

## Supplemental Supporting Information for a Finding of Effect

Project: T11 R4 WELS 23458.00

Scope: Bridge Replacement

Finding of Effect: **Adverse Effect**

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### **Purpose and Need**

The purpose of the proposed action is to maintain the Scopan Inlet crossing along the Presque Isle Subdivision rail route in T11 R4 WELS in Aroostook County.

The need for this project is because several components of the existing bridge at the crossing have become structurally deficient, including the abutments and wingwalls.

### **Project Background**

The Presque Isle #10.07 Bridge #7800 carries the Presque Isle Subdivision of the Maine Northern Railway over the Scopan Inlet to Scopan Lake in T11 R4 WELS. The bridge is a 40-foot, single-span deck girder bridge with an open timber deck that was built in 1909. The girders are supported on built-up steel rail grillages atop two reinforced concrete abutments.

According to the 2019 inspection report the superstructure and channel elements are both in “satisfactory” condition. The deck and substructure are both in “fair” and “poor” conditions, respectively.

Both abutments are approximately 16 feet tall, the majority of which are underwater. Under normal conditions, there is only two-to-three feet of freeboard between the waterline and bottom of the girder. The concrete coping along the face of both bridge seats and the wingwalls on the east abutment is in particularly poor condition. The girders are in satisfactory condition and have a load rating factor of 1.05 (286k car at 25mph).

### **Proposed Action**

The proposed action would replace the existing bridge with a three-span, steel-deck girder superstructure with an open timber deck supported by a steel H-pile substructure. The new superstructure would be comprised of a cross-section of four girders with a depth of approximately 34 inches. This would provide an additional 19 inches of freeboard when compared to the existing girder depth of approximately 53 inches. This would provide enough access for the steel bent cap to be welded to the piles above water. The increased freeboard would also reduce the risk of inundating the bridge during a flood, increase airflow under the bridge, and provide better access for future maintenance. A precast concrete backwall would be designed to resist the force of the passive earth pressure on the backwalls and would be installed at each abutment. Constructibility, design life, reduced future maintenance, and cost were the primary reasons for selecting the full replacement alternative. Although the replacement option is approximately \$250,000 (35%) more expensive than rehabilitation, the anticipated service life is significantly higher. The full replacement would also be easier to construct and would have less in-water impact for an incremental increase in additional cost.

### **Federal Action**

Federal permit.

**Definition of Area of Potential Effect (APE)**

The proposed project is located in T11 R4. A map is attached below that shows the APE.



Figure 1. T11 R4 WELS 23458.00 Area of Potential Effect

## Historic Properties

### Bangor and Aroostook Railroad Historic District



*National Register-eligible*

*Criteria A, C, Industry, Transportation*

*Period of significance  
1893 – c.1960*

The Bangor and Aroostook Railroad Historic District is eligible for listing in the National Register under Criteria A and C for its statewide significance in Industry and Transportation. The Presque Isle #10.07 Bridge #7800 is a contributing resource to the historic district. Survey for the line was completed in 1891 and 1892. In 1893, Albert Burleigh and his investors leased the Bangor and Piscataquis with service to Greenville, Old Town, Bangor, and Katahdin Iron Works. Burleigh soon looked to connect the extant Brownville Junction to Houlton and points north. The main line of the Bangor and Aroostook Railroad reached Van Buren in 1899. The railroad's success is attributed to the need for reliable infrastructure for shipping lumber, paper, and agricultural goods from Aroostook County south.

#### Archeological Resources

There are no archaeological resources in the project area.

## Impacts to Properties

### Bangor and Aroostook Railroad Historic District

*National Register-eligible*

*Criteria A, C, Industry, Transportation*

The proposed action would result in an **Adverse Effect** to the Bangor and Aroostook Railroad Historic District. The preferred alternative would remove the Presque Isle #10.07 Bridge #7800, which is a contributing resource to the district. A three-span, steel-deck girder bridge would be built at the crossing.

## **Avoidance and Minimization Efforts**

A rehabilitation alternative was considered for the Presque Isle #10.07 Bridge #7800, but it was ultimately dismissed (see Dismissed Alternatives below). Mitigation for the loss of the bridge will be recordation. A Draft Memorandum of Agreement is included at the end of this document.

## **Dismissed Alternatives**

### No Build

The No Build Alternative would take no action and would not meet the purpose and need of the project and was therefore removed from further consideration.

### Rehabilitation

#### Alternative 1

Rehabilitation Alternative 1 would remove the existing deteriorated built-up, steel-rail grillages and replace them with new precast concrete pedestals and new anchor bolts. Minor concrete repairs would be required to level out the bridge seat before setting the new concrete pedestals. Both abutments and all four wingwalls would have deteriorated concrete removed and encased with approximately 6 inches of concrete and reinforcing steel. This alternative would also address the slope erosion behind the southeast wingwall by excavating the approach to remove the failed slope protection. New riprap would also be installed. However, the depth of water (approximately 12 feet) and low clearance between the waterline and bottom of girders would make construction access and installation of cofferdams difficult at this location. Concerns with keeping the work area dewatered with the cofferdam were also raised due to the likelihood that water would seep through the ballasts, which would pose a significant risk to the contractor. Additionally, the stability of the existing abutments due to unbalanced forces would potentially become a concern once the cofferdam was dewatered. For these reasons, Rehabilitation Alternative 1 was dismissed.

### Replacement

#### Alternative 2

Replacement Alternative 2 would consist of a three-span, steel-deck girder superstructure with an open timber deck. The new superstructure would be supported on steel pile bents each with a steel bent cap. In addition to the two abutment pile bents placed approximately 25 feet behind the existing abutments, an interior pile bent would be placed in front of each existing abutment to keep the span lengths short and in turn provide a shallow girder superstructure to increase the freeboard. This would create a span layout of 30'-20'-30' for a total out-to-out bridge length of 80 feet. The new superstructure would be comprised of a cross-section of four girders with a depth of approximately 25 inches. When compared to the existing girder depth of approximately 53 inches, this would provide an additional 28 inches of freeboard. This would provide plenty of access for the steel bent cap to be welded to the piles above water. The increased freeboard would reduce the risk of inundating the bridge during a flood, increase airflow under the bridge, and provide better access for future

maintenance. However, information from the 2019 underwater inspection underscored potential obstructions directly in front of the existing abutments in the form of an existing timber bulkhead and timber piles cut off a few feet from the mudline. This would pose as potential pile-driving obstructions for the multiple pile bents. Additionally, construction time would generally be more for a three-span bridge due to more piles to drive and more time required for welding pile caps. For these reasons, Replacement Alternative 2 was dismissed.

#### Replacement Alternative 4

Replacement Alternative 4 would consist of an 80-foot, single-span through-plate girder bridge. The main benefit of this alternative would be the elimination of pile bents in the channel. Although feasible from a structure depth perspective, there would be several drawbacks to this alternative, including increased fabrication and erection costs due to the heightened complexity of the structure, which, in turn, would increase the complexity of the fabrication, delivery, and erection of the structure. Furthermore, the more complex structure – when compared to the simplicity of Alternatives 2 and 3 – would increase the construction duration. For these reasons, Replacement Alternative 4 was dismissed.

#### **Public Involvement**

MaineDOT contacted the four federally recognized Native American tribes in Maine. The Penobscot Nation and Houlton Band of Maliseets replied with no concern about the undertaking.

The Aroostook County Office was notified of the project initiation and asked to provide comments and information regarding historic resources in the project area. No replies were received. The public comment period is ongoing.

#### **Proposed Materials**

Precast concrete, steel girders, heavy riprap.

#### **Attachments**

- Leith Smith, MHPC, to Julie Senk, MaineDOT, August 15, 2019.
- Kirk F. Mohny, MHPC, to Julie Senk, MaineDOT, October 31, 2019
- Draft Section 106 Memorandum of Agreement
- Preliminary Repair Concept Plans, Maine Railroad Bridge Rehabilitation Projects, Presque Isle-Houlton Sub. Aroostook, Bridge No. 7800 (MP10.07) Over West Inlet to Scopan Lake, T11 R8 WELS, MaineDOT WIN 23458.00, February 12, 2021.



MAINE HISTORIC PRESERVATION COMMISSION  
55 CAPITOL STREET  
65 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333

JANET T. MILLS  
GOVERNOR

KIRK F. MOHNEY  
DIRECTOR

August 15, 2019

To: Ms. Julie Senk, MDOT/ESD

From: Arthur Spiess, Senior Archaeologist

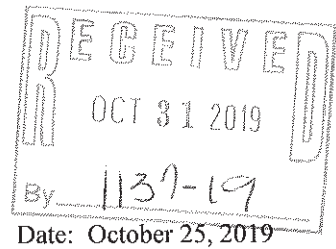
Subject: WIN 23458.00, railroad bridge #7804, over Squapan Lake, T11R4 WELS (MHPC 1137-19)

After reviewing our archaeological survey records and maps, including historic maps and surficial geology maps, and comparing this information with a predictive model of archaeological site locations, we find that no archaeological fieldwork is necessary for this project, based on the project location and general project description information received with your memo of August 9, 2019. It is extremely unlikely that an archaeological site would be affected by this project, in our opinion.

In following the procedures specified in the Federal Highway/MHPC/MDOT programmatic agreement, we **recommend a finding “that there will be no archaeological properties affected by the proposed undertaking.”**

# STATE OF MAINE

## Memorandum



To: Kirk F. Mohney, MHPC  
From: Julie Senk, Maine DOT/ENV  
Subject: Section 106 request for concurrence  
Project: T11 R4 WELS 23458.00, MHPC #1137-19  
Scope: Bridge improvements

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The Maine DOT has reviewed this project pursuant to the Maine Programmatic Agreement (PA) and Section 106 of the National Historic Preservation Act of 1966, as amended.

The proposed project consists of bridge improvements to Presque Isle #10.07 Bridge #7800 carrying the Bangor and Aroostook Railroad over the North Branch of the Squapan Inlet in T11 R4 WELS.

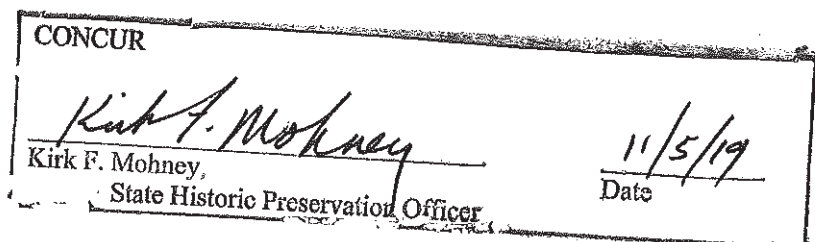
In accordance with 36 CFR Part 800.4, the following identification efforts of historic properties were made:

- 800.4(a) (1) – The Area of Potential Effect (APE) includes properties/structures adjacent to the bridge and within the project limits. The project limits are defined by the structure and the immediately adjacent area. Properties/structures adjacent to this project limit are considered to be within the APE. The APE is shown as a red polygon on the attached map.
- 800.4(a) (2) – Review of existing information consisted of researching the National Register and MHPC survey databases. The Maine Historic Preservation Commission Archaeological staff has reviewed this undertaking.
- 800.4(a) (3) – The Township of T11 R4 WELS was contacted via letter and asked to comment on knowledge of, or concerns with, historic properties in the area, and any issues with the undertaking's effect on historic properties. The township was also requested to provide information regarding local historic societies or groups. No responses have been received to date.
- 800.4(a) (4) – Letters outlining project location and scope were sent to the 4 federally recognized Tribes in Maine. The Passamaquoddy Tribe, Penobscot Tribe, and Houlton Band of Maliseets replied with no concern about the undertaking.
- 800.4(c) – The Maine DOT conducted historic architectural surveys within the APE to determine if properties met National Register criteria. Maine Historic Preservation Commission Archaeological staff has reviewed the undertaking and recommended a finding "that there will be no archaeological properties affected by the proposed undertaking." **The MaineDOT has determined that 2 architectural history properties are eligible for listing in the National Register of Historic Places.**

*In accordance with the PA and 36 CFR Part 800, please reply with your concurrence or objection to the determination of eligibility for listing in the National Register of Historic Places within 30 days. If more information is deemed necessary, please supply a list of the specific resources in question.*

Please contact me at Julie.Senk@maine.gov or 592-3486 if you have any questions. Thank you.

cc: CPD e-file  
enc: Architectural survey package



**MEMORANDUM OF AGREEMENT**  
**BETWEEN THE ARMY CORPS OF ENGINEERS,**  
**MAINE DEPARTMENT OF TRANSPORTATION,**  
**AND MAINE STATE HISTORIC PRESERVATION OFFICER**  
**REGARDING MAINEDOT WIN 23458.00**  
**PRESQUE ISLE #10.7 BRIDGE #7800 REPLACEMENT**  
**AROOSTOOK COUNTY, MAINE**

WHEREAS, the Army Corps of Engineers (ACOE) plans to permit the Presque Isle #10.7 Bridge #7800 Replacement Project (undertaking) in T11 R4 WELS, Maine, pursuant to the National Historic Preservation Act of 1966, 54 U.S.C. 306101 et seq; and

WHEREAS, the ACOE is the "Agency Official" responsible for ensuring that the undertaking complies with Section 106 of the National Historic Preservation Act (NHPA) ((54 U.S.C. § 306108), as amended, and codified in its implementing regulations, 36 CFR Part 800, as amended (August 5, 2004); and

WHEREAS, the undertaking consists of replacing the Presque Isle #10.7 Bridge #7800 with a girder bridge; and

WHEREAS, the ACOE has defined the undertaking's area of potential effects (APE) as displayed in Attachment A; and

WHEREAS, the ACOE has determined that the undertaking has an adverse effect on Bangor and Aroostook Railroad Historic District, which is eligible for listing in the National Register of Historic Places under Criteria A & C and includes the following contributing resources: the Presque Isle #10.7 Bridge #7800, which is eligible under Criteria A & C; and

WHEREAS, the ACOE has consulted with the Maine SHPO pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, the ACOE has ensured that the significance of all National Register-eligible



resources will be captured in compensatory mitigation; and

WHEREAS, the ACOE has consulted with the Aroostook Band of Micmacs, Houlton Band of Maliseet Indians, Passamaquoddy Tribe, and Penobscot Nation of the proposed action in accordance with 36 CFR Section 800.3 (f)(2). Emails were sent to the Tribes on August 9, 2019, in accordance with their preferred method of receiving information from the Department of Transportation; and

WHEREAS, in accordance with 36 CFR 800.2(c), the ACOE has requested input from consulting parties in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties; and

WHEREAS, in accordance with 36 CFR 800.2(d), the ACOE has requested input from the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties; and

WHEREAS, in accordance with 36 CFR Section 800.6(a)(1), the ACOE has notified the ACHP of the potential for an adverse effect determination. The ACOE has invited the ACHP to consult on \_\_\_\_\_, and the ACHP has chosen (to/to not) participate in the consultation pursuant to 36 CFR Section 800.6(a)(1)(iii) on \_\_\_\_\_; and

WHEREAS, in accordance with 36 CFR Section 800.6(c)(2), the ACOE has invited the MaineDOT to be an invited signatory and in accordance with 36 CFR Section 800.6(c)(3);

NOW, THEREFORE, the ACOE and the Maine SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

## STIPULATIONS

The ACOE, with assistance from MaineDOT, shall ensure that the following measures are carried out:

### **I. Recordation**

The Presque Isle #10.7 Bridge #7800 will be recorded using the “Outline Format” narrative of the Maine Historic Engineering Recordation (MHER) standards.

### **II. Duration**

This agreement will be null and void if its terms are not carried out within five (5) years from the

date of its execution. Prior to such time, the ACOE may consult with the other signatories to reconsider the terms of the agreement and amend it in accordance with Stipulation VIII.

### **III. Post-Review Discoveries**

If potential historic properties are discovered or unanticipated effects on historic properties found, the ACOE shall consult in accordance with 36 CFR Section 800.6(c)(6). If any unanticipated discoveries of historic properties or archaeological sites are encountered during the implementation of this undertaking, MaineDOT shall suspend work in the area of the discovery in accordance with Maine Department of Transportation Standard Specification 105.9: *Historic and Archaeological Considerations* and DOT shall immediately notify the ACOE. In compliance with 36 CFR §800.13, the ACOE shall notify within 24 hours the ACHP, the Maine SHPO, and the Aroostook Band of Micmacs, Houlton Band of Maliseet Indians, Passamaquoddy Tribe, and Penobscot Nation. The Maine SHPO, the ACOE, MaineDOT, and Tribal representatives, as appropriate, may conduct a joint field review within 72 hours of the notification to the ACOE. The ACOE, in consultation with the appropriate parties, will determine an appropriate treatment of the discovery prior to the resumption of construction activities in the area of the discovery.

### **IV. Discovery of Human Remains**

MaineDOT shall ensure that any human remains and/or grave-associated artifacts encountered during the archaeological investigations are brought to the immediate attention of the ACOE, the Maine SHPO, and any federally recognized Tribes that may attach religious and/or cultural significance to the affected property. Notification will be within 48 hours of the discovery. No activities which might disturb or damage the remains will be conducted until the ACOE, in consultation with the appropriate parties, has developed a treatment plan that considers the comments of the appropriate parties. All procedures will follow the guidance outlined in the National Park Service Publication *National Register Bulletin 41: Guidelines for Evaluating and Registering Cemeteries and Burial Places*, taking into account the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601); and

### **V. Reporting**

Each year following the execution of this agreement until it expires or is terminated, MaineDOT shall provide all parties to this agreement a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in MaineDOT's efforts to carry out the terms of this agreement. Failure to provide such summary report may be considered noncompliance with the terms of this MOA; and

### **VI. Dispute Resolution**

Should any party to this agreement object at any time to any actions proposed or the manner in

which the terms of this MOA are implemented, the ACOE shall consult with the objecting party(ies) to resolve the objection. If the ACOE determines, within 30 days, that such objection(s) cannot be resolved, the ACOE will:

- A. Forward all documentation relevant to the dispute to the ACHP in accordance with 36 CFR Section 800.2(b)(2). Upon receipt of adequate documentation, the ACHP shall review and advise the ACOE on the resolution of the objection within 30 days. Any comment provided by the ACHP, and all comments from the parties to the MOA, will be taken into account by the ACOE in reaching a final decision regarding the dispute.
- B. If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, the ACOE may render a decision regarding the dispute. In reaching its decision, the ACOE will take into account all comments regarding the dispute from the parties to the MOA.
- C. The ACOE's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged. The ACOE will notify all parties of its decision in writing before implementing that portion of the Undertaking subject to dispute under this stipulation. The ACOE's decision will be final.

## **VII. Resolving Public Objections**

At any time during implementation of the terms of this Agreement, should any member of the public raise an objection in writing pertaining to such implementation to any signatory party to this Agreement, that signatory party shall immediately notify the ACOE. The ACOE shall:

- A. Immediately notify the other signatory parties in writing of the objection. Any signatory party may choose to comment on the objection to the ACOE.
- B. Establish a reasonable time frame for this comment period. The ACOE shall consider the objection, and in reaching its decision, the ACOE will take all comments from the other parties into account.
- C. Within 15 days following closure of the comment period, the ACOE will render a decision regarding the objection and respond to the objecting party. The ACOE will promptly notify the other signatory parties of its decision in writing, including a copy of the response to the objecting party. The ACOE's decision regarding resolution of the objection will be final.
- D. Following the issuance of its final decision, the ACOE may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision. Nothing in this paragraph creates additional legal rights or responsibilities on the ACOE that are not already afforded under the NHPA.
- E. The ACOE's responsibility to carry out all other actions or terms of this MOA that are not

he subject of the objection remain unchanged and may proceed.

### **VIII. Amendments**

If any signatory to this MOA, including any invited signatory, determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR §§800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the ACHP. If the signatories, including any invited signatory, cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation IX.

### **IX. Termination**

If the MOA is not amended following the consultation set out in Stipulation VIII it may be terminated by any signatory or invited signatory. Within 30 days following termination, the ACOE shall notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36 CFR §800.6(c)(1) or request the comments of the ACHP under 36 CFR §800.7(a) and proceed accordingly.

### **X. Coordination with Other Federal Reviews**

In the event that another federal agency not initially a party to or subject to this MOA receives an application for funding/license/permit for the Undertaking as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this MOA and notifying the ACOE, Maine SHPO, and the ACHP that it intends to do so, and adherence to the terms of this MOA.

SIGNATORIES:

US Army Corps of Engineers

\_\_\_\_\_ Date \_\_\_\_\_  
Tammy R. Turley  
Chief, Regulatory Division

SIGNATORIES:

Maine State Historic Preservation Officer

\_\_\_\_\_ Date \_\_\_\_\_  
Kirk Mohney  
State Historic Preservation Officer

INVITED SIGNATORY:

Maine Department of Transportation

\_\_\_\_\_ Date \_\_\_\_\_  
Joyce Taylor  
Chief Engineer

ATTACHMENT A

DRAFT

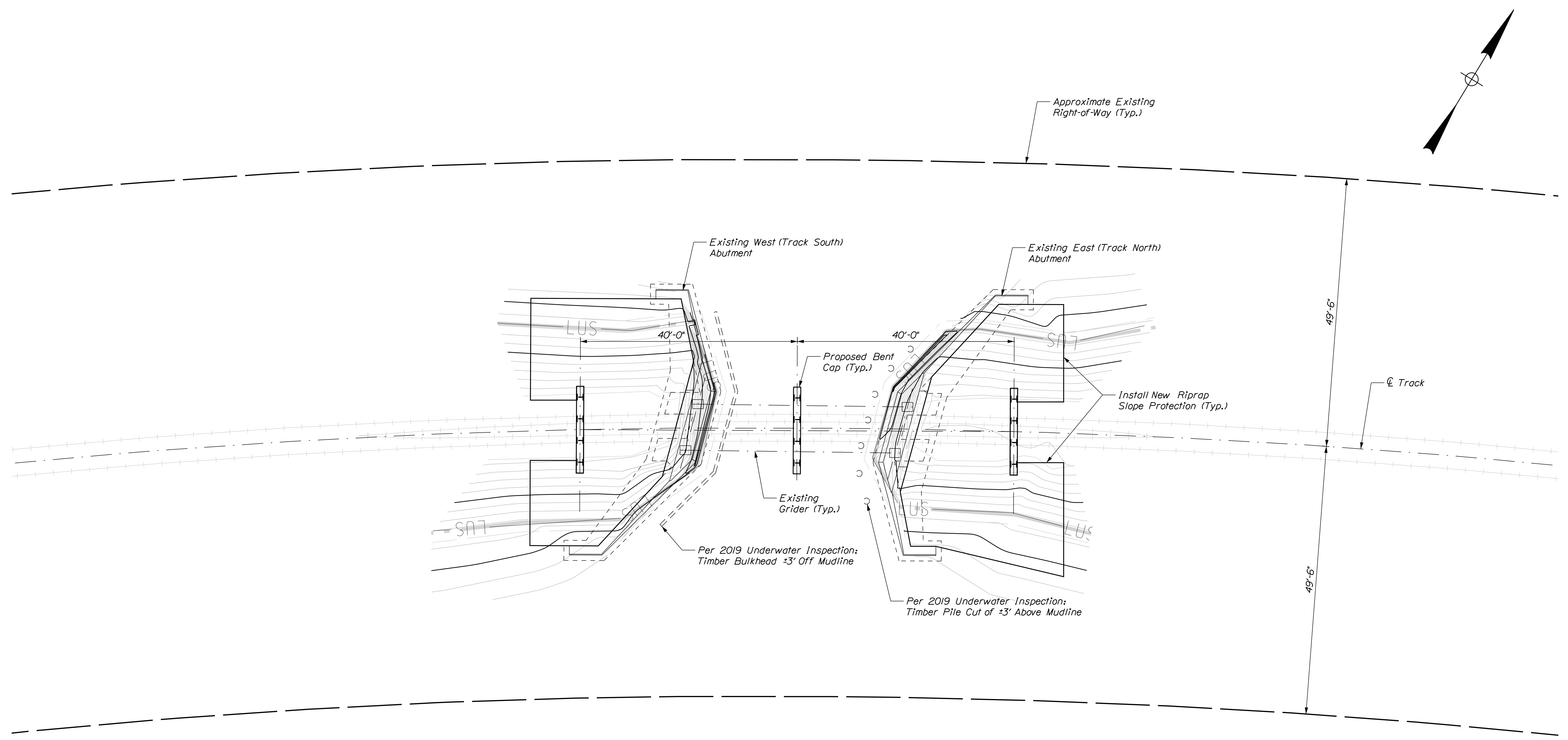
### T11 R4 WELS 23458.00



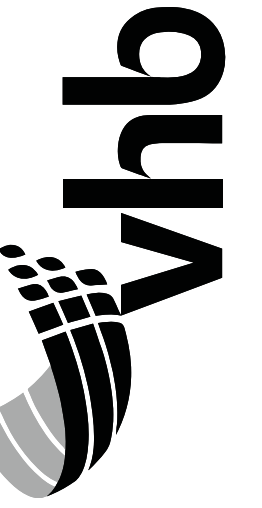
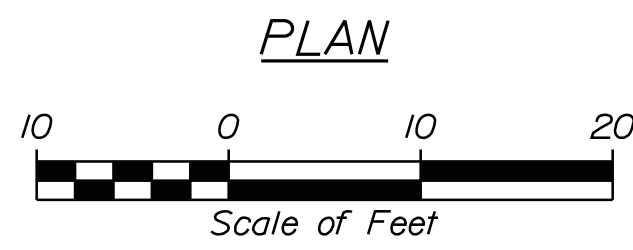
Bridge Improvements  
Presque Isle #10.07 Bridge #7800  
— APE — Survey Boundaries

0.07 Miles  
1 inch = 0.07 miles





**BRIDGE NO. 7800  
MILE POINT 10.07  
OVER WEST INLET TO SCOPAN LAKE**



PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED JCM	2/7/2021	BJM	2/7/2021
CHECKED-REVIEWED JCM		CSG	
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

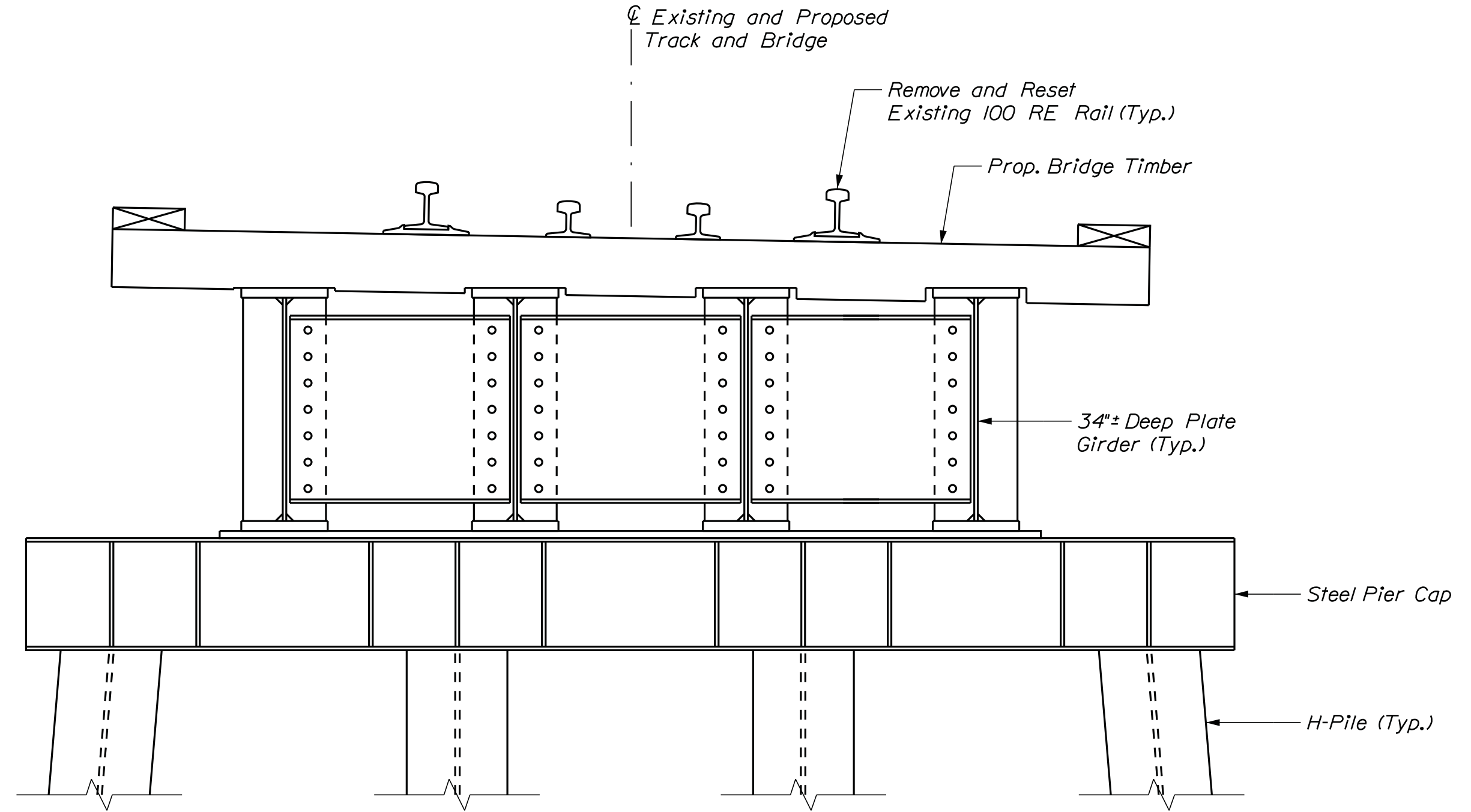
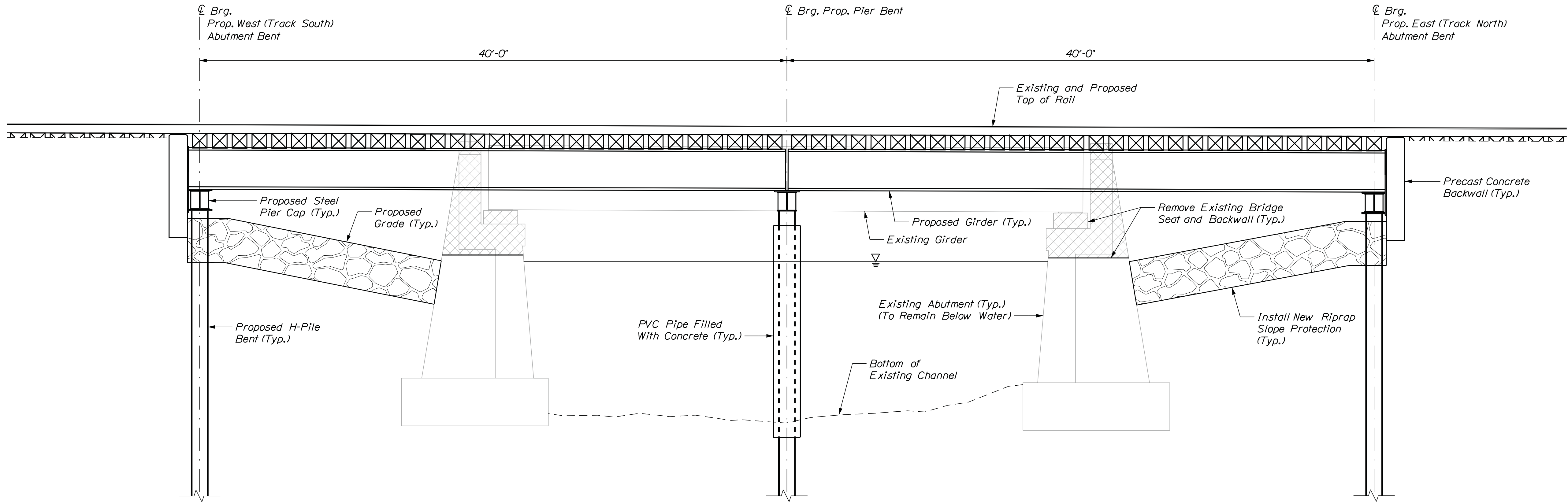
MAINE RAILROAD BRIDGE  
REHABILITATION PROJECTS  
PRESQUE ISLE-HOULTON SUB. AROOSTOOK  
**BRIDGE NO. 7800 (M.P. 10.07)  
OVER WEST INLET TO SCOPAN LAKE**



Date: 2/12/2021

Username: BMasse

Filename: ... \MSTA\Br 7800\OXX\_Sub1\_7800.dgn Division: MULTIMODAL



BRIDGE NO. 7800 (M.P. P10.07)  
OVER WEST INLET TO SCOPAN LAKE

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
BRIDGE NO. 7800  
WIN 23456.00  
BRIDGE PLANS



PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED JCM	2/7/2021	BAM	2/7/2021
CHECKED-REVIEWED JCM	2/7/2021	GSG	2/7/2021
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

MAINE RAILROAD BRIDGE  
REHABILITATION PROJECTS  
PRESQUE ISLE-HOULTON SUB. AROOSTOOK  
PRELIMINARY REPAIR CONCEPTS