish and Wildlife responded to early coordination efforts on May 15, 2020 with recommendations to avoid or minimize impacts to fish, wildlife, and botanical resources (Appendix C, pages C-14 to C-15). Recommendations regarding terrestrial habitat generally include revegetating disturbed areas, minimizing tree and brush clearing, and mitigating impacts to non-wetland forest at appropriate ratios. All applicable agency recommendations are included in the *Environmental Commitments* section of this CE document.

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

Karst

Is the proposed project located within or adjacent to the potential Karst Area of Indiana?
 Are karst features located within or adjacent to the footprint of the proposed project?

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

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

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

Remarks:

Based on a desktop review, the project is located inside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the RFI report (Appendix E, pages E-1 to E-13), there are karst features identified within or adjacent to the project area. The northern portion of the project area is located within a cave density area. No karst features were identified within the project area during the field visit conducted on September 23, 2019 by RQAW. A *Waters of the U.S. Determination Report* was completed by RQAW and was approved by the INDOT Ecology and Waterway Permitting Office on February 25, 2020 (Appendix F, pages F-1 to F-29). No karst features were noted in the report. Impacts to the cave entrance density is not anticipated.

In the early coordination response, the Indiana Geological Survey (IGS) did indicate that karst features may exist in the project area (Appendix C, pages C-18 to C-20). The IGS also stated that the project area is located within an area with moderate liquefaction potential, high potential for bedrock resources, no sand and gravel documented in the area, and a 1% annual chance flood hazard. The response from IGS was communicated with the designer on April 17, 2020.

An effect determination key was completed on April 16, 2020 by RQAW through the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and the USFWS. The effect determination key included the Hibernacula Avoidance and Minimization Measure (AMM) 1: For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300-foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography (Appendix C, page C-40).

The Cloverdale Quarry is located adjacent to the west of the project area. Early coordination letters were sent to the Cloverdale Quarry on March 17, 2020 (Appendix C, pages C-1 to C-3). The Cloverdale Quarry did not respond to the early coordination letter.

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	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
Threatened or Endangered Species			
Within the known range of any federal species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Any critical habitat identified within project area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal species found in project area (based upon informal consultation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State species found in project area (based upon consultation with IDNR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is Section 7 formal consultation required for this action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Remarks: Per a desktop review and the RFI report completed by RQAW on July 17, 2019 (Appendix E, pages E-1 to E-13), the IDNR Putnam County Endangered, Threatened and Rare (ETR) Species List has been checked (Appendix E, pages E-12 to E-13). The highlighted species on the list reflect the federal and state identified ETR species located within Putnam County. Per the IDNR Division of Fish and Wildlife early coordination response letter dated May 15, 2020, the Natural Heritage Program's database has been checked, and the American Badger (*Taxidea taxus*), a state species of special concern, has been documented within 0.5 mile of the project area. However, the IDNR Division of Fish and Wildlife indicated that impacts to the American badger or its preferred habitat are unlikely as a result of this project (Appendix C, pages C-14 to C-15). All applicable agency recommendations are included in the *Environmental Commitments* section of this CE document.

Project information was submitted through the USFWS Information for Planning and Consultation (IPaC) website (<https://ecos.fws.gov/ipac/>) on May 19, 2020 by RQAW and an official species list was generated (Appendix C, pages C-22 to C-27). Per the official species list, the project area is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*).

Per the official species list, no additional species were found within the project area. The project qualifies for the *USFWS Interim Policy for the Review of Highway Transportation Projects in Indiana dated May 29, 2013*. As such, further coordination with the USFWS regarding other species is not needed.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat*, dated May 2016 (revised February 2018), between FHWA, FRA, FTA, and the USFWS. An effect determination key was completed on April 16, 2020 by RQAW, and based on the responses provided, it was determined the project *May Affect, Not Likely to Adversely Affect* the Indiana bat and northern long-eared bat. The INDOT Crawfordsville District reviewed and verified the effect finding and requested USFWS review of the finding on May 19, 2020 (Appendix C, pages C-28 to C-42). No response was received from the USFWS within the 14-day review period; therefore, it was concluded the USFWS concurs with the finding. AMMs are included as firm commitments in the *Environmental Commitments* section of this document.

This precludes the need for further consultation on this project under Section 7 of the Endangered Species Act of 1973, as amended. If new information on endangered species at the site becomes available, or if project plans are changed, the USFWS will be contacted for consultation.

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SECTION B – OTHER RESOURCES

Drinking Water Resources

- Wellhead Protection Area
- Public Water System(s)
- Residential Well(s)
- Source Water Protection Area(s)
- Sole Source Aquifer (SSA)

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

If a SSA is present, answer the following:

- Is the Project in the St. Joseph Aquifer System?
- Is the FHWA/EPA SSA MOU Applicable?
- Initial Groundwater Assessment Required?
- Detailed Groundwater Assessment Required?

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

Remarks:

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

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on April 17, 2020 by RQAW. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

The IDNR Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on May 13, 2020 by RQAW, two water wells are located within 0.5 mile of the project area. The nearest water well (unspecified) is located in the northwest quadrant of the CR 800 South and US 231 intersection. Per the IDNR Enhanced Water Well Viewer, the locations of the water wells are estimated. The unspecified water well has a static water level of 22 feet. For a majority of the project, the maximum depth of excavation will be approximately 2 to 4 feet below ground surface (bgs); however, excavation to a depth of approximately 21 feet bgs will be required for the replacement of Structure Number P107 (Appendix B, page B-32), and approximately 6 feet bgs for all other structure work. The excavation required for the replacement of Structure Number P107 (21 feet bgs) will occur more than 0.25 mile from the unspecified well. Per coordination with the designer, the project area does not contain any residential water wells. Impacts are not expected.

Per a desktop review of the INDOT Municipal Separate Storm Sewer Systems (MS4) website (<https://entapps.indot.in.gov/MS4/>), by RQAW on May 13, 2020, and the RFI report (Appendix E, page E-3), this project is not located in an Urbanized Area Boundary. No impacts are expected.

Per a desktop review, a field visit conducted on September 23, 2019 by RQAW, the aerial map of the project area (Appendix B, page B-3), and coordination with the designer, the project is within an area with a public water system. However, impacts are not expected.

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

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

Remarks: The IDNR Indiana Floodway Information Portal website (<https://dnrmaps.dnr.in.gov/appsphp/fdms/>), was accessed on May 17, 2020 by RQAW. This project is not located within a regulatory floodplain as determined from approved IDNR floodplain maps (Appendix F, page F-9). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

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

Total Points (from Section VII of CPA-106/AD-1006* 54

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

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

Remarks: Based on a desktop review, a site visit on September 23, 2019 by RQAW, and the aerial map of the project area (Appendix B, page B-3), the project will not convert any farmland as defined by the Farmland Protection Policy Act.

An early coordination letter was sent electronically on April 17, 2020, to Natural Resources Conservation Services (NRCS). Coordination with NRCS resulted in a score of 54 on the (NRCS-CPA-106/AD 1006 Form) (Appendix C, pages C-16 to C-17). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland.

Please note that the NRCS early coordination response letter and accompanied NRCS-CPA-106 form stated that approximately 0.20 acre of prime and unique farmland will be converted; however, a review of the proposed right-of-way areas did not indicate the conversion of any agricultural land (Appendix B, page B-3).

SECTION C – CULTURAL RESOURCES

	Category	Type	INDOT Approval Dates	N/A
Minor Projects PA Clearance	B	B-3 & B-9	February 20, 2020	<input type="checkbox"/>

**Eligible and/or Listed
Resource Present**

Results of Research

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

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Project Effect

No Historic Properties Affected No Adverse Effect Adverse Effect

Documentation Prepared

Documentation (mark all that apply)

	ES/FHWA Approval Date(s)	SHPO Approval Date(s)
Historic Properties Short Report		
Historic Property Report		
Archaeological Records Check/ Review		
Archaeological Phase Ia Survey Report	2/24/2020	N/A
Archaeological Phase Ic Survey Report		
Archaeological Phase II Investigation Report		
Archaeological Phase III Data Recovery		
APE, Eligibility and Effect Determination		
800.11 Documentation		

MOA Signature Dates (List all signatories)

Memorandum of Agreement (MOA)

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

Remarks:

On February 20, 2020, the INDOT Cultural Resources Office (CRO) determined the project falls within the guidelines of Category B, Type 3 and Category B, Type 9 under the Minor Projects Programmatic Agreement (MPPA) (Appendix D, pages D-1 to D-5).

Category B, Type 3 applies to projects where construction of added travel, turning, or auxiliary lanes (e.g., bicycle, truck climbing, acceleration and deceleration lanes) and shoulder widening occurs in either previously undisturbed soils, or in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. It also applies when work does not occur adjacent to or within a National Register-listed or National Register-eligible district or individual above-ground resource.

Category B, Type 9 applies to projects where installation, replacement, repair, lining, or extension of culverts and other drainage structures occurs in either previously undisturbed soils, or in undisturbed soils and an archaeological investigation conducted by the applicant and reviewed by INDOT Cultural Resources Office determines that no National Register-listed or potentially National Register-eligible archaeological resources are present within the project area. It also applies when work does not involve installation of a new culvert and other drainage structure, and there are no impacts to unusual features, including but not limited to historic brick or stone sidewalks, curbs or curb ramps, stepped or elevated sidewalks and retaining walls, under the following condition: The structure exhibits no wood, stone, or brick structures or parts therein.

An archaeological records check and Phase Ia field reconnaissance was completed for the project on February 20, 2020 by Cultural Resource Analysts, Inc. (CRA). The records review indicated that a portion of the current project area had been previously surveyed. No previously recorded archaeological sites are in the project area. The current reconnaissance resulted in the documentation of one previously unrecorded archaeological

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site (12Pm438). The site extends beyond the boundaries of the project area and its National Register of Historic Places (NRHP) eligibility could not be fully assessed by the current investigation. Nevertheless, the portion of the site documented within the project area demonstrated poor archaeological integrity and has little potential to yield significant data about the history of the region. Therefore, no further work is recommended for the portion of 12Pm438 located within the project area. The report was reviewed by INDOT Cultural Resources Office personnel who meet the Secretary of the Interior's Professional Qualification Standards as per 36 CFR Part 61. There are no archaeological concerns for the project as a whole (Appendix D, page D-6 to D-7). No further consultation is required. This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

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

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

Parks & Other Recreational Land

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

Presence

Use

Yes	No

Evaluations

Prepared

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

FHWA
Approval date

--

Wildlife & Waterfowl Refuges

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

Presence

Use

Yes	No

Evaluations

Prepared

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

FHWA
Approval date

--

Historic Properties

- Sites eligible and/or listed on the NRHP

Presence

--

Use

Yes	No

Evaluations

Prepared

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

FHWA
Approval date

--

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

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

Section 4(f) of the Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is not a feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife and 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, a site visit on September 23, 2019 by RQAW, an aerial map of the project area (Appendix B, page B-3), and the infrastructure discussion in the RFI report (Appendix E, page E-2), there is one recreational facility located within the 0.5 mile search radius. The recreational facility, Cloverdale RV Park, is located approximately 0.23 mile east of the project area. Cloverdale RV Park is not publicly owned and therefore does not qualify for protection under Section 4(f). There are no Section 4(f) resources within or adjacent to the project area. Therefore, no use is expected.

Section 6(f) Involvement

Presence

Use

Section 6(f) Property

Yes

No

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

Remarks:

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

Per a review of the LWCF property list provided by the IDNR Division of Outdoor Recreation, dated December 2019, there are three LWCF properties are in Putnam County (Appendix I, page I-1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

SECTION E – Air Quality

Air Quality

Conformity Status of the Project

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

Yes

No

If YES, then:

Is the project in the most current MPO TIP?

Is the project exempt from conformity?

If the project is NOT exempt from conformity, then:

Is the project in the Transportation Plan (TP)?

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

Level of MSAT Analysis required?

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

Remarks:

The project is included in the FY 2020 to 2024 INDOT Statewide Transportation Improvement Program (STIP) (Appendix H, page H-1).

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The project is in Putnam County which is currently in attainment for all criteria pollutants per the IDEM Office of Air Quality website (<https://www.in.gov/idem/airquality/files/nonattainmentcountylist.pdf>), accessed on May 12, 2020 by RQAW. Therefore, the conformity procedures of 40 CFR Part 93 do not apply.

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

SECTION F - NOISE

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

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

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

SECTION G – COMMUNITY IMPACTS

Regional, Community & Neighborhood Factors

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

Remarks: The project will comply with the local/regional development patterns for the area. The project is not anticipated to result in substantial impacts to community cohesion because it will not change access to properties within the area or divide existing communities. The proposed project is not expected to impact the surrounding community or cause economic impacts to the surrounding area. Therefore, the project will have minimal or no negative impacts to the community or local economy.

Several businesses are located within, or adjacent to, the project area. Access to all properties will be maintained during construction.

Per the Fairs and Festivals website (www.fairsandfestivals.net), accessed on May 12, 2020 by RQAW, two fairs or festivals are currently scheduled within a 10 mile radius of zip code 46120 (project area). The 2020 Greencastle Fiber Event is scheduled for April 17, 2020 and the 2020 Putnam County Fair is scheduled for July 17, 2020. Both events will be held at the Putnam County Fairgrounds, located approximately 9 miles north of the project area. Both listed events and any future fairs/festivals that may be planned are unlikely to be impacted by the project since fair or festival goers will be able to utilize US 231 during construction and a local detour while CR 800 South is closed during construction.

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Per a phone call with the Putnam County Auditor's Office on June 4, 2020, Putnam County has an approved Americans with Disability Act (ADA) Transition Plan (dated April 2014). Per e-mail communication on August 4, 2020, the Putnam County Auditor provided an electronic copy of the approved ADA Transition Plan to RQAW. Per the plan, "Title II of the ADA (28 CFR Section 35.150 [d]) requires that state and local governmental entities develop a Transition Plan specific to curb ramps or other sloped areas at locations where walkways cross curbs," and "There is no requirement under Title II of the ADA or proposed PROWAG [Proposed Accessibility Guidelines for Pedestrian Facilities with Public Right-of-way] that sidewalks be made accessible or be provided where they are not currently provided. The law stipulates that the public entity provide curb ramps, or other sloped areas where pedestrian walks cross curbs, that are accessible. New construction or alterations would require that non-compliant sidewalks be improved to the extent possible. The County is quite rural and as such has no facilities within the ROW [right-of-way]" (Appendix I, pages I-15 and I-16). Because the project takes place along a highway and does not contain any existing ADA facilities (walkways/sidewalks, curb ramps), the project is not required to comply with the ADA Transition Plan.

Indirect and Cumulative Impacts

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

Yes No

Remarks:

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

Due to the scope of the project and limited impacts, the project is not expected to result in any substantial indirect or cumulative impacts. The improvement of the roadway will allow a more stable flow of traffic and reduce vehicular crashes along US 231. However, the project is not expected to increase development in the area beyond what is already planned. The project will not provide additional access to any currently undeveloped area.

Public Facilities & Services

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

Yes No

Remarks:

Per a desktop review, a field visit conducted on September 23, 2019 by RQAW, an aerial photograph of the project area (Appendix B, page B-3), and the infrastructure discussion in the RFI report (Appendix E, page E-2), one recreational facility is located within the 0.5 mile search radius. The recreational facility, Cloverdale RV Park, is located approximately 0.23 mile east of the project area. Cloverdale RV Park is not located within or adjacent to the project area and the entrance to the park, off of CR 800 South, will remain open during the project. Therefore, no impact is expected.

Per review of Google Maps, there does not appear to be any emergency services or public transportation stations located within the 0.5 mile search radius. Per the Red Flag Investigation, there are no public airports located within 3.8 miles (20,000 feet) of the project area, and there are no religious institutions within 0.5 mile of the project area (Appendix E, pages E-1 to E-13).

Per coordination with the designer, the project area is located within an area with a public water system. However, according to the project designer, impacts are not expected. Utilities, including electric, telephone,

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gas, water and sanitary facilities, have been identified within the project area. Utility coordination is ongoing and will continue through the design process.

Early coordination letters were sent to the Putnam County Council, Putnam County Board of Commissioners, Putnam County Surveyor's Office, the Putnam County Highway Department, and the West Central Indiana Economic Development District, Inc., on March 17, 2020 (Appendix C, pages C-1 to C-3). These organizations did not respond to the early coordination letter.

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

Environmental Justice (EJ) (Presidential EO 12898)

During the development of the project were EJ issues identified?	Yes	No
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project require an EJ analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If YES, then:		
Are any EJ populations located within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project result in adversely high or disproportionate impacts to EJ populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks: Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require 2.59 acres of permanent right-of-way. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority populations 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 Putnam County. The community that overlaps the project limits is called the affected community (AC). In this project, the AC is Census Tract 9565. An AC has a population of concern for EJ if the population is more than 50% low-income or minority or if the low-income or minority population is 125% of the COC. American Community Survey 5-year estimates data (2013 through 2017) was obtained from the U.S. Census Bureau website (<https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>) on March 18, 2020 by RQAW. The data collected for low-income and minority populations within the AC are summarized in the table below.

Table: Low-income and Minority Data (American Community Survey, 2013 through 2017)		
	COC: Putnam County	AC 1: Census Tract 9565
Percent Low-income	11.6%	10.0%
125% of COC	14.5%	AC < 125% of COC
EJ Population of Concern		No
Percent Minority	8.1%	2.2%
125% of COC	10.2%	AC < 125% of COC
EJ Population of Concern		No

AC 1 has a percent low-income of 10.0% which is below 50% and is below the 125% COC threshold. Therefore, there are no low-income populations of EJ concern. AC 1 has a percent minority of 2.2% which is below 50% and is below the 125% COC threshold. Therefore, there are no minority populations of EJ concern. The census

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data sheets, map, and calculations can be found in Appendix I, pages I-10 to I-14. No further EJ analysis is warranted.

An early coordination letter was sent electronically to the U.S. Department of Housing and Urban Development (USHUD) on April 17, 2020 (Appendix C, pages C-1 to C-3). The USHUD did not respond to the early coordination letter.

Relocation of People, Businesses or Farms

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

Is a Business Information Survey (BIS) required?

Is a Conceptual Stage Relocation Study (CSRS) required?

Has utility relocation coordination been initiated for this project?

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

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

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

Remarks: No relocations of people, businesses, or farms will take place because of this project. Several utilities are located within the project area including electric, telephone, gas, water and sanitary facilities. These Utilities may require relocation and would be temporarily impacted. Utility coordination has been initiated.

SECTION H – HAZARDOUS MATERIALS & REGULATED SUBSTANCES

Documentation

Hazardous Materials & Regulated Substances (Mark all that apply)

Red Flag Investigation

Phase I Environmental Site Assessment (Phase I ESA)

Phase II Environmental Site Assessment (Phase II ESA)

Design/Specifications for Remediation required?

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

No Yes/ Date

ES Review of Investigations		September 28, 2020
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Include a summary of findings for each investigation.

Remarks: Based on a review of GIS and available public records, an RFI was completed on July 17, 2019 by RQAW and approved by INDOT Site Assessment & Management (SAM) on September 28, 2020 (Appendix E, Pages E-1 to E-13). Two Resource Conservation and Recovery Act (RCRA) generator/Treatment, Storage, and Disposal (TSD) sites, one State Cleanup site, four leaking underground storage tank (LUST) sites, two Brownfields sites, one Institutional Controls site, three National Pollutant Discharge Elimination System (NPDES) facilities, one NPDES pipe location, and one Notice of Contamination site are located within 0.5 mile of the project area.

Two sites with hazardous material concerns are located within the project area. One site is identified as a Brownfields site and the other site is identified as a RCRA/TSD, Brownfields site, and NPDES facility. However, no hazmat sites were identified in or within 0.5 mile of the project area that will impact the project.

The State Cleanup site is located approximately 0.35 mile west from the project area. The nearest LUST site is located approximately 0.05 mile east from the project area. The Institutional Controls site is located approximately 0.30 mile south from the project area. The NPDES pipe is located approximately 0.43 mile south from the project area. The Notice of Contamination site is located approximately 0.30 mile south from the project area. No impacts are expected. Further investigation for hazardous material concerns is not required at this time.

This is page 27 of 31 Project name: US 231 Added Auxiliary Lanes Project Date: December 2, 2020

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SECTION I – PERMITS CHECKLIST

Permits (mark all that apply)

Likely Required

Army Corps of Engineers (404/Section10 Permit)

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

IDEM

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

IDNR

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

US Coast Guard Section 9 Bridge Permit

Others (Please discuss in the remarks box below)

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Remarks:

The project will impact approximately 345 linear feet (approximately 0.015 acre) of stream and approximately 0.054 acre of wetlands. A USACE Section 404 Regional General Permit and IDEM Section 401 Water Quality Certification Permit will be required due to stream and wetland impacts.

The total area of land disturbance is approximately 11 acres. Because the project will result in one acre or more of land disturbance, an IDEM Rule 5 Notice of Intent will be required.

Per the IDNR Division of Fish and Wildlife early coordination response letter, dated May 15, 2020, the project may require formal approval for construction in a floodway under the Flood Control Act, IC 14-28-1 for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing waterbody which has a drainage area greater than one square mile (Appendix C, pages C-14 to C-15). Because this project is not located within a regulatory floodplain, and the upstream drainage area of the UNT to Limestone Creek is assumed to have an upstream drainage area less than one square mile, a Construction in a Floodway Permit will not be required.

Applicable recommendations provided by the IDNR Division of Fish and Wildlife and the USFWS are included in the *Environmental Commitments* section of this CE document. If a permit is found to be necessary, the conditions of the permit will be requirements of the project and will supersede these recommendations. It is the responsibility of the project sponsor to identify and obtain all required permits.

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SECTION J- ENVIRONMENTAL COMMITMENTS

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

Remarks:

Firm:

1. If the scope of work or permanent or temporary right-of-way amounts change, the INDOT ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT Crawfordsville District Environmental Section)
2. Access to the adjacent facilities along CR 800 South to the west of US 231 (Martin Marietta-Cloverdale Quarry and POET Biorefining) will be provided. Coordination with the adjacent facilities will occur throughout the design process. (INDOT Crawfordsville District Environmental Section)
3. 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 limits access. (INDOT Crawfordsville District Environmental Section)
4. Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT Environmental Services Division)
5. 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)
6. Hibernacula AMM1: For projects located within karst areas, on-site personnel will use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to possible hibernacula. Where practicable, a 300-foot buffer will be employed to separate fueling areas and other major containment risk activities from caves, sinkholes, losing streams, and springs in karst topography. (USFWS)
7. Lighting AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
8. Tree Removal AMM 1: Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to avoid tree removal. (USFWS)
9. 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. (USFWS)
10. Tree Removal AMM 3: Ensure tree removal is limited to that specified in project plans and ensure that contractors understand clearing limits and how they are marked in the field (e.g., install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits). (USFWS)
11. Tree Removal AMM 4: Do not remove documented Indiana bat or NLEB roosts that are still suitable for roosting, or trees within 0.25 mile of roosts, or documented foraging habitat any time of year. (USFWS)

For Further Consideration:

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

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- or by using the 1:1 replacement ratio based on area depending on the type of habitat impacted (individual canopy tree removal in an urban streetscape or park-like environment versus removal of habitat supporting a tree canopy, woody understory, and herbaceous layer). Impacts under 0.10 acre in an urban area may still involve the replacement of large diameter trees but typically do not require any additional mitigation or additional plantings beyond seeding and stabilizing disturbed areas. There are exceptions for high quality habitat sites however. (IDNR Division of Fish and Wildlife)
2. Do not cut any trees suitable for Indiana bat or northern long-eared bat roosting (greater than 5 inches dbh, living or dead, with loose hanging bark, or with cracks, crevices, or cavities) from April 1 through September 30. (IDNR Division of Fish and Wildlife)
 3. Restrict below low-water work in streams to placement of culverts, piers, pilings and/or footings, shaping of the spill slopes around the bridge abutments, and placement of riprap. (USFWS Interim Policy Recommendation)
 4. Culverts should span the active stream channel, should be either embedded or a 3-sided or open-arch culvert, and be installed where practicable on an essentially flat slope. When an open-bottomed culvert or arch is used in a stream, which has a good natural bottom substrate, such as gravel, cobbles and boulders, the existing substrate should be left undisturbed beneath the culvert to provide natural habitat for the aquatic community. (USFWS Interim Policy Recommendation)
 5. Minimize the extent of hard armor (riprap) in bank stabilization by using bioengineering techniques whenever possible. If riprap is utilized for bank stabilization, extend it below low-water elevation to provide aquatic habitat. (USFWS Interim Policy Recommendation)
 6. Avoid all work within the inundated part of the stream channel during the fish spawning season (April 1 through June 30), except for work within sealed structures such as caissons or cofferdams that were installed prior to the spawning season. No equipment shall be operated below the ordinary high water mark during this time unless the machinery is within the caissons or on the cofferdams. (USFWS Interim Policy Recommendation)

SECTION K- EARLY COORDINATION

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

Remarks:

Early coordination letters were sent to agencies on March 17, 2020 and April 17, 2020 (Appendix C, pages C-1 to C-3). If a response was not received, it was assumed the agency did not feel the project would result in substantial impacts. See all responding agency correspondence in Appendix C, pages C-4 to C-42. The following agencies/individuals were contacted during early coordination:

Agency	Date of Response(s)
1. Natural Resources Conservation Service (electronic coordination)	May 4, 2020
2. Indiana Geological Survey (electronic submission)	April 17, 2020
3. IDNR Division of Fish and Wildlife (electronic coordination)	May 15, 2020
4. IDEM (electronic submission)	April 17, 2020
5. INDOT Office of Public Involvement (electronic coordination)	No response received
6. U.S. Department of Housing and Urban Development (electronic coordination)	No response received
7. West Central Indiana Economic Development District, Inc.	No response received

Indiana Department of Transportation

County Putnam Route US 231 and CR 800 South Des. No. 1700091

8. National Park Service, Midwest Regional Office	No response received
9. Putnam County Council	No response received
10. Putnam County Board of Commissioners	No response received
11. Putnam County Surveyor's Office	No response received
12. Putnam County Highway Department	No response received
13. Cloverdale Quarry	No response received
14. USFWS (IPaC electronic coordination)	May 19, 2020

Designation (Des.) Number 1700091

US 231 Added Auxiliary Lanes Project – Putnam County, Indiana

Appendix A: INDOT Supporting Documentation

Categorical Exclusion Level Thresholds..... A-1

Appendix B: Graphics

General Location Map..... B-1

USGS Topographic Map..... B-2

2016 Aerial Photo Location Map..... B-3

Photographs..... B-4

Preliminary Plan Sheets..... B-10

Appendix C: Early Coordination

Sample Early Coordination Letter Sent to Resource Agencies (graphics omitted) C-1

Indiana Department of Environmental Management (IDEM)

Roadway Construction Response Letter C-4

Indiana Department of Natural Resources (IDNR) Division of Fish and Wildlife

Division of Fish and Wildlife Response Letter C-14

Natural Resources Conservation Service (NRCS)

Response Letter C-16

Indiana Geological Survey

Electronic Response C-18

U.S. Fish and Wildlife Service (USFWS)

INDOT District Coordination E-mail C-21

Information for Planning and Consultation (IPaC) Species List Letter C-22

IPaC Concurrence Verification Letter..... C-28

Appendix D: Cultural Resources

Minor Projects PA Determination Form..... D-1

INDOT Confirmation Email D-5

Archaeology Phase 1A Report D-6

Appendix E: Red Flag Investigation

Red Flag Investigation E-1

Appendix F: Water Resources

Waters of the U.S. Report F-1

Appendix G: Public Involvement

Example Notice of Entry for Survey or Investigation Letter..... G-1

Appendix H: Air Quality

2020-2024 Statewide Transportation Improvement Program (STIP) (relevant pages)..... H-1

Appendix I: Additional Studies

Land Water Conservation Fund Listing I-1

Project Traffic Forecast Report..... I-2

Crash Reduction Factor Report I-6

Environmental Justice Analysis I-10

Putnam County ADA Transition Plan..... I-15

Categorical Exclusion

Appendix A

INDOT Supporting Documentation

Des. Numbers 1700091
Categorical Exclusion Level Thresholds

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

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

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

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

⁴AMMs = Avoidance and Mitigation Measures.

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

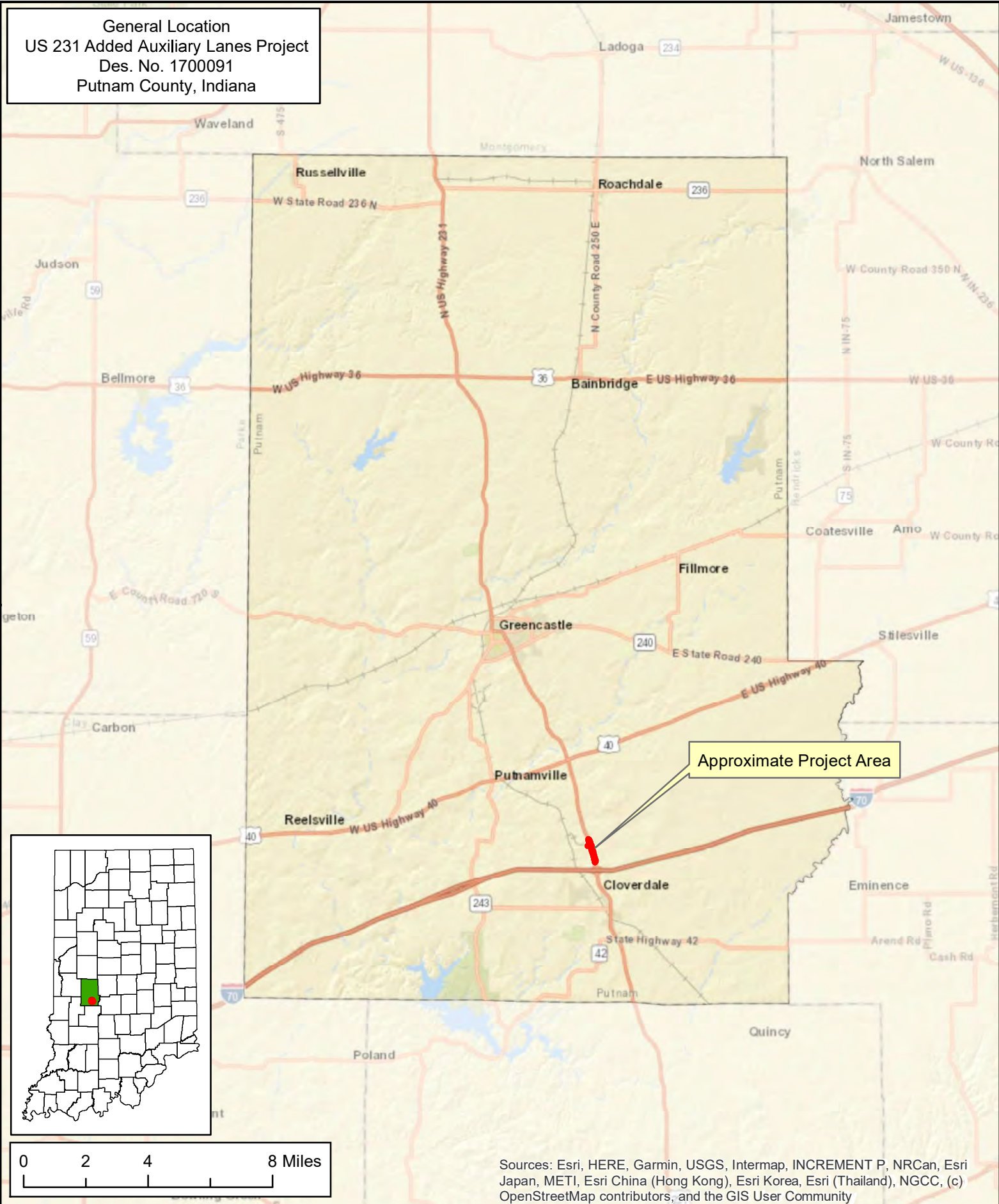
⁶Potential for causing a disproportionately high and adverse impact.

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

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

Categorical Exclusion
Appendix B
Graphics

General Location
 US 231 Added Auxiliary Lanes Project
 Des. No. 1700091
 Putnam County, Indiana



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

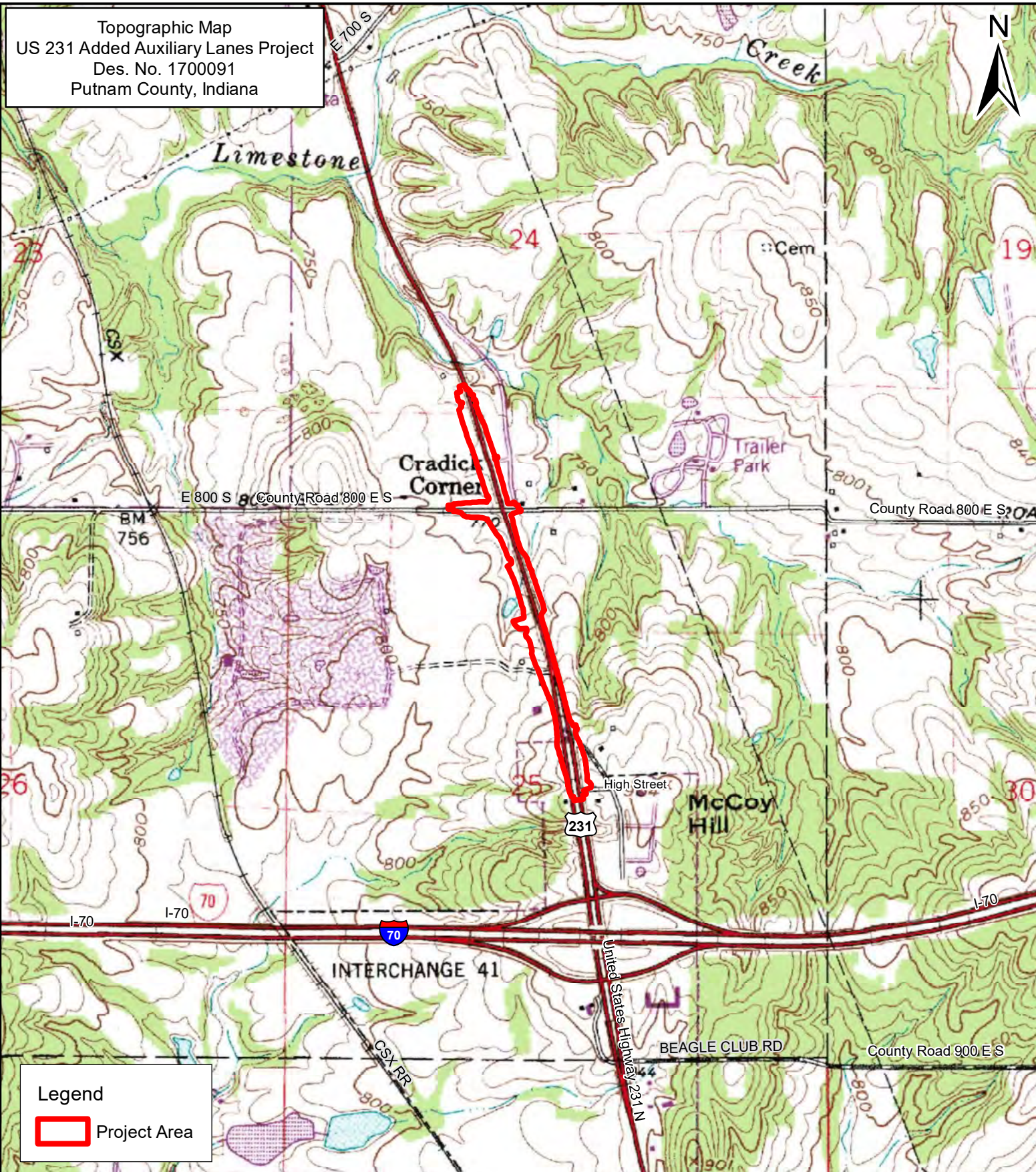
RQAW
 ENVIRONMENTAL
 8770 North Street; Suite 110
 Fishers, IN 46038

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

Map Datum: NAD 83
 Map Projection: UTM Zone 16 North



Topographic Map
 US 231 Added Auxiliary Lanes Project
 Des. No. 1700091
 Putnam County, Indiana



Legend

Project Area

Sources: 0.2 0.1 0 0.2 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.

**CLOVERDALE QUADRANGLE
 INDIANA
 7.5 MINUTE SERIES
 (TOPOGRAPHIC)**

Photo Location Map
 US 231 Added Auxiliary Lanes Project
 Des. No. 1700091
 Putnam County, Indiana


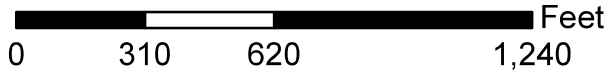


Legend

-  Photo Location
-  Construction Limits
-  Pavement Markings
-  Temporary ROW
-  Permanent ROW
-  Wetland
-  Stream

Map Datum: NAD 83
 Map Projection: UTM Zone 16 North
 This map is intended to serve as an aid in graphic representation only.
 This information is not warranted for accuracy or other purposes.
 Data obtained from the State of Indiana GIO Library.
 Orthophotography obtained from Indiana Map Framework Data.

State of Indiana

	Photo Location Map	Location: US 231 Township: Warren County: Putnam
		



1. Facing northwest along US 231 from High Street intersection



2. Facing south from median along US 231 at High Street intersection



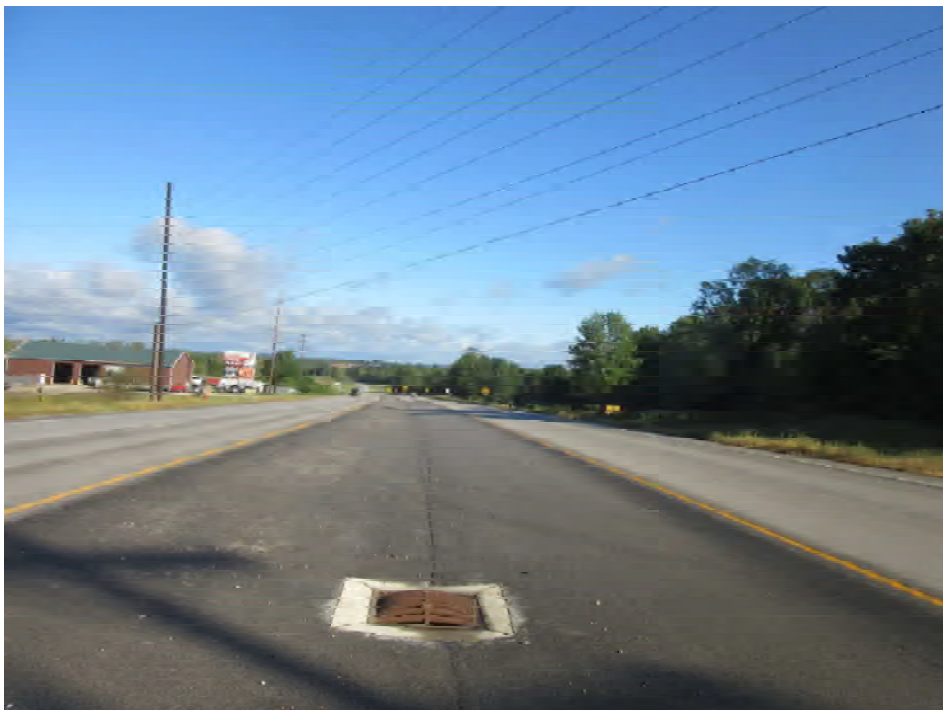
3. Facing north along US 231 at High Street intersection



4. Facing northwest along US 231



5. Facing northwest along US 231



6. Facing northwest along US 231 from median



7. Facing south along US 231 from the median



8. Facing northwest along US 231 towards CR 800 S



9. Facing east along CR 800 S from US 231



10. Facing west towards CR 800 S from US 231



11. Facing south along US 231



12. Looking north along US 231

PROJECT	DESIGNATION
1700091	1700091
CONTRACT	BRIDGE FILE
R-40742	N/A

INDIANA DEPARTMENT OF TRANSPORTATION



ROAD PLANS

U.S. ROUTE 231 - ADDED AUXILIARY LANES (ACCEL AND TURN LANES)

PROJECT NO. 1700091 P.E.
 PROJECT NO. 1700091 R/W
 PROJECT NO. 1700091 CONST.

Added Travel Lanes Along U.S. Route 231, Located 0.27 Miles North of the I-70 Junction, RP 141+69 to 1.05 Miles North of the I-70 Junction, RP 142+47, in Sections 24 & 25, Township 13 North, Range 4 West, in Warren Township, Putnam County, Indiana.

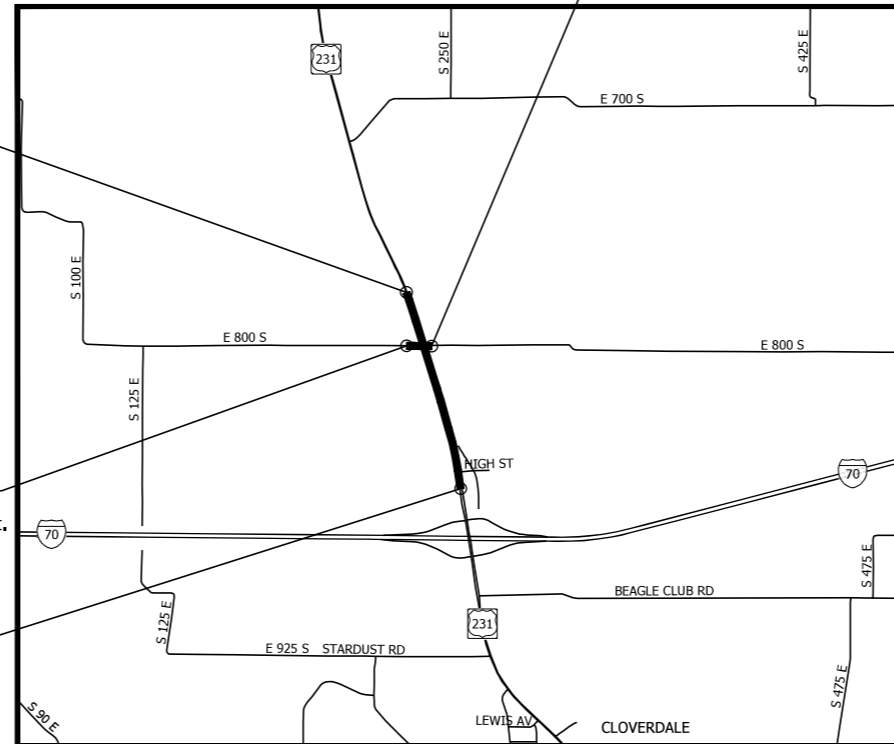
Gross Length: 0.78 MI.
 Net Length: 0.78 MI.
 Maximum Grade: 4.07 %

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 P.O.T. 50+34.77 "S-5-C"

END PROJECT
 P.O.T. 563+50.00 "PR-C"
 O.P.O.C. 563+69.02 "C", 26.48' Lt.

BEGIN CONSTRUCTION
 P.O.T. 44+50.00 "PR-S-5-C"
 O.P.O.T. 44+50.00 "S-5-C", 11.71' Lt.

BEGIN PROJECT
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 O.P.O.C. 522+42.19 "C", 0.09' Rt.



LOCATION MAP
 PUTNAM COUNTY, INDIANA

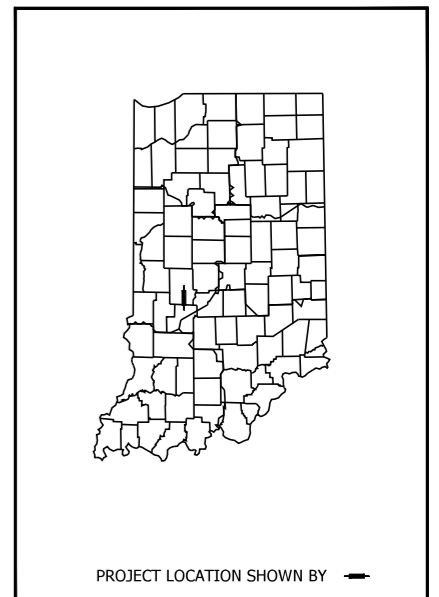
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A.A.D.T. (2041)		13,246 V.P.D.
D.H.V. (2041)		1137 V.P.H.
DIRECTIONAL DISTRIBUTION		50.01 %
TRUCKS		12.94 % A.A.D.T. 9.89 % D.H.V.

DESIGN DATA (BEGIN PROJECT TO CR 800)	
DESIGN SPEED	45 M.P.H.
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL/URBAN	URBAN/SUBURBAN
TERRAIN	LEVEL
ACCESS CONTROL	NONE

DESIGN DATA (CR 800 TO END PROJECT)	
DESIGN SPEED	55 M.P.H.
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL
RURAL/URBAN	URBAN/SUBURBAN
TERRAIN	LEVEL
ACCESS CONTROL	NONE

TRAFFIC DATA		C.R. 800
A.A.D.T. (2021)		1001 V.P.D.
A.A.D.T. (2041)		1035 V.P.D.
D.H.V. (2041)		104 V.P.H.
DIRECTIONAL DISTRIBUTION		64.23 %
TRUCKS		10.00 % A.A.D.T. ~% D.H.V.

DESIGN DATA	
DESIGN SPEED	30 M.P.H.
PROJECT DESIGN CRITERIA	RECONSTRUCTION (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	LOCAL ROAD
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE



BEGIN: LATITUDE: 39° 32' 12" N LONGITUDE: 86° 48' 13" W
 END: LATITUDE: 39° 32' 51" N LONGITUDE: 86° 48' 27" W

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

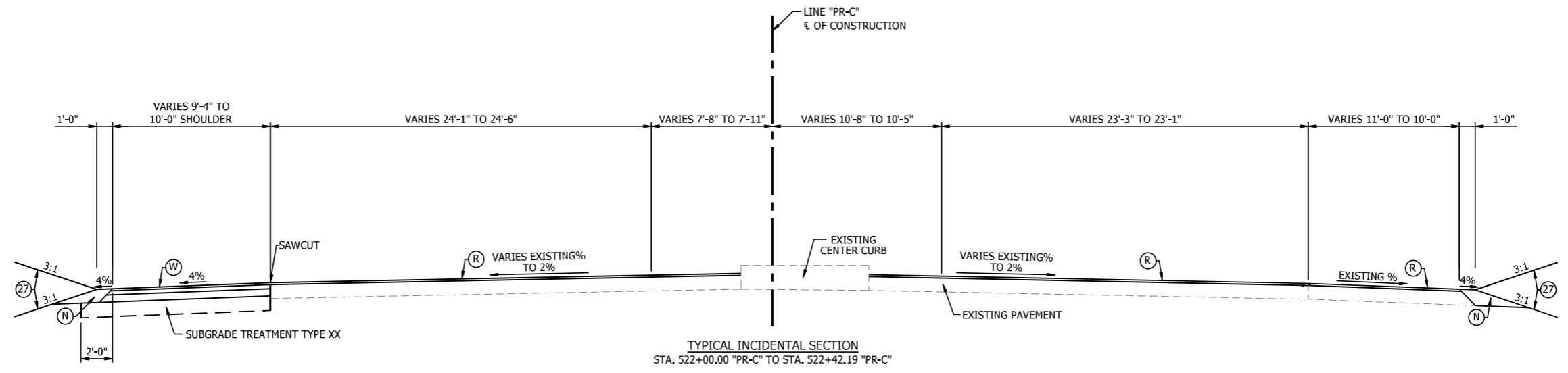
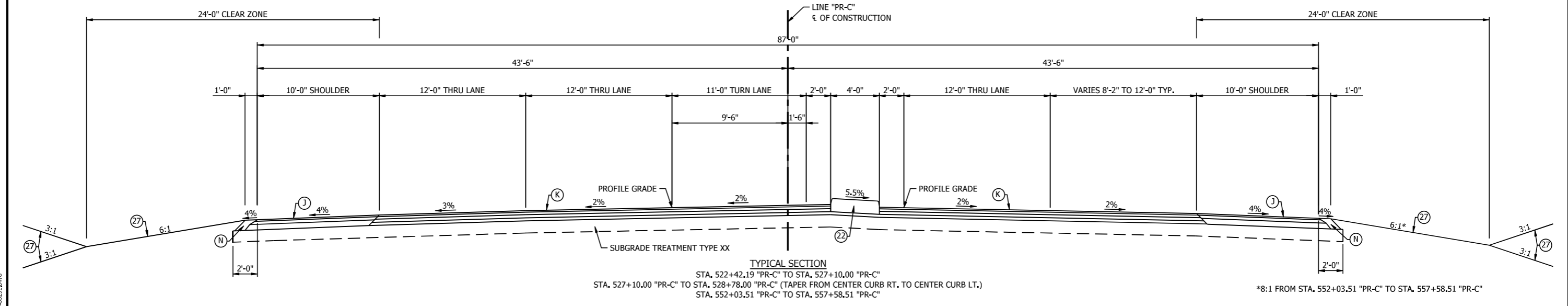
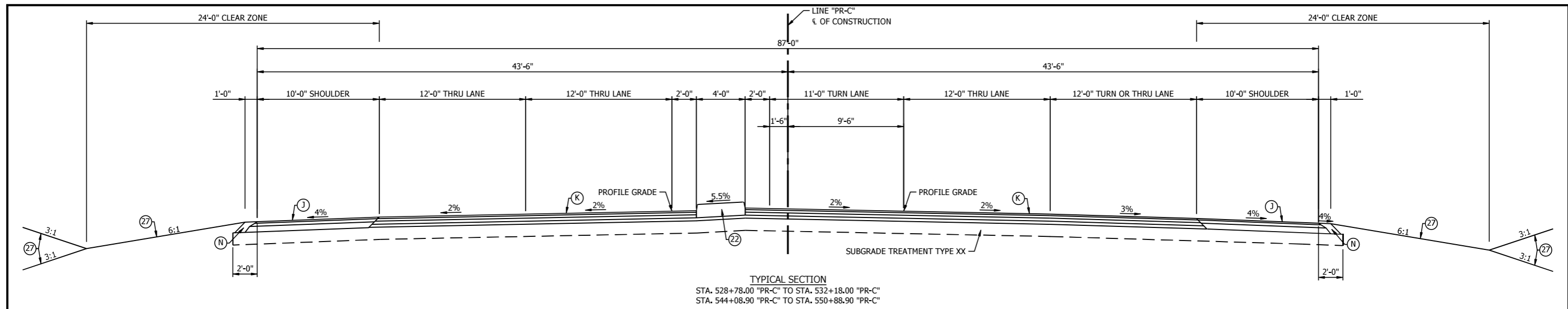
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8770 NORTH ST., STE. 110
 FISHERS, IN 46038
 P: 317.588.1798
 F: 317.588.1799
 WWW.RQAW.COM

PLANS PREPARED BY:	RQAW Corporation	317-588-1798
		PHONE NUMBER
CERTIFIED BY:		DATE
APPROVED FOR LETTING:		DATE
	INDIANA DEPARTMENT OF TRANSPORTATION	

DESIGNATION	
1700091	
SURVEY BOOK	SHEET
	1 of 84
CONTRACT	PROJECT
R-40742	1700091



LEGEND		
(K) HMA FULL DEPTH PAVEMENT 165 LB/SYS QC/QA HMA, 3, 70, SURFACE 9.5 MM, ON 275 LB/SYS QC/QA HMA, 3, 70, INTERMEDIATE 19 MM, ON 880 LB/STS QC/QA HMA, 3, 64, BASE, 19.0 MM ON 9 IN. OF COMPACTED AGGREGATE NO. 53 ON SUBGRADE TREATMENT, TYPE IBC (14" OF Chemical Soil Modification)	(J) HMA FOR SHOULDERS 165 LB/SYS HMA SURFACE 9.5 MM, ON 330 LB/SYS HMA INTERMEDIATE 19 MM, ON 5.5 IN. OF COMPACTED AGGREGATE NO. 53 BASE	(R) HMA RESURFACE MILLING ASPHALT, 1.5" 165 LB/SYD HMA, SURFACE 9.5 mm
(N) COMPACTED AGGREGATE, NO. 53	(W) WIDENING WITH HMA TYPE B (2' Minimum)	(22) CONCRETE CENTER CURB, TYPE D
		(27) MULCHED SEEDING, R

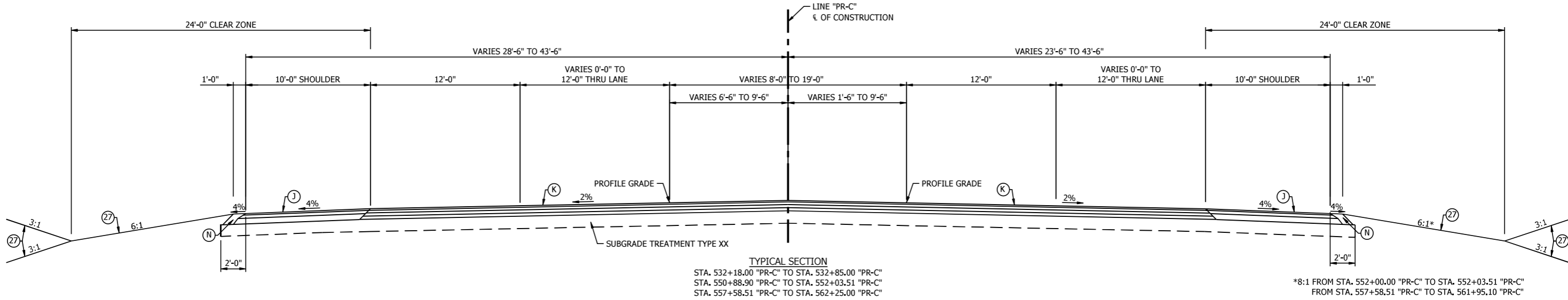
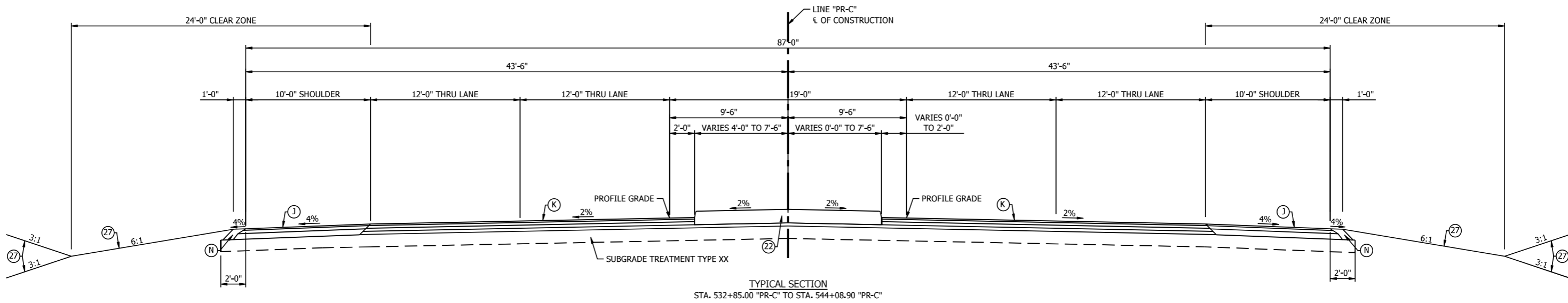
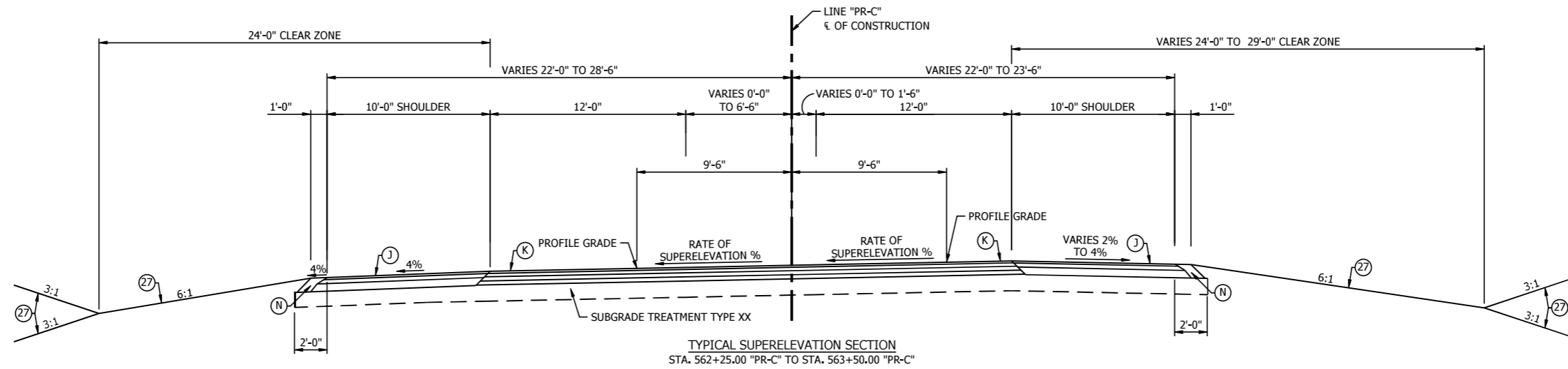
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INDIANA DEPARTMENT OF TRANSPORTATION

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VERTICAL SCALE 1/4" = 1'	DESIGNATION 1700091
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CONTRACT R-40742	PROJECT 1700091

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(N) COMPACTED AGGREGATE, NO. 53	(W) WIDENING WITH HMA TYPE B (2' Minimum)	(22) CONCRETE CENTER CURB, TYPE D
	(27) MULCHED SEEDING, R	

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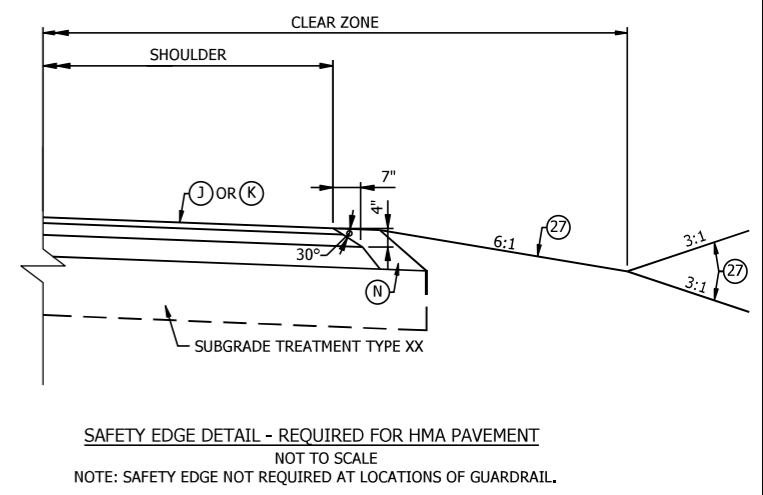
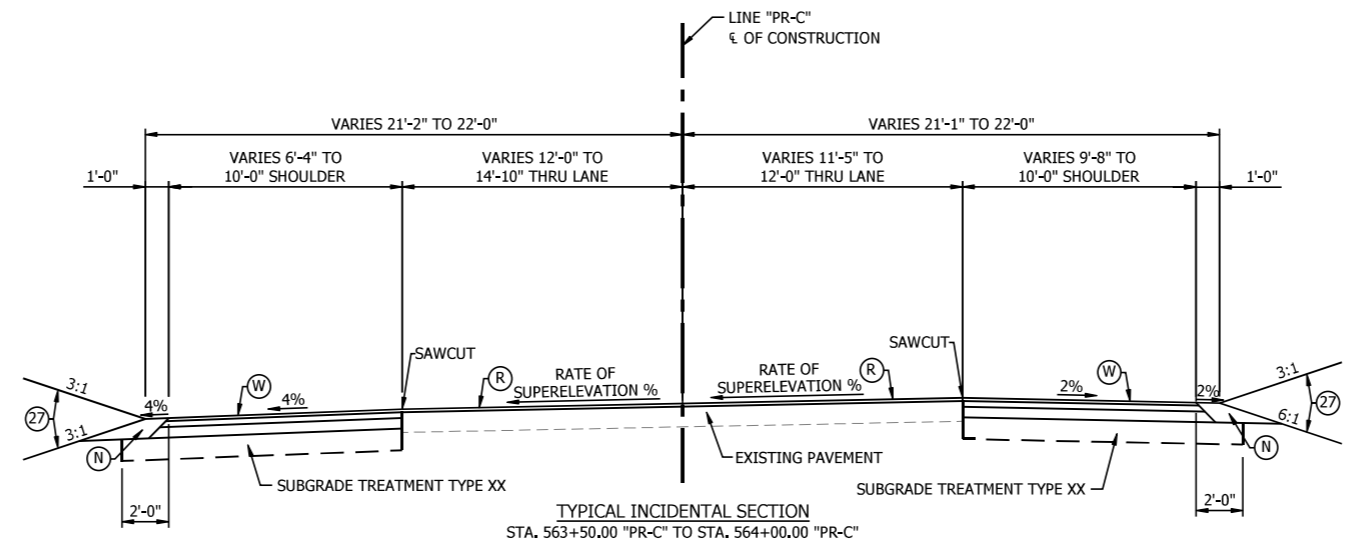
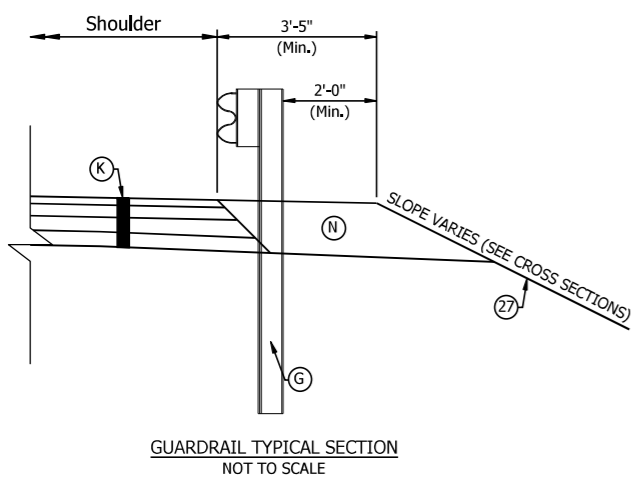
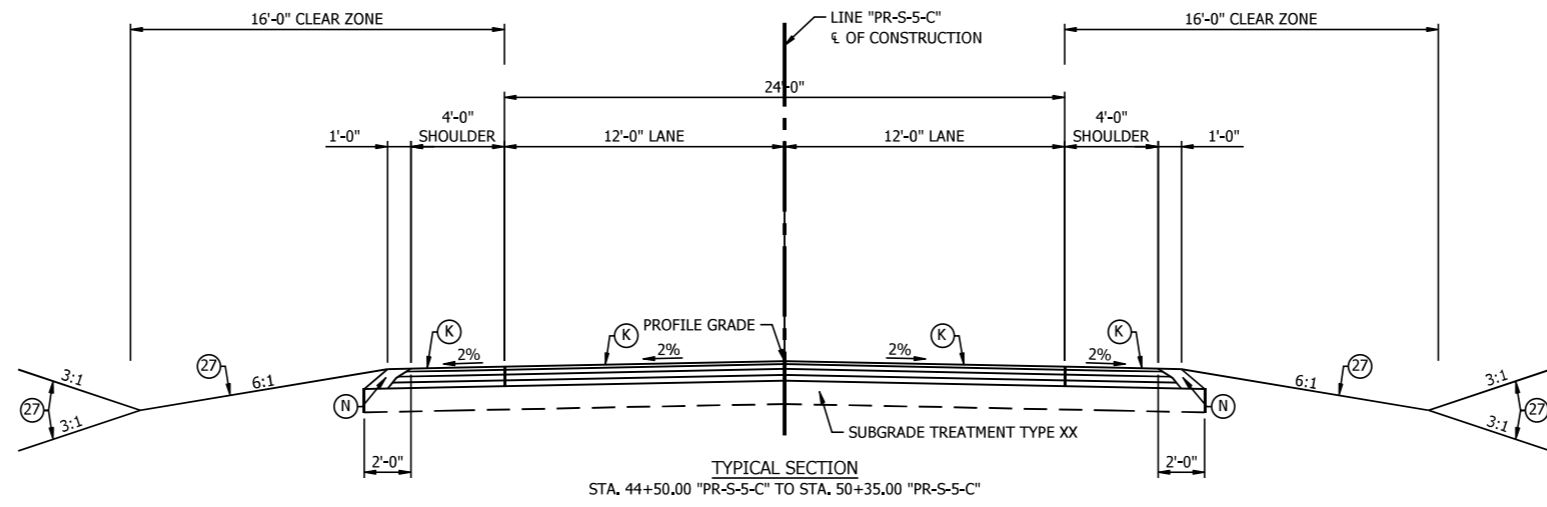
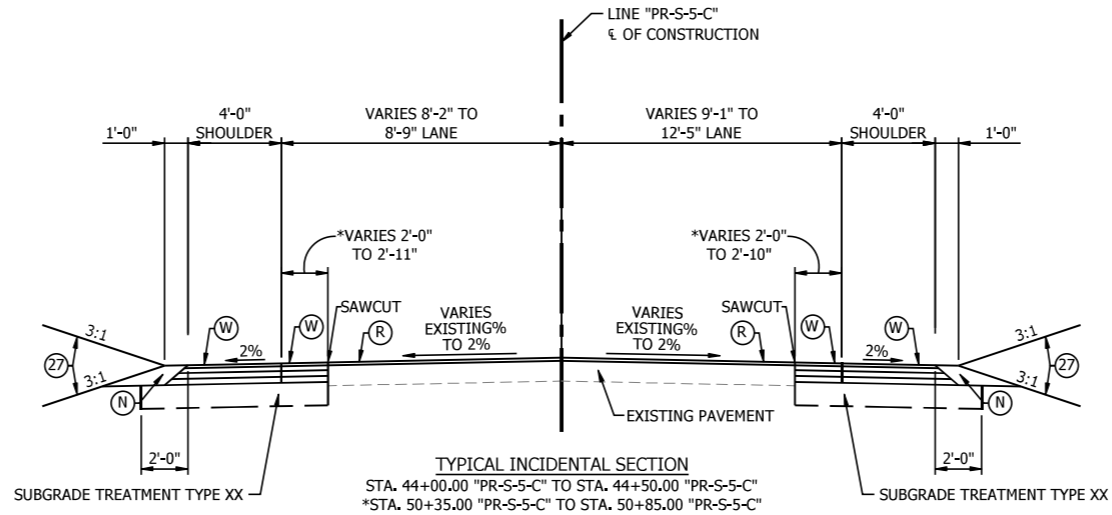
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CONTRACT R-40742	PROJECT 1700091

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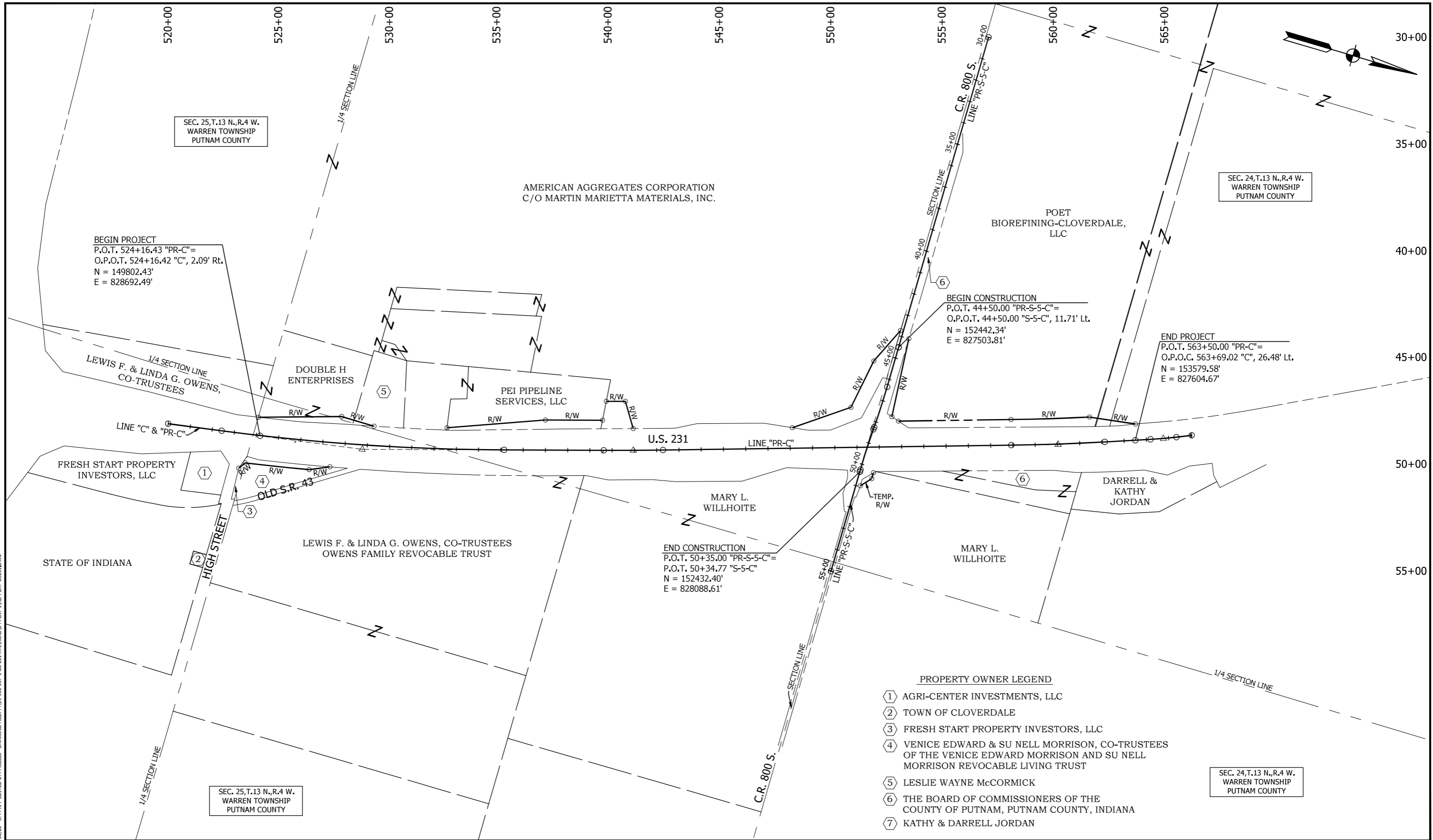
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(N) COMPACTED AGGREGATE, NO. 53	(W) WIDENING WITH HMA TYPE B (2' Minimum)	(22) CONCRETE CENTER CURB, TYPE D
	(27) MULCHED SEEDING, R	

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
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CHECKED: LLC	CHECKED: LLC	

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

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VERTICAL SCALE 1/4" = 1'	DESIGNATION 1700091
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CONTRACT R-40742	PROJECT 1700091

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 O.P.O.T. 524+16.42 "C", 2.09' Rt.
 N = 149802.43'
 E = 828692.49'

BEGIN CONSTRUCTION
 P.O.T. 44+50.00 "PR-S-5-C"=
 O.P.O.T. 44+50.00 "S-5-C", 11.71' Lt.
 N = 152442.34'
 E = 827503.81'

END PROJECT
 P.O.T. 563+50.00 "PR-C"=
 O.P.O.C. 563+69.02 "C", 26.48' Lt.
 N = 153579.58'
 E = 827604.67'

END CONSTRUCTION
 P.O.T. 50+35.00 "PR-S-5-C"=
 P.O.T. 50+34.77 "S-5-C"
 N = 152432.40'
 E = 828088.61'

PROPERTY OWNER LEGEND

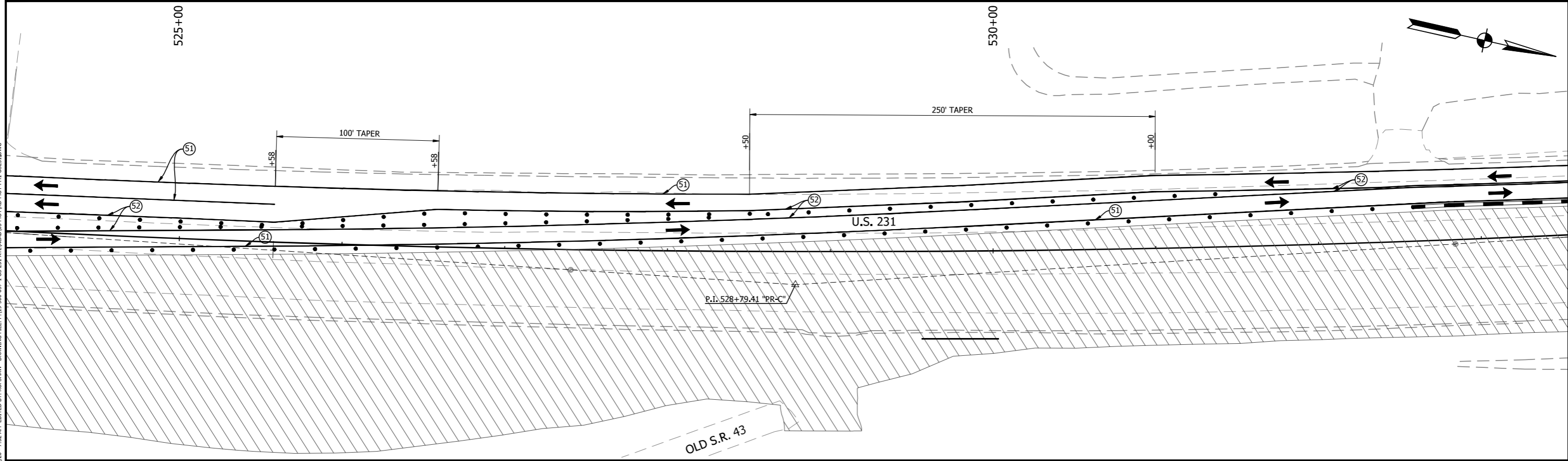
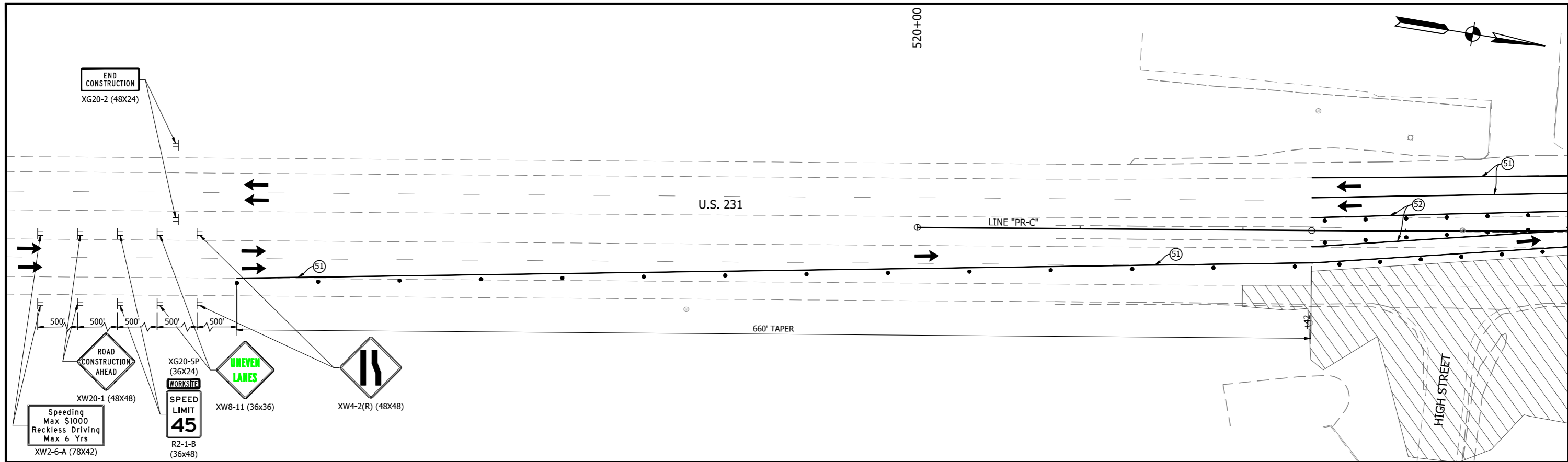
- ① AGRI-CENTER INVESTMENTS, LLC
- ② TOWN OF CLOVERDALE
- ③ FRESH START PROPERTY INVESTORS, LLC
- ④ VENICE EDWARD & SU NELL MORRISON, CO-TRUSTEES OF THE VENICE EDWARD MORRISON AND SU NELL MORRISON REVOCABLE LIVING TRUST
- ⑤ LESLIE WAYNE McCORMICK
- ⑥ THE BOARD OF COMMISSIONERS OF THE COUNTY OF PUTNAM, PUTNAM COUNTY, INDIANA
- ⑦ KATHY & DARRELL JORDAN

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE
DESIGNED: RDS	DRAWN: MSS		
CHECKED: LLC	CHECKED: RDS		

INDIANA DEPARTMENT OF TRANSPORTATION

PLAT NO. 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 200'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1700091
SURVEY BOOK	SHEET
	6 of 84
CONTRACT	PROJECT
R-40742	1700091



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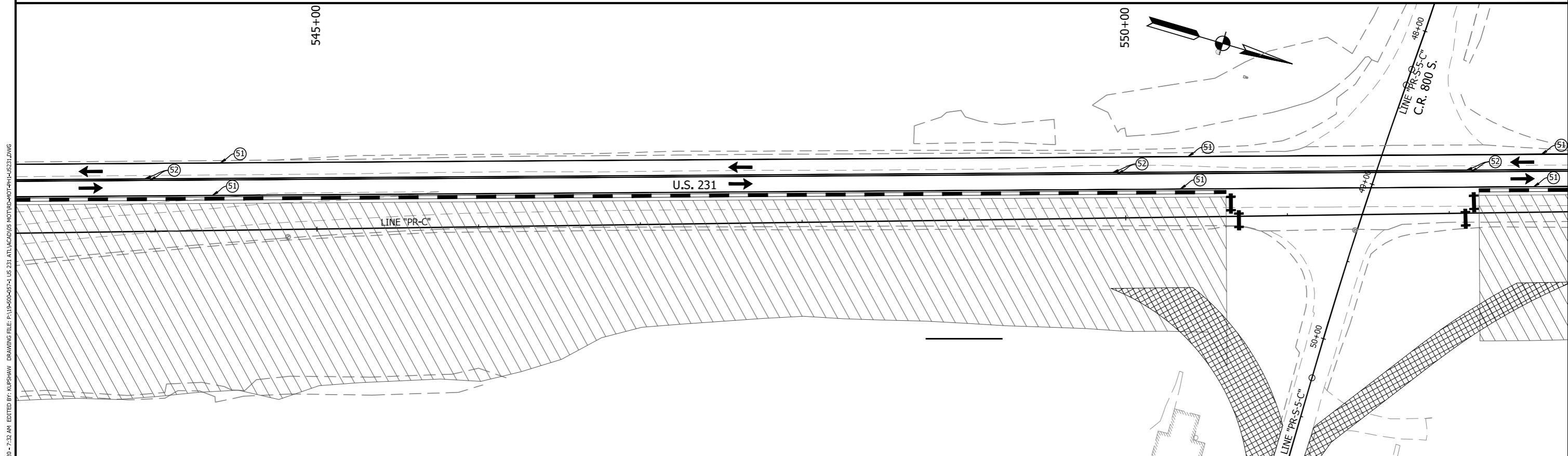
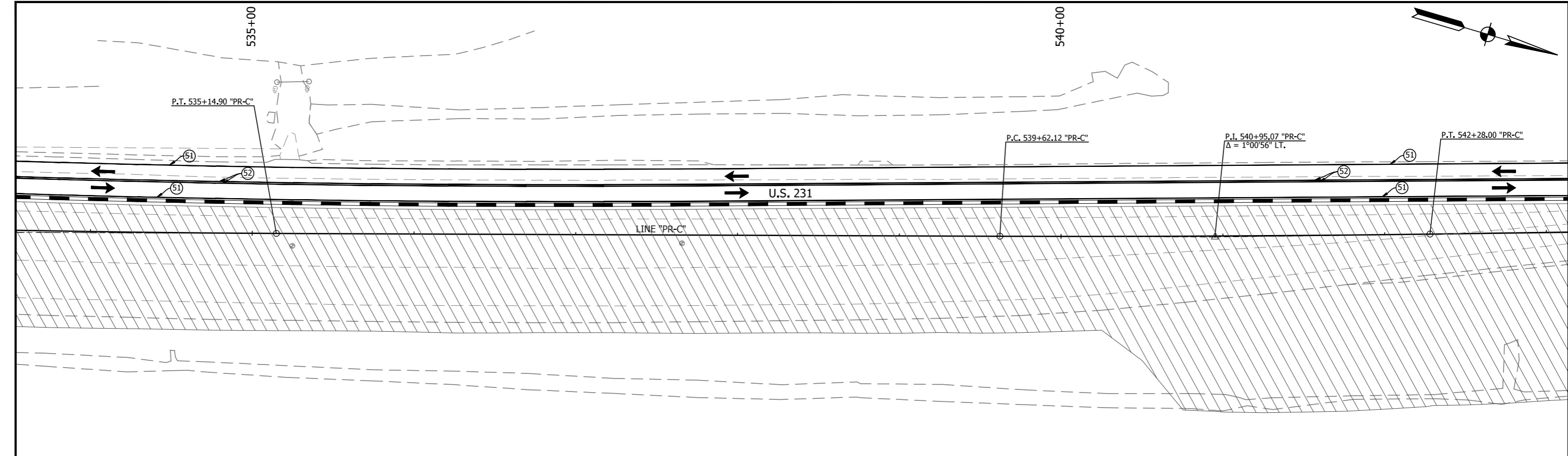
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→ TRAFFIC DIRECTION	AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊕ BARRICADE TYPE III B	TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
X LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER		DATE	
DESIGNED: BEH	DRAWN: MSS				
CHECKED: RDS	CHECKED: RDS				

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASE 1

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 7 of 84
CONTRACT R-40742	PROJECT 1700091



PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
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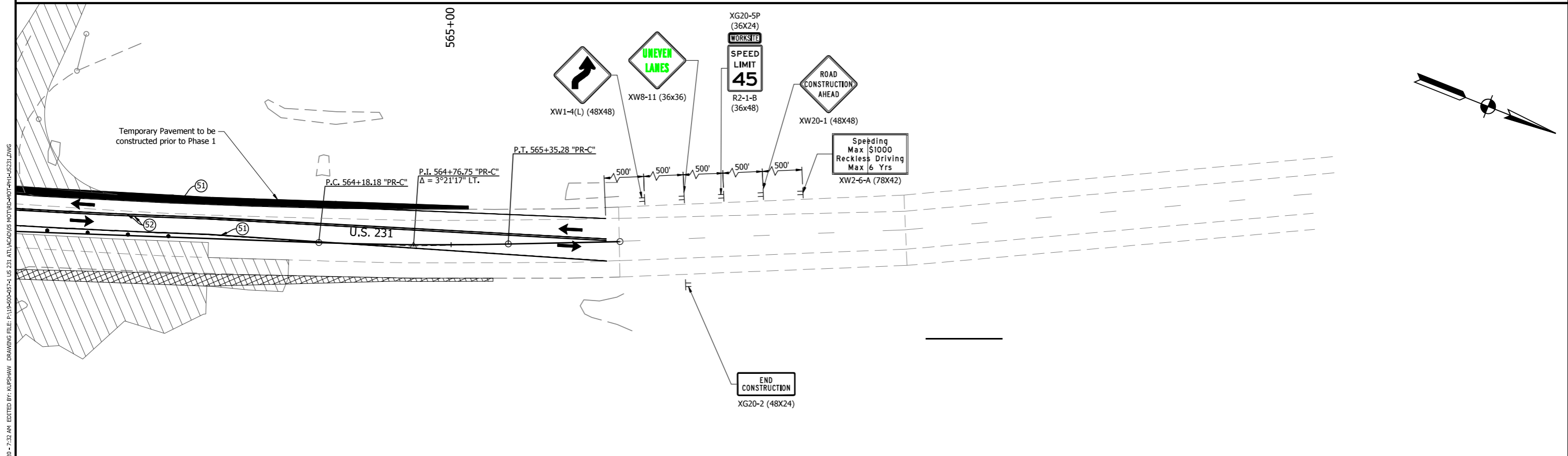
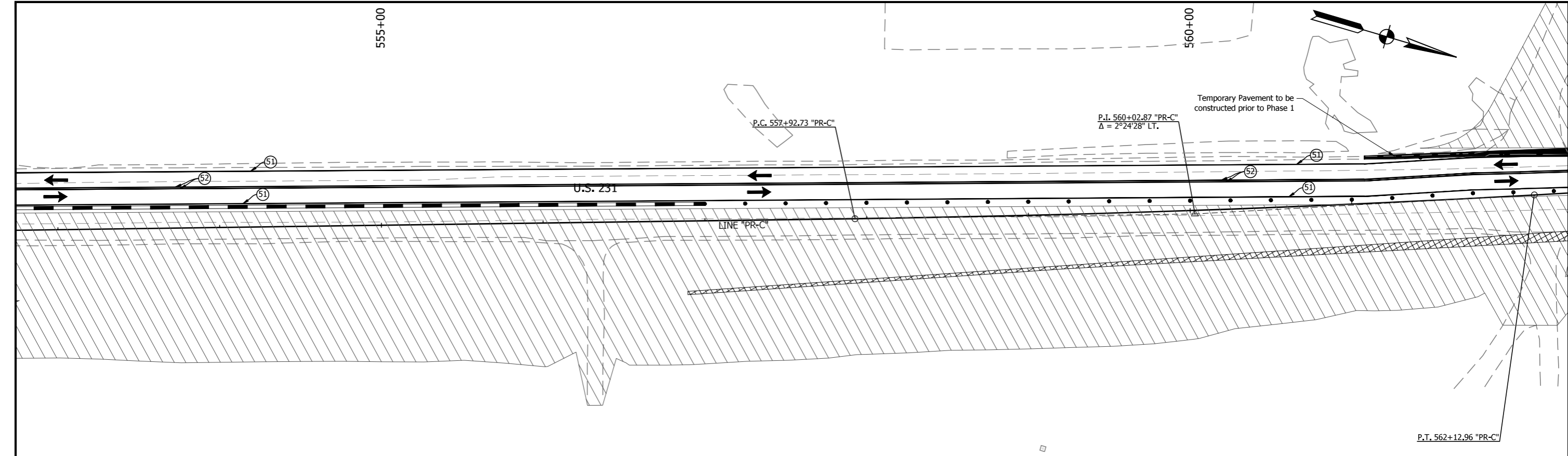
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→	TRAFFIC DIRECTION	○51	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)
TT	CONSTRUCTION SIGN	○52	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)
⊥	BARRICADE TYPE III B	○53	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)
—	LINE REMOVAL	○54	TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"
•	DRUM w/ WARNING LIGHT		
		▨	AREA OF CONSTRUCTION
		▩	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II
		—	TEMPORARY TRAFFIC BARRIER, TYPE 2

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
PHASE 1

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1700091
SURVEY BOOK	SHEET
	8 of 84
CONTRACT	PROJECT
R-40742	1700091



PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
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 EDITED BY: KUPSHAW
 DATE: 11/25/20 7:32 AM

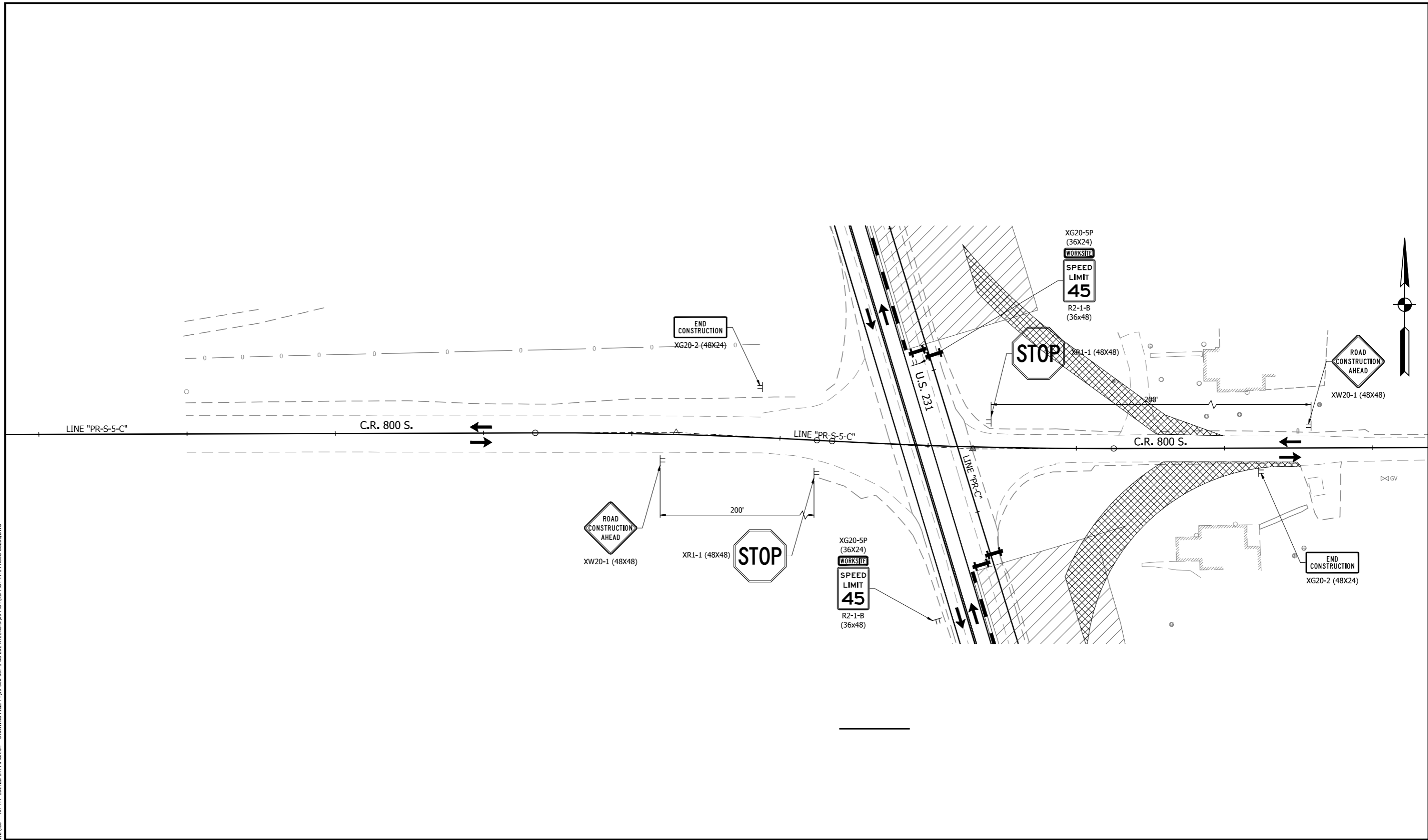
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→ TRAFFIC DIRECTION	▨ AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	▨ HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊥ BARRICADE TYPE III B	▨ TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION MAINTENANCE OF TRAFFIC PHASE 1	
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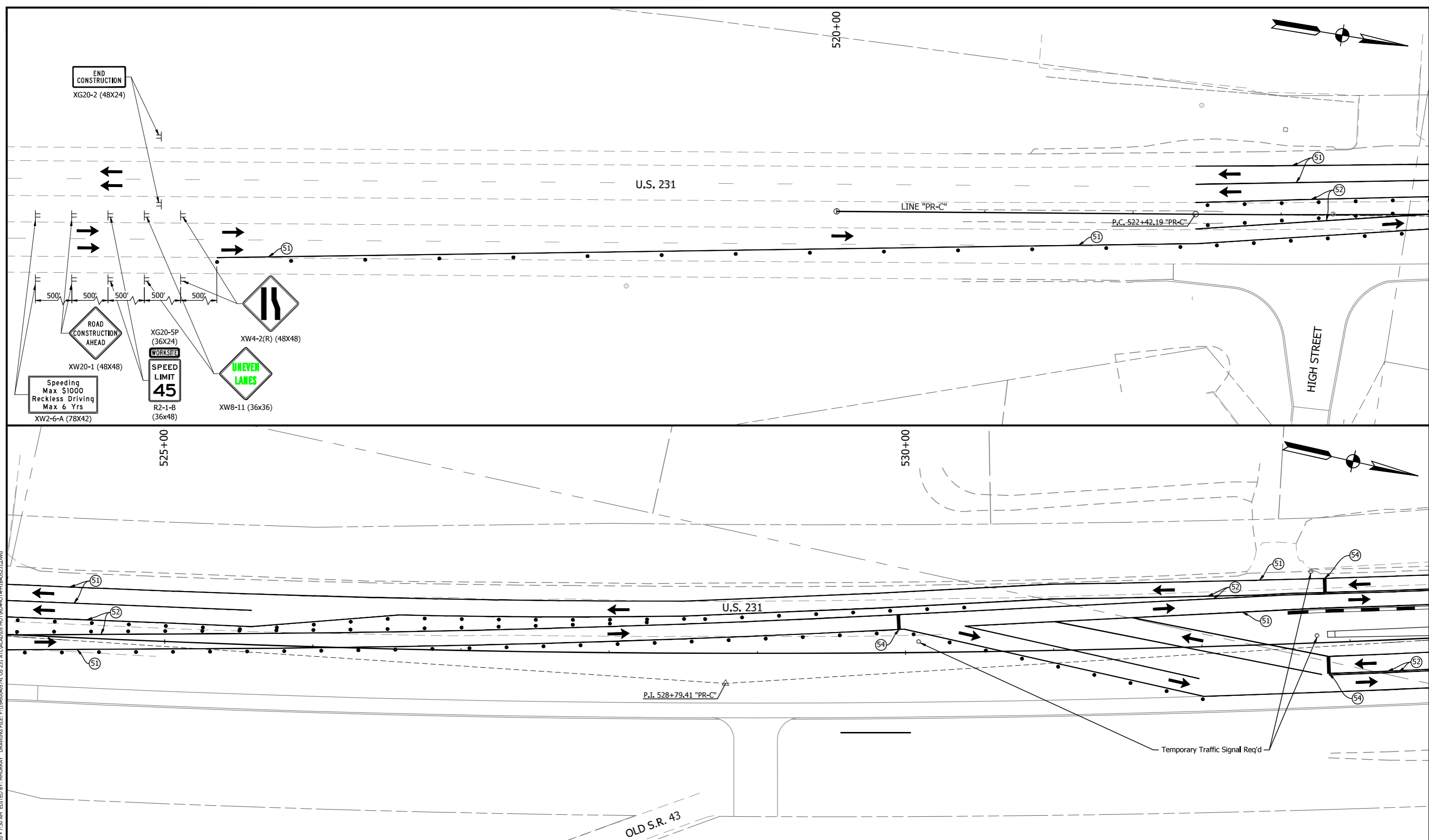
HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 9 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:11002
 EDIT DATE: 11/24/20 - 4:07 PM
 EDITED BY: MMURRAY
 DRAWING FILE: P:\19-500-05-1 US 231 ATLACAD\US MOT\RD-MOT-4P11-PRSEC-US231.DWG



WORK ZONE DESIGN SPEED = 35 MPH → TRAFFIC DIRECTION TT CONSTRUCTION SIGN BARRICADE TYPE III B X LINE REMOVAL • DRUM w/ WARNING LIGHT	LEGEND [Hatched Box] AREA OF CONSTRUCTION [Cross-hatched Box] HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II [Dashed Line] TEMPORARY TRAFFIC BARRIER, TYPE 2	(51) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE) (52) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW) (53) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED) (54) TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1" = 30' VERTICAL SCALE N/A	BRIDGE FILE N/A DESIGNATION 1700091
			DESIGNED: <u>BEH</u> CHECKED: <u>RDS</u>	DRAWN: <u>MSS</u> CHECKED: <u>RDS</u>	MAINTENANCE OF TRAFFIC PHASE 1		SURVEY BOOK CONTRACT R-40742

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
 EDIT DATE: 11/25/20 7:30 AM
 EDITED BY: MMURRAY
 DRAWING FILE: P:\19-600-0574 US 231 AT LACAGOIS MOTIVHD-HOT-PRIB-65231.DWG



WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	▨ AREA OF CONSTRUCTION	⓪ TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	▨ HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	Ⓛ TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⚡ BARRICADE TYPE III B	▬ TEMPORARY TRAFFIC BARRIER, TYPE 2	Ⓜ TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
X LINE REMOVAL		Ⓝ TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

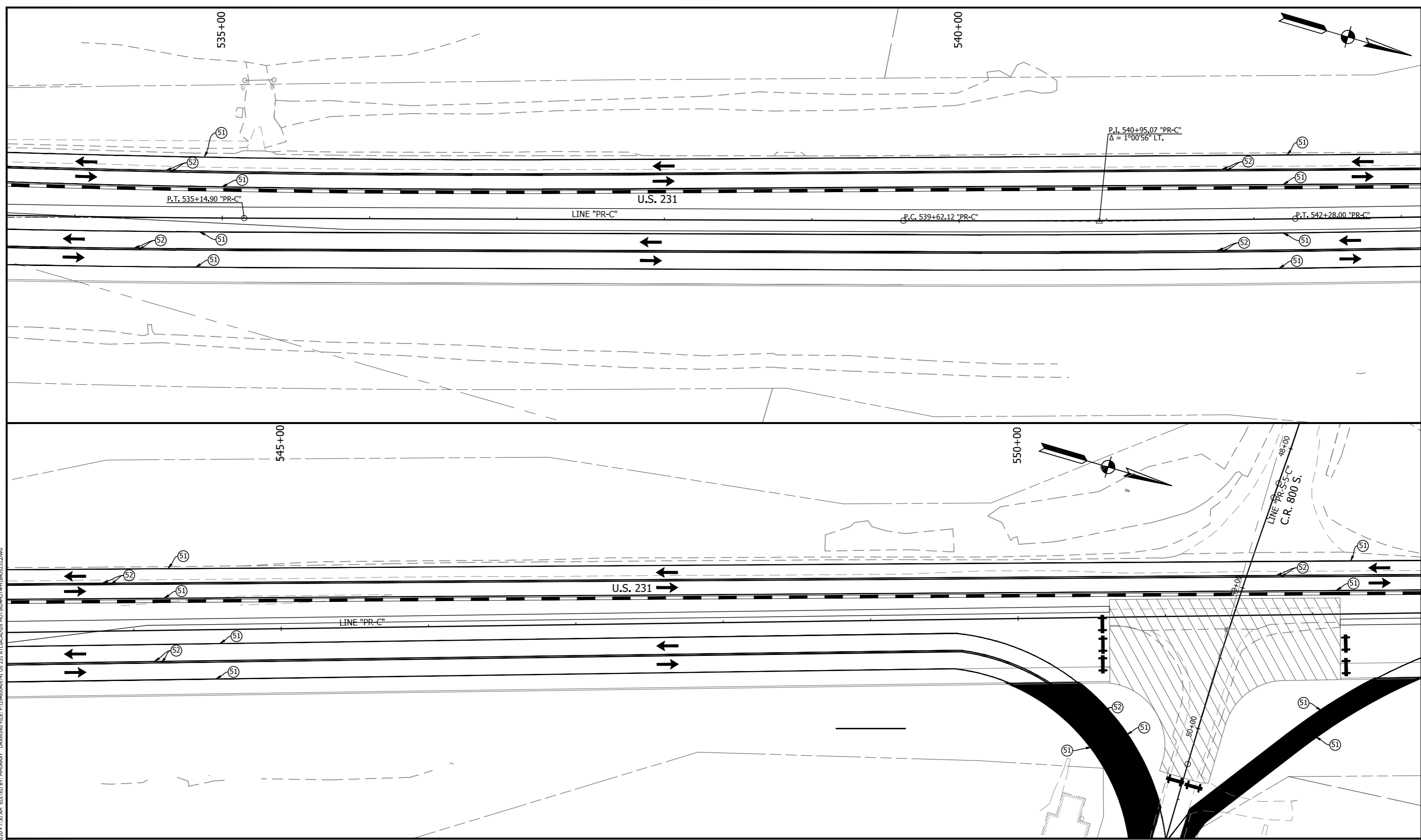
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASE 1b

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 12 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
 EDIT DATE: 11/25/20 7:30 AM
 EDITED BY: MMURRAY
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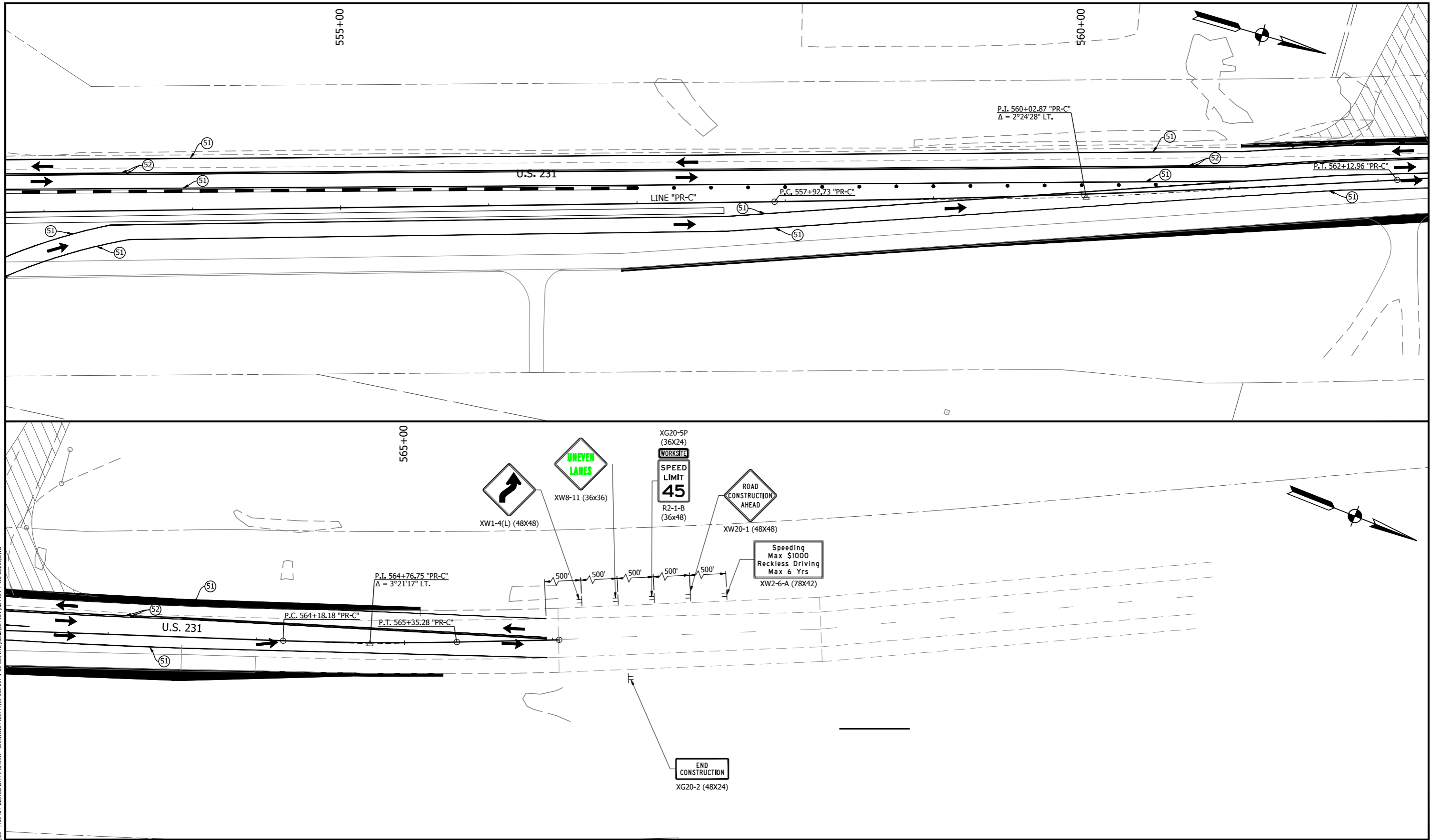
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→	TRAFFIC DIRECTION	⊞	AREA OF CONSTRUCTION
TT	CONSTRUCTION SIGN	▨	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II
⊞	BARRICADE TYPE III B LINE REMOVAL	—	TEMPORARY TRAFFIC BARRIER, TYPE 2
•	DRUM w/ WARNING LIGHT	⊞	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)
		⊞	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)
		⊞	TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)
		⊞	TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC PHASE 1b

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 13 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
 EDIT DATE: 11/25/20 - 7:30 AM
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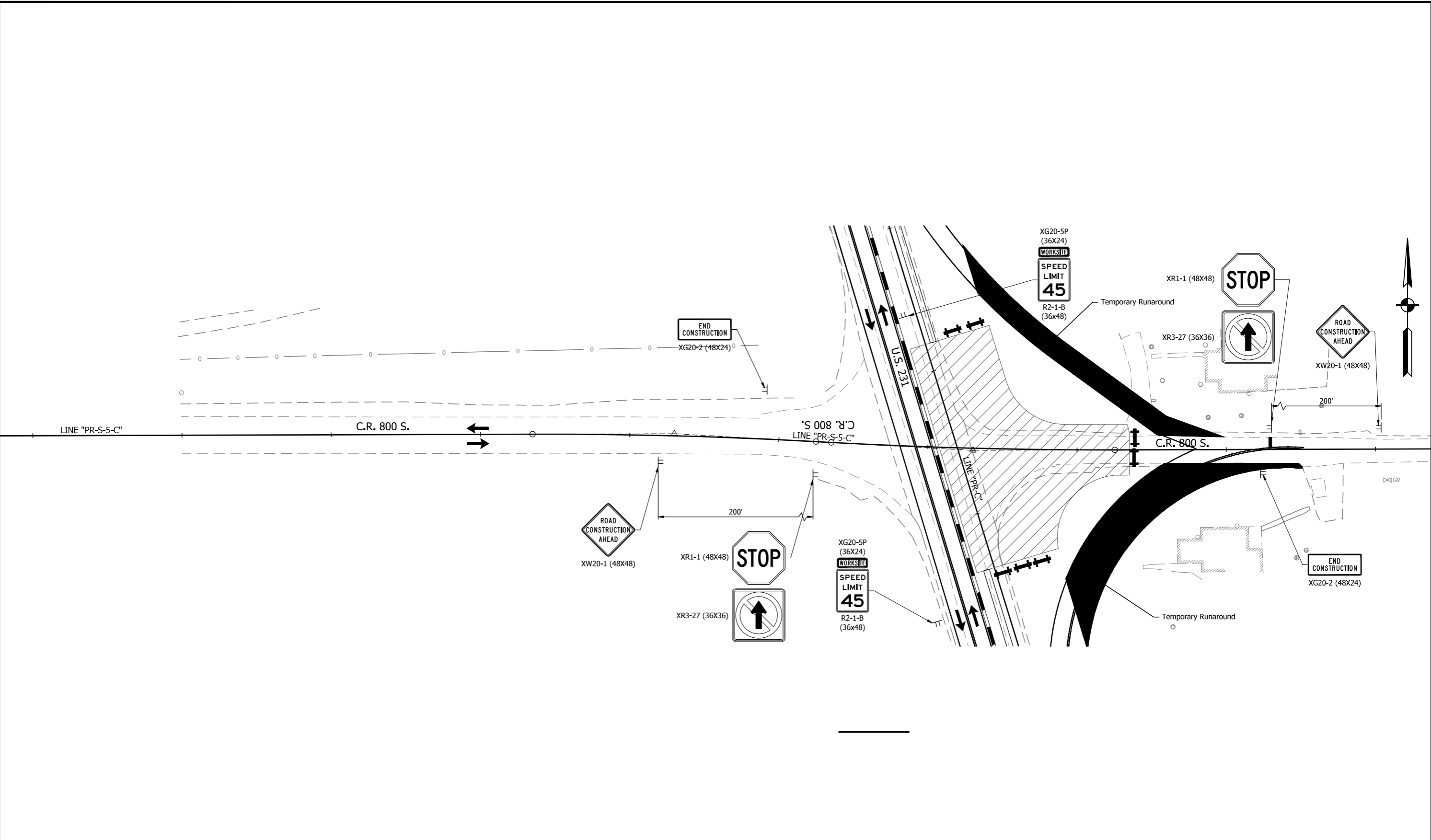
WORK ZONE DESIGN SPEED = 35 MPH → TRAFFIC DIRECTION TT CONSTRUCTION SIGN BARRICADE TYPE III B LINE REMOVAL • DRUM w/ WARNING LIGHT		LEGEND AREA OF CONSTRUCTION HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II TEMPORARY TRAFFIC BARRIER, TYPE 2		(51) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE) (52) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW) (53) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED) (54) TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN., REMOVABLE, 24"	
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	
DESIGNED: BEH	DRAWN: MSS
CHECKED: RDS	CHECKED: RDS

INDIANA DEPARTMENT OF TRANSPORTATION MAINTENANCE OF TRAFFIC PHASE 1b	
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HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 14 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1,000
 EDIT DATE: 11/24/20 4:07 PM
 EDITED BY: MMURRAY
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WORK ZONE DESIGN SPEED = 35 MPH → TRAFFIC DIRECTION TT CONSTRUCTION SIGN BARRICADE TYPE III B X LINE REMOVAL • DRUM w/ WARNING LIGHT		LEGEND [Hatched Box] AREA OF CONSTRUCTION [Cross-hatched Box] HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II [Dashed Line] TEMPORARY TRAFFIC BARRIER, TYPE 2		(51) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE) (52) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW) (53) TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED) (54) TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN., REMOVABLE, 24"	
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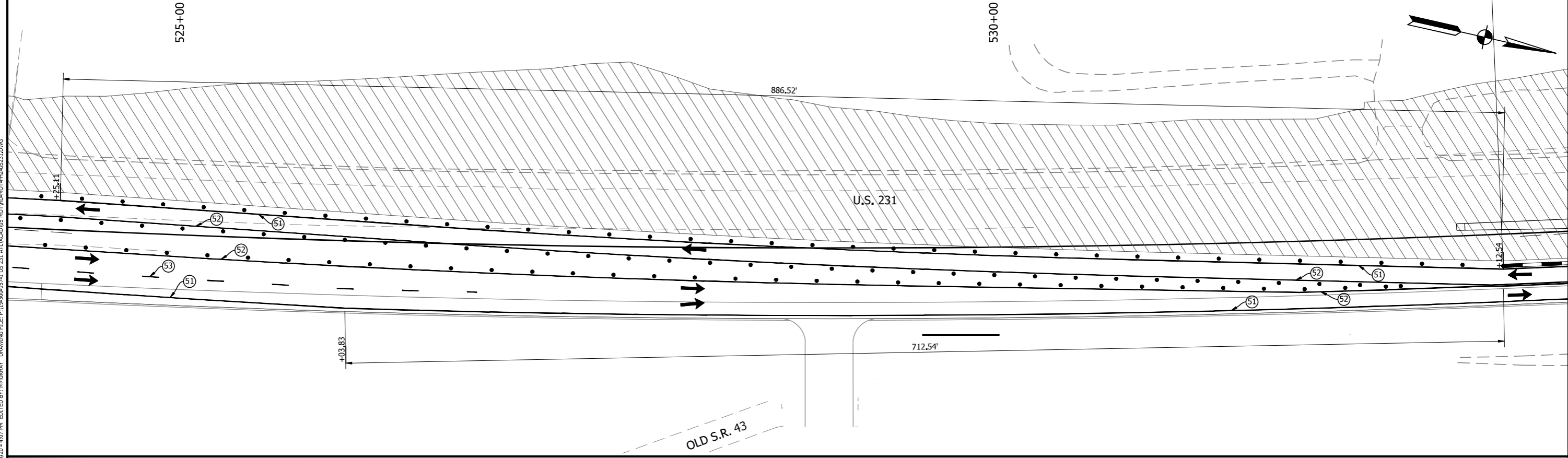
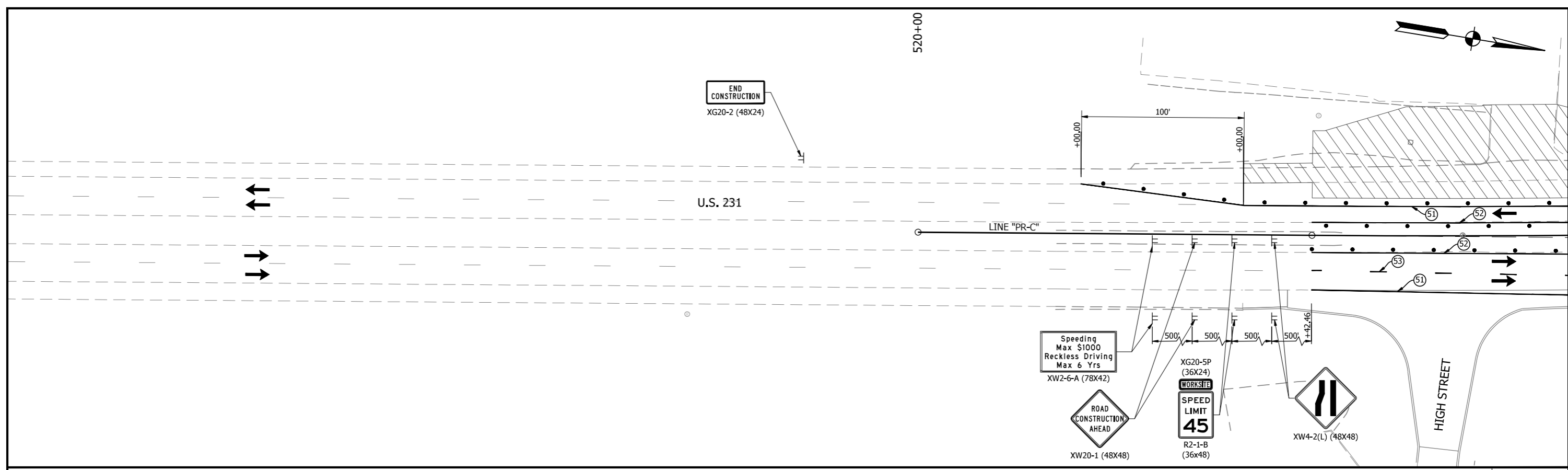
RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER DATE	
DESIGNED: <u>BEH</u>	DRAWN: <u>MSS</u>
CHECKED: <u>RDS</u>	CHECKED: <u>RDS</u>

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASE 1b

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 15 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
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 DRAWING FILE: P:\19-000-057-1 US 231 AT LACAD05 MOTV\CD-MOTV\PH2-621.DWG



WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	▨ AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	▨ HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊕ BARRICADE TYPE III B		⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT	— TEMPORARY TRAFFIC BARRIER, TYPE 2		

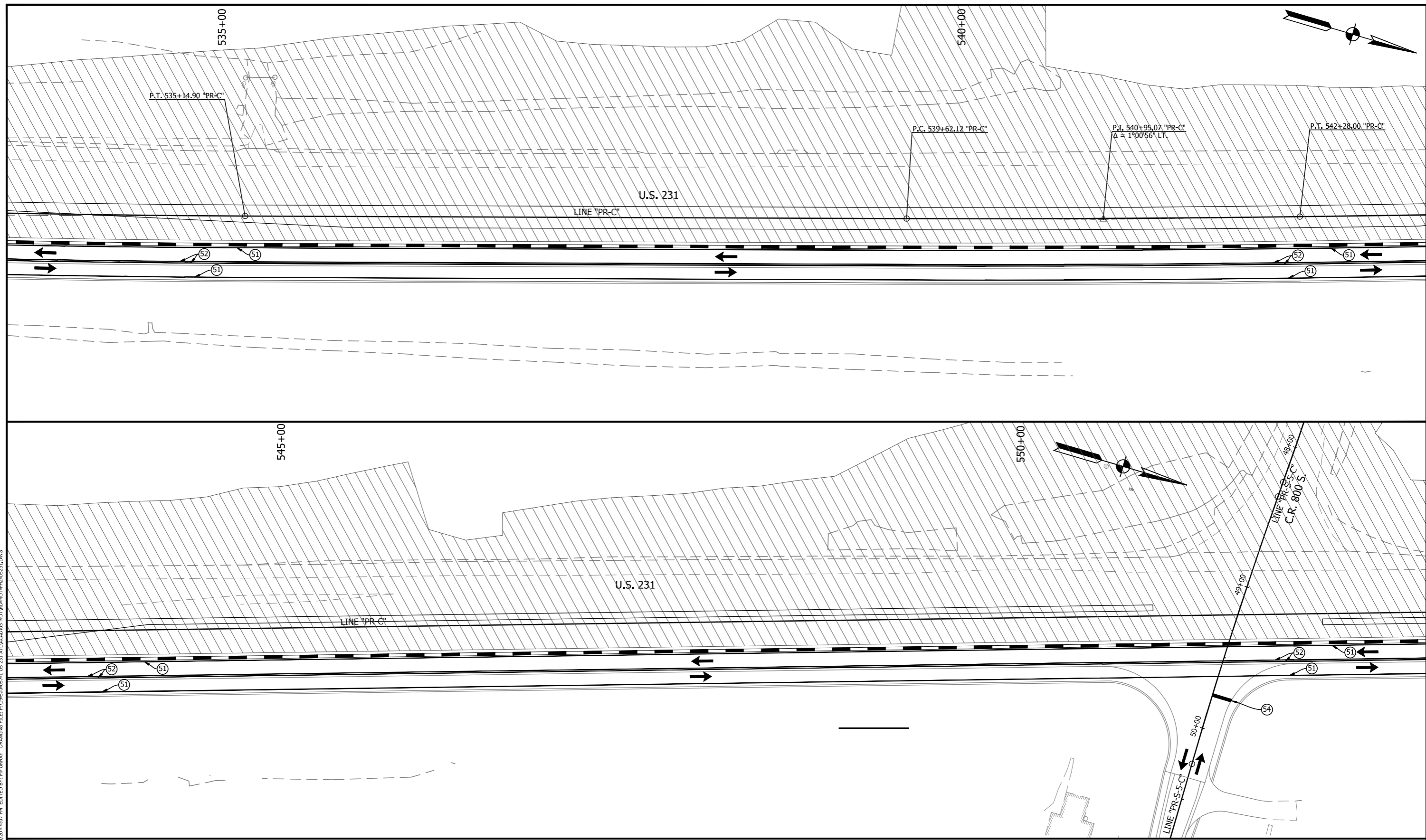
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DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA
DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC
PHASE 2

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 16 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
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WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	▨ AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	▨ HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊥ BARRICADE TYPE III B	▬ TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
○ LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
● DRUM w/ WARNING LIGHT			

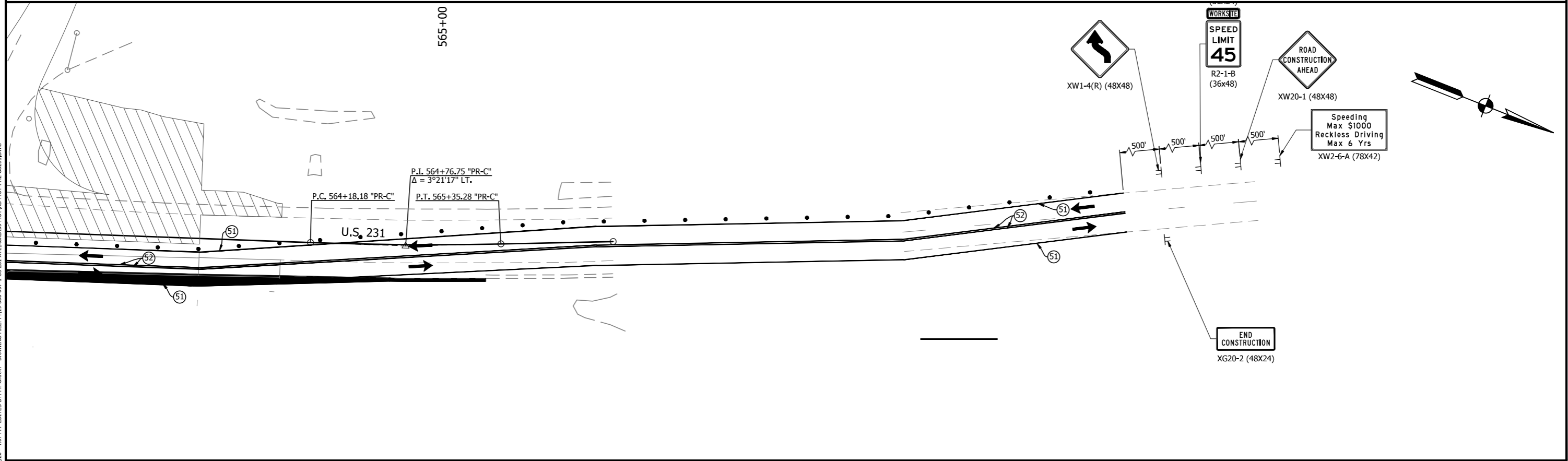
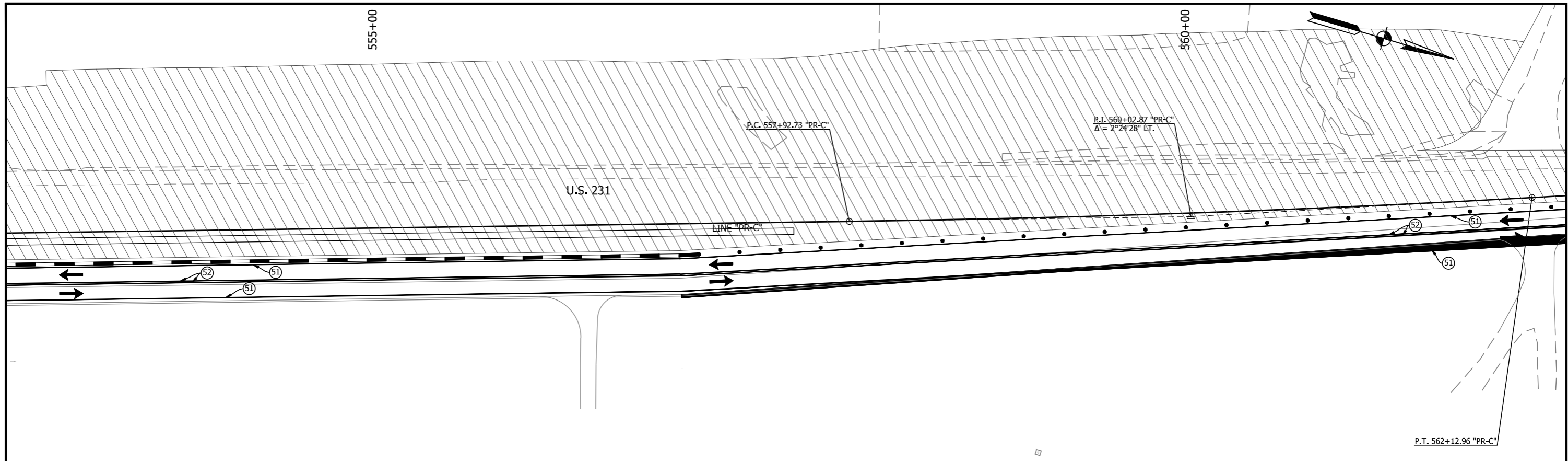
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DESIGNED: <u>BEH</u>	DRAWN: <u>MSS</u>	
CHECKED: <u>RDS</u>	CHECKED: <u>RDS</u>	

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASE 2

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 17 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
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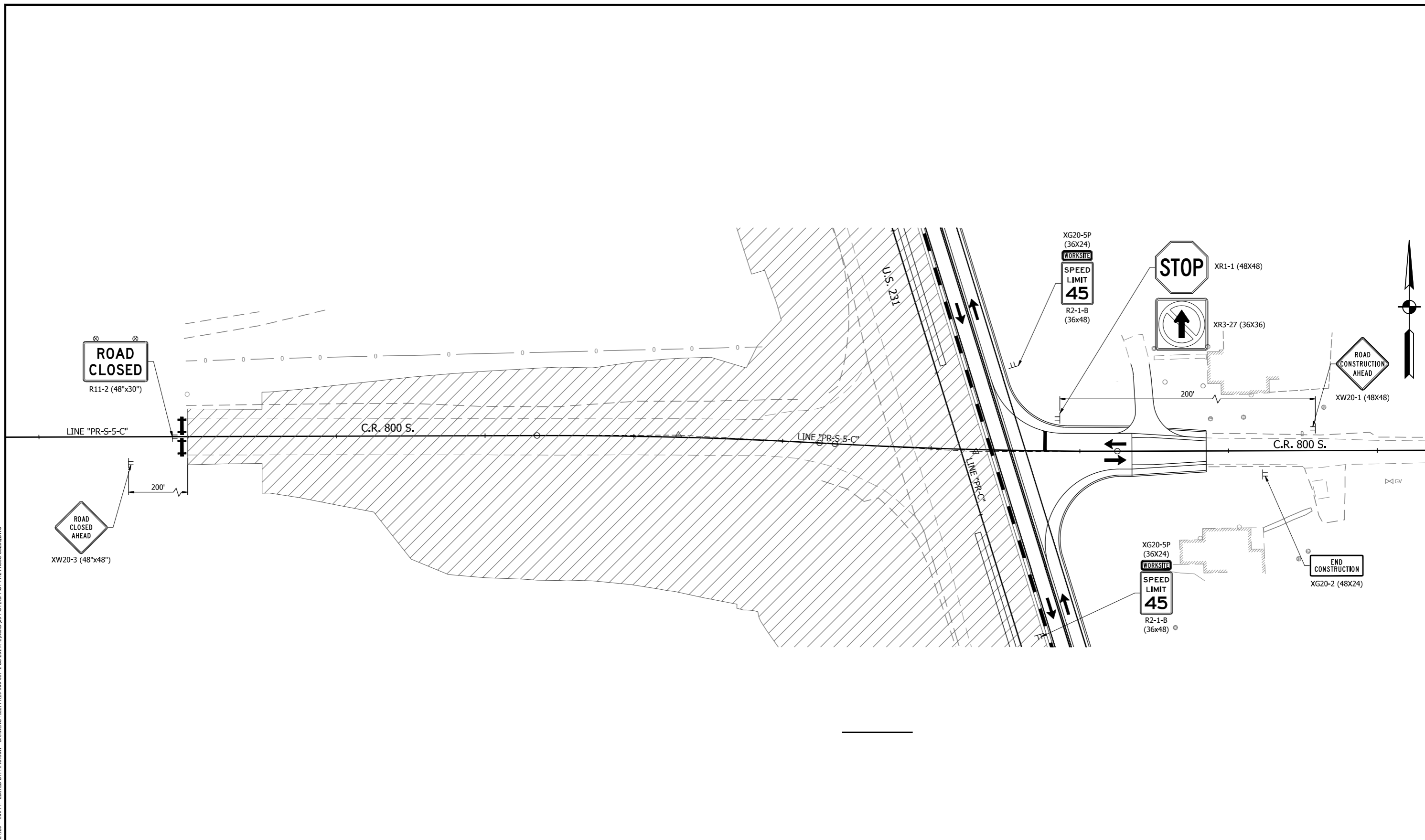
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→ TRAFFIC DIRECTION	AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊥ BARRICADE TYPE III B	TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN., REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC PHASE 2

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 18 of 84
CONTRACT R-40742	PROJECT 1700091

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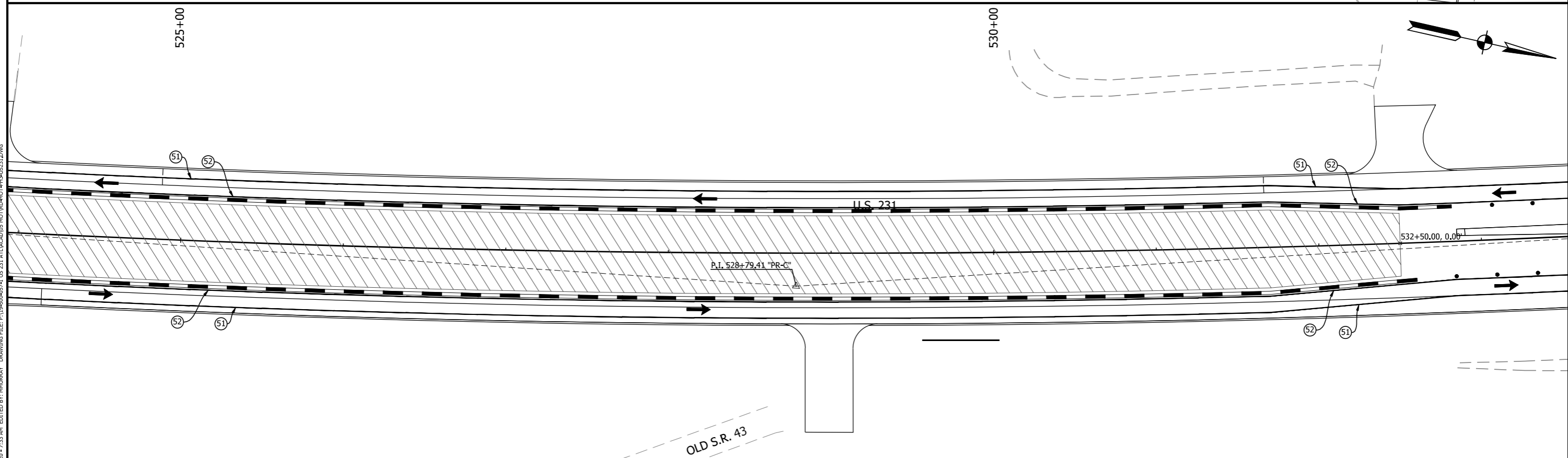
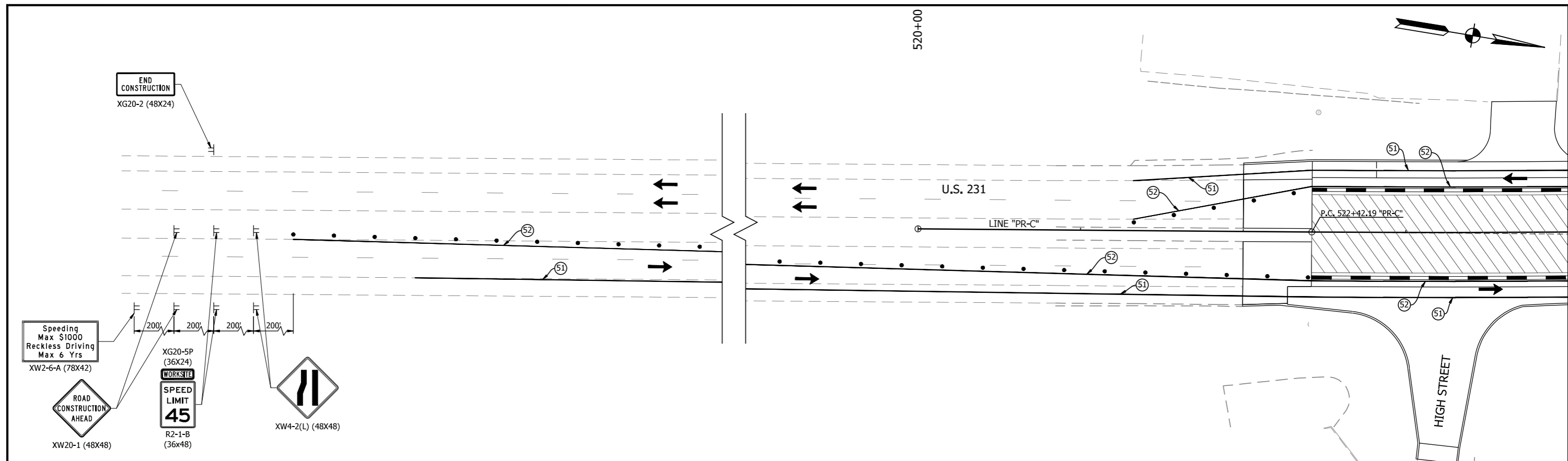
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→ TRAFFIC DIRECTION	[Hatched Box] AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	[Cross-hatched Box] HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
[Barrier Symbol] BARRICADE TYPE III B	[Dashed Line] TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
X LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: <u>BEH</u>	DRAWN: <u>MSS</u>	
CHECKED: <u>RDS</u>	CHECKED: <u>RDS</u>	

INDIANA DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC PHASE 2

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1700091
SURVEY BOOK	SHEET
	19 of 84
CONTRACT	PROJECT
R-40742	1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
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 DRAWING FILE: P:\19-000-057-1 US 231 AT LACROSSE MOTIVHD-HOT-PPH-LS231.DWG



WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	[Hatched Box] AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	[Cross-hatched Box] HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⚡ BARRICADE TYPE III B	[Dashed Line] TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

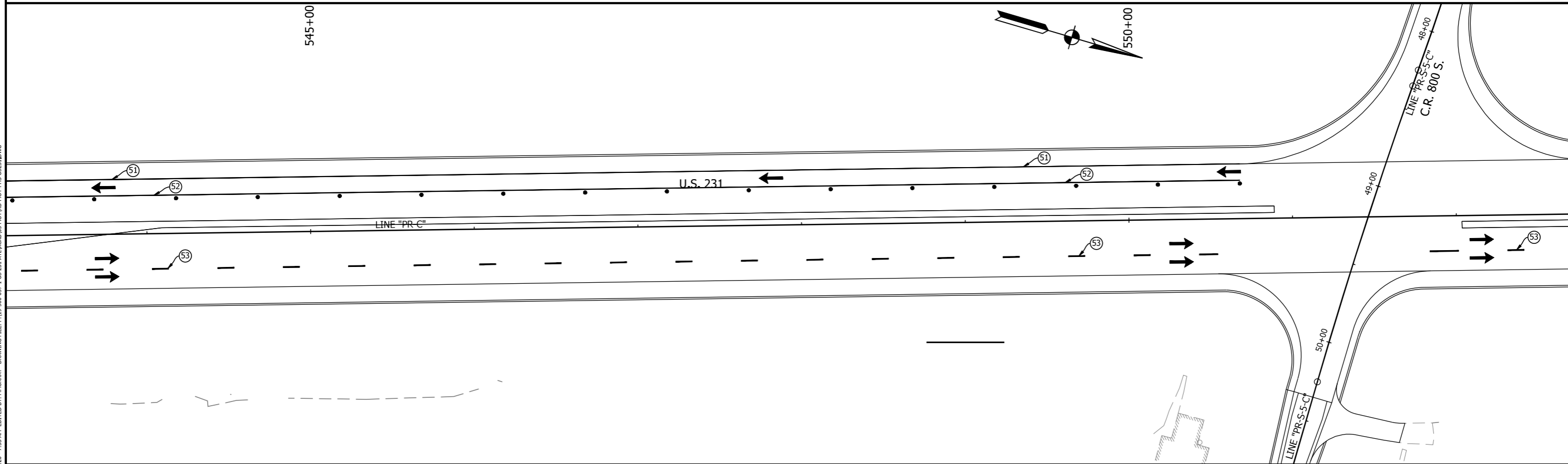
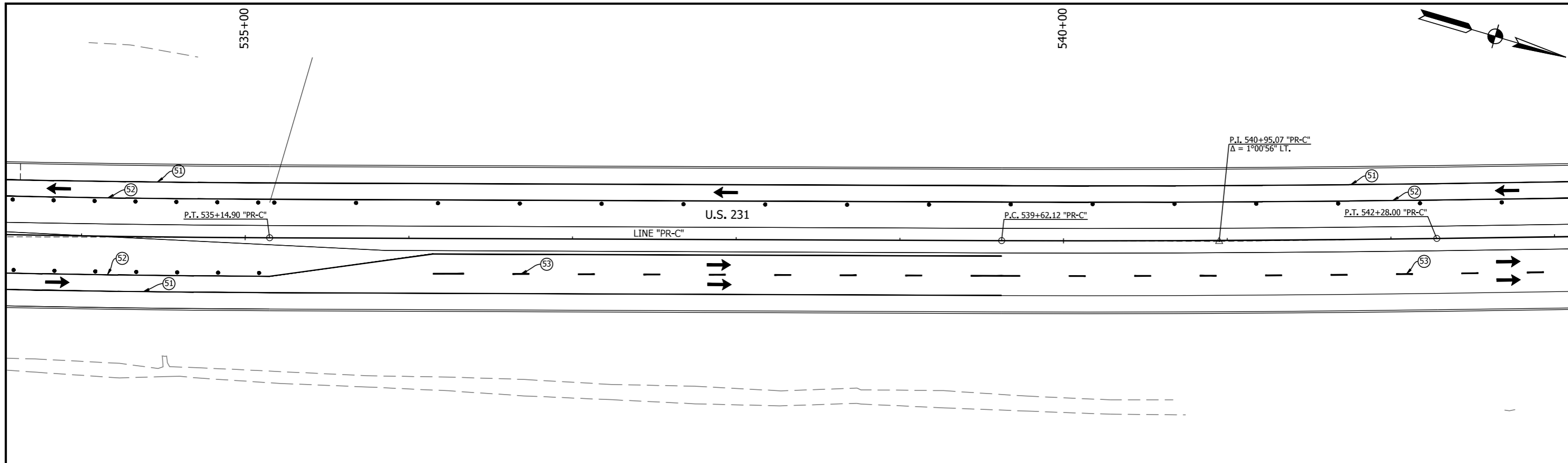
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION

MAINTENANCE OF TRAFFIC PHASE 3

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 20 of 84
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1
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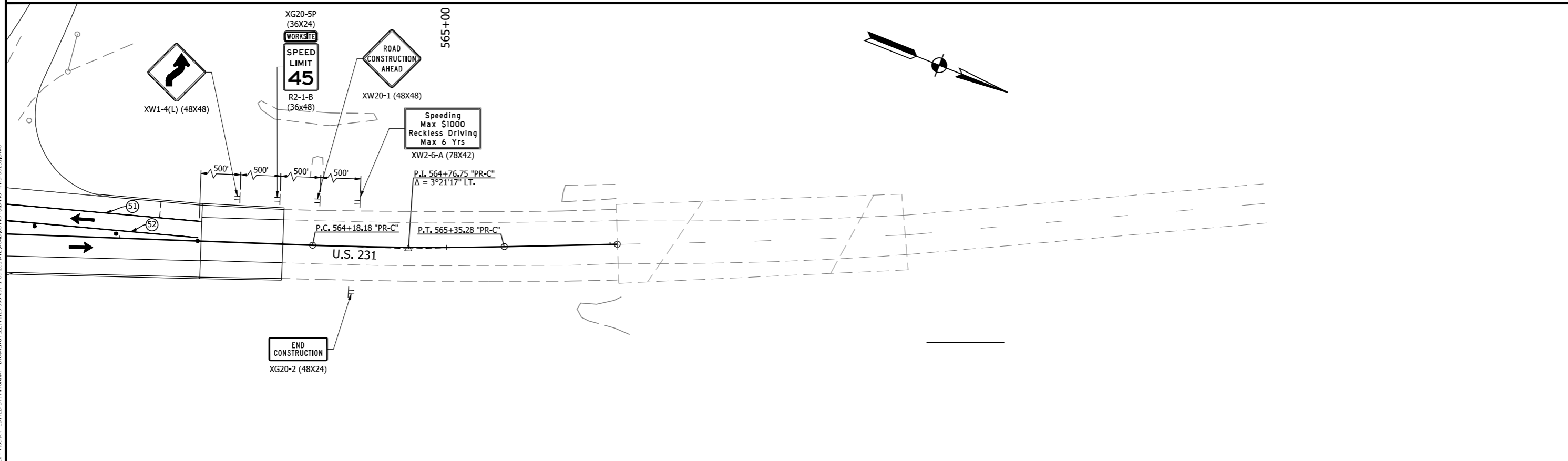
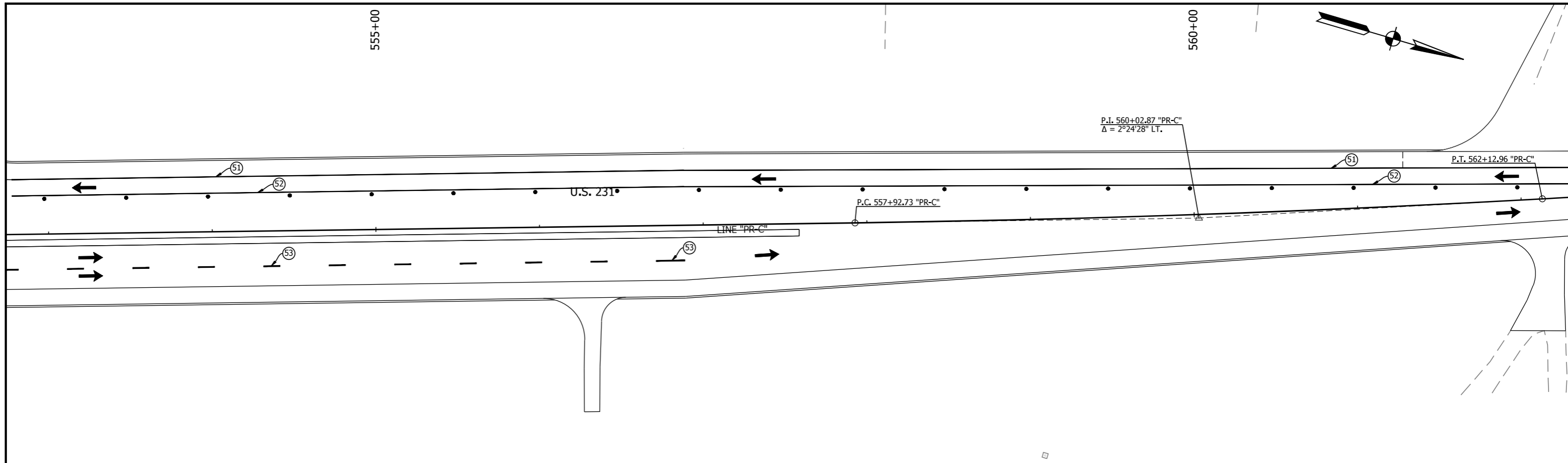


WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	AREA OF CONSTRUCTION	⓪1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⓪2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊥ BARRICADE TYPE III B	TEMPORARY TRAFFIC BARRIER, TYPE 2	⓪3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⓪4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN. , REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: <u>BEH</u>	DRAWN: <u>MSS</u>	
CHECKED: <u>RDS</u>	CHECKED: <u>RDS</u>	

INDIANA DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC PHASE 3

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 21 of 84
CONTRACT R-40742	PROJECT 1700091



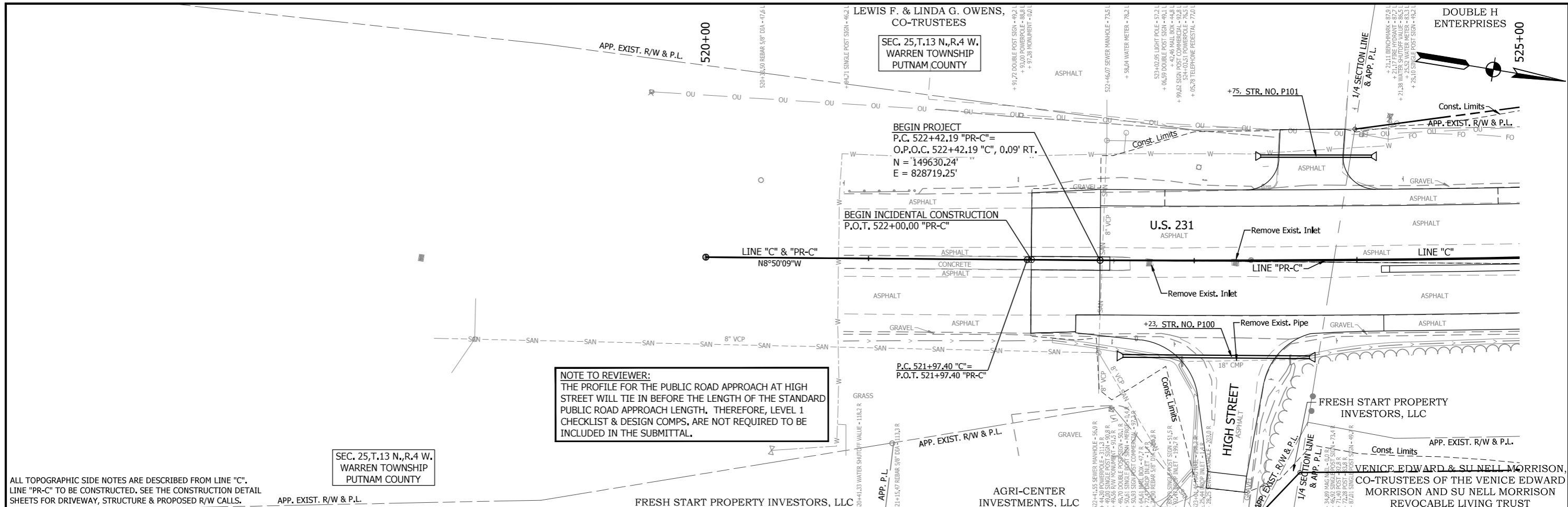
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 EDITED BY: MMURRAY
 DRAWING FILE: P:\19-600-0574 US 231 AT LACAGOIS MOT/VID-HOT-PPH-6231.DWG

WORK ZONE DESIGN SPEED = 35 MPH		LEGEND	
→ TRAFFIC DIRECTION	AREA OF CONSTRUCTION	⑤1 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (WHITE)	
TT CONSTRUCTION SIGN	HMA FOR TEMPORARY PAVEMENT, TYPE C: 165 LB/SYD HMA, SURFACE, TYPE C, ON 495 LB/SYD HMA, INTERMEDIATE, TYPE C, ON SUBGRADE TREATMENT, TYPE II	⑤2 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (YELLOW)	
⊥ BARRICADE TYPE III B	TEMPORARY TRAFFIC BARRIER, TYPE 2	⑤3 TEMPORARY PAVEMENT MARKING, REMOVABLE, 4 IN. (DASHED)	
— LINE REMOVAL		⑤4 TEMPORARY PAVEMENT MARKING, REMOVABLE, 24 IN., REMOVABLE, 24"	
• DRUM w/ WARNING LIGHT			

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: BEH	DRAWN: MSS	
CHECKED: RDS	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION	
MAINTENANCE OF TRAFFIC PHASE 3	

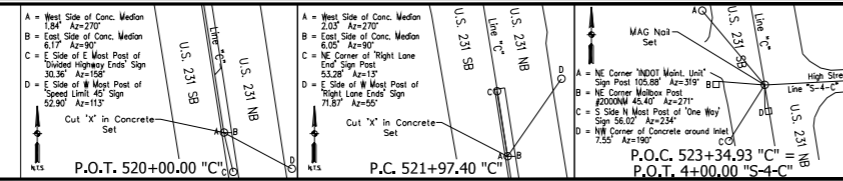
HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 22 of 84
CONTRACT R-40742	PROJECT 1700091



NOTE TO REVIEWER:
 THE PROFILE FOR THE PUBLIC ROAD APPROACH AT HIGH STREET WILL TIE IN BEFORE THE LENGTH OF THE STANDARD PUBLIC ROAD APPROACH LENGTH. THEREFORE, LEVEL 1 CHECKLIST & DESIGN COMPS, ARE NOT REQUIRED TO BE INCLUDED IN THE SUBMITTAL.

ALL TOPOGRAPHIC SIDE NOTES ARE DESCRIBED FROM LINE "C".
 LINE "PR-C" TO BE CONSTRUCTED. SEE THE CONSTRUCTION DETAIL SHEETS FOR DRIVEWAY, STRUCTURE & PROPOSED R/W CALLS.

EARTHWORK SUMMARY - LINE "PR-C"	
COMMON EXCAVATION	= - CYS
FILL + 25%	= - CYS
WASTE	= - CYS



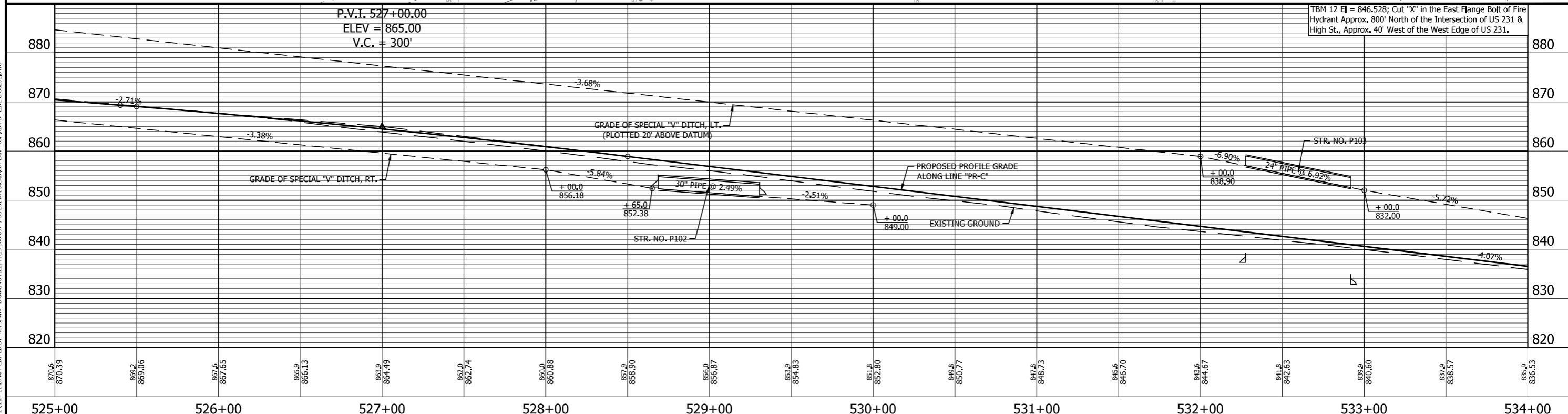
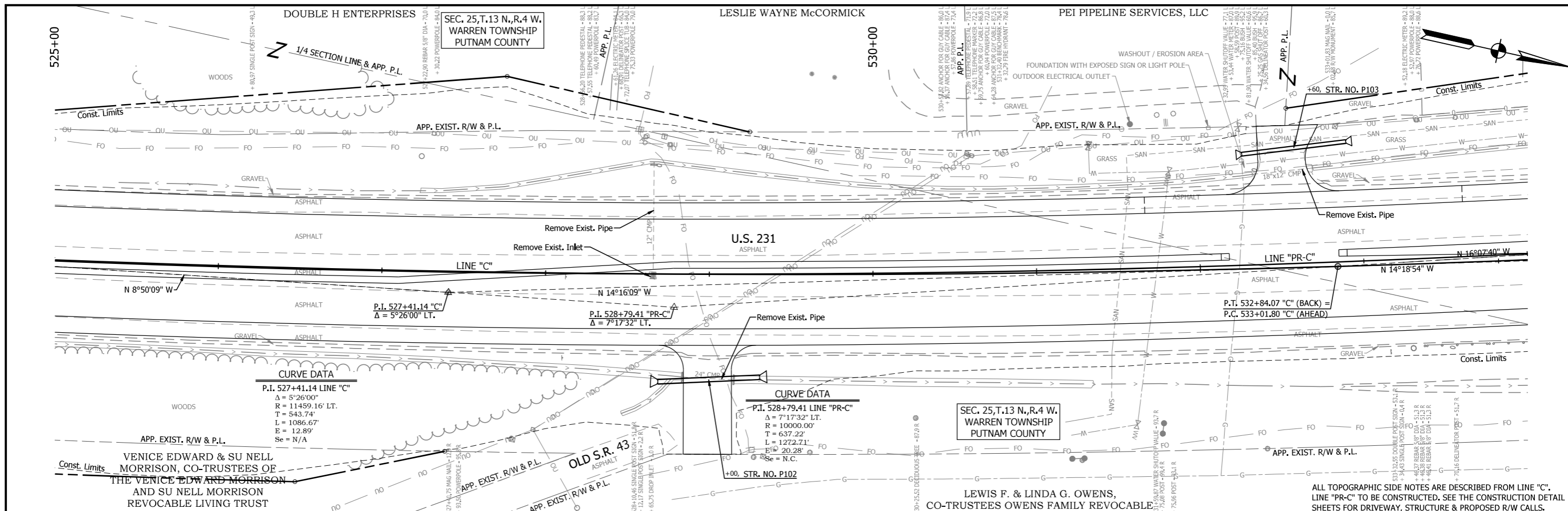
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RDS	DRAWN: MSS	
CHECKED: LLC	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE LINE "PR-C"

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	1700091
SURVEY BOOK	SHEET
	24 of 84
CONTRACT	PROJECT
R-40742	1700091

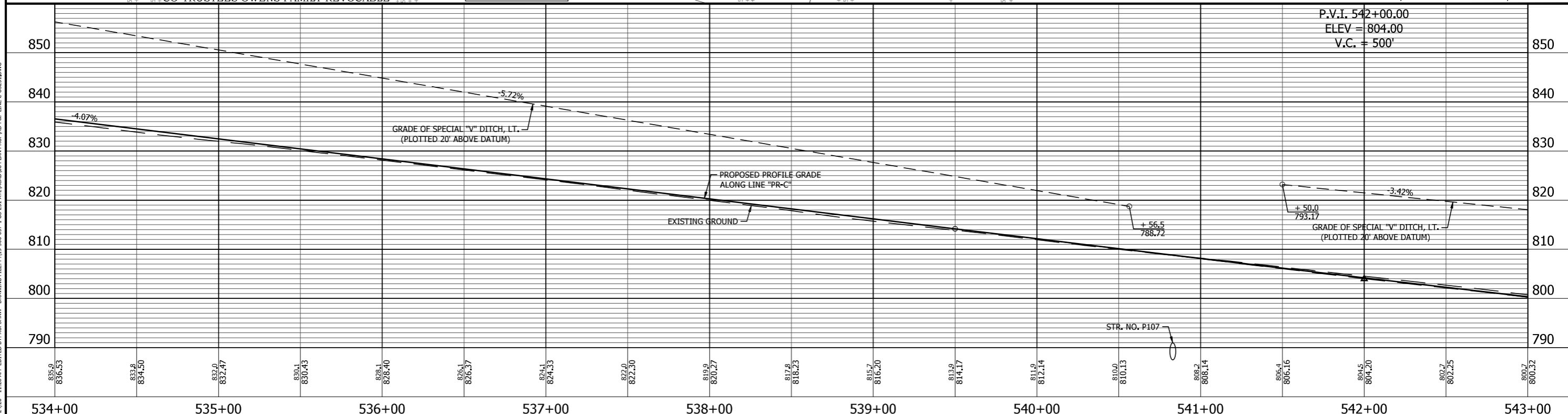
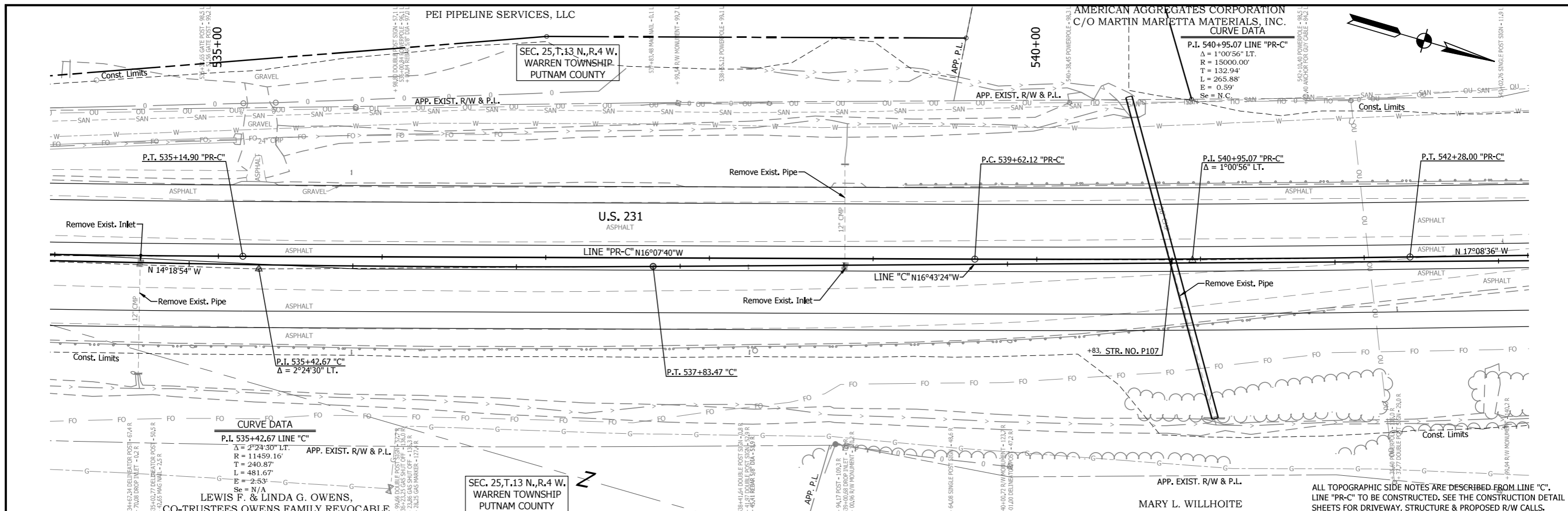
PRINT DATE: 11/25/20
 PLOT SCALE: 1"=100'
 DRAWING FILE: P:\19-00-0574 US 231 ATLACAD\05 PLAN PROF\PR-C LINE C-6231.DWG
 EDITED BY: KUPSHAW
 DATE: 11/24/20 11:28 AM

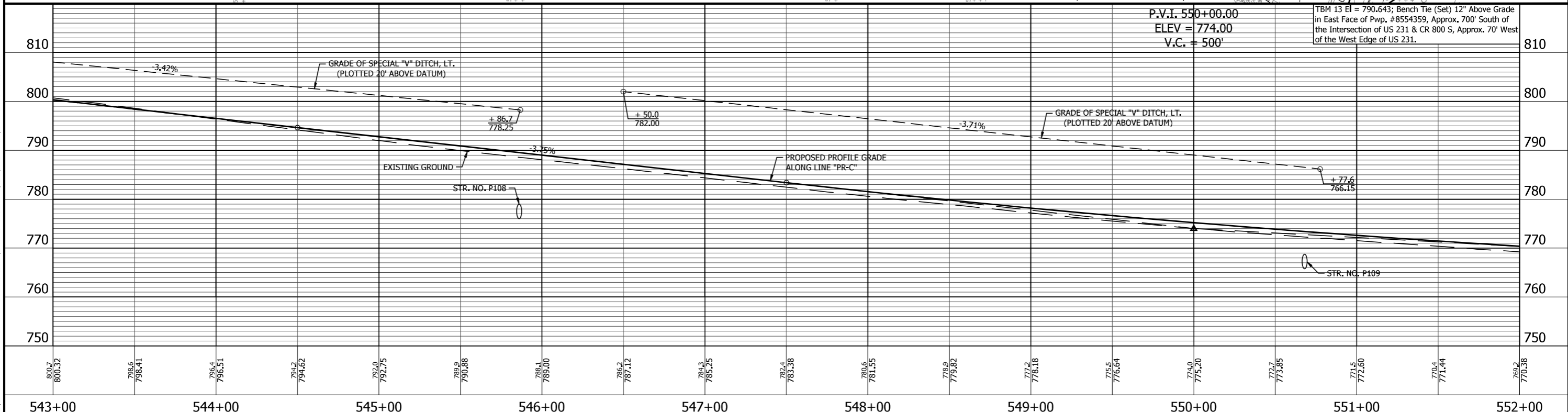
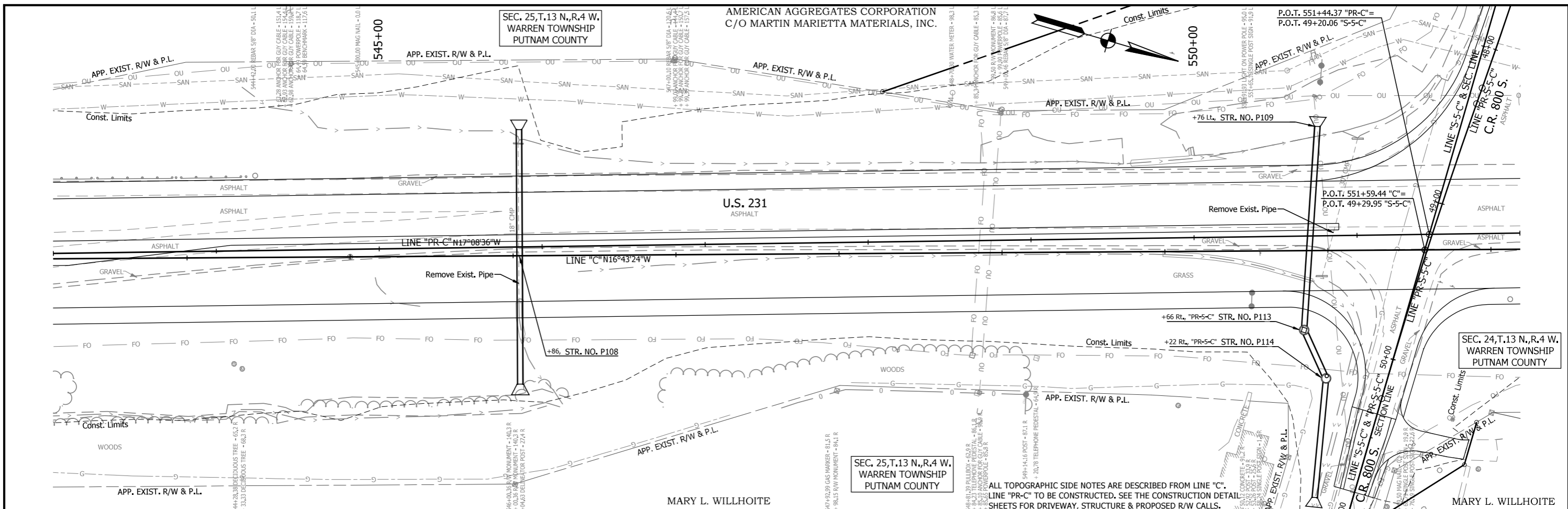


<p>RECOMMENDED FOR APPROVAL</p> <p>DESIGNED: <u>RDS</u> DRAWN: <u>MSS</u></p> <p>CHECKED: <u>LLC</u> CHECKED: <u>RDS</u></p>	<p>DESIGN ENGINEER _____ DATE _____</p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN AND PROFILE LINE "PR-C"</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE</td> <td>BRIDGE FILE</td> </tr> <tr> <td>1" = 30'</td> <td>N/A</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>DESIGNATION</td> </tr> <tr> <td>1" = 10'</td> <td>1700091</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEET</td> </tr> <tr> <td>CONTRACT</td> <td>25 of 84</td> </tr> <tr> <td>R-40742</td> <td>PROJECT</td> </tr> <tr> <td></td> <td>1700091</td> </tr> </table>	HORIZONTAL SCALE	BRIDGE FILE	1" = 30'	N/A	VERTICAL SCALE	DESIGNATION	1" = 10'	1700091	SURVEY BOOK	SHEET	CONTRACT	25 of 84	R-40742	PROJECT		1700091
HORIZONTAL SCALE	BRIDGE FILE																		
1" = 30'	N/A																		
VERTICAL SCALE	DESIGNATION																		
1" = 10'	1700091																		
SURVEY BOOK	SHEET																		
CONTRACT	25 of 84																		
R-40742	PROJECT																		
	1700091																		

PRINT DATE: 11/25/20
 PLOT SCALE: 1:11,002
 EDIT DATE: 11/24/20 - 11:28 AM
 EDITOR: KUPSHAW
 DRAWING FILE: P:\19-00-0574 US 231 ATLACAD\05 PLAN PROF\PR-C.RIP LINE C-6231.DWG

PRINT DATE: 11/25/20
 PLOT SCALE: 1"=100'
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 EDITOR: KUPSHAW
 DATE: 11/24/20 11:28 AM

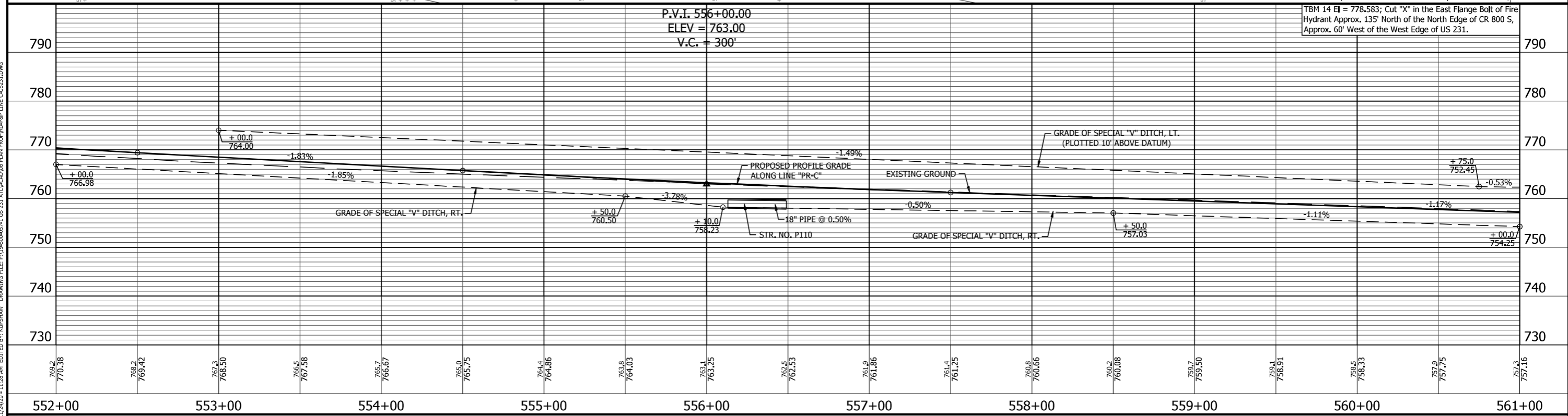
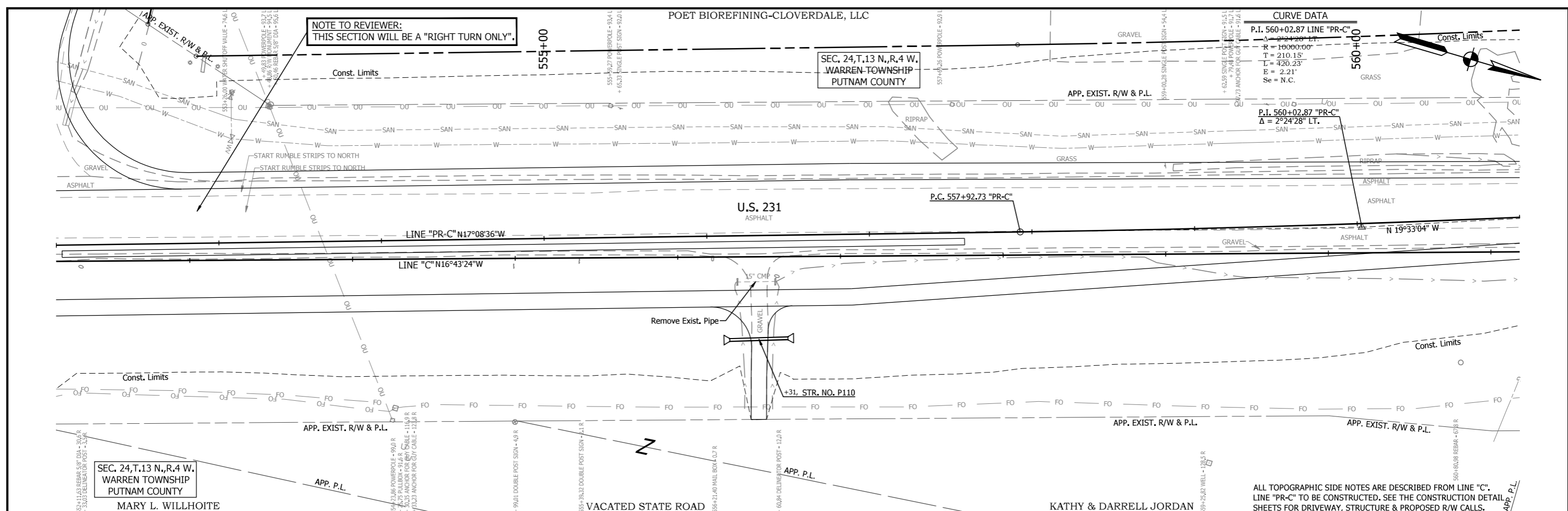




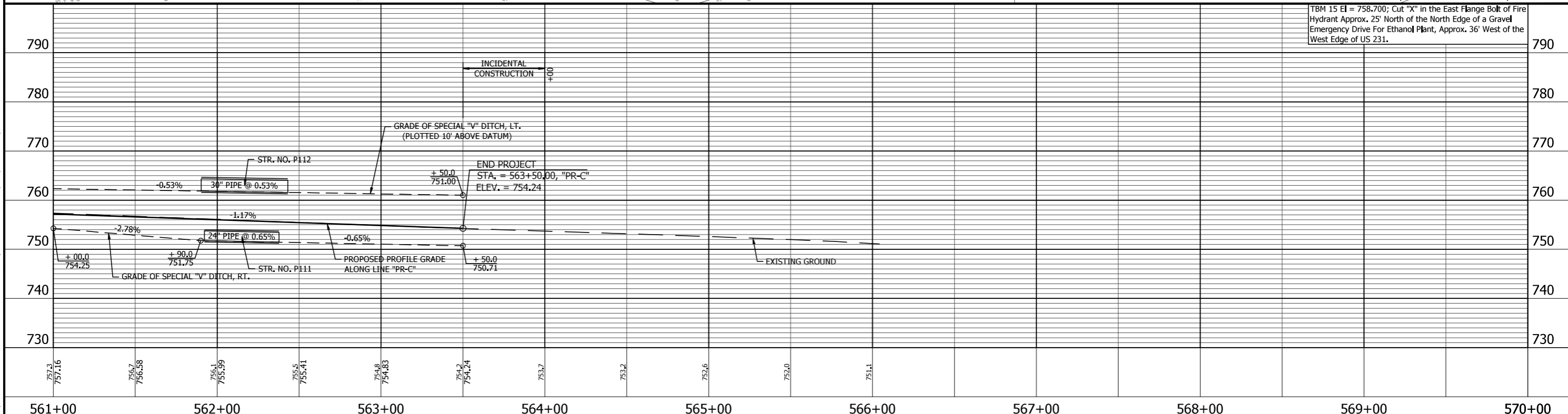
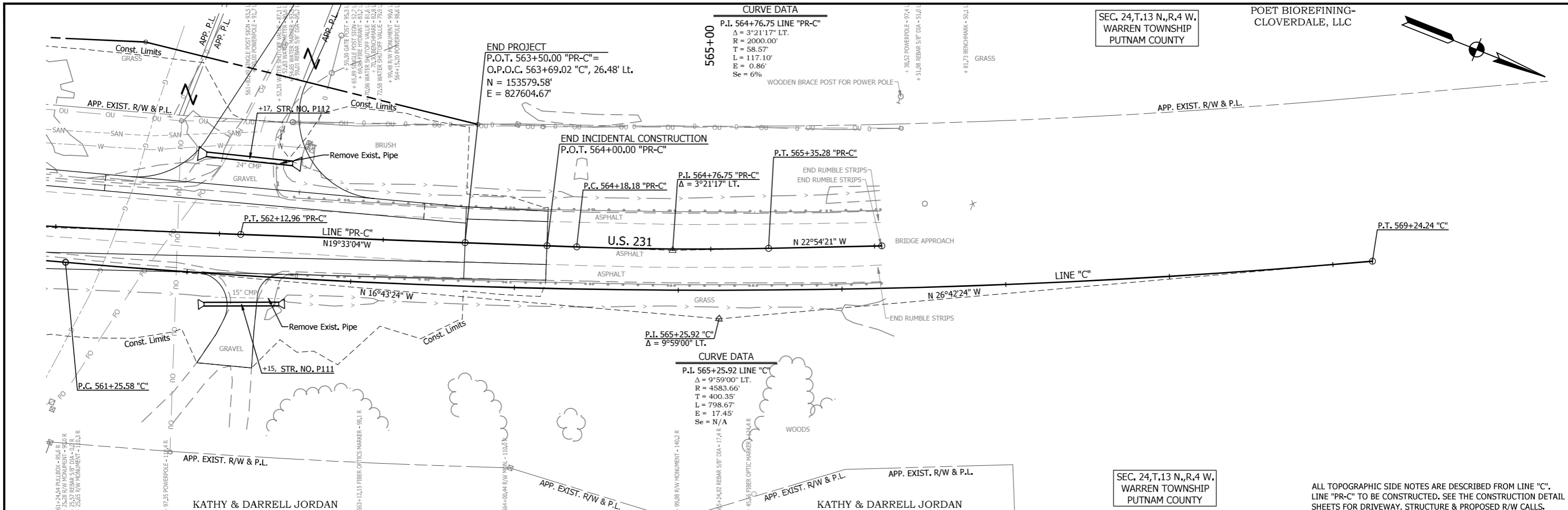
<p>RECOMMENDED FOR APPROVAL</p> <p>DESIGN ENGINEER _____ DATE _____</p>		<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN AND PROFILE</p> <p>LINE "PR-C"</p>	<p>HORIZONTAL SCALE</p> <p>1" = 30'</p>		<p>BRIDGE FILE</p> <p>N/A</p>	
<p>DESIGNED: RDS</p> <p>CHECKED: LLC</p>			<p>VERTICAL SCALE</p> <p>1" = 10'</p>		<p>DESIGNATION</p> <p>1700091</p>	
<p>DRAWN: MSS</p> <p>CHECKED: RDS</p>		<p>SURVEY BOOK</p> <p>CONTRACT R-40742</p>		<p>SHEET</p> <p>27 of 84</p> <p>PROJECT</p> <p>1700091</p>		

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1,000
 EDIT DATE: 11/24/20 11:28 AM
 EDITED BY: KUPSHAW
 DRAWING FILE: P:\19-00-0574 US 231 ATLACAD\05 PLAN PROF\PR-C.RIP LINE C4-6231.DWG

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1,000
 EDIT DATE: 11/24/20 11:28 AM
 EDITOR: KUPSHAW
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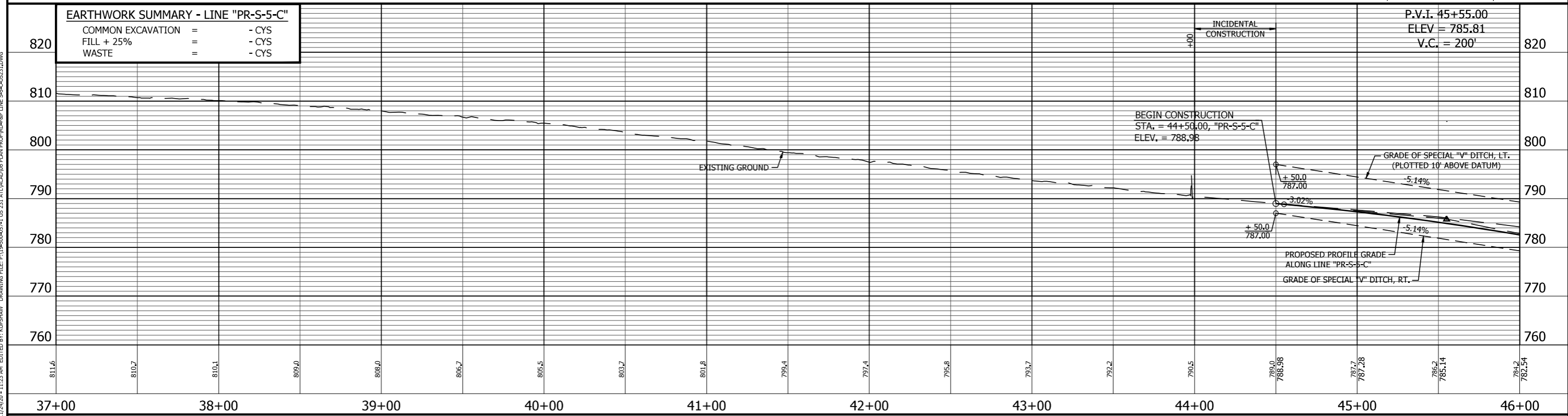
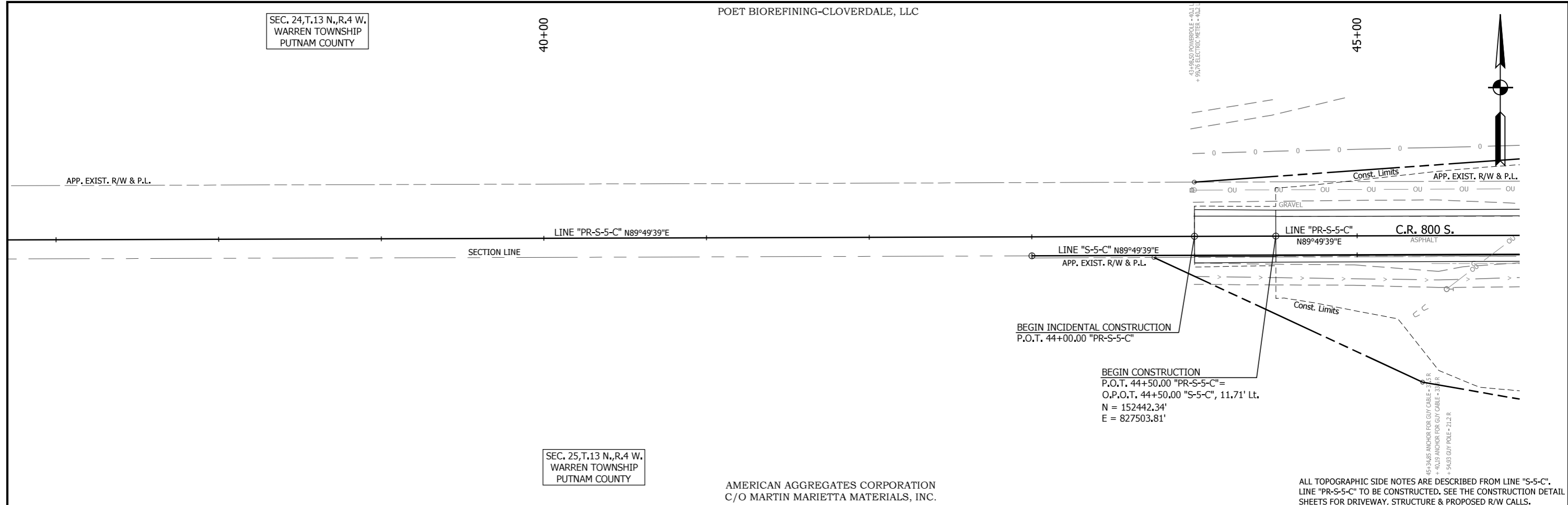


<p>RECOMMENDED FOR APPROVAL</p> <p>DESIGNED: <u>RDS</u> DRAWN: <u>MSS</u></p> <p>CHECKED: <u>LLC</u> CHECKED: <u>RDS</u></p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN AND PROFILE LINE "PR-C"</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE 1" = 30'</td> <td>BRIDGE FILE N/A</td> </tr> <tr> <td>VERTICAL SCALE 1" = 10'</td> <td>DESIGNATION 1700091</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEET 28 of 84</td> </tr> <tr> <td>CONTRACT R-40742</td> <td>PROJECT 1700091</td> </tr> </table>	HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A	VERTICAL SCALE 1" = 10'	DESIGNATION 1700091	SURVEY BOOK	SHEET 28 of 84	CONTRACT R-40742	PROJECT 1700091
HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A									
VERTICAL SCALE 1" = 10'	DESIGNATION 1700091									
SURVEY BOOK	SHEET 28 of 84									
CONTRACT R-40742	PROJECT 1700091									



<p>RECOMMENDED FOR APPROVAL</p> <p>DESIGN ENGINEER _____ DATE _____</p>		<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN AND PROFILE LINE "PR-C"</p>		<p>HORIZONTAL SCALE</p> <p>1" = 30'</p>		<p>BRIDGE FILE</p> <p>N/A</p>	
<p>DESIGNED: RDS</p> <p>CHECKED: LLC</p>				<p>DRAWN: MSS</p> <p>CHECKED: RDS</p>		<p>VERTICAL SCALE</p> <p>1" = 10'</p>	
				<p>SURVEY BOOK</p> <p>CONTRACT R-40742</p>		<p>SHEET</p> <p>29 of 84</p> <p>PROJECT</p> <p>1700091</p>	

PRINT DATE: 11/25/20
 PLOT SCALE: 1"=100'
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 EDITED BY: KUPSHAW



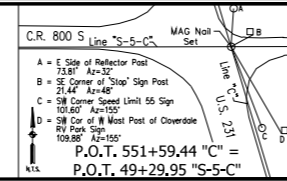
EARTHWORK SUMMARY - LINE "PR-S-5-C"	
COMMON EXCAVATION	= - CYS
FILL + 25%	= - CYS
WASTE	= - CYS

SEC. 25, T. 13 N., R. 4 W.
WARREN TOWNSHIP
PUTNAM COUNTY

AMERICAN AGGREGATES CORPORATION
C/O MARTIN MARIETTA MATERIALS, INC.

ALL TOPOGRAPHIC SIDE NOTES ARE DESCRIBED FROM LINE "S-5-C".
LINE "PR-S-5-C" TO BE CONSTRUCTED. SEE THE CONSTRUCTION DETAIL
SHEETS FOR DRIVEWAY, STRUCTURE & PROPOSED R/W CALLS.

PRINT DATE: 11/25/20
 PLOT SCALE: 1"=100'
 EDIT DATE: 11/24/20 - 11:23 AM
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 LINE 54-C-623.1.DWG



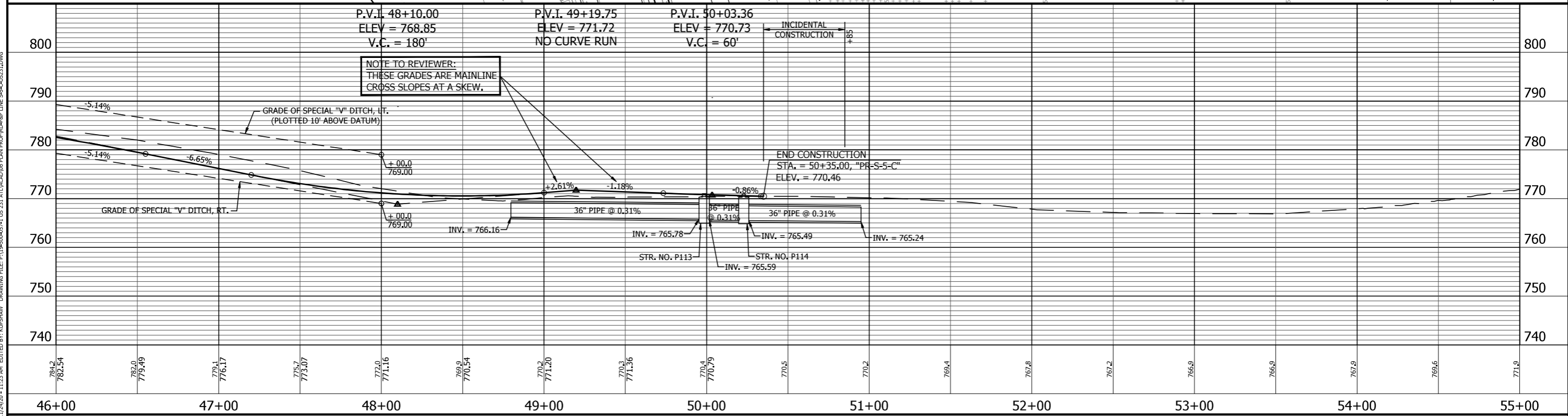
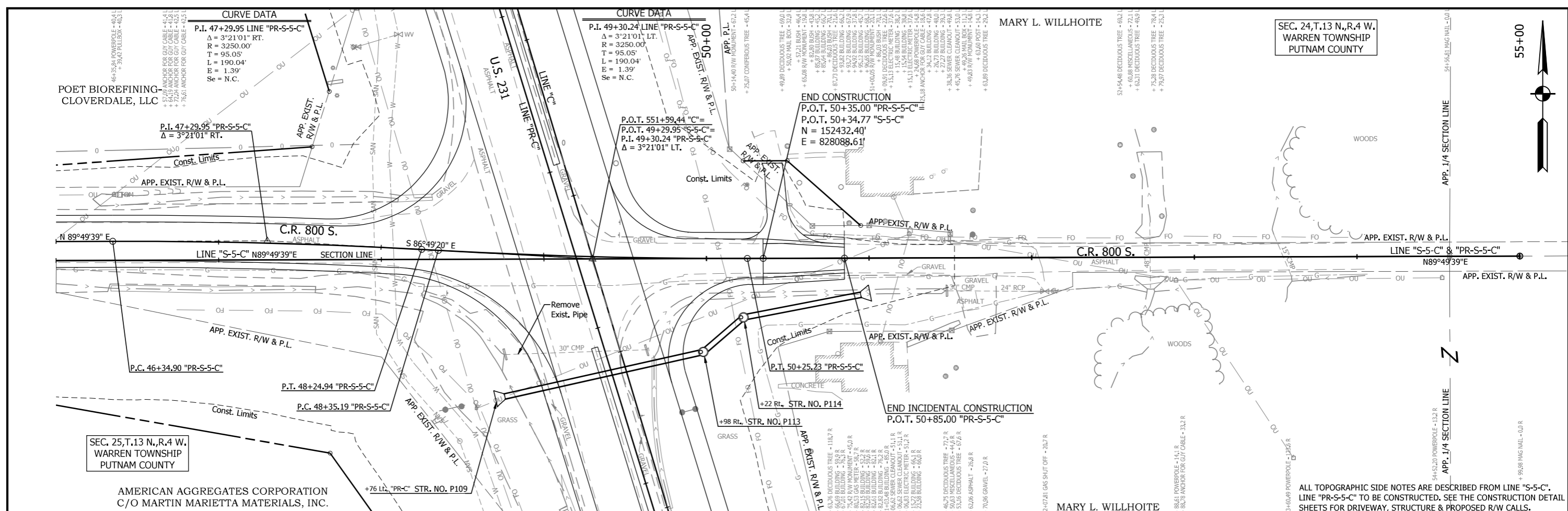
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RDS	DRAWN: MSS	
CHECKED: LLC	CHECKED: RDS	

INDIANA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE
LINE "PR-S-5-C"

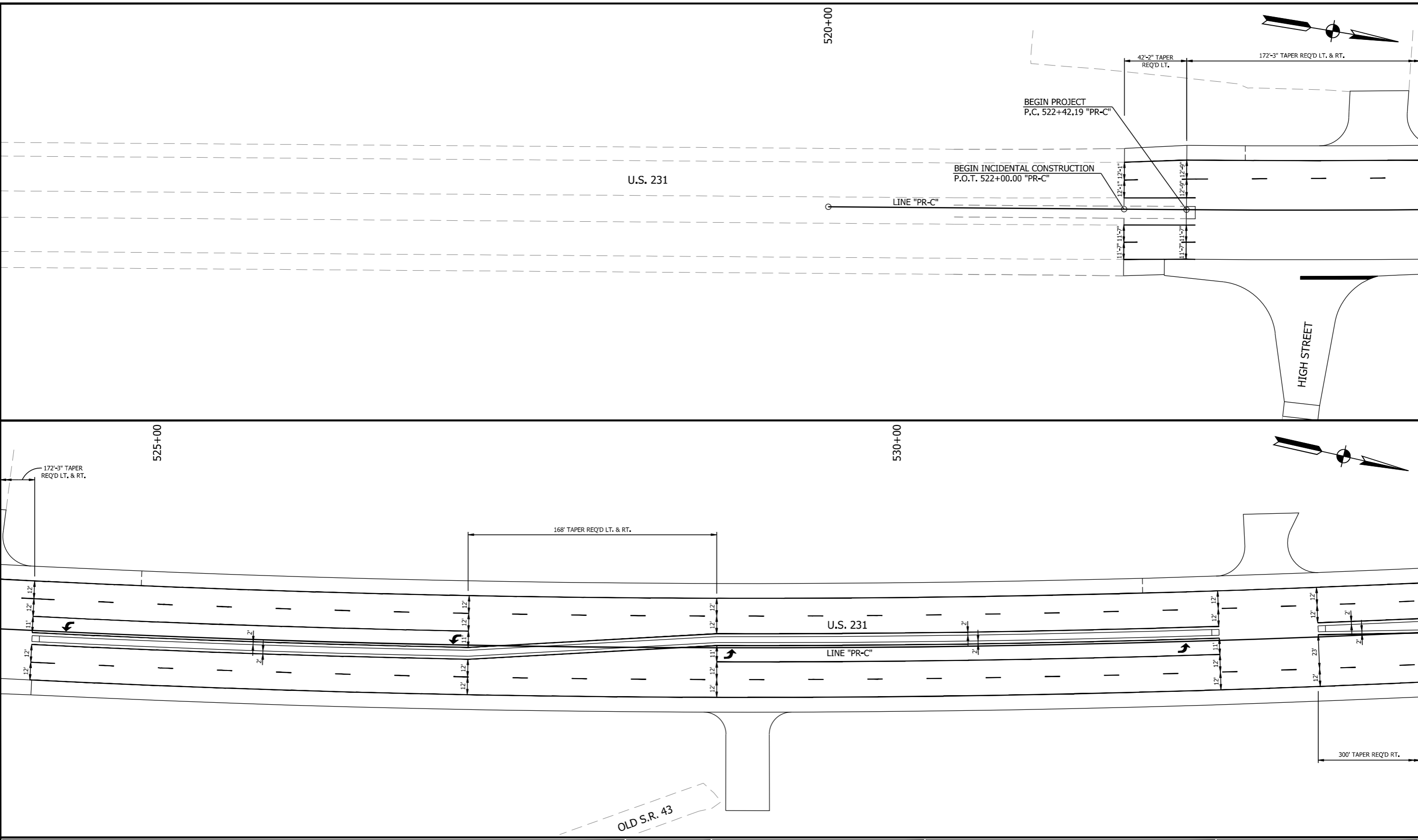
HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
1" = 10'	1700091
SURVEY BOOK	SHEET
	30 of 84
CONTRACT	PROJECT
R-40742	1700091

PRINT DATE: 11/25/20
 PLOT SCALE: 1:1,000
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 EDITED BY: KUPSHAW
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<p>RECOMMENDED FOR APPROVAL _____</p> <p>DESIGNED: <u>RDS</u> DRAWN: <u>MSS</u></p> <p>CHECKED: <u>LLC</u> CHECKED: <u>RDS</u></p>	<p>INDIANA DEPARTMENT OF TRANSPORTATION</p> <p>PLAN AND PROFILE LINE "PR-S-5-C"</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>HORIZONTAL SCALE</td> <td>BRIDGE FILE</td> </tr> <tr> <td>1" = 30'</td> <td>N/A</td> </tr> <tr> <td>VERTICAL SCALE</td> <td>DESIGNATION</td> </tr> <tr> <td>1" = 10'</td> <td>1700091</td> </tr> <tr> <td>SURVEY BOOK</td> <td>SHEET</td> </tr> <tr> <td></td> <td>31 of 84</td> </tr> <tr> <td>CONTRACT</td> <td>PROJECT</td> </tr> <tr> <td>R-40742</td> <td>1700091</td> </tr> </table>	HORIZONTAL SCALE	BRIDGE FILE	1" = 30'	N/A	VERTICAL SCALE	DESIGNATION	1" = 10'	1700091	SURVEY BOOK	SHEET		31 of 84	CONTRACT	PROJECT	R-40742	1700091
HORIZONTAL SCALE	BRIDGE FILE																	
1" = 30'	N/A																	
VERTICAL SCALE	DESIGNATION																	
1" = 10'	1700091																	
SURVEY BOOK	SHEET																	
	31 of 84																	
CONTRACT	PROJECT																	
R-40742	1700091																	

PRINT DATE: 6/22/20
 PLOT SCALE: 1:1
 EDIT DATE: 6/16/20 - 8:40 AM
 EDITED BY: INSELLS
 DRAWING FILE: P:\19-500-0574 US 231 ATLVACAD07 CONST DTL\RD-MARKS AND SIGNING\J523.DWG



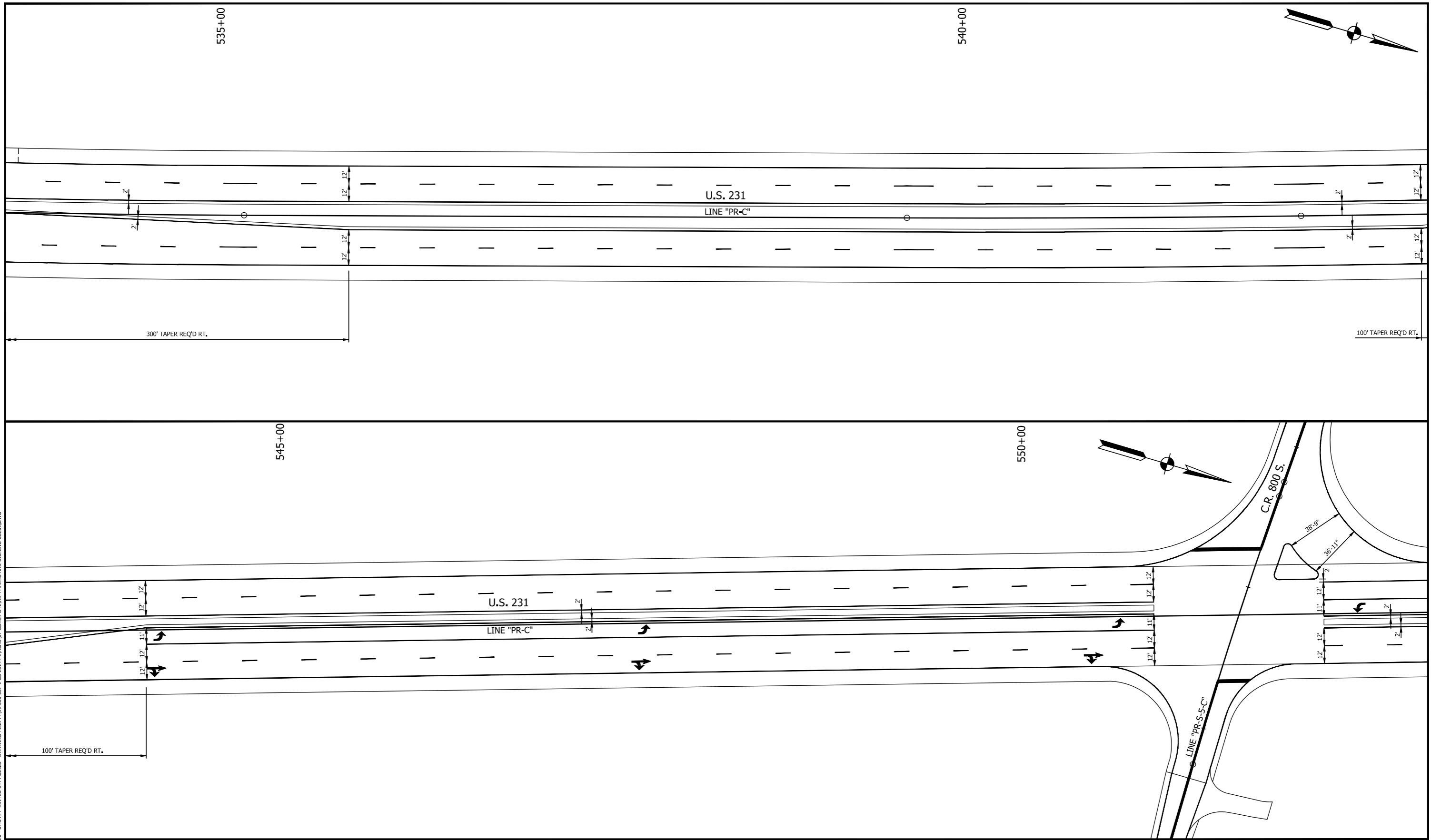
LEGEND	
④5	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.
④6	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.
④7	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.
④8	LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN.
⑥2	PAVEMENT MESSAGE MARKING, PAINT, LANE INDICATION ARROW
⑥3	TRANSVERSE MARKING, PAINT, CROSSHATCH LINE, YELLOW, 12 IN. @ 20' O.C.

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: RDS	DRAWN: MSS	
CHECKED: LLC	CHECKED: RDS	

INDIANA DEPARTMENT OF TRANSPORTATION	
PAVEMENT MARKINGS AND SIGNING	

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1700091
SURVEY BOOK	SHEET
	38 of 81
CONTRACT	PROJECT
R-40742	1700091

PRINT DATE: 6/22/20
 PLOT SCALE: 1:1
 EDIT DATE: 6/16/20 - 8:40 AM
 EDITED BY: INSELLS
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LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none"> ④5 TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN. ④6 LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN. ④7 LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN. ④8 LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN. | <ul style="list-style-type: none"> ⑥2 PAVEMENT MESSAGE MARKING, PAINT, LANE INDICATION ARROW ⑥3 TRANSVERSE MARKING, PAINT, CROSSHATCH LINE, YELLOW, 12 IN. @ 20' O.C. |
|---|---|

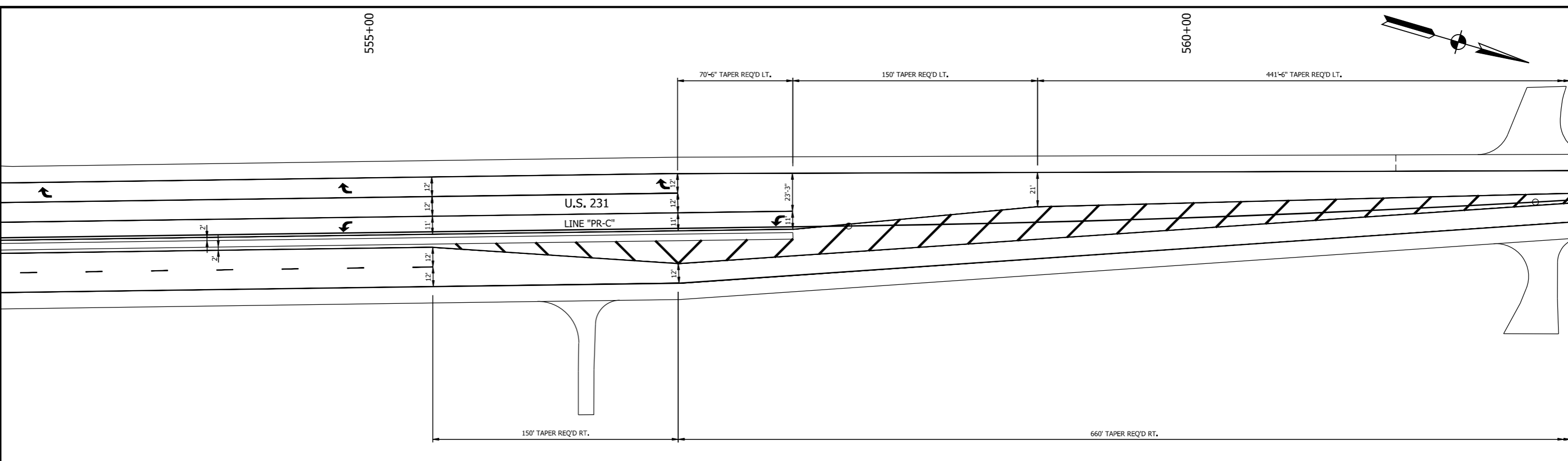
RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____	
DESIGNED: <u>RDS</u>	DRAWN: <u>MSS</u>		
CHECKED: <u>LLC</u>	CHECKED: <u>RDS</u>		

INDIANA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 39 of 81
CONTRACT R-40742	PROJECT 1700091

PRINT DATE: 6/22/20
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 DESIGNED BY: INSELLS
 EDITED BY: INSELLS
 DATE: 6/16/20 - 8:40 AM



LEGEND

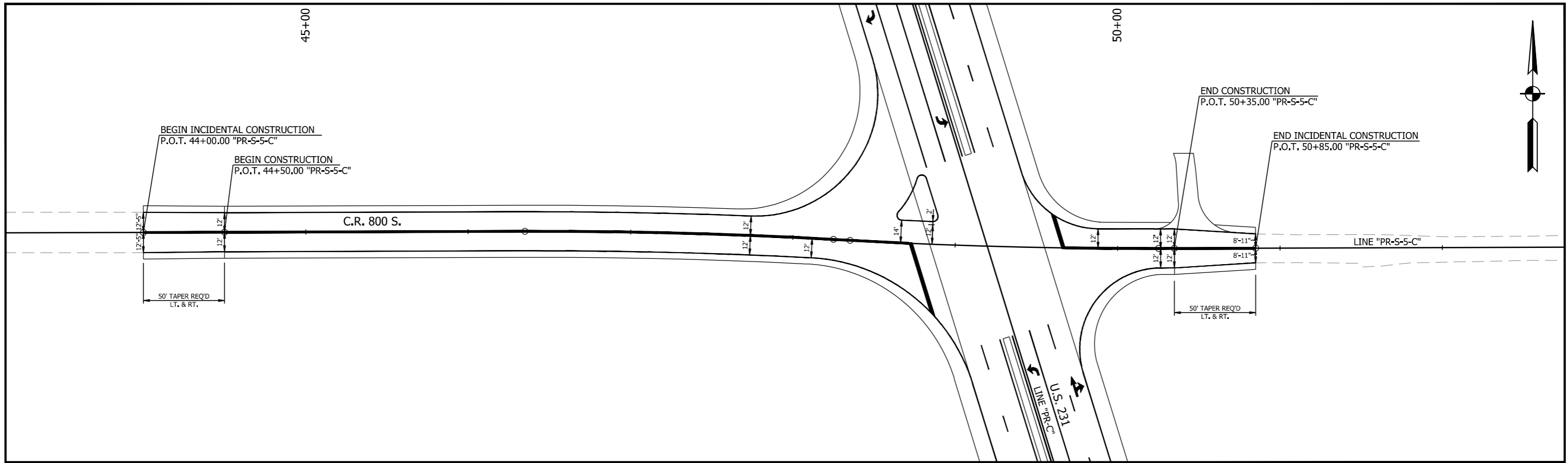
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|---|---|

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____	
DESIGNED: <u>RDS</u>	DRAWN: <u>MSS</u>		
CHECKED: <u>LLC</u>	CHECKED: <u>RDS</u>		

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE N/A
VERTICAL SCALE N/A	DESIGNATION 1700091
SURVEY BOOK	SHEET 40 of 81
CONTRACT R-40742	PROJECT 1700091



PRINT DATE: 6/22/20
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 EDITED BY: INSELLS
 DRAWING FILE: P:\19-500-9574 US 231 ATLVAC007 CONST DTL\RD-MARKS AND SIGNING\J5231.DWG
 PLOT SCALE: 1:1

LEGEND

- | | |
|---|---|
| <ul style="list-style-type: none"> ④5 TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN. ④6 LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN. ④7 LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN. ④8 LINE, THERMOPLASTIC, BROKEN, WHITE, 4 IN. | <ul style="list-style-type: none"> ⑥2 PAVEMENT MESSAGE MARKING, PAINT, LANE INDICATION ARROW ⑥3 TRANSVERSE MARKING, PAINT, CROSSHATCH LINE, YELLOW, 12 IN. @ 20' O.C. |
|---|---|

RECOMMENDED FOR APPROVAL		DESIGN ENGINEER	DATE
DESIGNED: <u>BEH</u>	DRAWN: <u>MSS</u>		
CHECKED: <u>RDS</u>	CHECKED: <u>RDS</u>		

INDIANA DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS AND SIGNING

HORIZONTAL SCALE	BRIDGE FILE
1" = 30'	N/A
VERTICAL SCALE	DESIGNATION
N/A	1700091
SURVEY BOOK	SHEET
	41 of 81
CONTRACT	PROJECT
R-40742	1700091