

# ALASKA RAILROAD CORPORATION

## CAPITAL PROJECTS

P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

### FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3

### ISSUE FOR FABRICATION

FEBRUARY 14, 2025

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM

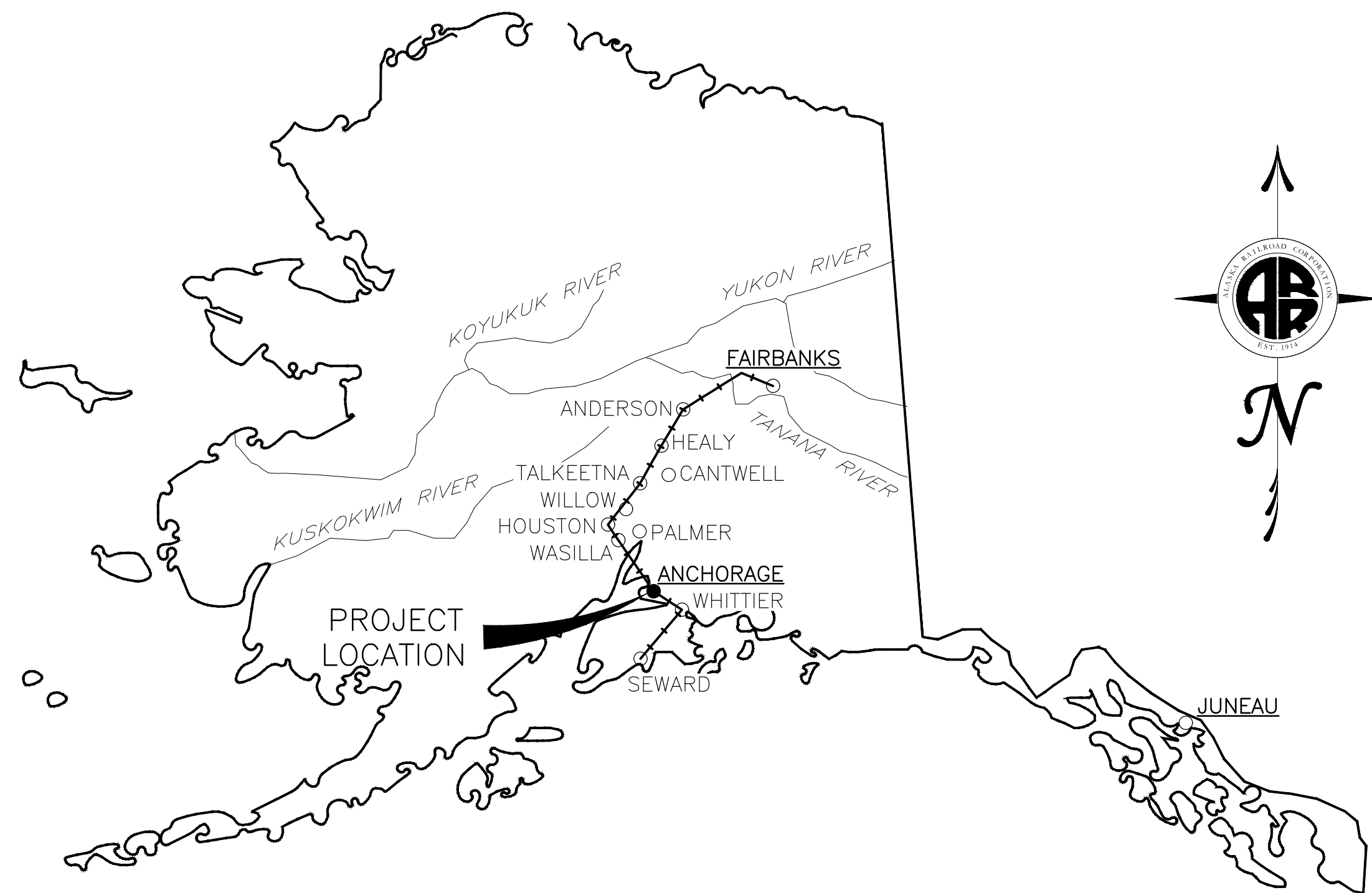
2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE., SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569

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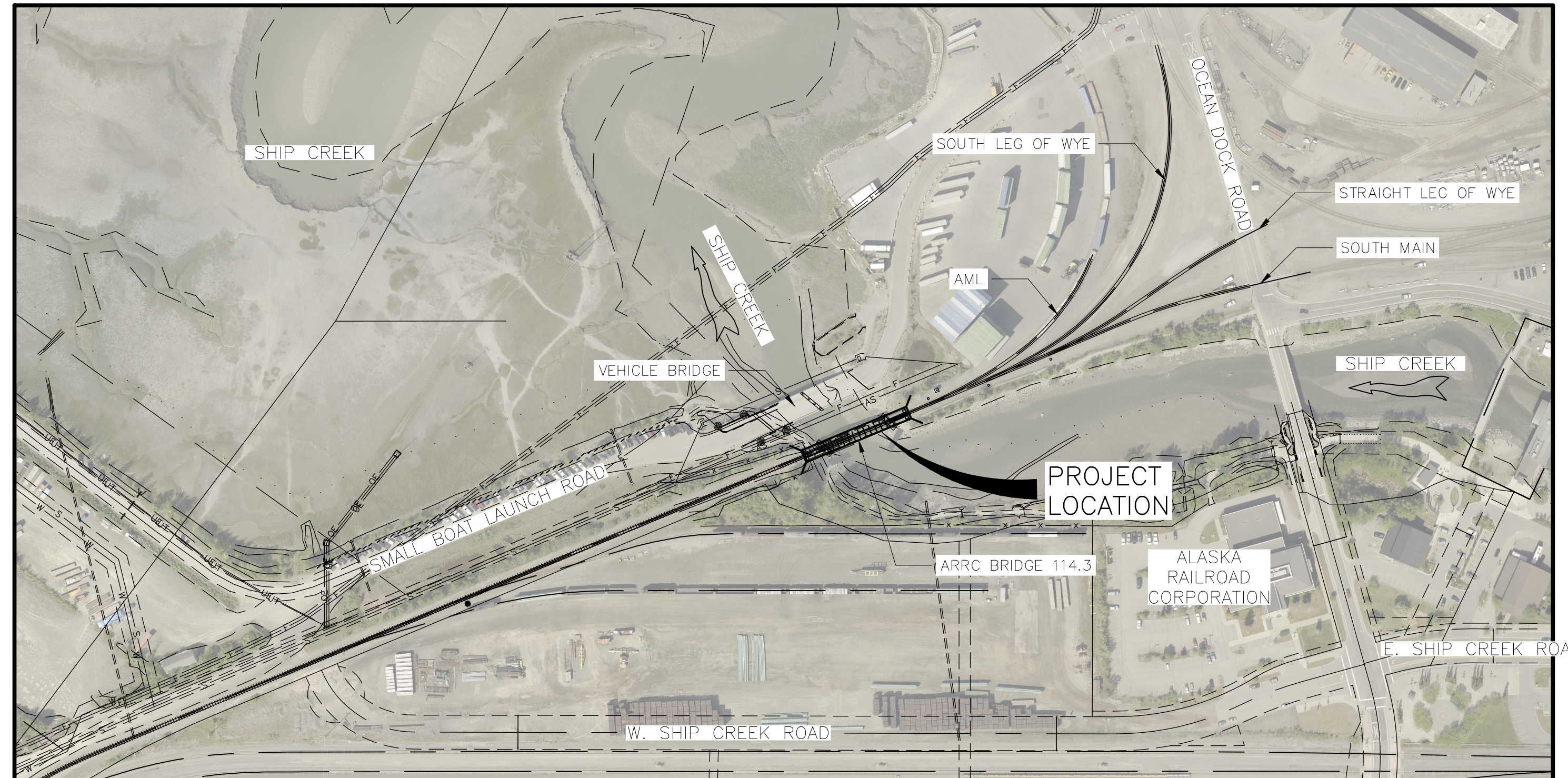
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 AS NOTED

TIME  
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DATE  
 2/14/2025



VICINITY MAP  
 N.T.S.



SITE MAP  
 N.T.S.

SHEET INDEX

SHEET TITLE	SHEET NO.
COVER SHEET	1
STRUCTURAL STEEL NOTES	2
30'-0" BEAM SPAN - FRAMING PLAN	3
30'-0" BEAM SPAN - STEEL DETAILS (1 OF 2)	4
30'-0" BEAM SPAN - STEEL DETAILS (2 OF 2)	5
30'-0" BEAM SPAN - BEARING DETAILS	6
79'-0" GIRDER SPAN - FRAMING PLAN	7
79'-0" GIRDER SPAN - STEEL DETAILS (1 OF 2)	8
79'-0" GIRDER SPAN - STEEL DETAILS (2 OF 2)	9
79'-0" GIRDER SPAN - BEARING DETAILS	10
WALKWAY AND DECK PLAN	11
STEEL DECK DETAILS (1 OF 4)	12
STEEL DECK DETAILS (2 OF 4)	13
STEEL DECK DETAILS (3 OF 4)	14
STEEL DECK DETAILS (4 OF 4)	15
CURB BEAM DETAILS	16
WALKWAY DETAILS	17
HANDRAIL DETAILS (1 OF 2)	18
HANDRAIL DETAILS (2 OF 2)	19
MISCELLANEOUS DETAILS	20
SHIPPING AND SECUREMENT REQUIREMENTS (1 OF 2)	21
SHIPPING AND SECUREMENT REQUIREMENTS (2 OF 2)	22

DRAWING LOCATION  
 C:\PWORKING\WEST01\4079759\BR\_114.3\_SHIP\_CREEK\_01.DWG



CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500



PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3

SHEET TITLE: COVER SHEET

AFE NO. 11228  
 YEAR 2025  
 SHEET 01 of 22

DRAWING LOCATION: C:\PWORKING\WEST01\14079759\BR\_11.4.3\_SHIP\_CREEK\_02.DWG  
 DATE: 2/14/2025 8:49 AM  
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 PUBLISHED CTB: ARRC\_CTB\_2023.CTB

**DESIGN NOTES:**

- ALL NEW COMPONENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2024 AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 9 – SEISMIC DESIGN FOR RAILWAY STRUCTURES, AND CHAPTER 15 – STEEL STRUCTURES.
- DESIGN LOADS ARE IN ACCORDANCE WITH AREMA MANUAL FOR RAILWAY ENGINEERING AND THE FOLLOWING:
 

BALLAST DEPTH (FROM T/TIE):	30" MAXIMUM, 15" MINIMUM
LIVE LOAD:	COOPER E80 OR ALTERNATIVE LIVE LOAD
IMPACT PERCENT:	DIESEL IMPACT = 0.9*(40-3*L <sup>2</sup> /1600)*(%)
LIVE LOAD ECCENTRICITY:	6"± FROM C <sub>c</sub> BRIDGE AND TRACK
CENTRIFUGAL FORCE:	NONE
TRACK SPEED:	60 MPH (PASSENGER & FREIGHT)
- THE FOLLOWING TABLE REPRESENTS THE RATING SUMMARY OF THE PRIMARY LOAD CARRYING ELEMENTS OF THE SPANS IN TERMS OF COOPER'S EQUIVALENT LOAD:

SPAN	CONTROLLING DESIGN LOAD	NORMAL STRESS RATING	MAXIMUM STRESS RATING	MAXIMUM STRESS RATING (N-1 GIRDERS)
79'-0" DPG	E-80	E-98.5	E-164.8	E-80.8
30'-0" SBM	ALT LL (E-95)	E-126.6	E-225.4	E-128.5

**STRUCTURAL STEEL NOTES:**

- FABRICATION AND WORKMANSHIP SHALL CONFORM TO CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 15, STEEL STRUCTURES AND PROJECT SPECIFICATIONS.
- ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL SPECIFICATIONS EXCEPT AS NOTED:
 

PLATE GIRDERS, BEARING STIFFENERS, PLATE GIRDER DIAPHRAGMS, & ROLLED BEAMS	ASTM A709 GR 50W T2
DECK PLATES	ASTM A709 GR 50 T2
ALL OTHER STRUCTURAL STEEL	ASTM A709 GR 50W
- ALL STRUCTURAL BOLTS SHALL BE HIGH-STRENGTH (H.S.) STRUCTURAL BOLTS CONFORMING TO ASTM F3125, GRADE A325, TYPE 3 WITH HEAVY HEX NUTS (ASTM A563, GRADE DH3) AND ROUND, FLAT, HARDENED WASHERS (ASTM F436, TYPE 3) UNDER THE TURNED ELEMENT.
- UNLESS NOTED OTHERWISE, FAYING SURFACES SHALL MEET CLASS B SURFACE CONNECTION REQUIREMENTS (SLIP CRITICAL). HIGH STRENGTH BOLTS SHALL BE INSTALLED WITH THE 'TURN OF THE NUT METHOD.'
- BOLTS SHALL BE INSTALLED SO THAT THE BOLT HEADS ARE ON THE OUTSIDE (EXPOSED) SURFACE OF THE MEMBER UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- PERMANENTLY PIECE MARK EACH SHOP FABRICATED COMPONENT WITH A LOW STRESS STAMP.
- WELDING SHALL BE IN ACCORDANCE WITH AWS D1.5 BRIDGE WELDING CODE AND THE PROJECT SPECIFICATIONS. WELD MATERIAL SHALL MATCH THE BASE METAL IN STRENGTH AND FINISHED APPEARANCE.
- NONDESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH AREMA CHAPTER 15, SECTION 3.5, THE CURRENT AWS D1.5, AND THE PROJECT SPECIFICATIONS.
- FABRICATOR SHALL DEVELOP LIFTING DETAILS AND SUBMIT TO OWNER FOR APPROVAL.
- STEEL FABRICATION SHALL NOT BEGIN UNTIL SHOP DRAWINGS & WELD PROCEDURES HAVE BEEN APPROVED BY THE OWNER.
- GIRDERS SHALL BE FULLY SHOP ASSEMBLED AND MATCH MARKED PRIOR TO SHIPMENT. MATCH MARKING SHALL BE BY ETCHING, SCORING, OR OTHER MECHANICAL MEANS.

**WATERPROOFING NOTES:**

- WATERPROOFING SHALL BE APPLIED TO STEEL BRIDGE DECKS IN THE FIELD BY BRIDGE CONSTRUCTION CONTRACTOR AFTER SPANS HAVE BEEN FULLY ASSEMBLED PRIOR TO PLACEMENT OF BALLAST OR TRACK MATERIALS WHEN SPECIFIED IN THE BRIDGE CONSTRUCTION PLANS. APPLY WATERPROOFING TO BRIDGE DECK IN ACCORDANCE WITH THE PLANS AND PROJECT SPECIFICATIONS.
- WATERPROOFING SHALL BE BRIDGE DECK MEMBRANE WITH INTEGRATED BALLAST MAT AS MANUFACTURED BY BRIDGE PRESERVATION LLC, OR APPROVED EQUIVALENT.
- INTEGRATED BALLAST MAT SHALL BE MINIMUM ¼" THICK.

**BEARING NOTES:**

- FABRICATION AND WORKMANSHIP SHALL CONFORM TO CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 15, STEEL STRUCTURES AND PROJECT SPECIFICATIONS.
- ALL STRUCTURAL STEEL BEARING COMPONENTS SHALL CONFORM TO ASTM A709 GR 50W.
- ANCHOR RODS SHALL BE ALL THREADED ROD AND MEET THE REQUIREMENTS OF ASTM F1554, GR 105. EACH ANCHOR ROD SHALL BE SUPPLIED WITH ONE WASHER (ASTM F436, TYPE 1) AND TWO HEAVY HEX NUTS (ASTM A563, DH, CLASS 2B). ANCHOR ROD, WASHER AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.
- LAMINATED ELASTOMERIC BEARING PADS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

**MISCELLANEOUS STEEL NOTES:**

- COVER PLATES, WALKWAY BRACKETS, DRAIN CHAINS AND STEEL HANDRAIL PANELS SHALL BE FABRICATED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- WALKWAY GRATING SHALL BE PACIFIC GRATING 38W4 BAR GRATING WITH 2¼" x ¼" SERRATED BARS AT 2½" C-C SPACING WITH 4" C-C CROSS BARS OR APPROVED EQUIVALENT.
- STEEL HANDRAIL PANELS AND WALKWAY GRATING SHALL BE GALVANIZED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ALL ELEMENTS SHALL BE FREE OF FINIS, ABRASIONS, ROUGH OR SHARP EDGES AND OTHER SURFACE DEFECTS.
- HANDRAIL PANELS ON WALKWAY SHALL BE ERECTED PLUMB AND IN-LINE.
- MISCELLANEOUS STRUCTURAL STEEL ELEMENTS SUCH AS ANGLES, PLATES, ETC. SHALL BE ASTM A709 GR50W UNLESS NOTED OTHERWISE.
- DRAINAGE CHAINS SHALL BE STEEL COIL CHAIN MEETING THE REQUIREMENTS OF ASTM A319 OR A413, GR 30, GALVANIZED. BENT STEEL SUPPORT PIPE SHALL MEET THE REQUIREMENTS OF ASTM A500, GR B, GALVANIZED.

TABLE OF ESTIMATED LIFTING WEIGHTS	
ITEM DESCRIPTION	WEIGHT EA. (LBS)
79' DPG - 3 GIRDER SHOP ASSEMBLY**	155,425
79' DPG - 2 GIRDER SHOP ASSEMBLY**	104,730
30' SBM - 3 BEAM SHOP ASSEMBLY**	30,550
30' SBM - 2 BEAM SHOP ASSEMBLY**	21,230
INTERMEDIATE DIAPHRAGM MK ID1	84
INTERMEDIATE DIAPHRAGM MK ID2	128
END DIAPHRAGM MK ED1	41
END DIAPHRAGM MK ED2	187
FIELD CLOSURE DECK PLATE MK DP5 & DP7	705
FIELD CLOSURE DECK PLATE MK DP6	637
FIELD CLOSURE DECK PLATE MK DP14 & DP19	874
FIELD CLOSURE DECK PLATE MK DP15-DP18	1,063
COVER PLATE MK CP1	150
COVER PLATE MK CP2	145
WALKWAY BRACKET MK WB1	68
BAR GRATING PANEL - 29'-0"	1,044
BAR GRATING PANEL - 20'-11"	753
BAR GRATING PANEL - 15'-1"	543
BAR GRATING PANEL - 15'-0"	540
HANDRAIL PANEL MK HP1L/R	516
HANDRAIL PANEL MK HP2L/R	305
HANDRAIL PANEL MK HP3L/R	326
HANDRAIL PANEL MK HP4L/R	306
HANDRAIL PANEL MK HP5L/R	328
BALLAST CATCHMENT PAN	270

\*\* SHOP ASSEMBLED GIRDER AND BEAM UNITS ARE TO BE FULLY SHOP ASSEMBLED AND LOADED FOR SHIPPING AS SINGLE UNITS. ASSEMBLIES INCLUDE THE FOLLOWING ITEMS: GIRDERS, BEAMS, STIFFENERS, DIAPHRAGM CONNECTORS, INTERMEDIATE DIAPHRAGMS, END DIAPHRAGMS, DECK SUPPORT BRACKETS, DECK PLATES, DRAINAGE COMPONENTS, CURB BEAMS AND 5% INCREASE FOR FASTENERS. SEE SECUREMENT PLANS FOR ADDITIONAL SHIPPING CONFIGURATIONS AND REQUIREMENTS.

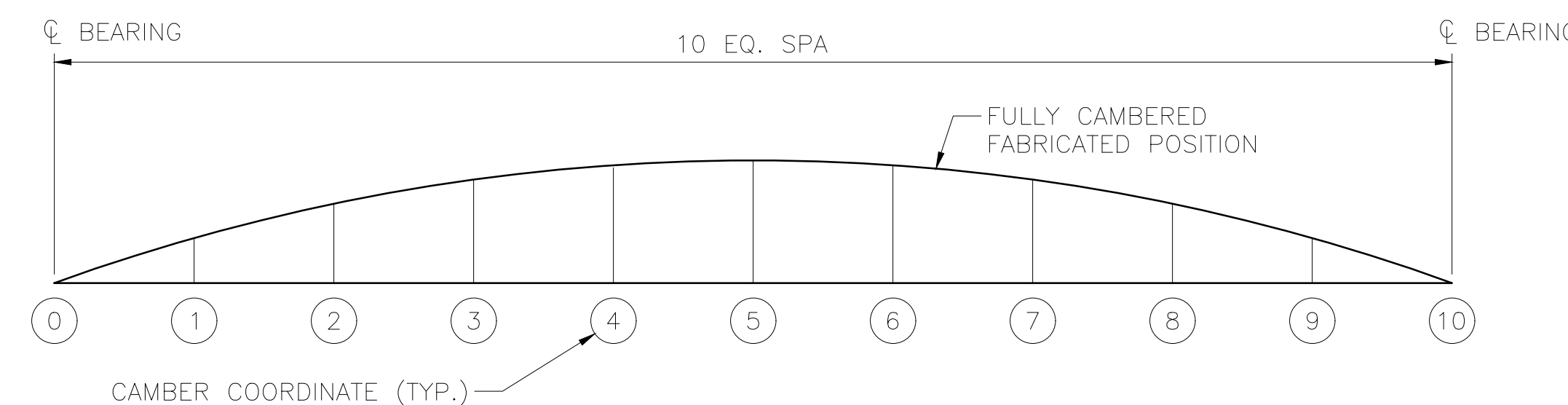
BID SCHEDULE			
BID ITEM	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
1.1	79' DECK PLATE GIRDER (DPG) SPAN (2 SPANS)	LS	1
1.2	30' ROLLED STEEL BEAM (SBM) SPAN (1 SPAN)	LS	1
2.1	ELASTOMERIC BEARING PADS, LOT (FOR 79' DPG SPAN - SET OF 10)	LOT	2
2.2	ELASTOMERIC BEARING PADS, LOT (FOR 30' SBM SPAN - SET OF 10)	LOT	1

SUMMARY OF ESTIMATED STRUCTURAL STEEL QUANTITIES			
ITEM DESCRIPTION	UNIT	QTY	WEIGHT (LBS)
79' DECK PLATE GIRDER SPAN (ASSEMBLED)*	EA	2	278,500
30' ROLLED STEEL BEAM SPAN (ASSEMBLED)*	EA	1	61,200
TOTAL STRUCTURAL STEEL SPANS	EA	3	618,200

\* INCLUDES ALL COMPONENTS NECESSARY TO ASSEMBLE THE STRUCTURAL STEEL SPAN INCLUDING BUT NOT LIMITED TO: GIRDERS, DIAPHRAGMS, STIFFENERS, CONNECTORS, DECK PLATES, CURBS, COVER PLATES, SUPPORT BRACKETS, WALKWAY GRATING, HANDRAILING, DRAINAGE COMPONENTS, SOLE PLATES, ANCHOR RODS, AND 5% INCREASE FOR FASTENERS (TEMPORARY AND PERMANENT) AS SHOWN ON THESE PLANS.

**ABBREVIATIONS**

AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION
ARRC	ALASKA RAILROAD CORPORATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
C-C	CENTER-TO-CENTER
C <sub>c</sub>	CENTERLINE
DPG	DECK PLATE GIRDER
EMBED.	EMBEDDED
GR	GRADE
H.S.	HIGH STRENGTH
MAX	MAXIMUM
MIN	MINIMUM
MK	MARK
O-O	OUT-TO-OUT
PROJ.	PROJECTION
REQ'D	REQUIRED
SAW	SUBMERGED ARC WELDING
SBM	STEEL BEAM
STD.	STANDARD
T/TIE	TOP OF TIE
TYP.	TYPICAL



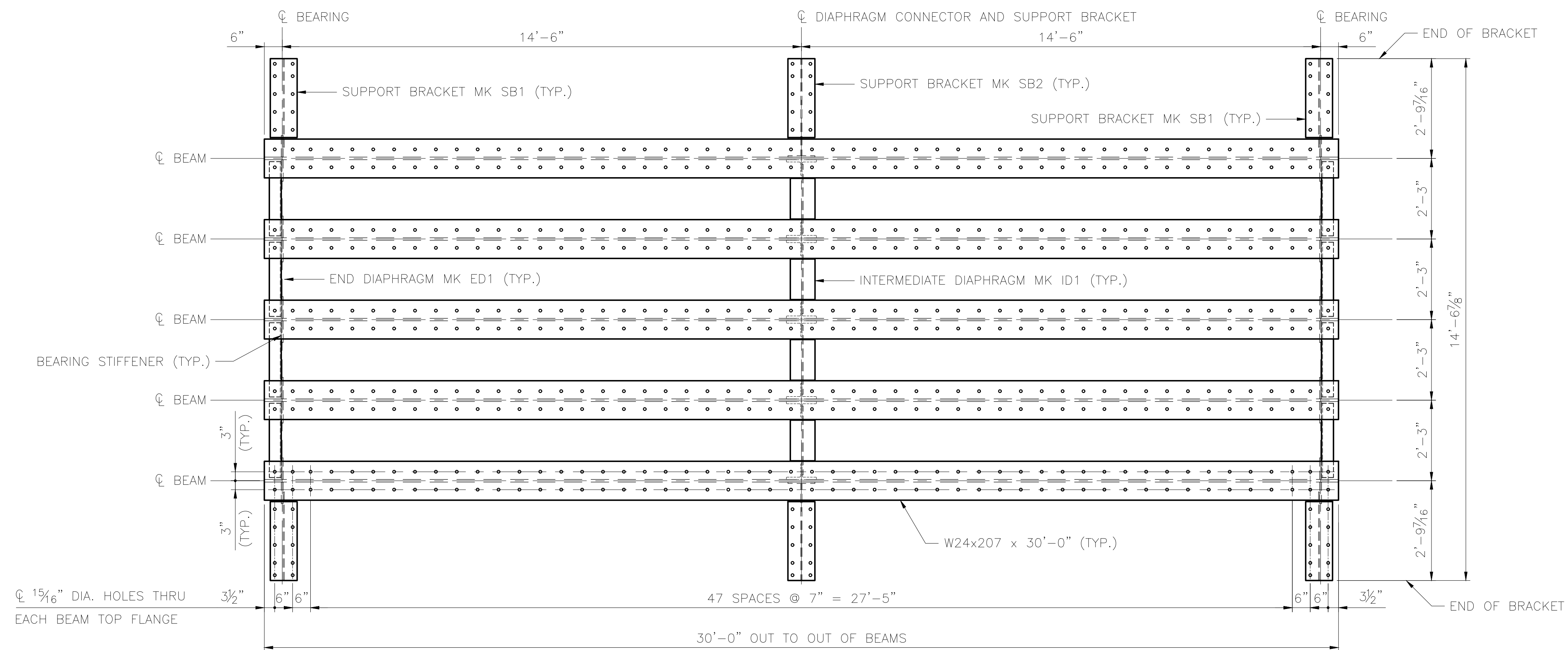
GIRDER DEFLECTION & CAMBER DATA											
CAMBER COORDINATES	0	1	2	3	4	5	6	7	8	9	10
DEFLECTION/CAMBER	0"	5/16"	9/16"	3/4"	7/8"	15/16"	7/8"	3/4"	9/16"	5/16"	0"

**CAMBER DIAGRAM FOR 79' DPG SPAN**

SCALE: NTS

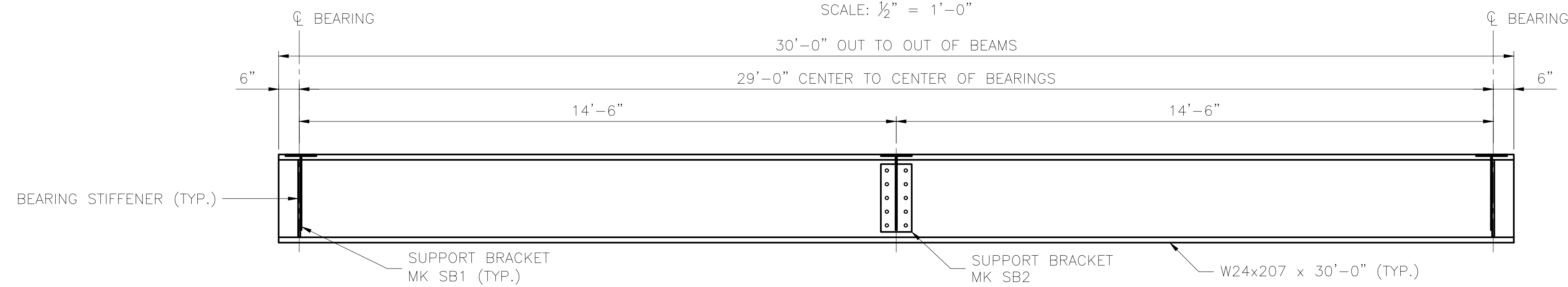
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DRAFTED BY:	MEM
2/14/2025 HDR ENGINEERING, INC. 582 E. 36TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
<b>CAPITAL PROJECTS</b> P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT:	FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3
SHEET TITLE:	STRUCTURAL STEEL NOTES
AFE NO.	11228
YEAR	2025
SHEET	02 OF 22

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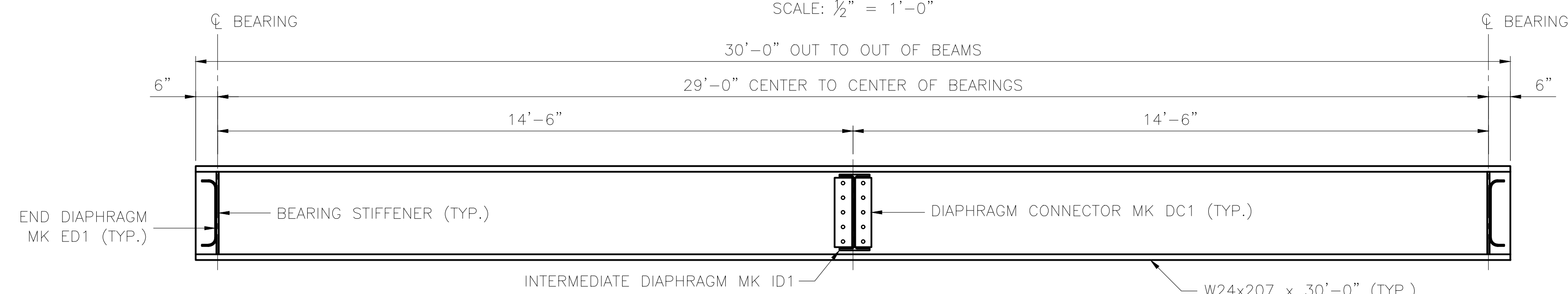
**FRAMING PLAN (SPAN 1)**

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



**EXTERIOR ELEVATION (SPAN 1)**

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



**INTERIOR ELEVATION (SPAN 1)**

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

**STRESS TABLE**

SPAN LENGTH (L)	BEAM SECTION	SHEAR				FLEXURE						DEFLECTION				
		DEAD LOAD (K)	LIVE LOAD (K)	IMPACT (K)	TOTAL (K)	WEB AREA (Aw)		DEAD LOAD (K-FT)	LIVE LOAD (K-FT)	IMPACT (K-FT)	TOTAL (K-FT)	SECTION MODULUS (Sx)		ALLOWABLE (IN)	MOMENT OF INERTIA (Ix)	
						REQ'D (IN <sup>2</sup> )	PROVIDED (IN <sup>2</sup> )					REQ'D (IN <sup>3</sup> )	PROVIDED (NET) (IN <sup>3</sup> )		REQ'D (IN <sup>4</sup> )	PROVIDED (IN <sup>4</sup> )
29'-0"	W24X207	19	69	35	123	7.0	22.4	141	440	224	805	351	467	0.54	6694	6820

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM



2/14/2025  
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 LICENSE #: AECC569



CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3

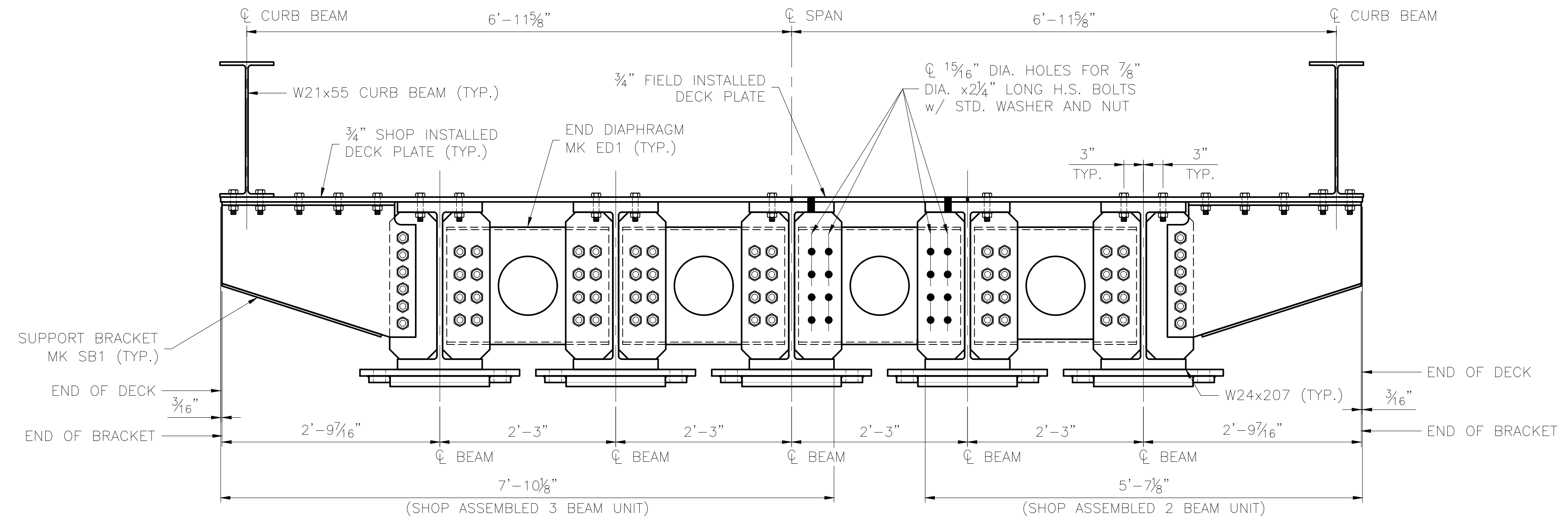
SHEET TITLE: 30'-0" BEAM SPAN - FRAMING PLAN

AFE NO. 11228

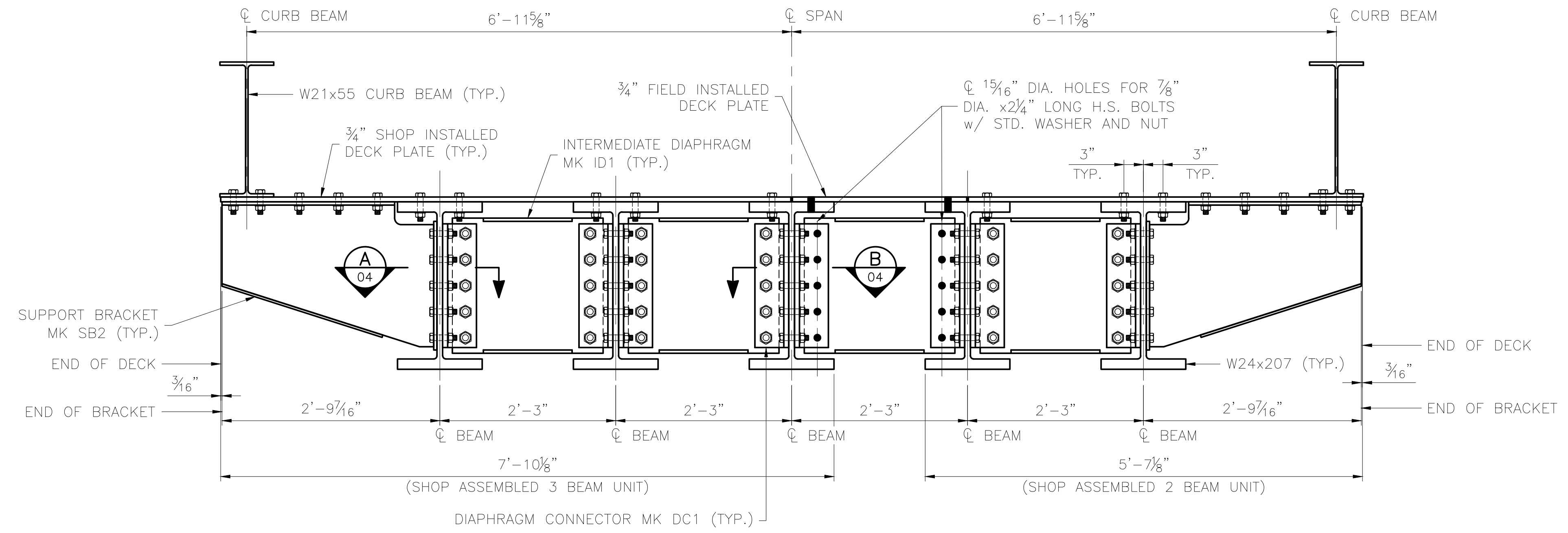
YEAR 2025

SHEET 03 OF 22

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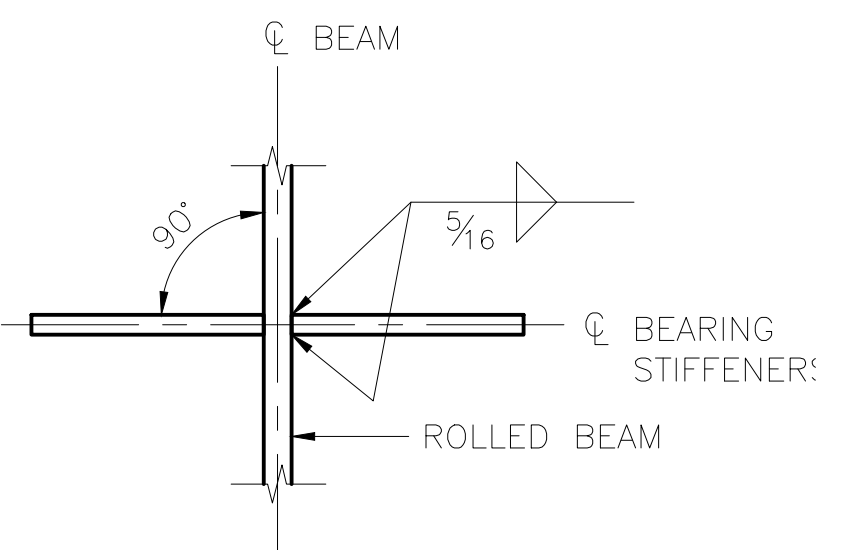


**TYPICAL SECTION AT END DIAPHRAGM**  
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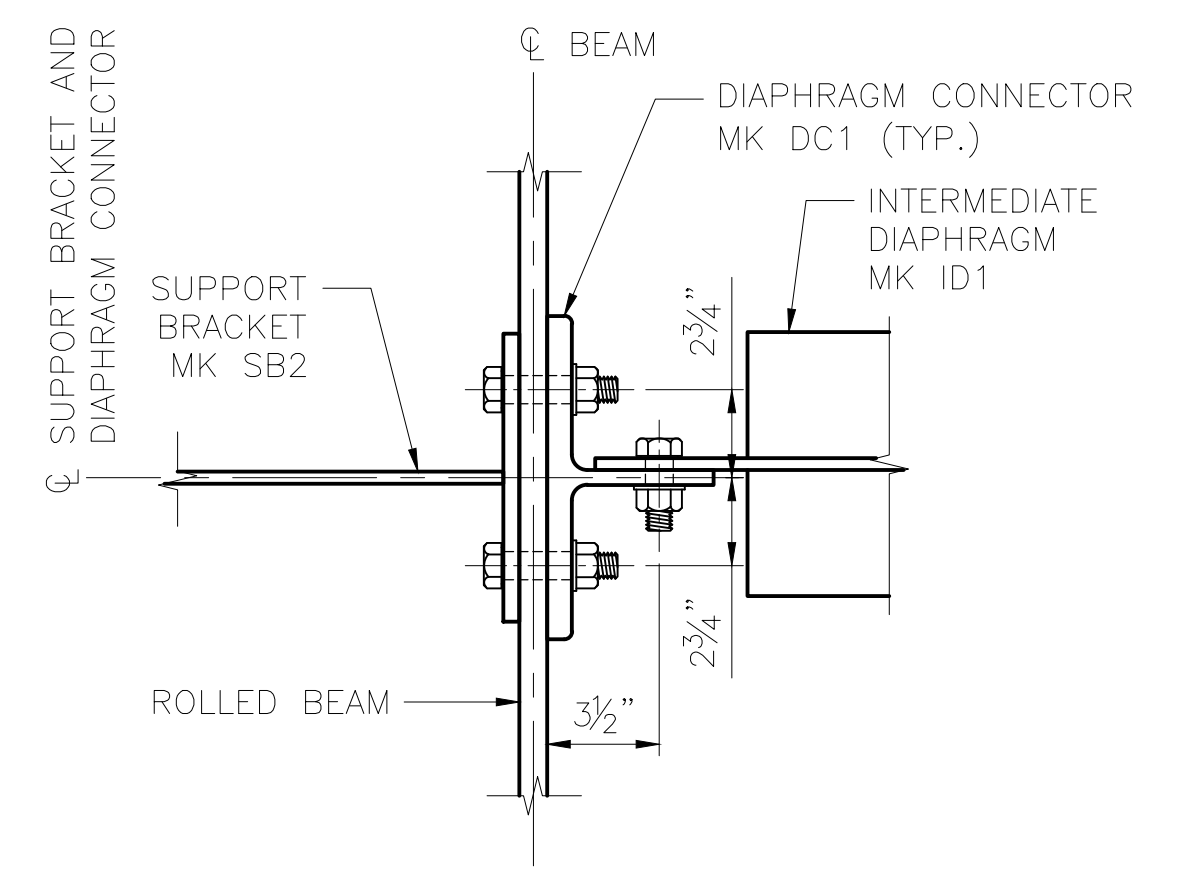


**TYPICAL SECTION AT INTERMEDIATE DIAPHRAGM**  
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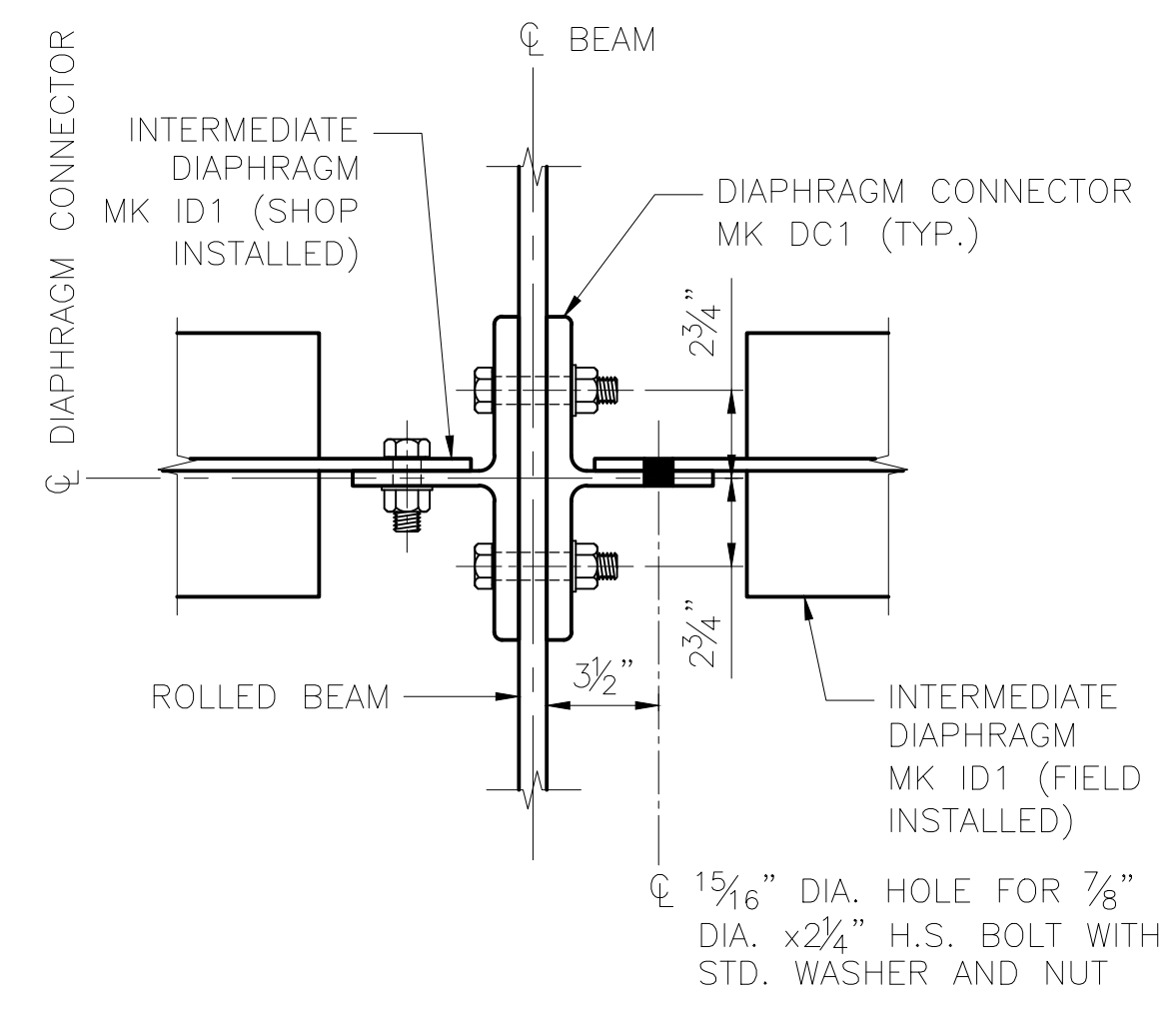
- NOTES:**
1. FOR DIAPHRAGM, DIAPHRAGM CONNECTOR AND BRACKET DETAILS SEE SHEET 5.
  2. FOR DECK PLATE DETAILS SEE SHEETS 11, 12 AND 13.
  3. FOR CURB BEAM DETAILS SEE SHEET 16.



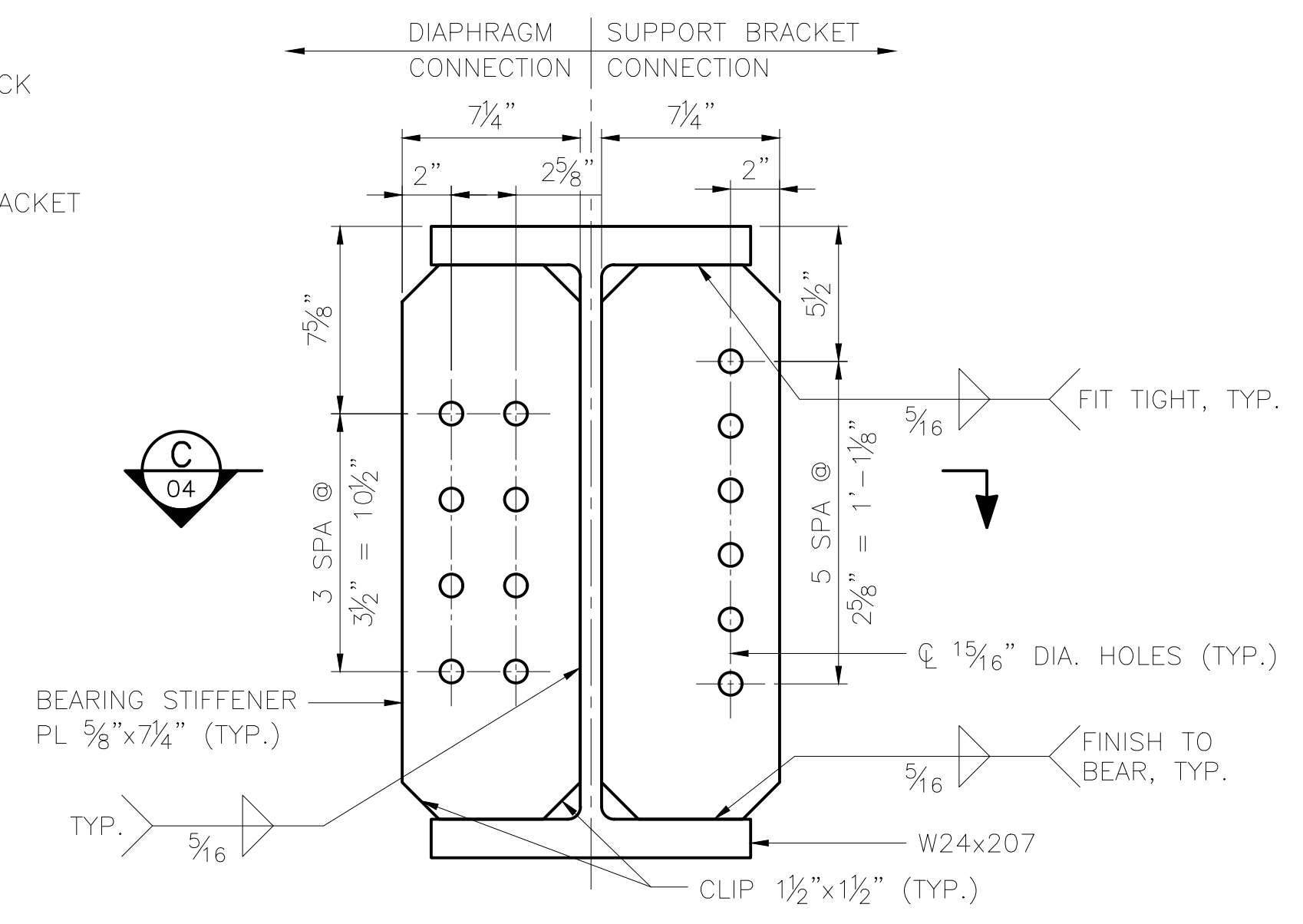
**SECTION C**  
SCALE: 2" = 1'-0"



**SECTION A**  
SCALE: 2" = 1'-0"



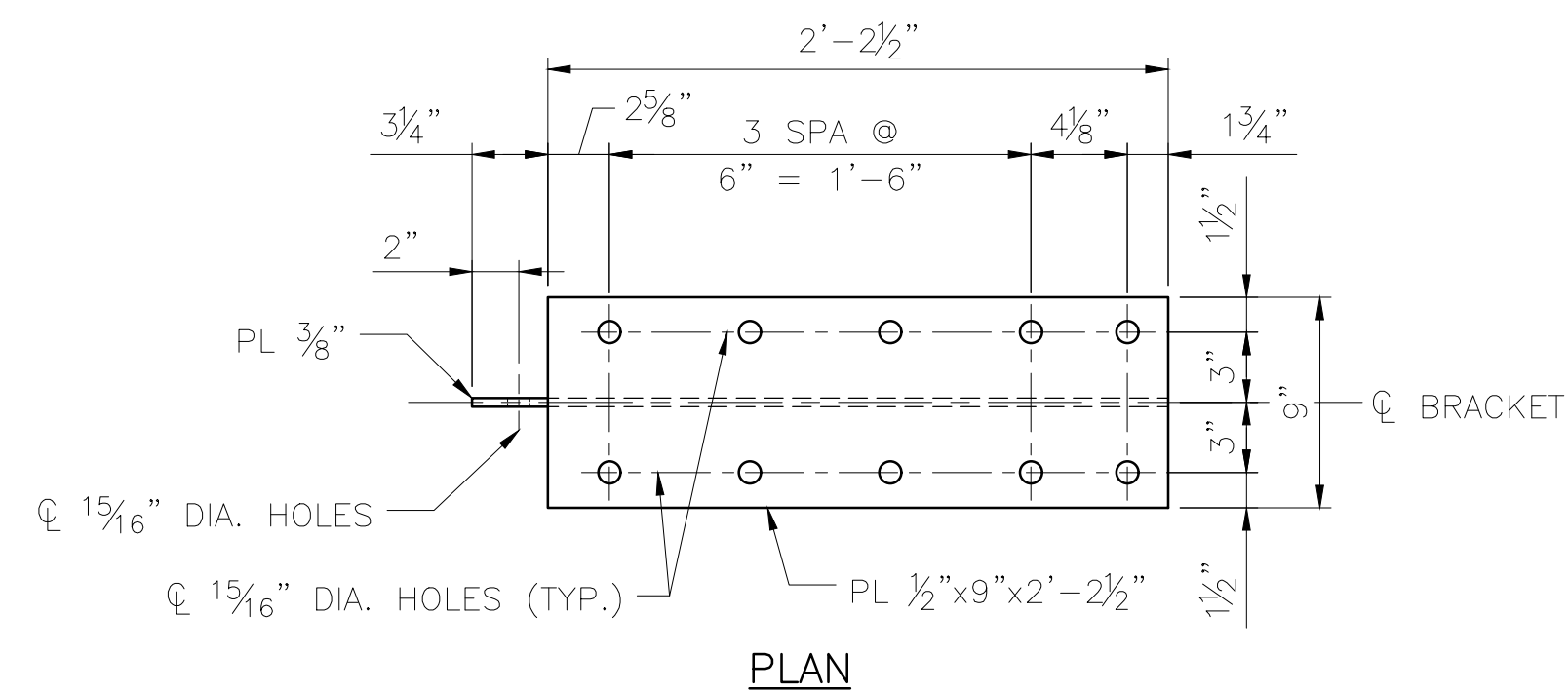
**SECTION B**  
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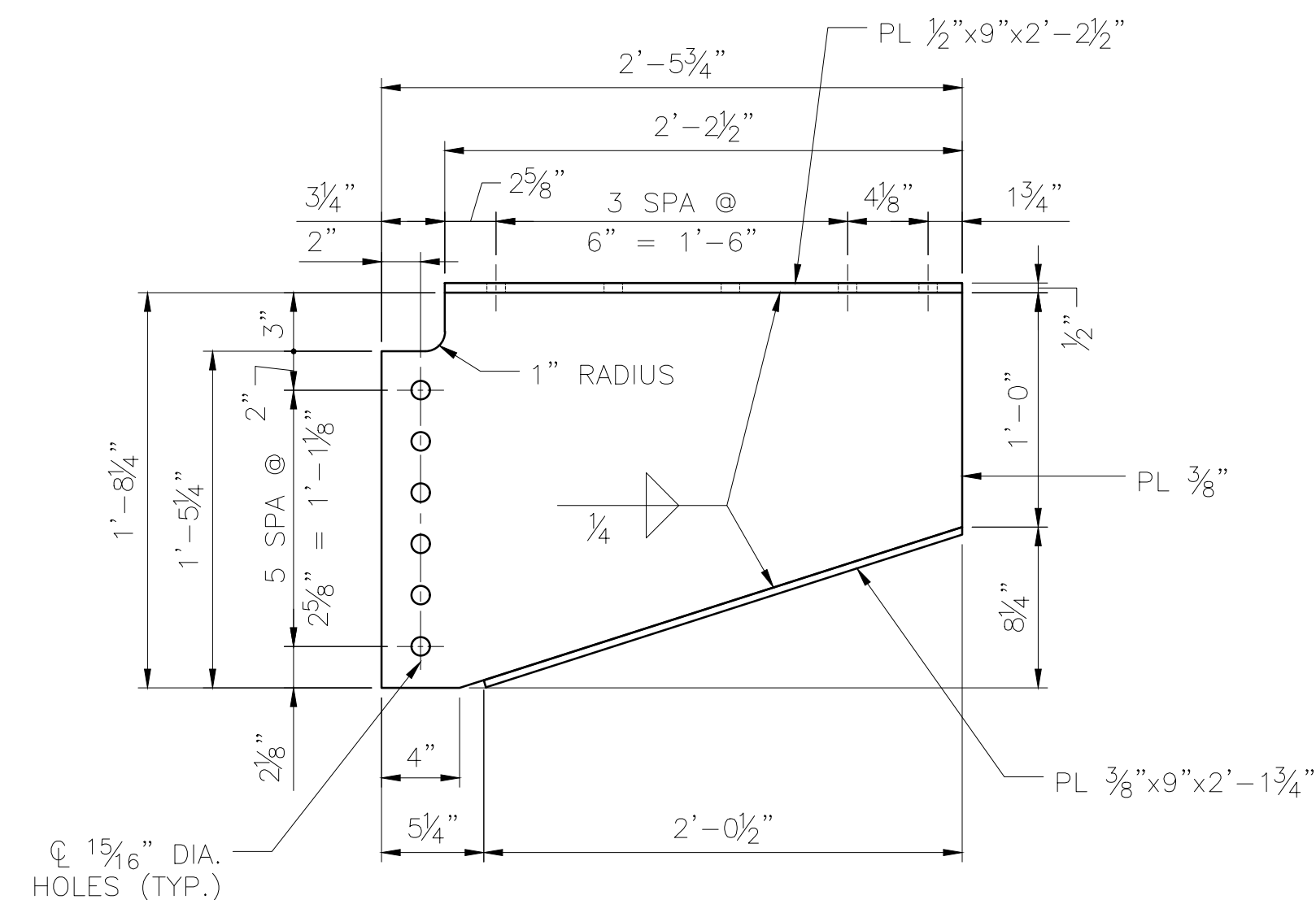
**BEARING STIFFENER INSTALLATION DETAIL**  
SCALE: 2" = 1'-0"

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2/14/2025 HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3 SHEET TITLE: 30' - 0" BEAM SPAN - STEEL DETAILS (1 OF 2)	
AFE NO.	11228
YEAR	2025
SHEET	04 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\14079759\BR\_114.3\_SHIP\_CREEK\_05.DWG  
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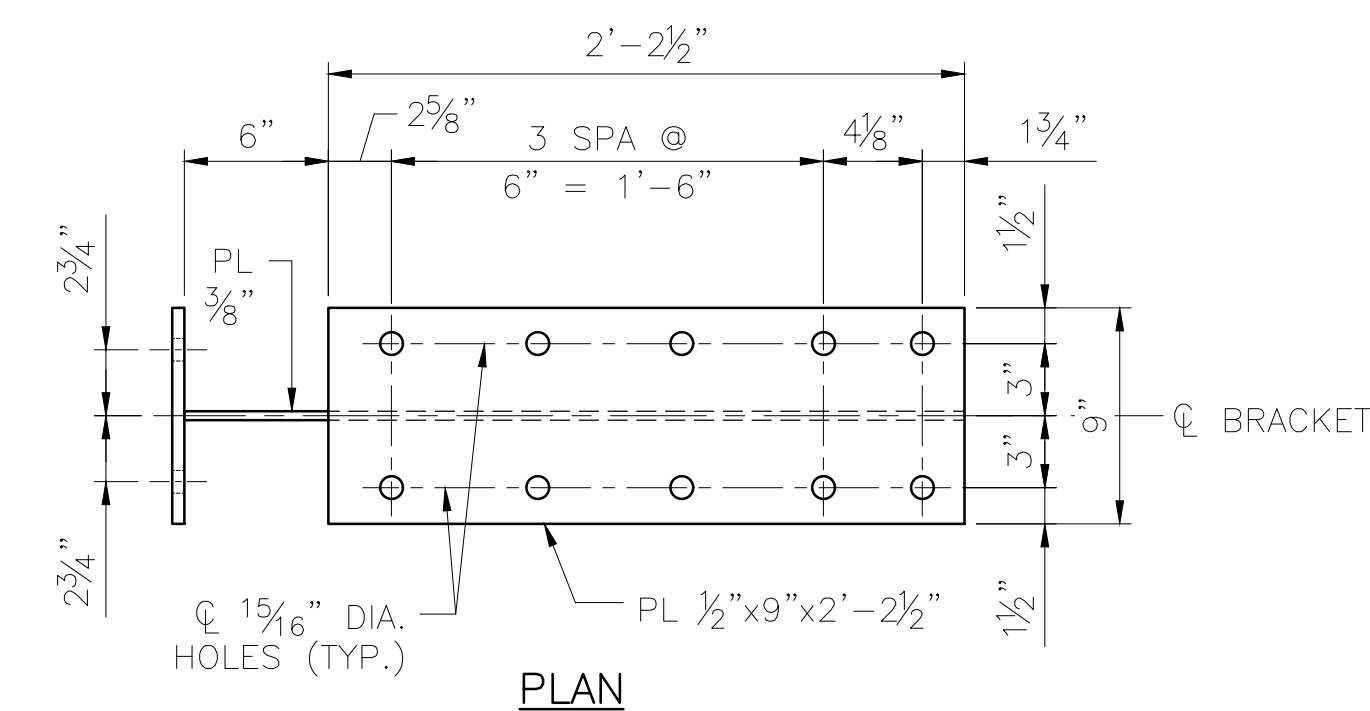


PLAN

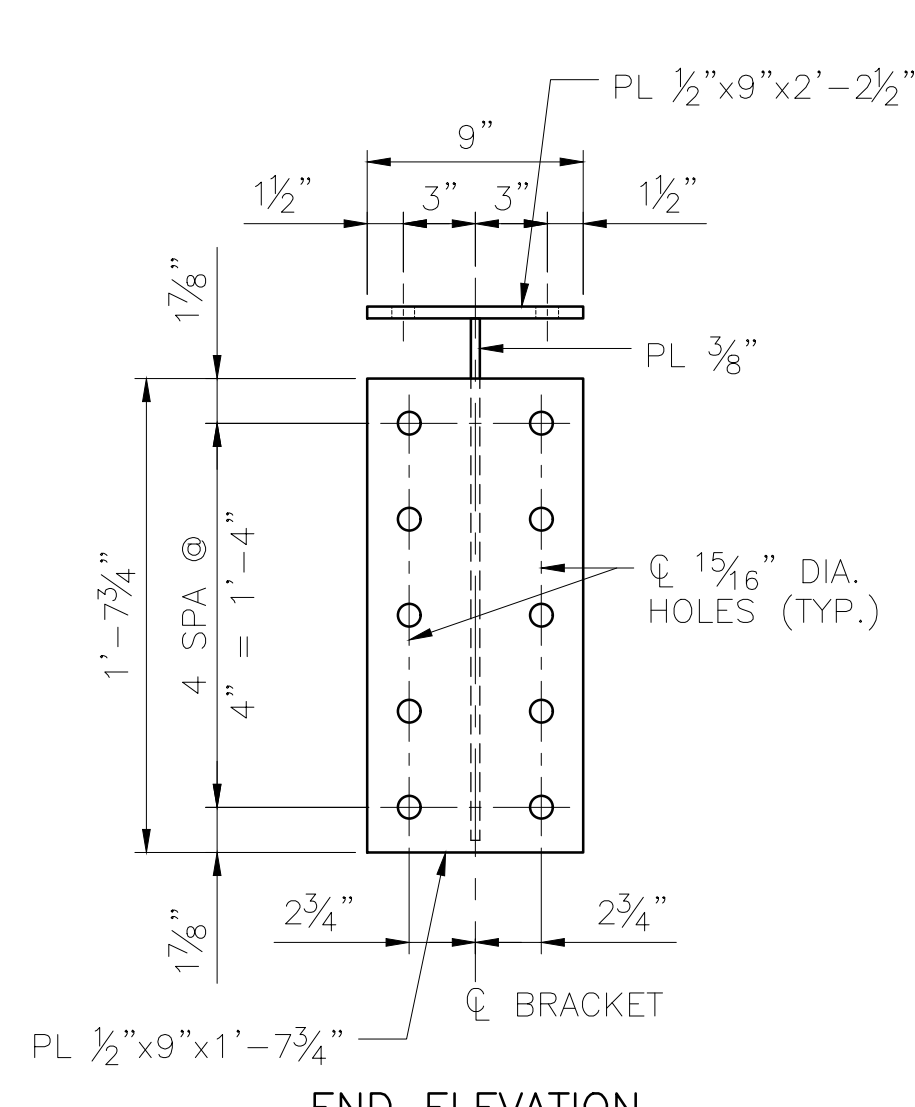


SUPPORT BRACKET MK SB1

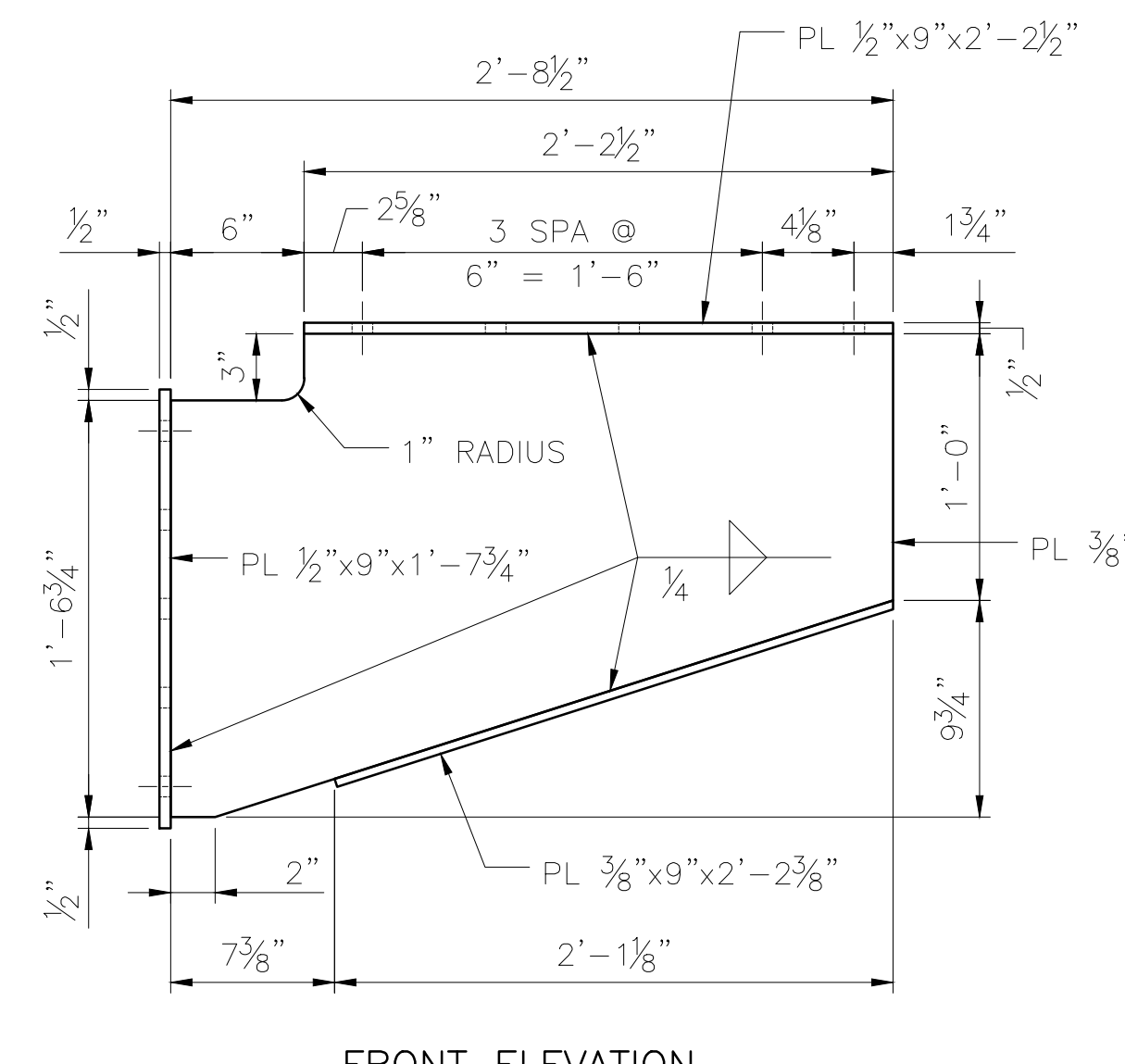
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 ESTIMATED WEIGHT = 110 LBS



PLAN



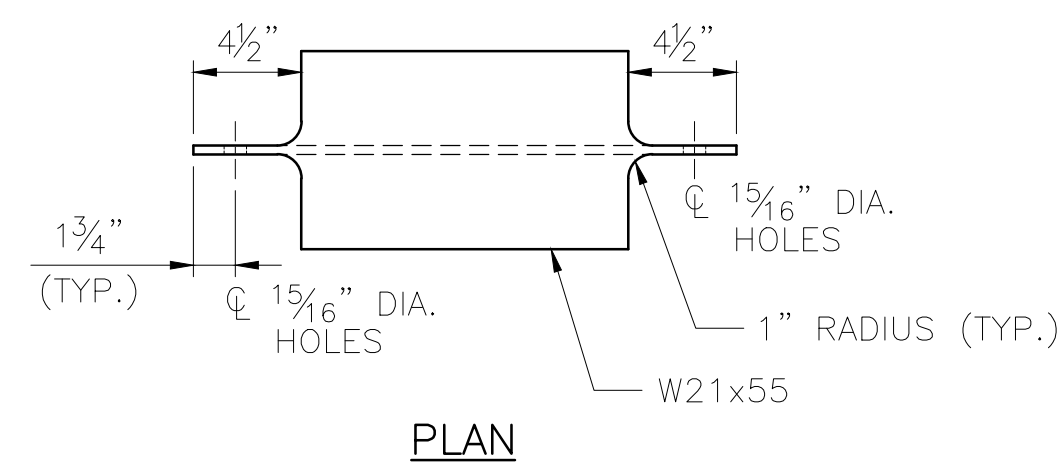
END ELEVATION



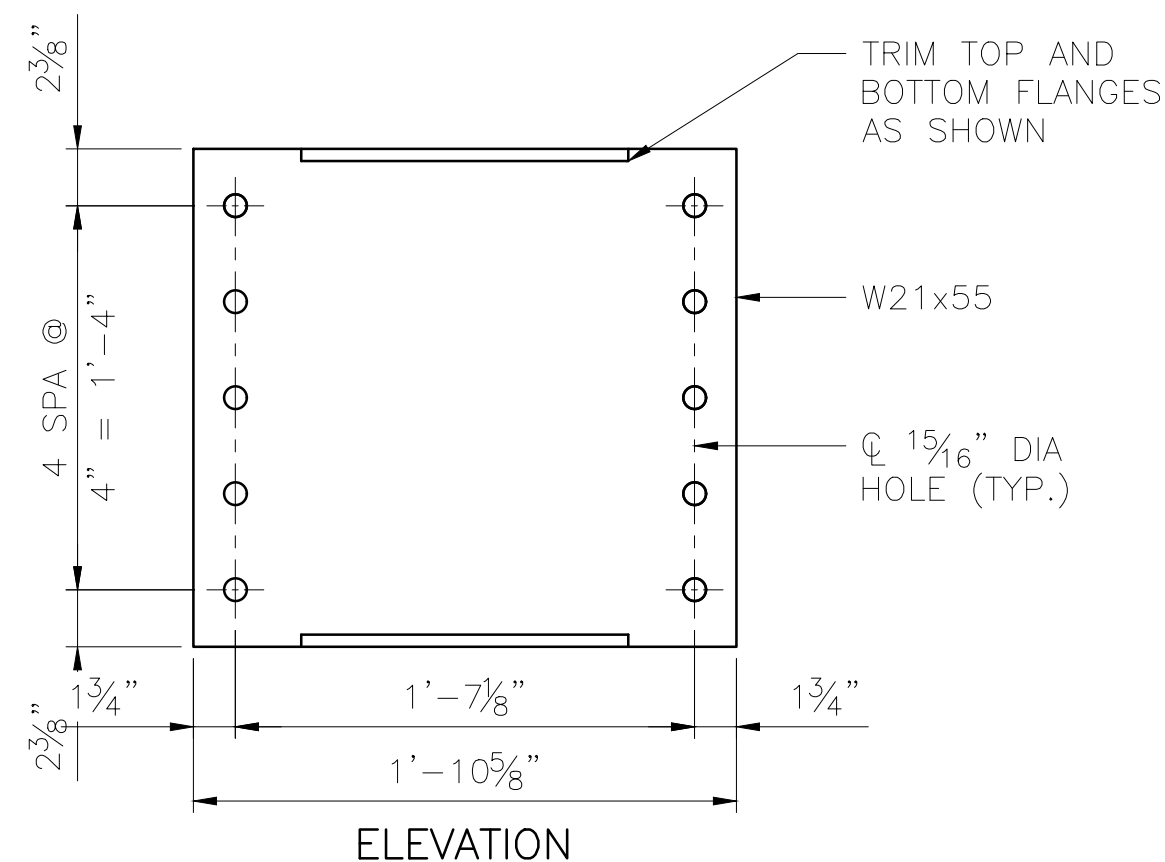
FRONT ELEVATION

SUPPORT BRACKET MK SB2

SCALE: 1/2" = 1'-0"  
 2 ~ REQUIRED  
 ESTIMATED WEIGHT = 142 LBS



PLAN

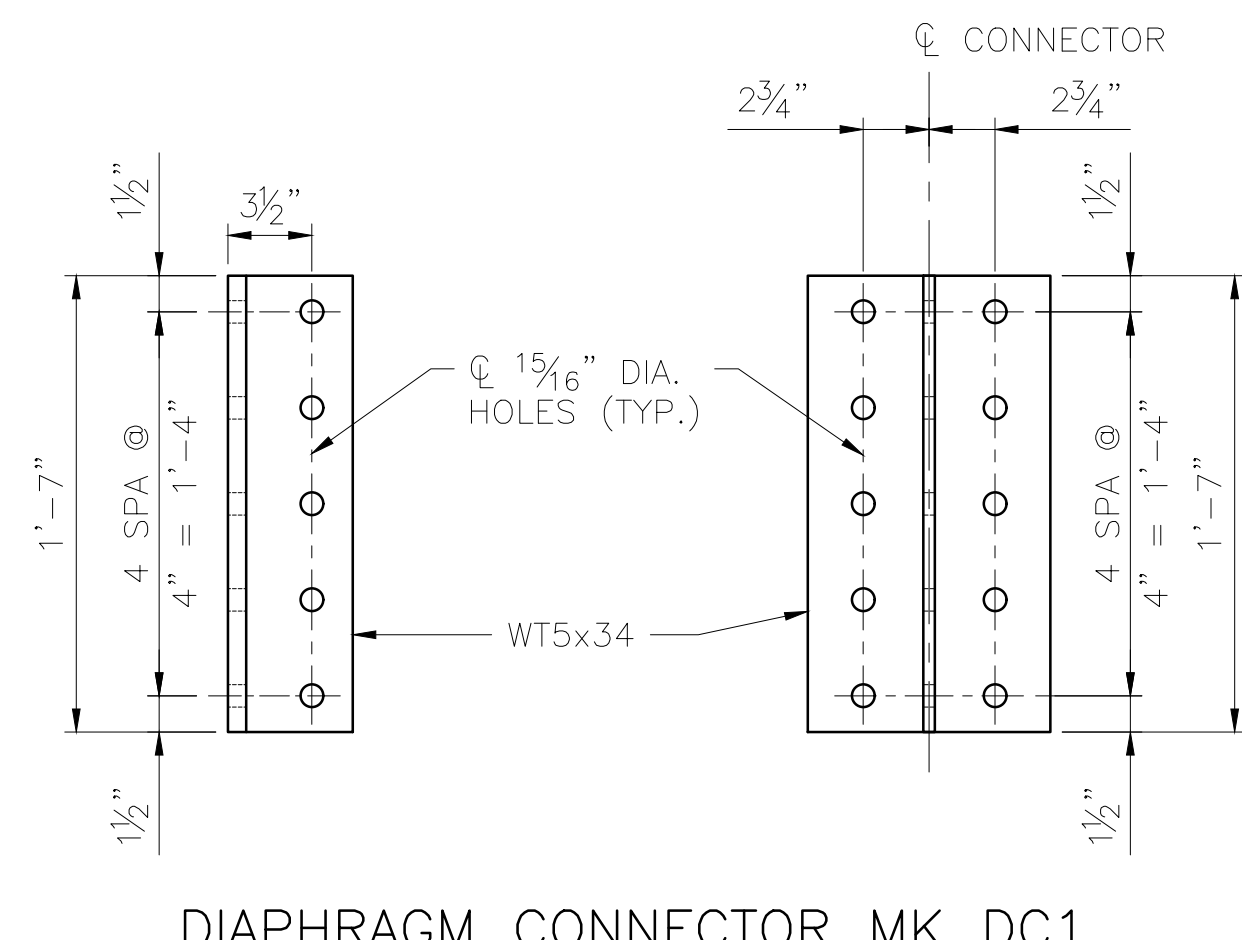


ELEVATION

INTERMEDIATE DIAPHRAGM MK ID1

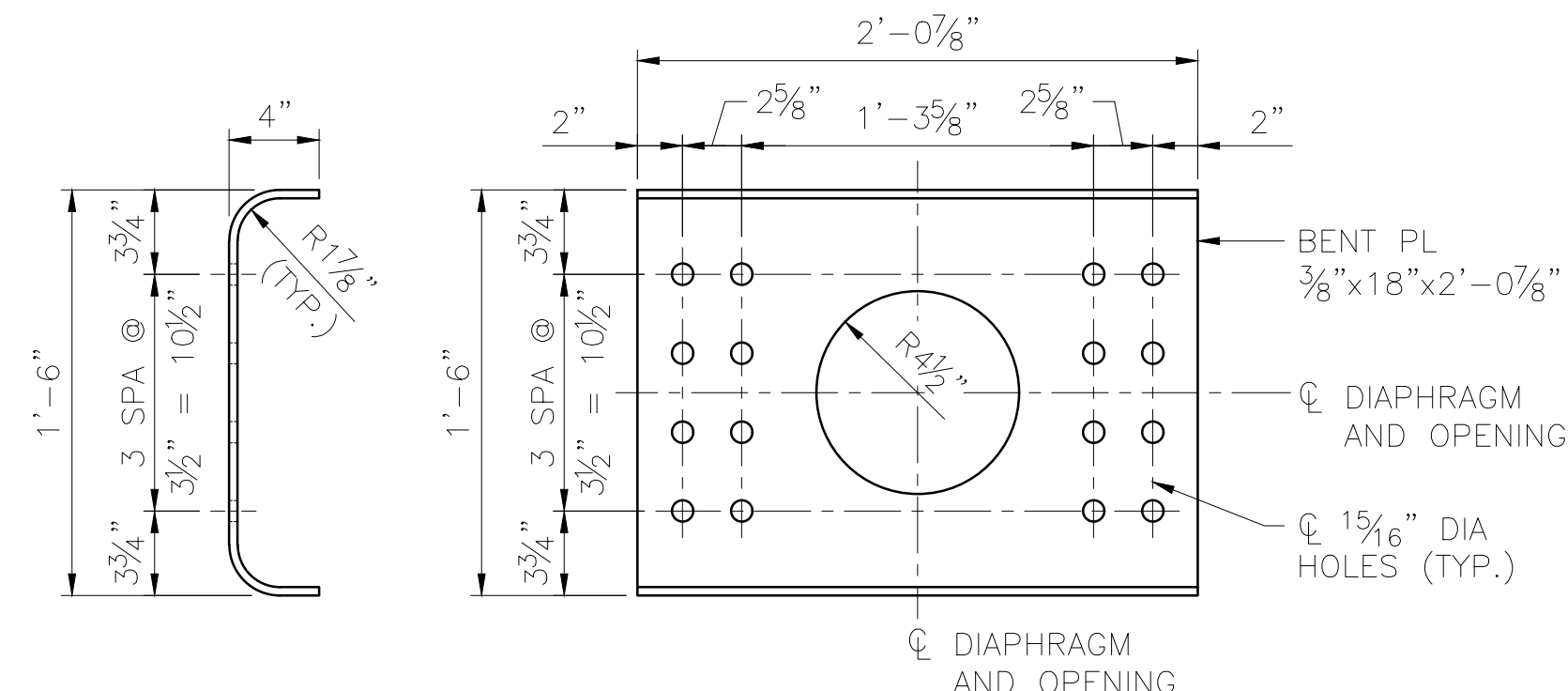
SCALE: 1/2" = 1'-0"  
 4 ~ REQUIRED  
 ESTIMATED WEIGHT = 84 LBS

OPTION: FABRICATOR MAY SUBMIT A REQUEST TO FABRICATE INTERMEDIATE DIAPHRAGM MK ID1 WITH WELDED PLATES IN LIEU OF COPING FLANGES OF W-SECTION IF THE CHANGE PROVIDES A NET SAVINGS TO THE PROJECT.



DIAPHRAGM CONNECTOR MK DC1

SCALE: 1/2" = 1'-0"  
 8 ~ REQUIRED  
 ESTIMATED WEIGHT = 54 LBS



END ELEVATION

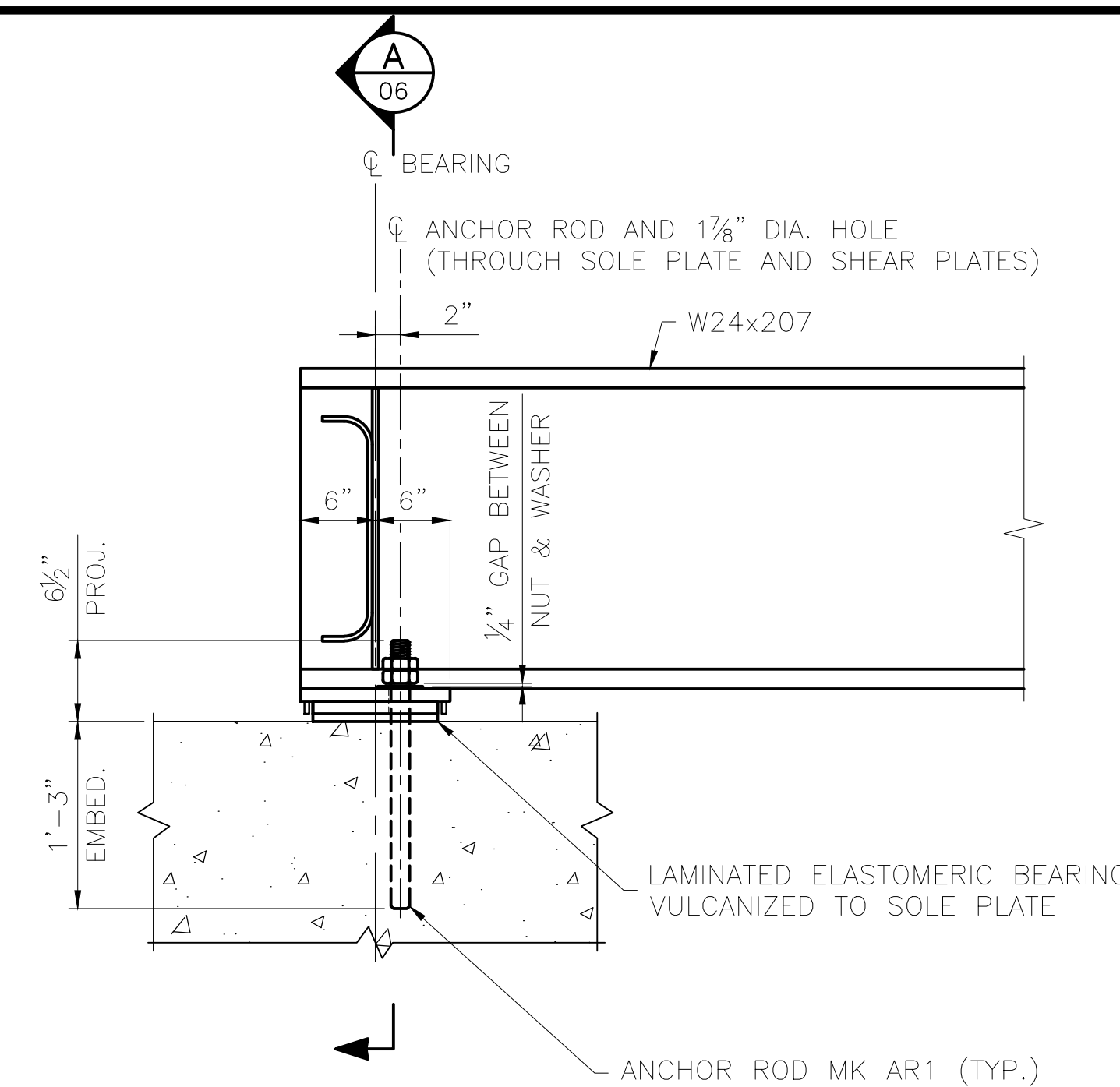
FRONT ELEVATION

END DIAPHRAGM MK ED1

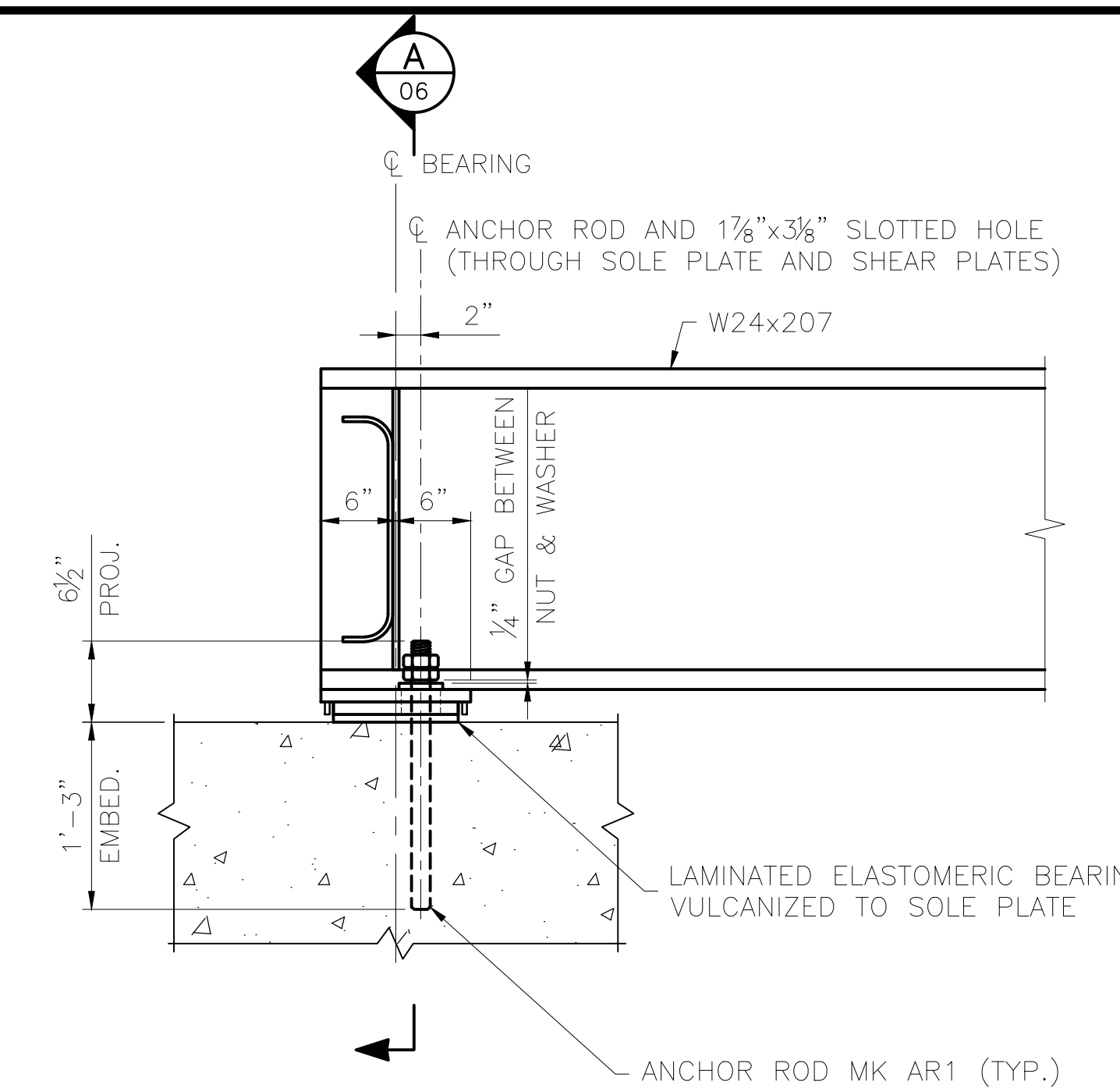
SCALE: 1/2" = 1'-0"  
 8 ~ REQUIRED  
 ESTIMATED WEIGHT = 41 LBS

DESIGNED BY:	ML
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2/14/2025 HDR ENGINEERING, INC. 582 E. 36TH AVE, SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
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PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3	
SHEET TITLE: 30'-0" BEAM SPAN - STEEL DETAILS (2 OF 2)	
AFE NO.	11228
YEAR	2025
SHEET	05 OF 22

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 DATE: 2/14/2025 2:53 PM  
 SCALE: AS NOTED  
 PUBLISHED: CTB  
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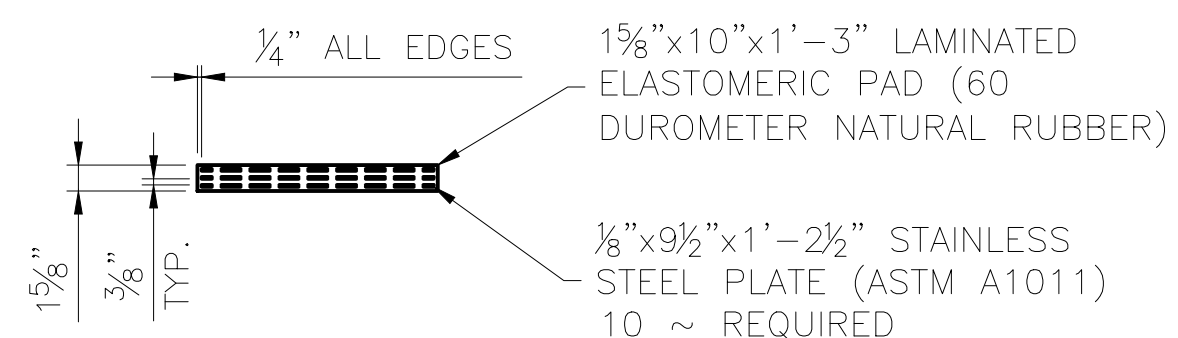
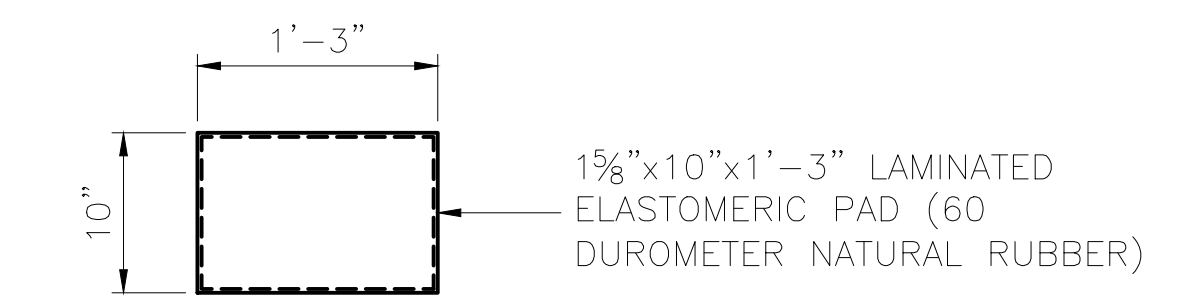


**FIXED BEARING ELEVATION**

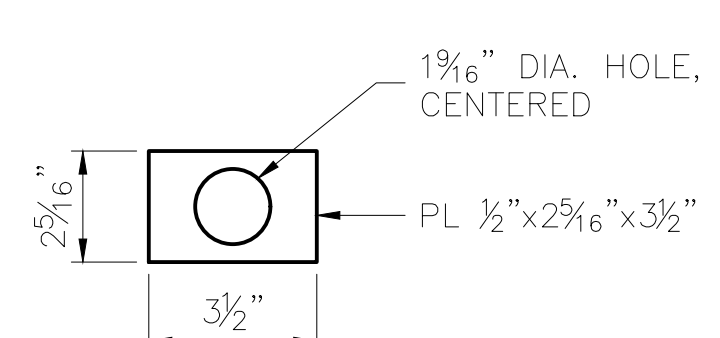


**EXPANSION BEARING ELEVATION**

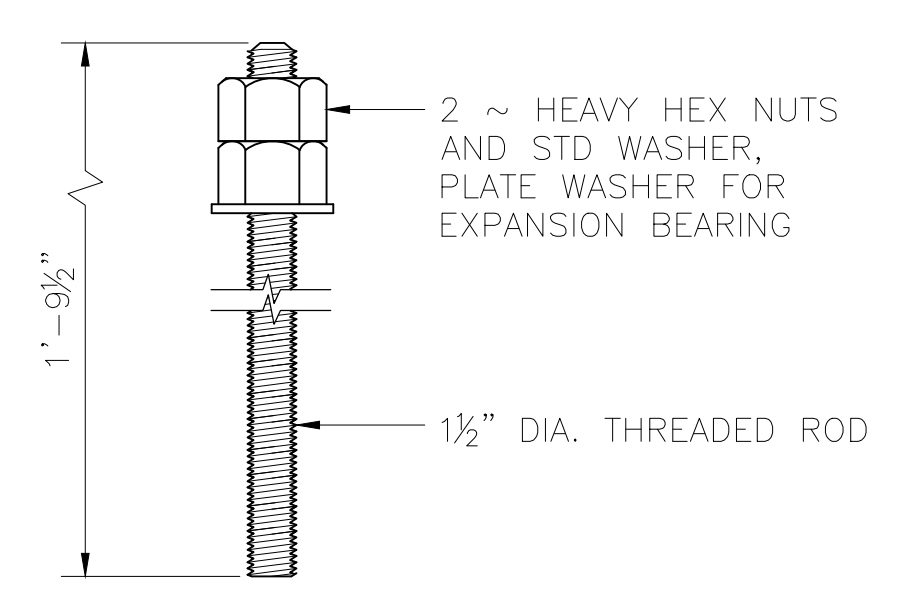
**SPAN 1 BEARING DETAIL**  
SCALE: 1" = 1'-0"



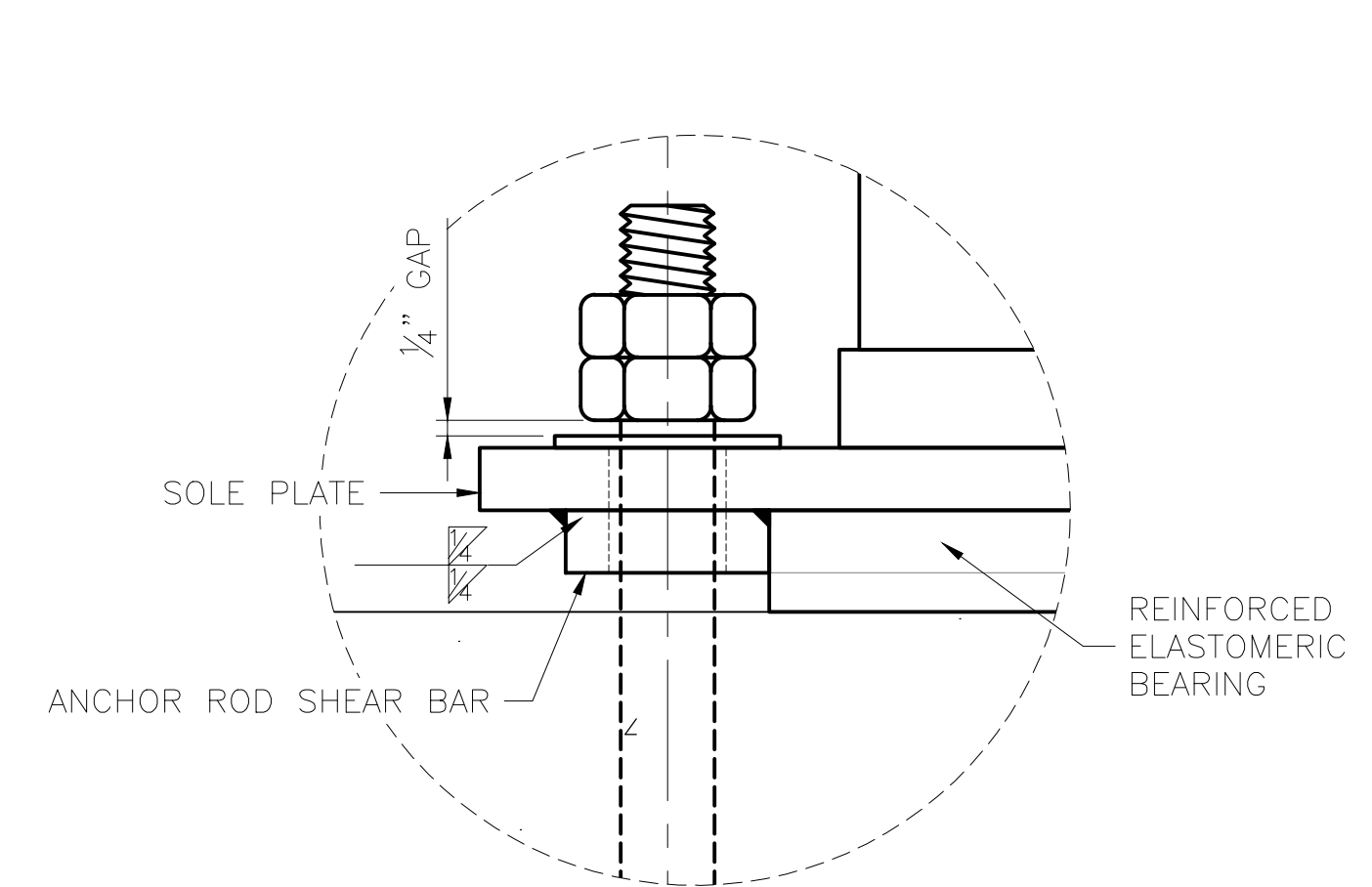
**LAMINATED ELASTOMERIC PAD DETAIL**  
SCALE: 1" = 1'-0"



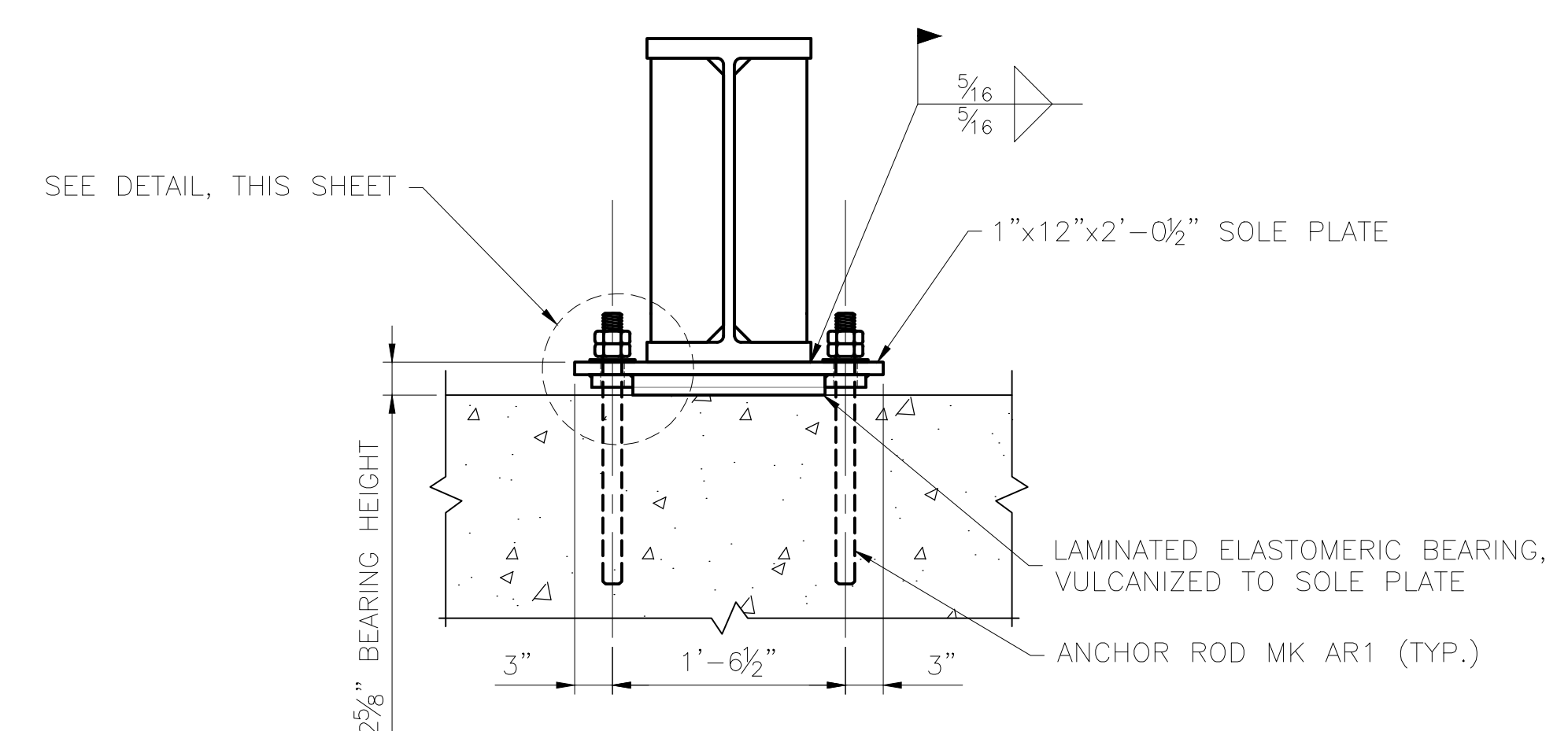
**PLATE WASHER**  
SCALE: 3" = 1'-0"  
10 ~ REQUIRED  
ASTM F1554, GR. 105 GALVANIZED



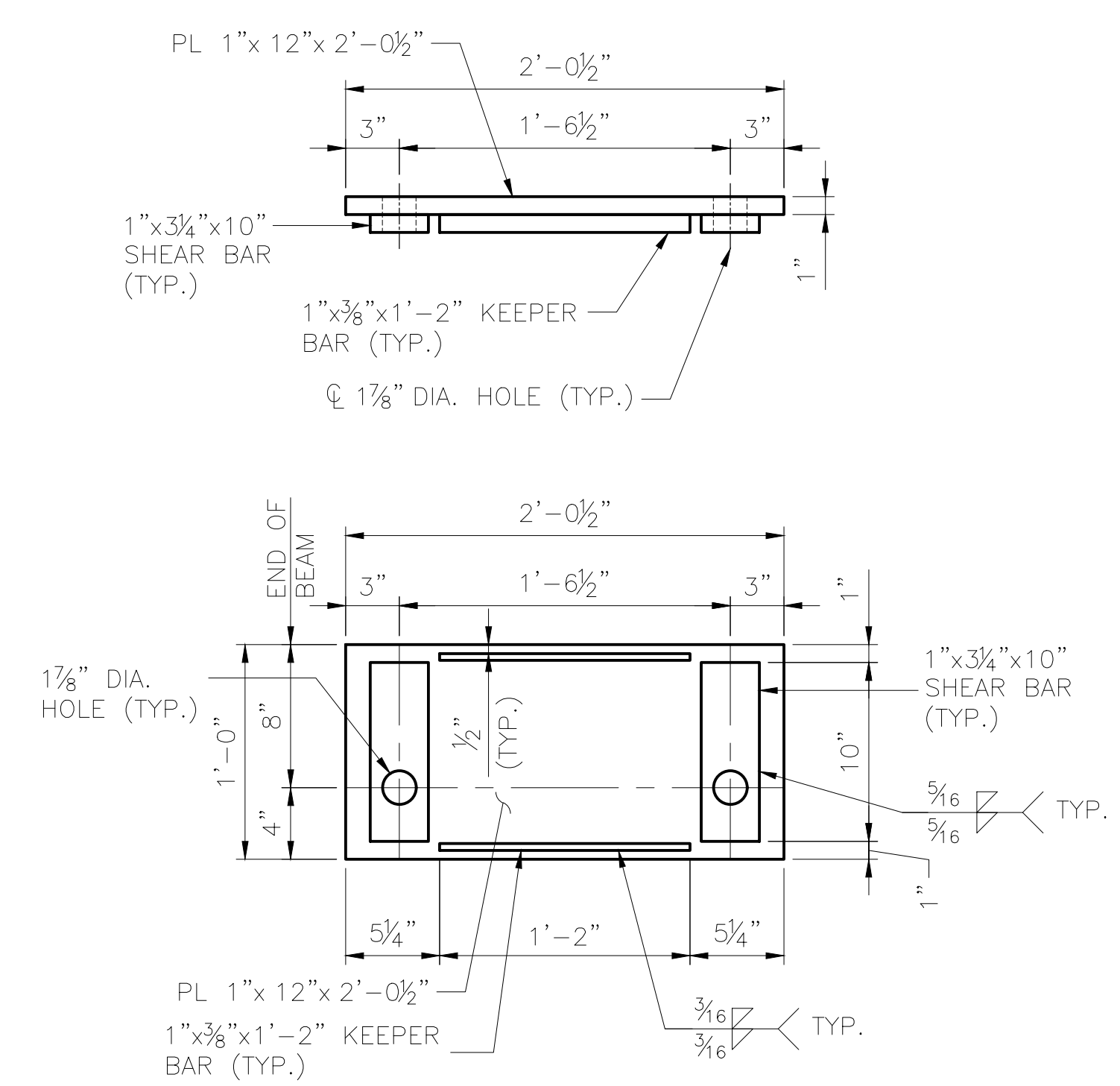
**ANCHOR ROD MK AR1**  
SCALE: 1 1/2" = 1'-0"  
20 ~ REQUIRED  
ASTM F1554, GR. 105 GALVANIZED ASSEMBLY



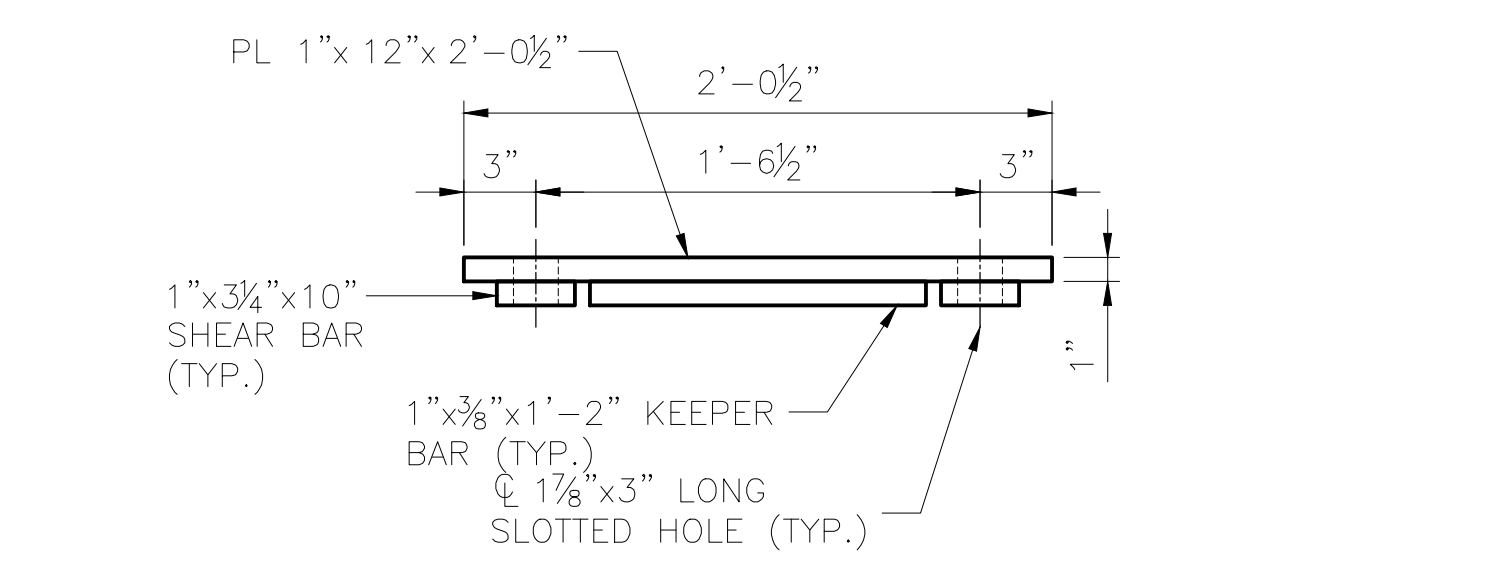
**ANCHOR ROD SHEAR PLATE DETAIL**  
SCALE: 4" = 1'-0"



**SECTION A-06**  
SCALE: 1" = 1'-0"



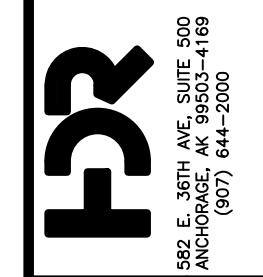
**SOLE PLATE MK SP1 (FIXED)**  
SCALE: 1 1/2" = 1'-0"



**SOLE PLATE MK SP2 (EXPANSION)**  
SCALE: 1 1/2" = 1'-0"

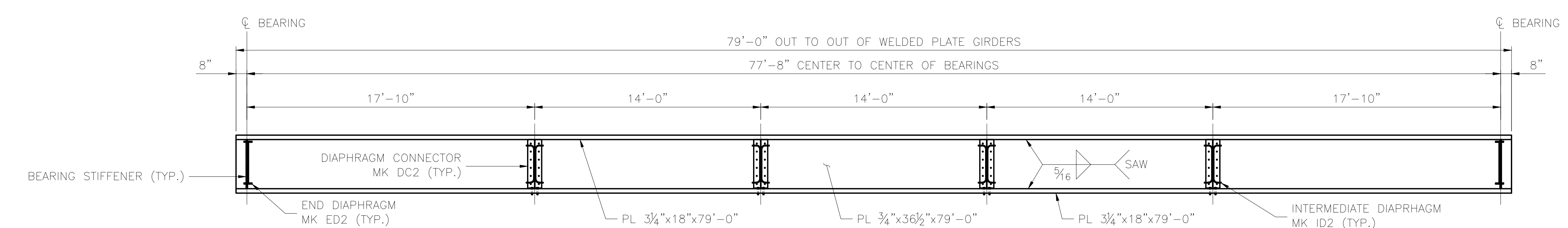
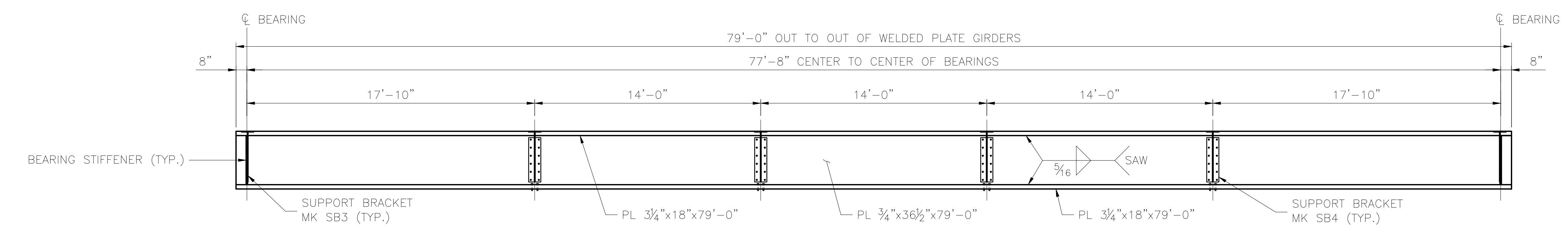
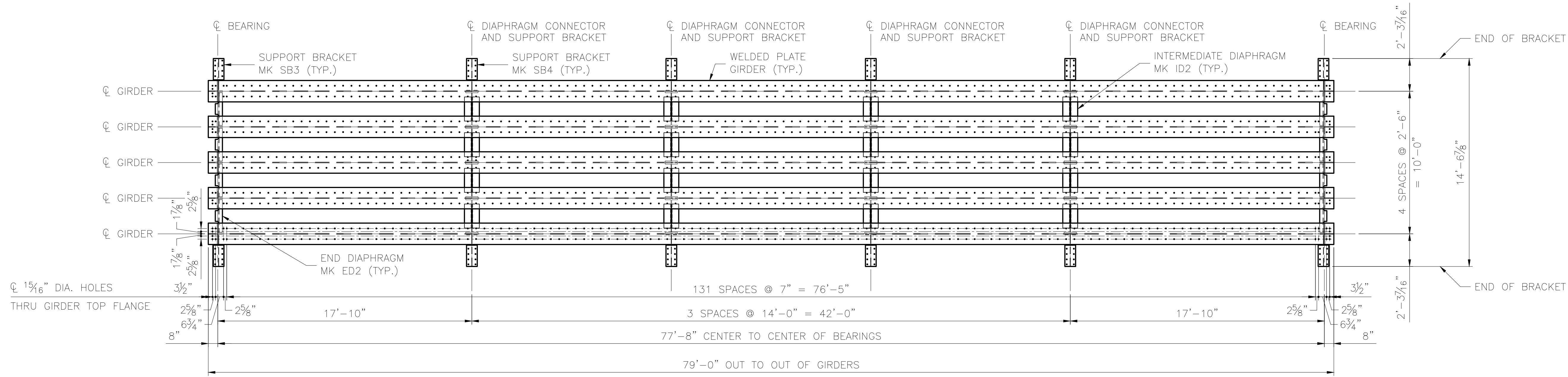
DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569



<b>CAPITAL PROJECTS</b> P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
<b>ALASKA RAILROAD</b>	PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3 SHEET TITLE: 30'-0" BEAM SPAN - BEARING DETAILS
AFE NO.	11228
YEAR	2025
SHEET	06 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\14079759\BR\_114.3\_SHIP\_CREEK\_07.DWG  
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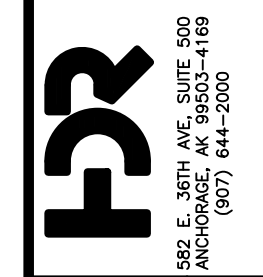
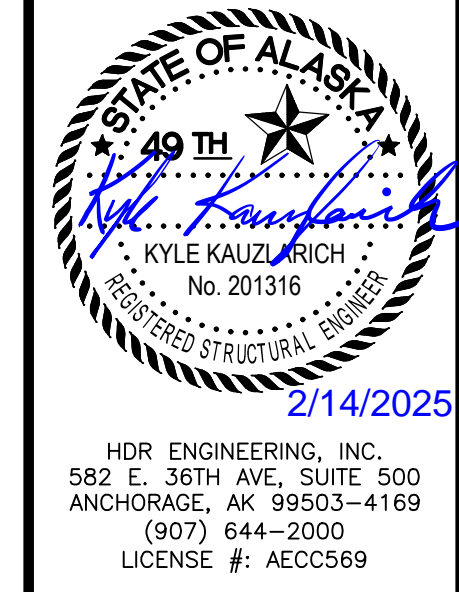


**NOTE:**  
1. FOR CAMBER DIAGRAM SEE SHEET 02.

		STRESS TABLE															
SPAN LENGTH (L)	GIRDER SECTION	SHEAR				FLEXURE						DEFLECTION					
		DEAD LOAD (K)	LIVE LOAD (K)	IMPACT (K)	TOTAL (K)	WEB AREA (Aw)		DEAD LOAD (K-FT)	LIVE LOAD (K-FT)	IMPACT (K-FT)	TOTAL (K-FT)	SECTION MODULUS (Sx)		ALLOWABLE (IN)	MOMENT OF INERTIA (Ix)		
						REQ'D (IN <sup>2</sup> )	PROVIDED (IN <sup>2</sup> )					REQ'D (IN <sup>3</sup> )	PROVIDED (NET) (IN <sup>3</sup> )		*REQ'D (IN <sup>4</sup> )	PROVIDED (IN <sup>4</sup> )	
77'-8"	TOP FLANGE: 3/4"x18" BOTTOM FLANGE: 3/4"x18" WEB PLATE: 3/4"x36 1/2"	64	115	47	226	12.9	27.4	1246	1968	803	4017	1753	2034	1.46	55282	49359	

\* THE PROVIDED MOMENT OF INERTIA FOR DEFLECTION DOES NOT MEET THE REQUIRED MOMENT OF INERTIA FOR L/640 ALLOWABLE DEFLECTION BASED ON 20 MPH TRACK SPEED AND TRACK CENTERED OVER THE SPAN. THE PROVIDED SECTION RESULT IN AN ADDITIONAL DEFLECTION BEYOND ALLOWABLE OF LESS THAN 3/16" FOR AN EXTERIOR GIRDER WHICH HAS BEEN DEEMED ACCEPTABLE FOR THIS LOCATION BY ARRC.

DESIGNED BY: ML  
CHECKED BY: KK  
DRAFTED BY: MEM

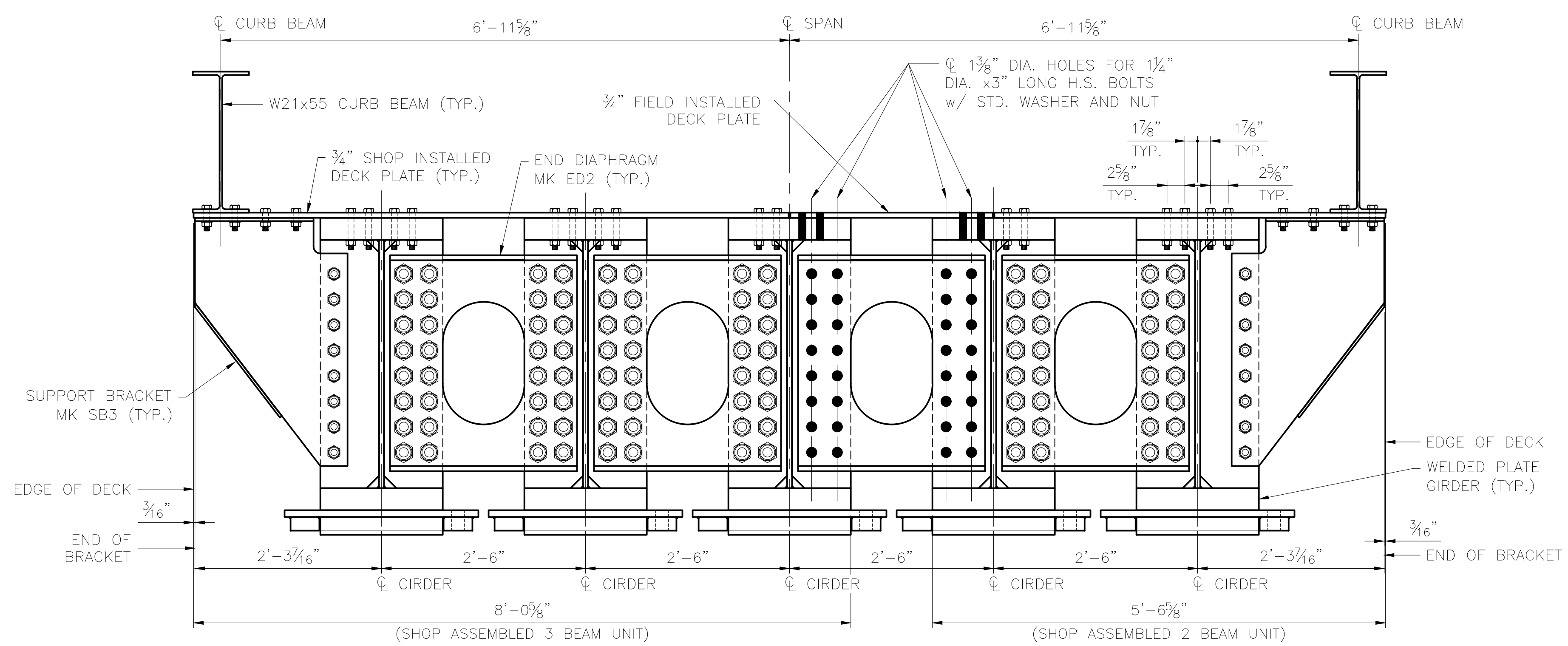


CAPITAL PROJECTS  
P.O. BOX 107500  
ANCHORAGE, ALASKA 99510-7500

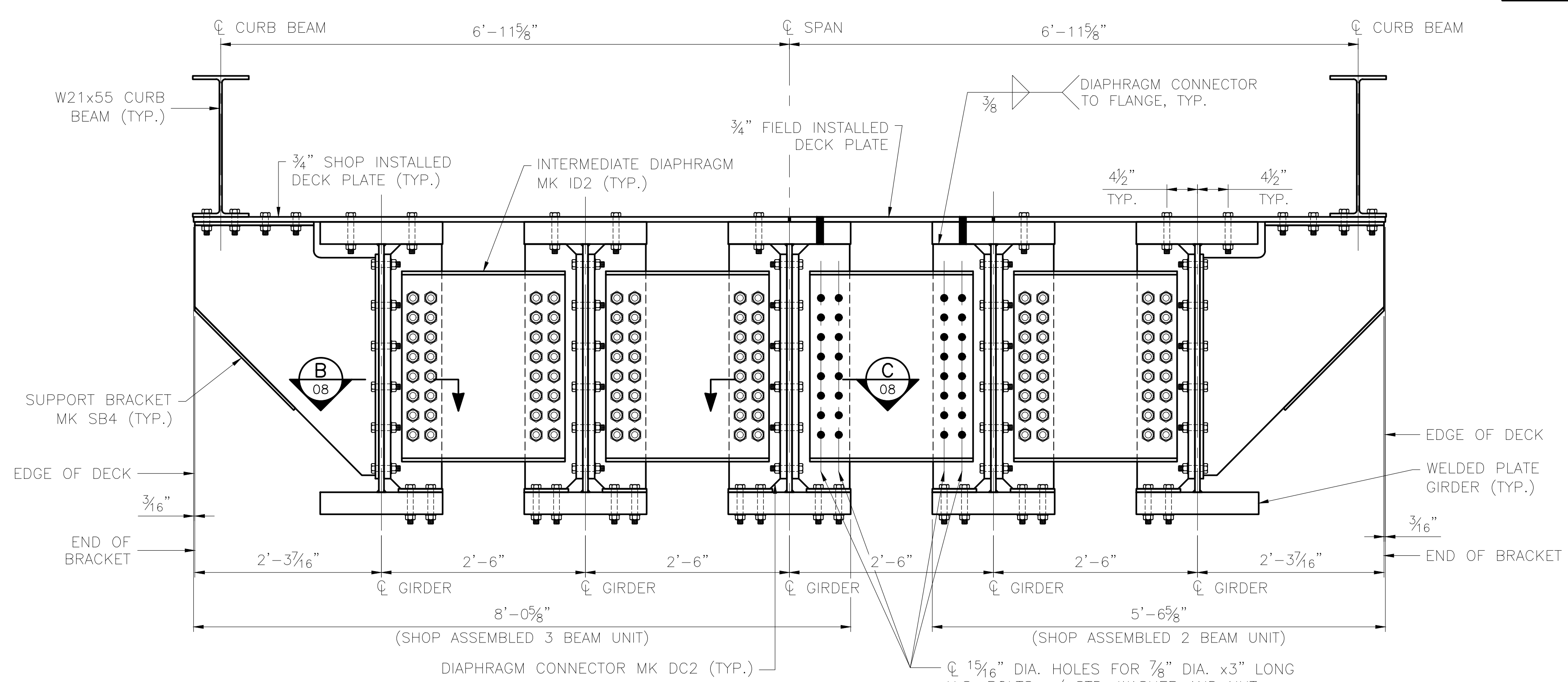
ALASKA RAILROAD  
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
SHEET TITLE: 79'-0" GIRDER SPAN - FRAMING PLAN

AFE NO. 11228  
YEAR 2025  
SHEET 07 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\4079759\BR\_114.3\_SHIP\_CREEK\_08.DWG  
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 SCALE: AS NOTED  
 DATE: 2/14/2025 8:52 AM  
 TIME: 8:52 AM  
 DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM

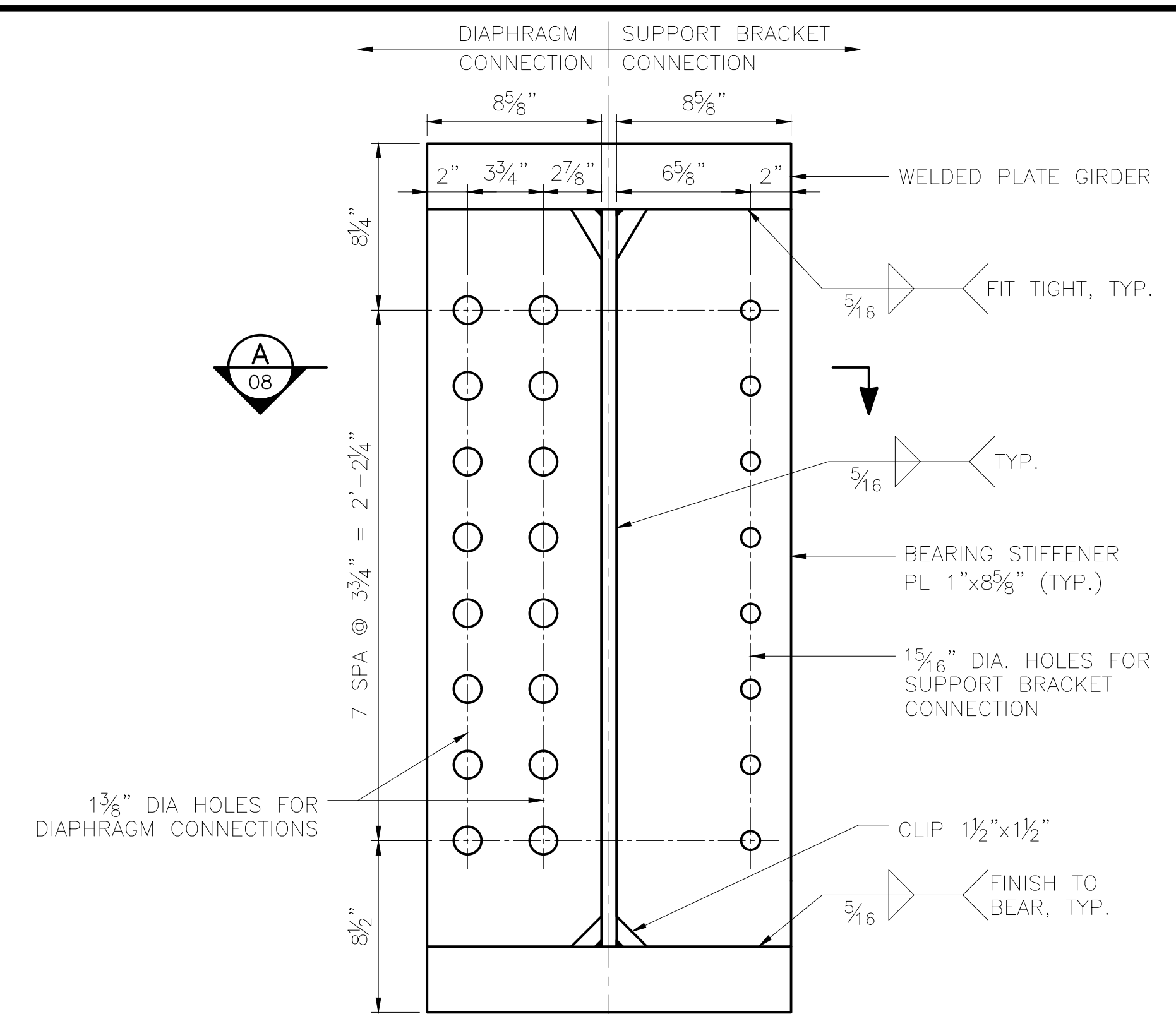


**TYPICAL SECTION AT END DIAPHRAGM**  
SCALE: 1" = 1'-0"

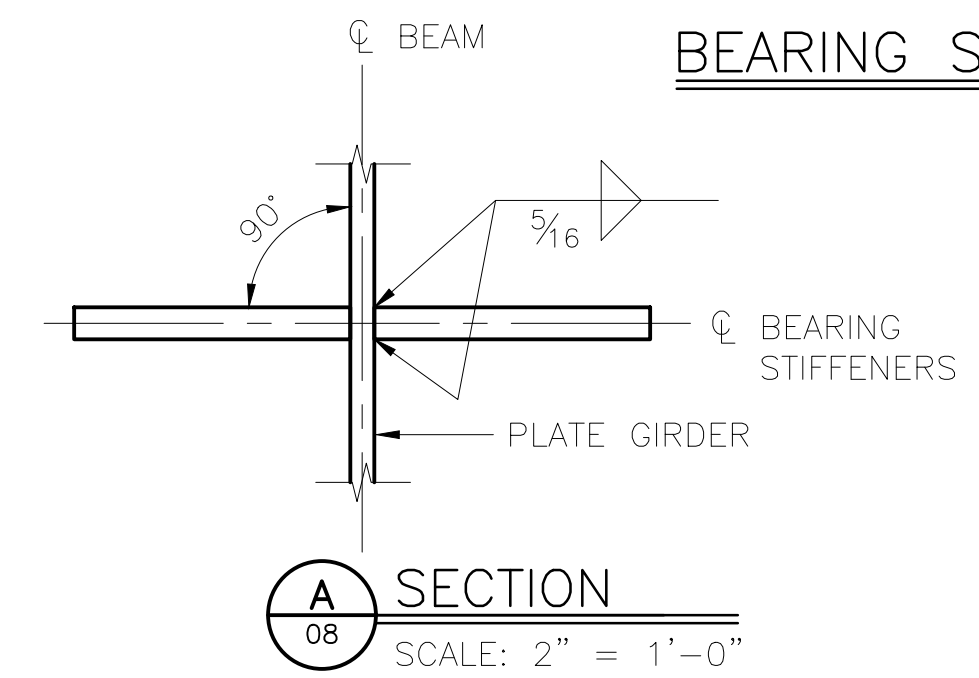


**TYPICAL SECTION AT INTERMEDIATE DIAPHRAGM**  
SCALE: 1" = 1'-0"

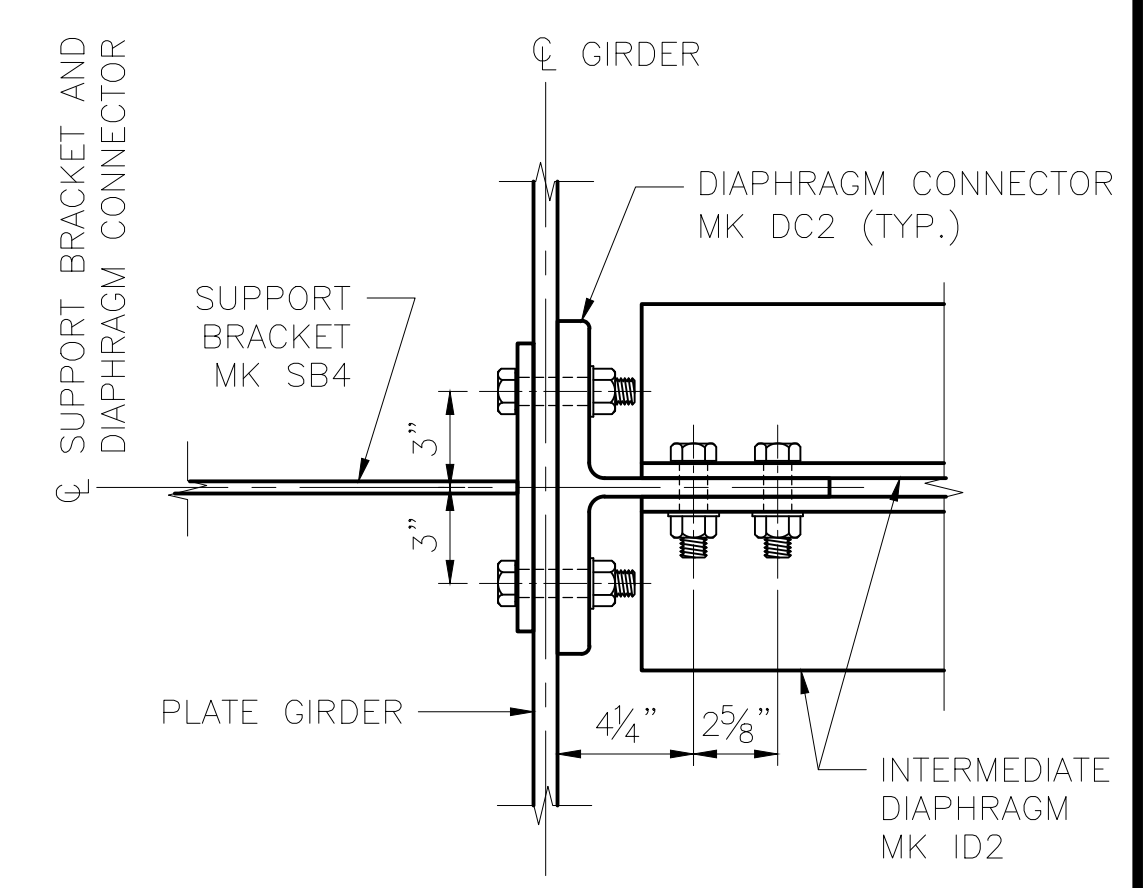
- NOTES:**
- FOR DIAPHRAGM, DIAPHRAGM CONNECTOR AND BRACKET DETAILS SEE SHEET 09.
  - FOR DECK PLATE DETAILS SEE SHEETS 11, 13, 14 AND 15.
  - FOR CURB BEAM DETAILS SEE SHEET 16.



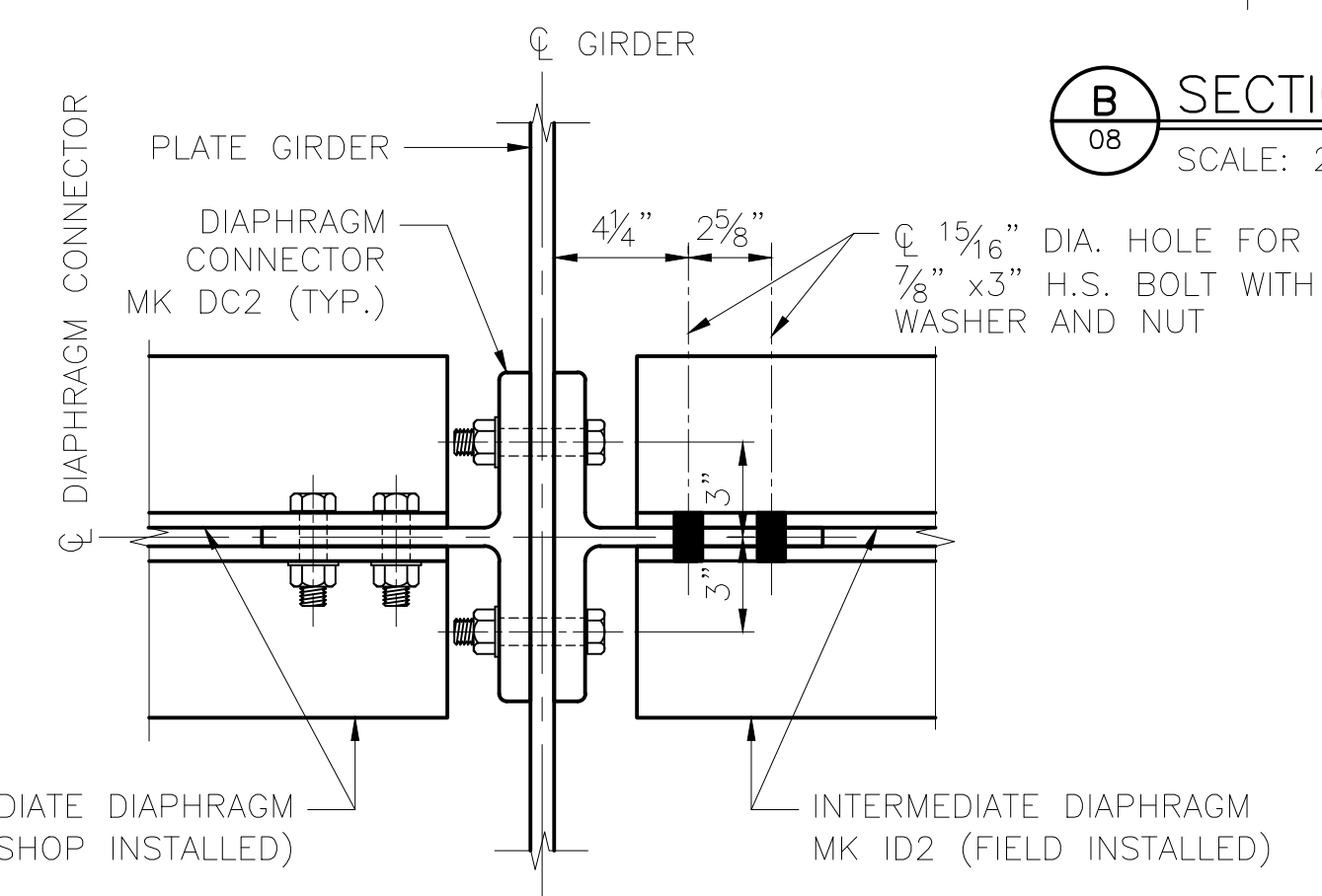
**BEARING STIFFENER INSTALLATION DETAIL**  
SCALE: 2" = 1'-0"



**SECTION A**  
SCALE: 2" = 1'-0"

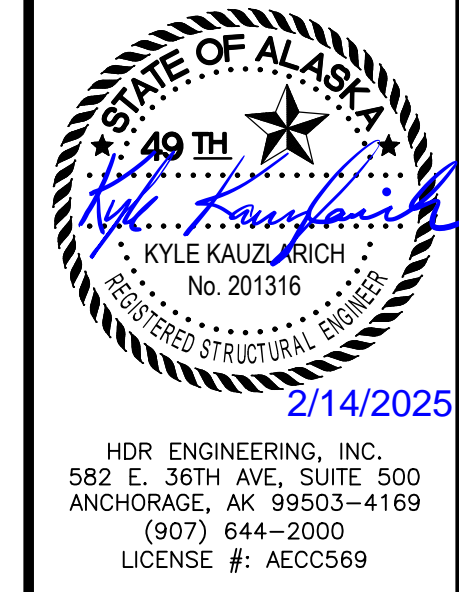


**SECTION B**  
SCALE: 2" = 1'-0"



**SECTION C**  
SCALE: 2" = 1'-0"

DESIGNED BY: ML  
CHECKED BY: KK  
DRAFTED BY: MEM

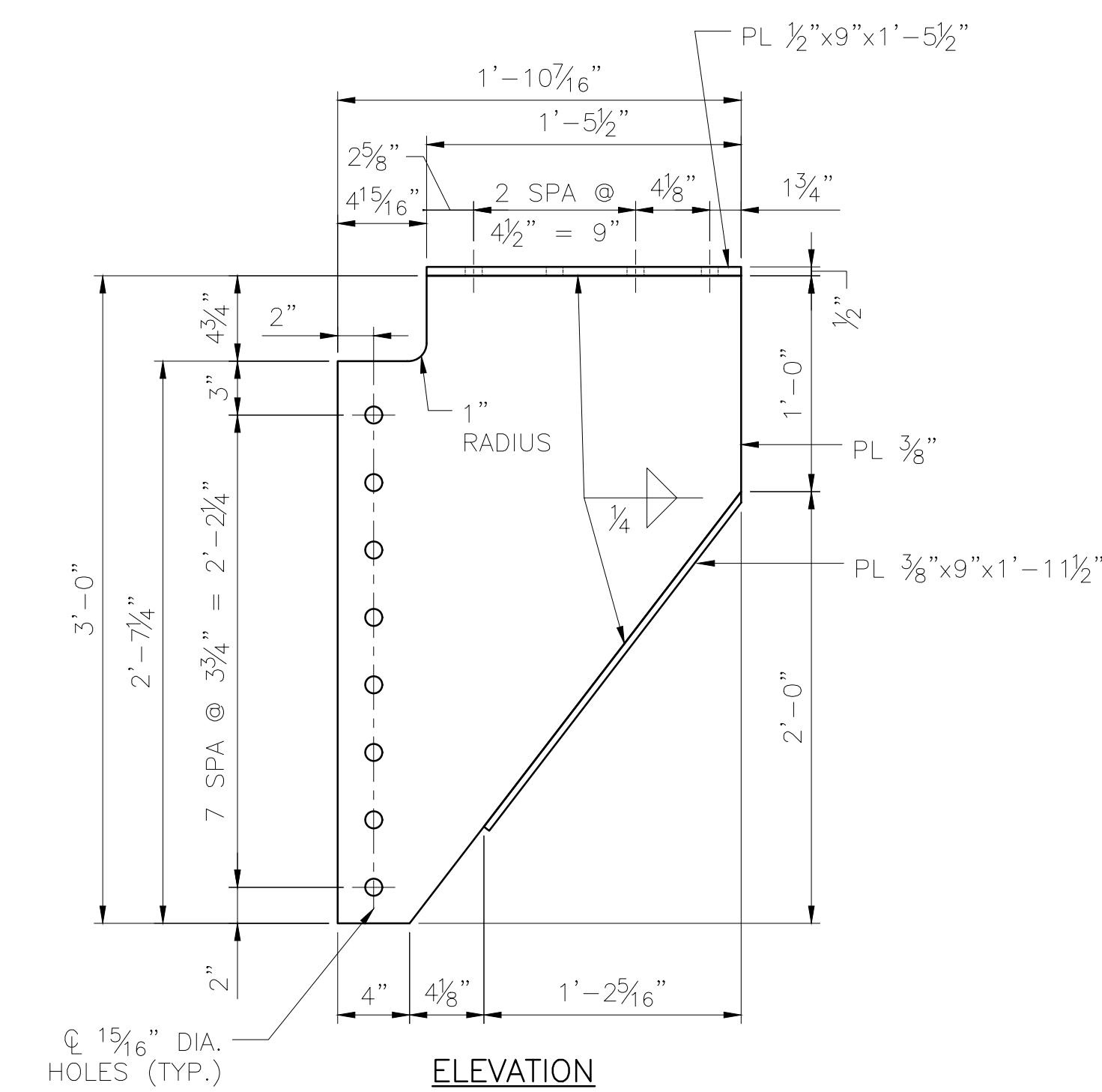
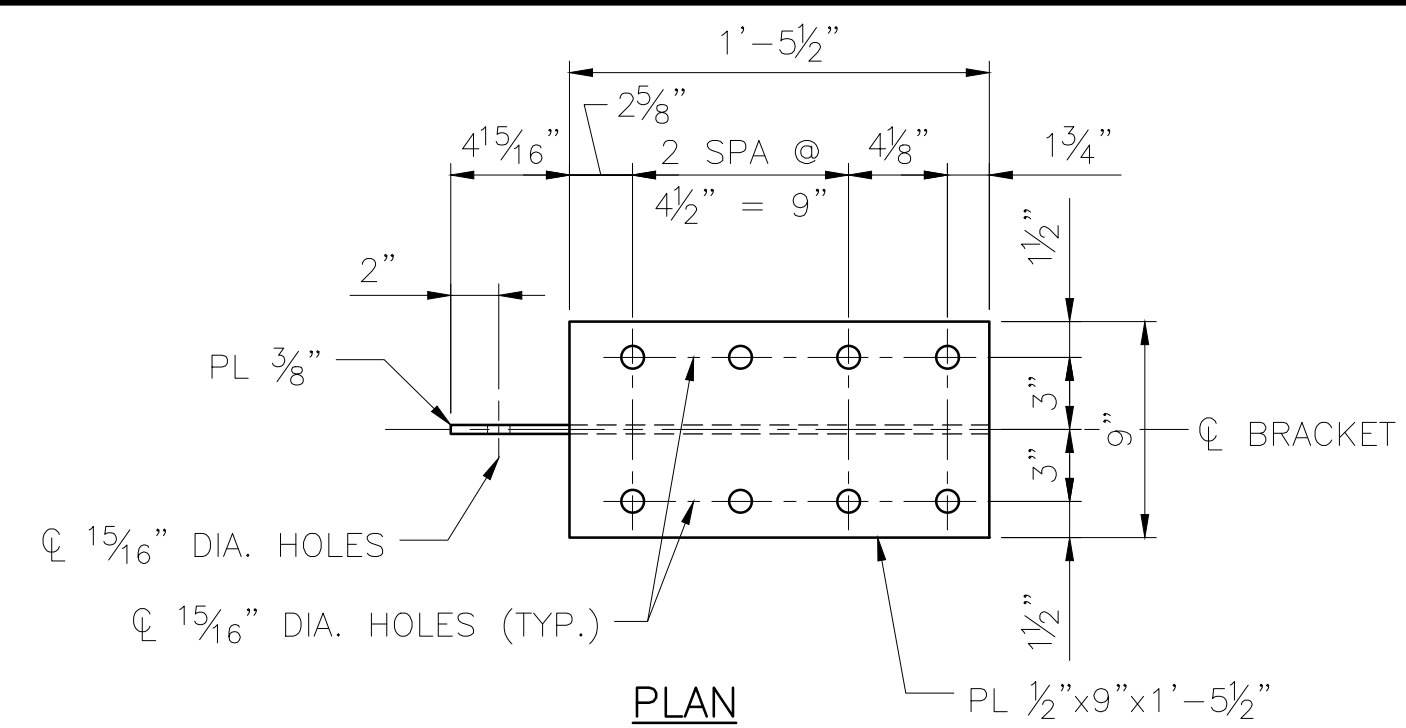


**HDR**  
 HDR ENGINEERING, INC.  
 582 E. 35TH AVE., SUITE 500  
 ANCHORAGE, AK 99503-4169  
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 LICENSE #: AECC569

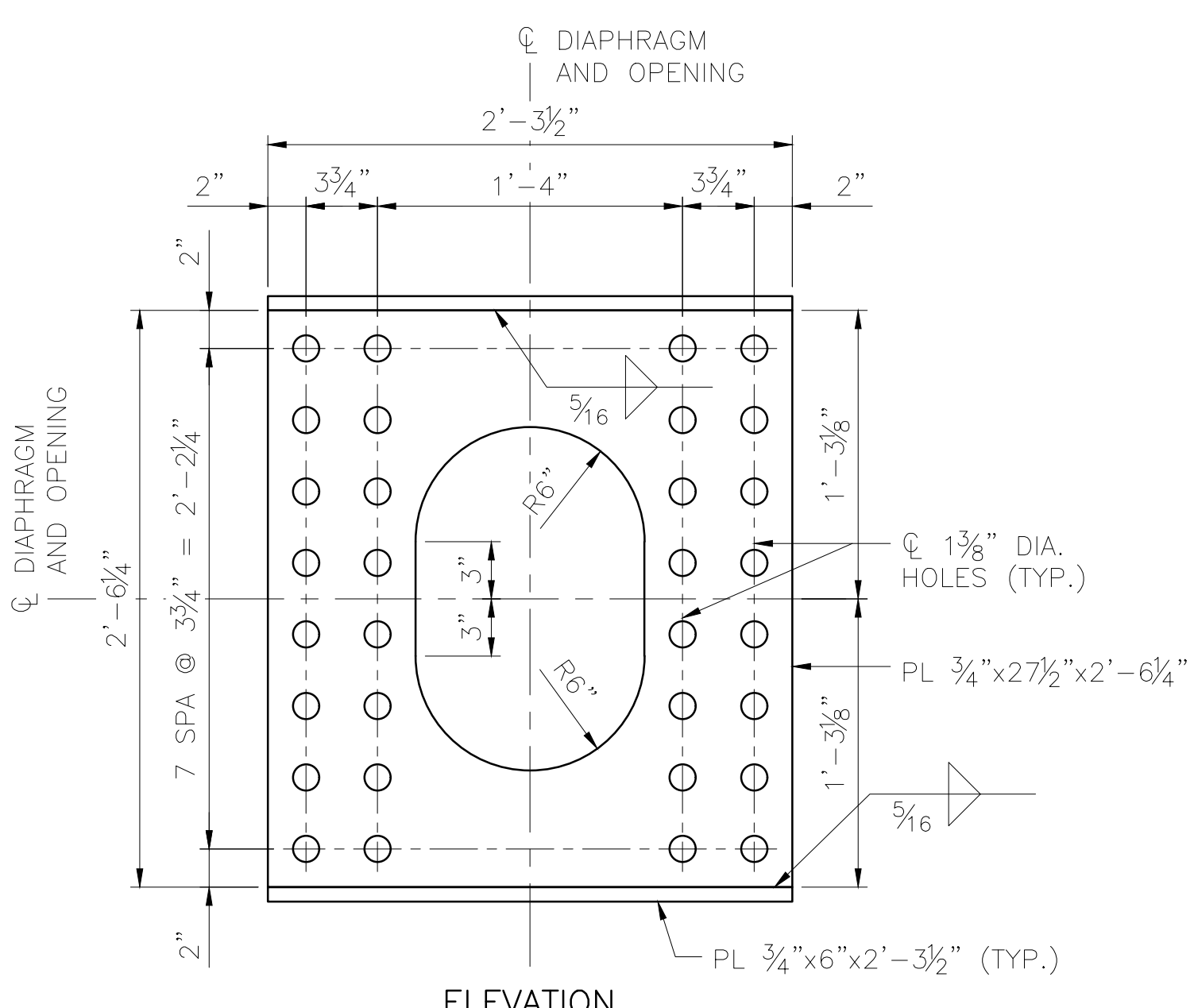
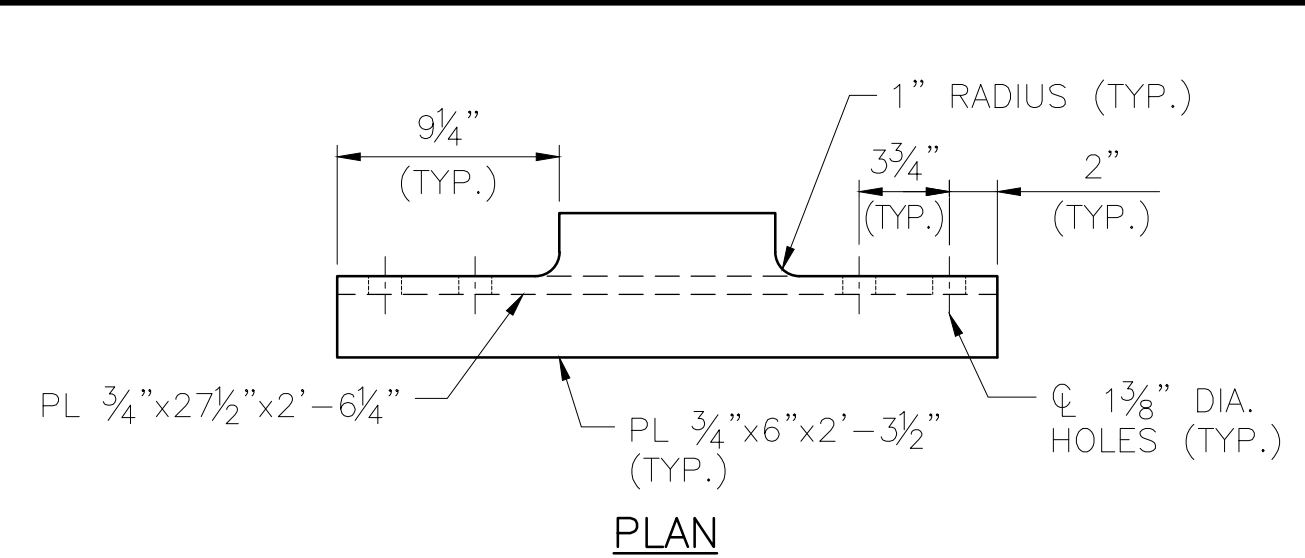
**ALASKA RAILROAD**  
 CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: 79'-0" GIRDER SPAN - STEEL DETAILS (1 OF 2)

AFE NO. 11228  
 YEAR 2025  
 SHEET 08 OF 22

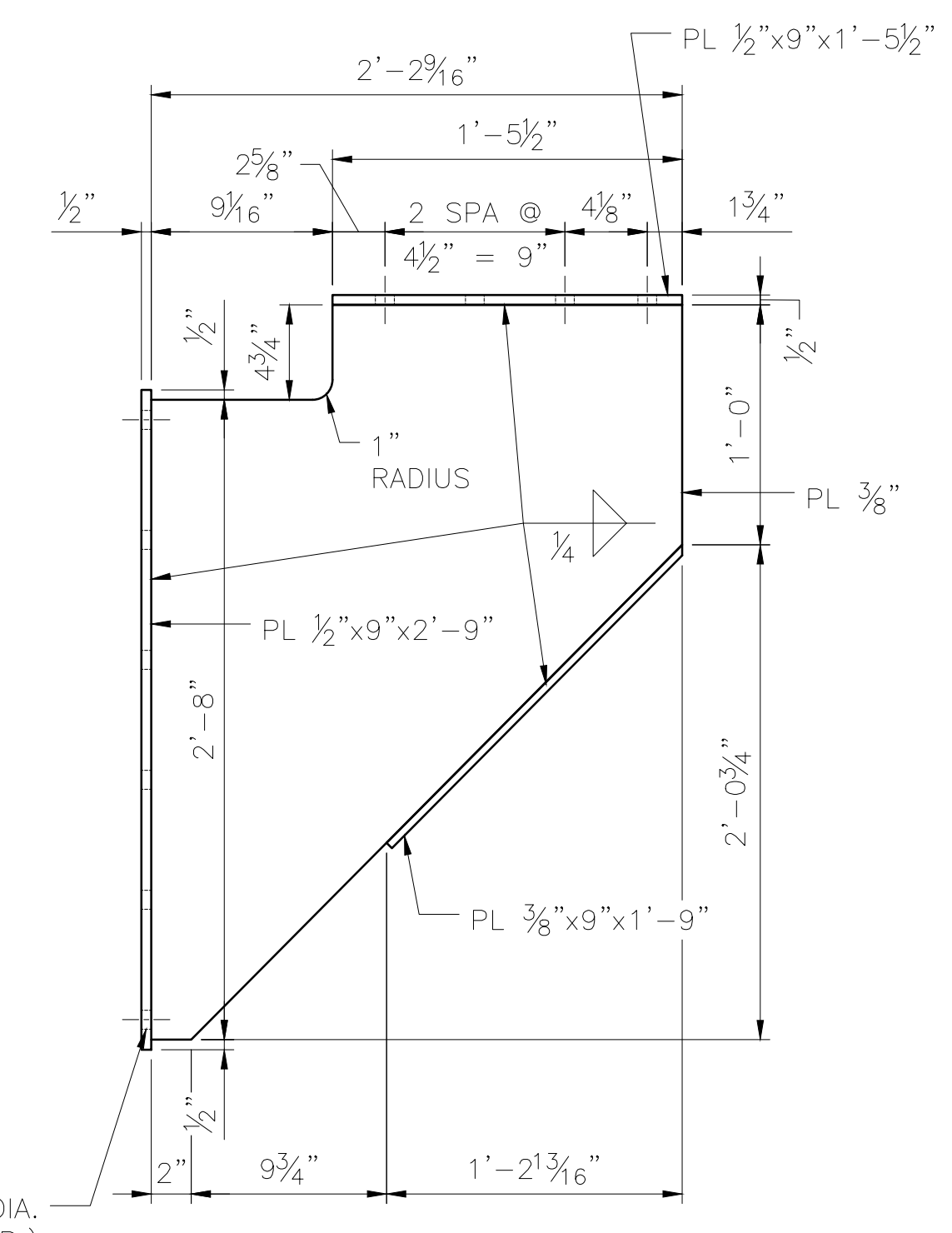
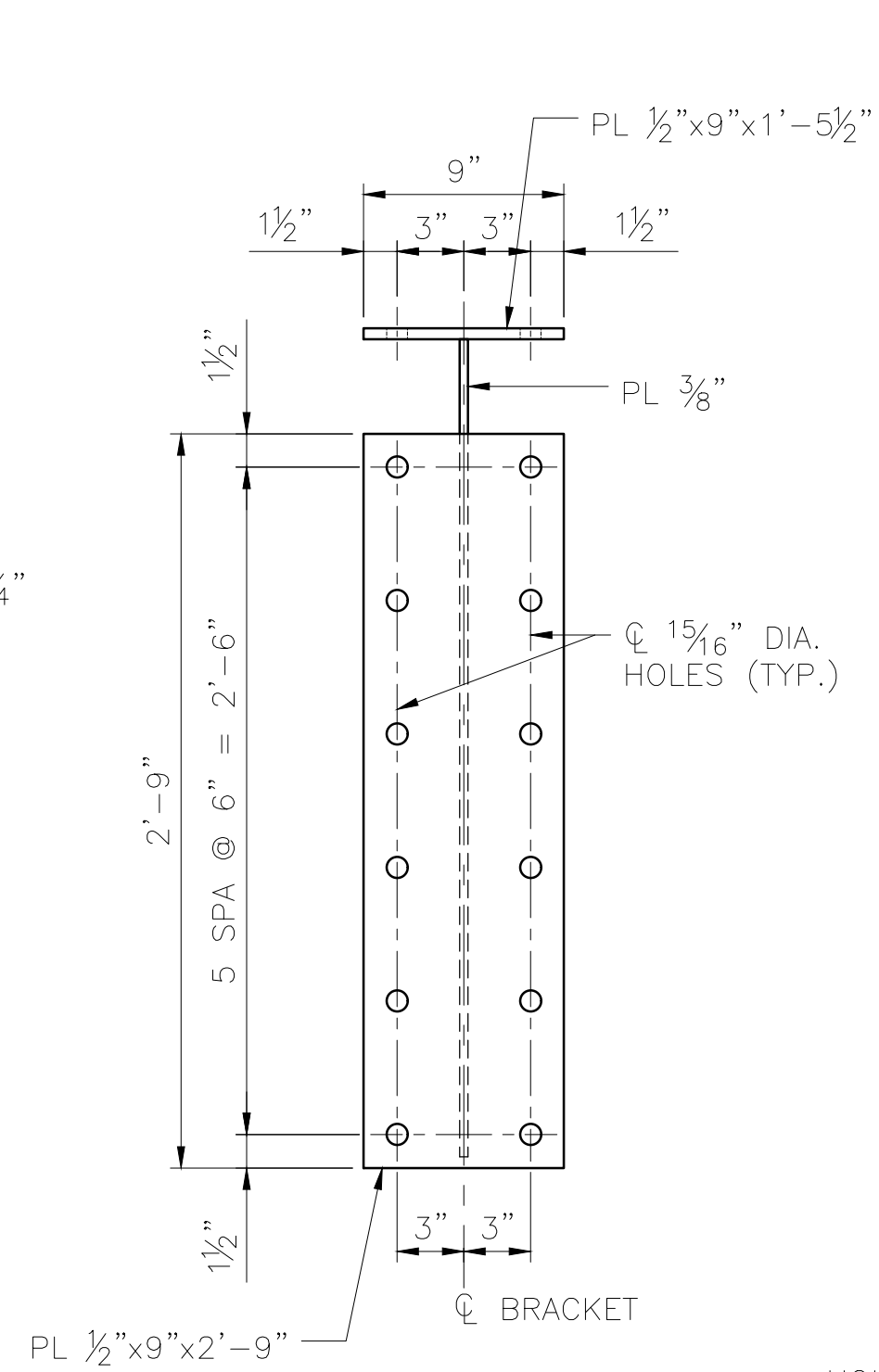
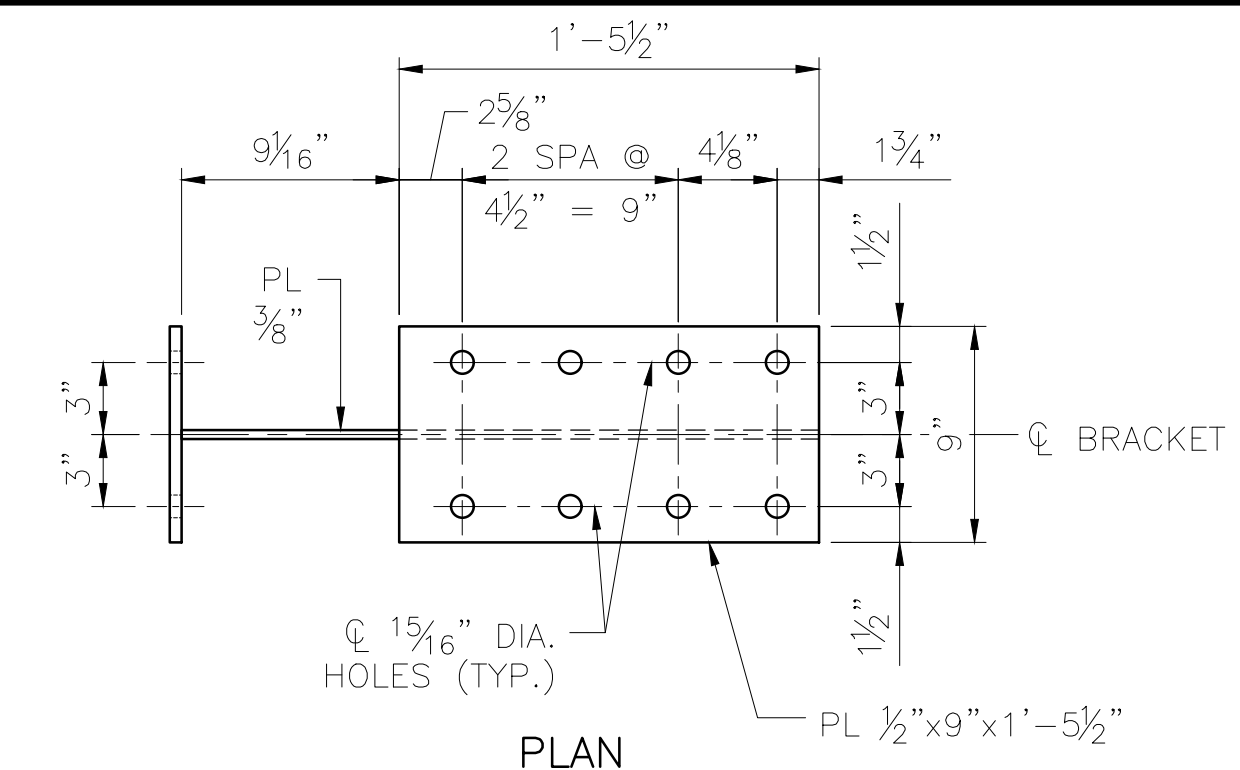




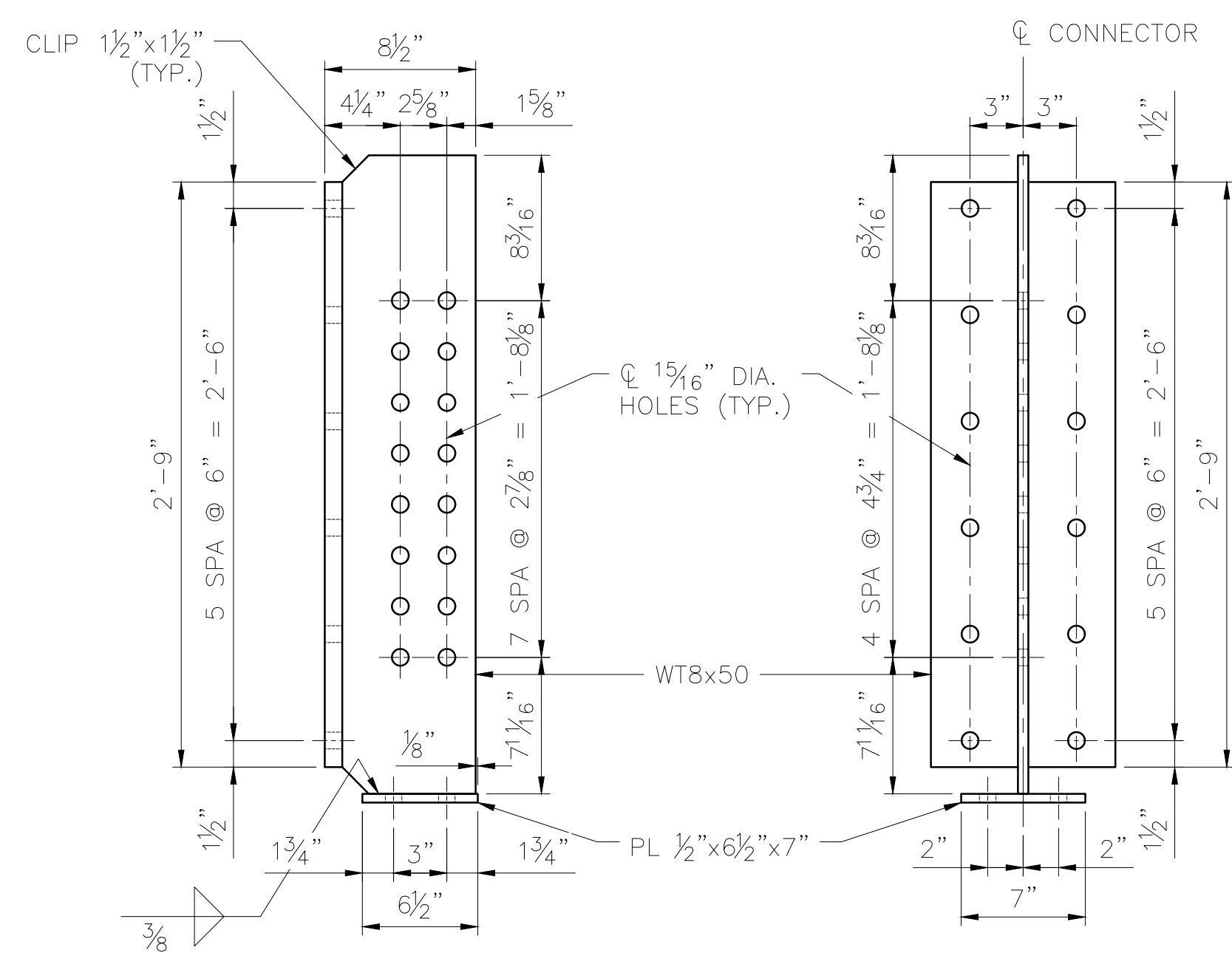
**SUPPORT BRACKET MK SB3**  
 SCALE: 1/2" = 1'-0"  
 8 ~ REQUIRED  
 ESTIMATED WEIGHT = 106 LBS



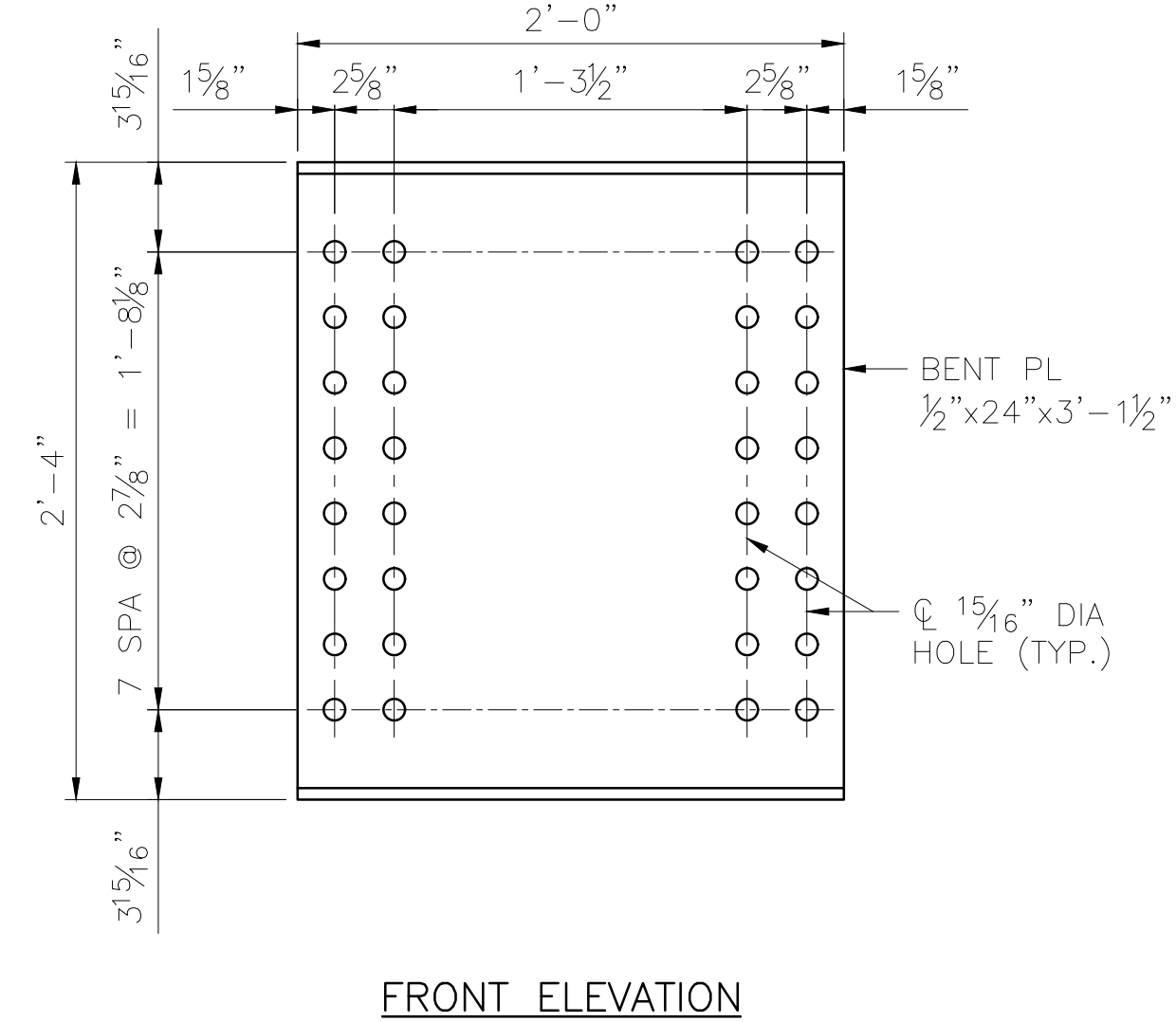
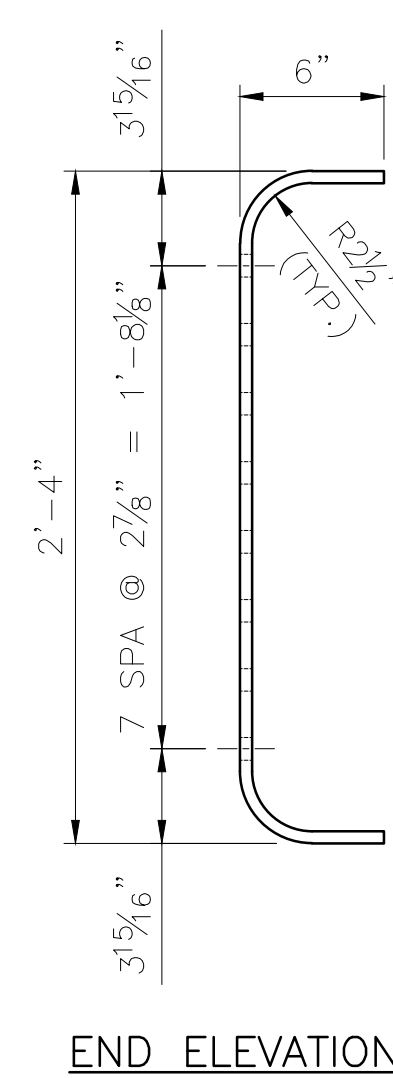
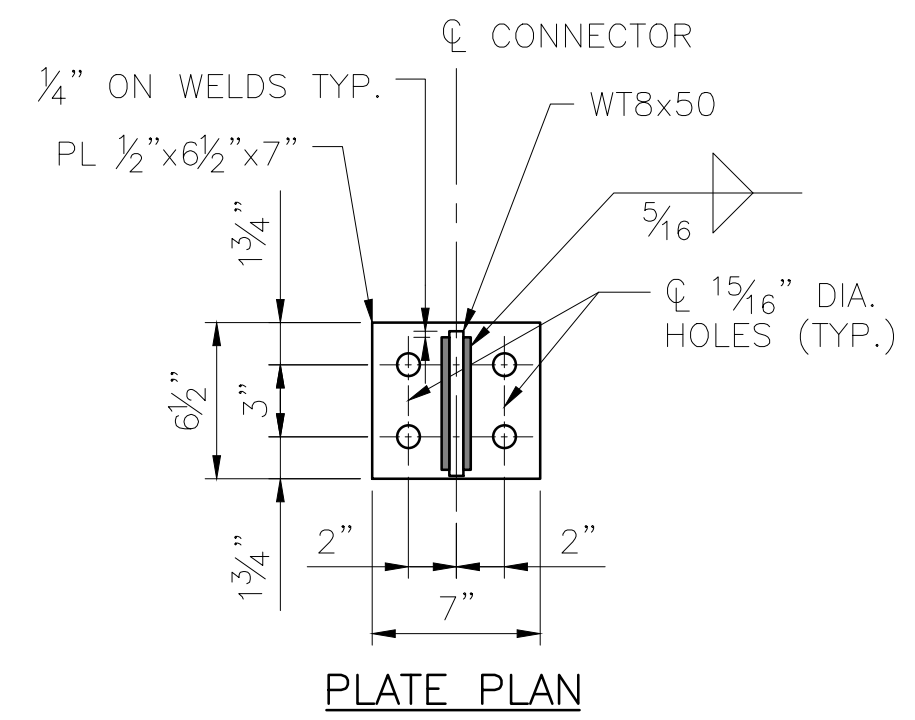
**END DIAPHRAGM MK ED2**  
 SCALE: 1/2" = 1'-0"  
 16 ~ REQUIRED  
 ESTIMATED WEIGHT = 187 LBS



**SUPPORT BRACKET MK SB4**  
 SCALE: 1/2" = 1'-0"  
 16 ~ REQUIRED  
 ESTIMATED WEIGHT = 151 LBS



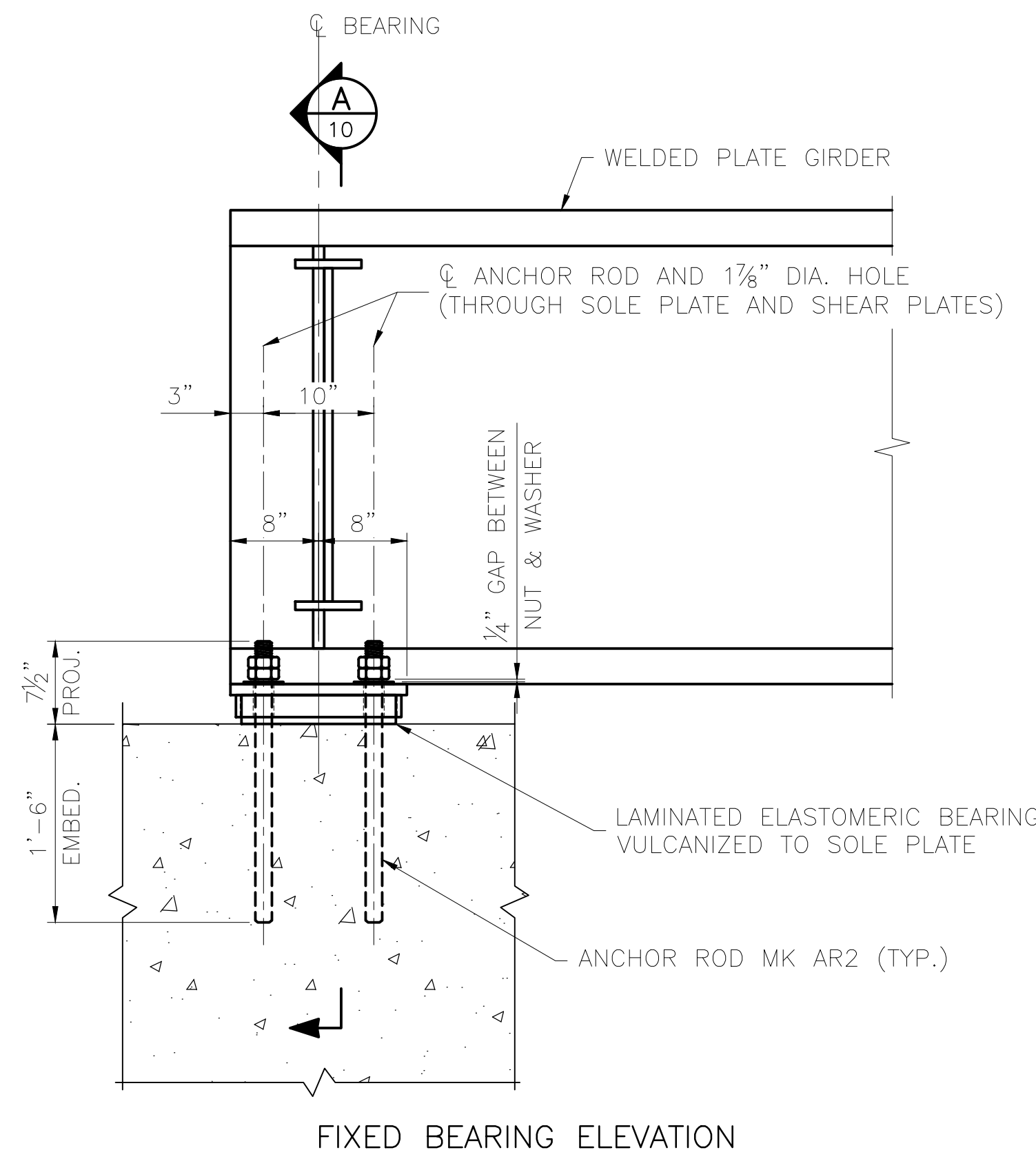
**DIAPHRAGM CONNECTOR MK DC2**  
 SCALE: 1/2" = 1'-0"  
 64 ~ REQUIRED  
 ESTIMATED WEIGHT = 156 LBS



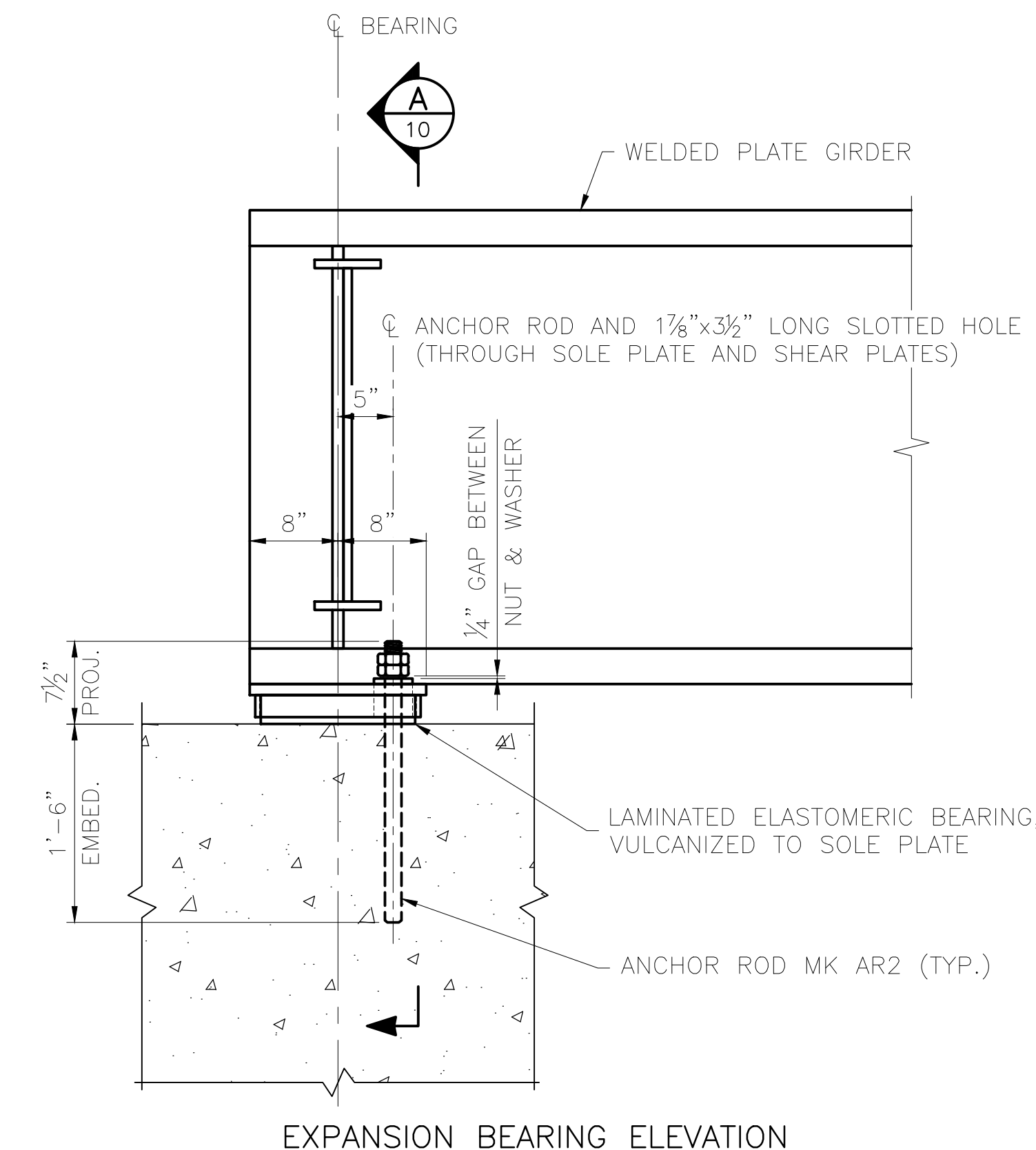
**INTERMEDIATE DIAPHRAGM MK ID2**  
 SCALE: 1/2" = 1'-0"  
 64 ~ REQUIRED  
 ESTIMATED WEIGHT = 128 LBS

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM
HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
<b>ALASKA RAILROAD</b>	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3	
SHEET TITLE: 79'-0" GIRDER SPAN - STEEL DETAILS (2 OF 2)	
AFE NO.	11228
YEAR	2025
SHEET	09 OF 22

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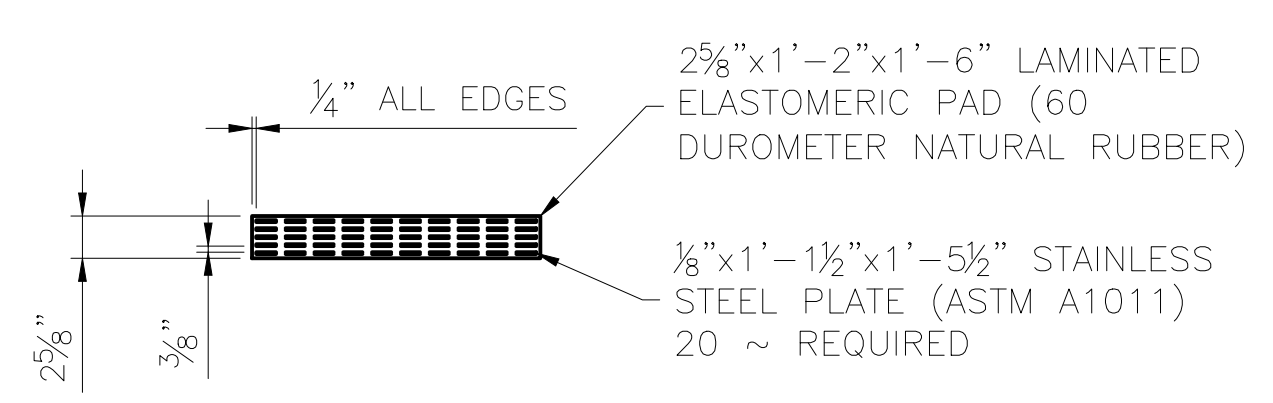
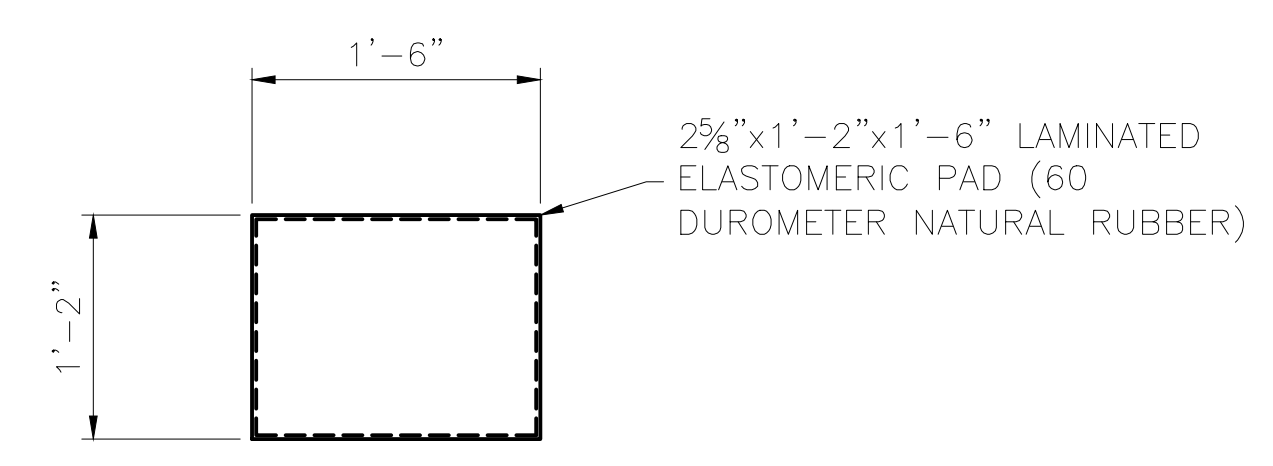


**FIXED BEARING ELEVATION**

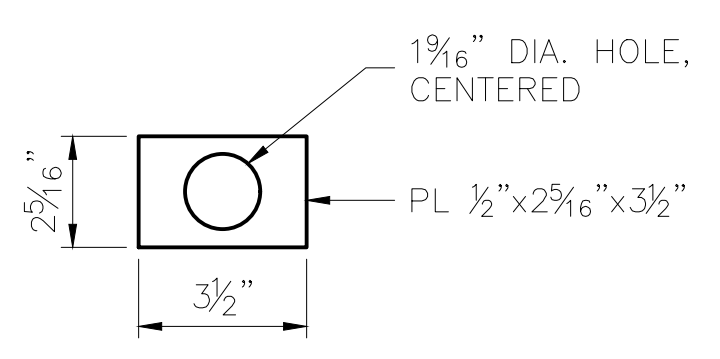


**EXPANSION BEARING ELEVATION**

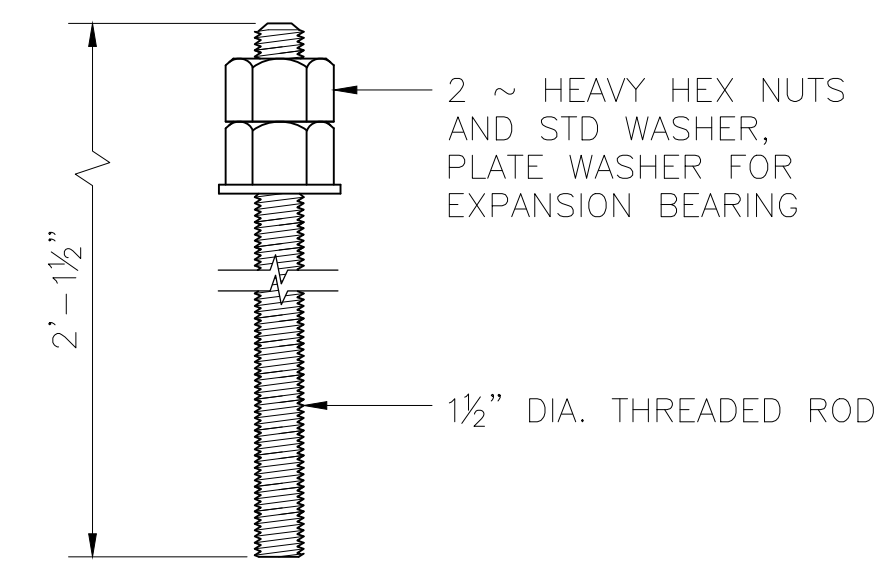
**SPAN 2 & 3 BEARING DETAIL**  
SCALE: 1" = 1'-0"



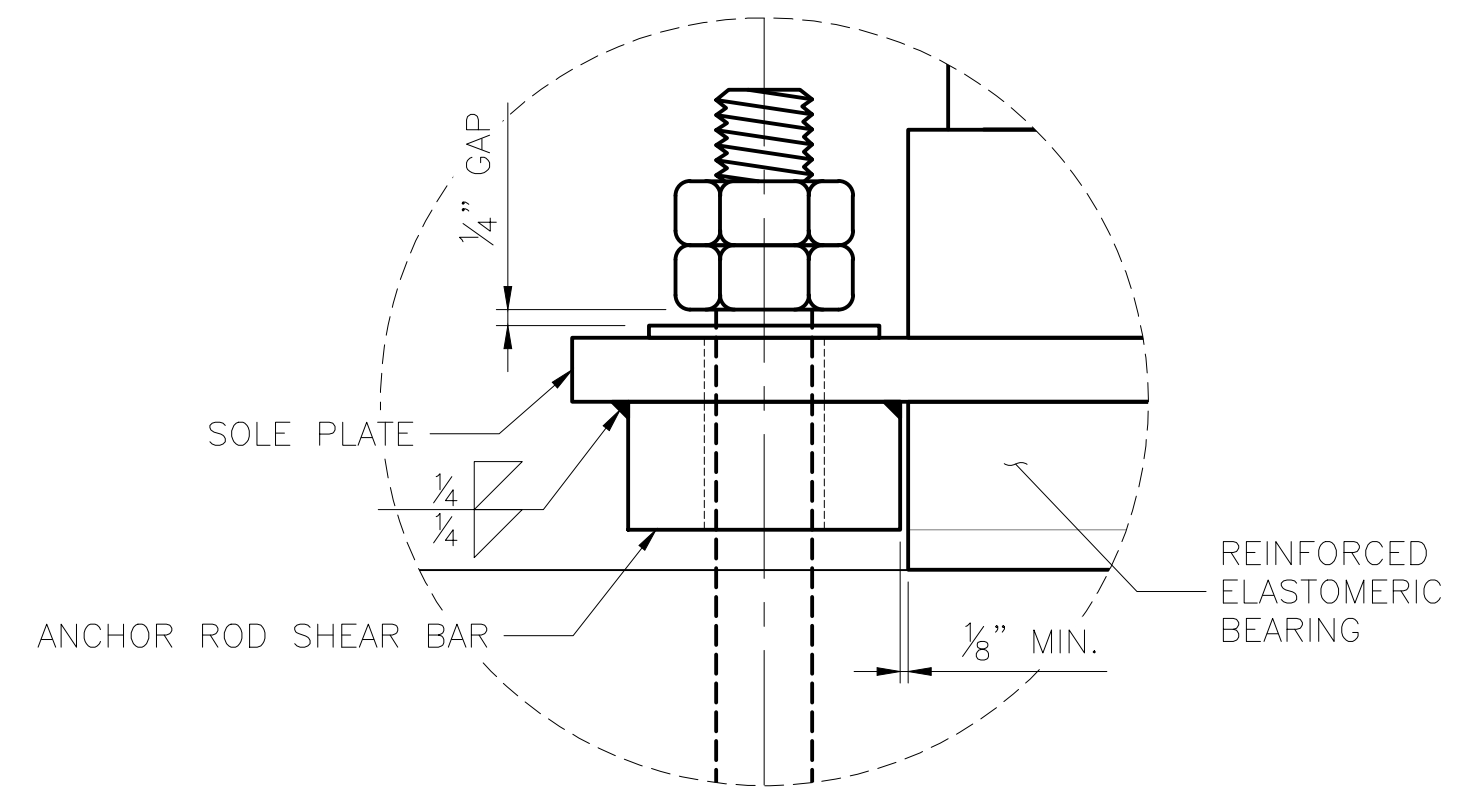
**LAMINATED ELASTOMERIC PAD DETAIL**  
SCALE: 1" = 1'-0"



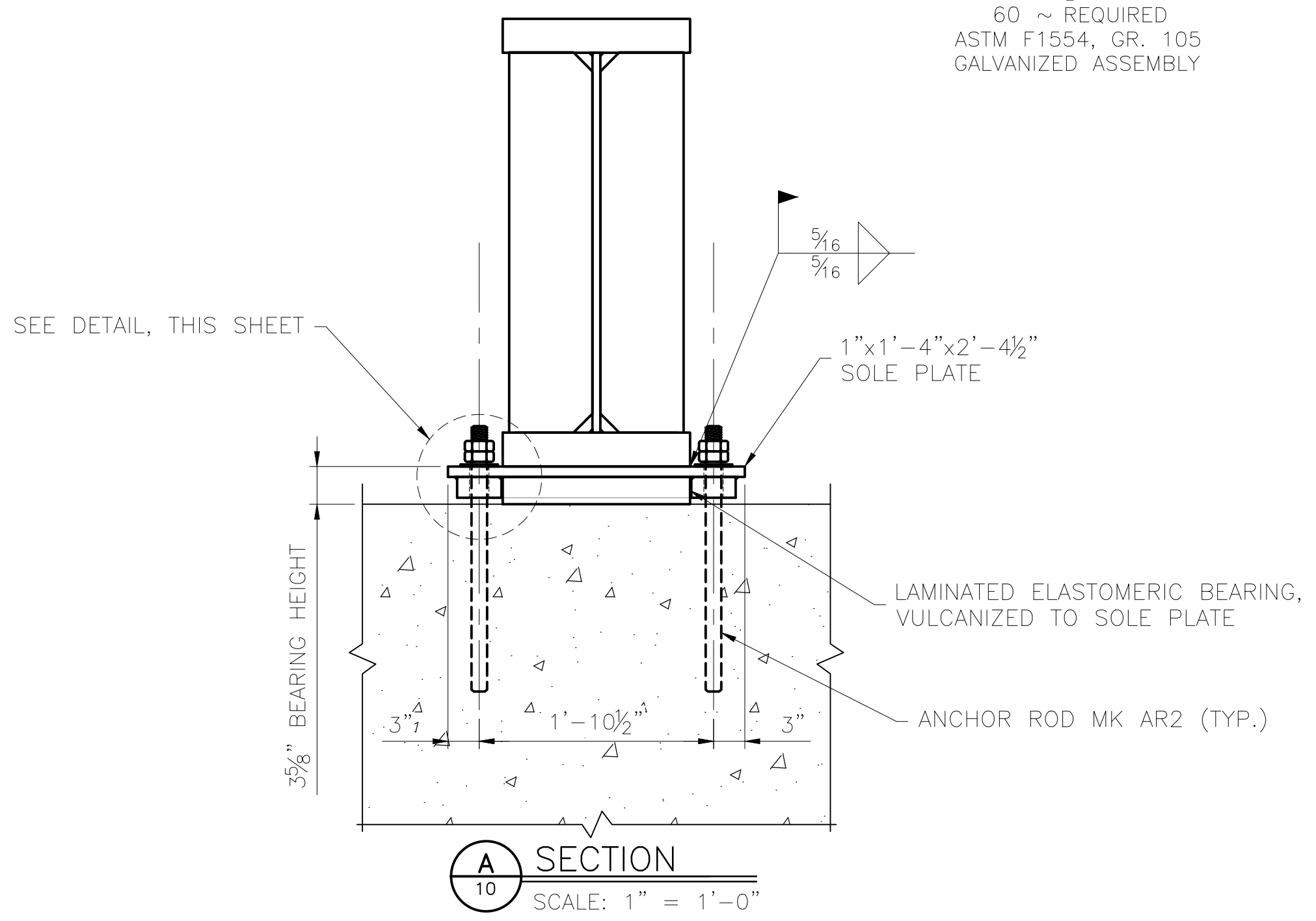
**PLATE WASHER**  
SCALE: 3" = 1'-0"  
20 ~ REQUIRED  
ASTM F1554, GR. 105  
GALVANIZED



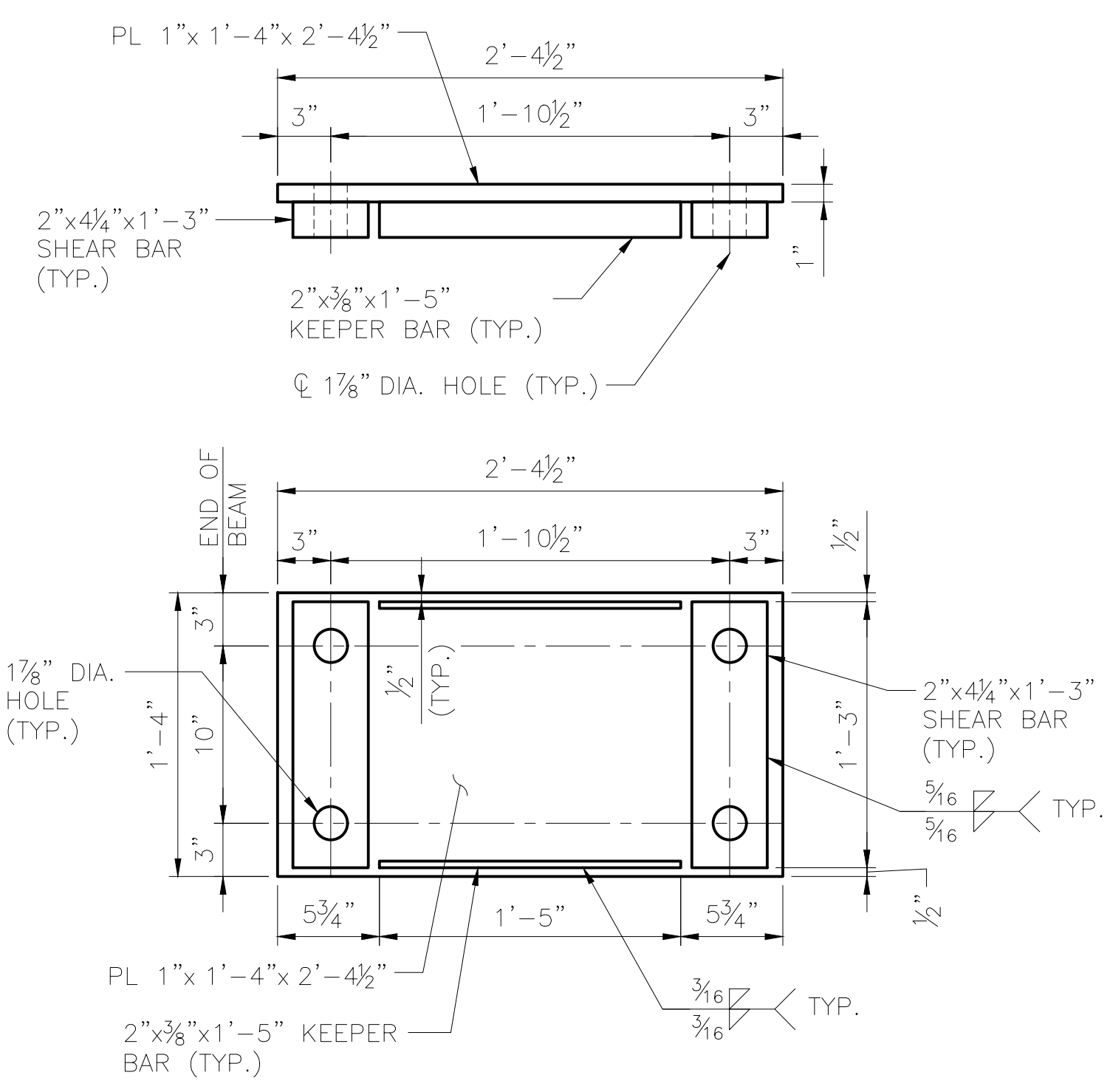
**ANCHOR ROD MK AR2**  
SCALE: 1 1/2" = 1'-0"  
60 ~ REQUIRED  
ASTM F1554, GR. 105  
GALVANIZED ASSEMBLY



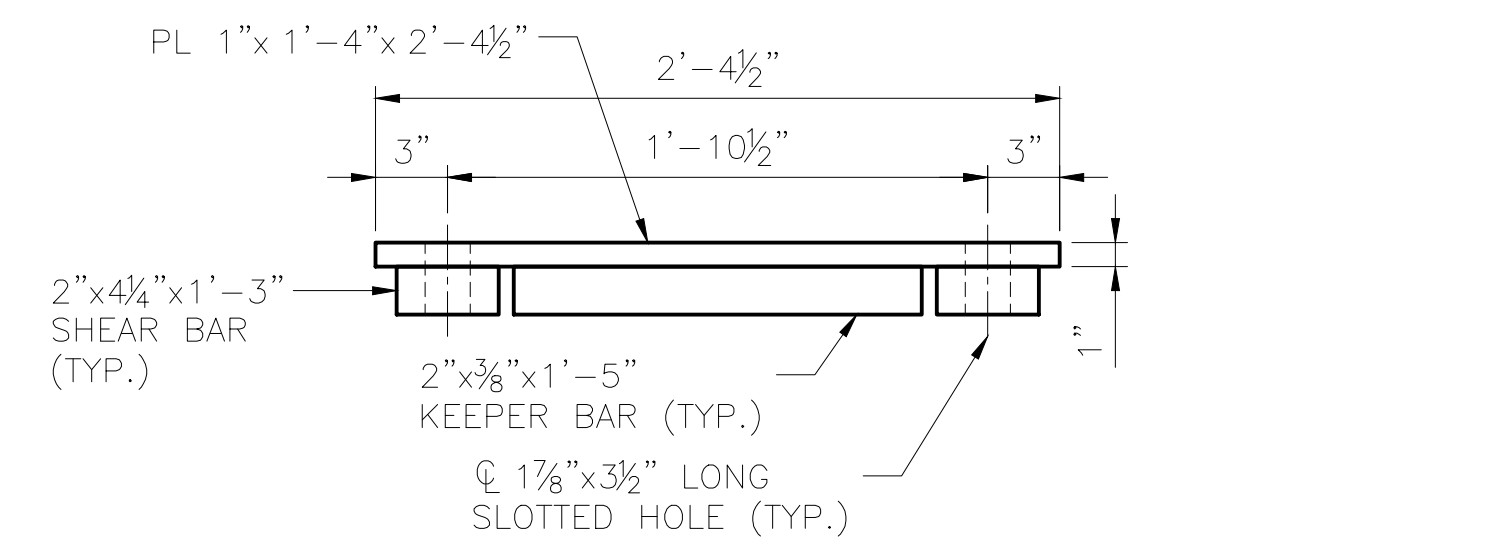
**ANCHOR ROD SHEAR PLATE DETAIL**  
SCALE: 4" = 1'-0"



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



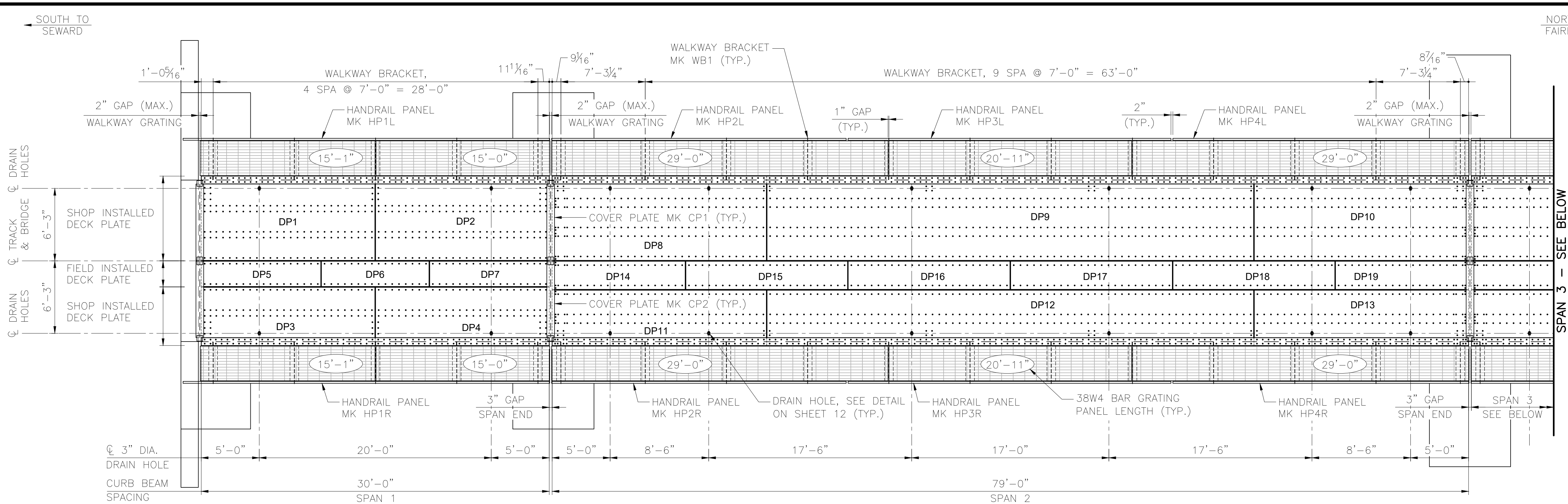
**SOLE PLATE MK SP3 (FIXED)**  
SCALE: 1 1/2" = 1'-0"



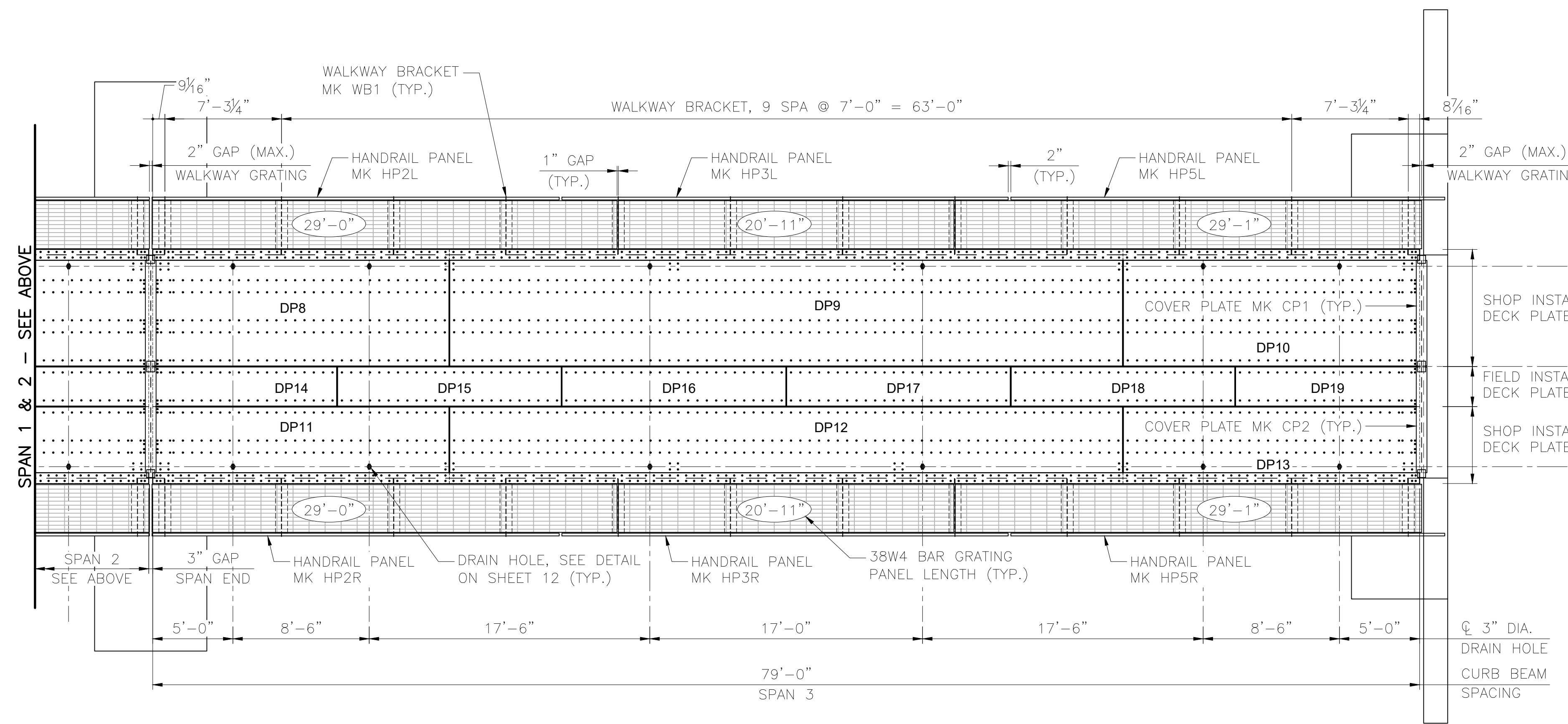
**SOLE PLATE MK SP4 (EXPANSION)**  
SCALE: 1 1/2" = 1'-0"

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM
HDR ENGINEERING, INC. 582 E. 36TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3	
SHEET TITLE: 79' - 0" GIRDER SPAN - BEARING DETAILS	
AFE NO.	11228
YEAR	2025
SHEET	10 OF 22

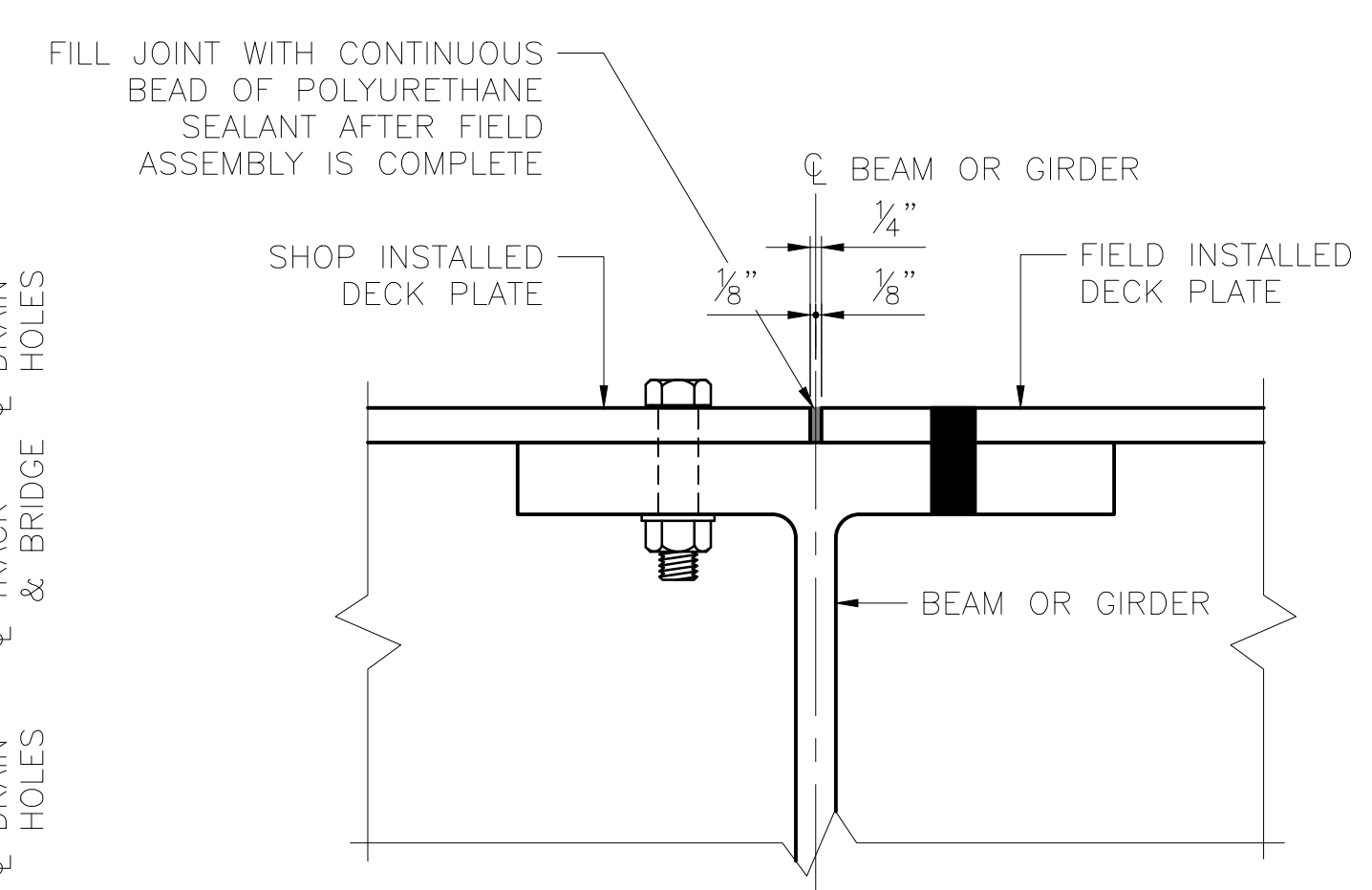
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 SCALE: AS NOTED  
 PUBLISHED CTB: ARRC\_CTB\_2023.CTB



**DECK PLAN**  
SCALE: 1" = 5'



**DECK PLAN**  
SCALE: 1" = 5'



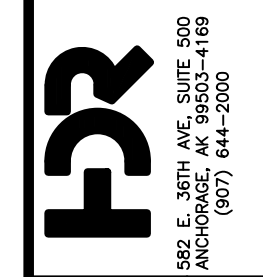
**DECK PLATE DETAIL**  
SCALE: 3" = 1'-0"

**NOTES:**

1. WALKWAY GRATING SHALL BE CAPABLE OF SUPPORTING 85 PSF UNIFORM LIVE LOAD PRESSURE AND SHALL HAVE A DEFLECTION AT MIDSPAN NOT GREATER THAN L/160 UNDER A 250 LB CONCENTRATED LOAD FOR THE MAXIMUM SPAN LENGTH NOTED.
2. WALKWAY GRATING SHALL HAVE A MAXIMUM OPENING SIZE OF 2"x4" AND HAVE A SERRATED SURFACE TEXTURE.

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569

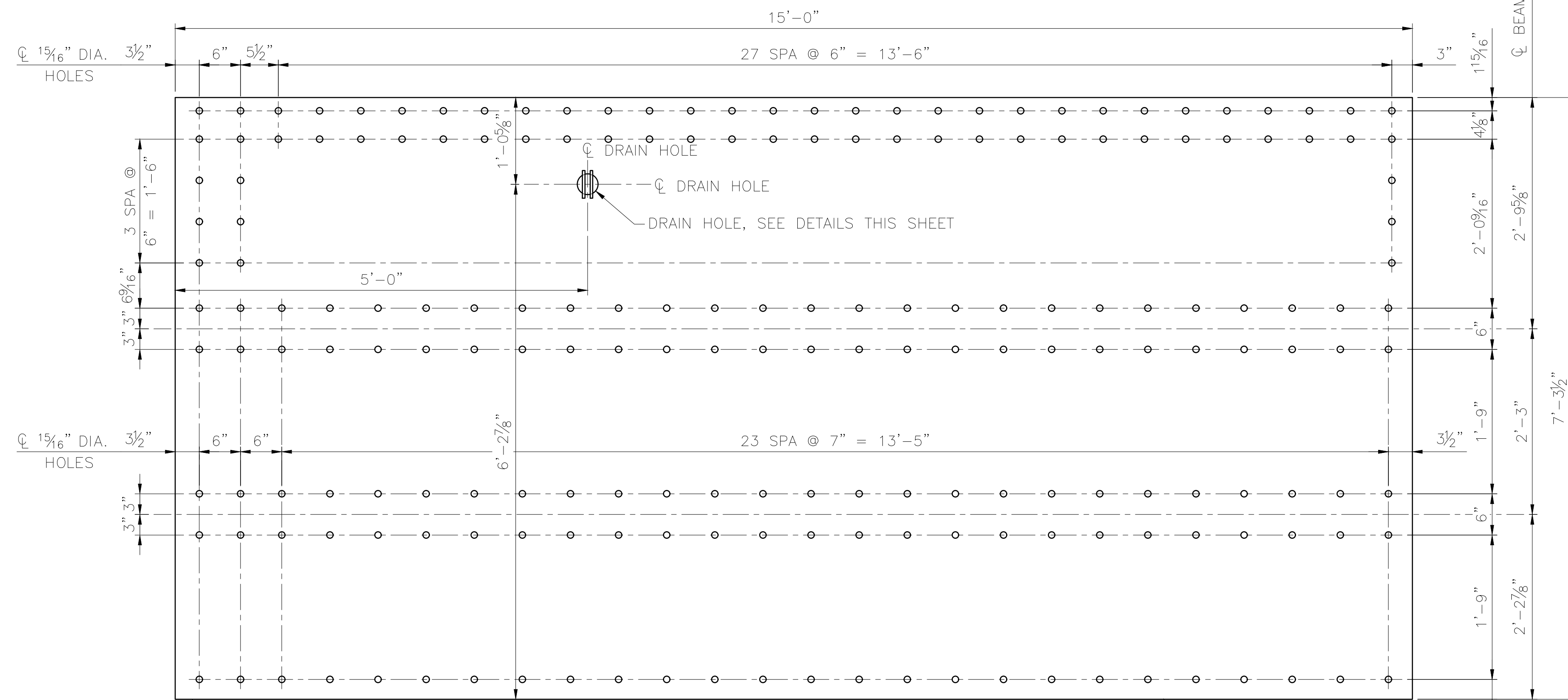


**CAPITAL PROJECTS**  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

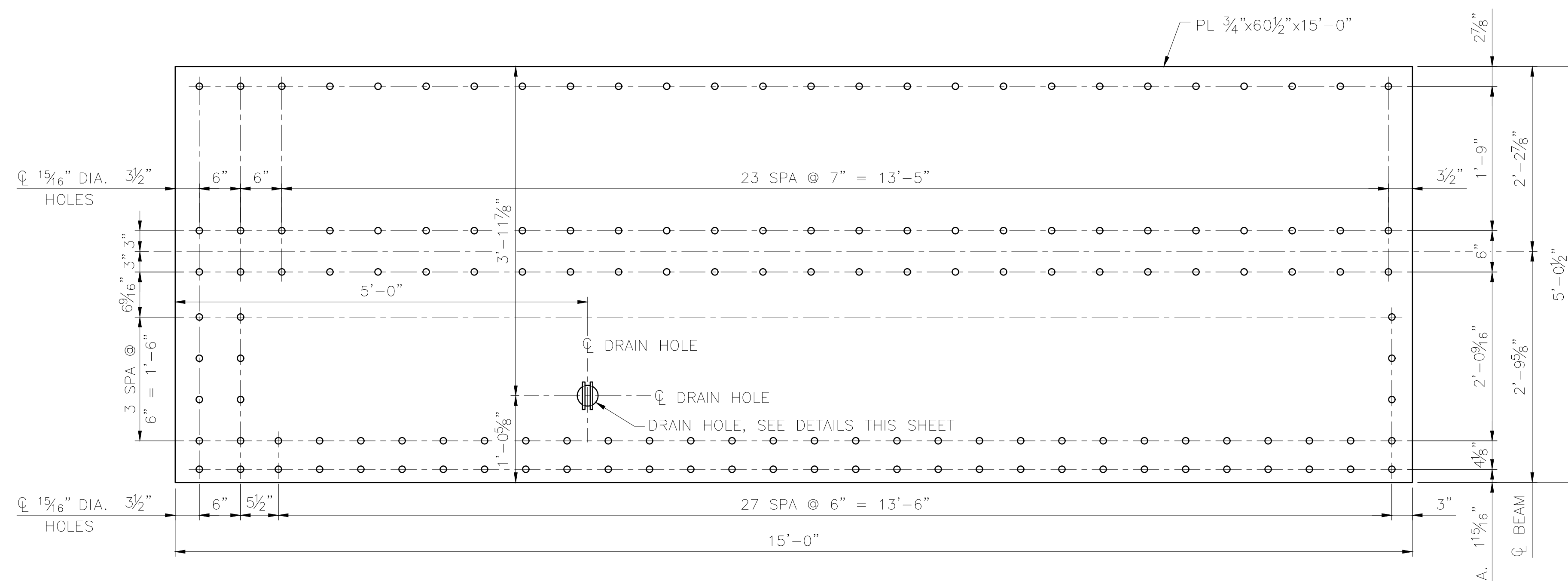
**ALASKA RAILROAD**  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: WALKWAY AND DECK PLAN

AFE NO.	11228
YEAR	2025
SHEET	11 OF 22

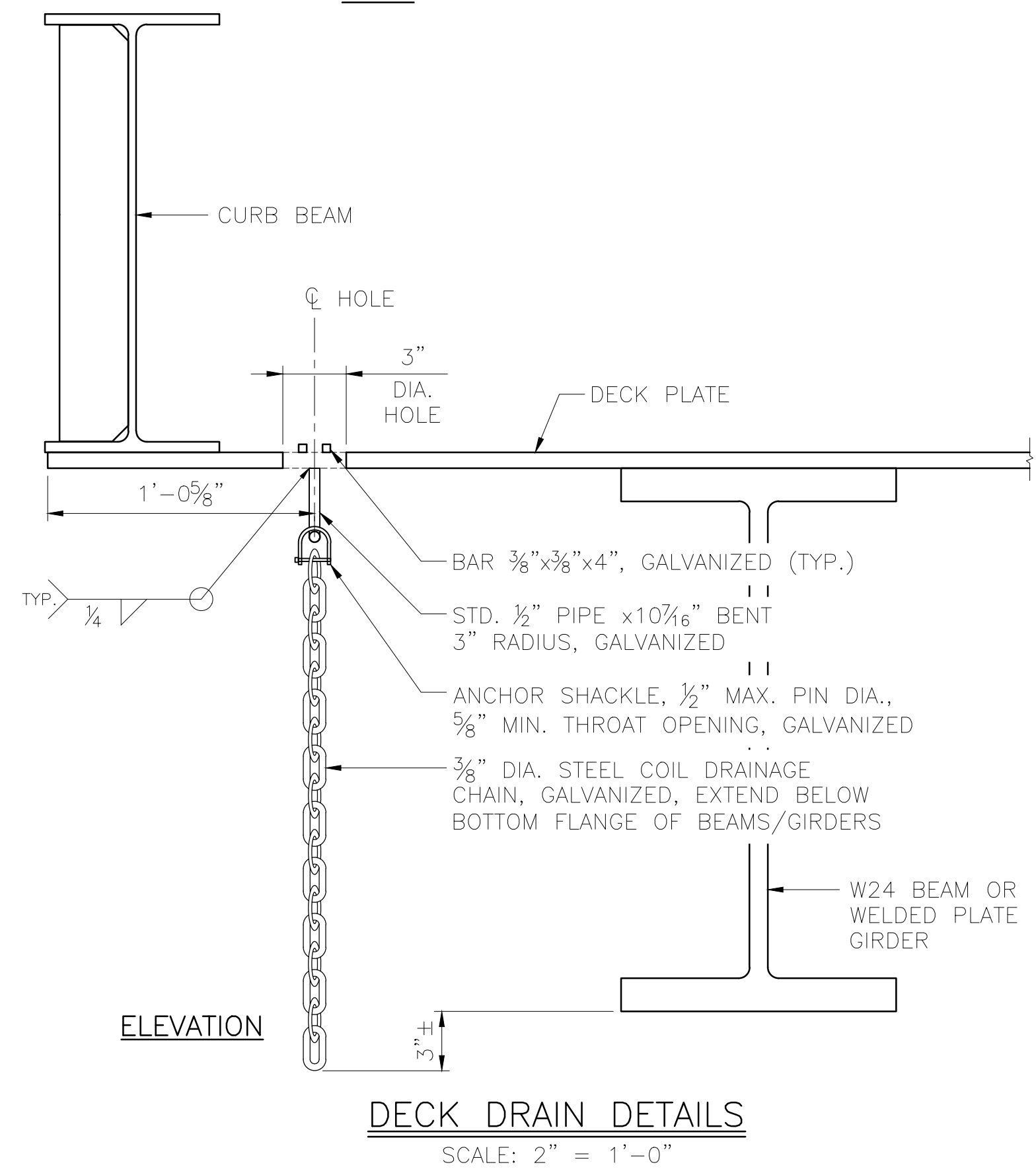
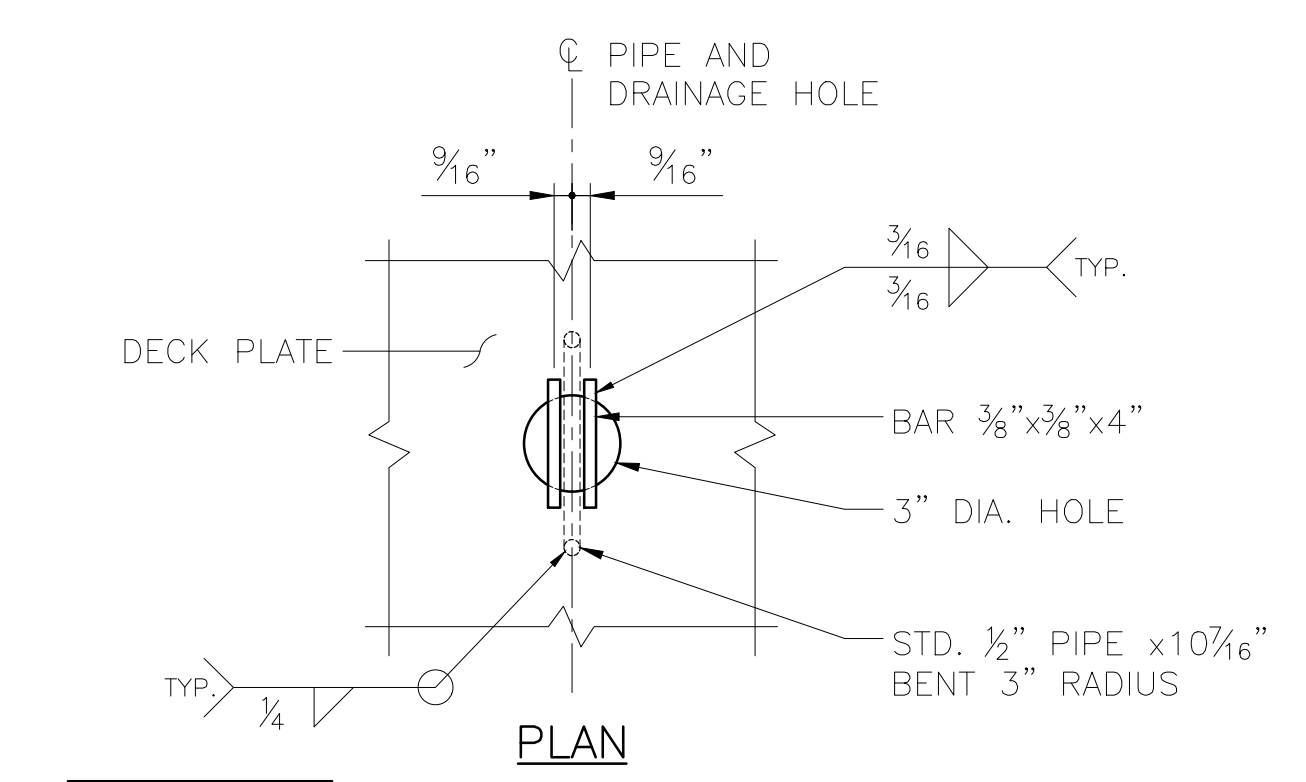
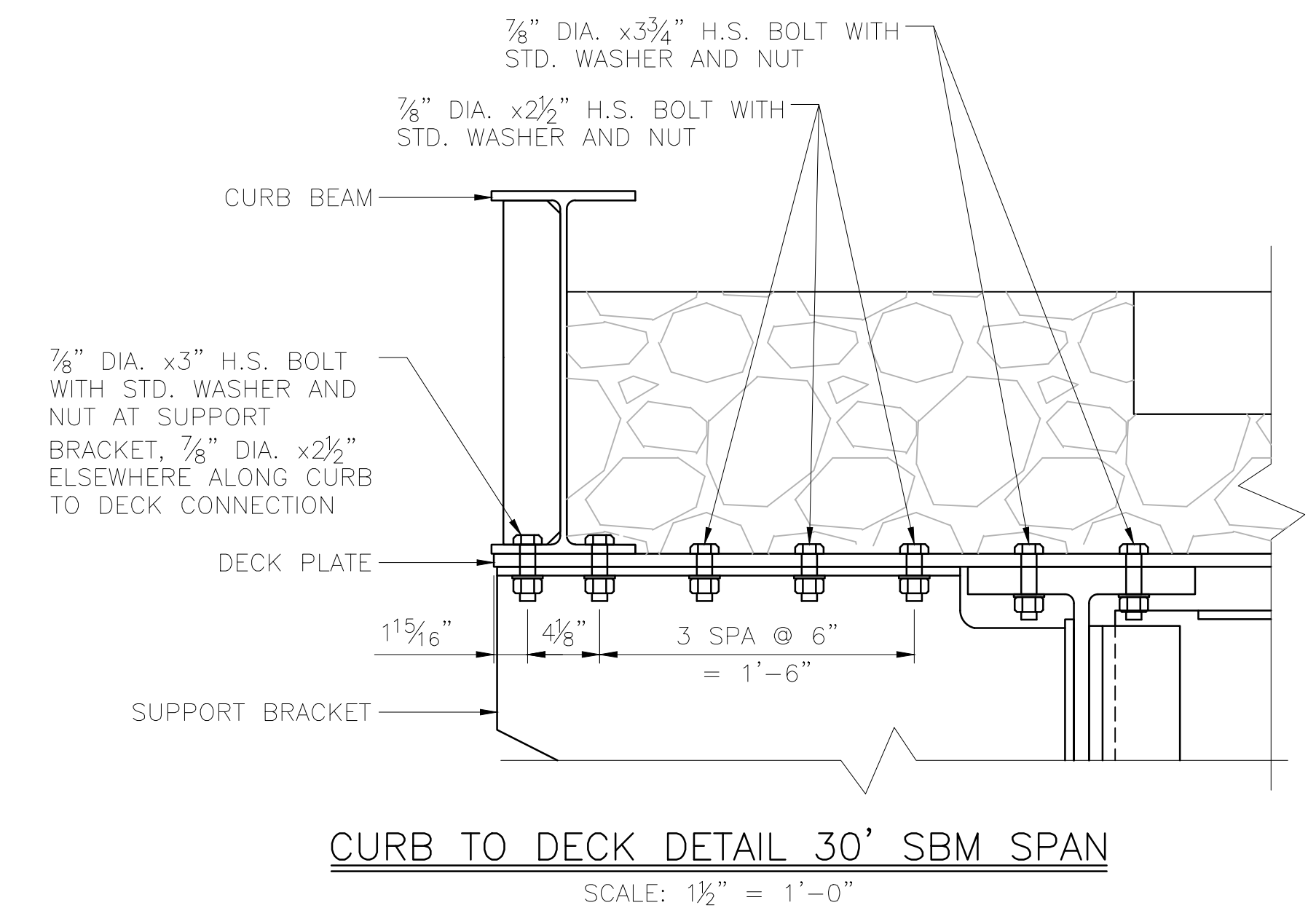
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 DATE: 2/14/2025 8:53 AM  
 SCALE: AS NOTED  
 PUBLISHED CTB: ARRC\_CTB\_2023.CTB



**DECK PLATE MK DP1 & DP2**  
 SCALE: 1" = 1'-0"  
 DP1 SHOWN, DP2 MIRRORED  
 1 DP1 & 1 DP2 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 3,350 LBS

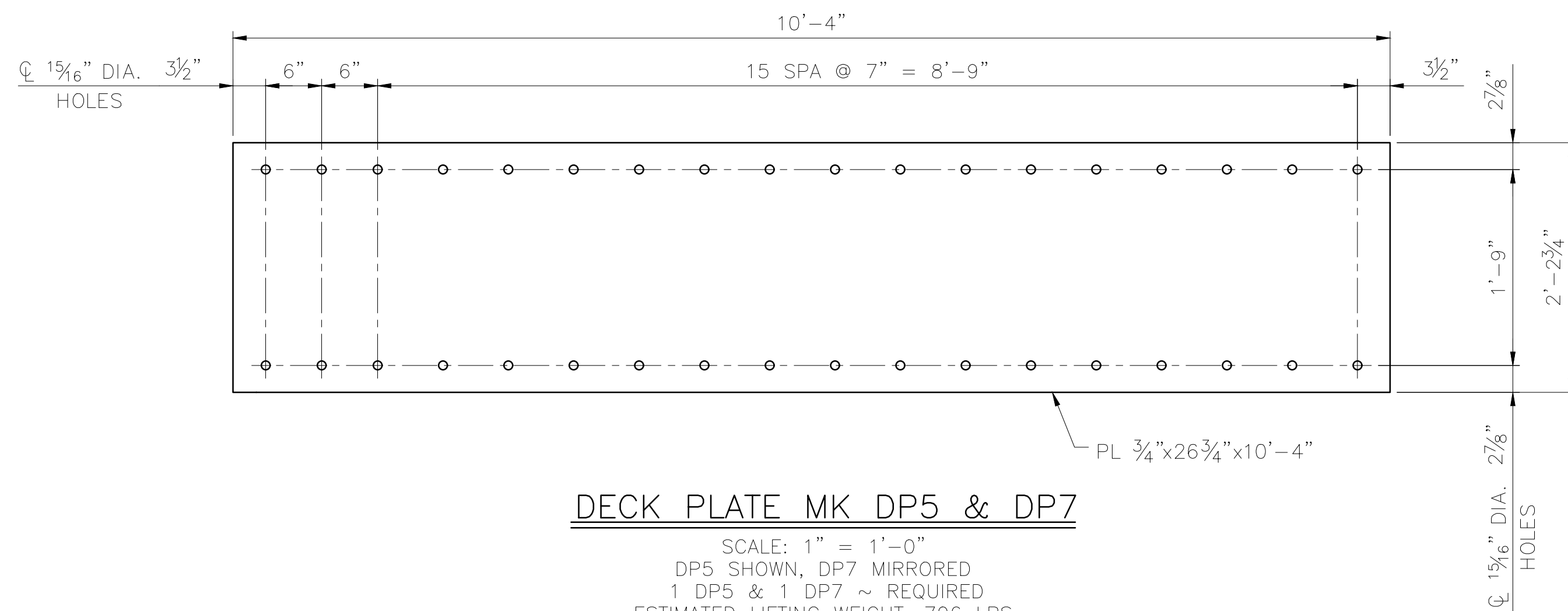


**DECK PLATE MK DP3 & DP4**  
 SCALE: 1" = 1'-0"  
 DP3 SHOWN, DP4 MIRRORED  
 1 DP3 & 1 DP4 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 2,316 LBS



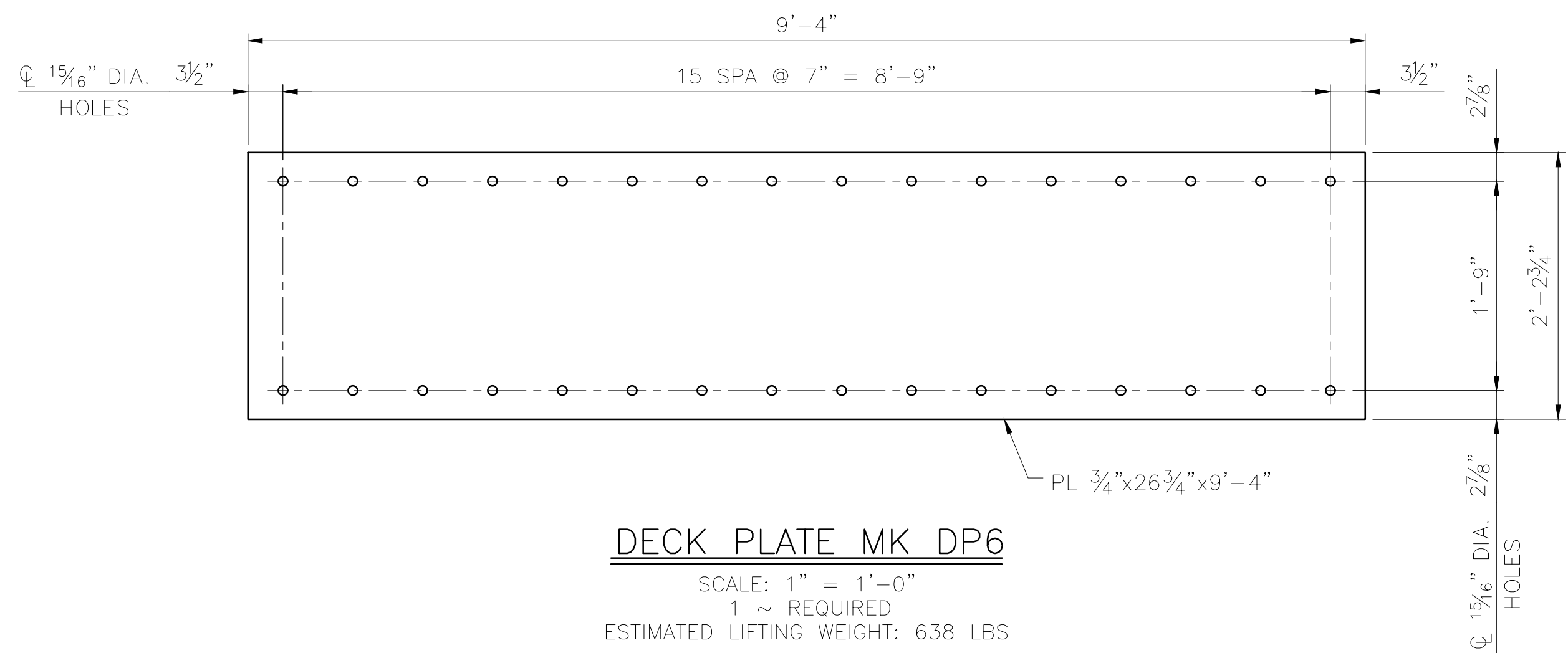
DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM
HDR ENGINEERING, INC. 582 E. 36TH AVE, SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
<b>CAPITAL PROJECTS</b> P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT:	FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3
SHEET TITLE:	STEEL DECK DETAILS (1 OF 4)
AFE NO.	11228
YEAR	2025
SHEET	12 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\4079759\BR\_114.3\_SHIP\_CREEK\_13.DWG  
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 PUBLISHED CTB: ARRC\_CTB\_2023.CTB



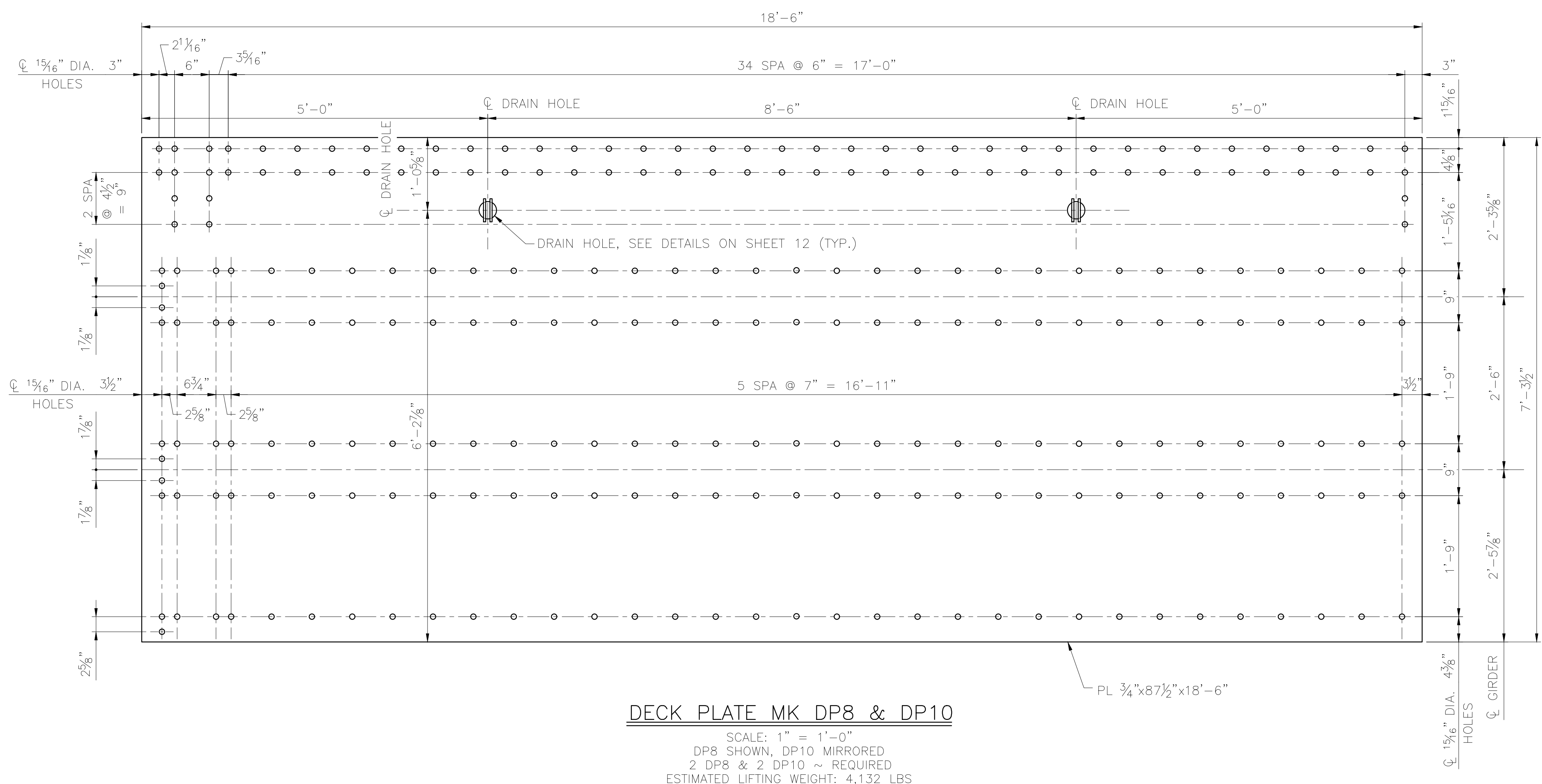
**DECK PLATE MK DP5 & DP7**

SCALE: 1" = 1'-0"  
 DP5 SHOWN, DP7 MIRRORED  
 1 DP5 & 1 DP7 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 706 LBS



**DECK PLATE MK DP6**

SCALE: 1" = 1'-0"  
 1 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 638 LBS

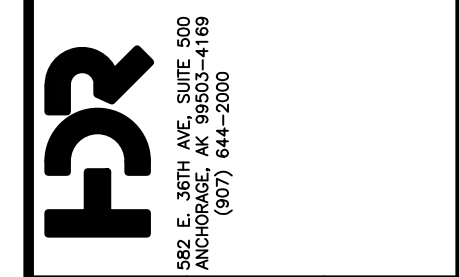


**DECK PLATE MK DP8 & DP10**

SCALE: 1" = 1'-0"  
 DP8 SHOWN, DP10 MIRRORED  
 2 DP8 & 2 DP10 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 4,132 LBS

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

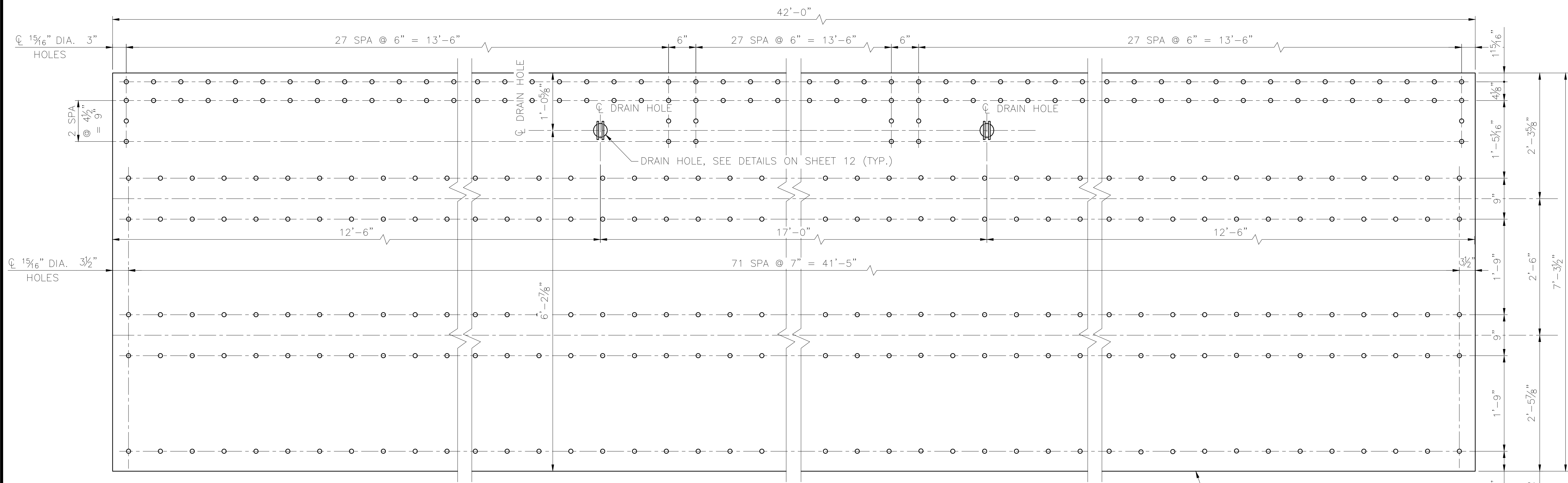
2/14/2025  
 HDR ENGINEERING, INC.  
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 (907) 644-2000  
 LICENSE #: AECC569



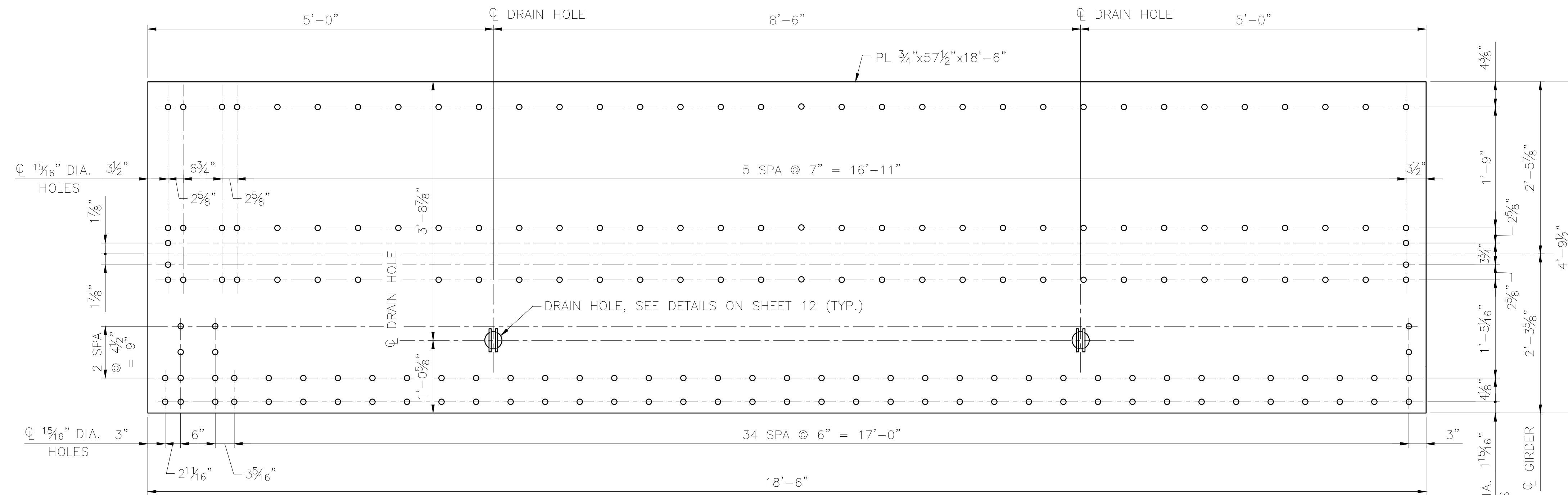
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 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: STEEL DECK DETAILS (2 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	13 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\14079759\BR\_114.3\_SHIP\_CREEK\_14.DWG  
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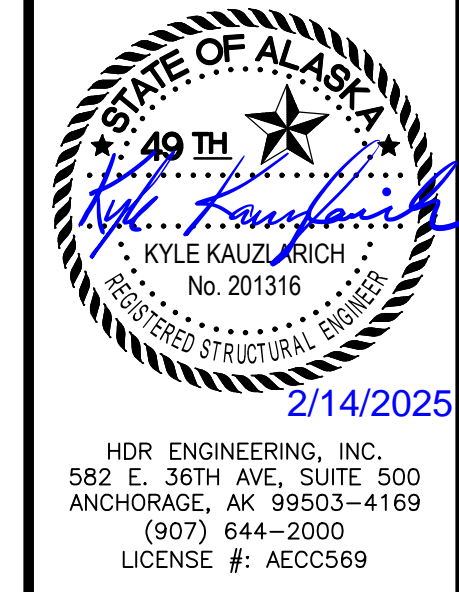


**DECK PLATE MK DP9**  
 SCALE: 1" = 1'-0"  
 2 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 9,379 LBS

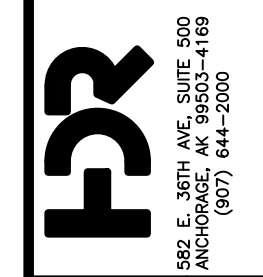


**DECK PLATE MK DP11 & DP13**  
 SCALE: 1" = 1'-0"  
 DP11 SHOWN, DP13 MIRRORED  
 2 DP11 & 2 DP13 ~ REQUIRED  
 ESTIMATED LIFTING WEIGHT: 2,715 LBS

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM



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 (907) 644-2000  
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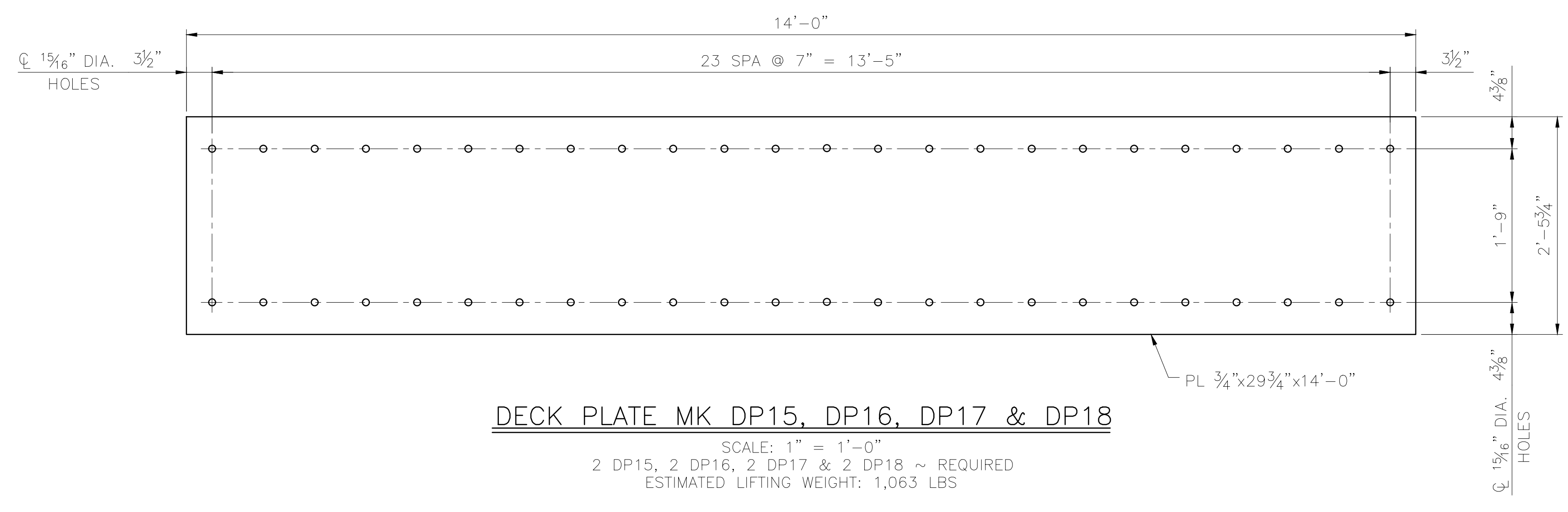
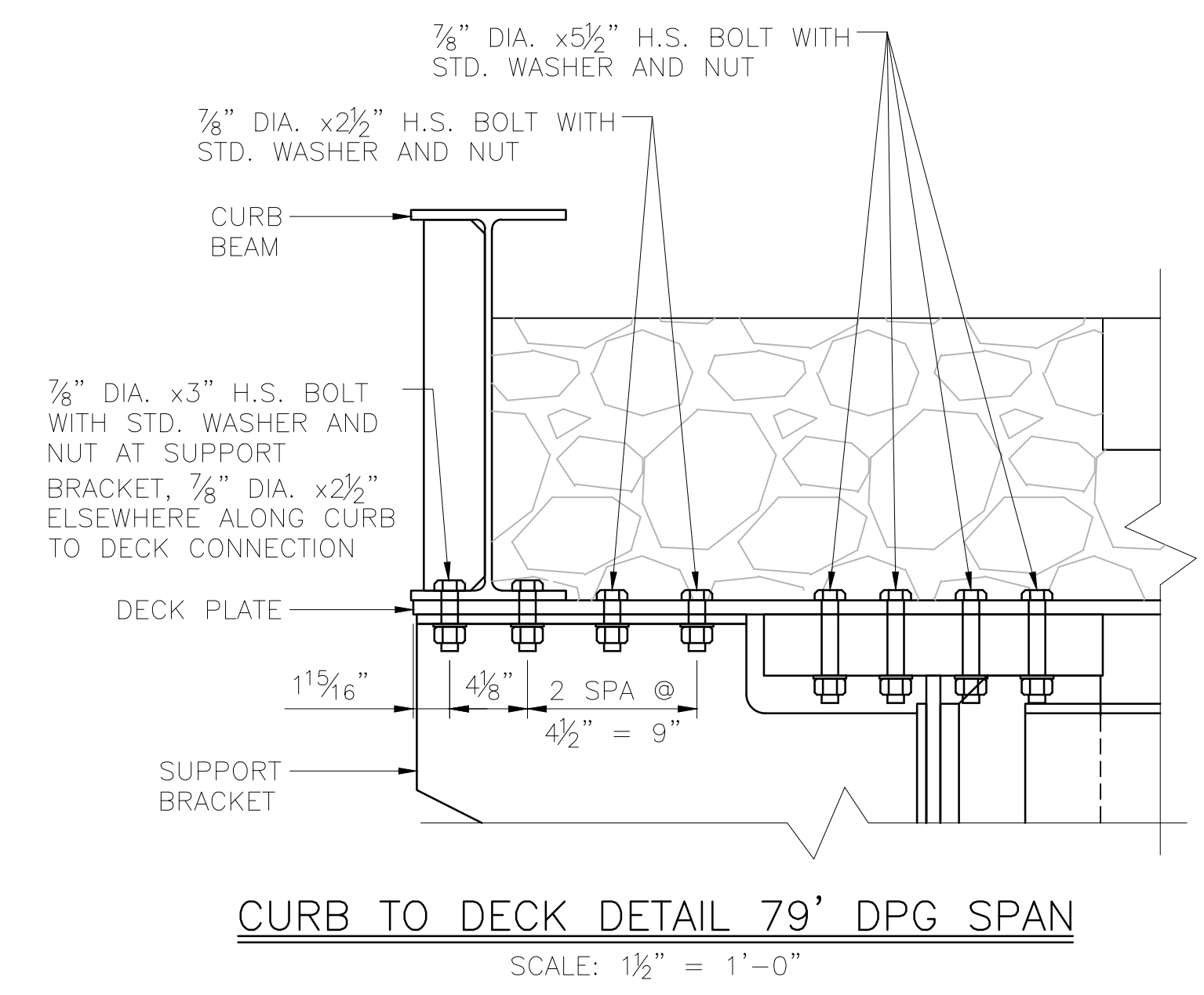
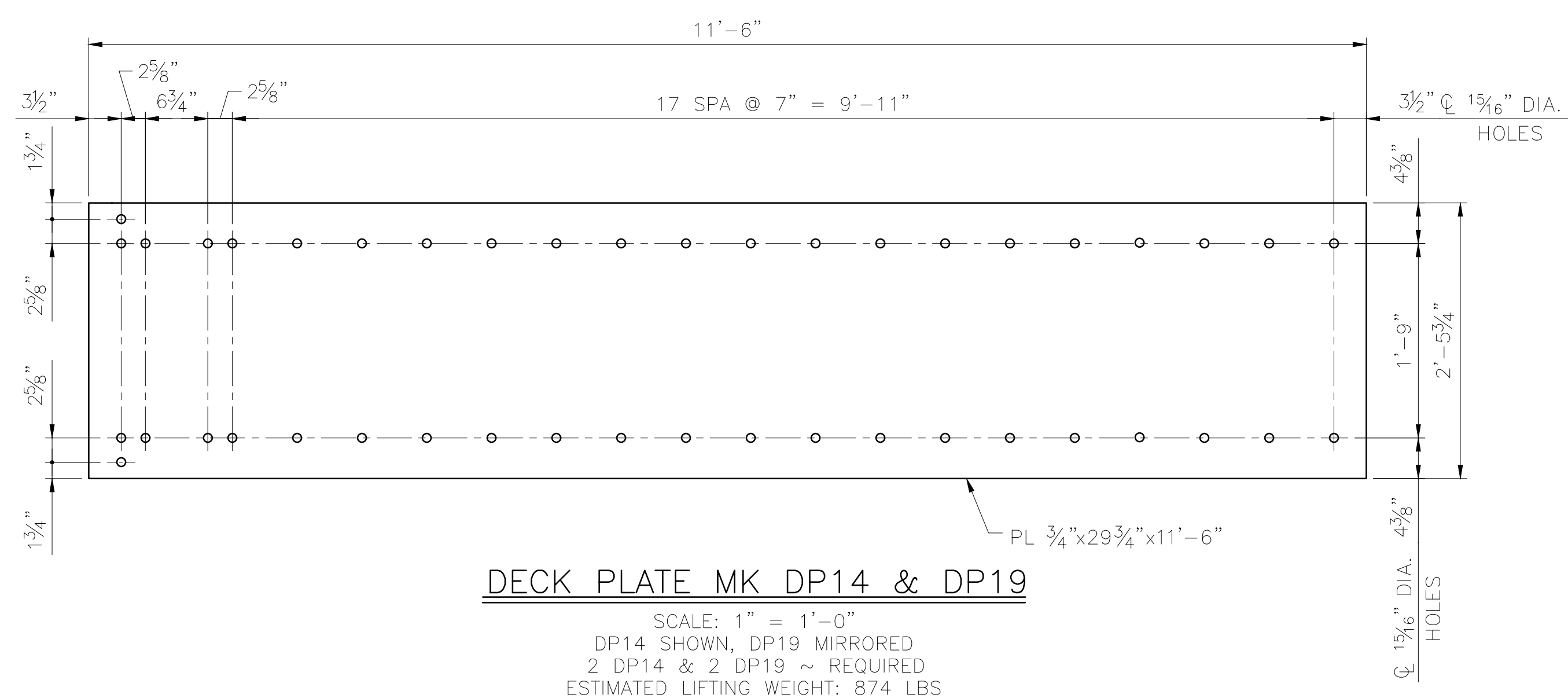
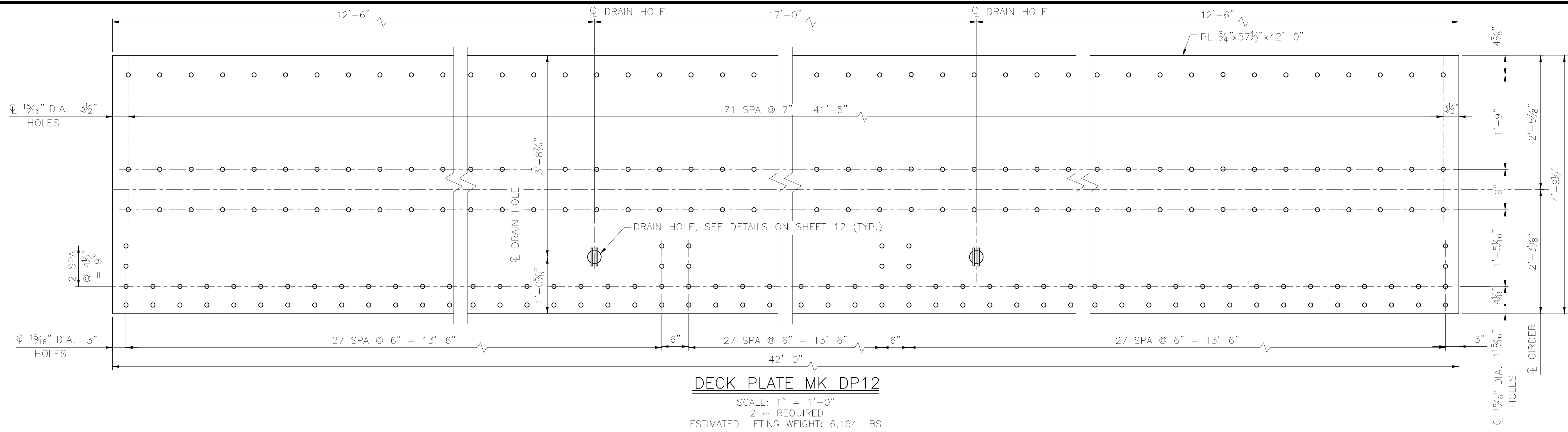
582 E. 36TH AVE., SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000

**ALASKA RAILROAD**  
 CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: STEEL DECK DETAILS (3 OF 4)

AFE NO. 11228  
 YEAR 2025  
 SHEET 14 OF 22

DRAWING LOCATION: C:\PWORKING\WEST01\4079759\BR\_114.3\_SHIP\_CREEK\_15.DWG  
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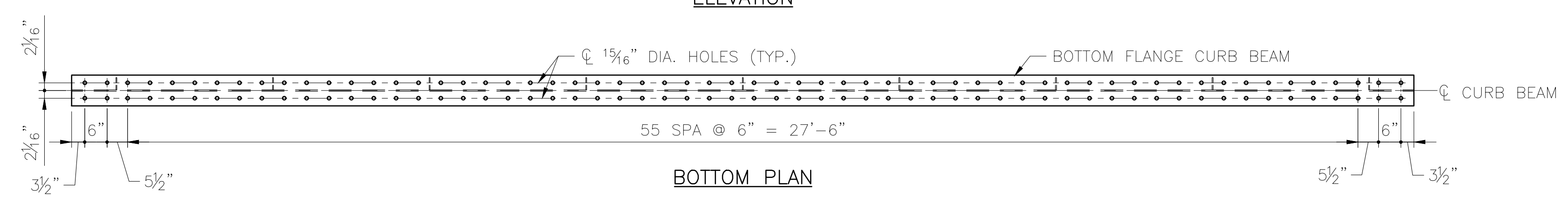
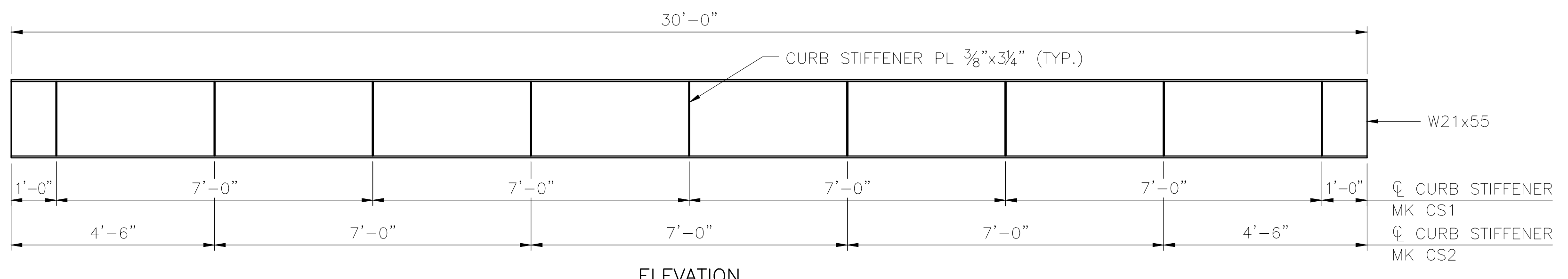
DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569

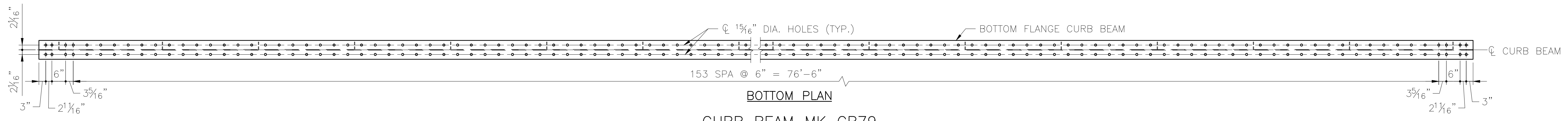
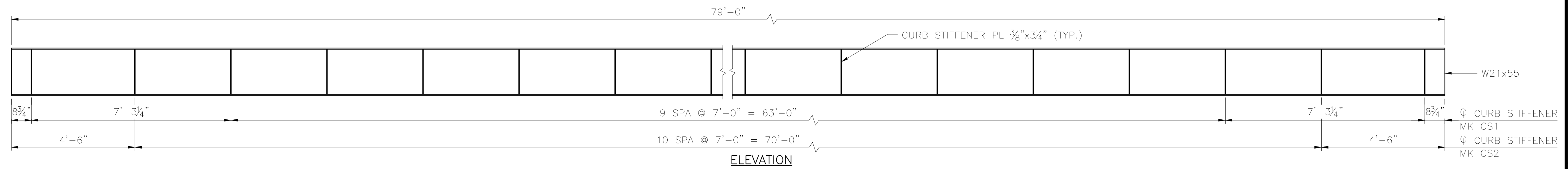
<b>ALASKA RAILROAD</b> CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3
	SHEET TITLE: STEEL DECK DETAILS (4 OF 4)

AFE NO.	11228
YEAR	2025
SHEET	15 OF 22

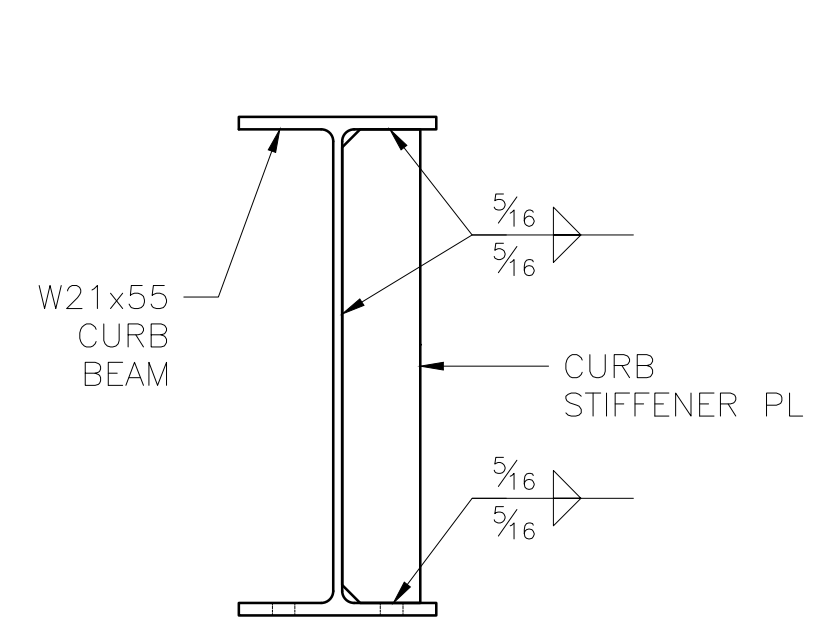
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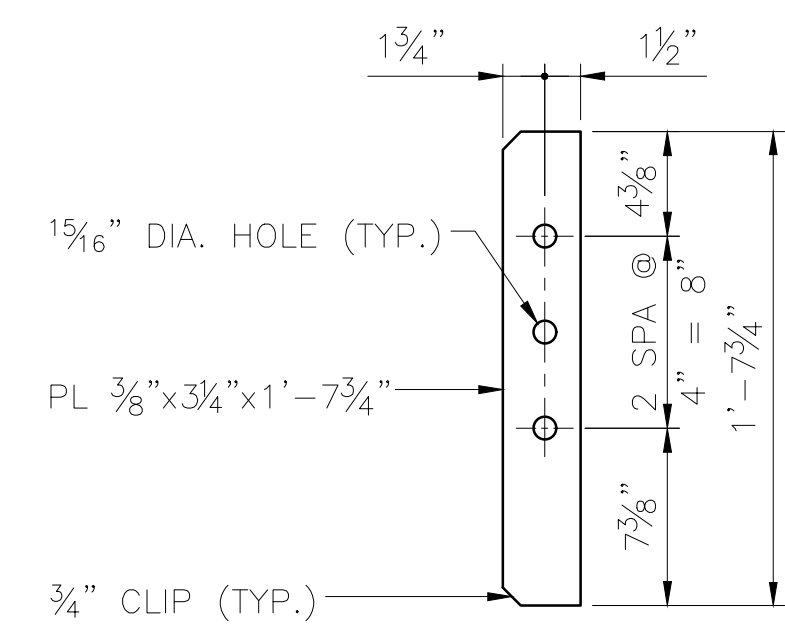
**CURB BEAM MK\_CB30**  
 SCALE: 1/2" = 1'-0"  
 2 ~ REQUIRED  
 ESTIMATED WEIGHT = 1,712 LBS



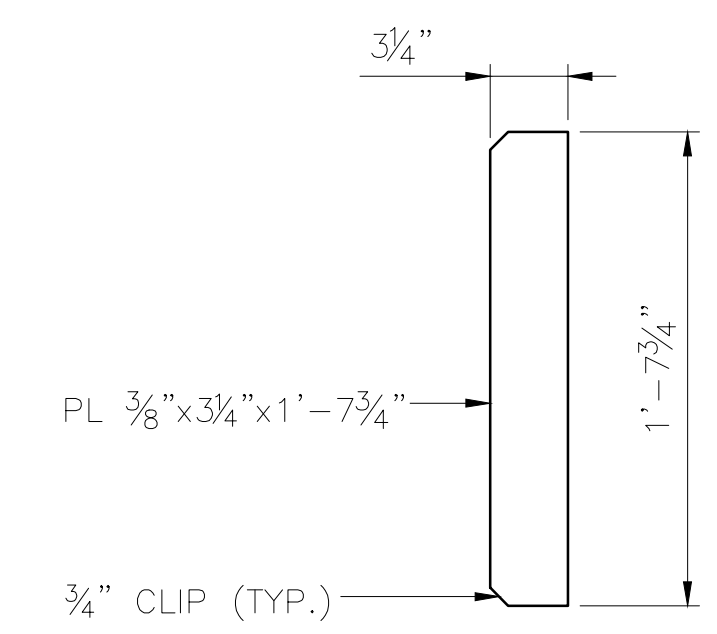
**CURB BEAM MK\_CB79**  
 SCALE: 1/2" = 1'-0"  
 4 ~ REQUIRED  
 ESTIMATED WEIGHT = 4,502 LBS



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

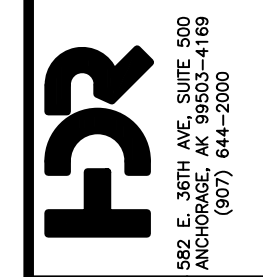
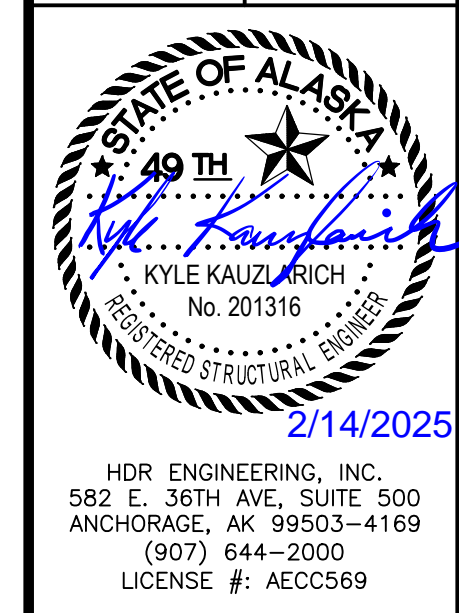


SCALE: 1/2" = 1'-0"



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

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM



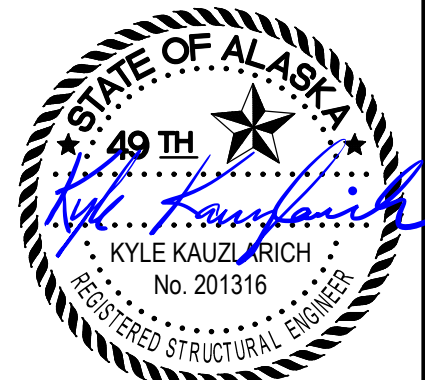
CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

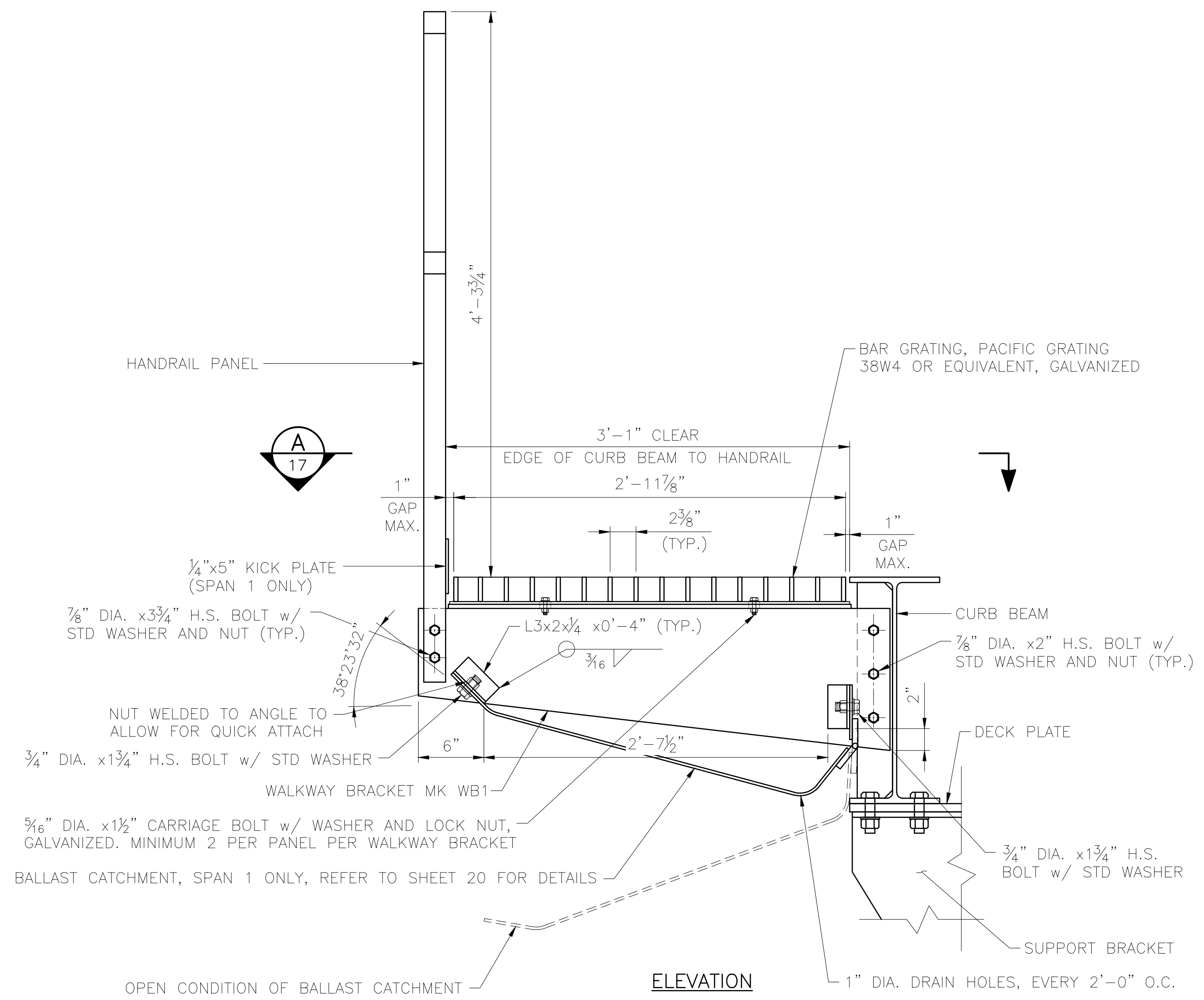
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER  
 SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: CURB BEAM DETAILS

AFE NO. 11228  
 YEAR 2025  
 SHEET 16 OF 22

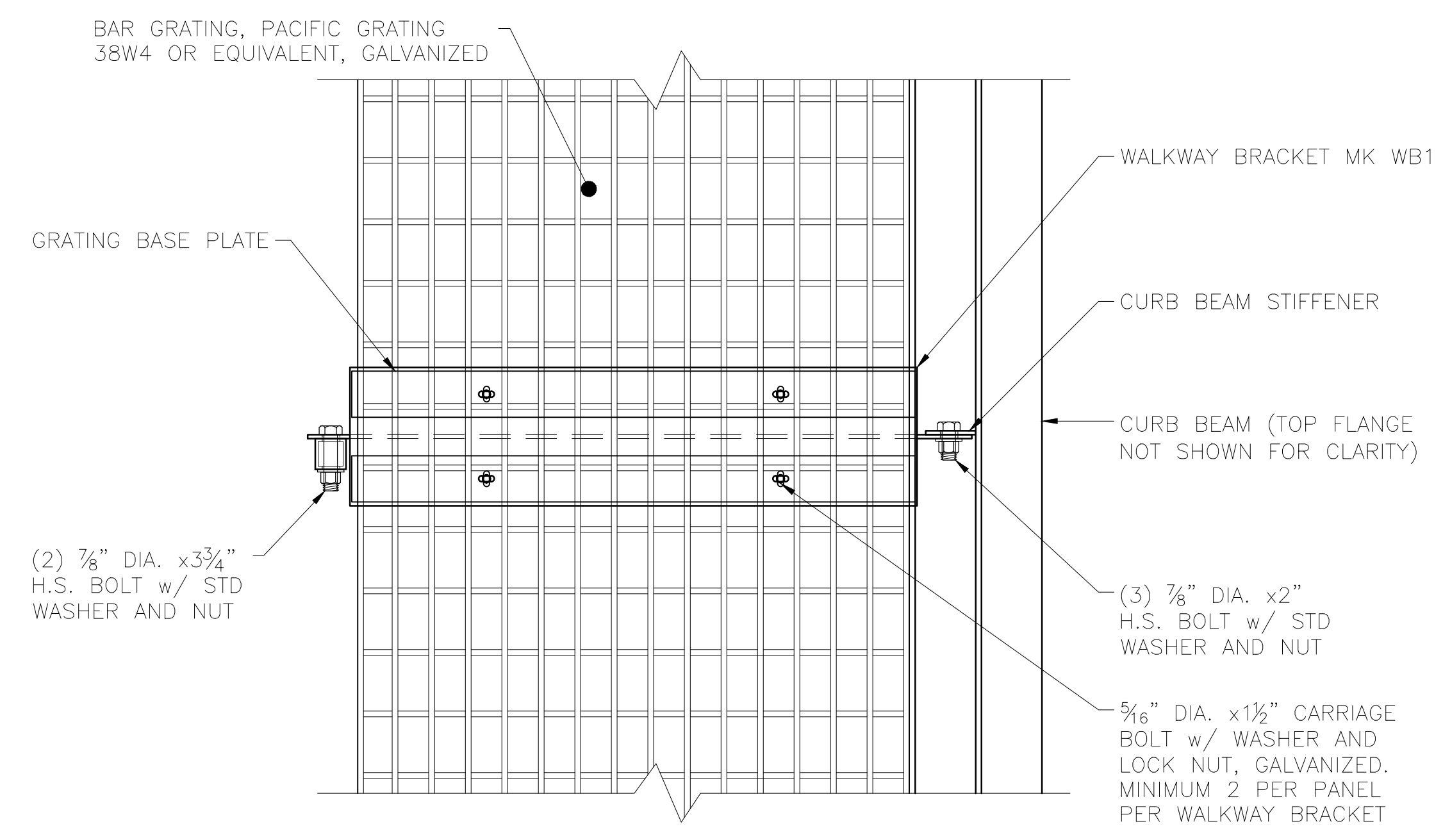


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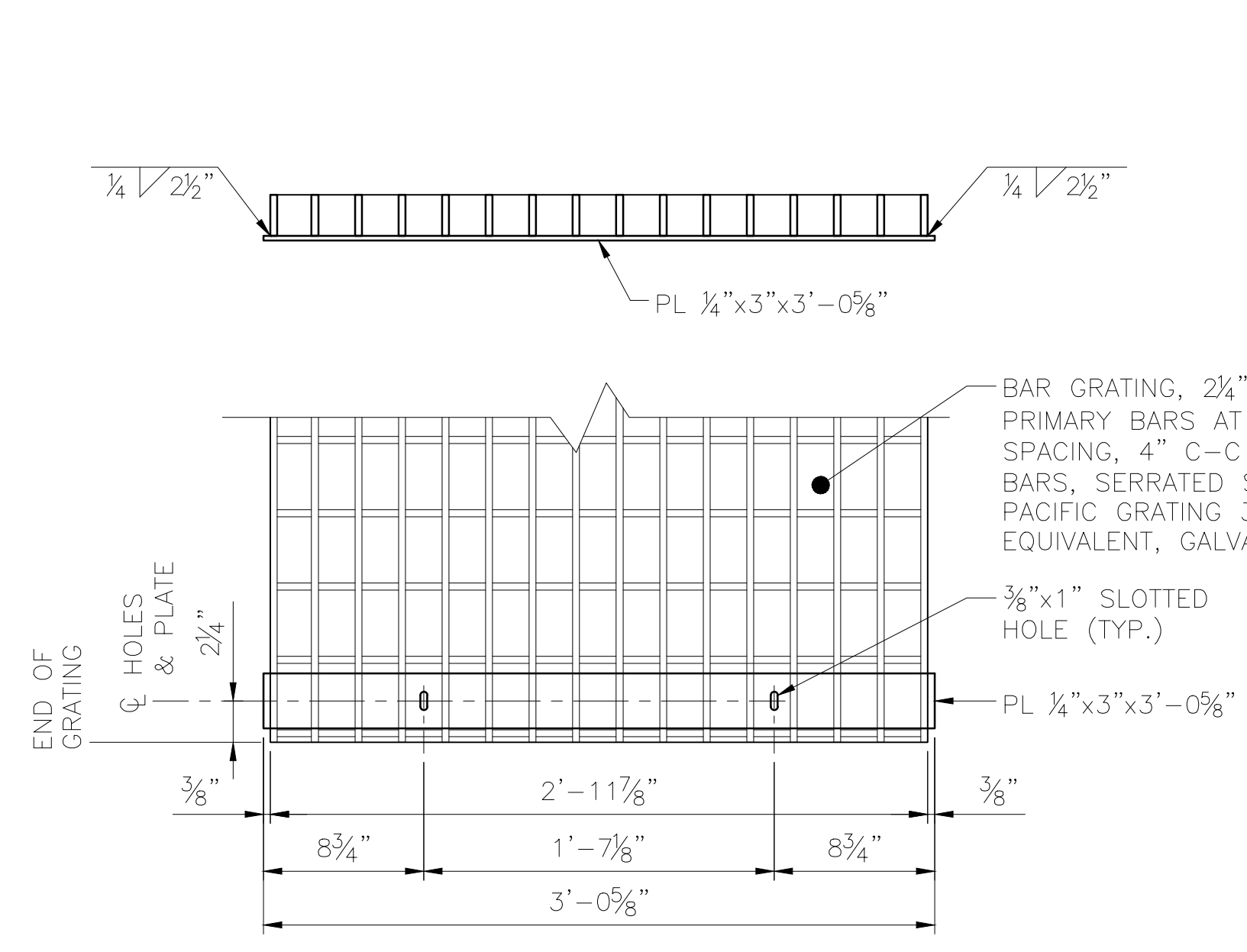
DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM  
  
 2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569



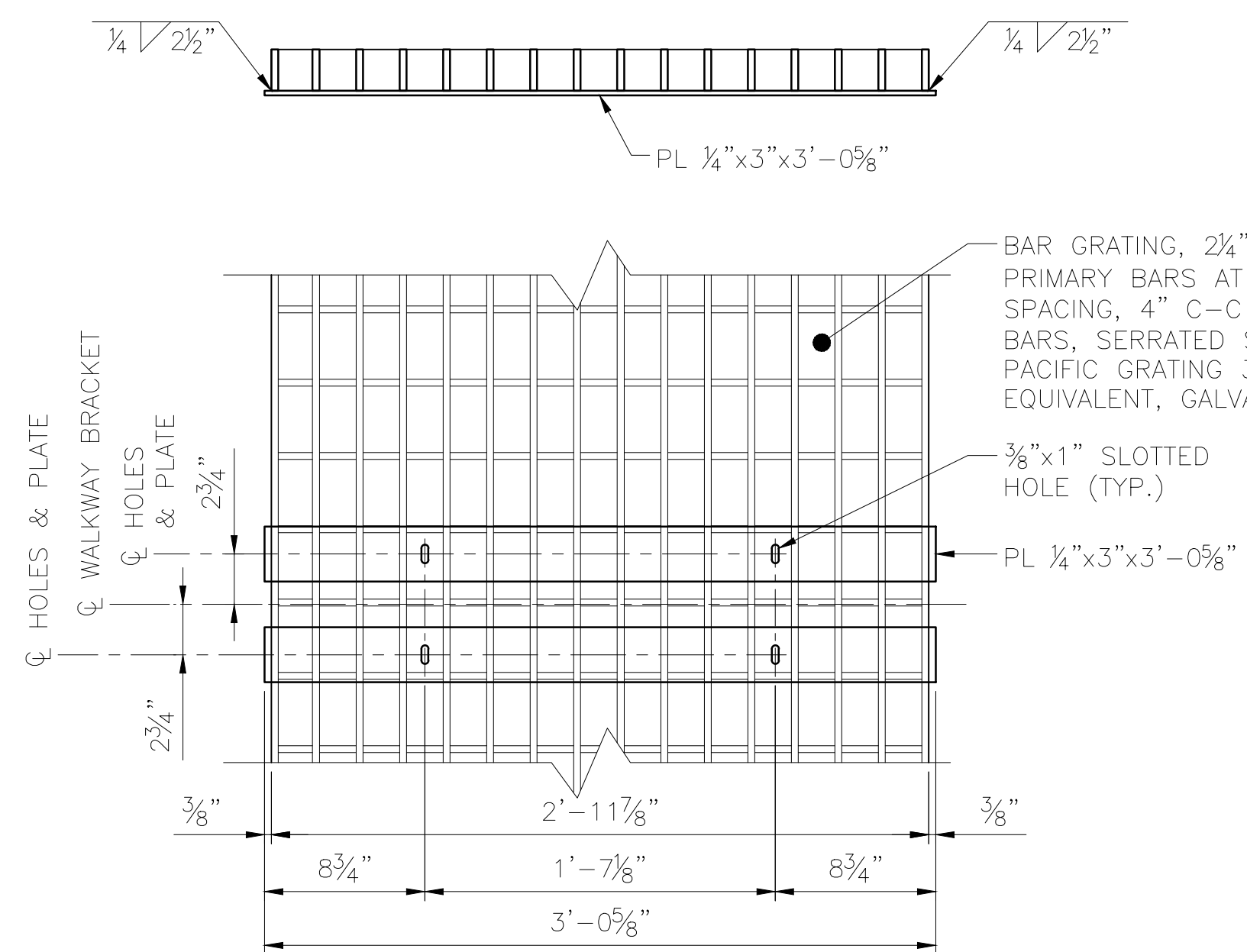
**WALKWAY ASSEMBLY DETAILS**  
SCALE: 1/2" = 1'-0"



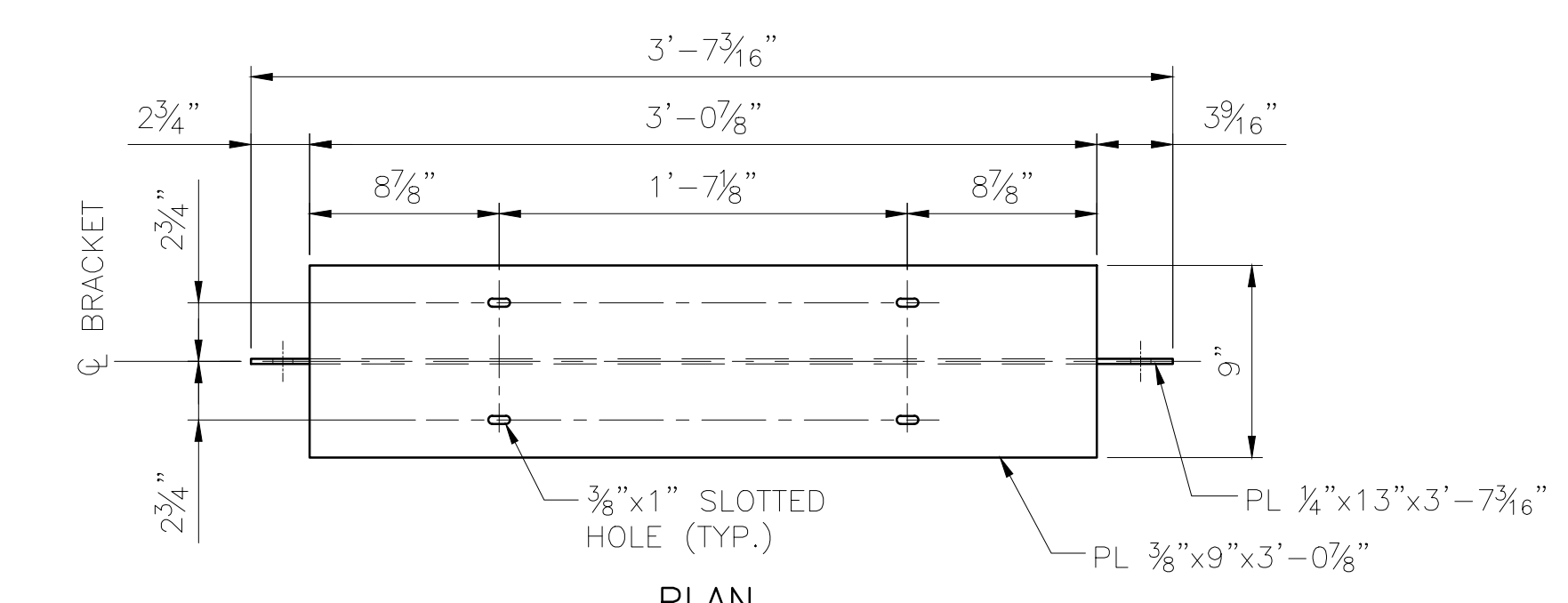
**SECTION A**



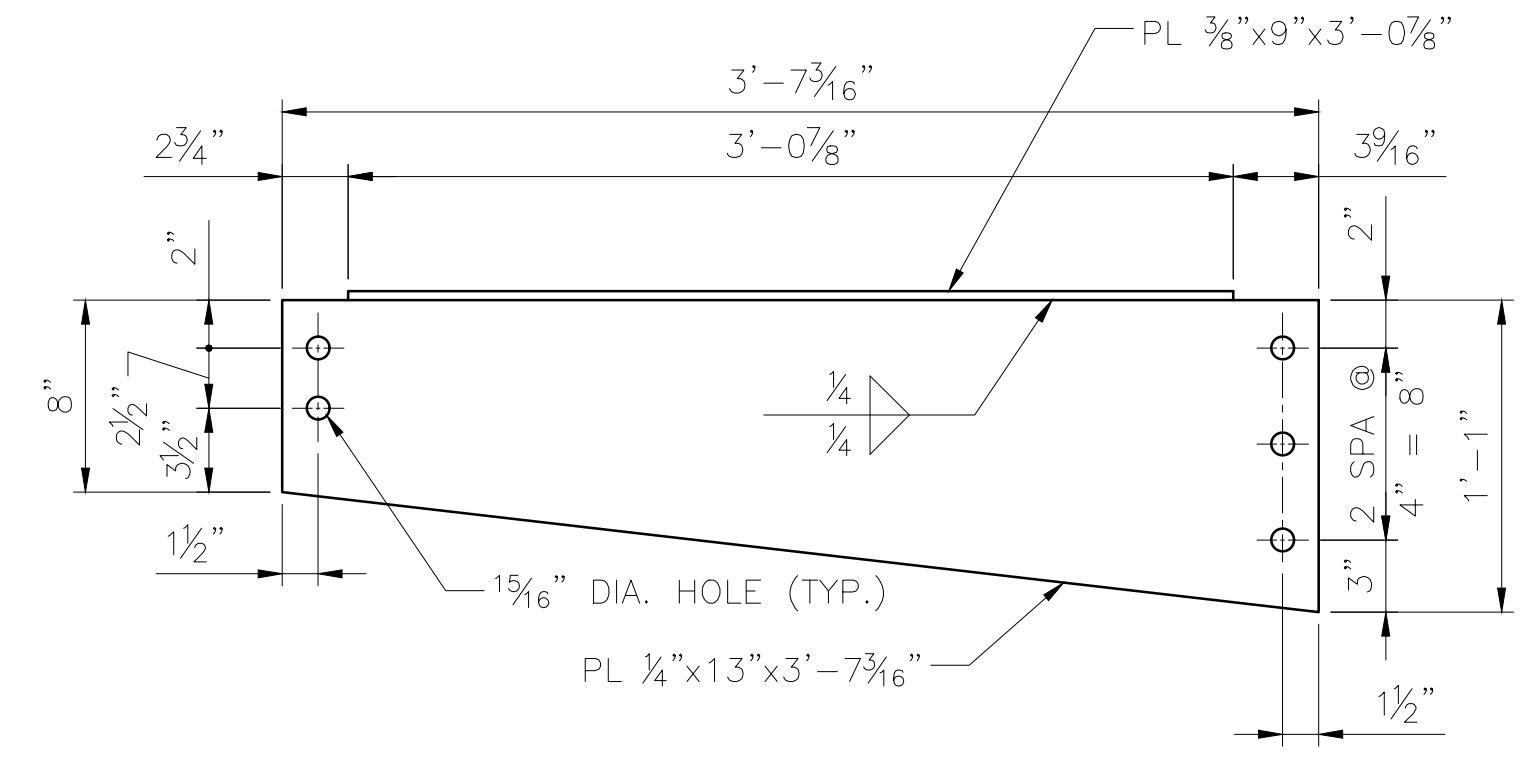
**GRATING BASE PLATE DETAIL @ END OF PANEL**  
SCALE: 1/2" = 1'-0"



**GRATING BASE PLATE DETAIL @ INTERMEDIATE SUPPORT**  
SCALE: 1/2" = 1'-0"



**PLAN**



**ELEVATION**

**WALKWAY BRACKET MK WB1**

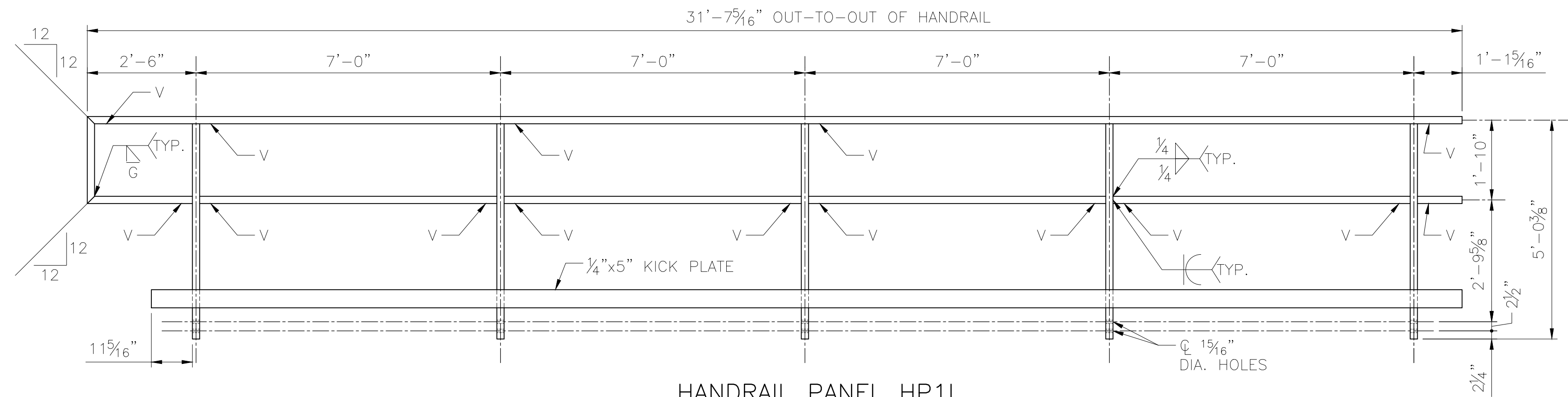
SCALE: 1/2" = 1'-0"  
 58 ~ REQUIRED  
 ESTIMATED WEIGHT = 68 LBS

**HR**

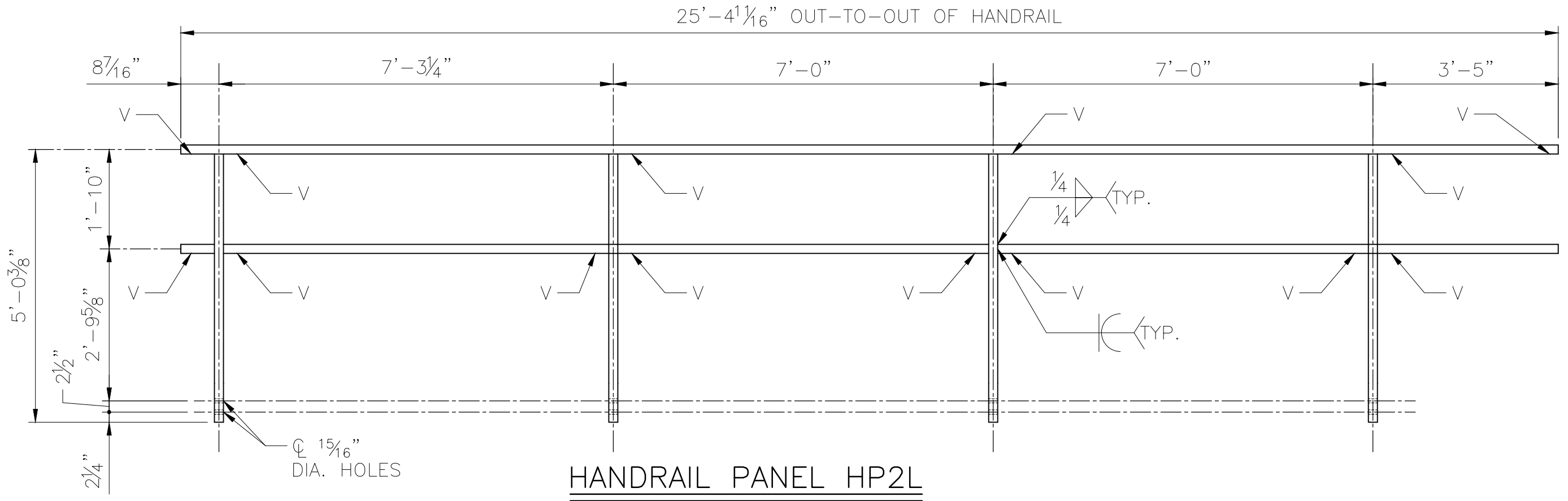
CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

**ALASKA RAILROAD**  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: WALKWAY DETAILS

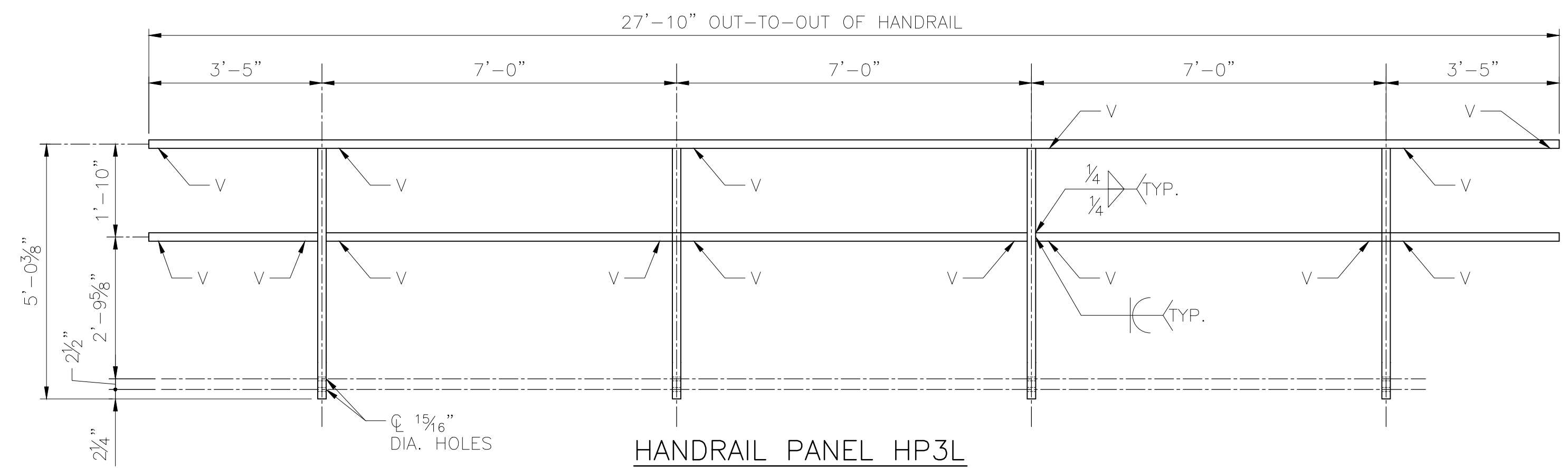
AFE NO. 11228  
 YEAR 2025  
 SHEET 17 OF 22



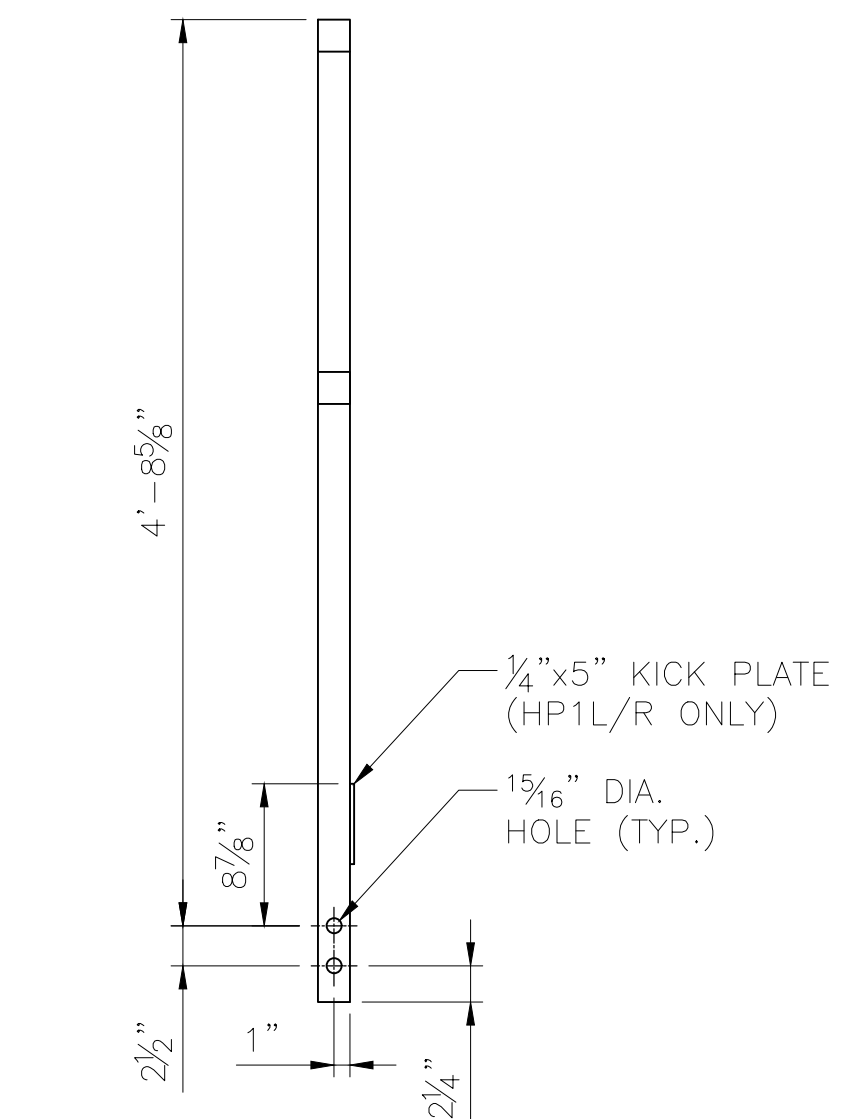
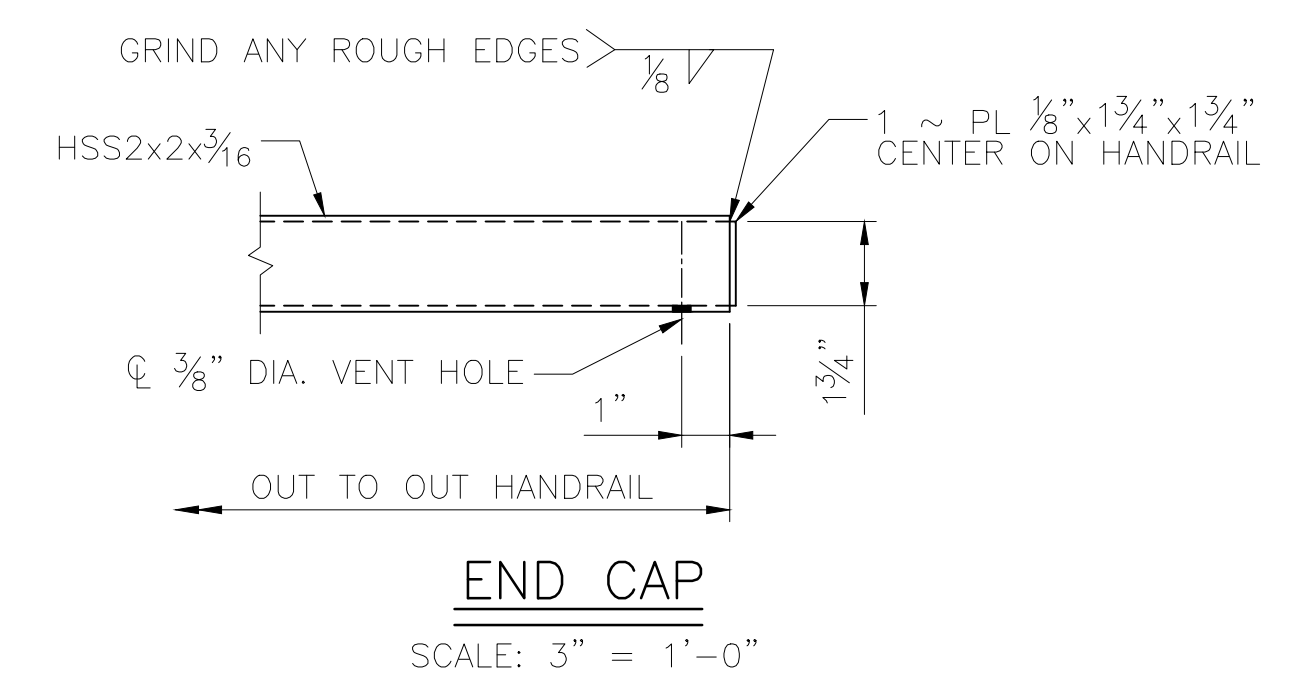
**HANDRAIL PANEL HP1L**  
 SCALE: 1/2" = 1'-0"  
 HANDRAIL PANEL HP1R OPPOSITE HAND  
 1 HP1L & 1 HP1R ~ REQUIRED  
 ESTIMATED WEIGHT = 516 LBS



**HANDRAIL PANEL HP2L**  
 SCALE: 1/2" = 1'-0"  
 HANDRAIL PANEL HP2R OPPOSITE HAND  
 2 HP2L & 2 HP2R ~ REQUIRED  
 ESTIMATED WEIGHT = 305 LBS



**HANDRAIL PANEL HP3L**  
 SCALE: 1/2" = 1'-0"  
 HANDRAIL PANEL HP3R OPPOSITE HAND  
 2 HP3L & 2 HP3R ~ REQUIRED  
 ESTIMATED WEIGHT = 326 LBS



**HANDRAIL SIDE VIEW**  
 SCALE: 1" = 1'-0"  
 TYPICAL ALL HANDRAIL POSTS

- NOTES:**
- HANDRAIL PANELS ARE TO BE FABRICATED FROM HSS2x2x3/16", ASTM A500, GRADE B.
  - GALVANIZE HANDRAIL PANELS AFTER FABRICATION.
  - V = 3/8" DIA. DRILLED VENT HOLE 1" FROM JOINT.

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
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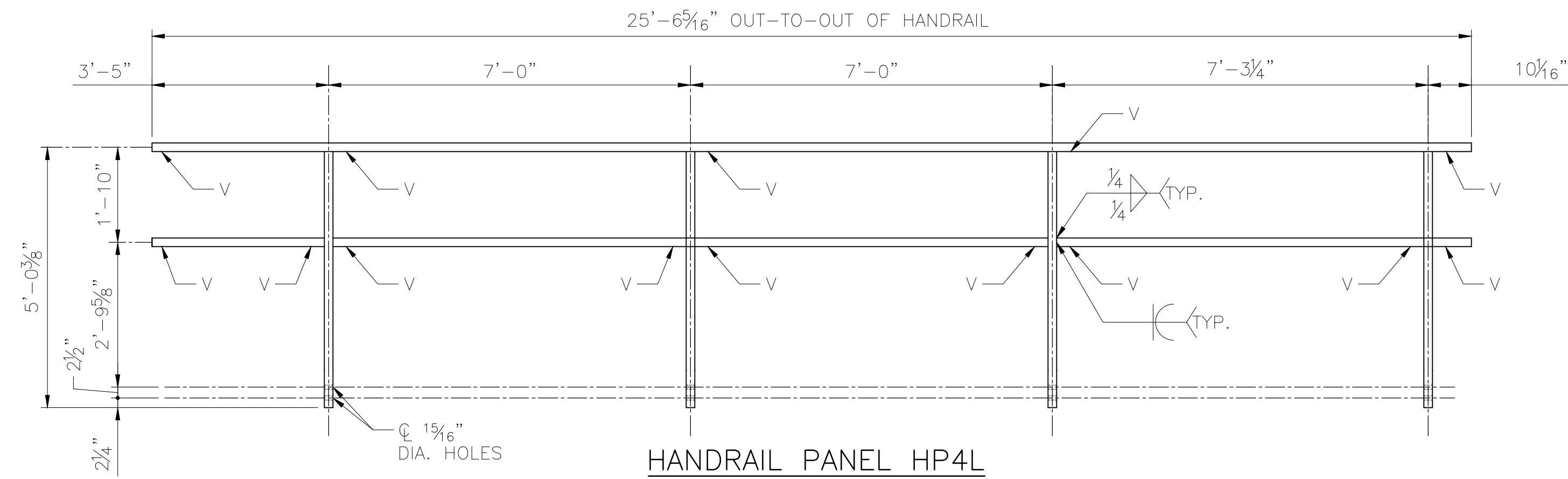
**ALASKA RAILROAD**

CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

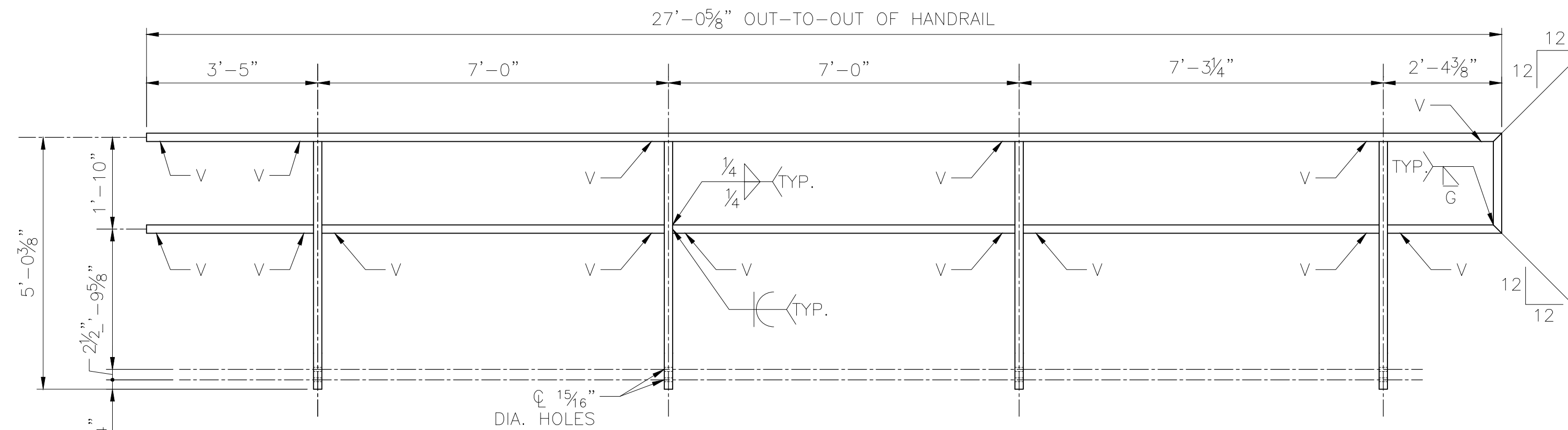
FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3

HANDRAIL DETAILS (1 OF 2)

AFE NO.	11228
YEAR	2025
SHEET	18 OF 22



**HANDRAIL PANEL HP4L**  
 SCALE: 1/2" = 1'-0"  
 HANDRAIL PANEL HP4R OPPOSITE HAND  
 1 HP4L & 1 HP4R ~ REQUIRED  
 ESTIMATED WEIGHT = 306 LBS



**HANDRAIL PANEL HP5L**  
 SCALE: 1/2" = 1'-0"  
 HANDRAIL PANEL HP5R OPPOSITE HAND  
 1 HP5L & 1 HP5R ~ REQUIRED  
 ESTIMATED WEIGHT = 328 LBS

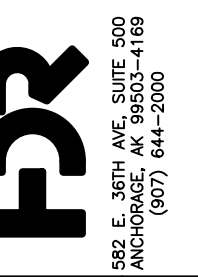
**NOTES:**

- HANDRAIL PANELS ARE TO BE FABRICATED FROM HSS2x2x3/16", ASTM A500, GRADE B.
- GALVANIZE HANDRAIL PANELS AFTER FABRICATION.
- V = 3/8" DIA. DRILLED VENT HOLE 1" FROM JOINT.
- REFER TO SHEET 18 FOR END CAP AND HANDRAIL SIDE VIEW DETAILS.

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM



2/14/2025  
 HDR ENGINEERING, INC.  
 582 E. 36TH AVE., SUITE 500  
 ANCHORAGE, AK 99503-4169  
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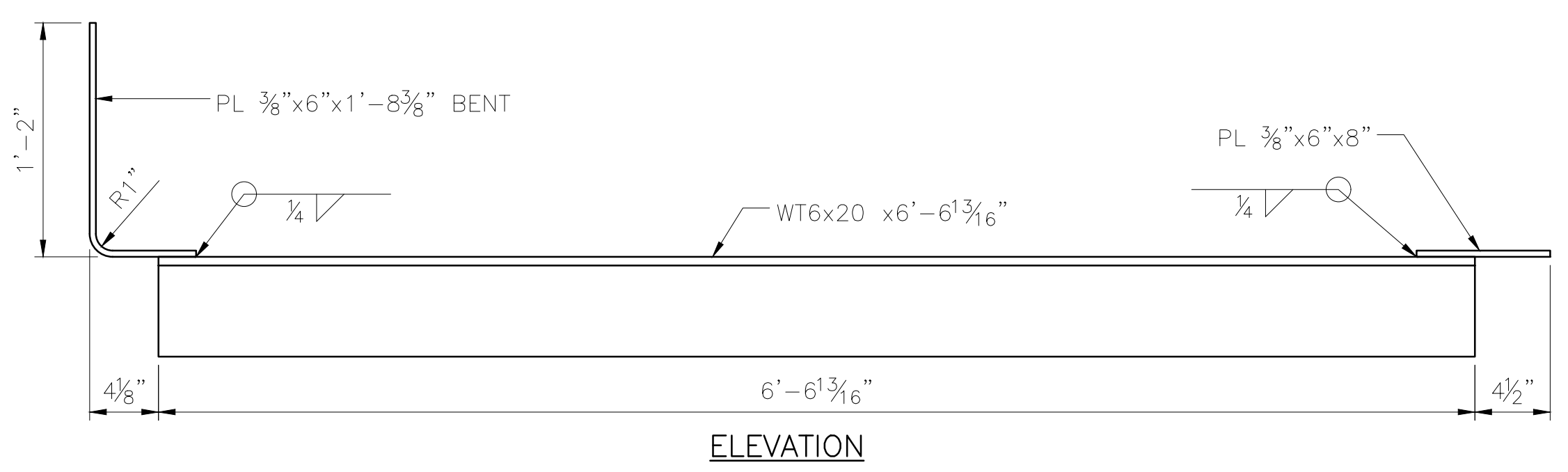
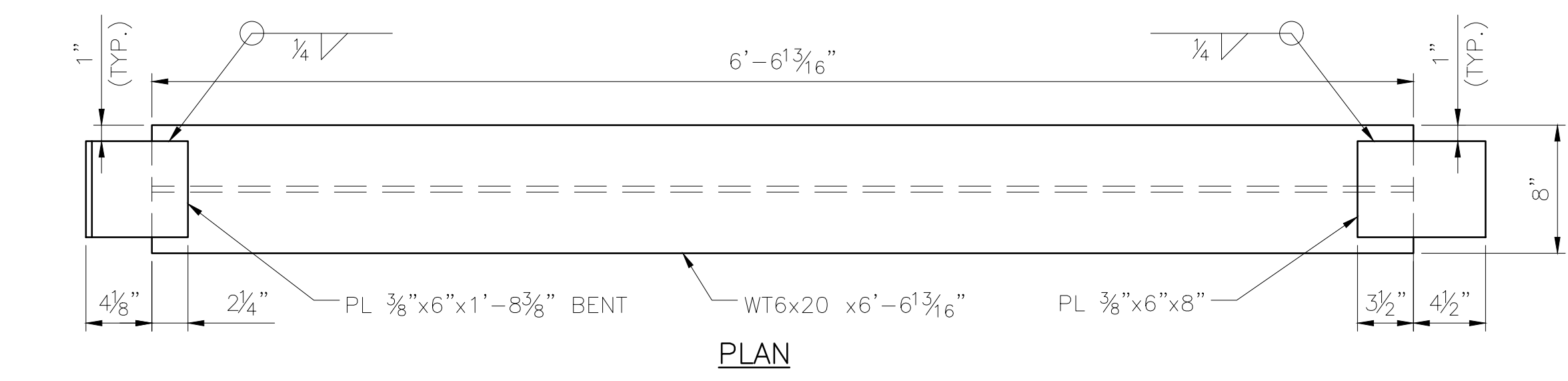
**ALASKA RAILROAD**  
 CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3

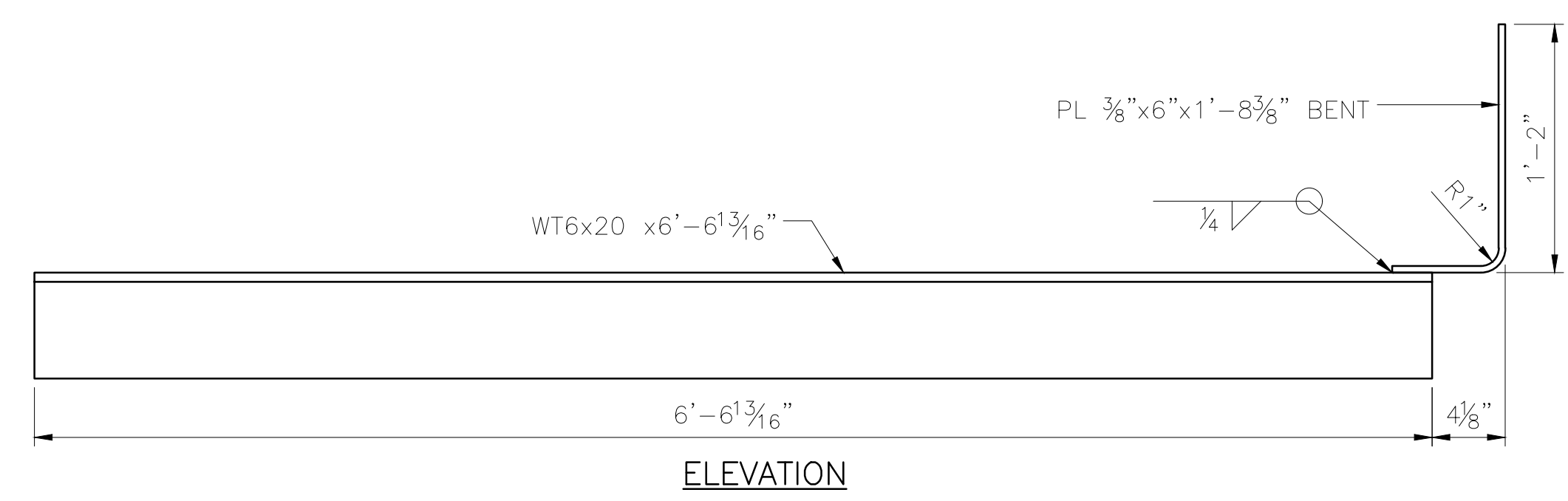
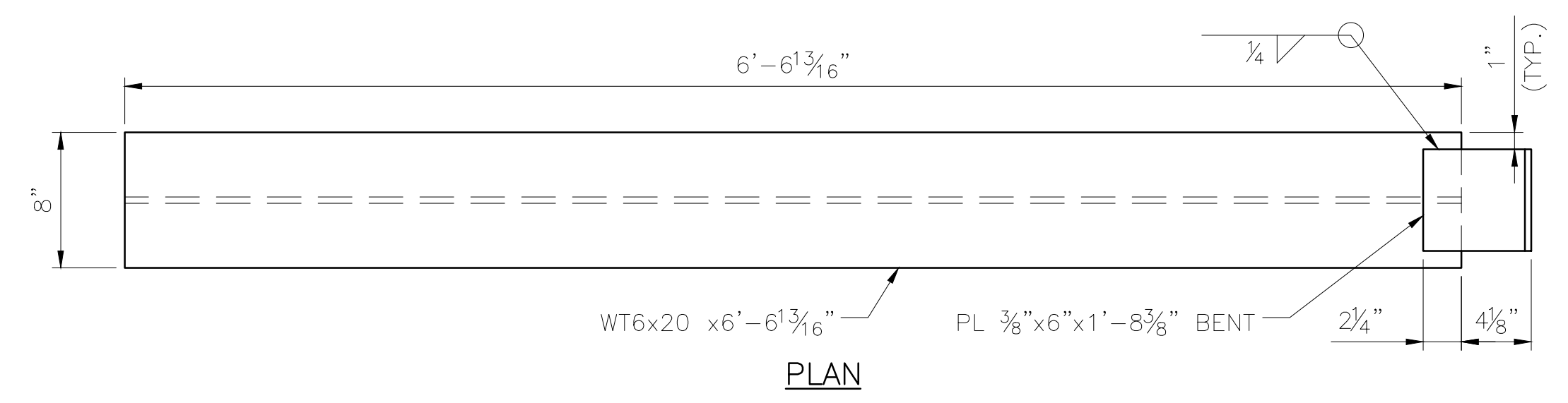
SHEET TITLE: HANDRAIL DETAILS (2 OF 2)

AFE NO.	11228
YEAR	2025
SHEET	19 OF 22

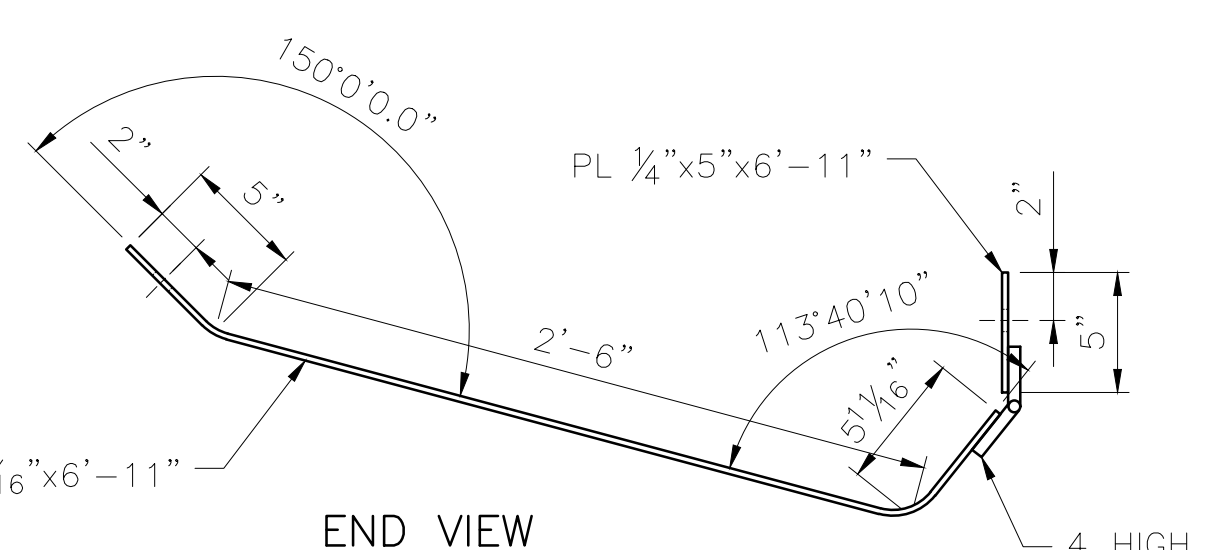
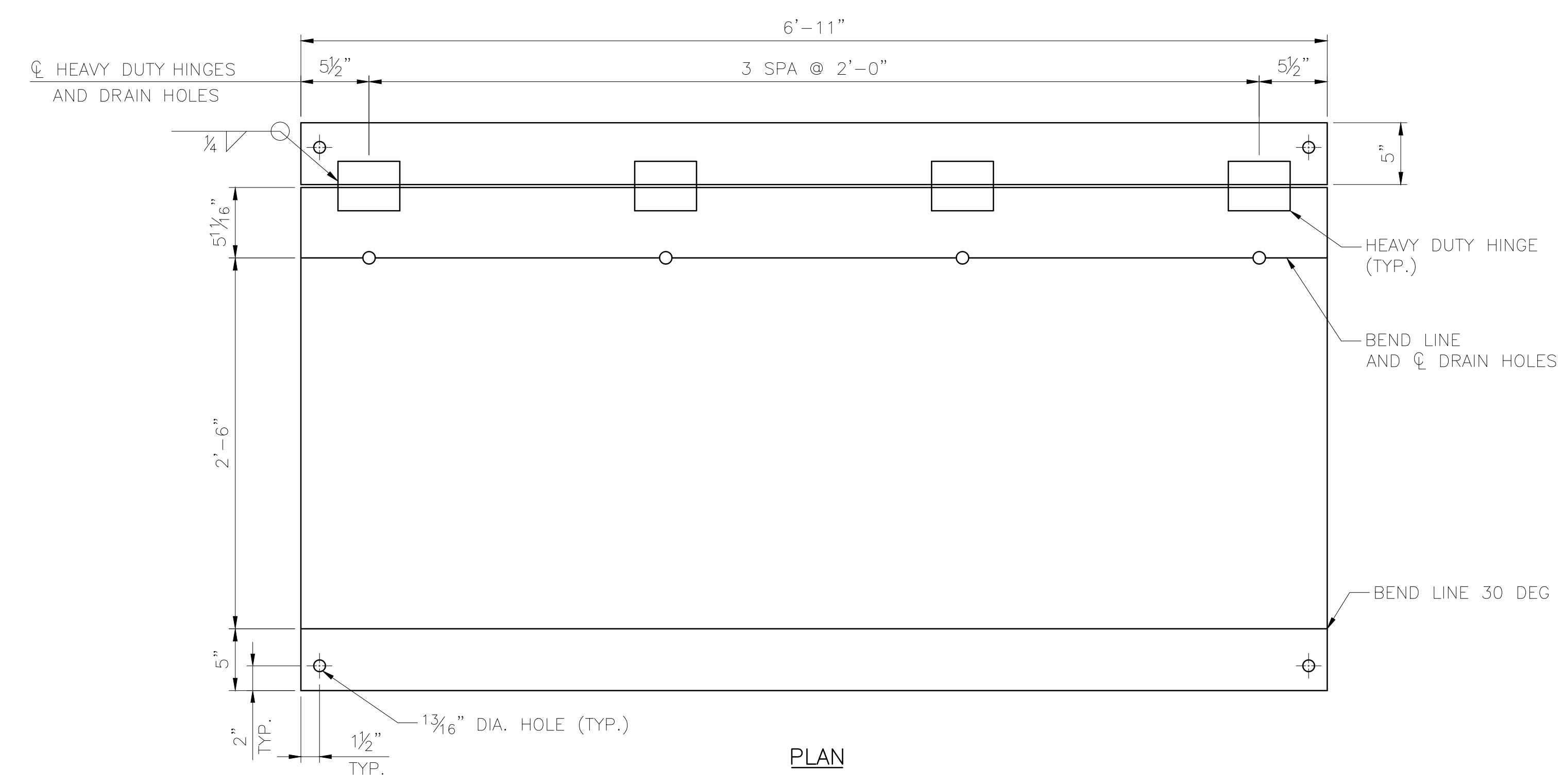
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 PUBLISHED: CTB  
 ARRCC: CTB\_2023.CTB



**COVER PLATE MK CP1**  
 SCALE: 1 1/2" = 1'-0"  
 4 ~ REQUIRED  
 ESTIMATED WEIGHT = 150 LBS

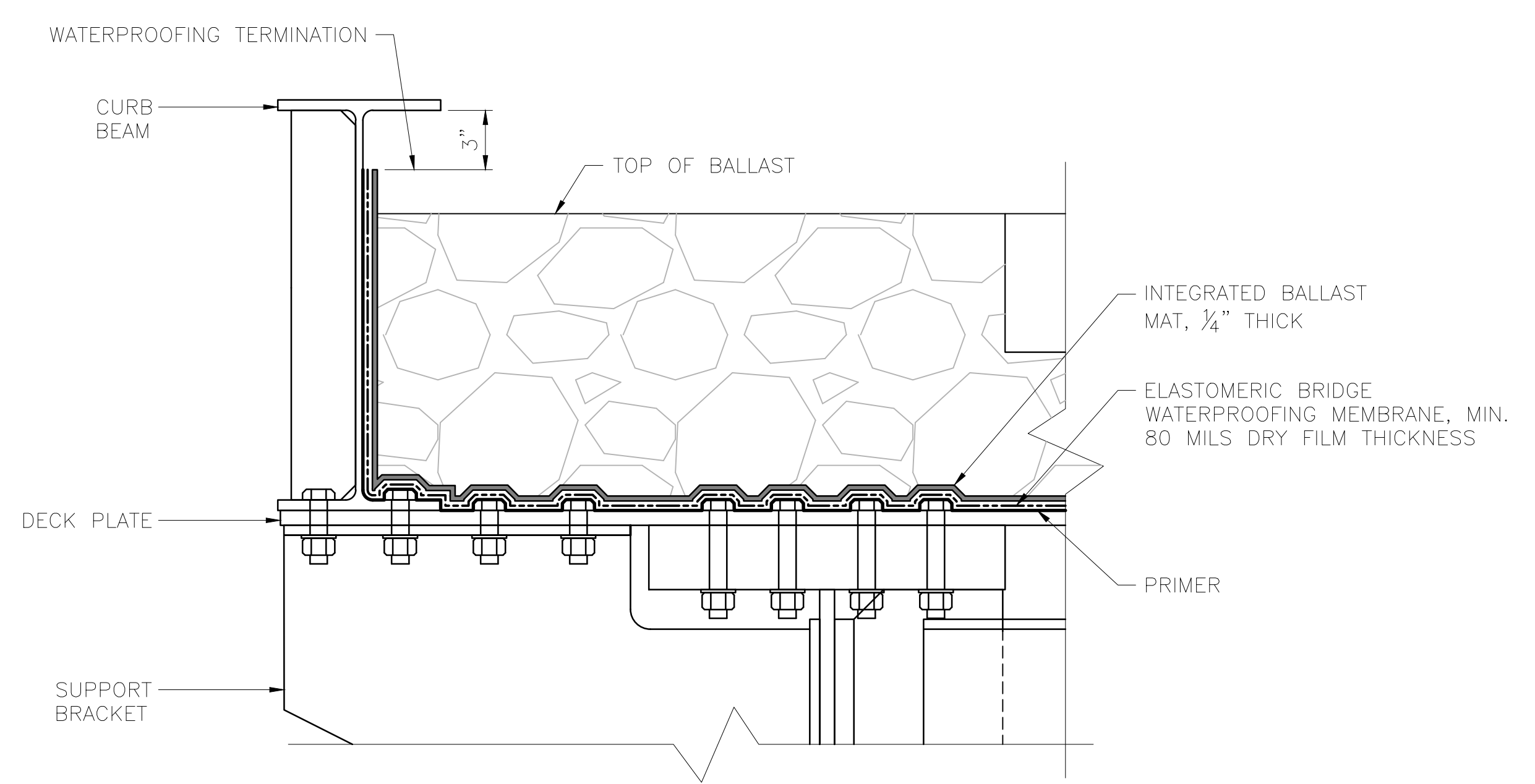


**COVER PLATE MK CP2**  
 SCALE: 1 1/2" = 1'-0"  
 4 ~ REQUIRED  
 ESTIMATED WEIGHT = 145 LBS



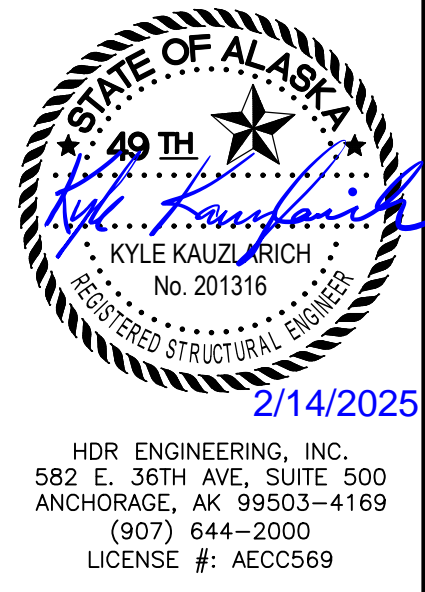
**BALLAST CATCHMENT PAN**  
 SCALE: 1 1/2" = 1'-0"  
 8 ~ REQUIRED  
 ESTIMATED WEIGHT = 270 LBS

**NOTES:**  
 1. HINGES TO BE CORROSION RESISTANT STEEL OR GALVANIZED AND HAVE A MINIMUM LOAD CAPACITY OF 500 LBS EACH.



**WATERPROOFING DETAIL**  
 SCALE: 2" = 1'-0"  
 WATERPROOFING TO BE APPLIED IN FIELD BY BRIDGE CONSTRUCTION CONTRACTOR WHEN SPECIFIED. WORK NOT INCLUDED WITH SHOP FABRICATION.

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM

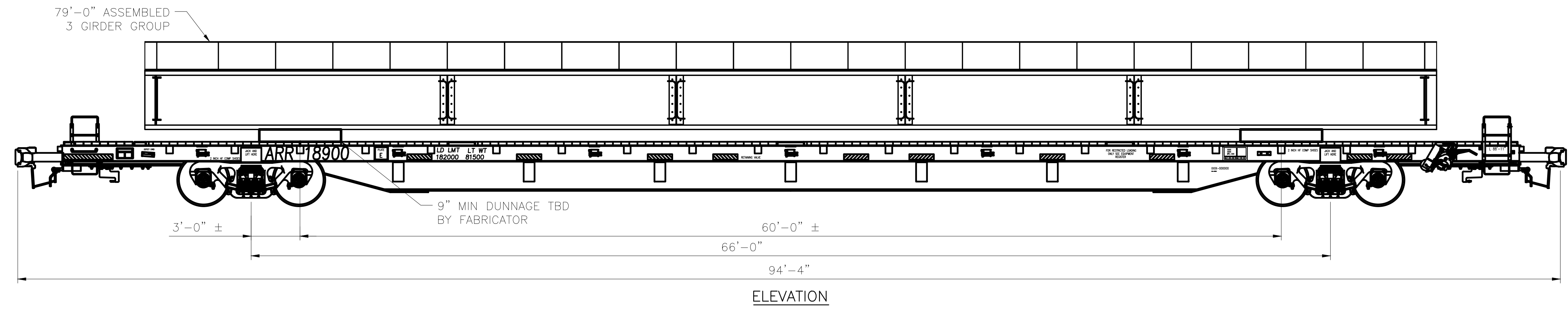


**HDR**  
 HDR ENGINEERING, INC.  
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 LICENSE #: AECC569

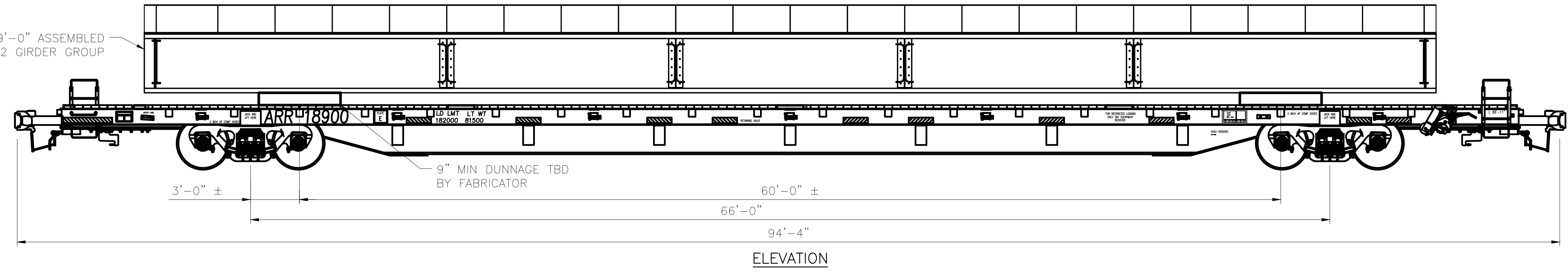
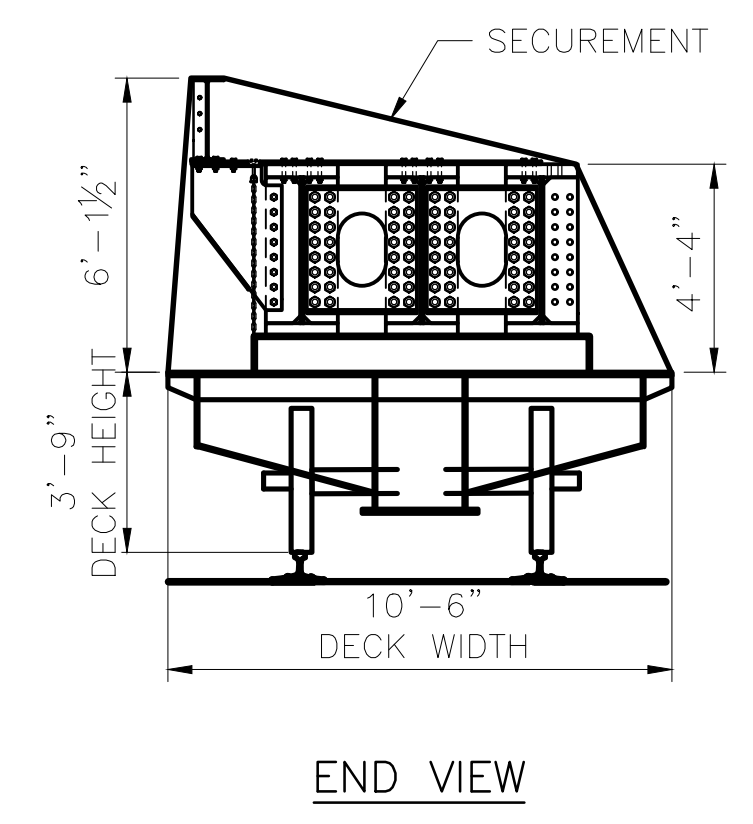
**ALASKA RAILROAD**  
 CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500  
 PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: MISCELLANEOUS DETAILS

AFE NO. 11228  
 YEAR 2025  
 SHEET 20 OF 22

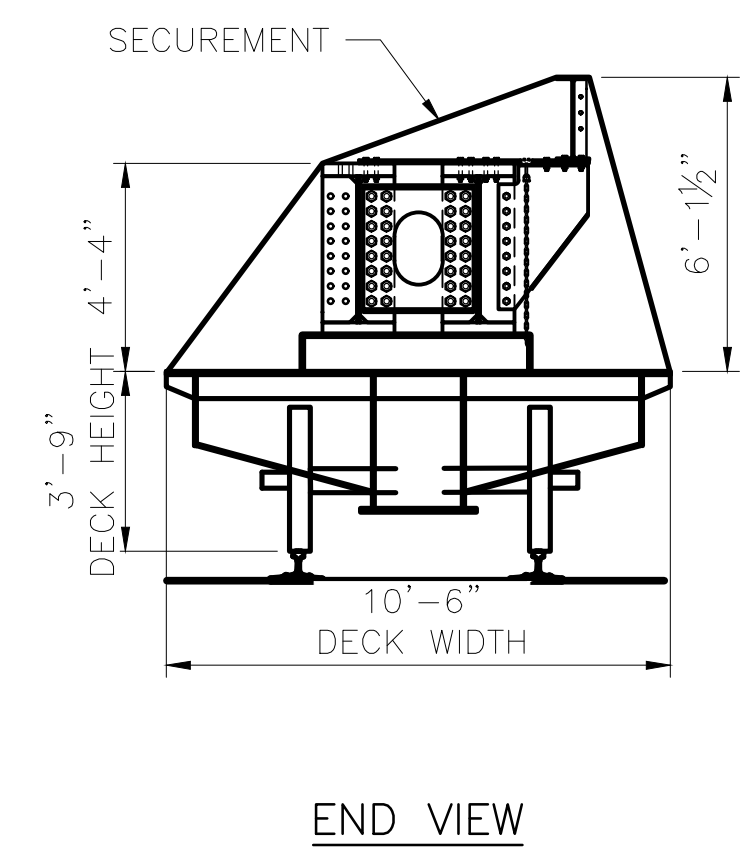
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 TIME: AS NOTED  
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 PUBLISHED CTB: ARRC\_CTB\_2023.CTB



**79'-0 ASSEMBLED 3 GIRDER GROUP ON 89' FLAT CAR**  
 SCALE: 1" = 4'-0"  
 2 ~ REQUIRED  
 ESTIMATED PAYLOAD WEIGHT = 156,000 LBS



**79'-0 ASSEMBLED 2 GIRDER GROUP ON 89' FLAT CAR**  
 SCALE: 1" = 4'-0"  
 2 ~ REQUIRED  
 ESTIMATED PAYLOAD WEIGHT = 105,000 LBS

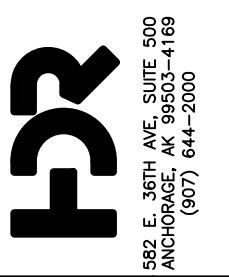


**SECUREMENT AND SHIPPING NOTES:**

- FABRICATOR TO COORDINATE SHIPPING VIA AML RAIL BARGE WITH ARRC IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. SHIPPING SHALL BE F.O.B. TO PCC LOGISTICS, 3629 DUWAMISH AVENUE SOUTH, SEATTLE, WA 98134.
- ARRC WILL PROVIDE 1189XX-89' FLAT CARS AND ONE 40' SHIPPING CONTAINER TO THEIR SEATTLE, WA TERMINAL. FABRICATOR TO COORDINATE MOVEMENT OF FLAT CARS TO AND FROM FABRICATION FACILITY OR LOADING OF MATERIAL AT TERMINAL. A TOTAL OF SIX RAIL CARS ARE EXPECTED TO BE NEEDED TO SHIP THE MATERIAL AS SHOWN IN THE PLANS. COORDINATE WITH ARRC IF ADDITIONAL RAIL CARS ARE NEEDED.
- SECURE LOADS TO ARRC PROVIDED RAIL CARS AND SHIPPING CONTAINER IN A MANNER THAT WILL NOT DAMAGE OR DEFORM THE MEMBERS. SECUREMENT DETAILS SHOWN ON THESE PLANS ARE RECOMMENDATIONS ONLY, FABRICATOR TO PROVIDE FINAL PROPOSED CONFIGURATION AND DUNNAGE SUPPORT DETAILS FOR REVIEW BY ARRC PRIOR TO LOADING AND SHIPPING MATERIAL. DUNNAGE MAY BE COMPOSED OF TIMBER OR STEEL OR COMBINATION THEREOF TO SUPPORT MATERIALS.
- UNBALANCED LOADS ARE LIMITED TO 20,000 LBS DIFFERENCE BETWEEN TRUCKS WITH NO TRUCK EXCEEDING ONE HALF THE GROSS WEIGHT LIMIT.
- WEIGHTS FOR 189XX RAIL CARS:
  - ESTIMATED LT WEIGHT: 81,500 LBS.
  - ESTIMATED CAPACITY: 181,500 LBS.
  - GROSS WEIGHT LIMIT: 263,000 LBS.

DESIGNED BY: ML  
 CHECKED BY: KK  
 DRAFTED BY: MEM

HDR ENGINEERING, INC.  
 582 E. 36TH AVE, SUITE 500  
 ANCHORAGE, AK 99503-4169  
 (907) 644-2000  
 LICENSE #: AECC569

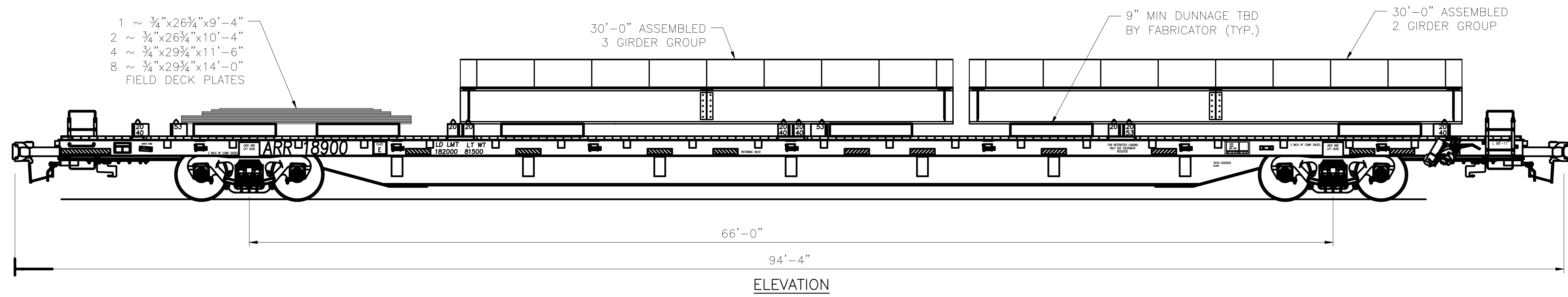


**ALASKA RAILROAD**  
 CAPITAL PROJECTS  
 P.O. BOX 107500  
 ANCHORAGE, ALASKA 99510-7500

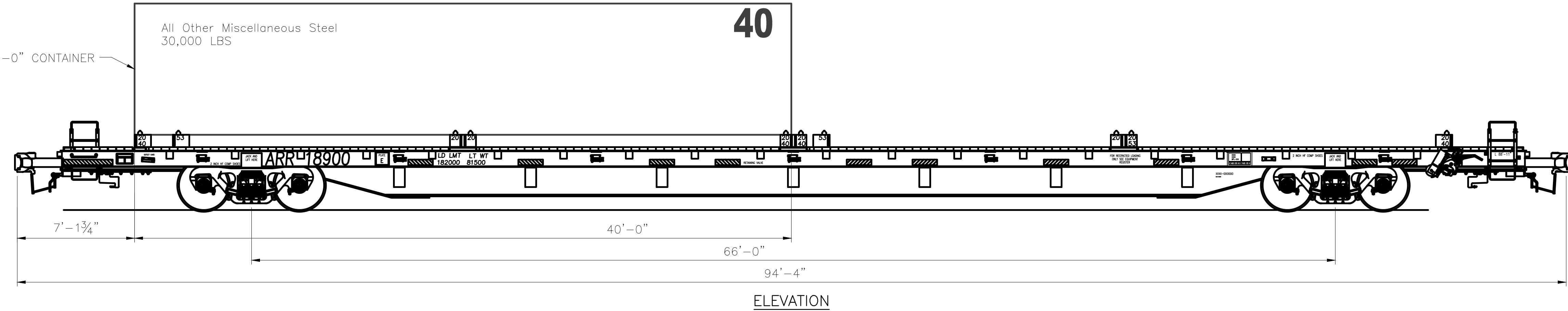
PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3  
 SHEET TITLE: SHIPPING AND SECUREMENT REQUIREMENTS (1 OF 2)

AFE NO. 11228  
 YEAR 2025  
 SHEET 21 OF 22

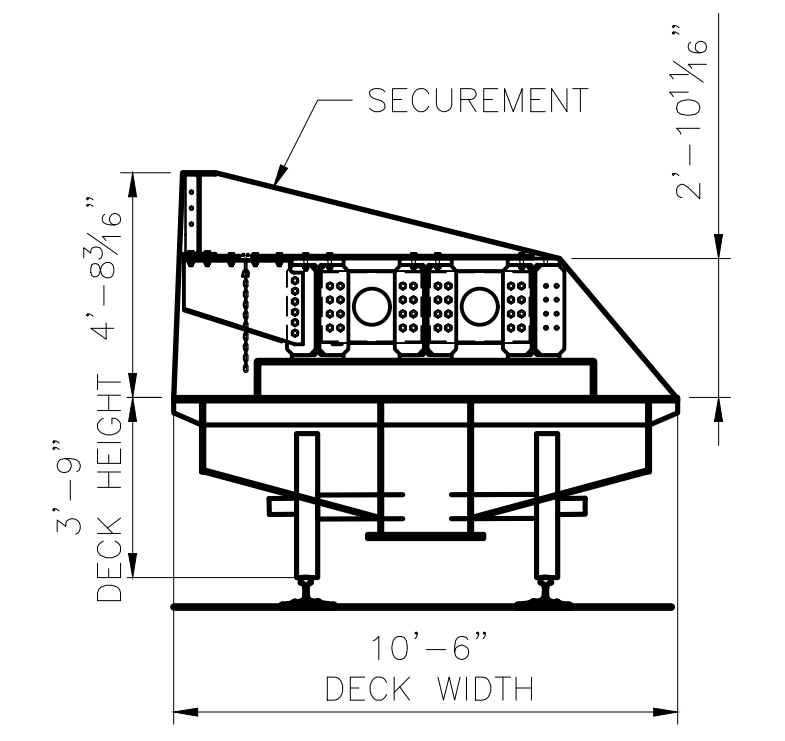
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 ARRCC: CTB\_2023.CTB



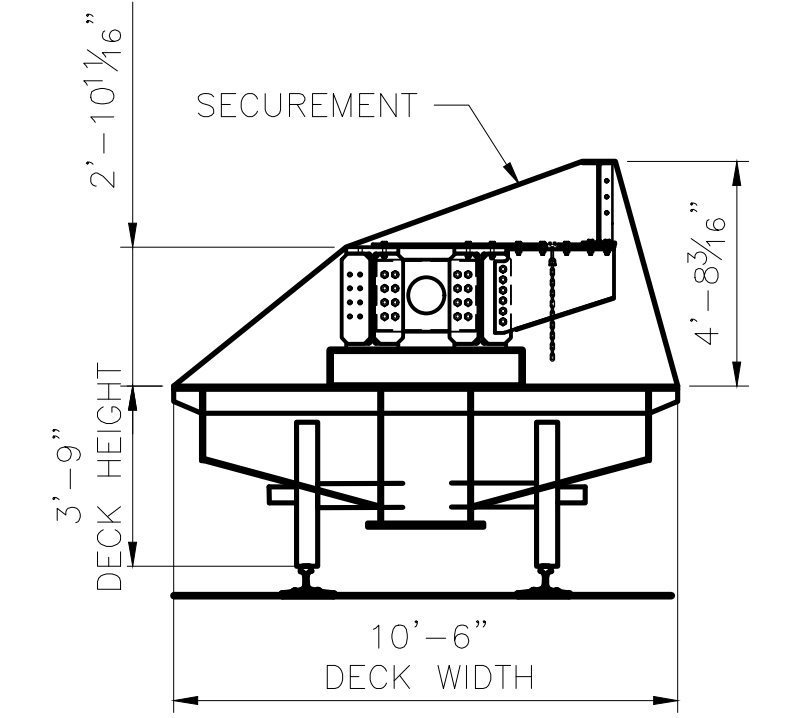
**30'-0 ASSEMBLED GIRDER GROUPS AND FIELD DECK PLATES ON 89' FLAT CAR**  
 SCALE: 1" = 4'-0"  
 1 ~ REQUIRED  
 ESTIMATED PAYLOAD WEIGHT = 60,000 LBS



**MISCELLANEOUS STEEL CONTAINER ON 89' FLAT CAR**  
 SCALE: 1" = 4'-0"  
 1 ~ REQUIRED  
 ESTIMATED PAYLOAD WEIGHT = 30,000 LBS



END VIEW - 3 BEAM GROUP



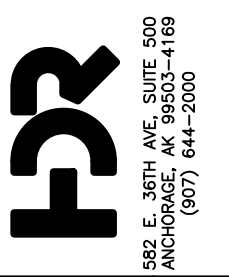
END VIEW - 2 BEAM GROUP

**NOTES:**

1. REFER TO SHEET 21 FOR SECUREMENT AND SHIPPING NOTES.

DESIGNED BY:	ML
CHECKED BY:	KK
DRAFTED BY:	MEM

2/14/2025  
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<b>ALASKA RAILROAD</b> CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	PROJECT: FABRICATION AND SUPPLY OF 2~79' DECK PLATE GIRDER SPANS AND 1~30' ROLLED BEAM SPAN FOR BRIDGE 114.3
	SHEET TITLE: SHIPPING AND SECUREMENT REQUIREMENTS (2 OF 2)

AFE NO.	11228
YEAR	2025
SHEET	22 OF 22