ALASKA RAILROAD CORPORATION

ENGINEERING SERVICES

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

26' BALLAST DECK APPROACH SPAN

TABLE OF CONTENTS:

STATE OF ALASKA
49TH
Christian D. Ryll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT :
26' BALLAST DECK APPROACH SPAN

TITLE:
TITLE PAGE AND TABLE OF CONTENTS

DESIGNED BY:	DJS	SCALE : AS NOTED	AFE NO.:
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1) REFERENCED DOCUMENTS: (LATEST EDITION)

A. AMERICAN RAILWAY ENGINEERING AND MAINTENANCE–OF–WAY ASSOCIATION MANUAL FOR RAILWAY ENGINEERING (AREMA MANUAL)
B. AMERICAN SOCIETY FOR TESTING AND MATERIALS
   1. ASTM A123, STD SPEC FOR ZINC COATINGS ON IRON AND STEEL PRODUCTS
   2. ASTM A153, STD SPEC FOR ZINC COATINGS ON IRON AND STEEL HARDWARE
   3. ASTM A572, STD SPEC FOR HIGH–STRENGTH LOW–ALLOY STRUCTURAL STEEL
   4. ASTM A53, STD SPEC FOR PIPE
C. AMERICAN WELDING SOCIETY BRIDGE WELDING MANUAL, AWS D1.5

2) MATERIALS

A. STRUCTURAL STEEL
   1. STRUCTURAL SHAPES, PLATES AND BARS: ASTM A572 GRADE 50. CHARPY TEST REQUIREMENTS FOR W27X194. REFER TO AREMA TABLE 15–1–2, ZONE 3. NO OTHER SHAPES, PLATES OR BARS HAVE CHARPY REQUIREMENTS.
   2. BOLTS: ASTM F3125 GRADE A325
   3. NUTS: ASTM A563
   4. WASHERS: ASTM F436
   5. ANCHOR RODS: ASTM F1554 GRADE 55
   6. PIPE PILE: ASTM A53 GRADE B
B. WELD ELECTRODES: WELD ELECTRODES SHALL BE COMPATIBLE WITH BASE STEEL MATERIAL PROPERTIES AND WEATHERING CHARACTERISTICS AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 70,000 psi.
C. ELASTOMERIC PADS:
   1. BEARING PADS SHALL BE 100 PERCENT VIRGIN POLYISOPRENE (NATURAL RUBBER), 60 DURAMETER, FABRICATED AND TESTED IN CONFORMANCE TO AREMA CHAPTER 15, PART 5.
   2. STEEL LAMINATES SHALL BE ASTM A1011, GRADE 36.

3) FABRICATION

A. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AREMA MANUAL UNLESS SPECIFIED OTHERWISE.
B. THE FABRICATOR SHALL ACCOMMODATE THE QUALITY ASSURANCE EFFORTS OF THE ALASKA RAILROAD CORPORATION, OR ITS DESIGNEE, AT THE FABRICATOR'S FACILITIES.
C. ALL SPANS SHALL BE FULLY SHOP FITTED AND PIECE MARKED.
D. FABRICATOR TO ENSURE THAT FULLY ASSEMBLED SPAN SEATS SQUARE AND FLAT FOR BEARING.
E. ALL BEAMS SHALL BE FABRICATED SUCH THAT THEIR NATURAL CAMBER IS UP.
F. FIELD ERECTION, FIELD WELDING, FIELD BOLTING, CONCRETE WORK, AND CIVIL WORK ARE CONSIDERED BEYOND THE SCOPE OF WORK FOR THIS FABRICATION CONTRACT.
G. WELDING
   1. USE $\frac{1}{4}$" HOLDBACK ON FILLET WELDS.
   2. FIELD WELDS, TRANSVERSE TACK WELDS ON TENSION FLANGES, AND PARTIAL PENETRATION GROOVE WELDS ARE PROHIBITED UNLESS SPECIFICALLY NOTED OTHERWISE.
   3. ALL WELD SPATTER AND SLAG SHALL BE REMOVED.
   4. ALL WELDERS SHALL BE QUALIFIED FOR THE WELD PROCEDURE PER AWS D1.5.
H. WELD TESTING
   1. ALL WELD TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH AWS D1.5.
   2. WELD TESTING TYPE AND QUANTITIES SHALL BE AS LISTED BELOW:
      a. ALL FILLET WELDS UNLESS OTHERWISE NOTED SHALL BE 100% VISUALLY INSPECTED AND AT LEAST 25% MAGNETIC PARTICLE TESTED.
      b. ALL GROOVE WELDS UNLESS OTHERWISE NOTED SHALL BE 100% VISUALLY INSPECTED AND AT LEAST 10% ULTRASONICALLY TESTED.
      b. ULTRASONIC WELD TESTS SHALL BE PERFORMED BY AWS INSPECTORS CERTIFIED PER AWS D1.5.
I. WELD REPAIRS
   1. ALL DEFECTIVE WELDS SHALL BE REPAIRED PER AWS D1.5 AND RETESTED UNTIL THEY PASS.
   2. CRITICAL REPAIRS SHALL COMMENCE ONLY WITH ENGINEER'S APPROVAL.

4) COATINGS

A. STEEL SPECIFIED IN PLANS SHALL BE GALVANIZED PER ASTM 123.
B. TOP WELD OF DECK TO BEAM CONNECTION SHALL BE COATED WITH A ZINC–BASED SOLDER.
C. ALL OTHER STEEL SHALL BE UNCOATED.

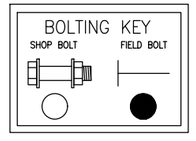
5) DELIVERY

A. MARKING AND SHIPPING SHALL BE IN ACCORDANCE WITH AREMA CHAPTER 15, SECTION 3.6, ARTICLE 3.6.1–MARKING, PACKAGING AND LOADING.
B. ALL COMPONENTS SHALL BE DELIVERED AS SPECIFIED IN THE CONTRACT DOCUMENTS.
C. FABRICATOR SHALL FIX OR REPLACE ANY COMPONENTS DAMAGED OR LOST DURING SHIPPING INCIDENTAL TO THIS CONTRACT.
D. ALL MATERIALS F.O.B.:

WAREHOUSE 1
485 OCEAN DOCK RD
ANCHORAGE, AK 99501

6) SUBMITTALS

A. SUBMITTALS LISTED BELOW MUST BE PROVIDED AND APPROVED BY THE ENGINEER BEFORE COMMENCING WORK.
   1. ALL WELD PROCEDURES FOR APPROVAL.
   2. WELDER CERTIFICATION FOR ALL WELDERS ON PROJECT TO SHOW COMPLIANCE.
   3. NAME OF THIRD PARTY WELD TESTING AGENCY, IF APPLICABLE, FOR APPROVAL.
B. SUBMITTALS LISTED BELOW MUST BE PROVIDED TO THE ENGINEER BEFORE PROJECT COMPLETION.
   1. MANUFACTURER CERTIFICATES FOR ALL MATERIALS STATING THAT THEY MEET THE APPLICABLE AREMA OR ASTM SPECIFICATIONS.
   2. ALL WELD TEST RESULTS.
C. IN THE INTEREST OF REDUCING DOCUMENT PREPARATION COSTS AND DELIVERY TIME, ALL SUBMITTALS MAY BE PROVIDED IN ELECTRONIC FORMAT VIA EMAIL. IF SUBMITTALS ARE PROVIDED IN HARD COPY (PAPER FORMAT), SUBMIT ONLY ONE COPY FOR ARRC REVIEW AND RECORDS, UNLESS ADDITIONAL COPIES ARE REQUESTED BY THE ENGINEER. SUBMITTAL APPROVAL STATUS WILL BE RETURNED VIA EMAIL OR FAX.



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ENGINEERING SERVICES
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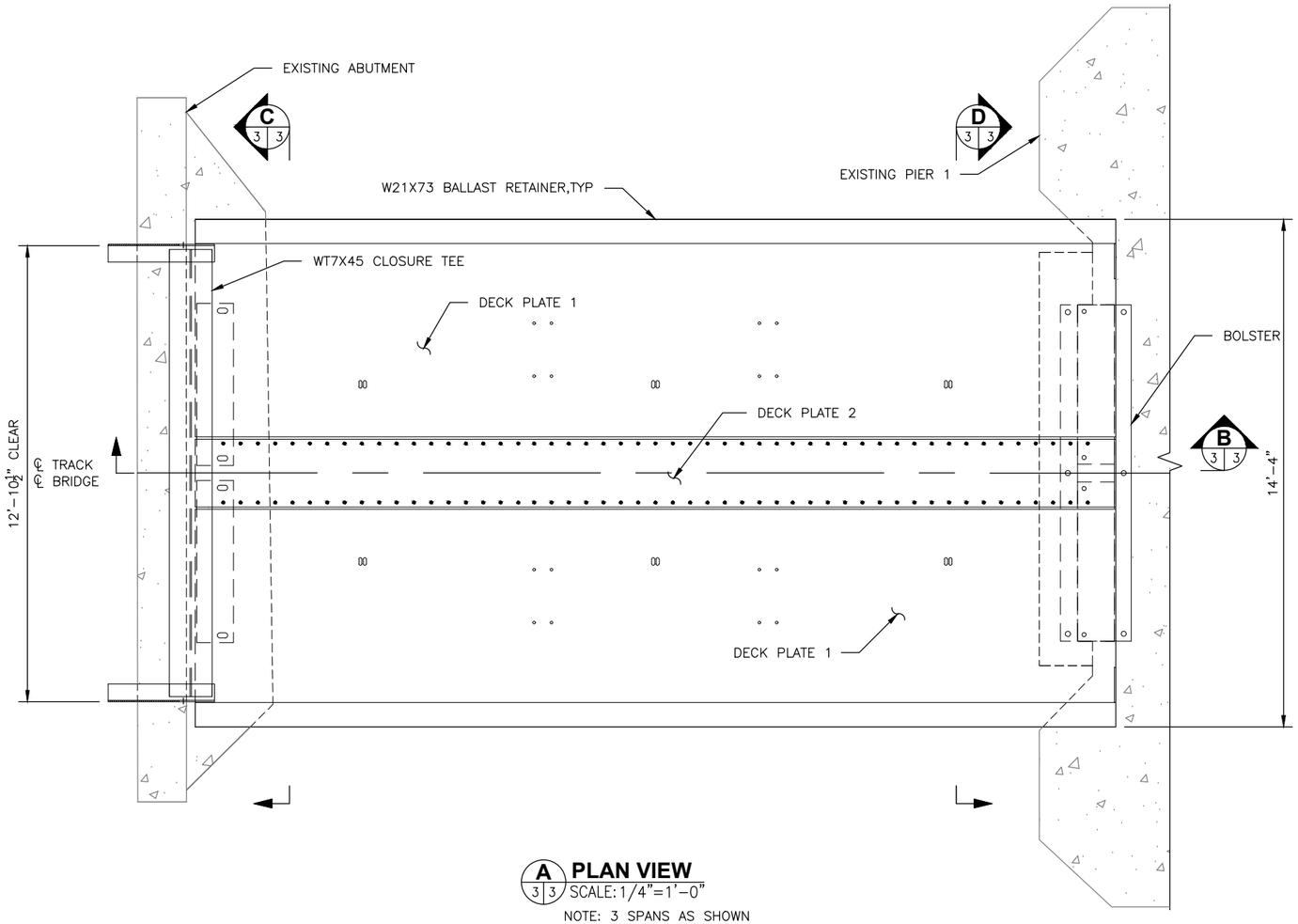
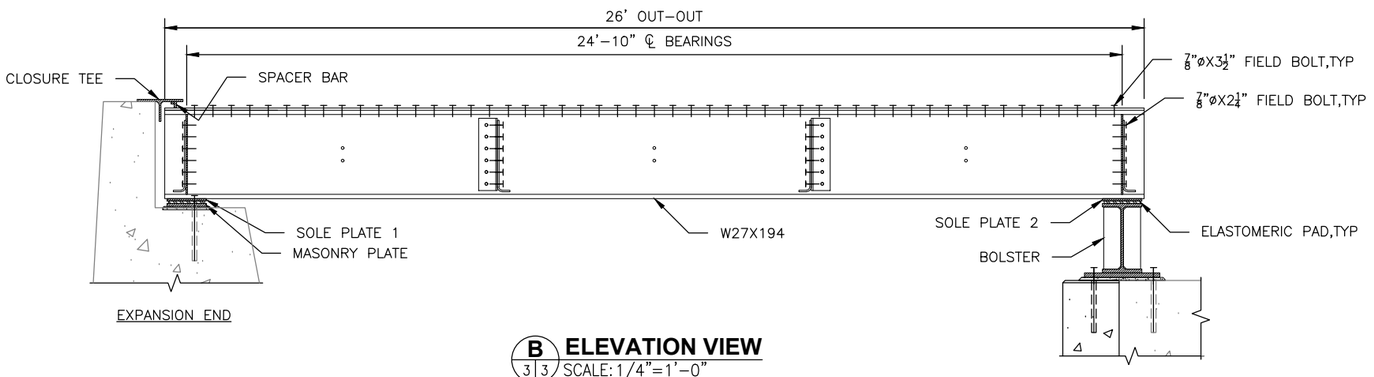
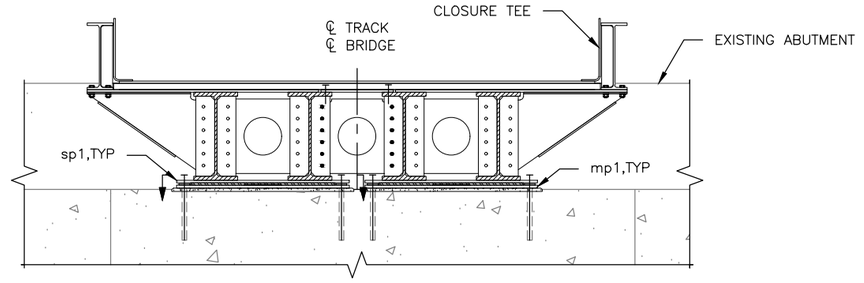


A 3 3 PLAN VIEW
SCALE: 1/4"=1'-0"
NOTE: 3 SPANS AS SHOWN



B 3 3 ELEVATION VIEW
SCALE: 1/4"=1'-0"



C 3 3 SECTION VIEW
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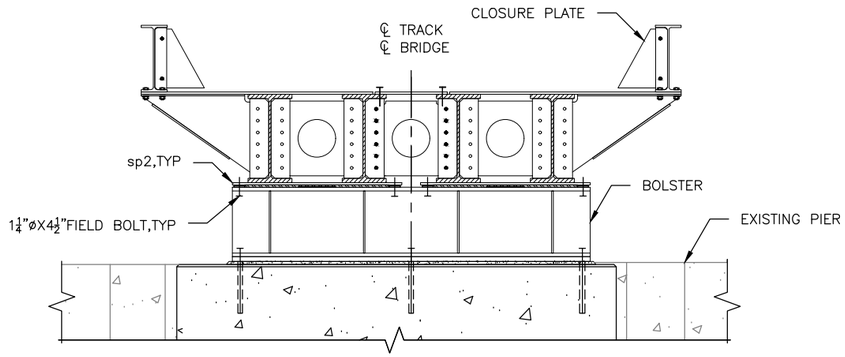

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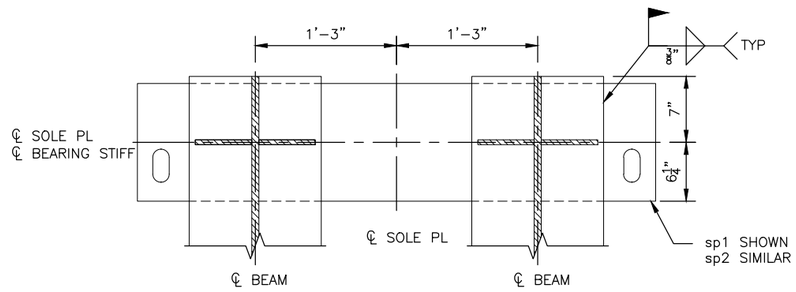

E 3 3 BEAM TO SOLE PL WELDING DETAIL
SCALE: 3/4"=1'-0"

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ENGINEERING SERVICES
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PROJECT :
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TITLE:
GENERAL LAYOUT 1

DESIGNED BY:	DJS	SCALE :	AS NOTED	AFE NO.:	
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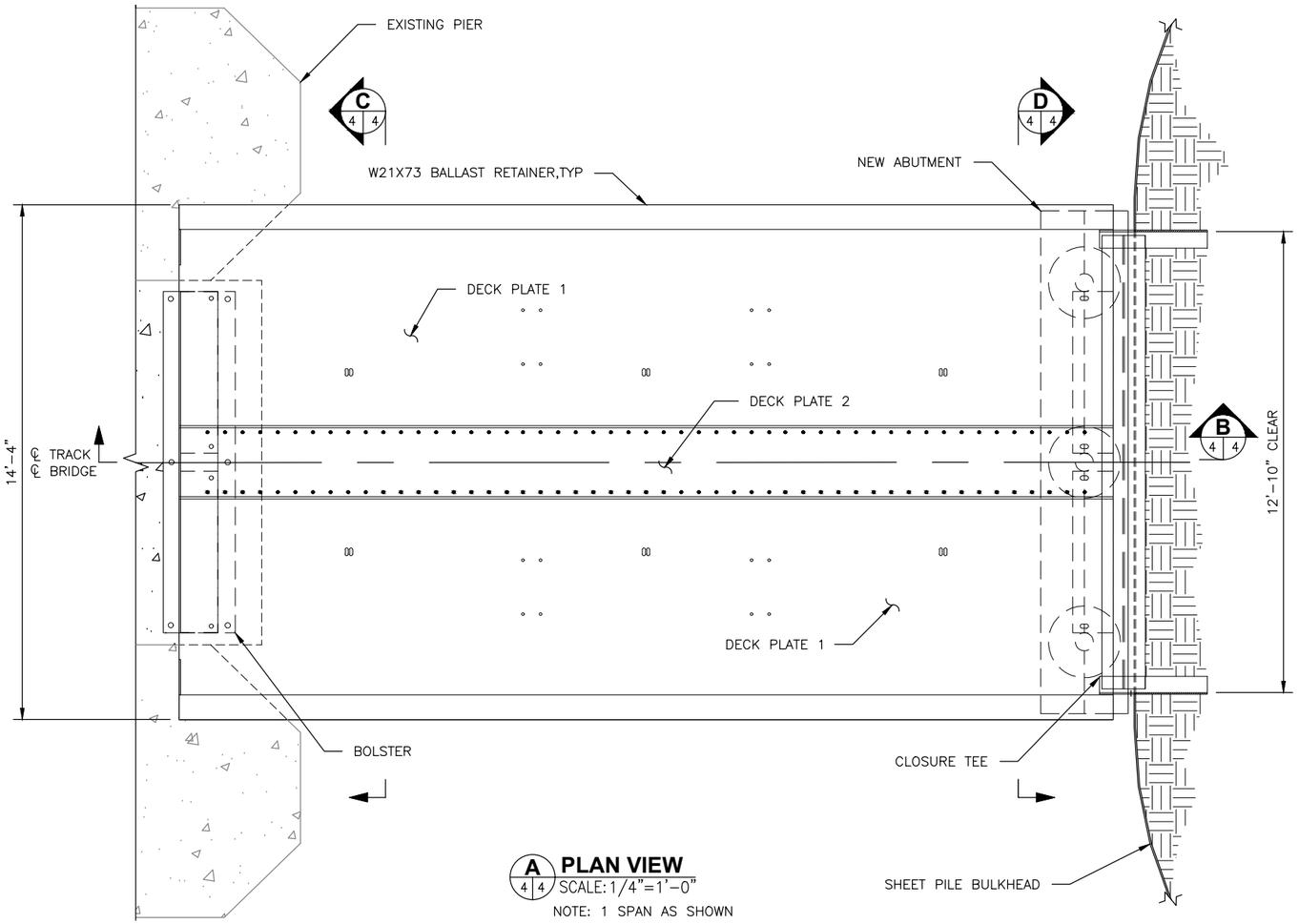
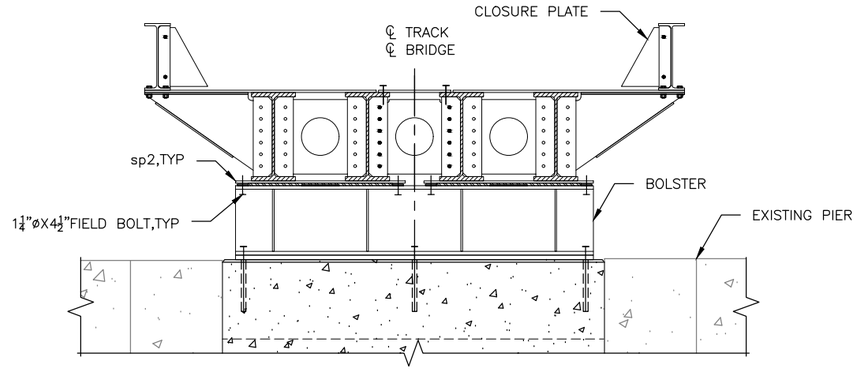
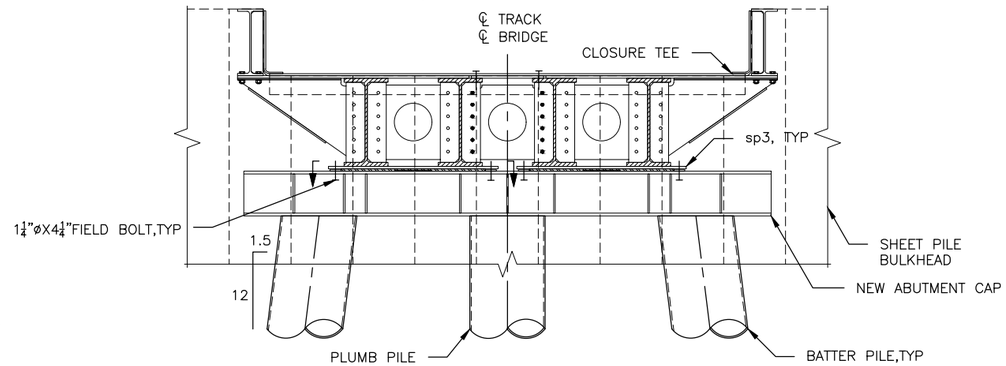


A 4 4 PLAN VIEW
SCALE: 1/4"=1'-0"
NOTE: 1 SPAN AS SHOWN



C 4 4 SECTION VIEW
SCALE: 1/4"=1'-0"



D 4 4 SECTION VIEW
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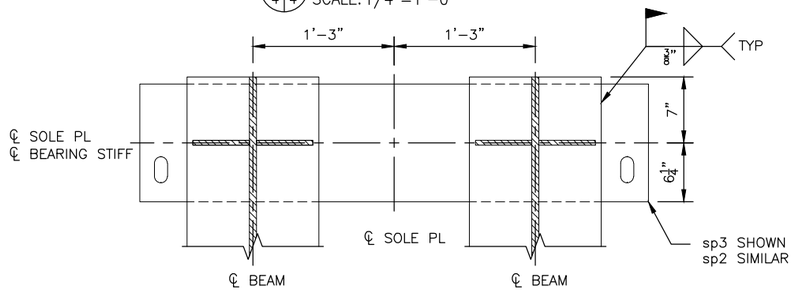
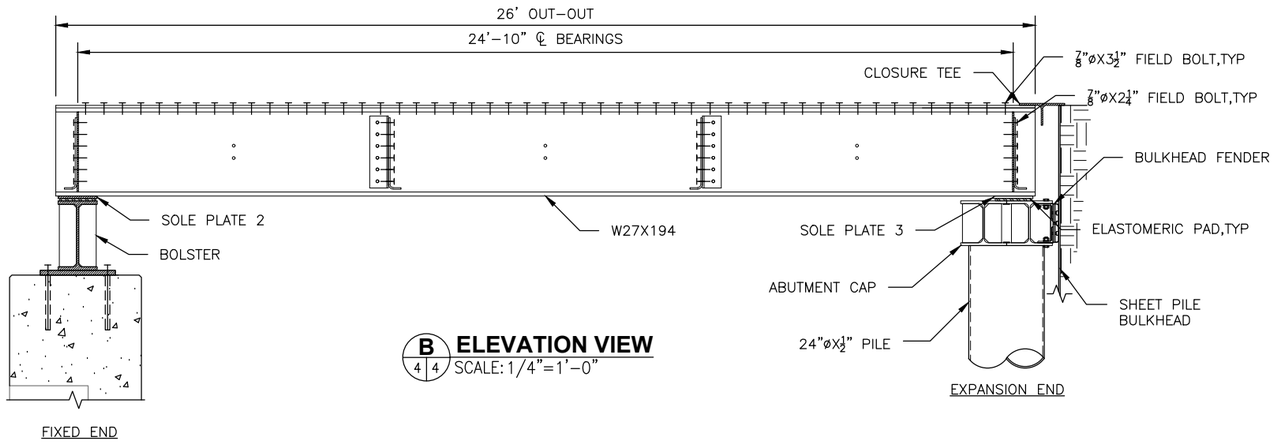


E 4 4 BEAM TO SOLE PL WELDING DETAIL
SCALE: 3/4"=1'-0"



B 4 4 ELEVATION VIEW
SCALE: 1/4"=1'-0"

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TITLE:
GENERAL LAYOUT 2

STATE OF ALASKA 49TH
Christian D. Ryll
CE-10380
6/8/2018
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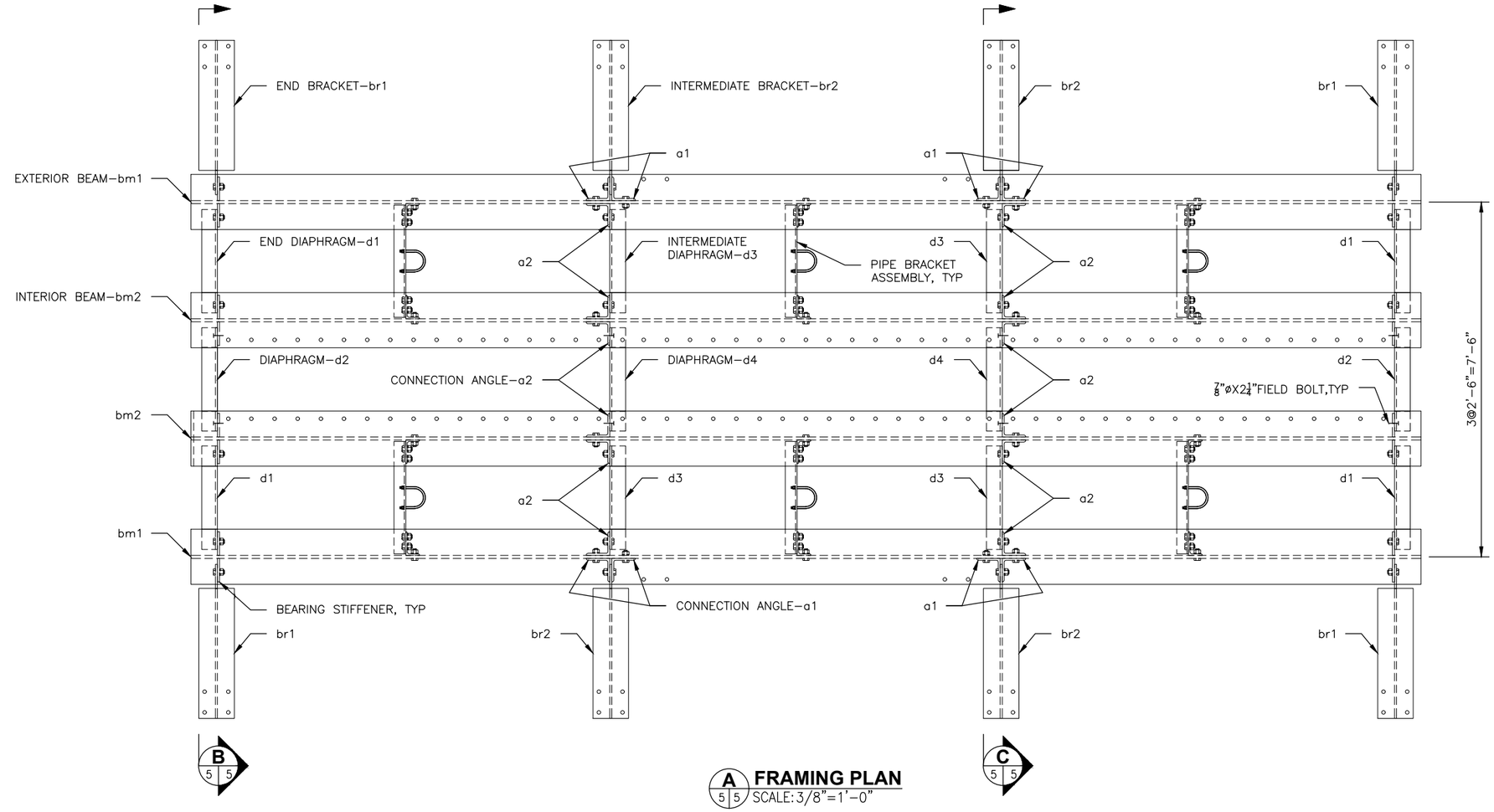
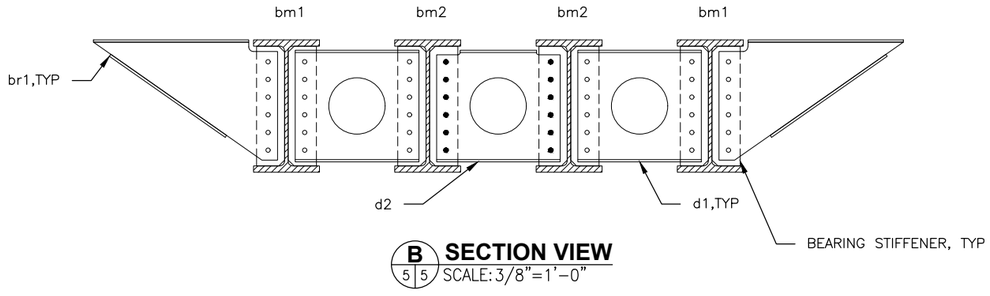
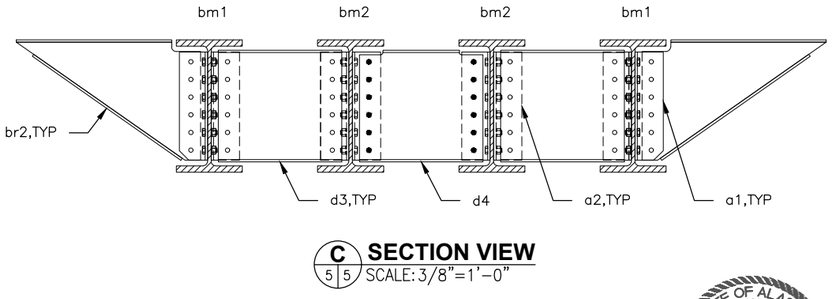


A 5 5 FRAMING PLAN
SCALE: 3/8"=1'–0"

NOTE:
1. INCLUDE (110) 7/8"øX2 1/4" FIELD BOLTS W/N&W, UNCOATED.



B 5 5 SECTION VIEW
SCALE: 3/8"=1'–0"



C 5 5 SECTION VIEW
SCALE: 3/8"=1'–0"

NOTE:
ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.
ALL QUANTITIES ARE PER SPAN. 4 SPANS REQ'D

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FRAMING PLAN

STATE OF ALASKA 49TH
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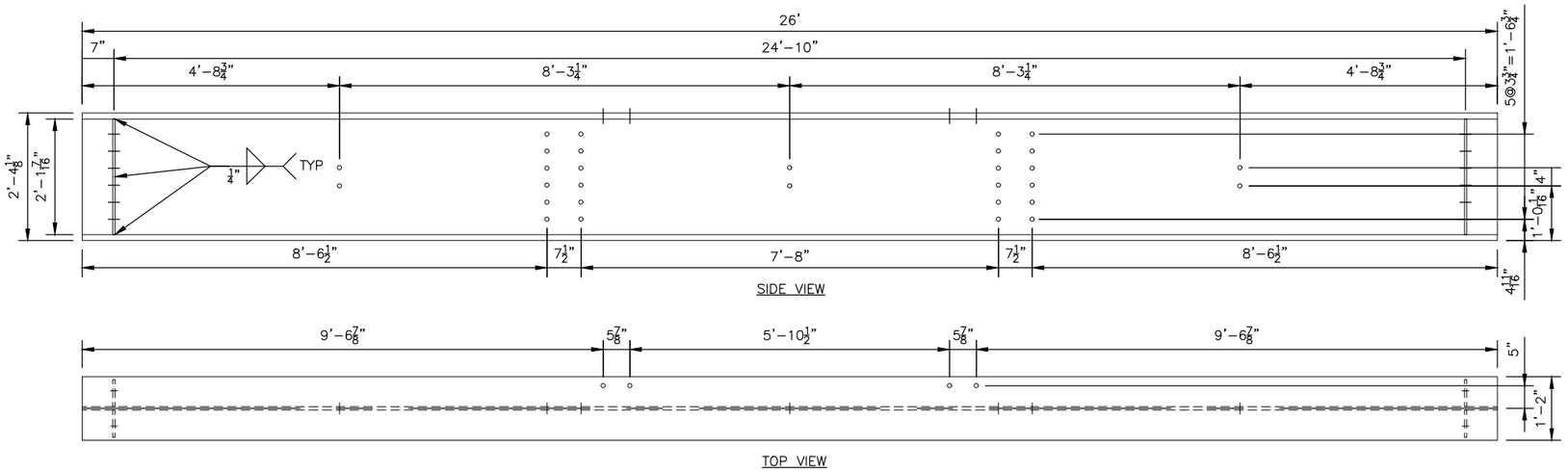
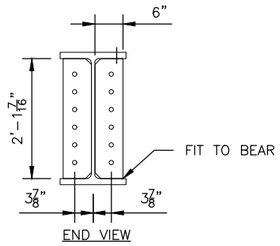
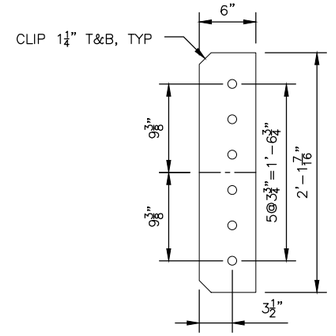


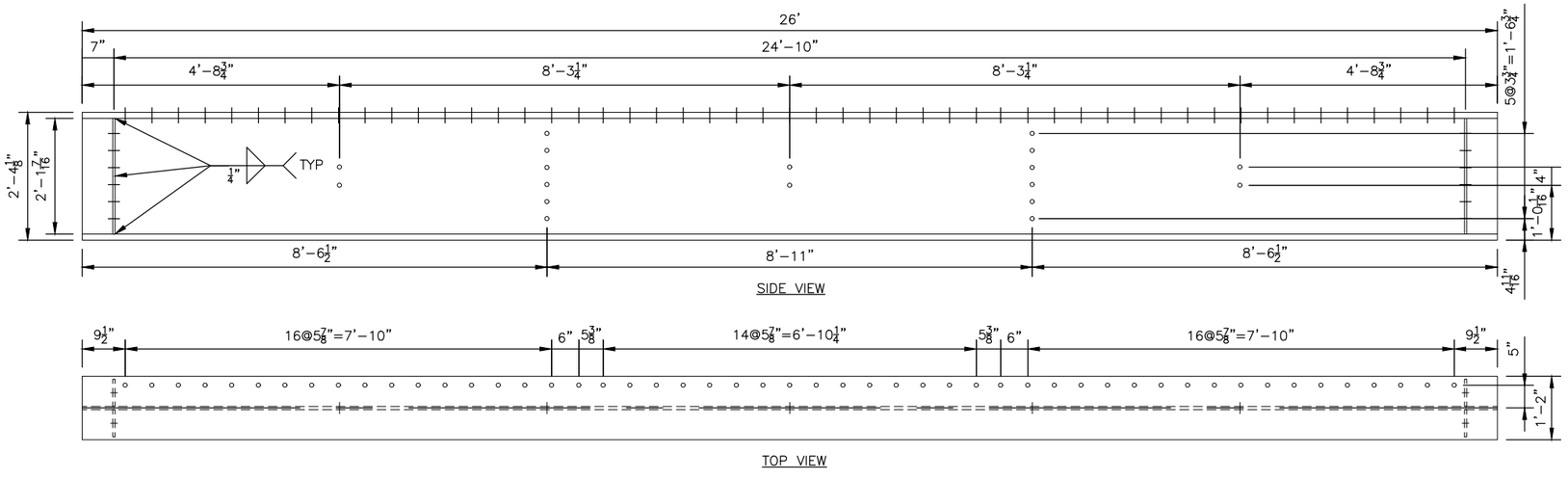
(2) EXTERIOR BEAMS - bm1
W27X194X26'-0"
A (5|6) SCALE: 3/8"=1'-0"

NOTE: ESTIMATED WEIGHT=5130 LBS/EA



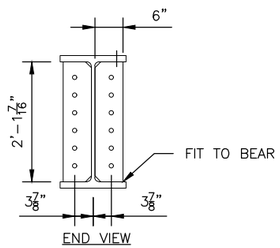


BEAM BEARING STIFFENER
PL - 6"X1/2"X2'-1 7/16"
C (5|6) SCALE: 3/4"=1'-0"



(2) INTERIOR BEAMS - bm2
W27X194X26'-0"
B (5|6) SCALE: 3/8"=1'-0"

NOTE: ESTIMATED WEIGHT=5130 LBS/EA



NOTE:
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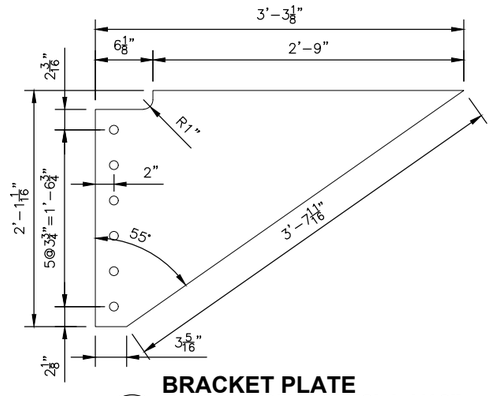
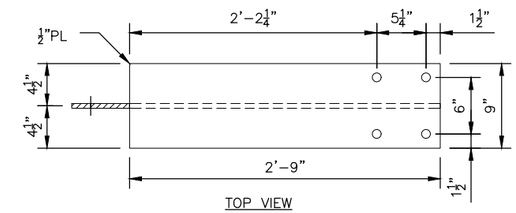
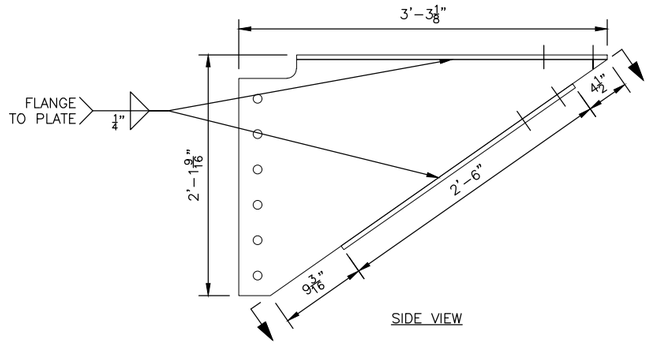


A BRACKET PLATE PL-3'-3 1/8"X1/2"X2'-1 1/16"

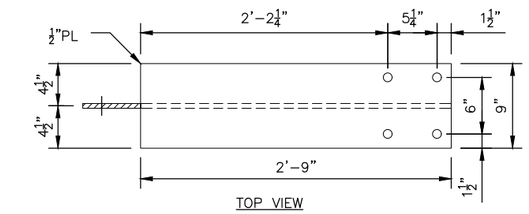
7 | 7 SCALE: 3/4"=1'-0"



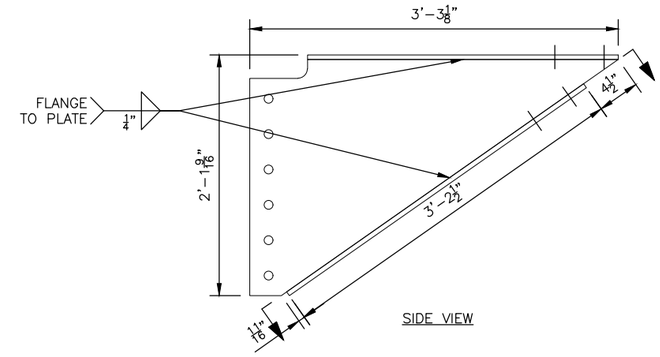
TOP VIEW



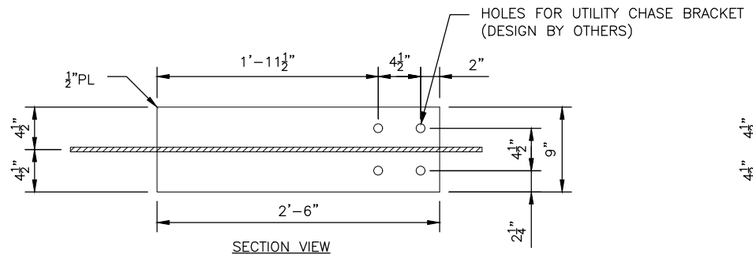
SIDE VIEW



TOP VIEW



SIDE VIEW

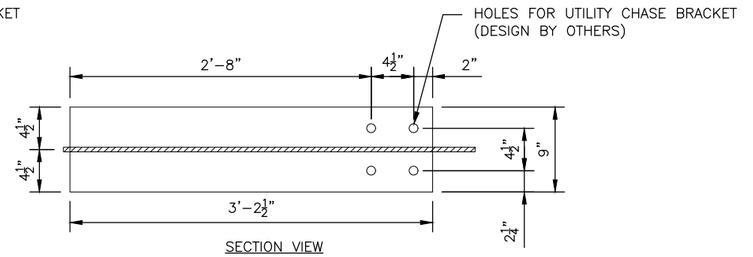


SECTION VIEW

B (4) END BRACKET- br1

5 | 7 SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=153 LBS/EA



SECTION VIEW

C (4) INT. BRACKET- br2

5 | 7 SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=164 LBS/EA

NOTE:
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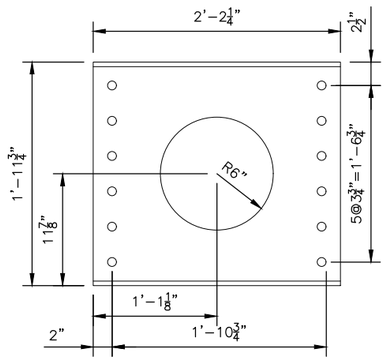
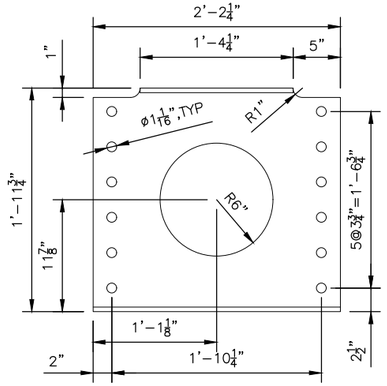


(4) END DIAPHRAGM - d1
PL- 2'-2 1/4"X1/2"X2'-5 5/8"

A (5/8) SCALE: 3/4"=1'–0"

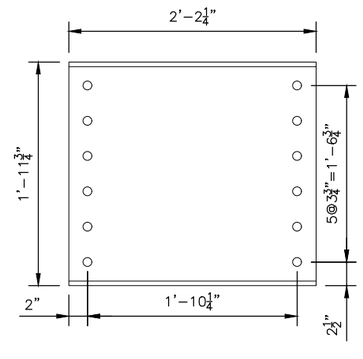
NOTE: ESTIMATED WEIGHT=94 LBS/EA



(2) END DIAPHRAGM - d2
PL- 2'-2 1/4"X1/2"X2'-5 5/8"

B (5/8) SCALE: 3/4"=1'–0"

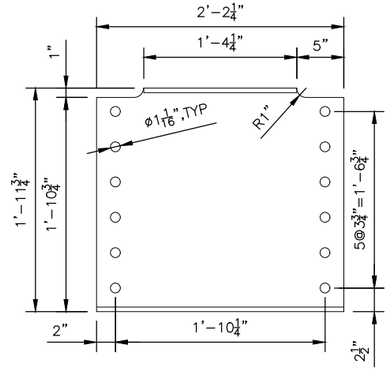
NOTE: ESTIMATED WEIGHT=89 LBS/EA



(4) INT. DIAPHRAGM - d3
PL- 2'-2 1/4"X1/2"X2'-5 5/8"

C (5/8) SCALE: 3/4"=1'–0"

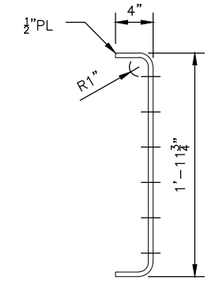
NOTE: ESTIMATED WEIGHT=110 LBS/EA



(2) INT. DIAPHRAGM - d4
PL- 2'-2 1/4"X1/2"X2'-5 5/8"

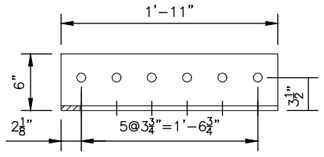
D (5/8) SCALE: 3/4"=1'–0"

NOTE: ESTIMATED WEIGHT=105 LBS/EA



DIAPHRAGM TYPICAL SECTION

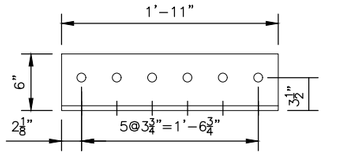
E (8/8) SCALE: 3/4"=1'–0"



(8) CONN. ANGLE-a1
L - 6"X6"X1/2"X1'-11"

F (5/8) SCALE: 3/4"=1'–0"

NOTE: ESTIMATED WEIGHT=37 LBS/EA



(12) CONN. ANGLE-a2
L - 6"X6"X1/2"X1'-11"

G (5/8) SCALE: 3/4"=1'–0"

NOTE: ESTIMATED WEIGHT=37 LBS/EA

NOTE:
ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.
ALL QUANTITIES ARE PER SPAN. 4 SPANS REQ'D

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510–7500

PROJECT :

26' BALLAST DECK APPROACH SPAN

TITLE:

DIAPHRAGM AND CONN. ANGLES

STATE OF ALASKA 49TH
Christian D. Ryll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	DJS	SCALE : AS NOTED	AFE NO.:
DRAWN BY:	DJS		ACAD FILE:
CHECKED BY:	CDR	DATE : 6/8/2018	DWG NO. 8 OF 13
APPROVED BY:	CDR		

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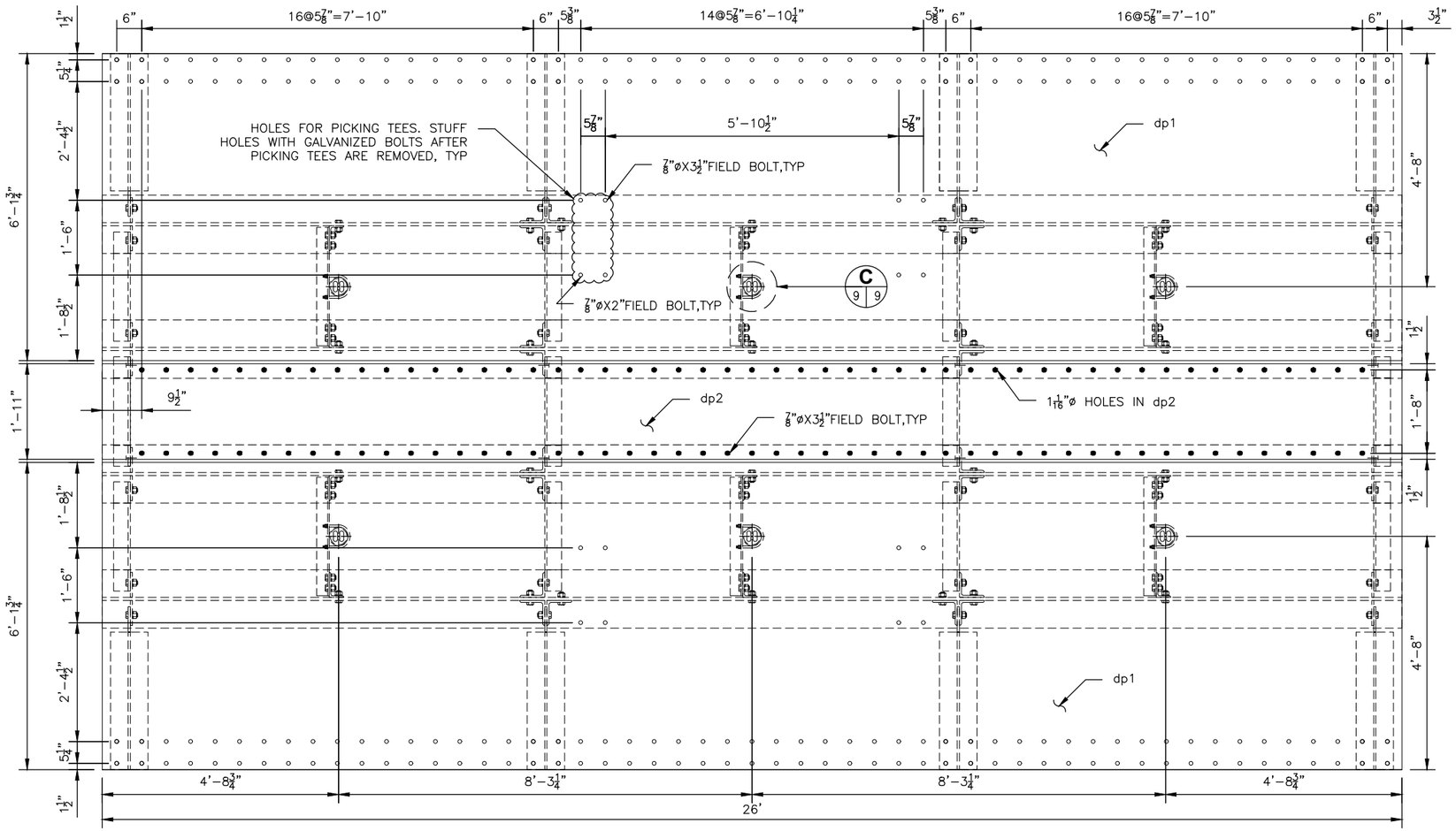
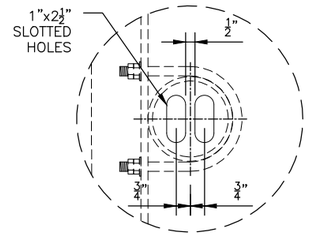
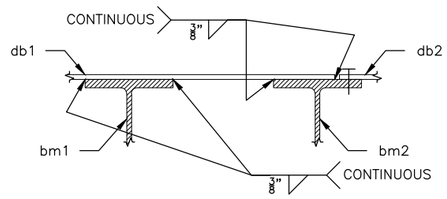




C 9 9 DRAIN HOLE DETAIL
SCALE: 1 1/2"=1'-0"



D 9 9 DECK PLATE TO BEAM CONNECTION DETAIL
SCALE: 1/2"=1'-0"

A 3 9 (2) DECK PLATE - dp1
PL - 6'-1 3/4"X3/4"X26'-0"
SCALE: 3/8"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=4900 LBS/EA.
2. DECK PLATES SHALL BE GALVANIZED.
3. INCLUDE (10) 7/8"øX2"FIELD BOLTS W/N&W,GALVANIZED.
4. INCLUDE (10) 7/8"øX3 1/2"FIELD BOLTS W/N&W,GALVANIZED.

B 3 9 (1) DECK PLATE - dp2
PL - 1'-11"X3/4"X26'-0"
SCALE: 3/8"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=1528 LBS/EA.
2. DECK PLATE SHALL BE GALVANIZED.
3. INCLUDE (120) 7/8"øX3 1/2"FIELD BOLTS W/N&W,GALVANIZED.

NOTE:
ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.
ALL QUANTITIES ARE PER SPAN. 4 SPANS REQ'D

STATE OF ALASKA
49TH
Christian D. Ayll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
26' BALLAST DECK APPROACH SPAN

TITLE:
DECK PLATE DETAILS

DESIGNED BY:	DJS	SCALE :	AS NOTED	AFE NO.:	
DRAWN BY:	DJS			ACAD FILE:	
CHECKED BY:	CDR	DATE :	6/8/2018	DWG NO.	9 OF 13
APPROVED BY:	CDR				

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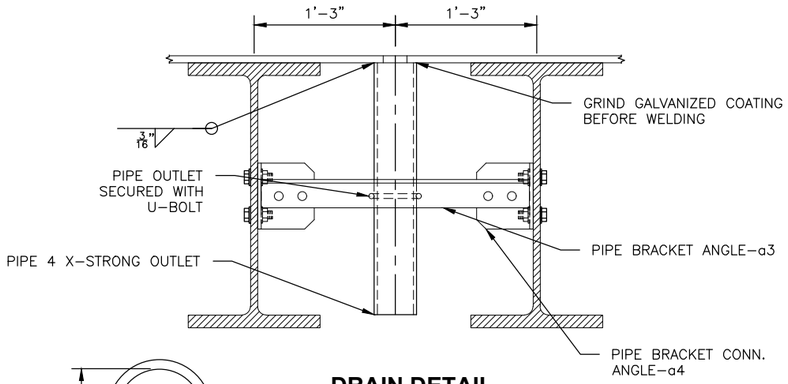
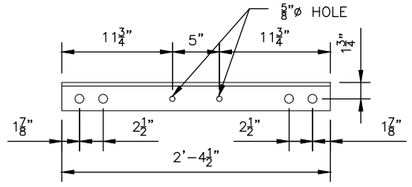
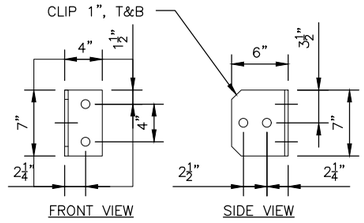
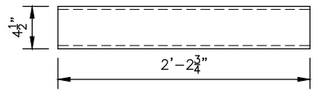




(6) PIPE BRACKET ANGLE - a3
L - 3"X3"X3/8"X2'-4 1/2"
B 5|10 SCALE: 3/4"=1'-0"

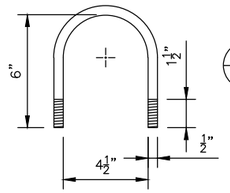


(12) PIPE BRACKET CONN. ANGLE - a4
L - 6"X4"X3/8"X0'-7"
C 5|10 SCALE: 3/4"=1'-0"



(6) PIPE OUTLET
PIPE 4 X-STRONG X 2'-2 3/4"
D 10|10 SCALE: 3/4"=1'-0"

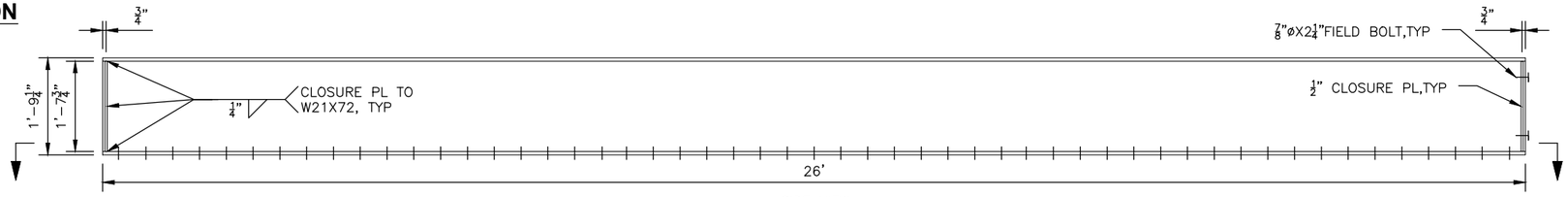
NOTE: PIPE TO BE GALVANIZED



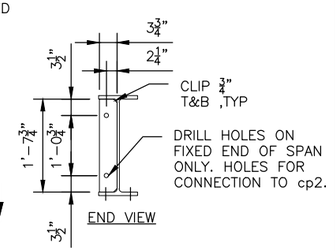
DRAIN DETAIL
CROSS SECTION
A 10|10 SCALE: 3/4"=1'-0"

(6) U BOLTS
4 1/2"X1/2"X6"
E 10|10 SCALE: 1 1/2"=1'-0"

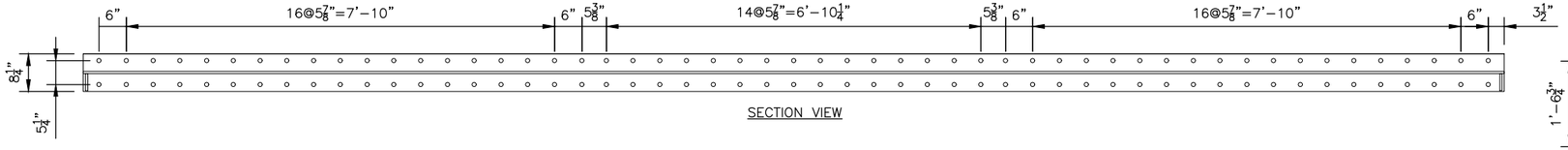
NOTE: BOLT TO BE GALVANIZED



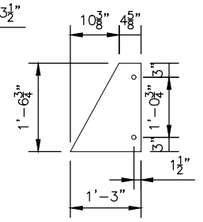
SIDE VIEW



END VIEW

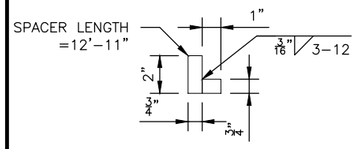


SECTION VIEW



(2) CLOSURE PLATE - cp2
PL - 1'-3"X1/2"X1'-6 3/4"
G 3|10 SCALE: 3/8"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=26 LBS/EA.
2. CLOSURE PLATE SHALL BE GALVANIZED.
3. INCLUDE (6) 7/8"øX2 1/4"FIELD BOLTS W/N&W,GALVANIZED.

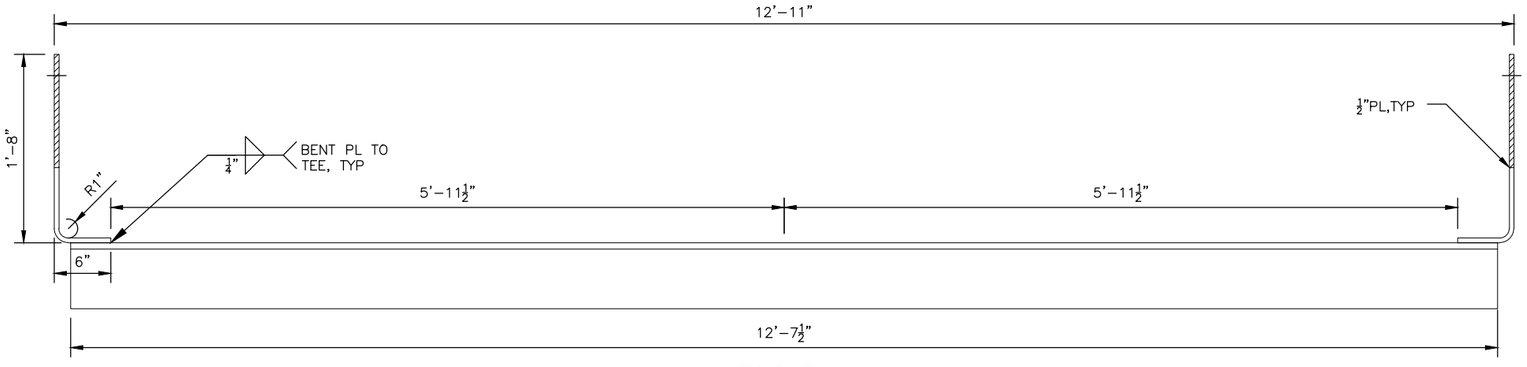


(1) SPACER BAR
H 3|10 SCALE: 1 1/2"=1'-0"

NOTE: BAR TO BE GALVANIZED

(2) BALLAST RETAINERS
W21X73X26'-0"
F 3|10 SCALE: 3/8"=1'-0"

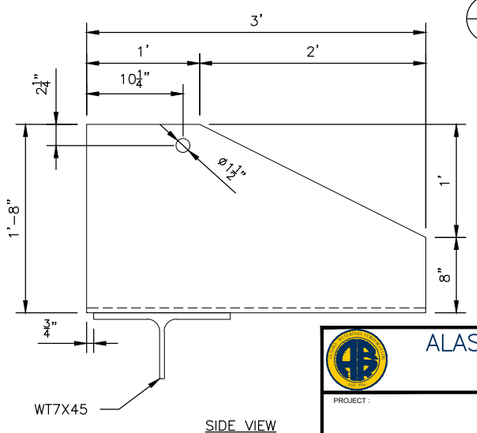
NOTE:
1. ESTIMATED WEIGHT=1919 LBS/EA.
2. BALLAST RETAINERS SHALL BE GALVANIZED.
3. MAKE 1 AS SHOWN, MAKE 1 OPPOSITE.



FRONT VIEW

(1) CLOSURE TEE ASSEMBLY
I 3|10 SCALE: 3/4"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=680 LBS/EA.
2. CLOSURE TEE SHALL BE GALVANIZED.



SIDE VIEW

NOTE:
ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.
ALL QUANTITIES ARE PER SPAN. 4 SPANS REQ'D

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT :
26' BALLAST DECK APPROACH SPAN

TITLE:
DRAIN BRACKET, BALLAST RETAINER. CLOSURE TEE AND PLATE

DESIGNED BY:	DJS	SCALE : AS NOTED	AFE NO.:
DRAWN BY:	DJS		ACAD FILE:
CHECKED BY:	CDR	DATE : 6/8/2018	DWG NO. 10 OF 13
APPROVED BY:	CDR		

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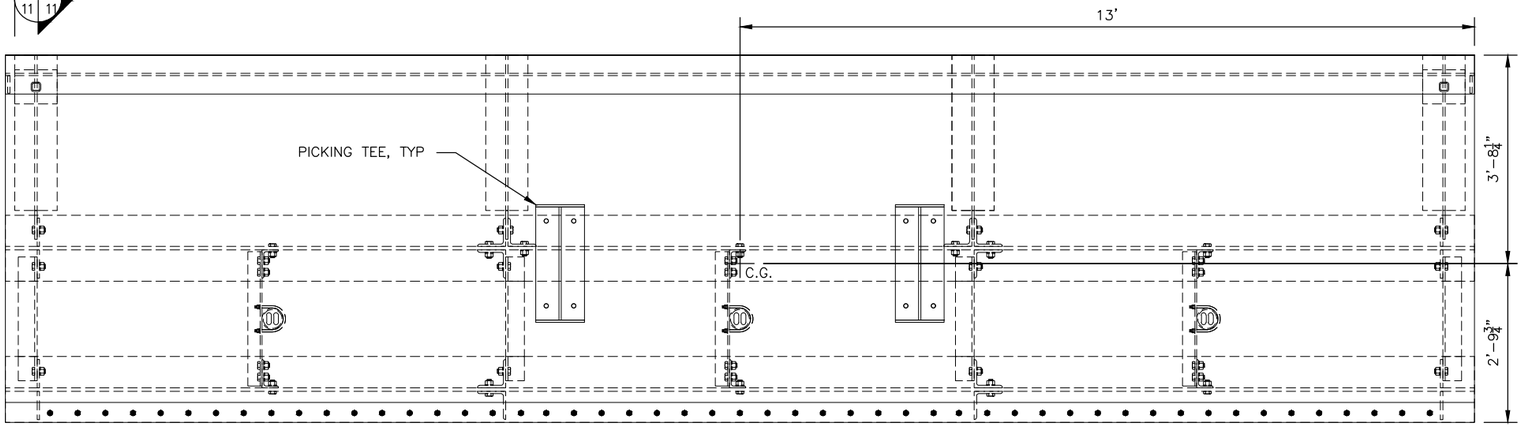
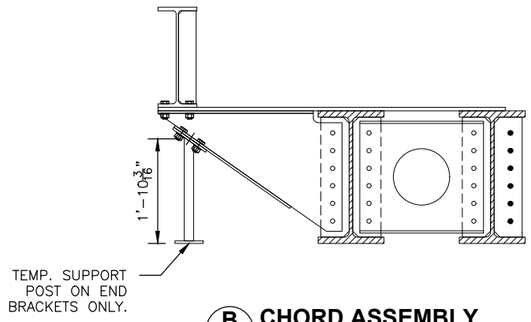
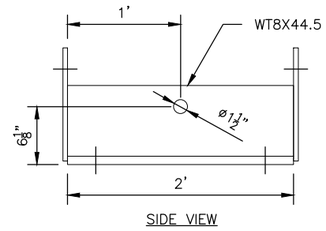


A CHORD ASSEMBLY
SCALE: 3/8"=1'-0"

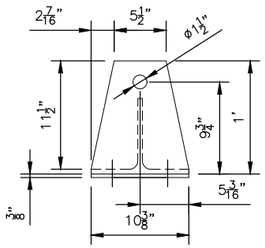
NOTE:
1. CHORD 1 SHOWN, CHORD 2 TO BE SIMILAR
2. ESTIMATED WEIGHT=18250 LBS/EA.
3. CHORDS SHALL BE SHOP ASSEMBLED AND SHIPPED AS SHOWN.
4. USE A MINIMUM OF 10FT. LONG LIFTING STRAP ON PICKING TEES.



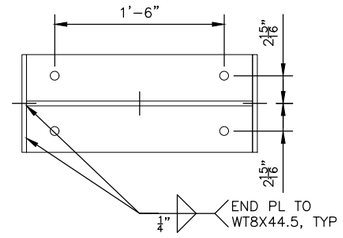
B CHORD ASSEMBLY
SCALE: 3/8"=1'-0"



SIDE VIEW



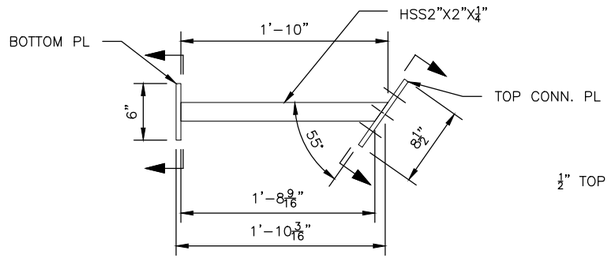
END VIEW



TOP VIEW

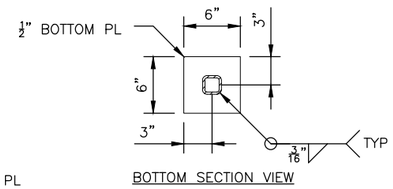
D (4) PICKING TEES
SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=123 LBS/EA

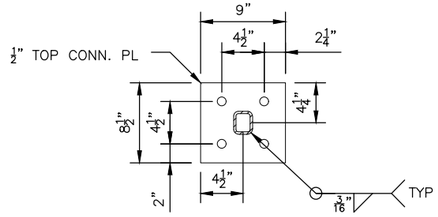


C (4) TEMP. SUPPORT POST
SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=26 LBS/EA



BOTTOM SECTION VIEW



TOP SECTION VIEW

NOTE:
ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.
ALL QUANTITIES ARE PER SPAN. 4 SPANS REQ'D

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT :

26' BALLAST DECK APPROACH SPAN

TITLE:

CHORD ASSEMBLY & PICKING TEE

STATE OF ALASKA 49TH
Christian D. Kyll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY:	DJS	SCALE : AS NOTED	AFE NO.:
DRAWN BY:	DJS		ACAD FILE:
CHECKED BY:	CDR	DATE : 6/8/2018	DWG NO. 11 OF 13
APPROVED BY:	CDR		

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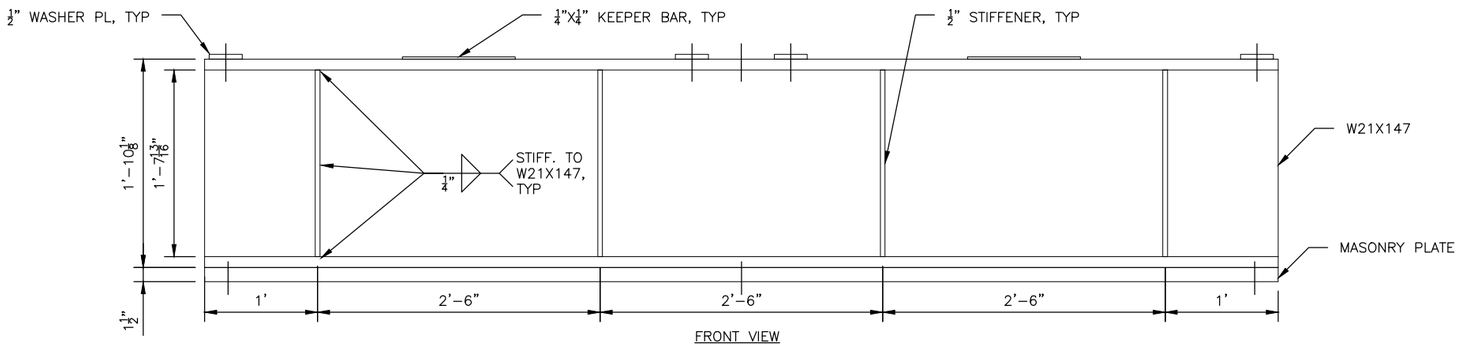
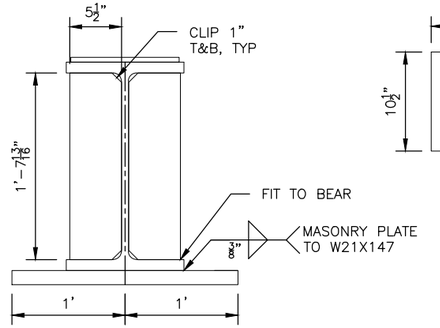
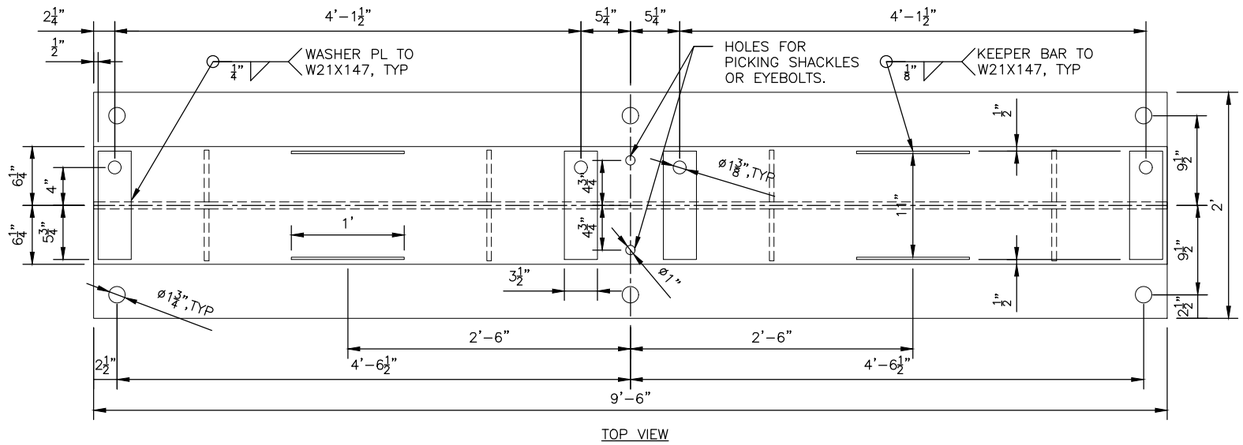


FRONT VIEW



SIDE VIEW

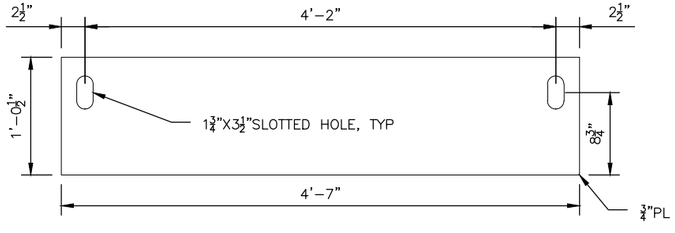


TOP VIEW

(A) (4) BOLSTER ASSEMBLY

3 | 12 SCALE: 3/4"=1'-0"

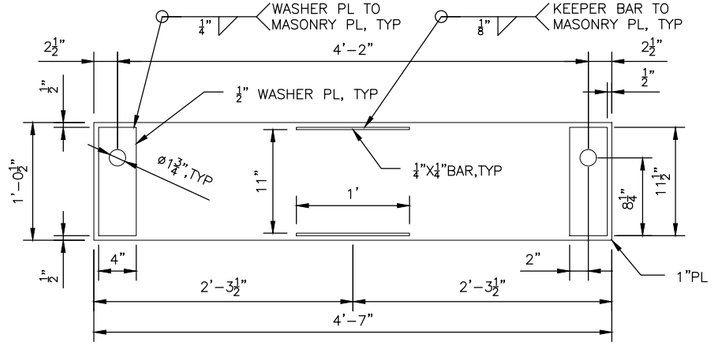
NOTE:
1. ESTIMATED WEIGHT=2704 LBS/EA
2. BOLSTERS SHALL BE GALVANIZED.
3. INCLUDE (24) 1 3/8"øX22" ANCHOR RODS W/N&W, GALVANIZED.
4. INCLUDE (20) 1 1/4"øX4 1/2" ANCHOR BOLTS W/N&W, UNCOATED.



(B) (6) SOLE PLATE - sp1
PL - 1'-1/2"X3/4"X4'-7"

3 | 12 SCALE: 3/4"=1'-0"

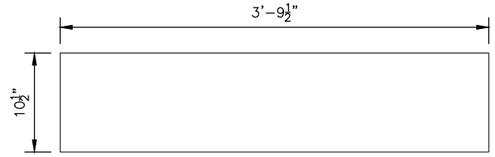
NOTE: ESTIMATED WEIGHT=146 LBS/EA.



(C) (2) MASONRY PLATE - mp1
PL - 1'-1/2"X1"X4'-7"

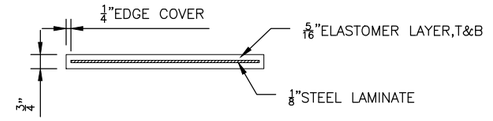
3 | 12 SCALE: 3/4"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=206 LBS/EA.
2. MASONRY PLATE SHALL BE GALVANIZED.
3. INCLUDE (4) 1 3/8"øX22" ANCHOR RODS W/N&W, GALVANIZED.



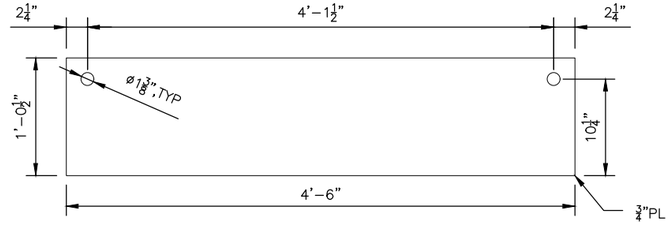
(D) (16) ELASTOMERIC PAD
10 1/2"X3/4"X3'-9 1/2"

3 | 12 SCALE: 3/4"=1'-0"



(E) ELASTOMERIC PAD CROSS SECTION

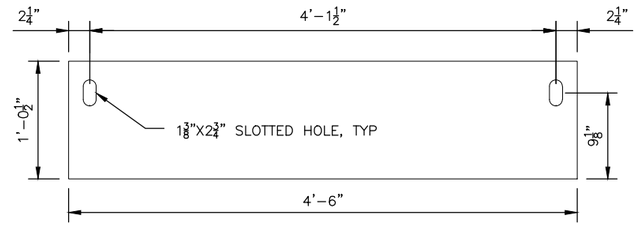
12 | 12 SCALE: 3/4"=1'-0"



(F) (8) SOLE PLATE - sp2
PL - 1'-1/2"X3/4"X4'-6"

3 | 12 SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=144 LBS/EA.



(G) (2) SOLE PLATE - sp3
PL - 1'-1/2"X3/4"X4'-6"

4 | 12 SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=144 LBS/EA.

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT :

26' BALLAST DECK APPROACH SPAN

TITLE:

BOLSTER, SOLE PLATE, MASONRY PLATE, ELASTOMERIC PAD

STATE OF ALASKA 49TH
Christian D. Ayll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

DESIGNED BY: DJS	SCALE : AS NOTED	AFE NO.:	
DRAWN BY: DJS		ACAD FILE:	
CHECKED BY: CDR	DATE : 6/8/2018	DWG NO. 12 OF 13	
APPROVED BY: CDR			

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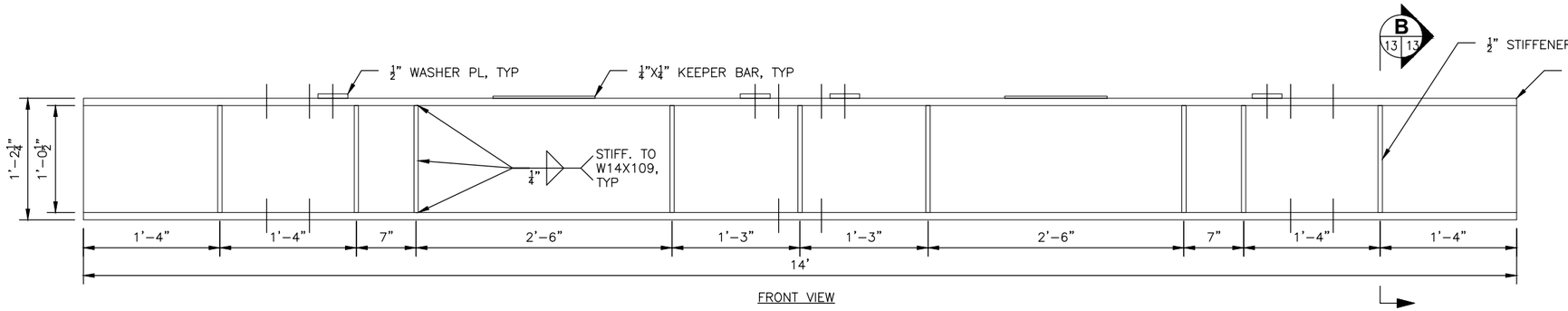
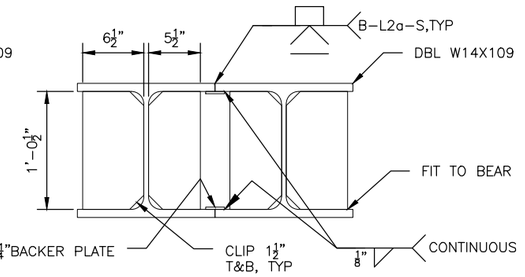
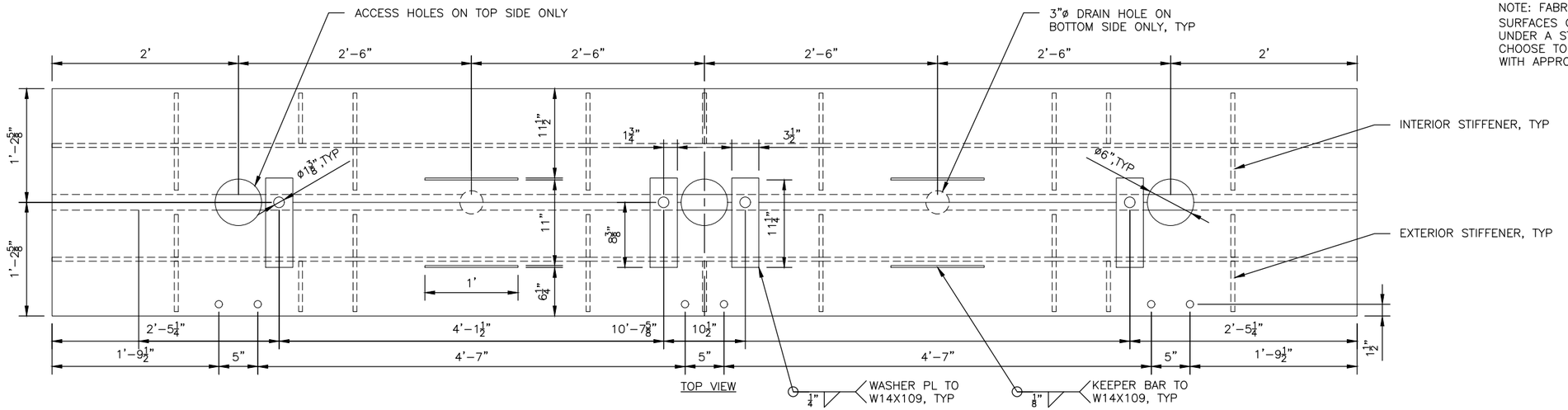




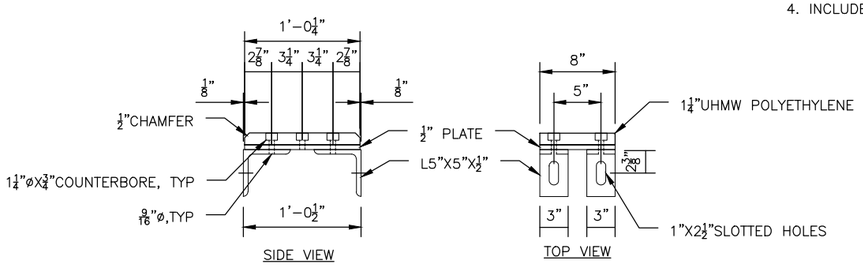
B 13 13 ABUTMENT CAP SECTION
SCALE: 3/4"=1'-0"

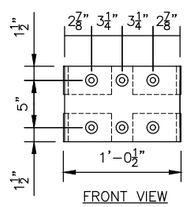
NOTE: FABRICATOR TO ENSURE BOTH TOP AND BOTTOM BEARING SURFACES OF CAP ARE FLAT WITH A GAP NO GREATER THAN ⅛" UNDER A STRAIGHT EDGE AT THE WELD SEAM. FABRICATOR MAY CHOOSE TO ADD ANTI-DISTORTION TUBING BETWEEN BACKER PLATES WITH APPROVAL OF ENGINEER.



A 4 13 (1) ABUTMENT CAP
SCALE: 3/4"=1'-0"

NOTE:
1. ESTIMATED WEIGHT=3350 LBS.
2. ABUTMENT CAP SHALL BE GALVANIZED.
3. ATTACH BULKHEAD FENDERS IN THE SHOP FOR SHIPPING.
4. INCLUDE (6) 1¼"øx4½" ANCHOR BOLTS W/N&W, UNCOATED.





C 4 13 (3) BULKHEAD FENDERS
SCALE: 3/4"=1'-0"

NOTE: ESTIMATED WEIGHT=30 LBS/EA

NOTE:
1. INCLUDE (3) 24"øX30'-0" PIPE PILE WITH ½" WALL THICKNESS, GALVANIZED.
2. PIPE SHALL BE BEVELED ON BOTH ENDS.
3. ESTIMATED WEIGHT=3750 LBS/EA

NOTE: ALL HOLES SHALL BE 15/16"ø UNLESS NOTED.

STATE OF ALASKA
49TH
Christian D. Ayll
CE-10380
6/8/2018
REGISTERED PROFESSIONAL ENGINEER

ALASKA RAILROAD CORPORATION
ENGINEERING SERVICES
P.O. BOX 107500, ANCHORAGE, ALASKA 99510-7500

PROJECT:
26' BALLAST DECK APPROACH SPAN

TITLE:
ABUTMENT CAP, BULKHEAD FENDERS, PIPE PILE

DESIGNED BY:	DJS	SCALE : AS NOTED	AFE NO.:
DRAWN BY:	DJS		ACAD FILE:
CHECKED BY:	CDR	DATE : 6/8/2018	DWG NO. 13 OF 13
APPROVED BY:	CDR		

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