



**Reevaluation Statement #6**  
**Segment 6.3**

**I-69 Section 6**

**Construction Contract 4**

**July 15, 2022**



**I-69 SECTION 6 REEVALUATION STATEMENT #6  
CONSTRUCTION CONTRACT 4**

**I-69**

**Evansville to Indianapolis, Indiana**

Designation Number: Des. No. 1801697

This sixth reevaluation of the Tier 2 Final Environmental Impact Statement (FEIS) was prepared due to changes as a result of the design refinements in Section 6 of the I-69 highway in Morgan, Johnson, and Marion Counties, Indiana. The combined Tier 2 Final Environmental Impact Statement (FHWA-IN-EIS-18-01-F) and Record of Decision (ROD) was approved on February 1, 2018. Reevaluation Statement #1 was approved on November 9, 2018. Reevaluation Statement #2 was approved on July 30, 2019. Reevaluation Statement #3 was approved on February 4, 2020. Reevaluation Statement #4 was approved on July 15, 2020. Reevaluation Statement #5 was approved on January 26, 2022. Section 6 will construct a new I-69 interstate facility from the Section 5 terminus south of Indian Creek and the city of Martinsville north to I-465, including improvements to I-465. I-69 Section 6 will be designed in five segments beginning at the southern termini and extending north to I-465.

Reevaluation Statement #6 focuses on bank stabilization of Crooked Creek within Design Segment 6.3, which will be included in Construction Contract 4. This contract includes Mainline I-69 Section 6 in Morgan County from the northern edge of the city of Martinsville at Morgan Street and the end of Construction Contract 2 north to Fairview Road. Modifications are proposed to the stream alignment of Crooked Creek under and to the east of the newly rehabilitated I-69 bridges over Crooked Creek. The associated natural resources impacts resulting from these modifications were evaluated as part of Reevaluation Statement #6.

This reevaluation considers design changes to I-69 Section 6, which have occurred since the approval of the FEIS, as well as Reevaluation Statements #1, #2, #3, #4, and #5. It examines the potential impacts on the natural, human, and cultural environments due to the revised design in Design Segments 6.3.

The analysis in this reevaluation supports the conclusion that these design changes will not have impacts sufficient enough to require the preparation of a Supplemental Environmental Impact Statement (SEIS) for I-69 Section 6. Therefore, the Section 6 Tier 2 FEIS and ROD remain valid.

**Approval**

*Anthony Ross*

ES Signature

7/15/2022

Date

\_\_\_\_\_  
FHWA Signature

\_\_\_\_\_  
Date



Reevaluation Statement #6

July 15, 2022

**I-69 SECTION 6 REEVALUATION STATEMENT #6  
CONSTRUCTION CONTRACT 4**

**I-69**

**Evansville to Indianapolis, Indiana**  
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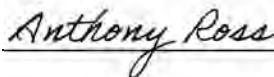
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This reevaluation considers design changes to I-69 Section 6, which have occurred since the approval of the FEIS, as well as Reevaluation Statements #1, #2, #3, #4, and #5. It examines the potential impacts on the natural, human, and cultural environments due to the revised design in Design Segments 6.3.

The analysis in this reevaluation supports the conclusion that these design changes will not have impacts sufficient enough to require the preparation of a Supplemental Environmental Impact Statement (SEIS) for I-69 Section 6. Therefore, the Section 6 Tier 2 FEIS and ROD remain valid.

**Approval**



ES Signature

JERMAINE R  
HANNON

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HANNON  
Date: 2022.07.19 11:04:03 -04'00'

7/15/2022

Date

FHWA Signature

Date



Reevaluation Statement #6

July 15, 2022

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# CHAPTER 1 – INTRODUCTION

This reevaluation of the Tier 2 Final Environmental Impact Statement (FEIS) was prepared to reflect design changes in Section 6 of the I-69 highway in Morgan County, Indiana. These design changes have occurred since the approval of the FEIS, Reevaluation Statement #1, Reevaluation Statement #2, Reevaluation Statement #3, Reevaluation Statement #4, and Reevaluation Statement #5.

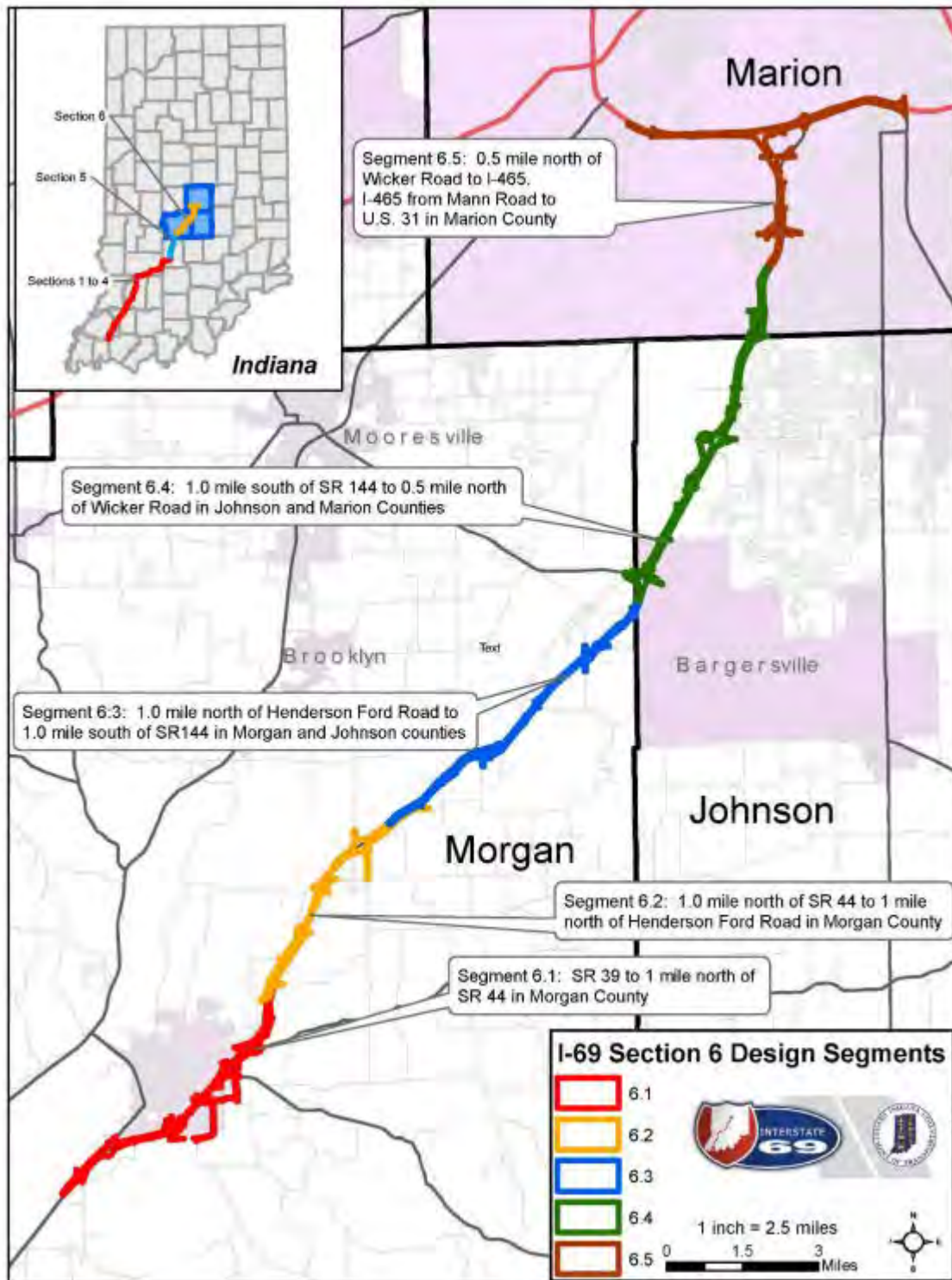
Reevaluation Statement #6 examines the potential impacts on the natural, human, and cultural environments due to the design refinements in Design Segments 6.3 within Construction Contract 4 (See Figure 1-1). This reevaluation document examines modifications made in post-National Environmental Policy Act (NEPA) efforts to improve the project design and preserve the integrity of the new construction around the I-69 over Crooked Creek Bridges, including minimization of resource impacts where possible.

The post-NEPA design efforts for Design Segments 6.3 within Construction Contract 4 are summarized in this document. Key changes in impacts since the I-69 Section 6 FEIS/ROD, Reevaluation Statement #1, Reevaluation Statement #2, Reevaluation Statement #3, Reevaluation Statement #4 and Reevaluation Statement #4 and Reevaluation Statement #5:

- An additional 1.26 acres of temporary right-of-way (ROW) will be required
- Total stream impacts are increased by 96.5 linear feet
- Floodplain impacts are increased by 0.15 acre
- Floodway impacts are increased by 0.74 acre
- Impacts to upland forest habitat are increased by 0.40 acre

The analysis in this Reevaluation Statement #6 supports the conclusion that these design changes will not have impacts sufficient enough to require the preparation of a Supplemental Environmental Impact Statement (SEIS) for I-69 Section 6. Therefore, the I-69 Section 6 Tier 2 FEIS and Record of Decision (ROD) remain valid.

# Figure 1-1: Project Location Map



# CHAPTER 2 – PROJECT DESCRIPTION

## 2.1 *Project Description and Area*

The Indiana Department of Transportation (INDOT) will construct a new I-69 interstate facility from the Section 5 terminus south of Indian Creek and the city of Martinsville north to I-465, including improvements to I-465, referenced as I-69 Section 6. I-69 Section 6 will be designed in five design segments beginning at the southern termini and extending north to I-465. Each design segment will be broken further into multiple construction contracts.

The limits of Design Segment 6.3, Contract 4, which is the focus of Reevaluation Statement #6, are shown in Figure 1-1 and is described below:

- Design Segment 6.3: Extends from one mile north of Henderson Ford Road to one mile south of SR 144 in Morgan and Johnson Counties. This reevaluation focuses on Crooked Creek's alignment under and on the east side of the northbound (037-55-04515 BNBL) and southbound (037-55-04515 JASB) bridges carrying I-69 (existing SR 37) over Crooked Creek.

Modifications to the flow regime of Crooked Creek, improvements to the stability and quality of the channel, and scour protection are the most substantial changes to the project and are evaluated as part of Reevaluation Statement #6.

## 2.2 *Approved Environmental Documentation*

The study of I-69 Evansville to Indianapolis was conducted using a two-tiered EIS process as allowed by NEPA. The Tier 1 Environmental Impact Statement (EIS) for I-69 from Evansville to Indianapolis was completed in 2004. The Federal Highway Administration (FHWA) issued a Tier 1 ROD on March 24, 2004, approving Alternative 3C as the selected corridor for I-69 between Evansville and Indianapolis.

The I-69 Evansville Indianapolis corridor was considered in its entirety for the Tier 1 EIS and divided into six sections for more detailed Tier 2 EIS and project development work. I-69 Section 6 is the northernmost of the six sections and is approximately 26 miles long. The Refined Preferred Alternative (RPA) for I-69 Section 6, as approved in the Tier 2 FEIS, begins 725 feet south of Indian Creek just south of Martinsville and continues north in Morgan, Johnson, and Marion counties to I-465. The I-69 Section 6 Tier 2 FEIS (FHWA-IN-EIS-18-01-F) and ROD were approved on February 1, 2018. Reevaluation Statement #1 was approved on November 9, 2018. Reevaluation Statement #2 was approved on July 30, 2019. Reevaluation Statement #3 was approved on February 4, 2020. Reevaluation Statement #4 was approved on July 15, 2020. Reevaluation Statement #5 was approved on January 26, 2022.

## **2.3 Public Involvement**

Public involvement activities have shifted toward a more individualized and project update-based outreach approach. Activities include:

- Responding to public inquiries received via phone, email, and the project website, providing content
- Providing project updates via social media, including weekly updates via Facebook, Instagram, and Twitter
- Distributing a project newsletter called “OnTrack”. The newsletter is sent weekly via email and text message to the project contact list, which contains over 10,000 email addresses and 2,000 cell phone numbers.

Additional outreach was conducted because temporary private property access is necessary for project design improvements described in Reevaluation Statement #6. INDOT’s real estate staff has contacted impacted property owners to explain the purpose of the required temporary ROW and answer any questions about the temporary ROW acquisition process.

Design details presented at the prior public information meetings were posted with other project documents on the I-69 Section 6 website: <https://i69finishline.com/>.

### **2.3.1 Kitchen Table Meetings**

Kitchen table meetings (KTMs) have been ongoing with affected property owners throughout the project corridor. At KTMs, project representatives meet with property owners to review the property acquisition process and review impacts, and gather information on each property, such as locations of drinking water wells and septic systems. At this time, KTMs are complete with the current design and anticipated relocations, including owners affected by the design changes. Where possible, the design has been updated to minimize or avoid impacts on individual properties. If additional changes to property acquisition occur, additional KTMs will be held.

No additional KTMs are planned with the property owners impacted by the temporary ROW acquisition necessary for project design improvements described in Reevaluation Statement #6. However, additional property owner meetings are held as requested.

### **2.3.2 Project Office**

The I-69 Finish Line project office closed in April 2020 and will not reopen. The most current project information, along with contact information, is available online at the I-69 Section 6 website: <https://i69finishline.com/>.

## 2.4 Resource Agency Re-Coordination

Due to the design changes within Design Segment 6.3, Contract 4, a re-coordination letter was sent on January 28, 2022, to the U.S. Fish and Wildlife Service (USFWS), Indiana Department of Environmental Management (IDEM), U.S. Army Corps of Engineers (USACE), and the Indiana Department of Natural Resources (IDNR). It was requested that agencies respond by February 12, 2022. No responses were received from IDEM or USACE. IDNR responded on January 31, 2022, requesting information concerning project design, tree clearing, and mitigation. The response recommended an alternative design that does not include gabions, which has been accommodated in the design. USFWS responded on February 2, 2022, requesting information on tree removal and reforestation. INDOT responded to IDNR and USFWS on June 16, 2022, via an email that provided detailed project information concerning tree removal, stream design, mitigation, and reforestation, and included maps and plans. For reference to the re-coordination letter and agency responses, see Appendix C.

## 2.5 Description of Project Changes

The following is a summary of the proposed changes to the project design within Design Segment 6.3, Contract 4 since the FEIS/ROD, Reevaluation Statement #1, Reevaluation Statement #2, Reevaluation Statement #3, Reevaluation Statement #4, and Reevaluation Statement #5. The proposed changes included in Reevaluation #6 include modifications to the alignment of Crooked to provide an appropriate stream approach condition for the I-69 over Crooked Creek Bridges. These design modifications will result in minor changes to project area size and resource impacts. For reference to the design changes, see Appendix A.

Crooked Creek has meandered south on the east side of I-69 northbound since the construction of the northbound bridge and further still since the project's widening of the northbound bridge. The stream will be realigned to prevent further degradation of the stream banks and potential undermining of the I-69 bridges. The reconstructed banks will be stabilized using 4-foot and 6-foot live stakes consisting of a mix of sandbar willow (*salix interior*) and black willow (*salix nigra*) and Canopy and Understory plantings for reforestation in accordance with IDNR Mitigation planting guidelines, and the channel will be restored by the construction of floodplain benches, riffles and pools, J-Hooks, and cross-vanes within the creek channel. This channel construction will consist of the use of gravel and cobble rock material similar to native materials, the incorporation of salvaged bed materials when possible, and the limited use of large riprap for the J-hook and cross-vane grade control structures. Additionally, Class 1 Grouted Riprap will be placed on the inside walls of the bridge piers of the northbound (037-55-04515 BNBL) and southbound bridges over Crooked Creek (Str. 037-55-04515 BNBL) for scour protection. This project will be a net benefit overall to the floodplain of Crooked Creek due to the increased stability of the floodplain and the installation of floodplain benches. The project will include 0.93 acres of riparian reforestation plantings.

The project area will encompass 1.77 acres, of which 1.62 acres will be included in the construction limits. The stream alignment will not require any additional permanent ROW. Alignment work and scour protection in the existing ROW will total 0.61 acres. Additional work will take place in temporary ROW and will total 1.26 acres. Approximately 512 linear feet of stream

impacts to Crooked Creek will occur, with 96.5 linear feet of new stream impacts and 415.5 linear feet of stream impacts overlapping with the construction area covered in the FEIS. Approximately 0.4 acre of upland forest tree removal will occur.



# CHAPTER 3 - ENVIRONMENTAL CONSEQUENCES

This section summarizes the environmental resource impacts for Reevaluation Statement #6 in comparison to the FEIS RPA impacts as analyzed in the FEIS. The environmental impacts as reported in the FEIS RPA, impact changes with each reevaluation statement, and a summary of total end-to-end impacts are shown in **Table 3-1**.

**Table 3-1: Environmental Resource Impacts**

Impact Criteria	FEIS RPA End-to-End	Reevaluation Statements #1 & #2 Total Change	Reevaluation Statement #3 Total Change	Reevaluation Statement #4 Total Change	Reevaluation Statement #5 Total Change	Reevaluation Statement #6 Total Change	Cumulative Impacts after Reevaluation Statement #6 End-to-End	Total Change since FEIS End-to-End <sup>4</sup>
Permanent ROW (acres)								
Existing ROW <sup>1</sup>	1,050.0	6.8	14.2	0.1	0.0	0.0	1,071.1	21.1
New ROW <sup>2</sup>	1,025.0	8.3	-26.4	5.5	4.4	0.0	1,016.8	-8.2
Total ROW	2,075.0	15.1	-12.2	5.6	4.4	0.0	2,087.9	12.9
Temporary ROW	0.0	2.0	43.9	5.2	0.1	1.26	52.46	52.46
Flood Easement	0.0	0.0	13.3	8.0	0.0	0.0	21.3	21.3
Other/Excess Land	0.0	0.0	8.5	0.0	0.0	0.0	8.5	8.5
Relocations								
Residential – Single Family Home	142	-3	4	0	0	0	143	1
Residential – Duplex Unit	8	0	0	0	0	0	8	0
Residential – Mobile Home	9	1	0	0	0	0	10	1
Residential – Apartment Unit	28	0	0	0	0	0	28	0
Business	81	0	4	-2	0	0	83	2
Non-Profit	2	1	0	0	0	0	3	1



Impact Criteria	FEIS RPA End-to-End	Reevaluation Statements #1 & #2 Total Change	Reevaluation Statement #3 Total Change	Reevaluation Statement #4 Total Change	Reevaluation Statement #5 Total Change	Reevaluation Statement #6 Total Change	Cumulative Impacts after Reevaluation Statement #6 End-to-End	Total Change since FEIS End-to-End <sup>4</sup>
Religious Facility/School	0	0	1	0	0	0	1	1
Fire Station	1	0	0	0	0	0	1	0
Total Relocations	271	-1	9	-2	0	0	277	6
Section 4(f)								
Park (acres)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Historic or NRHP Eligible (acres)	6.00	0.00	-0.13	0.00	0.00	0.00	5.87	-0.13
Total Wetland (acres)								
Emergent Wetland	1.90	-0.05	0.09	-0.62	0.00	0.00	1.32	-0.58
Forested Wetland	1.70	0.02	-0.09	0.00	0.00	0.00	1.64	-0.06
Scrub/Shrub Wetland	0.39	0.00	0.00	0.00	0.00	0.00	0.39	0.00
Open Water (Not Included in Wetlands)	2.78 <sup>3</sup>	0.02	-0.87	0.24	0.00	0.00	2.16	-0.62
Total Wetland Impacts	3.99	-0.02	0.00	-0.62	0.00	0.00	3.35	-0.63
Total Stream (linear feet)								
Ephemeral	18,512	-72	888	-180	0	0	19,149	636
Intermittent	11,797	-431	-205	0	0	0	11,161	-636
Perennial	16,994	145	558	198	0	96.5	17,991.5	997.7
Total Stream Impacts	47,303	-358	1,243	18	0	96.5	48,302.5	999.5
Total Natural Stream Impacts	14,069	1,965	254	198	0	96.5	16,582.33	2,513.33
Floodplain/Floodway (acres)								
Floodplain	458.0	7.1	12.4	14.5	3.1	0.15	495.25	37.25
Floodway	0.0	-3.0	2.3	0.2	0.0	0.74	0.24	0.24

Impact Criteria	FEIS RPA End-to-End	Reevaluation Statements #1 & #2 Total Change	Reevaluation Statement #3 Total Change	Reevaluation Statement #4 Total Change	Reevaluation Statement #5 Total Change	Reevaluation Statement #6 Total Change	Cumulative Impacts after Reevaluation Statement #6 End-to-End	Total Change since FEIS End-to-End <sup>4</sup>
Wellhead Protection Areas (acres)	520.0	0.0	18.9	-3.6	0.0	0.0	535.3	15.3
Agricultural Land (acres)	382.0	-2.5	36.1	-3.18	0.0	0.0	412.3	30.4
Managed Lands (acres)								
Publicly Owned	3.6	-0.8	0.0	-1.0	0.0	0.0	1.76	-1.84
Privately Owned	2.6	0.0	0.0	0.0	0.0	0.0	2.60	0.00
Forest (acres)								
Upland Forest	156.0	3.1	-1.4	-0.40	1.6	0.4	159.3	3.3
Core Forest	11.5	0.0	0.0	0.0	0.0	0.0	11.5	0.0

1. "Existing ROW" included in limited access ROW in FEIS.
2. "New ROW" includes local and limited access ROW.
3. Source: Segment Design Consultant Calculations and Segment Calculations.
4. Impact calculations do not include excess land.
5. Some numbers may not add correctly due to rounding

### 3.1 Social

The changes in Reevaluation Statement #6 have not resulted in a change to the number or type of relocations. Therefore, there has been no change to the number or type of relocations since Reevaluation Statement #5. The total number of relocations end-to-end for all design segments (Design Segments 6.1 through 6.5) is expected to increase by six relocations as compared to the RPA in the FEIS. This net total includes relocations that were not anticipated in the FEIS due to loss of septic systems or access, as well as relocations that were avoided during the final design. Below is a summary of changes that have occurred since Reevaluation Statement #3. Changes from the FEIS to the final design for Design Segment 1 are reflected in Reevaluation Statements #1 and #2.

The changes in Reevaluation Statement #6 do not result in a change to the impacts to low-income and/or minority populations identified in the FEIS. In addition, a review of the project area within Design Segment 6.3, Contract 4 did not identify any new low-income or minority populations that were not previously included in the FEIS.

No changes to the processes and procedures related to property acquisition and relocations as described in the FEIS will occur. All acquisitions and relocations required by this project have been or will be completed in accordance with the Uniform Act and Title VI of the Civil Rights Act.

Kitchen table meetings or KTMs have been ongoing with affected property owners. KTMs are individual meetings between project representatives and property owners to review impacts to each property owner, gather information on each property, such as locations of drinking water wells and septic systems, and review the property acquisition process. During these meetings, details which may affect property acquisition or unique requirements for relocation are also noted. Where possible, the design has been updated to minimize or avoid impacts on individual properties.

## **3.2     *Farmland***

The evaluation of compliance with the Farmland Protection Policy Act (FFPA) uses the Farmland Conversion Impact Rating for Corridor Type Project (NRCS-CPA-106 form), as outlined in 7 CFR 658.4. For I-69, the NRCS-CPA-106 form was prepared during the DEIS preparation and again for the RPA in the FEIS. The assessment criteria were scored according to the NRCS instruction and 7 CFR 658.5. The impact ratings ranged from 118 to 119 in Johnson County, 113 to 119 in Marion County, and 112 to 116 in Morgan County. Since this project received less than 160 points in every county, it was to receive no further consideration for farmland protection, and the project was considered to have no significant impact to farmland.

The changes in Reevaluation #6 will not result in a change to the impacts to agricultural lands. Therefore, there has been no change to the impacts to agricultural lands since Reevaluation #4. Reevaluation 6 impacts in the study area are temporary for purposes of land used for farming. As noted in Reevaluation Statement #4, Designs Segments 6.1 through 6.5 will permanently convert an additional 30.4 acres of agricultural land, predominantly consisting of row crops, to transportation use. Additionally, no agricultural parcels would be directly impacted by the creation of uneconomic remnants or landlocked parcels. Since the impact to agricultural land has not changed since Reevaluation #4, no re-coordination with NRCS regarding the Form NRCS CPA-106 has been completed. Since this project received a total point value of fewer than 160 points, the project will receive no further consideration for farmland protection. No other alternatives other than those already discussed in this document will be considered without reevaluation of the project's potential impact upon farmland. The project will not have a significant impact to farmland.

### **3.3 Noise Impact Analysis**

#### **3.3.1 FEIS and Previous Reevaluations**

The noise impact analysis associated with the preliminary design for I-69 Section 6 was approved on September 21, 2017. In that analysis, INDOT identified noise receptors that would be exposed to the 2045 design year noise levels approaching or exceeding the FHWA noise abatement criteria. To address the predicted noise impacts, INDOT modeled noise barriers at 30 locations with FHWA Traffic Noise Model (TNM) Version 2.5 for the RPA. As documented in Reevaluation Statement #1, nine noise barriers were found to be feasible and reasonable in Design Segment 6 (met design goal and cost-effectiveness).

In accordance with the 2017 INDOT Noise Analysis Procedure, based on the feedback from the public, it was determined that two noise barriers within Construction Contract 5 would be reevaluated to determine if they could be reduced in length while still achieving INDOT's noise reduction design goal. A design change, along with other minor design refinements to address the ZOI criteria were addressed in the addendum to the September 21, 2017 Final Noise Analysis report. An addendum to the September 21, 2017 Final Noise Analysis report was completed on July 15, 2021. This addendum covered the changes to the final design within Construction Contract 5. Additionally, a memo dated November 10, 2021, evaluated additional design changes in which it was determined that no additional noise impact evaluation is required, and the conclusions in the July 15, 2021 addendum remain valid.

#### **3.3.2 Reevaluation Statement #6 Noise Evaluation**

Based on the studies thus far accomplished, INDOT has identified impacted receptors as described in 3.3.1 FEIS and Previous Reevaluations preliminary design for I-69 Section. As a result, noise abatement was evaluated and included in the final design within Design Segment 6.3, Contract 4. A review was conducted to identify any additional noise-sensitive areas and receptors, impacted receptors, and noise contours for undeveloped areas associated with the proposed changes in Reevaluation Statement #6. It was concluded that the work included in Reevaluation Statement #6 will not create any additional noise impacts. Therefore, it was determined that no additional noise impact evaluation is required, and the conclusions in the September 21, 2017 Final Noise Analysis and July 15, 2021 addendum remain valid.

### **3.4 Above Ground Historic Resources**

The design changes to Crooked Creek are the only changes that result in utilizing temporary ROW within Reevaluation Statement #6. INDOT Cultural Resources Office (INDOT-CRO) staff reviewed the changes for above-ground concerns and determined that the changes are located within the previously approved Area of Potential Effects (APE) for I-69 Section 6, as illustrated in Appendix B. No historic above-ground resources were identified in the APE near this location. INDOT-CRO, on behalf of FHWA, has determined that per Stipulation II.C.1.a of the I-69 Section 6 Memorandum of Agreement (MOA) that project modifications for the realignment of Crooked Creek do not have the potential to cause adverse effects on above ground properties. Therefore, no further review or consultation with respect to the modification's effects on above-ground properties is required.

### **3.5 Below Ground Historic Resources**

In accordance with Stipulation III.A.6 of the I-69 Section 6 MOA between FHWA and the IDNR Division of Historic Preservation and Archaeology – State Historic Preservation Officer (DHPA-SHPO), project areas extending beyond the archaeological APE shall be subjected to archaeological identification, evaluation, and assessment. Due to the design modification in response to ongoing stability/migration issues at Crooked Creek, the project area was extended beyond the archaeological APE of I-69 Section 6. A Phase Ia archaeological survey was completed for the area at Crooked Creek that extends beyond the archaeological APE of I-69 Section 6. An Indiana Archaeological Short Report was completed on February 8, 2022, by an archaeologist at Gray & Pape, Inc. that meets the Secretary of the Interior's Professional Qualification Standards. No sites were identified within the project area, and no further work was recommended. The DHPA-SHPO concurred with this finding on March 14, 2022. Section 106 documentation is located in Appendix D.

The Peoria Tribe of Indians of Oklahoma responded on March 8, 2022, and stated that they have no objection to the project at this time, but if any items are discovered that fall under the protection of the Native American Graves Protection and Repatriation Act (NAGPRA), the Peoria Tribe requests immediate notification and consultation, the halting of construction, and the notification of authorities. The Tribal Historic Preservation Officer (THPO) of the Eastern Shawnee Tribe of Oklahoma responded on March 14, 2022, stating that no adverse effect or endangerment to known sites of interest are proposed by the project; however, should any sites or objects be discovered, the Eastern Shawnee Tribe has requested immediate notification and the halting of construction.

### **3.6 Threatened and Endangered Species**

This study has included an evaluation of potential impacts on federally-listed threatened and endangered species, as well as state-listed species. The evaluation of impacts on federally-listed species has been carried out in consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA). FHWA and INDOT formally consulted with USFWS on I-69 Section 6 in 2017, which resulted in the issuance of a biological opinion (BO)

dated October 30, 2017. Per the BO, approximately 210 acres of forest impacts (upland and forested wetland) are anticipated for I-69 Section 6. To avoid re-initiation of consultation, impacts may not exceed 10 percent of the anticipated amount of clearing (i.e., 231 acres), and no clearing should occur during the summer maternity season (April 1-September 30). As long as the re-initiation trigger is not met and all of the terms and conditions set forth within the BO are implemented, USFWS does not have any additional concerns or comments regarding these recent minor project modifications.

The anticipated changes in the proposed permanent and temporary ROW for Reevaluation Statement #6 will result in an additional 0.4 acre of impact to forested habitat. No additional impacts to core forest over the impacts as reported in Reevaluation Statement #5 will occur. This additional tree clearing will not exceed the threshold (i.e., 231 acres) for re-initiation of consultation. Avoidance and minimization measures, including seasonal tree clearing restrictions, limitations on lighting, protection of perennial streams, and contractor awareness, are included in the project commitments and unique special provisions to minimize impacts to the Indiana bat or northern long-eared bat.

### **3.7 Water Resources**

#### **3.7.1 Wetlands**

On-site field investigations along the entire I-69 project alignment were previously conducted in 2015, 2017, and 2018 for the identification of potential wetland impacts. The additional ROW areas associated with the changes in Reevaluation Statement #6 were reviewed to identify changes to potential wetland impacts. A *Wetland Technical Report* was completed on November 14, 2017 and has been reevaluated for additional wetland impacts within the modified project area. The nearest mapped wetland is located approximately 0.11 mile south of the project area. One National Wetlands Inventory (NWI) line segment is mapped through the project area; however, this feature refers to Crooked Creek. No other mapped NWI wetlands are located within or adjacent to the project area. A site visit on December 13, 2021 by SJCA Inc. documented the current site conditions and concluded that no changes to potential wetland impacts have occurred since the *Wetland Technical Report*. INDOT Ecology and Waterway Permitting Office (EWPO) concurred with this conclusion on February 2, 2022. No wetlands are present within the project area. Therefore, no additional wetland impacts are anticipated in addition to those previously evaluated.

Reevaluation Statement #3 summarized details of the wetland impacts, permitting application process, and mitigation requirements for the I-69 project alignment. There have been no changes to wetland impacts since Reevaluation Statement #3; therefore, key details associated with wetland impacts are summarized in Reevaluation Statement #3. Addendums to the Section 401 Water Quality Certification (WQC) and Section 404 permit will be obtained for the modified project area and construction activities included under Reevaluation Statement #6. No permit modifications due to wetland impacts are required for the design modifications included under Reevaluation Statement #6.

### 3.7.2 Streams

On-site field investigations along the entire I-69 project alignment were previously conducted in 2015, 2017, and 2018 for the identification of potential stream impacts. The additional ROW areas associated with the changes in Reevaluation Statement #6 were reviewed to identify changes to potential stream impacts. A Stream Assessment Report was completed for the project on November 14, 2017, and reevaluated for potential additional stream impacts; a site visit by SJCA Inc. on December 13, 2021, concluded the potential stream impacts have not changed since the Stream Assessment Report. INDOT EWPO concurred with this conclusion on February 2, 2022. One stream was identified within the investigated area. Crooked Creek flows northwest to southeast underneath the bridge structures on I-69. Water resource mapping can be found in Appendix B.

Crooked Creek is a perennial stream with fair habitat development, a narrow riparian corridor, and low sinuosity. Crooked Creek has a gravel and sand substrate, an Ordinary High Water Mark (OHWM) width of 36.5 feet, and an OHWM depth of 1.6 feet. The stream is an IDEM 303d listed stream, impaired with *Escherichia coli* (*E. coli*). Workers who are working in or near water with *E. coli* should take care to wear appropriate Personal Protective Equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure.

Previous permitting and impact determinations for the I-69 construction activities anticipated a total of 751 linear feet of stream impacts to Crooked Creek, including 303.5 linear feet west of the southbound structure (037-55-04515 JASB), 144 linear feet underneath the structures, and 303.5 linear feet east of the northbound structure (037-55-04515 BNBL). Due to the design modifications and increased project area to the east of the northbound structure included under Reevaluation Statement #6, an additional 96.5 linear feet (0.081 acre) of permanent stream impacts are anticipated to occur. Therefore approximately 400 linear feet are anticipated east of the northbound structure within the modified project area, resulting in a total of 847.5 linear feet of stream impacts to Crooked Creek. These additional stream impacts under Reevaluation Statement #6 will require modifications to project permitting, including an amendment to the IDNR Construction in a Floodway (CIF) permit (FW-30108-0). An amendment to the IDEM Section 401 Individual Permit (IP) and the USACE Section 404 IP will be obtained for these additional stream impacts to Crooked Creek.

Construction within Crooked Creek incorporates features to offset the loss of the affected stream's functions and values including stream bank stabilization, 0.93 acres of riparian reforestation plantings, and the creation of riffle and pool complexes. No additional stream mitigation will be required due to the improvements to the ecological qualities of the stream as a result of the design modifications included under Reevaluation Statement #6. Additionally, the overall stream impacts in Section 6 were reduced during the final design phase of the original project, meaning more mitigation credits were provided than were utilized. Therefore, it is anticipated that the original mitigation being offered for stream impacts for Section 6 will cover this additional 96.5 feet of impacts and remain at a 1:1 overall Section 6 stream mitigation ratio.



### 3.7.3 Floodplains/Floodways

Construction in a Floodway (CIF) permits from IDNR have been applied for and issued for I-69 Segment 6. IDNR has issued CIF permits for proposed construction activities associated with the following stream crossings and construction activities within Construction Contract 4:

- Design Segment 6.3
  - I-69 Mainline over Crooked Creek
  - I-69 Mainline over Stotts Creek
  - White River Bank Stabilization Project

As part of the design of I-69 Segment 6.3, additional impacts to floodplains have occurred due to the acquisition of temporary ROW for construction access and the realignment of Crooked Creek. Information on water resources within and adjacent to the project area, including floodplains, can be found in Appendix B. There will be changes to the floodway impacts included under this Reevaluation Statement #6 due to design modifications at Crooked Creek. An additional 96.5 linear feet (0.081 acres) of stream impacts will occur to Crooked Creek east of the northbound structure due to stream realignment. An additional 0.40 acre of forested land impacts will occur within the modified project area, causing a total of 3.82 acres in land use impacts within the floodway. An amendment to the IDNR CIF permit application for Design Segment 6.3 (FW- 30108-0) is in development and will include these additional impacts along the floodway of Crooked Creek. Trees and shrubs will be planted to mitigate for and replace those removed as a result of the project; this mitigation will be covered by the original mitigation plan developed for the I-69 project alignment.

### 3.8 Forest Impacts

The Revised BO for Tier 1 (see FEIS Appendix W) lists the thresholds of forest impacts for each section of I-69. If these thresholds are exceeded, Section 7 consultation with the USFWS for Tier 1 may need to be reinitiated. For the RPA as analyzed in the FEIS, the total forest impacts are 156 acres. This is approximately 75 acres less than the 231 acres estimated for I-69 Section 6 in the Revised Programmatic BO for Tier 1. The anticipated changes in the proposed existing ROW and temporary ROW for Reevaluation Statement #6 will result in an additional 0.4 acre of impact to forested habitat. No additional impacts to core forest over the impacts as reported in Reevaluation Statement #4 will occur. This additional tree clearing will not exceed the threshold for reinitiation of consultation. Habitat resources, including forests, are depicted in the mapping found in Appendix B.

### 3.9 Section 4(f) Resources

The changes in Reevaluation Statement #6 do not result in a change to the previously documented impacts to Section 4(f) resources. No previously undocumented 4(f) resources or proposed potential 4(f) resources were identified in the project area upon review. No additional 4(f) impacts will result from Reevaluation Statement #6.



### **3.10 Wellhead Protection Area**

As part of the I-69 Section 6 FEIS, six Wellhead Protection Areas (WHPAs) were identified within or adjacent to the I-69 Section 6 ROW. These WHPAs draw groundwater from bedrock (consolidated) and unconsolidated aquifer systems. There are no permanent or temporary ROW acquisition changes from land within a wellhead protection area included in Reevaluation Statement #6. During the construction of I-69 Section 6, contractors will be required to provide a spill response plan for work completed in the wellhead protection area, and no additional impacts are anticipated.

### **3.11 Managed Lands**

The changes in Reevaluation Statement #6 do not result in a change to the previously documented impacts to Managed Lands. No previously undocumented managed lands or proposed managed lands were identified in the project area upon review. No additional Managed Land impacts will result from Reevaluation Statement #6.

### **3.12 Hazardous materials**

A reevaluation of the project area included in Design Segment 6.3, Contract 4 identified a total of three hazardous material concern (hazmat) sites within the 0.5-mile search radius. All three hazmat sites are National Pollutant Discharge Elimination System (NPDES) facilities. There are two NPDES facilities nearest to the project area, mapped at the same location, approximately 0.31 mile northeast of the project area. Both facilities are associated with INDOT construction projects along I-69. One facility (Agency Interest ID: 126667) is an INDOT road construction project involving I-69 Segment 6.3, Des. No. 1901395 under Contract R3354; the permit for this project (INRA04773) is active, with an expiration date of December 18, 2024. One facility is an INDOT tree clearing project for the I-69 Segment 6.3, Des. No. 1901652 under Contract R42104; the permit for this project (INRA04161) is active, with an expiration date of August 13, 2024. Due to the distance from the project area and the nature of these NPDES facilities, no additional impacts are expected to the project. Coordination with INDOT Site Assessment and Management (SAM) occurred on December 20, 2021, confirming that no additional RFI reports or evaluations would be necessary for the project.

Reevaluation Statement #4 further discusses hazmat sites located along Design Segments 6.2, 6.3, 6.4, and 6.5 of the project; the Reevaluation also discusses that multiple Phase I Environmental Site Assessments (ESAs) and Phase II Limited Subsurface Investigations have been completed. No additional hazmat sites or potential hazardous material impacts than those previously identified were discovered during the reevaluation associated with Design Segment 6.3. Therefore, no additional impacts were found.

### **3.13     *Additional Commitments***

Commitments included in the FEIS and subsequent reevaluation statements will be adhered to during project development, design, and construction. In addition, per consultation with INDOT Site Assessment and Management, a new commitment stating, “Crooked Creek is an IDEM 303d listed stream, impaired with *Escherichia coli* (*E. coli*). Workers who are working in or near water with *E. coli* should take care to wear appropriate Personal Protective Equipment (PPE), observe proper hygiene procedures, including regular hand washing, and limit personal exposure” will be required.

## CHAPTER 4 – CONCLUSIONS

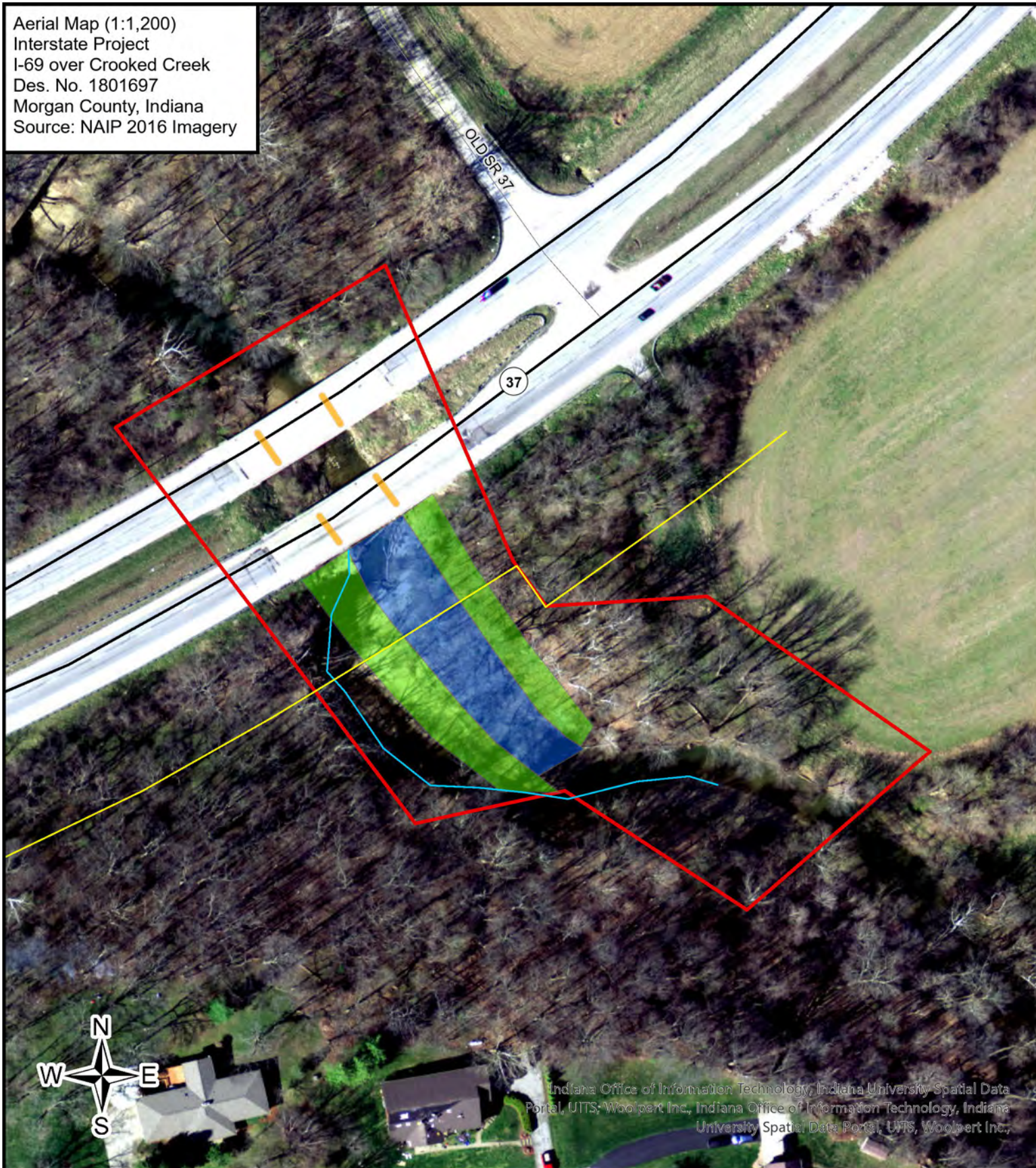
The analysis of the impacts resulting from the design changes incorporated as part of Design Segment 6.3, Contract 4 supports the conclusion that these modifications will not cause significant environmental impacts that were not evaluated in the I-69 Section 6 FEIS. The changes presented in this reevaluation offer no new information or circumstances relevant to environmental concerns, nor will they result in significant environmental impacts that were not discussed in the I-69 Section 6 FEIS. Additionally, one new environmental commitment was identified as part of the design changes included in Design Segment 6.3. The analysis in this reevaluation supports the conclusion that the design in Segments 6.3 will not have impacts sufficient to require the preparation of a Supplemental Environmental Impact Statement or an additional DEIS for I-69 Section 6. Therefore, the I-69 Section 6 Tier 2 FEIS and ROD remain valid.

## **Appendix A – Reevaluation Statement #6**

### **Project Design Modifications**



Aerial Map (1:1,200)  
Interstate Project  
I-69 over Crooked Creek  
Des. No. 1801697  
Morgan County, Indiana  
Source: NAIP 2016 Imagery

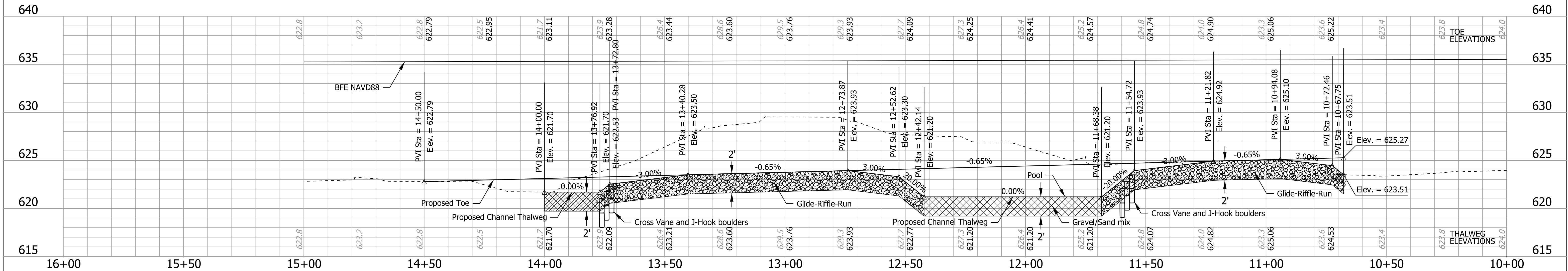
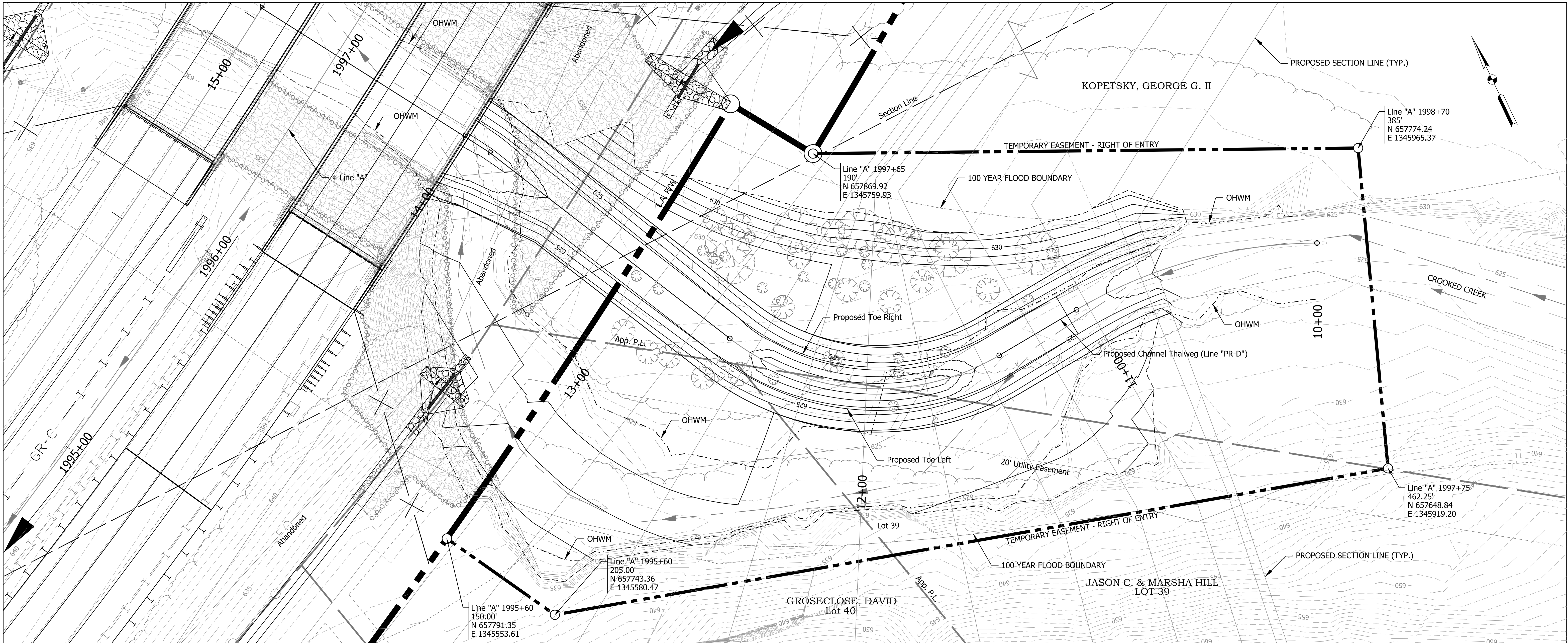


0 75 150  
Feet

- Project Location
- Proposed Channel
- Existing Stream Alignment
- Proposed Streambanks
- Existing Row
- Additional Riprap







**LEGEND**

	Existing Rip Rap
	Existing Streams/Mitigation Channels

	Large Tree (19" - 42")
	Medium Tree (12" - 18")
	Small Tree (3" - 11")

NOT FOR  
CONSTRUCTION

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	3-8-22 DATE
DESIGNED: BT	DRAWN: PFV	
CHECKED: JF	CHECKED: MMF	

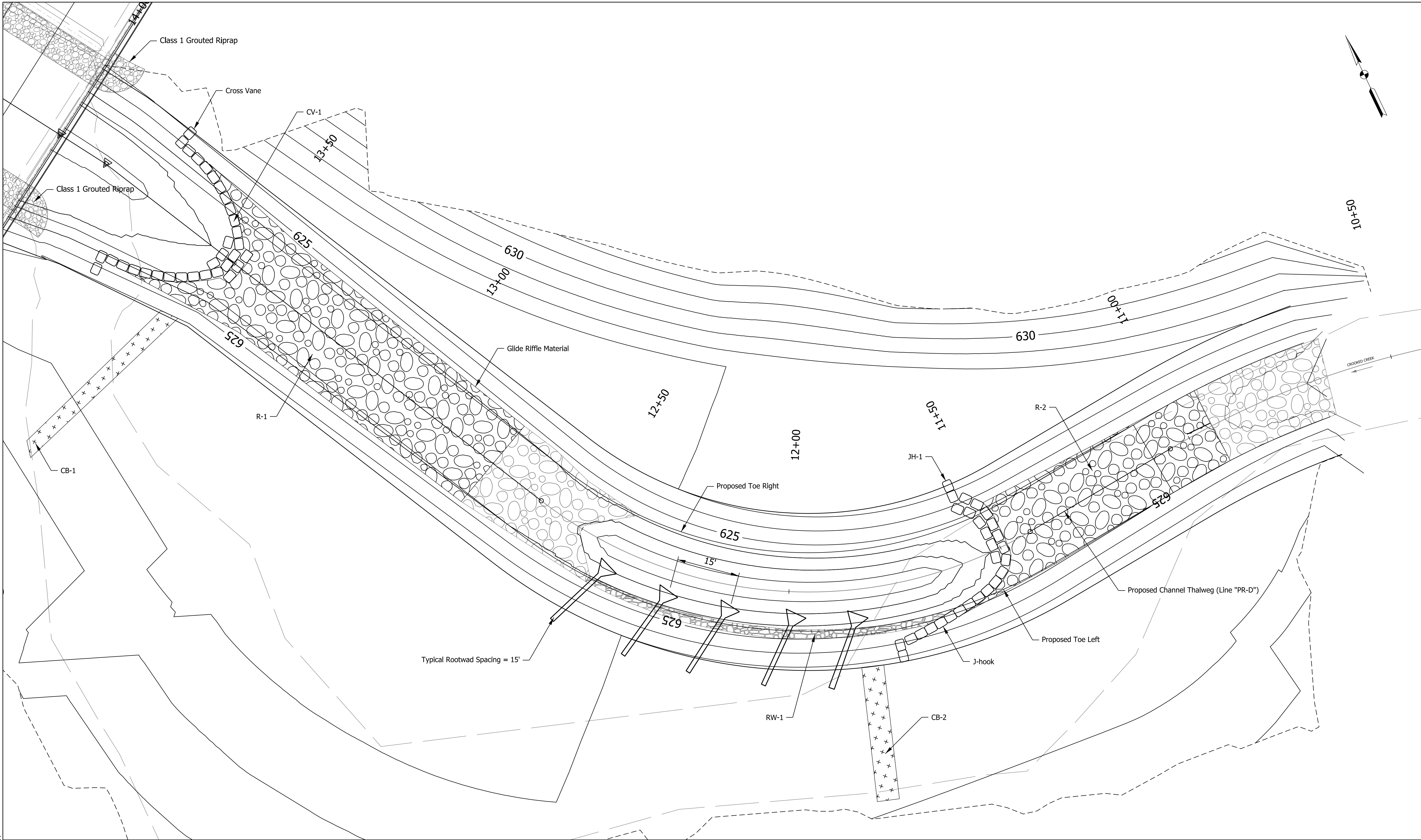
INDIANA DEPARTMENT OF TRANSPORTATION
CROOKED CREEK PLAN AND PROFILE

HORIZONTAL SCALE 1" = 20'	BRIDGE FILE
VERTICAL SCALE 1" = 4'	DESIGNATION 1801697
SURVEY BOOK	SHEETS 1 of 15
CONTRACT R-42168	PROJECT 1801697

Plot: 4/18/2022 10:17 PM


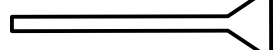
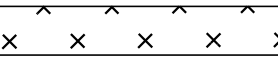


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Plot: 4/18/2022 10:16 PM  
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LEGEND

-  Glide Riffle Material
-  Submerged Glide Riffle Material
-  3-5' Diameter Rootwads
-  Clay Blocks
-  J-hook or Cross Vane (
-  Riprap Armoring

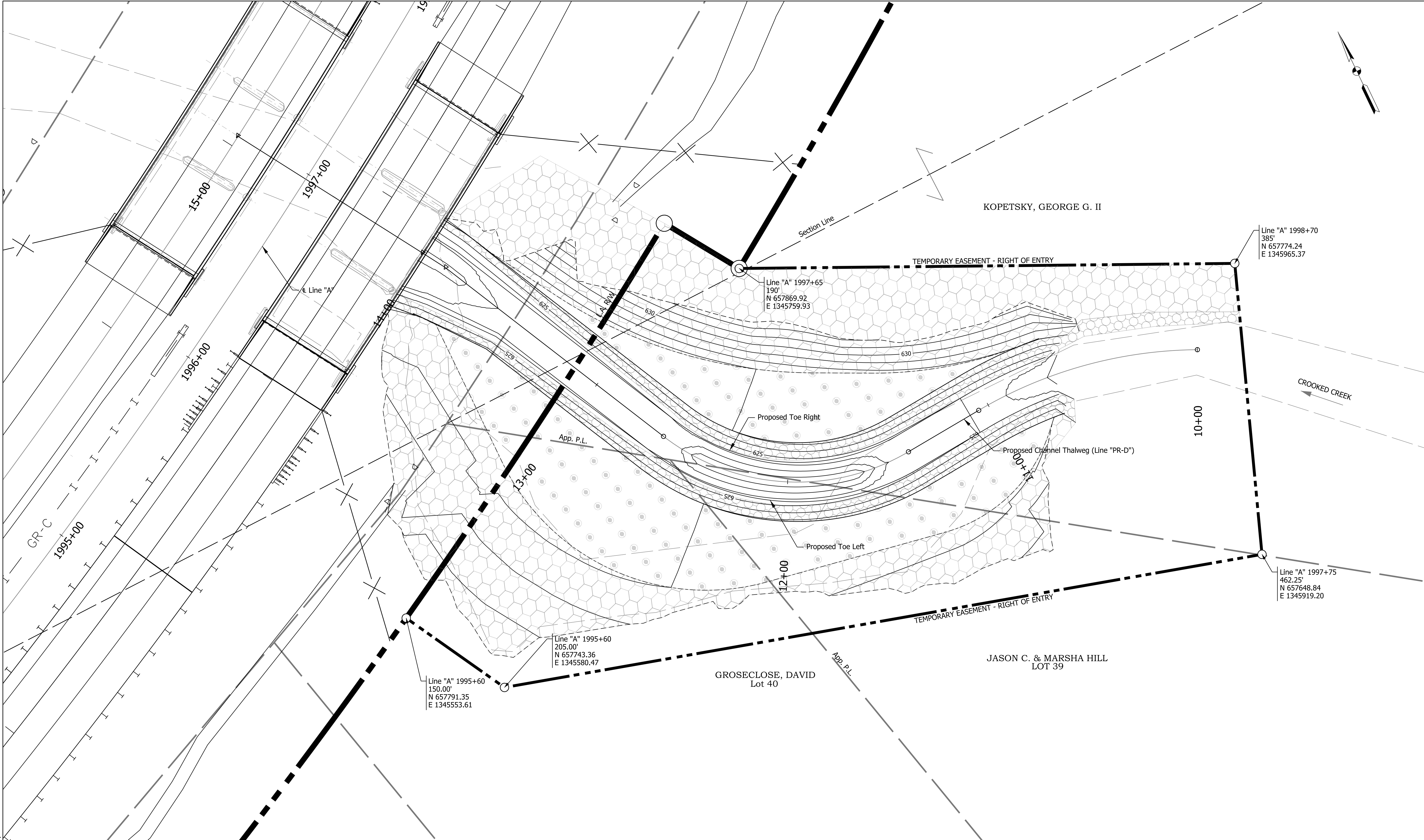
NOT FOR  
CONSTRUCTION

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____		3-8-22 DATE	
DESIGNED: BT _____		DRAWN: PFV _____			
CHECKED: JF _____		CHECKED: MMF _____			

INDIANA  
DEPARTMENT OF TRANSPORTATION

CROOKED CREEK  
CONSTRUCTION DETAIL SHEET

HORIZONTAL SCALE		BRIDGE FILE	
1" = 10'		DESIGNATION	
VERTICAL SCALE		1801697	
N/A			
SURVEY BOOK		SHEETS	
		2 of 15	
CONTRACT		PROJECT	
R-42168		1801697	



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LEGEND

- M1 Zone - Bottomland Reforestation
- M2 Zone - Riparian Reforestation
- Riverbank Planting Zone

NOT FOR CONSTRUCTION

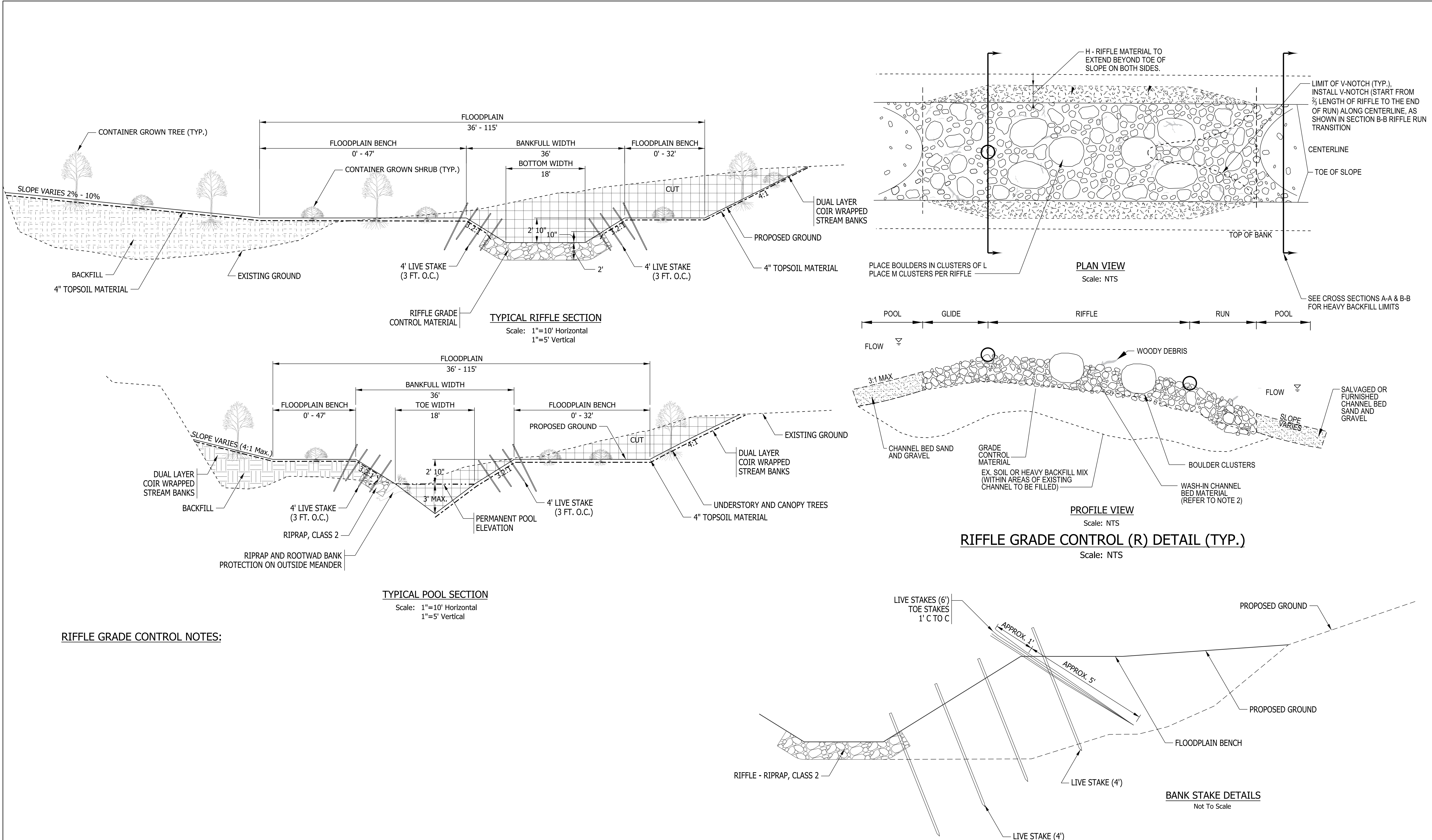
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DESIGNED: BT	DRAWN: PFV		
CHECKED: JF	CHECKED: MMF		

INDIANA DEPARTMENT OF TRANSPORTATION

CROOKED CREEK PLANTING PLAN

HORIZONTAL SCALE	BRIDGE FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
N/A	1801697
SURVEY BOOK	SHEETS
	3 of 15
CONTRACT	PROJECT
R-42168	1801697

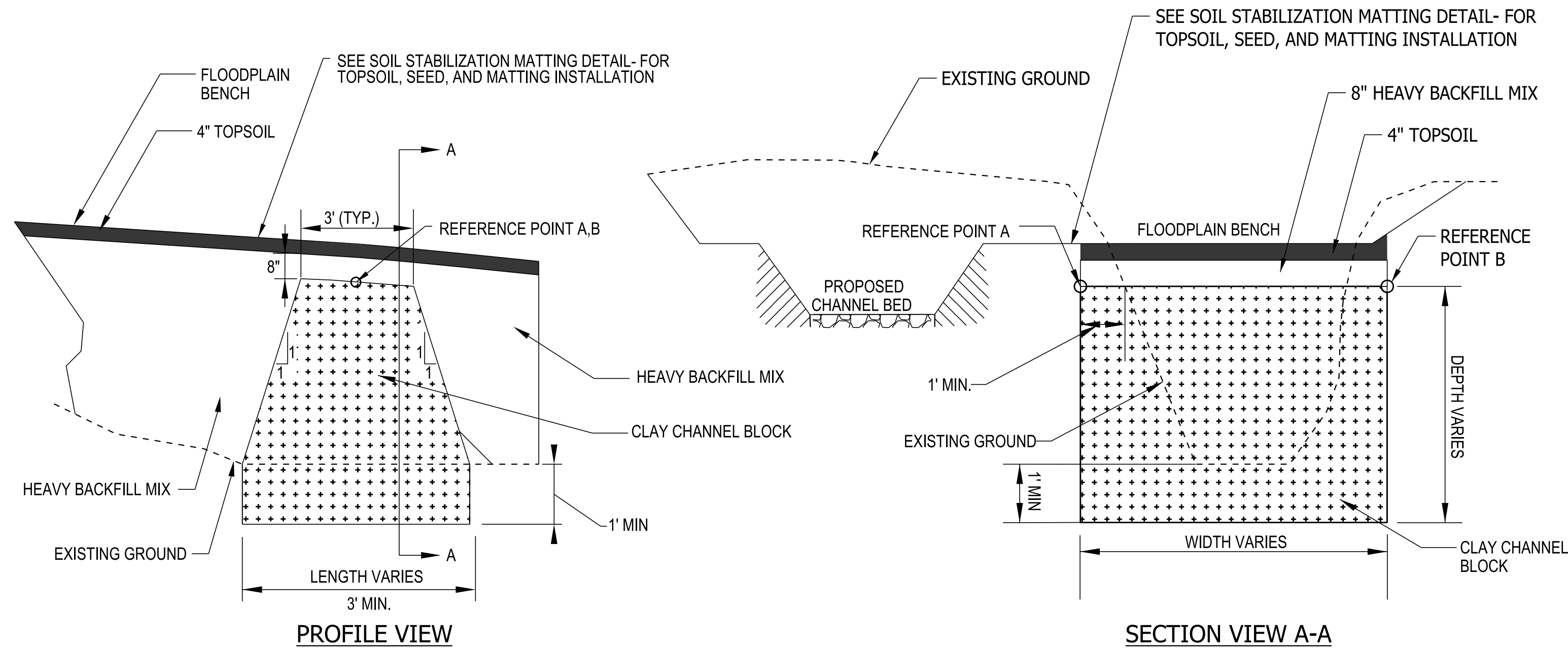




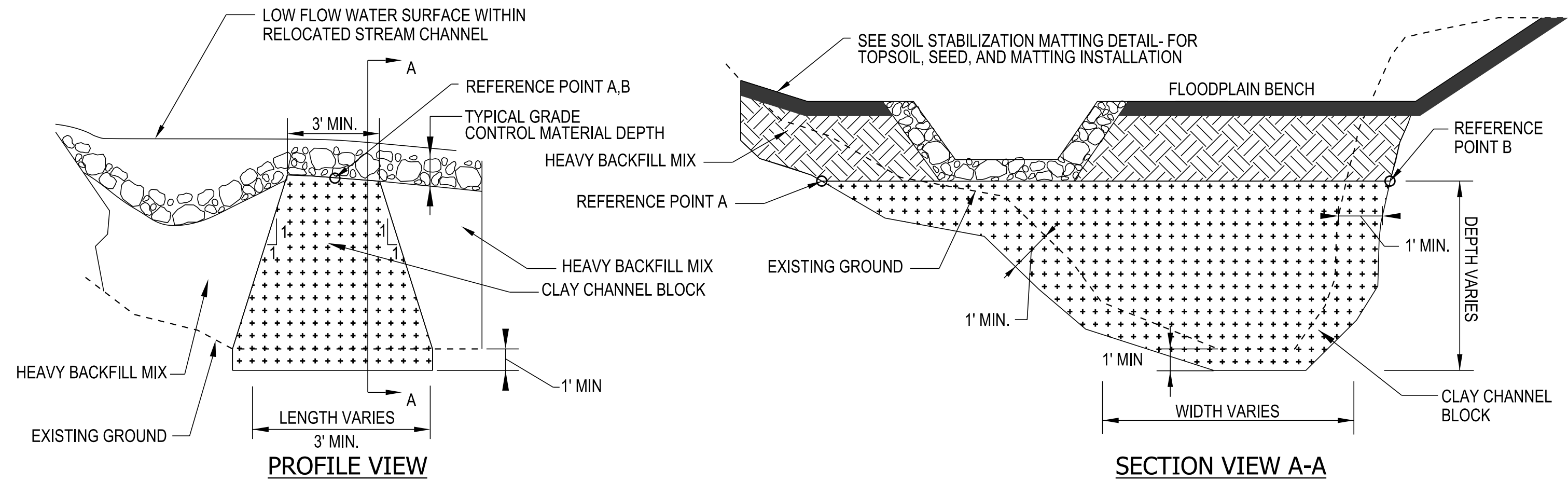
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				SEE DETAILS			
				VERTICAL SCALE		DESIGNATION	
				SEE DETAILS		1801697	
DESIGNED: BT	DRAWN: PFV	CROOKED CREEK MITIGATION DETAILS	SURVEY BOOK		SHEETS		
CHECKED: JF	CHECKED: MMF		4 of 14				
			CONTRACT		PROJECT		
			R-42168		1801697		

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CHANNEL BLOCK AT ABANDONED CHANNEL

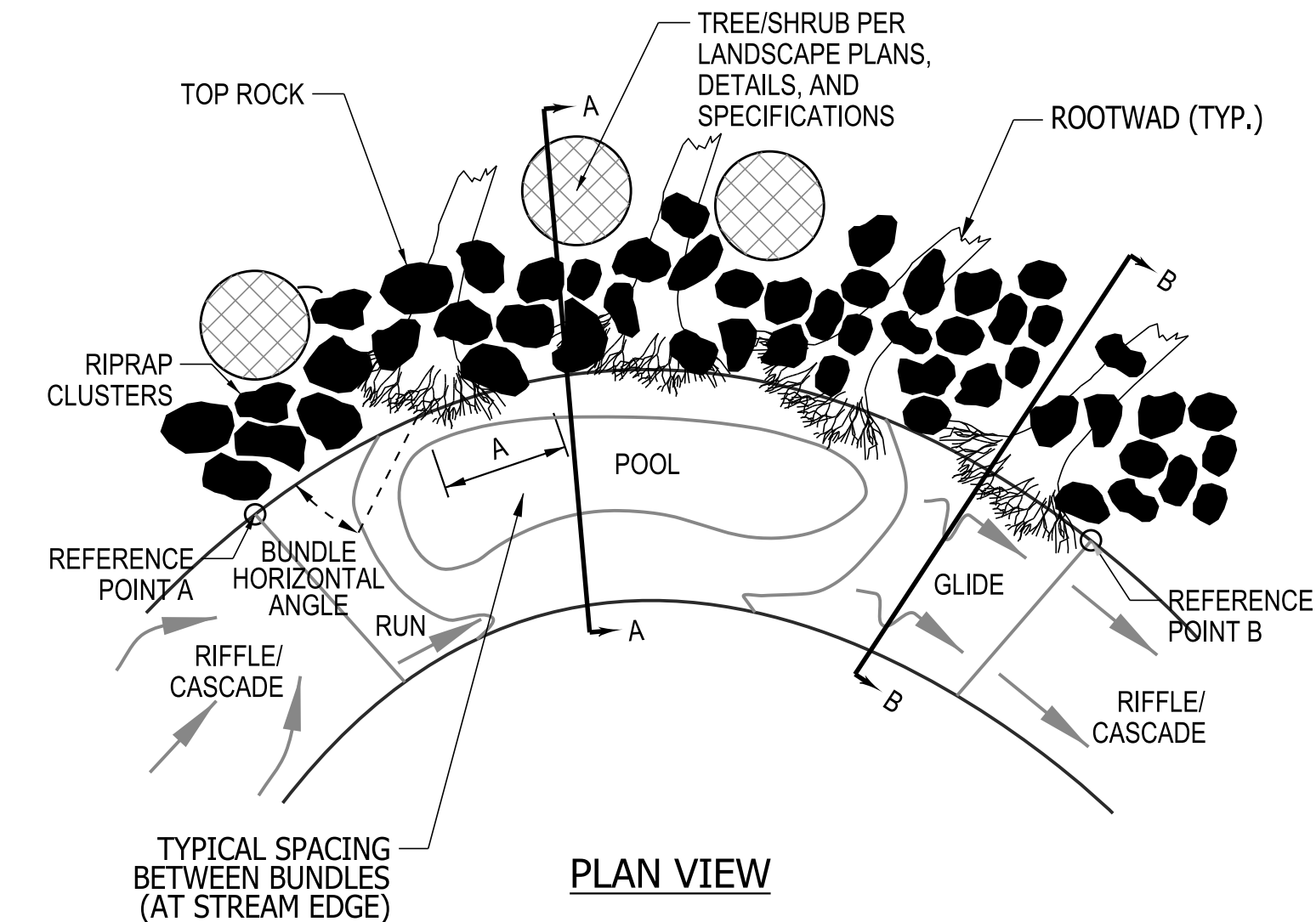


CHANNEL BLOCK DETAIL

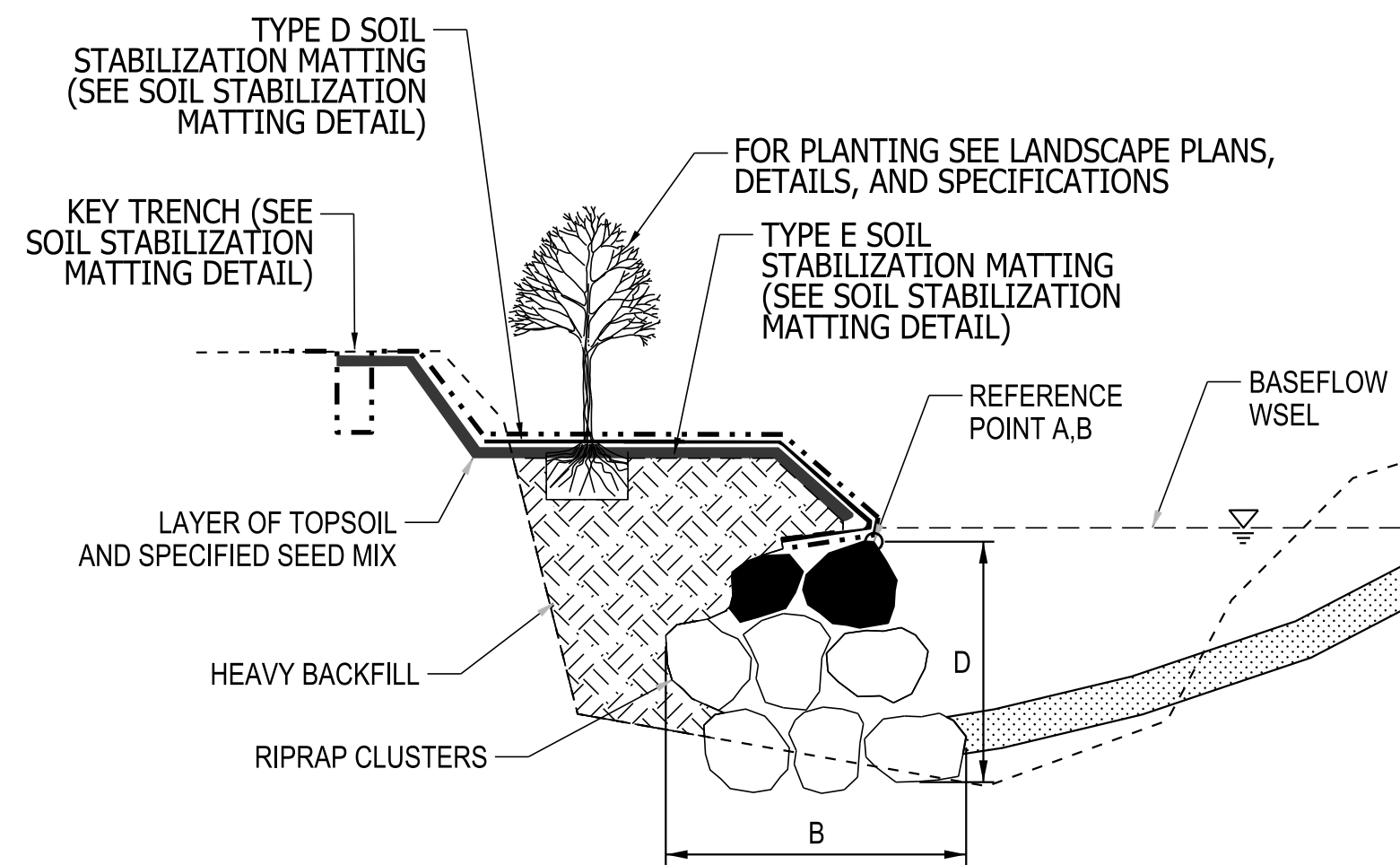
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NOTES:

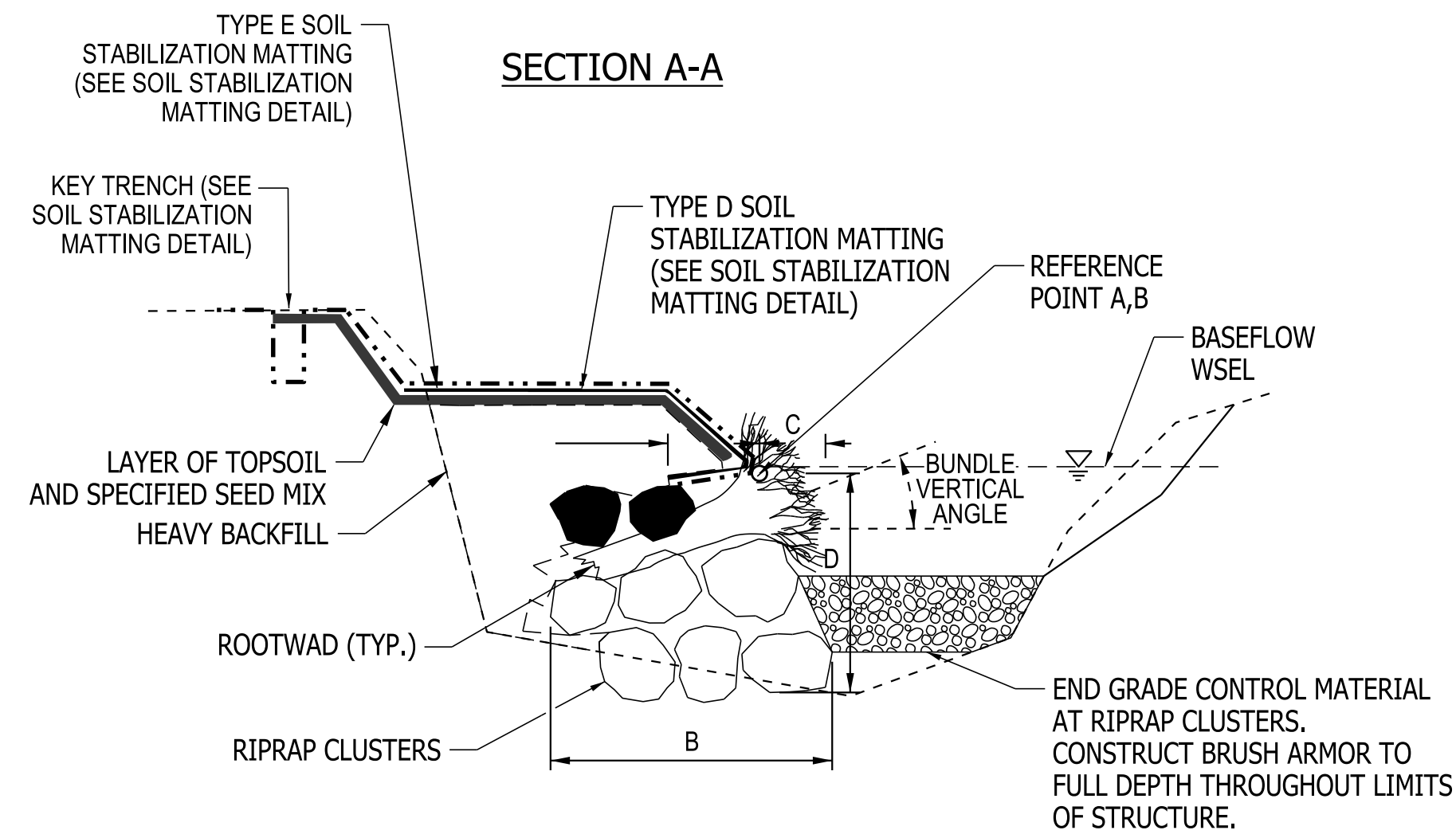
1. CHANNEL BLOCKS ARE TO BE LOCATED AS SHOWN ON THE PLAN SHEETS, REFER TO AS-BUILT CHECKLIST FOR REFERENCE POINTS COORDINATES.
2. CHANNEL BLOCKS ARE INCORPORATED INTO THE DESIGN TO BLOCK SUBSURFACE FLOW FROM PIPING THROUGH CHANNEL BACKFILL.
3. THE TOP ELEVATION AND WIDTH ACROSS THE CHANNEL SHALL VARY BASED ON THE PROPOSED GRADE DEPICTED ON THE PLAN SHEETS AND THE EXISTING CHANNEL BED WIDTH. THE TOP OF THE BLOCK SHALL EXTEND TO THE BOTTOM LIMIT OF THE PREVIOUSLY INSTALLED FURNISHED RIFFLE BED MATERIAL OR 4-INCHES BELOW THE TOP GRADE OF FLOODPLAIN BENCHES, AS APPLICABLE.
4. CLAY MATERIAL FOR CHANNEL BLOCKS SHALL MEET THE REQUIREMENTS FOUND IN THE CLAY MATERIAL NOTES ON DE-XX.
5. CLAY CHANNEL BLOCKS OPTION B SHALL BE CONSTRUCTED USING 8-INCH UNCOMPACTED LAYERS OF CLAY MATERIAL PLACEMENT. THE BLOCKS SHALL BE COMPACTED AFTER THE PLACEMENT OF EACH SUCCESSIVE LAYER.
6. THE CHANNEL BLOCK OPTION TO UTILIZE DEPENDS ON MATERIAL AVAILABILITY DURING CONSTRUCTION.



PLAN VIEW



SECTION A-A



SECTION B-B

ROOTWAD ARMOR (BA) DETAIL

Scale: NTS

NOTES:

1. RIPRAP CLUSTERS SHALL BE UTILIZED TO ANCHOR THE BUNDLES OF BRUSH AND TO FILL LARGE VOIDS IN BETWEEN.
2. ROOTWAD SHALL BE 8"-15" DIAMETER TRUNKS.
3. MINIMUM 12' OF THE ROOTWAD LOG SHALL BE INSTALLED INTO THE BANK.
4. ROOTWADS SHALL ANGLE UPSTREAM AT 30-60 DEGREES.
5. CHANNEL BED SAND AND GRAVEL WILL BE WASHED INTO THE BOULDER CLUSTER VOIDS.
5. SEE SHEET 8 FOR PLANTING DETAILS AND SPACING.

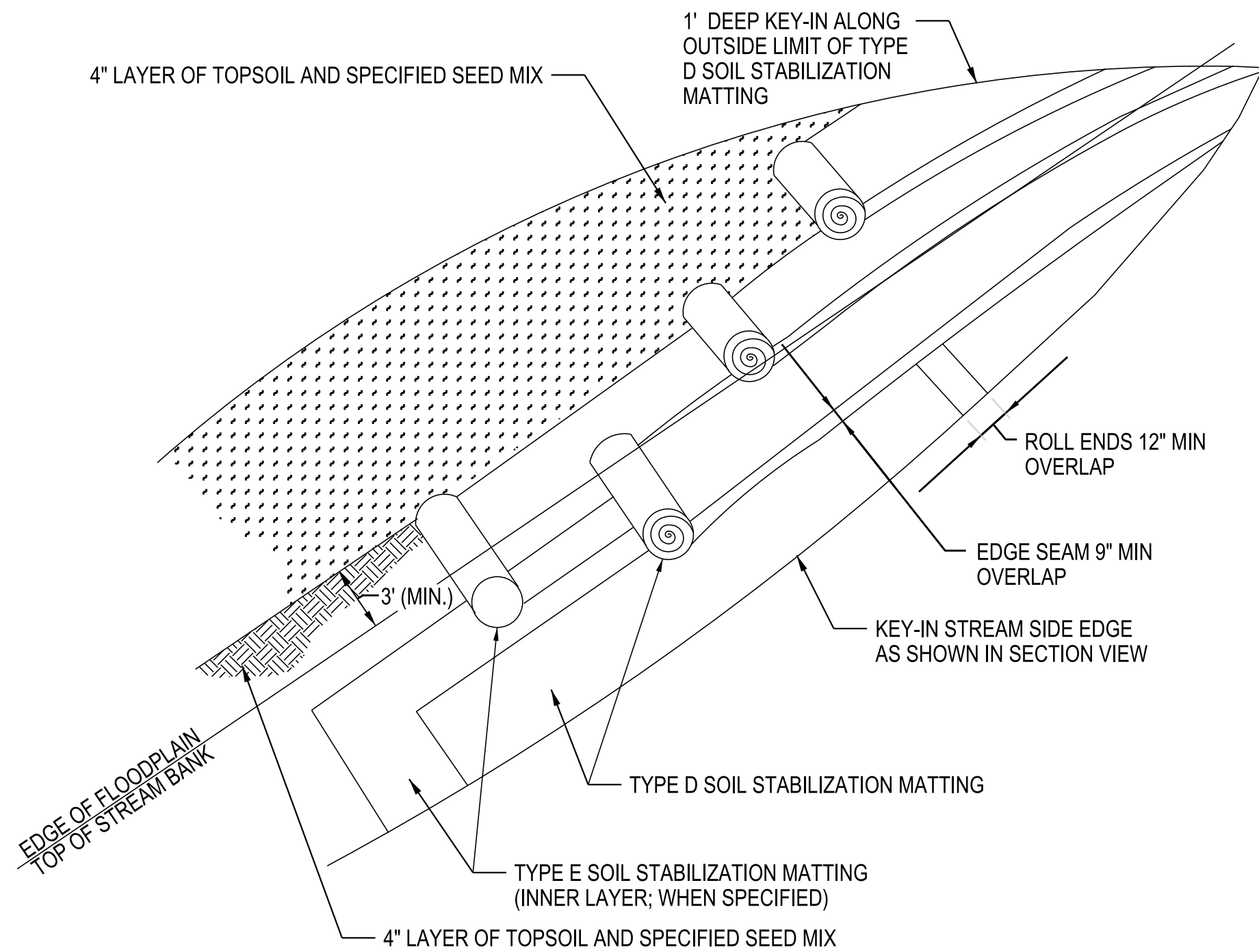
RECOMMENDED FOR APPROVAL _____	
DESIGN ENGINEER _____ DATE _____	
DESIGNED: BT _____	DRAWN: PFV _____
CHECKED: JF _____	CHECKED: MMF _____

INDIANA  
DEPARTMENT OF TRANSPORTATION

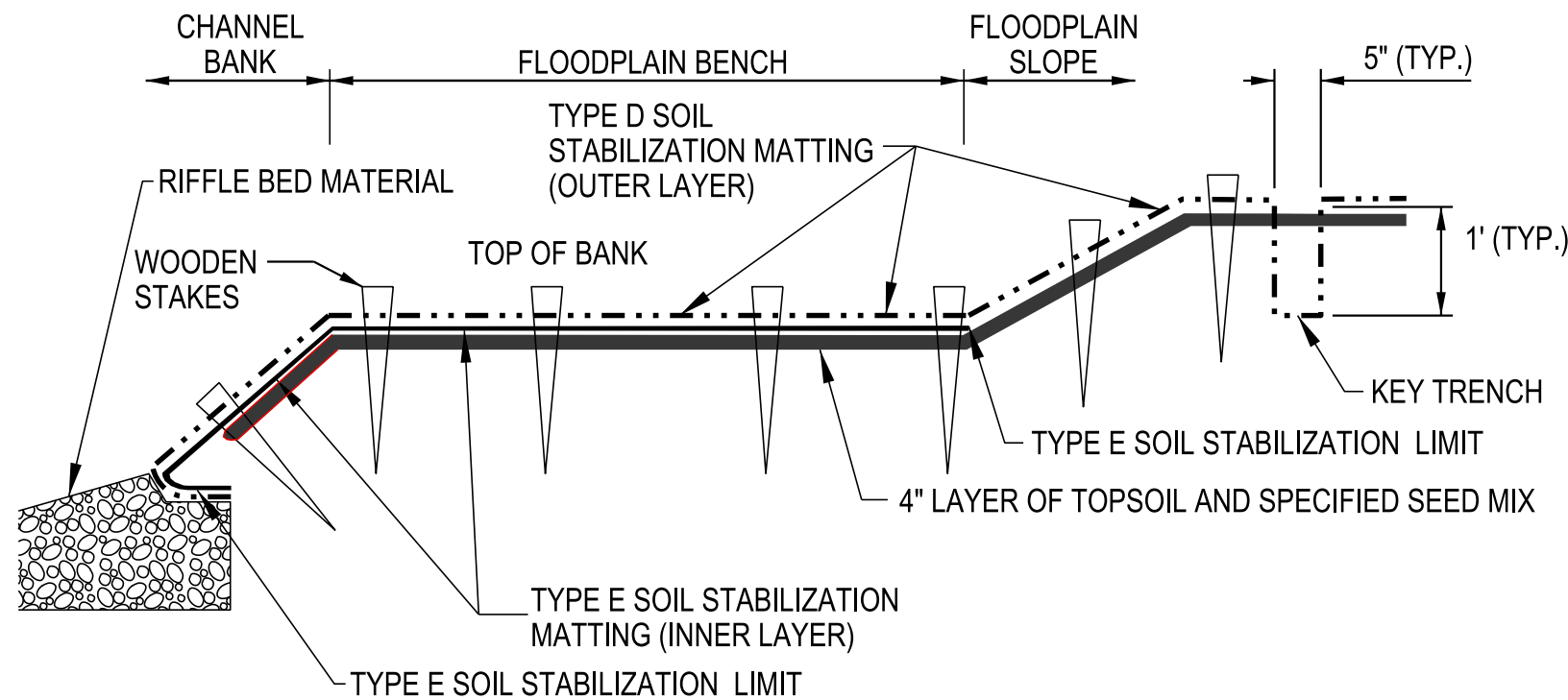
CROOKED CREEK  
MITIGATION DETAILS

HORIZONTAL SCALE		BRIDGE FILE	
N/A			
VERTICAL SCALE		DESIGNATION	
N/A		1801697	
SURVEY BOOK		SHEETS	
		5	of 14
CONTRACT		PROJECT	
R-42168		1801697	

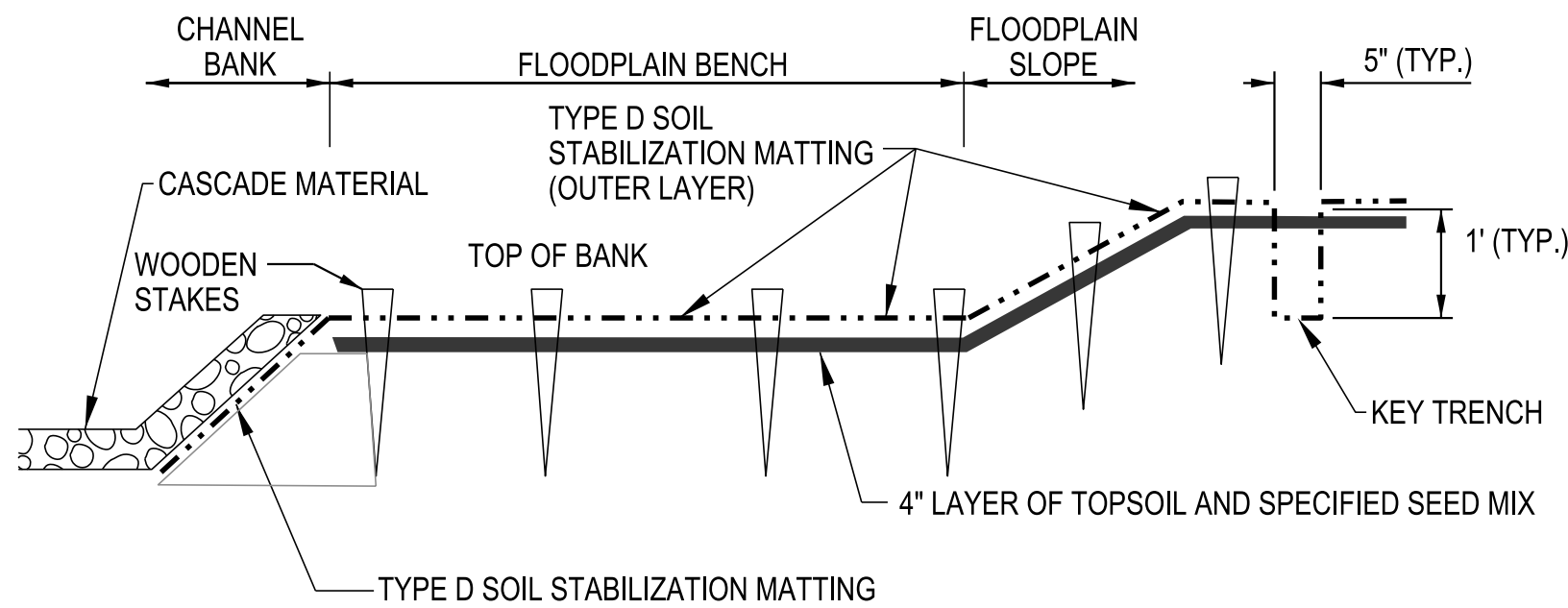




PERSPECTIVE VIEW



LAYER LIMIT AT RIFFLE / POOL SECTION



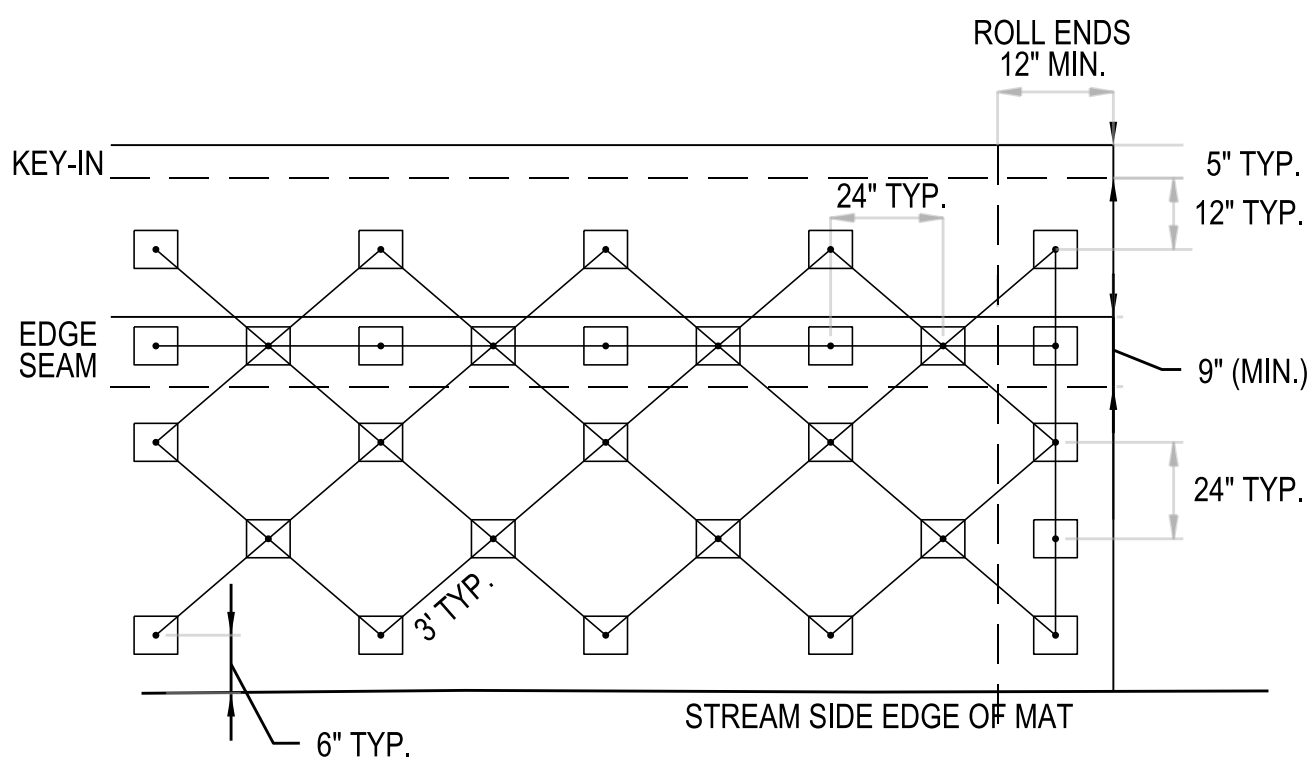
LAYER LIMIT AT CASCADE SECTION

SOIL STABILIZATION MATTING (SSM) DETAIL

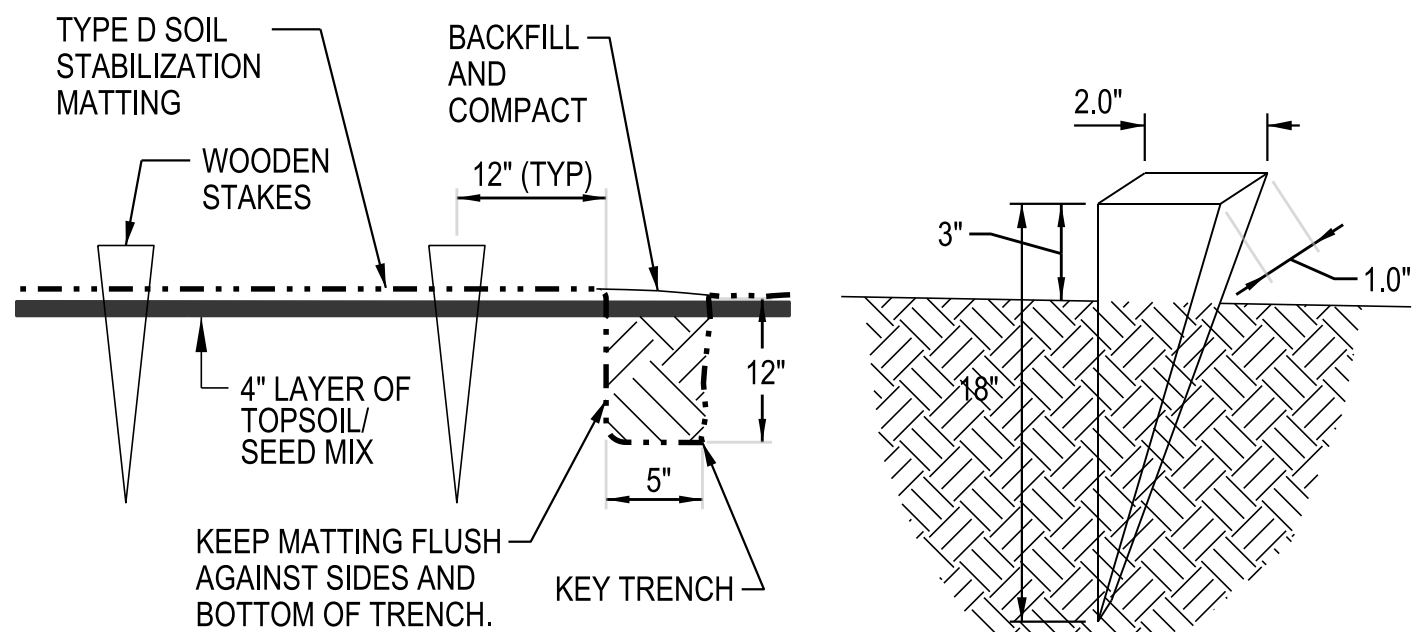
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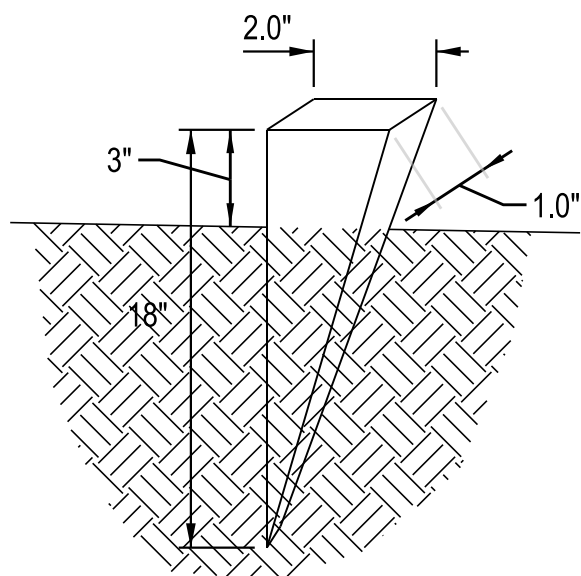
1. TYPE D SOIL STABILIZATION MATTING WILL BE USED THROUGHOUT THE PROJECT AS PERMANENT STABILIZATION MATTING. LIMITS ARE DEPICTED IN THE PERSPECTIVE VIEW, AND SECTION VIEW.
2. TYPE D SOIL STABILIZATION MATTING IS A WOVEN COIR FABRIC MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 920.05.01(d). TYPE E SOIL STABILIZATION MATTING MATERIAL IS A BIODEGRADABLE MATTING MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 920.05.01(e).
3. TYPE D SOIL STABILIZATION MATTING AND TYPE E SOIL STABILIZATION MATTING SHALL BE SECURED USING WOOD STAKES.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, AND PERMANENT SEEDING IN ACCORDANCE WITH PLANS. MATTING SHALL BE PLACED WITHIN 48 HOURS AFTER SEEDING OPERATIONS HAVE BEEN COMPLETED ON THE AREAS RECEIVING MATTING.
5. COVER ALL SPECIFIED TOPSOIL / SEED BED AREAS WITH STRAW MULCH EXCEPT IN AREAS WITH A DUAL TYPE D/E LAYER MATTING.
6. MATTING SHALL BE UNROLLED / PLACED ACROSS THE STREAM BANK SLOPE / PARALLEL TO THE TOE OF THE SLOPE. LAY MATTING SMOOTHLY UPON THE PREPARED SEED BED. AVOID STRETCHING OR BUNCHING OF MATTING.
7. TYPE E MATTING TO BE PLACED ON RIFFLE / POOL CHANNEL BANKS. KEY BENEATH THE TOE 6 INCHES. EXTEND BEYOND THE TOP OF BANK 3 FEET.
8. OVERLAP EDGE SEAM OF MATTING ROLLS BY 9 INCHES (MINIMUM) AND ROLL ENDS BY 12 INCHES (MINIMUM), WITH THE UP SLOPE MAT OVERLAPPING ON TOP OF THE DOWN SLOPE MAT.
9. THE UP SLOPE FACE OF MATTING SHALL BE KEYED IN 1 FOOT (MINIMUM) BY DIGGING A TRENCH, AND PLACING THE MATTING ROLL END IN THE TRENCH. CONTRACTOR SHALL KEEP MATTING FLUSH AGAINST SIDES OF TRENCH DURING INSTALLATION AND REPLACE THE EXCAVATED MATERIAL, AND TAMP TO SECURE THE MATTING END IN THE KEY TRENCH AS SHOWN ON THE PLAN.



WOOD STAKING PLAN



OUTSIDE LIMIT KEY-IN SECTION



WOOD STAKES

CHANNEL BED SAND AND GRAVEL

1. A MIXTURE OF SAND AND GRAVEL PLACED AT SPECIFIED LOCATIONS TO LINE THE CHANNEL BED WITHIN POOLS, AND TO SEAL RIFFLES, CASCADES, AND OTHER IN-STREAM GRADE CONTROL STRUCTURES SPECIFIED THROUGHOUT THESE CONTRACT DOCUMENTS FROM PIPING FLOWS BENEATH OR THROUGH THE STRUCTURES. SAND AND GRAVEL MAY BE SALVAGED FROM THE EXISTING CHANNEL BED OR FURNISHED.
2. FOR SALVAGED SAND AND GRAVEL, EXCAVATE AND STOCKPILE SALVAGED SAND AND GRAVEL FROM WITHIN THE LIMITS OF DISTURBANCE AND THE ACTIVE CONSTRUCTION STAGE. SUITABLE MATERIALS WILL CONSIST OF GRAVEL, SAND, AND SILT SOILS. SOILS WITH VISIBLY NOTED FRACTIONS OF CLAY OR ORGANIC SILT ARE NOT APPROPRIATE. SUITABLE SALVAGED MATERIALS SHOULD HAVE LITTLE TO NO COHESION. GENERALLY, EXCAVATE MATERIAL FROM THE TOP 8 IN. OF STREAM RIFFLES AND THE TOP 12 IN. OF CHANNEL BARS. ADJUST LIMITS OF EXCAVATION BASED UPON THE SUITABILITY OF THE MATERIAL ENCOUNTERED.
3. FOR FURNISHED SAND AND GRAVEL, PROVIDE MATERIAL CONSISTING OF SAND AND GRAVEL WITH SOME NATURAL BED SILTS. THE MATERIAL COMPOSITION SHALL BE 20 PERCENT NATIVE CHANNEL SILT, 30 PERCENT GRAVEL WITH A SIZE DISTRIBUTION RANGING FROM A NO. 8 SIEVE UP TO 1 IN., AND 50 PERCENT SAND. THE SILT COMPONENT OF THE MIXTURE SHALL BE SALVAGED FROM CHANNEL AND STREAM BANK EXCAVATION MATERIALS DEEMED OTHERWISE UNSUITABLE AS SALVAGED CHANNEL BED SAND AND GRAVEL.
4. SALVAGED SAND AND GRAVEL AND FURNISHED SAND AND GRAVEL SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION.

HEAVY BACKFILL NOTES

1. HEAVY BACKFILL IS A ROCK ENHANCED MIXTURE OF BACKFILL TO BE USED FOR BACKFILLING ABANDONED CHANNELS AND FOR THE CONSTRUCTION OF LOW CHANNEL BANKS AND FLOODPLAIN BENCHES THROUGHOUT THE STREAM LENGTH ALONG THE RESTORATION PROJECT.
2. HEAVY BACKFILL CONSISTS, BY VOLUME, OF 10% CLASS 0 RIPRAP, 20% BANK RUN GRAVEL-SUBBASE, AND 70% PERCENT SALVAGED SUBSOIL MEETING THE REQUIREMENTS OF MDOT SHA STANDARD SPECIFICATION 920.01.03. SALVAGED SUBSURFACE SOIL MUST BE VISUALLY INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO USE IN THE HEAVY BACKFILL MIX. THE MIXTURE SHALL BE FIELD MIXED TO AN EVEN DISTRIBUTION OF MATERIALS. THE MIXTURE SHALL BE PLACED IN 12-INCH LIFTS AND SHALL BE THOROUGHLY COMPACTED USING THE EXCAVATOR BUCKET OR OTHER METHODS APPROVED BY THE ENGINEER TO A POINT WHERE THE SURFACE OF THE BACKFILL IS EVEN AND THERE ARE NO AREAS WHERE THE BACKFILL MATERIAL IS SLUMPING, TO MEET THE GRADES/SUBGRADES DEPICTED ON THE PLANS AND DETAILS.
3. SALVAGED SUBSURFACE SOIL WITH SIMILAR GRADATION DESCRIBED IN NOTE 2 MAY BE USED AS HEAVY BACKFILL. THE ENGINEER WILL VISUALLY INSPECT AND APPROVE USE OF 100% SALVAGED SUBSOIL. SUITABLE SALVAGED SUBSURFACE SOIL NOT MEETING THE STONE REQUIREMENT WILL HAVE STONE ADDED AS DESCRIBED IN NOTE 2.

GRADE CONTROL MATERIAL NOTES

1. MATERIAL SHALL CONSIST OF A HARD DURABLE STONE MADE FROM A MIXTURE OF THE MATERIALS SHOWN IN THE GRADE CONTROL MATERIAL MIX TABLE SHOWN IN THIS SHEET. STONE SHALL MEET REQUIREMENTS OF SECTION 901.
2. PROVIDE A MIXTURE FREE FROM OVERBURDEN, SPOIL, SHALE, SLATE AND ORGANIC MATERIAL. DO NOT FURNISH WHITE LIMESTONE, SANDSTONE, OR OTHER SEDIMENTARY ROCK.
3. PROVIDE STONE COLOR THAT IS SITE APPROPRIATE. DO NOT FURNISH WHITE, OR RED ROCK UNLESS SPECIFICALLY MENTIONED TO MATCH NATIVE CHANNEL MATERIAL.
4. WHEN USED AS A REPLACEMENT FOR STANDARD RIPRAP, SALVAGED STONE MUST BE APPROVED BY THE ENGINEER PRIOR TO USE.
5. THE NATIVE CHANNEL BED MATERIAL COMPONENT OF THE MIXTURE WILL BE RIFFLE AND GRAVEL BAR MATERIALS SALVAGED FROM THE CHANNEL. MATERIAL SIZE VARIES DEPENDING ON LOCATION AND IS GENERALLY IDENTIFIED AS THE COARSEST MATERIAL AVAILABLE IN THE STREAM. NATIVE CHANNEL BED MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.

WOODY DEBRIS NOTES

1. WOODY DEBRIS IS A MIXTURE OF BOUGHS, LIMBS, BRANCHES AND TWIGS FROM RECENTLY FELLED TREES AND SHRUBS. DIAMETER AND LENGTH OF WOODY DEBRIS MAY VARY BY APPLICATION. WOODY DEBRIS OF UNSPECIFIED SIZE SHALL RANGE IN DIAMETER FROM 1" TO 6" AND LENGTH FROM 18" TO 36".
2. STRIP LEAVES FROM BRANCHES PRIOR TO PLACEMENT UNLESS OTHERWISE NOTED.
3. WOODY DEBRIS SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION.
4. WOODY DEBRIS SHALL BE SOURCED FROM HEALTHY, RECENTLY FELLED TREES.

CLAY MATERIAL NOTES

1. GEOSYNTHETIC CLAY LINER (GCL) MATERIAL SHALL MEET THE REQUIREMENTS OF A GCL WITH A PERMEABILITY OF  $5 \times 10^{-9}$  CM/SEC.
2. CLAY MATERIAL FOR CLAY CHANNEL BLOCKS OPTION B SHALL CONFORM TO THE UNIFIED SOILS CLASSIFICATIONS GC, SC, CH OR CL. THE MATERIAL SHALL BE FREE OF WOOD, STONE, AND DEBRIS GREATER THAN 6 INCHES IN DIAMETER.
3. CLAY MATERIAL SHALL BE APPROVED BY THE ENGINEER BEFORE INSTALLATION.

GRADE CONTROL MATERIAL MIXES								
MATERIAL MIX	NOMINAL STONE SIZE	SALVAGED BED MATERIAL*	NO. PARTS OF STONE/RIPRAP					TOTAL # PARTS
			MD #2	CLASS 0	CLASS I	CLASS II	CLASS III	
M-1	4-INCH	1	2	4	1	0	0	8
M-2	6-INCH	1	1	2	3	1	0	8
M-3	8-INCH	1	0	2	4	2	0	9
M-4	10-INCH	1	0	1	3	3	1	9
M-5	12-INCH	1	0	1	2	4	2	10
M-6	15-INCH	1	0	1	1	3	4	10

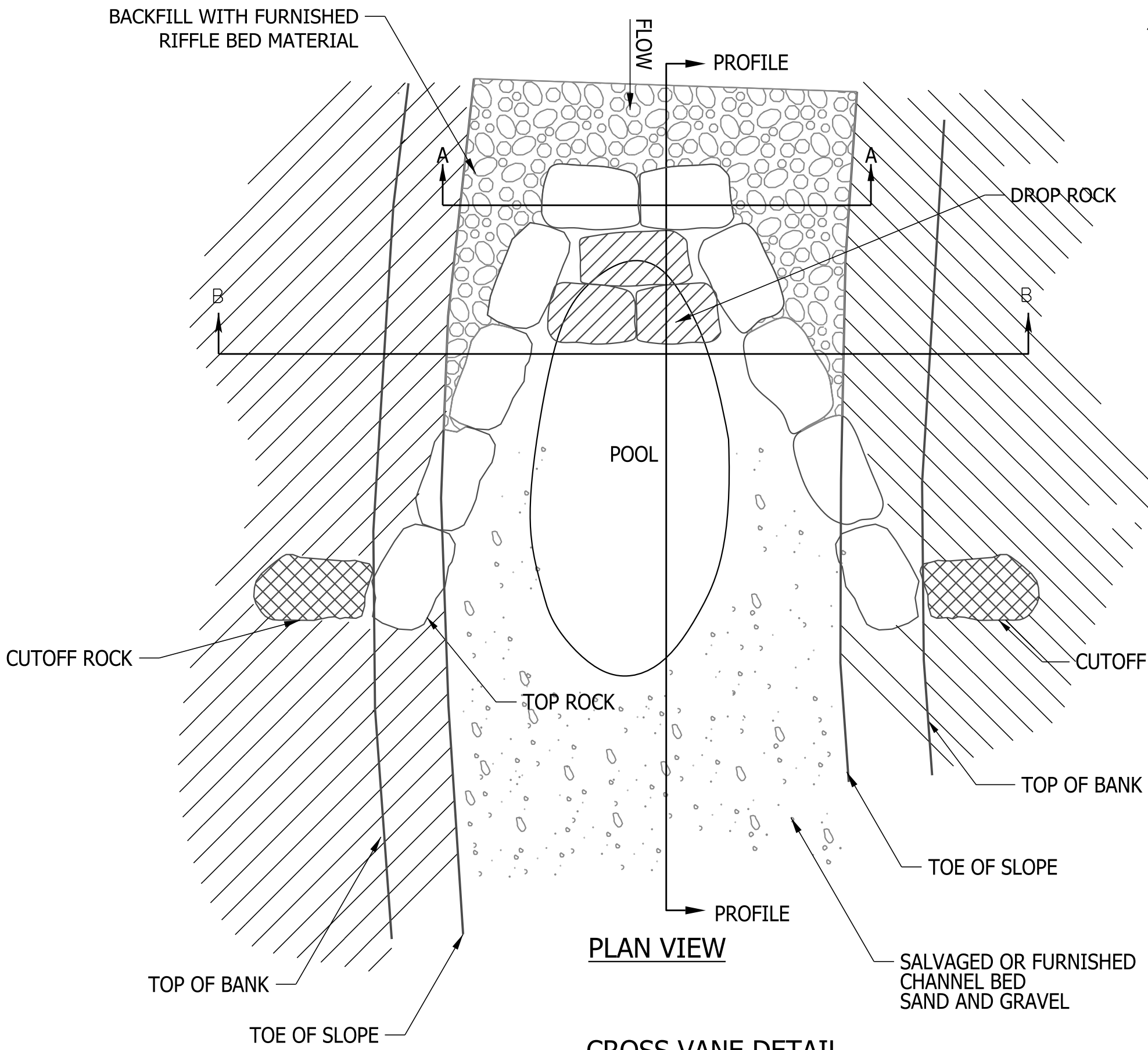
\* IF NO NATIVE STREAMBED MATERIAL IS AVAILABLE, USE FURNISHED CHANNEL BED SAND AND GRAVEL MATERIAL

RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____		DATE _____	
DESIGNED: BT _____		DRAWN: PFV _____			
CHECKED: JF _____		CHECKED: MMF _____			

INDIANA DEPARTMENT OF TRANSPORTATION	
CROOKED CREEK MITIGATION DETAILS	

HORIZONTAL SCALE		BRIDGE FILE	
N/A		DESIGNATION	
N/A		1801697	
SURVEY BOOK		SHEETS	
		6	of 14
CONTRACT		PROJECT	
R-42168		1801697	

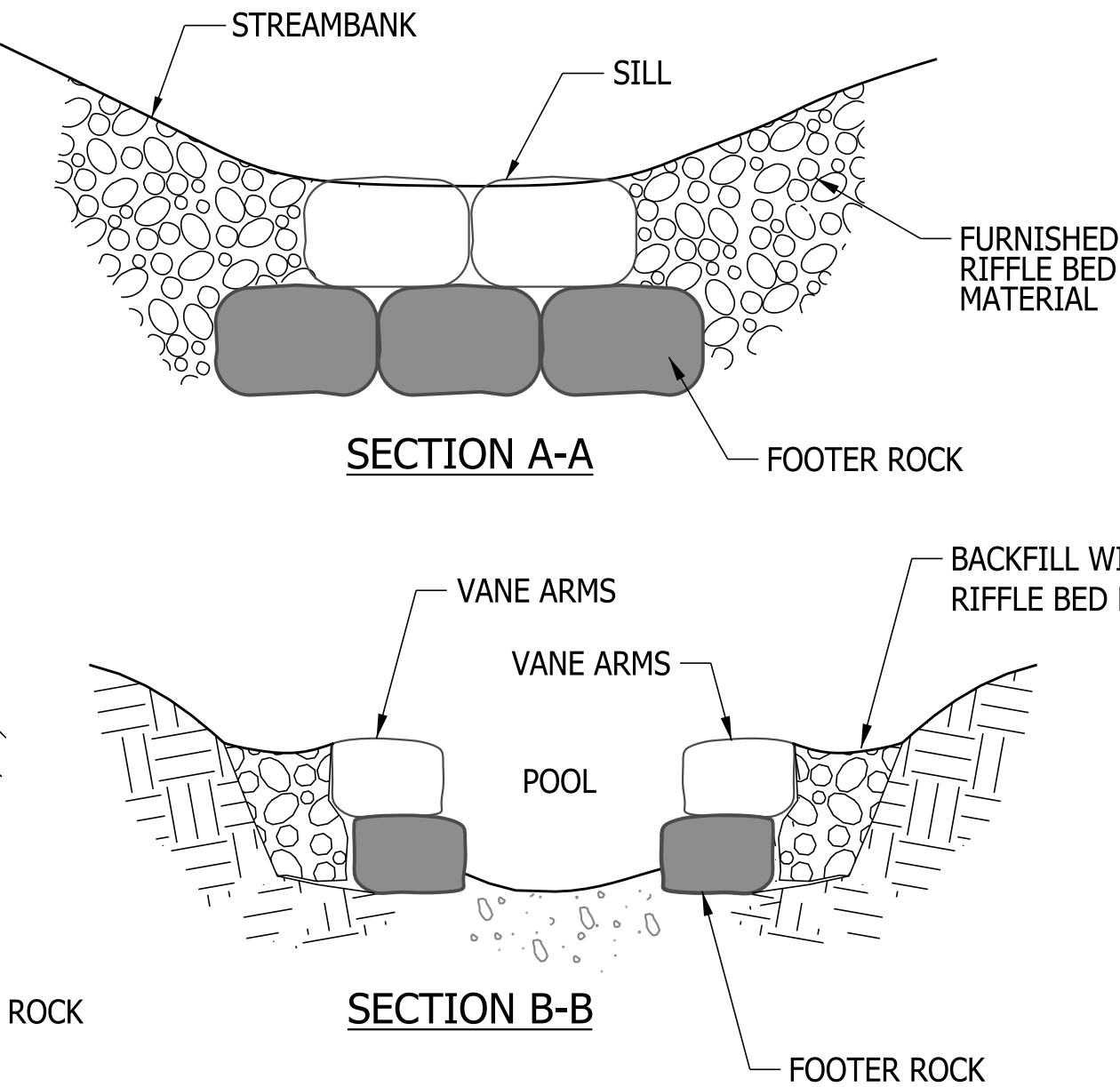




PLAN VIEW

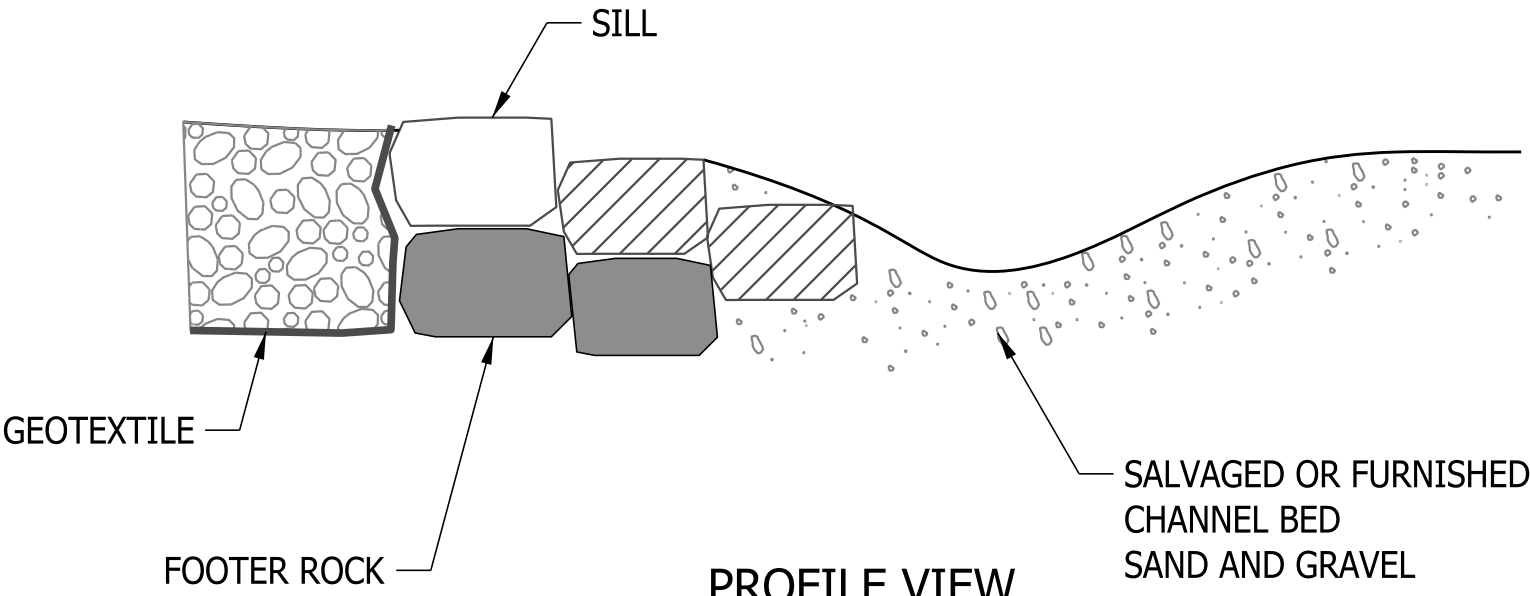
CROSS VANE DETAIL

Scale: NTS

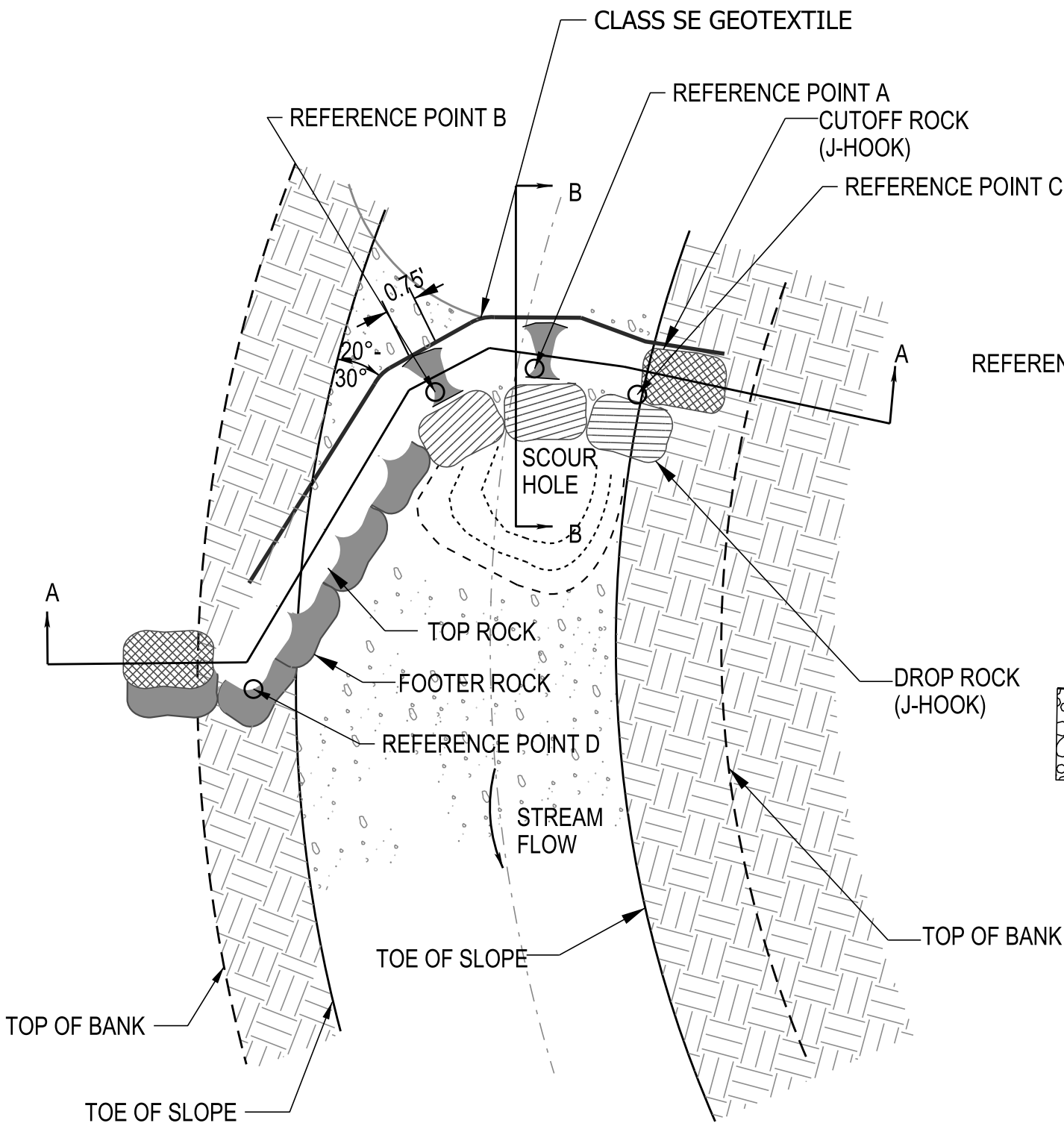


SECTION A-A

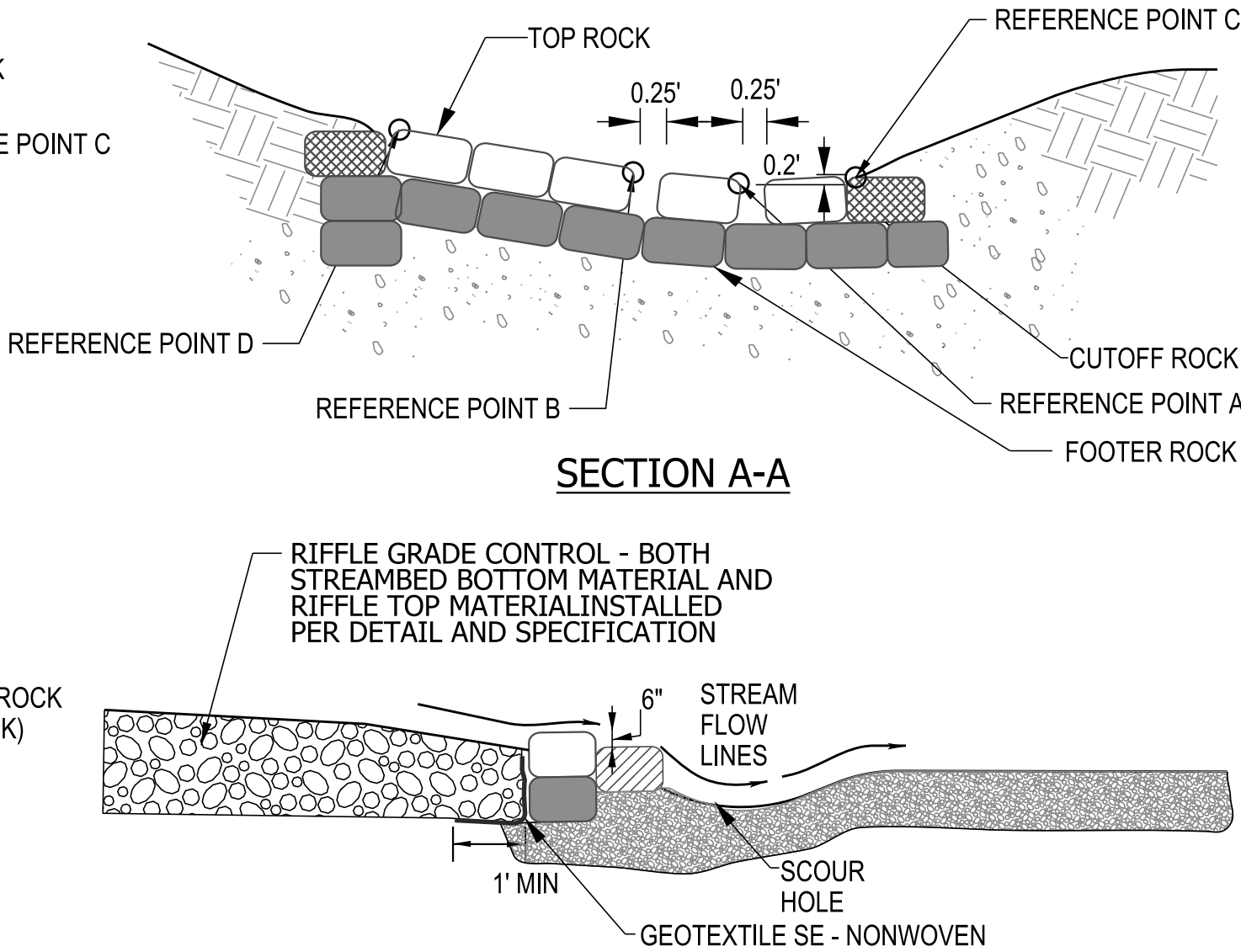
SECTION B-B



PROFILE VIEW



PLAN VIEW



SECTION A-A

SECTION B-B

NOTES:

1. TOP ROCK SHALL BE SUPPORTED BY FOOTER ROCKS AND SHINGLED UPSTREAM OR INTO THE STREAMBANK. ALL ROCKS SHALL BE INTERLOCKED.
2. DROP ROCK SHALL BE SUPPORTED BY ONE FOOTER ROCK.
3. STAGGER ALL JOINTS BETWEEN ROCKS.
4. FILL ALL VOID SPACE BETWEEN ROCKS WITH SALVAGED OR FURNISHED CHANNEL BED SAND AND GRAVEL (DOWNSTREAM) OR FURNISHED RIFFLE BED MATERIAL (UPSTREAM).
5. DISTURBED STREAMBED SHALL BE BACKFILLED WITH A MINIMUM OF 6" OF SALVAGED OR FURNISHED STREAMBED MATERIAL OR 12" OF RIFFLE BED MATERIAL TO MEET FINISHED GRADE.
6. STREAMBANK AROUND STRUCTURE SHALL BE BACKFILLED AND COMPACTED BY HAND TAMPING.
7. AREA BETWEEN VANE ARMS SHALL BE BACKFILLED WITH SALVAGED OR FURNISHED STREAMBED MATERIAL PROVIDING A FLAT CROSS-SECTION WITH REFERENCE TO THE VANE ARM. BACKFILL SHALL BE SLOPED IN THE ALONG STREAM DIRECTION AT THE SAME PITCH AS THE VANE ARM.
8. THE NUMBER OF BOULDERS AND LENGTH OF VANE ARMS SHOWN ABOVE IS FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER OF BOULDERS AND LENGTH OF ARMS IS TO CONFORM WITH THE PLAN SHEET DRAWINGS AND MEASUREMENTS.
9. VANE ARMS SHALL BE KEYED INTO THE BANKS AT THE DOWNSTREAM END AT AN ELEVATION WHERE THE TOP OF THE LAST TOP ROCK MEETS THE BANK HALFWAY BETWEEN THE TOE OF SLOPE AND THE TOP OF BANK.
10. NUMBER OF CUTOFF ROCKS MAY VARY BETWEEN ONE AND TWO. SEE PLAN SHEETS FOR EXACT NUMBER OF CUTOFF ROCKS

NOTES:

1. J-HOOK AS PROPOSED IS A MODIFIED VARIATION OF THE STANDARD J-HOOK DESIGN. THE MODIFICATION EXTENDS THE J-HOOK SILL ACCROSS THE LOW FLOW CHANNEL TO PROVIDE GRADE CONTROL AND A BURRIED CUTOFF ROCK.
2. J-HOOK VANE SHALL BE CONSTRUCTED TO FORM A 20° ANGLE OUT FROM THE OUTER MEANDER OF THE STREAMBANK TOWARD UPSTREAM.
3. THE TOP ELEVATION OF THE VANE WILL DECREASE FROM HALF BANKFULL ELEVATION TOWARD THE CENTER OF THE CHANNEL AT A CONSTANT SLOPE AS DEPICTED BY REFERENCE POINTS. THE END OF THE VANE WILL FORM A HOOK WITH GAPS BETWEEN THE HEADER ROCKS AND NO GAPS BETWEEN THE FOOTER ROCKS.
4. INSTALL TOP AND FOOTER ROCKS ACCORDING TO DETAIL AND PLACE CLASS SE GEOTEXTILE AND RIFFLE BED MATERIAL ON THE UPSTREAM SIDE OF THE VANE.
5. FOOTER ROCKS SHALL BE PLACED SUCH THAT THE TOP ROCK IS AT THE PROPOSED STREAMBED ELEVATION. THE J-HOOK VANE SHALL BE KEYED INTO THE BANK AT THE DOWNSTREAM END AT AN ELEVATION WHERE THE TOP OF THE LAST TOP ROCK MEETS THE BANK HALFWAY BETWEEN THE TOE OF SLOPE AND THE TOP OF BANK.
6. J-HOOK SHALL BE CONSTRUCTED USING TYPE I BOULDERS (SEE THIS SHEET).
7. TOP ROCKS SHALL BE SUPPORTED BY FOOTER ROCKS AND SHINGLED UPSTREAM OR INTO THE STREAMBANK.
8. STAGGER ALL JOINTS BETWEEN ROCKS.
9. DISTURBED STREAMBED SHALL BE BACKFILLED WITH COIR WRAP ENCAPSULATED HEAVY BACKFILL MIX TO MEET FINISHED GRADE.
10. REFER TO STRUCTURE TABLES ON PLAN SHEETS AND PROFILE SHEETS FOR ALL DIMENSIONS AND ELEVATIONS.

J-HOOK (JH) DETAILS

Scale: NTS

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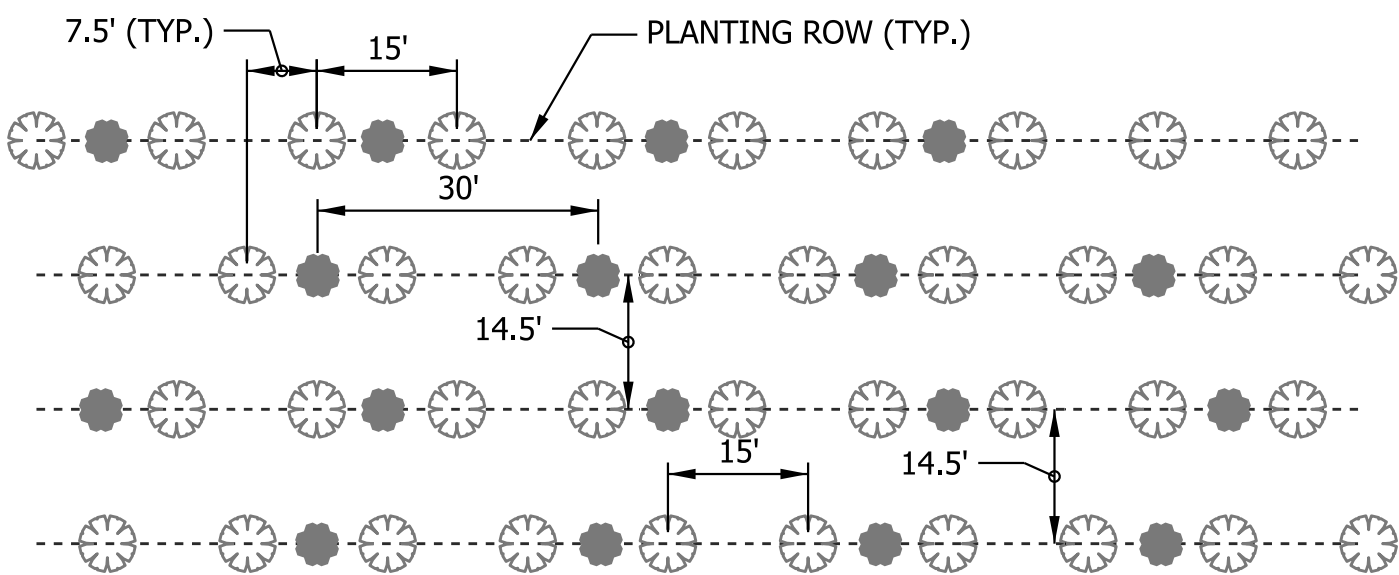
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RECOMMENDED FOR APPROVAL _____		DESIGN ENGINEER _____ DATE _____	
DESIGNED: BT		DRAWN: PFV	
CHECKED: JF		CHECKED: MMF	

INDIANA  
DEPARTMENT OF TRANSPORTATION

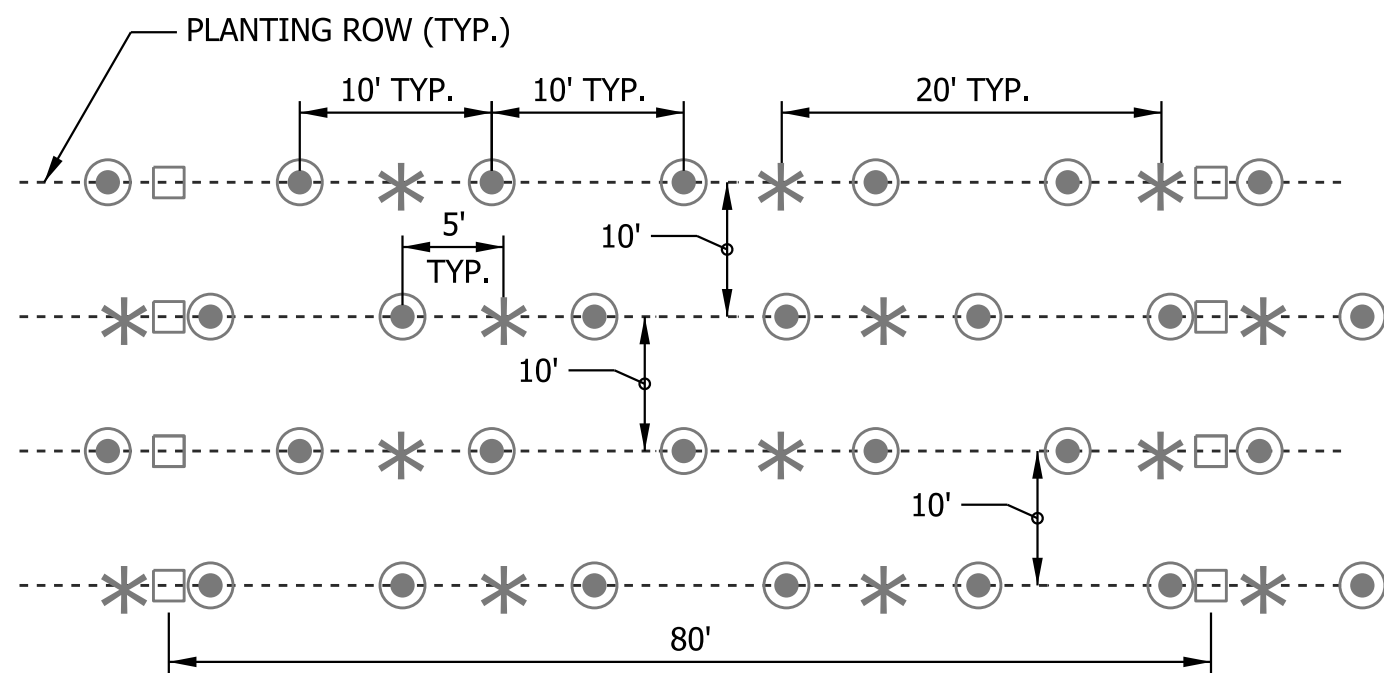
CROOKED CREEK  
MITIGATION DETAILS

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N/A		DESIGNATION	
VERTICAL SCALE		1801697	
N/A		SHEETS	
SURVEY BOOK		7	of 14
CONTRACT		PROJECT	
R-42168		1801697	



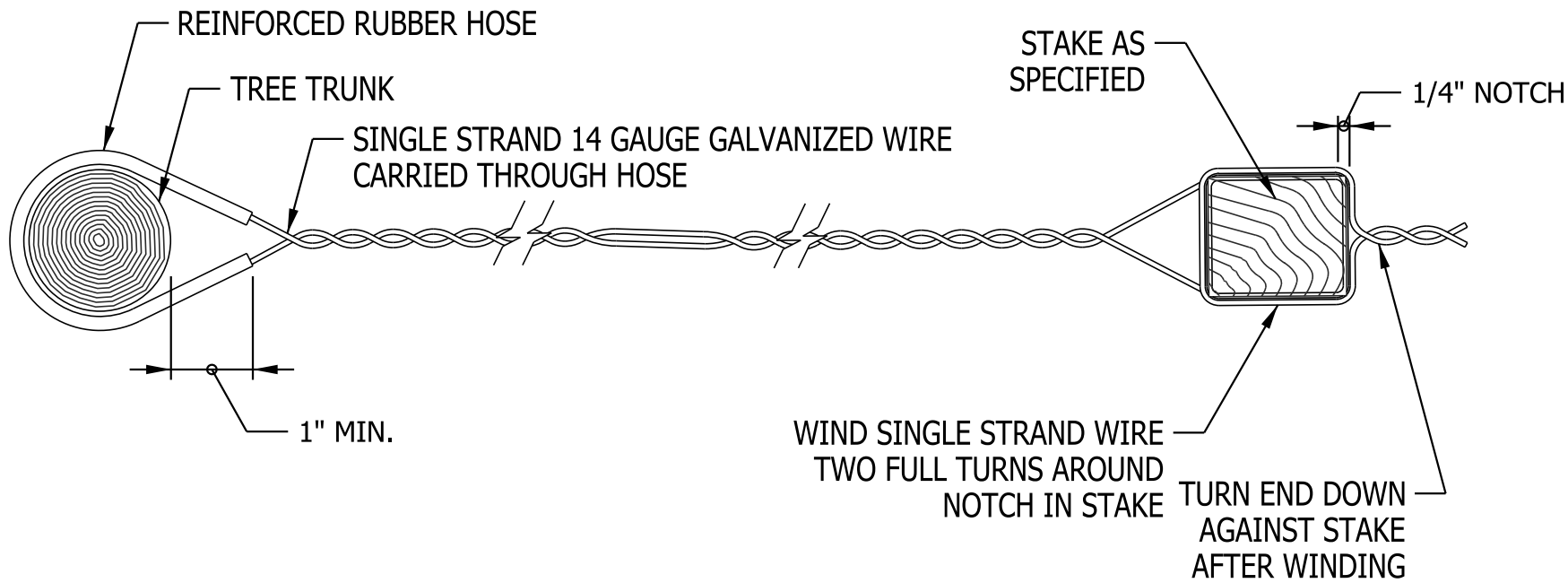
Planting Layout Zone M2 - Riparian Reforestation

- LEGEND
- CONTAINER GROWN TREE (CG)
  - CONTAINER GROWN UNDERSTORY SHRUB



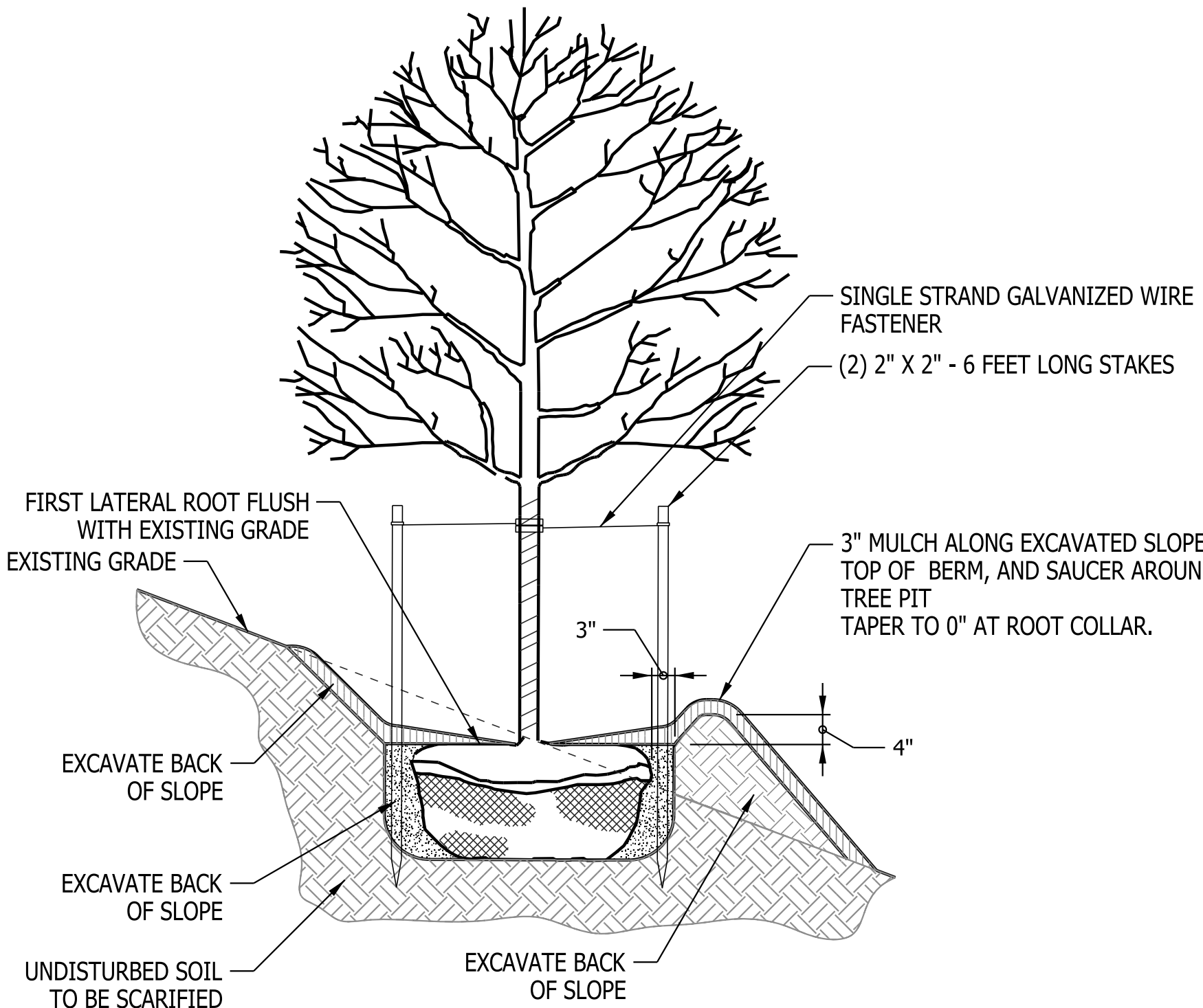
Planting Layout Zone M1 - Bottomland Reforestation

- LEGEND
- BARE ROOT CANOPY SEEDLING
  - BARE ROOT UNDERSTORY SEEDLING
  - BAMBOO POLE



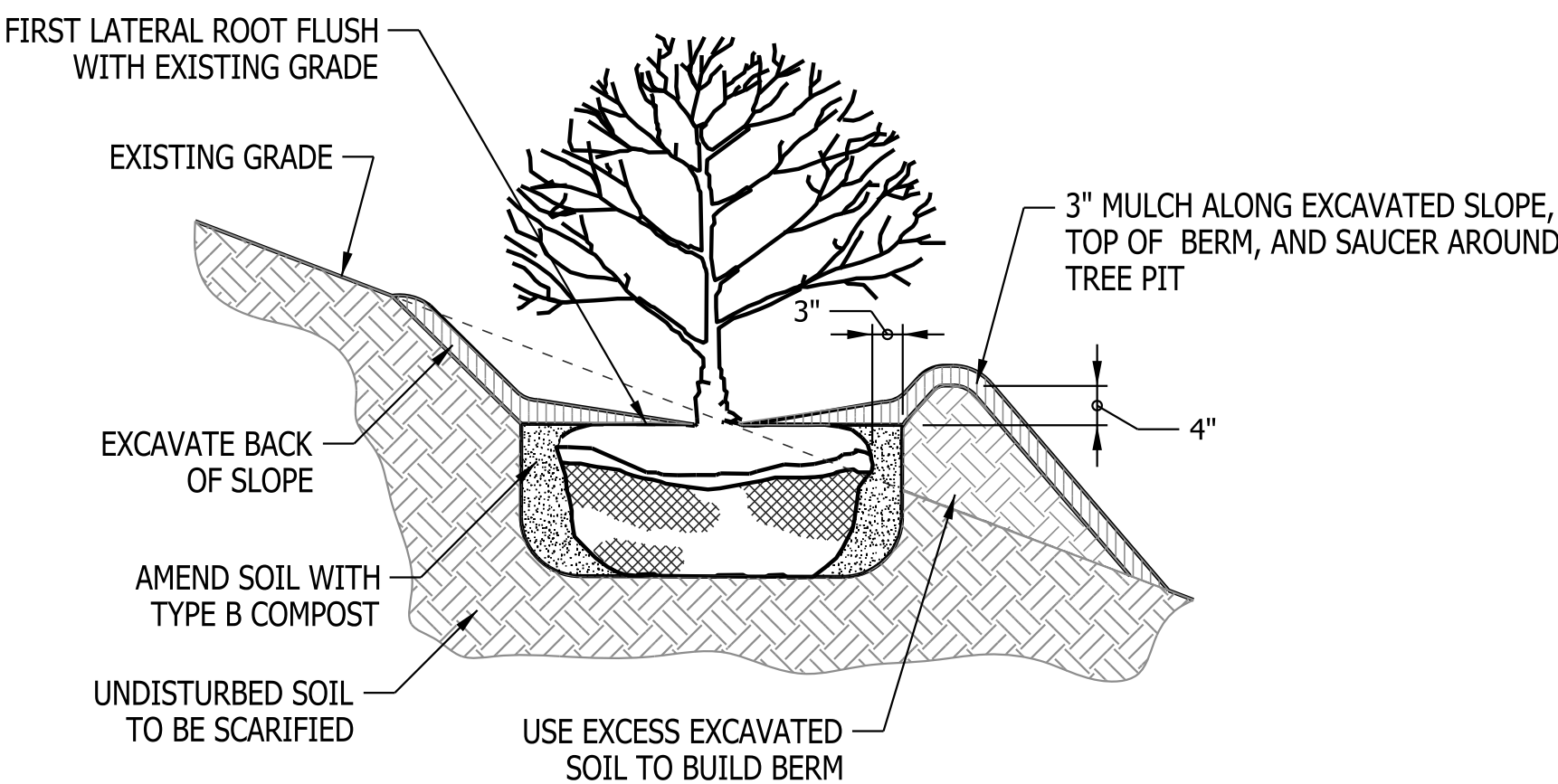
SINGLE STRAND GALVANIZED WIRE FASTENER

Scale: Not To Scale



TYPICAL TREE PLANTING ON SLOPED AREAS

Scale: Not To Scale



TYPICAL SHRUB PLANTING ON SLOPED AREAS

Scale: Not To Scale

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RECOMMENDED FOR APPROVAL DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE	
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DESIGNED: BT CHECKED: JF	DRAWN: PFV CHECKED: MMF		VERTICAL SCALE		DESIGNATION	
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CROOKED CREEK MITIGATION DETAILS			SURVEY BOOK		SHEETS	
			8 of 15		PROJECT	
			CONTRACT		PROJECT	
			R-42168		1801697	

TREE AND SHRUB SUMMARY												
Planting Zone Description		M1		M2		River Bank		Project Totals				
		Bottomland Reforestation	Riparian Reforestation									
		Acreage/Length		0.31 Acres	0.62 Acres	665 Feet/0.042 Acres						
Canopy Species	Planting Density	194 st/ac	436 st/ac		Bank	Toe Stakes						
Scientific Name	Common Name	CG	BR		LS (4')	LS (6')			BR	CG	LS (4')	LS (6')
<i>Acer Rubrum</i>	Red Maple	7	17						17	7		
<i>Carya cordiformis</i>	Bitternut Hickory	7	17						17	7		
<i>Carya laciniosa</i>	Shellbark Hickory	7	17						17	7		
<i>Juglans nigra</i>	Black Walnut	7	17						17	7		
<i>Liquidambar styraciflua</i>	Sweetgum	7	17						17	7		
<i>Quercus macrocarpa</i>	Bur Oak	7	17						17	7		
<i>Quercus palustris</i>	Pin Oak	7	17						17	7		
<i>Platanus occidentalis</i>	Sycamore	7	17						17	7		
** Totals		56	136		0	0			56	136	0	0
Understory Species	Planting Density	97 st/ac	218 st/ac		Bank	Toe Stakes			Project Total			
Scientific Name	Common Name	CG	BR		LS (4')	LS (6')			BR	CG	LS (4')	LS (6')
<i>Aronia melanocarpa</i>	Black Chokeberry	4	22						22	4		
<i>Cornus obliqua</i>	Pale Dogwood	4			997	250				4	997	250
<i>Asimina triloba</i>	Pawpaw		22						22			
<i>Cornus drummondii</i>	Roughleaf Dogwood	4	22						22	4		
<i>Cornus racemosa</i>	Gray Dogwood	4	22						22	4		
<i>Ilex verticallata</i>	Common Winterberry	4								4		
<i>Cephalanthus occidentalis</i>	Buttonbush	4								4		
<i>Physocarpus opulifolius</i>	Common Ninebark	4	22						22	4		
<i>Rosa palustris</i>	Swamp Rose	4								4		
<i>Carpinus caroliniana</i>	Musclewood		22						22			
<i>Salix interior</i>	Sandbar Willow				500	200					500	200
<i>Salix nigra</i>	Black Willow				497	215					497	215
** Totals		32	132		1995	665			132	32	1995	665
									BR	CG	LS (4')	LS (6')
BR: Seedling, Bare Root (EACH)									188	---	---	---
CG: Plant, 5 Gallon, Deciduous Tree, Single Stem, 1.5 Inch or Under (EACH)									---	136	---	---
CG: Plant, Deciduous Shrub, Single Stem, 24 to 36 Inch (EACH)									---	32	---	---
LS (4'): Live Stake Planting, 4 Foot (EACH)									---	---	1995	---
LS (6'): Live Stake Planting, 6 Foot (EACH)									---	---	---	665

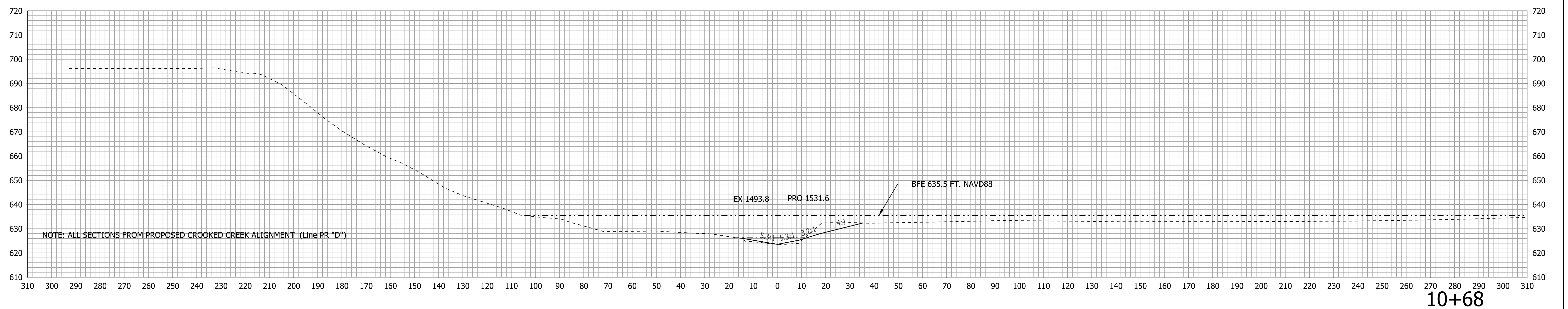
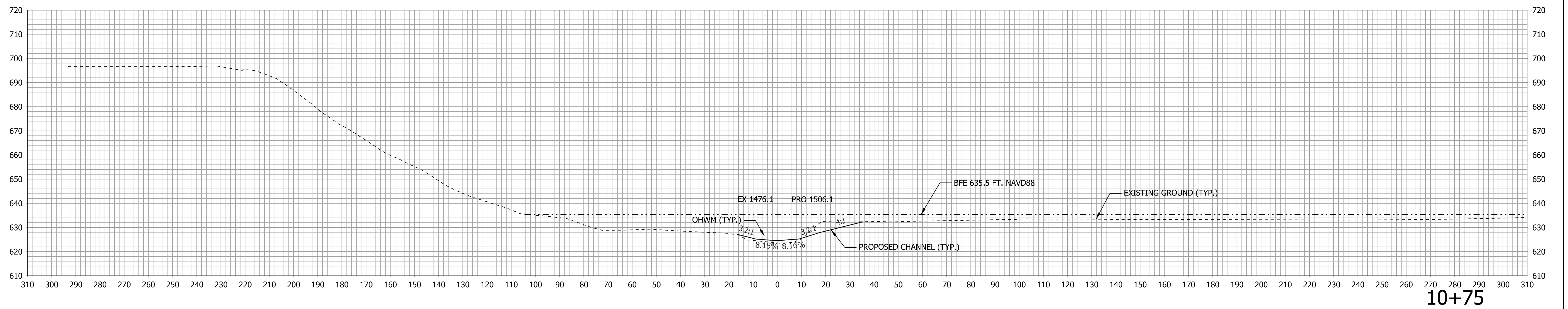
BR = Bare Root  
CG = Container Grown (5 Gallon)  
LS = Live Stake  
\*\* = Formulas were used to determine tree totals. Totals may not match combined individual tree quantities. Use "Total" number for planting quantities.

MISCELLANEOUS ITEMS SUMMARY		
DESCRIPTION	QUANTITY	UNIT
RIPRAP, CLASS 1	626	TON
RIPRAP, CLASS 2	88.9	TON
RIVER ROCK / RIFFLE MATERIAL	623.1	TON
BORROW - CLAY MATERIAL	80.9	CU YDS
GROUT FOR RIPRAP	100	CU YDS
DUAL LAYER COIR WRAP	4842.2	SQ YDS
FERTILIZER	0.8	TON
MULCH	37.3	CU YDS
HERBICIDE TREATMENT	1	ACRE
LOG DEFLECTOR, LOCKED LOG STRUCTURE	5	EACH
Mobilization and Demobilization	1	EACH

EARTHWORK SUMMARY (CU YDS)			
DESCRIPTION	CUT	FILL	FILL +20%
CROOKED CREEK BANK GRADING	1943	1958	2350
TOTALS	1943	1958	2350

TEMPORARY EROSION CONTROL ITEMS		
DESCRIPTION	QUANTITY	UNIT
Mobilization and Demobilization	2	EACH
Sediment Removal	20	CU YDS
Filter Sock	665	LIN FT
Temporary Geotextile	502	SQ YDS
No. 2 Stone for Access Roadways	89	TON
Temporary Seeding	5.9	LBS
Temporary Mulch	37.3	TON

MAINTENANCE OF TRAFFIC QUANTITIES						
Phase	Maintaining Traffic	Construction Sign A				
	LS	EACH				
Phase 1	1	3				



LEGEND

EX 1095.9	EXISTING FLOODWAY AREA (SQ. FT.)
PRO 1125.9	PROPOSED FLOODWAY AREA (SQ. FT.)

RECOMMENDED FOR APPROVAL	3-8-22
DESIGN ENGINEER	DATE

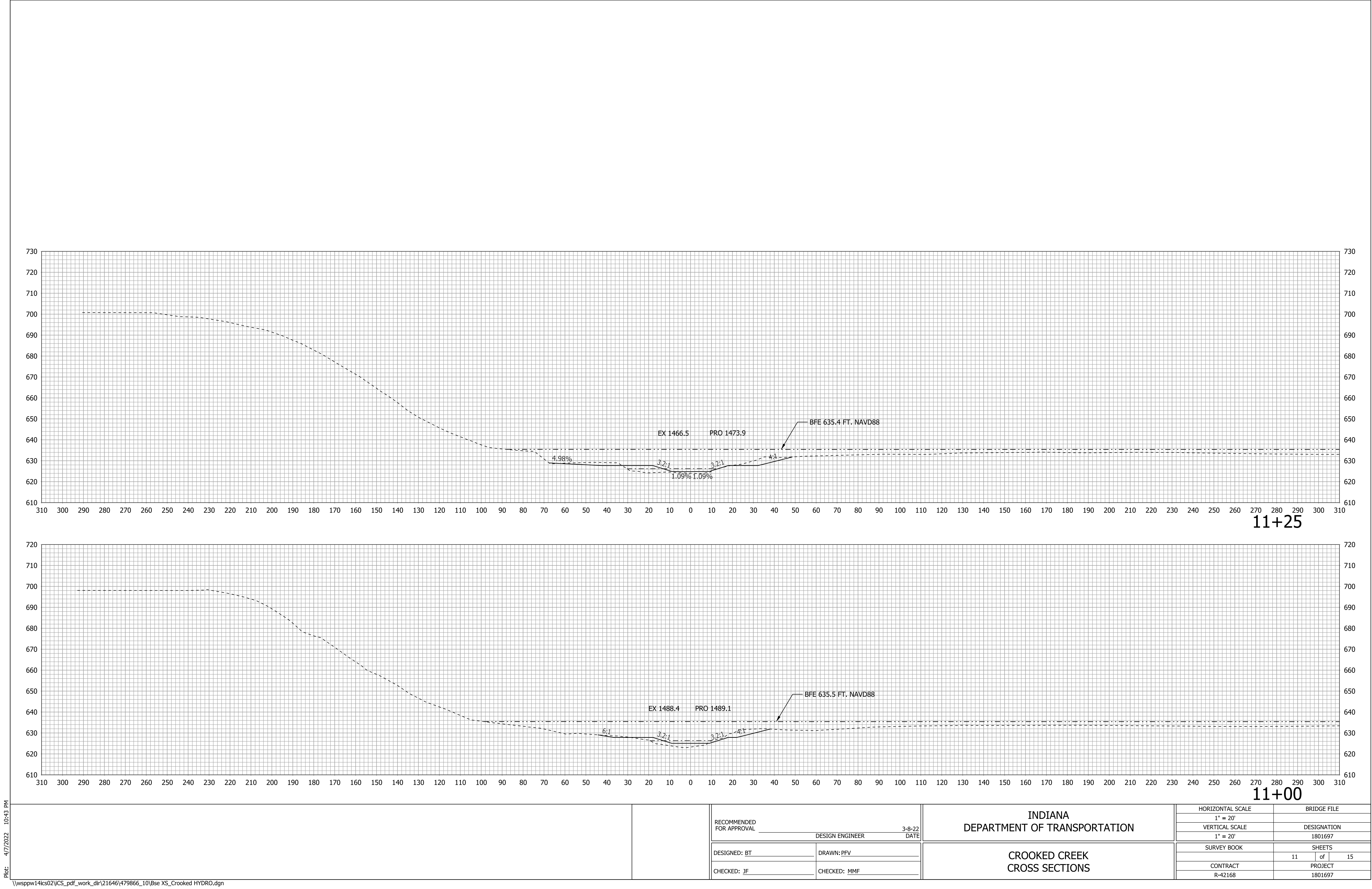
DESIGNED: BT DRAWN: PFV

CHECKED: JF CHECKED: MMF

INDIANA  
DEPARTMENT OF TRANSPORTATION

CROOKED CREEK  
CROSS SECTIONS

HORIZONTAL SCALE		BRIDGE FILE	
1" = 20'			
VERTICAL SCALE		DESIGNATION	
1" = 20'		1801697	
SURVEY BOOK		SHEETS	
		10	15
CONTRACT		PROJECT	
R-42168		1801697	



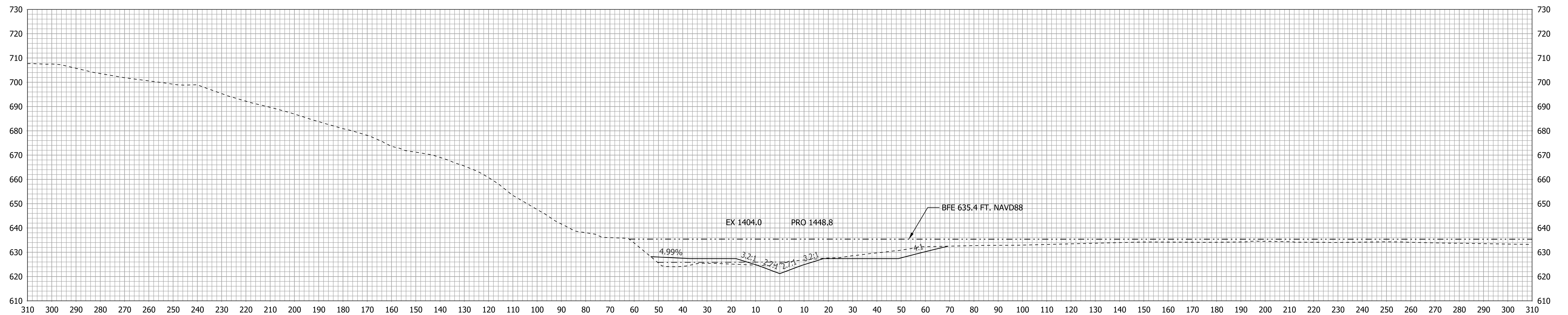
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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER		3-8-22 DATE
DESIGNED: BT _____	DRAWN: PFV _____	
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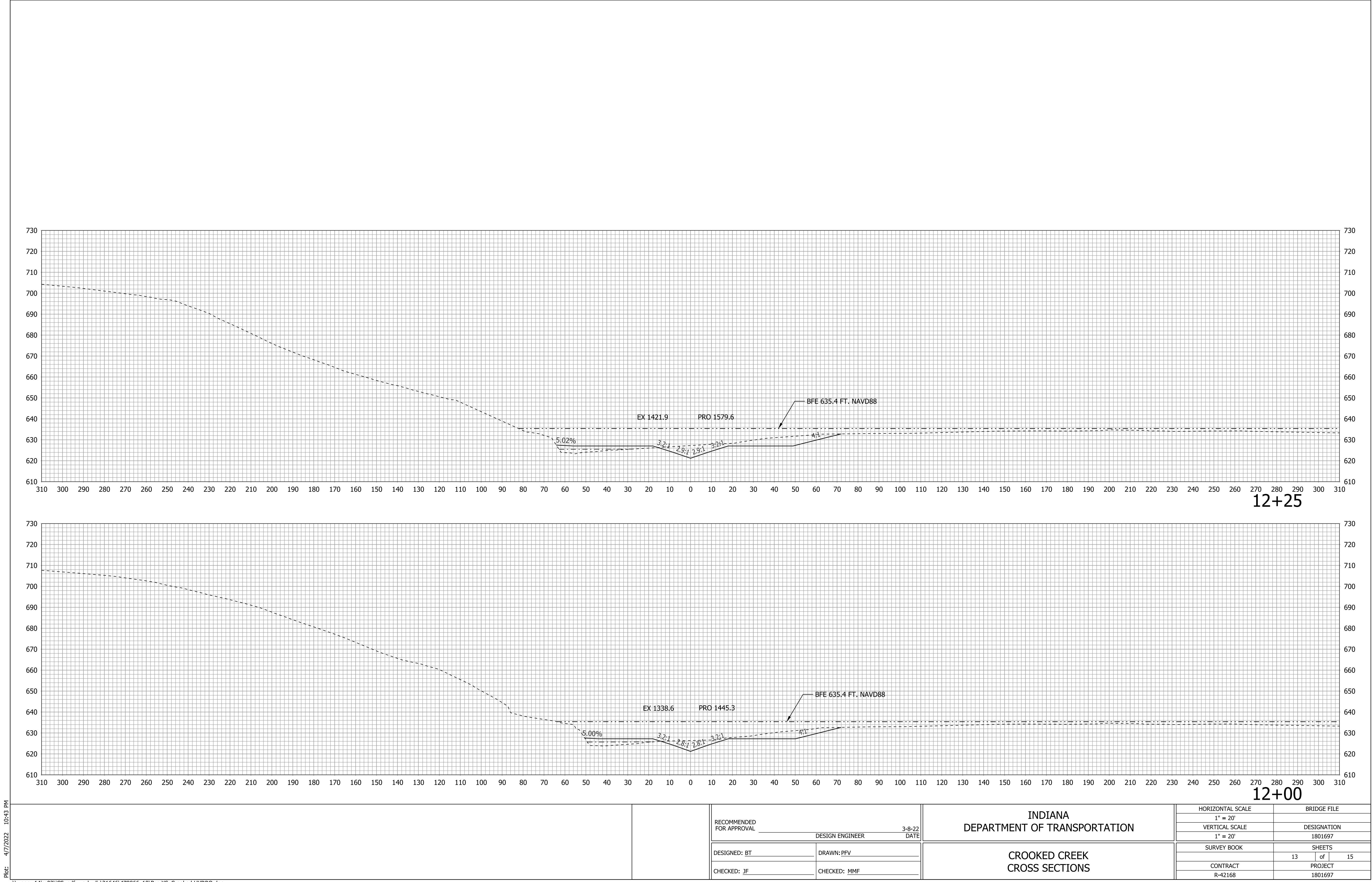
INDIANA DEPARTMENT OF TRANSPORTATION	
CROOKED CREEK CROSS SECTIONS	

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VERTICAL SCALE 1" = 20'		DESIGNATION 1801697	
SURVEY BOOK		SHEETS	
CONTRACT R-42168		11	of 15
		PROJECT 1801697	





RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER _____ DATE 3-8-22	INDIANA DEPARTMENT OF TRANSPORTATION	HORIZONTAL SCALE	BRIDGE FILE
		1" = 20'	
		VERTICAL SCALE	DESIGNATION
		1" = 20'	1801697
DESIGNED: BT	DRAWN: PFV	SURVEY BOOK	SHEETS
			12 of 15
CHECKED: JF	CHECKED: MMF	CONTRACT	PROJECT
		R-42168	1801697



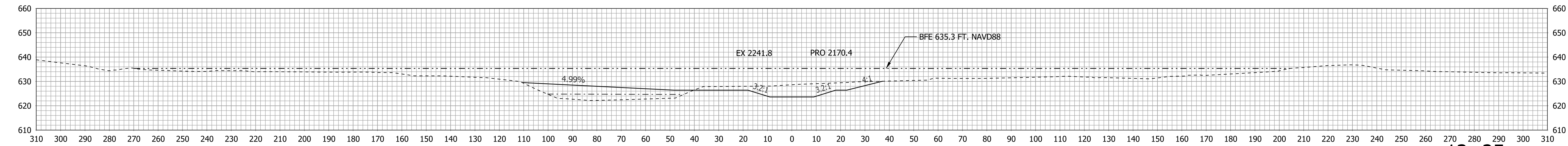
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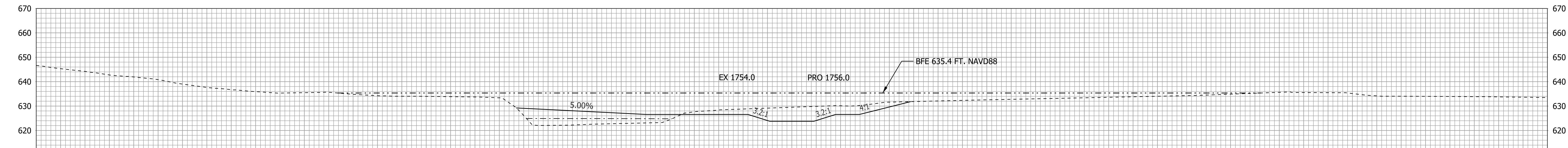
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INDIANA DEPARTMENT OF TRANSPORTATION	
CROOKED CREEK CROSS SECTIONS	

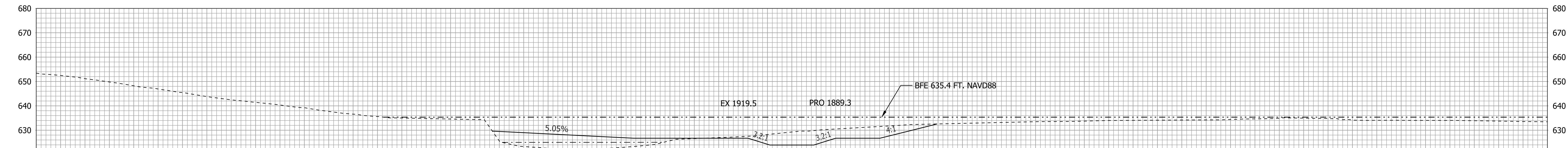
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SURVEY BOOK		SHEETS	
CONTRACT R-42168		13	of 15
		PROJECT 1801697	



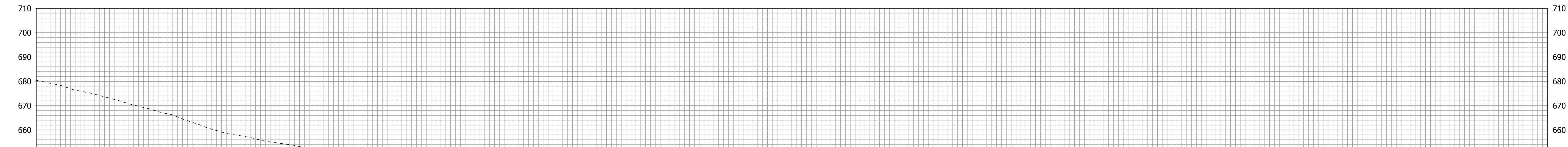
13+25



13+00



12+75

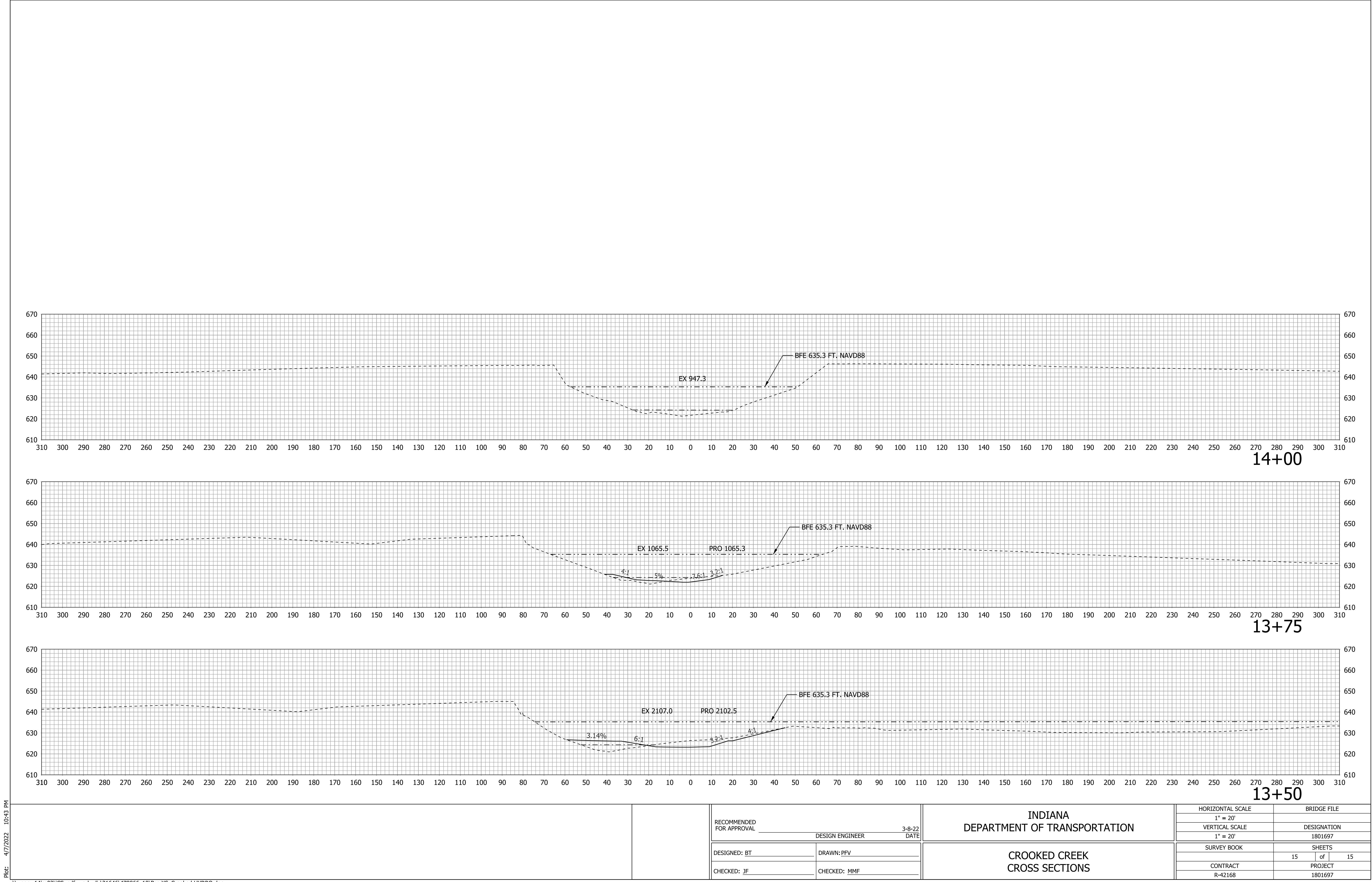


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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	3-8-22 DATE	INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE		BRIDGE FILE				
					1" = 20'		DESIGNATION				
					VERTICAL SCALE		1801697				
					1" = 20'						
					SURVEY BOOK		SHEETS				
DESIGNED: BT			DRAWN: PFV			14		of		15	
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						R-42168		1801697			



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RECOMMENDED FOR APPROVAL _____ DESIGN ENGINEER		3-8-22 DATE
DESIGNED: BT	DRAWN: PFV	
CHECKED: JF	CHECKED: MMF	

INDIANA DEPARTMENT OF TRANSPORTATION	
CROOKED CREEK CROSS SECTIONS	

HORIZONTAL SCALE 1" = 20'		BRIDGE FILE	
VERTICAL SCALE 1" = 20'		DESIGNATION 1801697	
SURVEY BOOK		SHEETS	
		15	of 15
CONTRACT R-42168		PROJECT 1801697	

## GENERAL NOTES

Reinforcing steel cover shall be 2 ½" in top and 1" in minimum bottom of floor slab, 3" in footings, except bottom steel which shall be 4", and 2" in all other parts, unless noted.

### DESIGN DATA

Originally Designed for HS 20-44 loading, in accordance with AASHTO LFD Bridge Design Specifications, 1969 edition. Proposed Bridge Rehabilitation elements will be designed in accordance with AASHTO Bridge Specifications for Highway Bridges, 17th ed.

DEAD LOAD

Actual weight plus 35 lb/ft<sup>2</sup> for future wearing surface and 15 lb/ft<sup>2</sup> for permanent metal deck forms.

FLOOR SLAB

Designed with 7 ½" structural depth plus ½" sacrificial wearing surface.

## DESIGN STRESSES

CONCRETE

Class C	$f_c = 4000$ psi
Class B	$f_c = 3000$ psi
Class A	$f_c = 3500$ psi

### REINFORCING STEEL

Grade 60       $f_y = 60,000$  psi

### CONSTRUCTION LOAD

The exterior girder has been checked for strength, deflection, and overturning using the construction loads shown below. Cantilever overhang brackets were assumed for support of the deck overhang past the edge of the exterior girder. The finishing machine was assumed to be supported 6 in. outside the vertical coping form. The top overhang brackets were assumed to be located 6 in. past the edge of the vertical coping form. The bottom overhang brackets were assumed to be braced against the intersection of the girder bottom flange and web.

### DECK FALSEWORK LOADS

Designed for 15 lb/ft<sup>2</sup> for permanent metal stay-in-place deck forms, removable deck forms, and 2-ft exterior walkway.

CONSTRUCTION LIVE LOAD

Designed for 20 lb/ft<sup>2</sup> extending 2 ft past the edge of coping and 75 lb/ft vertical force applied at a distance of 6 in. outside the face of coping over a 30 ft. length of the deck centered with the finishing machine.

### FINISHING-MACHINELOAD

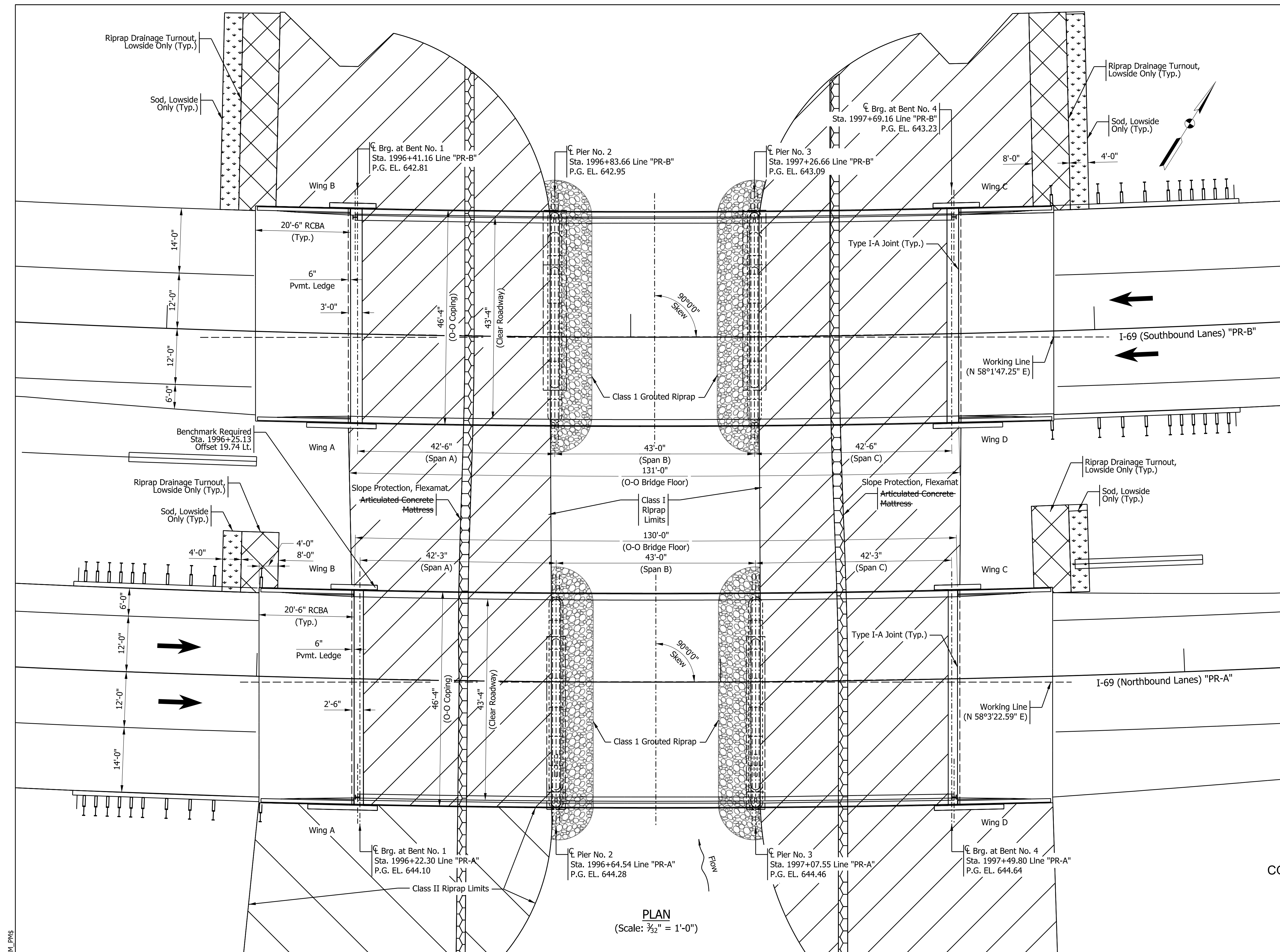
4500 lb distributed over 10 ft. along the coping.

WIND LOAD

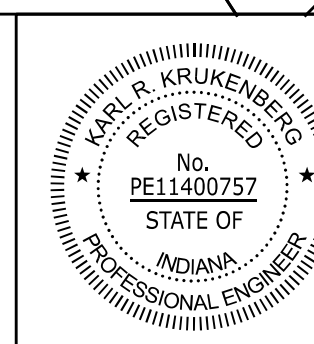
Designed for 70 mph horizontal wind loading in accordance with AASHTO Guide LRFD 3.8.1.

### SEISMIC DESIGN DATA

$S_{DI}$	0.100
Seismic Performance Zone	Zone 1
Acceleration Coefficient	0.078
Seismic Soil Profile Type	Class C



CONTINUOUS PRESTRESSED CONCRETE I-BEAM BRIDGE  
3 SPANS: 42'-3", 43'-0", 42'-3" (NBL)  
3 SPANS: 42'-6", 43'-0", 42'-6" (SBL)  
CLEAR ROADWAY: 43'-4", SKEW: 0°  
I-69 OVER CROOKED CREEK  
MORGAN COUNTY



RECOMMENDED FOR APPROVAL \_\_\_\_\_ 7/27/2020  
DESIGN ENGINEER DATE

DESIGNED: <u>BEE</u>	DRAWN: <u>BEE</u>
CHECKED: <u>KRK</u>	CHECKED: <u>KRK</u>

INDIANA  
DEPARTMENT OF TRANSPORTATION

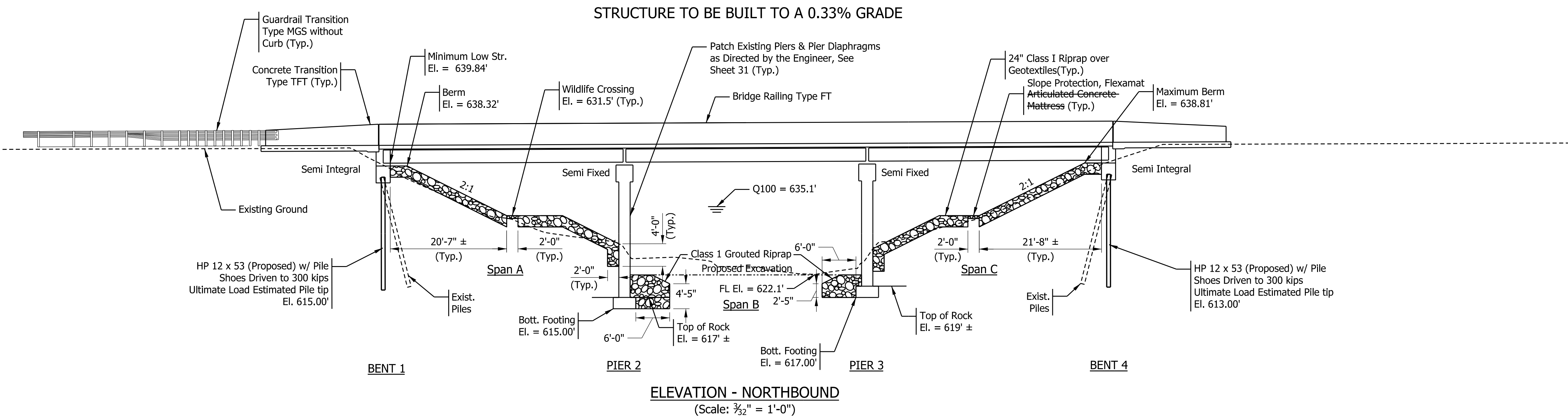
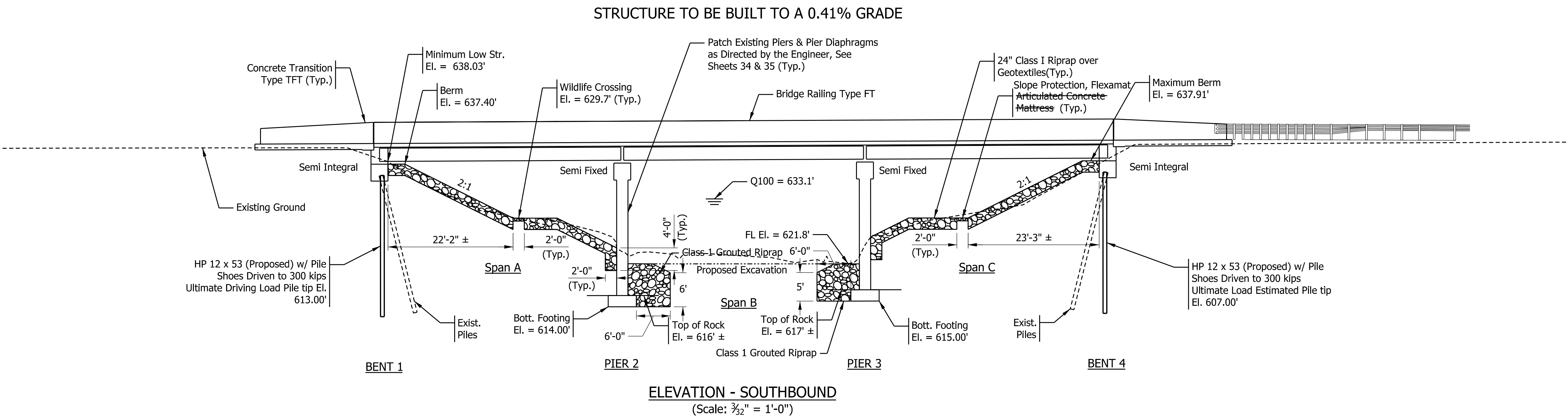
GENERAL PLAN  
PROPOSED

SCALE		BRIDGE FILE	
AS SHOWN		037-55-04515 CNBL/04515 JBSB	
		DESIGNATION	
		1901607(NB)/1901608(SB)	

DRAWING NUMBER		SHEETS	
of	21	of	63
CONTRACT		PROJECT	
R-41542		1801697	





CONTINUOUS PRESTRESSED CONCRETE I-BEAM BRIDGE  
3 SPANS: 42'-3", 43'-0", 42'-3" (NBL)  
3 SPANS: 42'-6", 43'-0", 42'-6" (SBL)  
CLEAR ROADWAY: 43'-4", SKEW: 0°  
I-69 OVER CROOKED CREEK  
MORGAN COUNTY

PLOTPLOT DATE: 11/15/2020 10:15 AM

\$FILES



RECOMMENDED FOR APPROVAL		7/27/2020
DESIGN ENGINEER		DATE
DESIGNED: BEE	DRAWN: BEE	
CHECKED: KRK	CHECKED: KRK	

INDIANA DEPARTMENT OF TRANSPORTATION	
GENERAL PLAN ELEVATIONS	

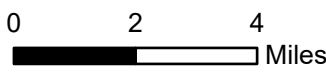
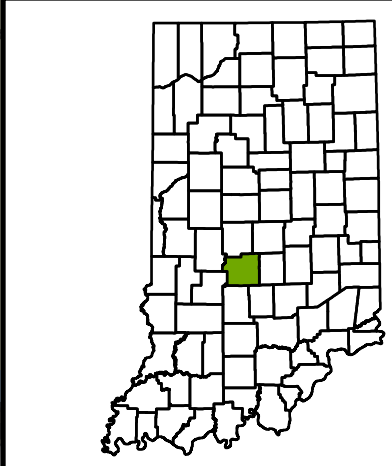
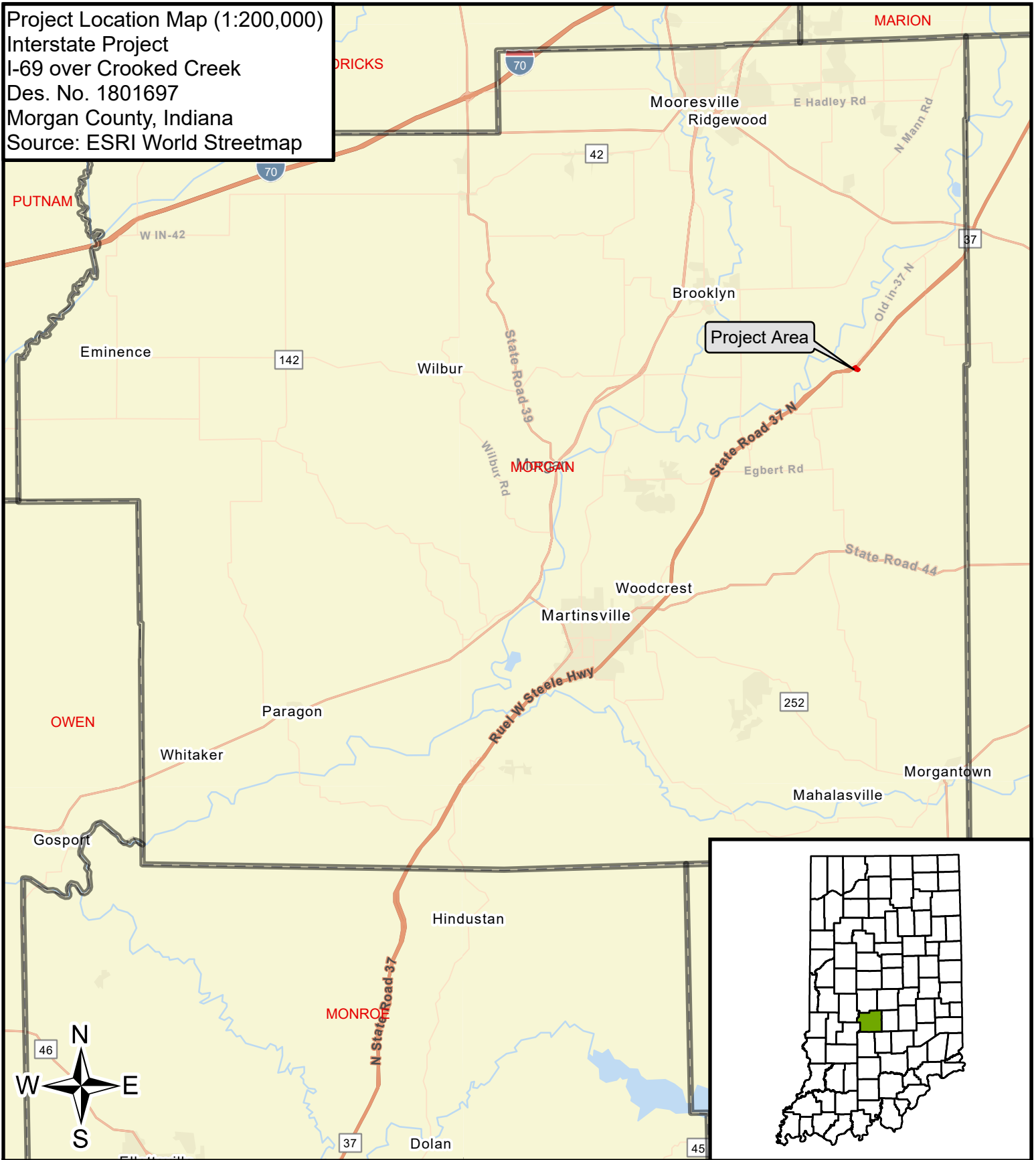
SCALE	BRIDGE FILE
AS SHOWN	037-55-04515 CNBL/04515 JBSB
	DESIGNATION
	1901607(NB)/1901608(SB)
DRAWING NUMBER	SHEETS
of	22 of 63
CONTRACT	PROJECT
R-41542	1801697

## **Appendix B – Reevaluation Statement #6**

### **Project Area Maps and Resource Maps**



Project Location Map (1:200,000)  
 Interstate Project  
 I-69 over Crooked Creek  
 Des. No. 1801697  
 Morgan County, Indiana  
 Source: ESRI World Streetmap

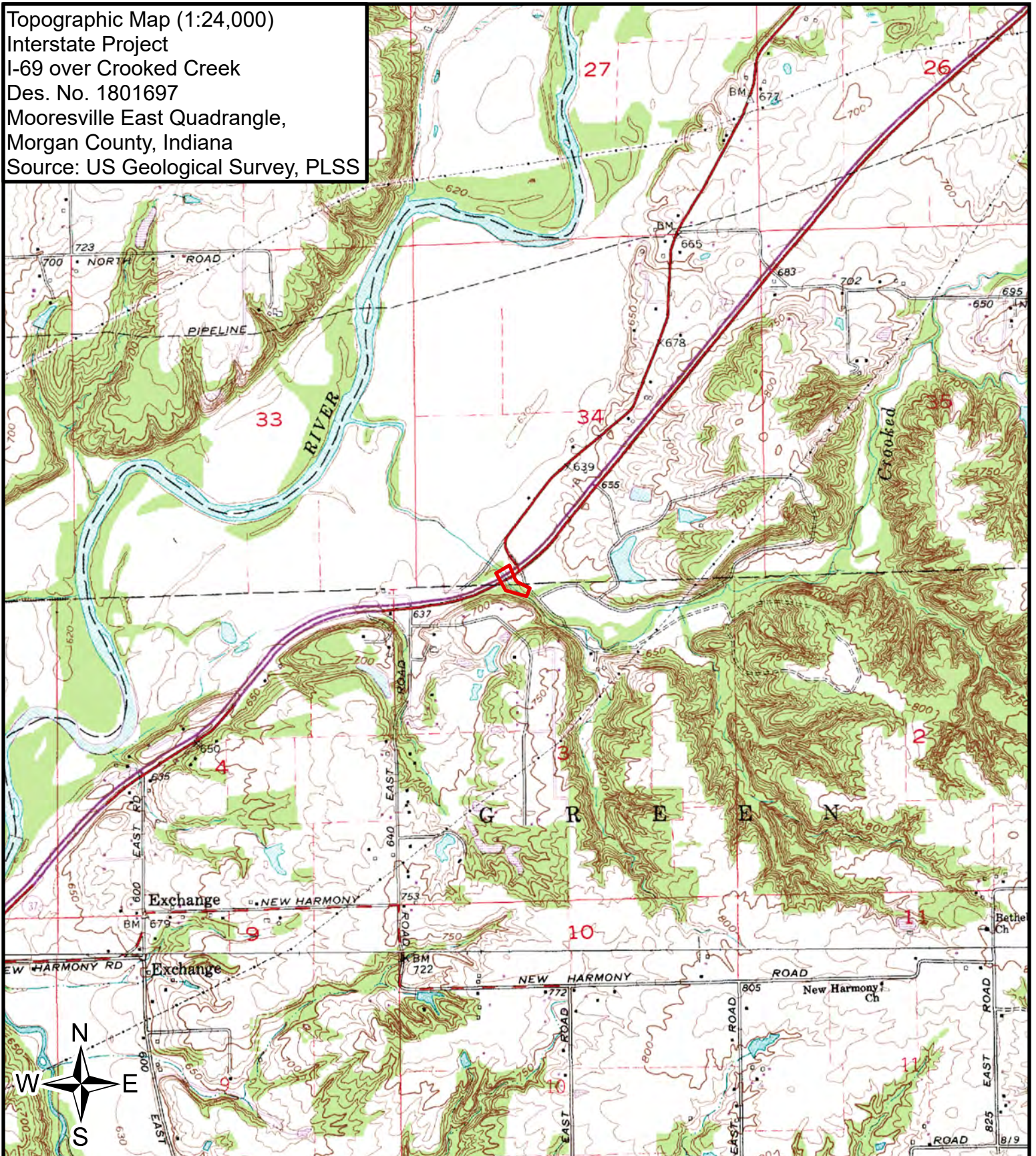


County Boundary  
 Project County





Topographic Map (1:24,000)  
 Interstate Project  
 I-69 over Crooked Creek  
 Des. No. 1801697  
 Mooresville East Quadrangle,  
 Morgan County, Indiana  
 Source: US Geological Survey, PLSS



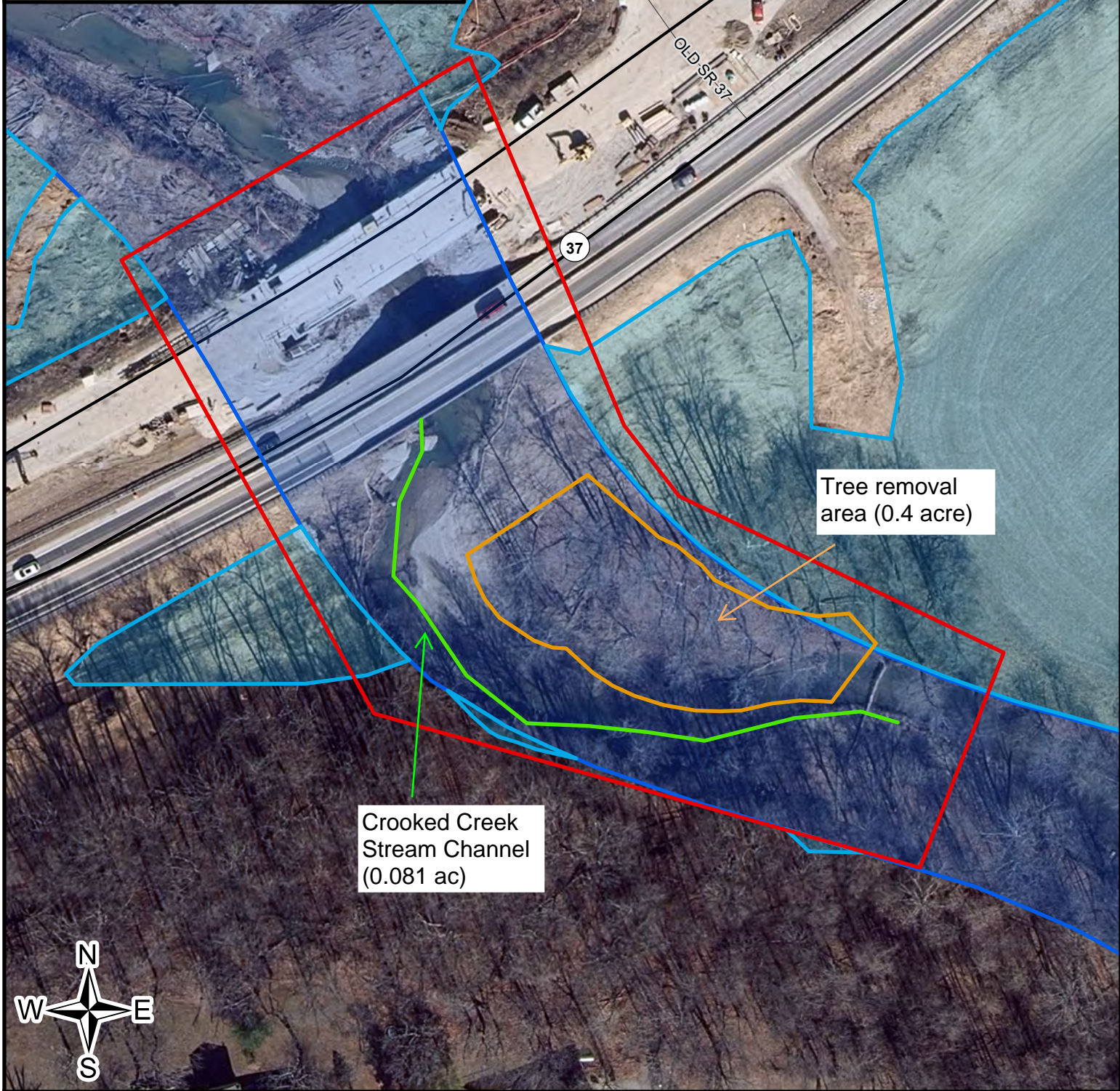
0 0.25 0.5  
 Miles

Project Location





Disturbed Area Map (1:1,000)  
 Interstate Project  
 I-69 over Crooked Creek  
 Des. No. 1801697  
 Morgan County, Indiana  
 Source: Indiana Orthoimagery, 2016-2021



Tree removal  
 area (0.4 acre)

Crooked Creek  
 Stream Channel  
 (0.081 ac)



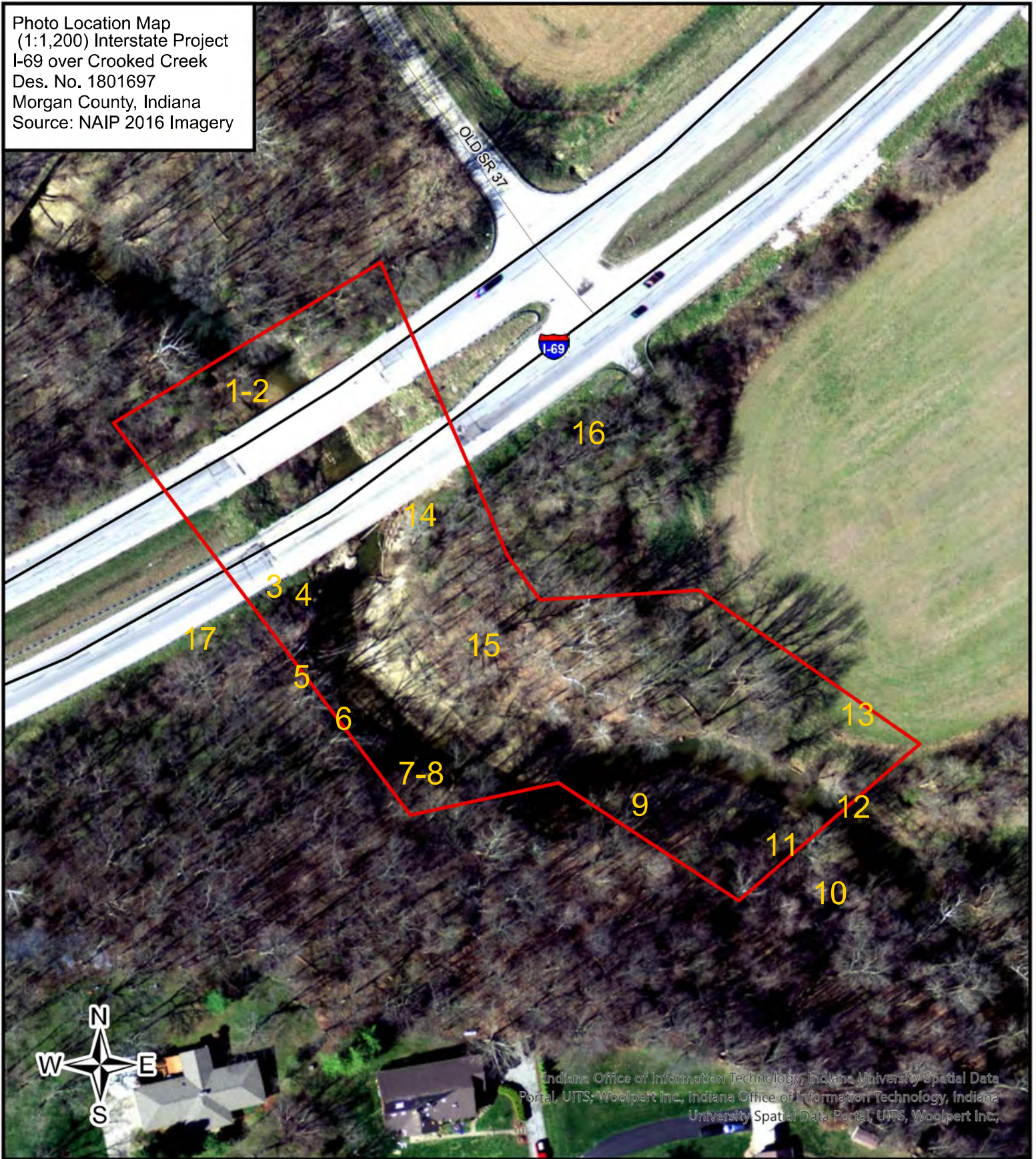
0 60 120  
 Feet

- Project Location
- Tree Removal Area
- IDNR Approximate Floodway
- IDNR Approximate Flood Fringe
- Existing Crooked Creek





Photo Location Map  
(1:1,200) Interstate Project  
I-69 over Crooked Creek  
Des. No. 1801697  
Morgan County, Indiana  
Source: NAIP 2016 Imagery



Indiana Office of Information Technology, Indiana University Spatial Data  
Portal, UITS; Woolpert Inc., Indiana Office of Information Technology, Indiana  
University Spatial Data Portal; UITS, Woolpert Inc.,

0 75 150  
Feet

 Project Location



12/10/2021





1. Facing northwest (NW) from under west side of southbound (SB) I-69.

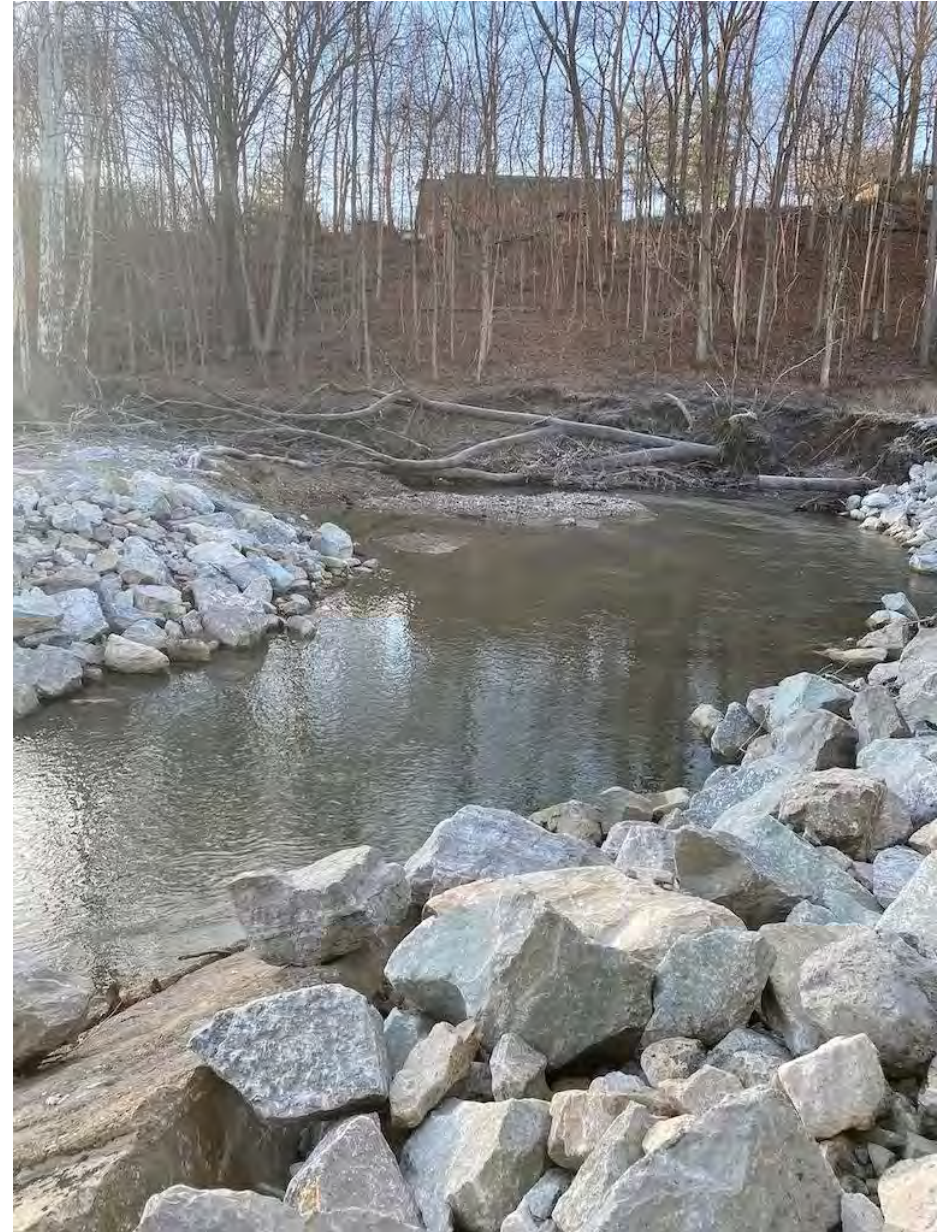


2. Facing southeast (SE) from under west side of SB I-69.





3. Facing SE to erosion and logjam within the project area.



4. Facing east to bend in Crooked Creek from bank.





5. Facing SE along south side of Crooked Creek at logjam.

Des. No. 1801697, I-69 Crooked Creek Bank Stabilization  
12.13.2021 Site Photos



6. Facing northwest (NW) to northbound (NB) I-69





7. Facing NE/east to second bend in Crooked Creek.



8. Facing north/NW to eroded creek banks, logjam, and NB I-69.





9. Facing SW/west from north side of Crooked Creek to logjam and eroded banks.



10. Drainage structure for agricultural ditch, north side of Crooked Creek.





11. Facing north/NW to NB I-69 over Crooked Creek; sycamore, white ash, elm, and Maple stand on north side of creek.



12. Facing north/NW to NB I-69 from SE end of project area.





13. Facing NW from agricultural field, north end of project area.



14. Facing SE from north side of NB I-69 bridge (shoulder) to project area.





15. Facing NW to NB I-69 over Crooked Creek; sycamore, ash, elm, and maple stand.



16. Facing SW to NB I-69 from new roadway swale along NE boundary of agricultural field.





17. Facing NE from east shoulder of I-69, south of bridge over Crook Creek.

Des. No. 1801697, I-69 Crooked Creek Bank Stabilization  
12.13.2021 Site Photos

## **Appendix C – Reevaluation Statement #6**

### **Resource Agency Re-Coordination**





January 28, 2022

**Via:** E-mail

**To:** Robin McWilliams, USFWS  
Jason Randolph, IDEM  
Deb Snyder, USACE  
Matt Buffington, IDNR

**From:** Sarah Rubin, INDOT I-69 Corridor Project Manager

**Re:** I-69 Section 6 – Reevaluation Statement #6 - Crooked Creek Channel Realignment and Bank Stabilization (1801697)

**Cc:** Michelle Allen, FHWA  
Ron Bales, INDOT Environmental Services  
Sandra Flum, INDOT Project Manager  
Crystal Rehder, INDOT Environmental Services  
Adin McCann, HNTB  
Tim Miller, HNTB

Ms. McWilliams, Mr. Randolph, Ms. Snyder, and Mr. Buffington:

During I-69 Section 6 field visits with your agencies in March and July of 2021, significant erosion and evidence of active migration of Crooked Creek to the east of the newly rehabilitated I-69 bridges over Crooked Creek was observed. During the field visits, it was determined with you that the creek needed to be realigned and stabilized to curb and prevent further degradation of the stream bank and to mitigate the meander from undermining the new construction around the I-69 over Crooked Creek bridges.

These proposed project changes from what was approved in the original I-69 Section 6 FEIS will result in changes to natural resource impacts, including forested habitat, floodway, floodplain, and streams. This letter updates your agency on the design modifications and seeks input during the environmental reevaluation review process. We request comments from you within your area of expertise regarding any potential environmental or community effects associated with this proposed project. **We will incorporate your comments into the reevaluation of the project's environmental effects. Please use the above designation number and description in your reply.**

**Proposed Project:** The proposed project refinement is to realign Crooked Creek on the east side of I-69 to a more sustainable channel alignment that provides an appropriate approach condition to the I-69 bridges. The design will stabilize the banks and restore the channel by construction of floodplain benches, riffles and pools, J-Hooks, and cross-vanes within the creek channel. Channel construction will focus on the use of gravel and cobble rock material similar to native materials, will incorporate salvaged bed materials to the extent possible, will rely on bioengineering plantings to stabilize the channel banks, and limited use of large riprap for the J-hook and cross-vane grade control structures. To stabilize the vertical eroding bank, gabions and some large diameter riprap is planned in some locations. Some of the work will occur within existing right-of-way owned by the project sponsor, INDOT, but most will require either a right of entry or temporary right-of-way to adjacent private properties to construct within areas along and within Crooked Creek. Approximately 350 linear feet of Crooked Creek will be permanently impacted, and 32 trees (21 trees in recent new growth in the previous creek channel, 10 are leaning and in danger of falling, and two appear to be Hickory Shagbark trees) at the edge of the wooded area near the cleared right-of-way need to be removed to complete the project. The proposed design is targeted as being a self-mitigating activity by providing functional uplift to the channel while stabilizing it.

**Project Location:** I-69 crosses over Crooked Creek approximately 4.55 miles south of the I-69 (SR 37) and SR 144 intersection in the US Geological Survey (USGS) Mooresville East Quadrangle, Morgan County, Indiana. It is within Green Township, Section 34, Township 13 North, Range 2 East.

**Existing Conditions:** On the east side of the NB I-69 bridge over Crooked Creek, Crooked Creek has meandered south from where it was located during the I-69 Section 6 design development. The stream that once passed under I-69 in the center of the bridge now passes under the bridge near the south abutment of the bridge. The channel bows to the south immediately before reaching the bridge. Eroded conditions have developed beyond the riprapped areas to the east, causing bank failure. Trees have fallen into the creek (refer to attached site photos). Point bar deposition has occurred where the stream has meandered.

**Project Changes After the I-69 Section 6 FEIS/ROD:** The Record of Decision for the combined Tier 2 Final Environmental Impact Statement (EIS) for the I-69 Section 6 project was signed on February 1, 2018. Five (5) Reevaluation environmental documents to the Final EIS for Section 6 have been completed since the signing. A Reevaluation Statement #6 environmental document is being developed to include the scope of work for this project amendment.

**Cultural Resources:** An archaeological investigation has been completed within the additional project area outside the archaeological Area of Potential Effects (APE) for the I-69 Section 6 project. No new sites were discovered which have been recommended as eligible for inclusion on the National Register of Historic Places (NRHP). This document will be submitted to the IDNR Division of Historic Preservation in a separate submittal.

**Resource Impacts:** Land use in the vicinity is primarily agricultural and forested, with residences in the vicinity and rolling terrain. SJCA Inc. will complete a field investigation to identify water resources that may be present within and in the vicinity of the creek channel stabilization project that were not included in the boundaries of previous water resource studies, and coordination is ongoing with the INDOT Ecology and Waterway Permitting Office to determine the required waterway permits and related mitigation, if any, that will be required due to the impacts to Crooked Creek.

The following table indicates differences in impacts to key resources from the FEIS to the current proposed alternative within the Design Contract area around the Crooked Creek Realignment. There are no impacts in the proposed project area to privately managed lands, core forest, or wellhead protection areas. No additional relocations will be required due to the stream alignment. Impacts to wetlands, floodplains, floodways, and streams are anticipated to increase/decrease.

Table 1: Reevaluation No. 6 - Key Resource Impact Changes, Realignment of Crooked Creek

Resource	Reevaluation Statement #6 Total Change	Cumulative Impacts after Reevaluation Statement #6 End-to- End	Total Change since FEIS End-to-End
Wetlands	0.00 acre	3.35 acres	-0.63 acres
Floodway	1.25 acres	1.25 acres	0.75 acres
Floodplain	0.25 acres	495.35 acres	37.35 acres
Streams	350 feet	48,556 feet	1,253 feet

**Please respond with comments, questions, and concerns within fifteen (15) calendar days from the date of this memo.** Thank you in advance for your input on this project.

*\*Project Maps and  
Photos included in this  
Memo were removed  
and are included in  
Appendix B*



Laura Rogers

---

From: Buffington, Matt <MBuffington@dnr.IN.gov>  
Sent: Monday, January 31, 2022 9:25 AM  
To: Rubin, Sarah; McWilliams, Robin; Snyder, Deborah D CIV USARMY CELRL (USA); RANDOLPH, JASON  
Cc: Flum, Sandra; Bales, Ronald  
Subject: RE: I-69 Section 6 Contract 4 - Reevaluation #6

Sarah,

I know some folks do not agree with the term "self-mitigating" and I think there needs to be some clear explanation of how the proposed impacts compensate in a manner that there is uplift. A stream meandering within its floodplain is a natural condition, though we recognize that sometimes that interferes with infrastructure. The Reevaluation needs to include sufficient detail to understand the impacts of the proposed channel realignment and what will be done on-site that is being considered mitigation. The project description does not clearly explain all the work that is proposed.

Will trees be replaced? What will be done with the existing channel after the proposed channel is constructed?

The DNR generally does not support the use of gabions and their inclusion is a serious detraction from the idea of self-mitigating. Gabions create wildlife movement barriers and are prone to failure, creating a new set of impacts that have to be addressed in the future. Negative impacts to fish, wildlife, and botanical resources associated with failed gabions includes release of undersized stabilization materials into the channel creating channel blockage or smothering existing substrate; snagging of debris leading to the formation of log or debris jams that block fish or wildlife passage; snagging, trapping, or injuring fish and wildlife resources; loss of riparian habitat and native vegetation along the banks; and creation of a vertical or near barrier at the water level (leading to increased flow velocities, disruption of the stream/riparian habitat interface, disruption of fish and wildlife movement). The DNR has seen many gabions fail and highly recommends an alternative design.

Matt Buffington  
Environmental Supervisor  
Division of Fish and Wildlife  
Indiana Department of Natural Resources

E: [mbuffington@dnr.in.gov](mailto:mbuffington@dnr.in.gov)  
P: 317-233-4666  
[www.in.gov/dnr/fishwild/](http://www.in.gov/dnr/fishwild/)  
[www.in.gov/dnr/](http://www.in.gov/dnr/)

*\* Please let us know about the quality of our service by taking this [brief customer survey](#).*

---

From: Rubin, Sarah <SRubin@indot.IN.gov>  
Sent: Friday, January 28, 2022 2:55 PM  
To: McWilliams, Robin <robin\_mcwilliams@fws.gov>; Snyder, Deborah D CIV USARMY CELRL (USA) <Deborah.D.Snyder@usace.army.mil>; Buffington, Matt <MBuffington@dnr.IN.gov>; RANDOLPH, JASON <JRANDOLP@idem.IN.gov>  
Cc: Flum, Sandra <SFlum@indot.IN.gov>; Bales, Ronald <rbales@indot.IN.gov>  
Subject: I-69 Section 6 Contract 4 - Reevaluation #6

All:

Laura Rogers

---

From: McWilliams, Robin <robin\_mcwilliams@fws.gov>  
Sent: Wednesday, February 2, 2022 3:57 PM  
To: Rubin, Sarah  
Subject: Re: [EXTERNAL] I-69 Section 6 Contract 4 - Reevaluation #6

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

---

Hi Sarah,

Can you delineate where the tree removal will occur? Also, can you remind me of what "bioengineering plantings" are and where those would be use? Do you anticipate any reforestation here?

Robin

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

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

---

From: Rubin, Sarah <SRubin@indot.IN.gov>  
Sent: Friday, January 28, 2022 2:54 PM  
To: McWilliams, Robin <robin\_mcwilliams@fws.gov>; Snyder, Deborah D CIV USARMY CELRL (USA) <Deborah.D.Snyder@usace.army.mil>; Buffington, Matt <MBuffington@dnr.IN.gov>; RANDOLPH, JASON <JRANDOLP@idem.IN.gov>  
Cc: Flum, Sandra <SFlum@indot.IN.gov>; Bales, Ronald <rbales@indot.IN.gov>  
Subject: [EXTERNAL] I-69 Section 6 Contract 4 - Reevaluation #6

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

All:

Please find the attached memo summarizing the I-69 Section 6 Contract 4 Reevaluation #6. The memo discusses design refinements at Crooked Creek east of the I-69 bridges over Crooked Creek.

If any questions arise as you are reviewing the attached memo please don't hesitate to reach out. As noted in the letter please provide any comments within fifteen (15) days, which would be on or before 2/15/22.



## **Appendix D – Reevaluation Statement #6**

### **Section 106 Documentation**



## REVIEW REQUEST SUBMITTAL

State Form 55031 (R / 4-17)

Indiana Department of Natural Resources

Division of Historic Preservation and Archaeology, Indiana State Historic Preservation Office (SHPO)



**Please complete this form and attach it to the front of all submittals, along with any reports or supplemental materials you are providing to the Indiana DHPA for review. Please note that archaeological and structural information can be submitted together but should be separate documents since archaeological site locations are confidential and not for public disclosure.**

Date (month, day, year): 2/9/2022

- ☐ This is a new submittal.  
☒ This is revised/additional information relating to DHPA number 4615.  
☐ This project is being undertaken pursuant to the terms and conditions of a programmatic or other interagency agreement.  
Title of Agreement: \_\_\_\_\_  
☐ This project will also be applying for Federal Rehabilitation Investment Tax Credit.  
☐ This project includes work on a property that is under a preservation covenant held by DHPA.

### **THIS REVIEW REQUEST SUBMITTED BY:**

Name: David Moffatt

Company/Organization: Gray & Pape, Inc.

Address (number and street): 5807 North Post Road

City: Indianapolis State: IN ZIP: 46216

Telephone number: (317) 541-8200 E-mail address: dmoffatt@graypape.com

### **PROJECT NAME & LOCATION** [Please attach a map with location(s) marked]

Project Name/Reference: I-69 Sec 6: AI for Crooked Creek realignment and stabilization. Project/Des Number: 1801697

Project Address/Location: \_\_\_\_\_

City: \_\_\_\_\_ Township(s): Harrison

County/Countries: Morgan County

Section/Township/Range: Section 3, Twn. 13 N, R. 2 E and Section 3, Twn. 13 N, R. 2 E

Latitude/Longitude: \_\_\_\_\_

### **STATE OR FEDERAL AGENCY INVOLVEMENT**

Agency: INDOT & FHWA Program: \_\_\_\_\_

Type of funds, license, or permit to be obtained (if applicable): \_\_\_\_\_

Name of Agency Contact: Anuradha Kumar

Address (number and street): 100 N Senate Ave IGCN 642

City: Indianapolis State: IN ZIP: 46201

Telephone number: (317) 296-0799 E-mail address: akumar@indot.in.gov



**APPLICANT (if different than Federal Agency)** If available, please attach copy of authorization letter from federal agency.

Applicant: \_\_\_\_\_

Name of Contact: \_\_\_\_\_

Address (number and street): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Telephone number: \_\_\_\_\_ E-mail address: \_\_\_\_\_

**ADDITIONAL CONTACT (IF APPLICABLE)**

Name of Contact: \_\_\_\_\_

Organization/Agency: \_\_\_\_\_

Address (number and street): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Telephone number: \_\_\_\_\_ E-mail address: \_\_\_\_\_

**Project Description** – This should include a detailed scope of work, including any actions to be taken in relation to the project, such as all aspects of new construction, replacement/repair, demolition, ground disturbance, and all ancillary work (temporary roads, etc.), as applicable. Attach report or additional pages if necessary. If a detailed scope of work is not available yet, please explain and include all preliminary information.

Design changes to I-69 Section 6 have occurred since approval of the FEIS on February 1, 2018. Specifically, these changes are a result of design refinements within the Section 6 of I-69 corridor in Morgan County, Indiana. Gray & Pape, Inc has conducted Phase Ia archaeological surveys for on-going stability / migration issues at Crooked Creek.

The current investigations are an addendum to the previously cleared archaeological survey areas for portions of the I-69 Section 6 corridor not covered prior to approval of the FEIS in 2018. The enclosed archaeological Phase Ia reconnaissance report has been reviewed and approved by the Indiana Department of Transportation, Cultural Resources Office on 2/xx/22. We request that the report is reviewed for DHPA concurrence as part of an addendum to previously approved I-69 Section 6 archaeological surveys described within the report.

The current design refinements are completely within the previously identified Area of Potential Effect (APE) as defined for above-ground resources in the I-69 Section Historic Property Report, prepared by Weintraut & Associates (2015) (see attached map). Given that all work is within the limits of the defined 2015 APE and no historic properties were identified in the areas, it is the opinion of Gray & Pape that no above-ground historic properties or districts will be affected by the proposed project and no further work is recommended. INDOT Cultural Resources Office staff, on behalf of the FHWA, reviewed the information provided by Gray & Pape regarding these design refinements and agree with this assessment. Therefore, per Stipulation II.C.1.a. of the I-69 Section 6 MOA regarding project modifications, since the modifications do not have the potential to cause adverse effects on above-ground resources, INDOT is documenting that determination in its records, and no further review or consultation is required.

**Ground Disturbing Activity** – This should include a detailed description of all horizontal and vertical ground disturbance in relation to the project as well as any known previous and current land use, condition, and disturbances. Attach report or additional pages if necessary. Indicate if the project does not include any ground disturbing activities. Please note that agricultural tilling generally does not have a serious enough impact on archaeological sites to constitute a disturbance of the ground for this purpose.

**FINDINGS** – Please note that a finding should only be submitted when the agency/delegatee believes it is appropriate or one has been requested by our office. Only those who represent the Federal Agency or an official delegatee of the federal agency are authorized to make findings of effect for an undertaking.

☐ **No Historic Properties Affected** – (i.e., none are present or there are historic properties present but the project will have no effect upon them). Attach necessary documentation, as described at 36 CFR 800.11.

☐ **No Adverse Effect** – The proposed undertaking will have no adverse effect on one or more historic properties located within the project APE under 36 CFR 800.5. Attach necessary documentation, as described at 36 CFR 800.11.

☐ **Adverse Effect** – The proposed undertaking will result in an adverse effect to one or more historic properties and the applicant, or other federally authorized representative, will consult with the SHPO and other consulting parties to resolve the adverse effect per 36 CFR 800.6. Attach necessary documentation, as described at 36 CFR 800.11, with a proposed plan to resolve adverse effect(s).

**Please explain the basis for your determination.**

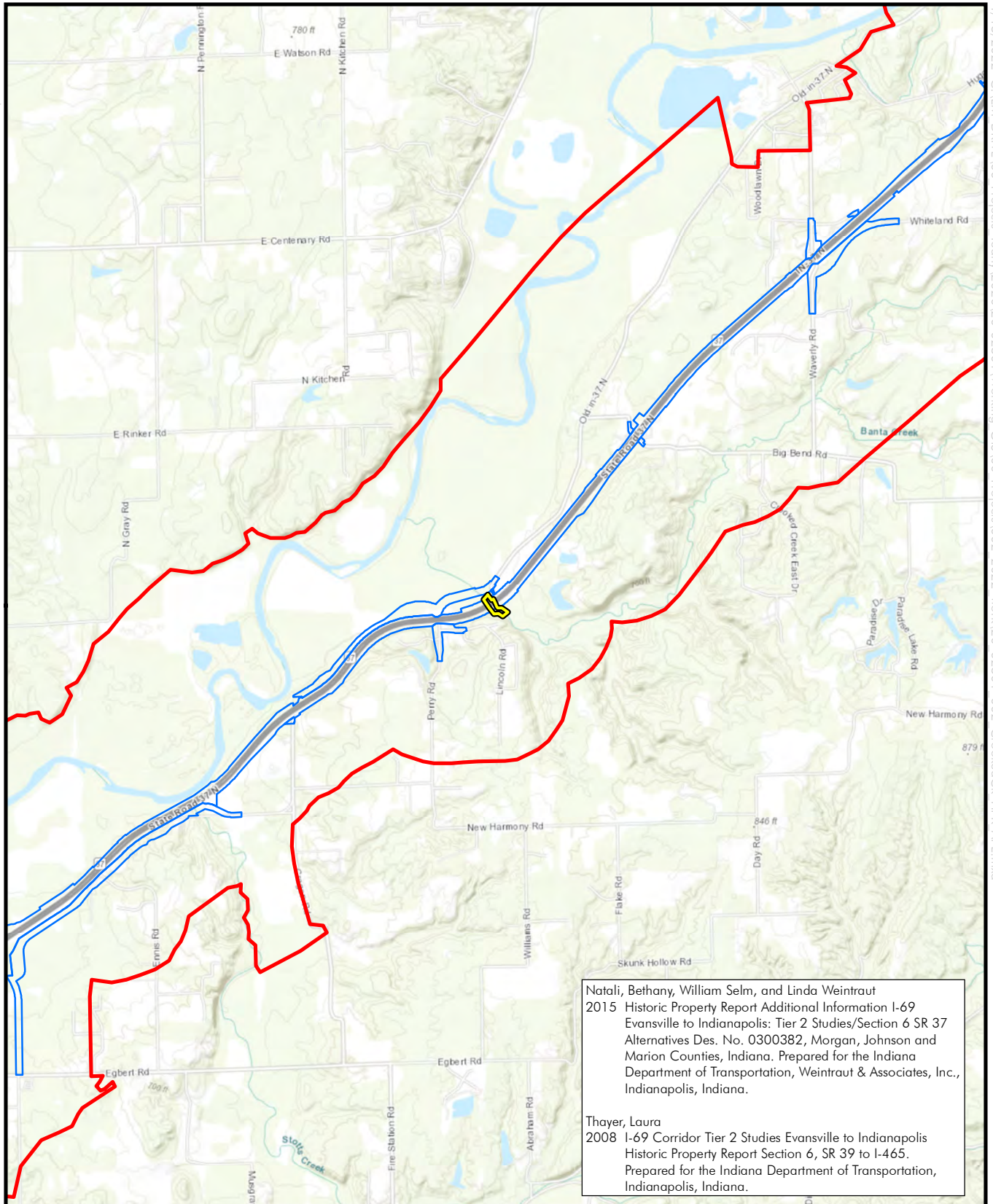
Authorized Signature: \_\_\_\_\_

Date (month, day, year): 2/9/2022

Type or print name: David Moffatt

Organization/Agency: Gray & Pape Inc.

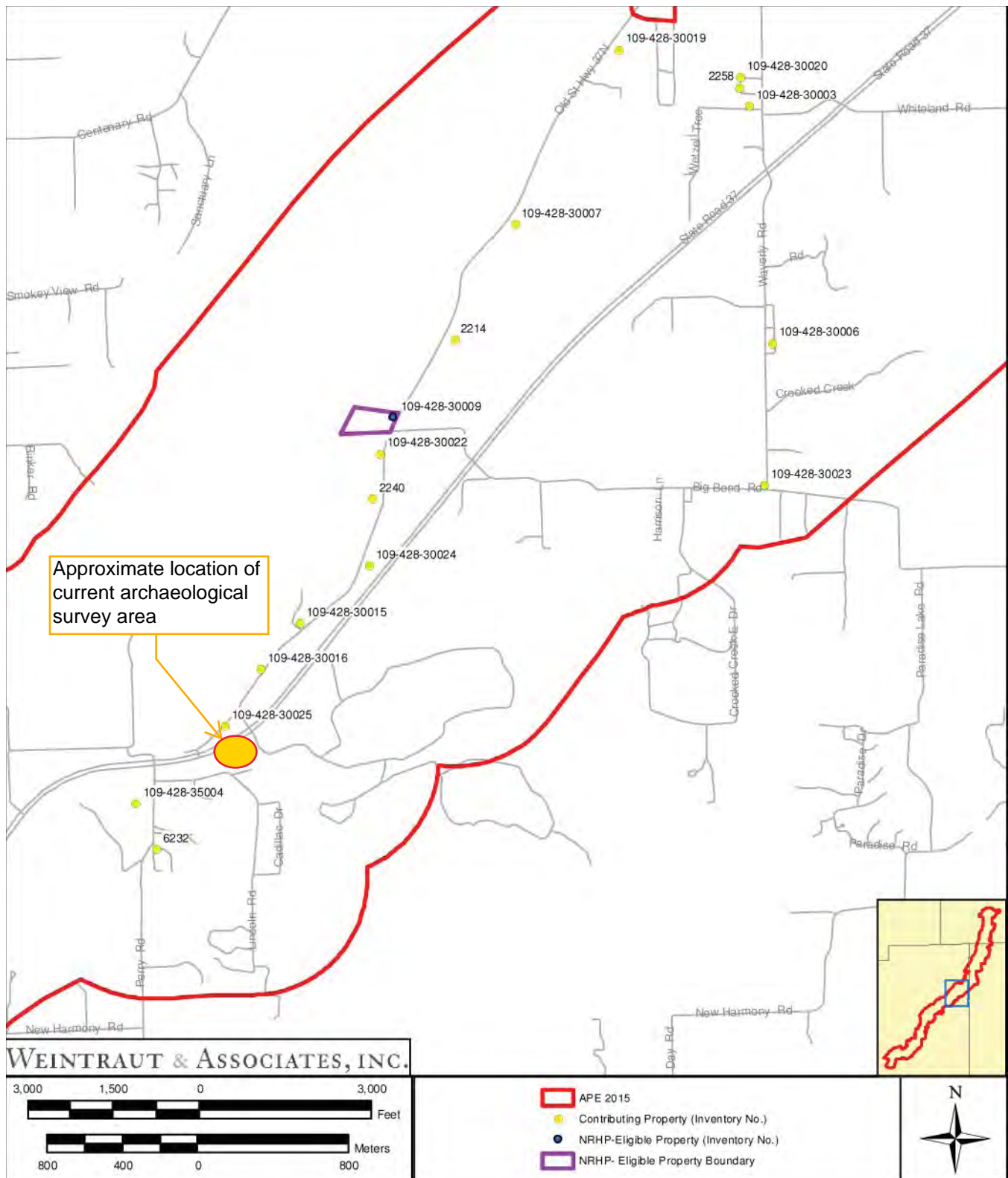




Natali, Bethany, William Selm, and Linda Weintraut  
2015 Historic Property Report Additional Information I-69  
Evansville to Indianapolis: Tier 2 Studies/Section 6 SR 37  
Alternatives Des. No. 0300382, Morgan, Johnson and  
Marion Counties, Indiana. Prepared for the Indiana  
Department of Transportation, Weintraut & Associates, Inc.,  
Indianapolis, Indiana.

Thayer, Laura  
2008 I-69 Corridor Tier 2 Studies Evansville to Indianapolis  
Historic Property Report Section 6, SR 39 to I-465.  
Prepared for the Indiana Department of Transportation,  
Indianapolis, Indiana.

	<p>Natali et al. (2015) APE in relation to the Crooked Creek Project area.</p>	<p><b>Legend</b></p> <ul style="list-style-type: none"><li> Archaeological Survey Area</li><li> I-69 Section 6 ROW</li><li> Above-Ground APE</li></ul> <p>Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P</p>	
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APE AND PROPERTIES, SHOWN ON ZOOM-IN MAP 5 OF 10





# INDIANA ARCHAEOLOGICAL SHORT REPORT

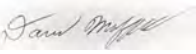
State Form 54566 (R2 / 11-20)

## INDIANA DEPARTMENT OF NATURAL RESOURCES DIVISION OF HISTORIC PRESERVATION AND ARCHAEOLOGY

402 West Washington Street, Room W274  
Indianapolis, Indiana 46204-2739  
Telephone Number: (317) 232-1646  
Fax Number: (317) 232-0693  
E-mail: [dhp@dnr.IN.gov](mailto:dhp@dnr.IN.gov)

Where applicable, the use of this form is recommended but not required by the Division of Historic Preservation and Archaeology (DHPA).

Name(s) of author(s) David Moffatt		Date (month, day, year) 2/8/2022
Title of project Phase Ia Archaeological Survey of the Proposed Crooked Creek Realignment and Stabilization Project for I-69 in Morgan County, Indiana (Des. No. 1801697).		
This document is being used to report on the results of: <input type="checkbox"/> Records check only <input checked="" type="checkbox"/> Records check and Phase Ia archaeological reconnaissance <input type="checkbox"/> An addendum to a previous archaeological report. For an addendum, provide the following information.		
Name(s) of author(s) of previous report There are several reports associated with I-69 Section 6.		
Title of previous report		
Date of previous report (month, day, year)	DHPA number 4615	

PROJECT OVERVIEW			
Description of project The Crooked Creek crossing of I-69 Section 6 has been progressing following the approved FEIS. Following the construction of I-69 Section 6, it was determined that additional proposed design refinements from what was approved in the FEIS would be required in response to on-going stability / migration issues at Crooked Creek (Figures 1-3). The proposed project refinement is to realign Crooked Creek on the east side of I-69 to a more sustainable channel alignment that provides an appropriate approach condition to the I-69 bridge. The design will stabilize the banks and restore the channel by constructing of floodplain benches, construction of riffles and pools, J-Hooks, and cross-vanes within the creek channel. Channel construction will focus on the use of gravel and cobble rock material similar to native materials, will incorporate salvaged bed materials to the extent possible, will rely on bioengineering plantings to stabilize the channel banks and limited use of large riprap for the J-hook and cross-vane grade control structures. To stabilize the vertical eroding bank, gabions and some large diameter rip rap is planned for some locations. The work will occur within existing right-of-way owned by the project sponsor, INDOT, and will require either a right of entry or temporary right-of-way to adjacent private properties to construct within areas along and within Crooked Creek that are outside of existing right-of-way. Approximately 350 linear feet of Crooked Creek will be permanently impacted, and 37 trees will be removed to complete the project. The proposed design is targeted as being a self-mitigating activity.			
INDOT designation number(s) 1801697	Project number 20-02801.002	DHPA number	DHPA plan number
Prepared for: (Company / Institution / Agency) WSP			
Name of contact Kelli McNamara			
Address (number and street, city, state, and ZIP code) 115 W. Washington Street, Suite 1270S			
Telephone number (317) 287-3416	E-mail address Kelli.McNamara@wsp.com		
Name of principal investigator David Moffatt			
Name of company / institution Gray and Pape Heritage Management.			
Address (number and street, city, state, and ZIP code) 5807 North Post Road, Indianapolis, IN 46216			
Telephone number (317) 541-8200	E-mail address dmoffatt@graypape.com		
Signature of principal investigator (Required) 		Date (month, day, year) 2/8/2022	

PROJECT LOCATION		
County Morgan	USGS 7.5' series topographic quadrangle Mooreville East	Civil township Harrison
Legal Location		

Records check (Check all that apply.)

- ☐ No archaeological investigation is recommended before the project is allowed to proceed because the records check has determined that the project area does not have the potential to contain archaeological resources.
- ☐ A Phase Ia archaeological reconnaissance is recommended.
- ☐ A cemetery development plan may be required under Indiana Code 14-21-1-26.5 because project ground disturbance will be within 100 feet of a cemetery.

Phase Ia archaeological reconnaissance (Check all that apply.)

- ☒ It is recommended that the project be allowed to proceed as planned because the Phase Ia archaeological reconnaissance has located no archaeological sites within the project area and/or previously recorded sites that were investigated warrant no additional investigation.
- ☐ It is recommended that Phase Ic archaeological subsurface reconnaissance be conducted before the project is allowed to proceed. The Phase Ia archaeological reconnaissance has determined that the project area includes landforms which have the potential to contain buried archaeological deposits.

Other recommendations / commitments

Auger tests found no evidence that the project area has potential for buried archaeological sites.

**Pursuant to IC-14-21-1, if any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, state law (Indiana Code 14-21-1-27 and 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please call (317) 232-1646.**

REQUIRED ATTACHMENTS

- ☒ Figure showing project location within Indiana
- ☒ USGS topographic map showing the project area (1:24,000 scale)
- ☒ Aerial photograph showing the project area, land use and survey methods
- ☒ Photographs of the project area, including, if applicable, photographs documenting disturbances
- ☐ Project plans (if available)

Other attachments

References cited (See short report instructions for required references to be consulted.)

Anderson, Jason

2006 Phase Ia Survey Interim Report: I-69 Corridor Tier 2 Studies, Evansville to Indianapolis: Phase Ia Archaeological Investigations, Section 6, SR 39 to I-465 at Indianapolis, Marion, Johnson, Morgan Counties, Indiana. Prepared for Federal Highway Administration and Indiana Department of Transportation. Cultural Resource Analysts, Inc., Lexington, Kentucky.

Baltz, Christopher, Morgan Wampler, Marcia Vehling, Beth McCord, and Christina Kelly

2017 Phase Ia Archaeological Survey 2 for Section 6, Morgan, Johnson, and Marion Counties, Des. No. 0300382, I-69 Tier 2 Studies, Evansville to Indianapolis. Prepared for the Federal Highway Administration and Indiana Department of Transportation, Gray & Pape, Indianapolis, Indiana.

Baltz, Christopher, Patrick Trader, Beth McCord

2018 I-69 Tier 2 Studies Evansville to Indianapolis Phase Ia Archaeological Survey 4 for Section 6, Morgan, Johnson, Marion Counties, Indiana Des. No. 0300382. Report prepared for Federal Highway Administration and Indiana Department of Transportation by Gray and Pape, Inc., Indianapolis.

Dorwin, John T.

1966 Fluted Points and Late-Pleistocene Geochronology. Indiana. Prehistory Research Series 4:181-186. Indiana Historical Society, Indianapolis.

Historic Landmarks Foundation of Indiana

1993 Morgan County Interim Report: Historic Sites and Structures Inventory. Historic Landmarks Foundation of Indiana, Indianapolis, Indiana.

Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology

2008 Guidebook for Indiana Historic Sites and Structures-Archaeological Sites. Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, Indianapolis.

Indiana Department of Transportation, Cultural Resources Office

2019 Indiana Cultural Resources Manual. Electronic document. [http://www.in.gov/in\\_dot/crm/#](http://www.in.gov/in_dot/crm/#). Accessed August 2019.



**From:** Coon, Matthew <mcoon@indot.IN.gov>

**Sent:** Tuesday, March 8, 2022 7:54 AM

**To:** thpo@estoo.net; Diane Hunter <dhunter@miamination.com>; Charla EchoHawk <cechohawk@peoriatribes.com>; Matthew Bussler <Matthew.Bussler@pokagonband-nsn.gov>; Tonya Tipton <tonya@shawnee-tribe.com>; Erica Gorsuch <egorsuch@ukb-nsn.gov>; Jonathan Windy Boy <jonathan.windyboy@nei-yahw.com>

**Cc:** Carmany-George, Karstin (FHWA) <k.carmanygeorge@dot.gov>; Korzeniewski, Patricia J

<PKorzeniewski@indot.IN.gov>; David Moffatt <dmoffatt@graypape.com>; Jeff Laswell <jlaswell@graypape.com>

**Subject:** [External] Email FHWA Project: Des. No. 1801697; I-69 Sec 6 AI for Crooked Creek realignment and stabilization, Morgan County, Indiana

**Des. No.:** 1801697

**Project Description:** I-69 Sec 6 Crooked Creek realignment and stabilization

**Location:** Morgan County, Indiana

The Indiana Department of Transportation, with funding from the Federal Highway Administration, proposes to proceed with the realignment and bank stabilization of Crooked Creek as part of Section 6 of the I-69 corridor (Des. No. 1801697). As stipulated in the I-69 Evansville to Indianapolis Tier 2 Study: Section 6 (SR 39 to I-469) Memorandum of Agreement (signed and dated October 27, 2017) under Section III, upon completion of work, FHWA shall provide copies of final reports to the Indiana SHPO, INDOT, and federally recognized Indian Tribes when appropriate, and afford them thirty (30) days to review and submit comments on the reports.

As part of Section 106 of the National Historic Preservation Act, an archaeological report has been prepared and is ready for review and comment (Tribes only).

Please review this documentation located in IN SCOPE at <http://erms.indot.in.gov/Section106Documents/> (the Des. No. is the most efficient search term, once in IN SCOPE), and respond with any comments that you may have. If a hard copy of the materials is needed, please respond to this email with your request as soon as you can.

Consulting parties have thirty (30) calendar days from receipt of this information to review and provide comment. Tribal consulting parties may contact Patty Jo Korzeniewski at [pkorzeniewski@indot.in.gov](mailto:pkorzeniewski@indot.in.gov) or 317-416-4377, or Kari Carmany-George at FHWA at [k.CarmanyGeorge@dot.gov](mailto:k.CarmanyGeorge@dot.gov) or 317-226-5629.

Thank you in advance for your input,

**Matt Coon**

**Archaeologist, Cultural Resources Office**

Indiana Department of Transportation

100 North Senate Ave., N758-Environmental Services

Indianapolis, IN 46204

**Phone:** 317-697-9752



## PEORIA TRIBE OF INDIANS OF OKLAHOMA

118 S. Eight Tribes Trail (918) 540-2535 FAX (918) 540-2538

P.O. Box 1527

MIAMI, OKLAHOMA 74355

CHIEF  
Craig Harper

SECOND CHIEF  
Rosanna Dobbs

March 8, 2022

Matt Coon  
Archaeologist, Cultural Resources Office  
INDOT  
100 N Senate Ave., N758-Environmental Services  
Indianapolis, IN 46204

Re: Des. #1801697; I-69 Section 6 Crooked Creek realignment and stabilization

Thank you for providing notice of the referenced project. The Peoria Tribe of Indians of Oklahoma is unaware of a direct link to the newly proposed project location.

The Peoria Tribe of Indians of Oklahoma is also unaware of items covered under Native American Graves Protection and Repatriation Act (NAGPRA) to be associated with the proposed project site, including funerary or sacred objects; objects of cultural patrimony; or ancestral human remains.

The Peoria Tribe has no objection at this time to the proposed project. If, however, at any time items are discovered which fall under the protection of NAGPRA, the Peoria Tribe requests immediate notification and consultation. In addition, state, local and tribal authorities should be advised as to the findings and construction halted until consultation with all concerned parties has occurred.

Please feel free to contact me directly at the number above if additional consultation is necessary. Thank you again for your consideration with this matter.

Sincerely,

Charla K. EchoHawk  
Director of Cultural Preservation

TREASURER  
Hank Downum

SECRETARY  
Tonya Mathews

FIRST COUNCILMAN  
Carolyn Ritchey

SECOND COUNCILMAN  
Kara North

THIRD COUNCILMAN  
Isabella Burrell





## EASTERN SHAWNEE CULTURAL PRESERVATION DEPARTMENT

70500 East 128 Road, Wyandotte, OK 74370

March 14, 2022

INDOT - Indiana Department of Transportation

100 N. Senate Ave. IGCN642

Indianapolis, IN 46201

**RE: *Des No. 1801697, Morgan County, Indiana***

Dear Mr. Coon,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Morgan County, Indiana. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a)). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.

Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)

Eastern Shawnee Tribe of Oklahoma

(918) 666-5151 Ext:1833



Division of Historic Preservation & Archaeology • 402 W. Washington Street, W274 • Indianapolis, IN 46204-2739  
Phone 317-232-1646 • Fax 317-232-0693 • [dhpa@dnr.IN.gov](mailto:dhpa@dnr.IN.gov) • [www.IN.gov/dnr/historic](http://www.IN.gov/dnr/historic)



March 14, 2022

David Moffatt  
Gray and Pape, Inc.  
5807 N. Post Road  
Indianapolis, Indiana 46216

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

Re: Addendum Indiana archaeological short report (Moffatt, 02/08/2022) for the  
proposed Crooked Creek realignment and stabilization project; related to I-69,  
Section 6 (Evansville to Indianapolis) (Des. No. 1801697; DHPA No. 4615)

Dear Mr. Moffatt:

Pursuant to Indiana Code 14-21-1, Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 306108), and 36 C.F.R. Part 800, and the I-69 Section 6 Memorandum of Agreement, the staff of the Indiana State Historic Preservation Officer ("Indiana SHPO" or "Indiana DNR-DHPA") has reviewed the above-referenced archaeological report, which, together with your February 9, 2022, Review Request Submittal Form, we received on February 10, 2022.

In regard to archaeological resources, based on the submitted information and the documentation available to the staff of the Indiana SHPO, we have not identified any currently known archaeological resources listed in or eligible for inclusion in the National Register of Historic Places ("NRHP") within the additional portions of the proposed project area as indicated in the addendum Indiana archaeological short report (Moffatt, 02/08/2022); and we concur with the opinion of the archaeologist, as expressed in the archaeological report, that no further archaeological investigations appear necessary at the additional portions of the proposed project area.

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

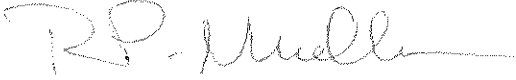
In all future correspondence regarding the archaeological investigations related to I-69, Section 6 (Evansville to Indianapolis), (Des. No. 1801697), please continue to refer to DHPA No. 4615.



David Moffatt  
March 14, 2022  
Page 2

The archaeological reviewer on the Indiana SHPO staff for this project is Wade T. Tharp, and the structures reviewer is Chad W. Slider. If you have questions about the status of our review, about what to submit, or about the review process, please contact the INDOT Cultural Resources staff member assigned to this project.

Very truly yours,

A handwritten signature in dark ink, appearing to read "R. Mueller", with a long horizontal flourish extending to the right.

Ryan Mueller  
Deputy Director  
Indiana Department of Natural Resources

RM:WTT:wtt

emc: Michelle Allen, FHWA  
Anuradha Kumar, INDOT  
Shaun Miller, INDOT  
Susan Branigin, INDOT  
Patrick Carpenter, INDOT  
David Moffatt, Gray & Pape, Inc.  
Ryan Mueller, Deputy Director, Indiana DNR-DHPA  
Chad W. Slider, Indiana DNR-DHPA  
Wade T. Tharp, Indiana DNR-DHPA