

Central Valley Regional Water Quality Control Board

20 October 2023

Stephen Cheney
Union Pacific Railroad
1400 Douglas Street, STOP 0910
Omaha, NE 68179

ORDER AMENDING CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION AND ORDER FOR UNION PACIFIC RAILROAD (UPRR), UPRR VALLEY SUBDIVISION MILE POST 310.34 BRIDGE REPLACEMENT PROJECT (WDID NO. 5A45CR00595A2), SHASTA COUNTY

This Order responds to the 6 October 2023 request for an amendment of the Union Pacific Railroad, UPRR Valley Subdivision Mile Post 310.34 Bridge Replacement Project Section 401 Water Quality Certification (WDID No. 5A45CR00595). The original Water Quality Certification (Certification) was issued on 14 August 2020, and an amendment (WDID No. 5A45CR00595A1) was issued on 29 November 2022. The requested amendment is hereby approved, and the original Certification is therefore amended as described below. Please attach this document to the original Certification and previous amendment.

AMENDMENT:

Union Pacific Railroad Company is requesting an amendment to the Section 401 Water Quality Certification and Order to expand the temporary causeway and include an alternative temporary construction work bridge in the event that river flows are too high to be accommodated by the causeway. The expansion will increase the temporary impacts from 2226 cubic yards to 4265 cubic yards, and 142 linear feet to 160 linear feet.

Therefore, Section IV, Project Description; VII, Description of Direct Impacts to Waters of the State and Table 1; Attachment A, Figure 2; and Attachment B, Table 2 are amended in underline format below.

IV. Project Description

The existing single-track bridge consists of a 1-span, 163-foot through truss pinned open deck bridge. UPRR proposes to replace the existing bridge with a three-span bridge consisting of 1-span 42-foot precast concrete box (PCB) (Segment A); 1-span

116-foot deck plate girder bridge (Segment B); and 1-span 42-foot PCB (Segment C). The new bridge will be supported by two pre-cast concrete piers. To minimize impacts to the Sacramento River from heavy equipment during construction, UPRR will install a temporary causeway across the Sacramento River. The temporary causeway will be approximately 142 feet in width at the top of the causeway and constructed of clean rock placed over eight 60-inch diameter culverts.

During construction of the temporary causeway, geotextile will be placed beneath the temporary fill. The first culvert will be placed, and clean rock and Class I riprap will be placed using an excavator or loader to form the causeway. Larger diameter rock (Class I riprap) will be used to minimize scour of the causeway rock. The culvert and rock placement will be continued across the channel. The causeway will allow equipment access to the pier locations while minimizing equipment impacts to the river channel.

In the event that river flows are too high for the proposed temporary causeway, two temporary construction work bridges will be used. One will be placed on the east side of the existing bridge and one on the west. The bridges will be supported by temporary socket piles. The socket piles will be the only temporary impact if temporary work bridges are used.

The two pier locations will be excavated at least 5 feet beneath the existing ground level for micropile installation. Micropiles are high-strength, small diameter shafts drilled into the ground. Each bent will include approximately 30 - 9 5/8-inch diameter micropiles in a matrix arrangement approximately 7-feet wide and 27-feet long. Concrete footings will then be poured atop the micropiles, creating a concrete pier footing approximately 10-feet wide, 5-feet deep and 30-feet long. A cast-in-place concrete wall will then be formed on the footing, approximately 6-feet wide, 11-foot tall, 28.5-foot high, to support the pier cap and bridge superstructure. The concrete will be brought to the site using concrete trucks; no onsite batch plant is planned. Cast-in-place pier caps will be formed and concrete placed to complete the new piers. The deck plate girder structure (Segment B) will be anchored directly to the new pier, while the PCBs (Segments A and C) will have a 5 5/8 - foot cast-in-place concrete pedestal poured atop the concrete pier. For the installation of the proposed south pier, the causeway will act as a cofferdam, dewatering the area around the pier and allowing for construction while minimizing potential impacts to water quality.

When all the elements of the new substructure are complete, curfews will be scheduled to replace the bridge spans. The existing spans will be removed, and the new spans will be lifted in place using a crane. Depending on the duration of the curfew, more than one curfew may be required to complete replacement of all spans. Upon bridge completion, the temporary causeway will be removed, and the disturbed areas restored.

VII. Description of Direct Impacts to Waters of the State

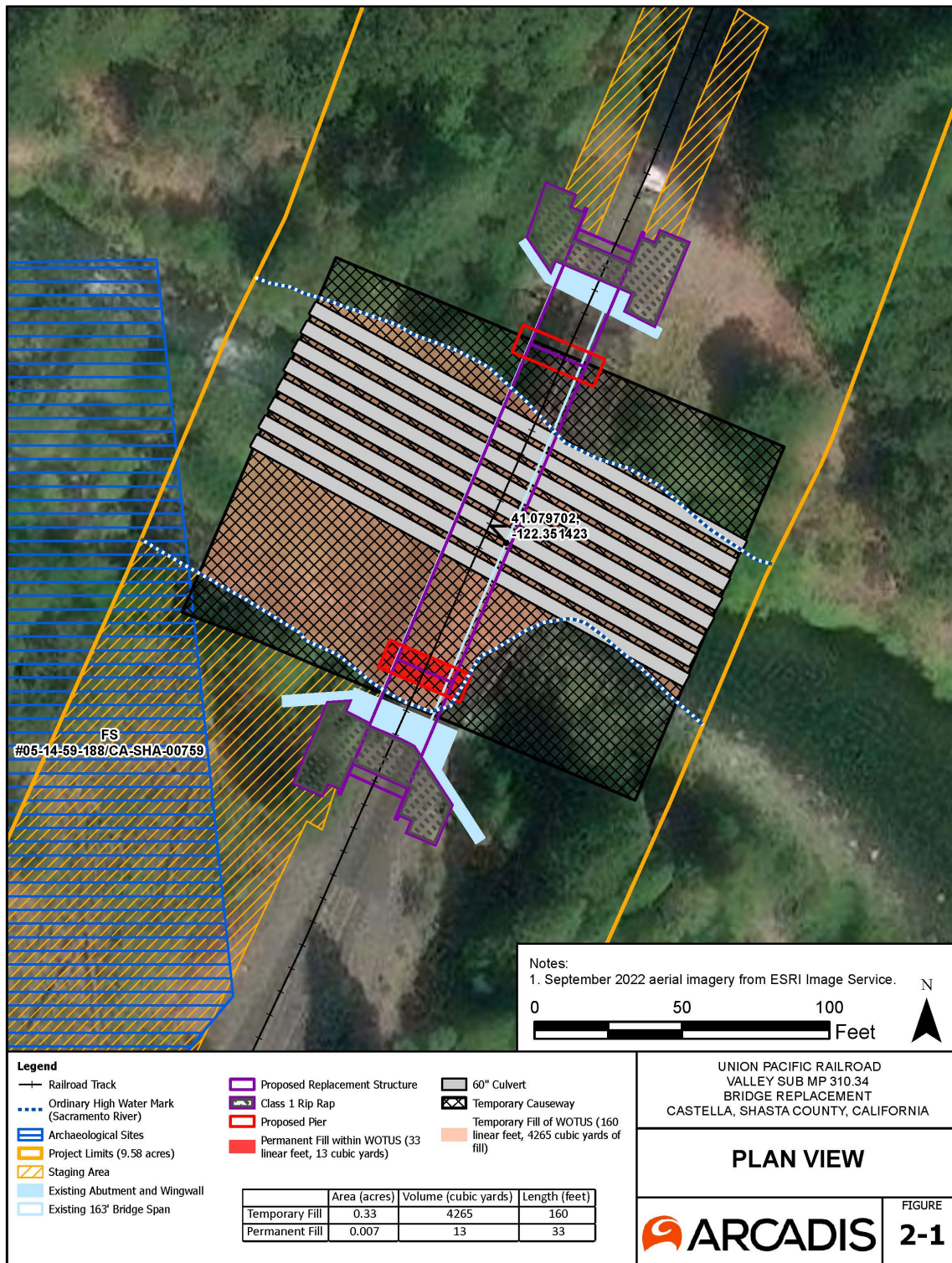
Table 1: Total Project Fill/Excavation Quantity for Temporary Impacts¹

Aquatic Resources Type	Acres	Cubic Yards	Linear Feet
Riparian Zone	0.06	300	
Stream Channel	0.33	<u>4265</u>	<u>160</u>

¹ Includes only temporary direct impacts to waters of the state and does not include area of temporary disturbance which could result in a discharge to waters of the state. Temporary impacts, by definition, are restored to pre-project conditions and therefore do not include a physical loss of area or degradation of ecological condition.

Attachment A

Figure 2. Project Impacts Map



Attachment B

Individual Direct Impact Locations

The following tables show individual impacts.

Table 2: Individual Temporary Fill/Excavation Impact Information

Impact Site ID	Latitude	Longitude	Indirect Impact Requiring Mitigation?	Acres	Cubic Yards	Linear Feet
UPRR Valley Subdivision Mile Post 310.34 Bridge Replacement: Streambed	41.0797	-122.3515	No	0.33	<u>4265</u>	<u>160</u>
UPRR Valley Subdivision Mile Post 310.34 Bridge Replacement: Riparian	41.0797	-122.3515	No	0.06	300	

CENTRAL VALLEY WATER BOARD CONTACT:

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WATER QUALITY CERTIFICATION:

I hereby issue an Order amending the existing Clean Water Act Section 401 Water Quality Certification and Order for Union Pacific Railroad, Valley Subdivision Mile Post 310.34 Bridge Replacement Project (WDID No. 5A45CR00595A2). All other conditions and provisions of the original Water Quality Certification remain in full force and effect, except as modified based on the conditions of this Order. Failure to comply with the terms and conditions of the original Water Quality Certification, previously approved amendments, or of this Order may result in suspension or revocation of the Water Quality Certification.

Original Signed by Bryan J. Smith, P.E.
 (for) PATRICK PULUPA, Executive Officer
 Central Valley Regional Water Quality Control Board

10/20/2023
 Date

KAG: db

cc

via email: U.S. EPA, Region 9, San Francisco
Water Quality Certification Program, SWRCB, Sacramento
Hillary Regnart, U.S. Army Corps of Engineers, Redding
Doug Anderson, Arcadis U.S., Inc., Phoenix, AZ