

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_001.DWG
 DATE: 12/14/2023 11:02 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

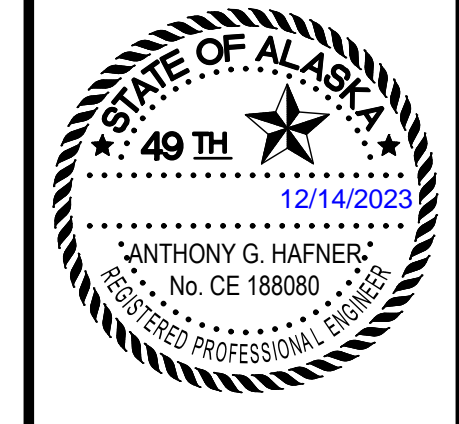
ALASKA RAILROAD CORPORATION

CAPITAL PROJECTS

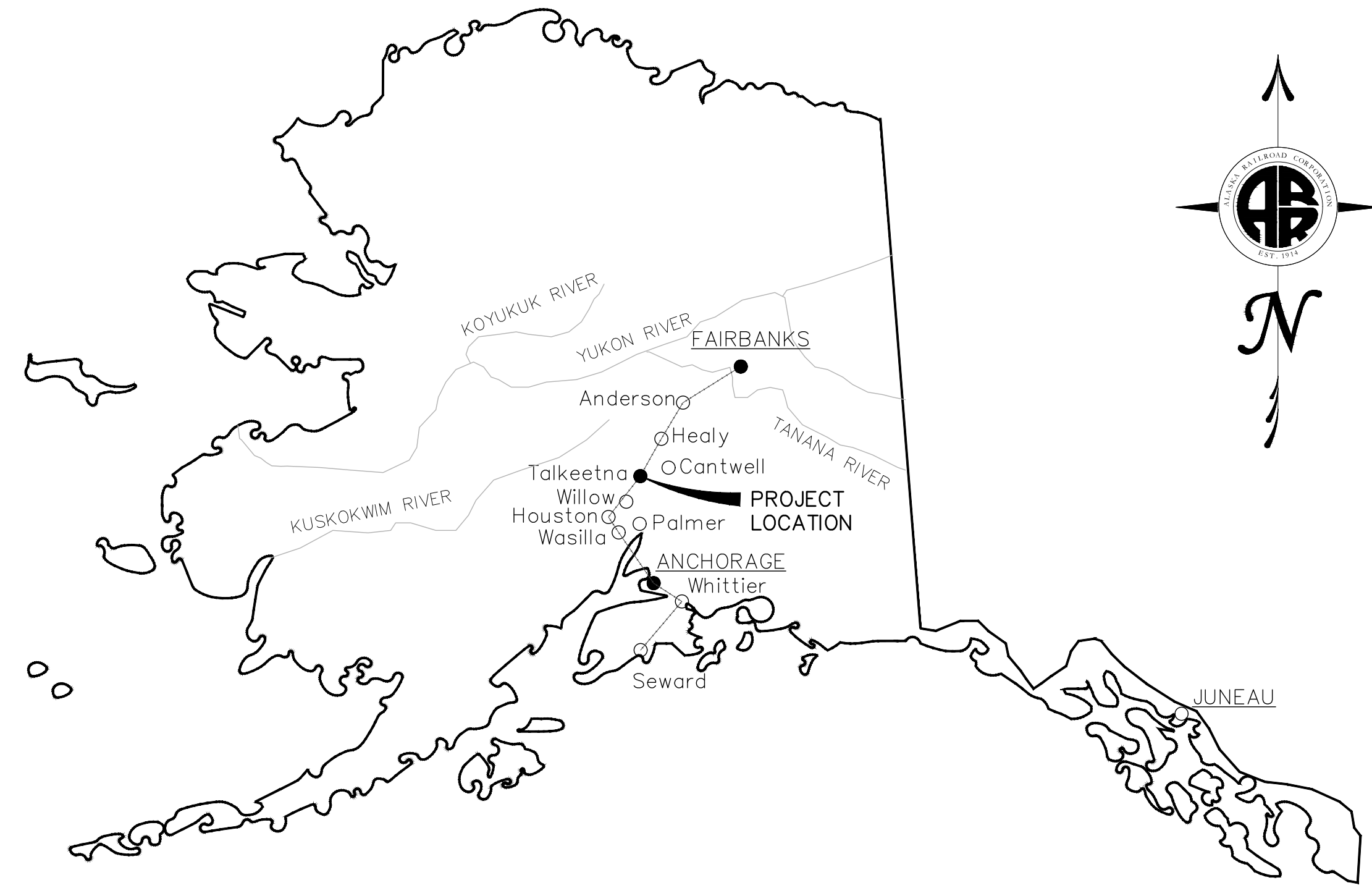
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

TALKEETNA RIVER BRIDGE 227.1 REHABILITATION ISSUED FOR BID PLAN SET DECEMBER 2023

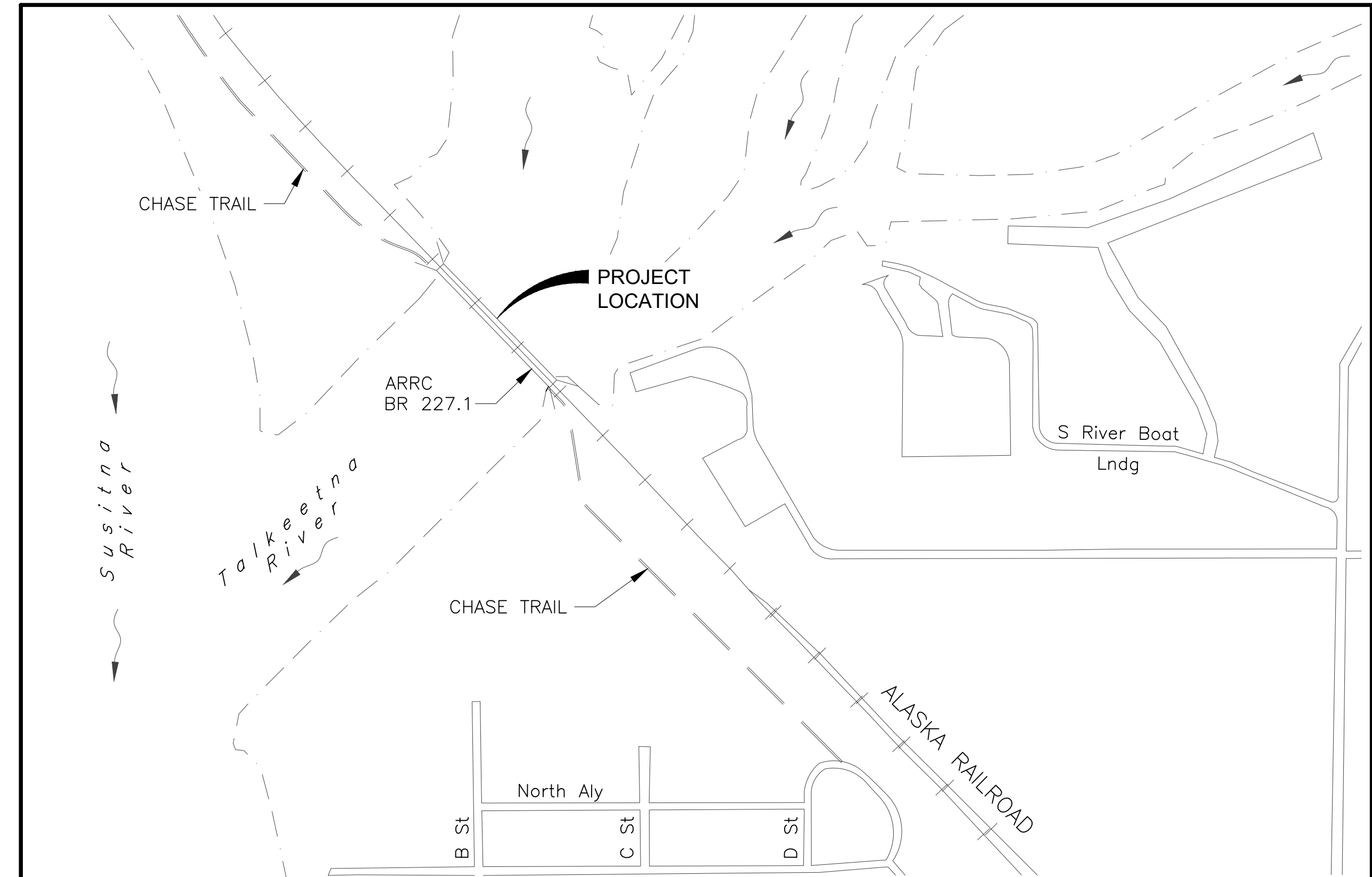
DESIGNED BY: AH
 CHECKED BY: MH
 DRAFTED BY: VS



HDR ENGINEERING, INC.
 582 E. 35TH AVE, SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569



VICINITY MAP
N.T.S.



SITE MAP
N.T.S.

SHEET INDEX

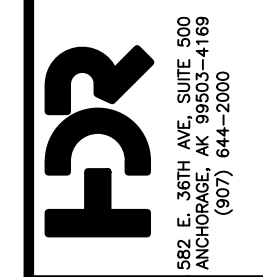
SHEET TITLE	SHEET NO.	SHEET TITLE	SHEET NO.
COVER SHEET	1	TRUSS REHAB STEEL PIECE DETAILS (1 OF 3)	15
LEGEND AND ABBREVIATIONS	2	TRUSS REHAB STEEL PIECE DETAILS' (2 OF 3)	16
BID SCHEDULE & ESTIMATED QUANTITIES TABLES (1 OF 2)	3	TRUSS REHAB STEEL PIECE DETAILS (3 OF 3)	17
ESTIMATED QUANTITIES TABLES (2 OF 2)	4	TRUSS BEARING DETAILS	18
GENERAL NOTES	5	PRECAST CONCRETE RISER BLOCK DETAILS	19
CONSTRUCTION WORK SEQUENCE AND GENERAL SITE PLAN	6	EXISTING WALKWAY LAYOUT - REMOVALS	20
BRIDGE GENERAL ARRANGEMENT	7	WALKWAY LAYOUT - REHABILITATION	21
TYPICAL SECTIONS	8	WALKWAY DETAILS (1 OF 4)	22
TRUSS REHAB LAYOUT	9	WALKWAY DETAILS (2 OF 4)	23
TRUSS SPAN RIVET REPLACEMENT DETAILS	10	WALKWAY DETAILS (3 OF 4)	24
TRUSS REHAB DETAILS - L5-U5 & L4-U5 SPAN 2 (1 OF 2)	11	WALKWAY DETAILS (4 OF 4)	25
TRUSS REHAB DETAILS - L5-U5 & L4-U5 SPAN 2 (2 OF 2)	12	BRIDGE APPROACH LAYOUT	26
TRUSS MEMBER SPLICE DETAILS (IF REQUIRED)	13	BRIDGE APPROACH DETAILS (1 OF 2)	27
STRINGER AND END FLOORBEAM REHAB DETAILS (BOTH TRUSSES)	14	BRIDGE APPROACH DETAILS (2 OF 2)	28

STANDARD DRAWING REFERENCES:

ARRC STANDARD BALLAST AND TRACK PLANS - CURRENT VERSION
 ALASKA DOT STANDARD PLANS F-01.04 - CHAIN LINK FENCE

AS-BUILT DRAWING REFERENCES:

ARRC - BRIDGE NO. 227.1 ~ TALKEETNA RIVER - GENERAL ELEVATION, FOUNDATION - NOV. 1925
 ARRC - BRIDGE NO. 227.1 ~ TALKEETNA RIVER - MASONRY PLAN & ERECTION DIAGRAM - SHEETS E1/E2 - NOV.1924
 ARRC - BRIDGE NO. 227.1 ~ TALKEETNA RIVER - TRUSS PLANS - SHEETS 1 THRU 7 - JAN. 1925



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

PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: COVER SHEET

AFE NO. 12259
 YEAR 2023
 SHEET 1 OF 28

ABBREVIATIONS

AKDOT & PF	ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
APPROX.	APPROXIMATE
AREMA	AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION
ARRC	ALASKA RAILROAD CORPORATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BMP	BEST MANAGEMENT PRACTICE
BR	BRIDGE
☉	CENTERLINE
C-C	CENTER-TO-CENTER
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
DIA	DIAMETER
E OR EXP	EXPANSION
ELEV. OR EL.	ELEVATION
F OR FIX	FIXED
GALV.	GALVANIZED
GR	GRADE
HORIZ.	HORIZONTAL
H.S.	HIGH STRENGTH
LF	LINEAR FEET
MIN.	MINIMUM
MK	MARK
MP	MILEPOST
NDT	NON-DESTRUCTIVE TEST
NO.	NUMBER
OD	OPEN DECK
OE	OVERHEAD ELECTRICAL LINE
OHW	ORDINARY HIGH WATER
O-O	OUT-TO-OUT
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTFE	POLYTETRAFLUOROETHYLENE
R	RADIUS
R/W OR ROW	RIGHT OF WAY
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SPA	SPACE OR SPACING
SSHC	STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTIONS
SSPC	STEEL STRUCTURES PAINTING COUNCIL
STA.	STATION
T/XXX	TOP OF XXX (T/TIE, T/CAP, ETC.)
TBD	TO BE DETERMINED (DESIGNED)
TYP.	TYPICAL
VERT.	VERTICAL

HOLE LEGEND:

- ⊙ SHOP BOLT
- FIELD BOLT

LEGEND

GENERAL

	EXISTING	PROPOSED
BUILDING		
CENTERLINE		
EXISTING TRAIL		
EDGE OF GRAVEL		
EDGE OF PAVEMENT		
CHAIN LINK FENCE		
RAILROAD BRIDGE		
TRACK ☉		
RIGHT OF WAY		
RIP RAP		
SIGN		

UTILITIES

	EXISTING	PROPOSED
OVERHEAD POWER LINE		
UNDERGROUND ELECTRIC		
ELECTRIC IN CONDUIT		

TOPOGRAPHY

	EXISTING	PROPOSED
CONTOURS		
FLOW DIRECTION		

DESIGNED BY:	AH
CHECKED BY:	MH
DRAFTED BY:	VS



HDR ENGINEERING, INC.
 582 E. 35TH AVE., SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AEC5569



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



TALKEETNA RIVER BRIDGE 227.1 REHABILITATION

LEGEND AND ABBREVIATIONS

AFE NO.	12259
YEAR	2023
SHEET	2 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\02653003\BR-227.1_TALKEETNA_003.DWG
 DATE: 12/14/2023 5:11 PM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

ESTIMATE OF QUANTITIES			
PAY ITEM	ITEM DESCRIPTION	PAY UNIT	TOTAL QUANTITY
201.0009.1	CLEARING AND GRUBBING	ACRE	0.25
202.0023.1	REMOVAL OF EXISTING STRUCTURES	LS	1
501.0007.1	PRECAST CONCRETE RISER BLOCK	EA	6
504.0001.1	STRUCTURAL STEEL, TRUSS REHABILITATION	LS	1
504.0001.2	STRUCTURAL STEEL, TRAINMAN'S WALKWAY	LS	1
504.0001.3	STRUCTURAL STEEL, TRUSS MEMBER SPLICE	CS	ALL REQ'D
506.0001.1	TREATED TIMBER, TRAINMAN'S WALKWAY	LS	1
507.0002.1	PEDESTRIAN RAILING	LF	880
516.0002.1	BEARINGS, TRUSS	EA	8
607.0003.1	CHAIN LINK FENCE 8'-0" TALL	LF	200
640.0001.1	MOBILIZATION AND DEMOBILIZATION	LS	1
641.0002.1	TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL AND ADMINISTRATION	LS	1
643.0001.1	TRAFFIC CONTROL, ADMINISTRATION AND MAINTENANCE	CDAY	90
643.0001.3	PERMANENT CONSTRUCTION SIGNS	LS	1
646.0001.1	CPM SCHEDULING	LS	1
647.0001.1	AS-BUILT DRAWINGS	LS	1

ESTIMATED QUANTITY NOTES:

- QUANTITIES ARE ESTIMATED, CONTRACTOR TO FIELD VERIFY ALL QUANTITIES BASED ON SITE CONDITIONS AND DETAILS NOTED ON PLANS PRIOR TO ORDERING MATERIAL OR STARTING CONSTRUCTION.
- FOR DESCRIPTION OF PAY ITEMS, REFER TO PROJECT SPECIFICATIONS.
- REFERENCES TO 2020 AK DOT&PF STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (SSHC) PAY ITEM NUMBERS ARE PROVIDED FOR REFERENCE ONLY. REFER TO PROJECT SPECIFICATIONS FOR APPLICABLE PORTIONS OF WORK.

ITEM 202.0023.1 – REMOVAL OF EXISTING STRUCTURES		
DESCRIPTION	UNIT	QUANTITY
REMOVAL OF EXISTING TRAINMAN WALKWAY, WALKWAY TIMBER ABUTMENTS AND TIMBER RETAINING WALLS	LF	431
REMOVAL OF EXISTING CHAIN LINK FENCE	LF	200
REMOVAL OF EXISTING TRUSS BEARINGS	EA	8
REMOVAL OF EXISTING STRINGER FLANGE ANGLES	EA	56
REMOVAL OF EXISTING TRUSS END FLOORBEAM FLANGE ANGLES	EA	8

ITEM 501.0007.1 – PRECAST CONCRETE RISER BLOCK (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
PRECAST CONCRETE RISER BLOCK MK CRB1	EA	4
PRECAST CONCRETE RISER BLOCK MK CRB2	EA	2
DRILL AND BOND ANCHOR ROD	EA	32
CONCRETE REPAIR AND GROUT PADS	CY	1.5

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF STEEL MATERIAL AND FASTENERS REQUIRED

ITEM 504.0001.1 – STRUCTURAL STEEL, TRUSS REHABILITATION (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
REPLACE EXISTING RIVET WITH H.S. BOLTS	EA	10,854
NON-DESTRUCTIVE TESTING OF EXISTING WELD REMOVALS	LF	50
STRUCTURAL STEEL, COVER PLATES	LB	4,193
STRUCTURAL STEEL, STRINGER FLANGE ANGLES	LB	53,872
STRUCTURAL STEEL, END FLOORBEAM FLANGE ANGLES	LB	3,088
TOTAL STRUCTURAL STEEL	LB	61,153
TEMPORARY ERECTION H.S. BOLTS (NOTE 2)	EA	3,885
PERMANENT H.S. BOLTS (NOTE 2)	EA	12,246
TOTAL H.S. BOLTS	EA	16,131

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF STEEL MATERIAL AND FASTENERS REQUIRED
 NOTE 2: BOLT QUANTITIES INCLUDE 5% ADDITIONAL

ITEM 504.0001.2 – STRUCTURAL STEEL, TRAINMAN'S WALKWAY (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
STRUCTURAL STEEL, CONNECTION ANGLES	LB	2,911
STRUCTURAL STEEL, BRACKETS	LB	2,214
STRUCTURAL STEEL, STRINGERS	LB	24,822
STRUCTURAL STEEL, CROSSBEAMS	LB	3,925
STRUCTURAL STEEL, PLATES	LB	997
TOTAL STRUCTURAL STEEL	LB	34,869
PERMANENT H.S. BOLTS (NOTE 2)	EA	1,474
ELASTOMERIC PAD	EA	32

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF STEEL MATERIAL AND FASTENERS REQUIRED
 NOTE 2: BOLT QUANTITIES INCLUDE 5% ADDITIONAL

ITEM 504.0001.3 – STRUCTURAL STEEL, TRUSS MEMBER SPLICE (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
REPLACE EXISTING RIVET WITH H.S. BOLTS (PER SPLICE)	EA	159
STRUCTURAL STEEL, COVER PLATES (PER SPLICE)	LB	1,228
PERMANENT H.S. BOLTS (NOTE 2) (PER SPLICE)	EA	159

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF STEEL MATERIAL AND FASTENERS REQUIRED
 NOTE 2: BOLT QUANTITIES INCLUDE 5% ADDITIONAL

ITEM 506.0001.1 – TREATED TIMBER, TRAINMAN'S WALKWAY (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
3x12 (2.5"x11.25" ROUGH SAWN) COPPER NAPHTHENATE TREATED TIMBER DECKING	SF	1,626
2x12 (1.5"x11.25" ROUGH SAWN) COPPER NAPHTHENATE TREATED TIMBER DECKING	SF	1,770
CARRIAGE BOLTS (NOTE 2)	EA	700
TIMBER LAG SCREWS (NOTE 2)	EA	1,365
8x10 (ROUGH SAWN) COPPER NAPHTHENATE TREATED TIMBER STRINGERS, 18'-0" LONG	EA	10
12x12 (ROUGH SAWN) COPPER NAPHTHENATE TREATED TIMBER MUD SILLS, 5'-0" LONG	EA	4
#6 REBAR DOWELS, 4'-0" LONG	EA	12
TIMBER STRINGER TIE BOLTS & HARDWARE	EA	10

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF FASTENERS REQUIRED
 NOTE 2: BOLT AND SCREW QUANTITIES INCLUDE 5% ADDITIONAL

ITEM 507.0002.1 – PEDESTRIAN RAILING		
DESCRIPTION	UNIT	QUANTITY
STEEL TUBE PEDESTRIAN RAILING, GALVANIZED	LF	880
CONCRETE FILLED STEEL BOLLARD	EA	4

ITEM 516.0002.1 – BEARINGS, TRUSS (NOTE 1)		
DESCRIPTION	UNIT	QUANTITY
EXPANSION BEARING ASSEMBLY	EA	4
FIXED BEARING ASSEMBLY	EA	4

NOTE 1: SEE BILL OF MATERIAL FOR DETAILED LIST OF STEEL MATERIAL AND FASTENERS REQUIRED

DESIGNED BY: MH
 CHECKED BY: MH
 DRAFTED BY: VS

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: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: BID SCHEDULE & ESTIMATED QUANTITIES TABLES (1 OF 2)

AFE NO. 12259
 YEAR 2023
 SHEET 3 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKKEETNA_004.DWG
 DATE: 12/14/2023 11:03 AM
 TIME: SCALE AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

BILL OF MATERIAL – BEARING REPLACEMENT (ITEMS 501.0007.1 PRECAST CONCRETE RISER BLOCK AND 516.0002.1 BEARINGS, TRUSS)								
LINE	QUANTITY	UNIT	DESCRIPTION	MARK	SIZE	LENGTH	LIFTING WEIGHT (LBS)	REMARKS
1	4	EA.	FIXED BEARING MASONRY BASE PLATE	MBP1	5¾"x2'-9"	4'-2"	2,370	ASTM A588 GR. 50W, SEE DETAIL ON SHEET 18
2	4	EA.	EXPANSION BEARING BASE PLATE	BP2	2"x2'-9"	4'-2"	975	ASTM A588 GR. 50W, SEE DETAIL ON SHEET 18
3	4	EA.	EXPANSION BEARING MASONRY PLATE	MP2	3½"x2'-9"	4'-2"	1,638	ASTM A588 GR. 50W, SEE DETAIL ON SHEET 18
4	8	EA.	ELASTOMERIC TRUSS BEARING PAD	EBP1	½"x2'-10"	4'-3"		60 DUROMETER NATURAL RUBBER, SEE DETAIL ON SHEET 18
5	4	EA.	PRECAST CONCRETE RISER BLOCK	CRB1	6"x3'-1"	4'-9"	1,305	SEE DETAIL ON SHEET 19
6	2	EA.	PRECAST CONCRETE RISER BLOCK	CRB2	6"x5'-0"	6'-5"	2,705	SEE DETAIL ON SHEET 19
7	32	EA.	HIGH STRENGTH BOLTS		1½" DIA.	0'-4"		
8	32	EA.	ANCHOR ROD W/ 2~NUTS & FLAT WASHER, GALVANIZED	AR1	1½" DIA.	3'-0"		SEE DETAIL ON SHEET 18
9	32	EA.	PLATE WASHER	PW1	½"x 5"	0'-8"	5.7	ASTM A588 GR. 50W, SEE DETAIL ON SHEET 18
10	1	CY	CONCRETE REPAIR					SEE DETAIL ON SHEET 8
11	0.5	CY	POLYMER GROUT PAD					SEE DETAILS ON SHEET 8

BILL OF MATERIAL – TRUSS REHABILITATION (ITEM 504.0001.1 – STRUCTURAL STEEL, TRUSS REHABILITATION)								
LINE	QUANTITY	UNIT	DESCRIPTION	MARK	SIZE	LENGTH	LIFTING WEIGHT (LBS)	REMARKS
1	2	EA.	STEEL COVER PLATE	P23	¾"x14"	30'-11"	552	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
2	2	EA.	STEEL COVER PLATE	D2	5/8"x12"	39'-4¾"	1005	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
3	1	EA.	STEEL SPLICE PLATE	P21S	¾"x14"	3'-1"	55.1	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
4	2	EA.	STEEL SPLICE PLATE	P23S	¾"x6"	3'-1"	23.6	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
5	1	EA.	STEEL SPLICE PLATE	P22S1	¾"x14"	2'-8¾"	48.2	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
6	2	EA.	STEEL SPLICE PLATE	P22S2	½"x5¼"	2'-8¾"	24.1	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
7	2	EA.	STEEL SPLICE PLATE	SSPD1	5/8"x12"	4'-0½"	104	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
8	2	EA.	STEEL SPLICE PLATE	SSPD2	5/8"x12"	4'-0½"	103	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
9	1	EA.	STEEL FILL PLATE	SFP1	½"x14"	1'-5"	8.5	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
10	1	EA.	STEEL FILL PLATE	SFP2	½"x14"	1'-4"	8.0	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
11	1	EA.	STEEL FILL PLATE	SFP3	½"x14"	1'-5"	33.8	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
12	2	EA.	STEEL FILL PLATE	SFP4	¾"x3¼"	1'-1½"	4.7	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
13	1	EA.	STEEL FILL PLATE	SFP2L5	5/8"x14"	1'-4"	39.7	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
14	2	EA.	STEEL FILL PLATE	SFPD1	½"x12"	1'-4½"	7.0	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
15	2	EA.	STEEL FILL PLATE	SFPD2	½"x12"	1'-5¾"	7.6	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
16	2	EA.	STEEL CHEESE PLATE	SCPD1	¾"x12"	2'-6½"	76.9	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
17	2	EA.	STEEL CHEESE PLATE	SCPD2	¾"x12"	2'-6"	76.6	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
18	1	EA.	STEEL BRACING GUSSET PLATE	BCP1	¾"x16"	1'-5½"	30.0	ASTM A709 GR 50, SEE DETAILS ON SHEET 15
19	28	EA.	STRINGER FLANGE ANGLE	SFA1	L8x6x¾	28'-5¾"	962	ASTM A709 GR 50, SEE DETAILS ON SHEET 16
20	28	EA.	STRINGER FLANGE ANGLE	SFA2	L8x6x¾	28'-5¾"	962	ASTM A709 GR 50, SEE DETAILS ON SHEET 16
21	4	EA.	FLOORBEAM FLANGE ANGLE	FFA1	L8x6x½	16'-9½"	386	ASTM A709 GR 50, SEE DETAILS ON SHEET 16
22	4	EA.	FLOORBEAM FLANGE ANGLE	FFA2	L8x6x½	16'-9½"	386	ASTM A709 GR 50, SEE DETAILS ON SHEET 16
23	1,590	EA.	HIGH STRENGTH BOLT		7/8" DIA.	2¼"		ASTM F3125, A325, TYPE 3
24	2,270	EA.	HIGH STRENGTH BOLT		7/8" DIA.	2½"		ASTM F3125, A325, TYPE 3
25	1,030	EA.	HIGH STRENGTH BOLT		7/8" DIA.	2¾"		ASTM F3125, A325, TYPE 3
26	855	EA.	HIGH STRENGTH BOLT		7/8" DIA.	3"		ASTM F3125, A325, TYPE 3
27	25	EA.	HIGH STRENGTH BOLT		7/8" DIA.	3¼"		ASTM F3125, A325, TYPE 3
28	6,040	EA.	HIGH STRENGTH BOLT		7/8" DIA.	3½"		ASTM F3125, A325, TYPE 3
29	18	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4"		ASTM F3125, A325, TYPE 3
30	30	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4¼"		ASTM F3125, A325, TYPE 3
31	270	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4½"		ASTM F3125, A325, TYPE 3
32	118	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4¾"		ASTM F3125, A325, TYPE 3
33	273	EA.	HIGH STRENGTH BOLT – TEMPORARY		7/8" DIA.	2¾"		ASTM F1554, A325, TYPE 1 OR TYPE 3
34	3,528	EA.	HIGH STRENGTH BOLT – TEMPORARY		7/8" DIA.	3½"		ASTM F1554, A325, TYPE 1 OR TYPE 3
35	84	EA.	HIGH STRENGTH BOLT – TEMPORARY		7/8" DIA.	4"		ASTM F1554, A325, TYPE 1 OR TYPE 3
36	12,246	EA.	HEAVY HEX NUT		7/8" DIA.			ASTM A563, GRADE C3
37	12,246	EA.	WASHER, FLAT, ROUND		7/8" DIA.			ASTM F436, TYPE 3

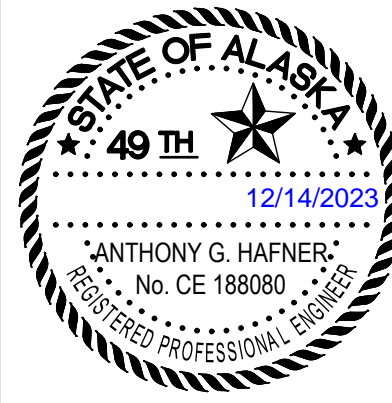

NOTE: BOLT QUANTITIES INCLUDE 5% ADDITIONAL

BILL OF MATERIAL – WALKWAY (ITEM 504.0001.2 – STRUCTURAL STEEL, TRAINMAN'S WALKWAY, ITEM 506.0001.1 – TREATED TIMBER, TRAINMAN'S WALKWAY AND ITEM 507.0002.1 – PEDESTRIAN RAILING)								
LINE	QUANTITY	UNIT	DESCRIPTION	MARK	SIZE	LENGTH	LIFTING WEIGHT (LBS)	REMARKS
1	1	EA.	STEEL TUBE HANDRAIL PANEL	AH1		14'-3¾"	750	SEE DETAILS ON SHEET 24
2	1	EA.	STEEL TUBE HANDRAIL PANEL	AH1A		14'-3¾"	657	SEE DETAILS ON SHEET 24
3	2	EA.	STEEL TUBE HANDRAIL PANEL	AH2		21'-0¾"	996	SEE DETAILS ON SHEET 24
4	32	EA.	STEEL TUBE HANDRAIL PANEL	AH3		21'-4¼"	992	SEE DETAILS ON SHEET 24
5	2	EA.	STEEL TUBE HANDRAIL PANEL	AH4		12'-1¼"	567	SEE DETAILS ON SHEET 24
6	2	EA.	STEEL TUBE HANDRAIL PANEL	AH5		12'-1¼"	569	SEE DETAILS ON SHEET 24
7	2	EA.	STEEL TUBE HANDRAIL PANEL	AH6		20'-3¾"	962	SEE DETAILS ON SHEET 25
8	1	EA.	STEEL TUBE HANDRAIL PANEL	AH7		14'-9¼"	768	SEE DETAILS ON SHEET 25
9	1	EA.	STEEL TUBE HANDRAIL PANEL	AH7A		14'-9¼"	673	SEE DETAILS ON SHEET 25
10	28	EA.	STEEL SUPPORT BEAM	SB	W8x31	28'-5¾"	887	SEE DETAILS ON SHEET 23
11	58	EA.	STEEL CROSS BEAM	CB	W6x15	4'-7½"	66.1	SEE DETAILS ON SHEET 23
12	15	EA.	STEEL WALK SUPPORT BRACKET	BR	6"x3'-7¾"	4'-5"	139	SEE DETAILS ON SHEET 23
13	1	EA.	STEEL WALK SUPPORT BRACKET	BRU5	6"x3'-7¾"	4'-5"	139	SEE DETAILS ON SHEET 23
14	2	EA.	STEEL ANGLE POST	BR2a	L4x4x¾	3'-5¼"	33.7	SEE DETAILS ON SHEET 28
15	2	EA.	STEEL CHANNEL BEAM	BR2b	C7x9.8	4'-8"	45.8	SEE DETAILS ON SHEET 28
16	4	EA.	STEEL ANGLE BRACKET	SB1	L6x4x¾	0'-4"	4.0	SEE DETAILS ON SHEET 28
17	2	EA.	STEEL ANGLE BRACKET	SB2	L6x4x¾	0'-4"	4.0	SEE DETAILS ON SHEET 28
18	2	EA.	STEEL FILL PLATE	SFP6	¾"x7"	0'-10"	7.5	SEE DETAILS ON SHEET 28
19	32	EA.	TOP BRACKET ANGLE	BRA1	L6x6x½	0'-11½"	38.9	SEE DETAILS ON SHEET 23
20	32	EA.	BOTTOM BRACKET ANGLE	BRA2	L6x6x½	1'-3"	49.2	SEE DETAILS ON SHEET 23
21	2	EA.	STEEL HANDRAIL PLATE	HP1	½"x15½"	15'-9"	416	SEE DETAILS ON SHEET 28
22	3	EA.	WALKWAY COVER PLATE		WT6x13	3'-10"	50	ASTM A709 GR. 50, GALV.
23	32	EA.	ELASTOMERIC PAD	EP1	½"x6"	0'-7½"		60 DUROMETER NATURAL RUBBER, SEE DETAILS ON SHEET 22
24	735	EA.	CARRIAGE BOLT W/ LOCKNUT AND 2 FLAT WASHERS, GALVANIZED FOR TIMBER DECKING		½" DIA.	4"		TIMBER DECK TO CROSSBEAM
25	1,300	EA.	TIMBER LAG SCREW, EXTERIOR COATED		#15	3½"		TIMBER SURFACE PLANK TO LOWER TIMBER
26	65	EA.	TIMBER LAG SCREW, EXTERIOR COATED		½" DIA.	6"		SB1 TO MUD SILL, HANDRAIL PANELS AND PLATE TO TIMBER STRINGERS
27	257	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4½"		ASTM F3125 A325 TYPE 3
28	5	EA.	HIGH STRENGTH BOLT		¾" DIA.	1¾"		ASTM F3125 A325 TYPE 3
29	488	EA.	HIGH STRENGTH BOLT		¾" DIA.	2½"		ASTM F3125 A325 TYPE 3
30	488	EA.	HIGH STRENGTH BOLT		¾" DIA.	2¾"		ASTM F3125 A325 TYPE 3
31	236	EA.	HIGH STRENGTH BOLT		7/8" DIA.	3½"		ASTM F3125 A325 TYPE 3
32	981	EA.	HEAVY HEX NUT		¾" DIA.			ASTM A563, GRADE C3
33	981	EA.	WASHER, FLAT ROUND		¾" DIA.			ASTM F436, TYPE 3
34	493	EA.	HEAVY HEX NUT		7/8" DIA.			ASTM A563, GRADE C3
35	493	EA.	WASHER, FLAT ROUND		7/8" DIA.			ASTM F436, TYPE 3
36	13	EA.	MACHINE BOLT, GALV.		½" DIA.	0'-10"		ASTM A307
37	10	EA.	THREADED ROD, GALV.		½" DIA.	4'-5"		ASTM F1554 GRADE 36
38	33	EA.	HEX NUT, GALV.		½" DIA.			ASTM A563, GRADE C
39	33	EA.	OGEE TIMBER WASHER, GALV.		½" DIA.			
40	9	EA.	MACHINE BOLT, GALV.		1" DIA.	2'-2"		ASTM A307
41	9	EA.	HEX NUT, GALV.		1" DIA.			ASTM A563, GRADE C
42	9	EA.	PLATE WASHER, GALV.		½"x4"	0'-4"		ASTM A36

NOTE: BOLT AND SCREW QUANTITIES INCLUDE 5% ADDITIONAL

BILL OF MATERIAL – TRUSS MEMBER SPLICE (ITEM 504.0001.3 – STRUCTURAL STEEL, TRUSS MEMBER SPLICE)								
LINE	QUANTITY	UNIT	DESCRIPTION	MARK	SIZE	LENGTH	LIFTING WEIGHT (LBS)	REMARKS
1	AS REQ.	EA.	STEEL COVER PLATE	L01L	5/8"x16"	10'-6"	405	ASTM A709 GR 50, SEE DETAILS ON SHEET 17
2	AS REQ.	EA.	STEEL CHEESE PLATE	SCPL	¾"x16"	10'-6"	439	ASTM A709 GR 50, SEE DETAILS ON SHEET 17
3	AS REQ.	EA.	STEEL SPLICE PLATE	SSPD3	¾"x12¾"	6'-1½"	100	ASTM A709 GR 50, SEE DETAILS ON SHEET 17
4	AS REQ.	EA.	STEEL FILL PLATE	SFPD3	1¼"x12¾"	3'-11½"	215	ASTM A709 GR 50, SEE DETAILS ON SHEET 17
5	AS REQ.	EA.	STEEL CHEESE PLATE	SCPD3	¾"x12¾"	2'-1½"	69.2	ASTM A709 GR 50, SEE DETAILS ON SHEET 17
6	55	EA.	HIGH STRENGTH BOLT		7/8" DIA.	2¾"		ASTM F1554, A325, TYPE 3
7	49	EA.	HIGH STRENGTH BOLT		7/8" DIA.	3¼"		ASTM F1554, A325, TYPE 3
8	55	EA.	HIGH STRENGTH BOLT		7/8" DIA.	4"		ASTM F1554, A325, TYPE 3
9	159	EA.	HEAVY HEX NUT		7/8" DIA.			ASTM A563, GRADE C3
10	159	EA.	WASHER, FLAT, ROUND		7/8" DIA.			ASTM F436, TYPE 3

NOTE: BOLT QUANTITIES INCLUDE 5% ADDITIONAL

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	VS
	
HDR ENGINEERING, INC. 582 E. 35TH AVE, SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AEC569	
	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: ESTIMATED QUANTITIES TABLES (2 OF 2)	
AFE NO.	12259
YEAR	2023
SHEET	4 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR_227.1_TALKEETNA_005.DWG

DATE: 12/14/2023 2:01 PM

SCALE: AS NOTED

PUBLISHED CTB: ARRC_CTB_2023.CTB

GENERAL NOTES:

- DESIGN AND FABRICATION OF NEW TRUSS COMPONENTS SHALL BE IN ACCORDANCE WITH THE 2021 AREMA MANUAL FOR RAILWAY ENGINEERING CHAPTER 8, CONCRETE STRUCTURES AND FOUNDATIONS, AND CHAPTER 15, STEEL STRUCTURES.
- DESIGN LIVE LOADING FOR NEW TRUSS COMPONENTS IS A 286k CONSIST WITH IMPACT. FATIGUE IS ALSO CONSIDERED.
- DESIGN LIVE LOADING FOR TRAINMAN'S WALK IS 85 PSF UNIFORM LOAD OR ATV CONSISTING OF 4-500 LBS WHEEL LOADS WITH AN AXLE SPACING OF 4'-0". SNOW LOAD IS 24" OF COMPACTED SNOW.
- CONTRACTOR TO PROVIDE A TEMPORARY EROSION AND SETTLEMENT CONTROL PLAN IN ACCORDANCE WITH THE ENVIRONMENTAL PERMITS AND STATE OF ALASKA BMPS.
- CONTRACTOR MAY IN LIEU OF COVER PLATING MEMBERS AS PROPOSED REPLACE THOSE MEMBERS IN KIND, SUBJECT TO REVIEW AND APPROVAL FROM ARRC.
- CONTRACTOR TO PROVIDE LEAD PAINT CONTAINMENT AND DISPOSAL PLAN IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- ALL PLAN DIMENSIONS AND STEEL TRUSS REHAB DETAILS ARE BASED ON AVAILABLE AS-BUILTS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS PRIOR TO ORDERING MATERIALS. IF ACTUAL FIELD DIMENSIONS DO NOT MATCH THESE PLANS NOTIFY ARRC AND THE BRIDGE ENGINEER PRIOR TO ORDERING MATERIALS.
- CONTRACTOR TO RETURN SITE TO EXISTING OR BETTER CONDITIONS AT CONCLUSION OF CONSTRUCTION PRIOR TO DEMOBILIZATION.

HANDRAIL AND WALKWAY NOTES:

- HSS SQUARE TUBE SHALL CONFORM TO ASTM A500 GR B.
- ALL WALKWAY STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION A709 GRADE 50W EXCEPT AS NOTED.
- HANDRAIL PANELS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. BOLTS USED ON HANDRAIL PLATE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
- AFTER GALVANIZING, 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.

TRAINMAN'S WALK TIMBERS:

- TRAINMAN'S WALK PLANKS SHALL BE COPPER NAPHTHENATE TREATED DENSE SELECT NO. 1 OR BETTER DOUGLAS FIR-LARCH.
- TIMBERS SHALL BE PLACED HEART SIDE DOWN TO PREVENT CUPPING.
- APPROACH WALKWAY TIMBER STRINGERS AND MUD SILLS SHALL BE COPPER NAPHTHENATE OR CREOSOTE TREATED DENSE SELECT NO. 1 OR BETTER DOUGLAS FIR-LARCH, ROUGH SAWN TO FULL NOMINAL DIMENSIONS.

RIVET REPLACEMENT NOTES:

- CARE SHALL BE TAKEN NOT TO DAMAGE BASE METAL WHEN REMOVING RIVETS.
- RIVETS NOTED TO BE REPLACED SHALL BE REPLACED WITH 7/8" DIAMETER ASTM A325 TYPE 3 HIGH STRENGTH BOLTS WITH HEAVY HEX NUT AND FLAT WASHER WITH 1 1/8" DIAMETER OPEN HOLES UNLESS OTHERWISE NOTED.
- HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH THE "TURN-OF-THE-NUT METHOD" PER THE AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 15, PART 3. BOLTS SHALL ONLY BE USED ONCE IF FULLY TORQUED (DO NOT RE-USE).
- ALL EXISTING TO NEW CONNECTION SURFACES SHALL HAVE THE MATING SURFACES CLEANED PER SSPC-SP3 OR EQUIVALENT.
- ALL CLEANING BY-PRODUCTS SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, LOCAL AND ARRC REQUIREMENTS.
- RIVETS SHALL BE REMOVED AND REPLACED ONE AT A TIME AT EACH MEMBER CONNECTION, UNLESS OTHERWISE NOTED.

DRILL AND EPOXY GROUT NOTES FOR BEARING BLOCKS:

- DRILL AND EPOXY GROUT ANCHOR RODS AND DOWELS USING APPROVED MULTI PART HIGH EARLY STRENGTH NON-SHRINK GROUT (5000 PSI MIN.).
- DRILL HOLES 3/8" LARGER THAN THE NOMINAL ANCHOR ROD DIAMETER OR AS RECOMMENDED BY GROUT MANUFACTURER.
- IMMEDIATELY BEFORE PLACING ANCHOR RODS, HOLES MUST BE CLEANED AND DRIED.
- PLACE EPOXY GROUT INTO HOLES BY PRESSURE GROUTING AND INSERT ANCHOR RODS. IMMOBILIZE THE ANCHOR RODS UNTIL EPOXY GROUT REACHES STRENGTH.

POLYMER GROUT PAD NOTES:

- POLYMER GROUT PAD SHALL CONSIST OF A 100% REACTIVE, RAPID SETTING, SOLVENT-FREE METHACRYLATE POLYMER CONCRETE SYSTEM. REQUIRED STRENGTH OF 2500 PSI MIN. PRIOR TO LOADING, 5000 PSI MIN. AT FULL CURE.
- INSTALLATION SHALL BE PER THE MANUFACTURERS' RECOMMENDATIONS, INCLUDING EXTENDING FOR THICKER BEARING PADS.
- PROVIDE FULL BEARING AND BONDING TO PRECAST CONCRETE BEARING BLOCKS. POUR PAD TO ELEVATION AND ROUGHEN POLYMER GROUT PAD FOR EPOXY ADHESIVE PRIOR TO SETTING PRECAST BLOCK.

STEEL BEARING NOTES:

- STEEL BEARINGS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE AREMA MANUAL FOR RAILWAY ENGINEERING (MRE), CHAPTER 15: STEEL STRUCTURES AND PROJECT SPECIFICATIONS.
- FINISHED SURFACES SHALL BE SHOP COATED WITH AN APPLICATION OF WATERPROOF MULTIPURPOSE GREASE (NATIONAL LUBRICATING GREASE INSTITUTE (NGLI) NO. 3) IMMEDIATELY FOLLOWING THE SURFACING PROCESS. PRIOR TO BEARING INSTALLATION, THE SHOP-COATED SURFACE SHALL BE WIPED CLEAN.
- SLIDING TYPE EXPANSION BEARINGS SHALL BE COMPRISED OF PTFE AND STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF AREMA MRE CHAPTER 15, PARTS 5.5, 5.11, AND PROJECT SPECIFICATIONS.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND VISIBLE AFTER BEARING INSTALLATION.
- BEARINGS SHALL BE ACCURATELY SET TO ACHIEVE PROPER ALIGNMENT, LEVEL & FULL UNIFORM BEARING. SETTING OF ROCKERS, ROLLERS AND SLIDING SURFACES SHALL TAKE INTO ACCOUNT ANY VARIATION FROM MEAN TEMPERATURE OF THE SUPPORTED SPAN AT THE TIME OF SETTING AND ANY OTHER ANTICIPATED CHANGES IN LENGTH OF THE SUPPORTED SPAN. CARE SHALL BE TAKEN THAT THE FULL AND FREE MOVEMENT OF THE SUPERSTRUCTURE AT MOVABLE BEARINGS IS NOT RESTRICTED BY IMPROPER SETTING OR ADJUSTMENTS OF THE BEARING.
- ALL WELDED ASSEMBLIES SHALL BE STRESS RELIEVED AFTER FABRICATION IN ACCORDANCE WITH THE CURRENT EDITION OF THE BRIDGE WELDING CODE, AWS D1.5.

CONCRETE REPAIR NOTES:

- INTENTIONALLY ROUGHEN SURFACE OF EXISTING CONCRETE TO 1/4" AMPLITUDE BY CHIPPING AND REMOVING POOR CONCRETE TO SOUND CONCRETE. COAT SURFACE WITH EPOXY BONDING AGENT PRIOR TO CASTING NEW CONCRETE PER MANUFACTURER'S RECOMMENDATIONS.
- MATERIAL AND WORKMANSHIP SHALL BE PER THE CURRENT ARRC STANDARD SPECIFICATIONS.
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED IN SPECIFICATION FOR CONCRETE CONSTRUCTION.
- CONCRETE SHALL BE VIBRATED INTERNALLY DURING PLACEMENT TO PROVIDE A THOROUGH CONSOLIDATION AND COMPACTION. CARE SHALL BE TAKEN TO AVOID DISPLACEMENT OF EMBEDDED ITEMS.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCING STEEL SHALL HAVE A MINIMUM 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.
- DOWEL BAR BENDING AND STANDARD HOOK DIMENSIONS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE" AS PUBLISHED BY THE CONCRETE REINFORCING STEEL INSTITUTE UNLESS OTHERWISE SHOWN OR NOTED.
- CHAMFER EXPOSED CORNERS 3/4", TYPICAL.
- DOWEL BARS SHALL BE DOWELED INTO EXISTING CONCRETE USING AN APPROVED EPOXY. DRILL BIT DIAMETER AND INSTALLATION PROCEDURE SHALL BE IN ACCORDANCE WITH POWERS AC100+ GOLD EPOXY RECOMMENDATIONS TO THE LENGTH INDICATED ON THESE PLANS. USE OF ALTERNATE EPOXY MAY REQUIRE ADJUSTMENTS TO PLANS.
- WHERE SAW CUTTING OF EXISTING CONCRETE BACKWALL IS REQUIRED, CUTS SHALL BE MADE USING A WIRE SAW IN NEAT VERTICAL OR HORIZONTAL LINES. SEAL CUT SURFACES WITH EPOXY SEALANT PER THE PROJECT SPECIFICATIONS.

TRUSS REHAB 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 ASTM DESIGNATION A709 GRADE 50 EXCEPT AS NOTED.
- ANY BOLTS FOR TEMPORARY FIT THAT ARE FULLY-STRESSED, SHALL NOT BE RE-USED.
- PAINT ALL NON-WEATHERING, NON-GALVANIZED STRUCTURAL STEEL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. SHOP PAINT ALL NEW STEEL MEMBERS DESIGNATED TO BE PAINTED.
- NDT TESTING OF TRUSS PLATES AT ALL REMOVED WALKWAY BRACE LOCATION WELDS IS REQUIRED AND SHALL BE PERFORMED PER THE PROJECT SPECIFICATIONS TO ENSURE STRUCTURAL INTEGRITY OF TRUSS MEMBERS. TESTING RESULTS SHALL BE SUBMITTED TO ARRC FOR REVIEW AND APPROVAL.
- STENCIL PIECE MARK ON EACH SHOP FABRICATED COMPONENT.

CONCRETE RISER BLOCK NOTES:

- FABRICATION AND WORKMANSHIP SHALL CONFORM TO CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 8, CONCRETE STRUCTURES AND PROJECT SPECIFICATIONS.
- STENCIL PIECE MARK, DATE OF FABRICATION AND LIFTING WEIGHT ON EACH PIECE.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS, UNLESS OTHERWISE NOTED.
- CONCRETE SHALL BE VIBRATED INTERNALLY DURING PLACEMENT TO PROVIDE THOROUGH CONSOLIDATION AND COMPACTION. CARE SHALL BE TAKEN TO AVOID DISPLACEMENT OF EMBEDDED ITEMS.
- LIFTING INSERTS ARE TO BE DOUBLE FLARED COIL LOOP INSERTS. CONTRACTOR IS RESPONSIBLE FOR ADEQUACY OF LIFTING INSERTS WITH A 4 TO 1 SAFETY FACTOR. FILL INSERTS WITH GROUT AFTER PLACING BLOCKS.
- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIGNATION A709 GRADE 50W EXCEPT AS NOTED. WELDED REINFORCING STEEL SHALL CONFORM TO ASTM A706, GRADE 60
- WELDING SHALL CONFORM TO CURRENT A.W.S. BRIDGE WELDING CODE D1.5. ALL WELDING TO BE HEAT CONTROLLED TO PREVENT WARPING AND PROVIDE FULL, EVEN BEARING AT BASE AND TOP SURFACES.

WALKWAY BOLLARD NOTES:

- STEEL PIPE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 36,000 P.S.I. (ASTM GRADE A).
- BOLLARDS SHALL BE 4" DIA. DUCTILE IRON STEEL PIPE WITH A WALL THICKNESS OF 0.188".
- CONCRETE FOR FOUNDATIONS SHALL HAVE A MINIMUM STRENGTH OF 3,000 P.S.I. AFTER 28 DAYS.
- BOLLARDS SHALL BE PAINTED WITH A PRIME COAT (GRAY ORGANIC ZINC-RICH EPOXY PRIMER) AND A TOP COAT OF SAFETY YELLOW LATEX.

SEISMIC DESIGN NOTES:

- SEISMIC DESIGN PER AREMA CHAPTER 9 FOR NEW TRUSS BEARING ASSEMBLIES, ANCHORAGES, AND RISER BLOCKS ONLY.
- SEISMIC DESIGN PARAMETERS:
 - A. SITE CLASS: D (ASSUMED)
 - B. IMMEDIATE SAFETY FACTOR: 4
 - C. IMMEDIATE VALUE FACTOR: 2
 - D. REPLACEMENT VALUE: 4
- SEISMIC DESIGN LIMIT STATES:

LIMIT STATE	IMPORTANCE FACTOR	RETURN PERIOD	SPECTRAL ACCEL. ADJUSTMENT FACTORS FOR SITE, CLASS D			SITE CLASS ADJUSTED PGA (g)
			F _{PGA}	F _A	F _V	
SERVICEABILITY	3.6	95	1.397	1.474	2.258	0.28
ULTIMATE	2.4	365	1.160	1.239	1.909	0.39
SURVIVABILITY	3.6	2328	1.000	1.000	1.529	0.60

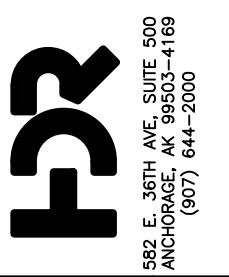
4. SEISMIC ACCELERATION RESPONSE SPECTRA:

PERIOD (SECONDS)	AREMA SEISMIC RESPONSE COEFFICIENTS (C _M)		
	RETURN PERIOD		
	95-YEAR SERVICEABILITY	365-YEAR ULTIMATE	2328-YEAR SURVIVABILITY
0	0.600	0.869	1.253
0.1	0.600	0.869	1.253
0.2	0.600	0.869	1.253
0.3	0.600	0.869	1.253
0.4	0.600	0.869	1.253
0.5	0.600	0.869	1.253
0.6	0.510	0.781	1.200
0.7	0.437	0.669	1.029
0.8	0.382	0.586	0.900
0.9	0.340	0.521	0.800
1.0	0.306	0.469	0.720
1.2	0.255	0.390	0.600
1.4	0.218	0.335	0.514
1.6	0.191	0.293	0.450
1.8	0.170	0.260	0.400
2.0	0.153	0.234	0.360

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	VS



HDR ENGINEERING, INC.
582 E. 36TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AEC5569



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

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

ALASKA RAILROAD

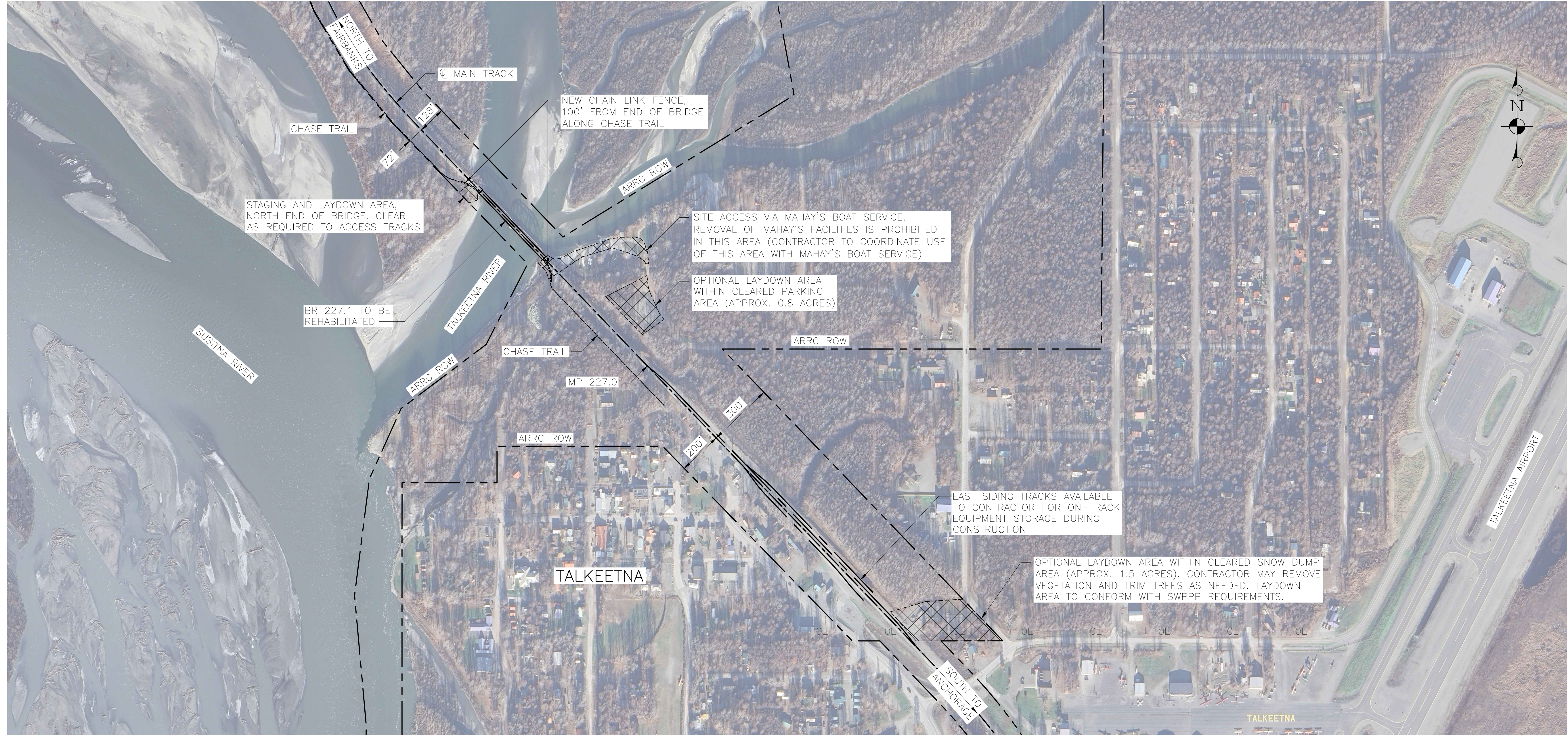
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION

SHEET TITLE: GENERAL NOTES

A/E NO. 12259

YEAR 2023

SHEET 5 OF 28



GENERAL SITE PLAN
SCALE: 1" = 250'

CONSTRUCTION WORK SEQUENCE:

THE FOLLOWING IS SUGGESTED CONSTRUCTION SEQUENCE, FINAL PHASING PLANS TO BE DETERMINED BY CONTRACTOR.

1. CONSTRUCT TEMPORARY ACCESS FROM STAGING AREA TO BRIDGE SITE.
2. RELOCATE AND TEMPORARILY SUPPORT EXISTING UTILITY AND CONDUIT OFF BRIDGE TRAINMAN'S WALK.
3. PLACE PEDESTRIAN WARNING SIGNS AND TRAIL CLOSURE. PLACE WARNING SIGNS ON RIVER NOTING OVERHEAD WORK AS BEING PERFORMED AS REQUIRED.
4. DURING TRACK WORK WINDOWS, COMPLETE THE FOLLOWING (NOTE: WALKWAY REPLACEMENT AND TRUSS REHABILITATION WORK MAY BE PERFORMED SIMULTANEOUSLY):
 - a. ATTACH WALKWAY SUPPORT ANGLE BRACKETS TO EXISTING TRUSS AT PRIMARY NODE LOCATIONS.
 - b. CONSTRUCT APPROACH WALKWAY
 1. REMOVE WALKWAY AT APPROACHES AND FENCING.
 2. INSTALL STEEL BRACKETS ON BACKWALL AND REMOVE EXISTING CONCRETE FROM BACKWALL AS REQUIRED TO ALLOW TIMBER WALKWAY STRINGERS TO PASS THROUGH.

CONSTRUCTION WORK SEQUENCE (CONTINUED):

3. INSTALL NEW TREATED TIMBER MUD SILLS DIRECTLY BEHIND EXISTING MUD SILLS.
4. REMOVE EXISTING TIMBER SUPPORT BENT ON SOUTH APPROACH, CUT TIMBER CAP AT FACE OF EXISTING GROUND LINE (DO NOT REMOVE EMBEDDED PORTION OF BEAM).
5. INSTALL WALKWAY TIMBER STRINGERS AT APPROACHES AND CONNECTION PLATES.
6. ATTACH HANDRAIL AT APPROACHES.
- c. REMOVE EXISTING TRAINMAN'S WALK ON BRIDGE. GRIND WELDED CONNECTIONS WITHOUT DAMAGING TRUSS MEMBER BASE METAL TO REMAIN.
- d. PERFORM NDT ULTRASONIC TESTING OF EXISTING TRAINMAN'S WALK SUPPORT WELDS ON TRUSS LOW CHORD, VERTICALS, AND DIAGONALS PER PROJECT SPECIFICATIONS.
- e. ATTACH NEW TRAINMAN'S WALK SUPPORT BRACKETS TO EXISTING TRUSS AT PRIMARY NODE LOCATIONS.
- f. PREDRILL HOLES AND PREPARE MATING SURFACES. ATTACH TO TRAINMAN'S WALK SUPPORT BRACKETS THE TRAINMAN'S WALK SUPPORT BEAMS, CROSSBEAMS, TIMBER TRAINMAN'S WALK PLANKS, AND HANDRAIL.
- g. ERECT PERMANENT CHAIN LINK FENCE AT BOTH APPROACHES.

CONSTRUCTION WORK SEQUENCE (CONTINUED):

- TRUSS REHABILITATION
- a. REMOVE AND REPLACE STRINGER AND END FLOORBEAM BOTTOM FLANGE ANGLES AFTER REMOVING EXISTING TRAINMAN'S WALK. SEE STRINGER AND END FLOORBEAM WORK SEQUENCE NOTES THIS SHEET.
 - b. REPAIR CONCRETE SURFACE AT ABUTMENT 1. JACK AND REPLACE TRUSS BEARINGS.
 - c. ADD COVER PLATES TO TRUSS DIAGONALS AND POSTS AS INDICATED ON PLANS. SEE TRUSS STRENGTHENING SEQUENCES ON SHEET 11.
 - d. REPLACE RIVETS WITH HIGH STRENGTH BOLTS ON TRUSS POSTS, DIAGONALS, AND BOTTOM CHORD AS INDICATED ON PLANS.
5. REMOVE TEMPORARY WORKS AND RESTORE SITE TO PRE-CONSTRUCTION CONDITIONS.
 6. WHEN WEATHER CONDITIONS ALLOW, COMPLETE FIELD CLEANING AND PAINTING OF CONNECTIONS AND AREAS WITH EXPOSED NON-WEATHERING, NON-GALVANIZED STEEL SURFACES.
 7. PLACE TOPSOIL AND SEED PREVIOUSLY VEGETATED DISTURBED AREAS.

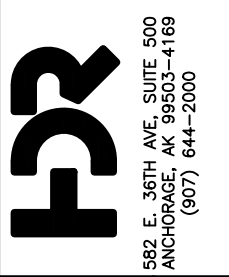
END FLOORBEAM AND STRINGER STRENGTHENING WORK SEQUENCE:

- OPTION 1 - FULL REPLACEMENT DURING LONG WORK WINDOWS.
1. REMOVE RIVETS IN EXISTING BOTTOM FLANGE ANGLES.
 2. REPLACE BOTTOM FLANGE ANGLES AND INSTALL H.S. BOLTS.
- OPTION 2 - REPLACEMENT DURING SHORT WORK WINDOWS.
1. REMOVE RIVETS IN EXISTING BOTTOM FLANGE ANGLES AND REPLACE RIVETS WITH TEMPORARY H.S. BOLTS.
 2. DURING FINAL WORK WINDOW REMOVE ALL TEMPORARY H.S. BOLTS (TEMPORARY H.S. BOLTS MAY BE RE-USED FOR FUTURE TEMPORARY FLANGE CONNECTIONS IN STEP 1). REPLACE BOTTOM FLANGE ANGLES WITH NEW ANGLES AND INSTALL NEW H.S. BOLTS USING TURN-OF-THE-NUT METHOD.

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	VS



HDR ENGINEERING, INC.
582 E. 35TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569



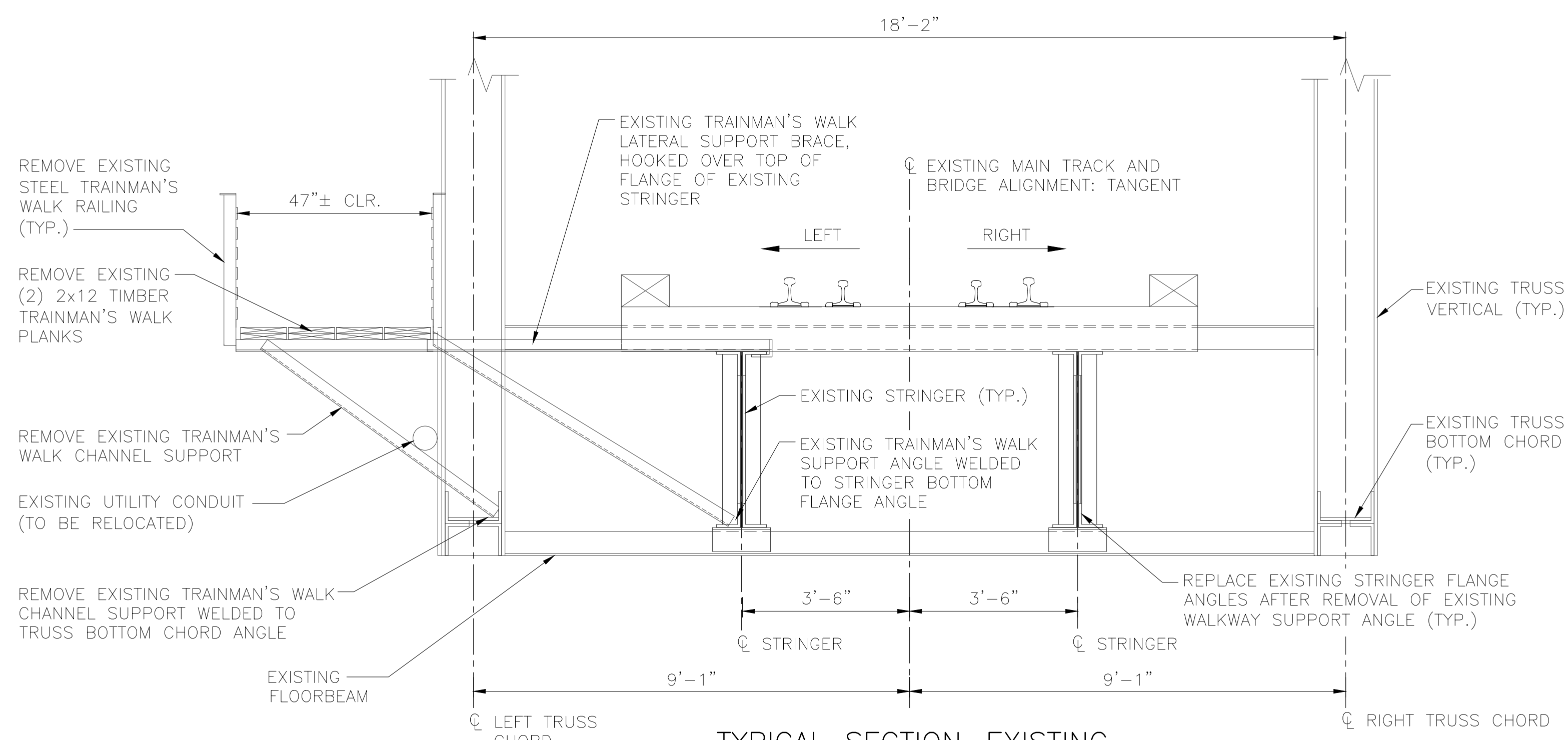
CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510-7500



PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
SHEET TITLE: CONSTRUCTION WORK SEQUENCE AND GENERAL SITE PLAN

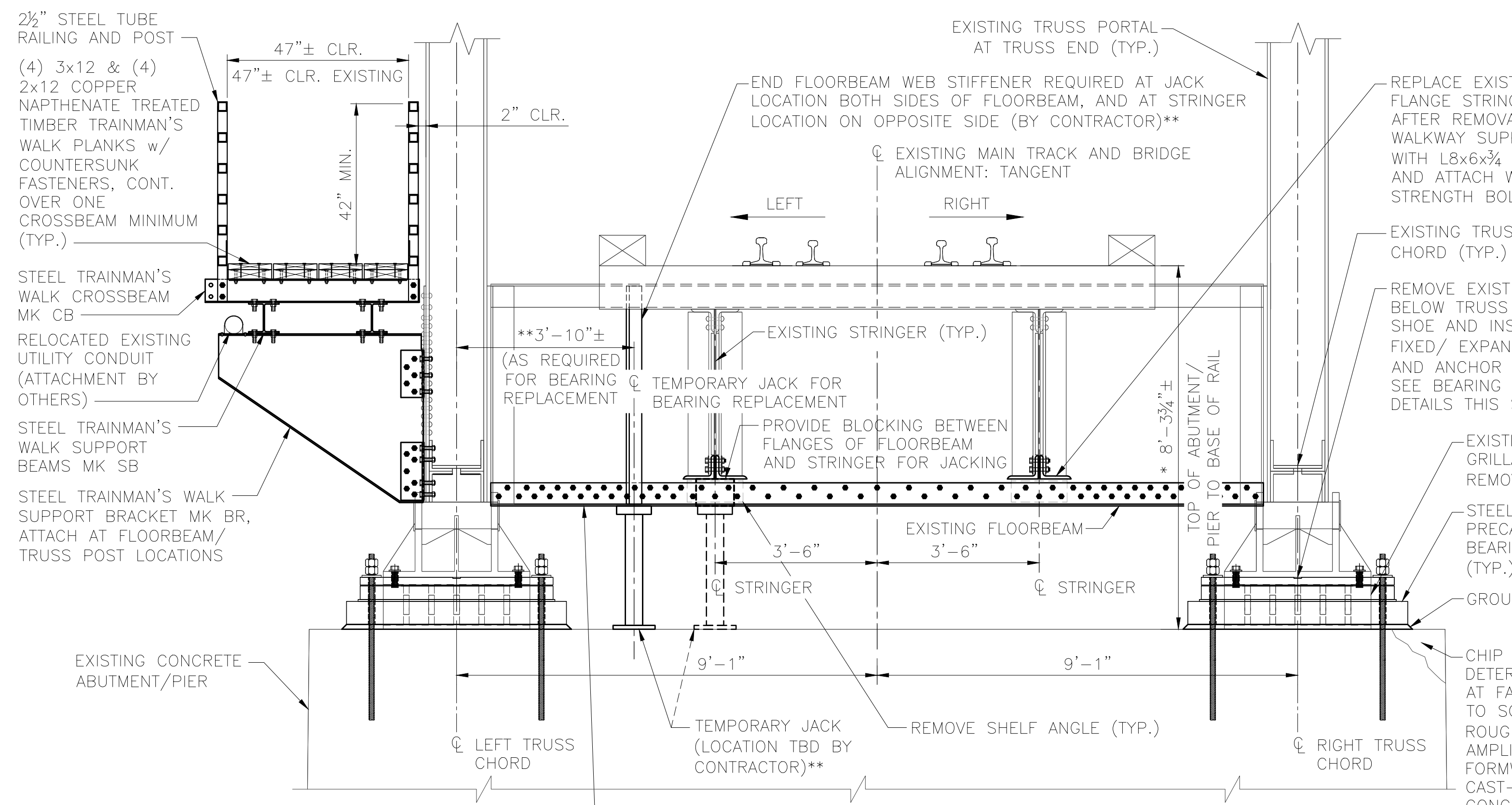
AFE NO.	12259
YEAR	2023
SHEET	6 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\2653003\BR-227.1-TALKEETNA-008.DWG
 DATE: 12/14/2023 2:03 PM
 SCALE: AS NOTED
 PUBLISHED: CTB
 ARR: CTB_2023.CTB



TYPICAL SECTION-EXISTING

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



TYPICAL SECTION AT PIER-PROPOSED

SCALE: 1/2"=1'-0"
NOTE: * FOR FIELD VERIFICATION

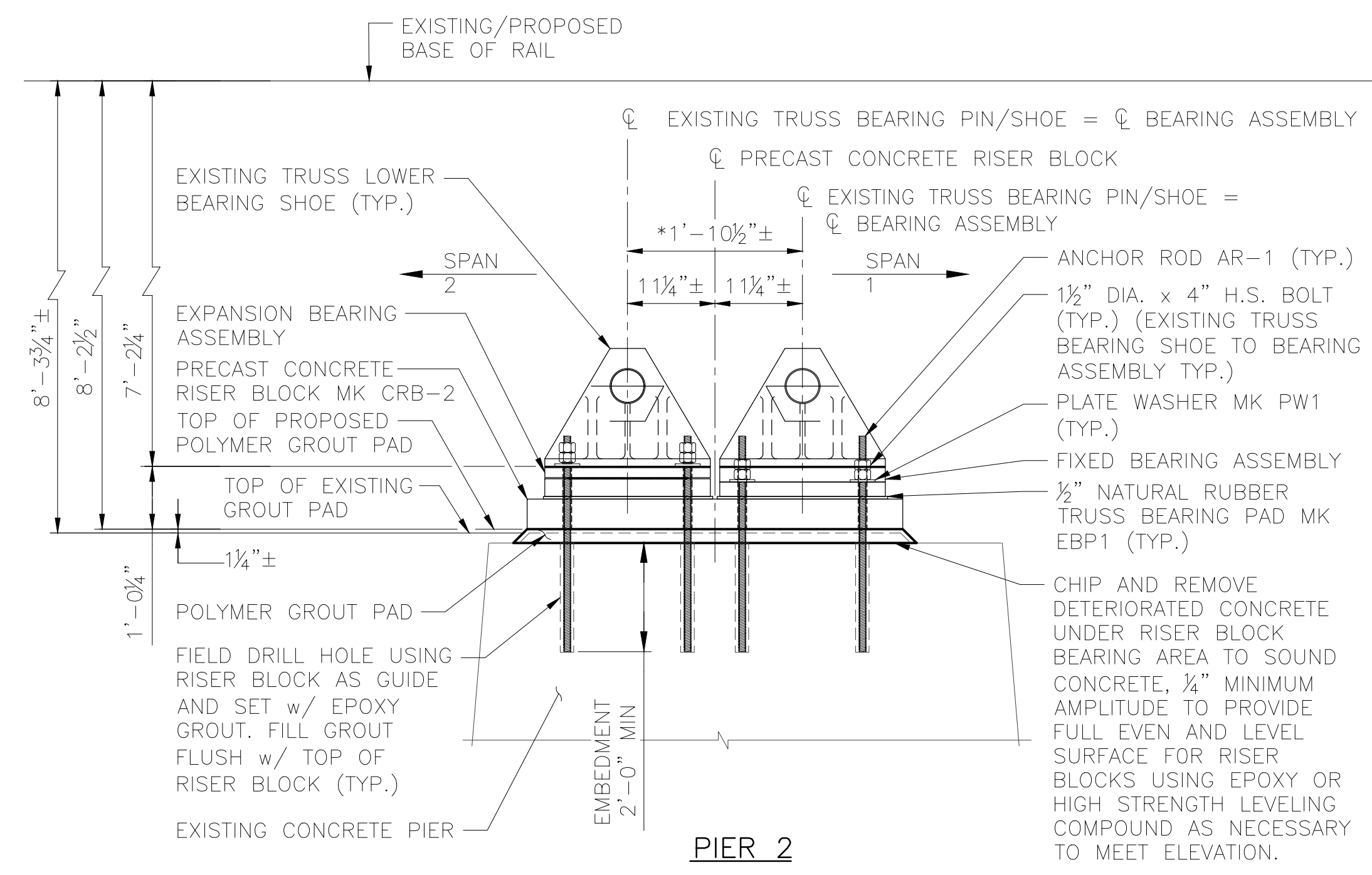
NOTES:

- FOR WALKWAY REMOVALS SEE SHEET 20.
- FOR HANDRAIL AND WALKWAY DETAILS, LAYOUT AND INSTALLATION DETAILS SEE SHEETS 21 THRU 25.
- FOR TRUSS STRENGTHENING DETAILS SEE SHEETS 10 THRU 17.
- FOR BEARING DETAILS, SEE SHEETS 18 AND 19.
- * FIELD VERIFY EXISTING TRUSS MEMBER GEOMETRY PRIOR TO SHOP DRAWING SUBMITTALS REQUIRED FOR TRUSS BEARINGS, WALKWAY BRACKETS ATTACHMENT TO EXISTING TRUSS, STRINGER FLANGES AND STEEL PLATES FOR TRUSS REHAB.
- ** CONTRACTOR TO SUBMIT JACKING PLAN AND JACKING DESIGN CALCULATIONS (INCLUDING EXISTING END FLOORBEAM) FOR APPROVAL BY RAILROAD. TRAINS ARE NOT PERMITTED TO OPERATE WHILE IN THE JACKED POSITION. LOCATE PER CONTRACTOR'S REQUIREMENTS. IF PLACED UNDER STRINGER, BLOCK BETWEEN FLOORBEAM BOTTOM FLANGE AND STRINGER SHELF ANGLE. IF PLACED AWAY FROM STRINGER, BRACE WEB AND FLANGES WITH FULL HEIGHT BEARING STIFFENERS, BOTH SIDES OF WEB.

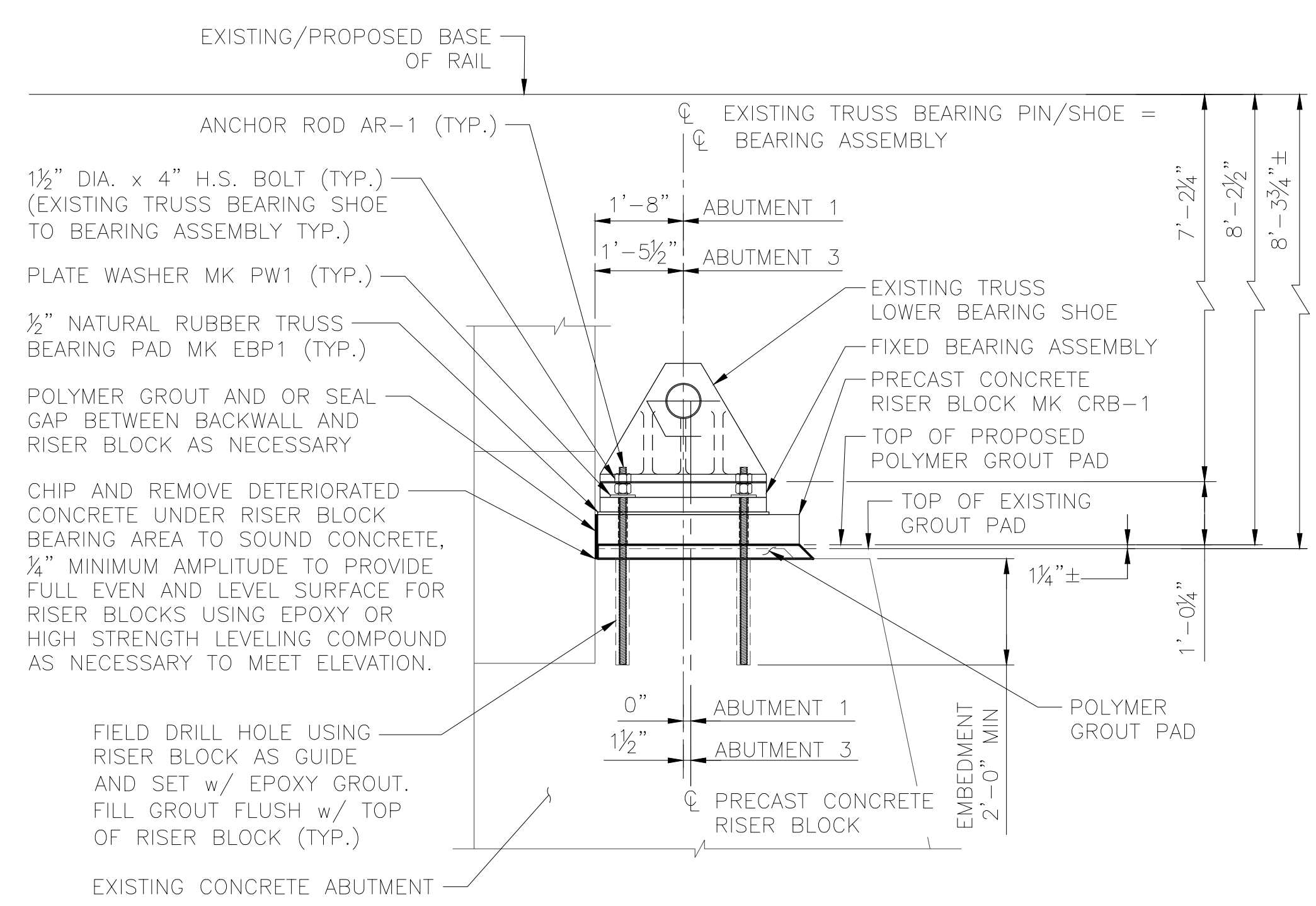
ESTIMATED JACKING SERVICE LOADS:

DEAD LOAD	180 KIP
LIVE LOAD	325 KIP (286K CONSIST)

LOADS ARE UNFACTORED SERVICE LOADS PER JACK LOCATION, ASSUMING 3 TRUSS BEARINGS REMAIN IN CONTACT.



PIER 2



ABUTMENT

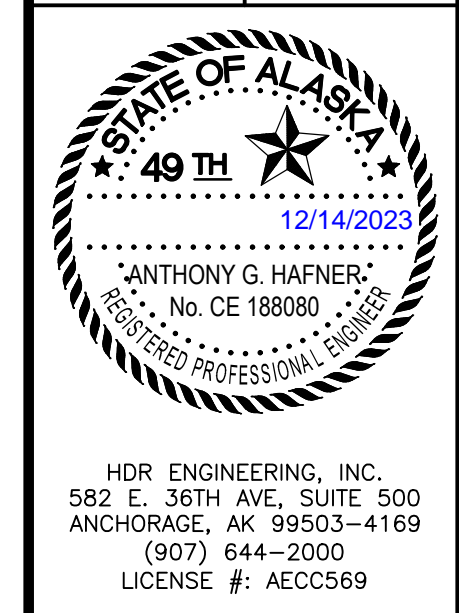
ABUTMENT 3 SHOWN WITH FIXED BEARING ASSEMBLY
ABUTMENT 1 SIMILAR WITH EXPANSION BEARING ASSEMBLY

NOTE:
CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION, TRUSS JACKING, AND BEARING INSTALLATION PLAN FOR APPROVAL BY THE RAILROAD. WORK SHALL NOT COMMENCE UNTIL THE PLAN HAS BEEN APPROVED.

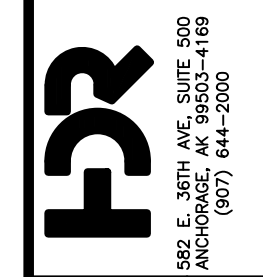
BEARING INSTALLATION DETAILS

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

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	VS



HDR ENGINEERING, INC.
582 E. 36TH AVE., SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AEC569

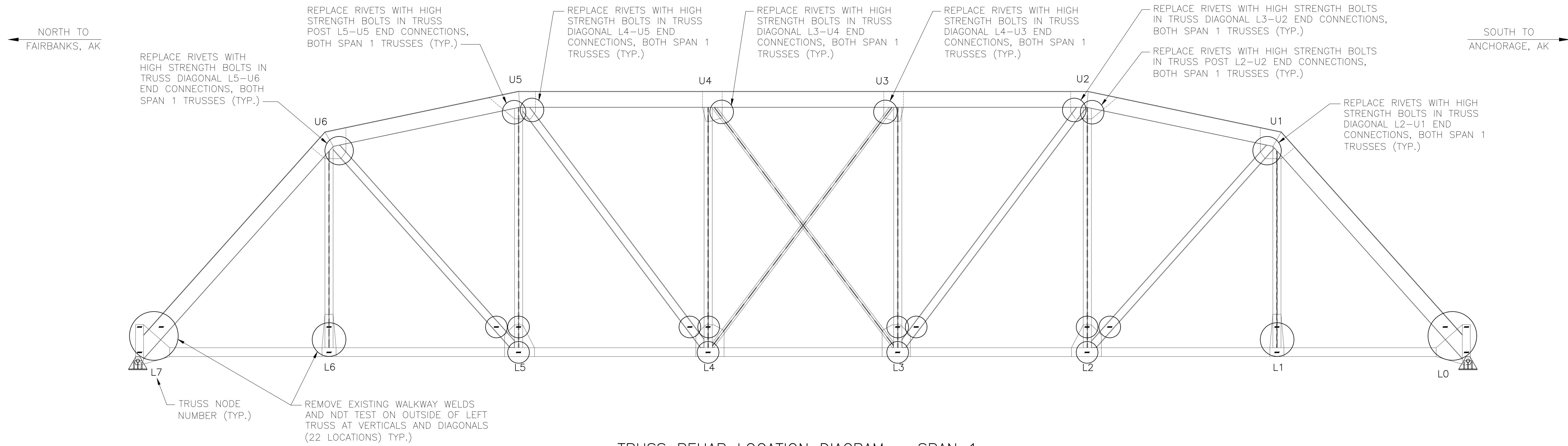


CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
SHEET TITLE: TYPICAL SECTIONS

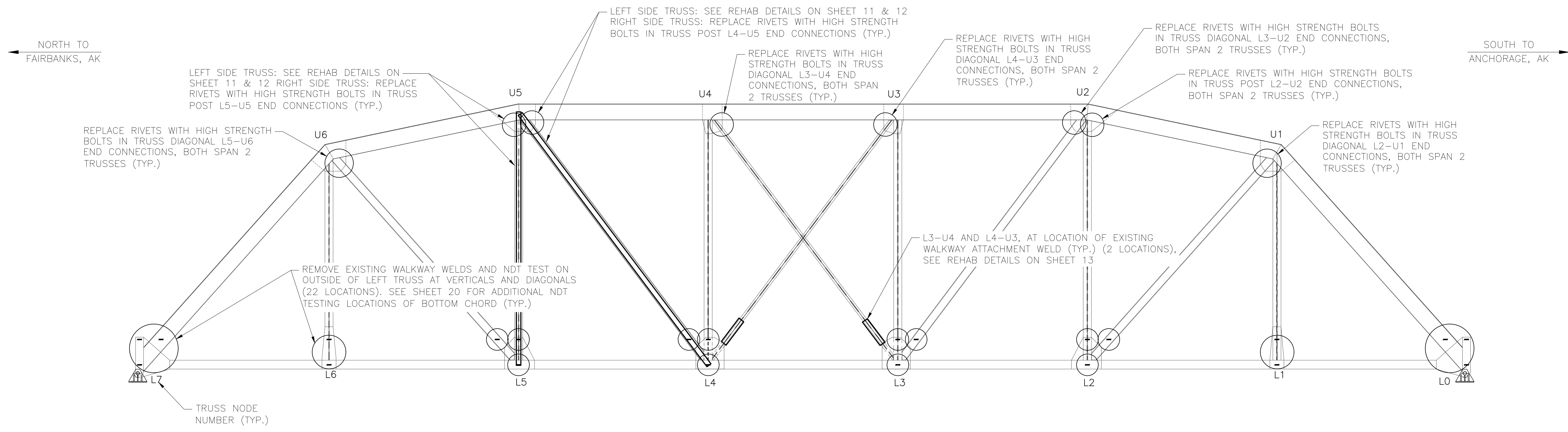
AFE NO.	12259
YEAR	2023
SHEET	8 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_009.DWG
 DATE: 12/14/2023 11:03 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



TRUSS REHAB LOCATION DIAGRAM – SPAN 1

SCALE: 1"=100'
(STRINGERS AND WALKWAY NOT SHOWN FOR CLARITY)



TRUSS REHAB LOCATION DIAGRAM – SPAN 2

SCALE: 1"=100'
(STRINGERS AND WALKWAY NOT SHOWN FOR CLARITY)

NOTE:

1. FOR WELD REMOVAL AND NDT TESTING NOTES SEE SHEET 5.

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM

STATE OF ALASKA
 49th
 12/14/2023
 ANTHONY G. HAFNER
 No. CE 188080
 REGISTERED PROFESSIONAL ENGINEER
 HDR ENGINEERING, INC.
 582 E. 35TH AVE., SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569

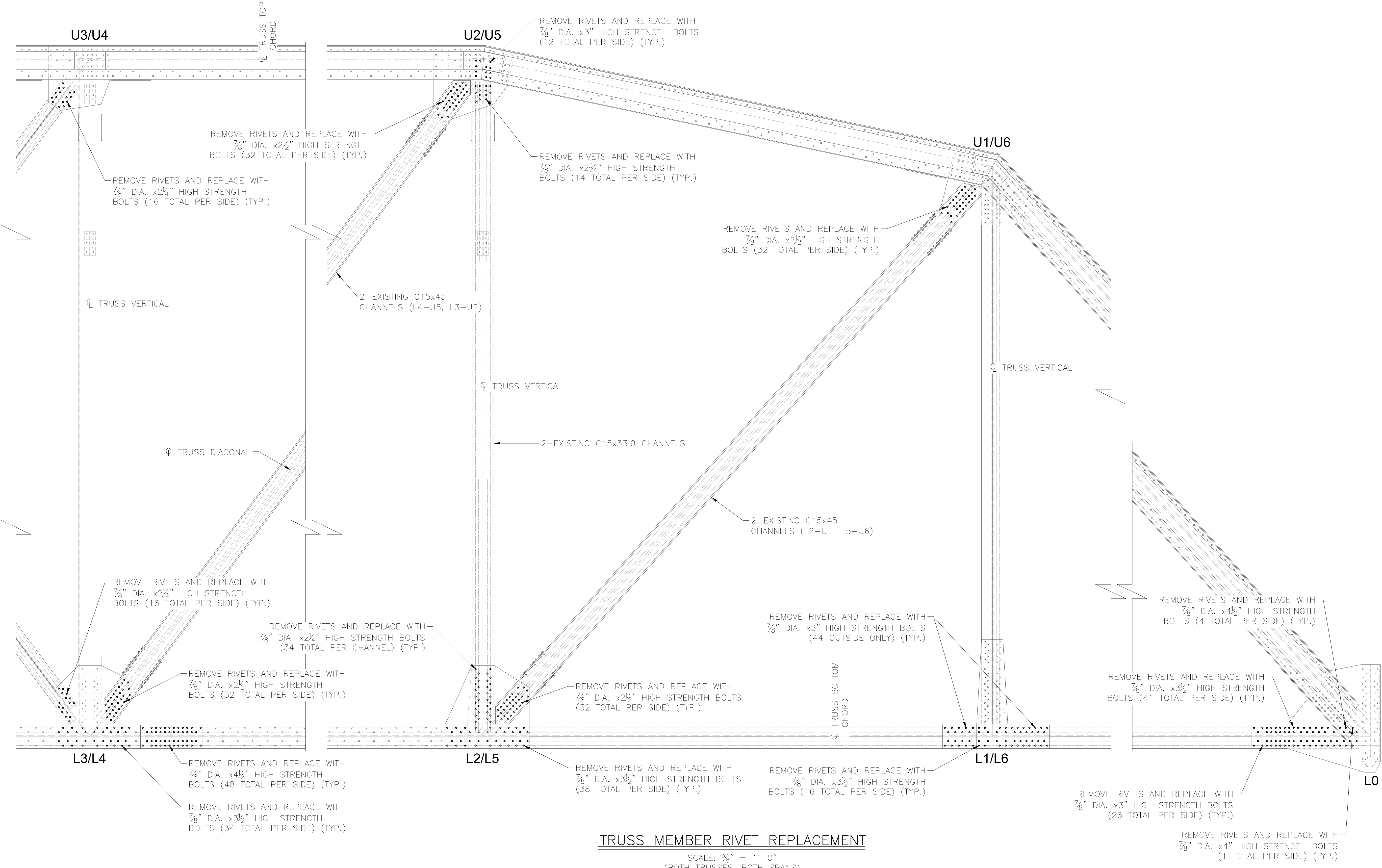
HR
 603 E. 30TH AVE. SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000

ALASKA RAILROAD CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	PROJECT:	TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
	SHEET TITLE:	TRUSS REHAB LAYOUT
AFE NO.	12259	
YEAR	2023	
SHEET	9 of 28	

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_010.DWG
 DATE: 12/14/2023 11:03 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

NORTH TO
FAIRBANKS, AK

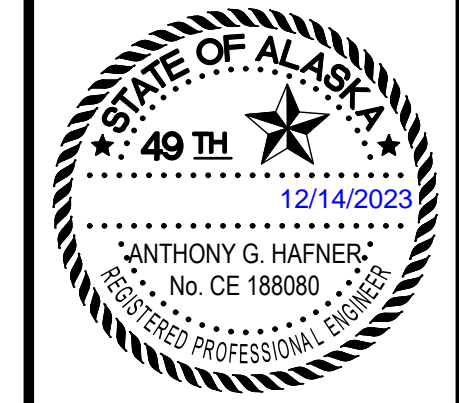
SOUTH TO
ANCHORAGE, AK



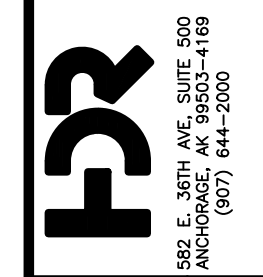
TRUSS MEMBER RIVET REPLACEMENT
 SCALE: 3/8" = 1'-0"
 (BOTH TRUSSES, BOTH SPANS)

NOTE:
 1. FOR RIVET REPLACEMENT NOTES SEE SHEET 5.

DESIGNED BY: MH
 CHECKED BY: MH
 DRAFTED BY: MM



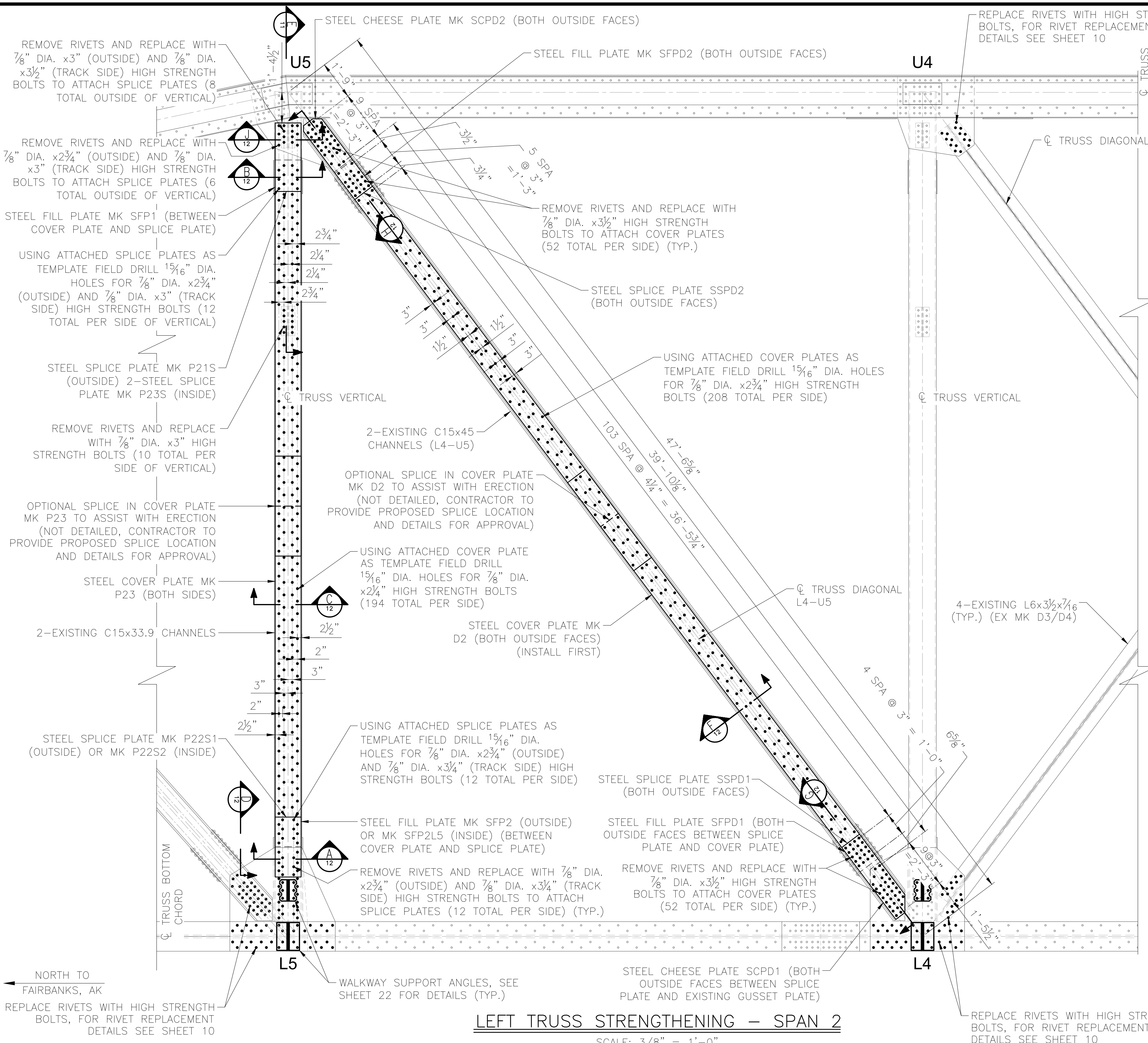
HDR ENGINEERING, INC.
 582 E. 35TH AVE, SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569



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

PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: TRUSS SPAN RIVET REPLACEMENT DETAILS

AFE NO. 12259
 YEAR 2023
 SHEET 10 of 28



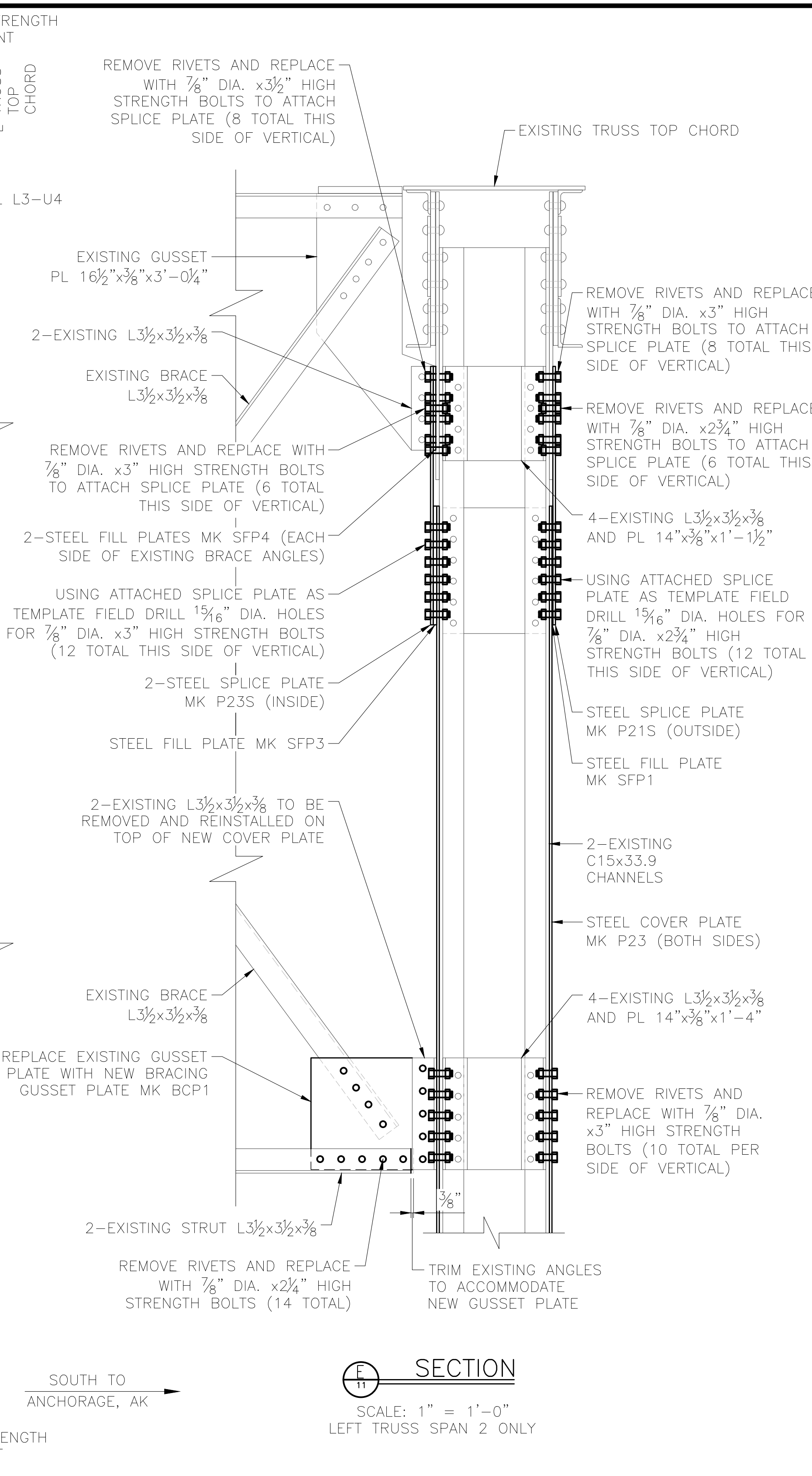
LEFT TRUSS STRENGTHENING - SPAN 2
SCALE: 3/8" = 1'-0"

L5-U5 STRENGTHENING WORK SEQUENCE:

- STRENGTHENING IS TO BE DONE ON ONE CHANNEL/SIDE OF L5-U5 AT A TIME.
1. REMOVE BRIDGE FROM SERVICE (TRAIN FREE WORK WINDOW).
 2. FOR INTERIOR SIDE, REMOVE RIVETS AND DISCONNECT PORTAL BRACING.
 3. REMOVE ALL RIVETS (10-14 TOTAL PER CONNECTION, ONLY AS REQUIRED FOR CONNECTION OF SPLICE PLATES) AND BOLT SPLICE PLATES/FILL PLATES TO GUSSETS AT L5 AND U5.
 4. USING SPLICE PLATES AS TEMPLATE DRILL HOLES INTO EXISTING CHANNEL VERTICALS. ATTACH STEEL COVER PLATE TO SPLICES AND PLACE FILL PLATES AS REQUIRED.
 5. FOR INTERIOR SIDE, USING SPLICE PLATE AS TEMPLATE DRILL HOLE FOR LOWER PORTAL BRACING ATTACHMENT. RE-ATTACH PORTAL BRACING WITH NEW GUSSET PLATE.
 6. PLACE BRIDGE BACK INTO SERVICE.
 7. UNDER SHORT TRAIN FREE WORK WINDOWS, USING COVER PLATE AS TEMPLATE COMPLETE DRILLING AND INSTALLING FIELD BOLTING ALONG REMAINING LENGTH OF COVER PLATE. AS LONG AS ANY REMOVED RIVETS ARE REPLACED WITH BOLTS, TRAINS MAY OPERATE AT REDUCED SPEEDS DURING THIS STAGE.

NOTE:

1. FOR RIVET REPLACEMENT NOTES SEE SHEET 5.
2. IF CONTRACTOR PROPOSES TO SPLICE COVER PLATE MK P23 OR MK D2, CONTRACTOR SHALL SUBMIT SPLICING DESIGN AND DETAILS FOR APPROVAL BY OWNER. SPLICES SHALL BE DESIGNED TO DEVELOP FULL CAPACITY OF PLATES SPLICED.

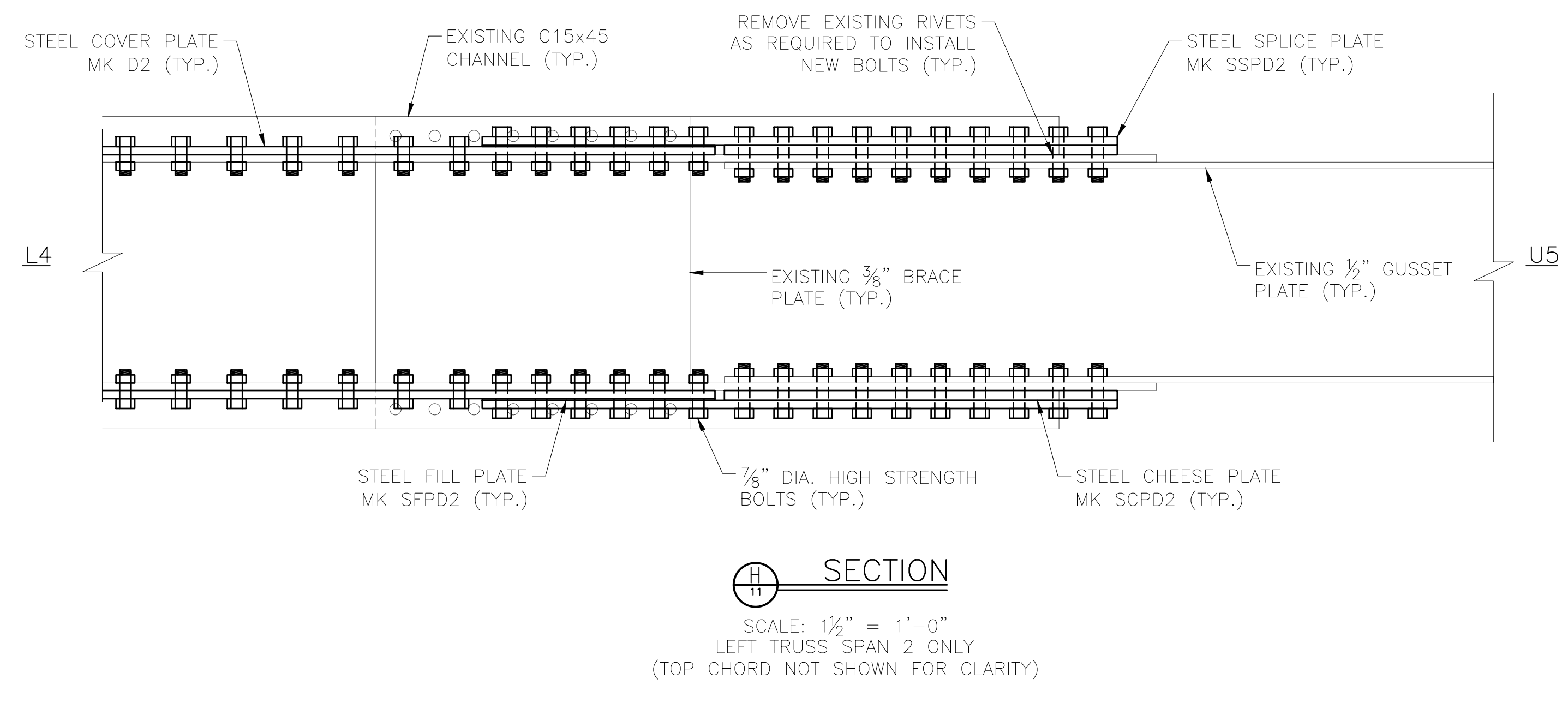
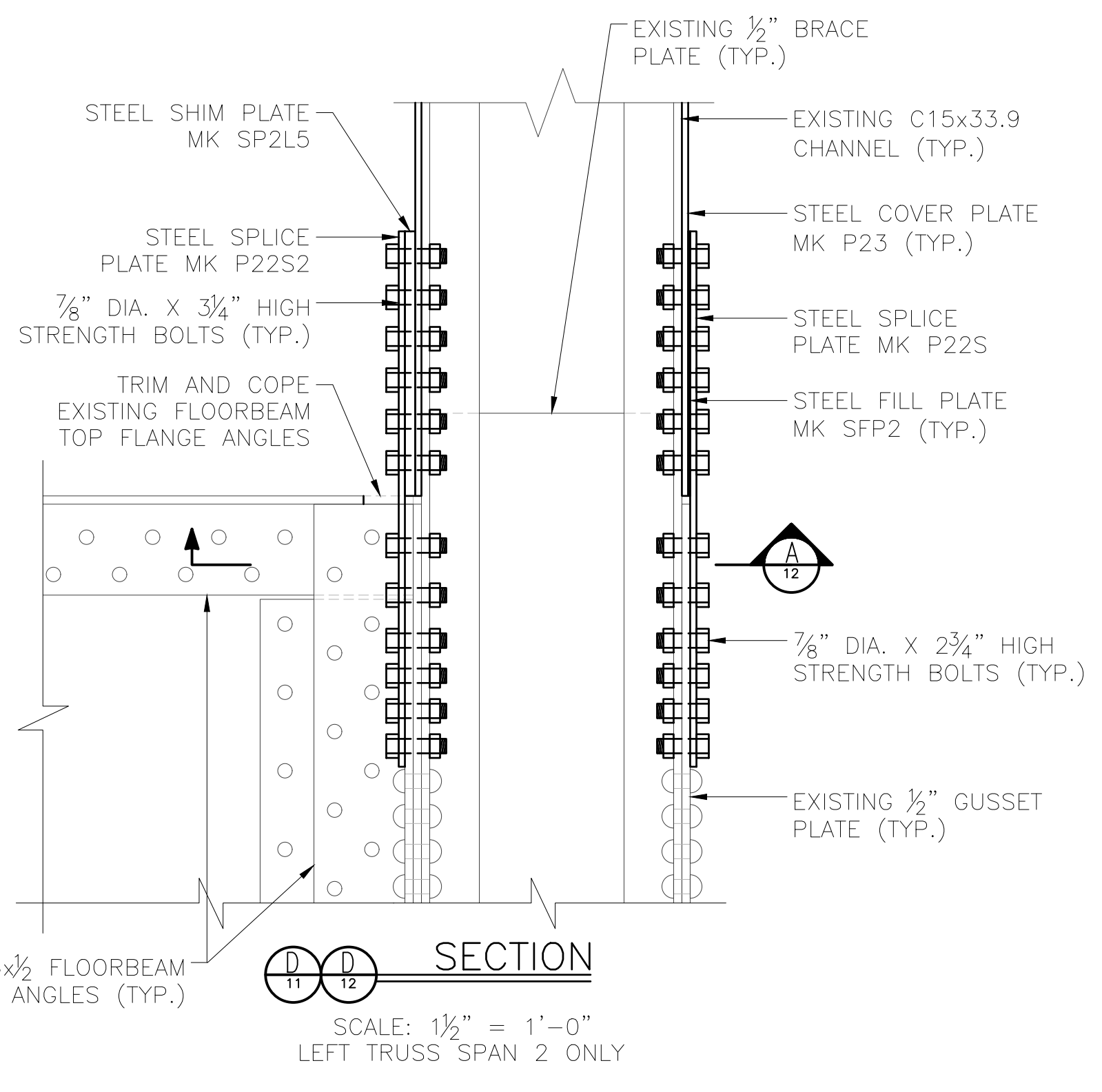
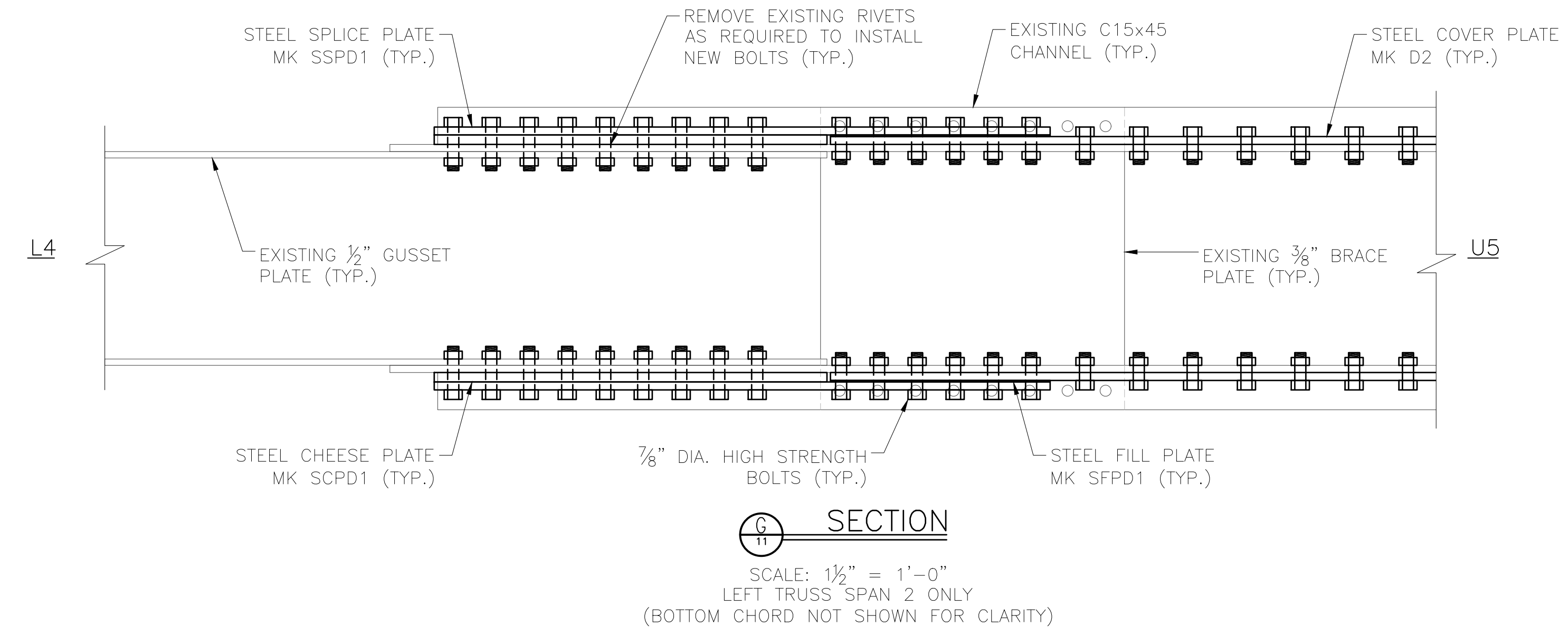
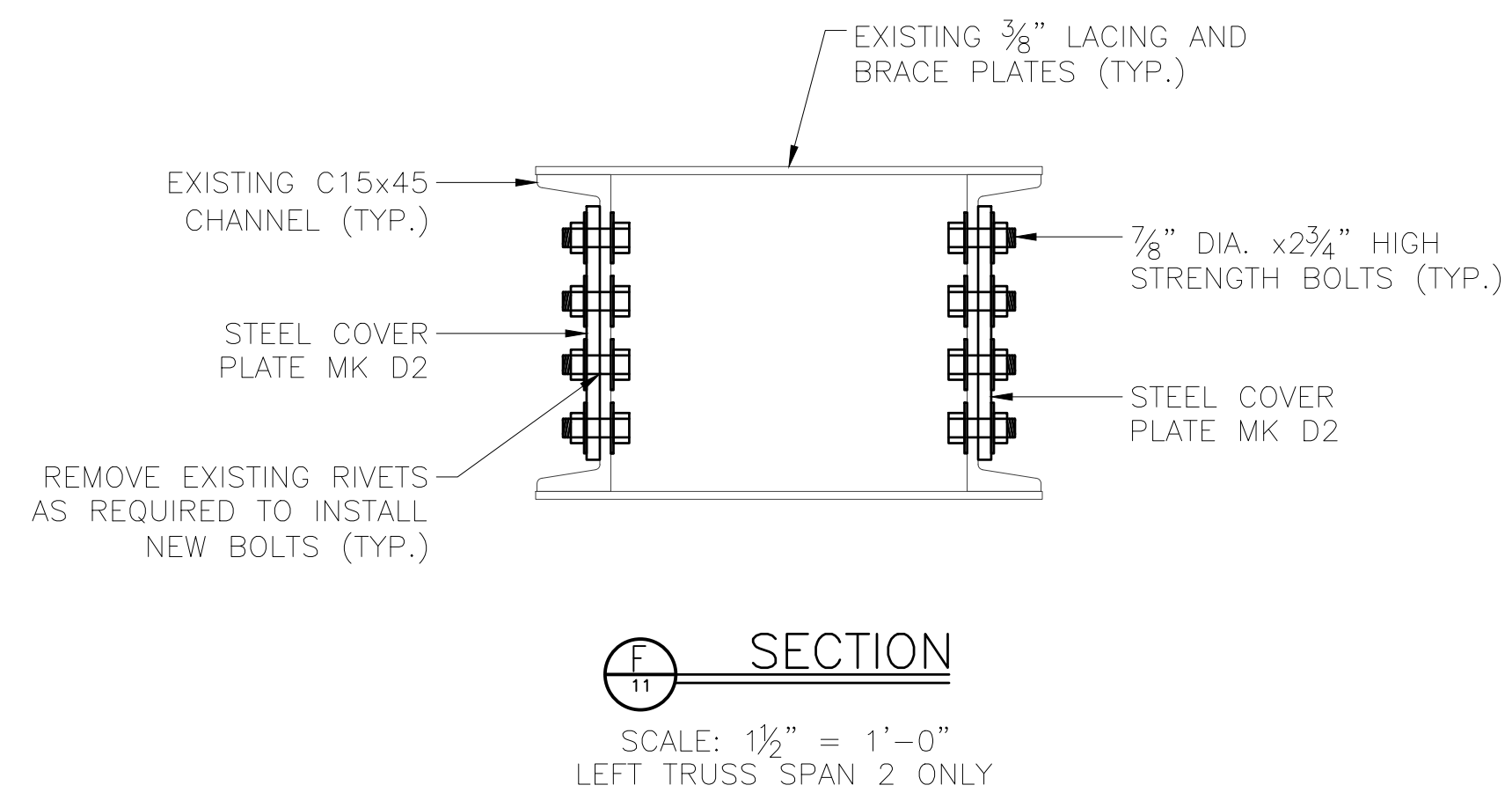
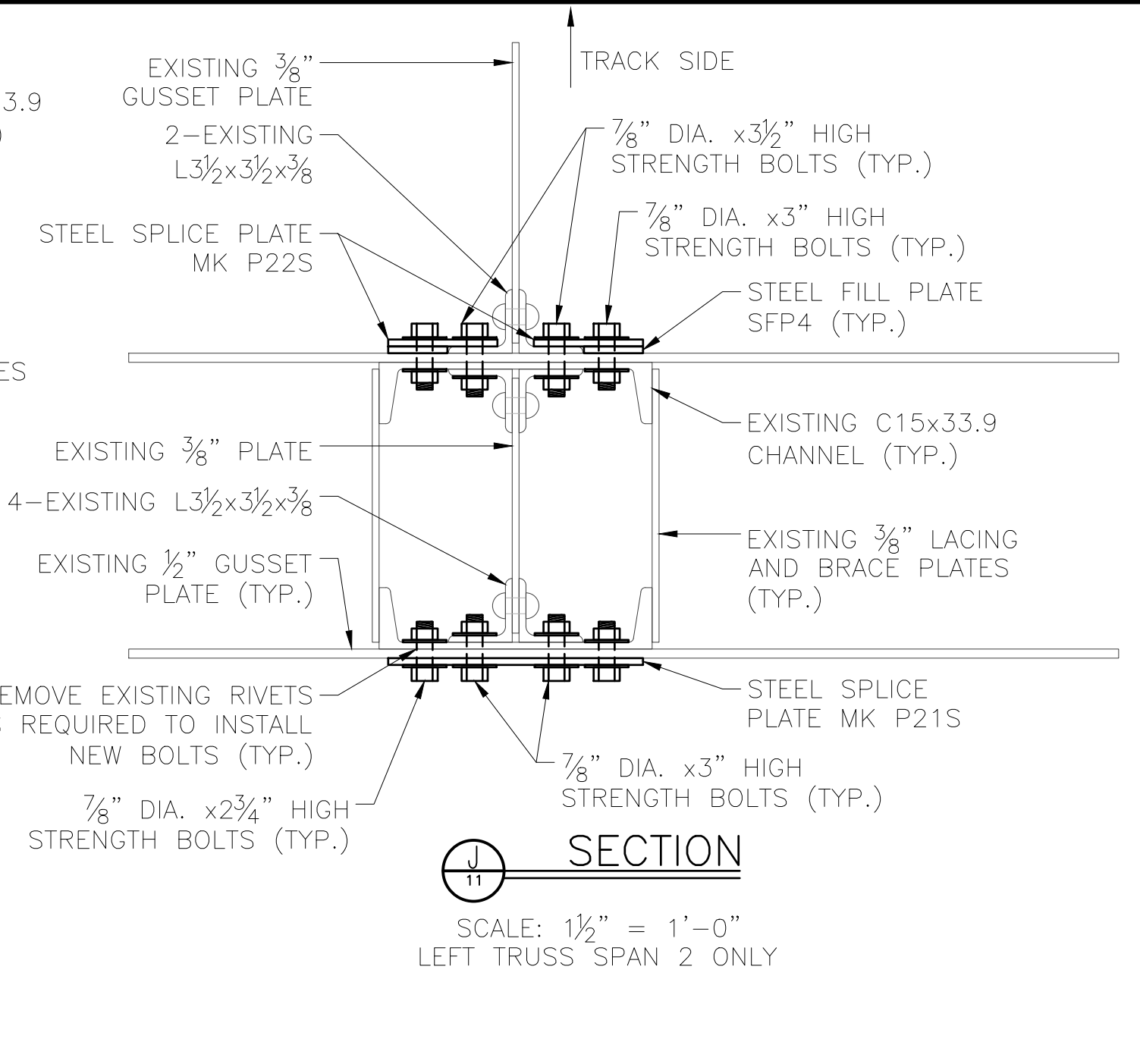
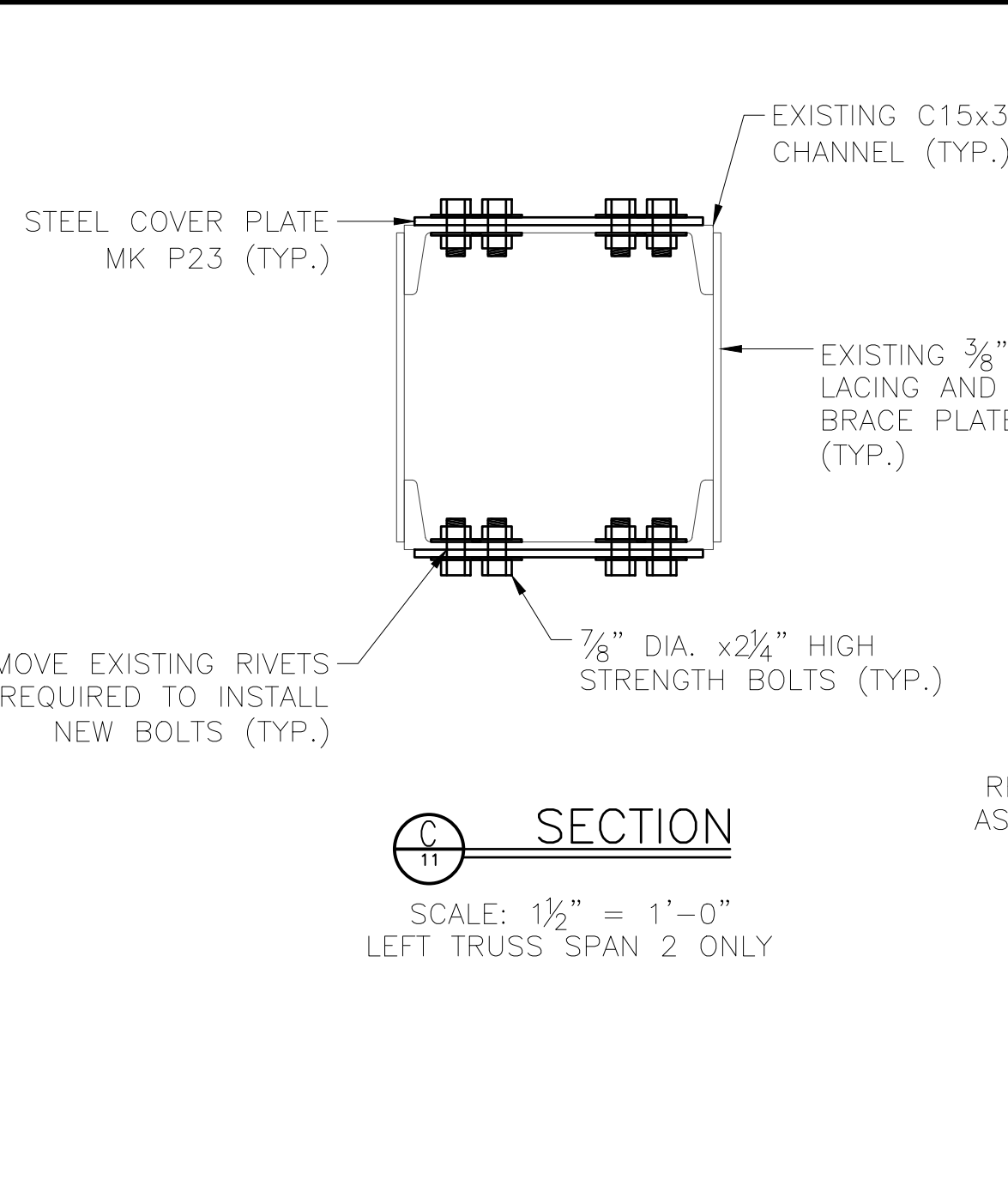
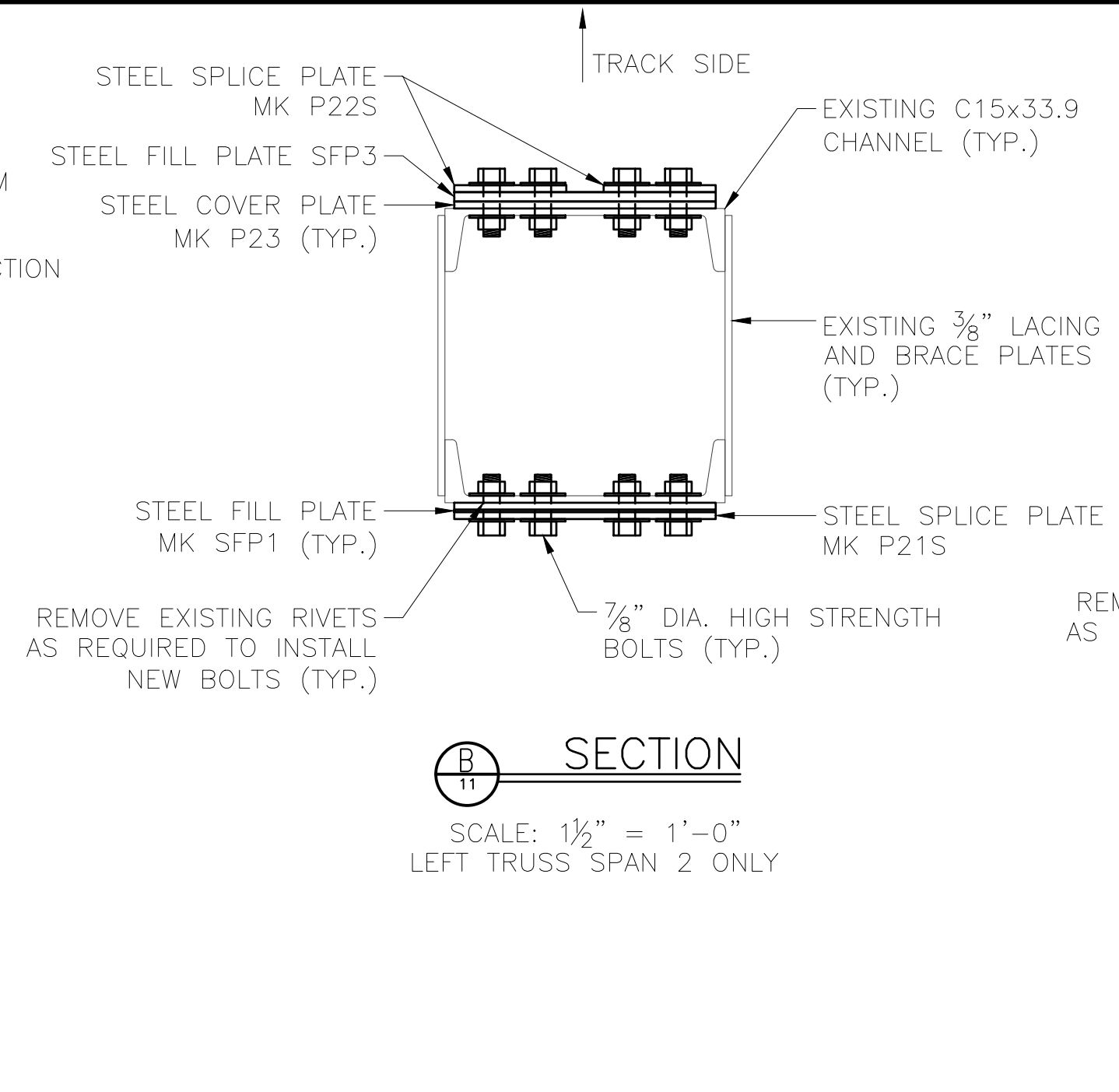
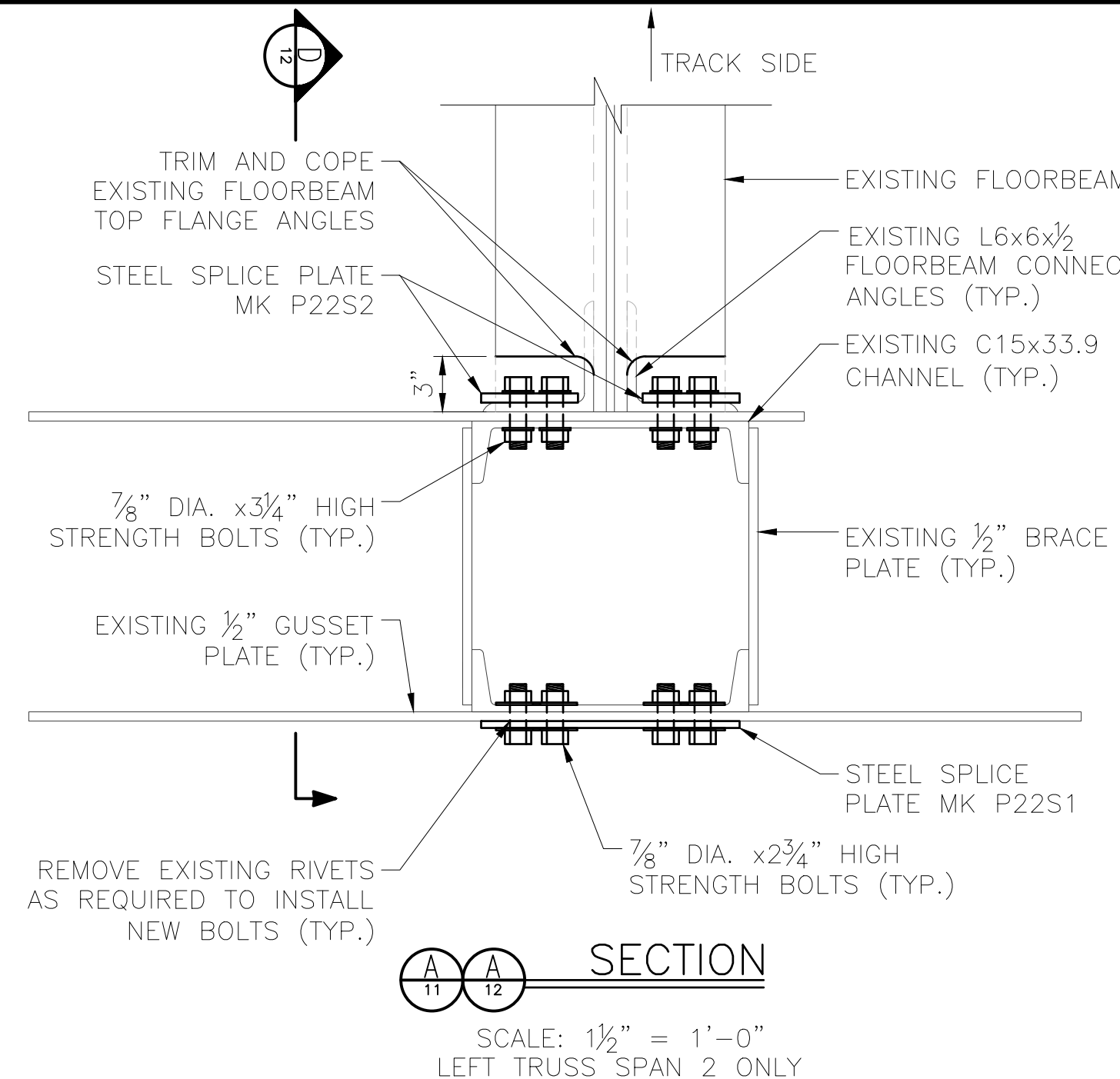


SECTION
SCALE: 1" = 1'-0"
LEFT TRUSS SPAN 2 ONLY

L4-U5 STRENGTHENING WORK SEQUENCE:

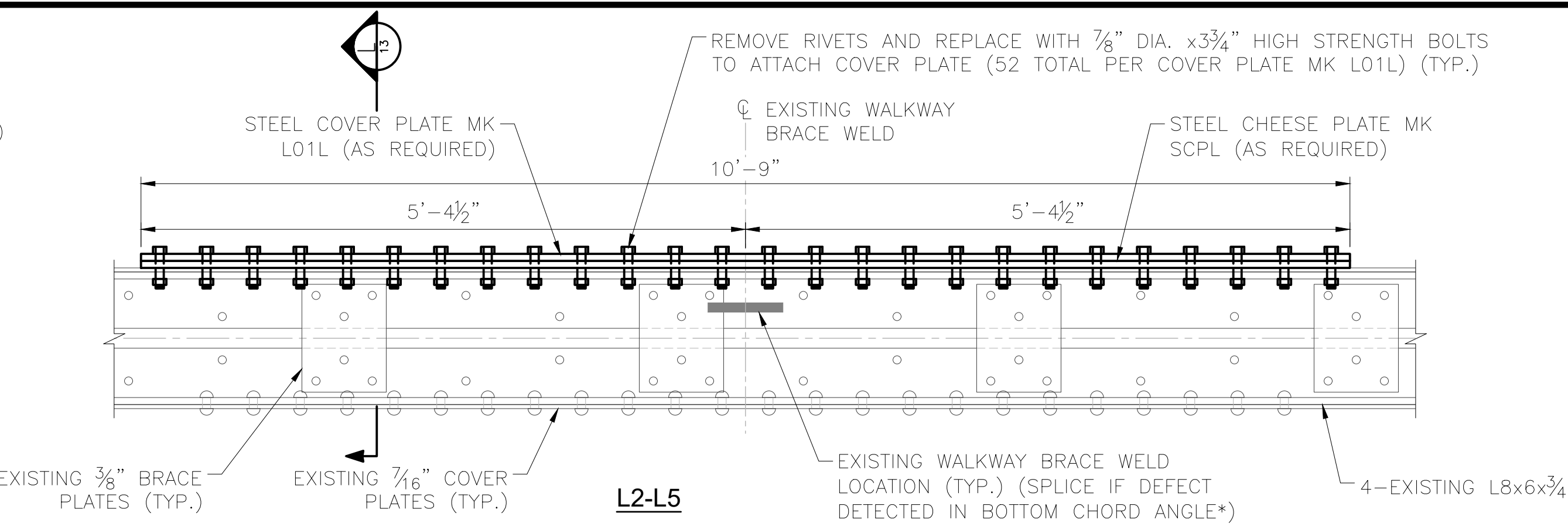
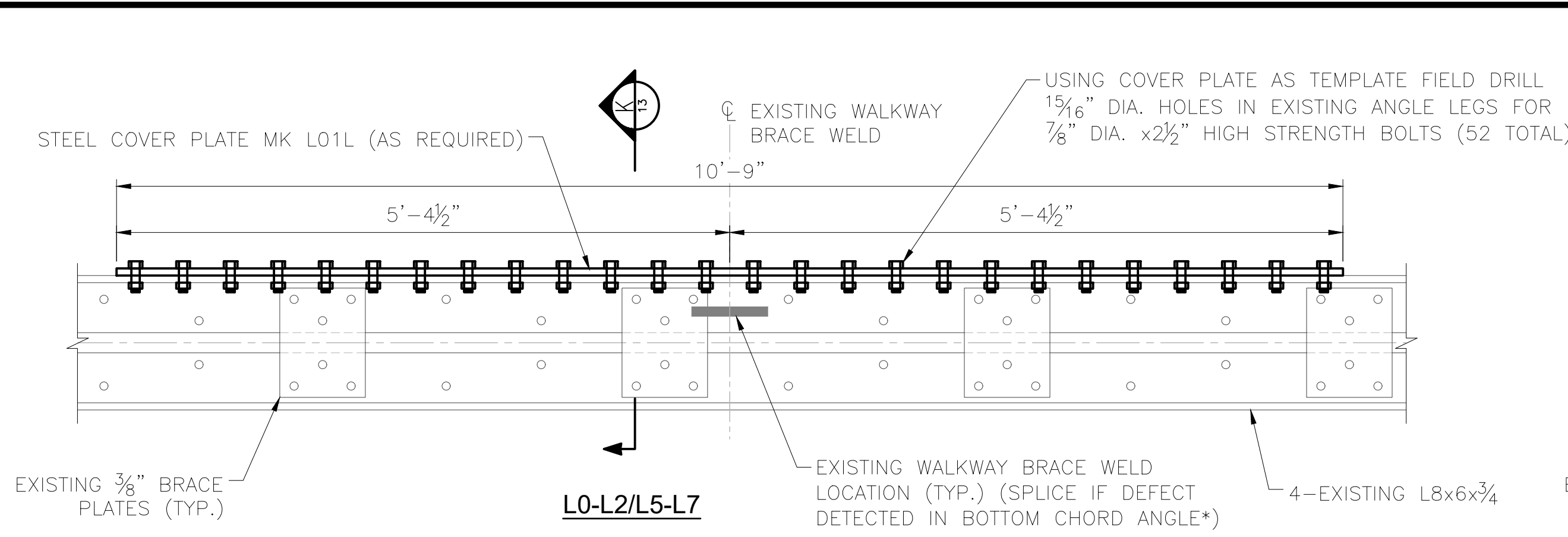
- ALL WORK IS TO BE DONE UNDER SHORT TRAIN FREE WORK WINDOWS. TRAINS MAY OPERATE AT REDUCED SPEEDS DURING STRENGTHENING AS LONG AS ANY REMOVED RIVETS OR HOLES ARE REPLACED WITH TEMPORARY BOLTS.
1. PLACE CHEESE PLATE AND SPLICE PLATES AT GUSSETS AND ATTACH BY REMOVING RIVETS ONE AT A TIME AND REPLACING WITH HIGH STRENGTH BOLTS IN GUSSET CONNECTION.
 2. PLACE COVER PLATE AND FILL PLATES. USE NEW PLATES AS TEMPLATE TO DRILL HOLES INTO EXISTING CHANNEL. ATTACH TO COVER PLATE AND EXISTING CHANNEL USING HIGH STRENGTH BOLTS.
 3. USING COVER PLATE AS TEMPLATE COMPLETE DRILLING AND INSTALLING FIELD BOLTING ALONG REMAINING LENGTH OF COVER PLATE.

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_012.DWG
 DATE: 12/14/2023 11:04 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



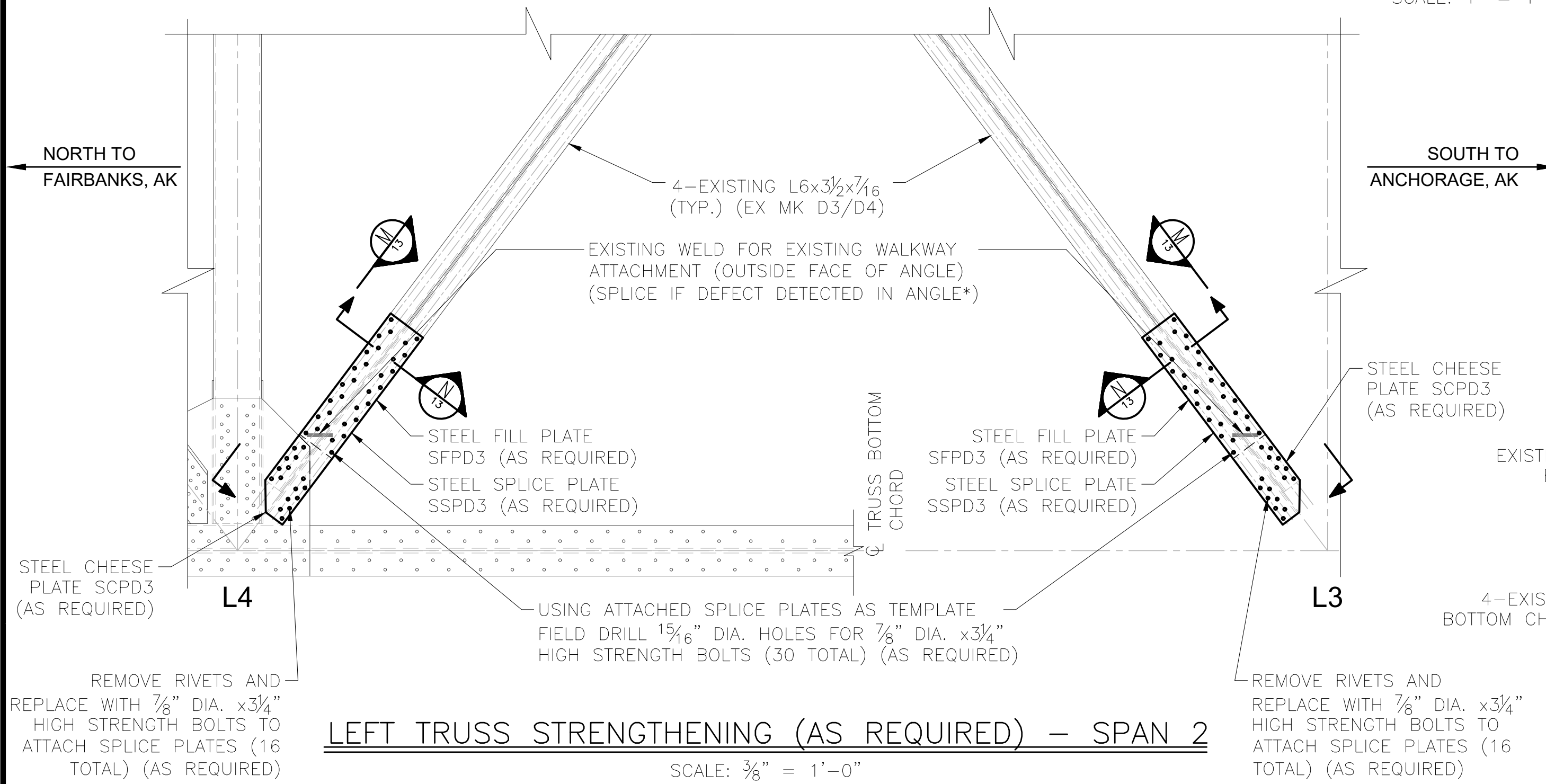
DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM
HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4168 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: TRUSS REHAB DETAILS - L5-U5 & L4-U5 SPAN 2 (2 OF 2)	
AFE NO.	12259
YEAR	2023
SHEET	12 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_013.DWG
 DATE: 12/14/2023 11:04 AM
 TIME: AS NOTED
 SCALE: AS NOTED
 PUBLISHED: CTB
 ARR: CTB_2023.CTB



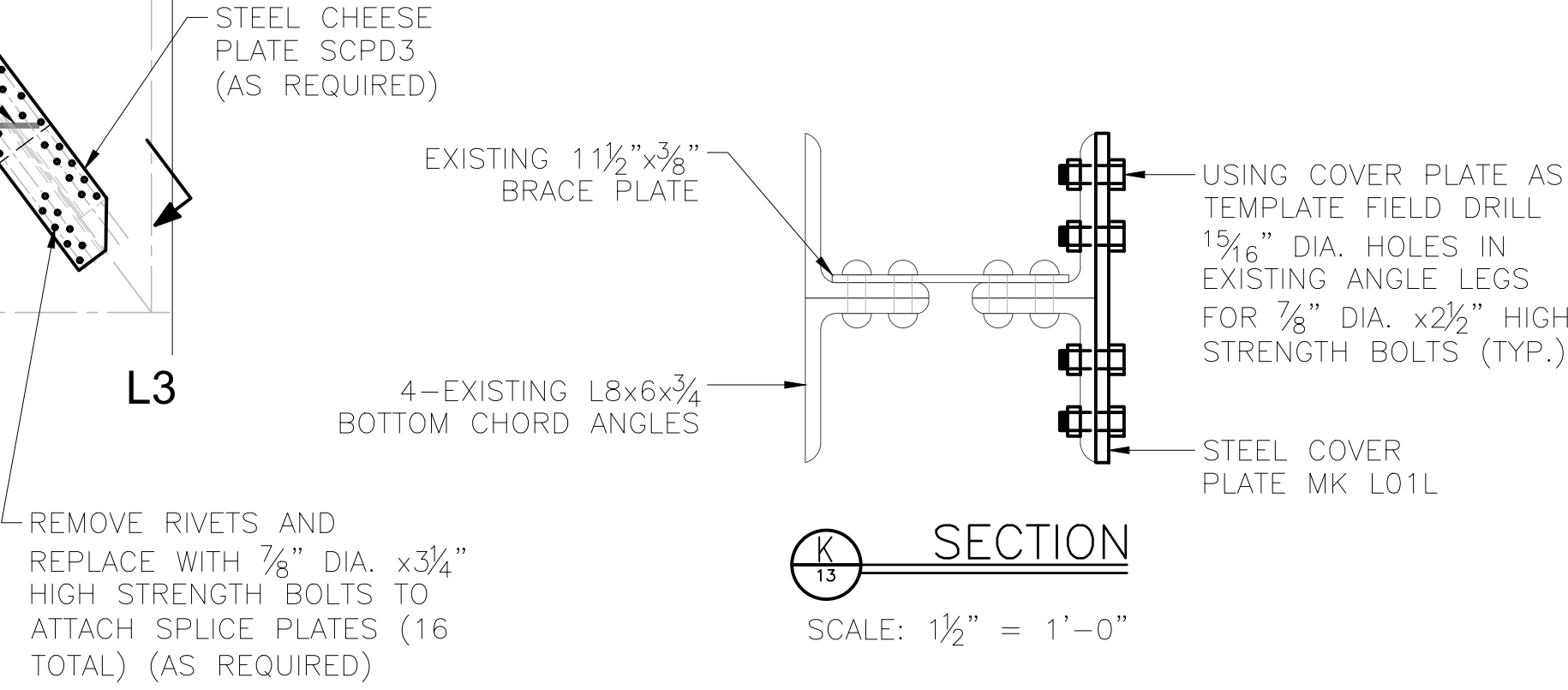
LEFT TRUSS BOTTOM FLANGE SPLICING (TOP VIEW)

SCALE: 1" = 1'-0"



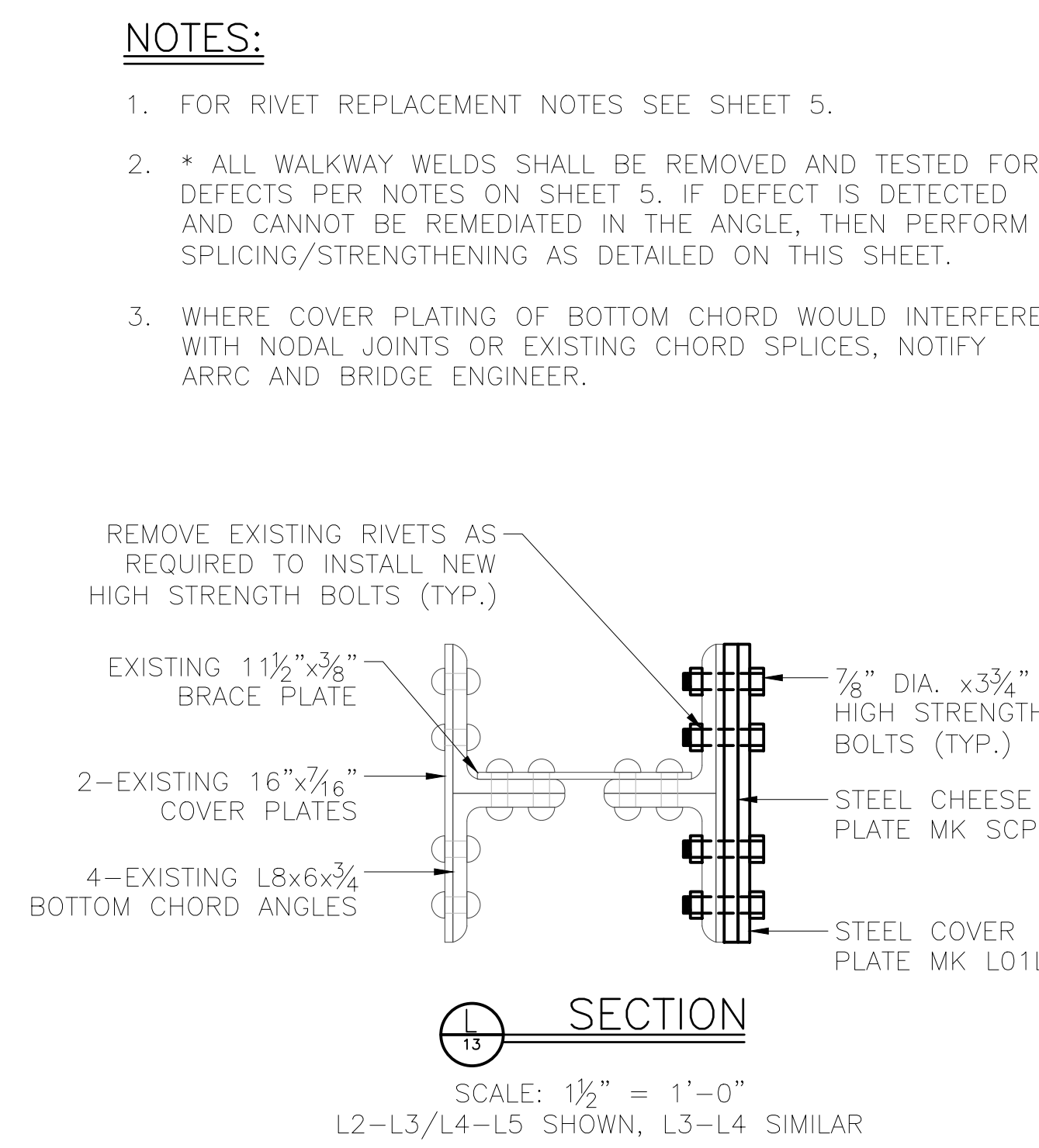
LEFT TRUSS STRENGTHENING (AS REQUIRED) - SPAN 2

SCALE: 3/8" = 1'-0"



SECTION K-K

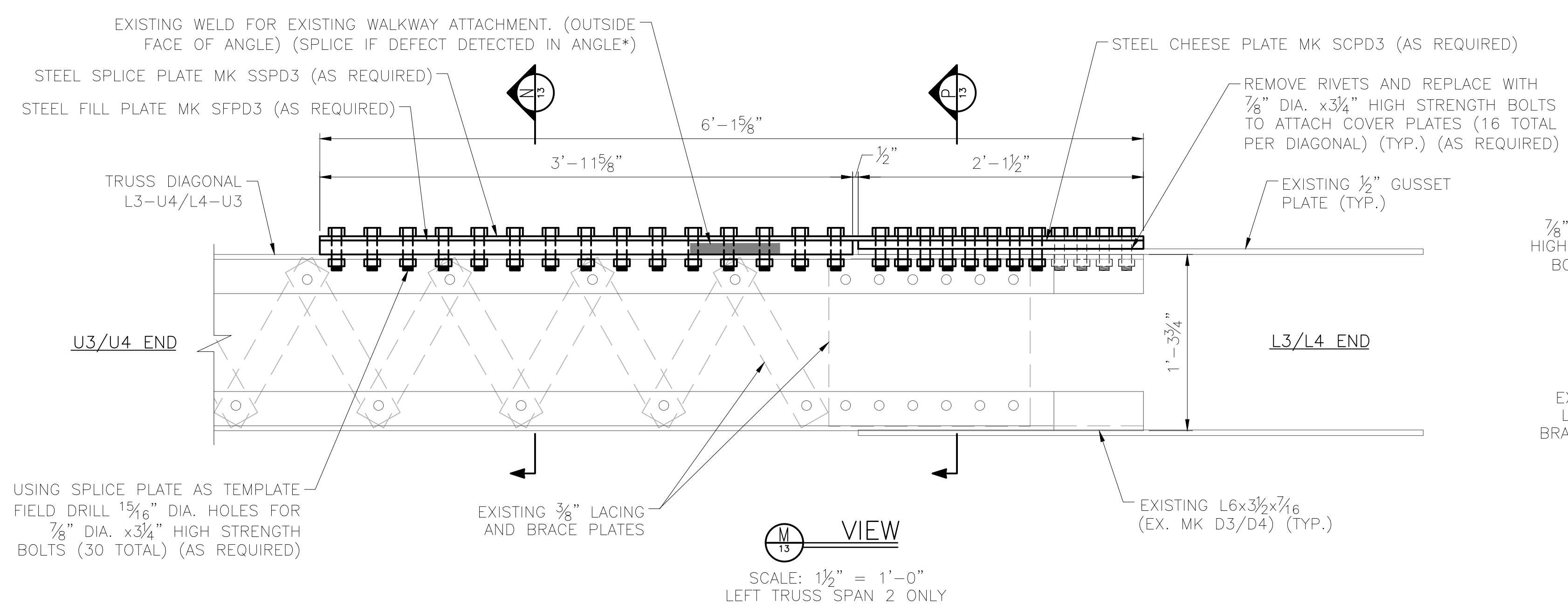
SCALE: 1 1/2" = 1'-0"



SECTION L-L

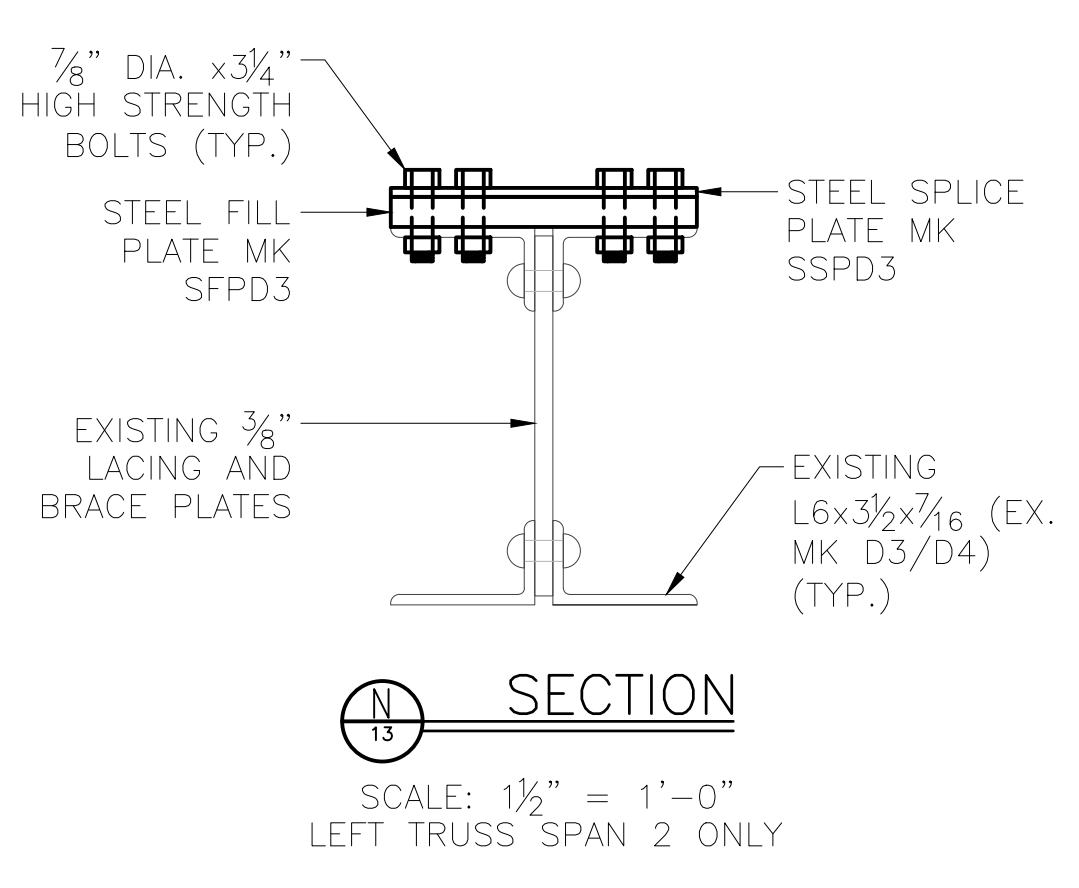
SCALE: 1 1/2" = 1'-0"

L2-L3/L4-L5 SHOWN, L3-L4 SIMILAR



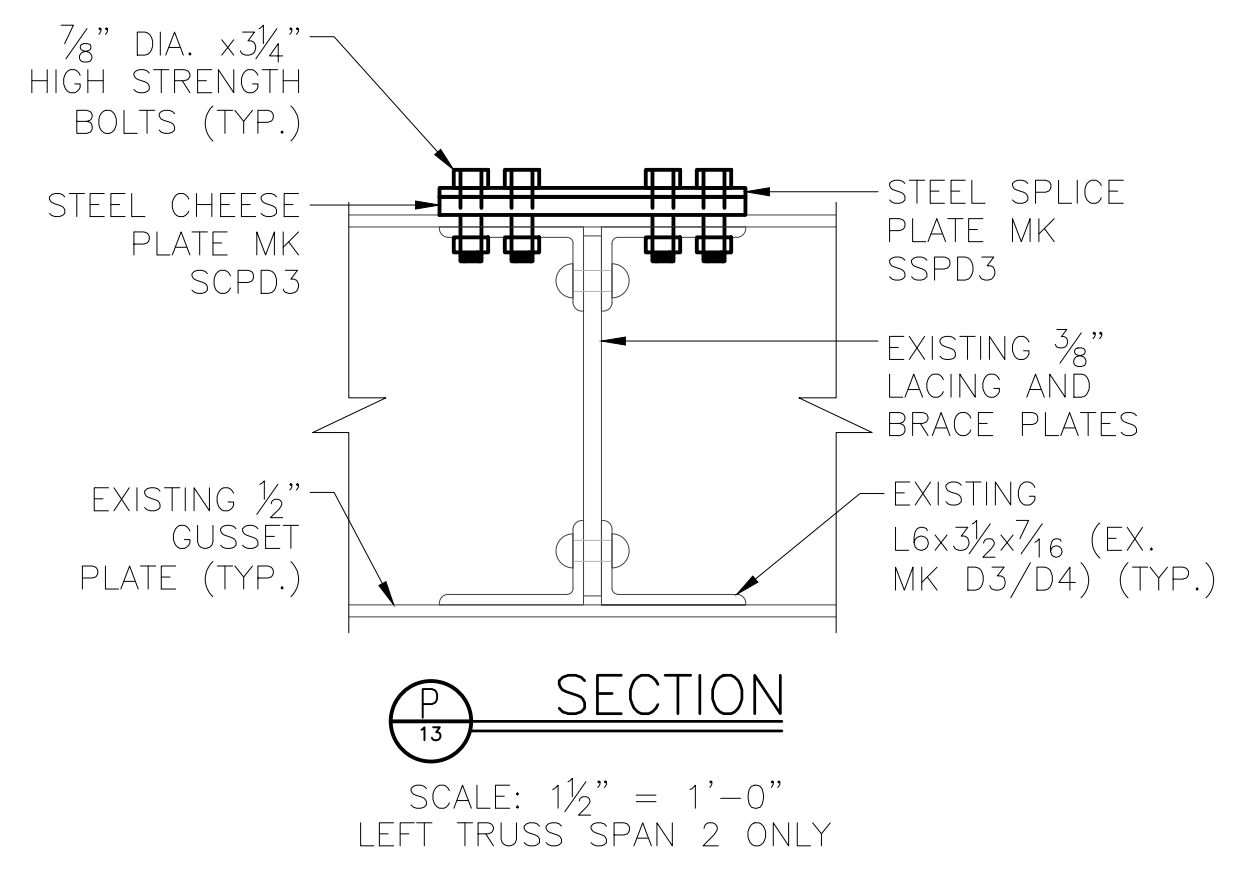
VIEW M-M

SCALE: 1 1/2" = 1'-0"
LEFT TRUSS SPAN 2 ONLY



SECTION N-N

SCALE: 1 1/2" = 1'-0"
LEFT TRUSS SPAN 2 ONLY



SECTION P-P

SCALE: 1 1/2" = 1'-0"
LEFT TRUSS SPAN 2 ONLY

NOTES:

- FOR RIVET REPLACEMENT NOTES SEE SHEET 5.
- * ALL WALKWAY WELDS SHALL BE REMOVED AND TESTED FOR DEFECTS PER NOTES ON SHEET 5. IF DEFECT IS DETECTED AND CANNOT BE REMEDIATED IN THE ANGLE, THEN PERFORM SPLICING/STRENGTHENING AS DETAILED ON THIS SHEET.
- WHERE COVER PLATING OF BOTTOM CHORD WOULD INTERFERE WITH NODAL JOINTS OR EXISTING CHORD SPLICES, NOTIFY ARRC AND BRIDGE ENGINEER.

DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM

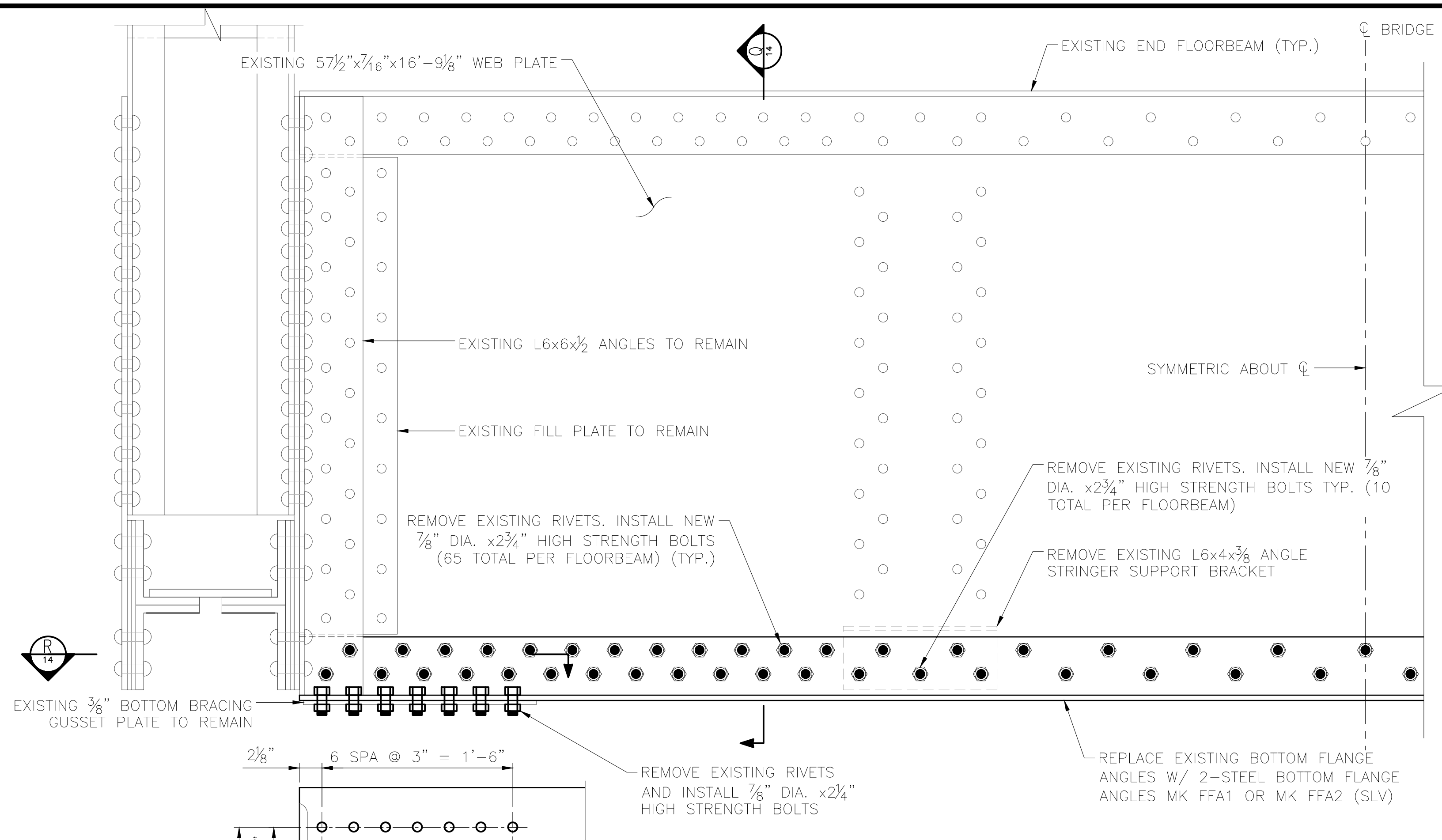
HDR ENGINEERING, INC.
 582 E. 35TH AVE, SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569

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

PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: TRUSS MEMBER SPLICE DETAILS (IF REQUIRED)

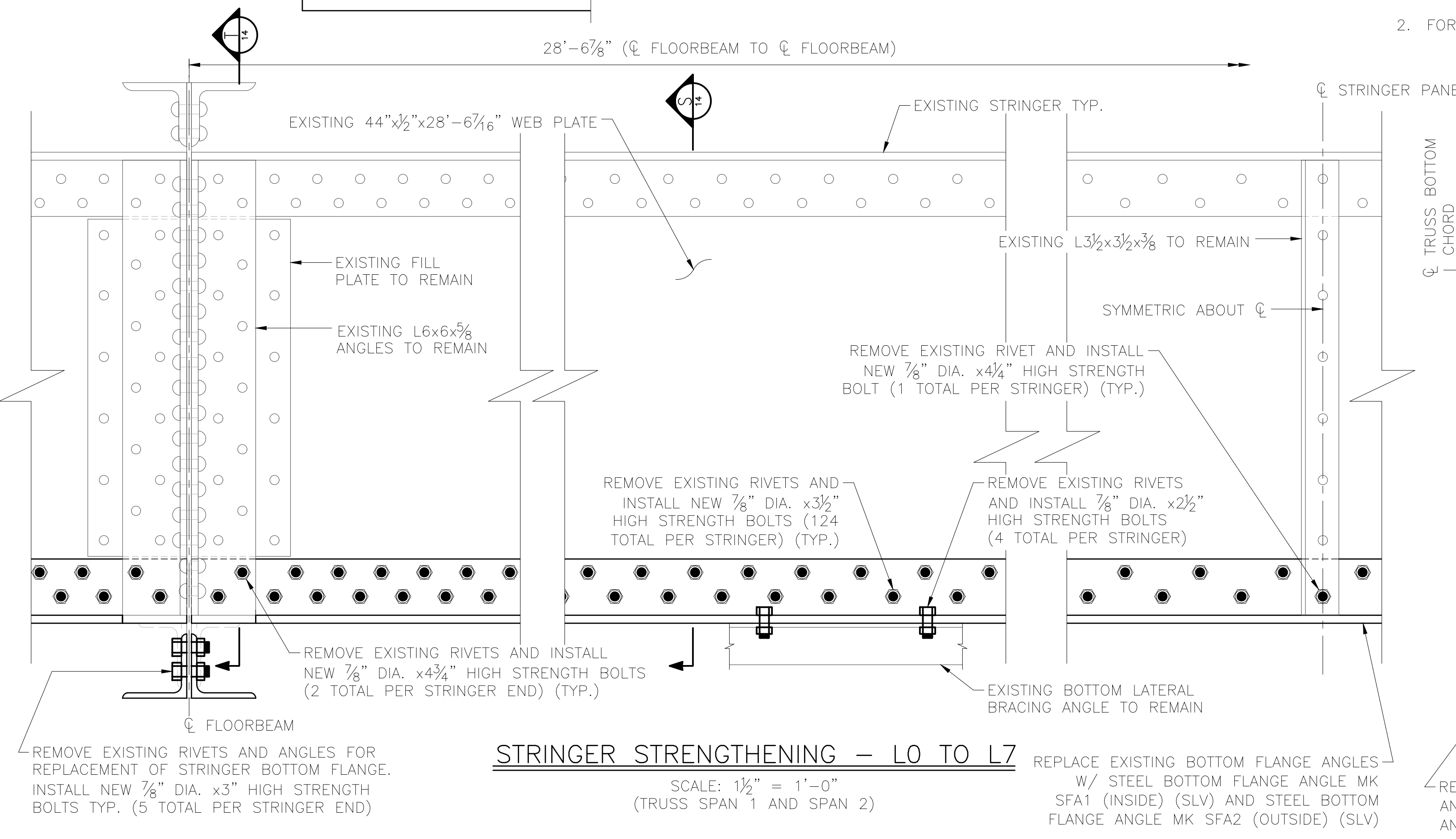
AFE NO.	12259
YEAR	2023
SHEET	13 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_014.DWG
 DATE: 12/14/2023 11:04 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTb_2023.CTB

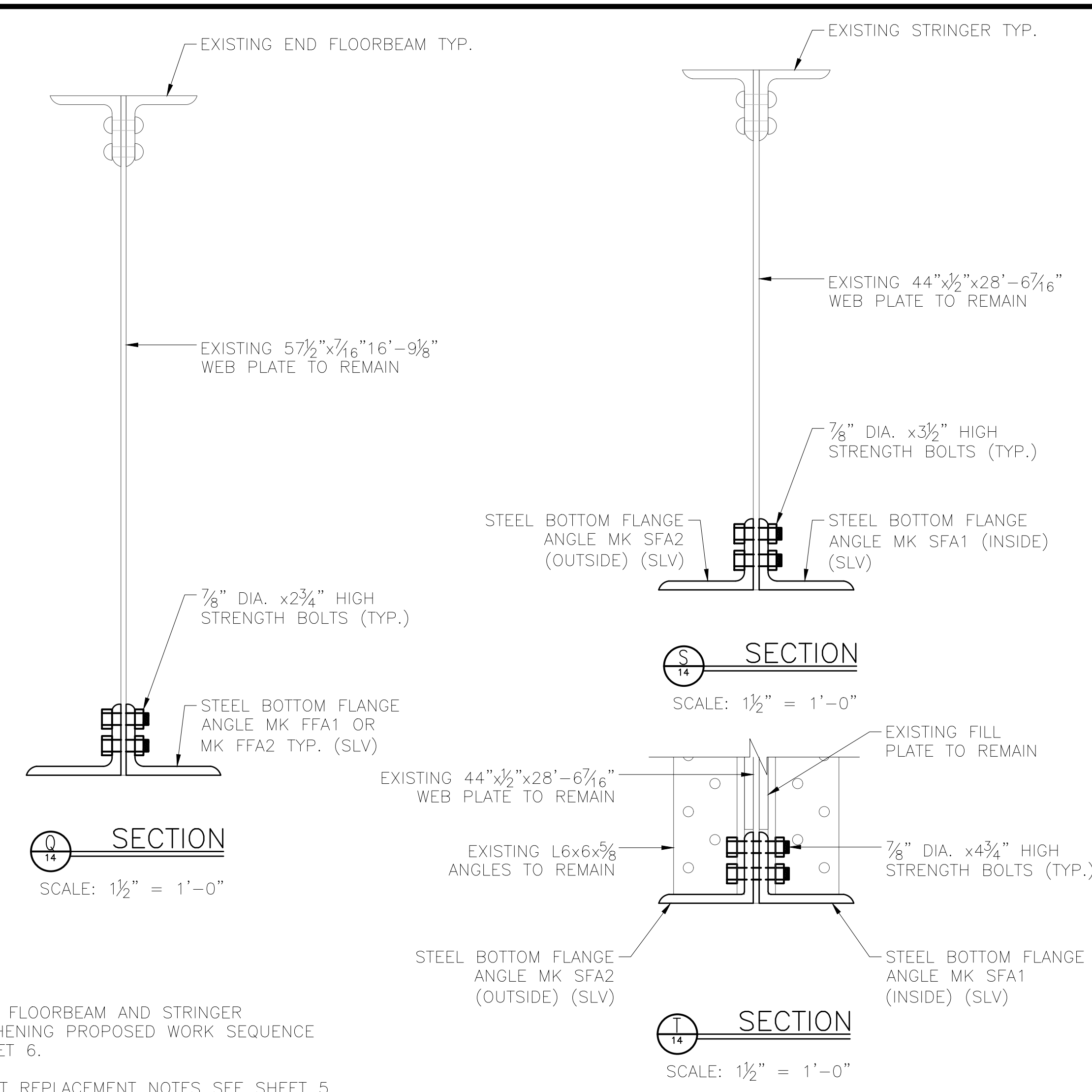


END FLOORBEAM STRENGTHENING - L0 & L7
 SCALE: 1/2" = 1'-0"
 (TRUSS SPAN 1 AND SPAN 2)

- NOTES:**
- FOR END FLOORBEAM AND STRINGER STRENGTHENING PROPOSED WORK SEQUENCE SEE SHEET 6.
 - FOR RIVET REPLACEMENT NOTES SEE SHEET 5.



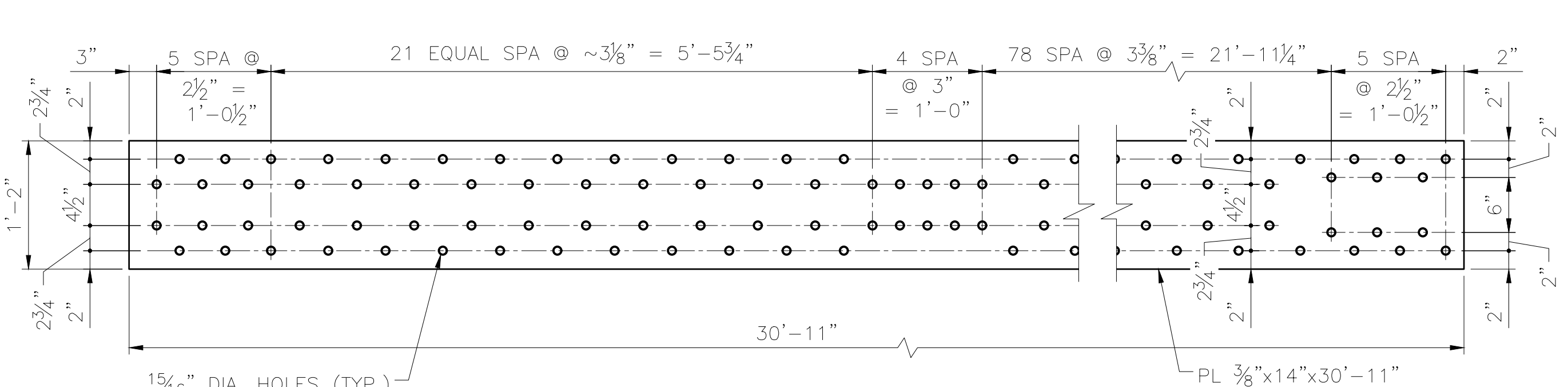
STRINGER STRENGTHENING - L0 TO L7
 SCALE: 1/2" = 1'-0"
 (TRUSS SPAN 1 AND SPAN 2)



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

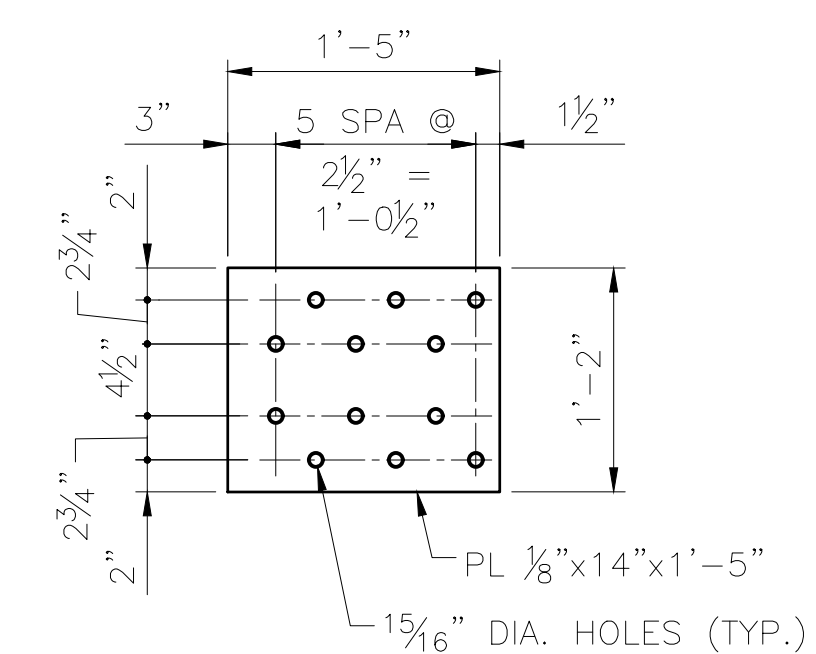
DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM
HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AEC0569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: STRINGER AND END FLOORBEAM REHAB DETAILS (BOTH TRUSS SPANS)	
AFE NO.	12259
YEAR	2023
SHEET	14 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\2653003\BR-227.1_TALKEETNA_015.DWG
 DATE: 12/14/2023 11:05 AM
 TIME: AS NOTED
 SCALE: AS NOTED
 PUBLISHED: CTB
 ARR: CTB_2023.CTB



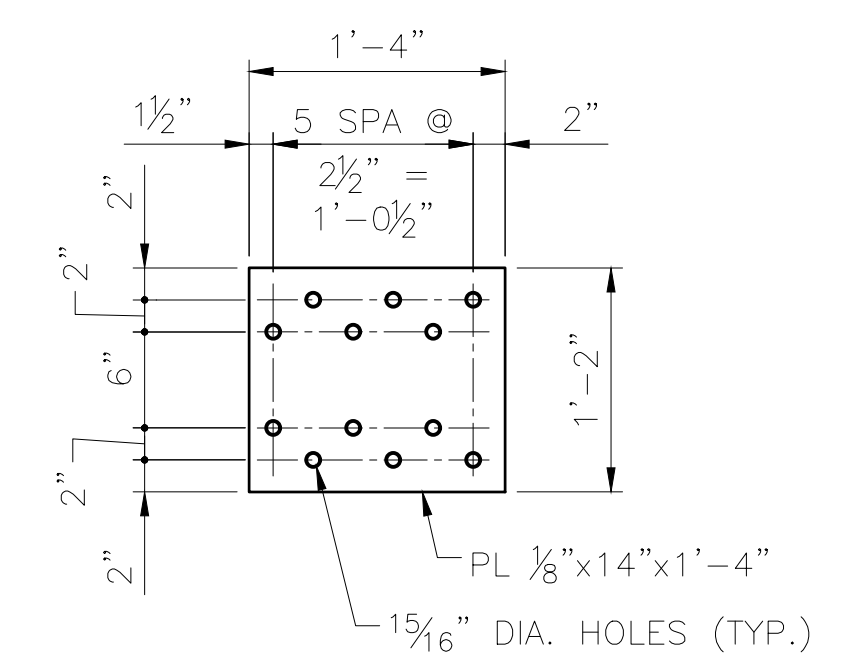
STEEL COVER PLATE MK P23

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 552 LBS
 (SEE SHEET 11 FOR OPTIONAL SPLICE REQUIREMENTS)



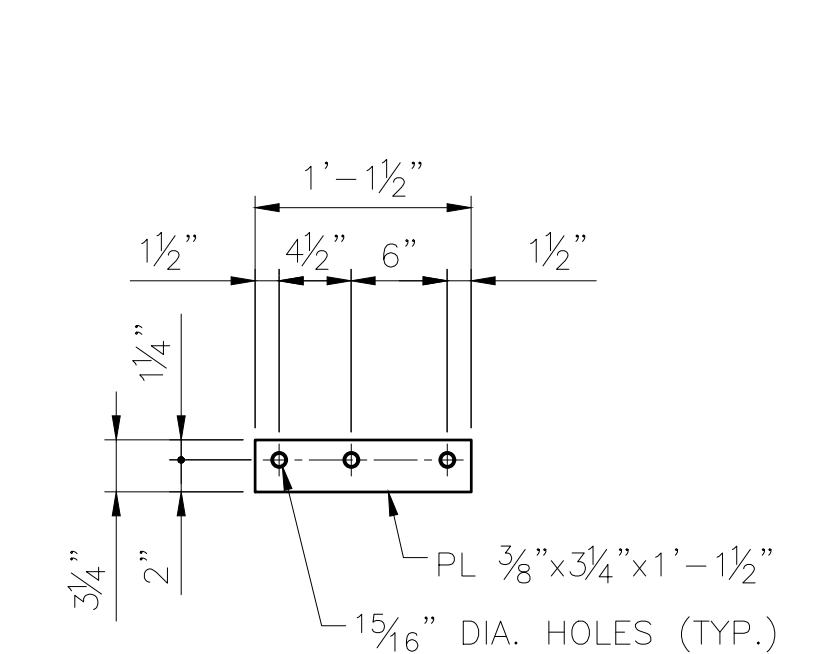
STEEL FILL PLATE MK SFP1

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 8.5 LBS



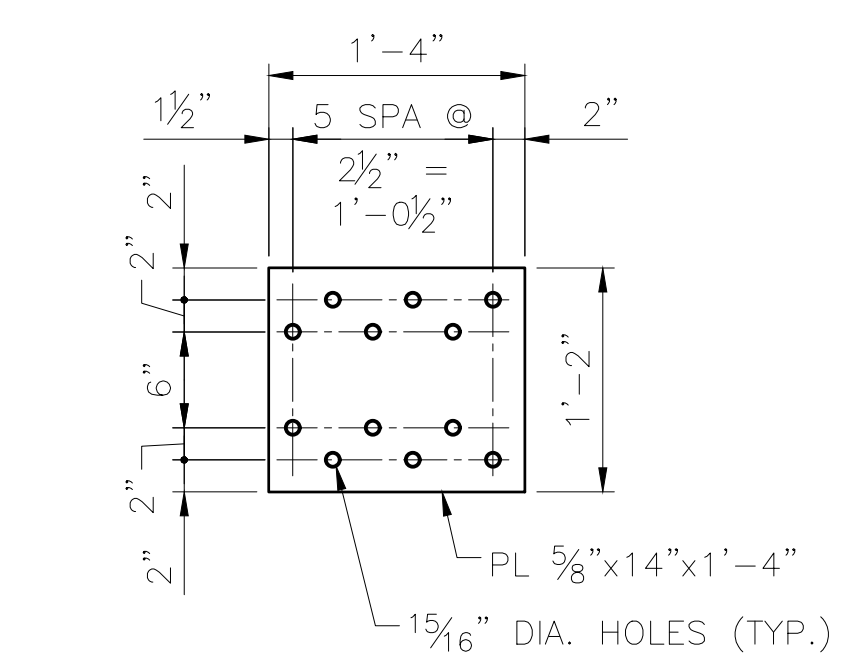
STEEL FILL PLATE MK SFP2

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 8.0 LBS



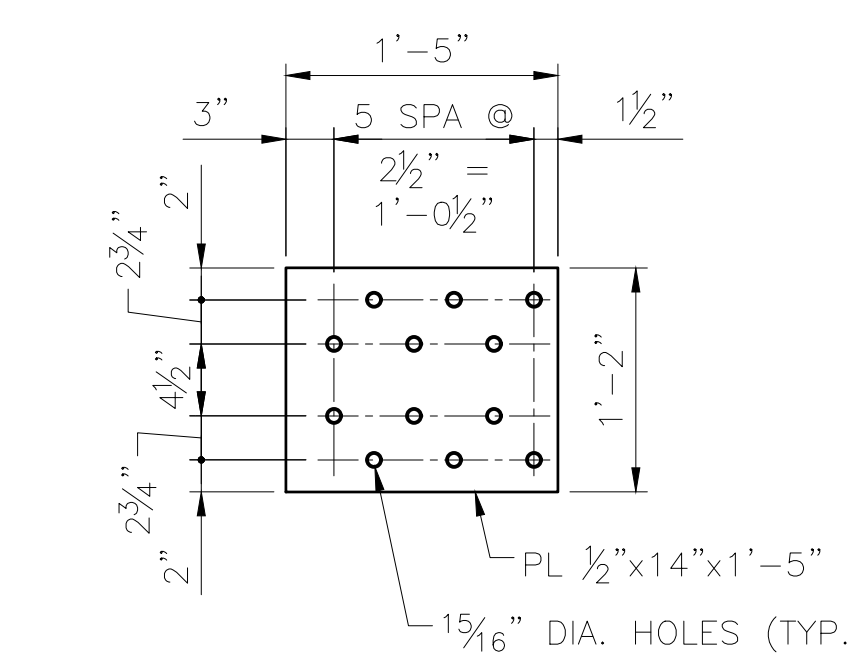
STEEL FILL PLATE MK SFP4

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 4.7 LBS



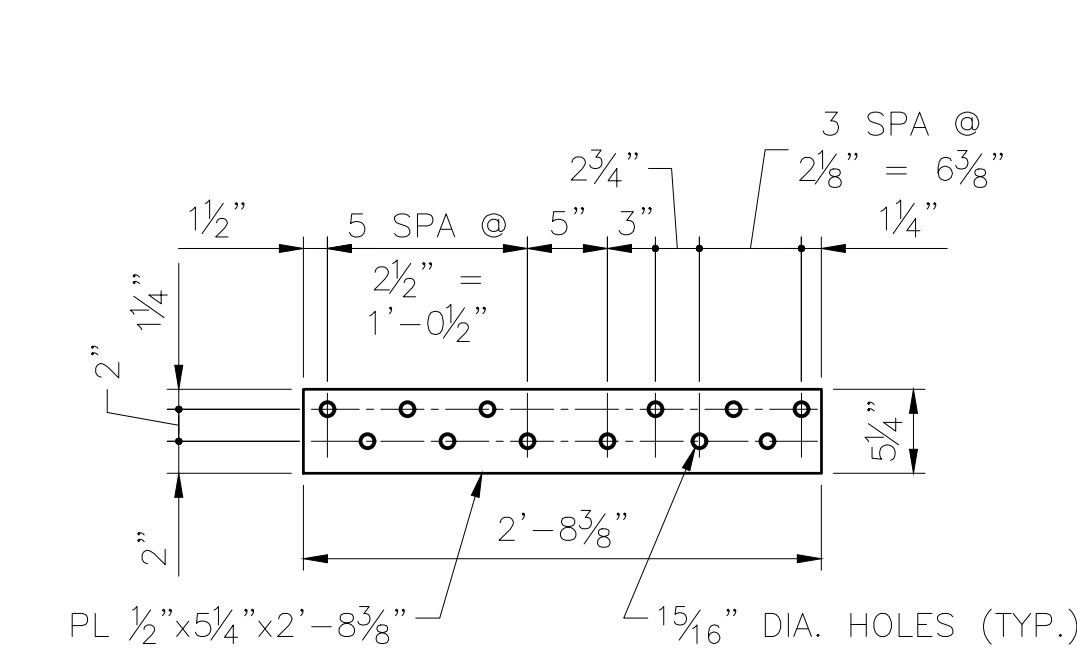
STEEL FILL PLATE MK SFP2L5

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 39.7 LBS



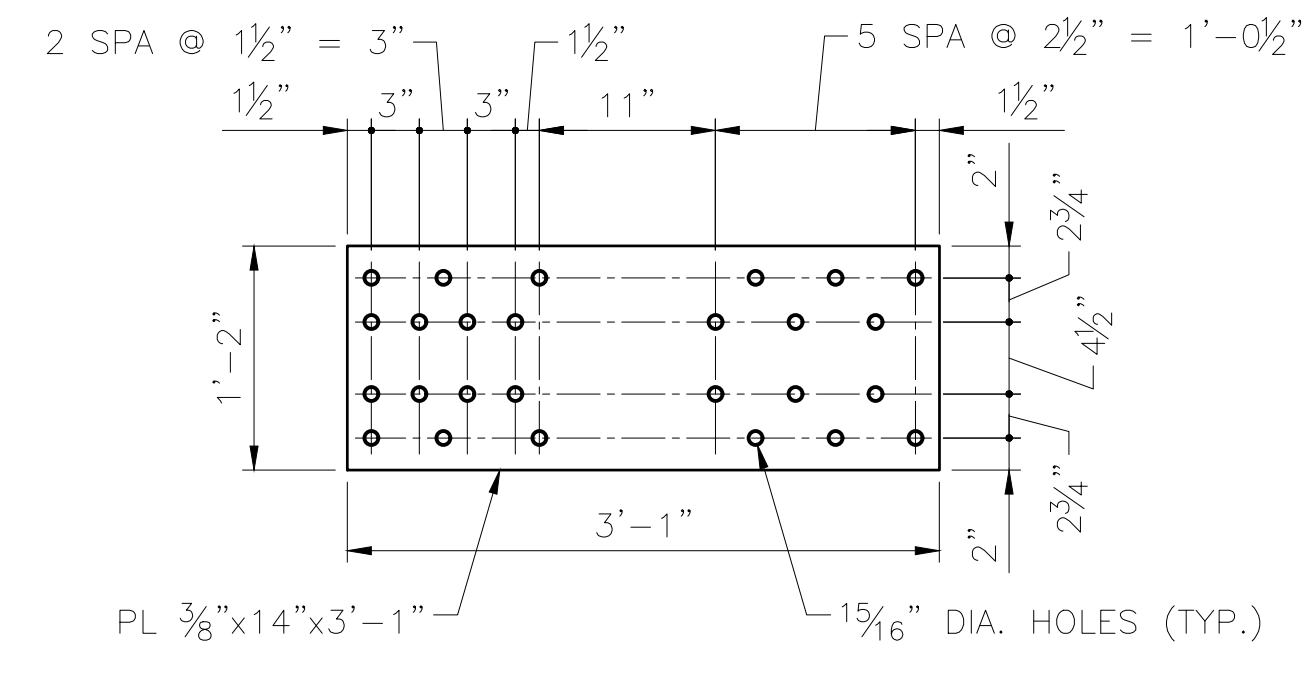
STEEL FILL PLATE MK SFP3

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 33.8 LBS



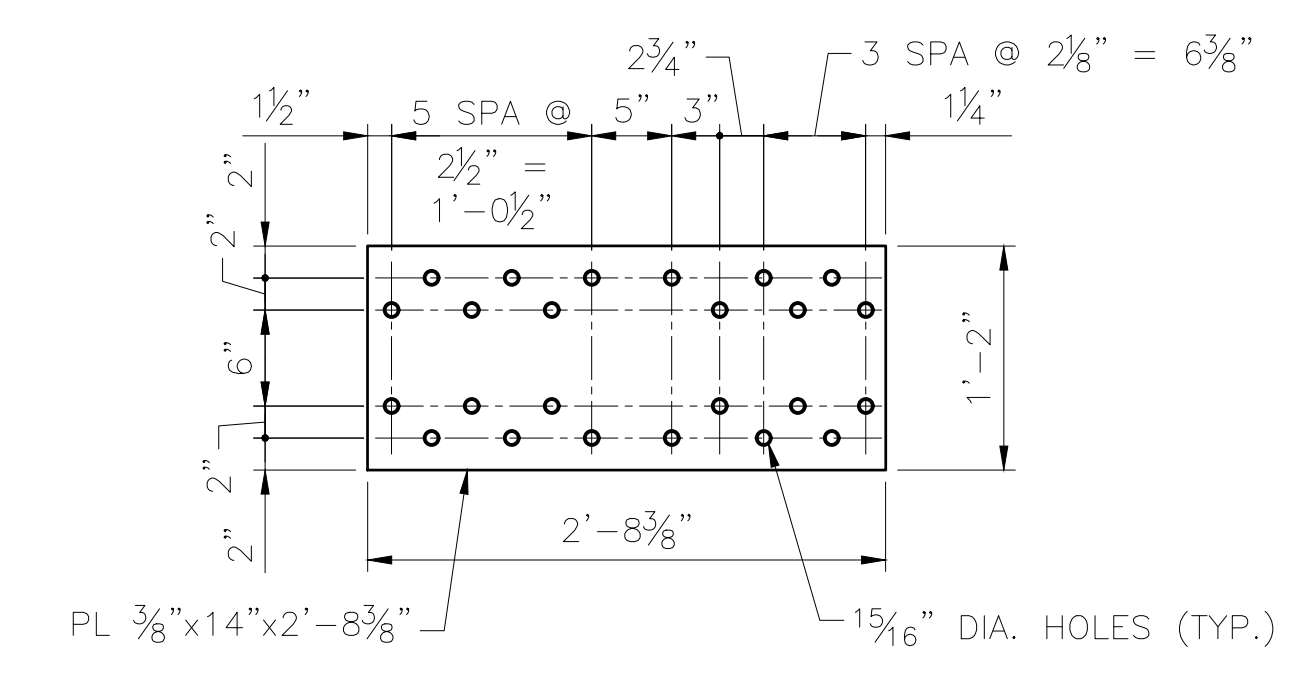
STEEL SPLICE PLATE MK P22S2

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 24.1 LBS



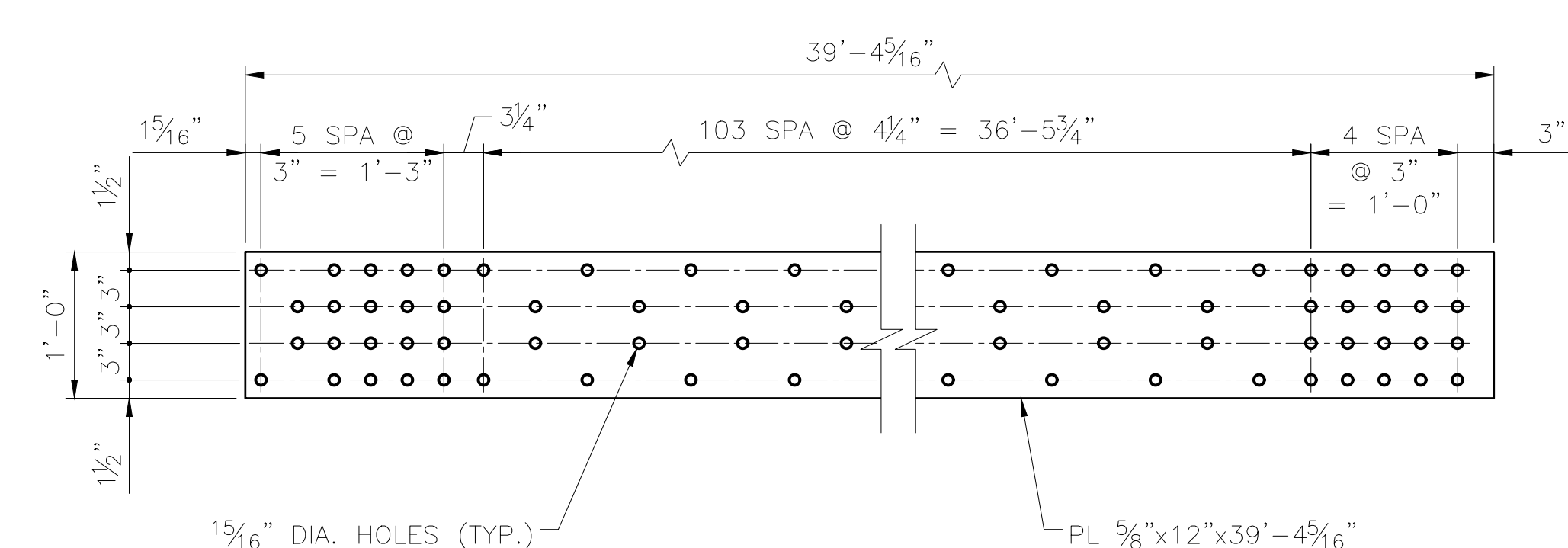
STEEL SPLICE PLATE MK P21S

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 55.1 LBS



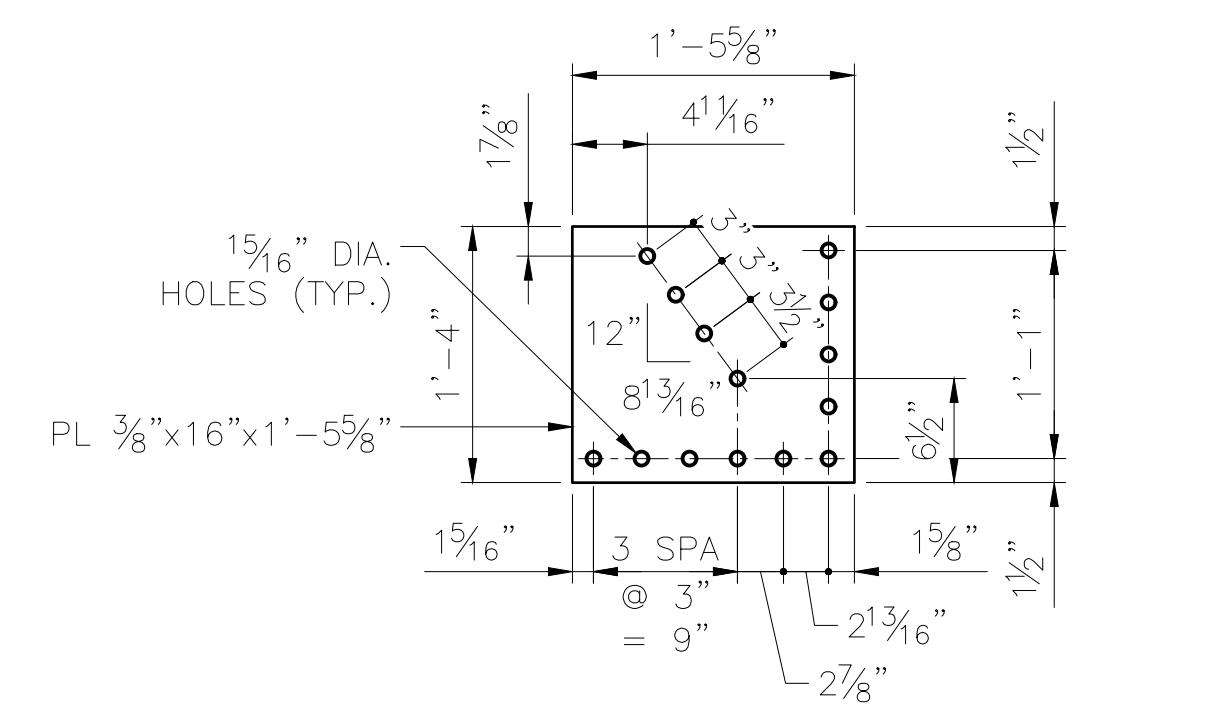
STEEL SPLICE PLATE MK P22S1

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 48.2 LBS



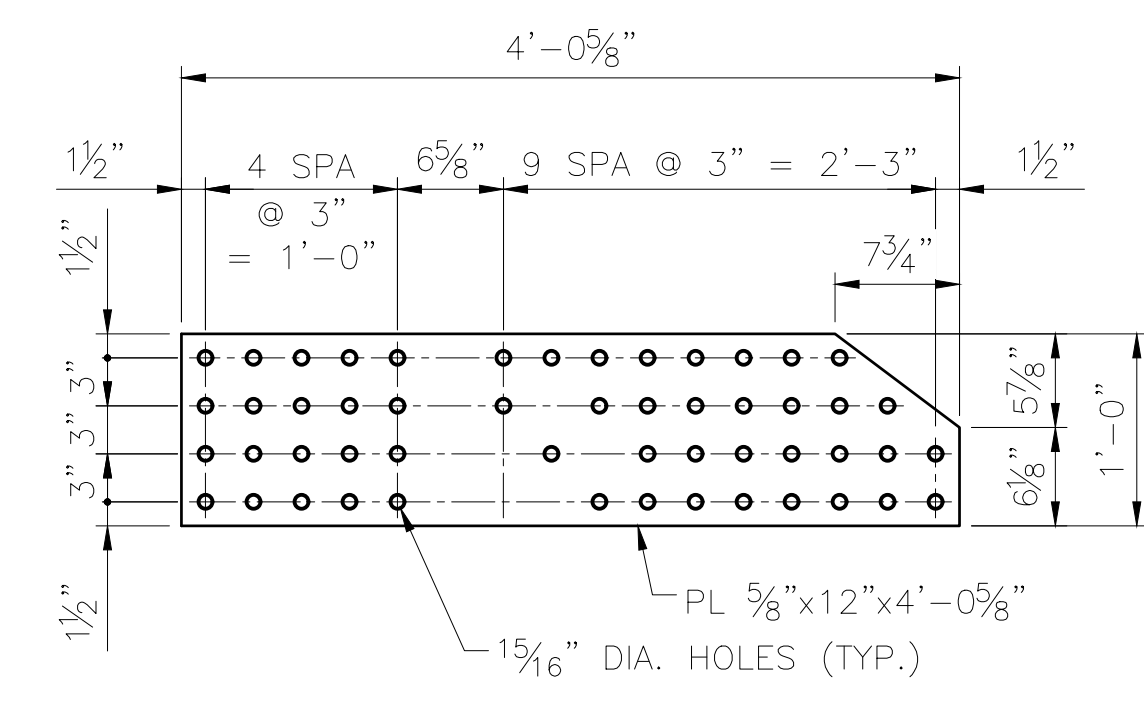
STEEL COVER PLATE MK D2

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 1005 LBS
 (SEE SHEET 11 FOR OPTIONAL SPLICE REQUIREMENTS)



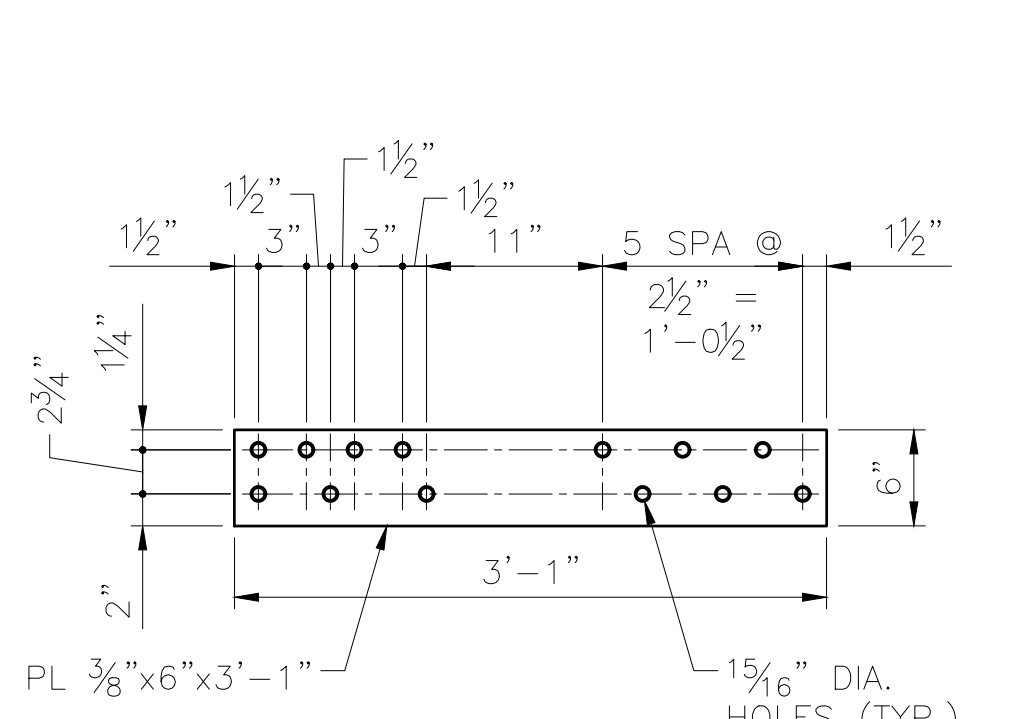
STEEL BRACING GUSSET PLATE MK BCP1

SCALE: 1" = 1'-0"
 1 REQUIRED
 EST. LIFT WEIGHT = 30.0 LBS



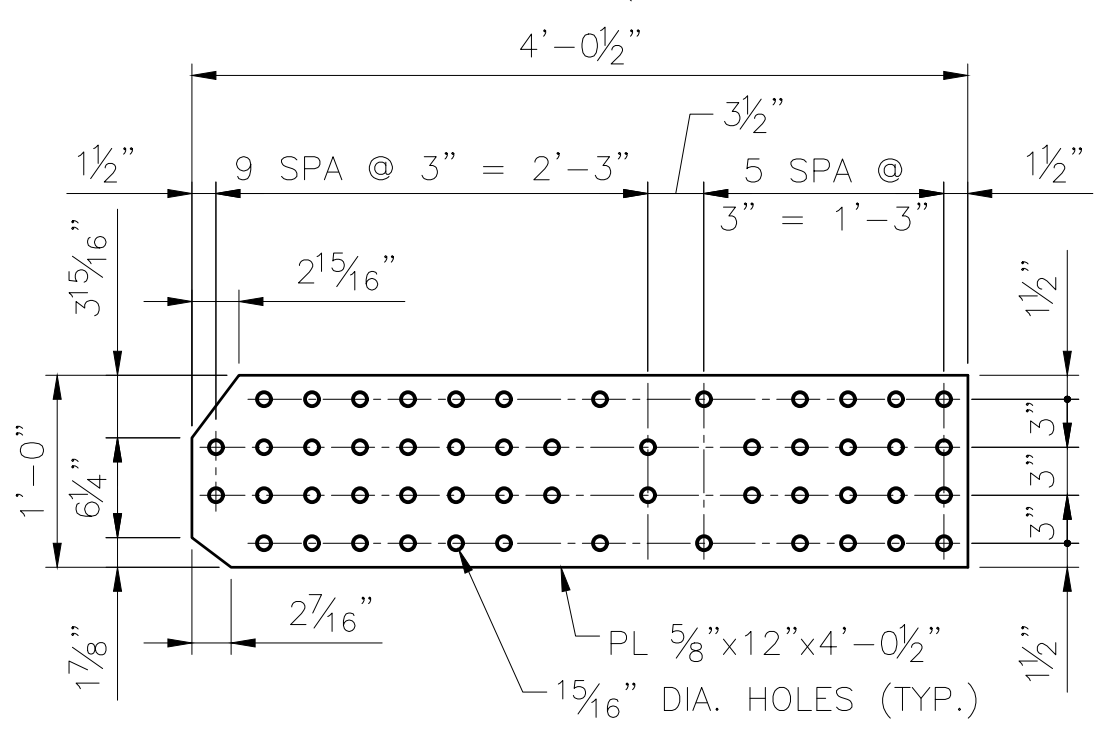
STEEL SPLICE PLATE MK SSPD1

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 104 LBS



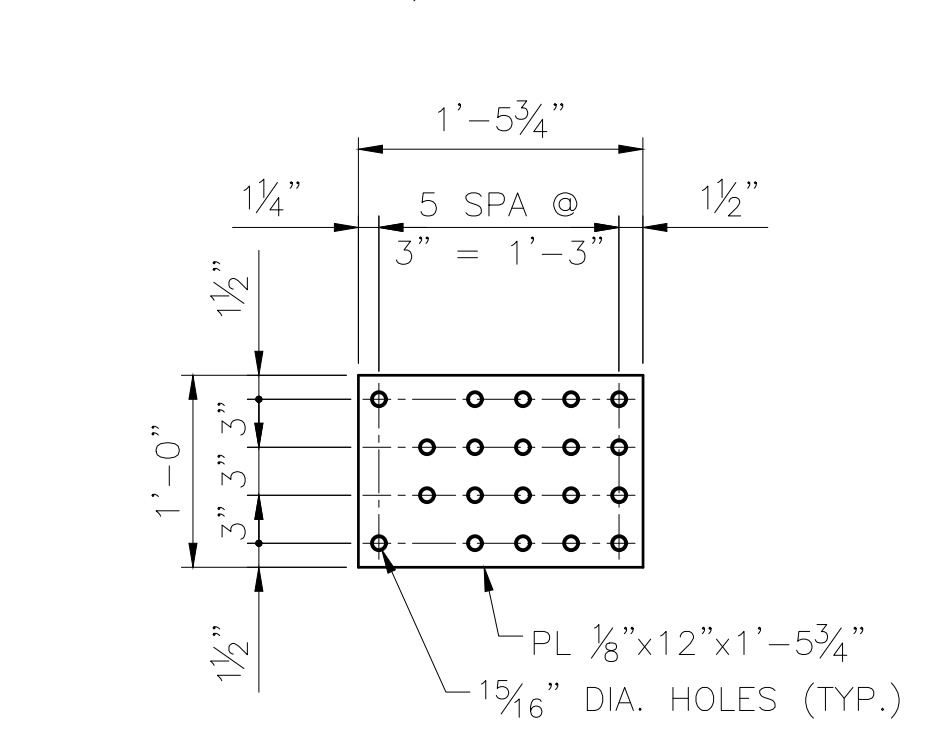
STEEL SPLICE PLATE MK P23S

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 23.6 LBS



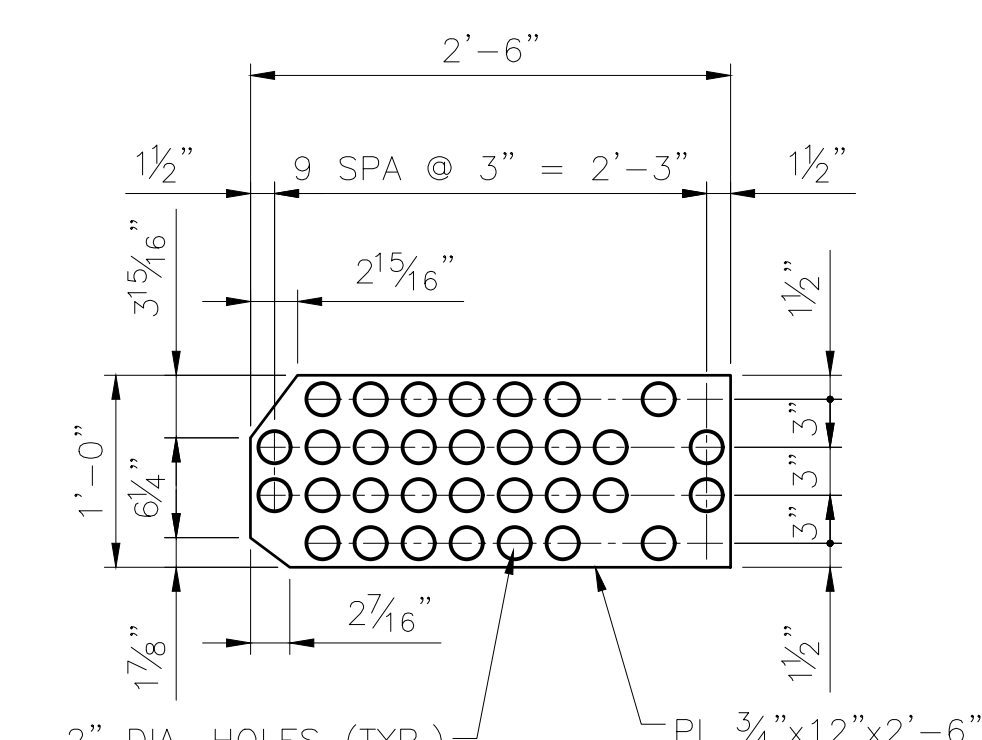
STEEL SPLICE PLATE MK SSPD2

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 103 LBS



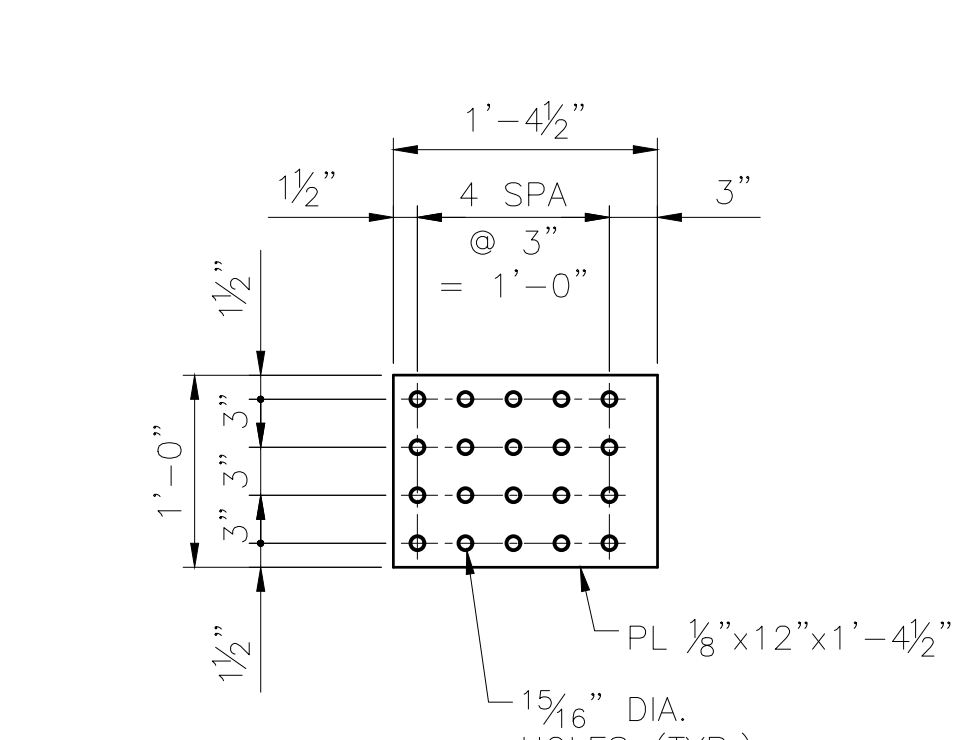
STEEL FILL PLATE MK SFPD2

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 7.6 LBS



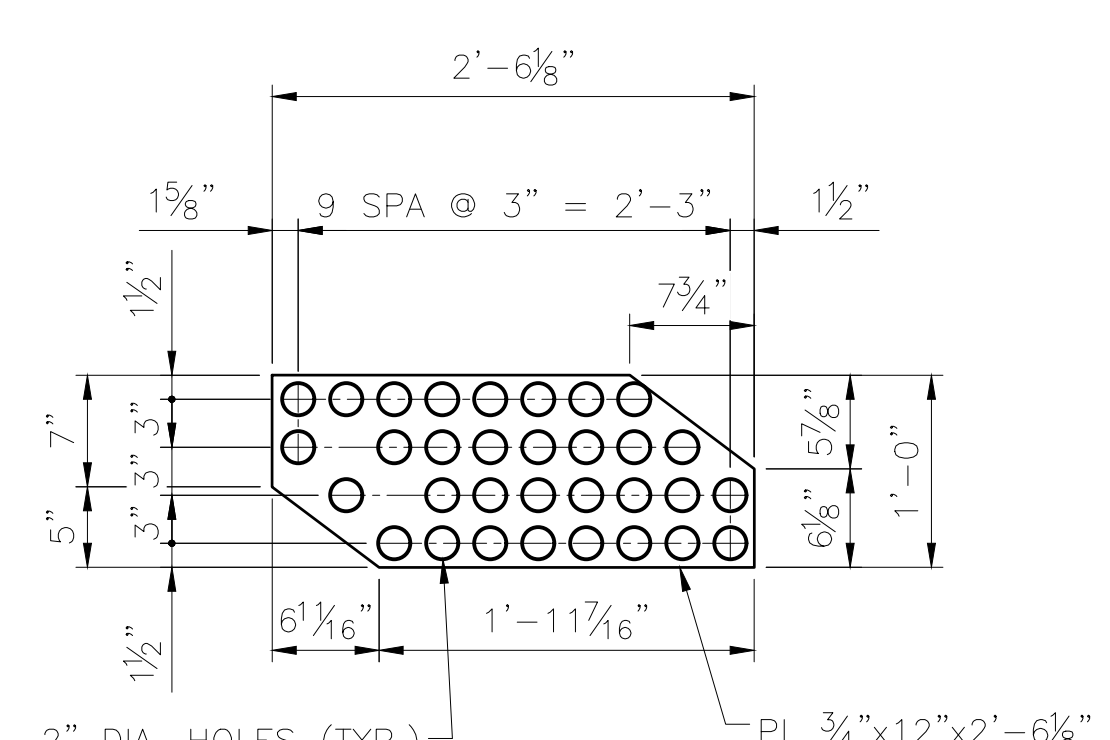
STEEL CHEESE PLATE MK SCPD2

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 76.6 LBS



STEEL FILL PLATE MK SFPD1

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 7.0 LBS

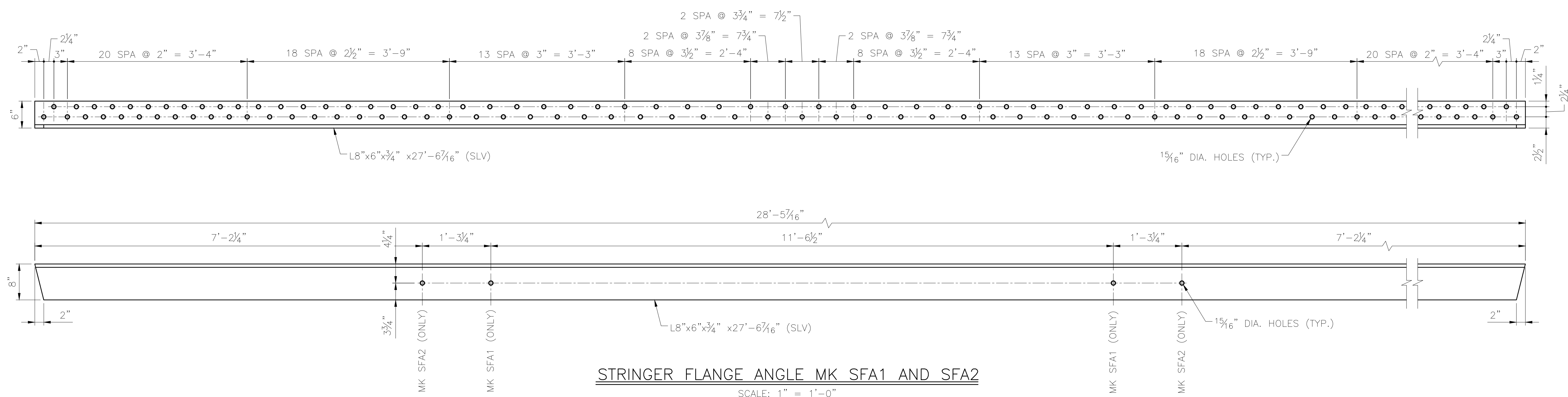


STEEL CHEESE PLATE MK SCPD1

SCALE: 1" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 76.9 LBS

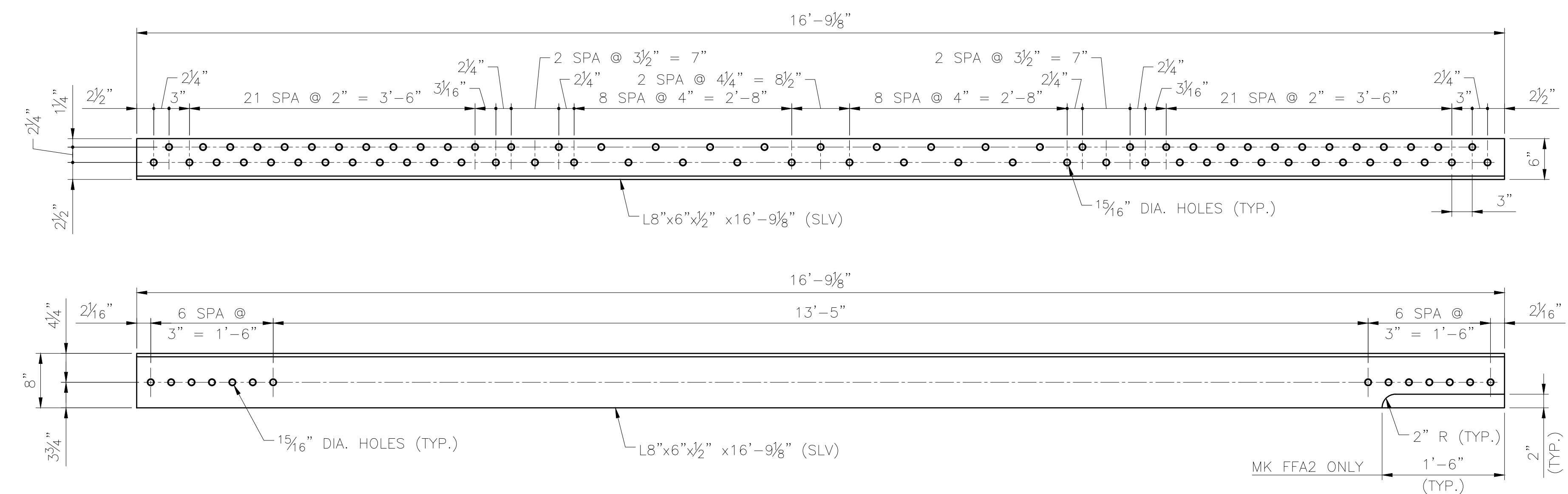
DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM
HDR ENGINEERING, INC. 582 E. 35TH AVE, SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
PROJECT:	TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
SHEET TITLE:	TRUSS REHAB STEEL PIECE DETAILS (1 OF 3)
AFE NO.	12259
YEAR	2023
SHEET	15 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_016.DWG
 DATE: 12/14/2023 11:05 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTb_2023.CTB



STRINGER FLANGE ANGLE MK SFA1 AND SFA2

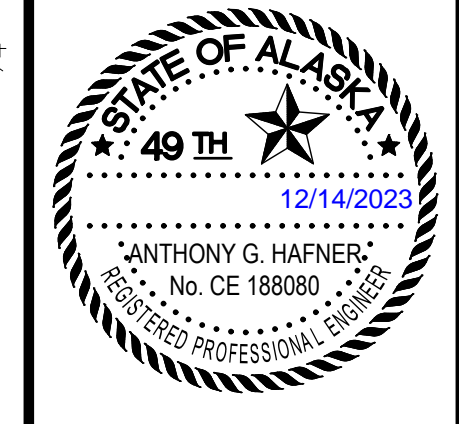
SCALE: 1" = 1'-0"
 28 REQUIRED ~ MK SFA1
 28 REQUIRED ~ MK SFA2
 EST. LIFT WEIGHT = 962 LBS.



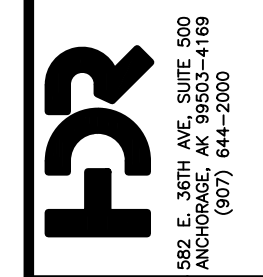
FLOORBEAM FLANGE ANGLE MK FFA1 AND MK FFA2

SCALE: 1" = 1'-0"
 4 REQUIRED ~ MKFFA1
 4 REQUIRED ~ MKFFA2
 EST. LIFT WEIGHT = 386 LBS.

DESIGNED BY: MH
 CHECKED BY: MH
 DRAFTED BY: MM



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

ALASKA RAILROAD
 PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: TRUSS REHAB STEEL PIECE DETAILS (2 of 3)

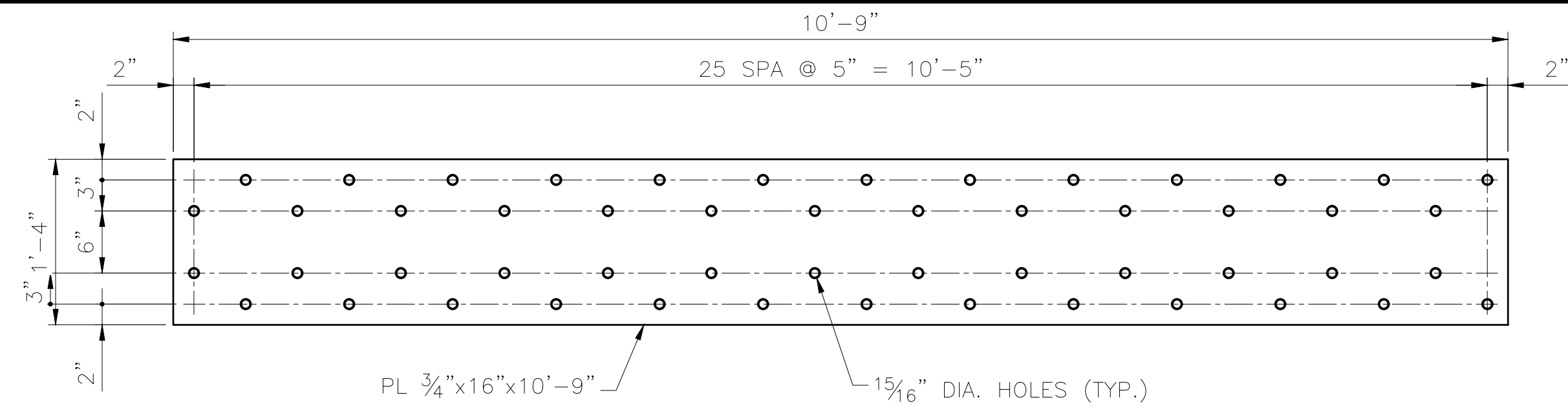
AFE NO. 12259
 YEAR 2023
 SHEET 16 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR_227.1_TALKEETNA_017.DWG

DATE: 12/14/2023 11:05 AM

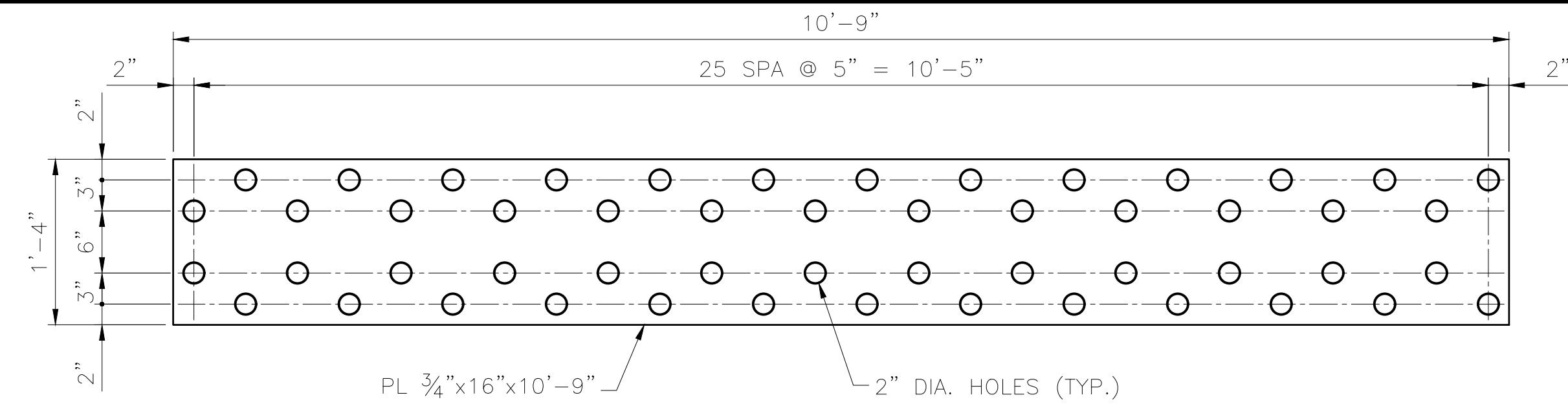
SCALE: AS NOTED

PUBLISHED CTB: ARRC_CTB_2023.CTB



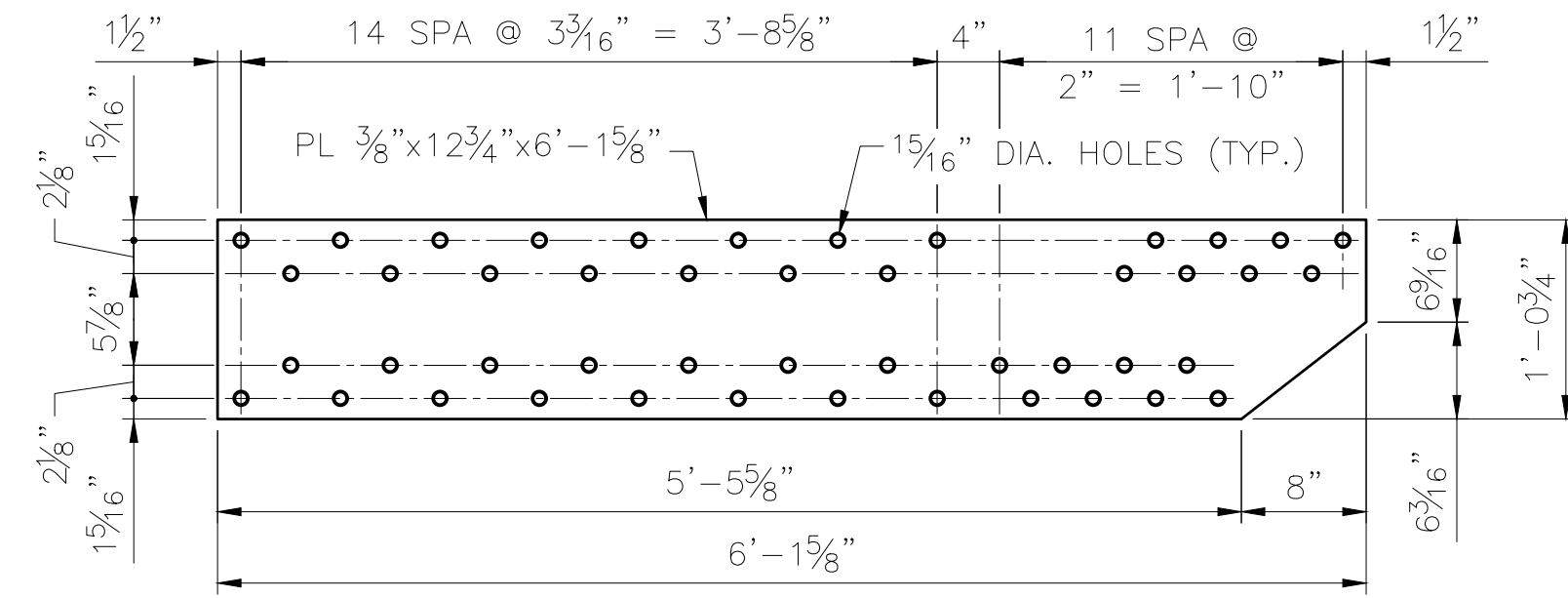
STEEL COVER PLATE MK L01L

SCALE: 1" = 1'-0"
EST. LIFT WEIGHT = 405 LBS



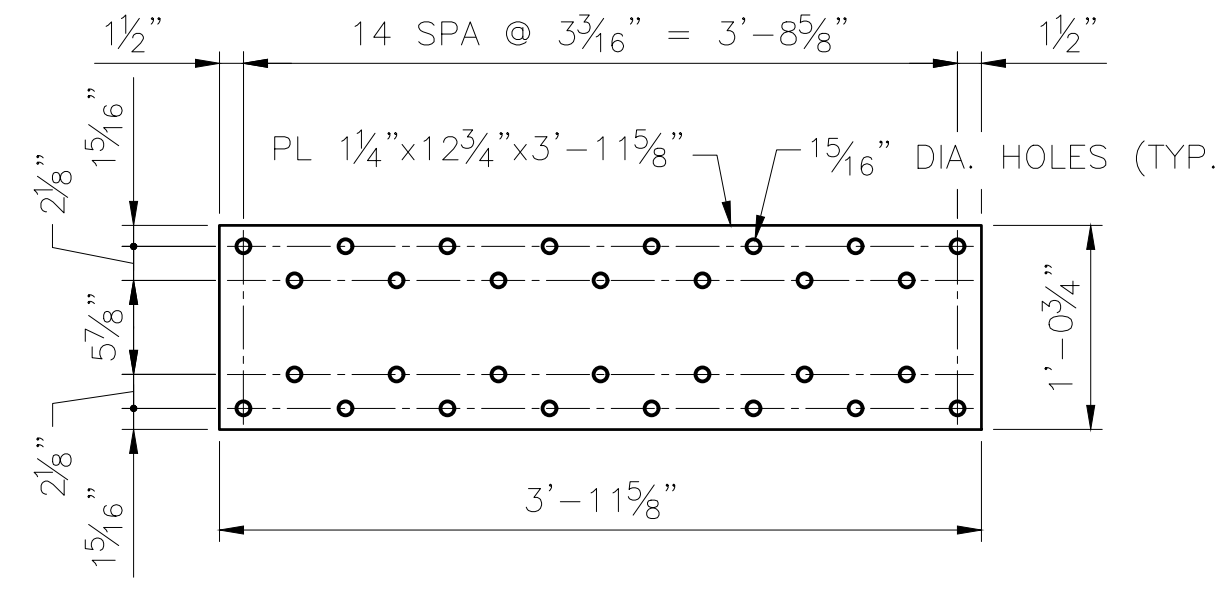
STEEL CHEESE PLATE MK SCPL

SCALE: 1" = 1'-0"
EST. LIFT WEIGHT = 439 LBS



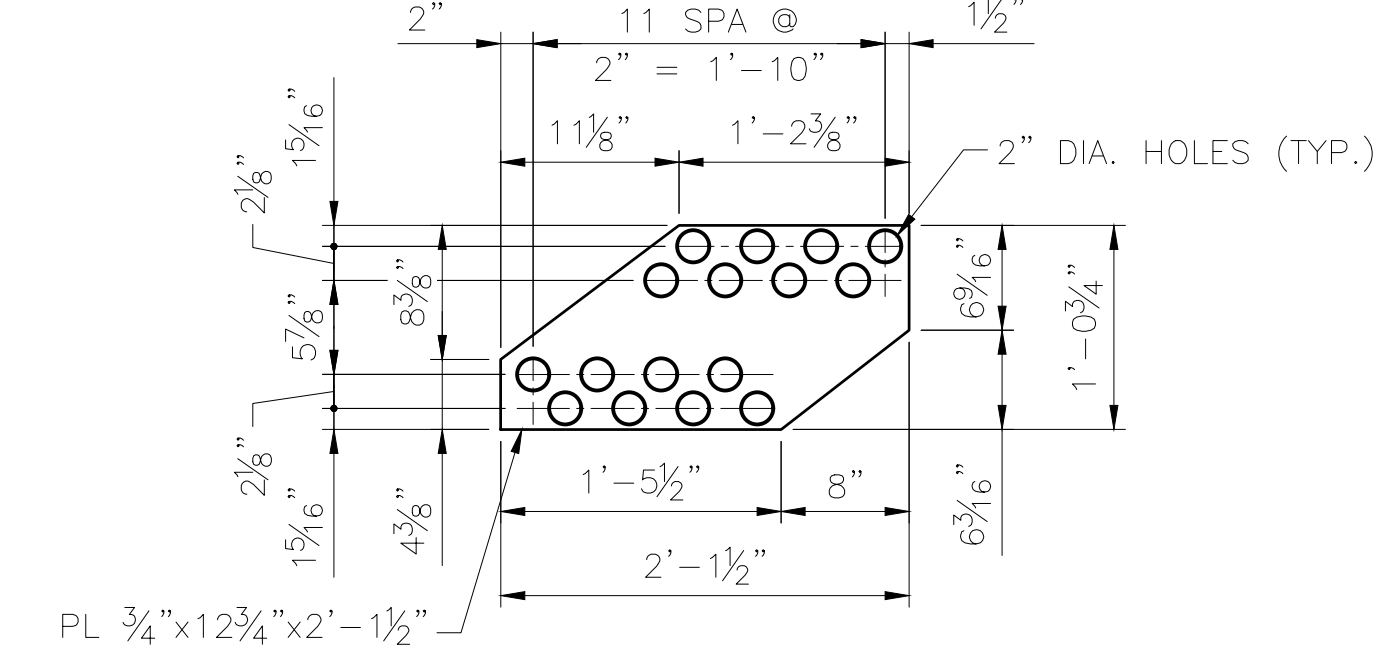
STEEL SPLICE PLATE MK SSPD3

SCALE: 1" = 1'-0"
EST. LIFT WEIGHT = 100 LBS



STEEL FILL PLATE MK SFPD3

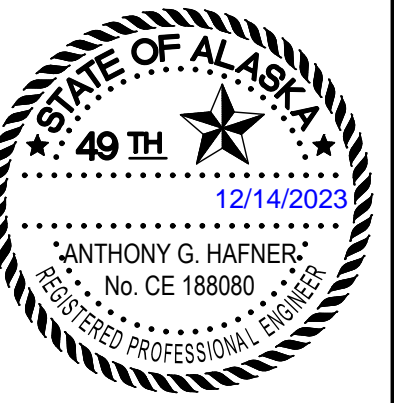
SCALE: 1" = 1'-0"
EST. LIFT WEIGHT = 215 LBS



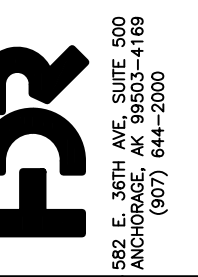
STEEL CHEESE PLATE MK SCPD3

SCALE: 1" = 1'-0"
EST. LIFT WEIGHT = 69.2 LBS

DESIGNED BY: MH
CHECKED BY: MH
DRAFTED BY: MM



HDR ENGINEERING, INC.
582 E. 35TH AVE., SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569



382 E. 35TH AVE., SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000

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

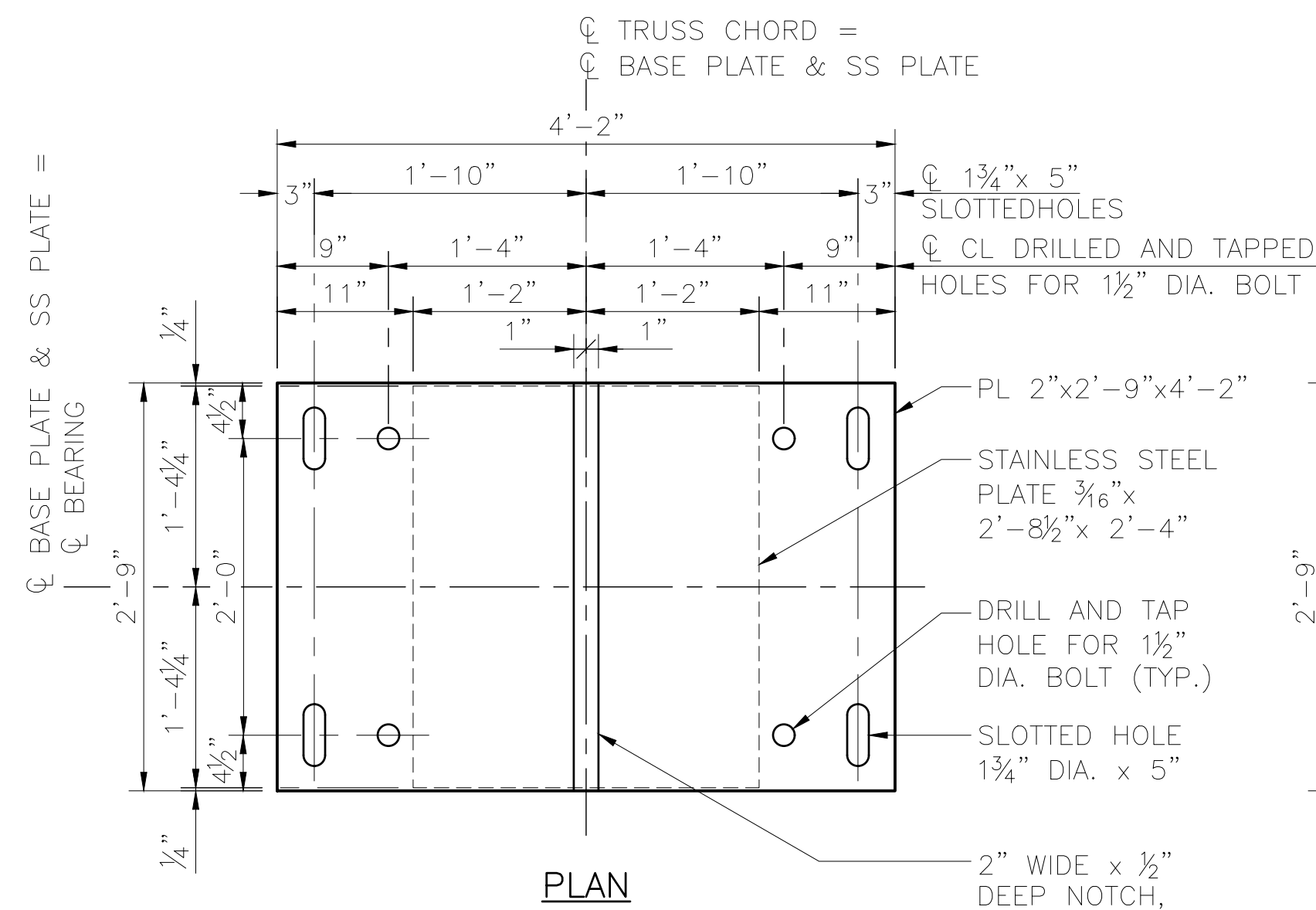
ALASKA RAILROAD

TALKEETNA RIVER BRIDGE 227.1 REHABILITATION

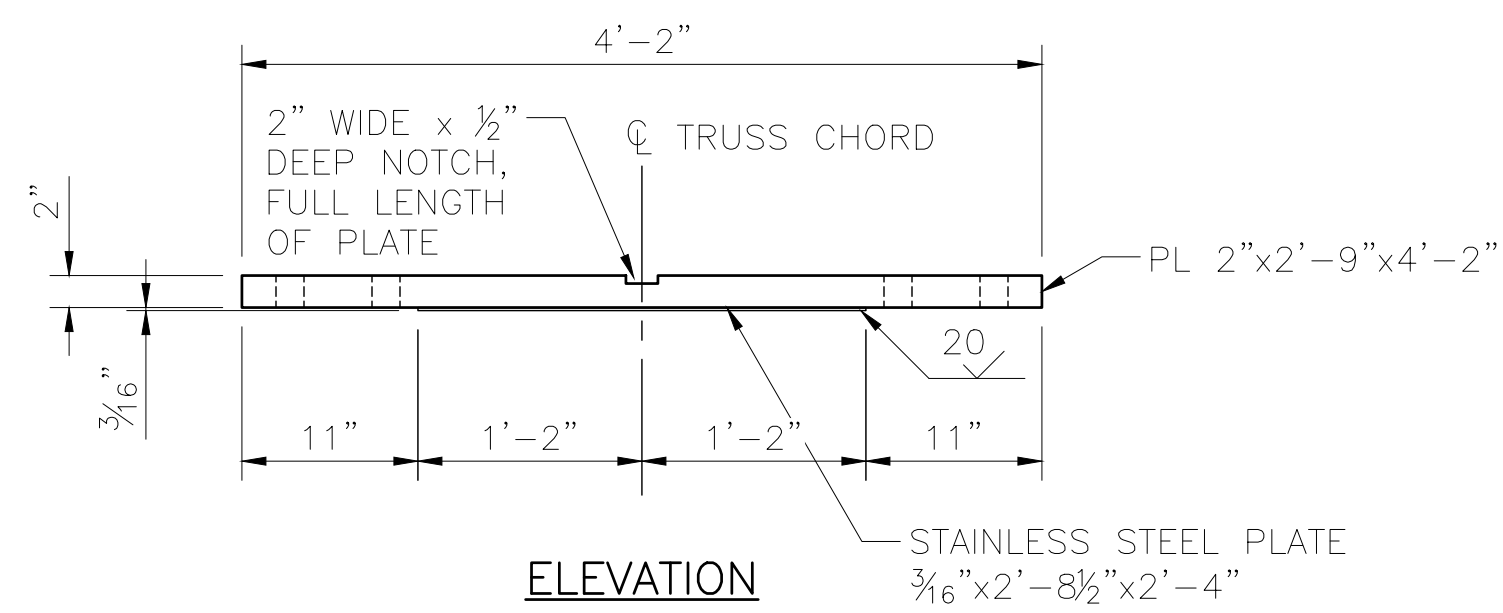
TRUSS REHAB STEEL PIECE DETAILS (3 OF 3)

AFE NO. 12259
YEAR 2023
SHEET 17 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_018.DWG
 DATE: 12/14/2023 11:05 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTb_2023.CTB
 AS NOTED

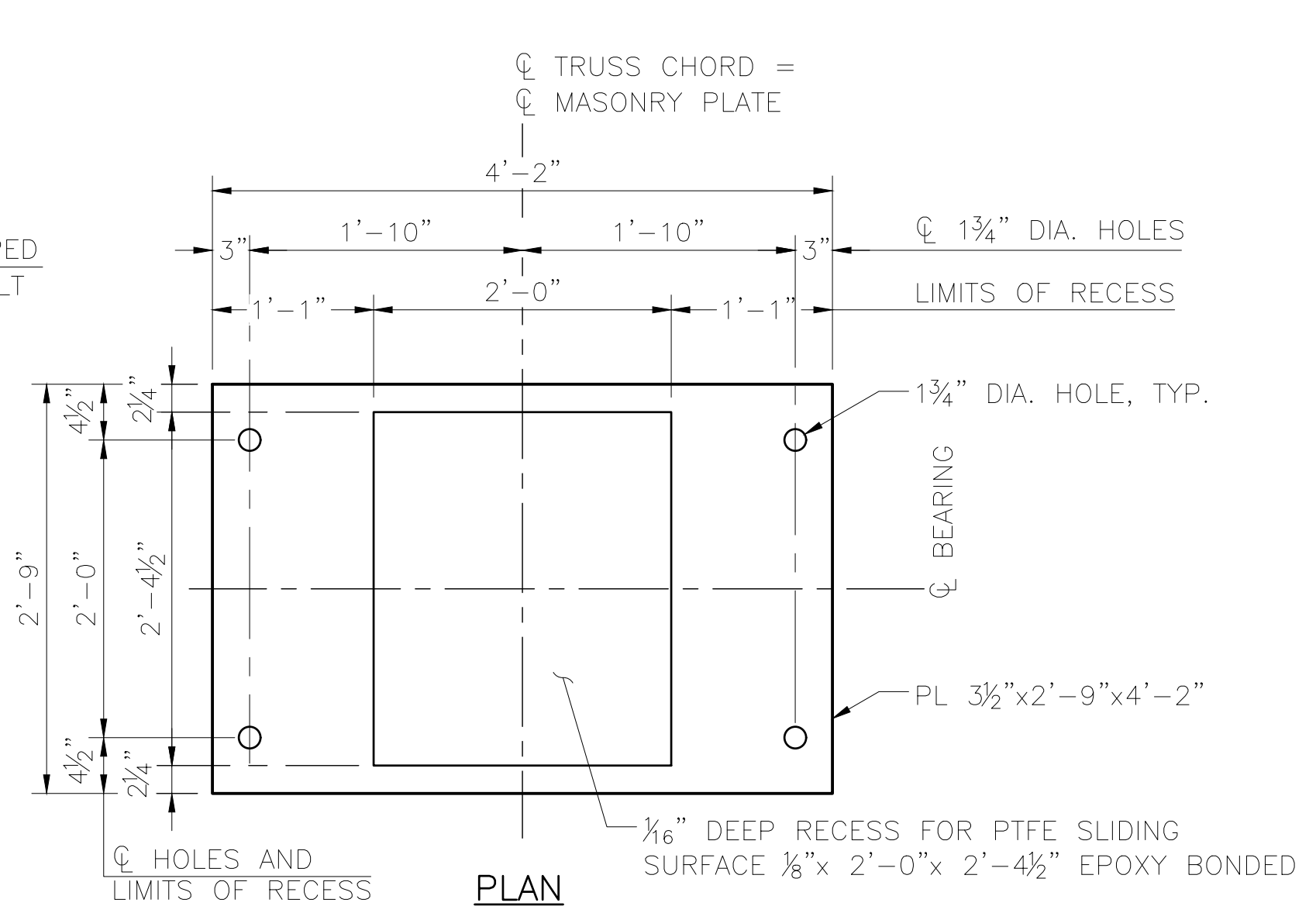


PLAN

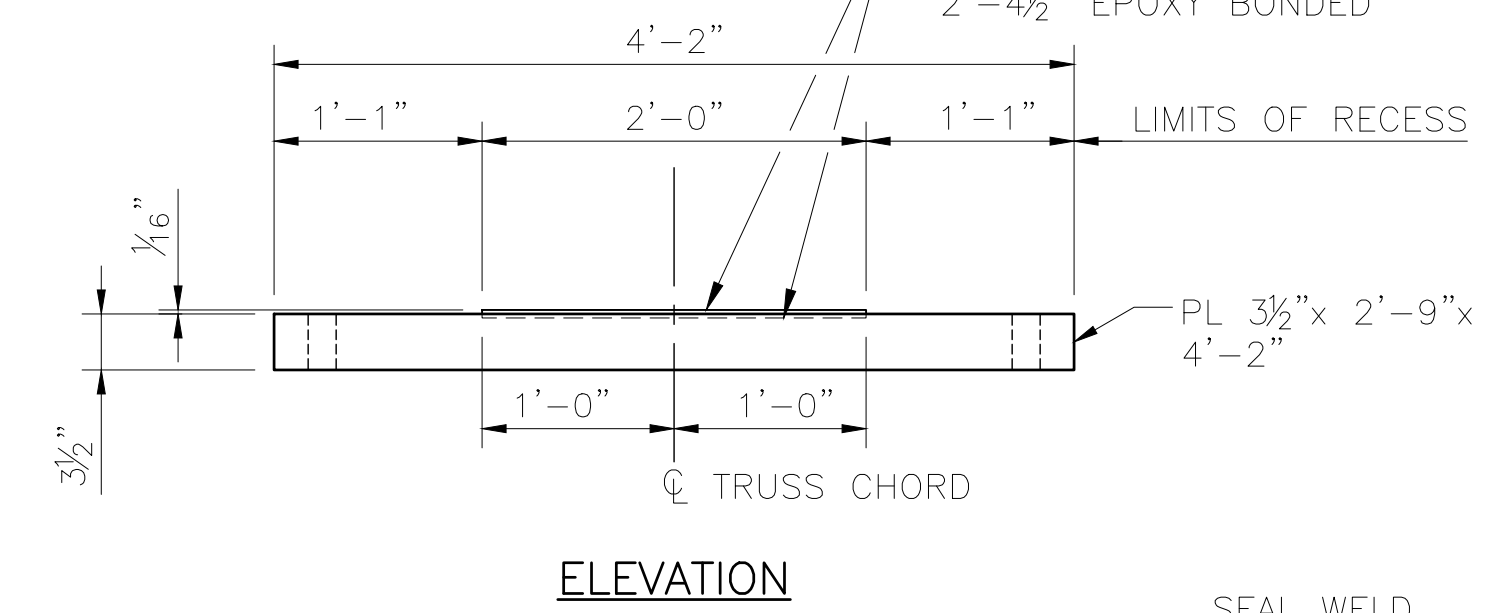


BASE PLATE MK BP2

SCALE: 1" = 1'-0"
 ASTM A588 GR. 50W, 4 REQUIRED
 EST. LIFT WEIGHT = 975 LBS.

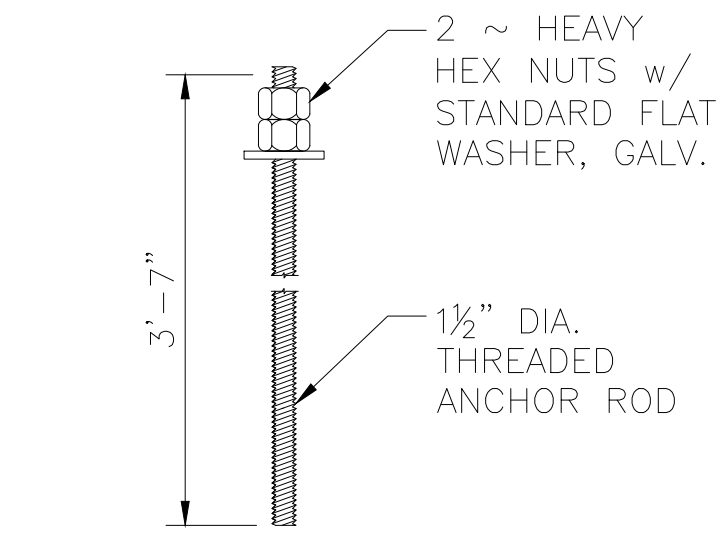


PLAN



MASONRY PLATE MK MP2

SCALE: 1" = 1'-0"
 ASTM A588 GR. 50W, 4 REQUIRED
 EST. LIFT WEIGHT = 1,638 LBS.



ANCHOR ROD MK AR1

SCALE: 1" = 1'-0"

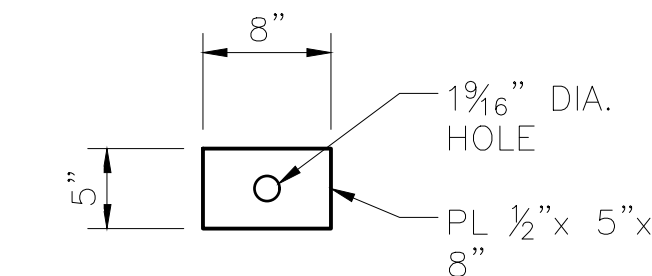
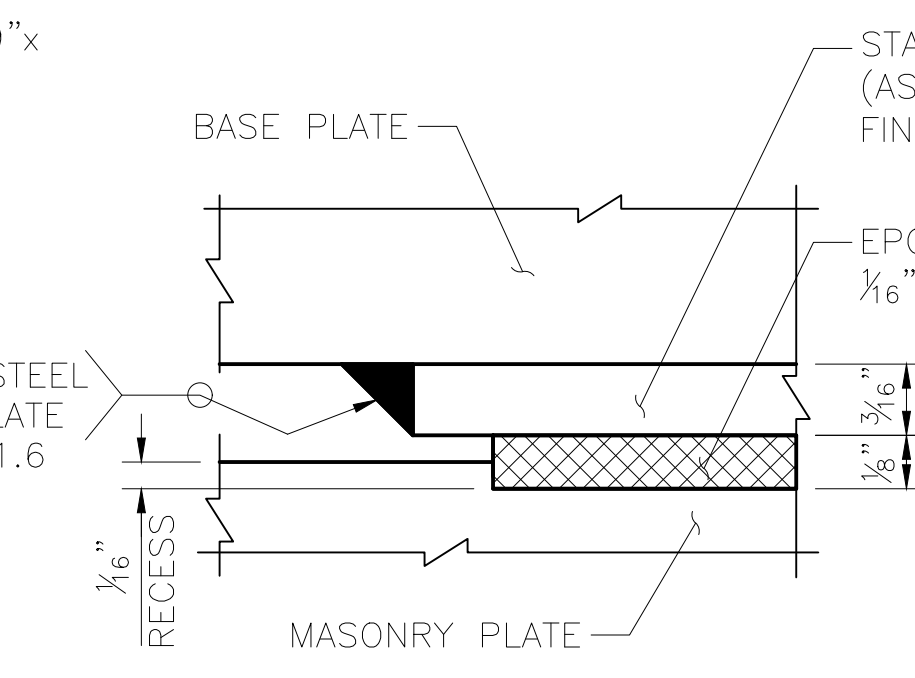


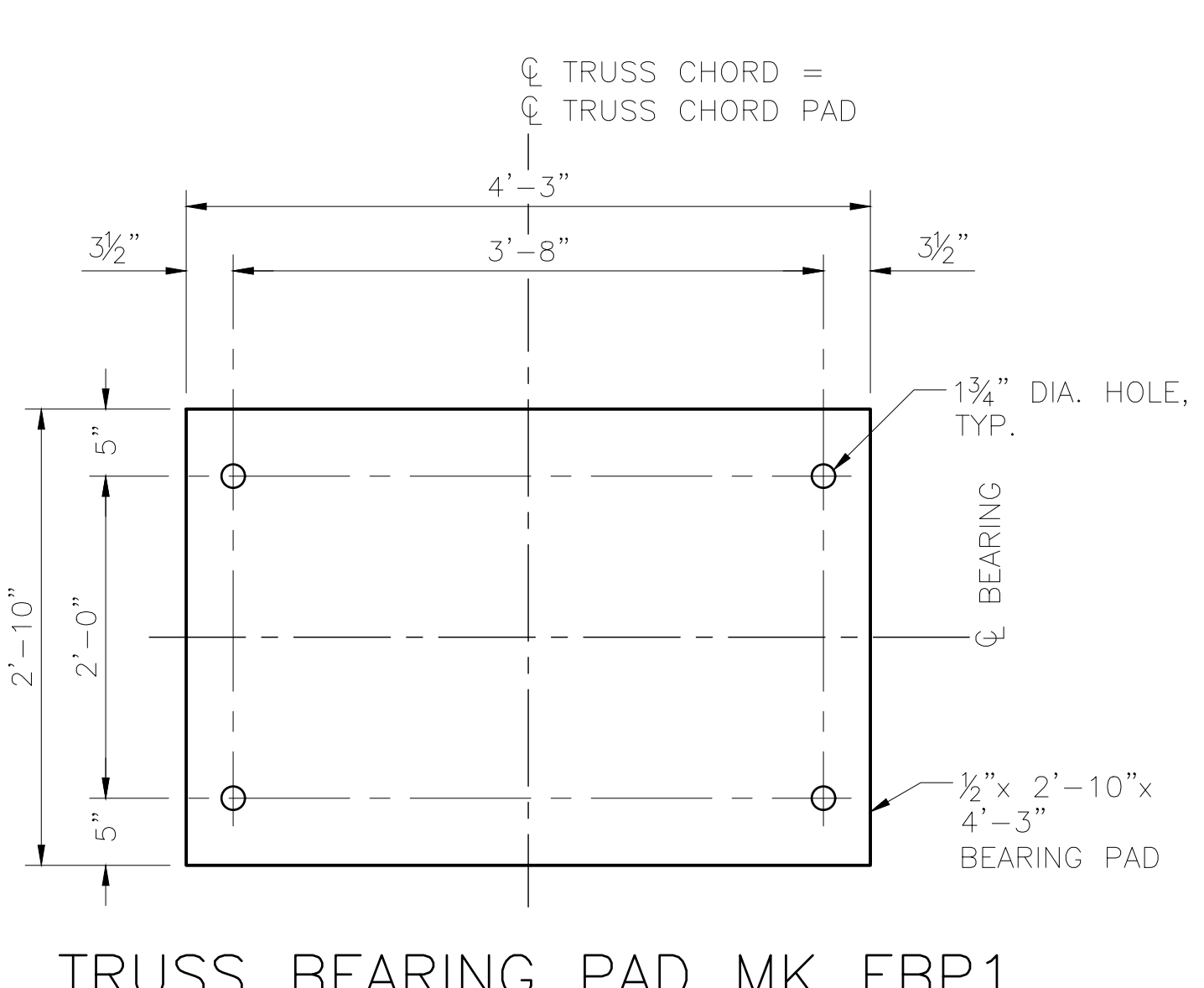
PLATE WASHER MK PW1

SCALE: 1" = 1'-0"
 ASTM A588, GR. 50W, 32 REQUIRED
 EST. LIFT WEIGHT = 5.7 LBS



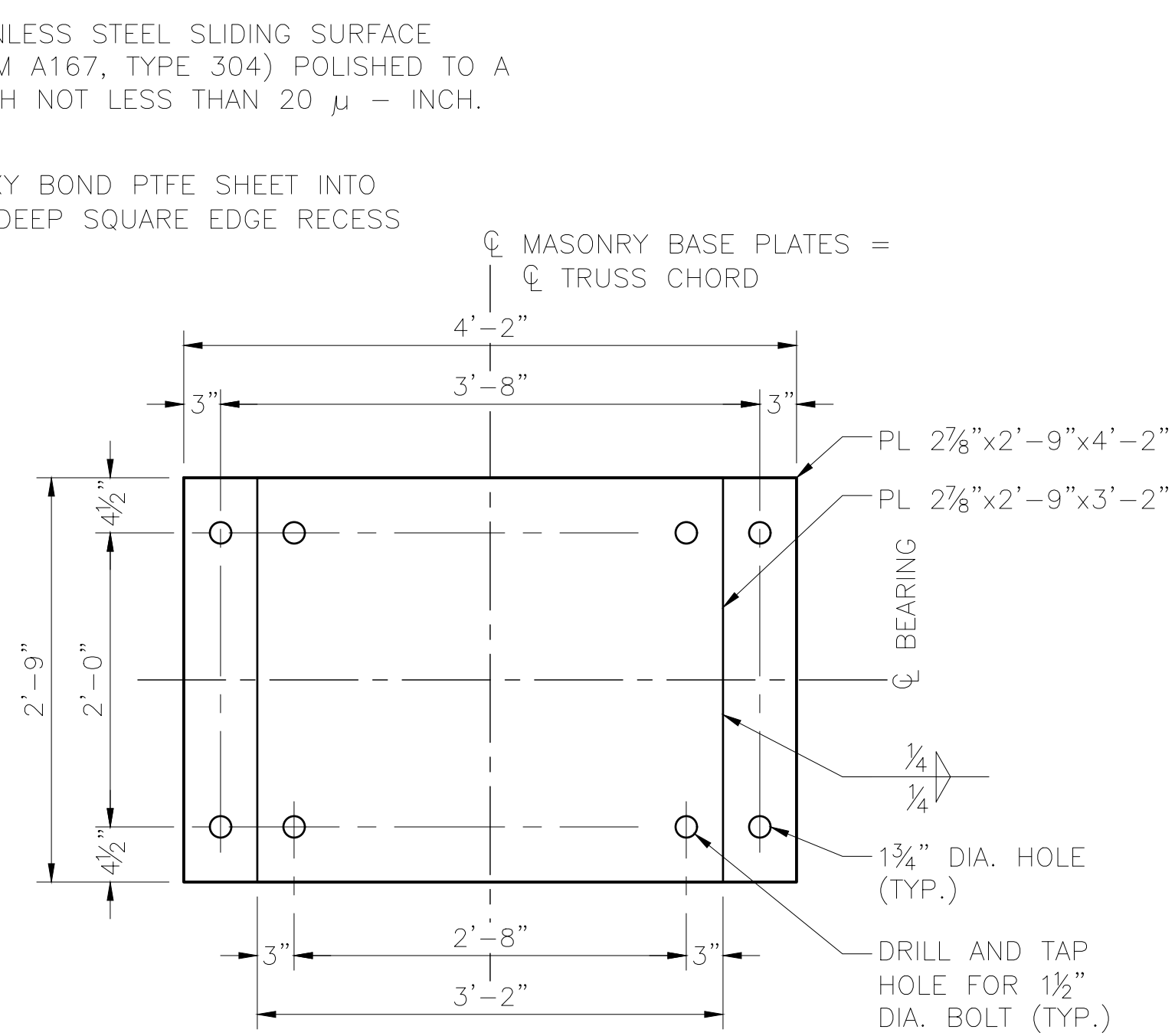
SLIDING SURFACE DETAIL

SCALE: N.T.S.

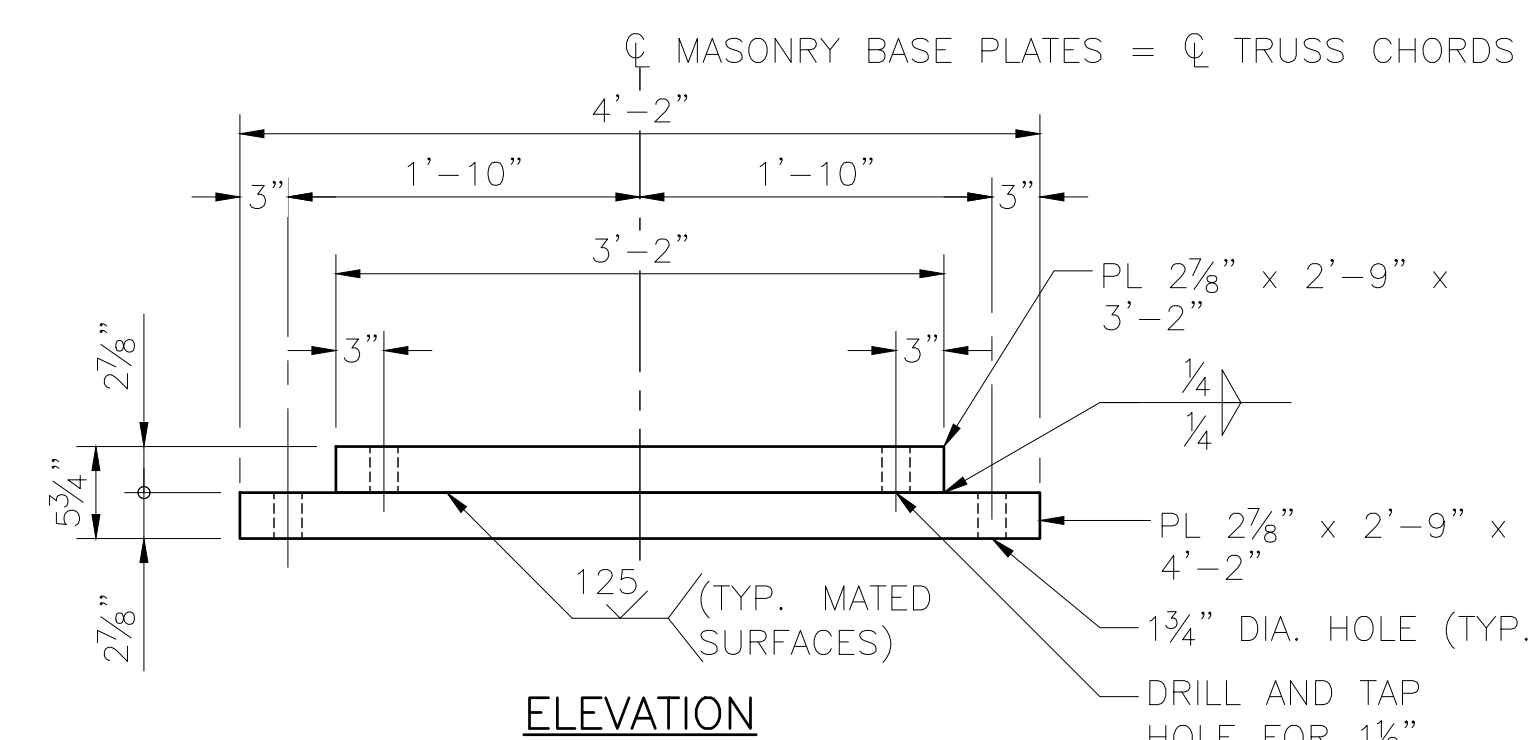


TRUSS BEARING PAD MK EBP1

SCALE: 1" = 1'-0"
 60 DUROMETER NATURAL RUBBER, 8 REQUIRED



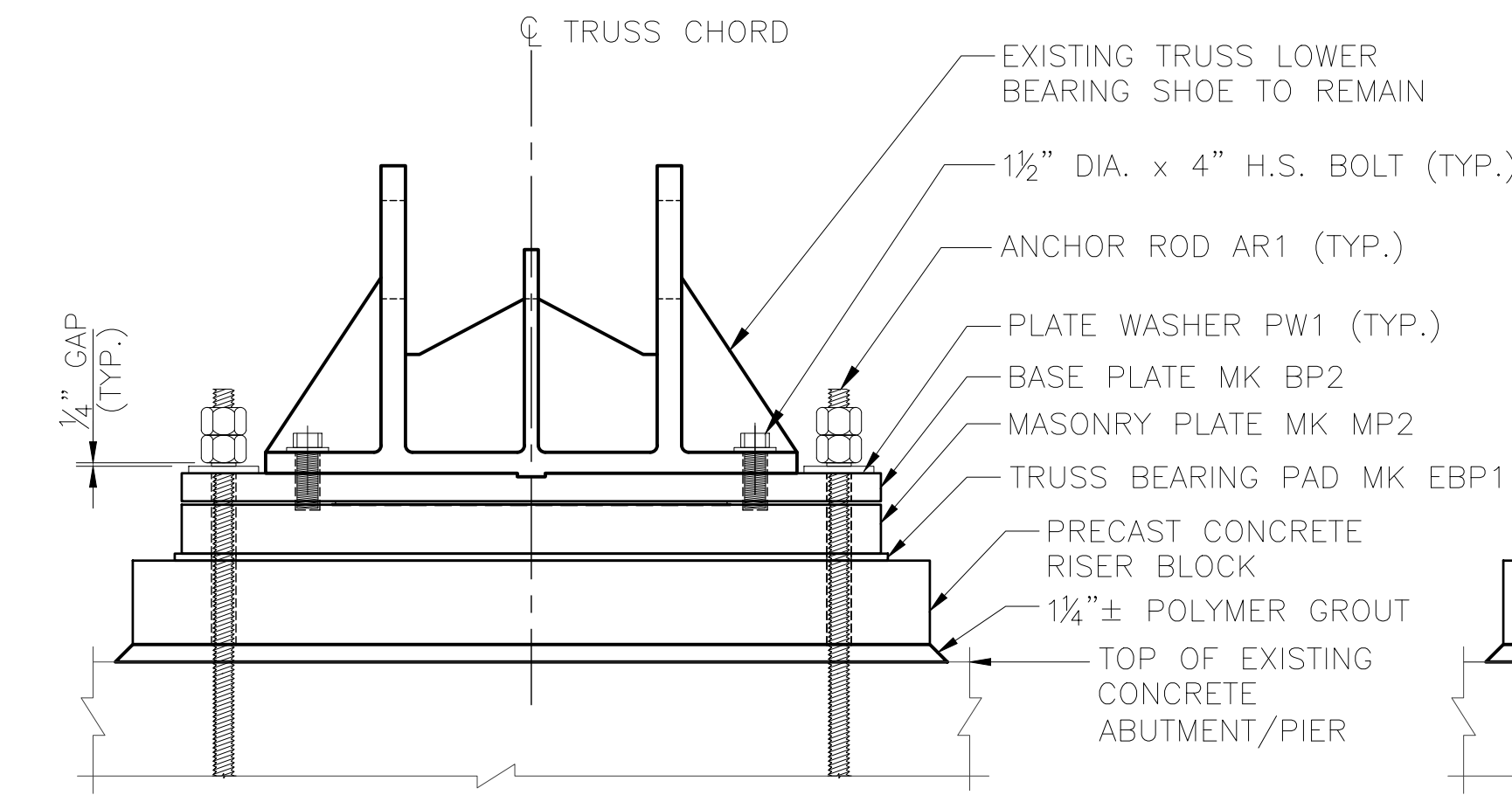
PLAN



ELEVATION

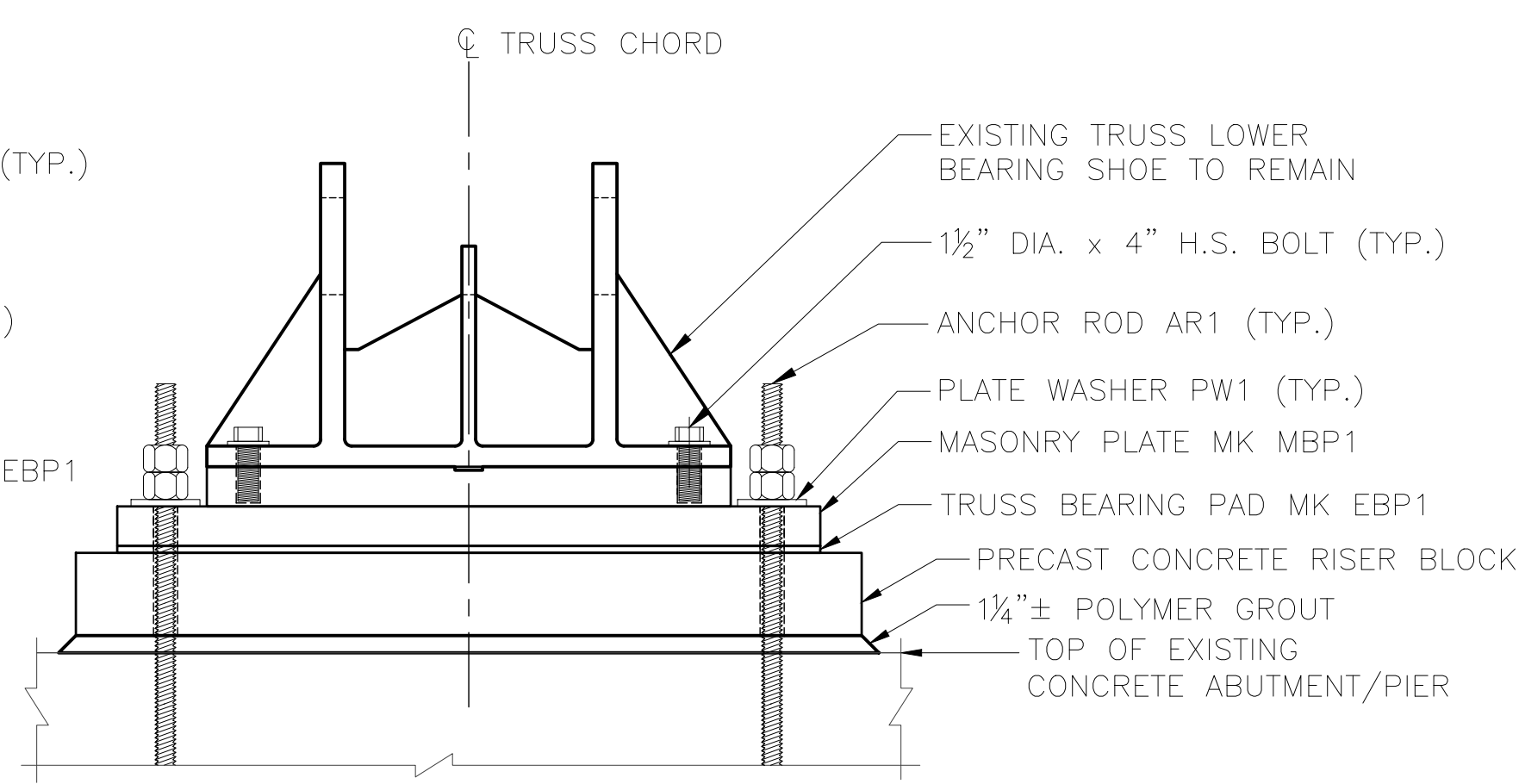
MASONRY BASE PLATE MK MBP1

SCALE: 1" = 1'-0"
 ASTM A588 GR. 50W, 4 REQUIRED
 EST. LIFT WEIGHT = 2,370 LBS.



EXPANSION BEARING ASSEMBLY

SCALE: 1" = 1'-0"

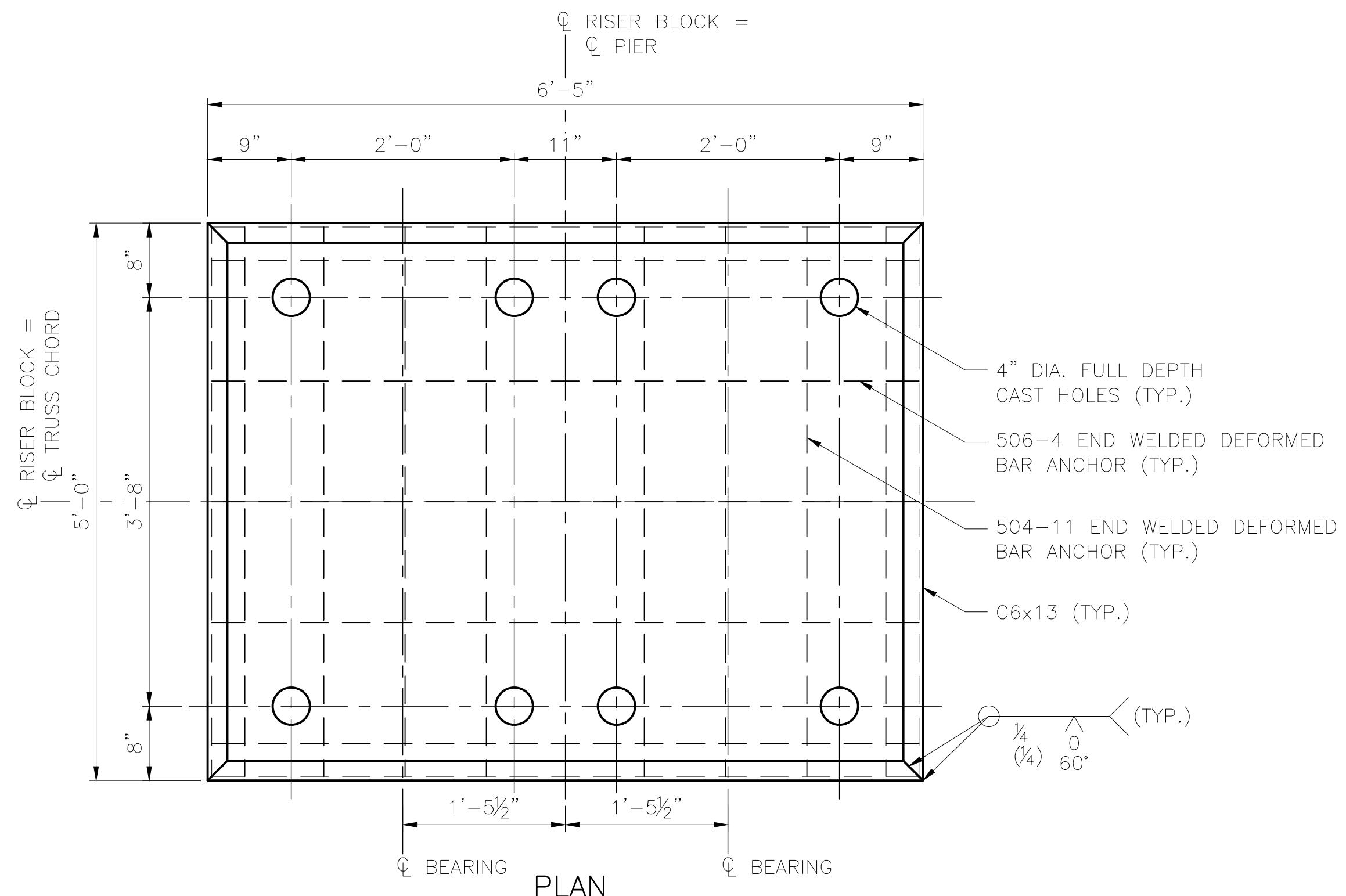


FIXED BEARING ASSEMBLY

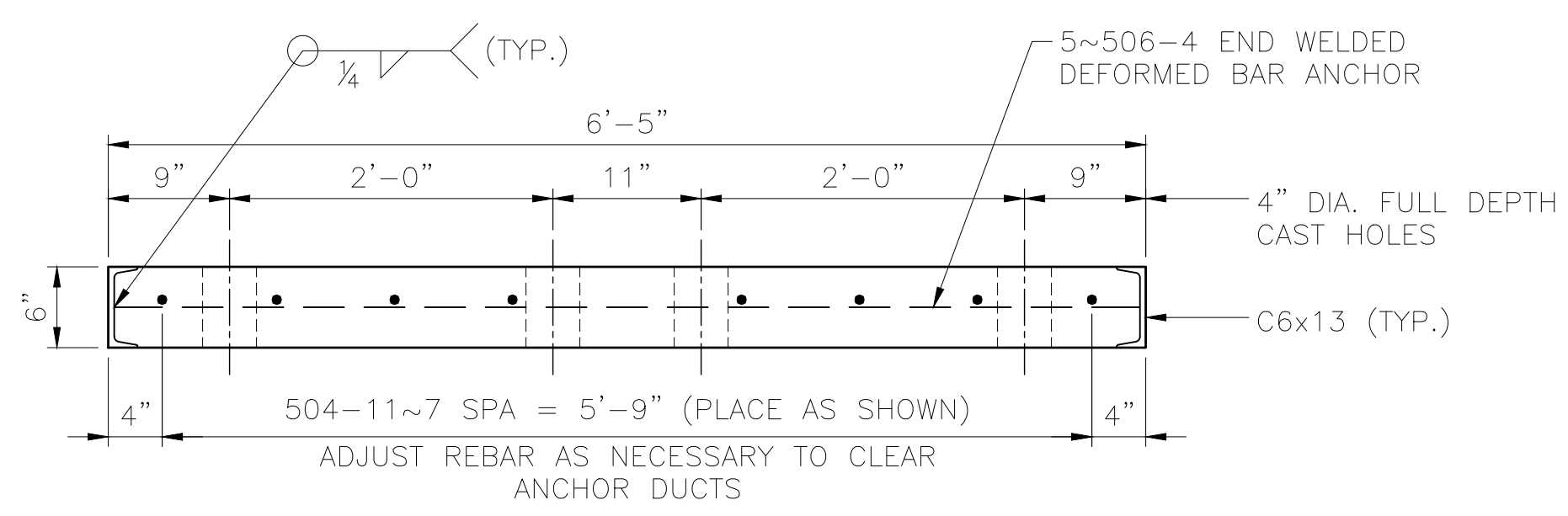
SCALE: 1" = 1'-0"

DESIGNED BY:	ML
CHECKED BY:	MH
DRAFTED BY:	VS/MV
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: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION SHEET TITLE: TRUSS BEARING DETAILS	
AFE NO.	12259
YEAR	2023
SHEET	18 of 28

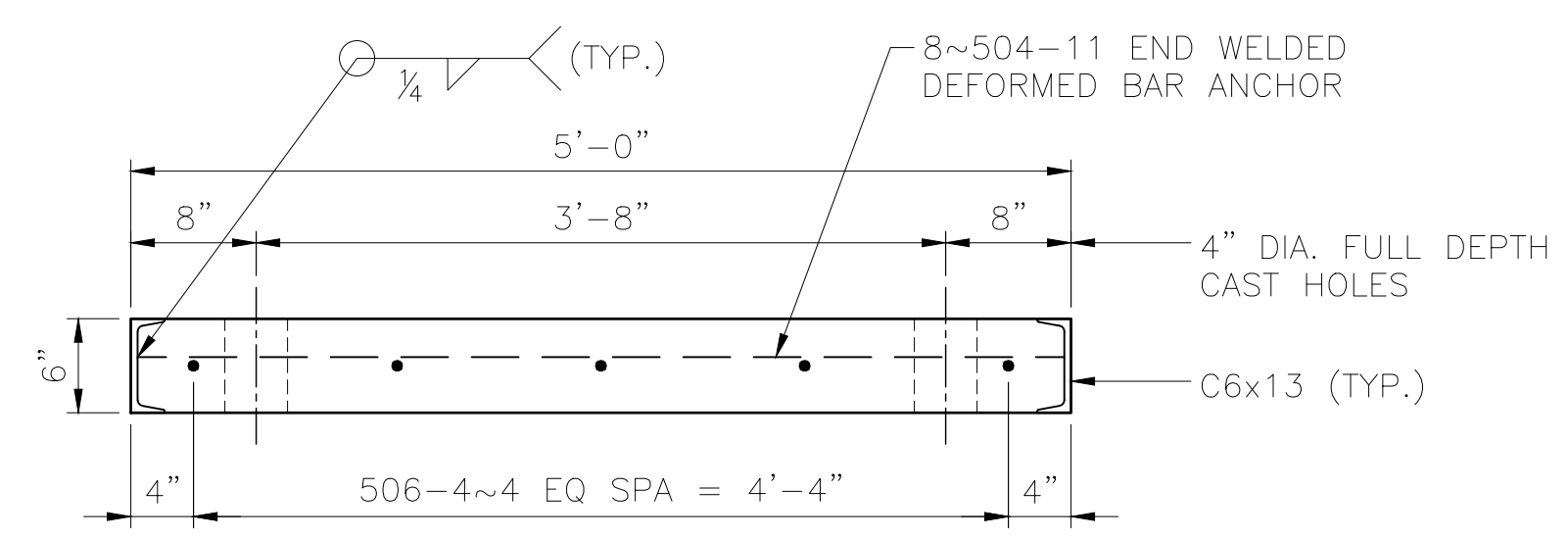
DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_019.DWG
 DATE: 12/14/2023 11:05 AM
 TIME: 11:05 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



PLAN



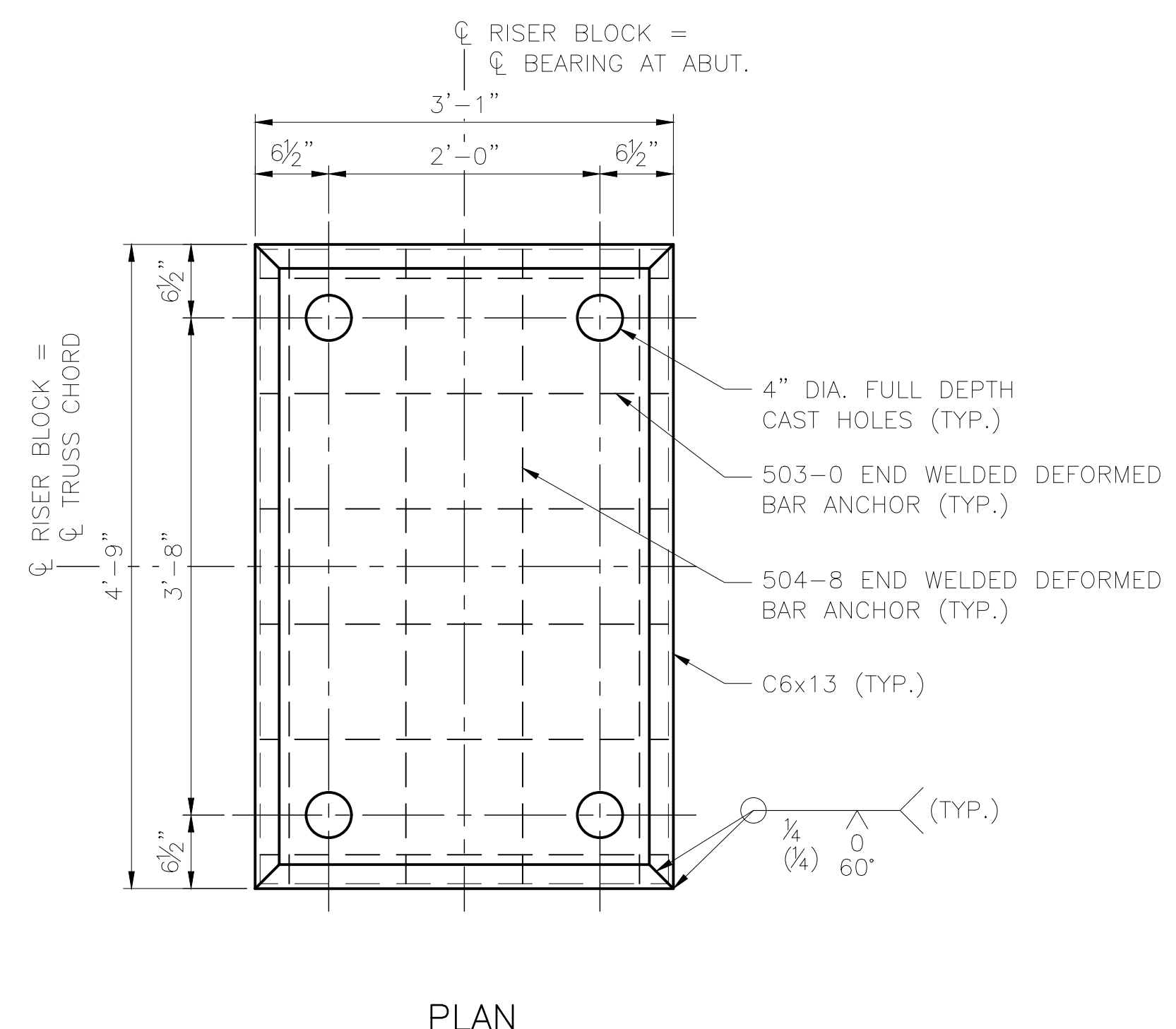
ELEVATION



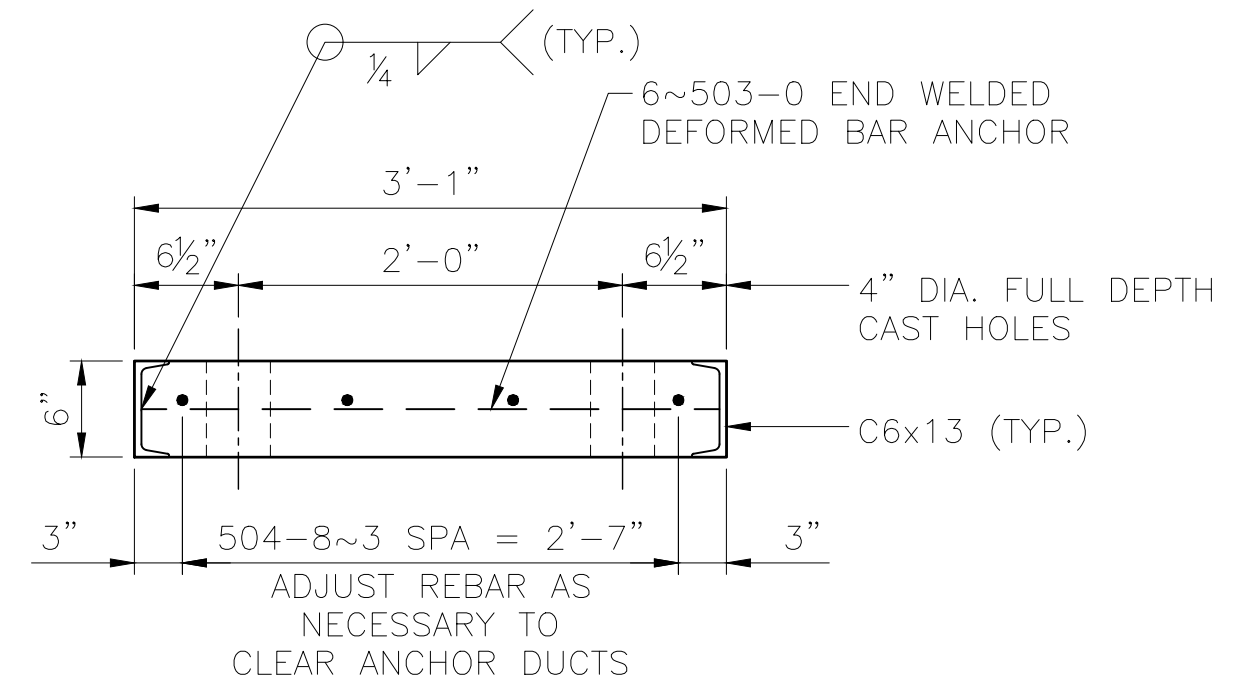
SIDE

PRECAST CONCRETE RISER BLOCK CRB2

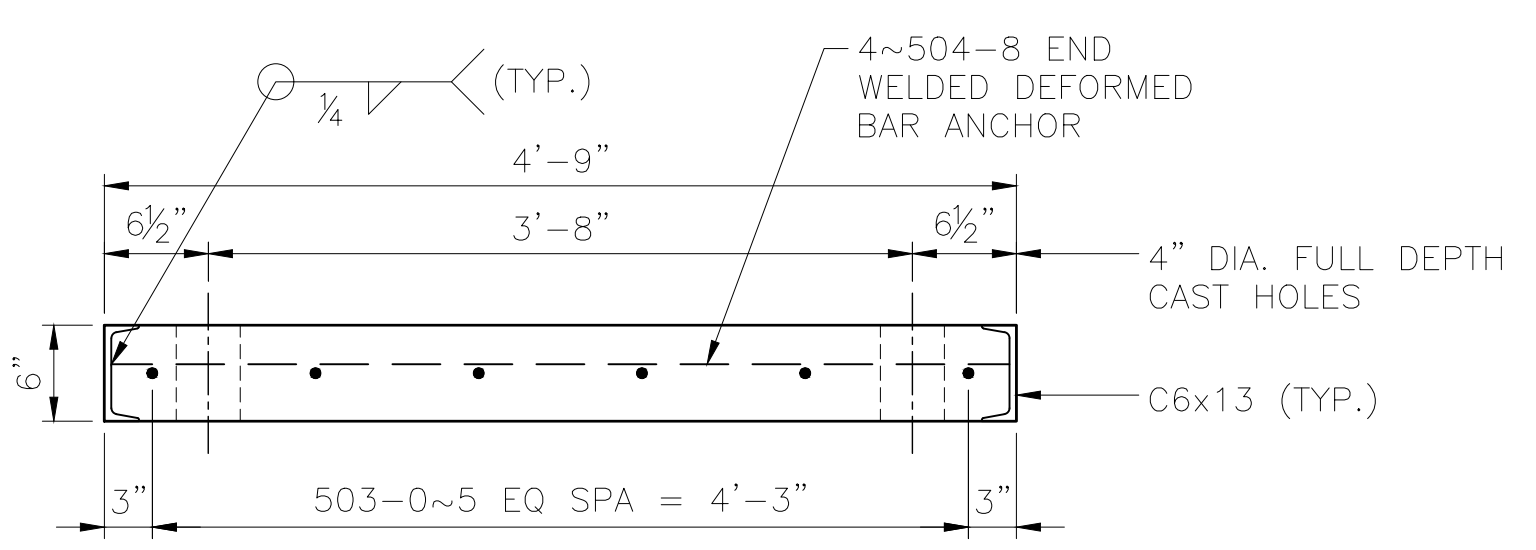
SCALE: 1" = 1'-0"
 PIER 2
 2 REQUIRED
 EST. LIFT WEIGHT = 2,705 LBS



PLAN



ELEVATION



SIDE

PRECAST CONCRETE RISER BLOCK CRB1

SCALE: 1" = 1'-0"
 ABUTMENT 1 & 3
 4 REQUIRED
 EST. LIFT WEIGHT = 1,305 LBS

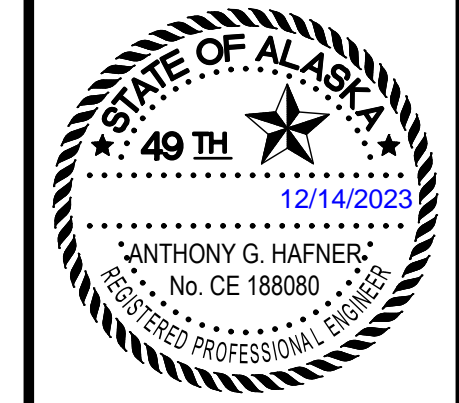
LIST OF REINFORCING BARS FOR MK CRB2

QTY	MARK	SIZE	TYPE	LENGTH
8	504-11	5	STR	4'-11"
5	506-4	5	STR	6'-4"
23 LF	C6x13 (ASTM A709, GR 50W)			
83 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR60				
0.60 CY = TOTAL VOLUME OF CLASS A CONCRETE				

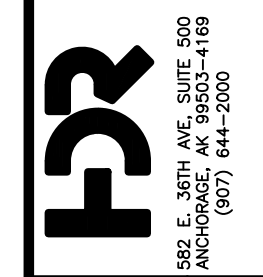
LIST OF REINFORCING BARS FOR MK CRB1

QTY	MARK	SIZE	TYPE	LENGTH
4	504-8	5	STR	4'-8"
6	503-0	5	STR	3'-0"
16 LF	C6x13 (ASTM A709, GR 50W)			
39 LBS = WEIGHT OF REINFORCING STEEL, ASTM A706, GR60				
0.28 CY = TOTAL VOLUME OF CLASS A CONCRETE				

DESIGNED BY: ML
 CHECKED BY: MH
 DRAFTED BY: VS



HDR ENGINEERING, INC.
 582 E. 35TH AVE, SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AEC569



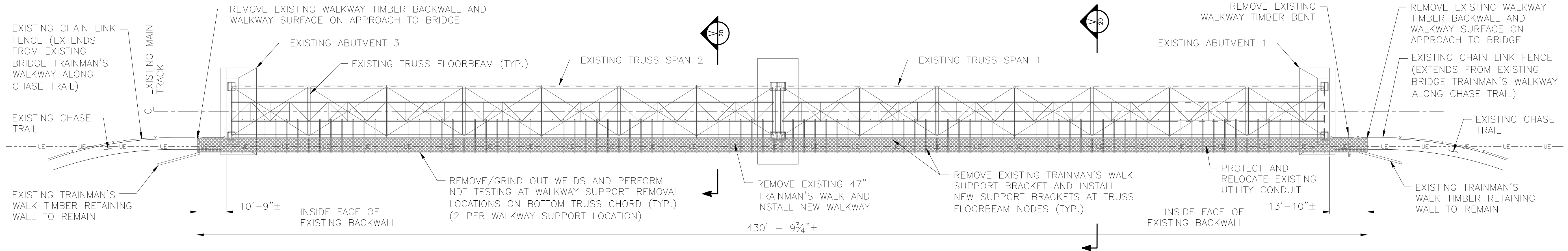
CAPITAL PROJECTS
 P.O. BOX 107500
 ANCHORAGE, ALASKA 99510-7500



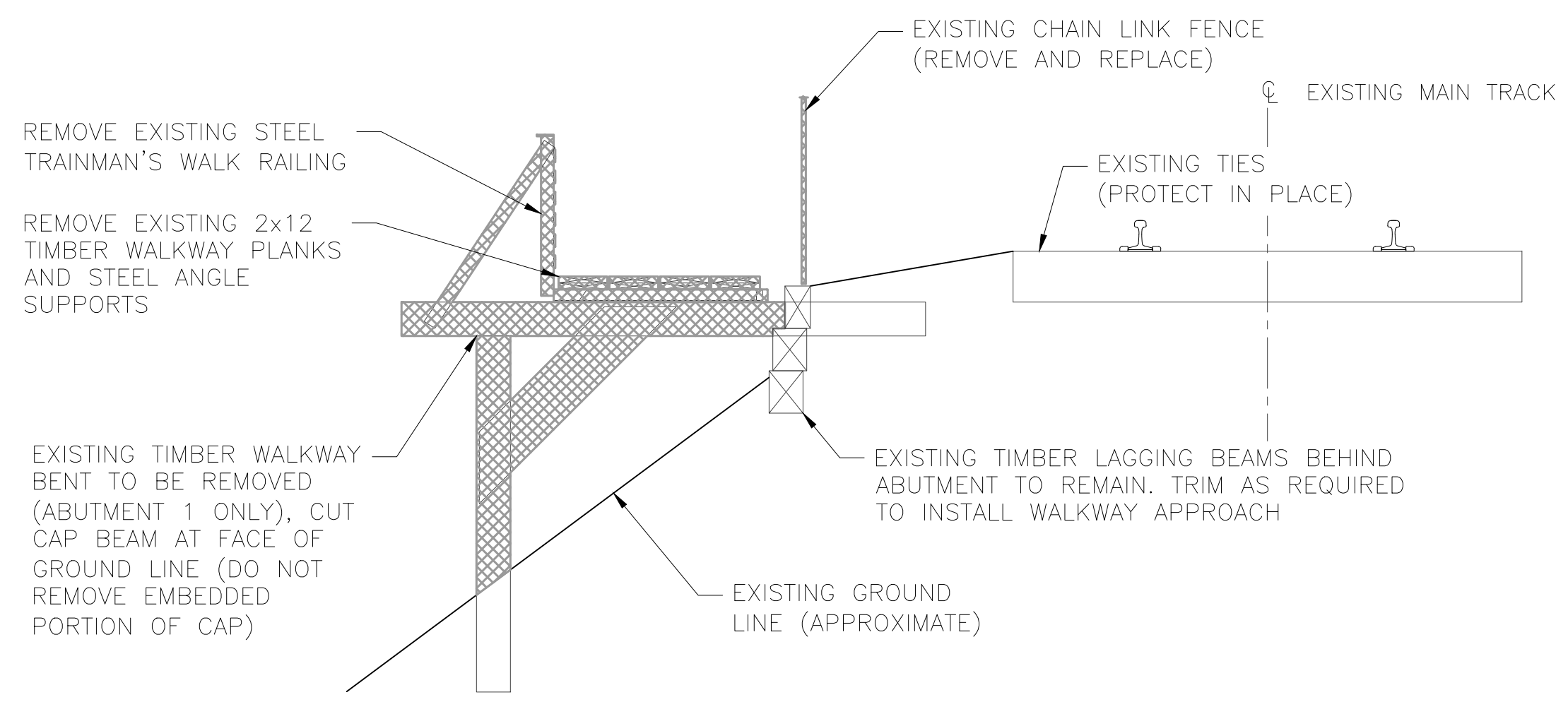
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: PRECAST CONCRETE RISER BLOCK DETAILS

AFE NO. 12259
 YEAR 2023
 SHEET 19 of 28

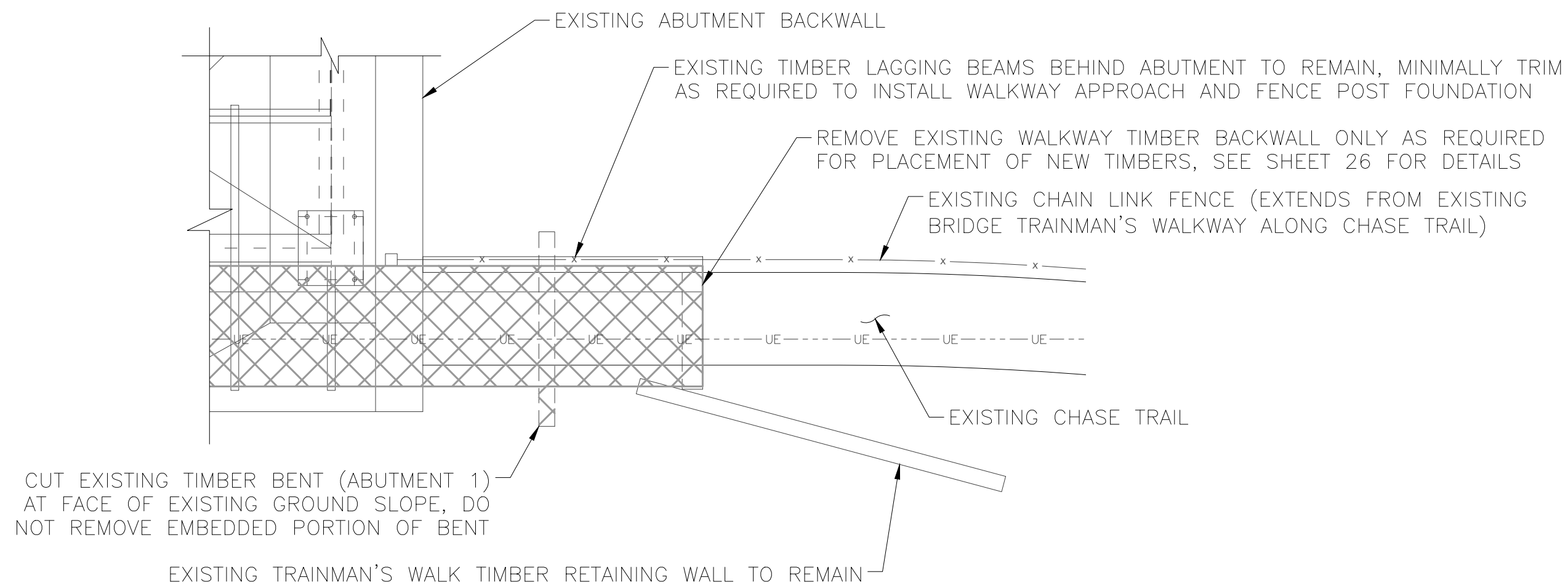
DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR_227.1_TALKEETNA_020.DWG
 DATE: 12/14/2023 11:06 AM
 TIME: 11:06 AM
 SCALE: AS NOTED
 PUBLISHED: CTB
 ARRC_CTB_2023.CTB



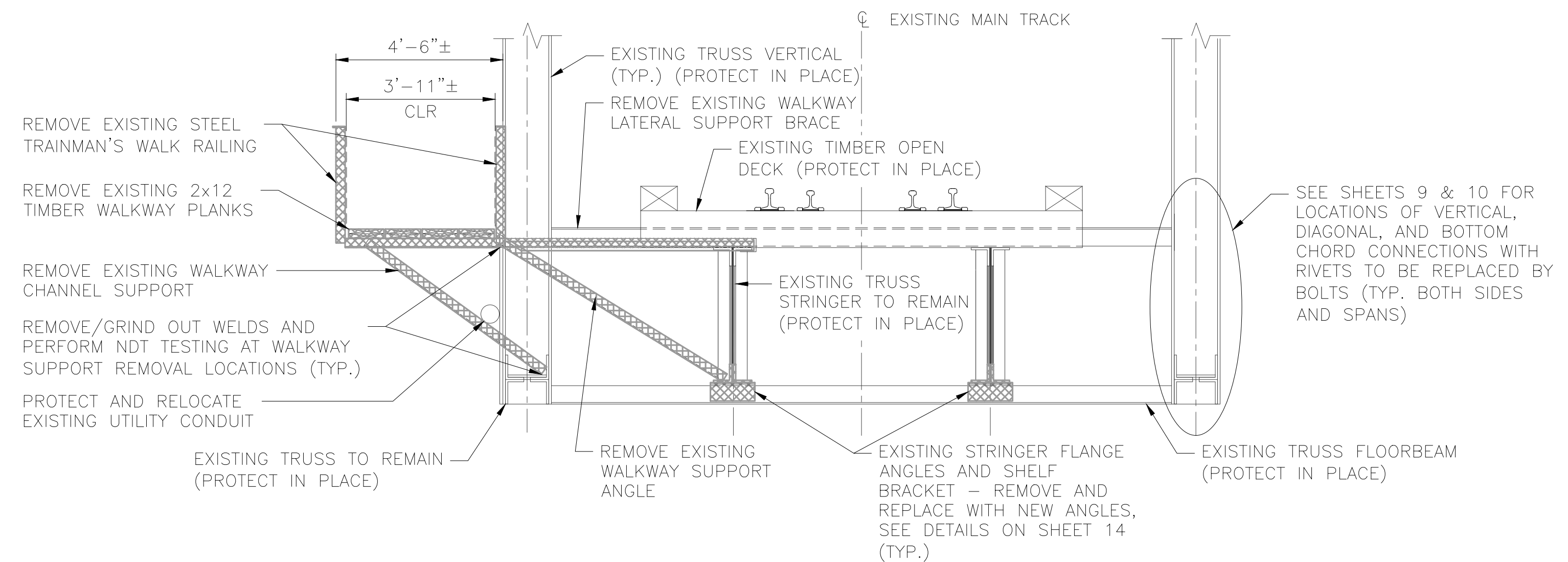
PLAN
SCALE: 1" = 20'-0"



EXISTING TIMBER WALKWAY APPROACH TYPICAL SECTION
SCALE: 3/8" = 1'-0"



EXISTING TIMBER WALKWAY APPROACH REMOVAL
SCALE: 1" = 5'-0"



TYPICAL SECTION - REMOVAL
SCALE: 3/8" = 1'-0"

INTERIOR FLOORBEAM SHOWN (END FLOORBEAM BOTTOM FLANGE ANGLES TO BE REMOVED AND REPLACED WITH NEW ANGLES, SEE DETAILS ON SHEET 14)

NOTES:

- FOR EXISTING TRAINMAN'S WALK TIMBER RETAINING WALL REMOVAL EXTENTS SEE BRIDGE APPROACH LAYOUT SHEET 25.
- FOR WELD REMOVAL AND NDT TESTING REQUIREMENTS SEE PROJECT SPECIFICATIONS. ALL WELDS FROM EXISTING TRAINMAN'S WALK TO TRUSS MEMBERS ARE TO BE REMOVED AND NDT TESTED EXCEPT FOR TRUSS MEMBERS AND STRINGER FLANGES THAT ARE BEING REMOVED AND REPLACED.
- FOR CONSTRUCTION SEQUENCE SEE SHEET 6.

LEGEND :

- REMOVAL
- EXISTING TO REMAIN

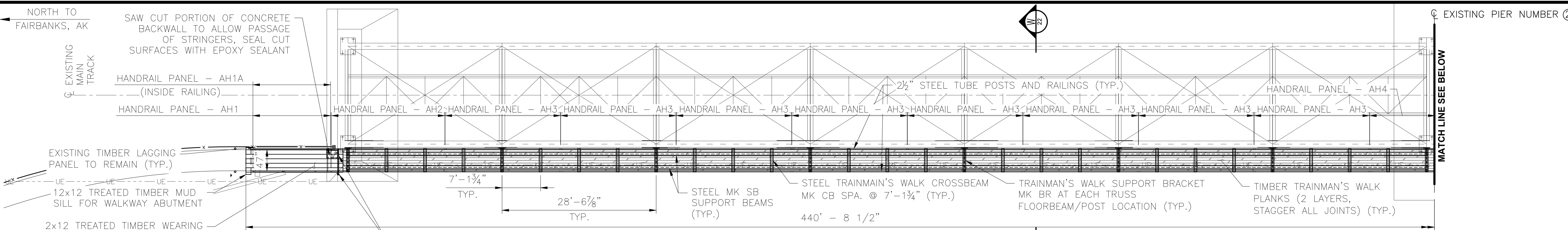
DESIGNED BY:	YA
CHECKED BY:	MH
DRAFTED BY:	MV
HDR ENGINEERING, INC. 582 E. 35TH AVE, SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: EXISTING WALKWAY LAYOUT - REMOVALS	
AFE NO.	12259
YEAR	2023
SHEET	20 of 28

PUBLISHED CTB
ARRC_CTB_2023.CTB

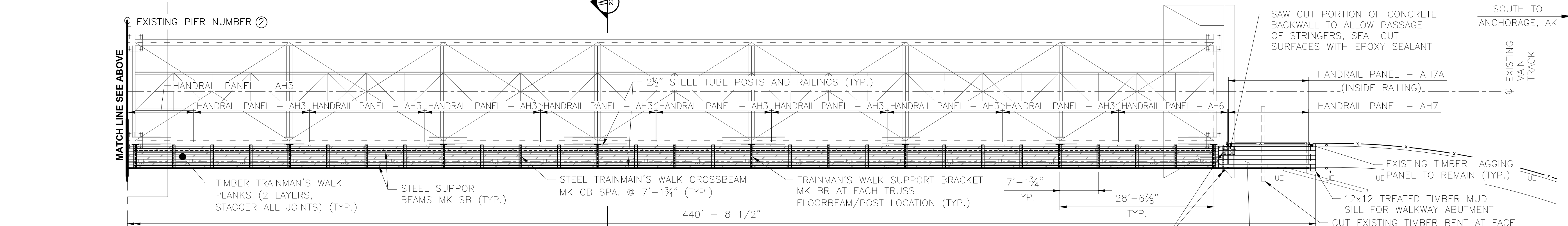
SCALE AS NOTED

DATE 12/14/2023 11:06 AM

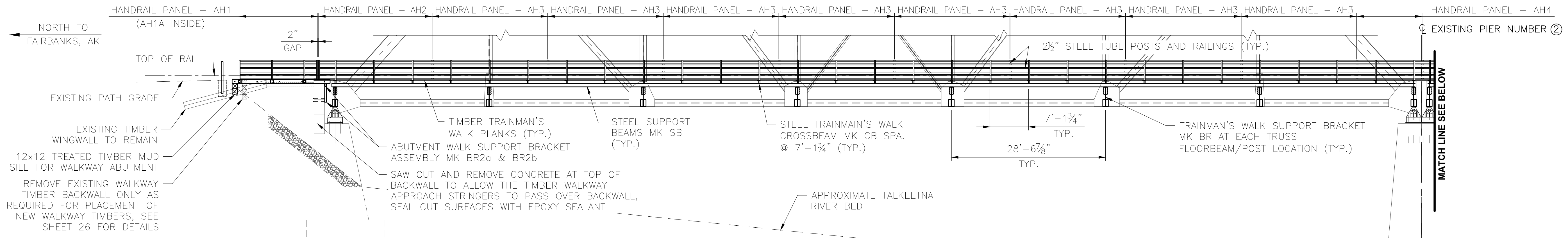
DRAWING LOCATION
C:\PWORKING\WEST01\2653003\BR-227.1_TALKEETNA_021.DWG



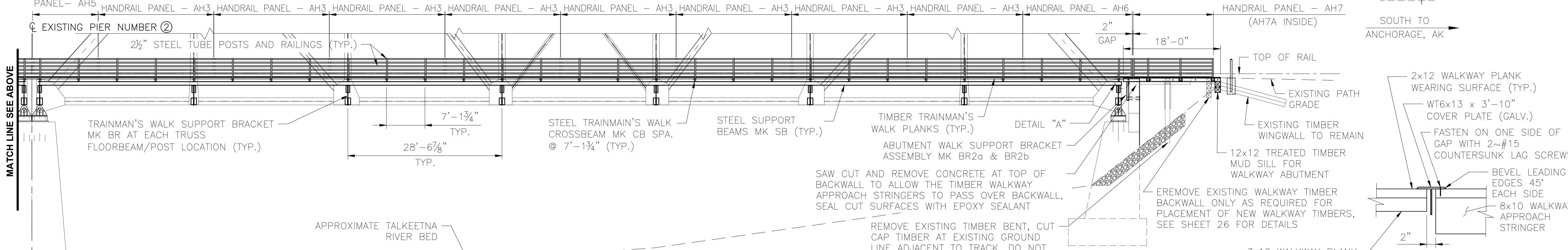
PLAN - SPAN 2
SCALE: 1" = 10'-0"



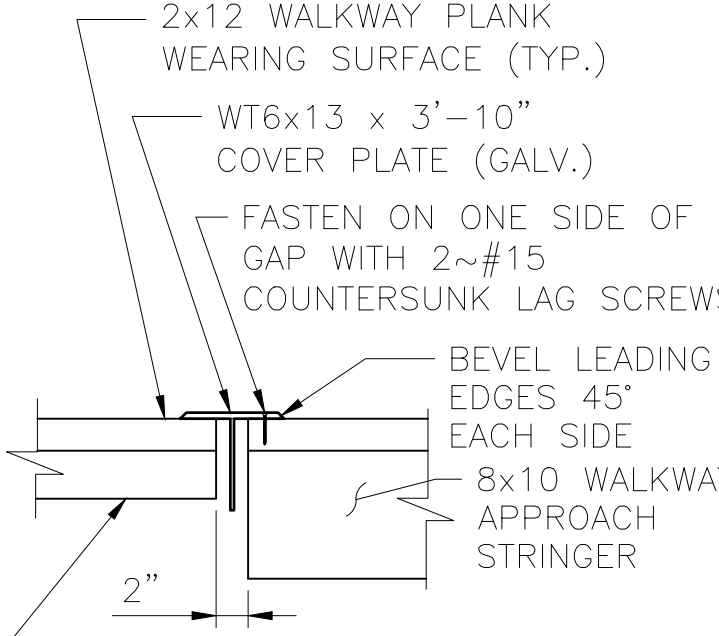
PLAN - SPAN 1
SCALE: 1" = 10'-0"



ELEVATION - SPAN 2
SCALE: 1" = 10'-0"

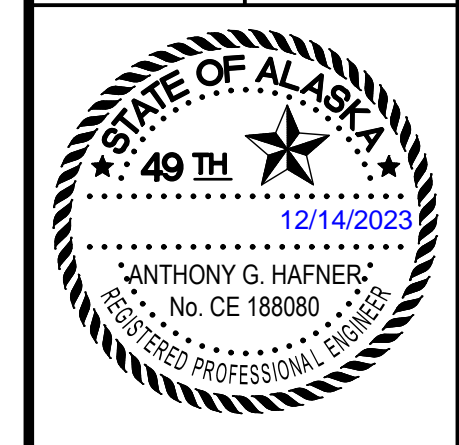


ELEVATION - SPAN 1
SCALE: 1" = 10'-0"

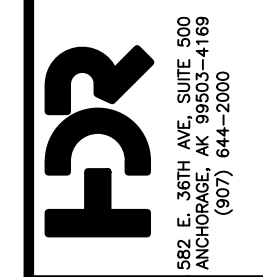


DETAIL "A"
SCALE: 1" = 1'-0"

DESIGNED BY: YA
CHECKED BY: SA
DRAFTED BY: MV



HDR ENGINEERING, INC.
582 E. 35TH AVE, SUITE 500
ANCHORAGE, AK 99503-4169
(907) 644-2000
LICENSE #: AECC569



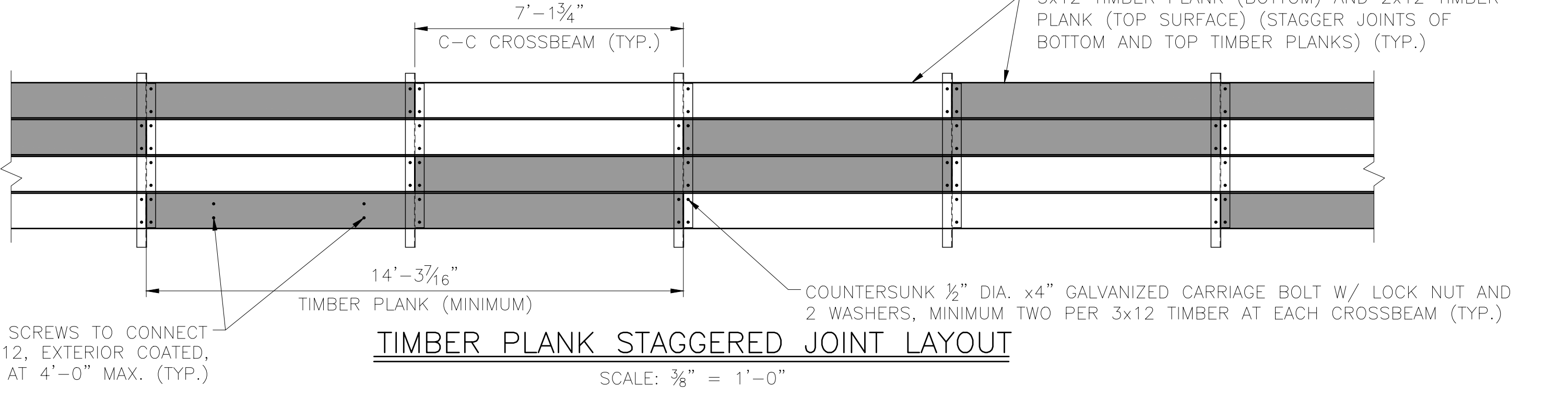
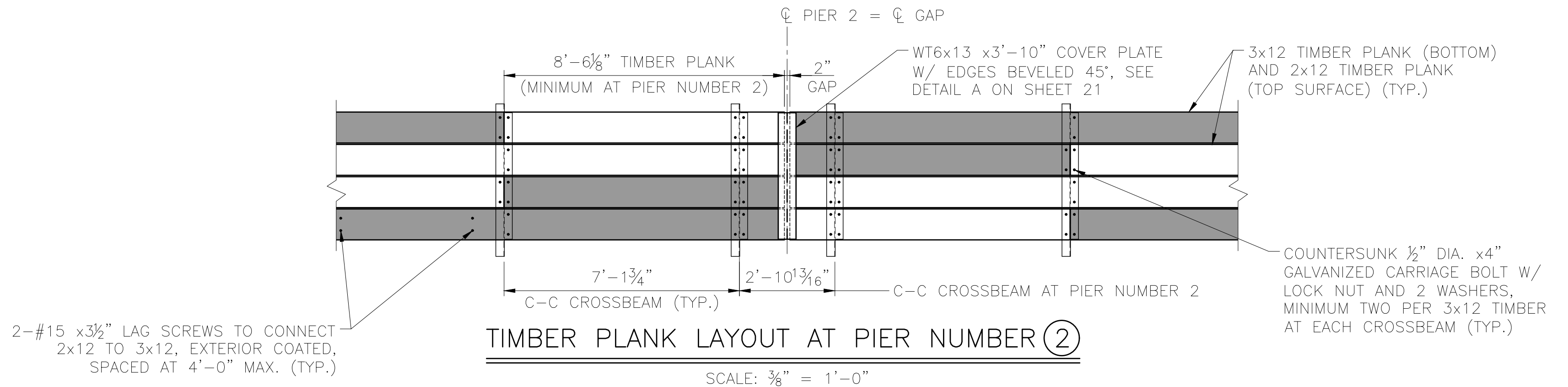
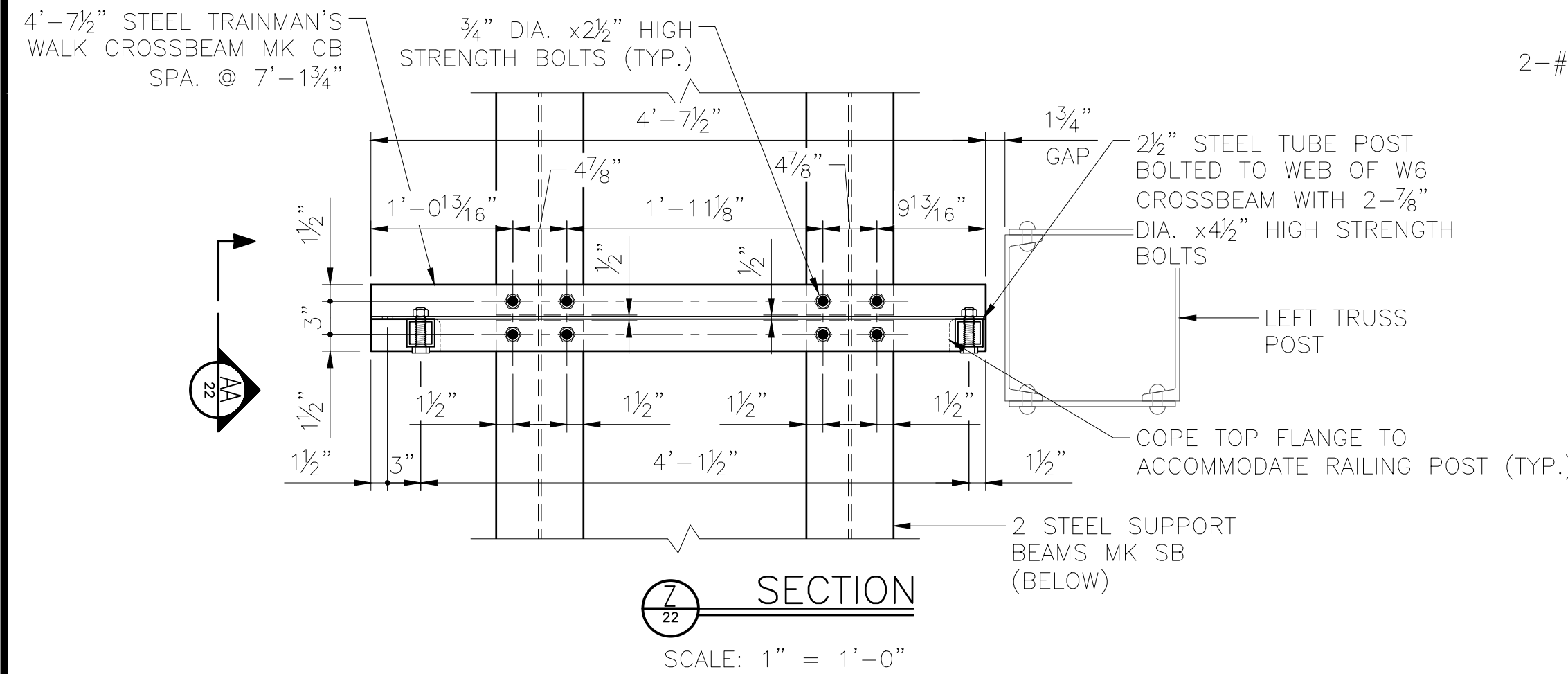
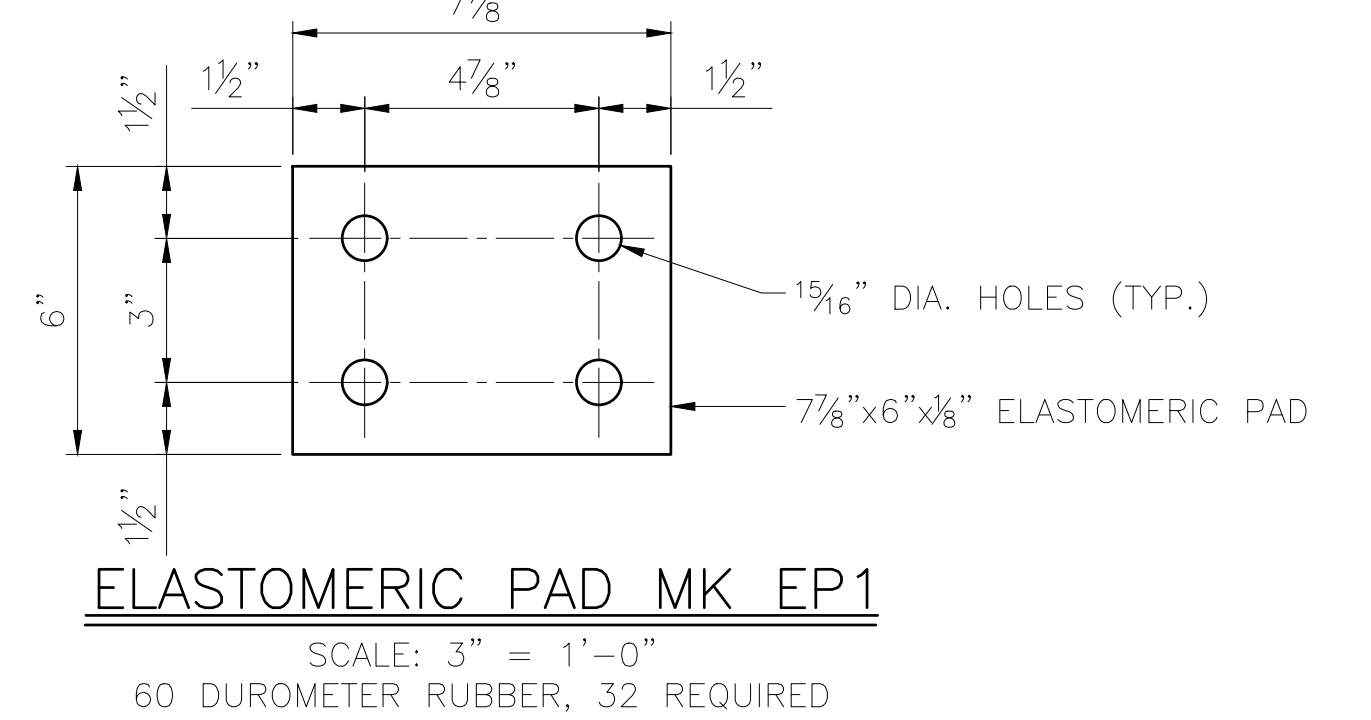
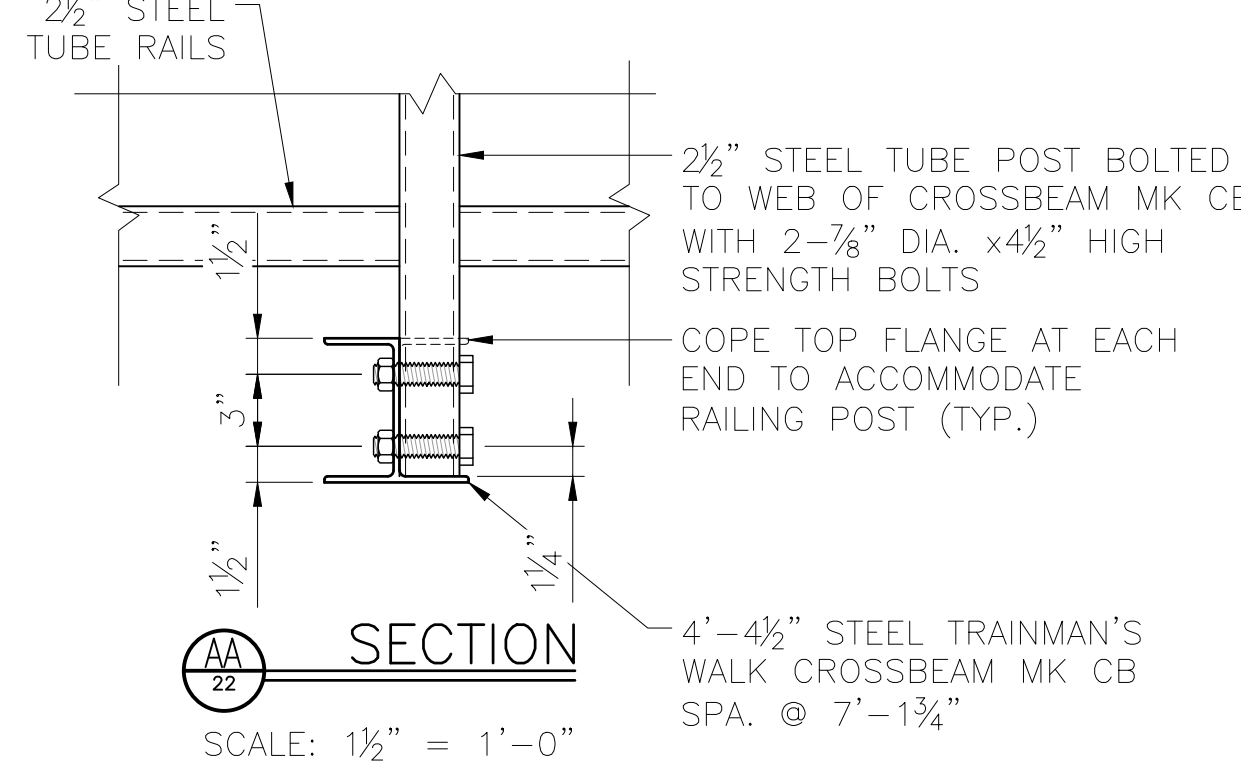
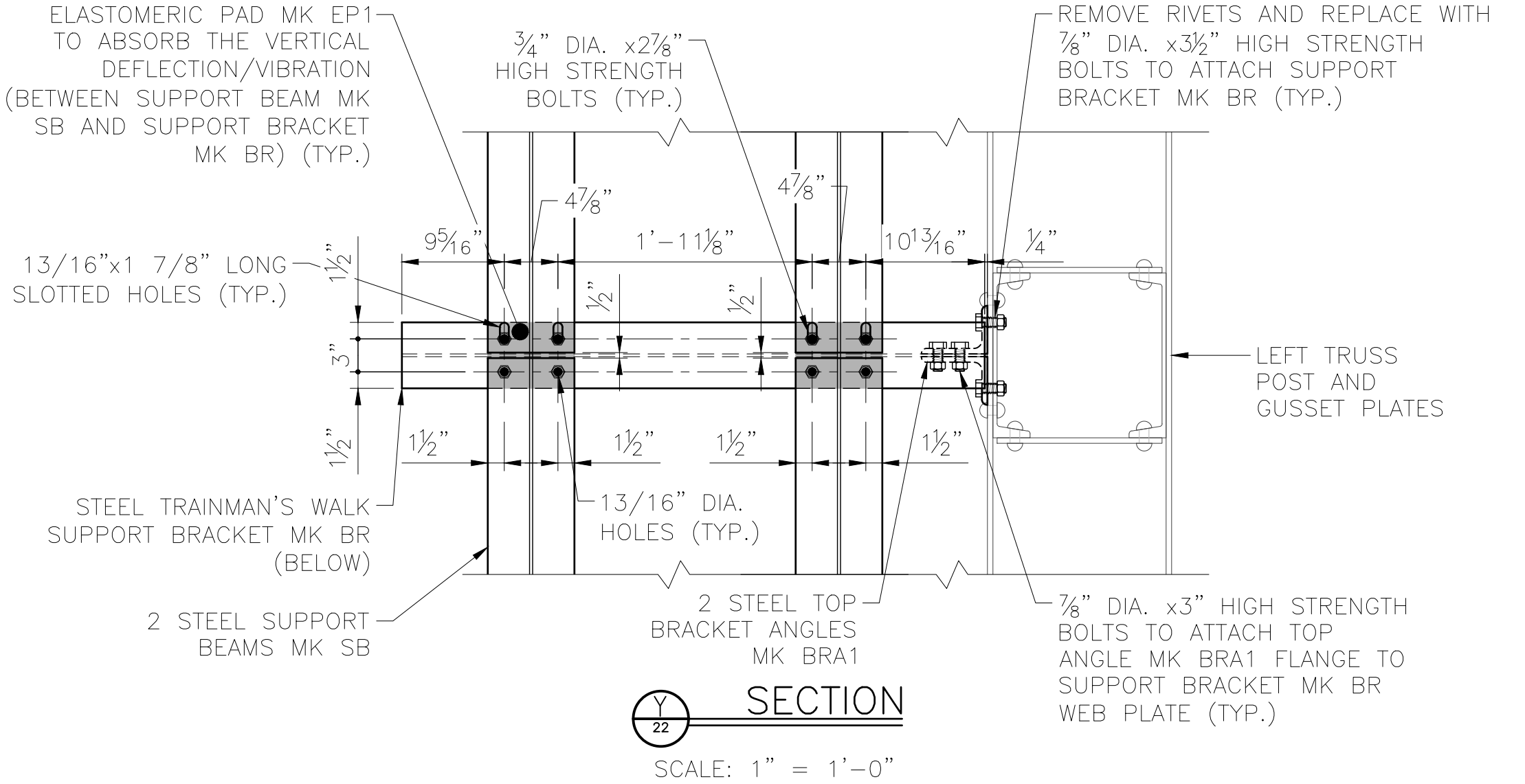
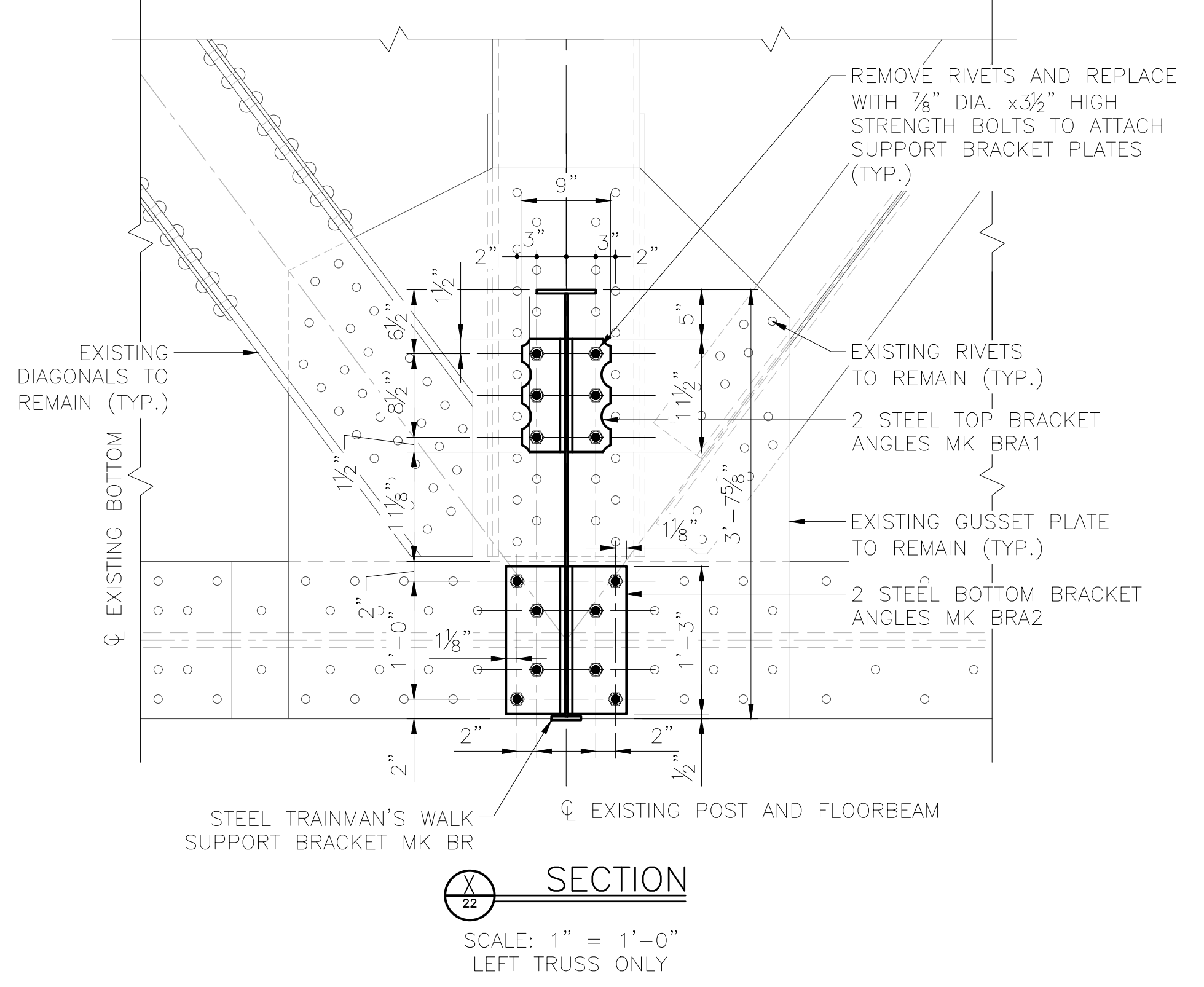
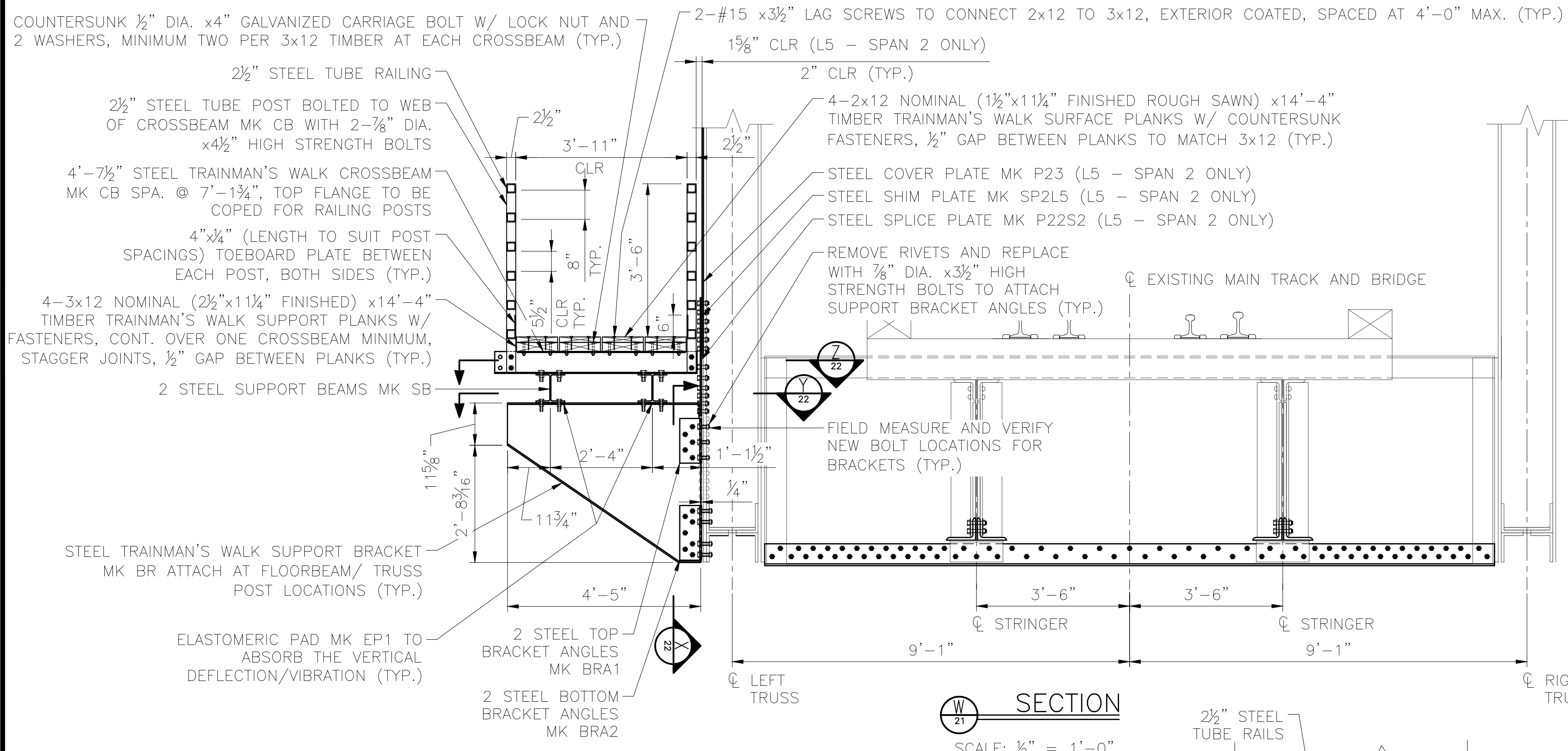
CAPITAL PROJECTS
P.O. BOX 107500
ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD

PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION

SHEET TITLE: WALKWAY LAYOUT - REHABILITATION
AFE NO. 12259
YEAR 2023
SHEET 21 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\2665003\BR-227.1_TALKEETNA_022.DWG
 DATE: 12/14/2023 11:06 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB
 TIME: 11:06 AM
 AS NOTED



DESIGNED BY: YA
 CHECKED BY: SA
 DRAFTED BY: MV

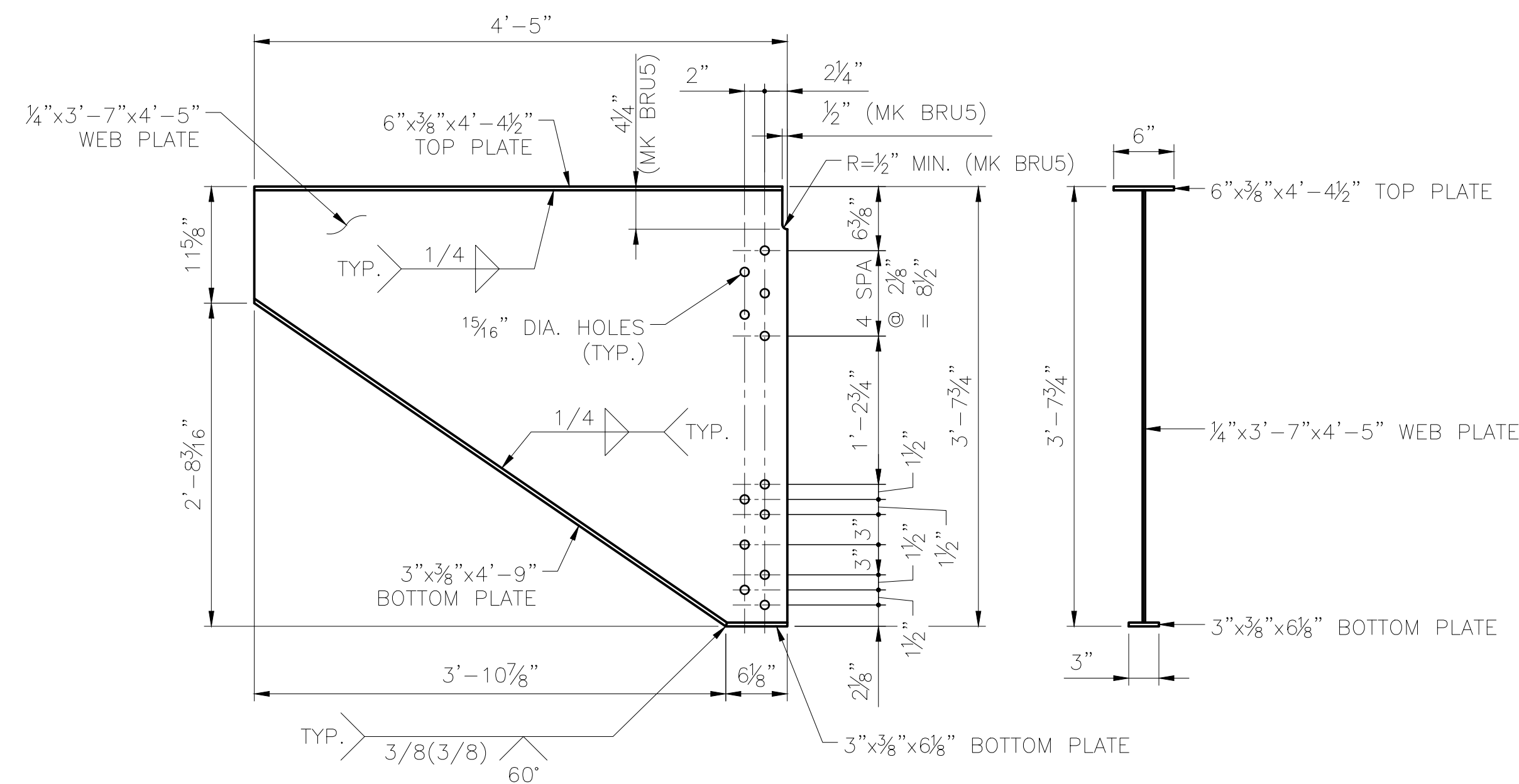


CAPITAL PROJECTS
 P.O. BOX 107500
 ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD
 PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: WALKWAY DETAILS (1 OF 4)

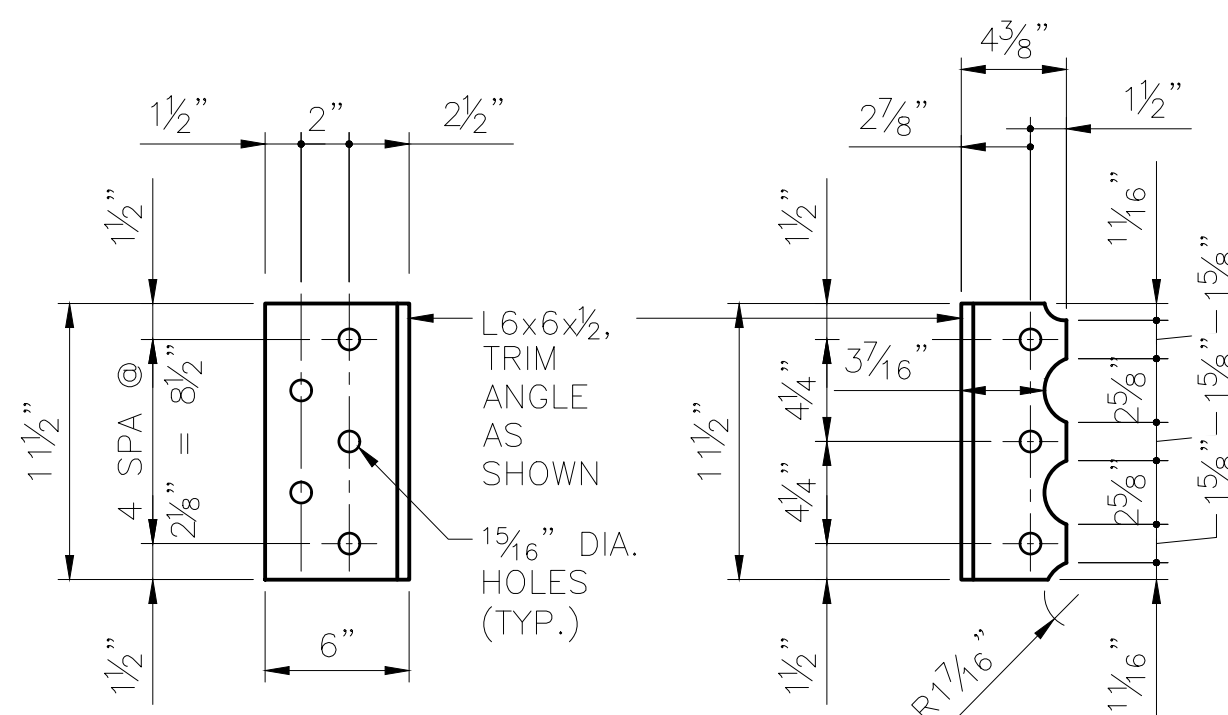
AFE NO. 12259
 YEAR 2023
 SHEET 22 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR_227.1_TALKEETNA_023.DWG
 DATE: 12/14/2023 11:06 AM
 SCALE: AS NOTED
 TIME: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



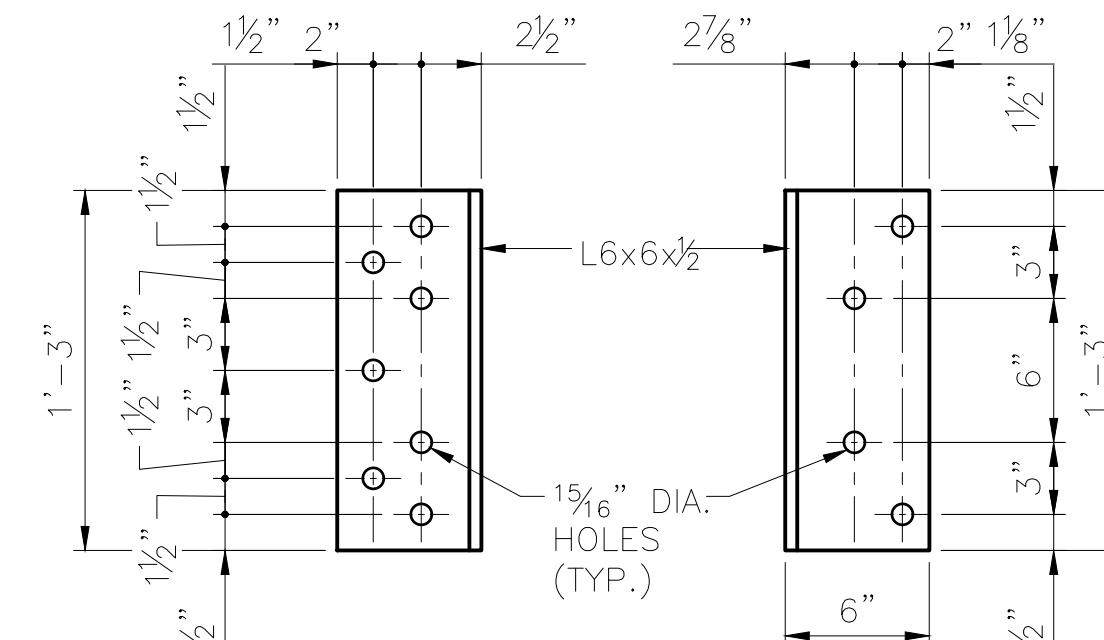
**STEEL TRAINMAN'S WALK SUPPORT
BRACKET MK BR AND BRU5**

SCALE: 1" = 1'-0"
 15 REQUIRED ~ MK BR
 1 REQUIRED ~ MK BRU5
 EST. LIFT WEIGHT = 138.4 LBS



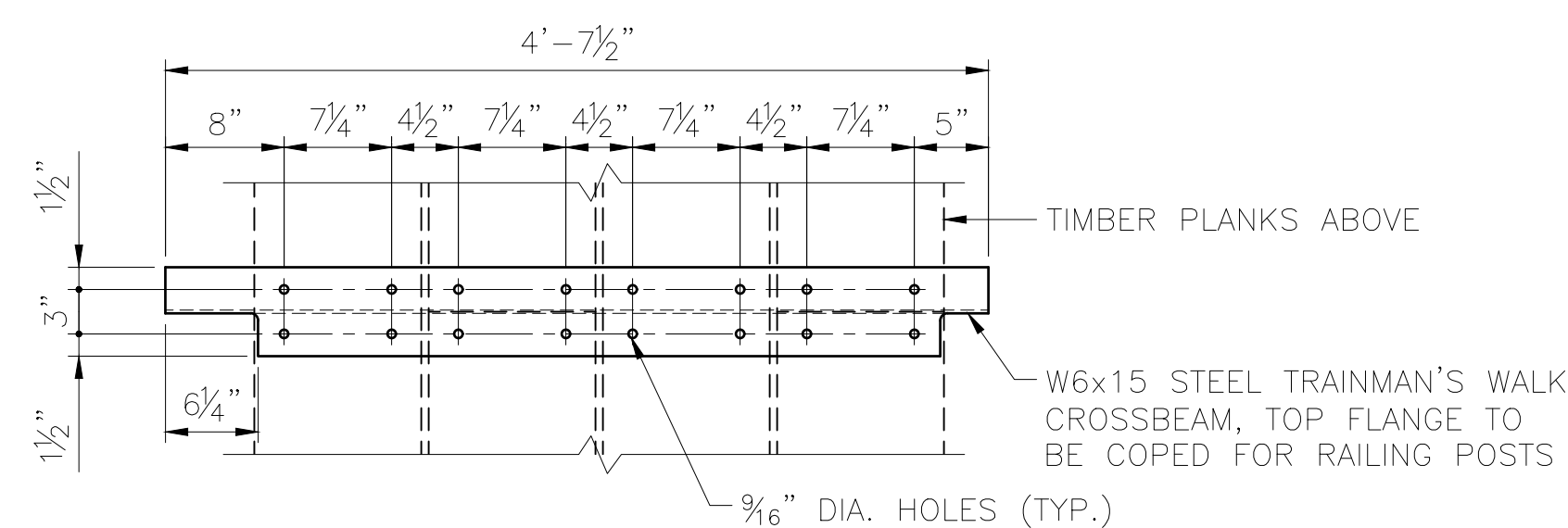
TOP BRACKET ANGLE MK BRA1

SCALE: 1 1/2" = 1'-0"
 32 REQUIRED
 EST. LIFT WEIGHT = 38.9 LBS

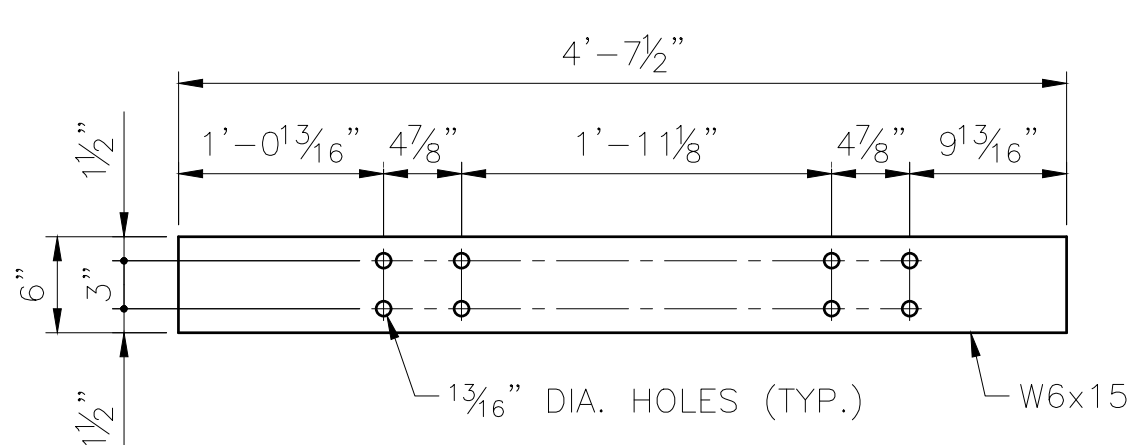


BOTTOM BRACKET ANGLE MK BRA2

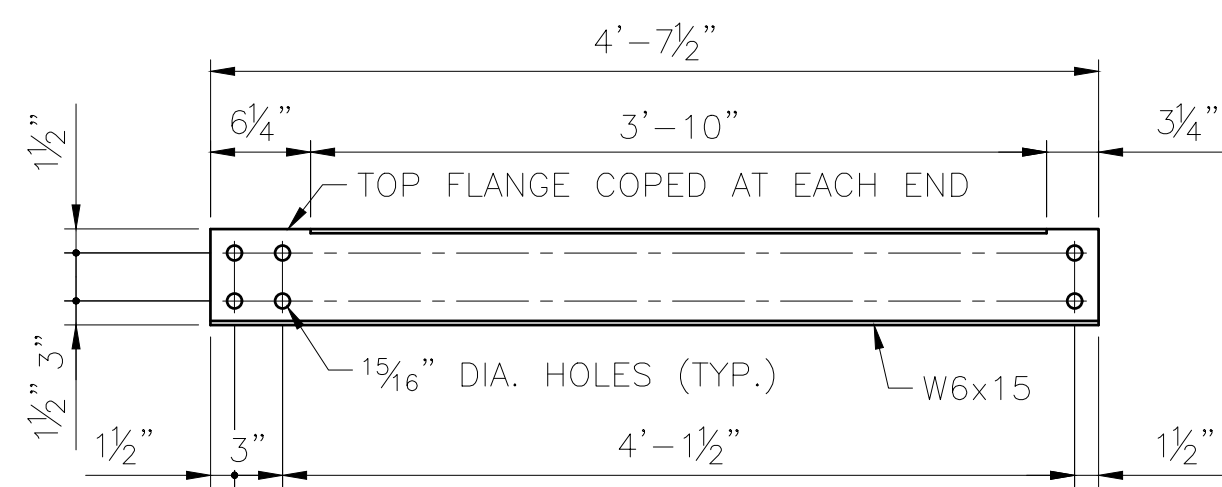
SCALE: 1 1/2" = 1'-0"
 32 REQUIRED
 EST. LIFT WEIGHT = 49.2 LBS



TOP FLANGE



BOTTOM FLANGE



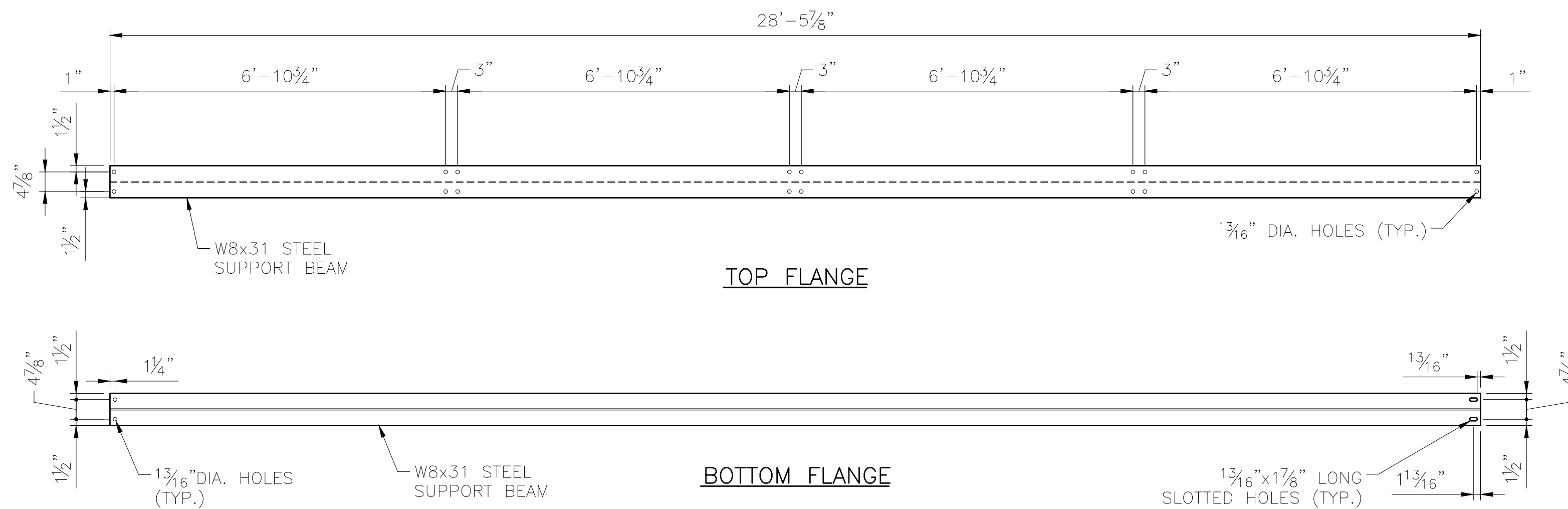
ELEVATION

CROSS BEAM MK CB

SCALE: 1" = 1'-0"
 58 REQUIRED
 EST. LIFT WEIGHT = 66.1 LBS

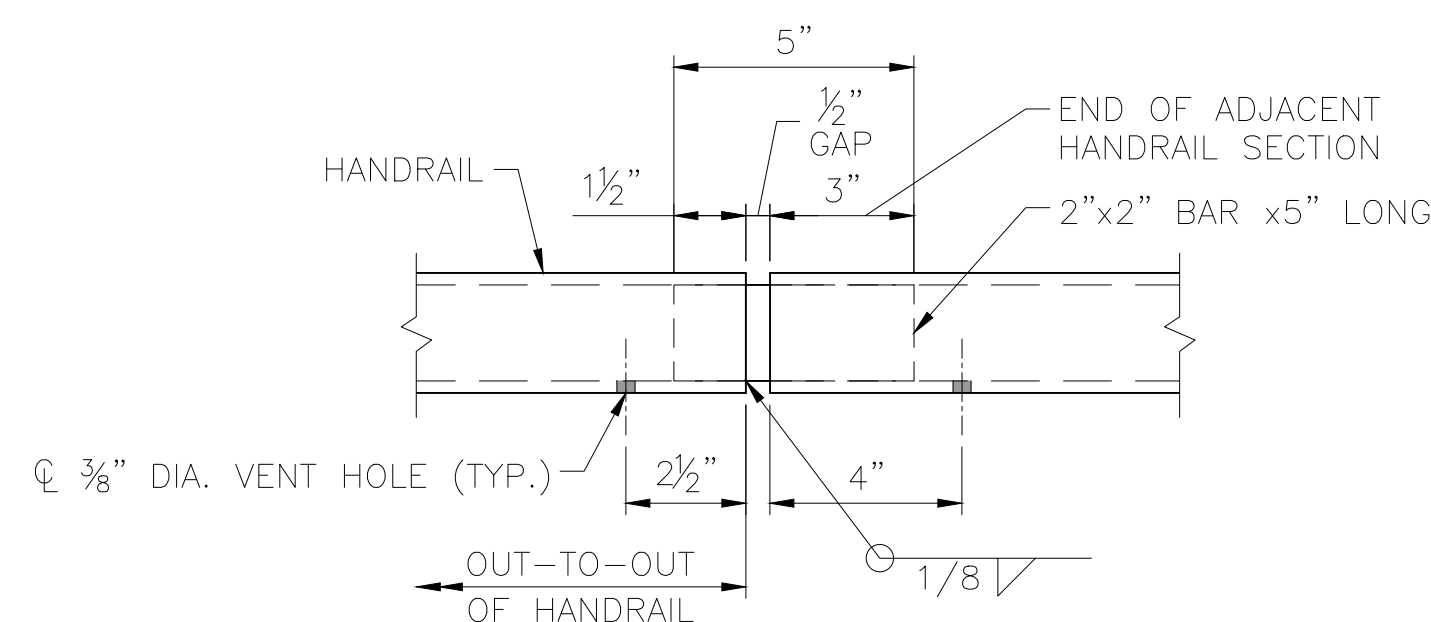
NOTE:

- SPLICE BARS SHALL BE TOUCH UP GALVANIZED IN ACCORDANCE WITH ASTM A123.



STEEL SUPPORT BEAM MK SB

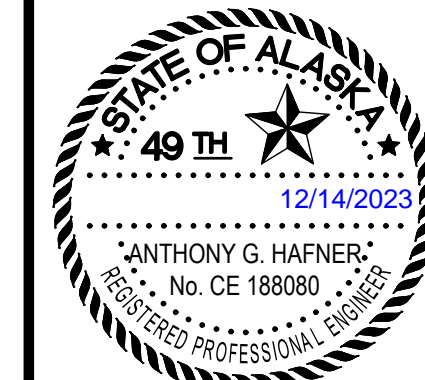
SCALE: 1 1/2" = 1'-0"
 28 REQUIRED
 EST. LIFT WEIGHT = 886.5 LBS



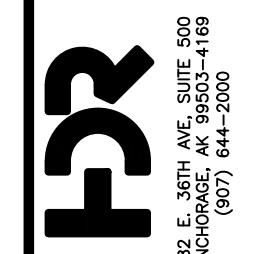
HANDRAIL SPLICE CONNECTION DETAIL

SCALE: 3" = 1'-0"

DESIGNED BY: YA
 CHECKED BY: SA
 DRAFTED BY: MV



HDR ENGINEERING, INC.
 582 E. 35TH AVE., SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569

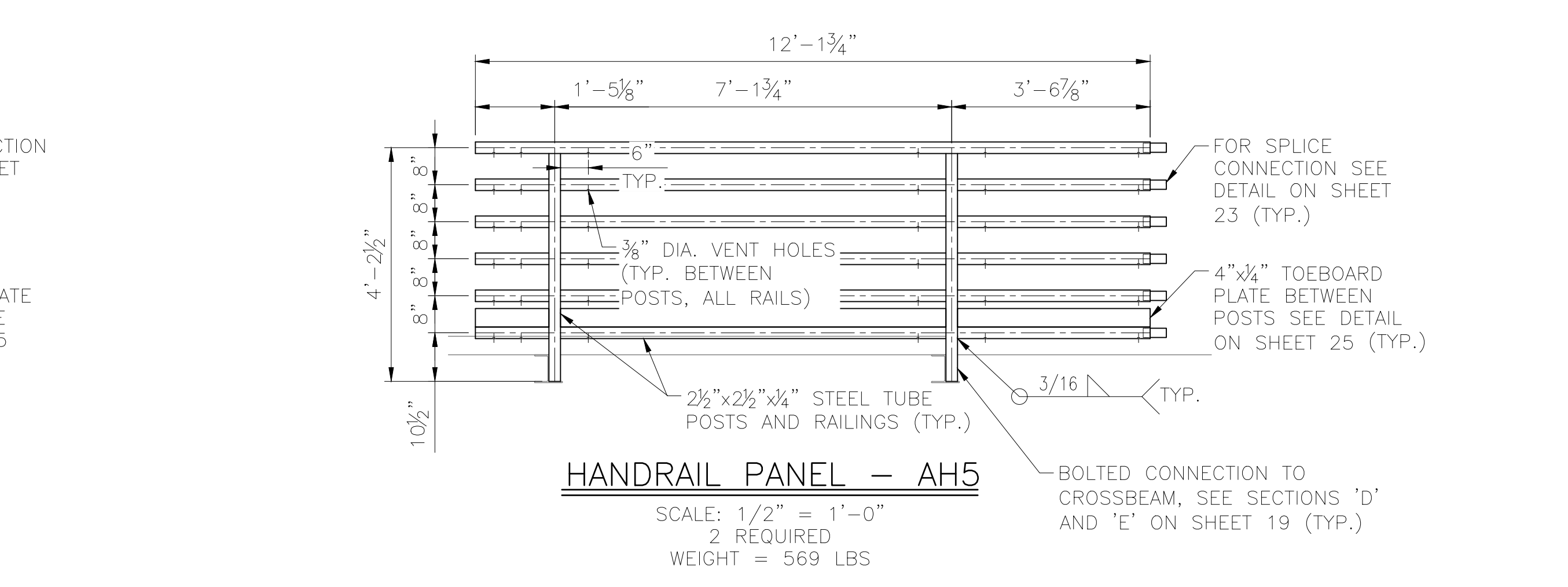
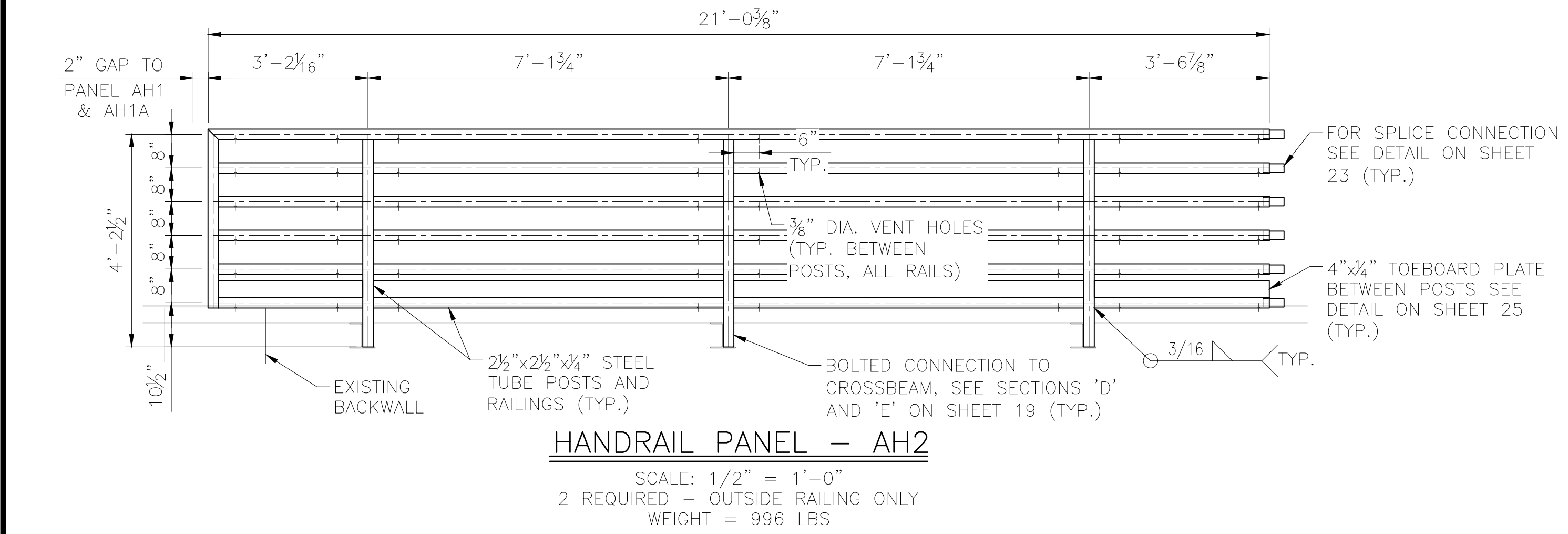
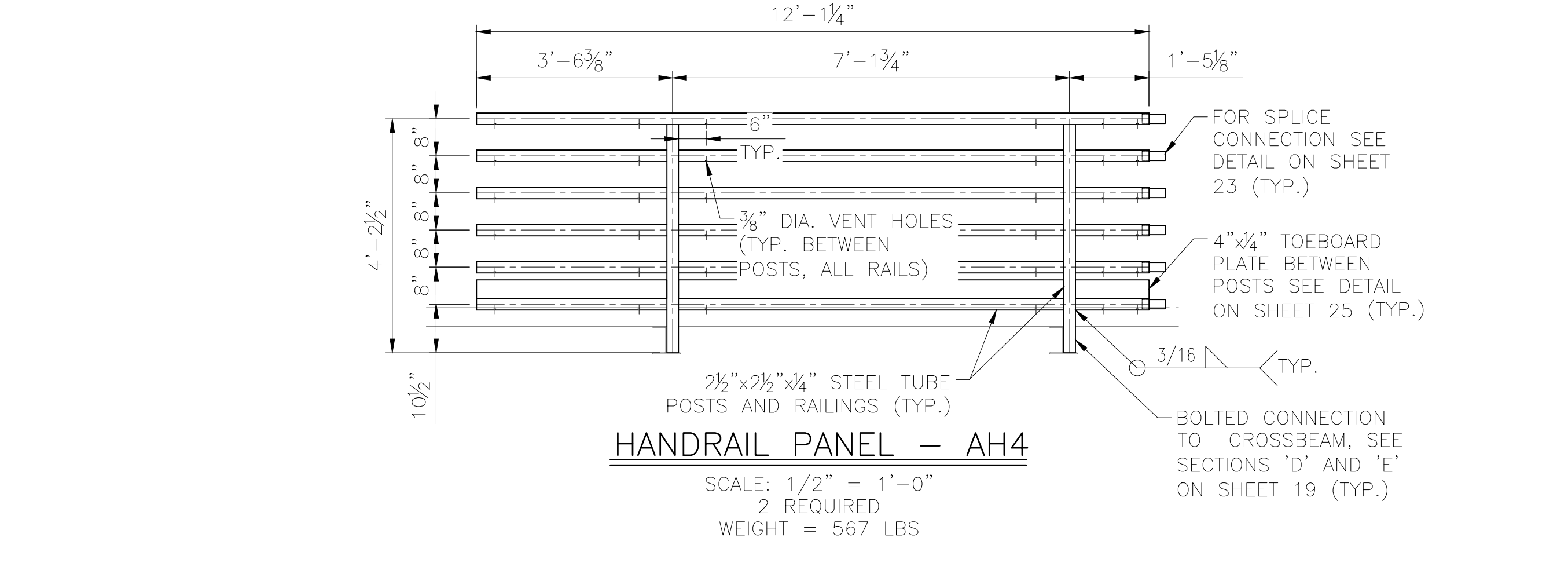
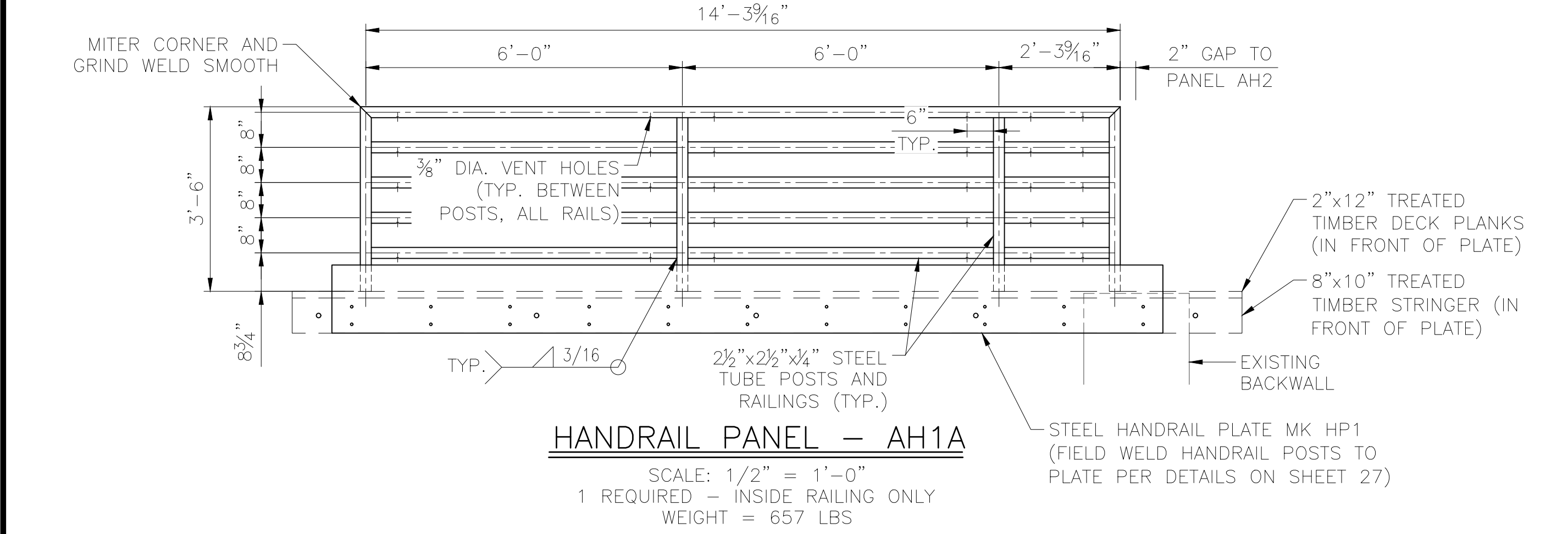
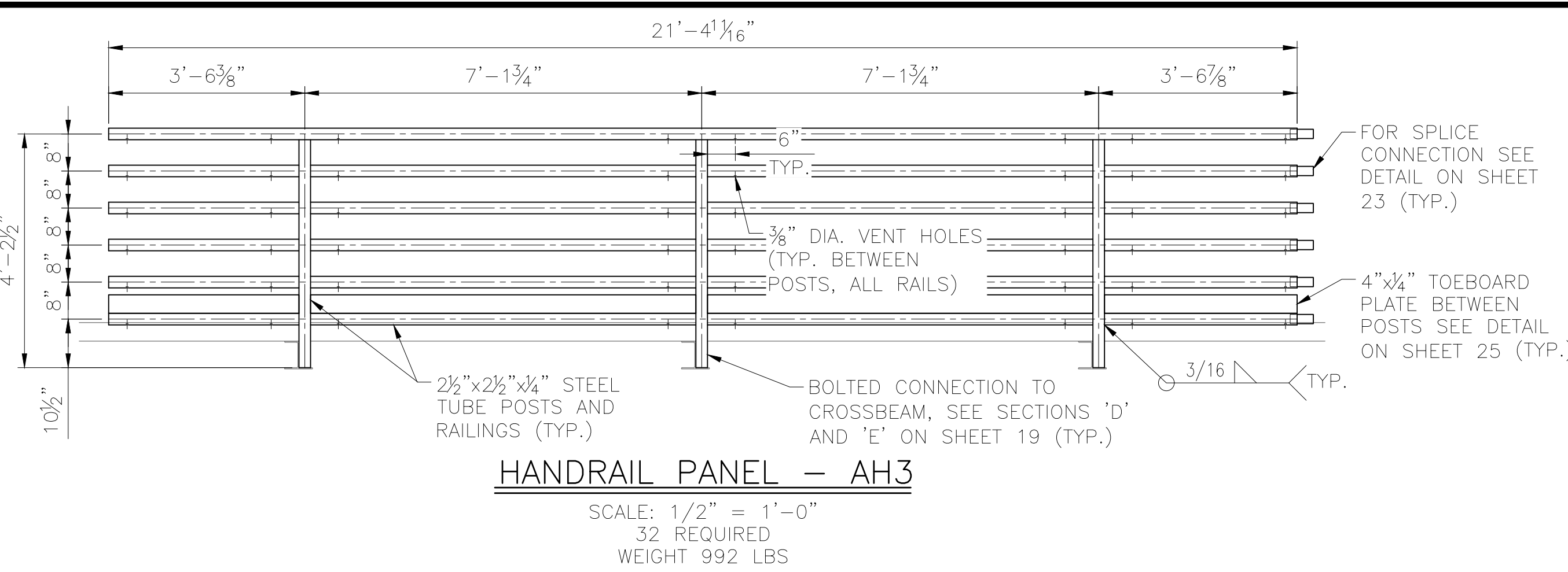
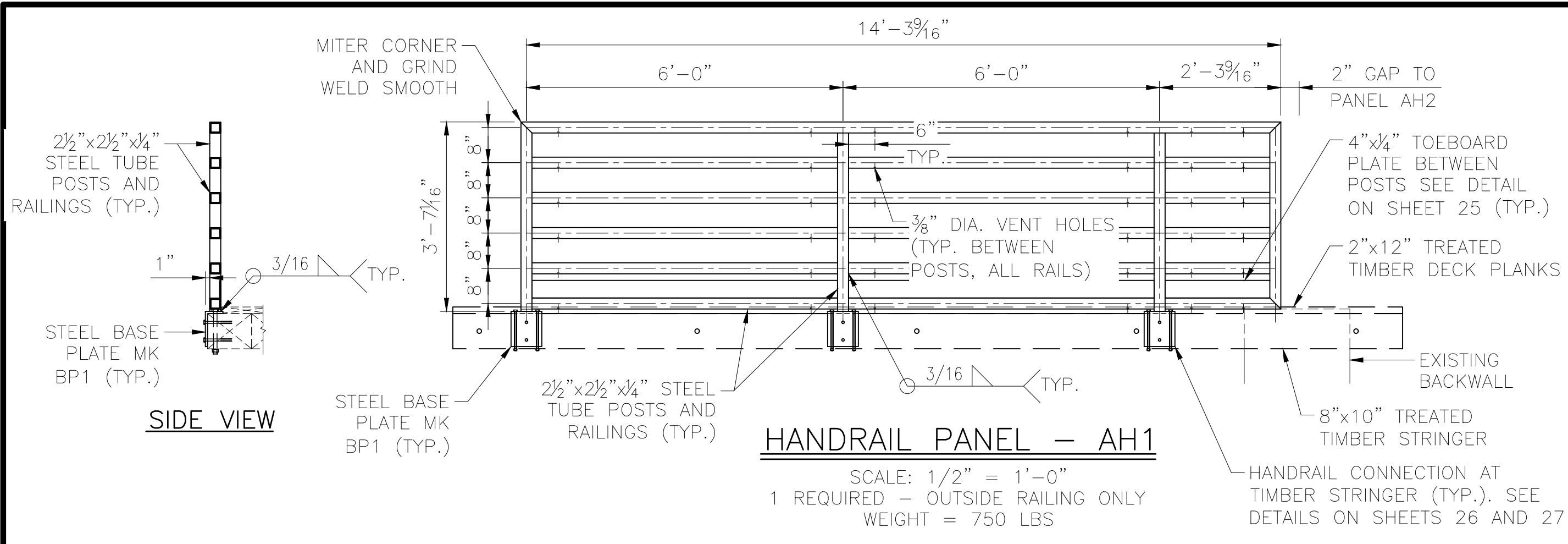


CAPITAL PROJECTS
 P.O. BOX 107500
 ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD
 PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: WALKWAY DETAILS (2 OF 4)

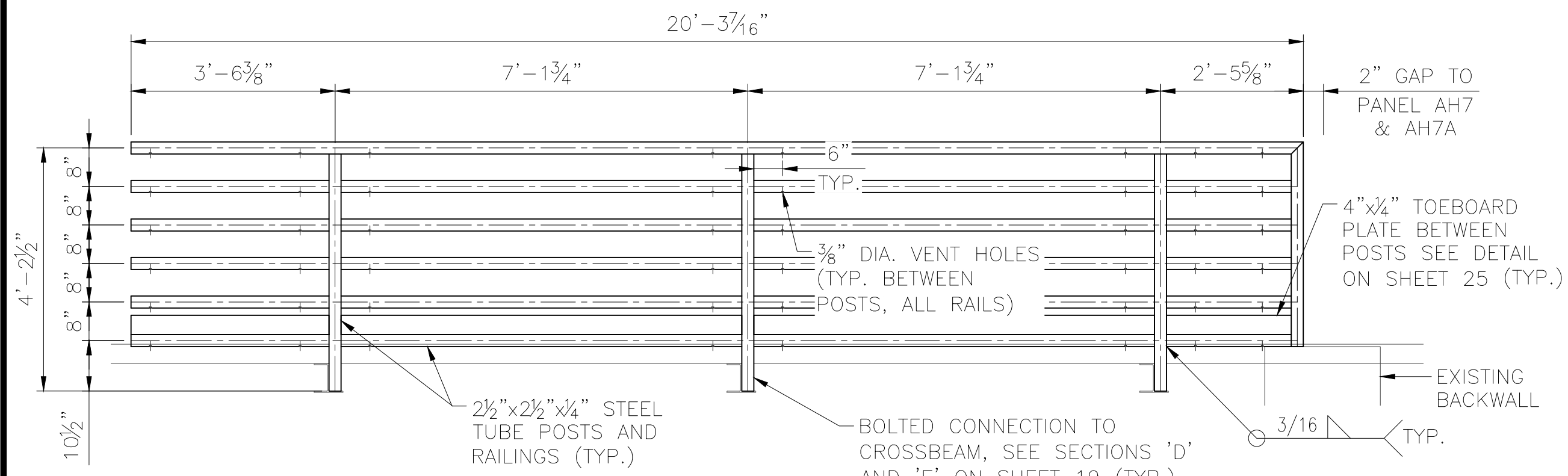
AFE NO. 12259
 YEAR 2023
 SHEET 23 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_024.DWG
 DATE: 12/14/2023 11:06 AM
 TIME: 11:06 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



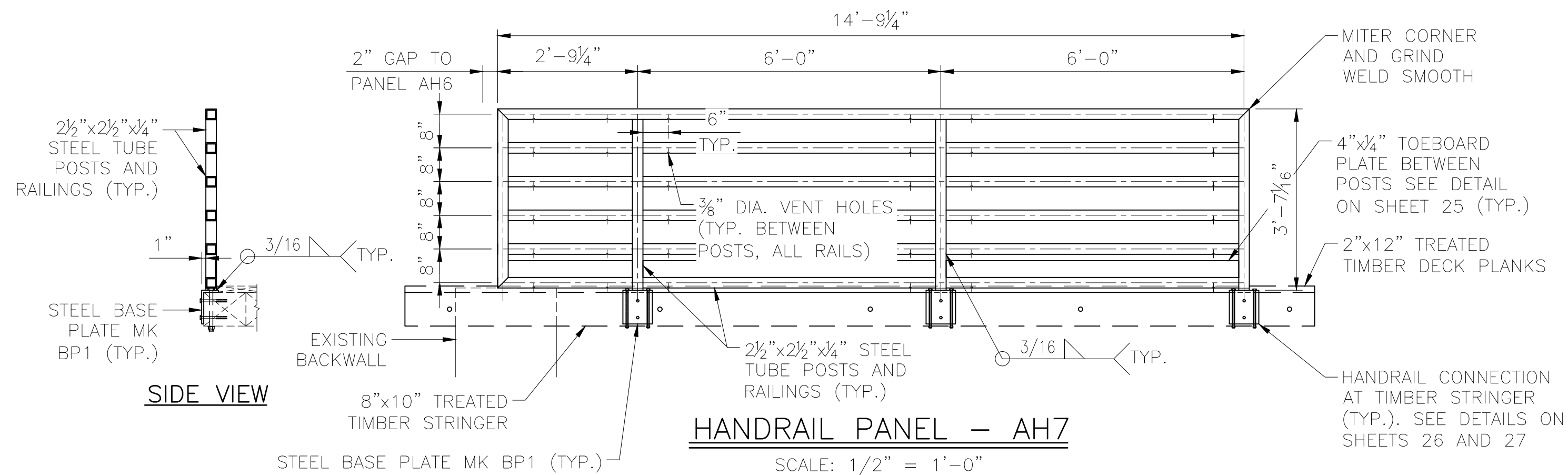
DESIGNED BY:	YA
CHECKED BY:	SA
DRAFTED BY:	MV
HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: WALKWAY DETAILS (3 OF 4)	
AFE NO.	12259
YEAR	2023
SHEET	24 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\26653003\BR-227.1_TALKEETNA_025.DWG
 DATE: 12/14/2023 11:06 AM
 TIME: AS NOTED
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



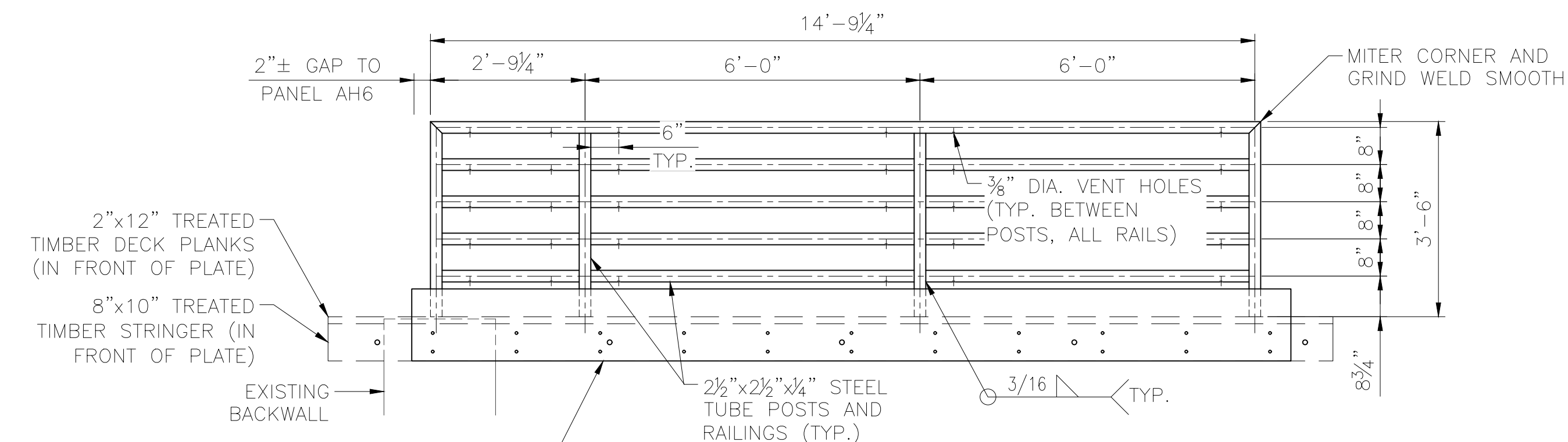
HANDRAIL PANEL - AH6

SCALE: 1/2" = 1'-0"
 2 REQUIRED - OUTSIDE RAILING ONLY
 WEIGHT = 962 LBS



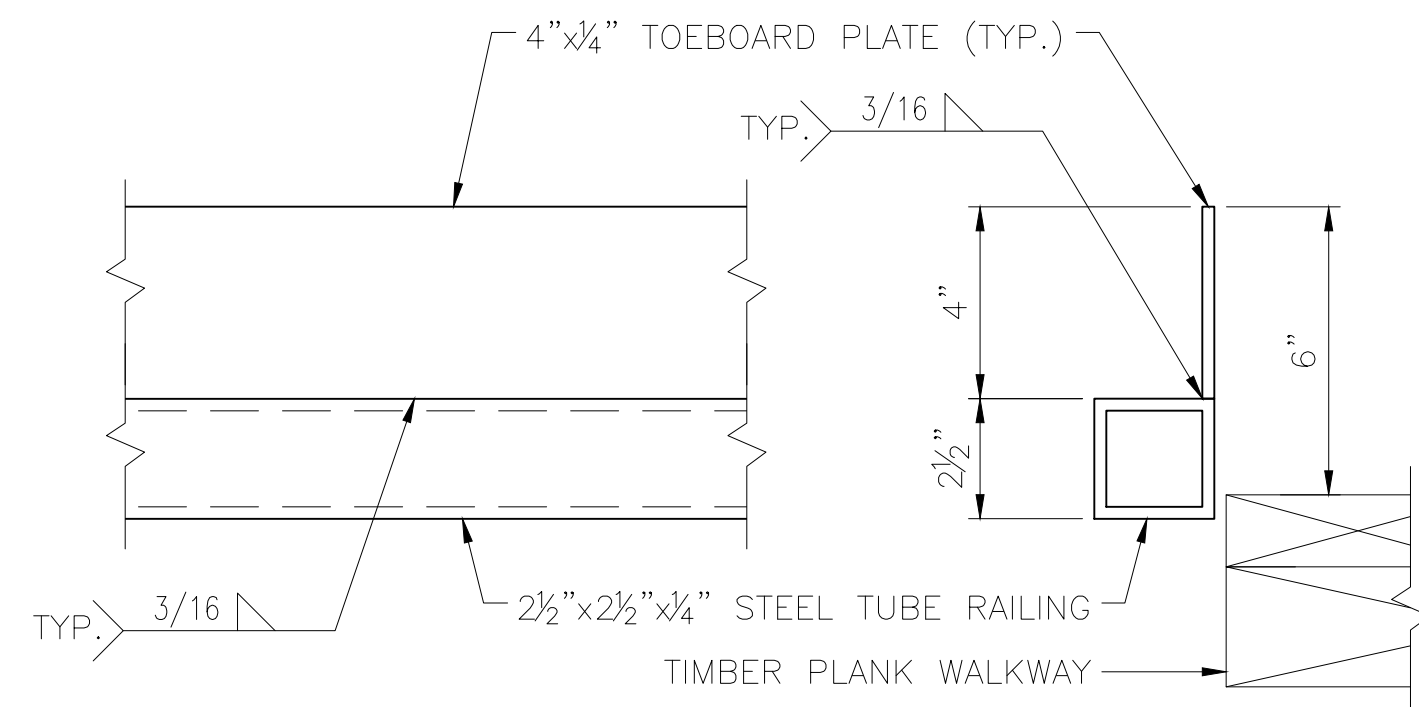
HANDRAIL PANEL - AH7

SCALE: 1/2" = 1'-0"
 1 REQUIRED - OUTSIDE RAILING ONLY
 WEIGHT = 768 LBS



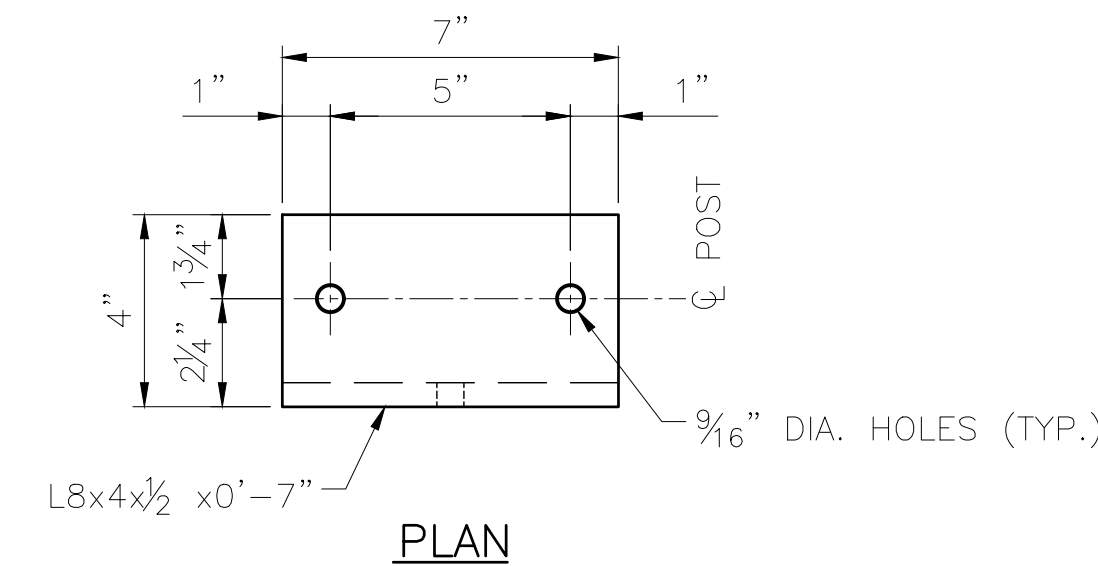
HANDRAIL PANEL - AH7A

SCALE: 1/2" = 1'-0"
 1 REQUIRED - INSIDE RAILING ONLY
 WEIGHT = 673 LBS

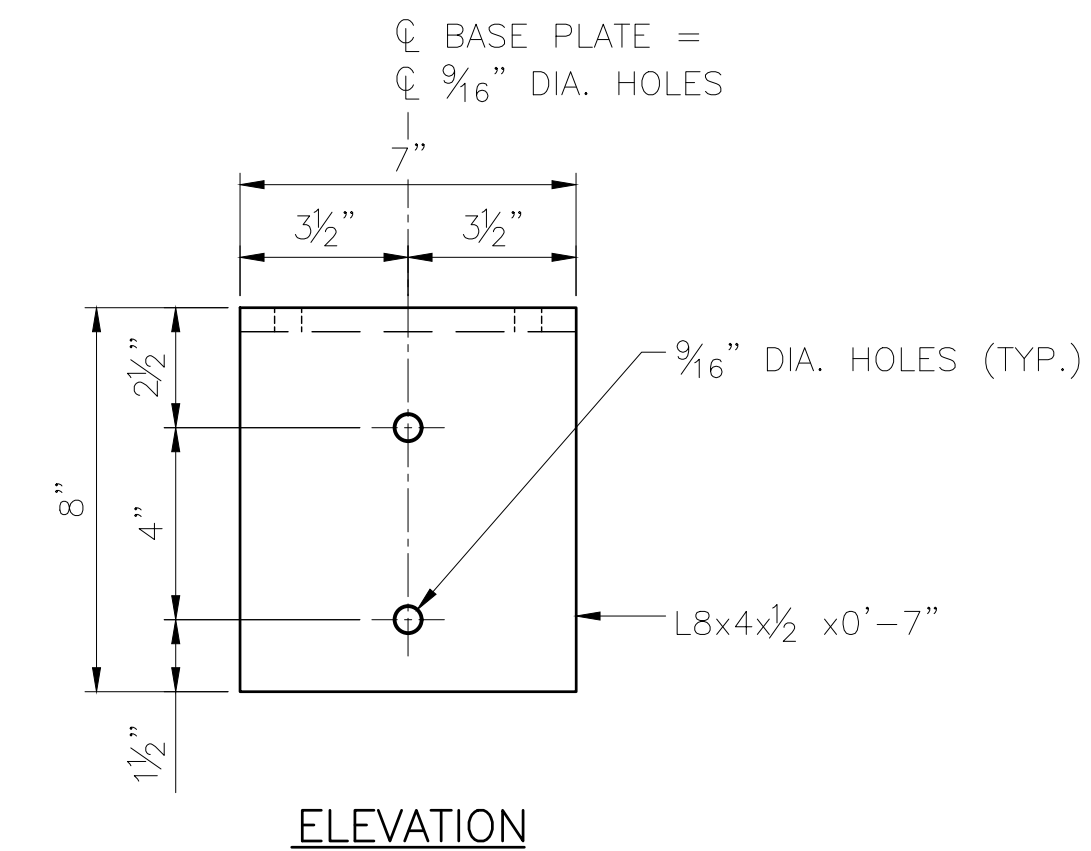


TOEBOARD CONNECTION DETAIL

SCALE: 3" = 1'-0"



PLAN

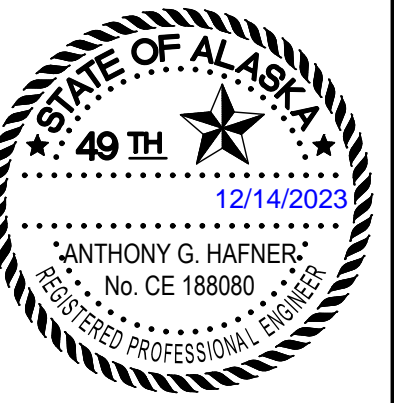


ELEVATION

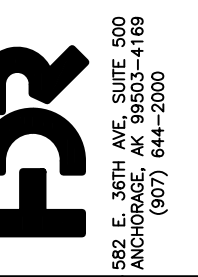
STEEL BASE PLATE MK BP1

SCALE: 3" = 1'-0"
 6 REQUIRED FOR HANDRAIL
 PANEL MK AH1 OR AH7

DESIGNED BY: YA
 CHECKED BY: SA
 DRAFTED BY: MV



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

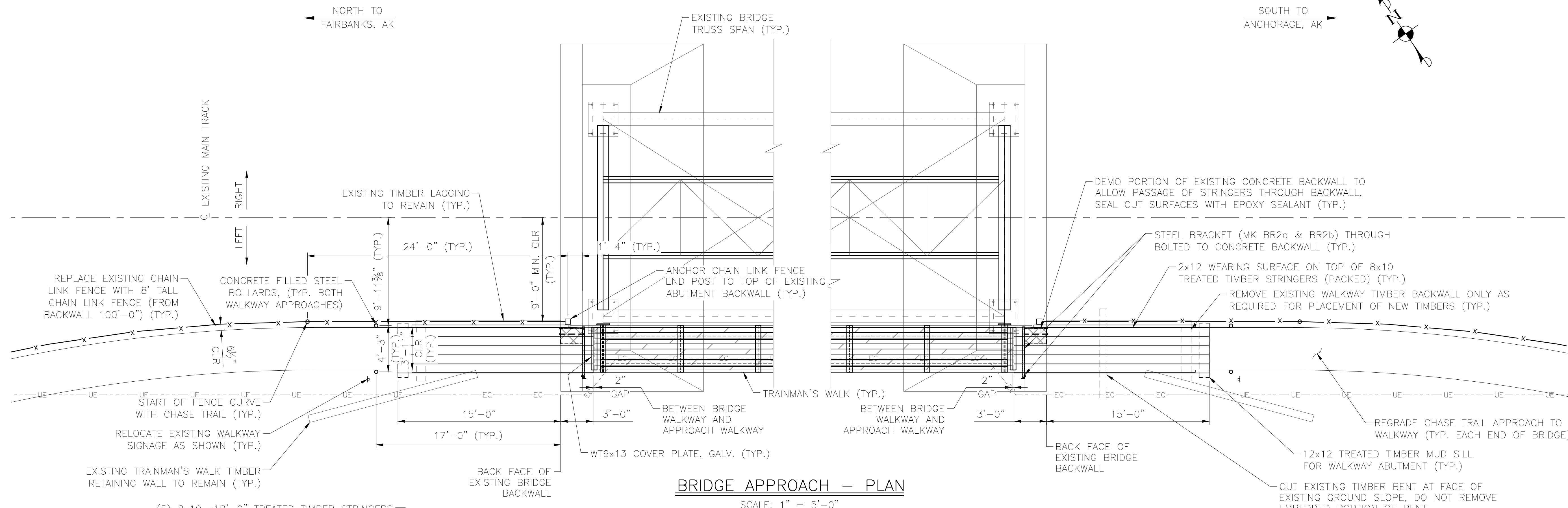


PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: WALKWAY DETAILS (4 OF 4)

AFE NO. 12259
 YEAR 2023
 SHEET 25 OF 28

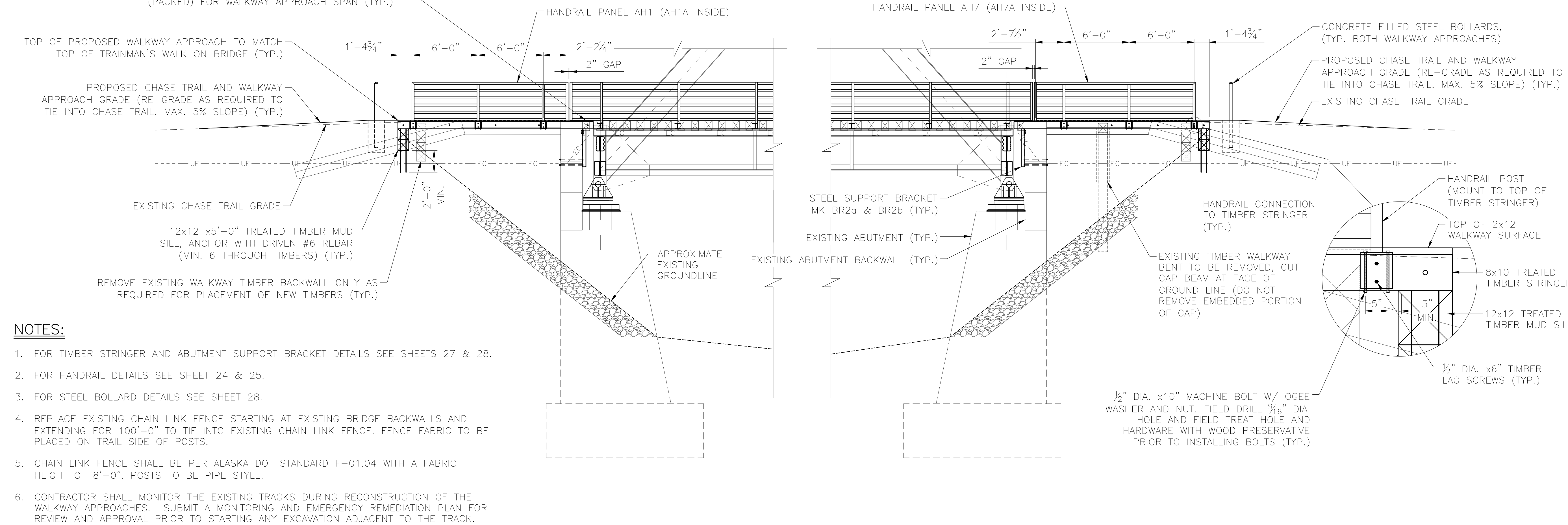
DRAWING LOCATION: C:\PWORKING\WEST01\2653003\BR-227.1_TALKKEENA_026.DWG

DATE: 12/14/2023 11:06 AM
 TIME: 11:06 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB



BRIDGE APPROACH — PLAN

SCALE: 1" = 5'-0"

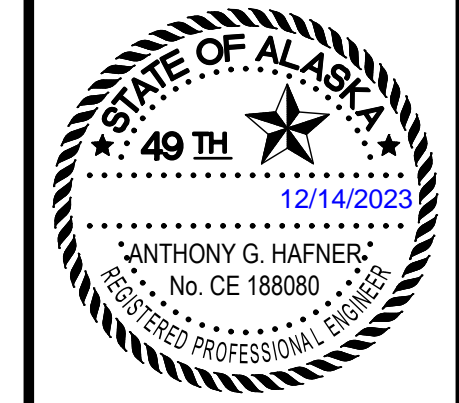


BRIDGE APPROACH — ELEVATION

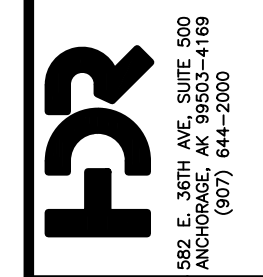
SCALE: 1" = 5'-0"

- NOTES:**
1. FOR TIMBER STRINGER AND ABUTMENT SUPPORT BRACKET DETAILS SEE SHEETS 27 & 28.
 2. FOR HANDRAIL DETAILS SEE SHEET 24 & 25.
 3. FOR STEEL BOLLARD DETAILS SEE SHEET 28.
 4. REPLACE EXISTING CHAIN LINK FENCE STARTING AT EXISTING BRIDGE BACKWALLS AND EXTENDING FOR 100'-0" TO TIE INTO EXISTING CHAIN LINK FENCE. FENCE FABRIC TO BE PLACED ON TRAIL SIDE OF POSTS.
 5. CHAIN LINK FENCE SHALL BE PER ALASKA DOT STANDARD F-01.04 WITH A FABRIC HEIGHT OF 8'-0". POSTS TO BE PIPE STYLE.
 6. CONTRACTOR SHALL MONITOR THE EXISTING TRACKS DURING RECONSTRUCTION OF THE WALKWAY APPROACHES. SUBMIT A MONITORING AND EMERGENCY REMEDIATION PLAN FOR REVIEW AND APPROVAL PRIOR TO STARTING ANY EXCAVATION ADJACENT TO THE TRACK.
 7. CONTRACTOR TO PERFORM SURVEY FROM BRIDGE END FOR 120 FEET ALONG LEFT SIDE OF TRACK EMBANKMENT FOR DETERMINATION AND OWNER APPROVAL OF FINAL GRADING, WALKWAY AND CHASE TRAIL PROFILE AT BOTH APPROACHES.

DESIGNED BY: MH
 CHECKED BY: MH
 DRAFTED BY: MM



HDR ENGINEERING, INC.
 582 E. 35TH AVE., SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569

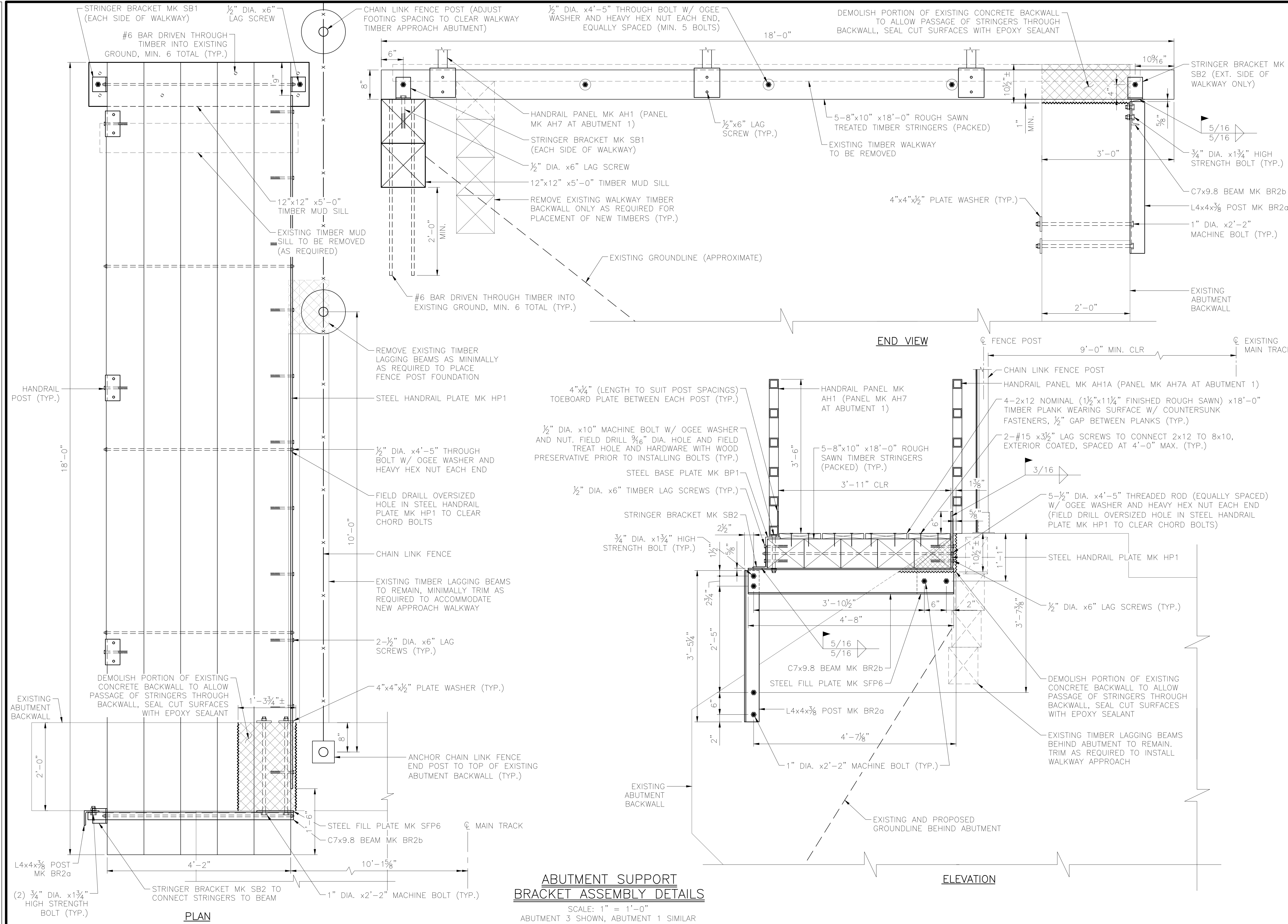


CAPITAL PROJECTS
 P.O. BOX 107500
 ANCHORAGE, ALASKA 99510-7500

ALASKA RAILROAD
 PROJECT: TALKKEENA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: BRIDGE APPROACH LAYOUT

AFE NO. 12259
 YEAR 2023
 SHEET 26 of 28

DRAWING LOCATION: C:\PWORKING\WEST01\2653003\BR-227.1_TALKEETNA_027.DWG
 DATE: 12/14/2023 11:06 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

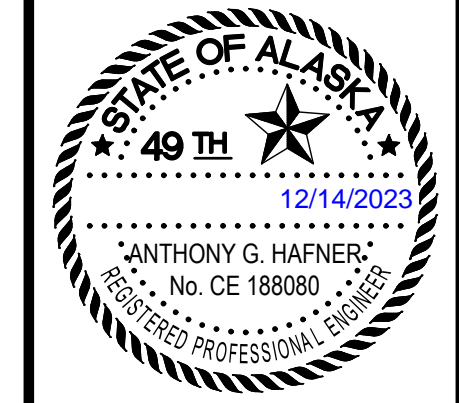


**ABUTMENT SUPPORT
 BRACKET ASSEMBLY DETAILS**
 SCALE: 1" = 1'-0"
 ABUTMENT 3 SHOWN, ABUTMENT 1 SIMILAR

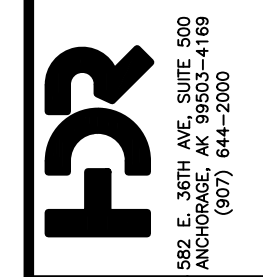
DESIGNED BY:	MH
CHECKED BY:	MH
DRAFTED BY:	MM
HDR ENGINEERING, INC. 582 E. 35TH AVE., SUITE 500 ANCHORAGE, AK 99503-4169 (907) 644-2000 LICENSE #: AECC569	
CAPITAL PROJECTS P.O. BOX 107500 ANCHORAGE, ALASKA 99510-7500	
PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION	
SHEET TITLE: BRIDGE APPROACH DETAILS (1 OF 2)	
AFE NO.	12259
YEAR	2023
SHEET	27 OF 28

DRAWING LOCATION: C:\PWORKING\WEST01\2653003\BR_227.1_TALKEETNA_028.DWG
 DATE: 12/14/2023 11:06 AM
 SCALE: AS NOTED
 PUBLISHED CTB: ARRC_CTB_2023.CTB

DESIGNED BY: MH
 CHECKED BY: MH
 DRAFTED BY: MM



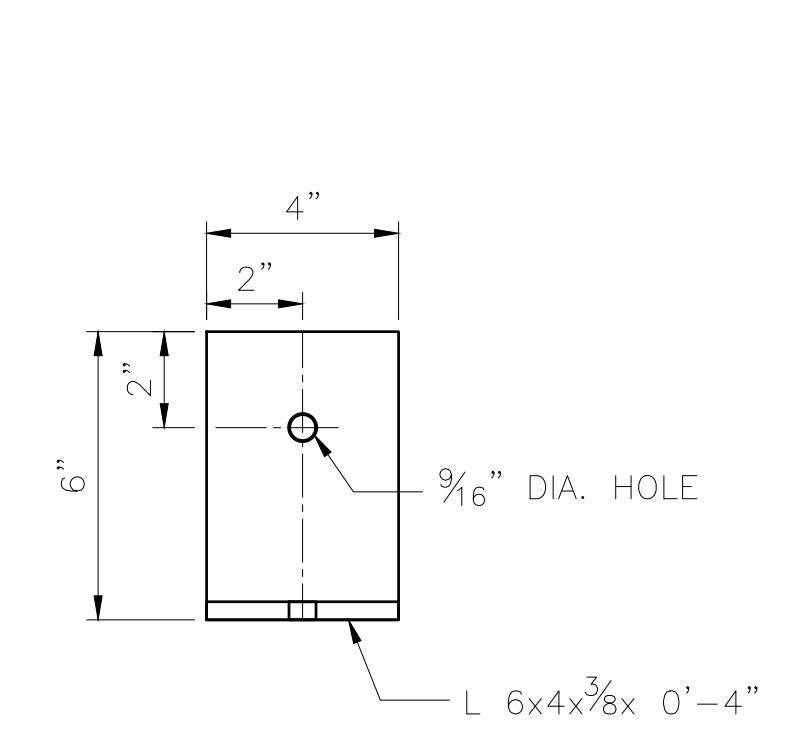
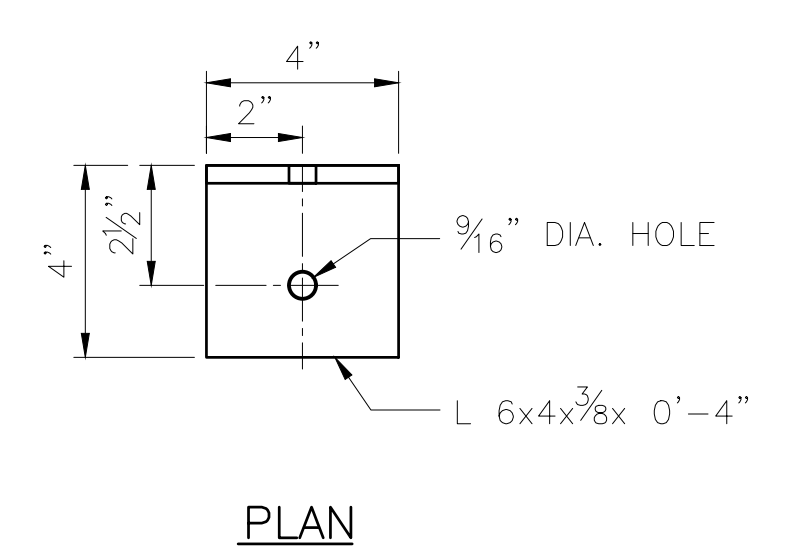
HDR ENGINEERING, INC.
 582 E. 35TH AVE, SUITE 500
 ANCHORAGE, AK 99503-4169
 (907) 644-2000
 LICENSE #: AECC569



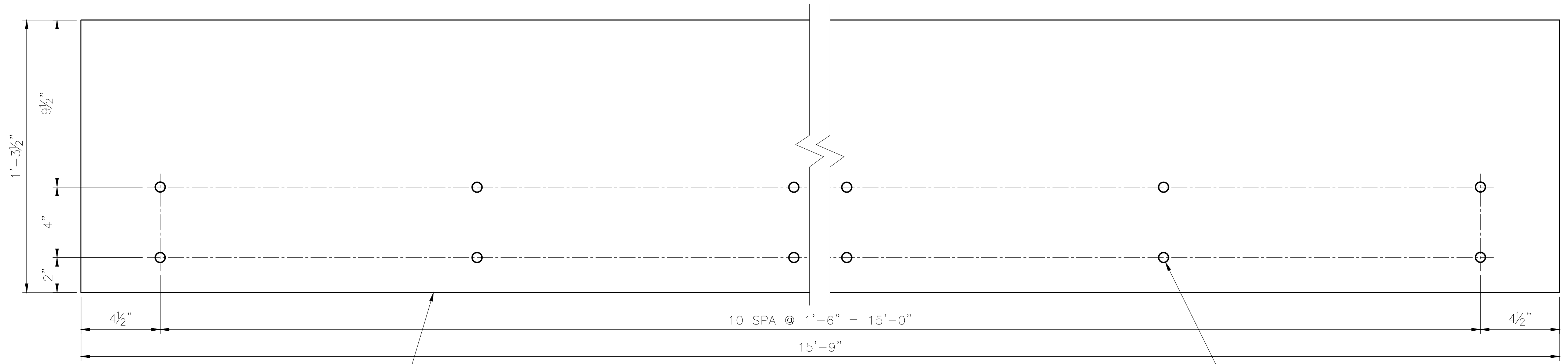
CAPITAL PROJECTS
 P.O. BOX 107500
 ANCHORAGE, ALASKA 99510-7500

PROJECT: TALKEETNA RIVER BRIDGE 227.1 REHABILITATION
 SHEET TITLE: BRIDGE APPROACH DETAILS (2 OF 2)

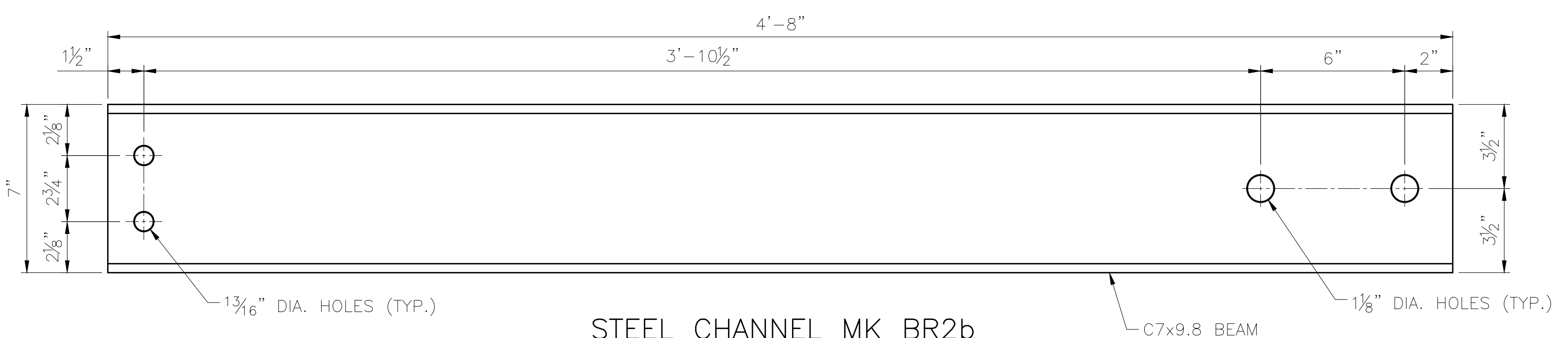
AFE NO. 12259
 YEAR 2023
 SHEET 28 OF 28



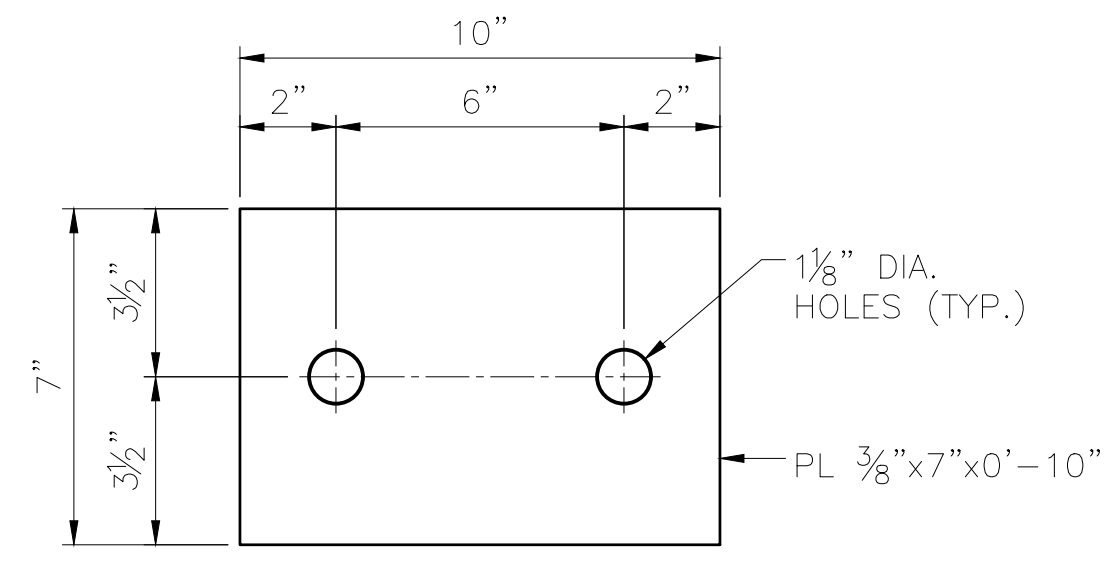
STRINGER BRACKET MK SB1
 SCALE: 3" = 1'-0"
 4 REQUIRED
 EST. LIFT WEIGHT = 4.0 LBS



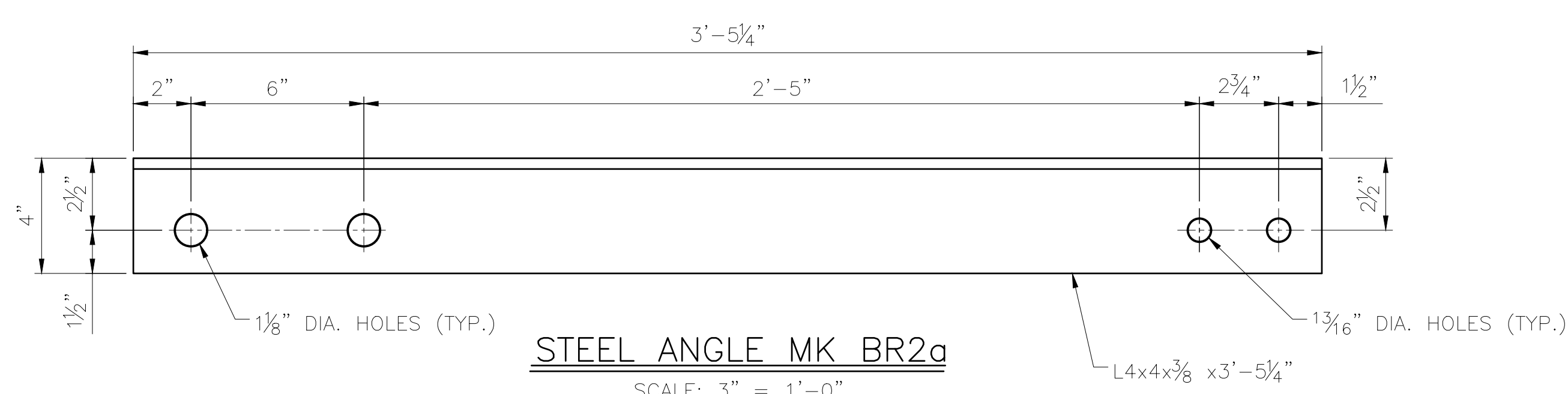
STEEL HANDRAIL PLATE MK HP1
 SCALE: 3" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 416 LBS.



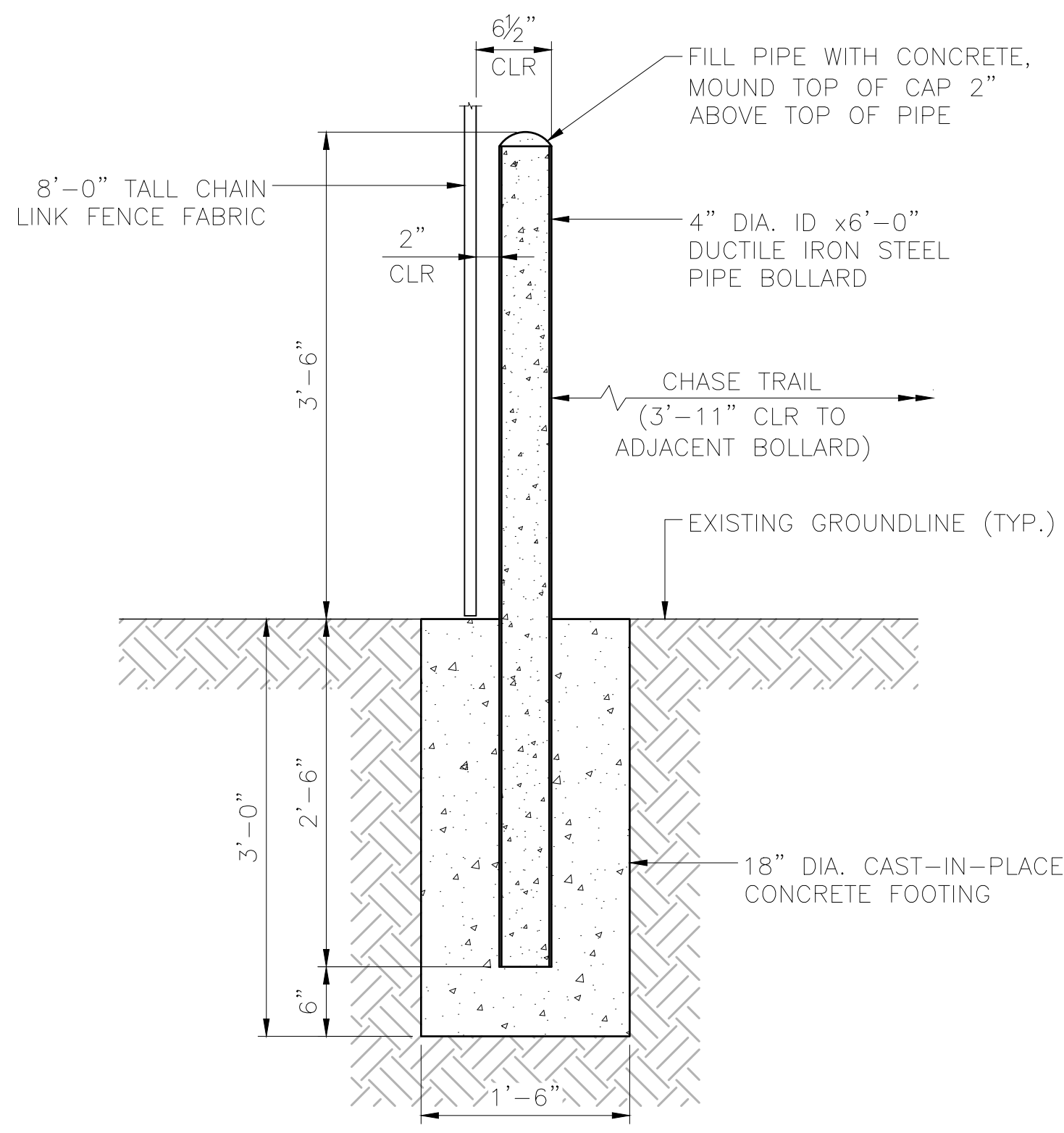
STEEL CHANNEL MK BR2b
 SCALE: 3" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 45.8 LBS.



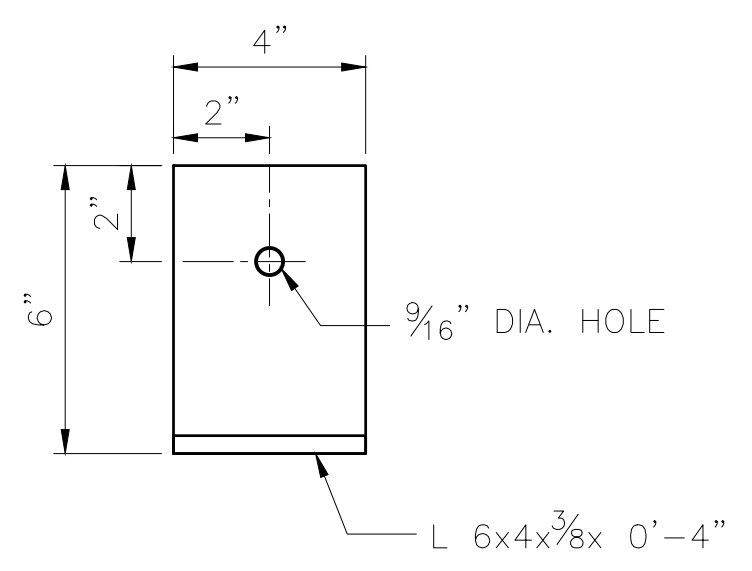
STEEL FILL PLATE MK SFP6
 SCALE: 3" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 7.5 LBS.



STEEL ANGLE MK BR2a
 SCALE: 3" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 33.7 LBS.



CONCRETE FILLED STEEL BOLLARD
 SCALE: 1" = 1'-0"



STRINGER BRACKET MK SB2
 SCALE: 3" = 1'-0"
 2 REQUIRED
 EST. LIFT WEIGHT = 4.0 LBS