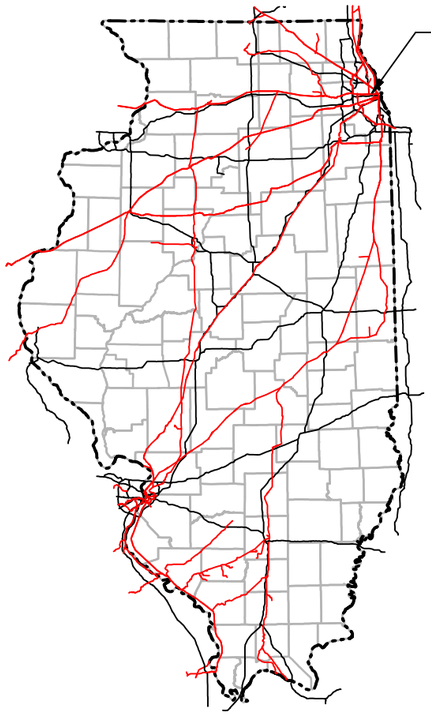
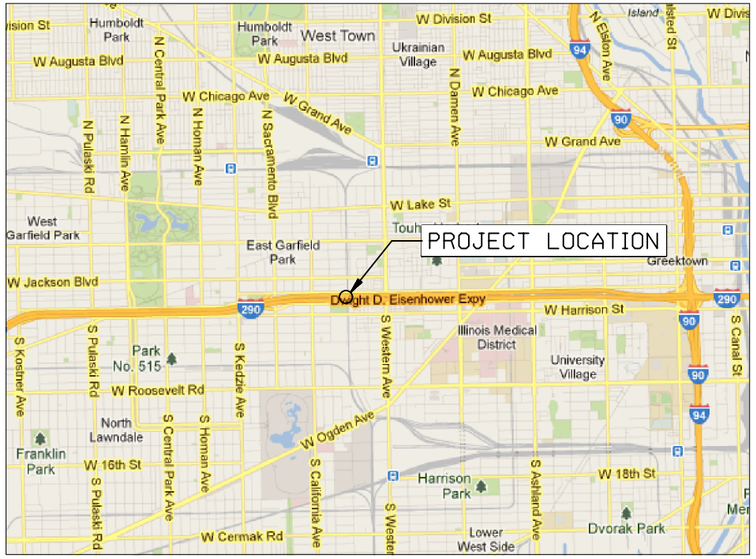
ENGINEERING
DESIGN & CONSTRUCTION





2603 I–290
CHICAGO, IL

Project Location Map

benesch
engineers · scientists · planners
Alfred Benesch & Company
35 W. Wacker Drive, Suite 3300
Chicago, IL 60601
312-565-0450

MP 1.41 ROCKWELL SUB.
UNION PACIFIC RAILROAD
I-290 BRIDGE MODIFICATIONS

FINAL PLANS

CREATE PROJECT #:
WA1–UP–XXB–003–B–FE

WORK ORDER: 31876
PROJECT NUMBER: N/A
BUDGET REFERENCE: N/A

LAST REVISED
May 28, 2021

PROJECT INDEX

PROJECT DESIGN	DESCRIPTION
G-001	COVER SHEET WITH VICINITY MAP
G-002	PROJECT INDEX & REVISION SHEET
G-003	GENERAL NOTES & PROJECT CONTACTS
G-004	ABBREVIATIONS & LEGEND
R-001	TRAFFIC CONTROL GENERAL NOTES
R-002	IDOT SHOULDER CLOSURE MOT DETAILS
R-003	IDOT SHOULDER CLOSURE MOT DETAILS
R-004	IDOT HIGHWAY STANDARDS DETAILS
R-005	IDOT HIGHWAY STANDARDS DETAILS
R-006	IDOT HIGHWAY STANDARDS DETAILS
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R-009	IDOT HIGHWAY STANDARDS DETAILS
R-010	IDOT HIGHWAY STANDARDS DETAILS
R-011	IDOT HIGHWAY STANDARDS DETAILS
L1 TO L17	BRIDGE 1.41 STRUCTURAL PLANS

BILL OF MATERIAL TABLE INDEX

BILL OF MATERIAL	LOCATION
TRAFFIC CONTROL	R-001
STRUCTURES	L1

TRAVIS KLUEGEL
062-059481
LICENSED PROFFESSIONAL ENGINEER OF ILLINOIS

EXPIRATION DATE: 11-30-2021
DATE: 05-28-2021
(CIVIL SHEETS)

MATTHEW F. BECKER
081-007755
LICENSED STRUCTURAL ENGINEER OF ILLINOIS

EXPIRATION DATE: 11-30-2022
DATE: 05-28-2021
(STRUCTURAL SHEETS)

WARNING !
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ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER: G-002

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
PROJECT INDEX & REVISION SHEET

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Default
5/25/2021

GENERAL NOTES

1. UPRR forces will perform all track work, with the exception of removal of existing tracks. UPRR will cut the existing rails and the contractor shall remove and dispose of all track material with the bridge removal work. The Contractor will be responsible for constructing proposed track bed up to the top of the sub-ballast layer. UPRR will furnish & install all ballast, ties, rail, and other track materials.
2. Existing and new track within the project limits will be surfaced and lined by UPRR forces once all other work is complete.
3. Contractors shall notify Service Alert, (800) 642-2444, UPRR Fiber Optics Hotline (800) 336-9193, and the Chicago Utility Alert Network (312) 744-7000 48 hours prior to any excavation. The USA Authorization Numbers shall be kept at the job site.
4. No work whatsoever shall be commenced without first notifying the UPRR Engineer.
5. The Contractor shall comply with all Federal, State, County, and City Laws and Ordinances and Regulations of the Department of Industrial Relations, OSHA, NPDES and Industrial Accident Commission related to the safety and character of the work, equipment and labor personnel.
6. Contractor shall be responsible for coordinating with all Utility agencies.
7. Contractor shall protect in place (by any means necessary) all existing utilities to remain unless otherwise specified herein, contractor shall be responsible for the complete repair at his expense, for any damage to existing utilities, structures, or other site features, as a result of his work.
8. Prior to placing curbs, pavements, base, subbase, track, etc., all underground utilities shall be installed, backfill completed, and the Engineer notified by each of the utility companies having facilities within the work area, that the utility installation has satisfactorily passed acceptance tests.
9. All existing underground utilities within the UPRR ROW, that are not to be re-used shall be abandoned in place. All existing pipelines to be abandoned in place shall be cement slurry filled and capped at least 3'-0" below top of proposed subgrade.
10. Contractor shall verify locations and elevations of existing utilities whether known or unknown prior to beginning construction.
11. Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, and pipelines not located prior to construction shall be brought to the attention of the engineer for determiniation of appropriate action such as removal or treatment in a manner judged suitable to the engineer.
12. Contractor shall coordinate location of all proposed utilities with UPRR to assure accuracy of utility connections and compliance with local codes.
13. Any existing conditions found to be a variance with these drawings must be immediately reported to the Engineer.
14. Contractor shall maintain and clean to the satisfaction of the Engineer, all access and service roads used during construction.
15. Contractor shall perform all construction in such a manner as to protect adjacent existing buildings, and other site elements which are to remain in service.
16. Contractor shall provide As-built Drawings for all improvements.
17. No field changes will be permitted without direct written authorization from the UPRR Engineer or his representative.
18. Contractor shall coordinate work which affects adjacent property owners. Any questions or agreements between adjacent property owners and contractor shall be made in writing. A copy of such agreement shall be provided to the UPRR Engineer or his representative.
19. The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) to comply with State regulations.
20. Right-of-way lines shown on the plans were taken from existing UPRR right-of-way map and are approximate.
21. Match lines for sheets are based on the existing Main Line stationing unless otherwise specified.
22. Track laying, ballasting, and installation of road crossing panels will be done by UPRR unless otherwise stated.
23. The contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.
24. Contractor shall comply with all IDOT specifications for construction of public improvements requirements.
25. Contractor shall maintain at least one access to all affected business. If necessary, multiphase construction shall be utilized.
26. All work must be coordinated with the UPRR to minimize track outage time and disruption of train service. The contractor shall submit for approval his proposed sequence of operations prior to the start of construction.
27. Removal of existing viaduct lighting equipment will be performed by the City of Chicago, Department of Streets and Sanitation, Bureau of Electric. The contractor must schedule and coordinate this work with the city. All expenses or charges by the city related to this work will be incidental to this contract.
28. The contractor shall take special care to avoid damage to the existing utilities under the public streets from excessive surface loads during construction activities. Video inspection of the existing sewer shall be performed before and after construction in accordance with the requirements of the City of Chicago Department of Water Management. Any damage to the existing utilities caused by work under this contract must be repaired or replaced at the contractor's expense.
29. All frames and lids removed from abandoned sewers and appurtenances must be returned to the Chicago Department of Water Management, Sewer Section.
30. In case of damage to the City of Chicago sewers, private and public drains,sewer structures and/or bench monuments, the contractor shall immediately contact the Department of Water Management at (312) 747-7892 or (312) 747-7893.
31. Stockpiling of removed materials and/or construction debris on the job site will not be permitted and shall be removed from the job site each and every day and disposed of in accordance with article 202.03 of the Standard Specifications. Failure to comply with this requirement shall be considered a traffic control deficiency and will be subject to charges in accordance with the item Traffic Control Complete.
32. The contractor must notify the Department of Streets and Sanitation at 312-746-4524 72 hours prior to the need for towing/relocation of vehicles. The City of Chicago will be responsible for removing parked vehicles located in the scheduled work area. Signs preventing parking will be posted by the commissioner or his staff 72 hours before the work is scheduled. Prior to posting signs the commissioner shall notify the Alderman's office of the resurfacing schedule. The police are to be present to issue tickets and supervise towing prior to the relocation of vehicles.
33. In the event that the work to be performed on a street segment where parking has been prohibited will be postponed for 5 working days or more, the contractor must notify the commissioner to remove the "No Parking" signs and advise the commissioner when the work will resume for the commissioner or his staff to re-post the "No Parking" signs 48 hours prior to resumption of work.
34. The contractor will not be allowed to set up a yard or field office on city or state property without written permission from IDOT or the City of Chicago.
35. The contractor is to restore all unpaved areas damaged during construction operations to their original condition at no additional cost to the city or railroad.
36. The contractor shall provide access to abutting property at all times during the construction of this project, except for periods of short duration.
37. Dimensions: it shall be the contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning of construction.
38. Station and offsets given for proposed catch basins are to the center of the lid. Adjust the base as necessary to connect to existing sewer.
39. The Contractor is responsible for obtaining all permits (including payment of permit fees), bonds and insurance for permits required by the City of Chicago for construction of the project. This includes permits issued by the Department of Transportation, Department of Water Management, and others.
40. The Contractor is responsible to coordinate work for the project. CDOT will complete water main replacement, lighting removal and some roadway work before Contractor begins. CDOT will also complete work after Contractor work is completed. Any new CDOT roadway work shall be protected by Contractor, Any damage of this new CDOT work must be repaired at the expense of the Contractor.
41. Due to the proximity of the work to the CTA in this location, prior to construction, the Contractor must coordinate the schedule of work with the CTA.
42. The Contractor shall install posted clearance sign for proposed bridge. Contractor shall coordinate with the City of Chicago regarding the clearance to be posted, sign type and sign location. The furnishing and installation of vertical clearance signs is considered incidental to the project work.

PROJECT CONTACTS

CONTACT	PHONE NUMBER	UPRR
Curt Nystron	(515) 298-1131	Construction Field Manager
Adam Studts	(402) 544-3541	Structures Design Sr. Manager
Paul Pino	(402) 544-3582	Information Technology - Fiber
Stan Dulinski	(402) 544-0353	Real Estate - Utilities

PHONE NUMBER	GENERAL
(800) 336-9193	CALL UPRR BEFORE YOU DIG
(888) 258-0808	CALL BEFORE YOU DIG (NATIONAL DIRECTORY)
(888) 877-7267	UPRR Response Management Communications Center (RMCC)

DESIGN CRITERIA

1. UPRR Standard Plans and Specifications
2. Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction
3. Chicago Department of Transportation (CDOT) Regulations for Openings, Construction and Repair in the Public Way

	DATUM
HORIZONTAL	Illinois East State Plane (1201) North American Datum of 1983 (NAD83)
VERTICAL	Chicago City Datum (CCD)

SURVEY NOTES

1. Railroad stationing for project profiles and alignments is based on stations established for chord definition spiraled curves at the centerline of the existing UPRR Main Line unless otherwise noted.
2. The contractor is responsible for the preservation of all survey control monuments. In the event monuments are damaged or destroyed by the contractor, the Engineer will replace the monument solely at the contractor's expense.

TRAFFIC NOTES

1. All barricades, warning signs, lights, devices, etc. for the guidance of vehicle traffic and pedestrians must conform to the Manual on Uniform Traffic Control Devices (MUTCD), current edition, IDOT and CDOT standards.
2. The contractor will ensure that all barricades, signs, lights, and other devices installed by him are operational every day, including Sundays and holidays. The contractor shall make twice daily inspections of barricades, signs, lights and other devices installed by him to ensure proper placement and functioning of warning devices. In the event of severe weather conditions, the contractor must furnish any additional personnel required to properly maintain all traffic control devices. The contractor shall provide a manned 24-hour / 7 day a week contact number to respond to requestrequests and emergencies related to the placement and maintenance of the traffic control devices throughout the project duration.
3. The contractor is responsible for the prompt replacement and/or repair of all traffic control devices and appurtenances damaged or disturbed due to construction.

BENCHMARKS

City of Chicago Benchmark: BM #276
6.4 feet north of south line of W Congress Parkway and 47.1 feet east of east line of S Washtenaw Avenue. Elev. = 14.66 (CCD)

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ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER G-003

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
GENERAL NOTES & PROJECT CONTACTS

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5/25/2021

ABBREVIATIONS

MISCELLANEOUS

Ac.	Acres
Ave.	Avenue
Blvd.	Boulevard
Bldg.	Building
BNSF	BNSF Railway
C.Y.	Cubic Yards
Conc.	Concrete
Const.	Construct
°	Degree (s)
Dia.	Diameter
Dr.	Drive
Dwg.	Drawing
E	East
Elev.	Elevation
Exist.	Existing
'	Foot, Feet or Minute (s)
F.S.	Finished Surface
Horiz.	Horizontal
"	Inch, Inches or Second (s)
Inst.	Install
Inv.	Invert
Lt.	Left
L	Length
L.F.	Lineal Feet
Max.	Maximum
Min.	Minimum
N	North
NTS	Not to Scale
No.	Number
OH	Overhead
OHP	Overhead Power Line
PGL	Profile Grade Line
Prop.	Proposed
RR	Railroad
Rwy	Railway
R/W	Right of Way
Rt.	Right
S	South
S.F.	Square Feet
Sta.	Station
Std.	Standard
St.	Street
TT	Timetable
Twp.	Township
Typ.	Typical
UG	Underground
UPRR	Union Pacific Railroad
V	Velocity
Wt.	Weight
W	West
X-ing	Crossing

SIGNAL

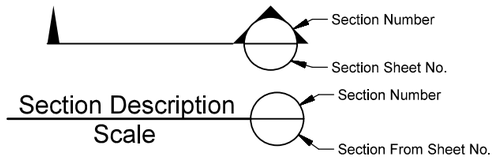
ABS	Automatic Block Signal
ATC	Automatic Train Control
CTC	Centralized Traffic Control
DED	Dragging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Dectector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Dectector

STRUCTURES

Bldg.	Building
Br.	Bridge
CB	Catch Basin
CPT	Concrete Pile Trestle - Ballast Deck
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
Culv.	Culvert
DI	Drop Inlet
DPGBD	Deck Plate Girder - Ballast Deck
DPGOD	Deck Plate Girder - Open Deck
EBW	East Backwall
F.L.	Flowline
F.F.	Finished Floor
GIP	Galvanized Iron Pipe
Hdwl	Headwall
NBW	North Backwall
PSCT	Prestressed Concrete Trestle
RCA	Reinforced Concrete Arch
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
SBW	South Backwall
SSP	Smooth Steel Pipe
SPTBD	Steel Pile Trestle - Ballast Deck
SPTOD	Steel Pile Trestle - Open Deck
SPP	Structural Plate Pipe
TPGBD	Through Plate Girder - Ballast Deck
TPGOD	Through Plate Girder - Open Deck
TPTBD	Timber Pile Trestle - Ballast Deck
TPTOD	Timber Pile Trestle - Open Deck
TTBD	Through Truss - Ballast Deck
TTOD	Through Truss - Open Deck
TWB	Treated Wood Box
VCP	Vitrified Clay Pipe
Viad.	Viaduct
WBW	West Backwall
WIP	Wrought Iron Pipe

TRACK

ATR	Above Top of Rail
Align.	Alignment
BBR	Below Base of Rail
Cntrs.	Centers
CWR	Continuous Welded Rail
DSPD	Double Switch Point Derail
EOT	End of Track
HH	Head Hardened
Jtd.	Jointed Rail
LH	Left Hand
ML	Main Line
MM	Mile Marker
MP	Mile Post
NSC	Not Sufficient Clearance
OTM	Other Track Material
PCC	Point of Compound Curve
PC	Point of Curve
PCS	Point of Curve to Spiral
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
PS	Point of Spiral
PSC	Point of Spiral to Curve
POS	Point on Spiral
PT	Point of Tangent
POT	Point on Tangent
Pt. Sw.	Point of Switch
PVC	Point of Vertical Curve
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
SH	Second Hand
SSPD	Single Switch Point Derail
TC	Track Centers
T.F.	Track Feet
Trk.	Track
UXO	Universal Cross-Over
X-Over	Cross-Over



SYMBOLS

UTILITIES

- Compressed Air
- Fiber Optic Cable
- Gas Pipeline
- Overhead Power Line
- Sanitary Sewer
- Overhead Signal Line
- Underground Signal Line
- Steam Line
- Storm Sewer
- Telephone
- Underground Electric
- Water Main
- Underground Wire
- Under Drain
- Water Valve
- Gas Buffalo Box
- Manhole
- Catch Basin
- Fire Hydrant
- Junction Box Electric
- Junction Box Telephone
- Junction Box Water
- Power Pole
- Generator

TRACK

- Existing Mainline
- Existing Siding or Spur
- Proposed
- Remove
- Shift
- Relay
- Future
- Foreign Railroad or Industry
- In Buildings or Under Structures
- Turnout
- Wheel Stop
- Bumping Post
- Earthen Bumper
- Inert Retarder
- Dowty Retarder
- Derail
- Switch Point Derail or Double Switch Point Derail

PROPERTY

- Section Line
- Center Section Line
- Parcel or Easement Line
- Right of Way
- Former Right of Way
- Right of Way to be Acquired
- Foreign Right of Way

ROAD CROSSING WARNING DEVICES

- Crossbuck Sign
- Flashing Light Warning Device
- Flashing Light Warning Device with Gate
- Cantilever Flashing Light Warning Device
- Cantilever Flashing Light Signal with Gate

SIGNAL

- Absolute Signal
- Signal Bridge
- Cantilever Signal
- ACS or CTC Signal
- Dwarf Signal
- Begin CTC
- Microwave Tower
- AEI
- Battery Box
- Dragging Equipment Detector
- Generator
- Hot Box Detector
- Hot Air Blower
- Plastibeton

STRUCTURES

- Culvert
- Culvert with Headwalls
- Double Culvert
- Railroad Bridge
- Highway Overpass
- Highway Underpass
- Tunnel
- Retaining Wall
- Building
- Flag Pole

LIGHTING

- Light Pole
- Light Tower

SIGNS

- Sign
- Yard Limit
- 1 Mile to Yard Limit
- Whistle Post
- Flanger
- Station
- Reduce Speed
- Resume Speed

FENCES

- Barbed Wire
- Chain Link
- Ornamental Fence
- Snow / Sand

ROADS

- Paved Road
- Unimproved Road
- Interstate Highway
- Federal Highway
- State Highway
- County Highway

OTHER

- Wetlands
- River or Lake
- Embankment
- Flow Line
- Milepost
- Milemarker
- Revision Number
- Revision Cloud
- Tree
- Bush
- Stump
- Traffic Signal
- Soil Boring (E-T-01)
- Control Point (CP-01)

CONSTRUCTION

- Proposed Note (Work by Contractor)
- Proposed Note (Work by Others)
- Cut Lines
- Fill Lines
- Profile Grade Line
- Removal Note (Work by Contractor)
- Removal Note (Work by Others)
- Shift Note (Work by Contractor)
- Shift Note (Work by Others)

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876	UNION PACIFIC RAILROAD	Director Structures Design
CHECKED BY: TK	PID:	LOCATION & DESCRIPTION: MP 1.41 ROCKWELL SUBDIVISION I-290 EISENHOWER BRIDGE MODIFICATIONS	
DATE: 05/28/21	BUDGET REF:		
SCALE: N.T.S	SHEET NUMBER G-004	SHEET TITLE: ABBREVIATIONS & LEGEND	

TRAFFIC CONTROL GENERAL NOTES:

1. All signing must be in accordance with the latest applicable provisions of the State of Illinois "Standard Specifications for Road and Bridge Construction", the details in these plans must be in accordance with the latest edition of the IDOT Bureau of Design and Environment highway standards and the latest edition of the "Manual on Uniform Traffic Control Devices", in effect on the date of invitation for bids.

2. Longitudinal dimensions shown on these plans may be adjusted to fit field conditions as directed by the commissioner.

3. The contractor must be responsible for ensuring that all barricades, signs, lights and other devices installed by him/her are in place and operating 24 hours each day including Sundays and holidays during the time this construction is in effect.

4. All existing signing that is not applicable while the construction is in effect must be completely covered by the contractor.

5. The sizes of all signs not specified in these plans must be as required by the Manual on Uniform Traffic Control Devices.

6. As a minimum, all amber flashing lights that are required must meet the requirements for Type A - low intensity flashing lights in article 702.04 of the standard specifications. All lights shall operate during hours of darkness. Only lights that have been approved by the Illinois Department of Transportation must be used.

7. The contractor must maintain access to all private and commercial driveways during construction.

8. Sidewalk access must be maintained on one side of the street during all stages, except when there is a full closure. Any closed sidewalks must be appropriately barricaded. Use Standard 701801.

9. All walkways must be clearly identified and adequately protected from motor vehicle traffic and free of any obstructions and hazards such as holes, debris, mud, construction equipment, stored materials, etc.

10. Proposed maintenance of traffic signing must be covered or removed when not required during a specific stage of construction.

11. Changeable message signs to be provided at locations shown on plans or determined by the commissioner.

12. The contractor must conduct his/her work in such a manner that emergency vehicles will have access to the work area at all times.

13. The contractor will be responsible for the proper location, installation, maintenance, relocation, and removal of all traffic control devices.

14. The contractor is responsible for recording the existing pavement marking patterns and limits prior to existing striping removal.

15. All existing pavement markings removed or impacted within the project limits must be replaced in-kind and to CDOT rules and regulations.

16. Unwanted temporary pavement markings must be removed by the contractor as ordered by the commissioner.

17. The contractor must notify CDOT 72 hours before commencing construction.

18. The contractor shall notify the Chicago Transit Authority (CTA) prior to construction activities adjacent to CTA infrastructure. See the CTA "Adjacent Construction Manual Infrasructure Division" for applicable contact information.

19. For construction on or adjacent to any State Highways, the contractor will be required to contact IDOT to secure necessary permits and obtain written authroization for any work or lane closures on I-290. The contractor shall give IDOT 14 calendar days' notice prior to commencement of any work on or affecting a State highway, so as to provide the opportunity to alert the motoring public of possible delays.

20. The Contractor is responsible for all no parking notifications required by traffic shifts.

21. The contractor will be required to request written authorization through the Traffic Control Supervisor a minimum of two (2) weeks prior to any traffic pattern changes or lane closures, and provide detailed description of the traffic pattern revisions and respective durations in his/her authorization request. Upon receipt of the permit and authorization, the contractor shall submit a copy to the Engineer for recording. The IDOT Traffic Control Supervisor may be contacted at:

    Kalpana Kannan-Hosadurga
    Arterial Traffic Control Supervisor
    Illinois Dept. of Transportation
    Region 1
    201 West Center Court
    Schaumburg, IL 60196-1096
    Phone Number 847-705-4091
    Facsimile: 847-705-4246

BILL OF MATERIAL

REQD.	UNIT	DESCRIPTION	STORE ITEM NO.	ORDERED BY
4	EACH	BARRICADES, TYPE III WITH WARNING LIGHT		
2	EACH	BARRICADES, TYPE III WITH WARNING LIGHT AND ROAD CLOSED SIGN		
80	EACH	DRUM WITH WARNING LIGHT or BARRICADES, TYPE I WITH EXTENDED LEGS AND WARNING LIGHT		
1	L SUM	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)		
2	EACH	BARRICADES, TYPE III		

WARNING !
FIBER OPTIC CABLE
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ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

UNION PACIFIC

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER: R-001

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
TRAFFIC CONTROL GENERAL NOTES

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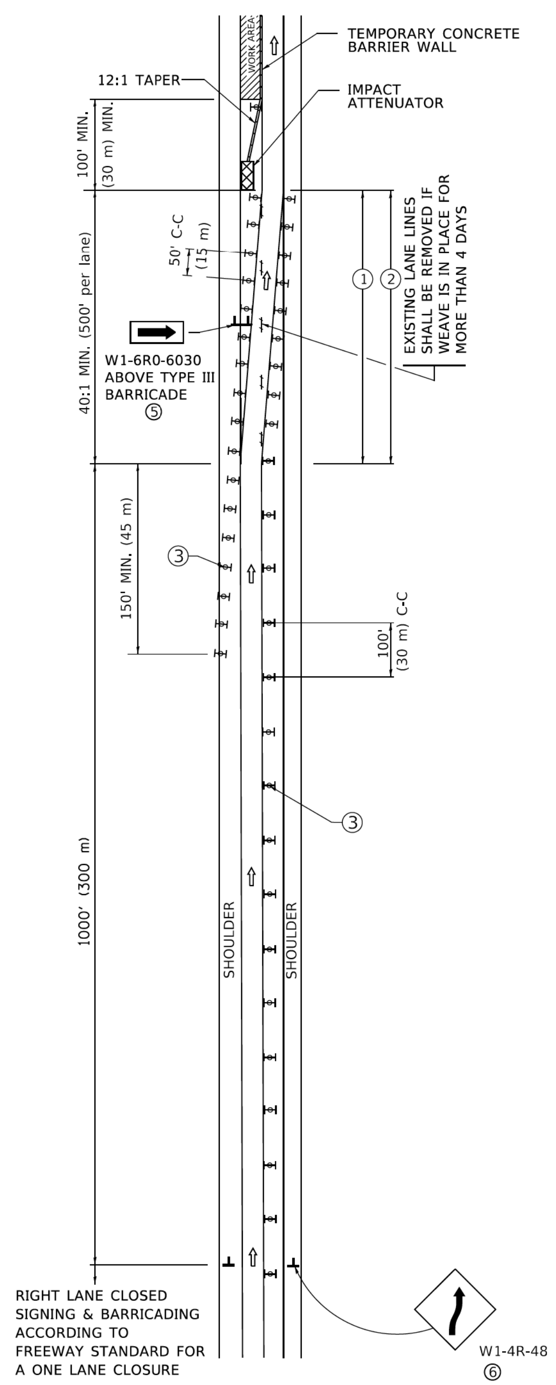
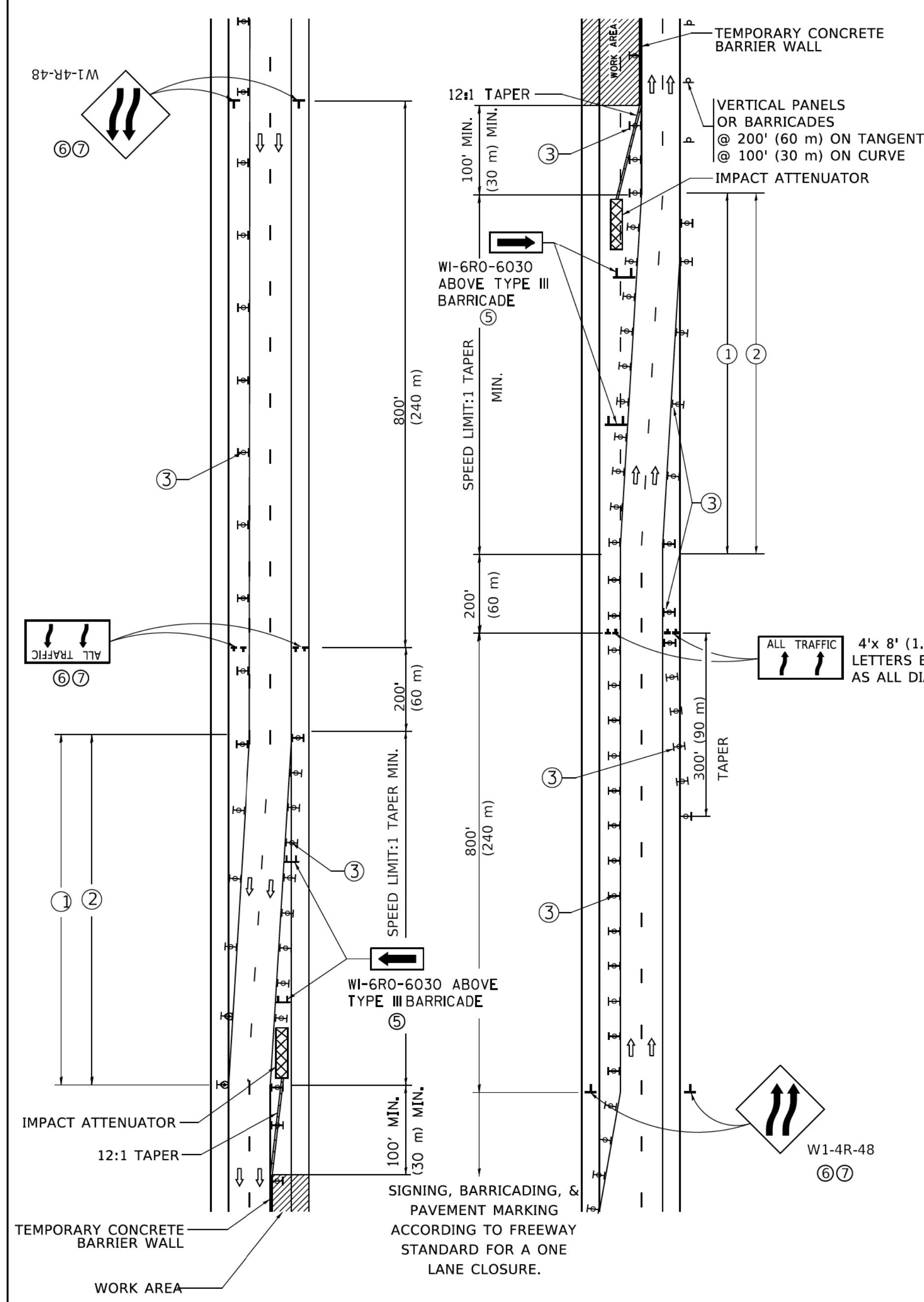
5/25/2021

SINGLE LANE WEAVE



MULTI–LANE WEAVE



GENERAL NOTES:

① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.

② CONTINOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.

③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.

④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.

⑤ TYPE III BARRICADES MAY BE OMMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.

⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.

⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

SYMBOLS

- DIRECTION OF TRAFFIC
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE OR DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- TEMPORARY CONCRETE BARRIER WALL
- IMPACT ATTENUATOR

W24-1-48 ⑦

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

USER NAME = footem]	DESIGNED - D.W.S.	REVISED - J.A.F. 02-06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - S.P.B. 01-07	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - S.P.B. 12-09	
PLOT DATE = 3/4/2019	DATE - 02-87	REVISED - M.D. 06-13	

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI–LANE WEAVE

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-09	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

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ISSUED FOR CONSTRUCTION

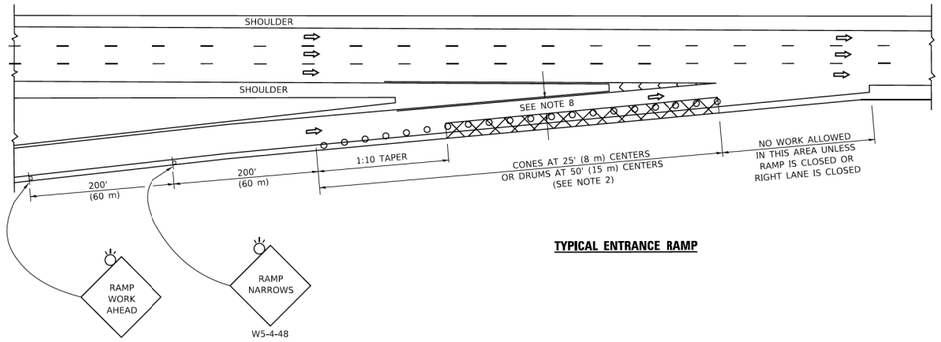
REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

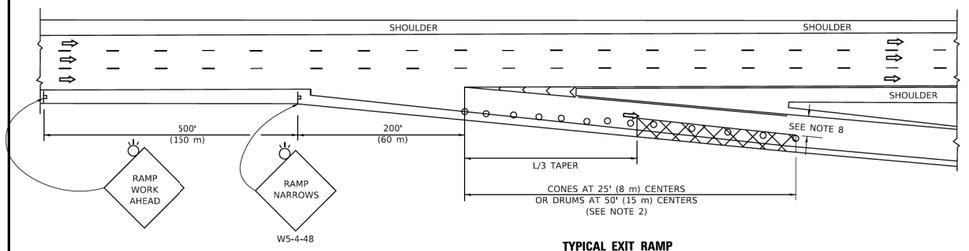
UNION PACIFIC

DRAWN BY: KP	WORK ORDER: 31876	UNION PACIFIC RAILROAD	Director Structures Design
CHECKED BY: TK	PID:	LOCATION & DESCRIPTION: MP 1.41 ROCKWELL SUBDIVISION I-290 EISENHOWER BRIDGE MODIFICATIONS	
DATE: 05/28/21	BUDGET REF:		
SCALE: N.T.S	SHEET NUMBER R-002	SHEET TITLE: IDOT SHOULDER CLOSURE MOT DETAILS	

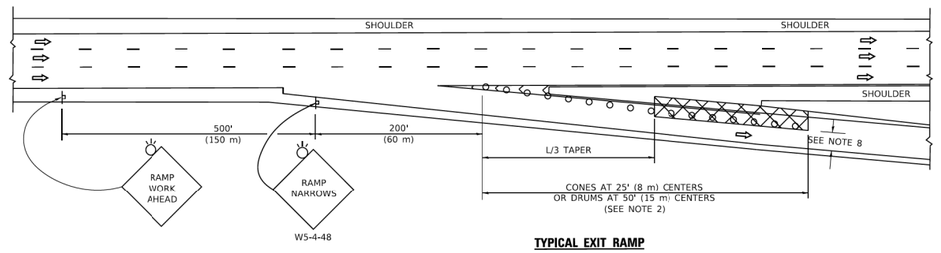
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP

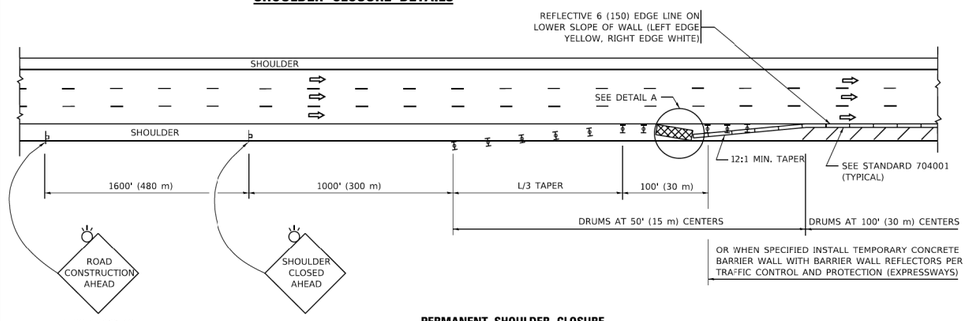


TYPICAL EXIT RAMP

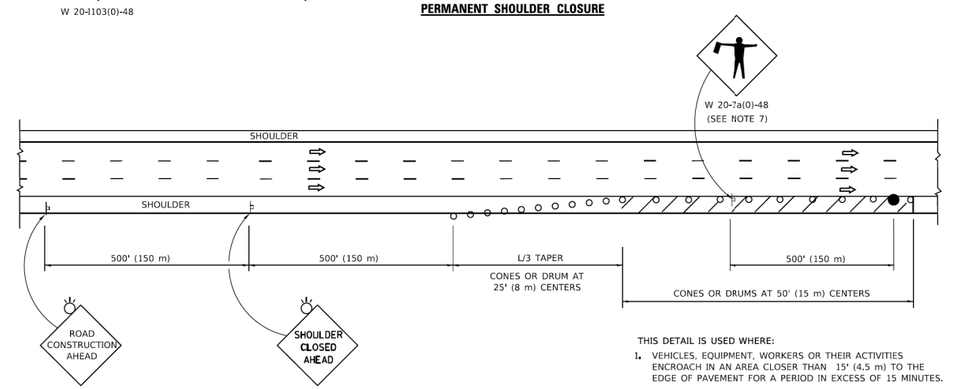
SYMBOLS

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

SHOULDER CLOSURE DETAILS



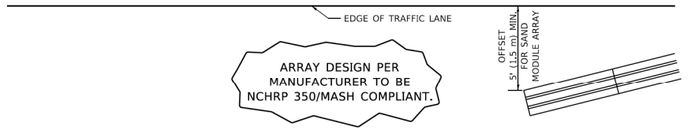
PERMANENT SHOULDER CLOSURE



THIS DETAIL IS USED WHERE:

1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

TEMPORARY SHOULDER CLOSURE



DETAIL "A"
IMPACT ATTENUATOR, TEMPORARY
(SEE NOTE 5)

GENERAL NOTES:

1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS	
45 mph (80 km/h) OR GREATER	METRIC	ENGLISH
	L=0.65(WXS)	L=(WXS)

W = WIDTH OF OFFSET IN FEET (METERS)
S = NORMAL POSTED SPEED MPH (KM/H)

2. TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTICLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.
5. THE IMPACT ATTENTUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
   a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
   b. THE WORK AVTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.

   THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
8. 12' MIN. WIDTH TANGENT SECTION
   16' MIN. WIDTH CURVE SECTION.
9. TEMPORARY SHOULDER AND NON-SYSTEM INTERCHANGE PARTIAL RAMP CLOSURES ARE ALLOWED WEEKDAYS BETWEEN 9:00 A.M. AND 3:00 P.M. AND BETWEEN 7:00 P.M. AND 5:00 A.M. OR AS APPROVED BY THE EXPRESSWAY TRAFFIC OPERATIONS ENGINEER. PERMANENT SHOULDER AND PARTIAL RAMP CLOSURES WILL ONLY BE PERMITTED IF CALLED FOR IN THE PLANS OR AS APPROVED BY THE EXPRESSWAY OPERATIONS ENGINEER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

USER NAME = leysa	DESIGNED -	REVISED -	S.P.B. 12-09
	DRAWN - D.W.S.	REVISED -	M.D. 06-13
PLOT SCALE = 50.0000 ' / In.	CHECKED -	REVISED -	M.D. 01-18
PLOT DATE = 10/14/2020	DATE - 11-96	REVISED -	M.D. 10-20

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES

SCALE: NONE | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-17	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

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5/25/2021

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Alfred Benesch & Company
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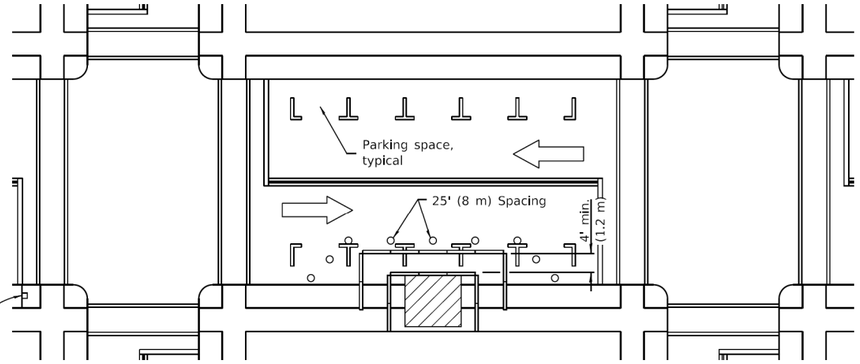
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

UNION PACIFIC

DRAWN BY: KP	WORK ORDER: 31876	UNION PACIFIC RAILROAD	Director Structures Design
CHECKED BY: TK	PID:	LOCATION & DESCRIPTION: MP 1.41 ROCKWELL SUBDIVISION I-290 EISENHOWER BRIDGE MODIFICATIONS	
DATE: 05/28/21	BUDGET REF:		
SCALE: N.T.S	SHEET NUMBER R-003	SHEET TITLE: IDOT SHOULDER CLOSURE MOT DETAILS	



① ROAD CONSTRUCTION AHEAD — W20-I103(0)-48 for contract construction projects

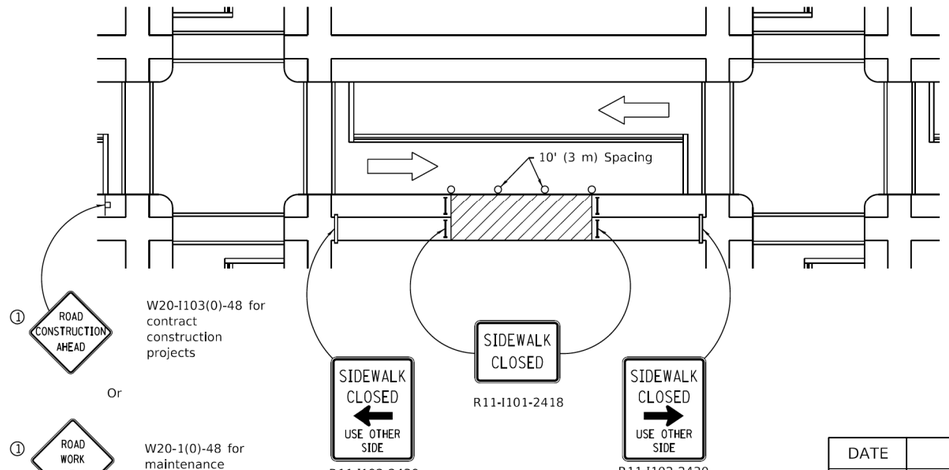
Or

① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

SIDEWALK DIVERSION

SYMBOLS

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade



① ROAD CONSTRUCTION AHEAD — W20-I103(0)-48 for contract construction projects

Or

① ROAD WORK AHEAD — W20-1(0)-48 for maintenance and utility projects

R11-I101-2418

R11-I102-2430

R11-I102-2430

SIDEWALK CLOSURE

① Omit whenever duplicated by road work traffic control.

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Omitted orange safety fence
	from standard as this is
	covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION.
	Modified appearance of
	plan views. Renamed Std.

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-06

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DRAWN BY:	WORK ORDER:
KP	31876
CHECKED BY:	PID:
TK	
DATE:	BUDGET REF:
05/28/21	
SCALE:	SHEET NUMBER
N.T.S	R-004

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

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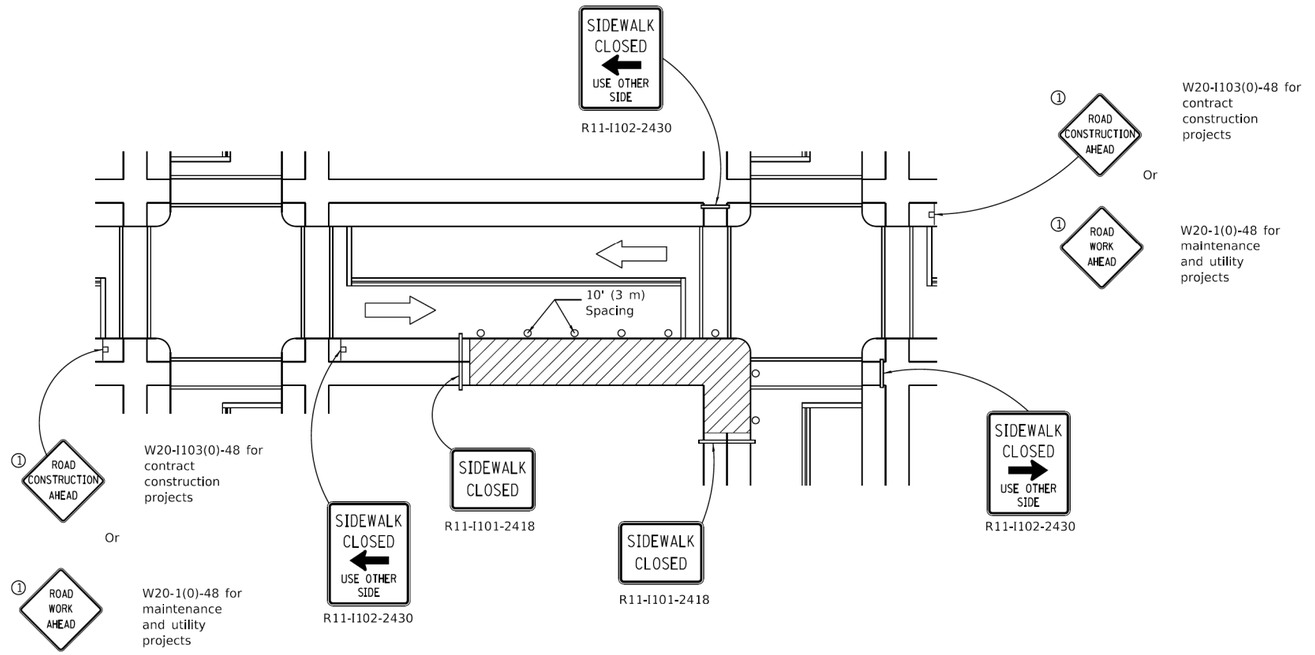
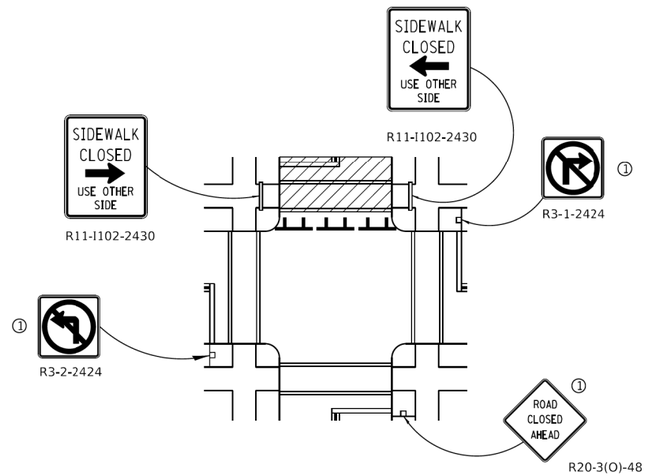


CORNER CLOSURE



CROSSWALK CLOSURE

Illinois Department of Transportation

PASSED April 1, 2016
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

STANDARD 701801-06

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312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER R-005

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

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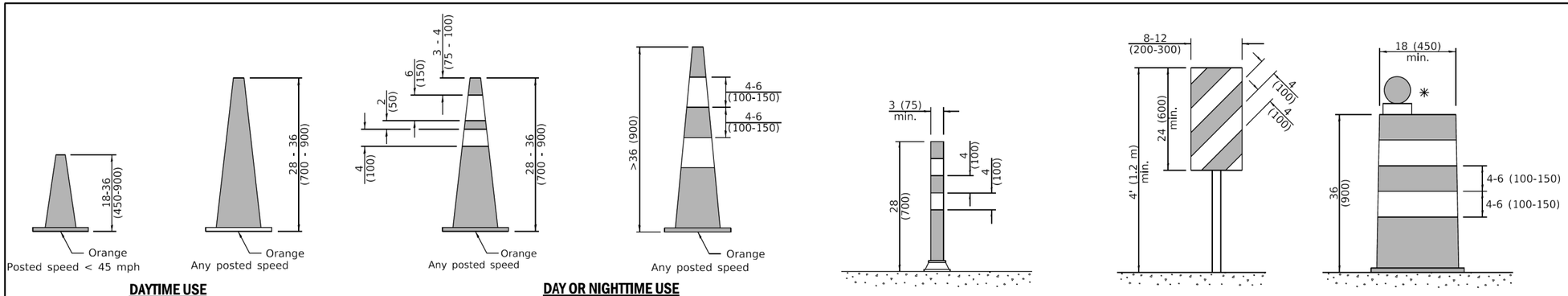


DAYTIME USE

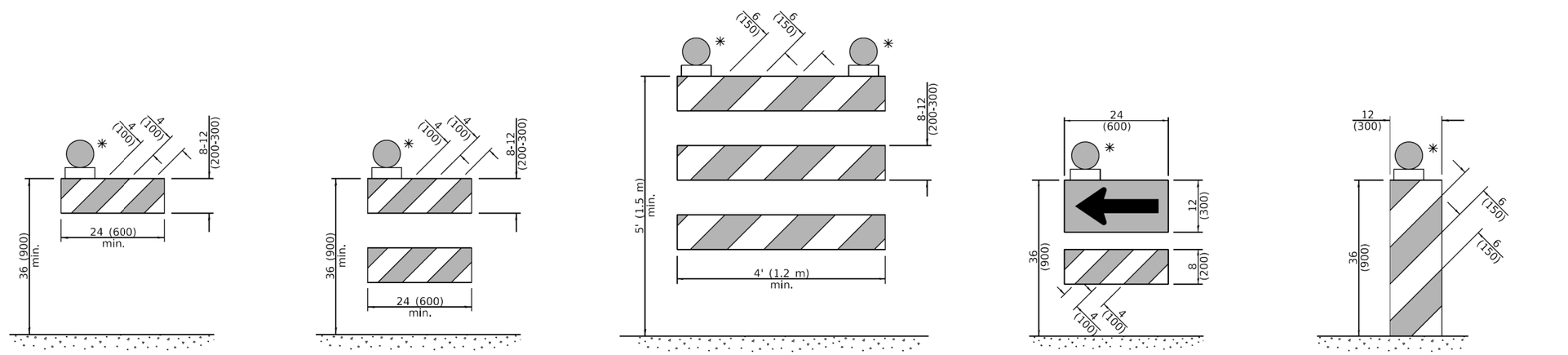
DAY OR NIGHTTIME USE

CONES

TUBULAR MARKER

VERTICAL PANEL
POST MOUNTED

DRUM



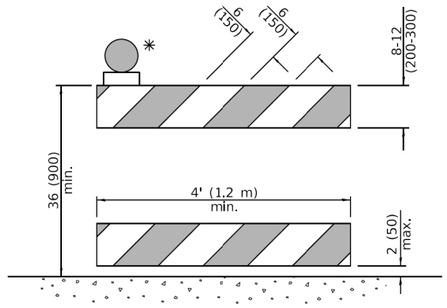
TYPE I BARRICADE

TYPE II BARRICADE

TYPE III BARRICADE

DIRECTION INDICATOR BARRICADE

VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

✳ Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-19

DATE	REVISIONS
1-1-19	Revised cone usage and
	added cones >36" (900 m) height.
1-1-18	Revised END WORK ZONE
	SPEED LIMIT sign from
	orange to white background.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

STANDARD 701901-08

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UNION PACIFIC

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CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER R-006

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

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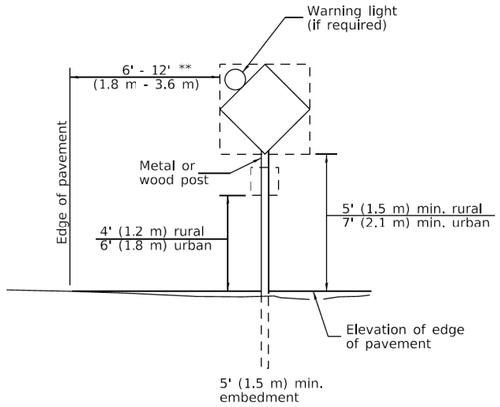
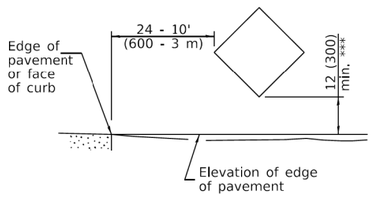


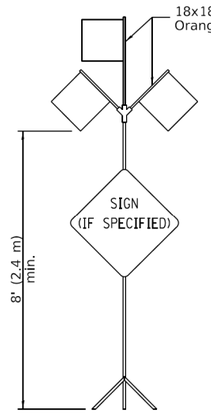
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

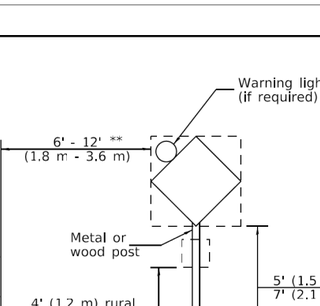


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



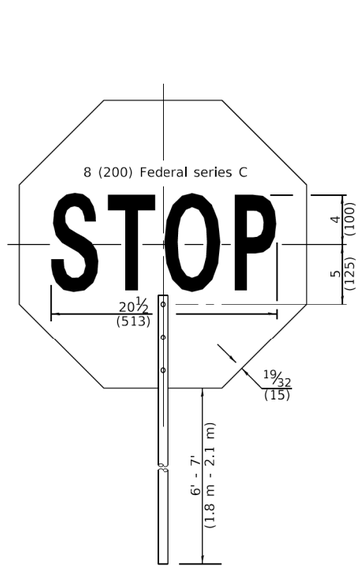
HIGH LEVEL WARNING DEVICE



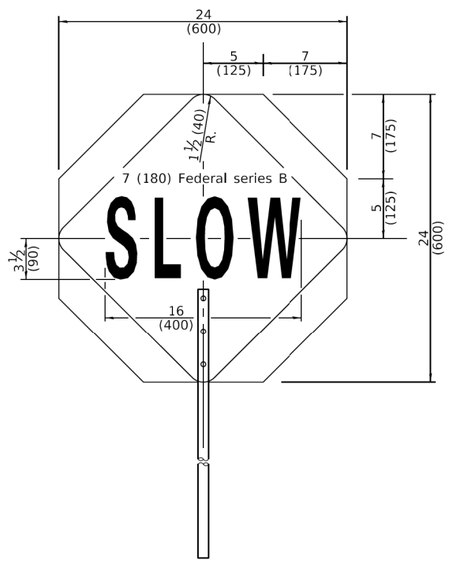
W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE



REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

ROAD CONSTRUCTION NEXT X MILES — G20-I104(0)-6036

END CONSTRUCTION — G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE	W21-III5(0)-3618
SPEED LIMIT XX	R2-I-3648
PHOTO ENFORCED	R10-I108p-3618 ****
$XXX FINE MINIMUM	R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT — G20-I103-6036

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

**** R10-I108p shall only be used along roadways under the juristiction of the State.

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

STANDARD 701901-08

WARNING !
FIBER OPTIC CABLE
ON RAILROAD R-O-W
CALL BEFORE YOU DIG
1-800-336-9193

ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

UNION PACIFIC

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER R-007

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

Color table: UPRR.tbl
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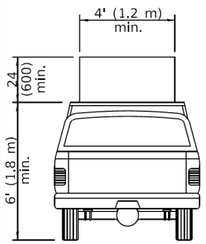
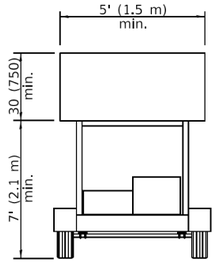
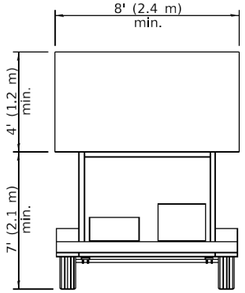
Default
5/25/2021



TYPE A
ROOF
MOUNTED

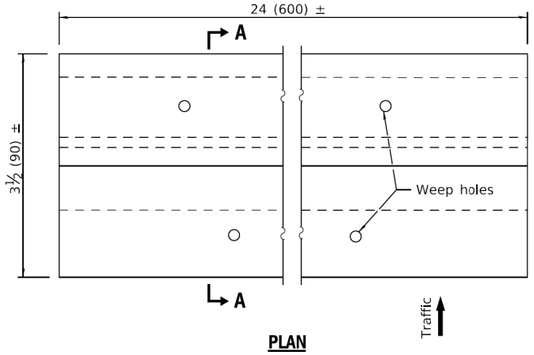


TYPE B
ROOF OR TRAILER
MOUNTED

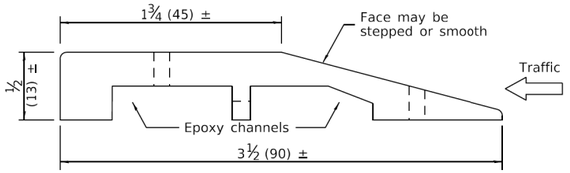


TYPE C
TRAILER
MOUNTED

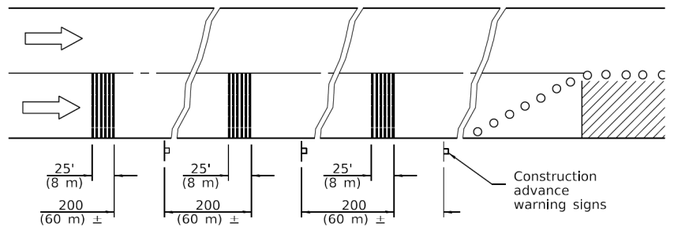
ARROW BOARDS

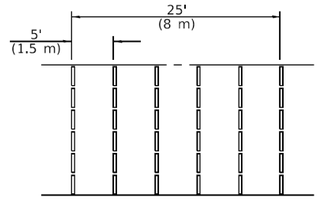


PLAN



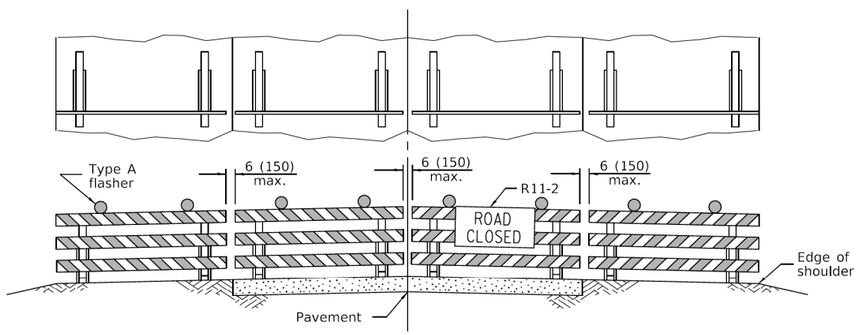
SECTION A-A





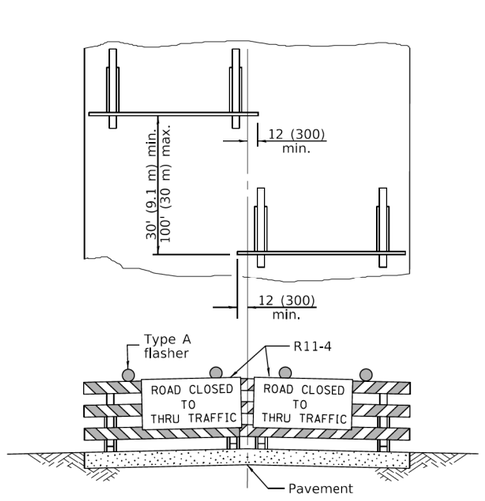
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD

Illinois Department of Transportation

APPROVED January 1, 2019
ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

TRAFFIC CONTROL DEVICES

(Sheet 3 of 3)

STANDARD 701901-08

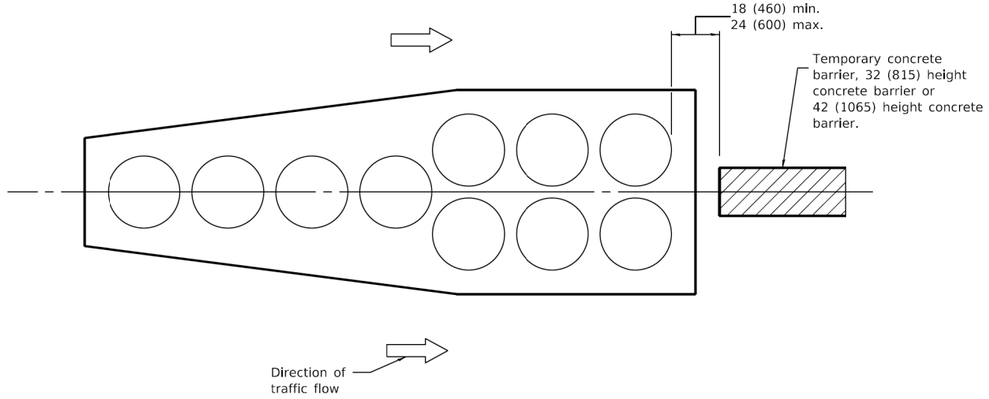
WARNING !
FIBER OPTIC CABLE
ON RAILROAD R-O-W
CALL BEFORE YOU DIG
1-800-336-9193

ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

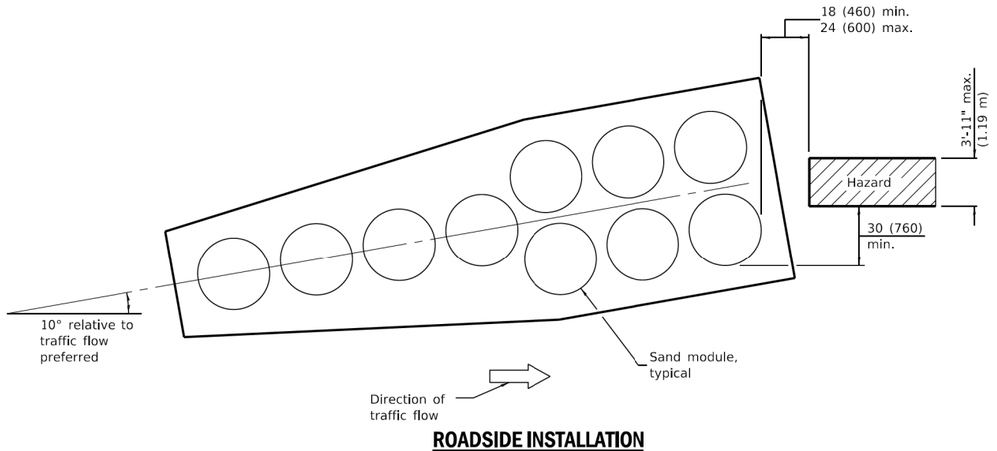
benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876	UNION PACIFIC RAILROAD	Director Structures Design
CHECKED BY: TK	PID:	LOCATION & DESCRIPTION: MP 1.41 ROCKWELL SUBDIVISION I-290 EISENHOWER BRIDGE MODIFICATIONS	
DATE: 05/28/21	BUDGET REF:		
SCALE: N.T.S	SHEET NUMBER R-008	SHEET TITLE: IDOT HIGHWAY STANDARDS DETAILS	



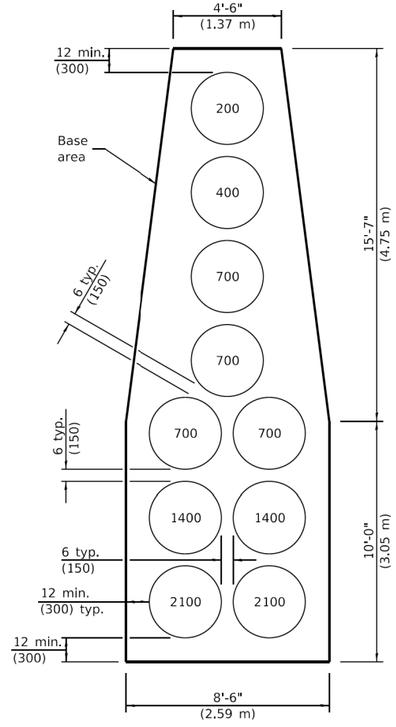
GORE INSTALLATION

(Traffic approaches on both sides)
(Test Level 2 array shown)



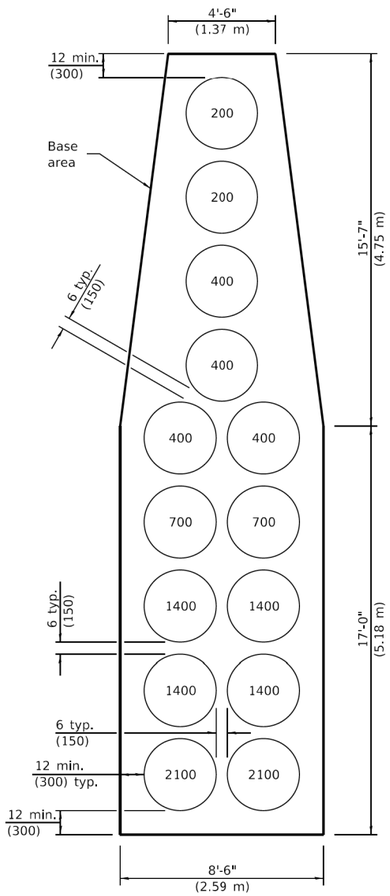
ROADSIDE INSTALLATION

(Traffic approaches on one side)
(Test Level 2 array shown)



TEST LEVEL 2 ARRAY

(For design speed less than or equal to 45 mph.)
(Numbers inside sand modules indicate sand weight in pounds.)



TEST LEVEL 3 ARRAY

(For design speed greater than 45 mph.)
(Numbers inside sand modules indicate sand weight in pounds.)

GENERAL NOTES

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED January 1, 2014
Michael Brand
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Revised distance from
	barrels to hazard.
1-1-13	Changed 'posted speed' to
	'design speed'.

SAND MODULE IMPACT ATTENUATORS

STANDARD 643001-02

WARNING !
FIBER OPTIC CABLE
ON RAILROAD R-O-W
CALL BEFORE YOU DIG
1-800-336-9193

ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

UNION PACIFIC

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER: R-009

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

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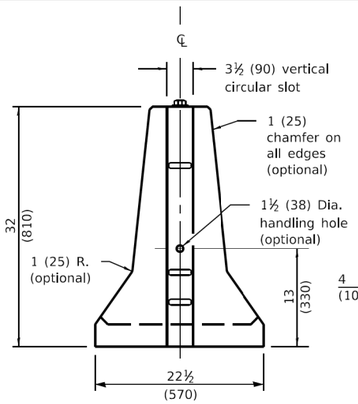
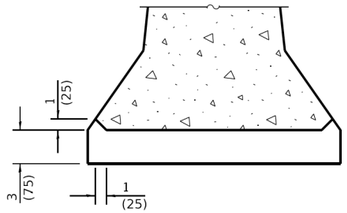
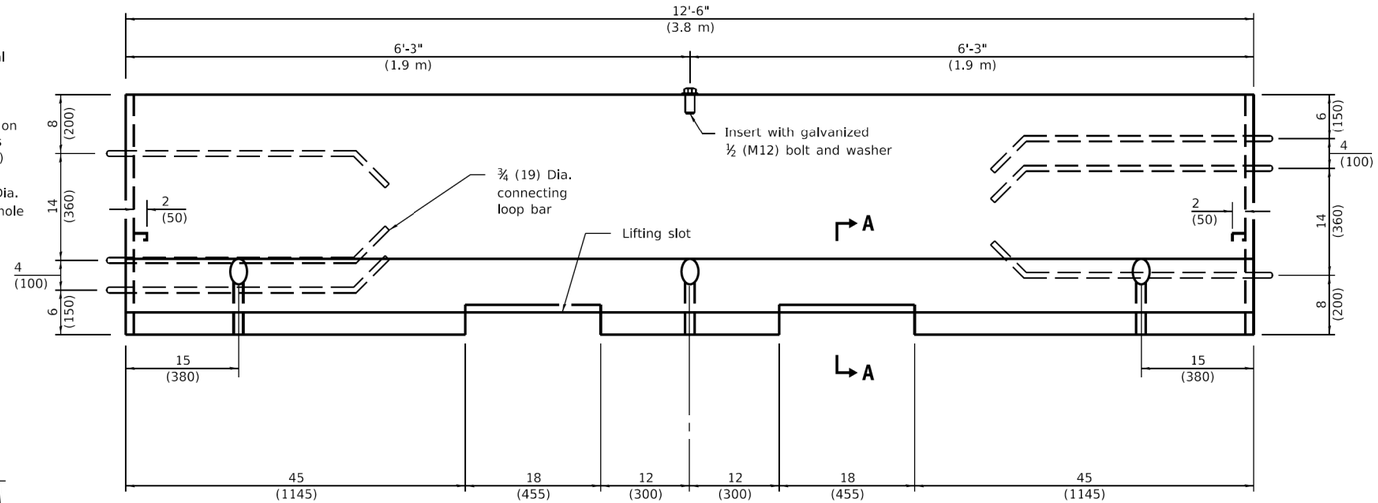
5/25/2021



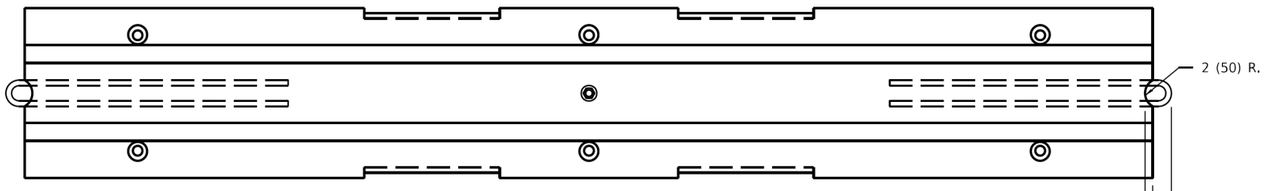
END VIEW
(Showing lifting slot)



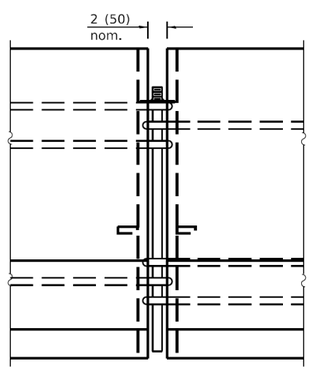
SECTION A-A
LIFTING SLOT



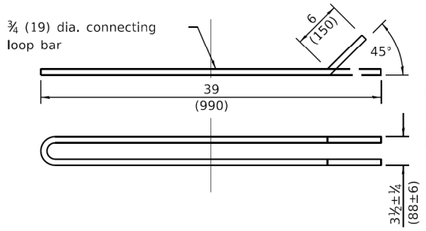
ELEVATION
(Showing connecting loop bars and vertical panel bolt/insert)



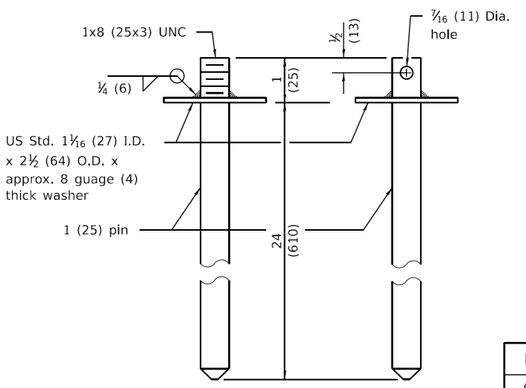
PLAN



CONNECTING DETAIL

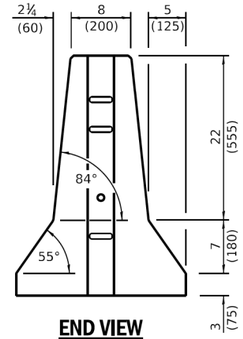


CONNECTING LOOP BAR

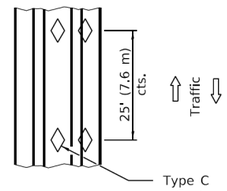


CONNECTING AND ANCHOR PINS
(End may be beveled ¼ (6) max.)

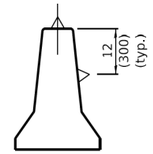
F SHAPE DESIGN



END VIEW



TOP VIEW



BARRIER WALL REFLECTORS

2½ (63) measured from face of barrier to end of loop bar

GENERAL NOTES

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or painted thereon with waterproof paint/ink.

The insert for the ½ (M12) bolt shall be capable of 3,000 lb (13 kN) pull-out strength.

When barrier separates opposing flows of traffic markers shall be on both sides of barrier.

See Standard 782006 for dimensions of Type C reflector.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

PASSED April 1, 2016
Michael Brand
ENGINEER OF POLICY AND PROCEDURES
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 10-1-02

DATE	REVISIONS
4-1-16	Rev. opt. chamfer on all
	edges to 1 (25). Reference
	to Std. 635011 now 782006.
1-1-12	Omitted 'ALTERNATE' from
	connecting and anchoring
	pins detail.

TEMPORARY CONCRETE BARRIER

(Sheet 1 of 2)

STANDARD 704001-08

WARNING !
FIBER OPTIC CABLE
ON RAILROAD R-O-W
CALL BEFORE YOU DIG
1-800-336-9193

ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876
CHECKED BY: TK	PID:
DATE: 05/28/21	BUDGET REF:
SCALE: N.T.S	SHEET NUMBER: R-010

UNION PACIFIC RAILROAD — Director Structures Design

LOCATION & DESCRIPTION:
MP 1.41 ROCKWELL SUBDIVISION
I-290 EISENHOWER BRIDGE MODIFICATIONS

SHEET TITLE:
IDOT HIGHWAY STANDARDS DETAILS

Color table: UPRR.tbl
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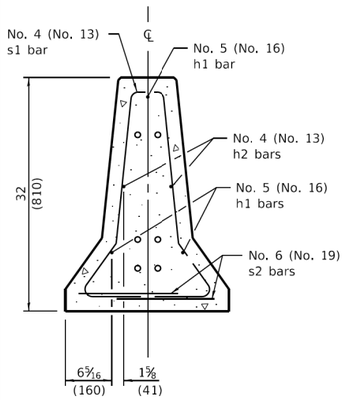
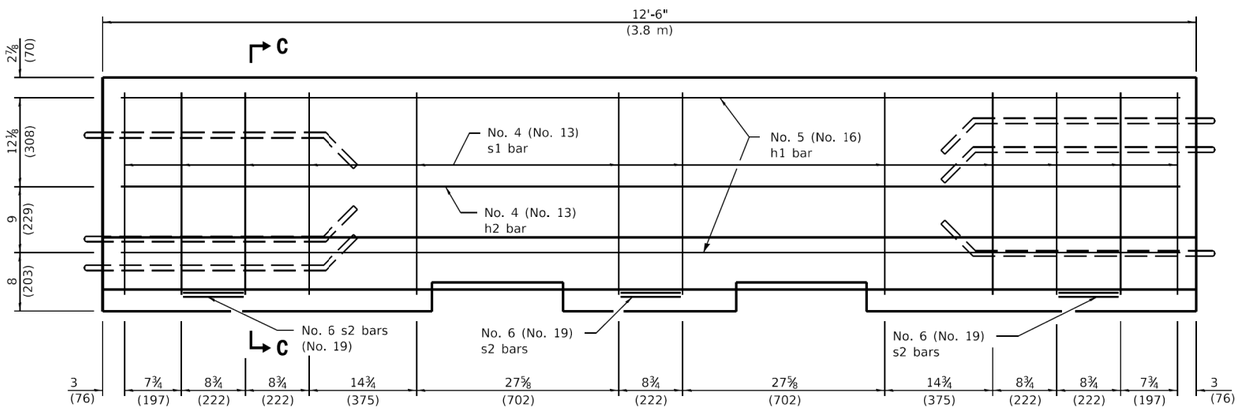
5/25/2021

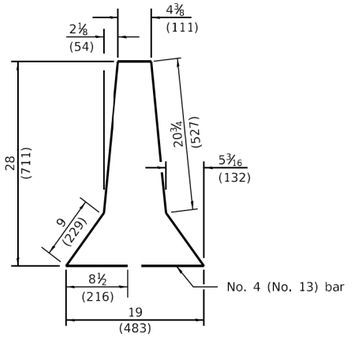
F SHAPE DESIGN



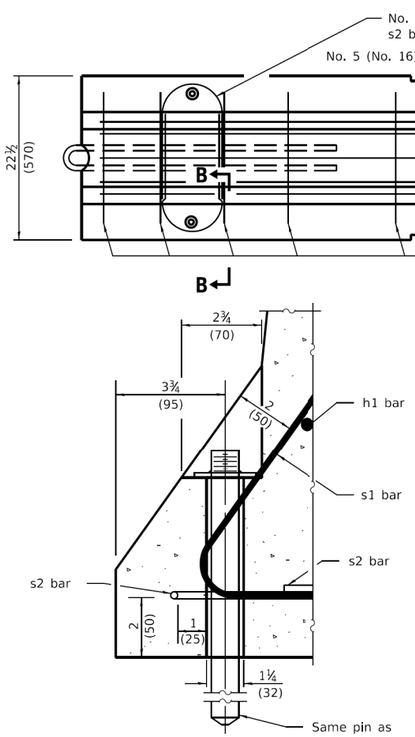
SECTION C-C



ELEVATION
(Reinforcement)

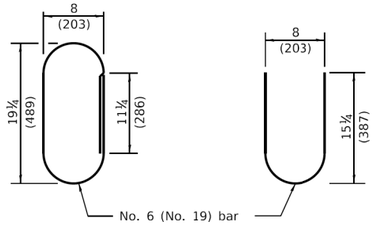


s1 BAR

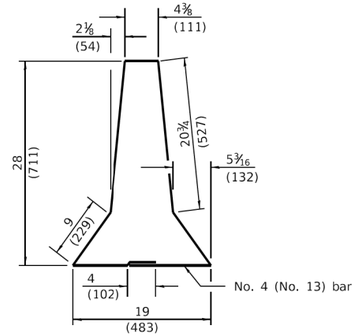


PLAN

SECTION B-B
ANCHORING DETAIL



ALTERNATE s2 BARS



ALTERNATE s1 BAR

Illinois Department of Transportation

PASSED April 1, 2016
Michael Brand
ENGINEER OF POLICY AND PROCEDURES
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 10-1-02

TEMPORARY CONCRETE BARRIER

(Sheet 2 of 2)

STANDARD 704001-08

WARNING !
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ISSUED FOR CONSTRUCTION

REVISION	BY	DATE	DESCRIPTION

benesch
Alfred Benesch & Company
35 W. Wacker Drive Suite 3300
Chicago, Illinois 60601
312-565-0450 Job No. 210070.11

DRAWN BY: KP	WORK ORDER: 31876	UNION PACIFIC RAILROAD	Director Structures Design
CHECKED BY: TK	PID:	LOCATION & DESCRIPTION: MP 1.41 ROCKWELL SUBDIVISION I-290 EISENHOWER BRIDGE MODIFICATIONS	
DATE: 05/28/21	BUDGET REF:		
SCALE: N.T.S	SHEET NUMBER R-011	SHEET TITLE: IDOT HIGHWAY STANDARDS DETAILS	

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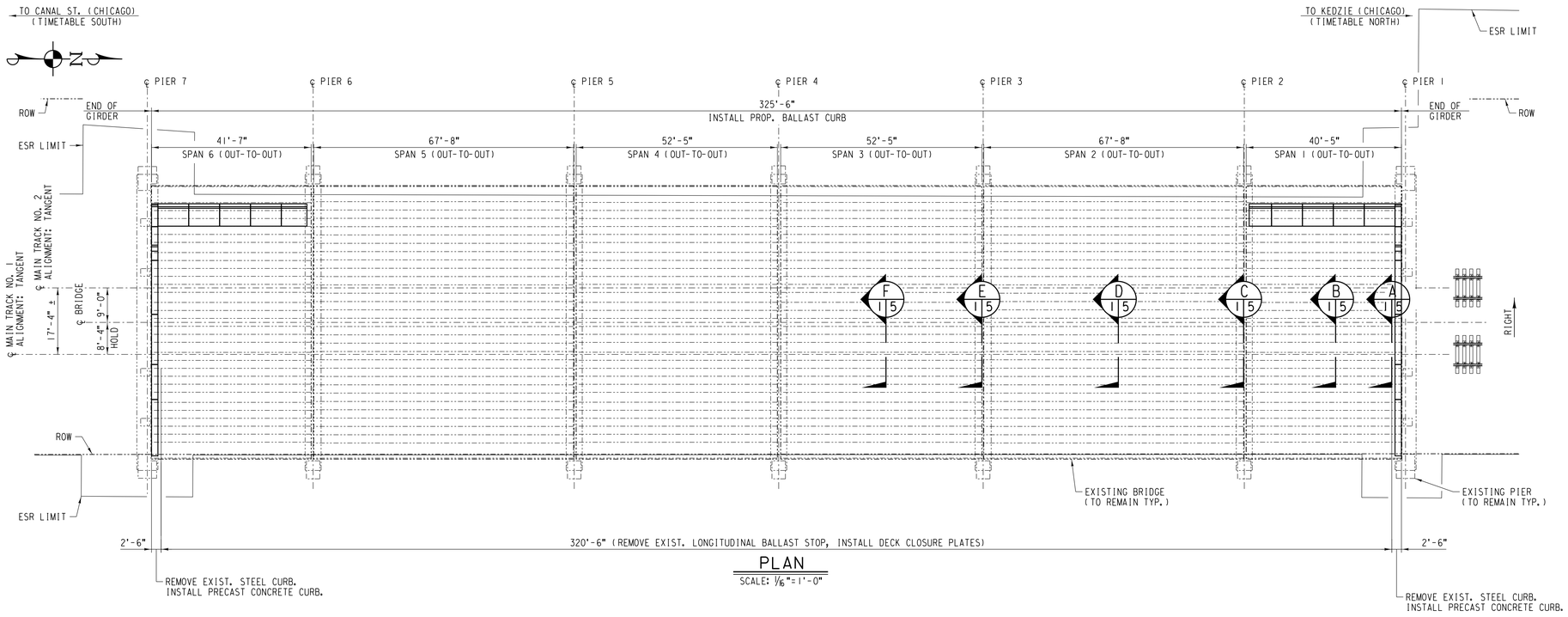
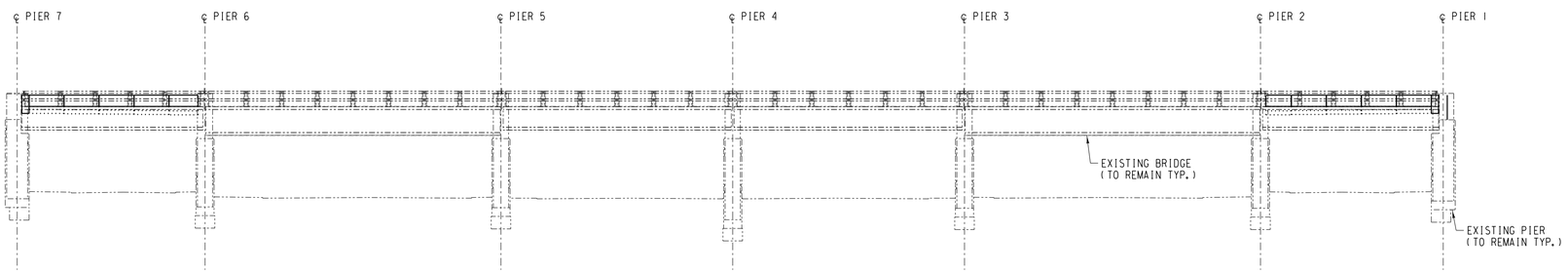
5/25/2021



PLAN
SCALE: 1/16"=1'-0"



ELEVATION
SCALE: 1/16"=1'-0"

NOTE:
DUE TO THE SIGNIFICANT PROPOSED RAIL RAISE OVER VAN BUREN STREET, I-290 EXPRESSWAY AND CONGRESS PARKWAY, CONTRACTOR AND UPRR MBC SHOULD CONSIDER PHASING CONSTRUCTION WORK AT ALL THREE LOCATIONS AT THE SAME TIME.

LETTER SERIES
SHEET NO. CUT ON — SHEET NO. SHOWN ON

SECTION DESIGNATION

DRAWING SCHEDULE

	SHEET NO.	DESCRIPTION
THIS SET	L1	GENERAL ARRANGEMENT & BILL OF MATERIAL
	L2	GENERAL NOTES & INSTALLATION PROCEDURE
	L3	LONGITUDINAL BALLAST STOP REMOVAL DETAILS
	L4	DRAINAGE TROUGH MODIFICATION DETAILS
	L5	DIAPHRAGM & BALLAST CURB INSTALLATION DETAILS
	L6	CURB INSTALLATION - CONSTRUCTION SEQUENCING - PHASE 1 TYPICAL SECTION
	L7	CURB INSTALLATION - CONSTRUCTION SEQUENCING - PHASE 2 TYPICAL SECTION
	L8	CURB INSTALLATION - EXISTING & PROPOSED ELEVATIONS
	L9	CURB INSTALLATION - PROPOSED ELEVATIONS AT ACCESS BRIDGE
	L10	PRECAST CONCRETE CURB PCC-1R/L & CURB END HANDRAIL CEH-20R/L
	L11	PRECAST CONCRETE CURB PCC-2A/B/C
	L12	PRECAST CONCRETE CURB PCC-3
	L13	PRECAST CONCRETE CURB PCC-4
	L14	CAST-IN-PLACE CURB EXTENSIONS CE-1, CE-2, & CE-3
	L15	LONGITUDINAL CURB FOR ACCESS ROAD - ELEVATION & TYPICAL SECTION
	L16	PRECAST CONCRETE CURB PCC-10, PCC-11 & PCC-12
	L17	PRECAST CONCRETE CURB PCC-13 & PCC-14A/B

REF. NO.	DWG. NO.	SHEET NO.	REV. NO.	DESCRIPTION
1	531100	T2 & T3	-	GENERAL NOTES

BILL OF MATERIAL

TOTAL	UNIT		
1	LOT	DECK CLOSURE PLATES (SHEET 3)	ORDERED BY CONTRACTOR
5	EA	DRAINAGE TROUGH DT1 (SHEET 4)	
5	EA	½-12" DIA. 10 GA. x 3'-10⅜" PERFORATED, CORRUGATED, GALVANIZED PIPE (SHEET 4)	
5	EA	PIPE BRACKET PB1 (SHEET 4)	
15	EA	½" DIA. x 1'-3" THREADED ROD	
10	EA	DIVIDER PLATE DP1 (SHEET 4)	
1	LOT	DECK WATERPROOFING - MASTIC	
1	LOT	DECK WATERPROOFING - MEMBRANE	
1	LOT	DECK WATERPROOFING - 1" ASPHALT PLANK	
1	LOT	GIRDER DIAPHRAGMS (SHEET 5)	
1	LOT	BALLAST CURB MATERIAL SCHEDULE (SHEET 5)	
1	LOT	PAINT FOR STRUCTURAL STEEL	
2	EA	PRECAST CONCRETE CURB PCC-1	
2	EA	PRECAST CONCRETE CURB PCC-2A	
2	EA	PRECAST CONCRETE CURB PCC-2B	
2	EA	PRECAST CONCRETE CURB PCC-2C	
1	EA	PRECAST CONCRETE CURB PCC-3R	
1	EA	PRECAST CONCRETE CURB PCC-3L	
1	EA	PRECAST CONCRETE CURB PCC-4R	
1	EA	PRECAST CONCRETE CURB PCC-4L	
2	EA	PRECAST CONCRETE CURB PCC-10	
2	EA	PRECAST CONCRETE CURB PCC-11	
2	EA	PRECAST CONCRETE CURB PCC-12	
2	EA	PRECAST CONCRETE CURB PCC-13	
1	EA	PRECAST CONCRETE CURB PCC-14A	
1	EA	PRECAST CONCRETE CURB PCC-14B	
1	EA	CURB END HANDRAIL CEH-20R	
1	EA	CURB END HANDRAIL CEH-20L	
1	LOT	GUARDRAIL ASSEMBLY FOR LONGITUDINAL CURB	
1	LOT	ANTI-GRAFFITI COATING	
1	LOT	EPOXY CONCRETE	
1	LOT	LIQUID SPRAY-ON WATERPROOFING	

NOTE:
ALL NOTES NOT PROVIDED IN THESE PLANS SHALL BE PER STD. DWG. 531100 SHTS. T2 AND T3.

POSTCONSTRUCTION COMPLIANCE

Contractor or UPRR Manager in charge of construction to provide to the office of the Director Structures Design as-built drawings confirming that the project was constructed in compliance with the plans and indicating any construction variances.

IN CHARGE OF CONSTRUCTION — DATE

MATTHEW F. BECKER
081-007755
LICENSED
STRUCTURAL
ENGINEER
EXPIRATION DATE: 11-30-2022
DATE: 02-12-2021

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS:
FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY:	JFH / DAD
DRAWN/CHK BY:	JFH / DAD
UPRR ENGINEER:	DEH / ADS
SHT NO.:	L1 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION:
BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE:
GENERAL ARRANGEMENT & BILL OF MATERIAL

FILE NAME: C:\Users\mromirez\Desktop\roo3141_bil.dgn

PLOTTED: 5/27/2021 11:17:09 AM

GENERAL NOTES

1. All work requirements shown on these drawings and not otherwise detailed shall be accomplished as specified in Union Pacific Railroad (UPRR) Specifications and the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering. In the event of conflicts between specifications, the more restrictive shall apply.

2. Construction means and methods shall comply with All Permits Issued (API) package.

3. Field verify all dimensions, stations and elevations prior to start of construction.

4. Contact the Union Pacific "Call Before You Dig" number 90 days (not less than 60 days) prior to proposed construction start date. Prior to construction, confirm that all necessary relocations have been completed. The CBYD number is: 1-800-336-9193.

5. Location of known utilities is approximate. Location shall be verified prior to construction. Notify 811 Chicago at least 48 hours prior to construction.

6. The constructor hereby warned that the existing steel may contain lead and/or asbestos. accordingly, the constructor shall comply with the following regulations where applicable:

    1. OSHA regulation "Lead Exposure in Construction 49 CFR 1926.62.

    2. OSHA regulation "Asbestos 49 CFR 1926.1101.

    3. EPA "Resource Conservation and Recovery Cct of 1976" 40 CFR 240 through 280.

    4. Clean Air Act, 40 CFR, Subchapter C, Parts 50 through 99.

    5. Clean water act, 40 CFR, Subchapter D, Parts 100 through 149.

    The constructor shall also comply with any additional federal regulations, as well as all state and local government regulations and up regulations as they apply to this project.

DESIGN NOTES

1. The proposed substructure have been designed in accordance with the AREMA Manual for Railway Engineering, Chapter 8: Concrete Structures and Foundations and Chapter 15: Steel Structures.

CONSTRUCTOR NOTES

1. Coordinate all construction activities with the Railroad.

2. Before ordering any material, Constructor shall make a detailed field inspection of the site verifying all pertinent dimensions and elevations. Any variations in dimensions or elevations from those shown on the drawings shall be reported immediately to the UPRR Project Manager.

3. Any modifications to this design shall be approved by the UPRR Office of AVP Engineering Design prior to construction.

4. Verify the location, relocation, abandonment, and/or temporary support of all utilities affected by the construction of the structure and embankment and coordinate these activities with the appropriate utility companies, agencies and/or authorities.

5. Apply for and obtain all construction permits necessary to perform the work.

6. Bill of Material and Schedules are provided for information only. Constructor shall be responsible for providing all material, not provided by the Railroad, required to complete the work.

7. Provide the Railroad with a detailed construction plan defining the activity, schedule and procedure for each aspect of the work. Construction shall not begin until the construction plan has been approved by the Railroad.

8. Provide all temporary structures (shoring, bracing and/or falsework) required to support and protect the existing embankments and structures affected by the work. Provide the Railroad with details, design and procedure for all temporary structures. All temporary structures shall be designed, signed and sealed by a professional engineer registered in the State of Illinois. All temporary structures shall be approved by the UPRR Office of AVP Engineering Design prior to beginning construction.

9. Accomplish activities within the schedule specified in the approved construction plan.

WATERPROOFING

1. Proposed deck waterproofing shall match original three layer system comprising mastic, membrane waterproofing, and asphalt plank.

STRUCTURAL STEEL NOTES

1. Materials, fabrication and erection shall be in accordance with Chapter 15: Steel Structures of the AREMA Manual for Railway Engineering.

2. Fabrication of structural steel shall be performed by a Fabricator certified under AISC Quality Certification Program for Major Steel Bridges (CBR) and Fracture Critical Endorsement (FCE).

3. Material shall conform to the following requirements:

Structural Steel	ASTM A709 Grade 50W F2
Anchor Rods	ASTM F1554 Grade 36

4. Steel designated as fracture critical (FCM) shall comply with the requirements of AREMA Chapter 15, Section 1.14. Testing shall be performed for a minimum service temperature corresponding to Zone 2. Killed fine grain practice shall be used in the manufacture of FCM steel.

5. Structural steel shall be of the type and quality as designated on the drawings. Material supplied shall meet the longitudinal Charpy V-notch requirements for Zone 2 as specified in the AREMA Manual for Railway Engineering.

6. All shop and field bolted connections shall use ⅞" dia. high strength bolts with nut and hardened steel washer. High strength bolts shall conform to ASTM F3125 Grade A325, type 3. Nuts shall conform to ASTM A563, lubricated. Washers shall conform to ASTM F436 and shall be placed under the element to be turned. Diameter of bolt holes shall be 1/16" larger than the nominal bolt diameter, unless noted otherwise.

7. High strength steel bolts shall be installed in accordance with the "Turn of the Nut Method". The procedure for installation is as specified by the Research Council on Structural Connections. Alternative bolt installation methods are subject to approval by the UPRR Office of AVP Engineering Design.

STRUCTURAL STEEL NOTES (CON'T.)

8. Bolts shall be installed so that the bolt heads are on the outside (exposed) surface of the member unless shown otherwise on the drawings. Threads shall be excluded from the shear plane in all connections.

9. All welding shall be in accordance with the Bridge Welding Code, AWS D1.5. Welding of fracture critical members shall also conform to the applicable provisions of AREMA Manual for Railway Engineering, Chapter 15: Steel Structures. Welding to be allowed only as shown on the drawings and approved shop drawings. Weld metal material properties shall match structural steel.

10. Welded joints are to be AWS prequalified. Alternate joint details are subject to approval by the UPRR Office of AVP Engineering Design. All welding shall be done to minimize distortion. The welding sequence and procedures to be used shall be submitted for approval to the UPRR Office of AVP Engineering Design.

11. Fully automatic submerged arc welding shall be required for this project. Manual shielded arc welding or semi-automatic submerged arc welding shall be allowed only if fully automatic submerged arc welding is not practical. Alternate welding methods are subject to approval by the UPRR Office of AVP Engineering Design.

12. When welding ASTM A709 Grade 50W or ASTM A588 steel, weld metal shall be equivalent to ASTM A709, Grade 50W or ASTM A588 steel in strength, corrosion resistance and weathered appearance.

13. The Fabricator shall submit copies of welders' certificates for all welding processes. Welders shall possess valid qualifications.

14. Nondestructive testing of welds shall be performed in accordance with the AREMA Manual for Railway Engineering Chapter 15: Steel Structures, the Bridge Welding Code, AWS D1.5, Section 3.5 and as follows:

    a. 100% UT inspection of full penetration groove welds.
    b. 100% MP inspection of fillet welds on bearing stiffeners.
    c. 25% MP inspection of all other welds. If any defects are found, then 100% MP inspection shall be required.

    Test results shall be furnished to the UPRR Office of AVP Engineering Design.

15. All bearing stiffeners shall be vertical under final dead loads. All intermediate stiffeners shall be placed normal to the girder bottom flange. All stiffeners and girder end plates shall be placed perpendicular to the web.

16. Flame cutting of girder webs and flanges shall be performed in accordance with the AREMA Manual for Railway Engineering Chapter 15, Article 3.1.6: Thermal Cutting, Copes and Access Holes. Preheating is required. Preheating shall be in accordance with the following:

Thickness	Minimum Preheat Temperature
Up to 1"	50° F
Over 1" to 2"	100° F
Over 2"	200° F

17. For welds designated to be ground flush, grinding shall be in the direction of applied stress.

18. All joints and edge preparation, removal of unacceptable weld or base metal, and backgouging shall be completed by machining. Rough removals may be completed by non-mechanical means.

19. The Fabricator shall submit three copies of detailed shop drawings prior to beginning fabrication. Fabrication shall not begin until shop drawings are approved.

20. All Fabricator questions and correspondence shall be addressed to Donovan Holder:

    Union Pacific Railroad
    1400 Douglas St., STOP 0910
    Omaha, NE 68179
    (402) 544-4823
    dholder@up.com

21. Reaming of holes during field erection is not allowed, unless approved by the Railroad.

22. All structural steel shall be blast cleaned prior to shipment as follows, unless noted otherwise. All ASTM A709 steel, other surfaces visible from sides and all faying surfaces regardless of location: Minimum SSPC-SP6, Commercial Blast Cleaning. All remaining steel surfaces: SSPC-SP1, Solvent Cleaning. All steel members shall be clearly marked after blast cleaning has been completed.

23. All steel components shall be inspected before shipment. Photographs of Fabricator's progress shall be submitted to the UPRR Office of the AVP Engineering Design.

24. All material certifications and quality control test results shall be submitted to Union Pacific Railroad at project completion.

PAINT SYSTEM

GENERAL

1. All new structural steel shall be painted in accordance with Section 506 of IL Standard Specification. Provide the paint system (surface preparation, primer, intermediate, and appearance coats as required) shown on the plans.

2. Provide paint in accordance with SECTION 506, "Structural Steel Paints-Performance". Provide inorganic zinc (IOZ) prime coat, epoxy intermediate coat, and urethane appearance coat for all outer surfaces except those to be in contact with concrete. Paint system shall be procured from one vendor and be listed in the latest version of IDOT's approved material producer list for "Paints (Structural, High Corrosion Environment)".

3. Perform shop painting as required in SECTION 506, "Paint, Shop Application for Steel Bridge Members". Grind corners on new steel items to be painted that are sharp or form essentially 90° angles to an approximately 1/16 in. flat surface before blast cleaning. (A corner is the intersection of 2 plane faces.) This requirement does not apply to punched or drilled holes. Do not omit shop paint to preserve original markings.

4. Ensure painted faying surfaces meet the required slip and creep coefficients for bolted connections as outlined in SECTION 506, "Paint, Shop Application for Steel Bridge Members". Slip coefficient for faying surfaces shall be Class A (minimum slip coefficient of 0.33). Perform all required testing at no expense to the company.

5. Color shall be Battleship Gray.

PAINT SYSTEM (CON'T.)

QUALIFICATIONS

1. The coating manufacturer's authorized representative shall provide written statements attesting that the applicator has been instructed on the proper preparation, mixing and application procedures for the coatings specified.

2. Applicators shall have a minimum of 10 years experience in the application of similar products on similar projects.

    a. Provide references for a minimum of 3 different projects completed in the last five years with a similar scope of work.
    b. Include the name and address of the project, size of the project in value (coating), and the contact person with phone number and email address.

3. The painting/coating contractor shall be SSPC QP-3 certified by SSPC or SPE-PI certified by AISC.

MISCELLANEOUS

1. Furnish coating system through one manufacturer unless noted otherwise.

2. Deviation from the specified mil thickness or product type is not allowed without approval, in writing, by manufacturer's representative, and written authorization of the Engineer.

3. Material shall not be thinned unless approved, in writing, by the coating manufacturer's authorized representative.

4. The owner will provide a full-time certified NACE certified coatings Inspector (Inspector) to oversee all surface preparation and coating work. All work relative to preparation for and application of coatings shall be conducted under the supervision of the Inspector.

SHOP DRAWINGS SUBMITTALS

1. All required submittals shall be submitted to the Engineer for review.

2. Applicator experience qualifications.

    a. No submittal information will be reviewed until the Engineer has received and approved the applicator qualifications.

PRODUCT TECHNICAL DATA INCLUDING

1. Acknowledgement that products submitted meet the requirements of the standards referenced.

2. Manufacturer's application instructions.

3. Manufacturer's surface preparation qualifications.

4. Contractor's written plan of action for containing airborne particles created by the blasting operation and the location of disposal of spent contaminated blasting media.

5. Coating manufacturer's recommendation on abrasive blasting.

6. Manufacturer's recommendation for universal barrier coat.

7. Manufacturer's recommendation for providing temporary or supplemental heat, dehumidification, or other environmental control measures.

8. Chain of Custody and laboratory toxicity results.

9. Results of quality assurance testing indicating all corrective actions taken.

10. Manufacturer's statement regarding applicator instruction on product use.

11. Certification that the High Performance Coating Systems proposed for use have been reviewed and approved by a Senior Corrosion Specification Specialist employed by the coating manufacturer.

12. SSPC QP-3 Certificate or AISC SPE-PI Certificate.

INFORMATIONAL SUBMITTALS

1. All required submittals shall be submitted to the Engineer for review.

2. Approval of application equipment.

3. Applicator's daily records.

    a. Submit daily records at end of each week in which coating work is performed unless requested otherwise by Engineer's on-site representative.

4. Materials list of items proposed to be provided under this Section.

5. Manufacturer's specifications, recommended installation procedures and equipment, Material Safety Data Sheets (MSDS), and other pertinent data needed to prove compliance with the specified requirements.

6. Tools for mixing and application, as approved by the manufacturer of the coating system supplier.

7. Manufacturer's instruction for field touch-up of damaged coating.

HANDLING COATED MATERIAL

1. Store, handle, and place coated material with care and in a manner that will minimize damage to coating and will not reduce its effective protective value.

2. Repair damaged surfaces by brush, roller or spray application.

3. Handle coated work in a manner that will prevent flex sufficient to crack the coating, especially when temperature is below 40 degrees Fahrenheit.

4. Do not place protected surfaces on strips or skids until coating has dried to the touch. Refer to manufacturer recommendations for time allowed for these criteria. Use wide fabric slings in lifting, and strips, slings, blocks, skids, cradles, and other supports shall provide ample bearing areas.

5. In transporting, fasten and protect coated materials in a manner that will prevent movement and preclude chafing and rubbing. When unloaded, do not dump or drop coated materials.

6. Place protected material in a position carefully on suitably prepared beds and with a minimum of handling.

SITE PREPARATIONS

1. Install traffic protection shield on girder bottom flanges, between the girder lines adjoining the existing longitudinal ballast stop. Shield shall extend the full length of the structure to protect traffic below from falling debris. Contractor shall coordinate with Illinois Department of Transportation (IDOT) and Chicago Transit Authority (CTA) to arrange roadway closures and track outages for installation of the traffic protection shield. Design of the traffic protection shield shall be approved by a Professional Engineer licensed in the State of Illinois. No excavation or removal work shall occur until the shield is fully installed and secured.

2. Contractor shall coordinate with Union Pacific railroad (UPRR) to arrange plans for site access, construction staging, and any necessary track outages.

FIELD SIDE EXCAVATION & BALLAST STOP REMOVAL

1. Excavate ballast from the field side of the existing longitudinal ballast stop to expose the base of the ballast stop.

2. Remove and discard top cover plate from longitudinal ballast stop. Cover opening securely with approved material to prevent water and debris from falling onto the debris shield.

3. Cut and remove the field side longitudinal ballast stop plate along a horizontal line located no less than ¼" above the top of the existing steel deck plate.

4. Grind remainder of field side longitudinal ballast stop plate flush with top of existing steel deck plate.

5. Remove field side ballast stop support angles. do not remove trackside ballast stop support angles at this time.

6. Cover the drainage troughs at the piers to prevent debris from falling into and obstructing the drains.

TRACK SIDE EXCAVATION & BALLAST STOP REMOVAL

1. Excavate ballast from the trackside of the longitudinal ballast stop to expose the base of the ballast stop. Live load shall not traverse the track adjacent to excavation until completion of step 6.

2. Cut and remove the trackside longitudinal ballast stop plate and support angles along horizontal line no less than 4 above the top of the existing deck waterproofing layers.

3. Remove and discard all loose or damaged asphalt plank, membrane waterproofing or mastic from the base of the ballast stop, as shown in sheet 3, phase 2 detail. Clean the exposed surface of the remaining waterproofing materials to establish complete bonding with new sealant.

4. Replace removed waterproofing material with epoxy concrete, up to the elevation of the top of the remaining waterproofing layers.

5. Install temporary ballast retainer panel placing the slotted stiffeners over the remaining stub of the ballast stop plate.

6. Backfill ballast against the trackside face of the temporary ballast retainer. UPRR forces to resurface the track if required.

7. Cut, remove and discard remainder of ballast stop support angles on the track side of the temporary ballast retainer. Grind flush to top of existing deck plate.

8. Install diaphragms between girder webs as shown on sheet 5.

9. Install longitudinal closure plates.

10. Install mastic, membrane waterproofing, and asphalt board to match the elevation of the existing deck waterproofing layers.

DECK DRAINAGE MODIFICATIONS

1. Remove and discard vertical drainage troughs and perforated cover plate at the pier expansion joints. this task is to be completed concurrently with the removal of the longitudinal ballast stop plates.

2. Remove all debris and thoroughly clean the inside of the horizontal drainage trough to create a clean surface for the adhering of the new drainage trough segment.

3. Install the new drainage trough segments with an approved pliable adhesive at the interface with the existing trough to create a watertight seal.

4. Install the new perforated, corrugated metal pipe overlapping the existing pipe as shown on Sheet 4, Elevation-Proposed Drainage Trough.

5. Install mastic, membrane waterproofing, and asphalt board 3'-0" on each side of the pier expansion joint. Place epoxy concrete on each side of corrugated pipe as shown on Sheet 4, Section C.

6. Remove the temporary ballast retainers and backfill ballast from the field side excavation.

EPOXY CONCRETE NOTES

1. For epoxy concrete installation, use Sikadur-42 Grout-Pak, or approved equal, per the manufacturer's specifications.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS:
FINAL — STATUS
05/28/2021 — DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER
05/28/2021 — DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY:	DRAWN/CHK BY:	UPRR ENGINEER:	SHT NO.:
JFH /DAD	JFH / DAD	DEH / ADS	L2 of L17

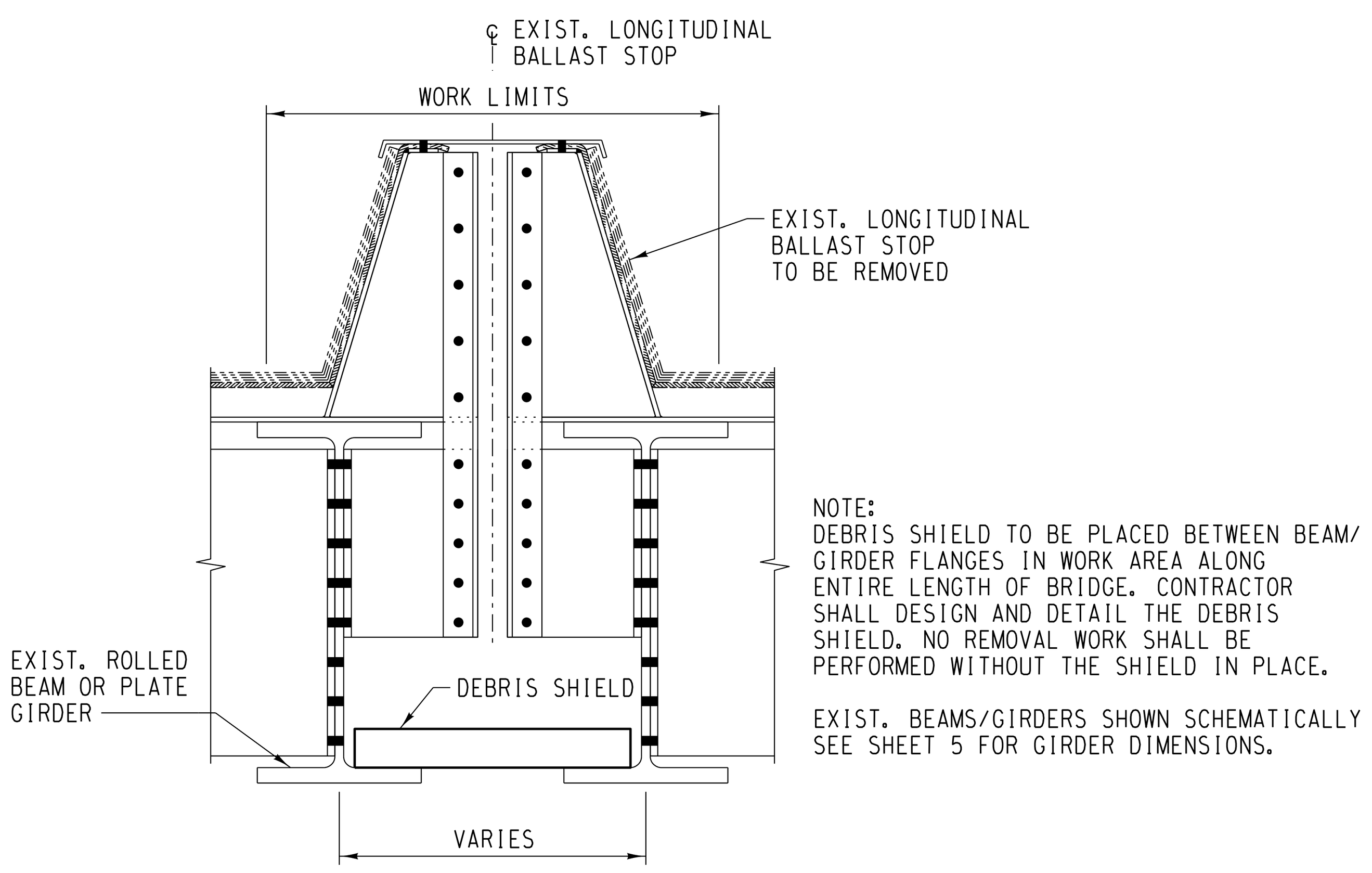
UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: GENERAL NOTES & INSTALLATION PROCEDURE

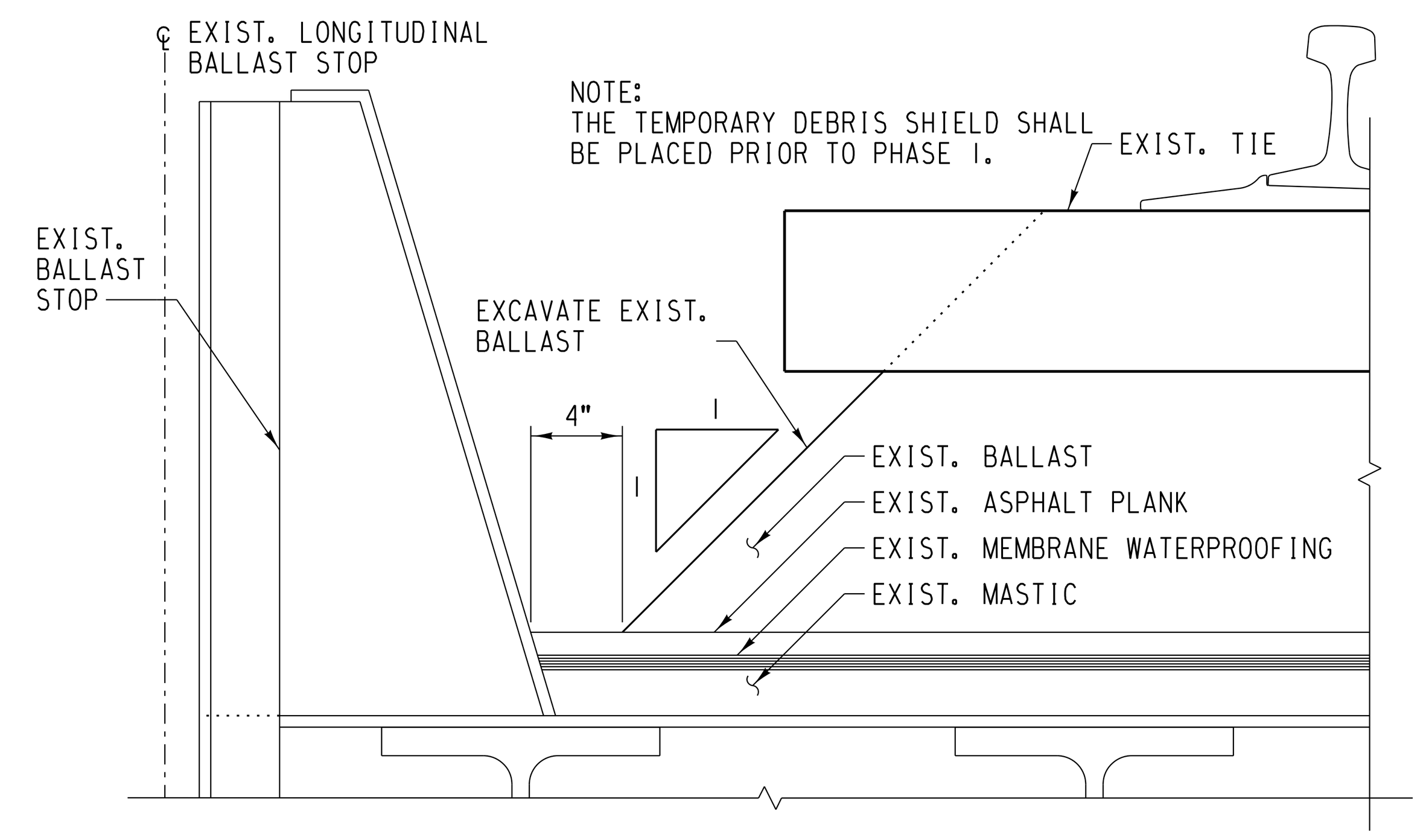
FILE NAME: C:\Users\mcramirez\Desktop\rs00141_b1.dgn

PLOTTED: 5/27/2021 11:17:09 AM



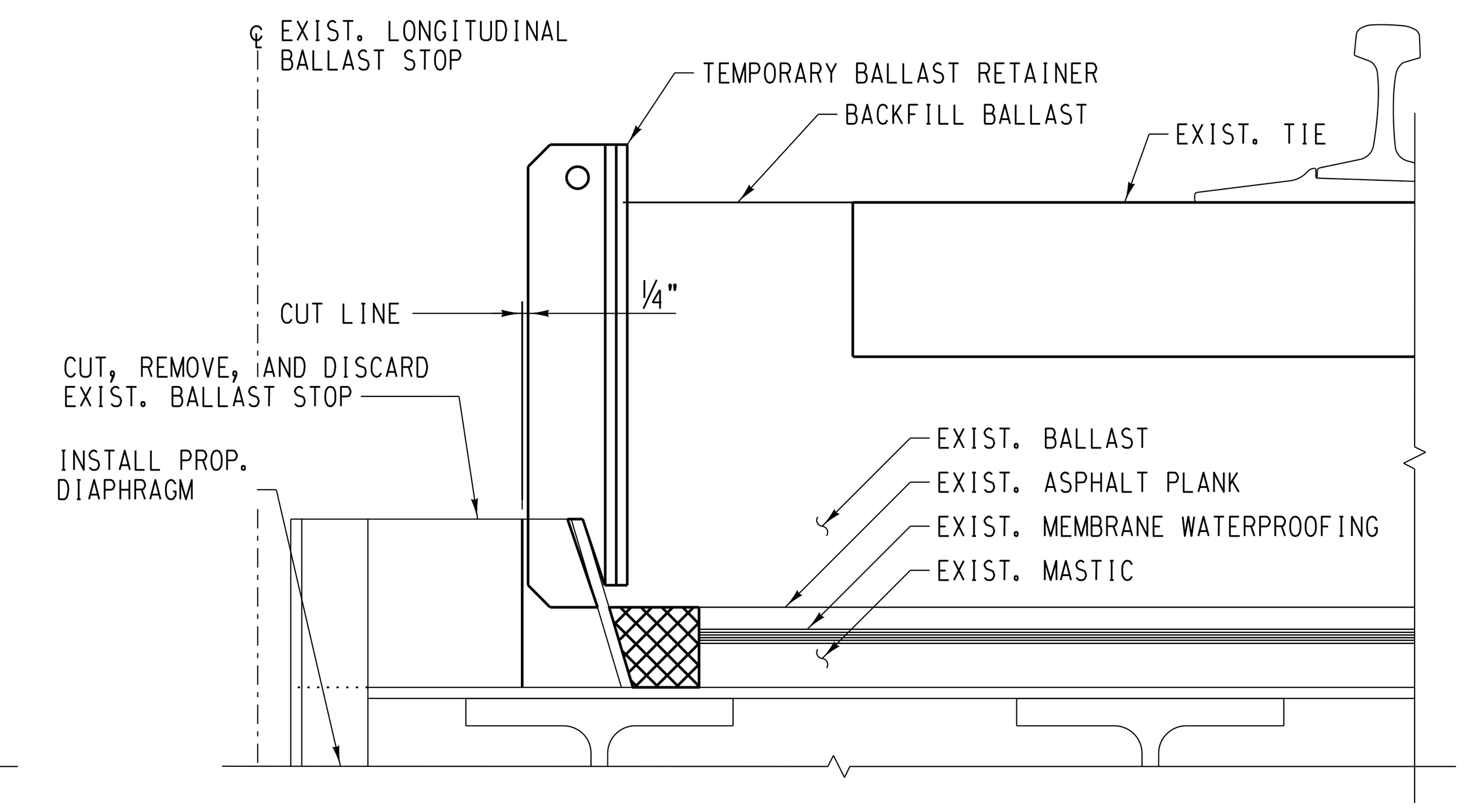
TEMPORARY DEBRIS SHIELD

SCALE: ¾" = 1'-0"



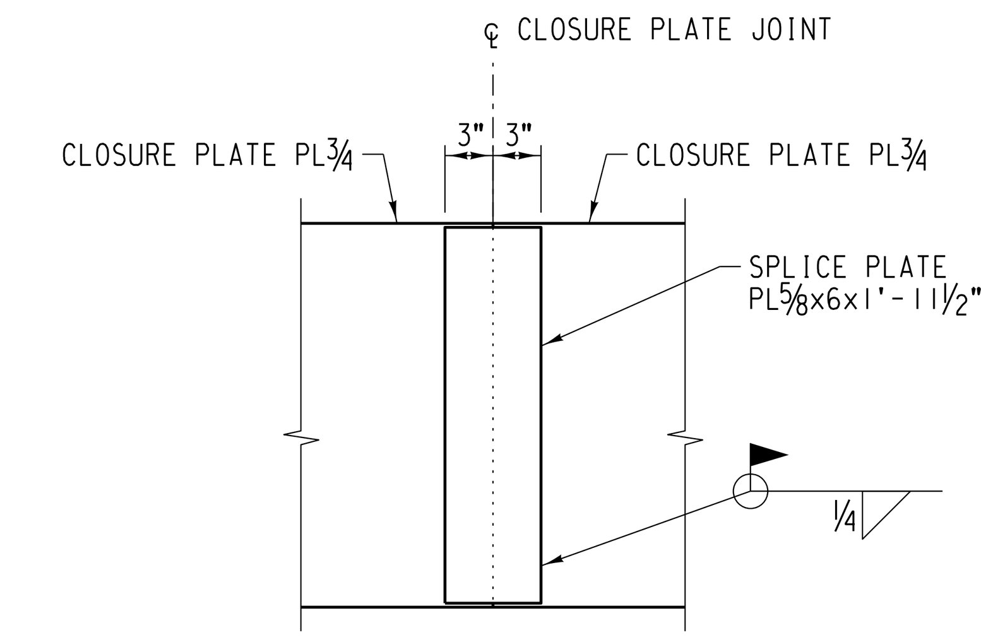
TRACK SIDE REMOVAL - STEP 1

SCALE: 1½" = 1'-0"
(LOOKING SOUTH)



TRACK SIDE REMOVAL - STEP 4

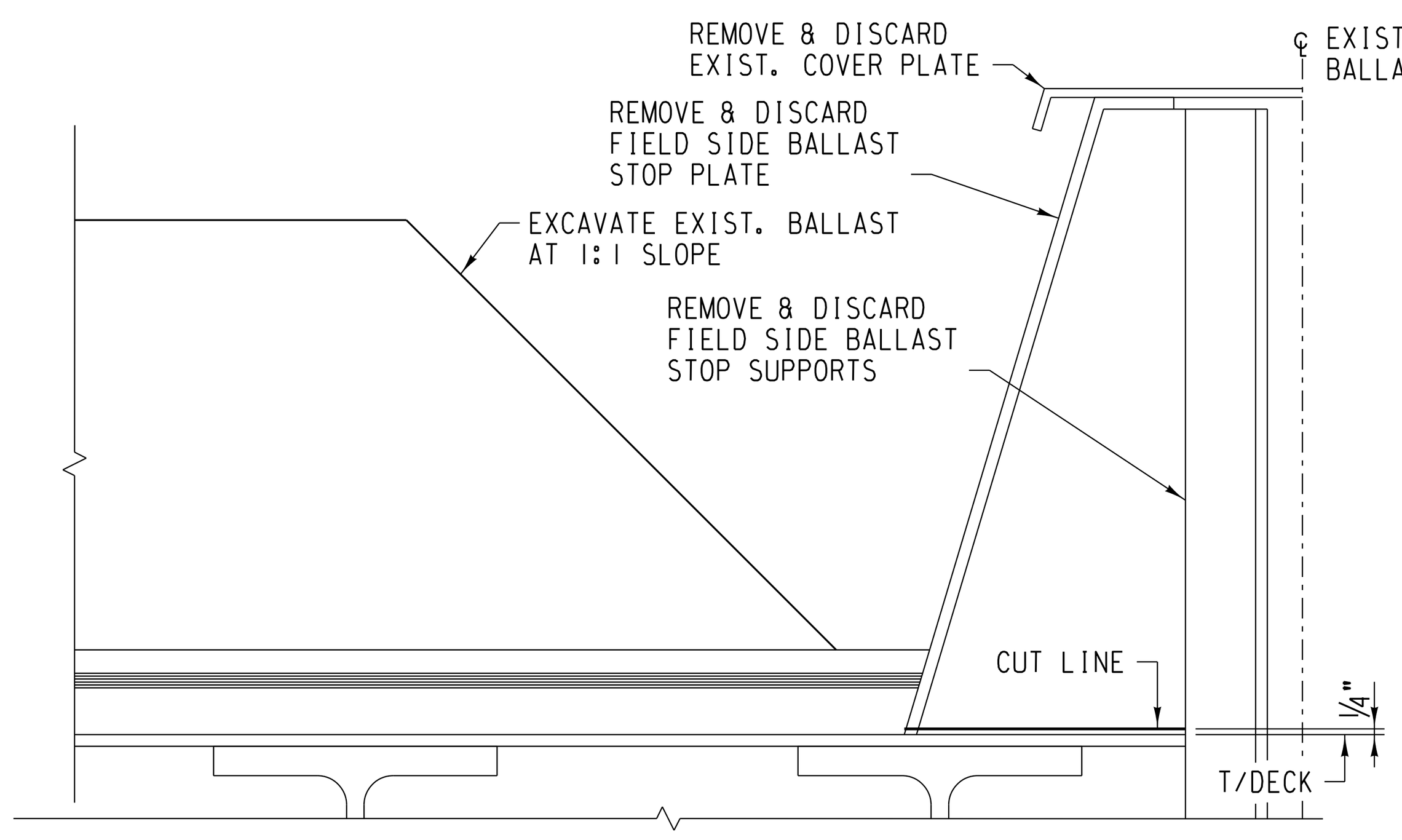
SCALE: 1½" = 1'-0"
(LOOKING SOUTH)



TYP. CLOSURE PLATE SPLICE

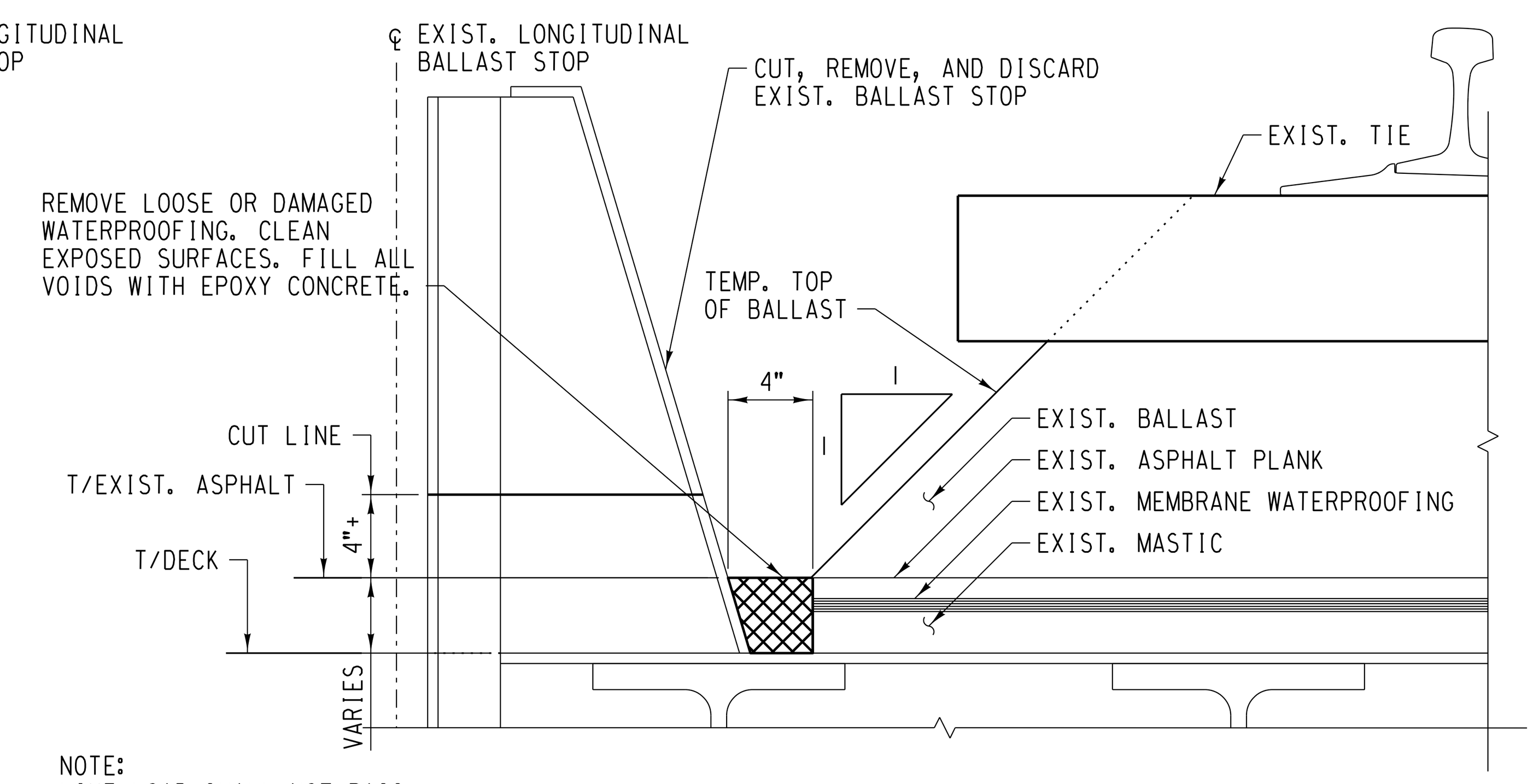
SCALE: 1" = 1'-0"

NOTE:
CONTRACTOR SHALL SUBMIT CLOSURE PLATE LIFTING PLAN TO RAILROAD FOR APPROVAL PRIOR TO INSTALLATION OF CLOSURE PLATES.



FIELD SIDE REMOVAL

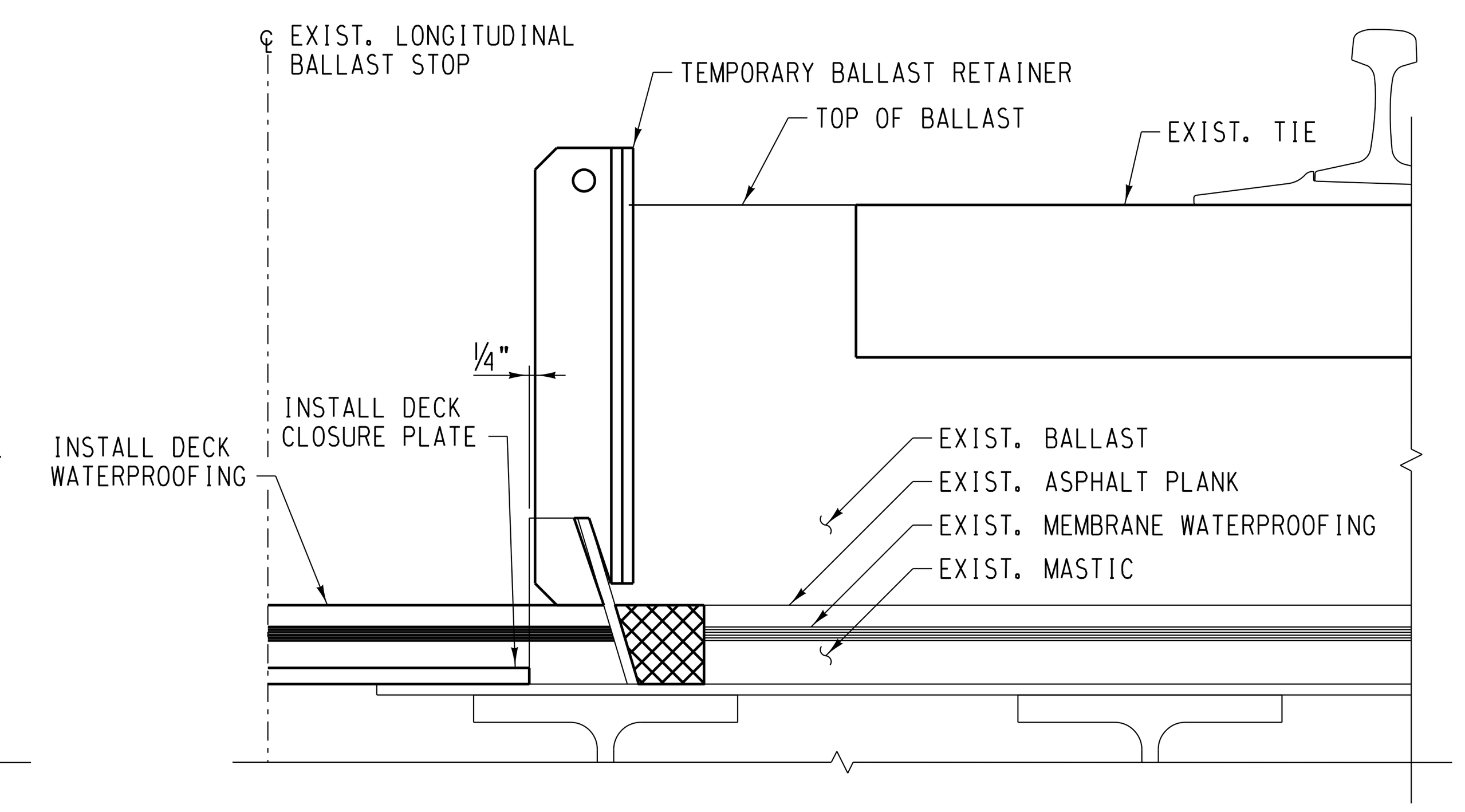
SCALE: 1½" = 1'-0"
(LOOKING SOUTH)



NOTE:
LIVE LOAD SHALL NOT PASS PRIOR TO INSTALLATION OF TEMPORORY BALLAST RETAINER AND BACKFILL BALLAST.

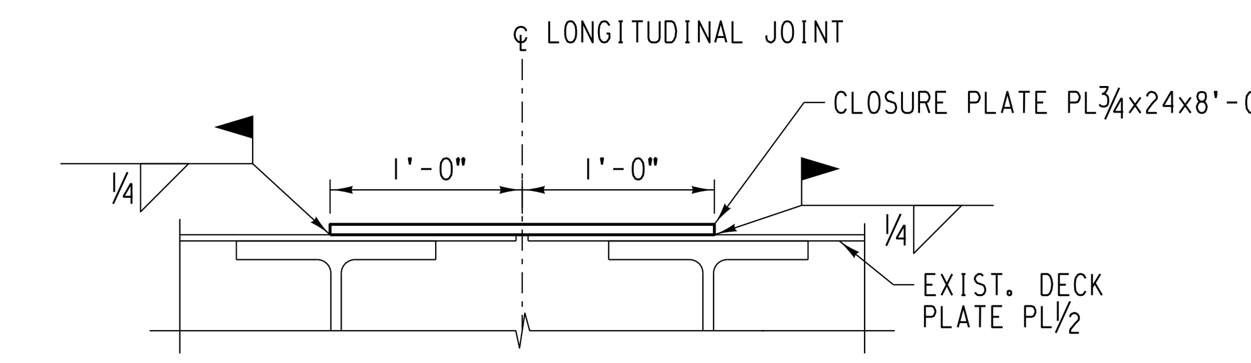
TRACK SIDE REMOVAL - STEP 2

SCALE: 1½" = 1'-0"
(LOOKING SOUTH)



TRACK SIDE REMOVAL - STEP 5

SCALE: 1½" = 1'-0"
(LOOKING SOUTH)

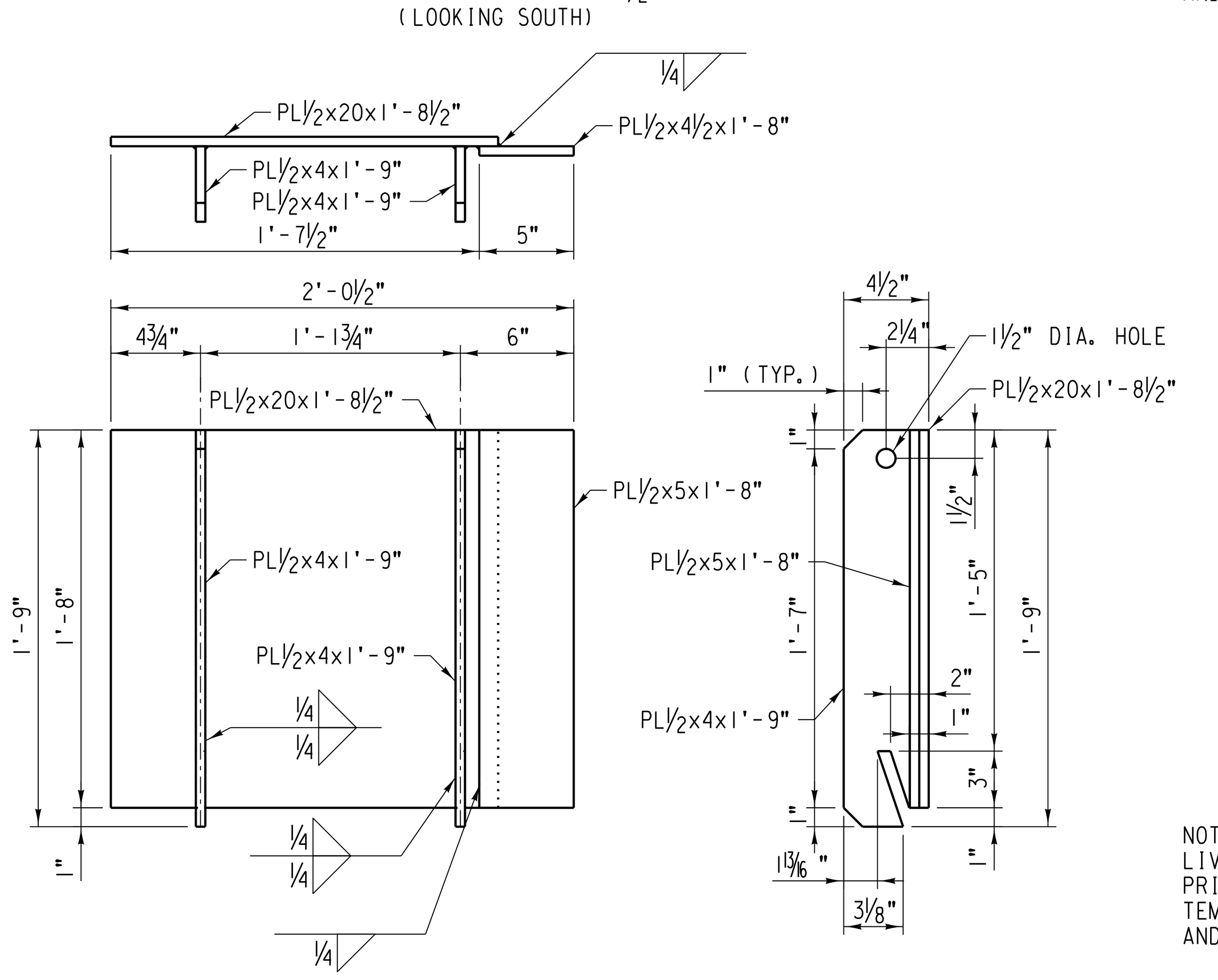


TYP. CLOSURE PLATE SECTION

SCALE: 1" = 1'-0"

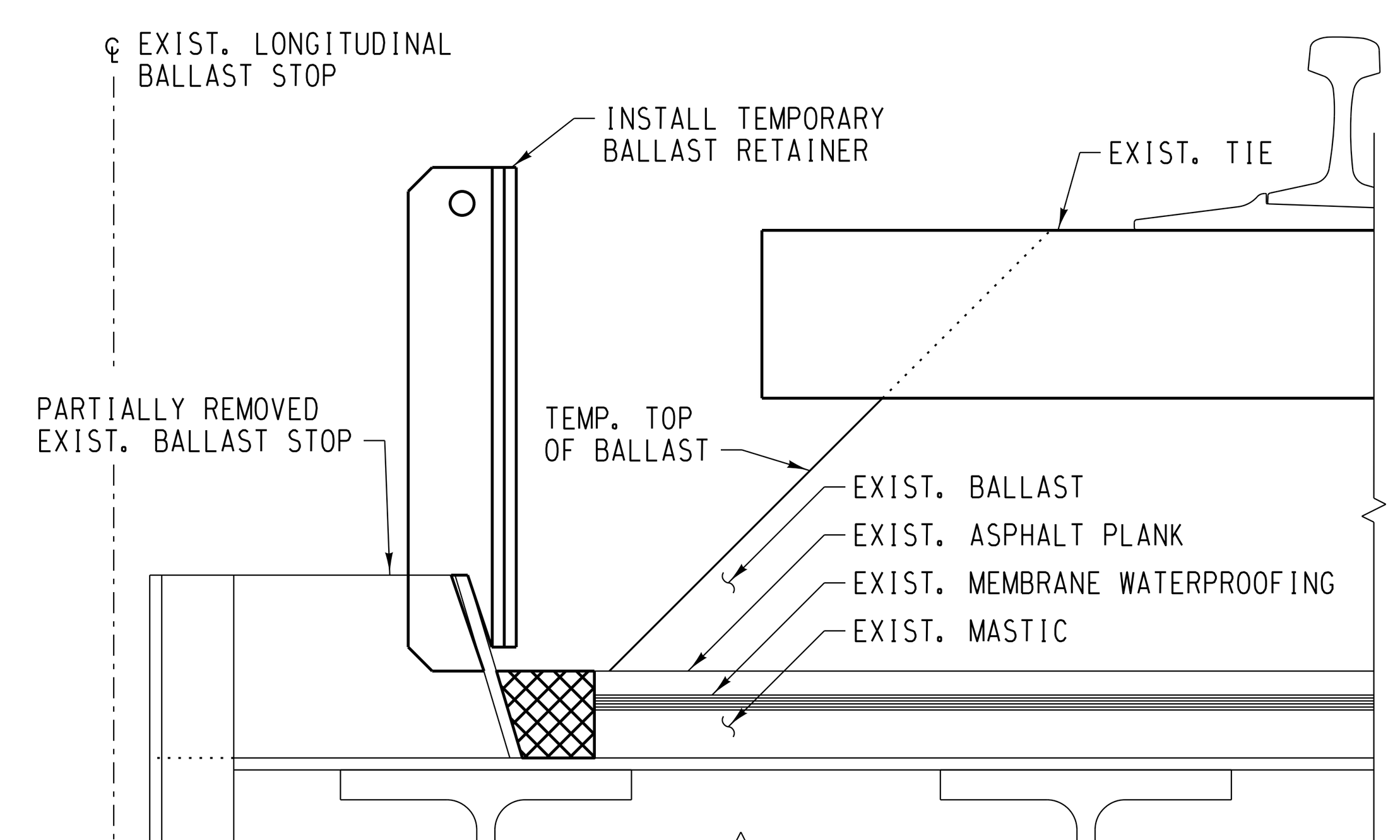
DECK CLOSURE PLATES		
SPAN	UNIT	DESCRIPTION
1	4	PL¾x24x8'-0"
	1	PL¾x24x3'-6"*
2	8	PL¾x24x8'-0"
	1	PL¾x24x3'-9"*
3	6	PL¾x24x8'-0"
	1	PL¾x24x4'-6"*
4	6	PL¾x24x8'-0"
	1	PL¾x24x4'-6"*
5	8	PL¾x24x8'-0"
	1	PL¾x24x3'-9"*
6	4	PL¾x24x8'-0"
	1	PL¾x24x4'-6"*
--	36	PL⅝x6x1'-11½" SPLICE PLATE

* FIELD CUT TO MATCH THE END OF THE EXISTING DECK PLATE



TEMPORARY BALLAST RETAINER

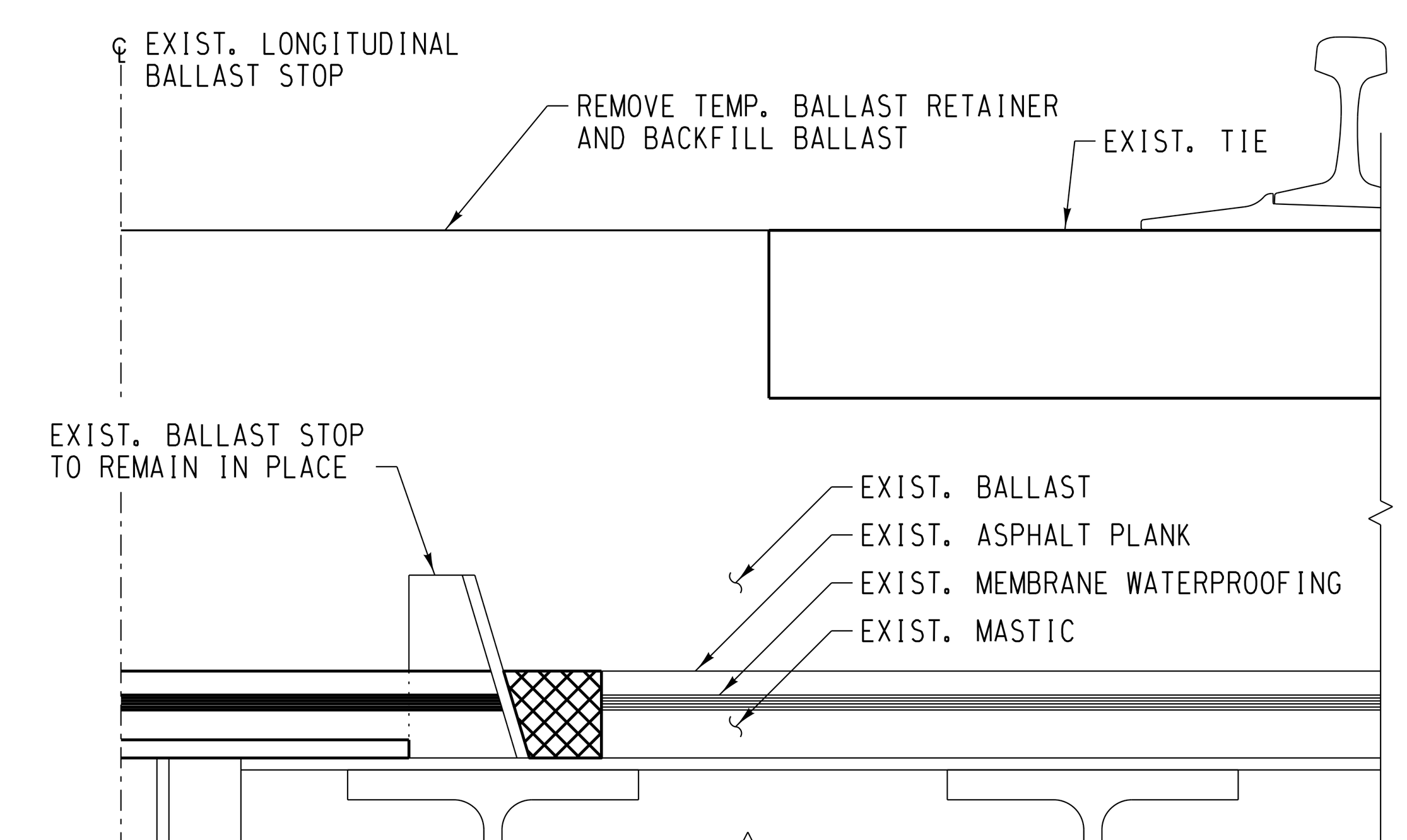
SCALE: 1½" = 1'-0"



NOTE:
LIVE LOAD SHALL NOT PASS PRIOR TO INSTALLATION OF TEMPORORY BALLAST RETAINER AND BACKFILL BALLAST.

TRACK SIDE REMOVAL - STEP 3

SCALE: 1½" = 1'-0"
(LOOKING SOUTH)



TRACK SIDE REMOVAL - STEP 6

SCALE: 1½" = 1'-0"
(LOOKING SOUTH)

NOTE:
1) FOR DIAPHRAGM INSTALLATION DETAILS, SEE SHEET 5

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — 05/28/2021
STATUS / DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — 05/28/2021
CONSULTANT ENGINEER / DATE

PROJECT ID: | WORK ORDER: 31876 | C E NUMBER: 122531

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UNION PACIFIC RAILROAD
Office of Director Structures Design

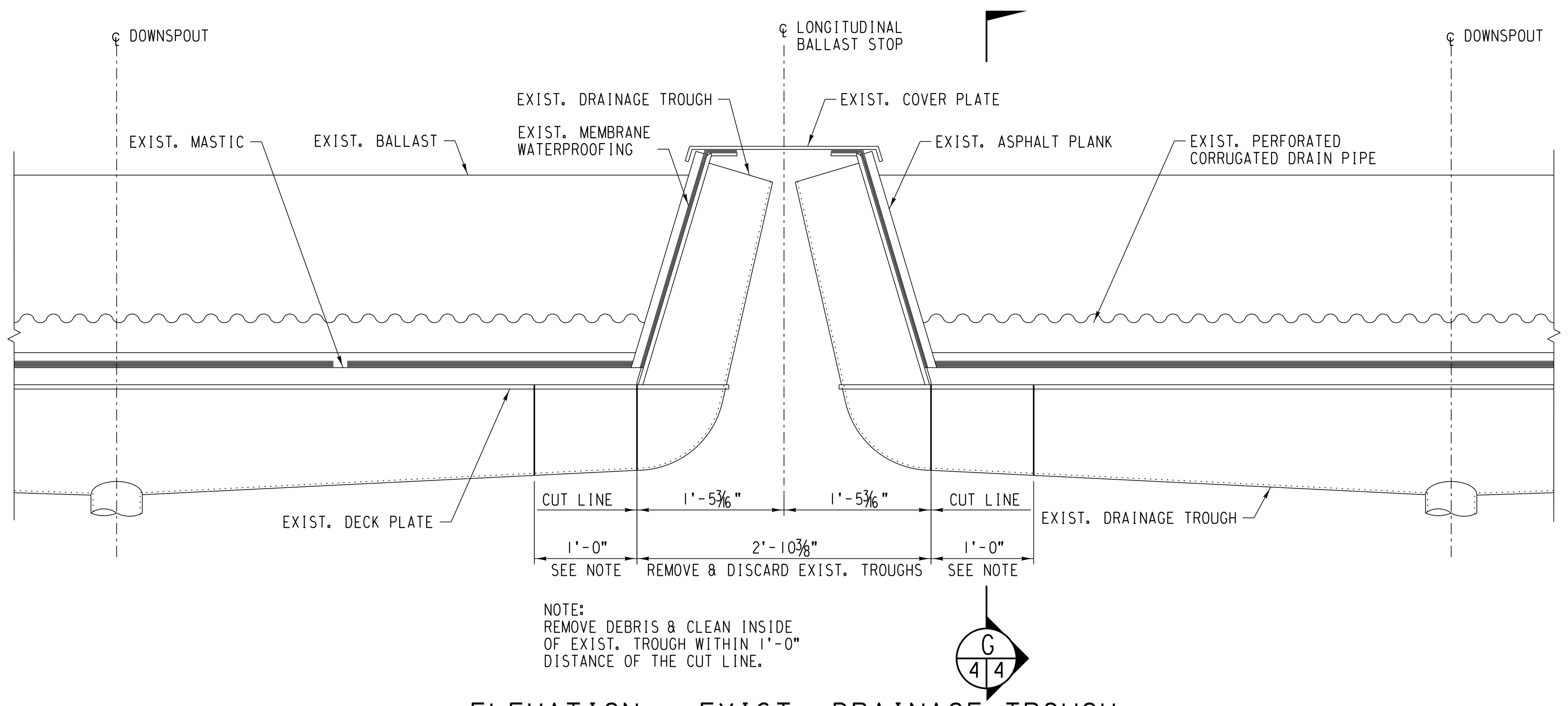
DSN/CHK BY: JFH /DAD
DRAWN/CHK BY: JFH / DAD
UPRR ENGINEER: DEH / ADS
SHT NO.: L3 of L17

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: LONGITUDINAL BALLAST STOP REMOVAL DETAILS

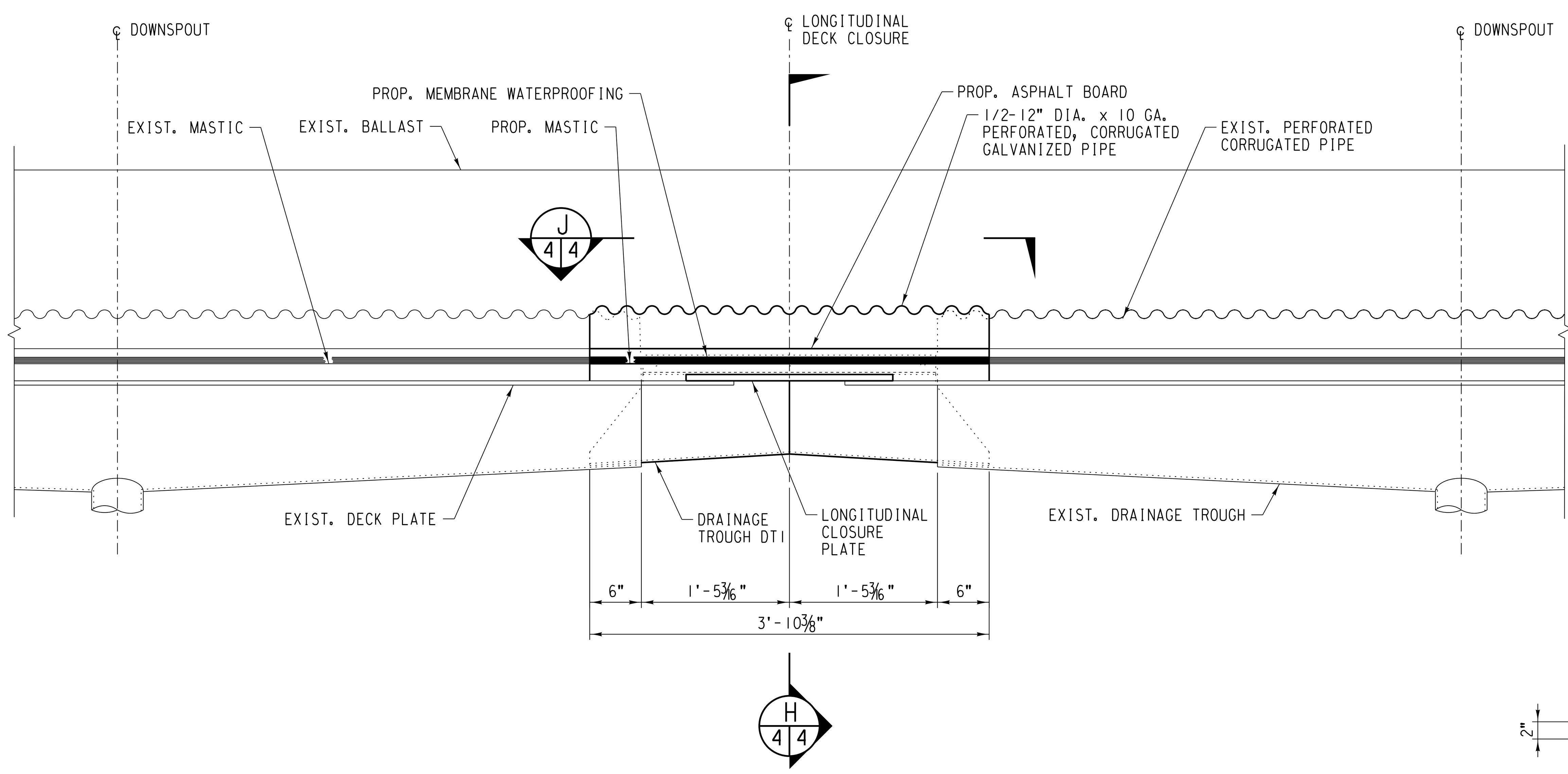
FILE NAME: C:\Users\rramirez\Desktop\rod0141_b11.dgn

PLOTTED: 5/27/2021 11:17:10 AM



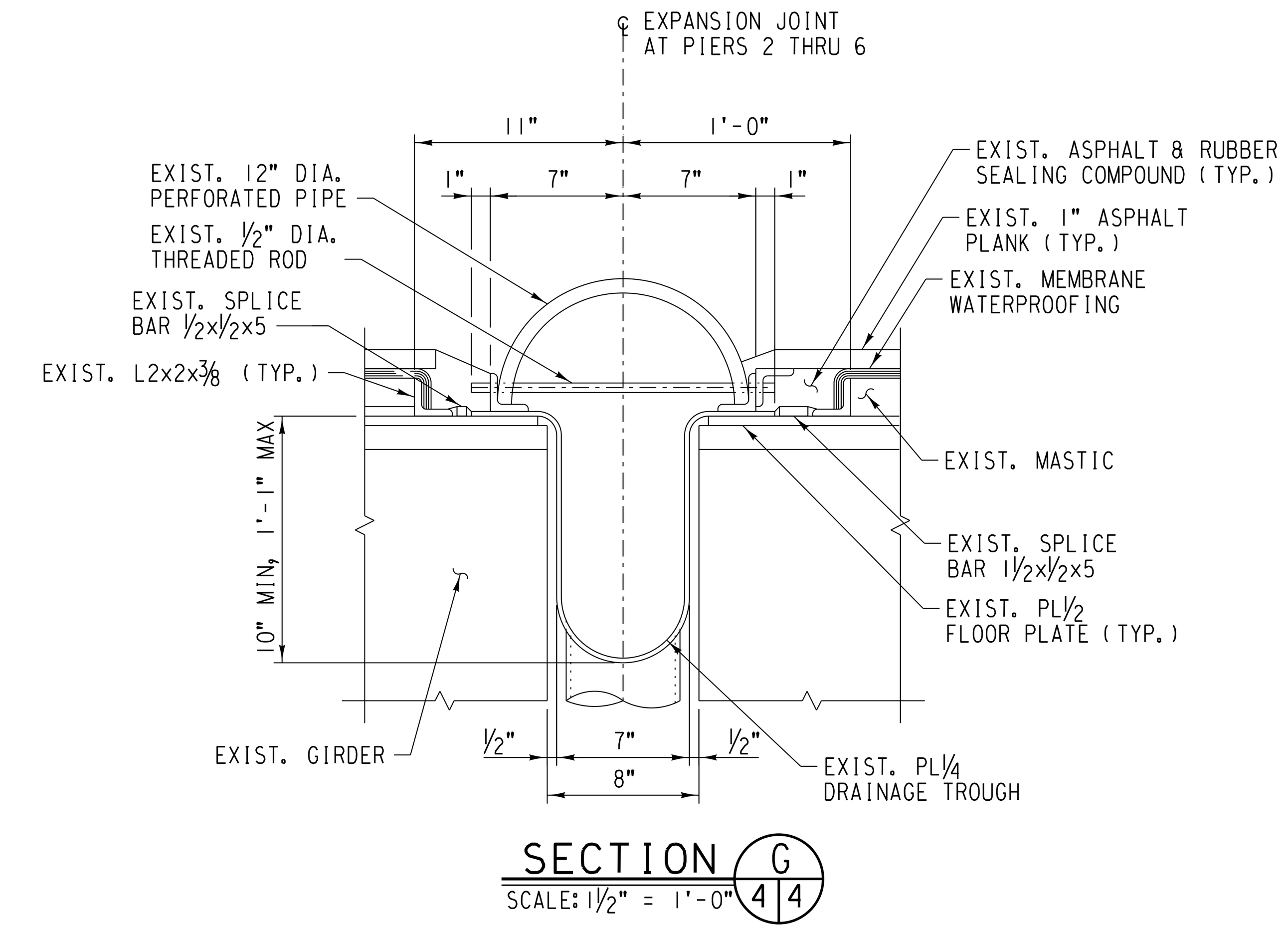
ELEVATION - EXIST. DRAINAGE TROUGH

SCALE: 1" = 1'-0"



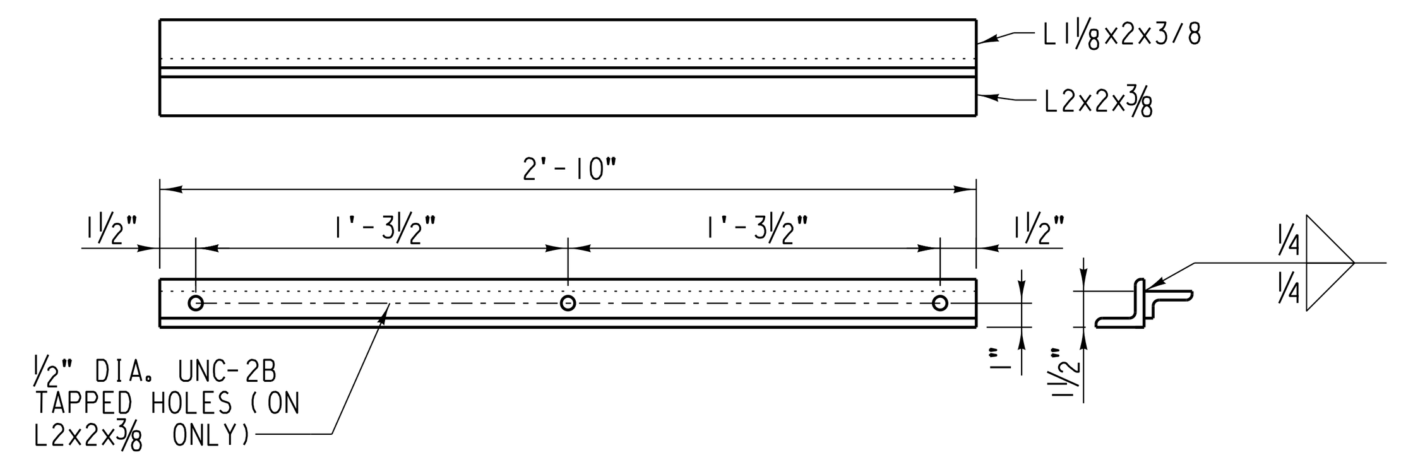
ELEVATION - PROP. DRAINAGE TROUGH

SCALE: 1" = 1'-0"



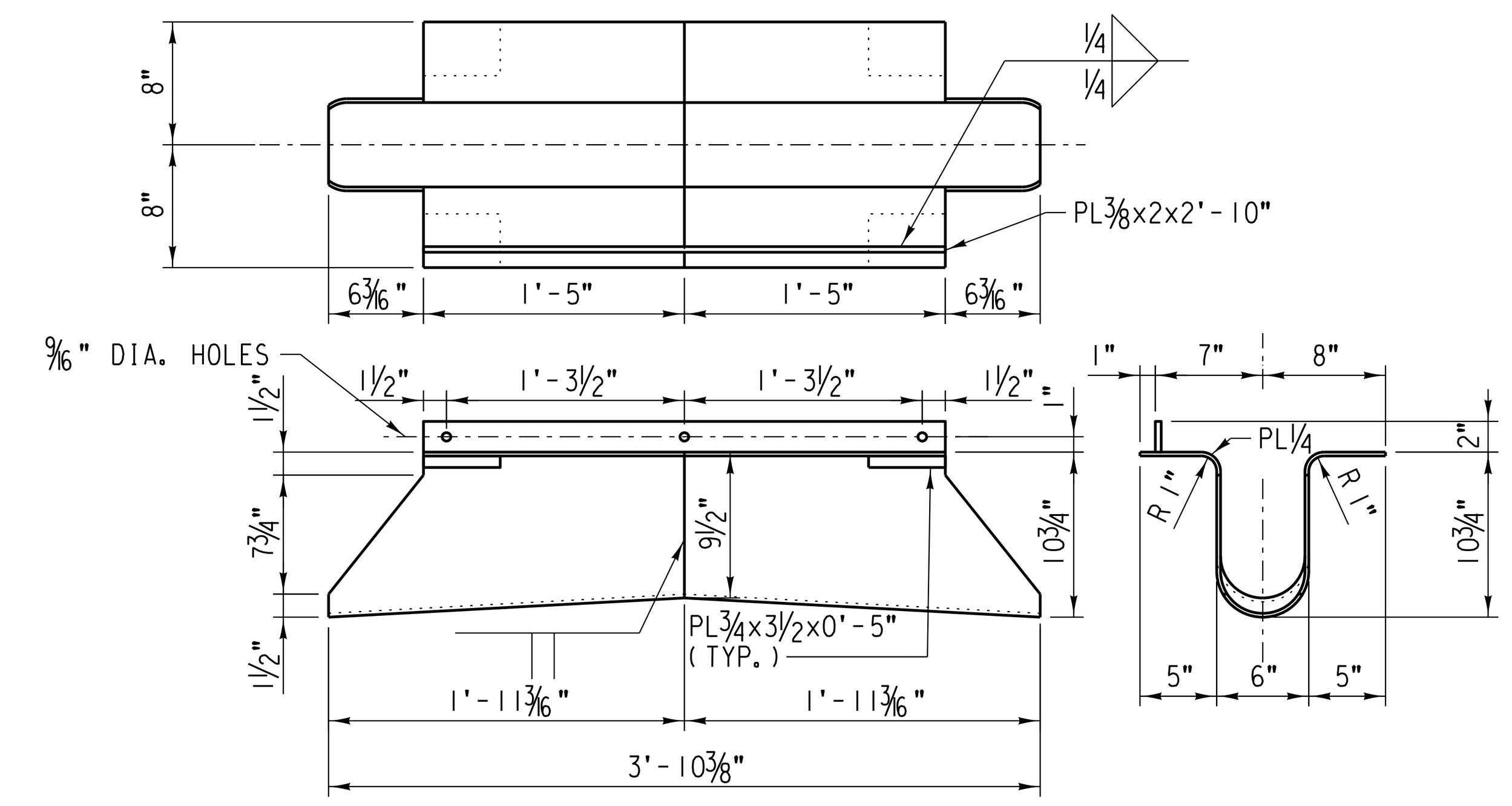
SECTION G (4/4)

SCALE: 1 1/2" = 1'-0"



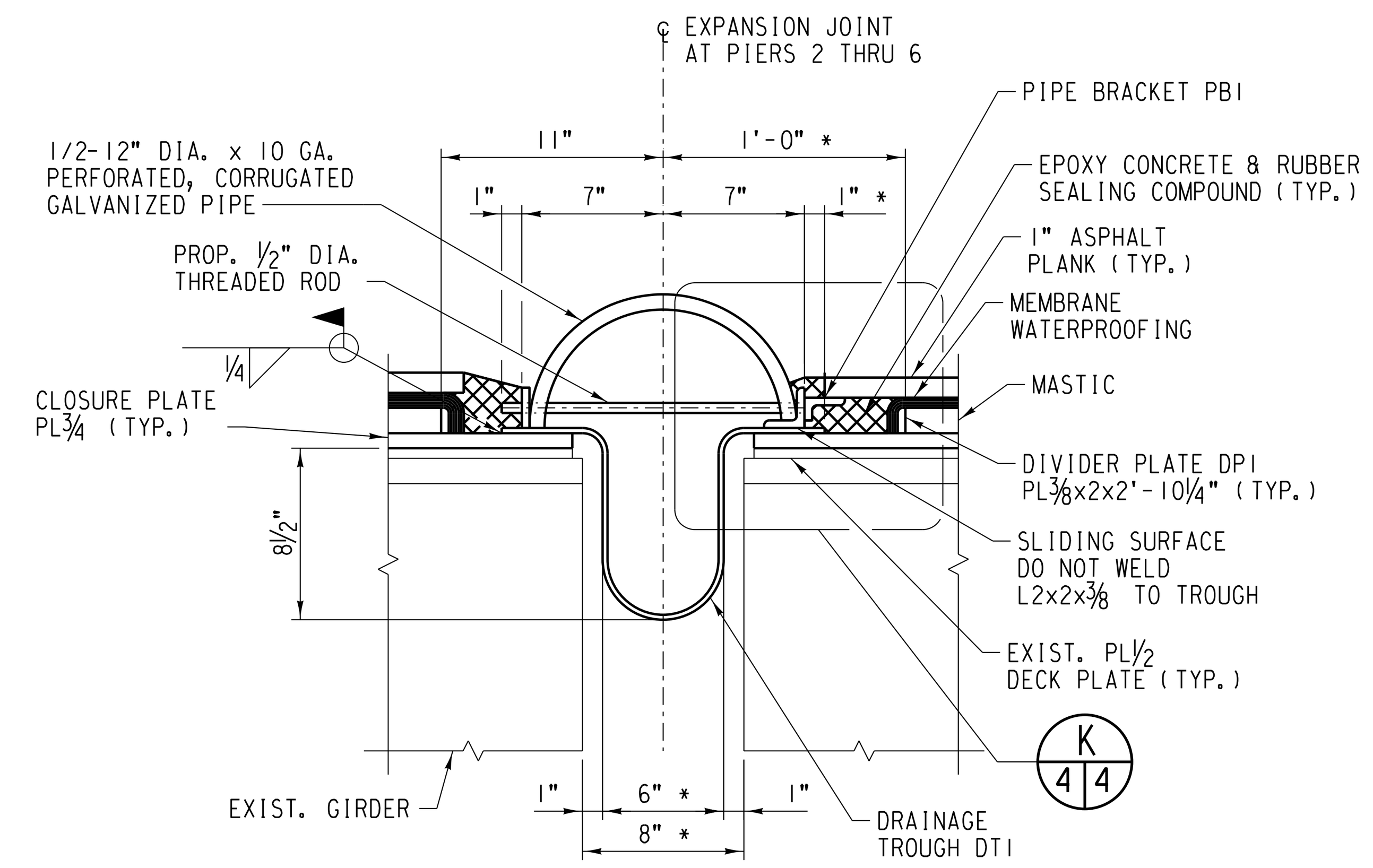
PIPE BRACKET - PB1

SCALE: 1 1/2" = 1'-0"



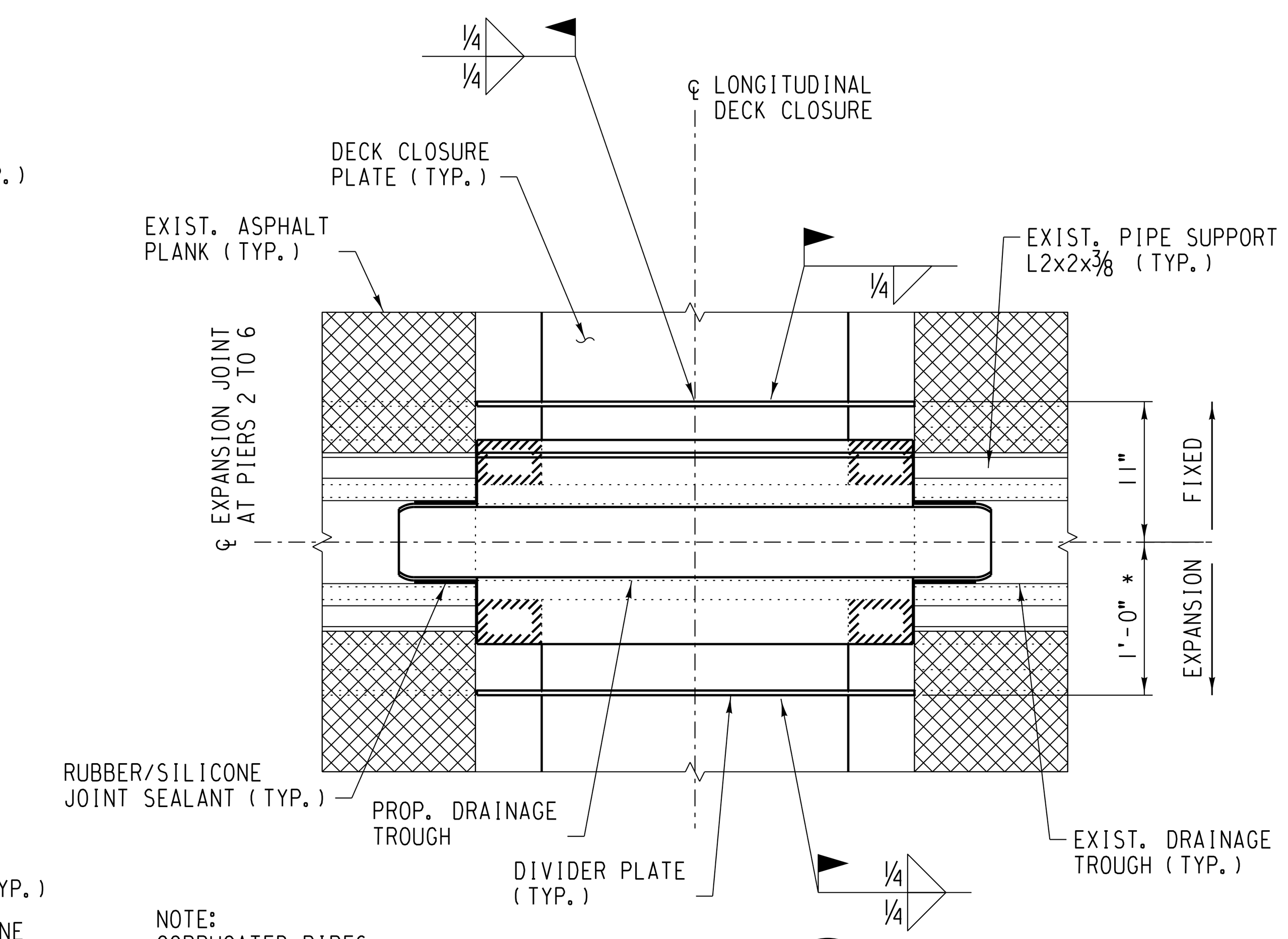
DRAINAGE TROUGH - DT1

SCALE: 1" = 1'-0"



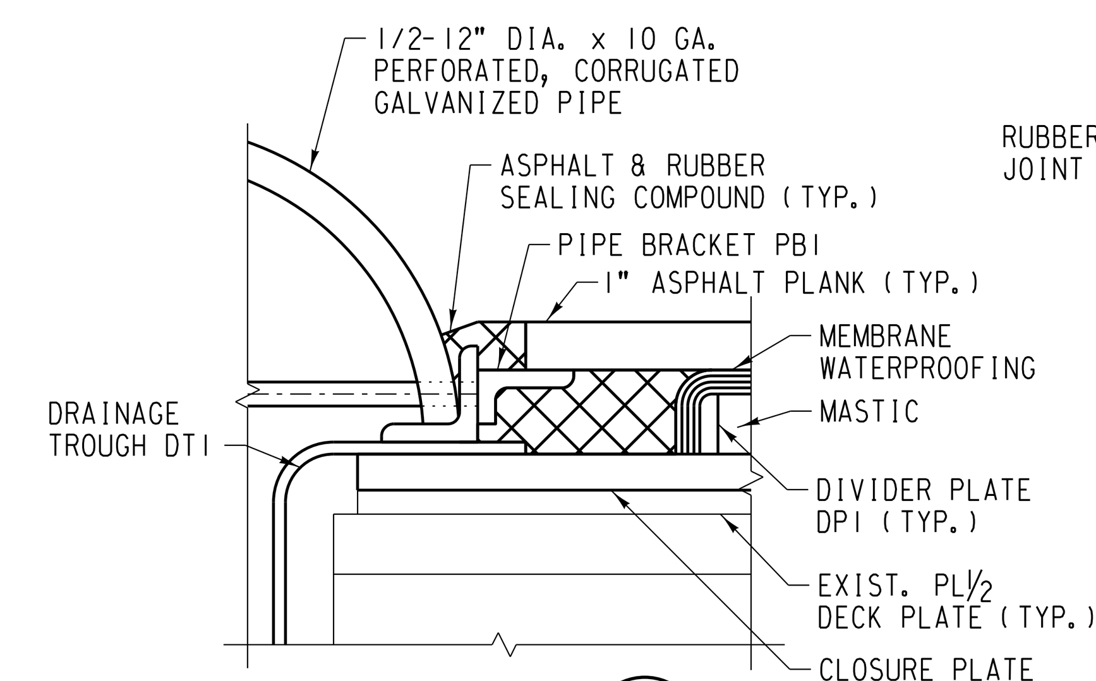
SECTION H (4/4)

SCALE: 1 1/2" = 1'-0"



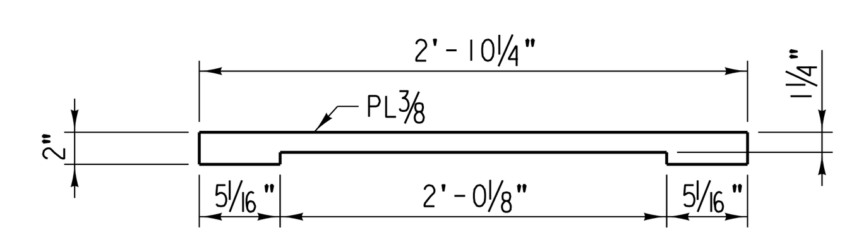
SECTION J (4/4)

SCALE: 1" = 1'-0"



DETAIL K (4/4)

SCALE: 3" = 1'-0"



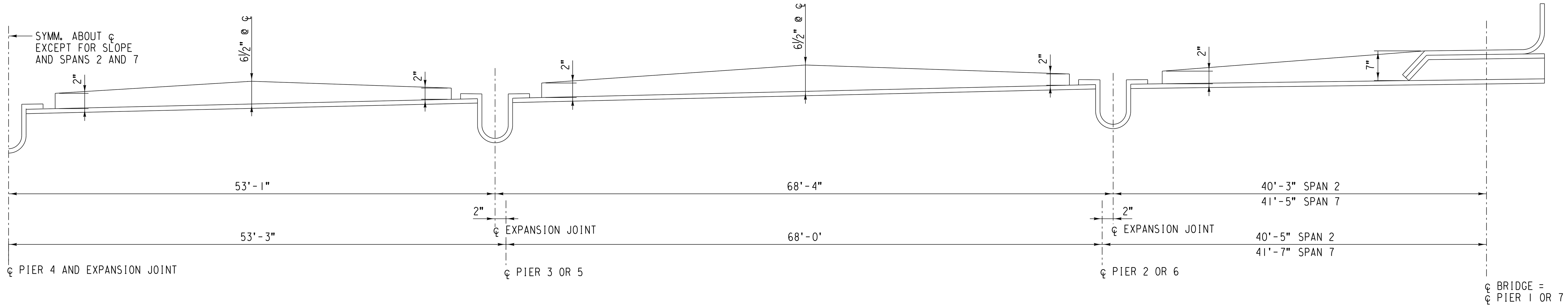
DIVIDER PLATE DP1

SCALE: 1" = 1'-0"

NOTE:
DIMENSIONS MARKED THUS (*) ARE CORRECT AT STEEL TEMPERATURE OF 50°F ONLY. IF TEMPERATURE OF STEEL IS ABOVE 50°F BY AMOUNT "T" DECREASE DIMENSIONS BY AMOUNT "Δ". IF BELOW 50 °F BY AMOUNT "T" INCREASE DIMENSIONS BY AMOUNT "Δ".

TEMPERATURE CORRECTIONS

T°F	Δ				
	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6
10°	0"	1/16"	1/16"	1/16"	0"
20°	1/16"	1/8"	3/16"	1/8"	1/16"
30°	1/8"	1/8"	1/4"	1/8"	1/8"
40°	1/8"	3/16"	5/16"	3/16"	1/8"



HALF LONGITDINAL SECTION SHOWING THICKNESS OF MASTIC

SCALE: N.T.S.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — DATE 05/28/2021

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY: MATTHEW BECKER, CONSULTANT ENGINEER — DATE 05/28/2021

PROJECT ID: — WORK ORDER: 31876 — C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH /DAD
DRAWN/CHK BY: JFH / DAD
UPRR ENGINEER: DEH
SHT NO.: L4 of L17

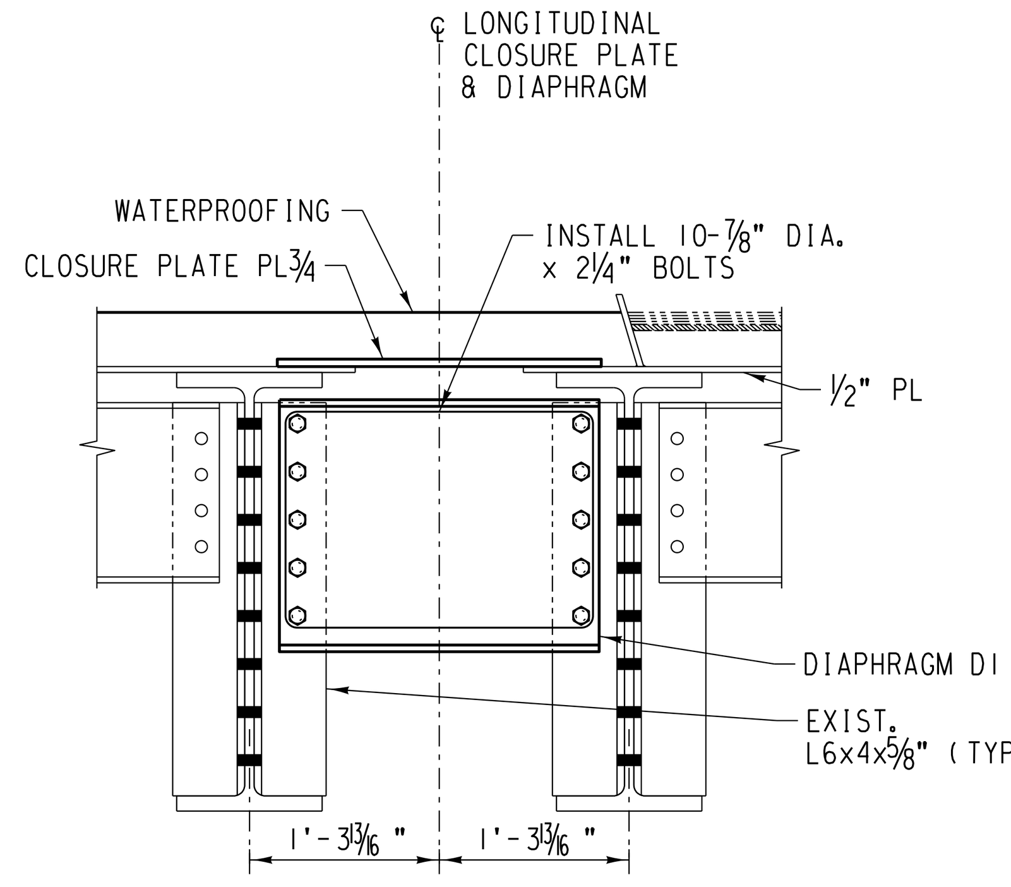
UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: DRAINAGE TROUGH MODIFICATION DETAILS

FILE NAME: C:\Users\rramirez\Desktop\roc0141_b11.dgn

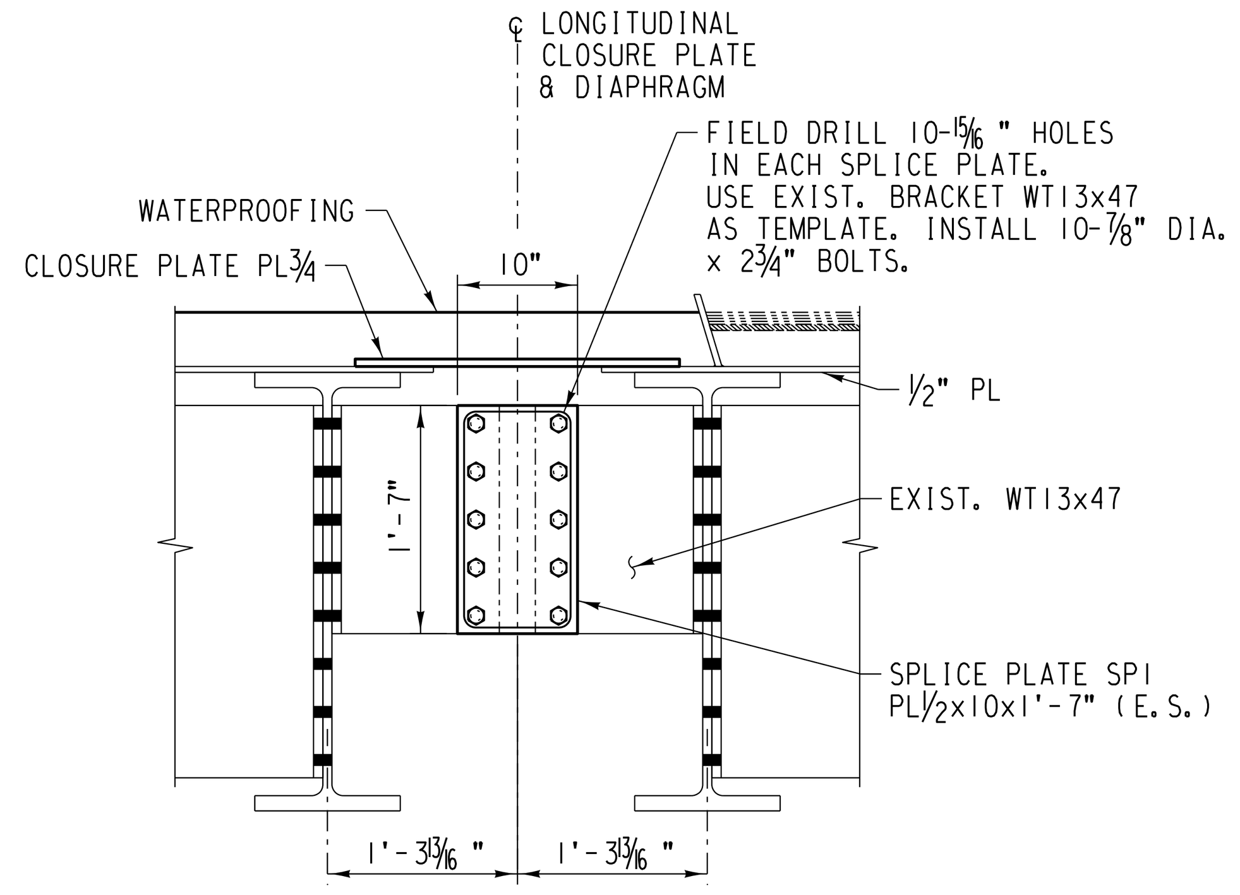
PLOTTED: 5/27/2021 11:17:10 AM



SECTION A (1|5)

SCALE: ¾" = 1'-0"

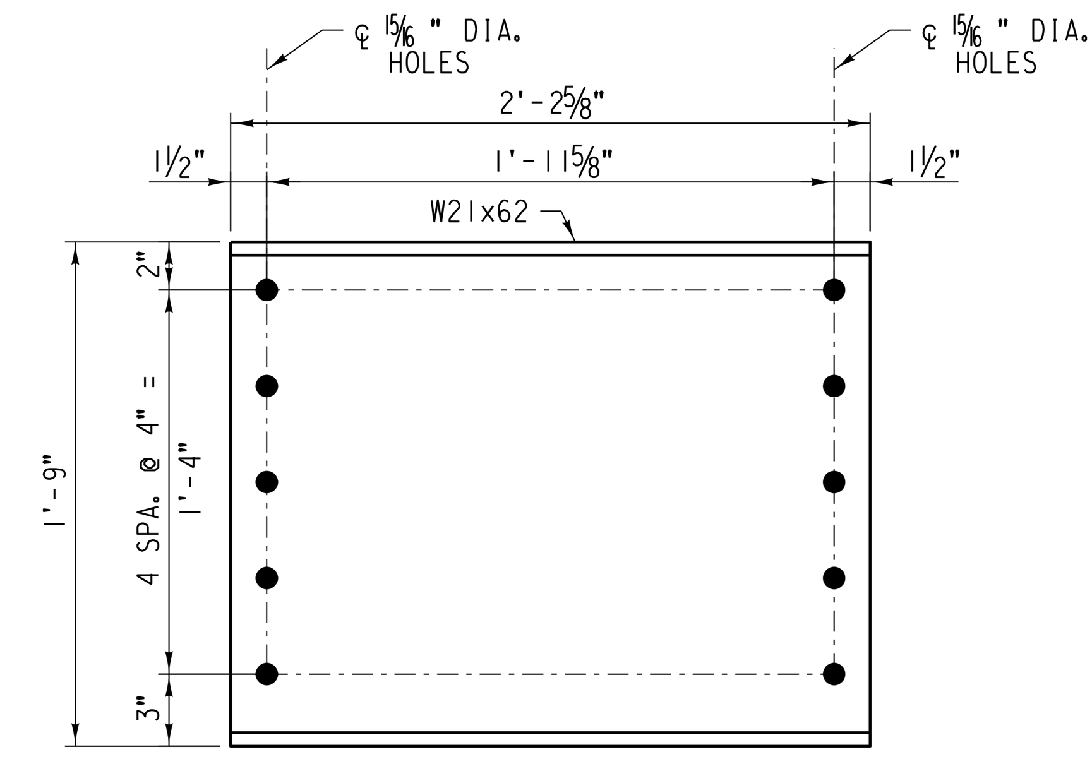
SPANS 1 & 6 END DIAPHRAGM



SECTION B (1|5)

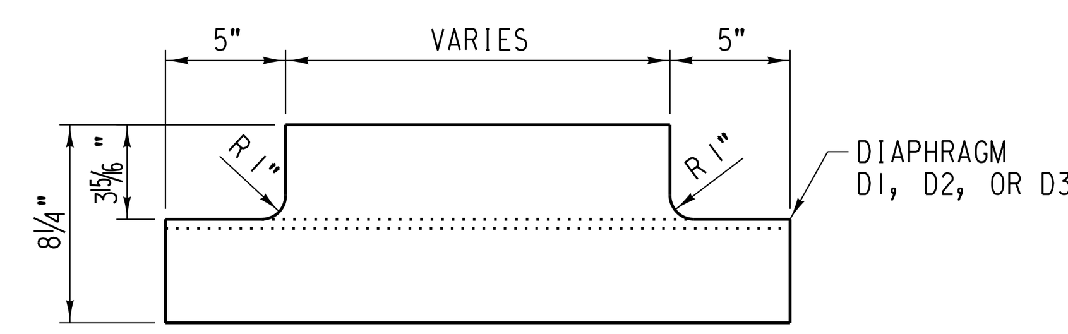
SCALE: ¾" = 1'-0"

SPANS 1 & 6 INT. DIAPHRAGM



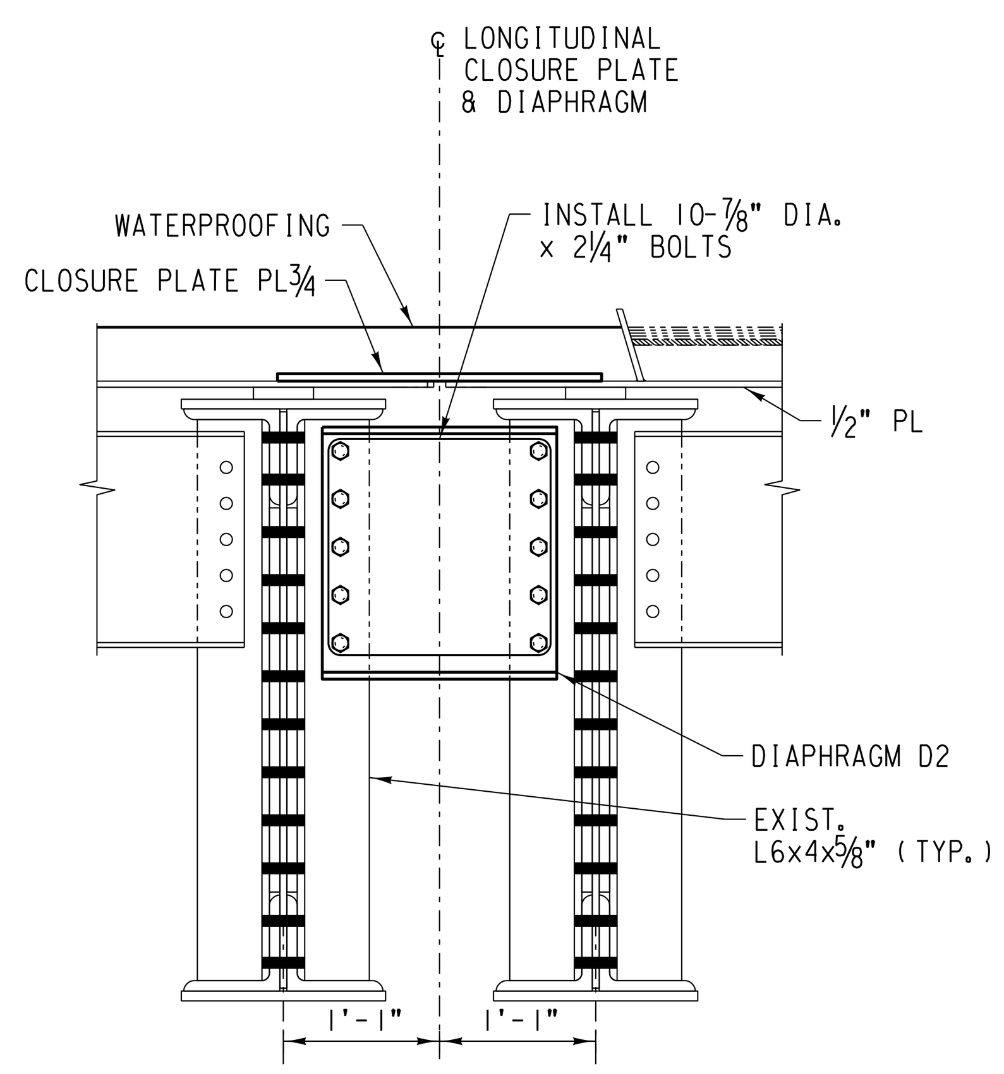
DIAPHRAGM D1

SCALE: ½" = 1'-0"



TYP. DIAPHRAGM COPING DETAIL

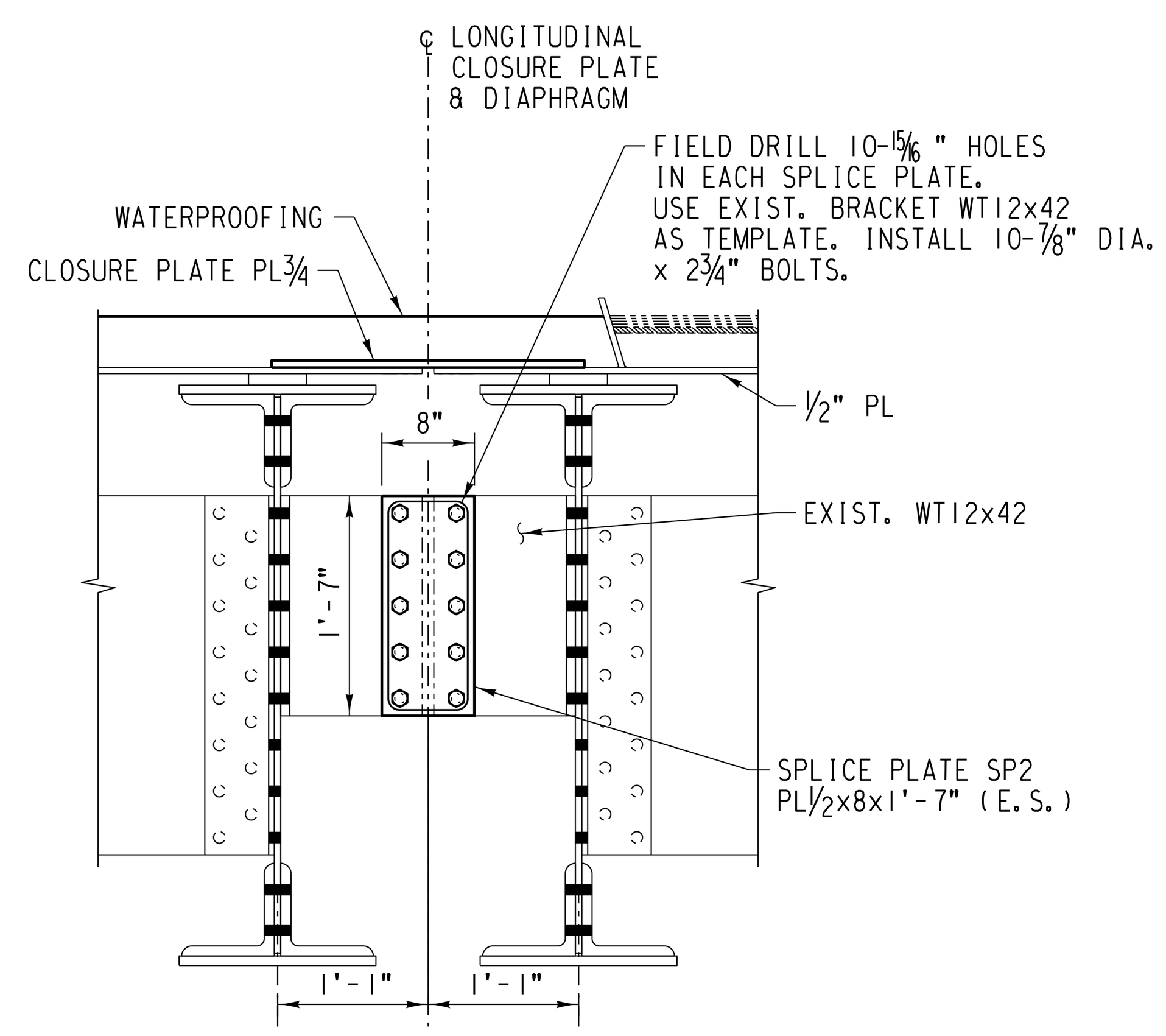
SCALE: 1½" = 1'-0"



SECTION C (1|5)

SCALE: ¾" = 1'-0"

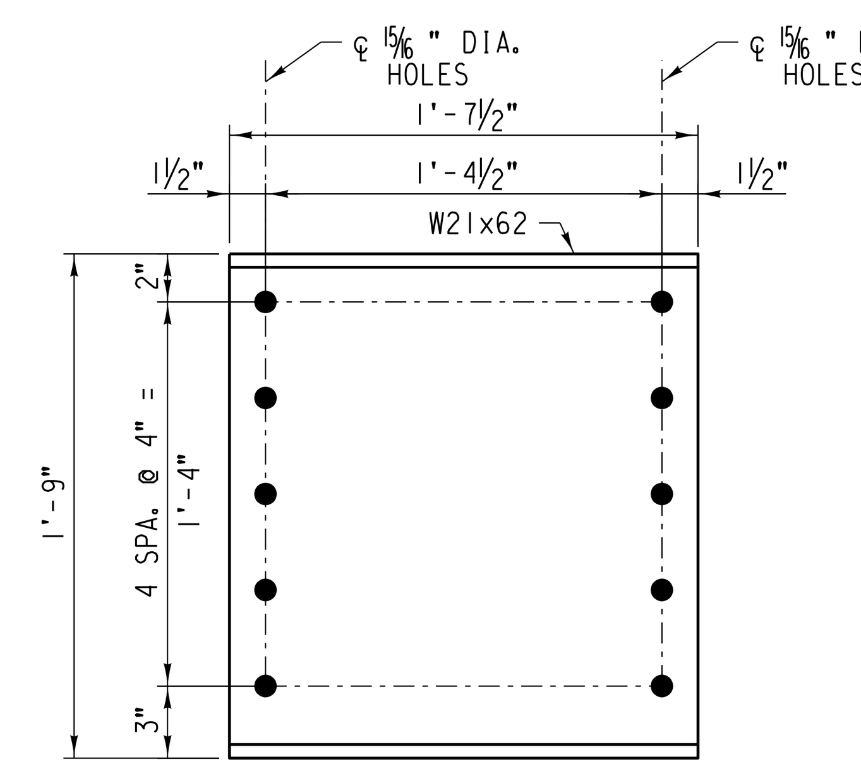
SPANS 2 & 5 END DIAPHRAGM



SECTION D (1|5)

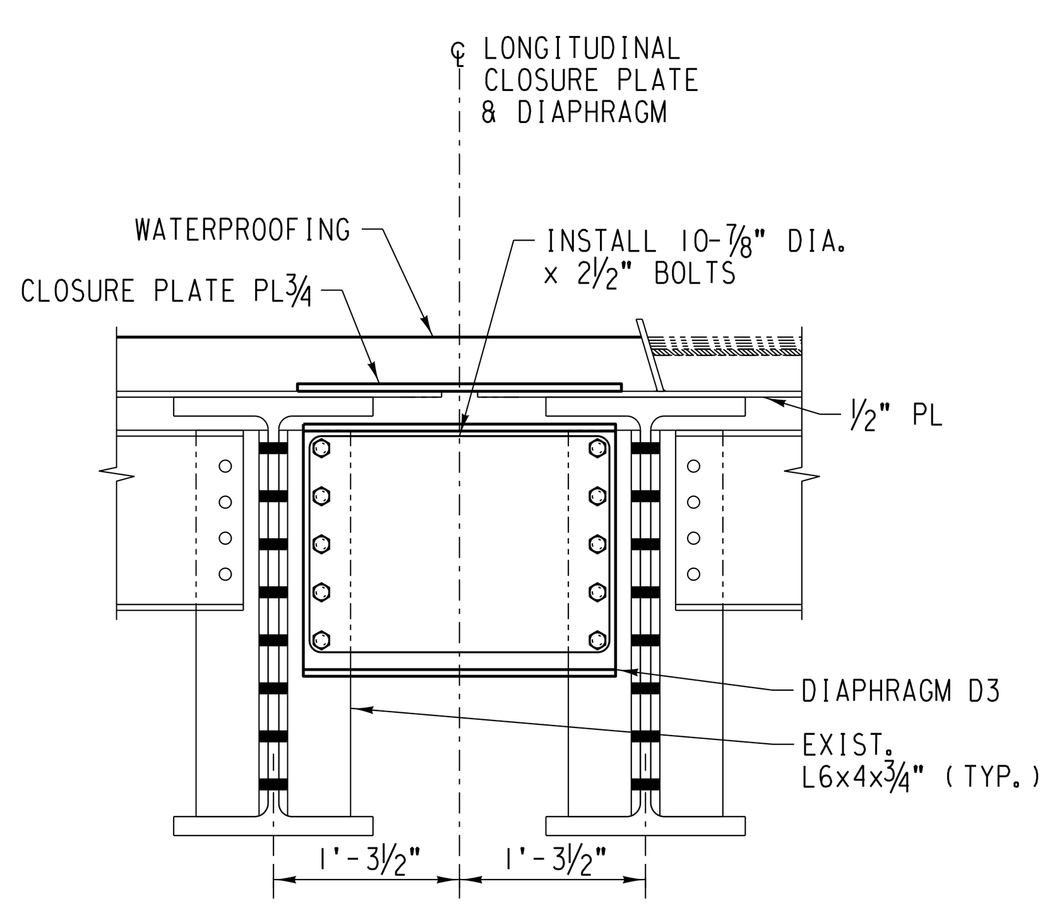
SCALE: ¾" = 1'-0"

SPANS 2 & 5 INT. DIAPHRAGM



DIAPHRAGM D2

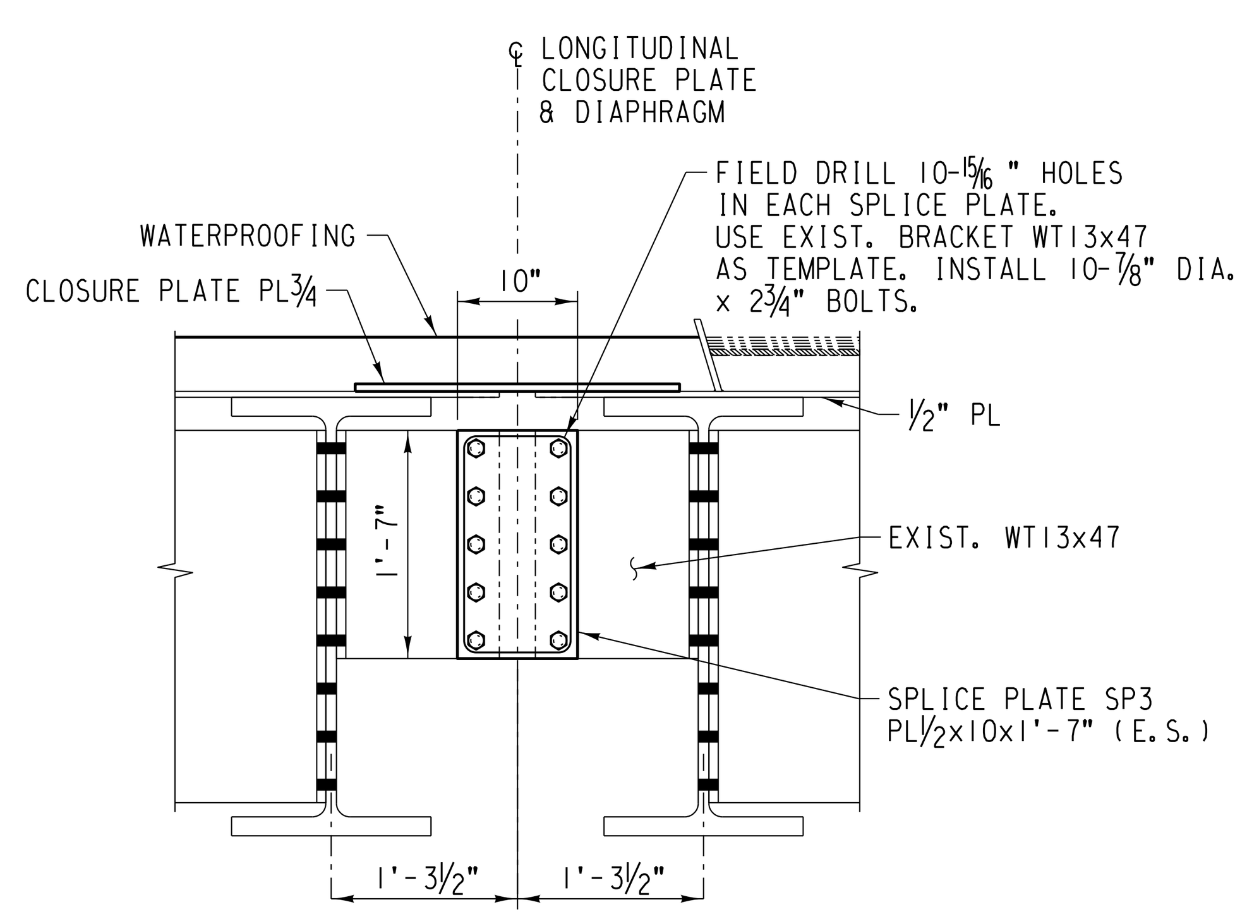
SCALE: ½" = 1'-0"



SECTION E (1|5)

SCALE: ¾" = 1'-0"

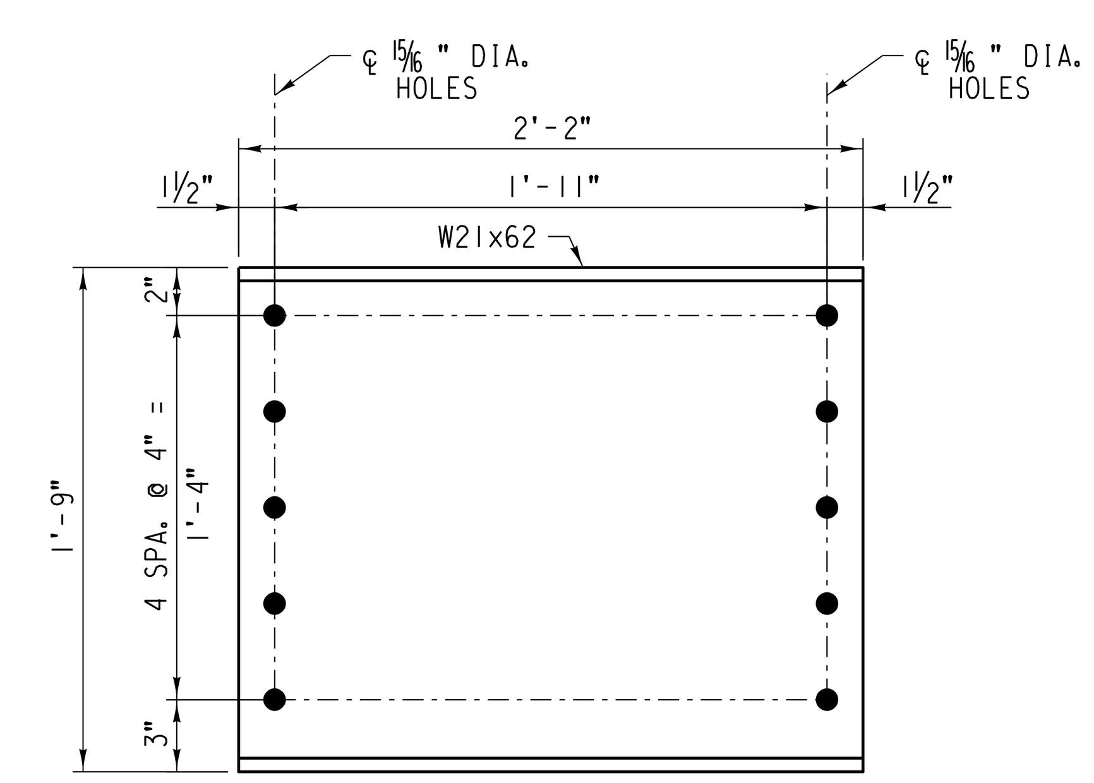
SPANS 3 & 4 END DIAPHRAGM



SECTION F (1|5)

SCALE: ¾" = 1'-0"

SPANS 3 & 4 INT. DIAPHRAGM



DIAPHRAGM D3

SCALE: ½" = 1'-0"

MATERIAL SCHEDULE

TOTAL	UNIT	DESCRIPTION
4	EA	DIAPHRAGM D1, W21x62x2'-2⅝"
4	EA	DIAPHRAGM D2, W21x62x1'-7½"
4	EA	DIAPHRAGM D3, W21x62x2'-2"
24	EA	SPLICE PLATE SP1, PL½x10x1'-7"
36	EA	SPLICE PLATE SP2, PL½x8x1'-7"
28	EA	SPLICE PLATE SP3, PL½x10x1'-7"
80	EA	⅞" DIA. x 2¼" ASTM F3125 GRADE A325 HEAVY HEX BOLT, w/ TYPE 3 HEAVY HEX NUT (ASTM A563, LUBRICATED), AND FLAT CIRCULAR WASHER (ASTM F436)
40	EA	⅞" DIA. x 2½" ASTM F3125 GRADE A325 HEAVY HEX BOLT, w/ TYPE 3 HEAVY HEX NUT (ASTM A563, LUBRICATED), AND FLAT CIRCULAR WASHER (ASTM F436)
919	EA	⅞" DIA. x 2¾" ASTM F3125 GRADE A325 HEAVY HEX BOLT, w/ TYPE 3 HEAVY HEX NUT (ASTM A563, LUBRICATED), AND FLAT CIRCULAR WASHER (ASTM F436)

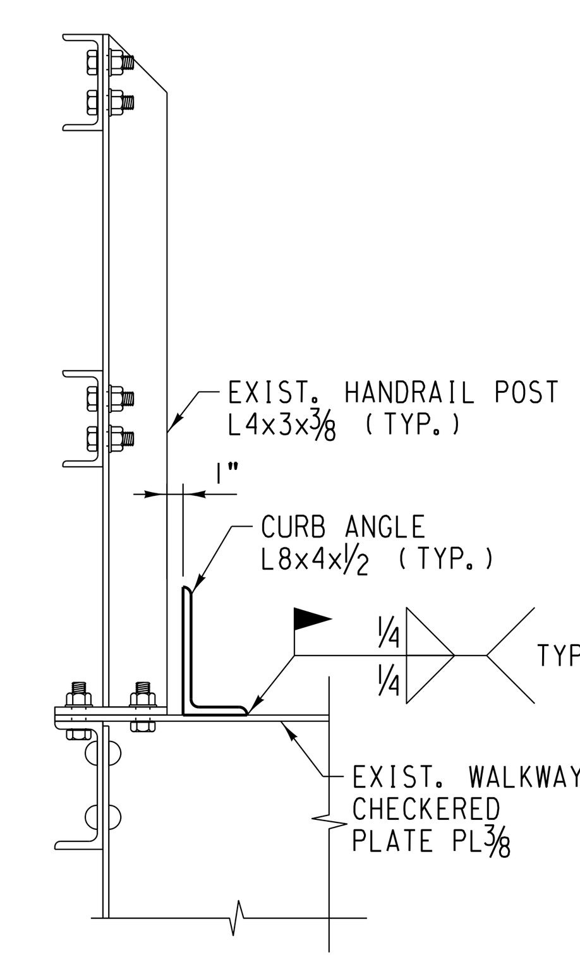
FIELD BOLT QUANTITY INCREASED BY 5%

BALLAST CURB INSTALLATION

1. CLOSE THE ROADWAY AND/OR TRACKS DURING INSTALLATION AND PAINTING. COORDINATE SCHEDULE SO THAT THE BALLAST CURB INSTALLATION OCCURS CONCURRENTLY WITH PROTECTION SHIELD PLACEMENT TO MINIMIZE CLOSURES.
2. REMOVE ANY LOOSE BALLAST OR DEBRIS THAT MAY FALL ONTO THE ROADWAY AND/OR TRACKS BELOW. REMOVE FROM SURFACE OF EXISTING STEEL, ANY RUST, GREASE, PAINT, DEBRIS, AND/OR ANY OTHER CONTAMINANTS THAT MAY INHIBIT THE WELD.
3. WELD CURB ANGLE TO EXISTING WALKWAY PLATE ONLY. DO NOT WELD TO EXISTING HANDRAIL POSTS OR HANDRAIL BASE PLATES.
4. LEAVE 1" GAP AT EXPANSION JOINTS AS SHOWN ON THIS SHEET.
5. SPLICE CURB ANGLES, AS NECESSARY, USING DETAIL SHOWN ON THIS SHEET.
6. PAINT ALL EXPOSED SURFACES OF CURB ANGLE AFTER INSTALLATION.
7. CLEAN WORK AREA. REMOVE ANY DEBRIS THAT HAS FALLEN ONTO THE ROADWAY AND/OR TRACK BELOW PRIOR TO REOPENING TO TRAFFIC.

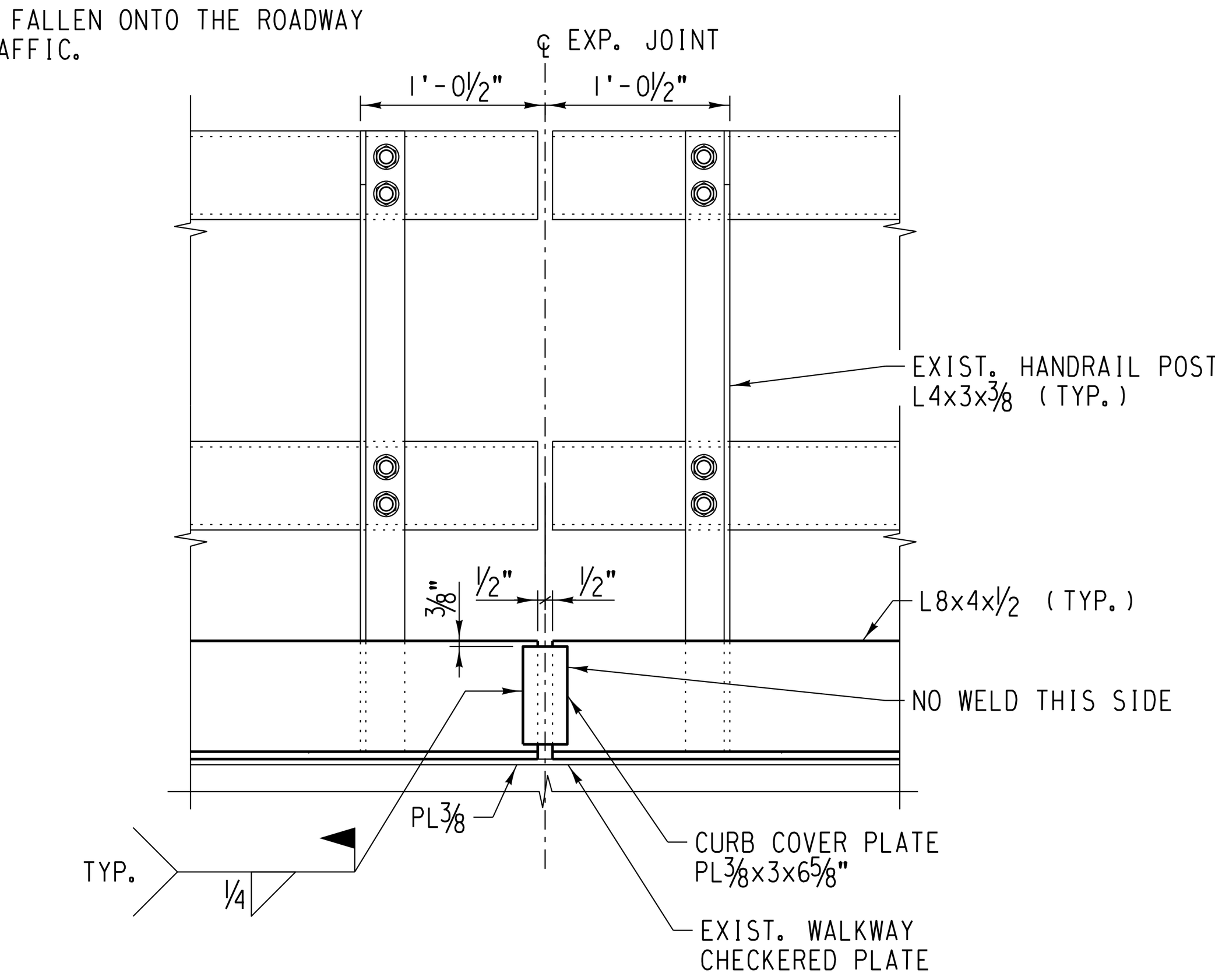
MATERIAL SCHEDULE
(BALLAST CURB)

SPAN	UNIT	UNIT	
2	1	EA	CURB ANGLE, L8x4x½x68'-3"
3	1	EA	CURB ANGLE, L8x4x½x53'-0"
4	1	EA	CURB ANGLE, L8x4x½x53'-0"
5	1	EA	CURB ANGLE, L8x4x½x68'-3"
--	10	EA	CURB COVER PLATE, PL⅜x3x6⅝"



BALLAST CURB

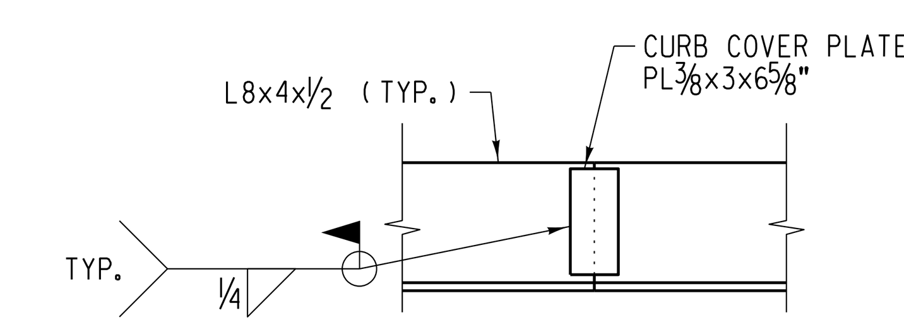
SCALE: 1" = 1'-0"



BALLAST CURB EXPANSION JOINT

SCALE: 1" = 1'-0"

(LOOKING WEST)



BALLAST CURB SPLICE

SCALE: 1" = 1'-0"

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:

MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER: 31876	C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

UNION PACIFIC

DSN/CHK BY: JFH /DAD
DRAWN/CHK BY: JFH / DAD
UPRR ENGINEER: DEH
SHT NO.: L5 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: DIAPHRAGM & BALLAST CURB INSTALLATION DETAILS

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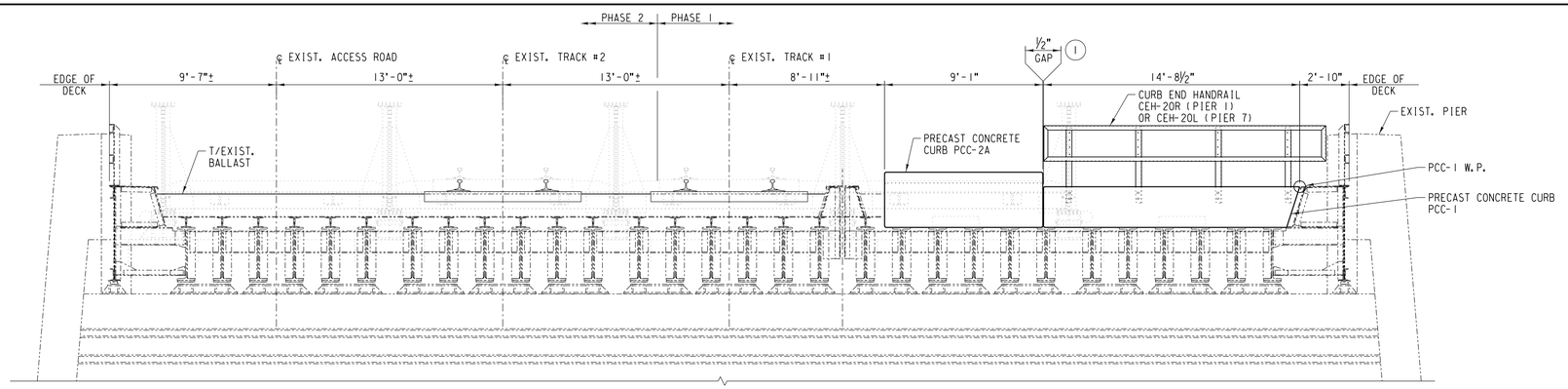
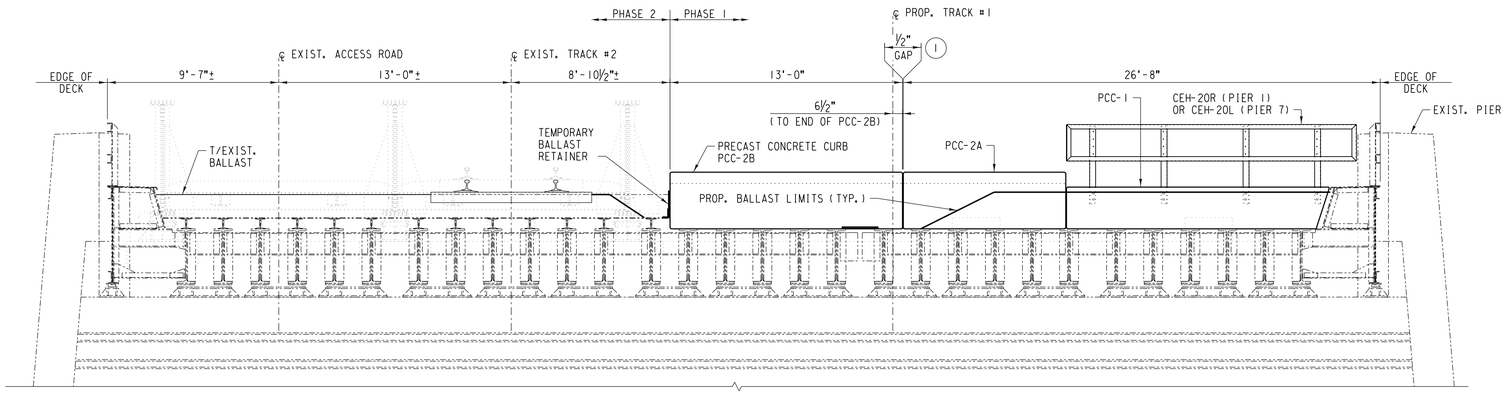


RIGHT

PHASE 1A - SECTION

SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)

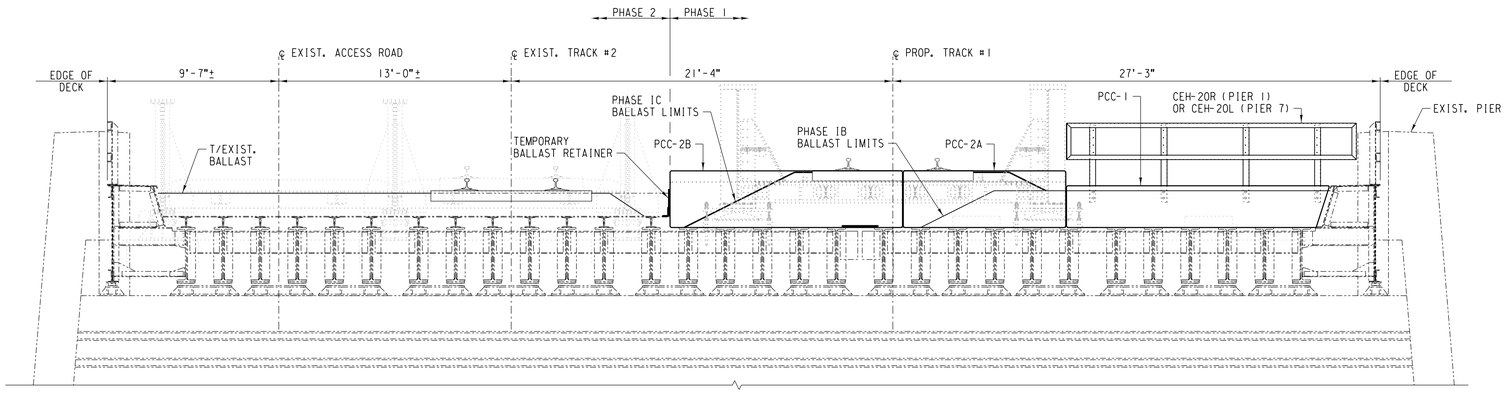
(1) PLACE ½" PREFORMED JOINT FILLER



RIGHT

PHASE 1B - SECTION

SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)



RIGHT

PHASE 1C - SECTION

SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)

RECOMMENDED CONSTRUCTION SEQUENCE PRECAST CONCRETE END CURB

1. Excavate existing ballast, within limits shown. Excavation shall begin at distance no less than 1'-0" from the end of tie of an active track. Excavate at 2H:1V slope whenever possible and at no time steeper than 1.5H:1V slope
2. Remove and discard the asphalt plank, waterproofing membrane, and mastic within the limits shown on Sheet L8.
3. Install temporary ballast retainer, as applicable.
4. Cut existing floor plate as necessary. Do not torch or use any other method that could gouge, cut, or otherwise damage the top flanges of the existing girders. Remove and discard the floor plate.
5. Remove and discard existing 7" channels from top flange of the existing girders.
6. Remove and discard handrails, as applicable.
7. Clean and remove any debris, paint, grease, rust, or any other contaminants that may inhibit welding on the top flanges of the existing girders, within the limits shown on Sheets L8 and L9.
8. Install preformed joint fillers on adjoining components, as applicable.
9. Install precast concrete curb on the existing girders. Refer to typical curb welding details as shown on Sheet L9.
10. Install closure plate assembly to cover the opening between the curb and existing floor plate.
11. Fill voids between the curb and existing waterproofing with epoxy concrete.
12. Apply spray-on waterproofing over the fill face of the curb, according to waterproofing manufacturer's specifications. As applicable, install bent steel plate to cover strip seal expansion joint.
13. Install curb handrail assembly, as applicable.
14. Apply anti-graffiti coating according to coating manufacturer's specifications to exposed concrete surfaces.
15. Regrade ballast as shown in phasing diagram.

RECOMMENDED CONSTRUCTION SEQUENCE PRECAST CONCRETE LONGITUDINAL CURB

1. Excavate existing ballast, within limits shown.
2. Remove loose or damaged asphalt mastic. Install leveling grout pads.
3. Place precast concrete curb on grout pad.
4. Install preformed joint fillers on adjoining components, as applicable.
5. Apply spray-on waterproofing over the fill face of the curb up to the proposed top of ballast elevation, according to waterproofing manufacturer's specifications.
6. Apply anti-graffiti coating according to coating manufacturer's specifications to exposed concrete surfaces.
7. Install curb handrail assembly.
8. Install keeper tees. Field weld tees to embedded plate in precast curb and existing walkway plate.
9. Regrade ballast as shown in phasing diagram.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS — 05/28/2021 DATE

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APPROVED FOR UNION PACIFIC RAILROAD BY:

MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS	**UNION PACIFIC RAILROAD**
DRAWN/CHK BY: JFH/EPS	Office of Director Structures Design
UPRR ENGINEER: DEH / ADS	LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION UPRR OVER I-290 EISENHOWER EXPWY.
SHT NO.: L6 of L17	SHEET TITLE: CURB INSTALL. - CONSTR. SEQUENCING - PHASE 1 TYPICAL SECTION

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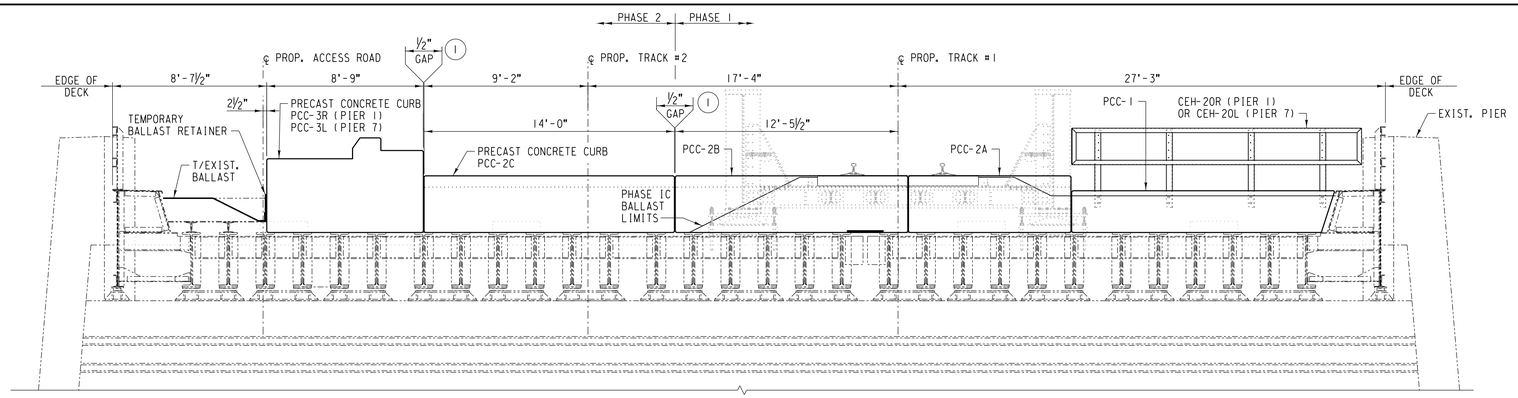
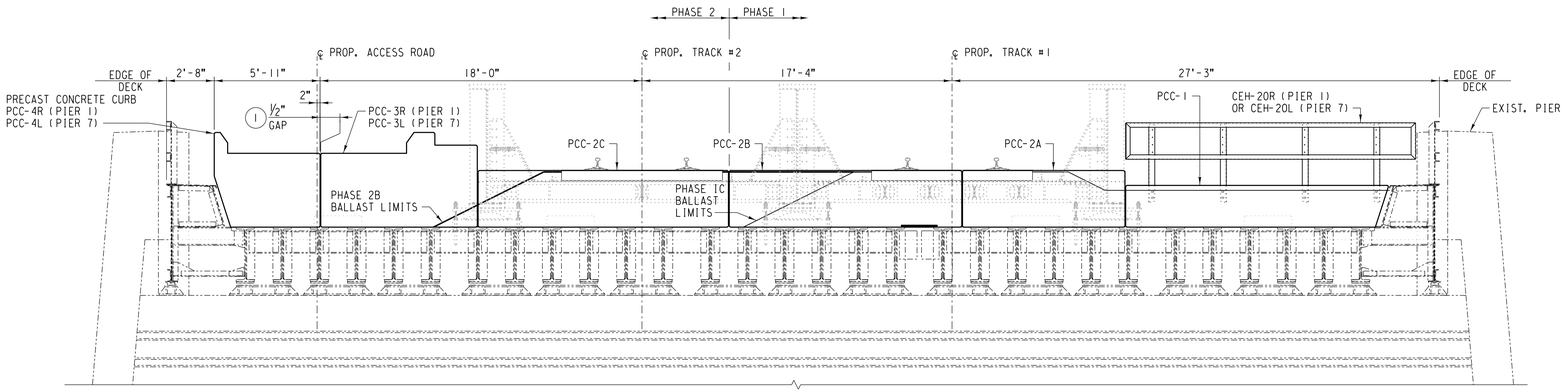


PHASE 2A - SECTION

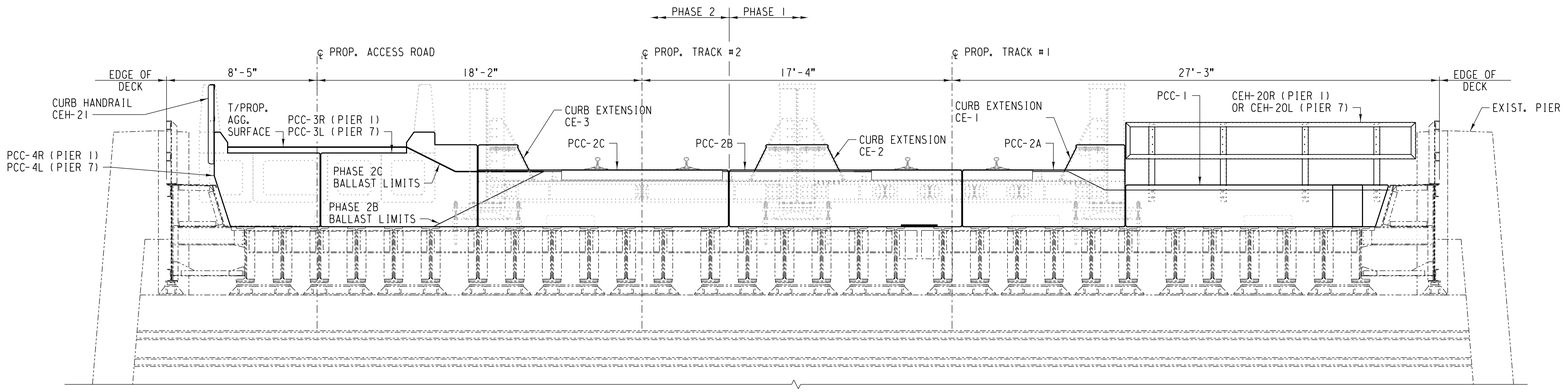
SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)

1 PLACE ½" PREFORMED JOINT FILLER



PHASE 2B - SECTION

SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)



PHASE 2C - SECTION

SCALE: ¼" = 1'-0"
(PIER 1 SHOWN; PIER 7 OPPOSITE HAND)
(LOOKING NORTH)

RECOMMENDED CONSTRUCTION SEQUENCE

Phase 1A - Install Curb East of Existing Longitudinal Ballast Stop

1. Close sidewalk and traffic lanes adjacent to existing pier prior to commencing Phase 1 work.
2. Phase 1A curb replacement may be performed without interruption to rail traffic on either track.
3. Install precast concrete curb. See Sheet L6 for procedure.

Phase 1B to 2A - Install End Curb under Proposed Tracks 1 and 2

1. Coordinate curb replacement with removal of existing span. Complete curb installation prior to erection of proposed span.
2. Rail traffic shall proceed at reduced speed while the excavation is open.
3. Install precast concrete curb. See Sheet L6 for procedure.
4. Install shim plates as needed between the top of the curb and the bottom of the floor plate of the proposed span.
5. Install proposed span, regrade ballast, and reconnect track.

Phase 2B & 2C - Install End & Longitudinal Curb under Proposed Access Road

1. Coordinate curb replacement with removal of existing span. Complete curb installation prior to erection of proposed span.
2. Curb replacement may be performed without interruption to rail traffic on either track.
3. Install precast concrete curb. See Sheet L6 for procedure.
4. Install strip seal expansion joint and bent cover plate assembly. Refer to Van Buren Street or Congress Parkway project plans for expansion joint details and specifications.
5. Install precast concrete longitudinal curb according to typical procedure.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL (STATUS) 05/28/2021 (DATE)

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:

MATTHEW BECKER (CONSULTANT ENGINEER) 05/28/2021 (DATE)

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS	**UNION PACIFIC RAILROAD**
DRAWN/CHK BY: JFH/EPS	Office of Director Structures Design
UPRR ENGINEER: DEH / ADS	LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION UPRR OVER I-290 EISENHOWER EXPWY.
SHT NO.: L7 of L17	SHEET TITLE: CURB INSTALL. - CONSTR. SEQUENCING - PHASE 2 TYPICAL SECTION

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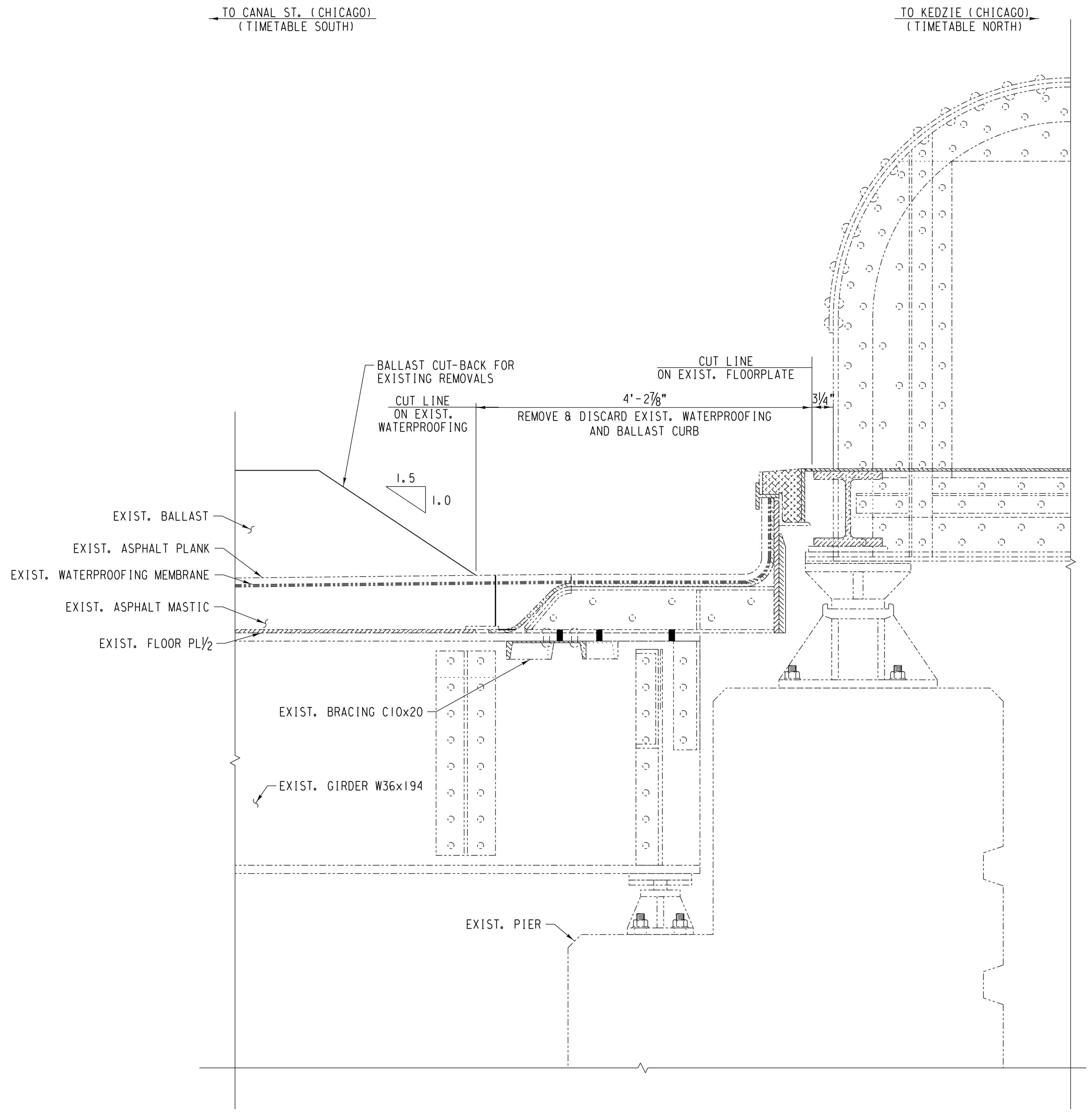
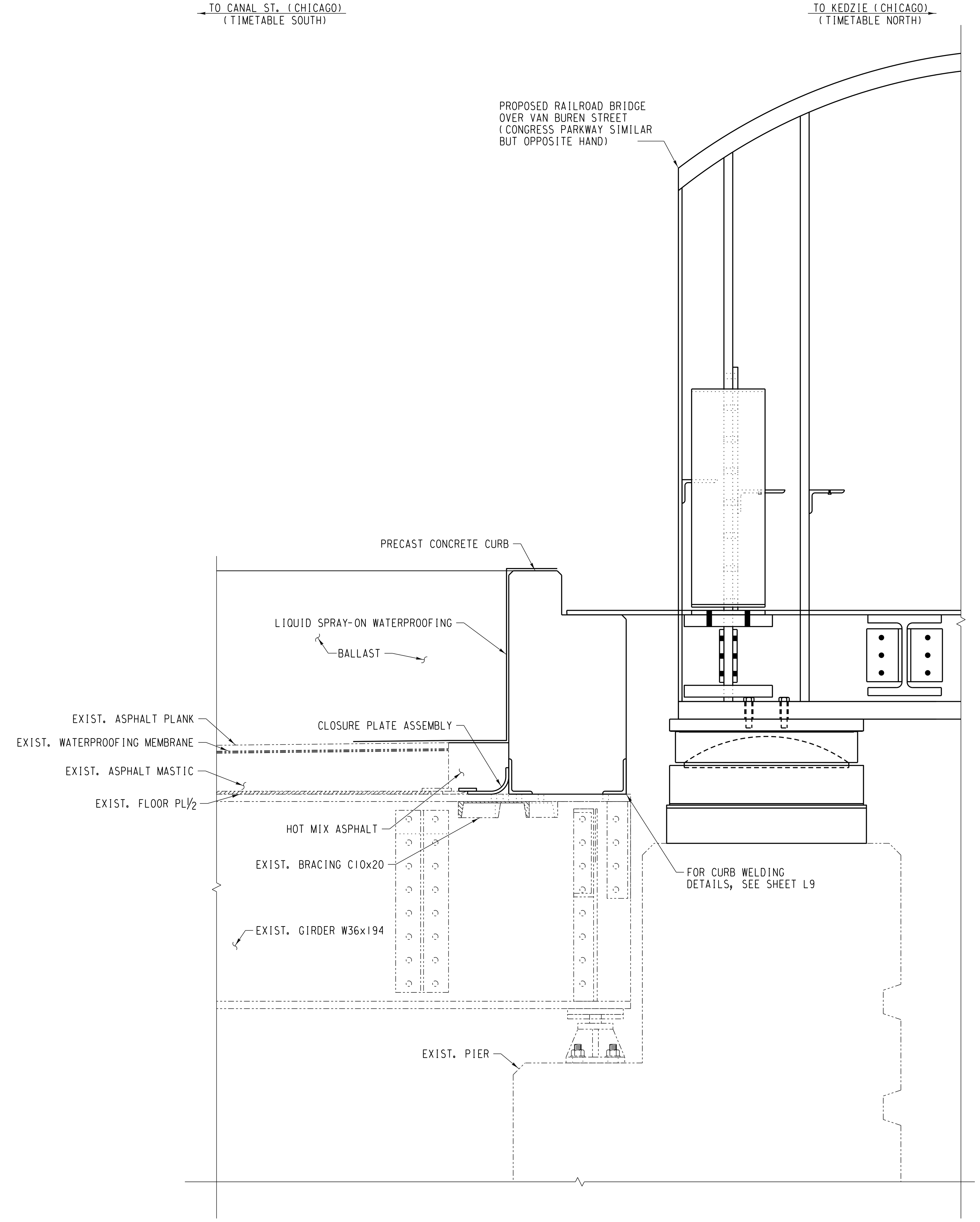


ELEVATION - EXISTING CURB

SCALE: 1" = 1'-0"

(LOOKING WEST AT PIER #1)
(PIER #7 SIMILAR, BUT OPPOSITE HAND)



ELEVATION - PROP. CURB AT TPG SPAN

SCALE: 1" = 1'-0"

(LOOKING WEST AT PIER #1)
(PIER #7 SIMILAR BUT OPPOSITE HAND)

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:

MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

UNION PACIFIC

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L8 of L17

UNION PACIFIC RAILROAD

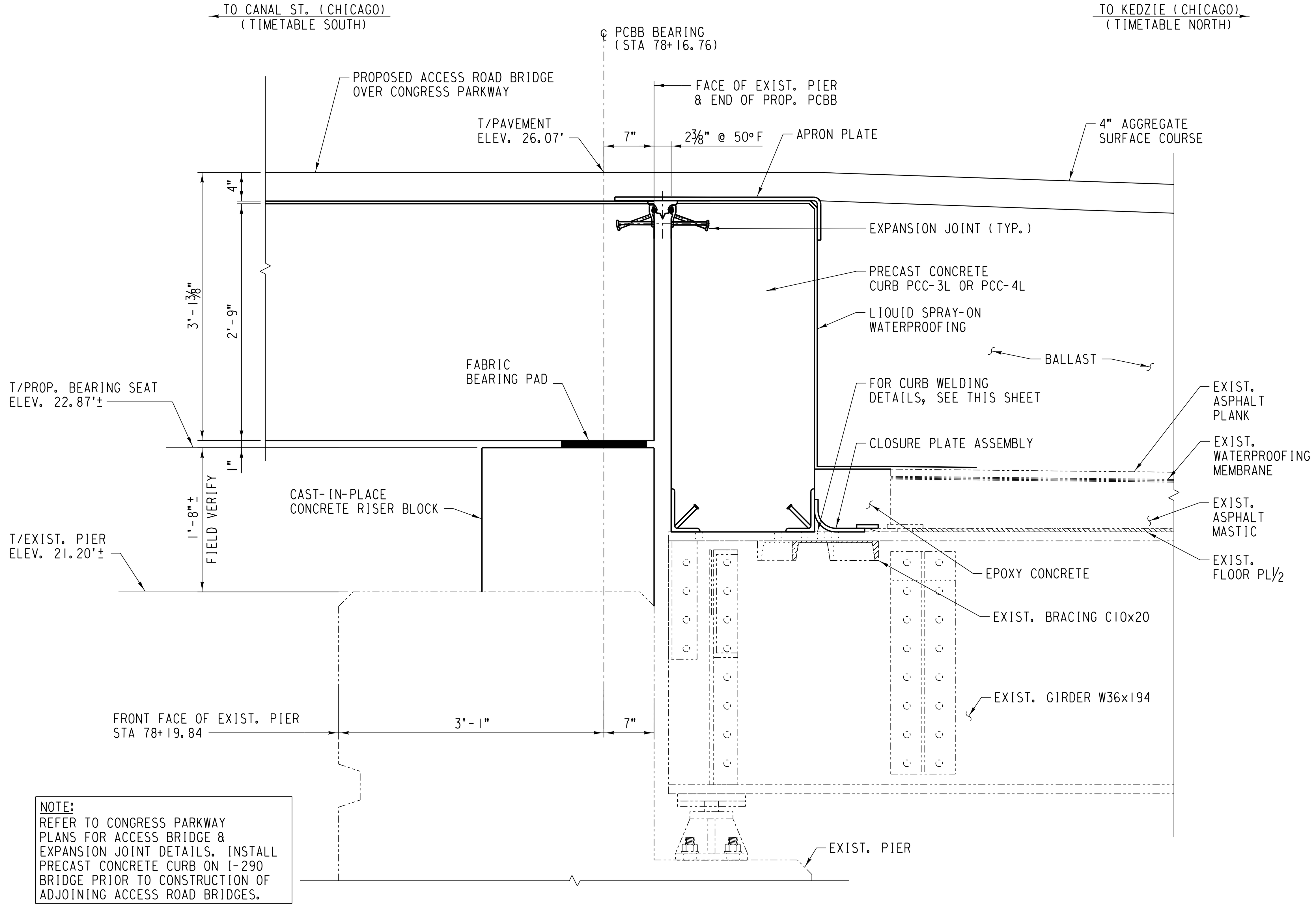
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: CURB INSTALLATION - EXISTING AND PROPOSED ELEVATIONS

PLOTTED: 5/27/2021 11:17:11 AM

FILE NAME: C:\Users\rramirez\Desktop\roc0141_b11.dgn

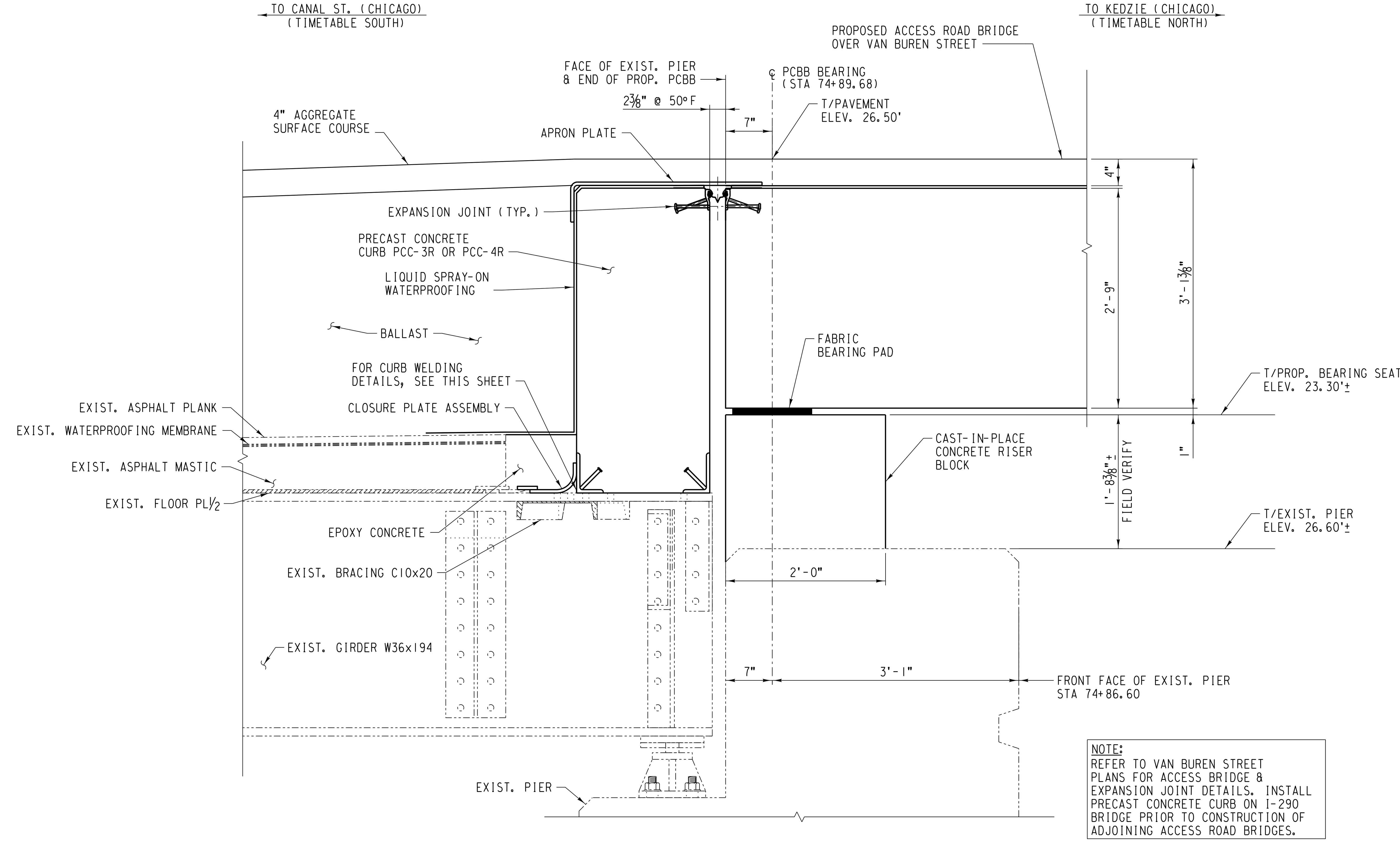


NOTE:
REFER TO CONGRESS PARKWAY PLANS FOR ACCESS BRIDGE & EXPANSION JOINT DETAILS. INSTALL PRECAST CONCRETE CURB ON I-290 BRIDGE PRIOR TO CONSTRUCTION OF ADJOINING ACCESS ROAD BRIDGES.

ELEVATION - PROP. CURB AT PIER 7

SCALE: 1" = 1'-0"

(LOOKING WEST)

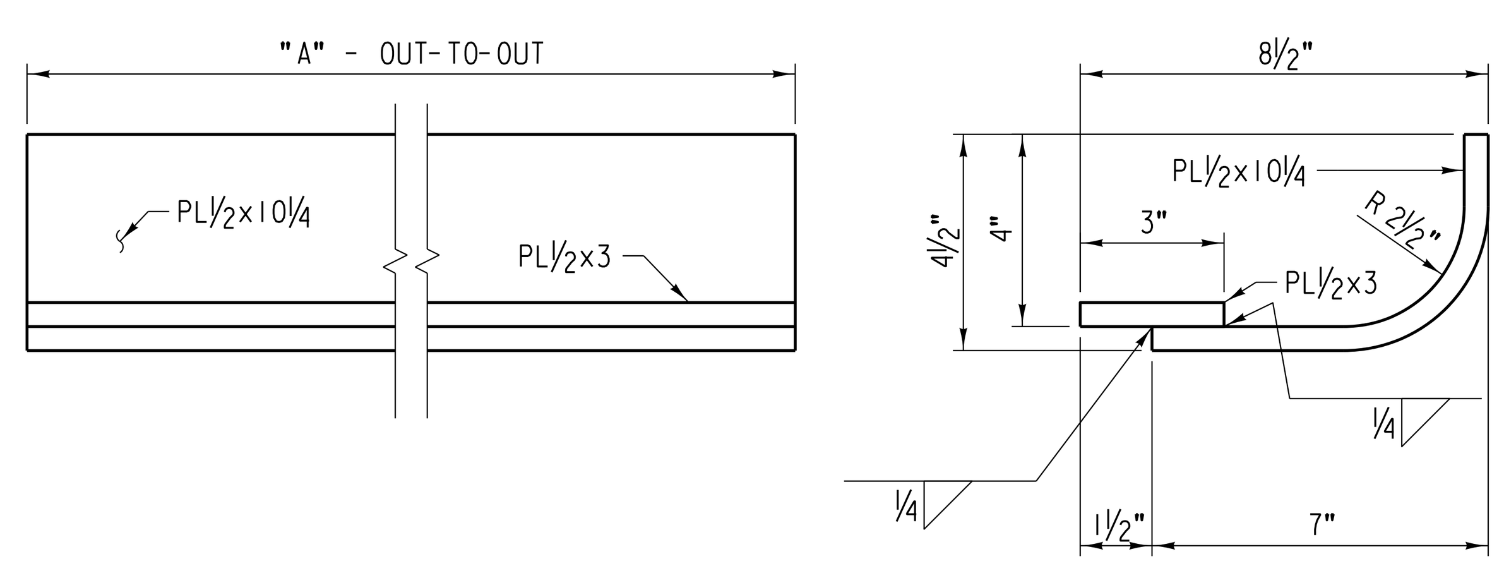


NOTE:
REFER TO VAN BUREN STREET PLANS FOR ACCESS BRIDGE & EXPANSION JOINT DETAILS. INSTALL PRECAST CONCRETE CURB ON I-290 BRIDGE PRIOR TO CONSTRUCTION OF ADJOINING ACCESS ROAD BRIDGES.

ELEVATION - PROP. CURB AT PIER 1

SCALE: 1" = 1'-0"

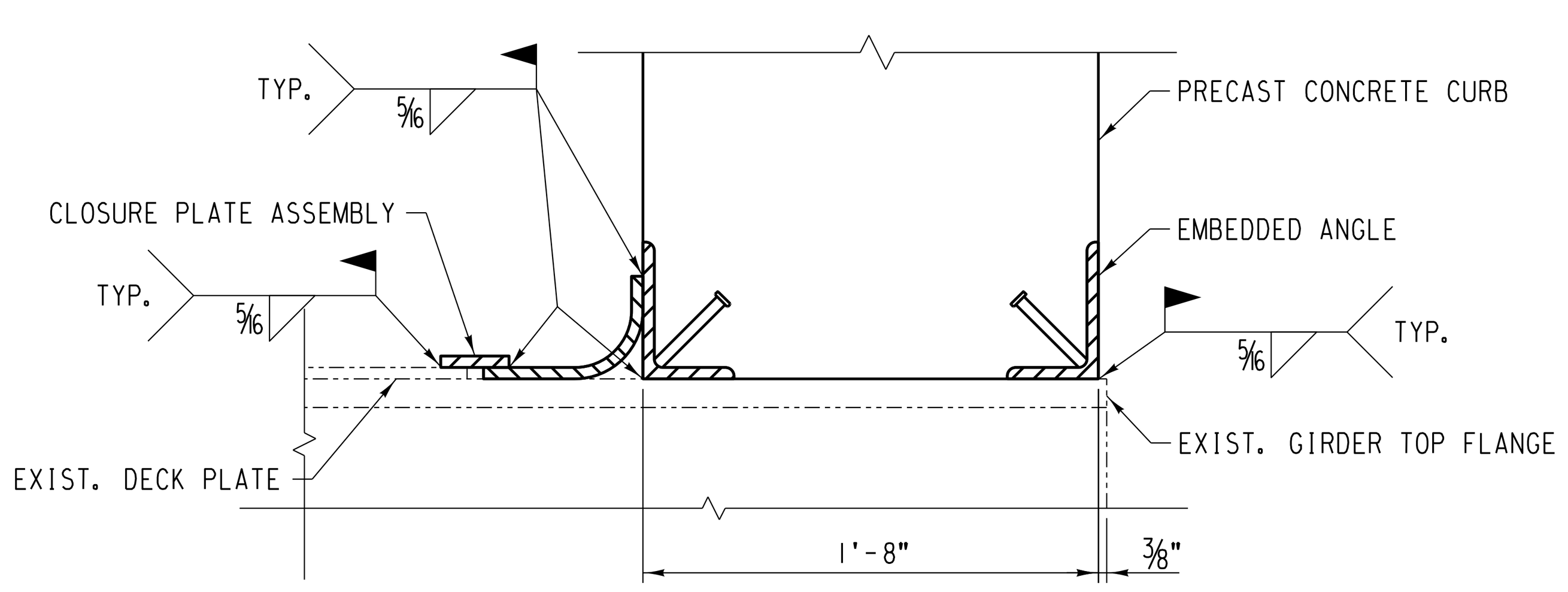
(LOOKING WEST)



CLOSURE PLATE ASSEMBLY

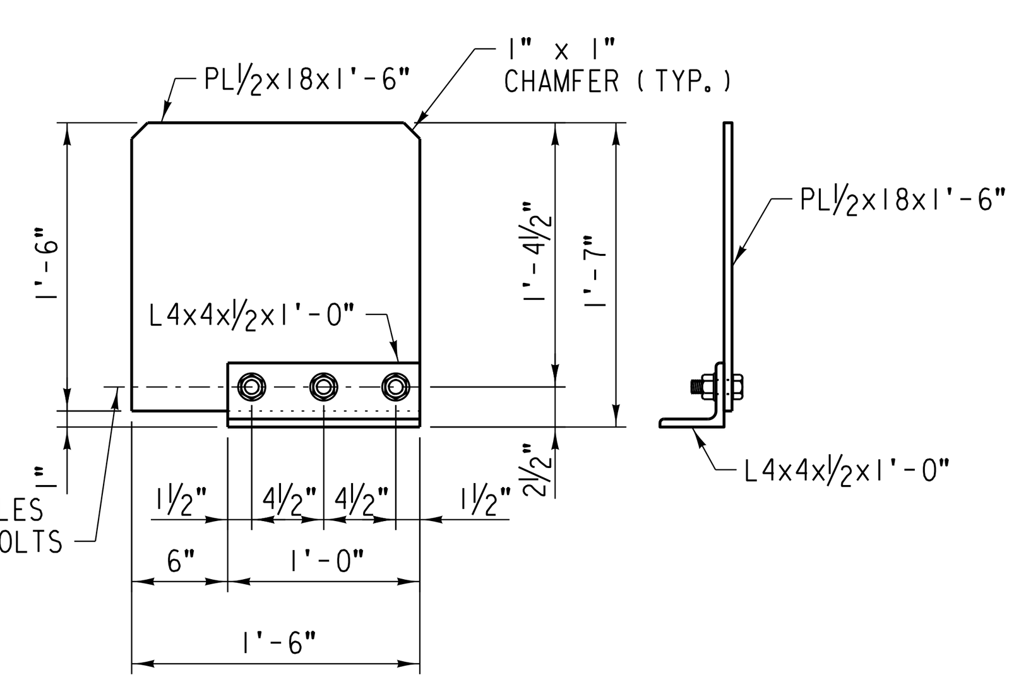
SCALE: 3" = 1'-0"

MK	"A"	LB. EA.	ATTACH TO
CPA-1	14'-0"	305	PCC-1
CPA-2A	9'-1½"	199	PCC-2A
CPA-2B	13'-0½"	284	PCC-2B
CPA-2C	14'-0½"	306	PCC-2C
CPA-3	8'-9½"	192	PCC-3R/L
CPA-4	5'-0"	109	PCC-4R/L



CURB WELDING DETAILS

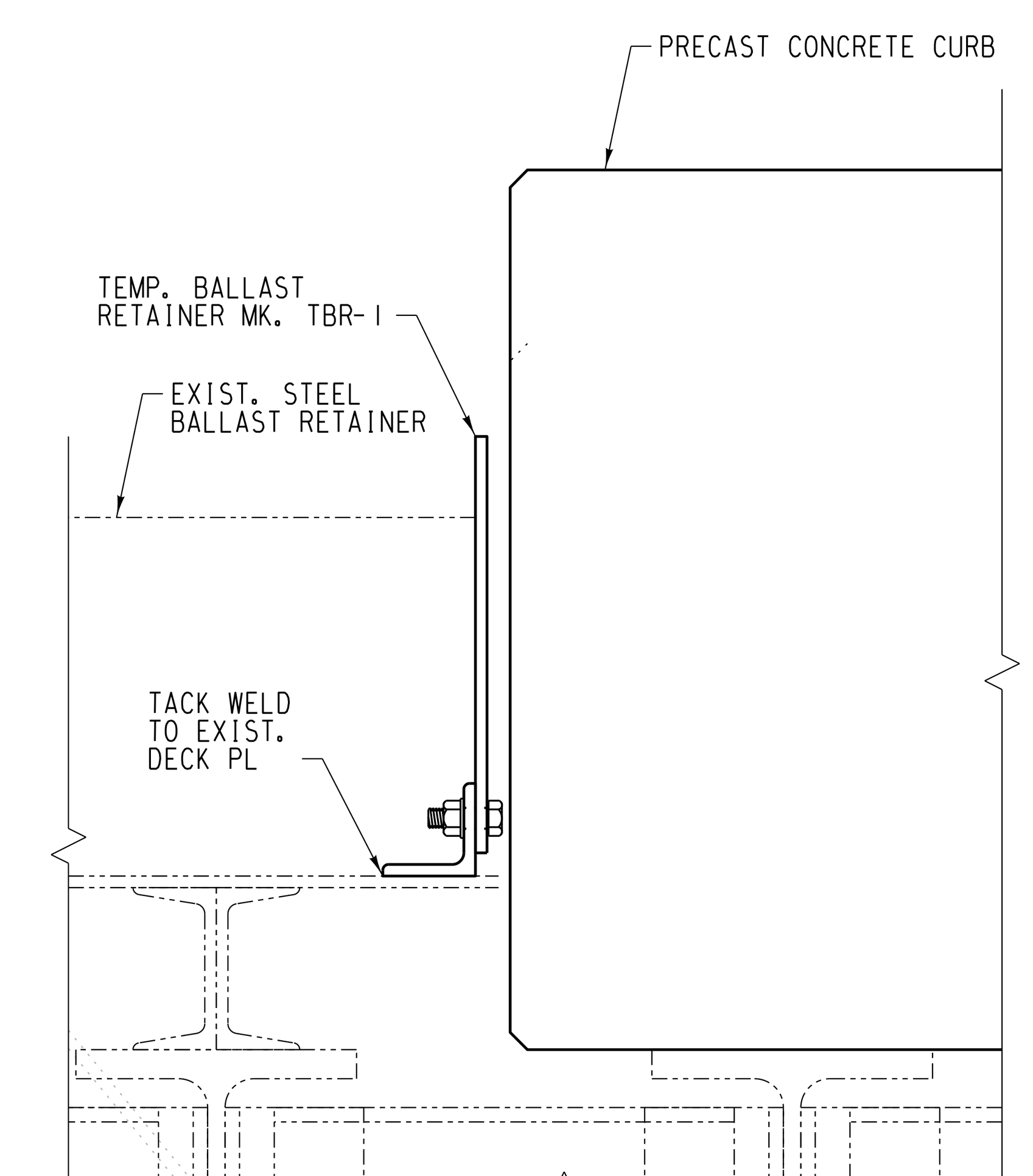
SCALE: 1½" = 1'-0"



TEMPORARY BALLAST RETAINER TBR-1

SCALE: 1" = 1'-0"

EST. WT. = 59 LB. EA.



MK. TBR-1 INSTALLATION

SCALE: 1½" = 1'-0"

NOTE:
TEMPORARY BALLAST RETAINER MK. TBR-1 TO BE REMOVED PRIOR TO PLACEMENT OF ADJACENT PRECAST CONCRETE CURB.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — 05/28/2021 (DATE)

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER, CONSULTANT ENGINEER — 05/28/2021 (DATE)

PROJECT ID: | WORK ORDER: 31876 | C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L9 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: CURB INSTALLATION - PROPOSED ELEVATION AT ACCESS BRIDGE

FILE NAME: C:\Users\rramirez\Desktop\roc0141.b11.dgn

PLOTTED: 5/27/2021 11:17:11 AM

MATERIAL SCHEDULE

(QUANTITY PER PRECAST CONCRETE CURB PCC-1)

REQ'D.	UNIT	DESCRIPTION
2.1	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
2	EA.	EMBEDDED ANGLE EA-1 L6x4x½x13'-7½"
2	EA.	8-TON SWIFT-LIFT ANCHOR
54	EA.	½" DIA. x 4" SHEAR STUDS

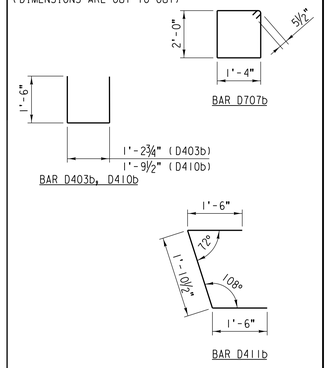
REINFORCING SCHEDULE

(QUANTITY PER PRECAST CONCRETE CURB PCC-1)

TOTAL	MARK	SIZE	LENGTH	SHAPE
3	D1308	#5	13'-8"	
2	D1310	#5	13'-10"	
2	D1400	#5	14'-0"	
2	D1402	#5	14'-2"	
3	D1403	#5	14'-3"	
6	D403b	#5	4'-3"	
3	D410b	#5	4'-10"	
3	D411b	#5	4'-11"	
28	D707b	#5	7'-7"	

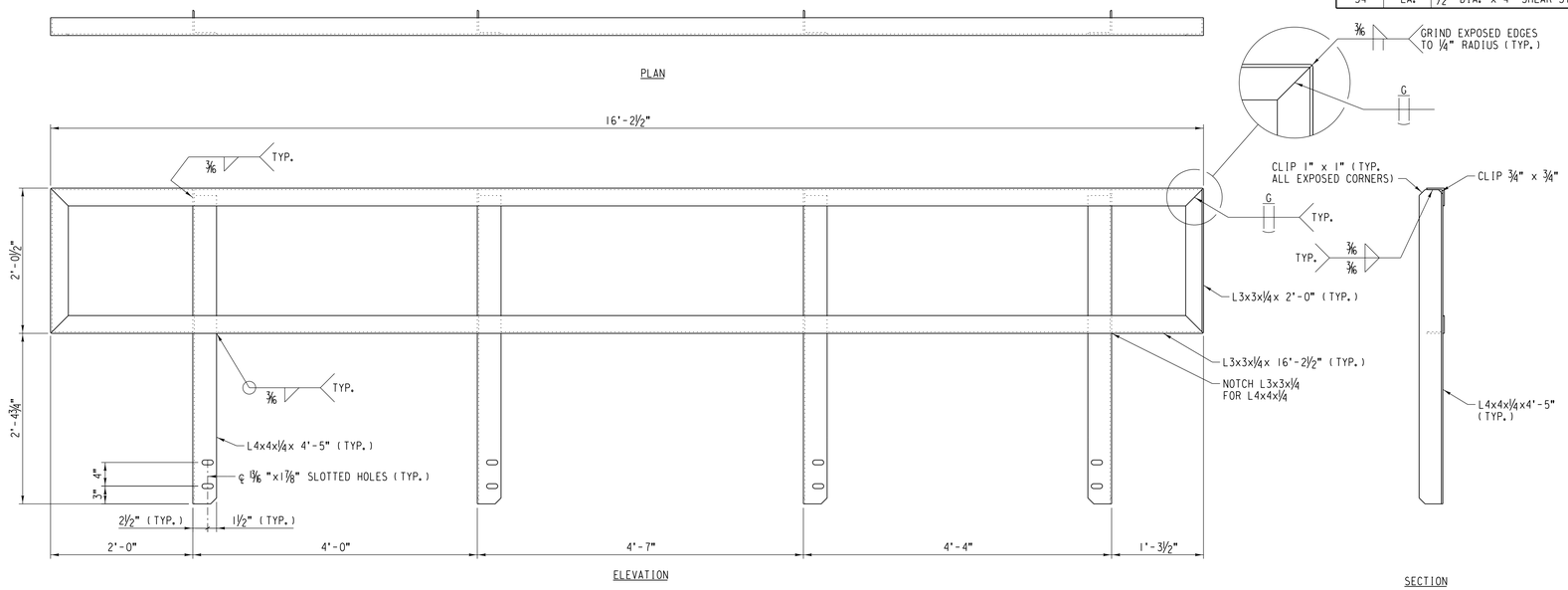
BENDING DIAGRAM

(DIMENSIONS ARE OUT TO OUT)



NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 454 LB.

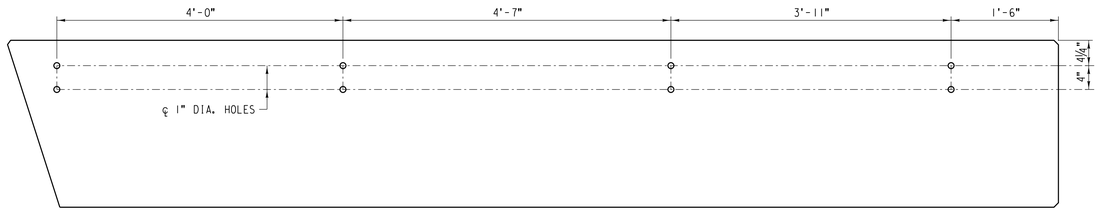


CURB END HANDRAIL CEH-20R/L

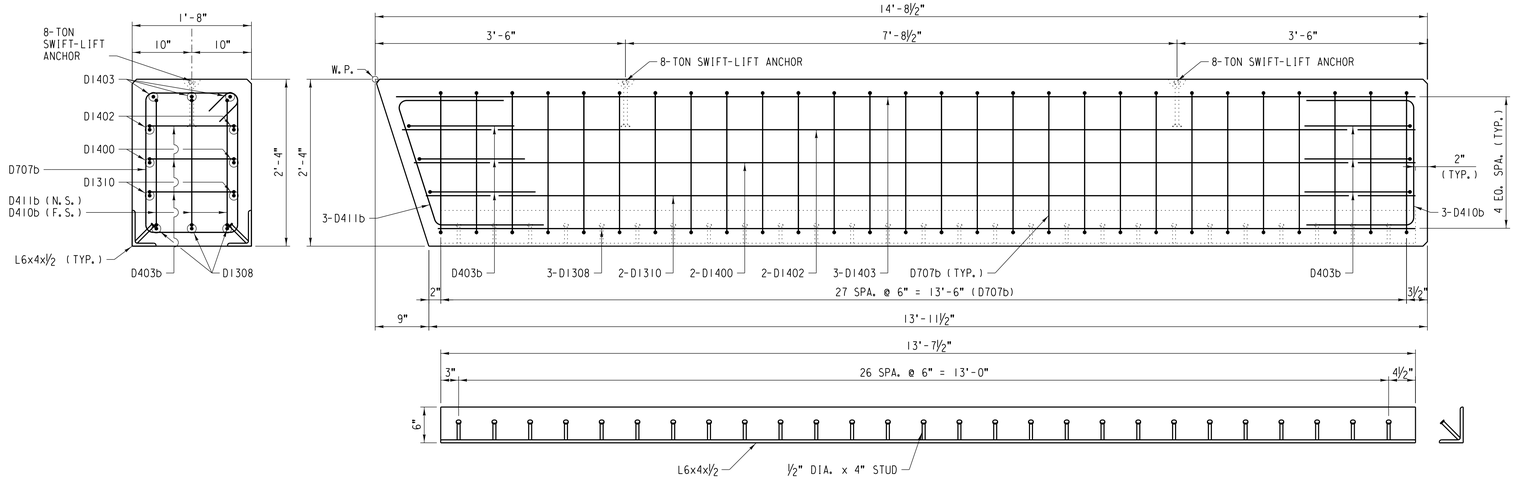
SCALE: 1" = 1'-0"

(CEH-20R SHOWN; CEH-20L OPPOSITE HAND)

NOTE:
GALVANIZE ALL HANDRAIL COMPONENTS, ACCORDING TO PROJECT SPECIFICATIONS.



ELEVATION - SHOWING HANDRAIL BLOCKOUTS



PRECAST CONCRETE CURB PCC-1

SCALE: 1" = 1'-0"

(EST. WT. = 8,360 LB. EA.)

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS:
FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS	**UNION PACIFIC RAILROAD**
DRAWN/CHK BY: JFH/EPS	Office of Director Structures Design
UPRR ENGINEER: DEH / ADS	LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
SHT NO.: L10 of L17	UPRR OVER I-290 EISENHOWER EXPWY.
	SHEET TITLE: PRECAST CONCRETE CURB PCC-1R/L & CURB END HANDRAIL CEH-20R/L

FILE NAME: C:\Users\rramirez\Desktop\rc00141_b11.dgn

PLOTTED: 5/27/2021 11:17:11 AM

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2A)

REQ'D.	UNIT	DESCRIPTION
1.6	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
3	EA.	EMBEDDED ANGLE EA-2A L6x4x½x8'-9"
2	EA.	8-TON SWIFT-LIFT ANCHOR
51	EA.	½" DIA. x 4" SHEAR STUDS

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2B)

REQ'D.	UNIT	DESCRIPTION
2.3	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
3	EA.	EMBEDDED ANGLE EA-2B L6x4x½x12'-8"
2	EA.	8-TON SWIFT-LIFT ANCHOR
75	EA.	½" DIA. x 4" SHEAR STUDS

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2C)

REQ'D.	UNIT	DESCRIPTION
2.4	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
3	EA.	EMBEDDED ANGLE EA-2C L6x4x½x13'-8"
2	EA.	8-TON SWIFT-LIFT ANCHOR
81	EA.	½" DIA. x 4" SHEAR STUDS

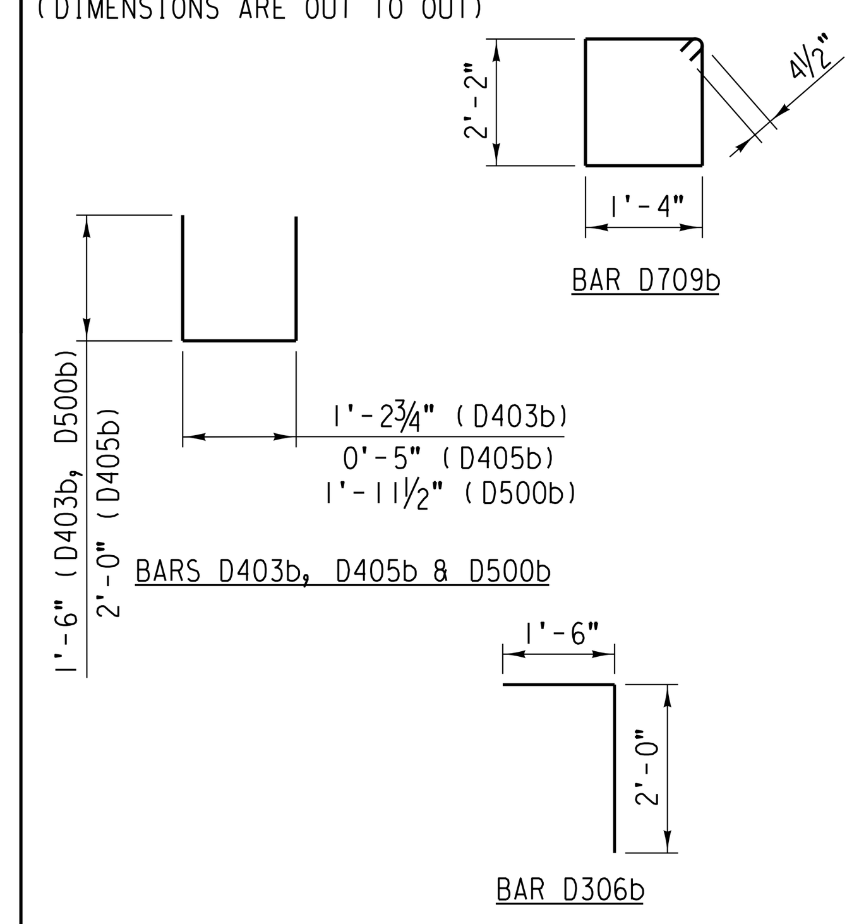
DETAIL DIMENSIONS

DETAIL	PCC2A	PCC2B	PCC2C
A	9'-1"	13'-0"	14'-0"
B	2'-0½"	3'-0"	3'-3"
C	5'-0"	7'-0"	7'-0"
D	0'-3½"	0'-3"	0'-3"
E	17	25	27
F	8'-6"	12'-6"	13'-6"
G	8'-9"	12'-8"	13'-8"
H	0'-4½"	0'-4"	0'-4"
J	16	24	26
K	8'-0"	12'-0"	13'-0"

REINFORCING SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2A)

TOTAL	MARK	SIZE	LENGTH	SHAPE
14	D809	#5	8'-9"	straight
4	D306b	#5	3'-6"	L
6	D403b	#5	4'-3"	U
18	D405b	#5	4'-5"	U
6	D500b	#5	5'-0"	U
18	D709b	#5	7'-9"	closed tie

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



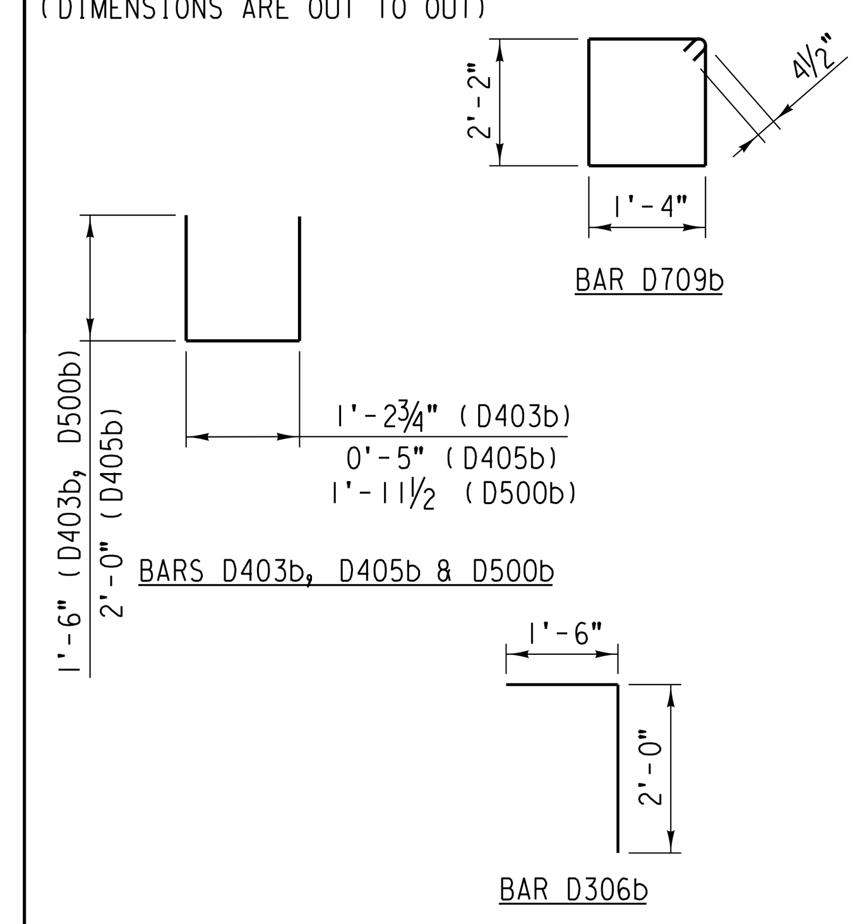
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 429 LB.

REINFORCING SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2B)

TOTAL	MARK	SIZE	LENGTH	SHAPE
14	D1208	#5	12'-8"	straight
4	D306b	#5	3'-6"	L
6	D403b	#5	4'-3"	U
26	D405b	#5	4'-5"	U
6	D500b	#5	5'-0"	U
26	D709b	#5	7'-9"	closed tie

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



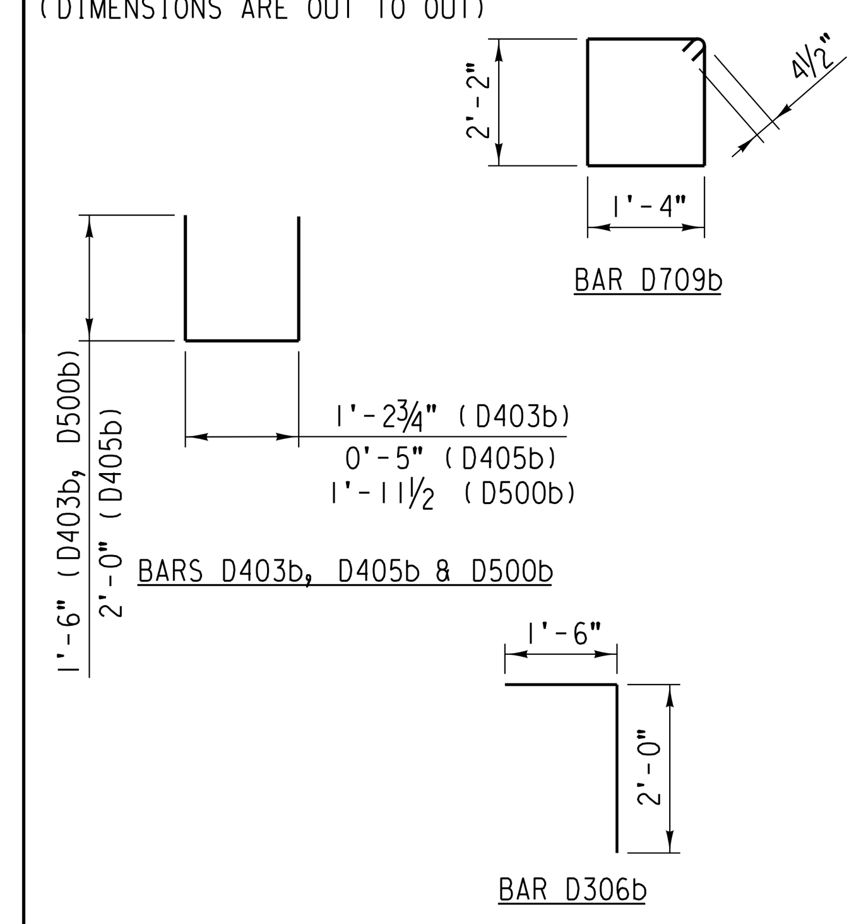
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 588 LB.

REINFORCING SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-2C)

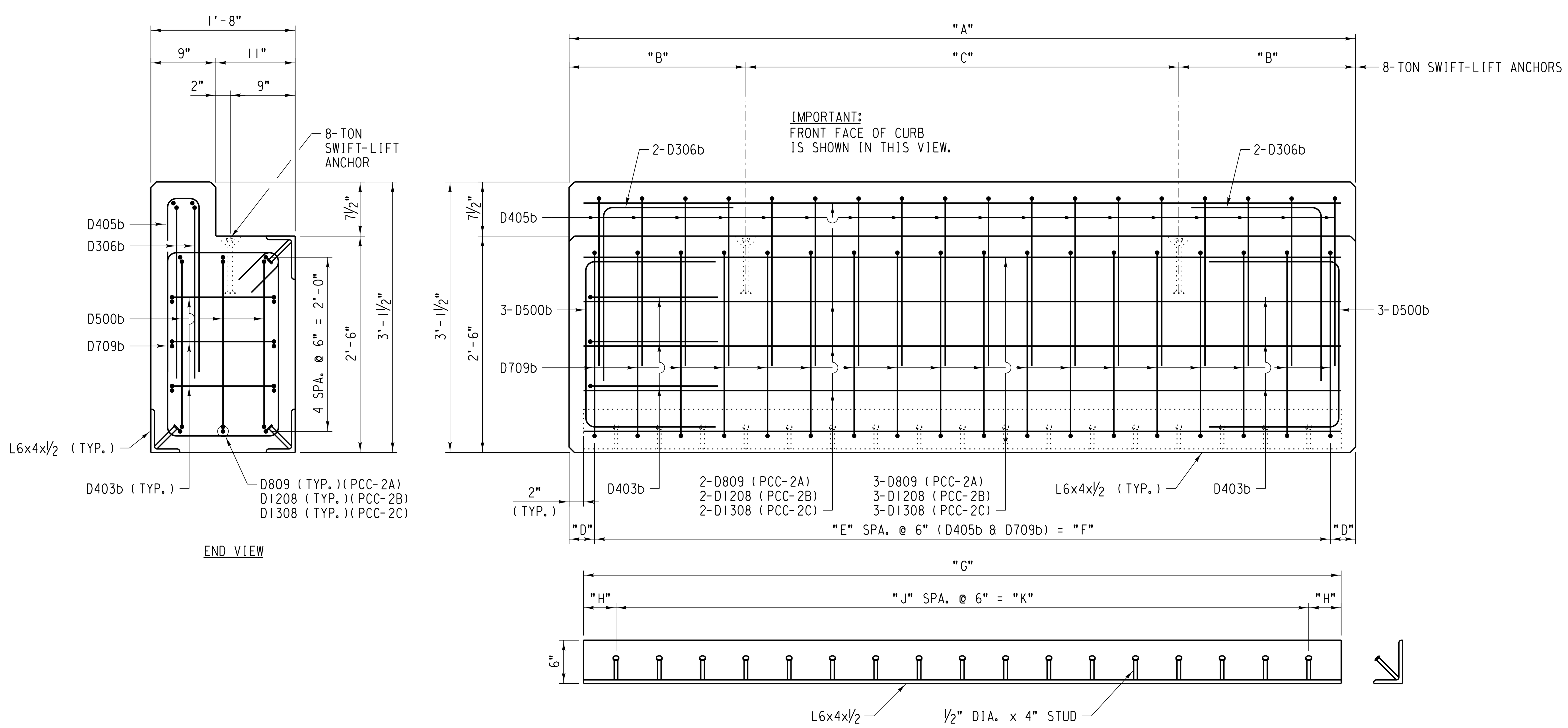
TOTAL	MARK	SIZE	LENGTH	SHAPE
14	D1308	#5	13'-8"	straight
4	D306b	#5	3'-6"	L
6	D403b	#5	4'-3"	U
28	D405b	#5	4'-5"	U
6	D500b	#5	5'-0"	U
28	D709b	#5	7'-9"	closed tie

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 628 LB.



END VIEW

PRECAST CONCRETE CURB PCC2A, PCC2B, & PCC2C

SCALE: 1" = 1'-0"

EST. WT. = 6,402 LB. EA. (PCC2A), 9,163 LB. EA. (PCC2B), & 9,868 LB. EA. (PCC2C)
PCC2A SHOWN. PCC2B & PCC2C SIMILAR. SEE TABLE FOR DETAIL DIMENSIONS.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — 05/28/2021 (STATUS / DATE)

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 (DATE)

PROJECT ID: | WORK ORDER: 31876 | C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L11 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION:
BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE:
PRECAST CONCRETE CURB PCC-2A/B/C

FILE NAME: C:¥Users¥rramirez¥Desktop¥roc0141_bil.dgn

PLOTTED: 5/27/2021 11:17:11 AM

MATERIAL SCHEDULE

(QUANTITY PER PRECAST CONCRETE CURB PCC-3)

REQ'D.	UNIT	DESCRIPTION
2.3	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
2	EA.	EMBEDDED ANGLE EA-3 L6x4x½x8'-5"
2	EA.	8-TON SWIFT-LIFT ANCHOR
1	EA.	LOCKING EDGE RAIL FOR STRIP SEAL EXPANSION JOINT
32	EA.	½" DIA. x 4" SHEAR STUDS

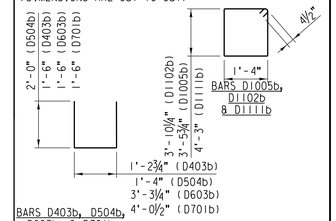
REINFORCING SCHEDULE

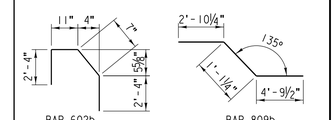
(QUANTITY PER PRECAST CONCRETE CURB PCC-3)

TOTAL	MARK	SIZE	LENGTH	SHAPE
2	D308	#5	3'-8"	
15	D805	#5	8'-5"	
13	D403b	#5	4'-3"	
3	D504b	#5	5'-4"	
3	D602b	#5	6'-2"	
3	D603b	#5	6'-3"	
3	D701b	#5	7'-1"	
3	D809b	#5	8'-9"	
10	D1005b	#5	10'-5"	
1	D1102b	#5	11'-2"	
6	D1111b	#5	11'-11"	

BENDING DIAGRAM

(DIMENSIONS ARE OUT TO OUT)

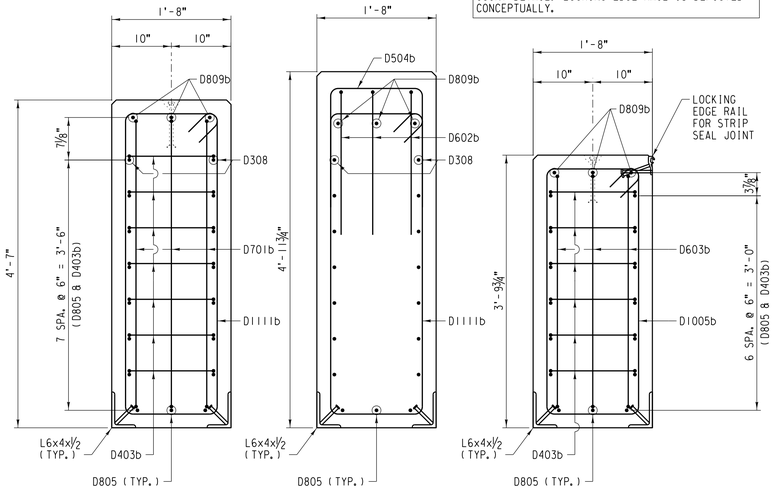


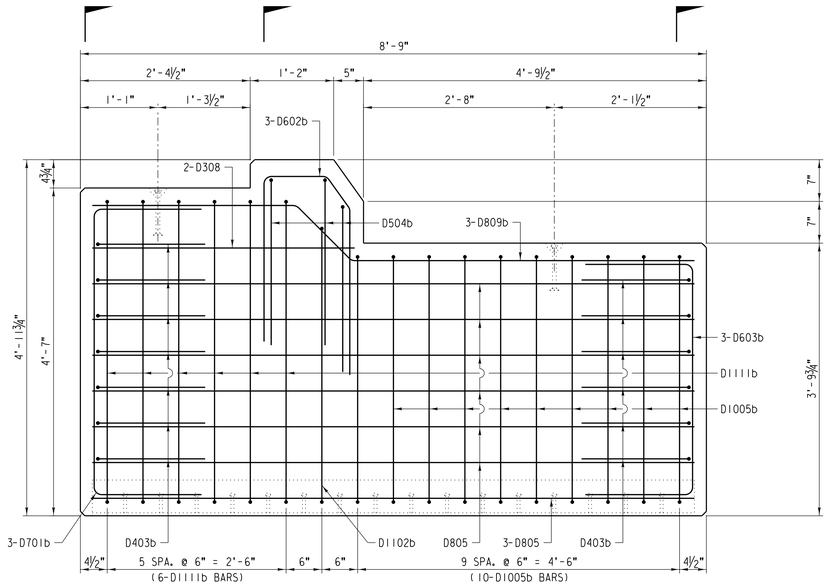


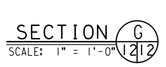
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

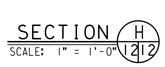
EST. WT. OF REINFORCING STEEL = 499 LB.

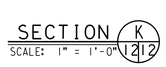
NOTE:
REFER TO VAN BUREN STREET & CONGRESS PARKWAY PROJECT PLANS FOR DETAILS AND SPECIFICATIONS ON LOCKING EDGE RAIL FOR STRIP SEAL EXPANSION JOINT DETAIL. LOCKING EDGE RAIL IS DEPICTED CONCEPTUALLY.

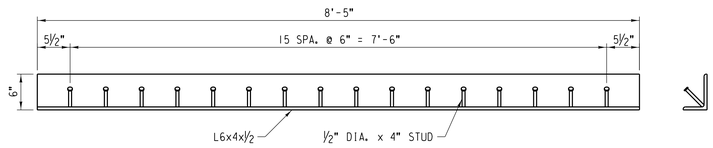












PRECAST CONCRETE CURB PCC3R/L

SCALE: 1" = 1'-0"

(PCC-3R SHOWN; PCC-3L OPPOSITE HAND)
EST. WT. = 9,609 LB. EA.

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS:
FINAL (STATUS) 05/28/2021 (DATE)

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER (CONSULTANT ENGINEER) 05/28/2021 (DATE)

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY:	JFH/EPS
DRAWN/CHK BY:	JFH/EPS
UPRR ENGINEER:	DEH / ADS
SHT NO.:	L12 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: PRECAST CONCRETE CURB PCC-3

FILE NAME: c:\Users\ramirezm\Desktop\rcc0141_bill.dgn

PLOTTED: 5/27/2021 11:17:11 AM

NOTE:
REFER TO VAN BUREN STREET & CONGRESS PARKWAY PROJECT PLANS FOR DETAILS AND SPECIFICATIONS ON LOCKING EDGE RAIL FOR STRIP SEAL EXPANSION JOINT DETAIL. LOCKING EDGE RAIL IS DEPICTED CONCEPTUALLY.

MATERIAL SCHEDULE (PCC-4R/L)

(QUANTITY PER PRECAST CONCRETE CURB PCC-4R/L)

REQ'D.	UNIT	DESCRIPTION
1.4	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
2	EA.	EMBEDDED ANGLE EA-4 L6x4x½x4'-8"
1	EA.	EMBEDDED PLATE CEP-1 PL½x8x1'-9½"
2	EA.	8-TON SWIFT-LIFT ANCHOR
1	EA.	LOCKING EDGE RAIL FOR STRIP SEAL EXPANSION JOINT
26	EA.	½" DIA. x 4" SHEAR STUDS

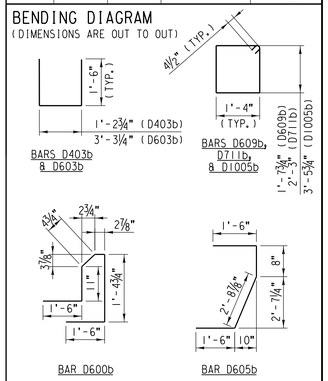
REINFORCING SCHEDULE (PCC-4R/L)

(QUANTITY PER PRECAST CONCRETE CURB PCC-4R/L)

TOTAL	MARK	SIZE	LENGTH	SHAPE
3	D409	#5	4'-9"	
2	D410	#5	4'-10"	
2	D500	#5	5'-0"	
2	D502	#5	5'-2"	
2	D504	#5	5'-4"	
2	D506	#5	5'-6"	
5	D507	#5	5'-7"	
12	D403b	#5	4'-3"	
3	D600b	#5	6'-0"	
3	D603b	#5	6'-3"	
3	D605b	#5	6'-5"	
1	D609b	#5	6'-9"	
1	D711b	#5	7'-11"	
10	D1005b	#5	10'-5"	

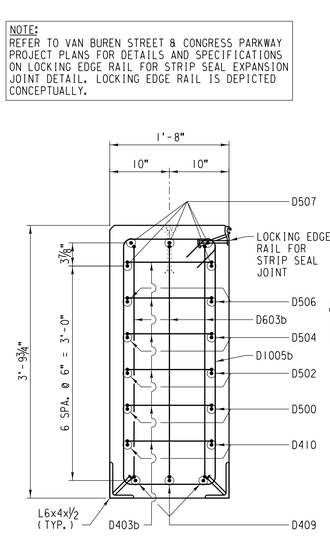
BENDING DIAGRAM

(DIMENSIONS ARE OUT TO OUT)

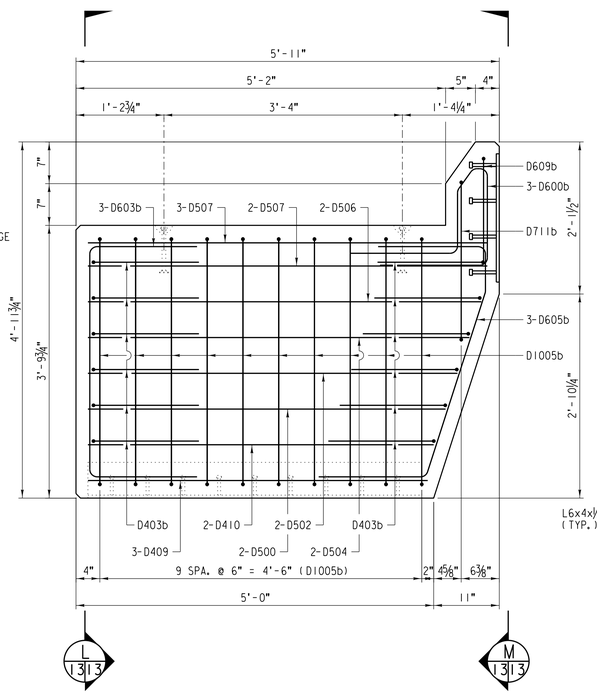


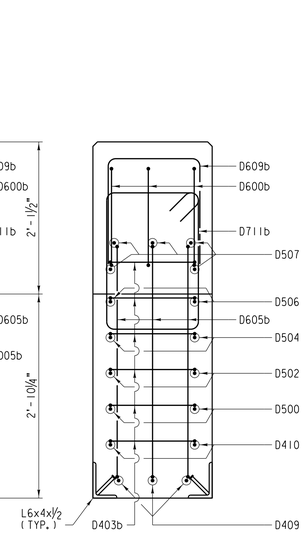
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 333 LB.

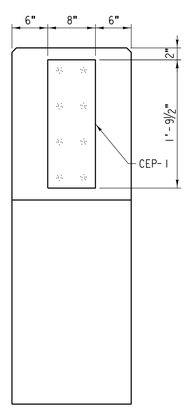


SECTION L
SCALE: 1" = 1'-0"

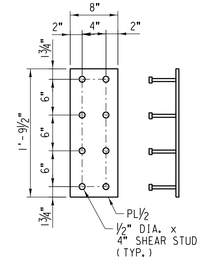




REINFORCEMENT DETAIL



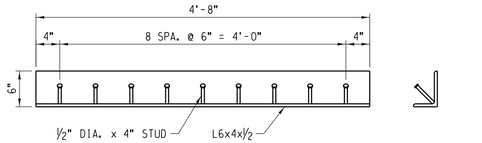
EMBEDDED PLATE DETAIL



EMBED PLATE MK. CEP-1

SCALE: 3" = 1'-0"
ESTIMATED WEIGHT = 25 LB. EA.
(2 REQUIRED)

VIEW M
SCALE: 1" = 1'-0"



PRECAST CONCRETE CURB PCC-4R/L

SCALE: 1" = 1'-0"
EST. WT. = 5,584 LB. EA.
(PCC-4R SHOWN; PCC-4L OPPOSITE HAND)

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS:
FINAL — STATUS
05/28/2021 — DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER
05/28/2021 — DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY:	JFH/EPS
DRAWN/CHK BY:	JFH/EPS
UPRR ENGINEER:	DEH / ADS
SHT NO.:	L13 of L17

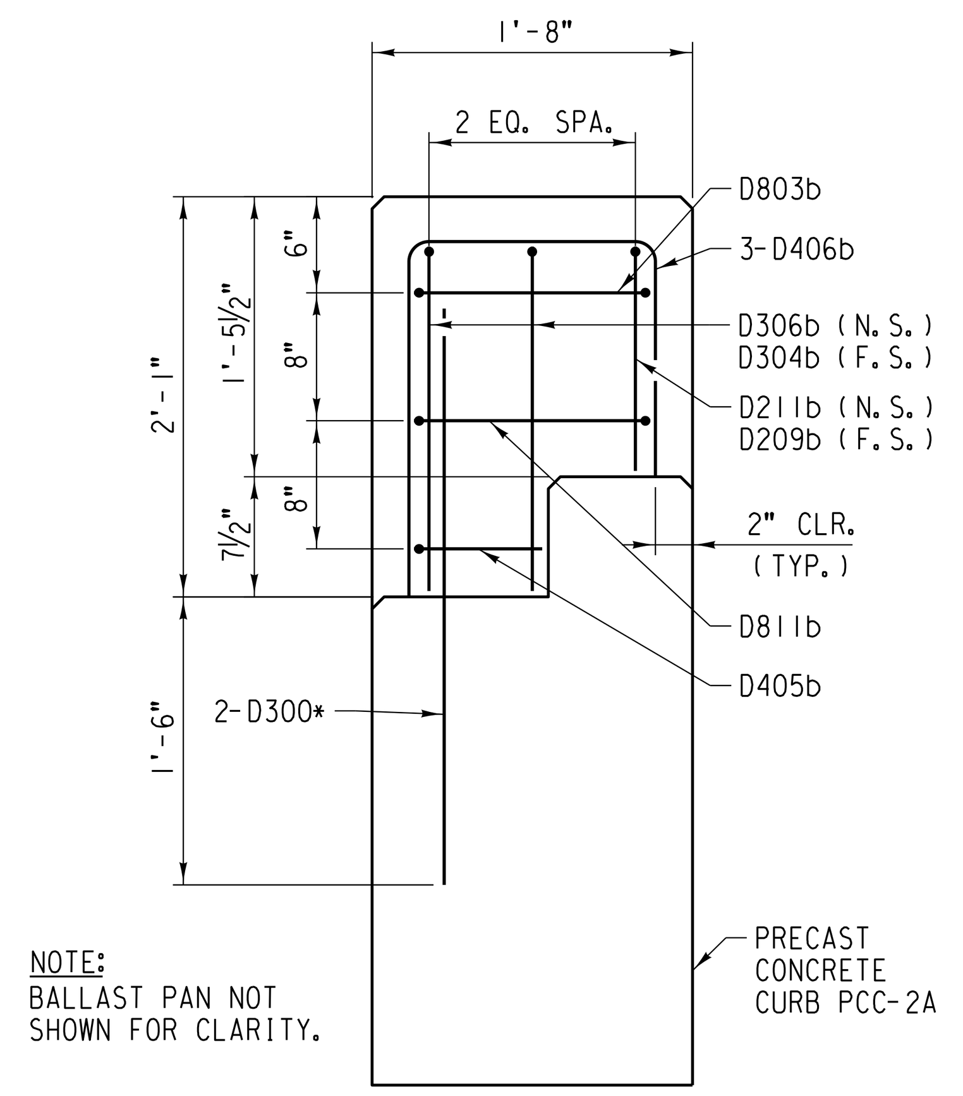
UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION:
BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

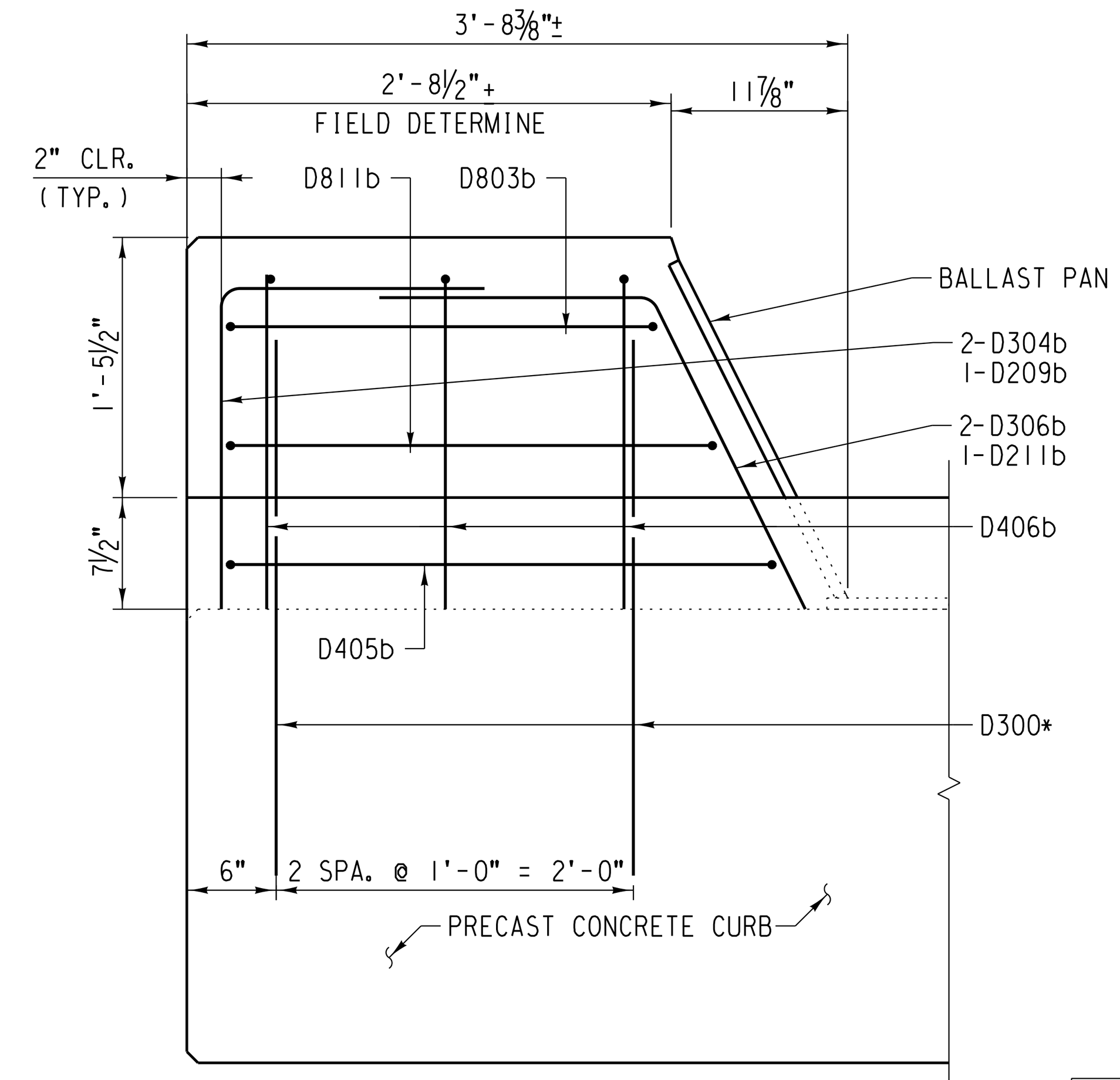
SHEET TITLE:
PRECAST CONCRETE CURB PCC-4

FILE NAME: c:\Users\ramirezm\Desktop\rcc0141_bii.dgn

PLOTTED: 5/27/2021 11:17:12 AM



NOTE:
BALLAST PAN NOT SHOWN FOR CLARITY.



NOTE (*)
DRILL & GROUT IN ACCORDANCE WITH SECTION 584 OF IDOT STD. SPEC.

CAST-IN-PLACE CURB EXTENSION CE-1

SCALE: 1" = 1'-0"

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB CE-1)

REQ'D.	UNIT	DESCRIPTION
0.4	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB CE-2)

REQ'D.	UNIT	DESCRIPTION
0.5	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL

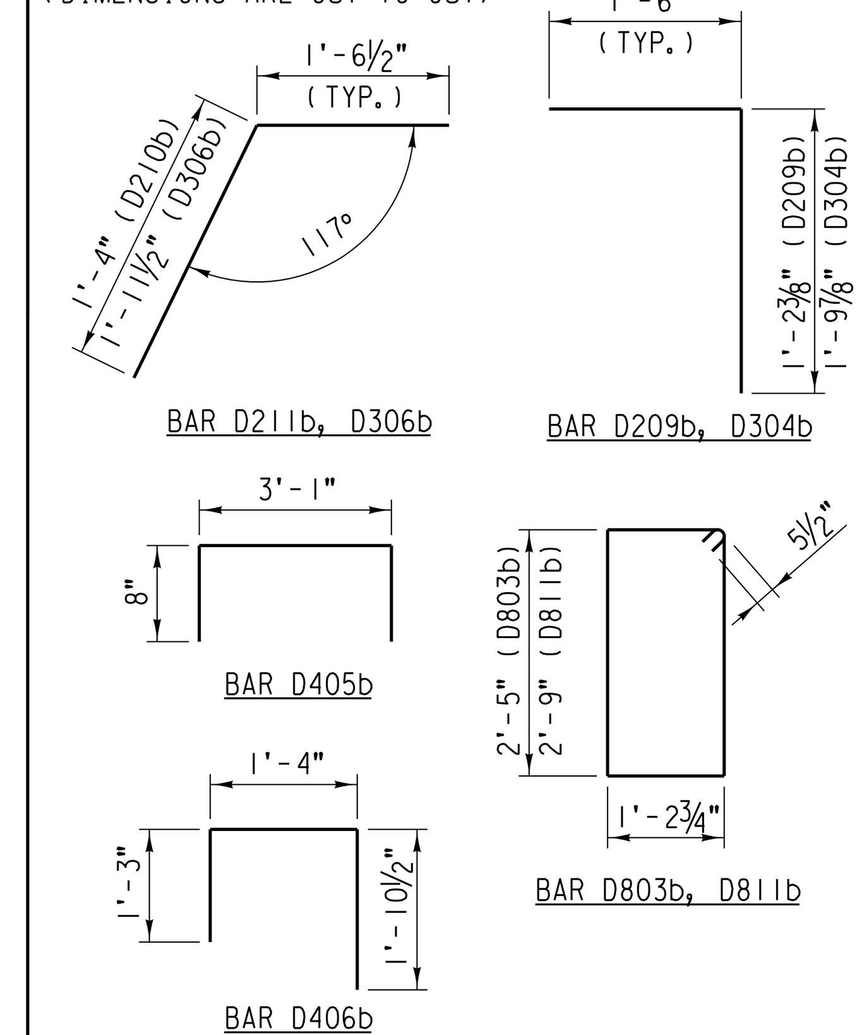
MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB CE-3)

REQ'D.	UNIT	DESCRIPTION
0.4	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL

REINFORCING SCHEDULE
(QUANTITY PER CURB EXTENSION CE-1)

TOTAL	MARK	SIZE	LENGTH	SHAPE
2	D300	#5	3'-0"	
1	D209b	#5	2'-9"	
1	D211b	#5	2'-11"	
2	D304b	#5	3'-4"	
2	D306b	#5	3'-6"	
1	D405b	#5	4'-5"	
3	D406b	#5	4'-6"	
1	D803b	#5	8'-3"	
1	D811b	#5	8'-11"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



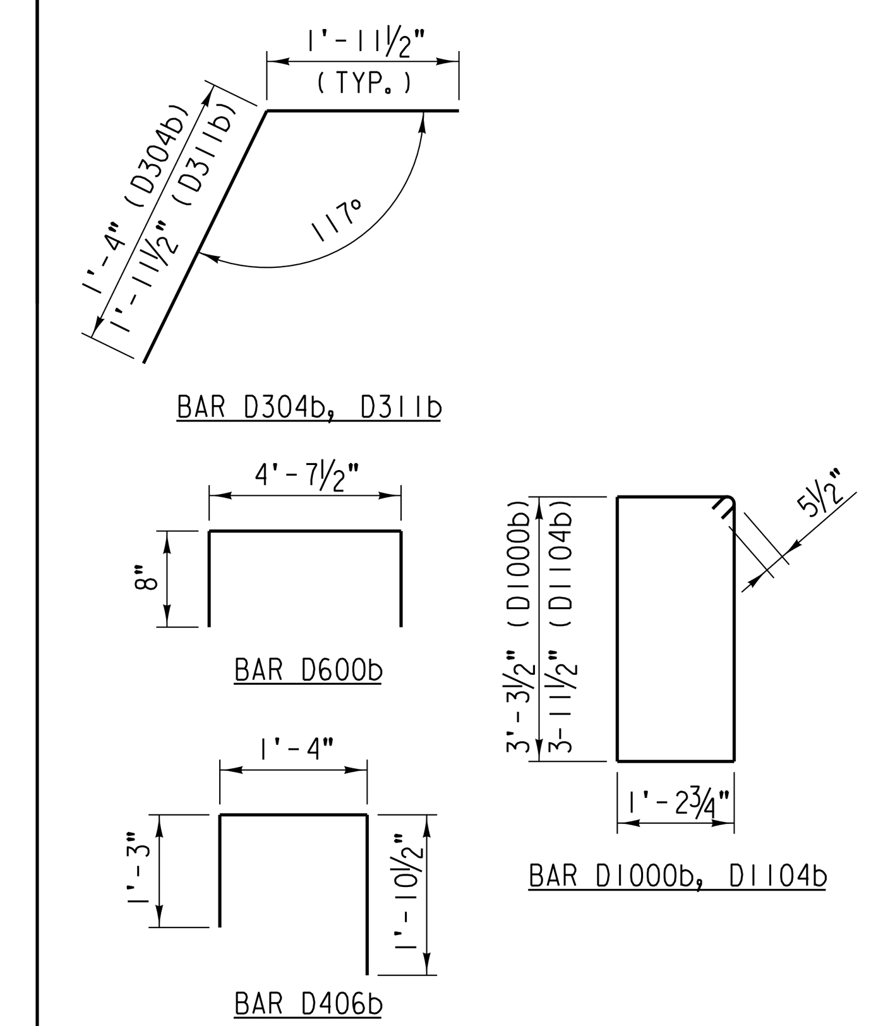
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 63 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB EXTENSION CE-2)

TOTAL	MARK	SIZE	LENGTH	SHAPE
2	D300	#5	3'-0"	
2	D304b	#5	3'-4"	
4	D311b	#5	3'-11"	
5	D406b	#5	4'-6"	
1	D600b	#5	6'-0"	
1	D1000b	#5	10'-0"	
1	D1104b	#5	11'-4"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



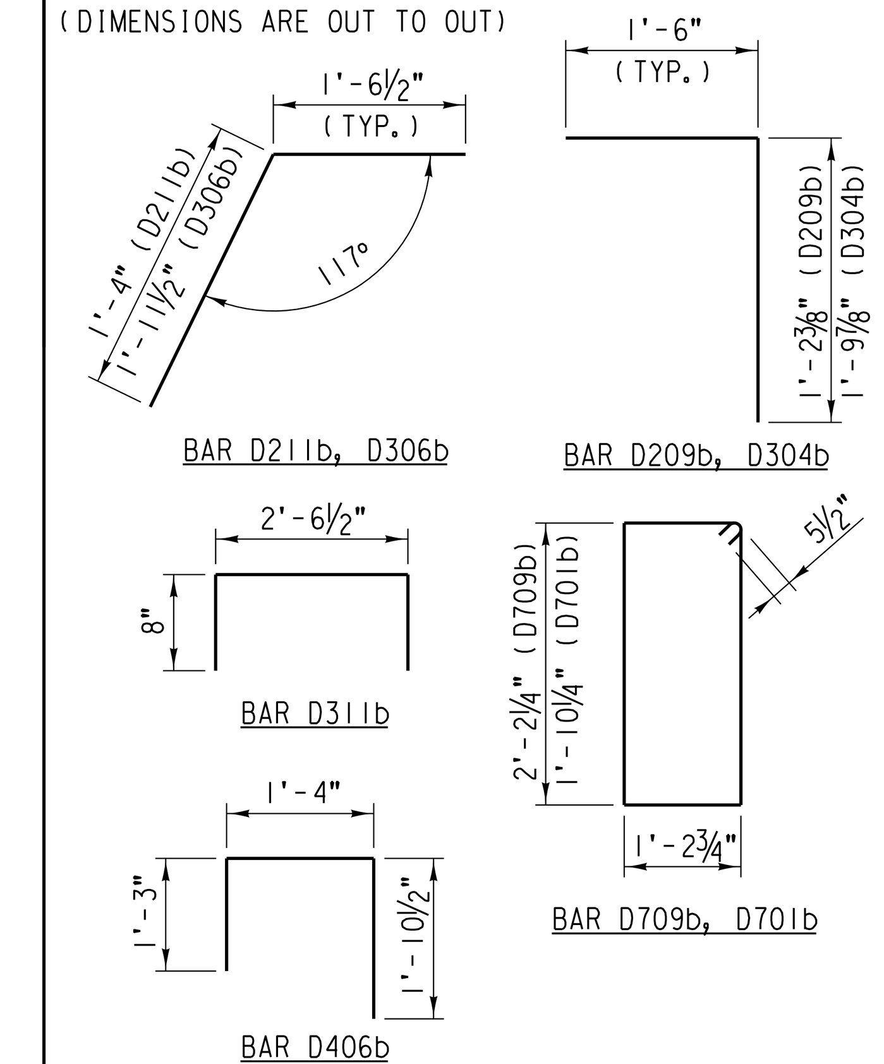
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 80 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB EXTENSION CE-3)

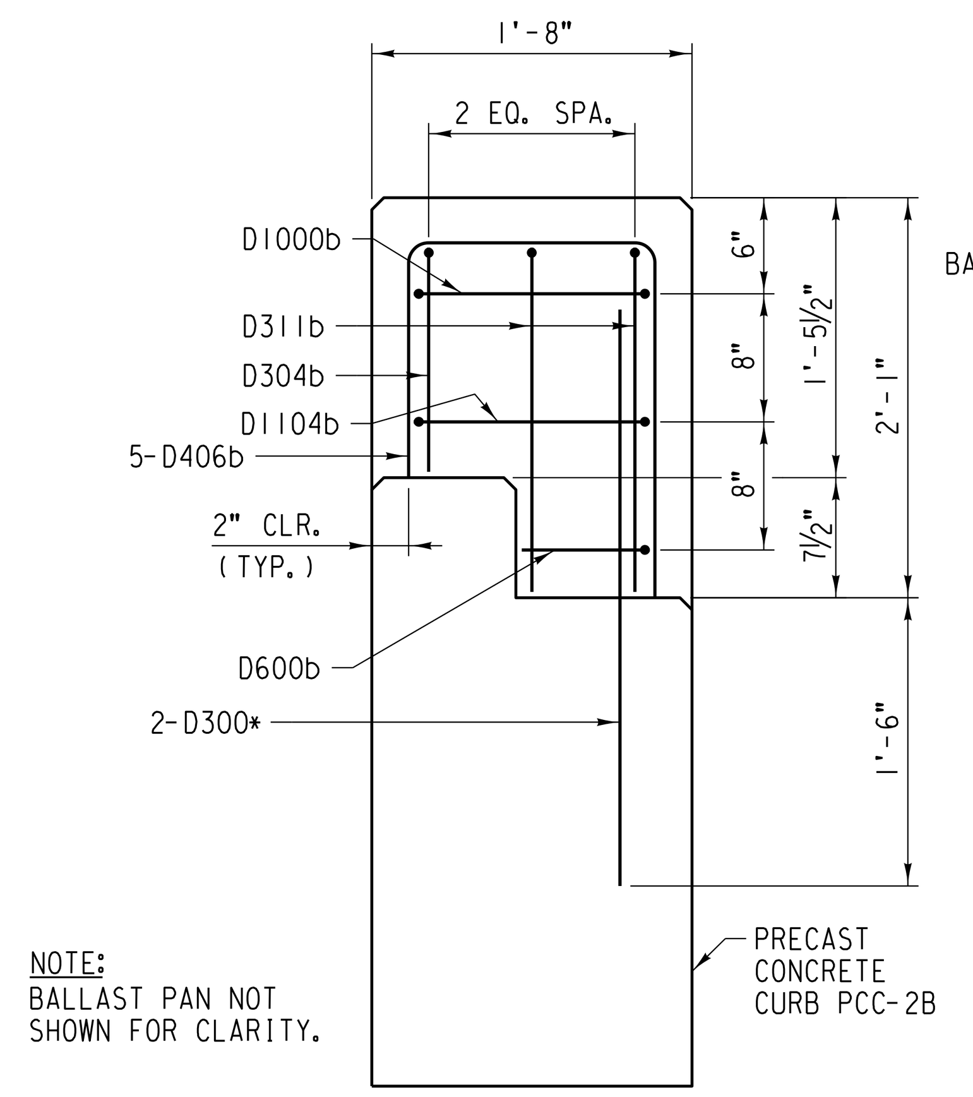
TOTAL	MARK	SIZE	LENGTH	SHAPE
2	D300	#5	3'-0"	
1	D209b	#5	2'-9"	
1	D211b	#5	2'-11"	
2	D304b	#5	3'-4"	
2	D306b	#5	3'-6"	
1	D311b	#5	3'-11"	
3	D406b	#5	4'-6"	
1	D701b	#5	7'-1"	
1	D709b	#5	7'-9"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)

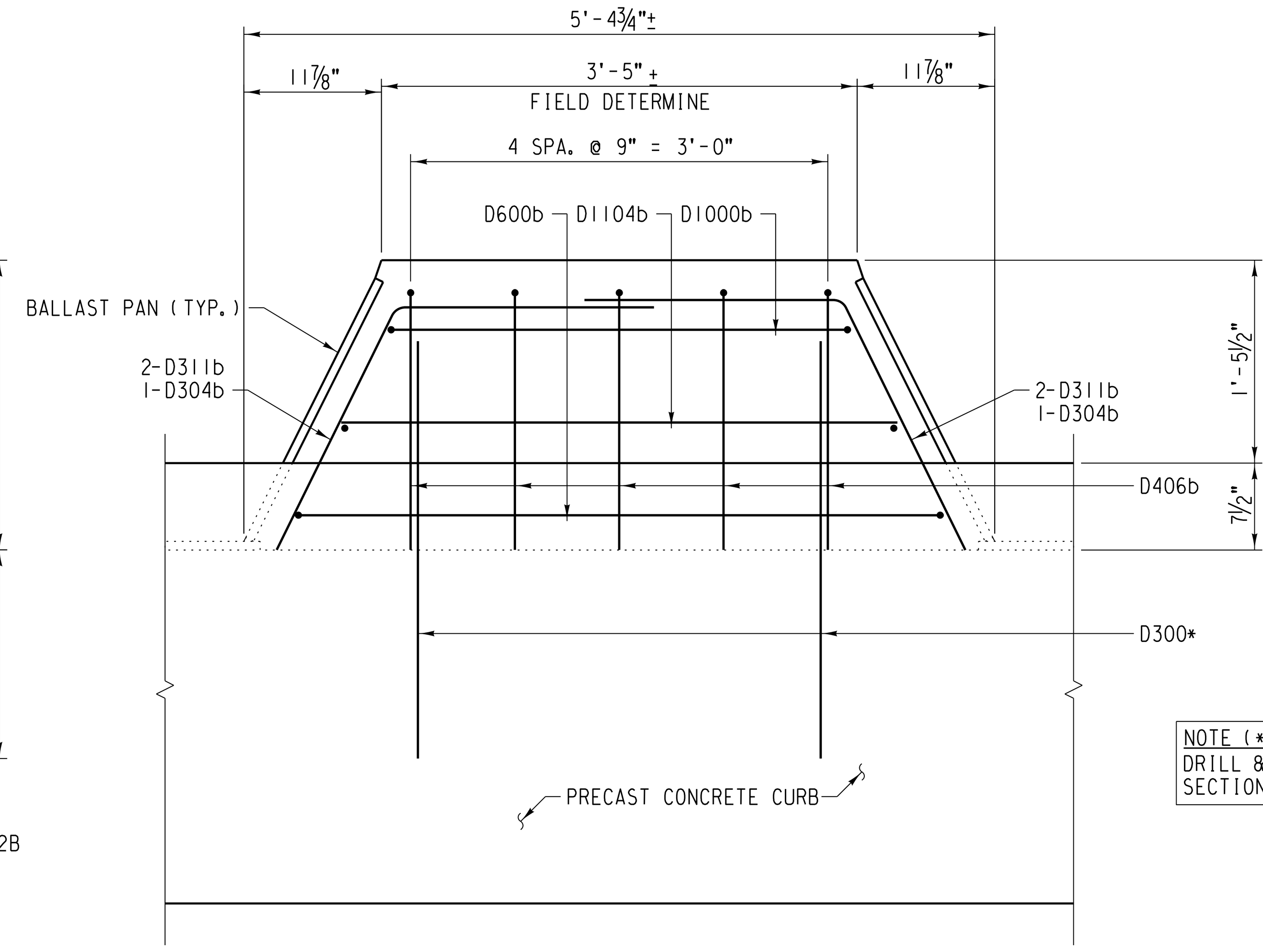


NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 59 LB.



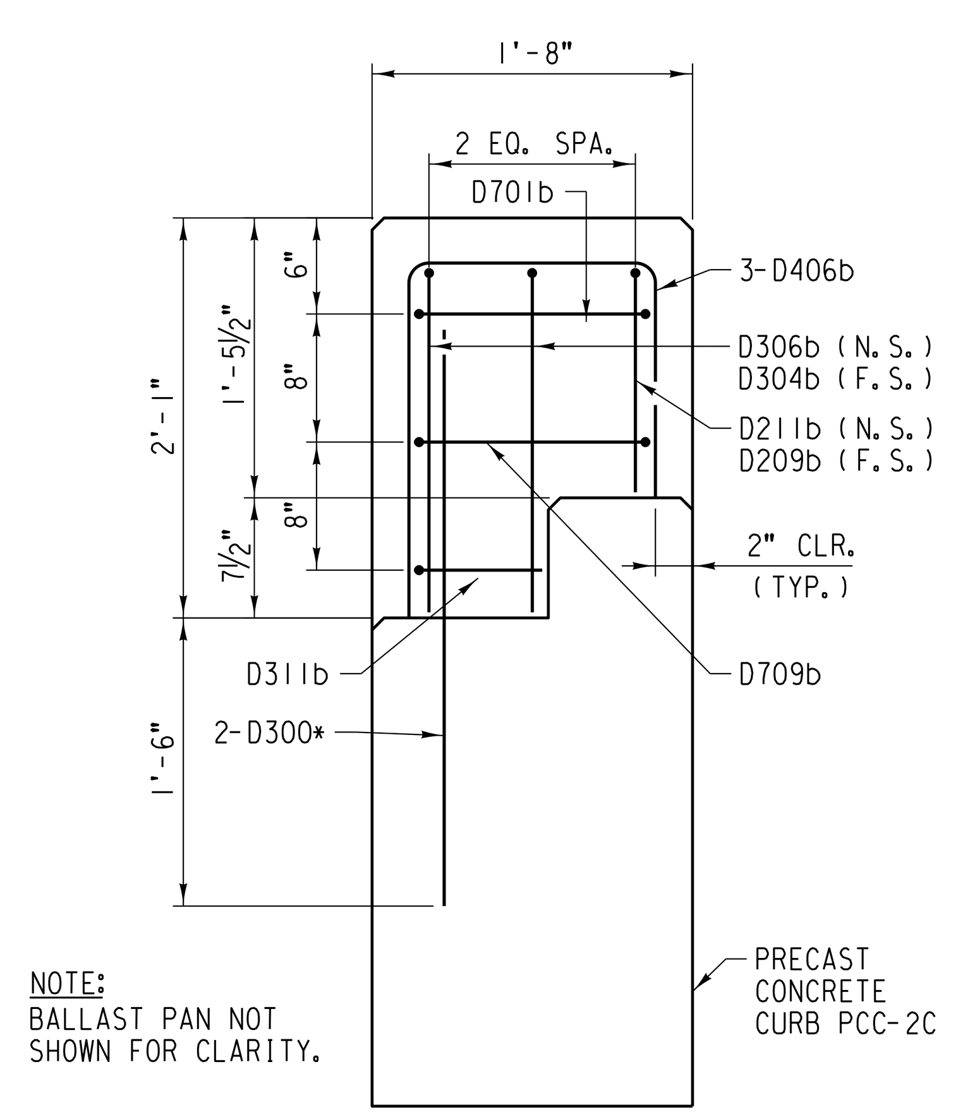
NOTE:
BALLAST PAN NOT SHOWN FOR CLARITY.



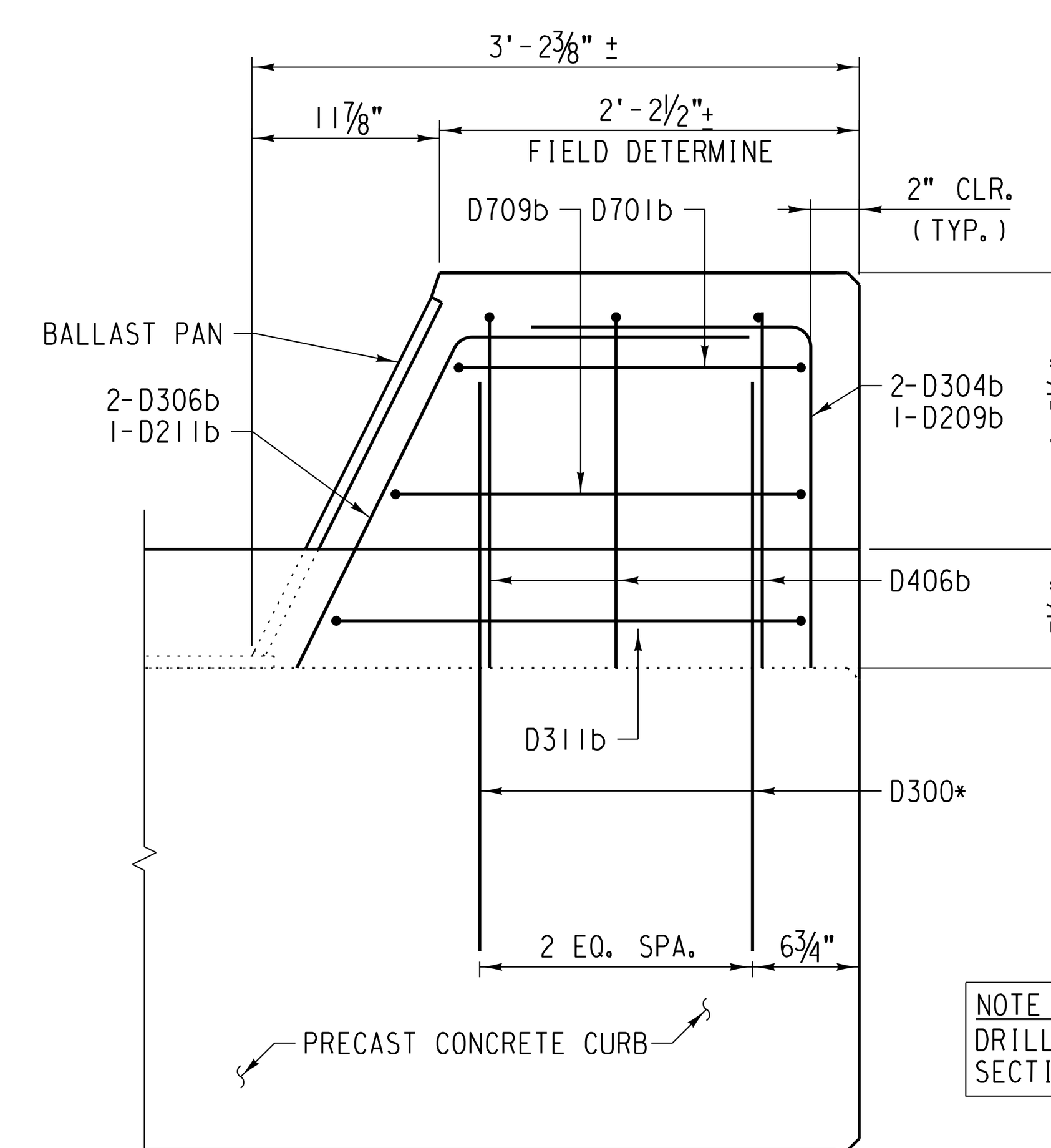
NOTE (*)
DRILL & GROUT IN ACCORDANCE WITH SECTION 584 OF IDOT STD. SPEC.

CAST-IN-PLACE CURB EXTENSION CE-2

SCALE: 1" = 1'-0"



NOTE:
BALLAST PAN NOT SHOWN FOR CLARITY.



NOTE (*)
DRILL & GROUT IN ACCORDANCE WITH SECTION 584 OF IDOT STD. SPEC.

CAST-IN-PLACE CURB EXTENSION CE-3

SCALE: 1" = 1'-0"

FILE NAME: C:¥Users¥rramirez¥Desktop¥roc0141.bll.dgn

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS
05/28/2021 — DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER
05/28/2021 — DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

UNION PACIFIC RAILROAD
Office of Director Structures Design

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L14 of L17

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: CURB EXTENSION CE-1, CE-2 & CE-3

PLOTTED: 5/27/2021 11:17:12 AM

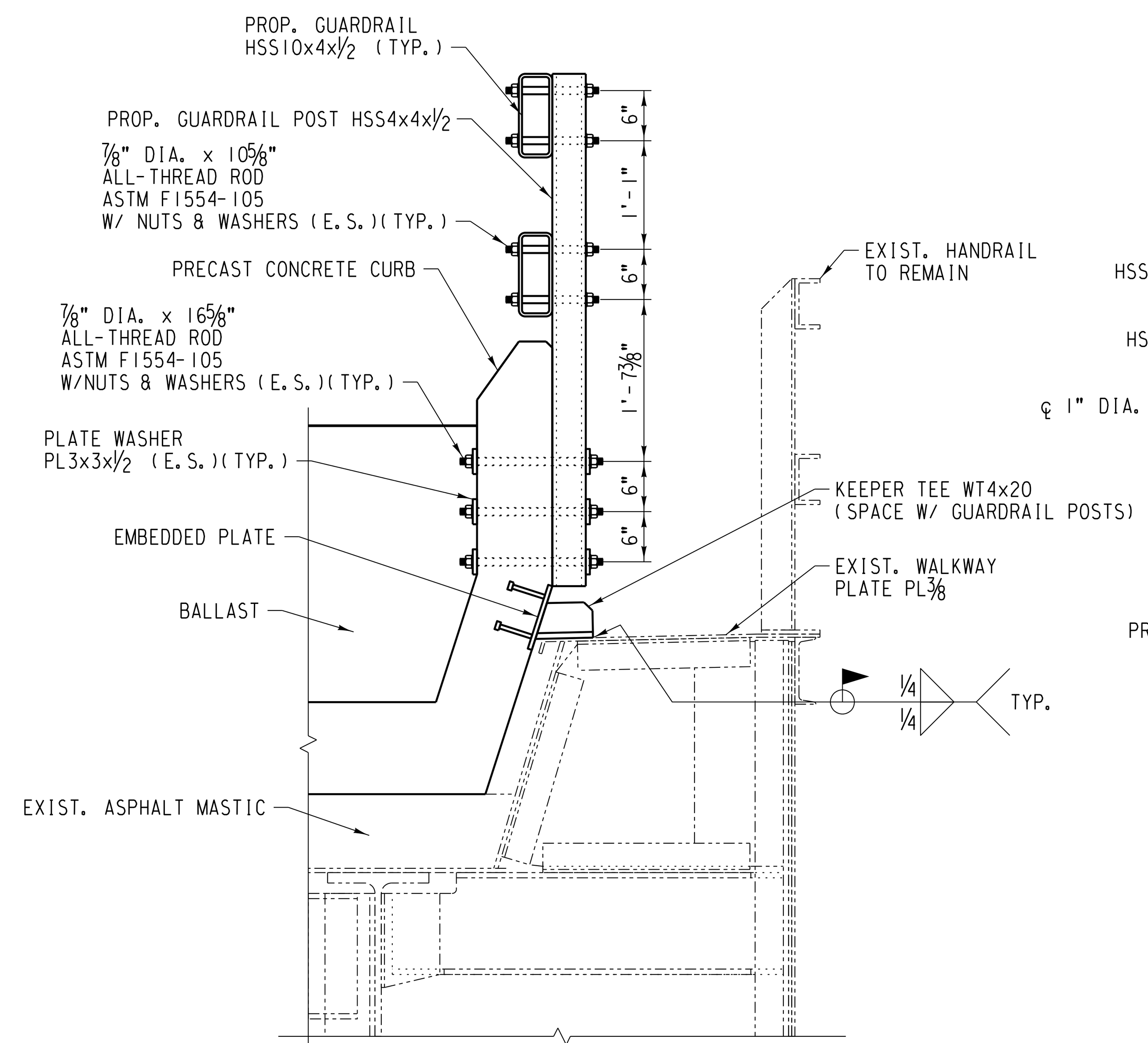
NOTE:
GALVANIZE ALL GUARDRAIL COMPONENTS AND ASSOCIATED HARDWARE, ACCORDING TO PROJECT SPECIFICATIONS.

NOTE:
APPLY ANTI-GRAFFITI COATING TO FIELD SIDE OF CONCRETE CURBS, PER PROJECT SPECIFICATIONS.

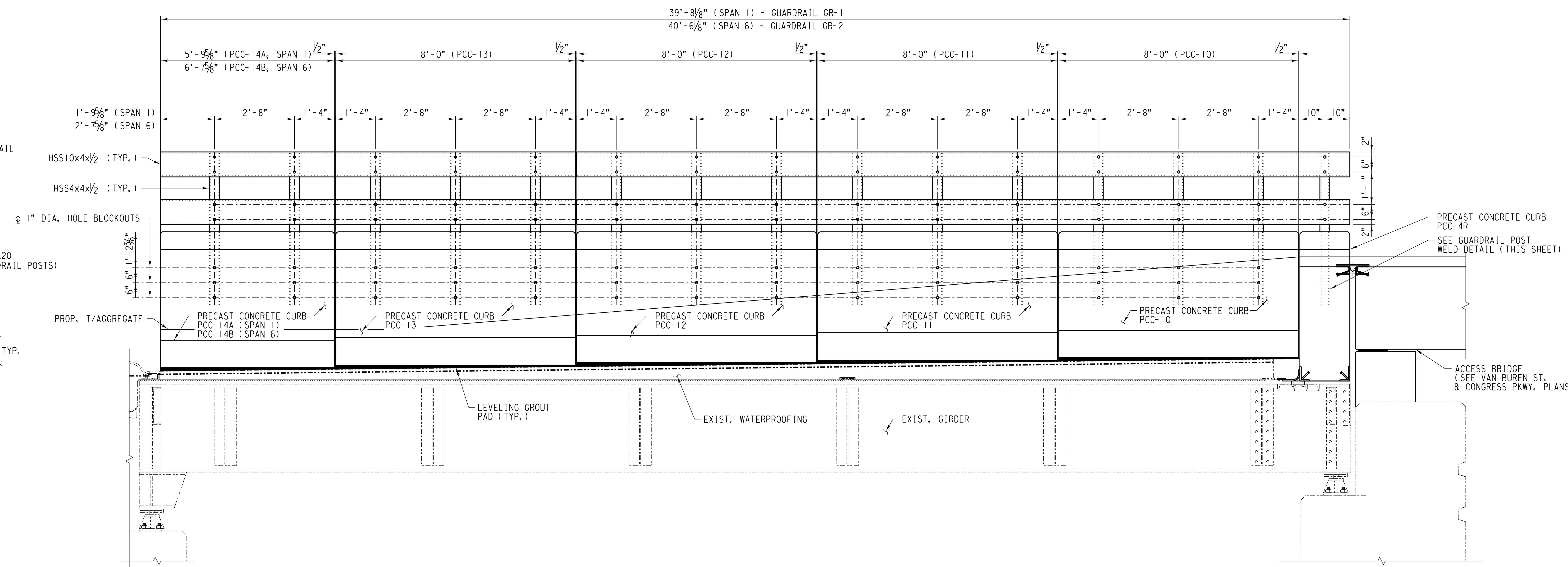
MATERIAL SCHEDULE

ACCESS ROAD HANDRAILS - SPANS 1 & 6

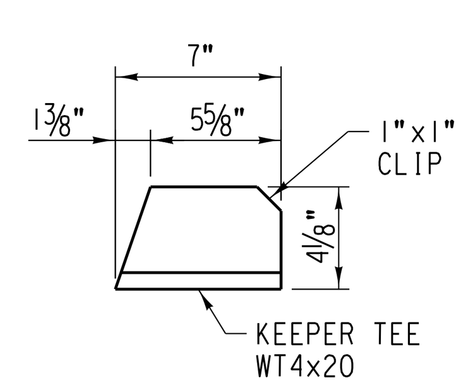
REQ'D.	UNIT	DESCRIPTION
168	EA.	3"x3"x½" PLATE WASHER
120	EA.	⅞" DIA. x 10⅝" ALL-THREAD ROD ASTM F1554-105
84	EA.	⅞" DIA. x 16⅝" ALL-THREAD ROD ASTM F1554-105
408	EA.	⅞" DIA. HEAVY HEX NUT
408	EA.	⅞" DIA. HARDENED CIRCULAR WASHER
28	EA.	KEEPER TEE WT4x20x0'-7"
30	EA.	GUARDRAIL POST HSS4x4x½x5'-1⅜"
1	CU. YD.	4,000 PSI GROUT
2	EA.	GUARDRAIL GR-1 HSS10x4x1/2x39'-8⅛"
2	EA.	GUARDRAIL GR-2 HSS10x4x½x40'-6⅛"



INSTALLATION DETAIL
SCALE: ¾" = 1'-0"
(LOOKING SOUTH)



ELEVATION - CURB MODIFICATIONS FOR ACCESS ROAD
SCALE: ½" = 1'-0"
(LOOKING WEST)
(SPAN 1 SHOWN; SPAN 6 OPPOSITE HAND, EXCEPT AS NOTED)



KEEPER TEE DETAIL
SCALE: 1½" = 1'-0"
ESTIMATED WEIGHT = 10 LB. EA.
(28 REQUIRED)

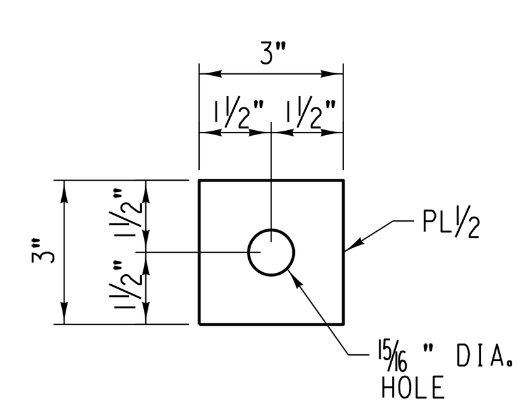
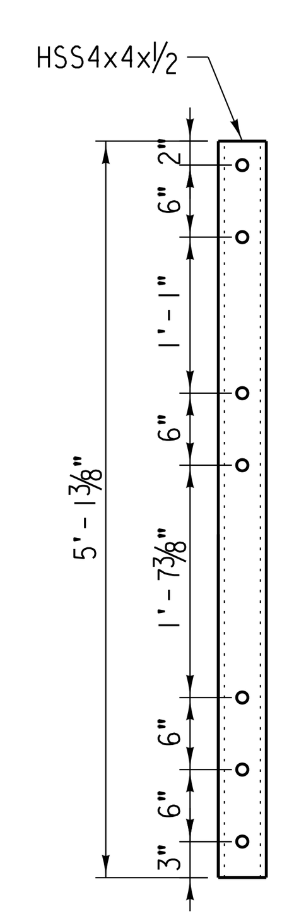
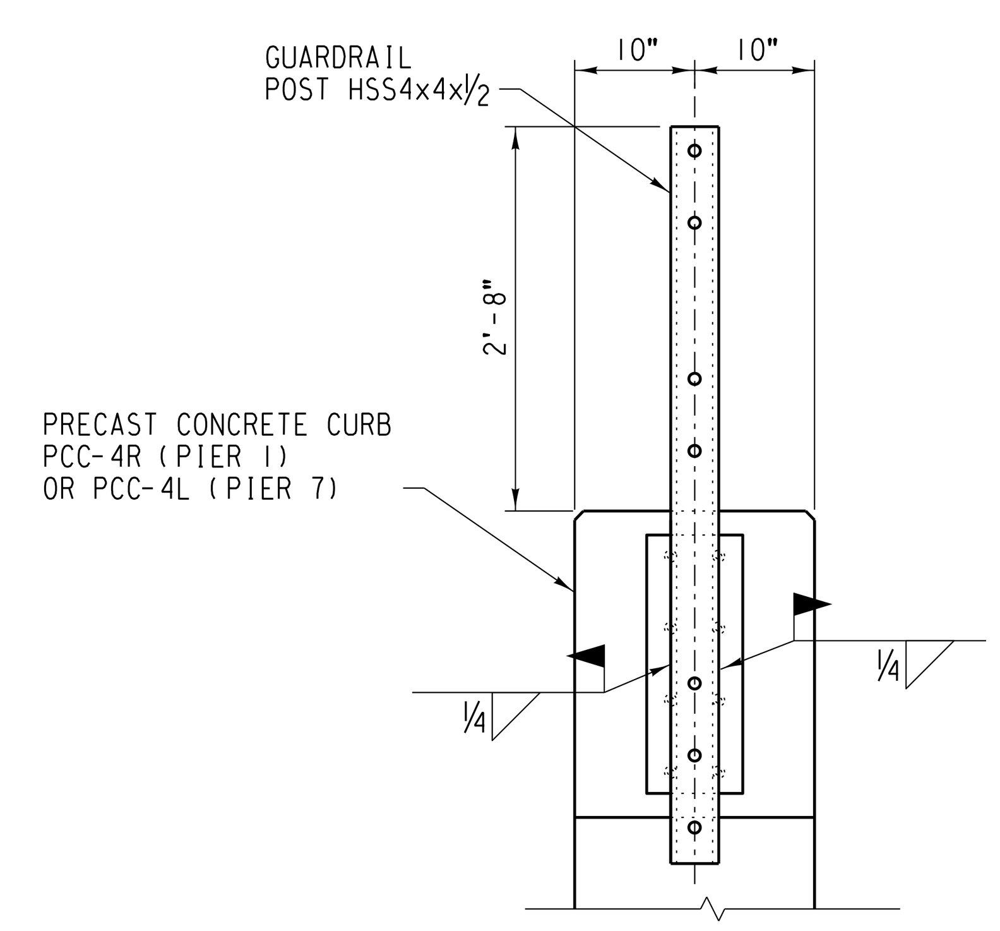


PLATE WASHER DETAIL
SCALE: 3" = 1'-0"
ESTIMATED WEIGHT = 1 LB. EA.
(168 REQUIRED)



GUARDDRAIL POST DETAIL
SCALE: ¾" = 1'-0"
ESTIMATED WEIGHT = 110 LB. EA.
(30 REQUIRED)



GUARDRAIL POST WELD DETAIL
SCALE: ¾" = 1'-0"

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — 05/28/2021

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY: MATTHEW BECKER, CONSULTANT ENGINEER — 05/28/2021

PROJECT ID: | WORK ORDER: 31876 | C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L15 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: ACCESS ROAD LONGITUDINAL CURB - ELEVATION & TYPICAL SECTION

PLOTTED: 5/27/2021 11:17:12 AM

FILE NAME: C:¥Users¥rramirez¥Desktop¥roc0141_b11.dgn

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-10)

REQ'D.	UNIT	DESCRIPTION
2.2	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-1
34	EA.	½" DIA. x 4" SHEAR STUD

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-11)

REQ'D.	UNIT	DESCRIPTION
2.2	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-1
34	EA.	½" DIA. x 4" SHEAR STUD

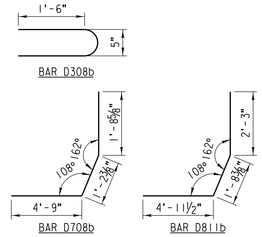
MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-12)

REQ'D.	UNIT	DESCRIPTION
2.2	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-1
34	EA.	½" DIA. x 4" SHEAR STUD

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-10)

TOTAL	MARK	SIZE	LENGTH	SHAPE
20	D708	#5	7'-8"	
10	D308b	#5	3'-8"	
10	D708b	#5	7'-8"	
10	D811b	#5	8'-11"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



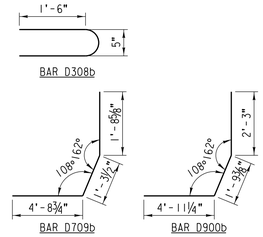
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 371 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-11)

TOTAL	MARK	SIZE	LENGTH	SHAPE
20	D708	#5	7'-8"	
10	D308b	#5	3'-8"	
10	D709b	#5	7'-9"	
10	D900b	#5	9'-0"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



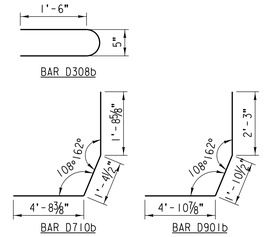
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 373 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-12)

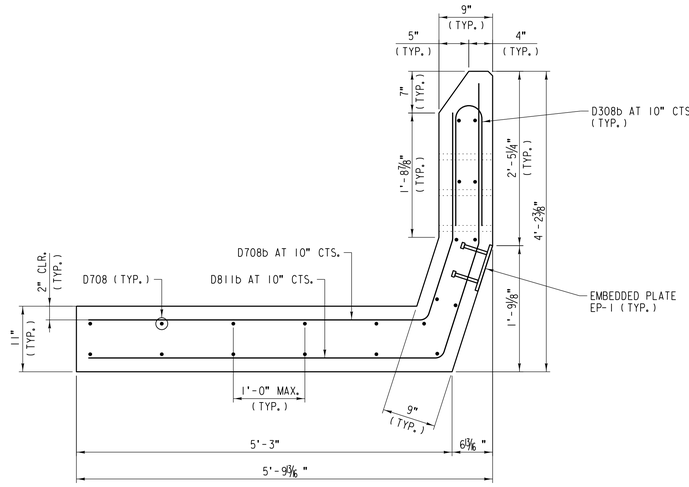
TOTAL	MARK	SIZE	LENGTH	SHAPE
20	D708	#5	7'-8"	
10	D308b	#5	3'-8"	
10	D710b	#5	7'-10"	
10	D901b	#5	9'-1"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



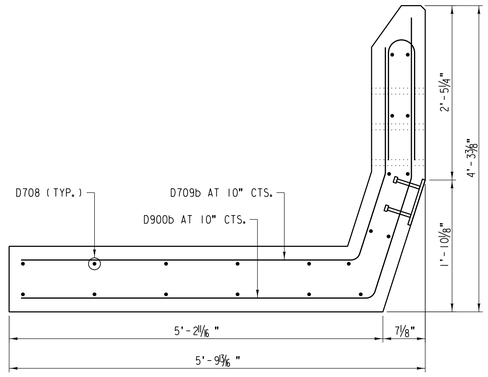
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 375 LB.



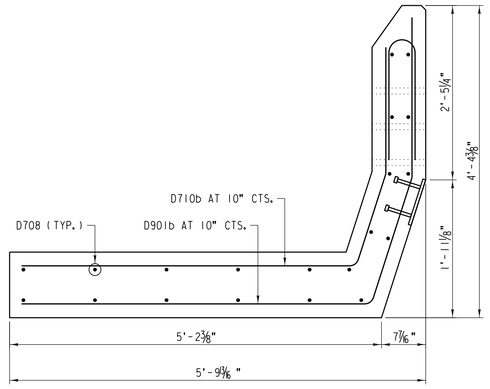
PRECAST CONCRETE CURB PCC-10
SCALE: 1" = 1'-0"

EST. WT. = 8,785 LB. EA.



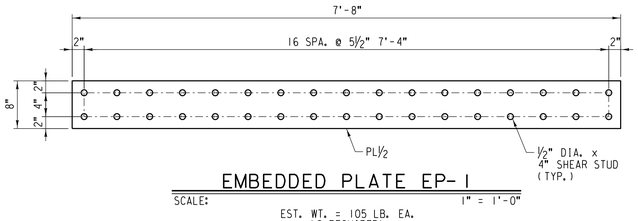
PRECAST CONCRETE CURB PCC-11
SCALE: 1" = 1'-0"

EST. WT. = 8,832 LB. EA.



PRECAST CONCRETE CURB PCC-12
SCALE: 1" = 1'-0"

EST. WT. = 8,882 LB. EA.



EMBEDDED PLATE EP-1
SCALE: 1" = 1'-0"

EST. WT. = 105 LB. EA.
(8 REQUIRED)

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:

MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID:	WORK ORDER:	C E NUMBER:
	31876	122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION

LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L16 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: PRECAST CONCRETE CURB PCC-10, PCC-11 & PCC-12

FILE NAME: C:\Users\ramirez\Desktop\rcc0141_bill.dgn

PLOTTED: 5/27/2021 11:17:12 AM

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-13)

REQ'D.	UNIT	DESCRIPTION
2.3	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-1
34	EA.	½" DIA. x 4" SHEAR STUD

MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-14A)

REQ'D.	UNIT	DESCRIPTION
1.7	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-2
24	EA.	½" DIA. x 4" SHEAR STUD

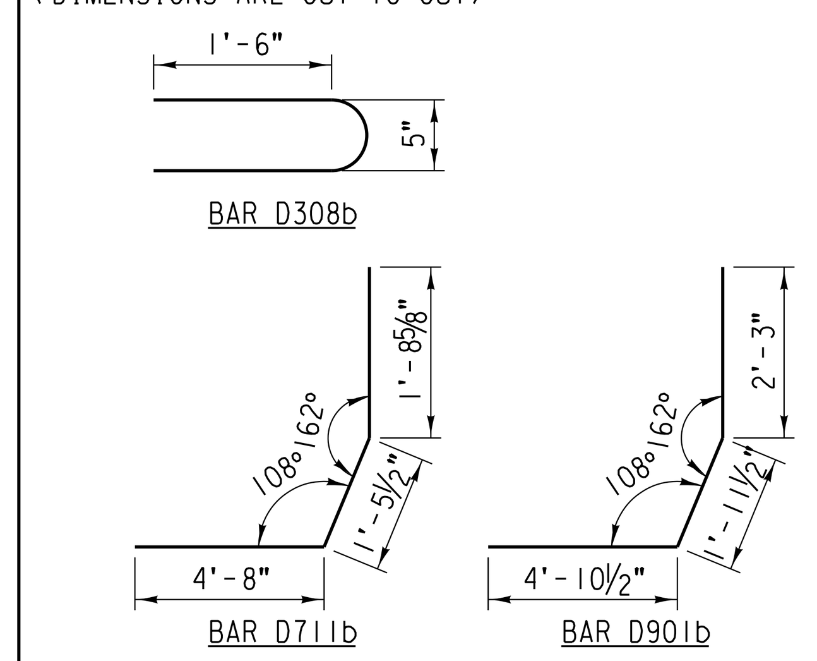
MATERIAL SCHEDULE
(QUANTITY PER PRECAST CONCRETE CURB PCC-14B)

REQ'D.	UNIT	DESCRIPTION
1.9	CU. YD.	5000 PSI CONCRETE
1	LOT	REINFORCING STEEL
1	LOT	EMBEDDED PLATE EP-3
28	EA.	½" DIA. x 4" SHEAR STUD

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-13)

TOTAL	MARK	SIZE	LENGTH	SHAPE
22	D708	#5	7'-8"	
10	D308b	#5	3'-8"	
10	D711b	#5	7'-11"	
10	D901b	#5	9'-1"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



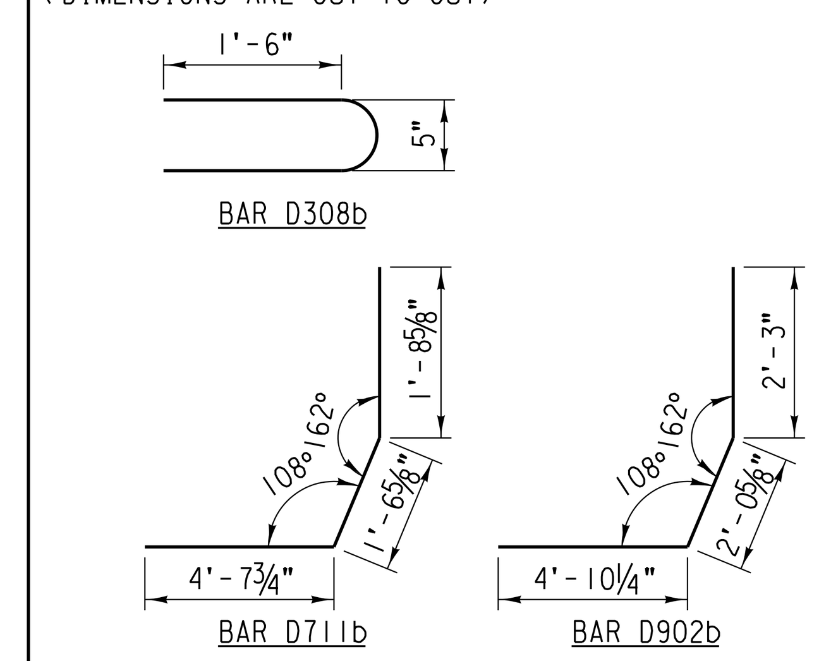
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 392 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-14A)

TOTAL	MARK	SIZE	LENGTH	SHAPE
22	D505	#5	5'-5"	
7	D308b	#5	3'-8"	
7	D711b	#5	7'-11"	
7	D902b	#5	9'-2"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)



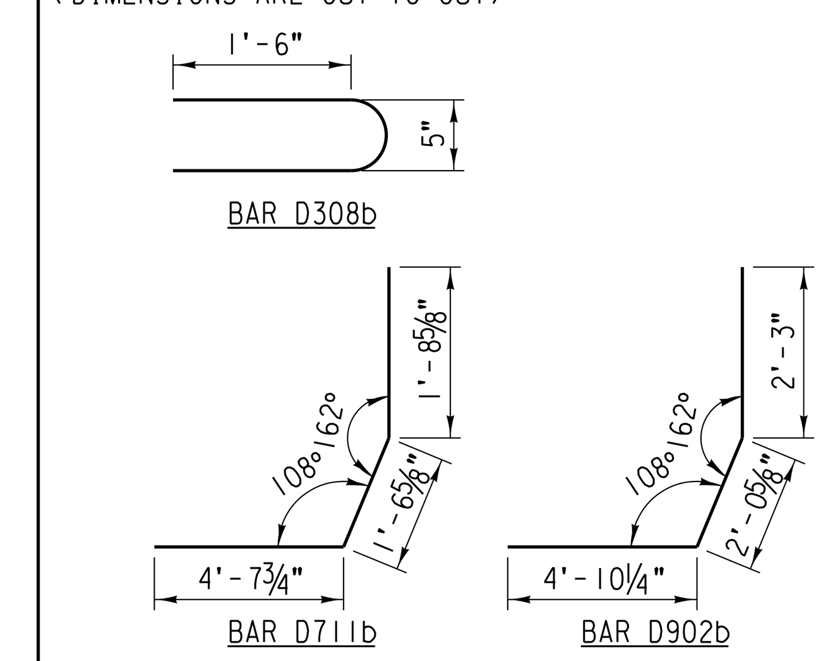
NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

EST. WT. OF REINFORCING STEEL = 376 LB.

REINFORCING SCHEDULE
(QUANTITY PER CURB PCC-14B)

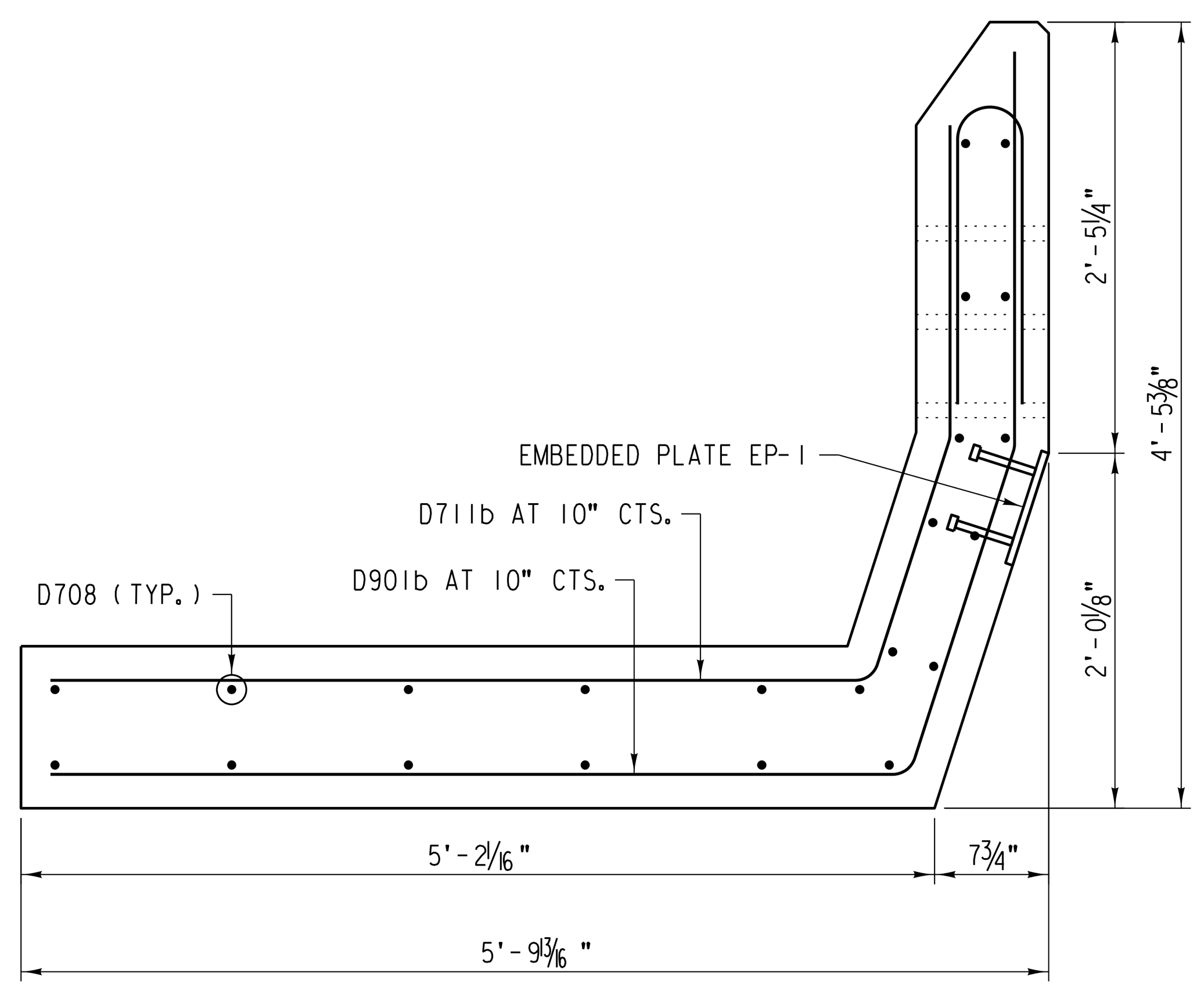
TOTAL	MARK	SIZE	LENGTH	SHAPE
22	D603	#5	6'-3"	
8	D308b	#5	3'-8"	
8	D711b	#5	7'-11"	
8	D902b	#5	9'-2"	

BENDING DIAGRAM
(DIMENSIONS ARE OUT TO OUT)

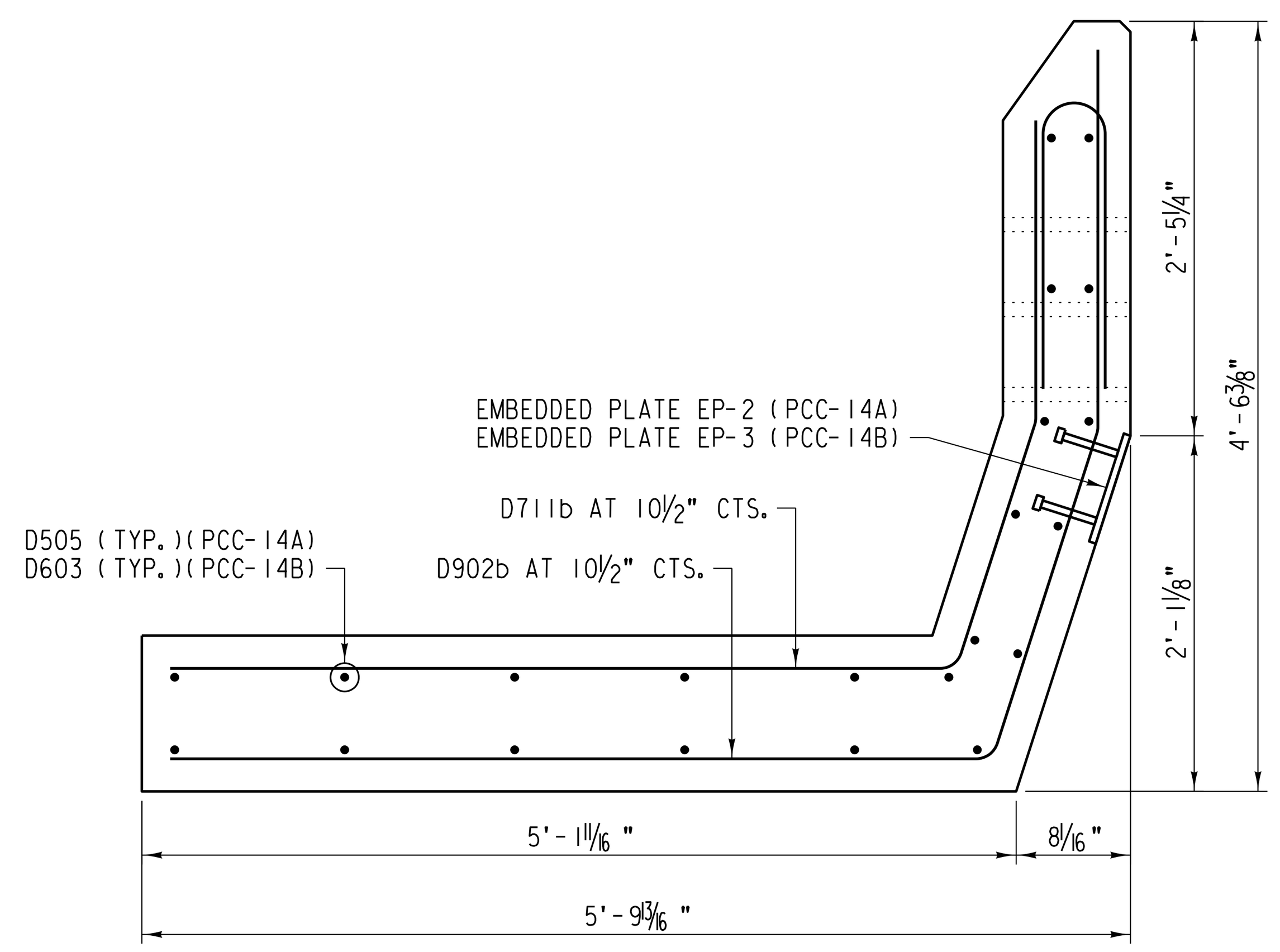


NOTE:
BAR DESIGNATIONS CONSIST OF BAR SIZE & LENGTH FOLLOWED BY THE LETTER "b" IF BENT. BAR SIZES ARE REPRESENTED BY THE LETTERS A THROUGH L CORRESPONDING TO BAR SIZE #2 THROUGH #18. BAR LENGTHS ARE GIVEN IN FEET AND INCHES; THE LAST TWO DIGITS ARE INCHES.

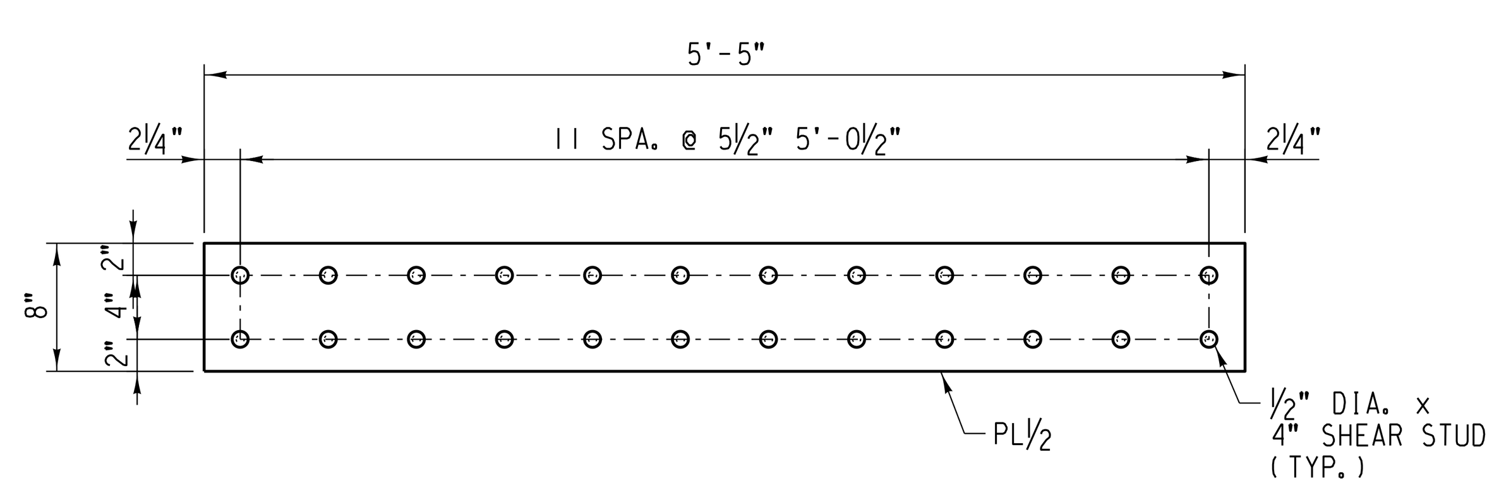
EST. WT. OF REINFORCING STEEL = 316 LB.



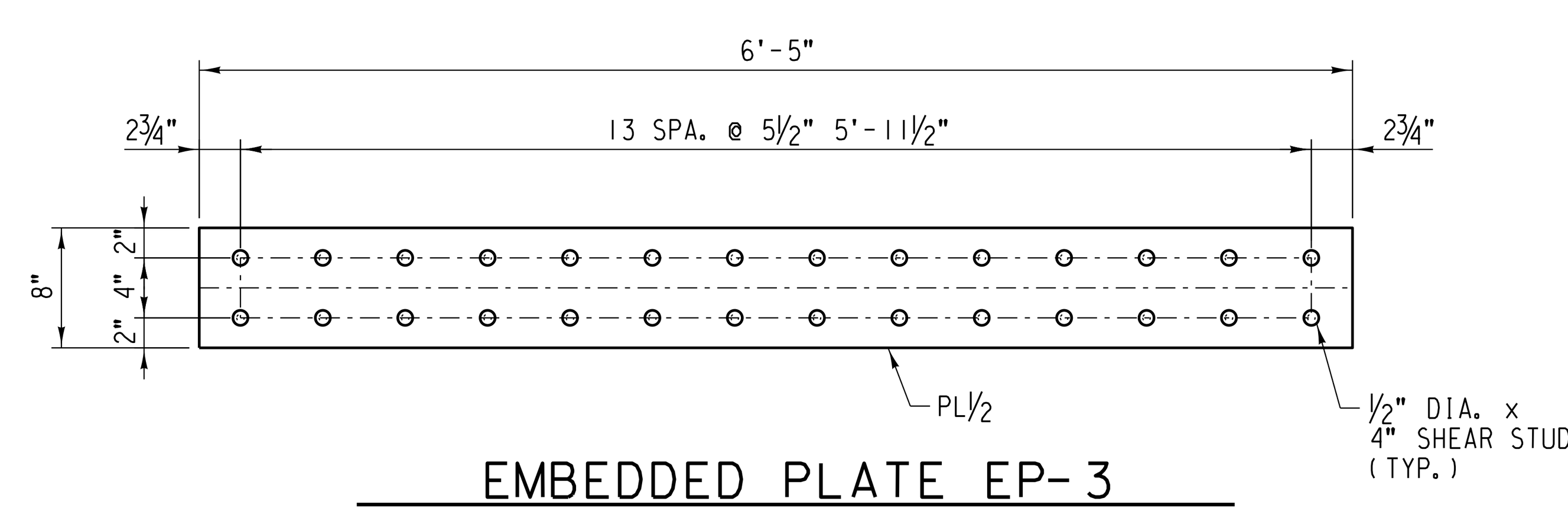
PRECAST CONCRETE CURB PCC-13
SCALE: 1" = 1'-0"
EST. WT. = 8,931 LB. EA.



PRECAST CONCRETE CURB PCC-14A/B
SCALE: 1" = 1'-0"
EST. WT. = 6,513 LB. EA. (PCC-14A)
EST. WT. = 7,449 LB. EA. (PCC-14B)



EMBEDDED PLATE EP-2
SCALE: 1" = 1'-0"
EST. WT. = 74 LB. EA.
(1 REQUIRED)



EMBEDDED PLATE EP-3
SCALE: 1" = 1'-0"
EST. WT. = 88 LB. EA.
(1 REQUIRED)

NO.	DATE	REVISIONS
	/ /	
	/ /	

COMPLETION STATUS: FINAL — STATUS — 05/28/2021 DATE

benesch

APPROVED FOR UNION PACIFIC RAILROAD BY:
MATTHEW BECKER — CONSULTANT ENGINEER — 05/28/2021 DATE

PROJECT ID: | WORK ORDER: 31876 | C E NUMBER: 122531

FORMERLY BRIDGE 1.31 ROCKWELL SUBDIVISION
LATITUDE: 41.87594°N LONGITUDE: 87.69137°W

UNION PACIFIC

DSN/CHK BY: JFH/EPS
DRAWN/CHK BY: JFH/EPS
UPRR ENGINEER: DEH / ADS
SHT NO.: L17 of L17

UNION PACIFIC RAILROAD
Office of Director Structures Design

LOCATION & DESCRIPTION: BRIDGE 1.41, ROCKWELL SUBDIVISION
UPRR OVER I-290 EISENHOWER EXPWY.

SHEET TITLE: PRECAST CONCRETE CURB PCC-13 & PCC-14A/B

FILE NAME: C:¤Users¤rramirez¤Desktop¤rcc0141.bil.dgn

PLOTTED: 5/27/2021 11:17:12 AM