

Bridge Design Details 12.1 June 2019

Railroads

Structure Design and forwarded to the District Design Office and the District Railroad Coordinator for submittal to the railroad. This submittal may be requested during both the Advance Planning or General Plan stages of a project.

The following is a list of general railroad requirements applicable to most projects which should be shown on both the ADVANCE PLANNING STUDY and GENERAL PLAN submittals. For other applicable notes and details, see *Bridge Design Details*: 12 Railroad Details, Attachment 12A.A.1 and 12A.A.2.

- 1. Show district-provided alignment or layout line.
- 2. Show track layout information and limits of railroad right-of-way with respect to centerline of the tracks.
- 3. Show future tracks and access roadways. Identify the existing tracks as Main, Siding or Spur, etc.
- 4. Show rail elevation and location of minimum vertical clearance over all existing and future tracks, as well as access roads. A table may be used to present information at multiple locations.
- 5. Show minimum horizontal clearance, measured perpendicular from the centerline of the nearest existing or future track, to the face of obstruction, such as substructure or below grade foundation.
- 6. Show horizontal spacing measured perpendicular between the centerlines of the existing or future tracks.
- 7. Show depth of bridge foundation and excavations below the bottom of the rail elevation when excavations will encroach on railroad. For "GENERAL RAILROAD EXCAVATION ZONES" and general shoring notes, see *Bridge Design Details*: 12 Railroad Details, Attachment 12A.A.1.
- 8. Show limits of barrier rail and fence combination over the railroad right-of-way. For "TYPICAL FENCE ON BARRIER DETAIL", see *Bridge Design Details*: 12 Railroad Details, Attachment 12A.A.2.
- 9. Show existing or proposed finished grade and roadway profile.
- 10. Show Railroad identifying information: railroad Name, Sub-Division, MP (Post Mile) and DOT No. . Show direction of increasing Post Mile.
- 11. Show type of slope paving and any modifications to existing slope paving.
- 12. Show total width of superstructure including travel way, shoulders, or sidewalk.



- 13. Show top and bottom elevation of the crash wall, if applicable.
- 14. Show "MINIMUM CONSTRUCTION CLEARANCE ENVELOPE" diagram, see *Bridge Design Details*: 12 Railroad Details, Attachment 12A.A.2.
- 15. Show all existing and proposed utilities within railroad right-of-way.



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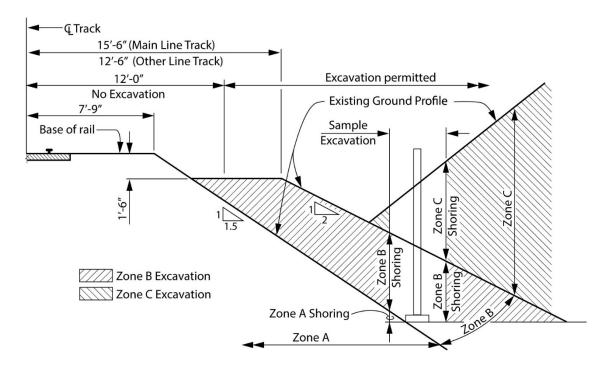


Figure 12A.A.1 General Railroad Excavation Zones

General Railroad Shoring Notes:

- 1. All dimensions are measured perpendicular to & track.
- Prior to commencing any work, the Contractor shall submit detailed plans indicating the nature and proposed work for approval by the Railroad. The Contractor shall install the planned temporary shoring system per the submitted plans. Design of the temporary shoring system shall comply with current RAILROAD GUIDELINES FOR TEMPORARY SHORING.
- 3. For excavations which encroach into Zone A or B, shoring plans shall be accompanied by design calculations. Plans and calculations must be signed and stamped by a Professional Engineer registered in the State of California.
- 4. Shoring must be designed for Railroad Live Load Surcharge in addition to OSHA Standard Loads excavation in Zone A. Applicable Railroad Live Load: Cooper E 80.



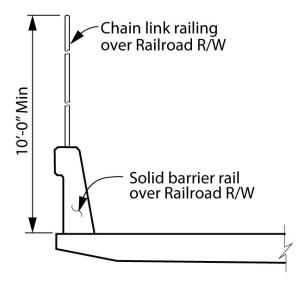


Figure 12A.A.2 Typical Fence on Barrier Detail

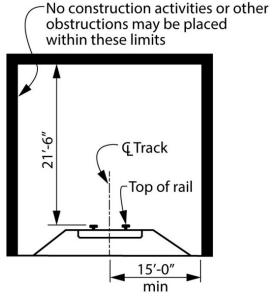


Figure 12A.A.3 Minimum Construction Clearance Envelope
Dimension Measured Perpendicular to & Track



BLACK BUTTE OVERHEAD (REPLACE) RAILROAD SUBMITTAL TYPICAL SECTION 4'-10", Typ @ SUPPORTS NOTES:

1. Assume Future RR to be paral

(i) Point "Black Burte OH

(ii) Point "Black Burte OH

"Pear Constructed" Conc BARRIER (TYPE 742), Typ-Existing Structure Point of Minimum V DESIGN BRANCH EC 865+74.43 "SS" LINE STATE OF

CALIFORNIA
DEPARTMENT OF TRANSPORTATION 855 TACE OF BENT 3 227'-0" MEASURED ALONG "S5" LINE 1100' VC R/C = -0.3045%/Sta OC 853+49,89 "S5" LINE = PROFILE GRADE
NO SCALE ELEVATION PLAN 1" = 20' -Approx LOCATION OF Exist FIBER OPTIC CABLE CURVE DATA BB 852+53.00 Elev 3907.84 MINIMUM CONSTRUCTION CLEARANCE ENVELOPE TOP OF FILL TO MOUNT SHASTA TOP (

Figure 12A.B.1 Railroad Submittal Detailing Example 1



NOTE: To reflect current detailing standards, this sheet may have been modified from its original version EAST ROSEVILLE VIADUCT RT BR (WIDEN) Conc BARRIER TYPE 742 Mod RAILROAD SUBMITTAL LICHTING STANDARD (TYPE 21) 5. All demolitions within the Railroad's right-of-way and/or demolition that may impact the Rail tracks or operations shall be in compliance with the Railroad's Demolition Guidelines. Erection over the Railroad's right-of-way shall be designed to cause no interruption operation, enabling the track(s) to remain open to traffic per the Railroad's required Falsework clearances shall comply with "Minimum Construction Clearance Envelope" show The elevation of the existing top-of-rail profile shall be verified before beginning All discrepancies shall be brought to the attention of Railroad prior to construction CHAIN LINK RAILING (TYPE 6)-The proposed project shall not increase the quantity and/or characterist of the water flow in the Railroad's ditches and/or drainage structures. VARIES SEE NOTE All personnel shall clear the area within 25 feet of the track cen-all equipment when a train passes the work site. All shoring systems that impact the Railroad's operatio shall be designed and constructed per current Railroad CIP P/S CO BOX GIRDER 5'-0"± CLOSURE POUR Exist EOD "ERN1" Exist 41'-9"± & Var DESIGN BRANCH Exist EOD STATE OF

CALIFORNIA

DEPARTMENT OF TRANSPORTATION Exist BRIDGE No. 19-0152R R = 3088.00'± \$\Delta = 23°47'44"± \$T = 650.62'± \$L = 1282.49'± CURVE DATA ISOLATION CASING, APProx OG ALONG RT EDGE OF WIDEN BECIN 117+48,73± "WN1" LINE = 136+43,56± "ERN1" LINE NOTE 2. Existing deck drainage will be utilized corry drainage of widening, within UPRR R/W.

Existing bridge cross slope varies. Widened portion shall match existing cross slope. END CHAIN LINK RAILING = 35,50' Rt 137+60.83 "FRN1" 2092'-81/4"± MEASURED ALONG "ERN1" LINE IMITS OF CHAIN LINK RAILING -Exist UNION PACIFIC RAILROAD (UPPR) Exist UPRR LINE ← E Exist TRACK Paint "EAST ROSEVILLE VIADUCT BRIDGE No. 19-0152R" Year Constructed
 Paint Bent Number ELEVATION PLAN LIGHTING STANDARD (TYPE 21), Typ. NO CONSTRUCTION ACTIVITIES OR OTHER OBSTRUCTIONS SHALL BE PLACED WITHIN THESE LIMITS 133+73,14± "ERN1" LINE 254,30± COUNTY EASEMEN BEGIN CHAIN LINK RAILING = 37,74°R† 135+26.67 "ERN1" LINE "69" LINE MINIMUM CONSTRUCTION CLEARANCE ENVELOPE TOP OF DATUM Elev = DPRR R√W & WENENT COUNTY EASEMENT -Ret WALL

Figure 12A.B.2 Railroad Submittal Detailing Example 2



Railroad - Checklist

Structure:	Structure Number:
Contract Number:	Project Number & Phase:
Detailer:	Date:
Designer:	Date:
Checker:	Date

Railroads

1.	Show district-provided alignment or layout line.
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Show existing or proposed finished grade and roadway profile.
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