

Supplemental Supporting Information for a Finding of Effect

Project: Presque Isle 23454.00

Scope: Railroad Bridge Rehabilitation

Finding of Effect: **No Adverse Effect**

Purpose and Need

The purpose of the proposed action is to improve safety for railroad shipping and connectivity along the Presque Isle Subdivision of the Northern Maine Railway.

The need for this project is to address deficiencies in Bridge #7805 that result in potentially unsafe conditions, which include significant substructure deterioration.

Project Background

Bridge #7805 is a 130-foot long, three-span, deck plate and thru girder bridge with an open timber deck built in 1909. It carries the Presque Isle subdivision of the Maine Northern Railway over the Presque Isle Stream in Presque Isle. The girders are supported on two concrete abutments and two concrete piers, which are assumed to only be lightly reinforced.

The channel and substructure of Bridge #7805 is in poor to critical condition, respectively. The concrete abutments and piers have large areas of spalling, delamination, abrasion, and cracking. The east abutment and both piers have signs of scour and undermining.

Proposed Action

The proposed action (Alternative 1) includes efforts to repair the substructure of Bridge #7805. These efforts would include replacing the backwalls of both abutments with precast backwalls, which would be tied into the adjacent wingwalls with cast-in-place concrete. The abutment bridge seats would include removing the existing concrete from the upper portion of the bridge seat and directly below the bearings and new steel support bolsters and anchor bolts would be installed. The steel bolsters and the upper portion of the bridge seat would be encased in concrete and reinforcing steel in the original form. The base of both abutments would be addressed by removing existing unsound concrete and encasing both bases in reinforced concrete. The wingwalls would be repaired by lightly removing the existing unsound concrete and encasing the upper portions of SE and SW wingwalls with reinforced concrete and at all four wingwalls vertical reinforcements would be drilled and grouted to pin the tops to prevent further tipping. The timber ballast retainer behind the SW wingwall would be replaced in-kind. The footing aprons and original pier footings of both piers would be encased in concrete to restore connectivity between the base of the piers and the original footings. The piers would also receive rehabilitated faces and strengthened bridge seats by installing steel support bolsters under each girder and encasing the bolsters and upper portion of the bridge seat in new reinforced concrete, replacing expansion bearings, and repairing and patching the east pier. Total construction costs are estimated at \$1.35 million.

Federal Action

Federal permit.

Definition of Area of Potential Effect (APE)

The proposed project is located in Presque Isle. A map is attached below that shows the APE.

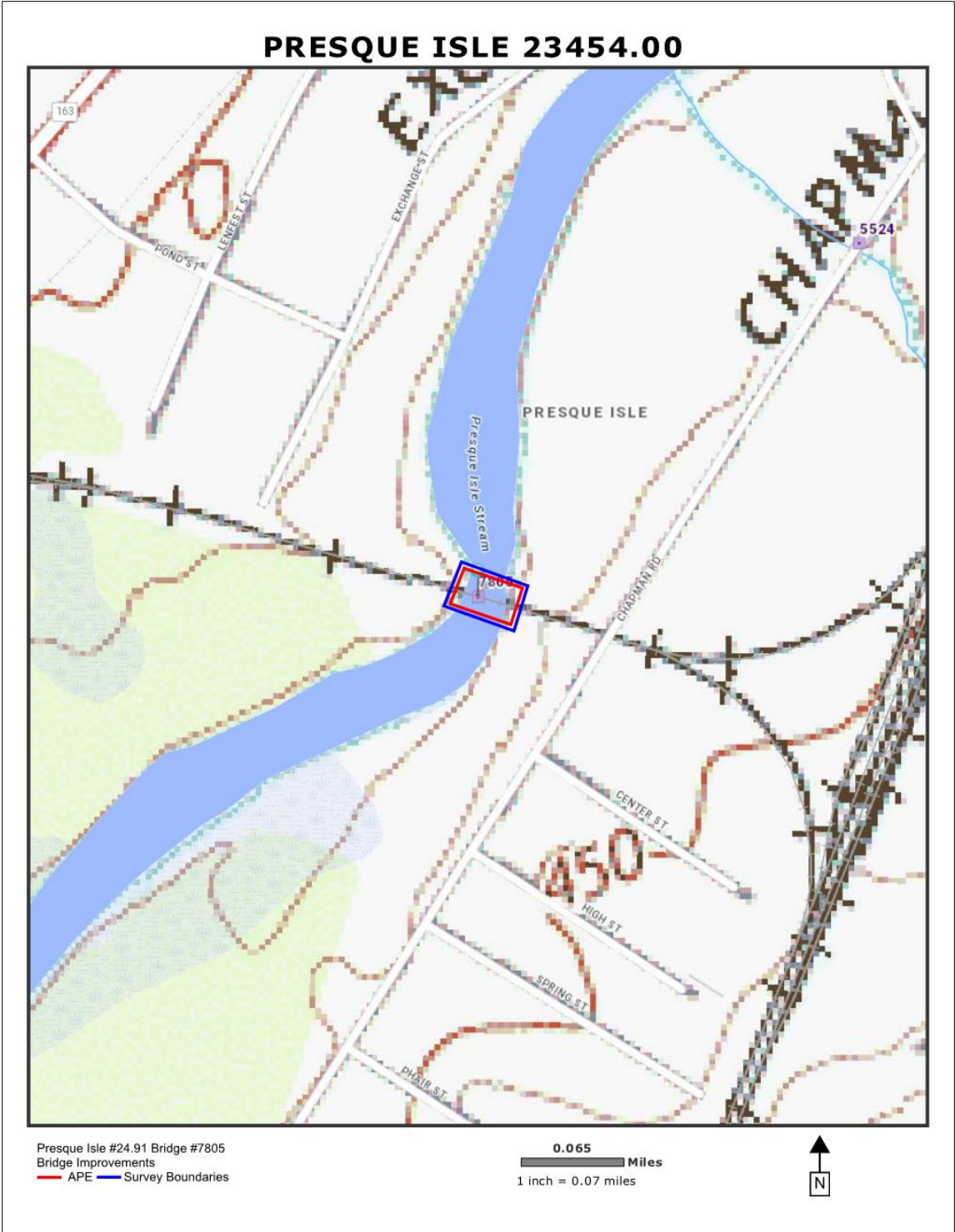
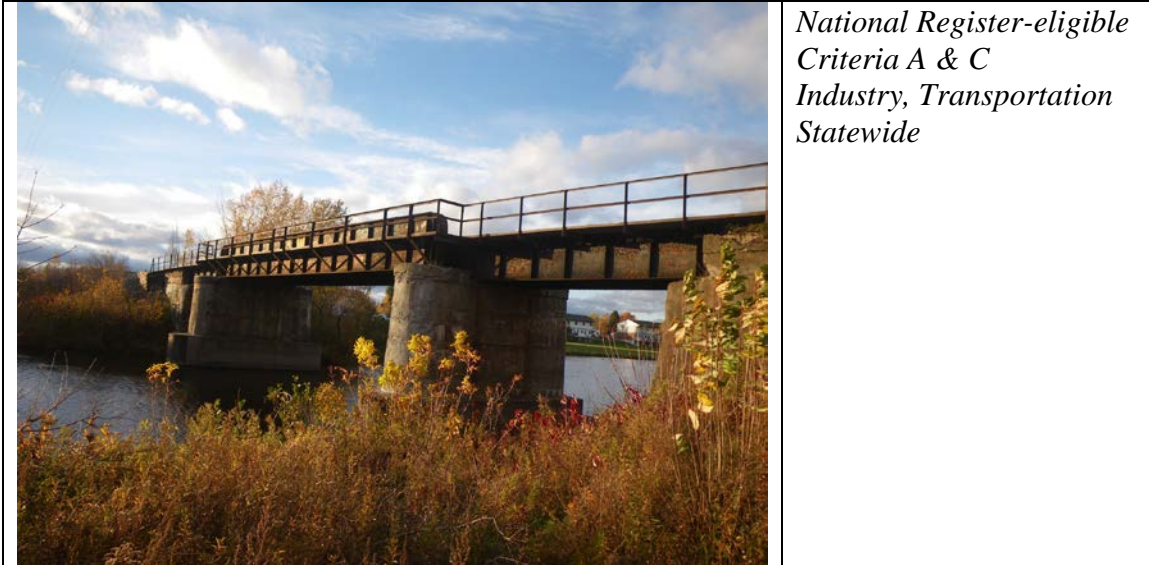


Figure 1. Presque Isle 23454.00 Area of Potential Effect

Historic Properties

The proposed project is located in Presque Isle. The following descriptions of historic properties found within the project area are based on Maine Historic Preservation Commission (MHPC) survey forms.

Bangor & Aroostook Railroad Historic District (MaineDOT, 22+00 to 24+00)



The Bangor and Aroostook Railroad Historic District at this location consists of Presque Isle #24.91 Bridge #7805, a 1909 girder-floorbeam bridge, and the railroad tracks. The bridge is three-spans sitting on concrete abutments. 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. Its period of significance is from 1893 to circa 1960.

Archeological Resources

There are no archaeological resources in the project area.

Impacts to Property

The following addresses potential impacts to properties as a result of the proposed action.

Bangor & Aroostook Railroad Historic District (MaineDOT, 22+00 to 24+00)

*National Register-eligible
Criteria A & C, Industry, Transportation*

The proposed action would result in **No Adverse Effect** to the Bangor & Aroostook Railroad Historic District. The proposed action would rehabilitate Bridge #7805 using in-kind replacement timbers and existing materials, such as concrete. This use of in-kind replacement timber and existing materials would not diminish the historic district's aspects

of integrity. Further, considering the large expanse of the historic district, these actions would not significantly diminish its aspects of integrity.

Archaeological Resources

No archaeological properties would be affected by the proposed undertaking.

Avoidance and Minimization Efforts

The proposed action avoids significant impacts to historic resources within the project area. As minimization efforts, the project would utilize in-kind replacements and the use of existing materials, such as concrete, to rehabilitate Bridge #7805.

Dismissed Alternatives

The following alternatives were evaluated for Presque Isle 23454.00 railroad bridge rehabilitation project.

No Build

The No Build alternative does not meet the purpose and need of the project and was therefore removed from further consideration.

Alternative 1

Alternative 1 would rehabilitate the pier faces and strengthen bridge seats by drilling through the tops of both piers and installing steel channels and post tensioning rods under the bearings and selective partial depth repairs and patching. The rest of the scope of work in the preferred action would remain the same. Proposed construction costs are \$1.16 million. This alternative was dismissed because it would not address the bearings or anchor bolts, which if repaired would greatly improve the overall serviceability of the bridge.

Alternative 3

Alternative 3 would rehabilitate the pier faces and strengthen bridge seats by removing the existing concrete from the upper portion of each pier and directly below the bearing and install steel support bolsters under each girder. It would also include encasing the steel bolsters and the upper portion of the bridge seat in reinforced concrete, replacing expansion bearings, and encasing the remaining portion of the pier stems in 6" reinforced concrete layer. Construction costs are estimated at \$1.50 million. The rest of the scope of work in the preferred action would remain the same. This alternative was dismissed because the additional cost associated with complete rehabilitation of pier facings would not significantly improve the bridge's serviceability over the treatment prescribed in the proposed action.

Proposed Materials

Concrete, steel, and timber.

Public Involvement

MaineDOT contacted the four federally recognized Native American tribes in Maine. The Penobscot Nation, Passamaquoddy Tribe, 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.

The public involvement process is ongoing.

Plans

Maine Railroad Bridge Rehabilitation Projects Presque Isle-Houlton Sub.
Aroostook, WIN 023454.00, Maine Department of Transportation, February 12, 2021.

Attachments

Art Spiess, MHPC, to Julie Senk, MaineDOT, March 2, 2020
Kirk F. Mohny, MHPC, to Julie Senk, MaineDOT January 23, 2020



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

JANET T. MILLS
GOVERNOR

STATE OF MAINE
Memorandum

KIRK F. MOHNEY
DIRECTOR

Date: March 2, 2020

To: Julie Senk, Maine DOT/ENV
From: Arthur Spiess, MHPC 
Project: WIN 23454, bridge 7802, B&A RR over Presque Isle stream
Scope: pier and bridge improvements

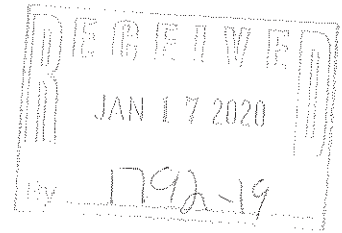
Thank you for the APE and topographic information for this project. Based on the topographic information and bridge photos the clearing and temporary access for work on the piers and abutments will be on land that has a low probability of a prehistoric archaeological site.

We find that no archaeological fieldwork is necessary for this project. 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



Date: January 13, 2020

To: Kirk F. Mohney, MHPC
From: Julie Senk, Maine DOT/ENV
Subject: Section 106 request for concurrence
Project: Presque Isle 23454.00
Scope: Bridge improvements

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 is improvements to Presque Isle #24.91 Bridge #7805 carrying the Bangor and Aroostook Railroad over the Presque Isle Stream in Presque Isle.

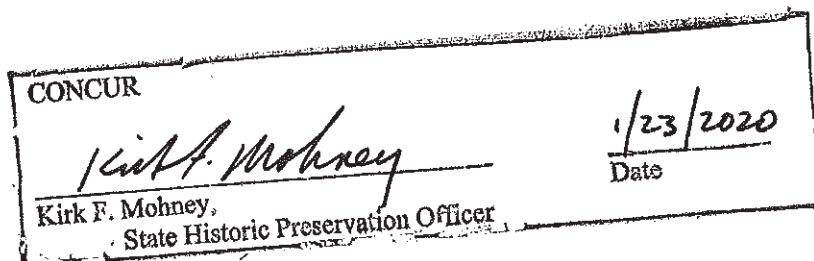
In accordance with 36 CFR Part 800.4, the following identification efforts of historic properties were made:

- 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 is currently reviewing this undertaking.
- 800.4(a) (3) – The City of Presque Isle and applicable historical societies were 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 town was also requested to provide information regarding local historic societies or groups. No replies 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 Houlton Band of Maliseets replied with no concern.
- 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 is currently reviewing this undertaking. **The MaineDOT has determined that two properties are eligible for listing in the National Register of Historic Places as contributing resources to a historic district.**

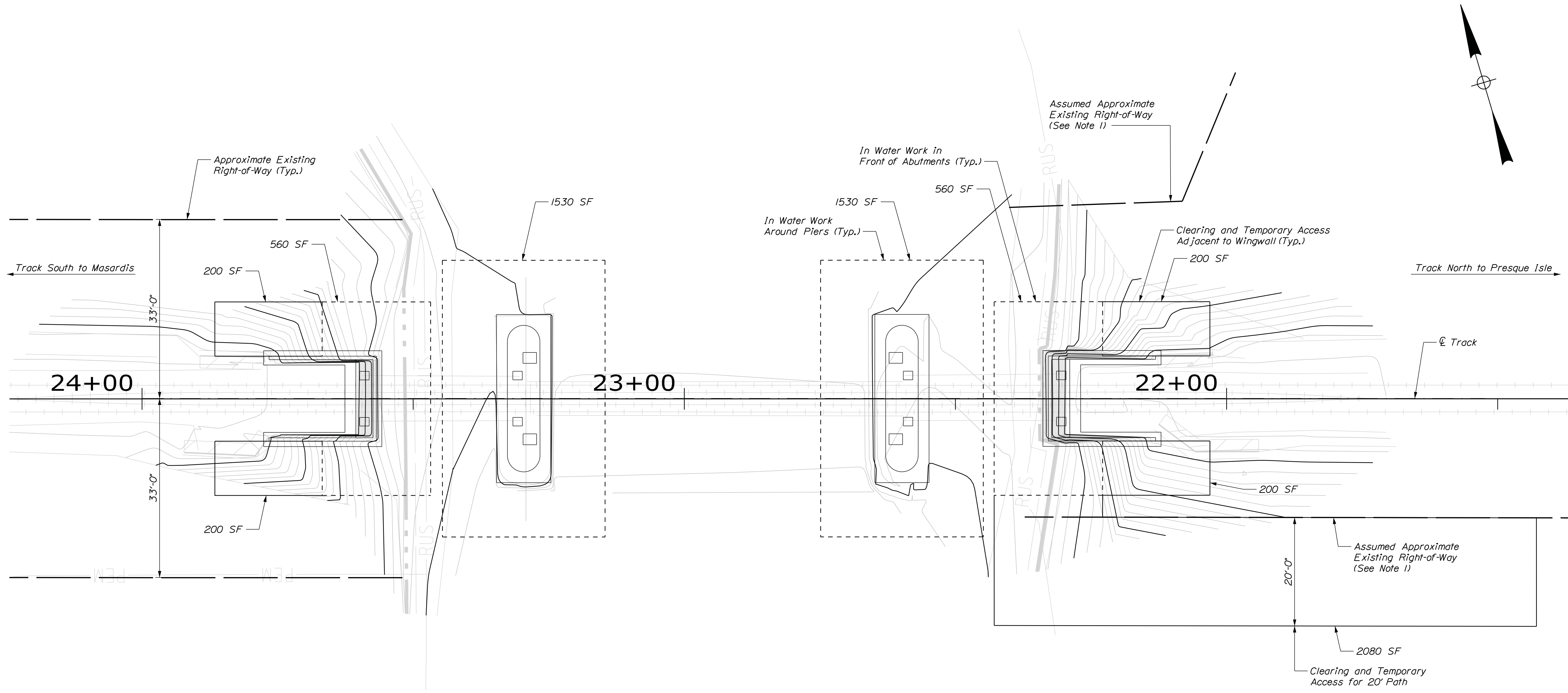
In accordance with the PA and 36 CFR Part 800, please reply with your concurrence or objection to the determination of eligibility for listing in the National Register of Historic Places within 30 days. If more information is deemed necessary, please supply a list of the specific resources in question.

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

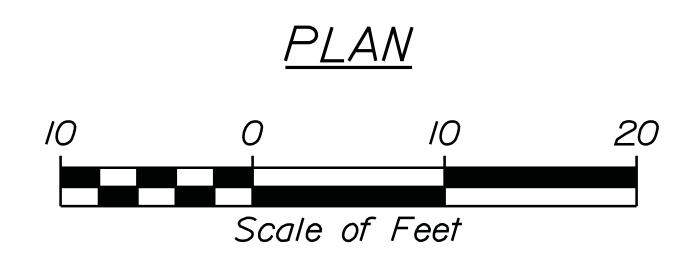
cc: CPD e-file
enc: Architectural survey package



Filename: ... \MSTA\Br 7805\Br7805-plan.dgn Division: MULTIMODAL Username: JMacpherson Date: 2/12/2021



**BRIDGE NO. 7805
MILE POINT 24.91
OVER PRESQUE ISLE STREAM**



NOTE
1. Right-of-way information not on east side of bridge not shown on Val Plans. Approximate right-of-way lines shown based on map viewer tax map image provided by MaineDOT on September 17, 2020.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 7805
WIN
23454.00
BRIDGE PLANS



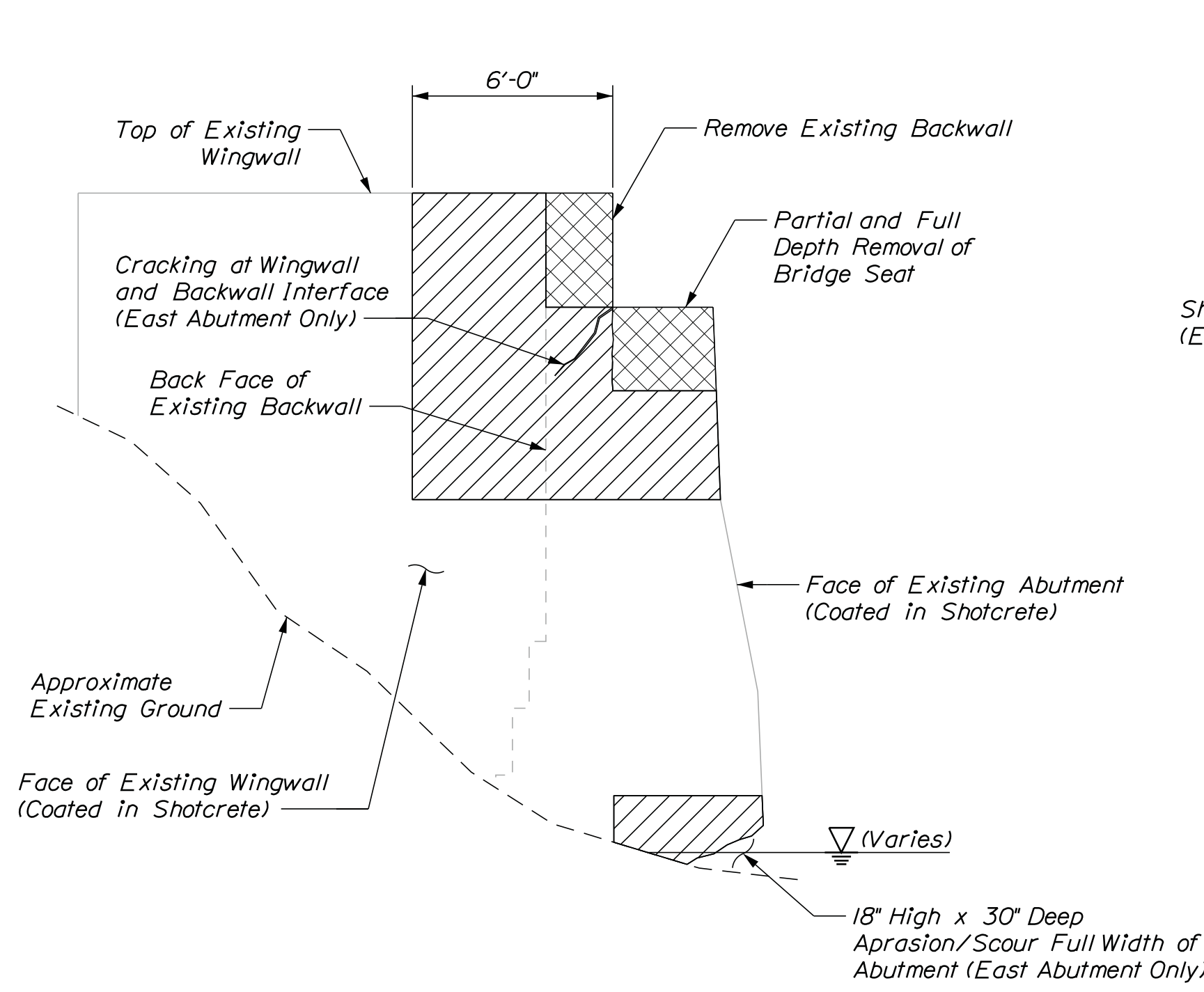
PROJ. MGR	DATE	BY	DATE
DESIGN-DETAILED JCM	2/2/2021	BAM	2/2/2021
CHECKED-REVIEWED JCM		GSG	
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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

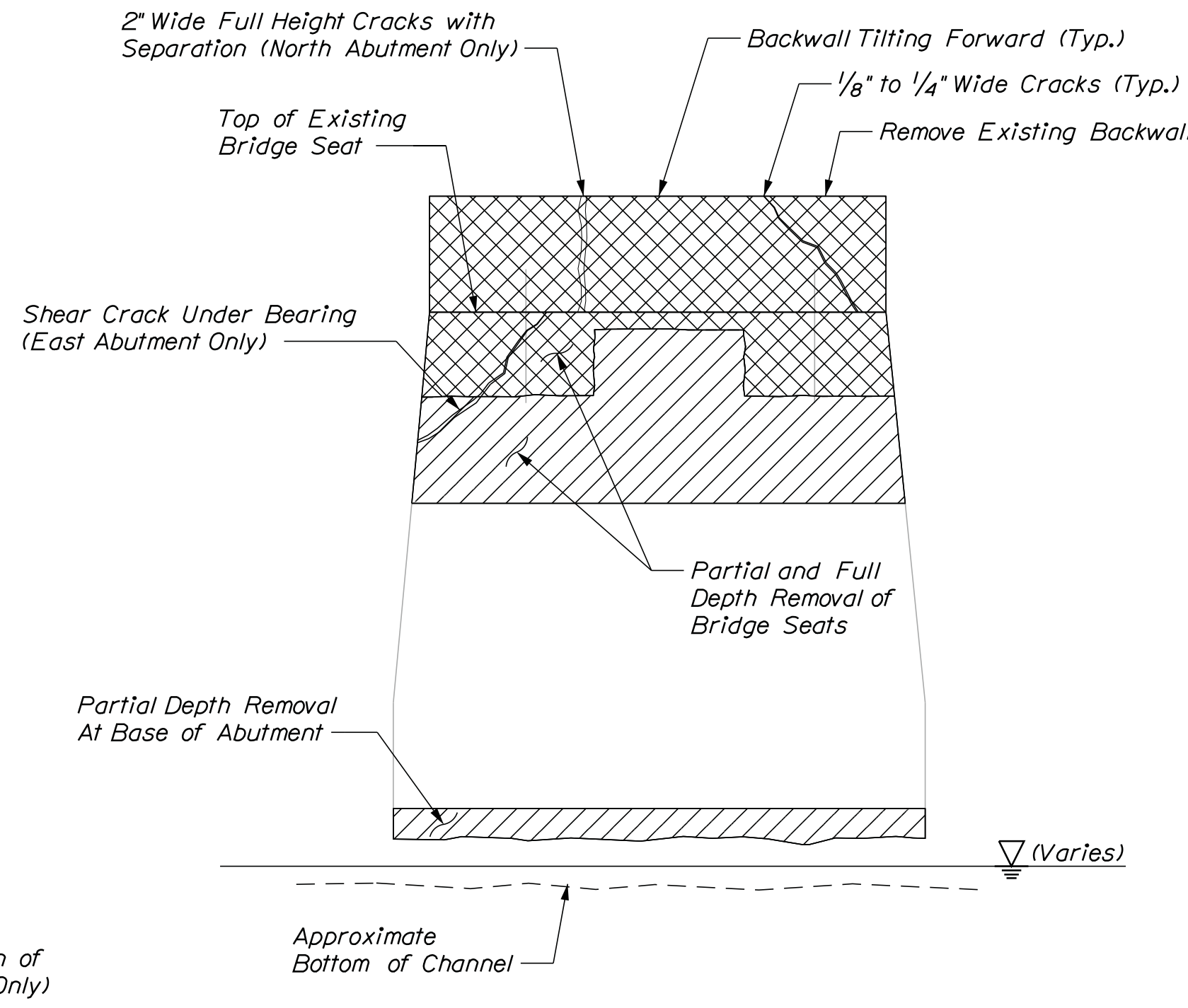
Date: 2/12/2021

Username: JMacpherson

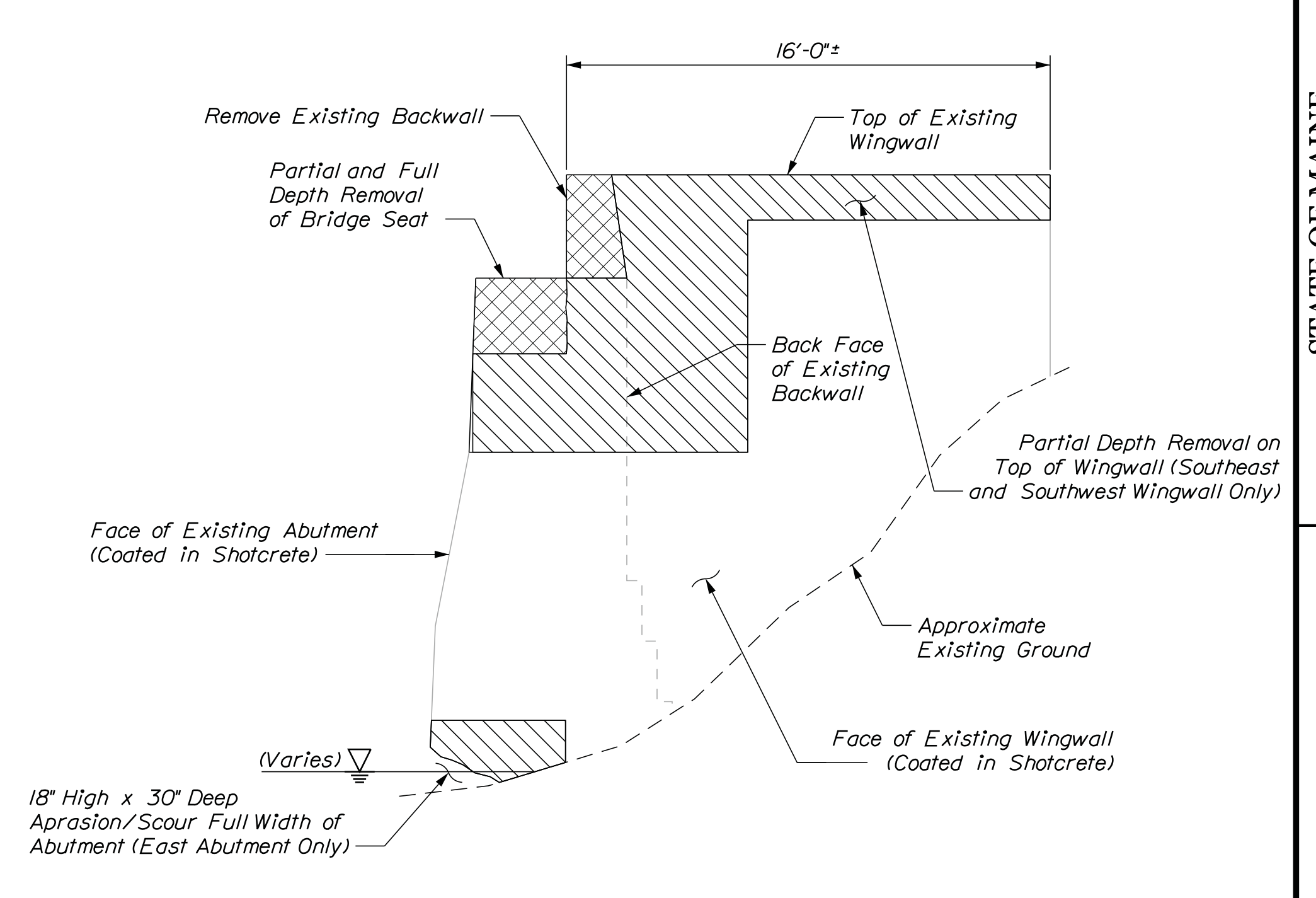
File: ... \MSTA\Br 7805\0XX_Sub1_7805.dgn Division: MULTIMODAL



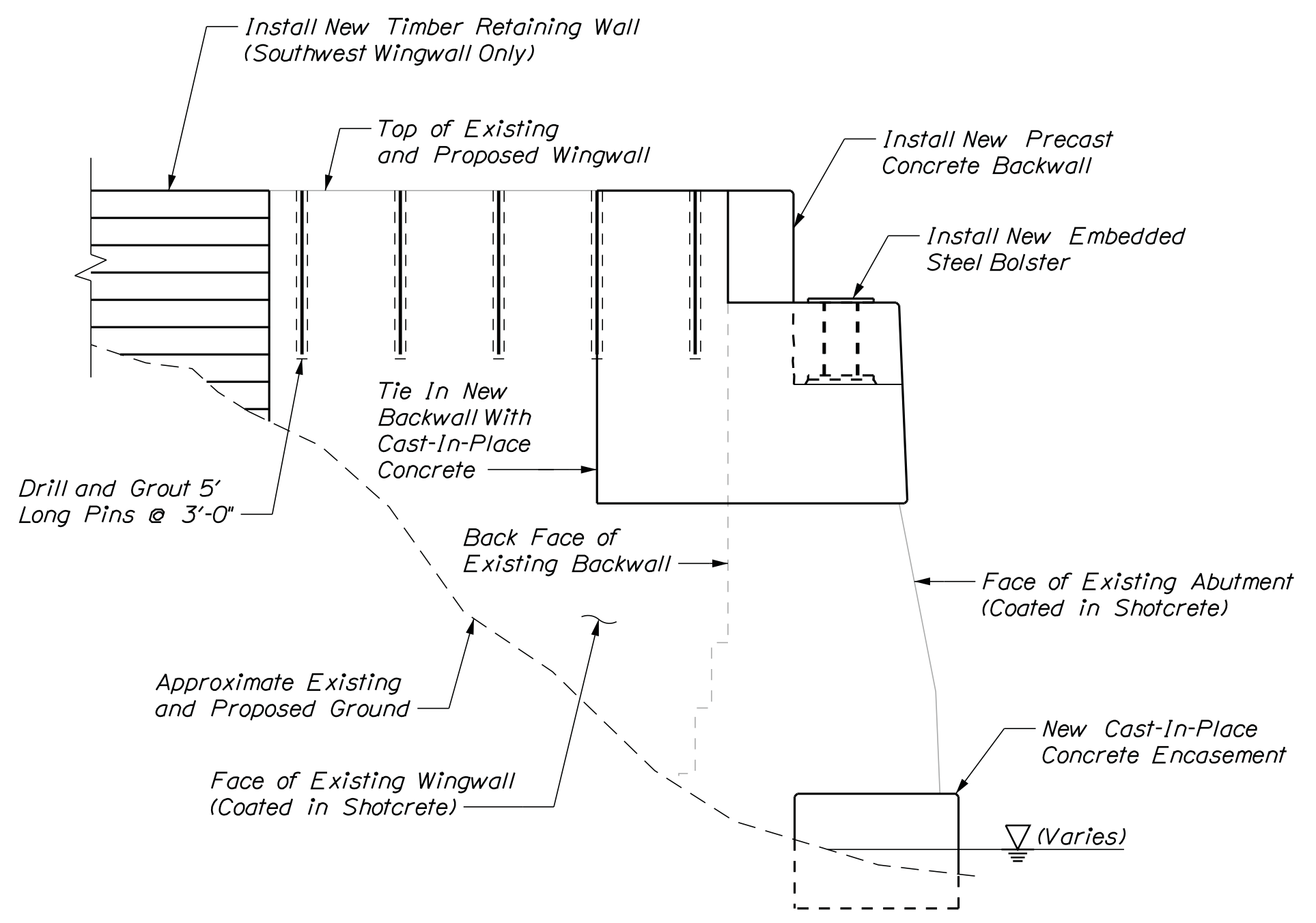
EXISTING WINGWALL ELEVATION - REMOVAL
 (Northeast Wingwall Shown, Northwest Wingwall Similar Except as Noted)
 Scale: 1/4" = 1'-0"



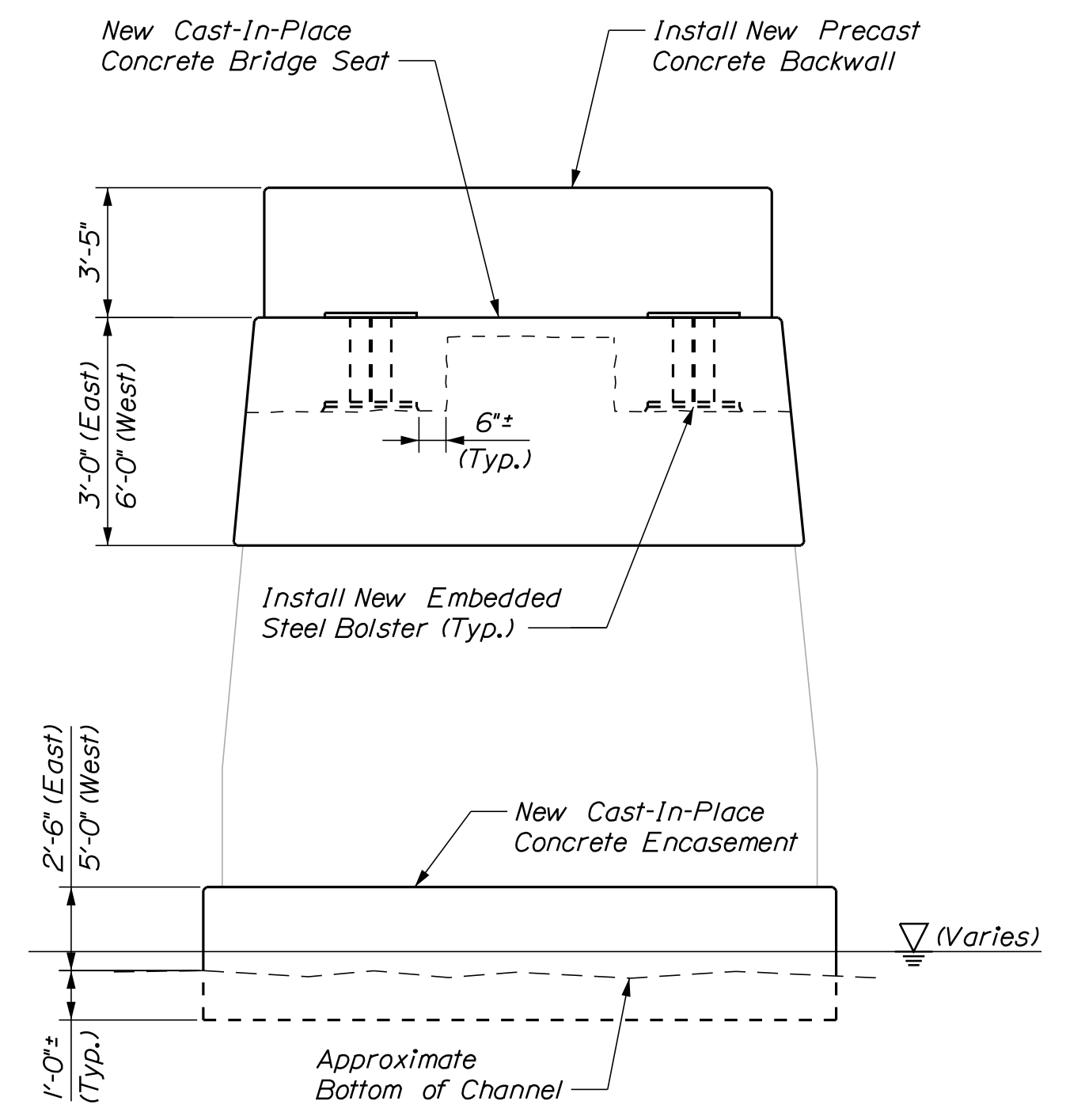
EXISTING ABUTMENT ELEVATION - REMOVAL
 (East (Track North) Abutment Shown, West (Track South) Abutment Similar Except as Noted)
 Scale: 1/4" = 1'-0"



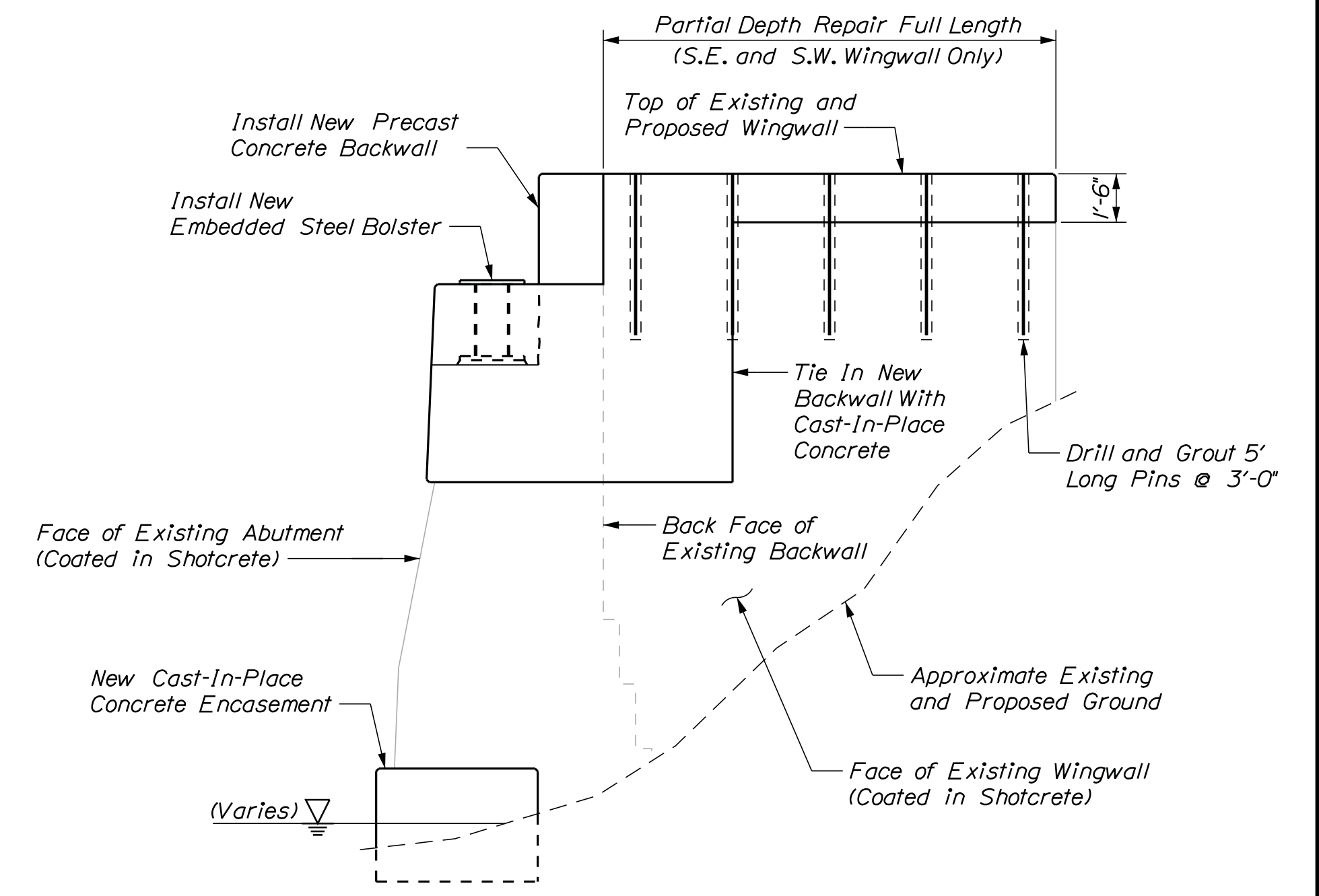
EXISTING WINGWALL ELEVATION - REMOVAL
 (Southeast Wingwall Shown, Southwest Wingwall Similar Except as Noted)
 Scale: 1/4" = 1'-0"



PROPOSED WINGWALL ELEVATION
 (Northeast Wingwall Shown, Northwest Wingwall Similar Except as Noted)
 Scale: 1/4" = 1'-0"



PROPOSED ABUTMENT ELEVATION
 (East (Track North) Abutment Shown, West (Track South) Abutment Similar Except as Noted)
 Scale: 1/4" = 1'-0"



PROPOSED WINGWALL ELEVATION
 (Southeast Wingwall Shown, Southwest Wingwall Similar Except as Noted)
 Scale: 1/4" = 1'-0"

- LEGEND**
- Approximate Limits of Full Depth Removal/Repair
 - Approximate Limits of Partial Depth Removal/Repair

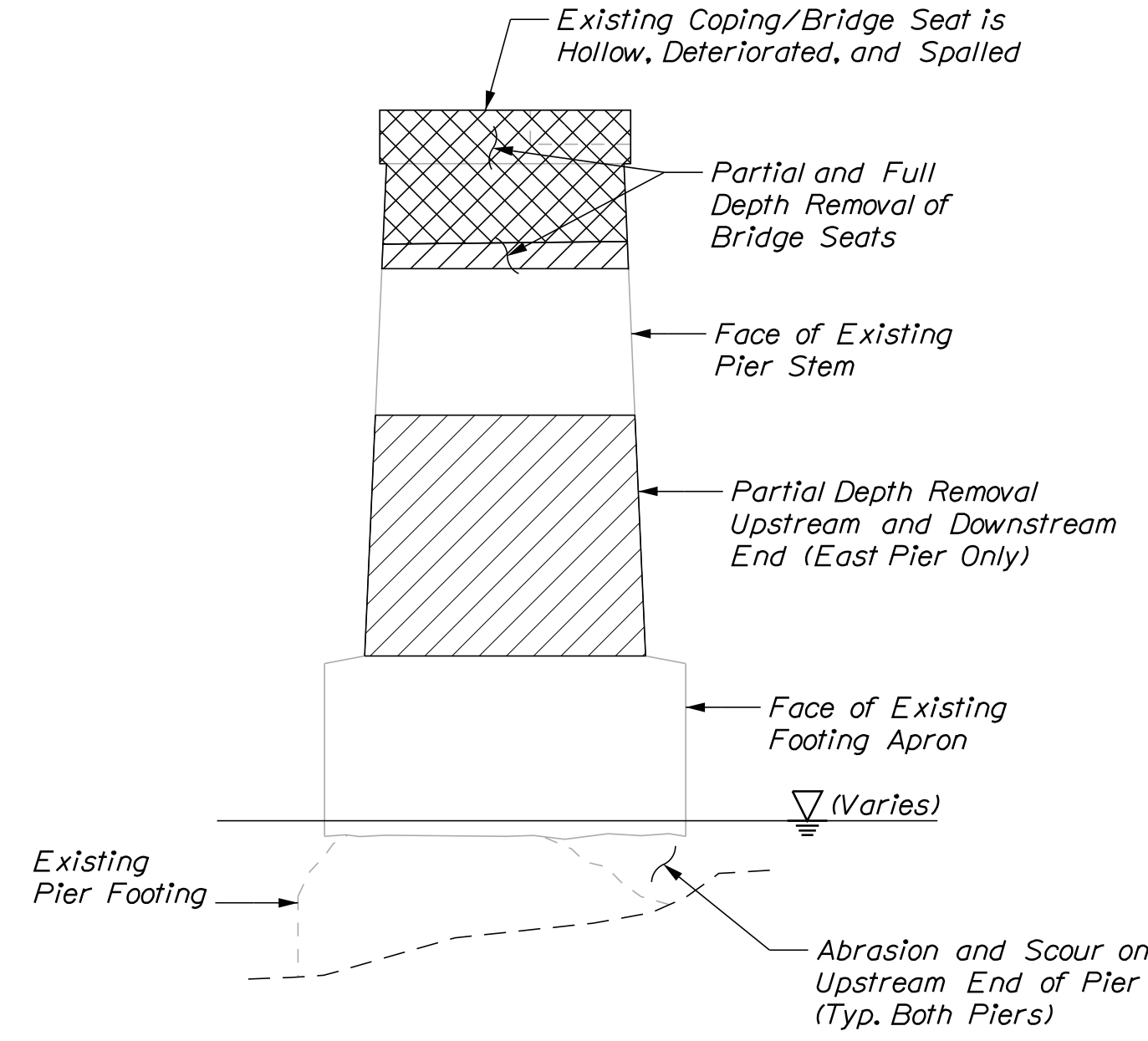
**BRIDGE NO. 7805 (M.P. P25.91)
 OVER PRESQUE ISLE STREAM**

- PROPOSED WORK**
1. Remove and Replace Both Abutment Backwalls.
 2. Rehabilitate Bridge Seats at Both Abutments
 3. Rehabilitate Base of Both Abutments.
 4. Rehabilitate All Four Wingwalls.
 5. Replace Timber Ballast Retainer (One Location Only).

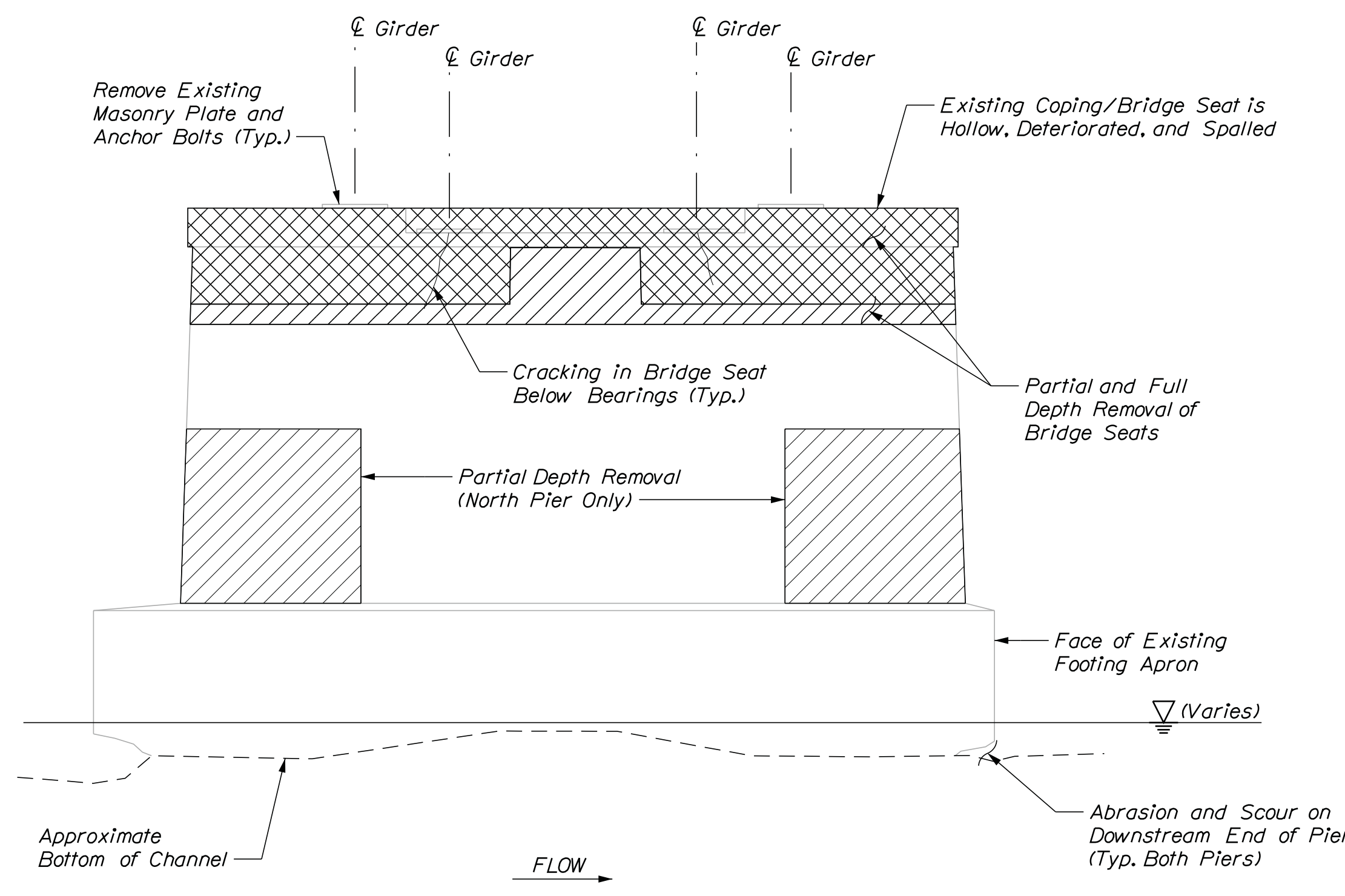


PROJ. MANAGER	DATE	BY	DATE
DESIGN DETAILED JCM	2/7/2021	BAM	2/7/2021
CHECKED/REVIEWED JCM	2/7/2021	CSG	
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

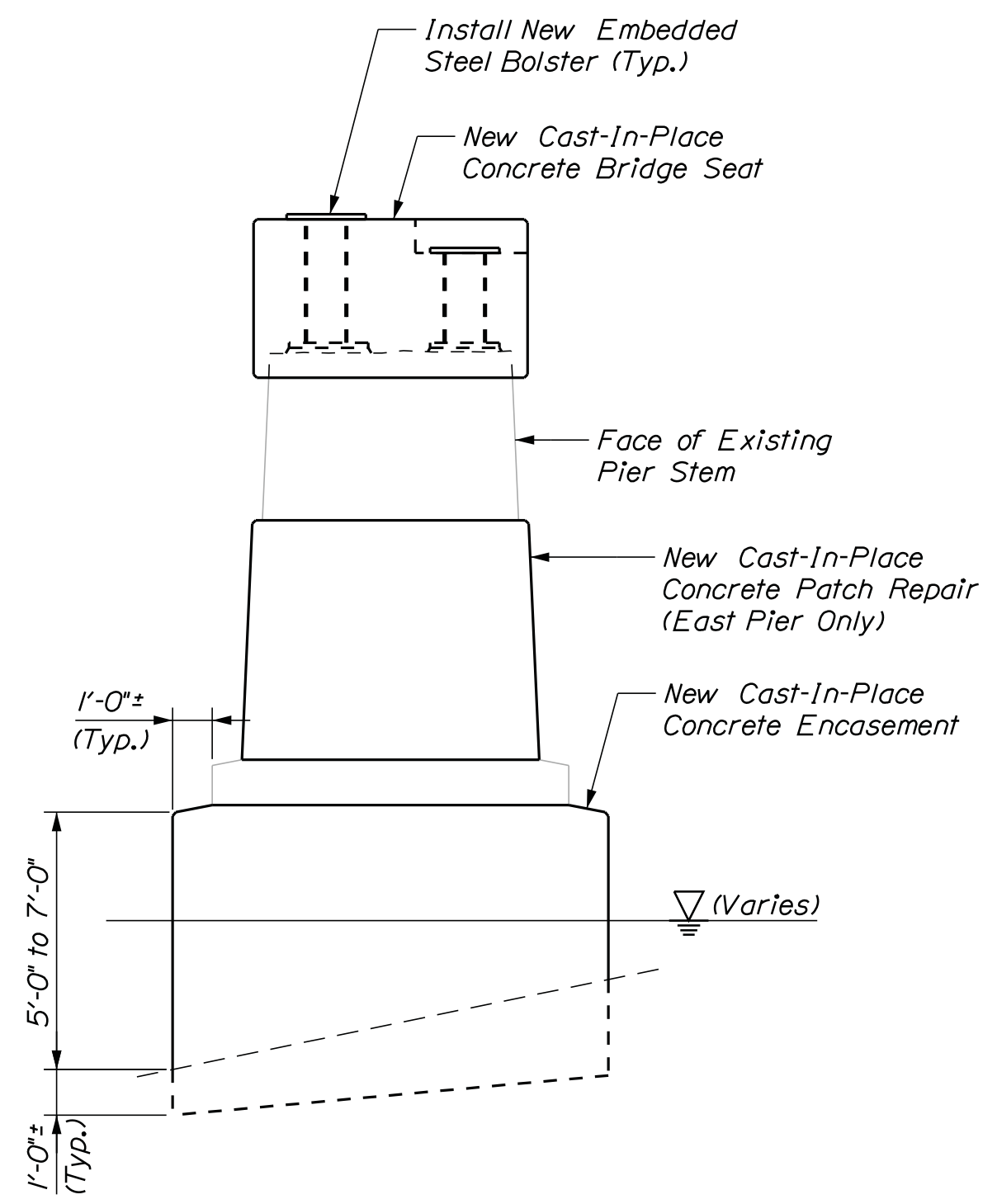
**MAINE RAILROAD BRIDGE
 REHABILITATION PROJECTS
 PRESQUE ISLE-HOULTON SUB. AROOSTOOK
 PRELIMINARY REPAIR CONCEPTS**



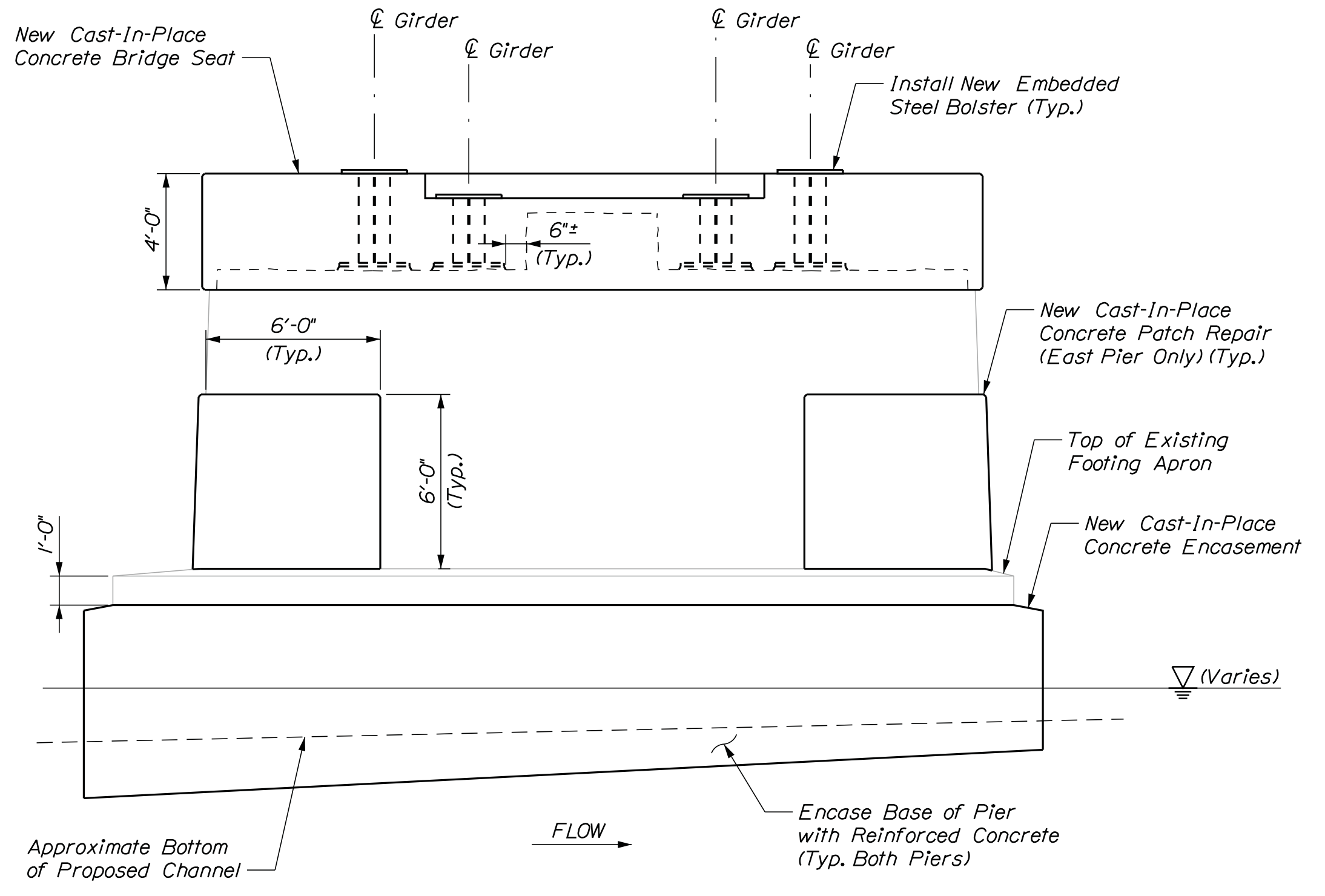
EXISTING PIER END ELEVATION - REMOVAL
 (East (North Track) Pier Shown, West (South Track) Pier Similar Except as Noted)
 (Looking Upstream)
 Scale: 1/4" = 1'-0"



EXISTING PIER ELEVATION - REMOVAL
 (East (North Track) Pier Shown, West (South Track) Pier Similar Except as Noted)
 Scale: 1/4" = 1'-0"



PROPOSED PIER END ELEVATION
 (East (North Track) Pier Shown, West (South Track) Pier Similar Except as Noted)
 (Looking Upstream)
 Scale: 1/4" = 1'-0"



PROPOSED PIER ELEVATION
 (East (North Track) Pier Shown, West (South Track) Pier Similar Except as Noted)
 Scale: 1/4" = 1'-0"

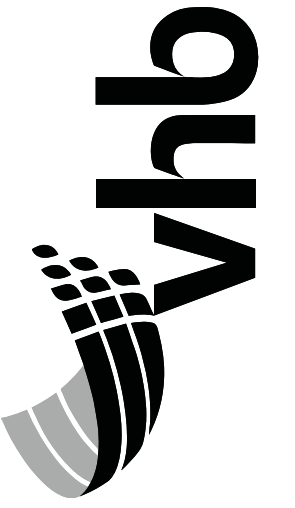
LEGEND

- Approximate Limits of Full Depth Removal/Repair
- Approximate Limits of Partial Depth Removal/Repair

PROPOSED WORK

1. Rehabilitate Bridge Seat of Both Piers
2. Patch Repair Concrete on Face of Pier Stem (East Pier Only)
3. Install Concrete Encasement on Footing of Both Piers

**BRIDGE NO. 7805 (M.P. P25.91)
 OVER PRESQUE ISLE STREAM**



PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED JCM	2/7/2021	BAM	2/7/2021
CHECKED-REVIEWED JCM	2/7/2021	CSG	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**

FIGURE

3

OF 3