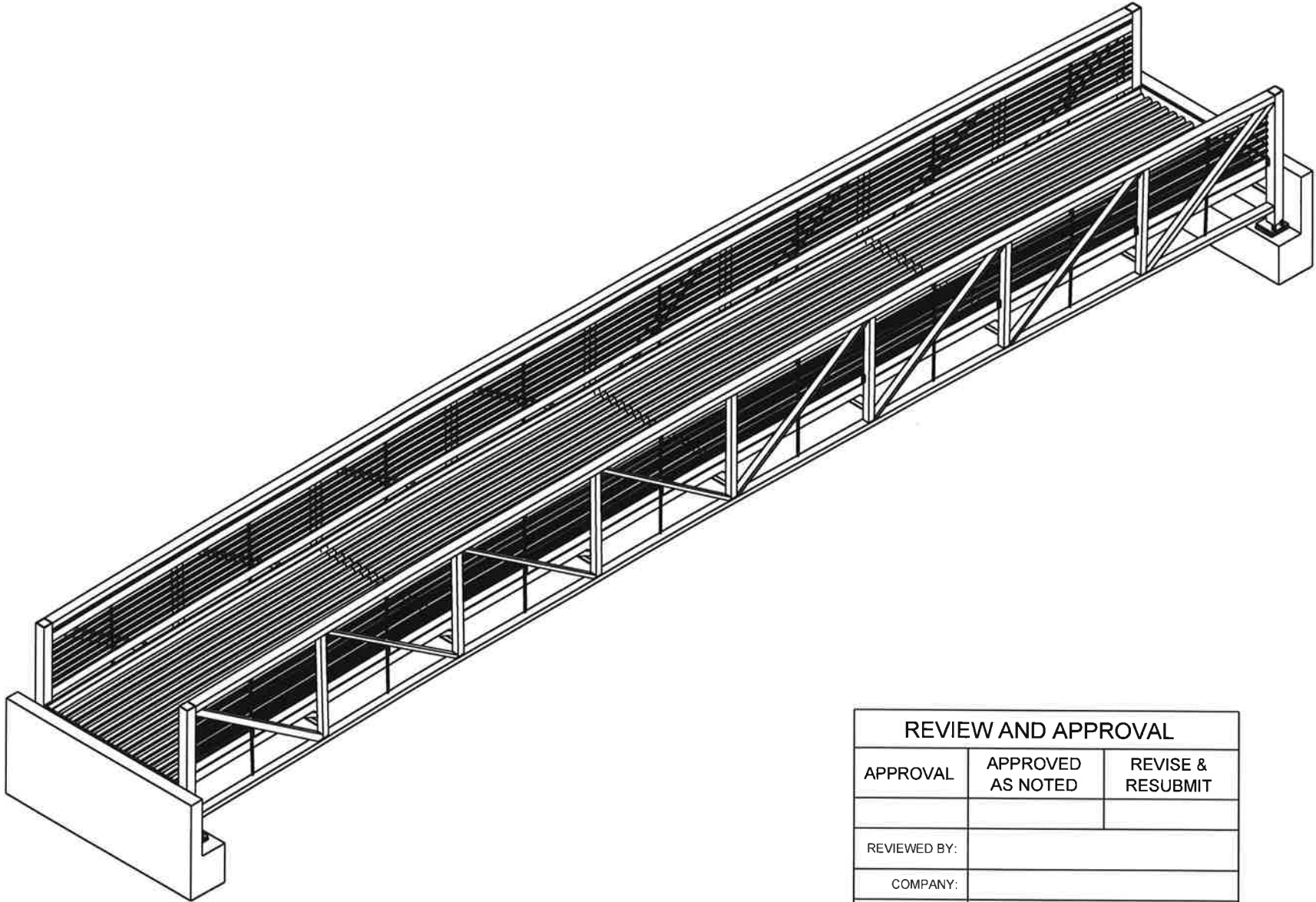


65'-0" X 8'-0"
FLAT BRANCH PEDESTRIAN BRIDGE
COLUMBIA, MO



REVIEW AND APPROVAL		
APPROVAL	APPROVED AS NOTED	REVISE & RESUBMIT
REVIEWED BY:		
COMPANY:		
DATE:		
PLEASE CHECK ONE BOX AND ADD COMMENTS AS NEEDED ON APPROPRIATE SHEETS		



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CONTECH
CONTRACT
DRAWING

65'-0" X 8'-0"
FLAT BRANCH PEDESTRIAN BRIDGE
PEDESTRIAN TRUSS - CONNECTOR
COLUMBIA, MO

PROJECT No.: 800024	SEQ. No.: 020	DATE: 10-31-24
DESIGNED: TMP	DRAWN: TLR	
CHECKED: TMP	APPROVED: SEC	
SHEET NO.: 1	OF 7	

GENERAL NOTES

1. DESIGN PROCEDURE IS IN ACCORDANCE WITH "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES", 2009 (INCLUDING 2015 INTERIM REVISIONS) & "LRFD BRIDGE DESIGN SPECIFICATIONS", 2020 (9TH EDITION) BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).
2. MATERIALS (UNLESS NOTED OTHERWISE):

a. STRUCTURAL STEEL:

i. HSS SECTIONS: ASTM A500 GRADE C OR A847

ii. SHAPES: ASTM A992 OR A588

iii. PLATES: ASTM A572 GRADE 50, A588

iv. ROLL FORM: A606 WEATHERING STEEL

b. RUB RAIL/TOE RAIL: NATURALLY DURABLE IPE (TABEBUIA SPP LAPACHO GROUP), FEQ GRADE.

c. FORM DECK: GALVANIZED (G90 MIN.) GAUGE INDICATED IN SCHEDULE OF MEMBERS IS THE MINIMUM REQUIRED.
3. BRIDGE DESIGN IS BASED ON LOAD COMBINATIONS IN ACCORDANCE WITH AASHTO OF THE FOLLOWING LOADS

a. BRIDGE DEAD LOAD.

b. UNIFORM PEDESTRIAN LIVE LOAD OF 90 PSF.

c. VEHICLE LIVE LOAD: H5 TRUCK (10,000 LBS).

d. WIND LOADING PER LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST EDITION, 2015 SECTION 3.8.

i. DESIGN WIND SPEED: 115 MPH

ii. SERVICE WIND SPEED: 76 MPH

iii. EXPOSURE CATEGORY: C

e. SEISMIC LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10. TRANSVERSE LOADS CALCULATED USING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 IS USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE AND A RESPONSE MODIFICATION FACTOR OF 1.0 IS USED FOR THE CALCULATION OF BEARING REACTIONS. IT SHALL BE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO DETERMINE THE FORCES USED FOR THE FOUNDATION DESIGN. SEISMIC PARAMETERS USED ARE AS FOLLOWS:

i. SITE CLASS = D

ii. PGA = 0.050

iii. S_s = 0.121

iv. S₁ = 0.052

v. PERIOD OF BRIDGE = T_m = 0.139 SEC
4. BRIDGE TO BE BUILT TO THE REQUIREMENTS OF AWS D1.1.
5. ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.
6. CLEANING: ALL SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 6 COMMERCIAL BLAST CLEANING. SSPC-SP6-LATEST EDITION.
7. PAINTING: SHERWMN WILLIAMS 2 COAT PAINT SYSTEM:

a. ONE PRIMER COAT MACROPOXY 646 FAST CURE EPOXY 5-10 MILS DFT. (CLASS A FAYING SURFACE).

b. ONE TOP COAT ACROLON 218 HS ACRYLIC POLYURETHANE SEMI-GLOSS 3-6 MILS DFT. COLOR TO BE DETERMINED BY OWNER.

c. BRIDGE SHALL BE PROVIDED WITH TOUCH-UP PAINT FOR AFTER ERECTION. TOUCH-UP PAINTING INCLUDES ANY AND ALL PAINTING REQUIRED AFTER THE STRUCTURE REACHES THE SITE AND IS THE RESPONSIBILITY OF THE ERECTOR. THIS PAINTING SHALL INCLUDE, BUT MAY NOT BE LIMITED TO THE FOLLOWING AREAS.

i. ANY AREAS DAMAGED DUE TO SHIPPING, HANDLING AND ERECTION OF THE BRIDGE.

ii. BOLT HEADS AND EXPOSED AREAS OF BOLTS AND NUTS AS APPLICABLE.

iii. IF APPLICABLE, SMALL AREAS (0"-2" EACH SIDE) AROUND BOLTED FIELD SPLICES, DESIGNED AS "SLIP CRITICAL" WHERE ONE OR ALL PAINT COATS MAY BE REQUIRED TO BE LEFT OFF THE FAYING SURFACES OF THESE CONNECTIONS.
8. MAINTENANCE NOTE: CONTECH ENGINEERED SOLUTIONS RECOMMENDS NOT APPLYING DEICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DEICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, CONTECH ENGINEERED SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION.
9. SHOP SPLICES:

a. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS.

b. ALL HORIZONTAL RAIL COMPONENT SPLICES TO BE LOCATED AT THE CENTERLINE OF VERTICALS, EACH END WELDED TO THE VERTICAL AND SEAL WELDED TOGETHER. SEAL WELDS TO BE GROUND SMOOTH AND VISUAL INSPECTION ONLY REQUIRED.

QUALITY ASSURANCE NOTES

1. ALL WELDS SHALL BE VISUALLY INSPECTED I.A.W. AWS SPECIFICATION BY AN AWS CERTIFIED WELDING INSPECTOR (CWI).

DECK & CONCRETE NOTES

1. FORM DECK SHALL SPAN A MINIMUM OF 2 SPANS AND SHALL BE TIGHT FITTING WITH A GAP NO LARGER THAN 1/4" IN ANY DIRECTION. FORM DECK WILL BE SHOP ATTACHED TO FLOOR BEAMS WITH #12-24 x 1 1/4" SELF-DRILLING FASTENERS WITH 1" O.D. WASHERS, 1" x 3/16" POWER ACTUATED FASTENERS, OR 5/8" PUDDLE WELDS. FORM DECK OVER SPlice LOCATIONS WILL BE SHIPPED LOOSE AND FIELD ATTACHED AS SPECIFIED FOR SHOP ATTACHMENTS.
2. CONTECH ENGINEERED SOLUTIONS IS RESPONSIBLE FOR THE STRUCTURAL DESIGN OF THE CONCRETE DECK. ALL ISSUES RELATED TO MATERIAL SUPPLY, TESTING AND INSTALLATION IS OUTSIDE OF CONTECH ENGINEERED SOLUTIONS' RESPONSIBILITY.
3. CONCRETE MIX DESIGN, MATERIALS, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE PROJECT CONTRACT DOCUMENTS. IF THESE ITEMS ARE NOT COVERED IN THE PROJECT CONTRACT DOCUMENTS THE REQUIREMENTS OF SECTION 552 OF FEDERAL HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14) SHALL BE USED. FP-14 CAN BE VIEWED OR DOWNLOADED AT: [HTTPS://HIGHWAYS.DOT.GOV/FEDERAL-LANDS/SPECS](https://highways.dot.gov/federal-lands/specs)
4. MINIMUM MATERIAL REQUIREMENTS:

a. CONCRETE:

i. f'c = 4,500 PSI

ii. AIR CONTENT OF 6% ± 1.5%

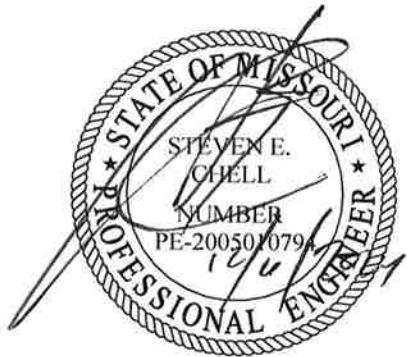
iii. UNIT WEIGHT OF 145 PCF MAX

b. REINFORCING STEEL:

i. ASTM A615 OR AASHTO M31 GRADE 60
5. THE USE OF EPOXY COATED REBAR, GALVANIZED REBAR, DECK SEALERS OR ANY OTHER FORM OF PROTECTION OF THE REBAR SHALL BE DONE AS NEEDED FOR LOCAL CONDITIONS OR AS REQUIRED PER THE PROJECT CONTRACT DOCUMENTS AND IS NOT THE RESPONSIBILITY OF CONTECH ENGINEERED SOLUTIONS.
6. THE CONTRACTOR MUST EXERCISE CARE TO CONTROL TRAFFIC AND STORAGE OF MATERIALS ON THE FORM DECK BEFORE CONCRETE IS PLACED.
7. LONGITUDINAL BARS MAY BE SPLICED IF REQUIRED. SPLICES SHALL BE STAGGERED EVERY OTHER LONGITUDINAL BAR. SPLICES SHALL BE LOCATED AT OR NEAR THE 1/3 POINT OF THE BAY SPANS FROM FLOOR BEAM TO FLOOR BEAM. REQUIRED SPlice LENGTHS ARE AS FOLLOWS:

BAR SIZE	HOOk LENGTH	SPLICE LENGTH
#4	8"	25"
#5	9"	31"
#6	10"	37"

8. THE USE OF GROOVED CONTROL JOINTS SHALL BE PUT IN PER THE PROJECT CONTRACT DOCUMENTS OR AT THE DISCRETION OF THE ENGINEER AND OWNER. IF CONTRACTION JOINTS ARE USED, THEY SHALL BE PLACED OVER THE CENTERLINE OF THE FLOOR BEAMS AS NEEDED.



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MAXIMUM
LOAD LIMIT

10,000 LB VEH. LOAD
90 PSF LIVE LOAD

JOB # 800024-020
DATE BUILT

CONTINENTAL
BRIDGE

CONNECTOR



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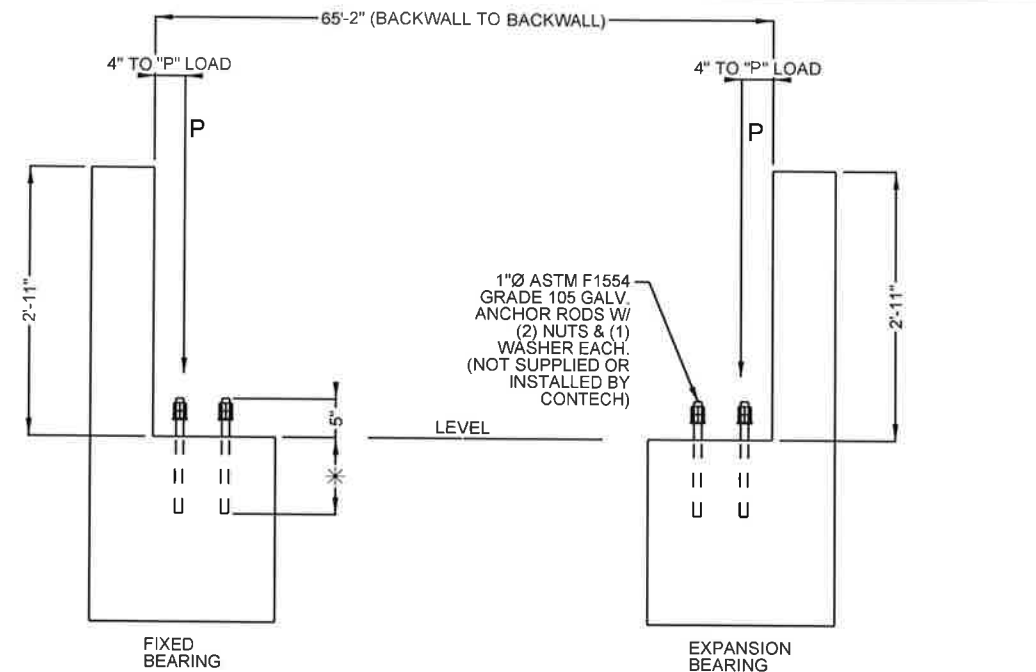
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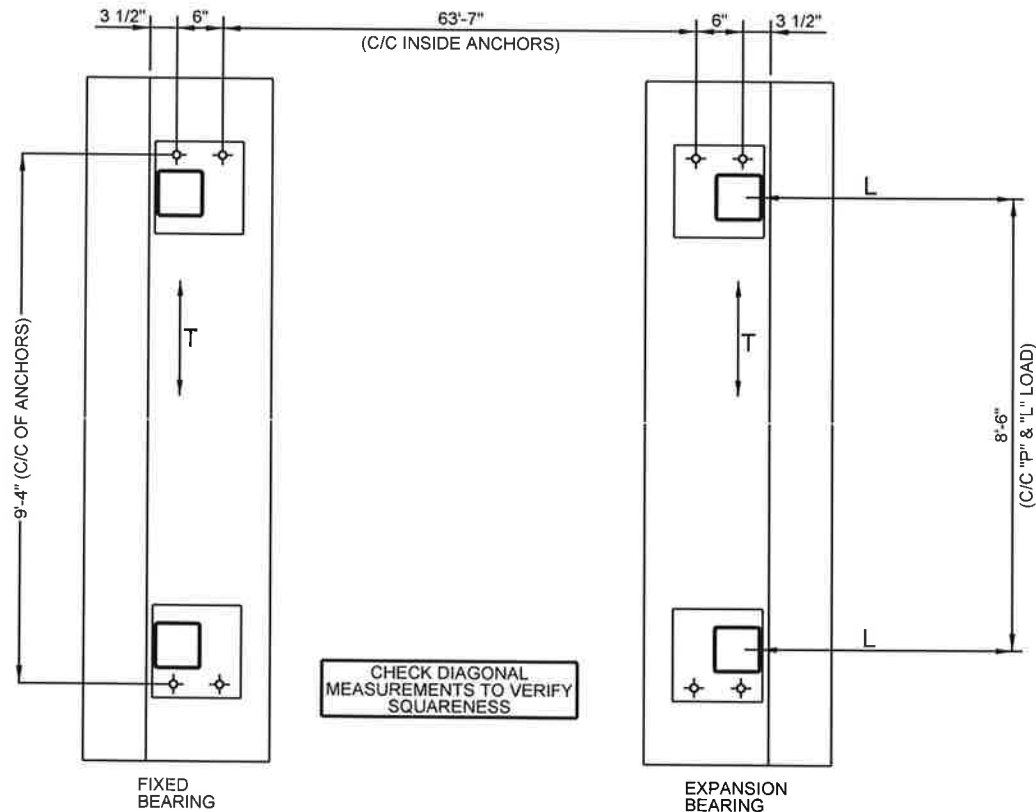
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ANCHOR BOLT ELEVATION



ANCHOR BOLT PLAN

COMBINE REACTIONS AS PER LOCAL OR GOVERNING BUILDING CODES AS REQUIRED

BRIDGE REACTIONS	+DOWNWARD LOAD -UPWARD LOAD			
	P (LBS)	T (LBS)	L _T (LBS)	L _S (LBS)
DEAD LOAD	10800			
UNIFORM LIVE LOAD	11700			
VEHICLE LOAD	5000			
WIND	+/-2700	7600		
WIND UPLIFT	-3600			
20PSF	-1300			
THERMAL			1700	
SEISMIC	+/-1600	4200		1800

"P" - VERTICAL LOAD EACH BEARING PLATE (4 PER BRIDGE)
"T" - TRANSVERSE LOAD EACH ABUTMENT (2 PER BRIDGE)
"L_T" - LONGITUDINAL THERMAL LOAD EACH BEARING PLATE (4 PER BRIDGE)
"L_S" - LONGITUDINAL SEISMIC LOAD EACH FIXED BEARING PLATE (2 PER BRIDGE)

* NOTE:
ANCHOR BOLTS ARE DESIGNED BY CONTECH FOR STEEL STRENGTH IN SHEAR AND TENSION OF THE ANCHOR BOLT ONLY. ALL DESIGN CONSIDERATIONS REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION, PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRYOUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE NOT CONSIDERED AND ARE NOT THE RESPONSIBILITY OF CONTECH. IF LARGER DIAMETER BOLTS ARE REQUIRED TO MEET ANY OF THESE REQUIREMENTS, THAT INFORMATION MUST BE PROVIDED TO CONTECH PRIOR TO BEGINNING ANY FABRICATION ON THE BRIDGE. IT SHALL BE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO DETERMINE THE SEISMIC CONNECTION FORCES IN ACCORDANCE WITH GENERAL NOTE 1.



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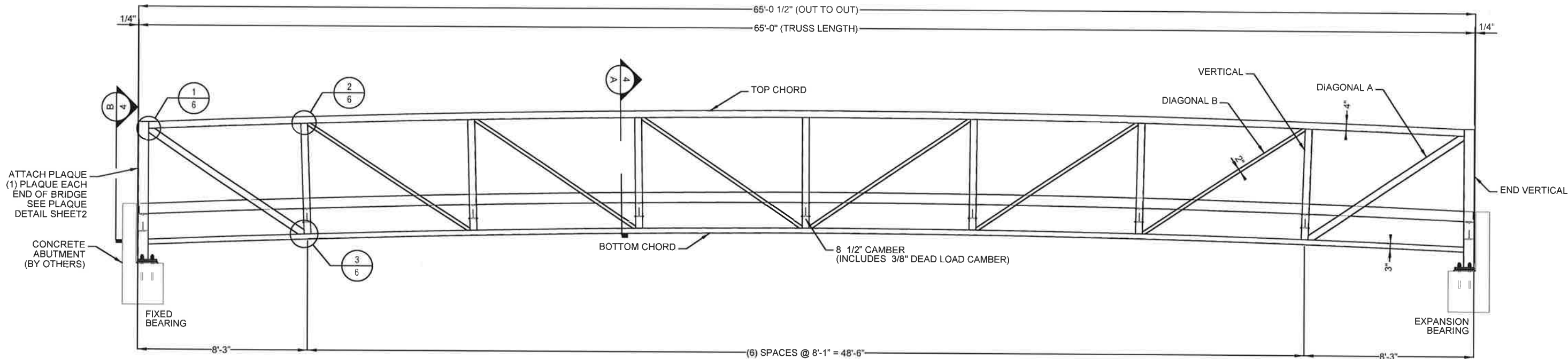
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BRIDGE
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PEDESTRIAN TRUSS - CONNECTOR
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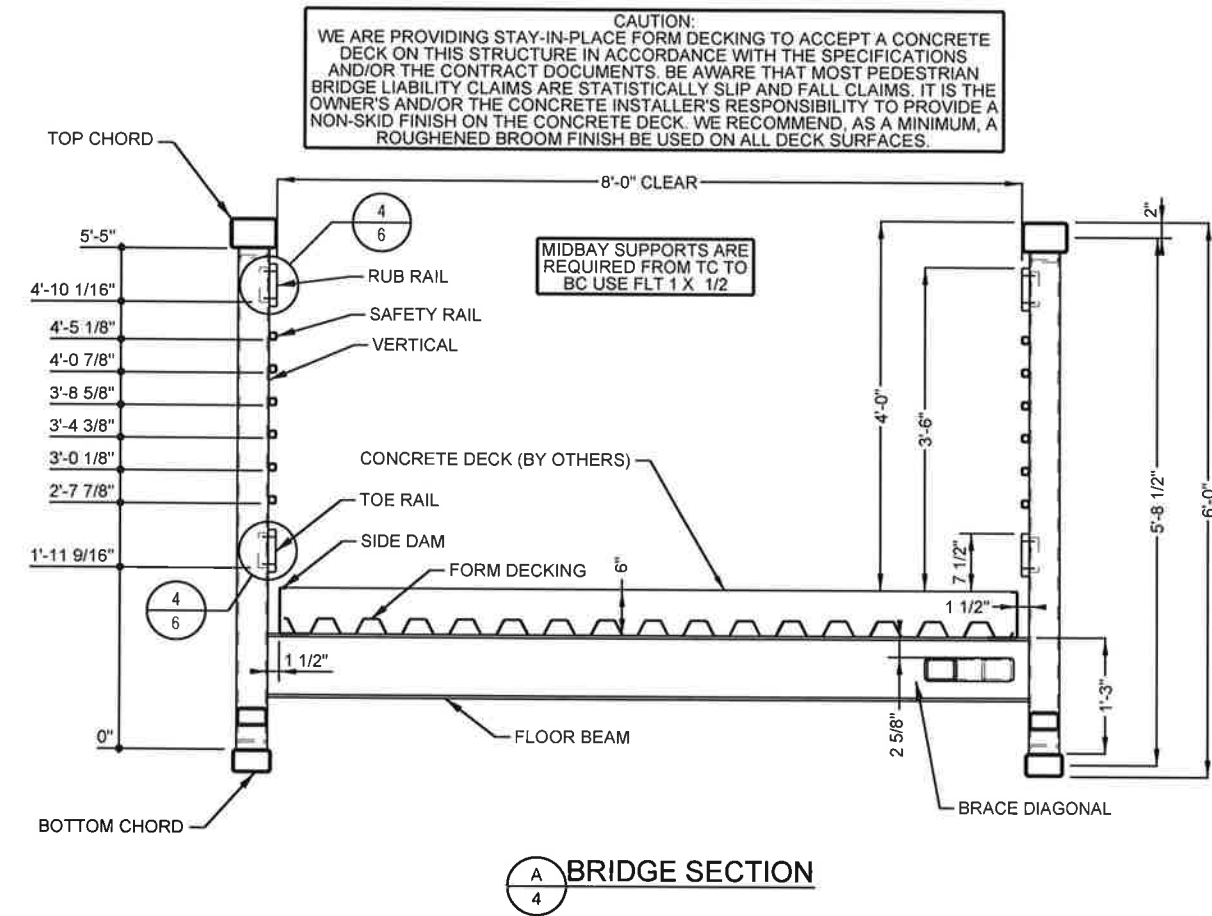
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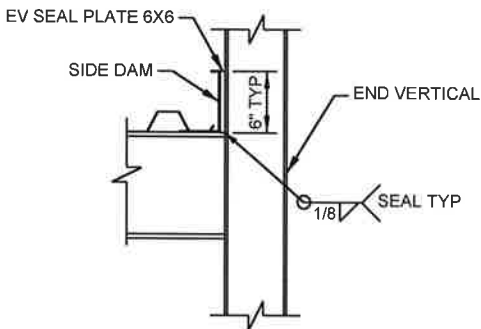
BRIDGE ELEVATION



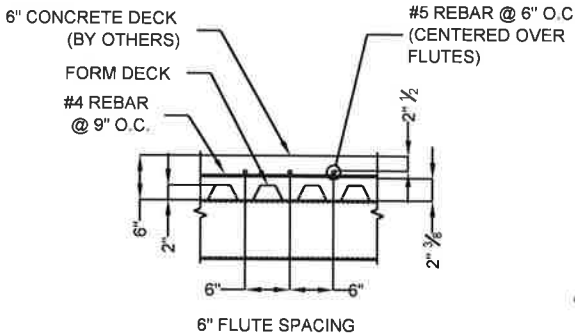
BRIDGE SECTION

PRIMARY MEMBERS	
BOTTOM CHORD	HSS5X3X1/4
TOP CHORD	HSS6X4X1/4
DIAGONAL A	HSS4X4X1/4
DIAGONAL B	HSS4X2X1/4
BRACE DIAGONAL	HSS3X3X1/4
END VERTICAL	HSS6X6X1/4
VERTICAL	HSS4X4X1/4
END FLOOR BEAM	W10X26
FLOOR BEAM	W8X21

SECONDARY MEMBERS	
EMSEAL	FPL1 1/4\"X1 1/4"
END DAM	PL1/4"
EV SEAL PLATE	PL1/2"
FORM DECKING	CANAM UF2X 20 GA
MID BAY SUPPORT	FLT1/2\"X1"
RUB RAIL	5/4X6 NOMINAL
RUB RAIL CLIP	L1 1/4X1 1/4X1/8
SAFETY RAIL	HSS1X1X1/8
SIDE DAM	C6X4X1X10GA
TOE RAIL	5/4X6 NOMINAL



BRIDGE SECTION



CONCRETE DETAILS

REBAR SCHEDULE				
MARK	TYPE	QUANTITY	LENGTH	REMARKS
#5	STRAIGHT	130	7'-4"	
#4	STRAIGHT	10	64'-8"	

- ALL CONCRETE & REBAR BY OTHERS
- SEE CONCRETE NOTE 7 ON SHEET 2 FOR SPlicing



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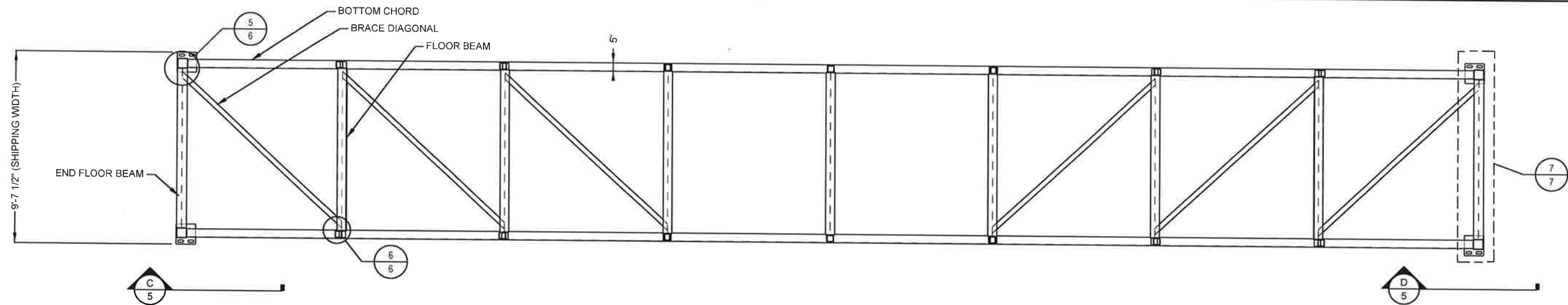
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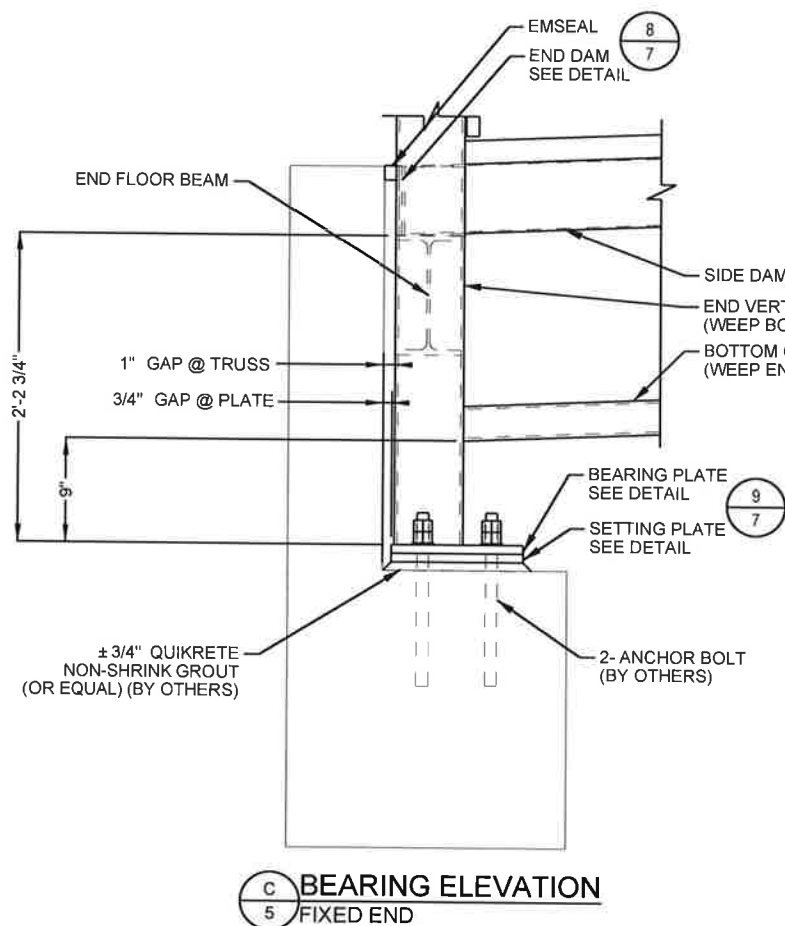
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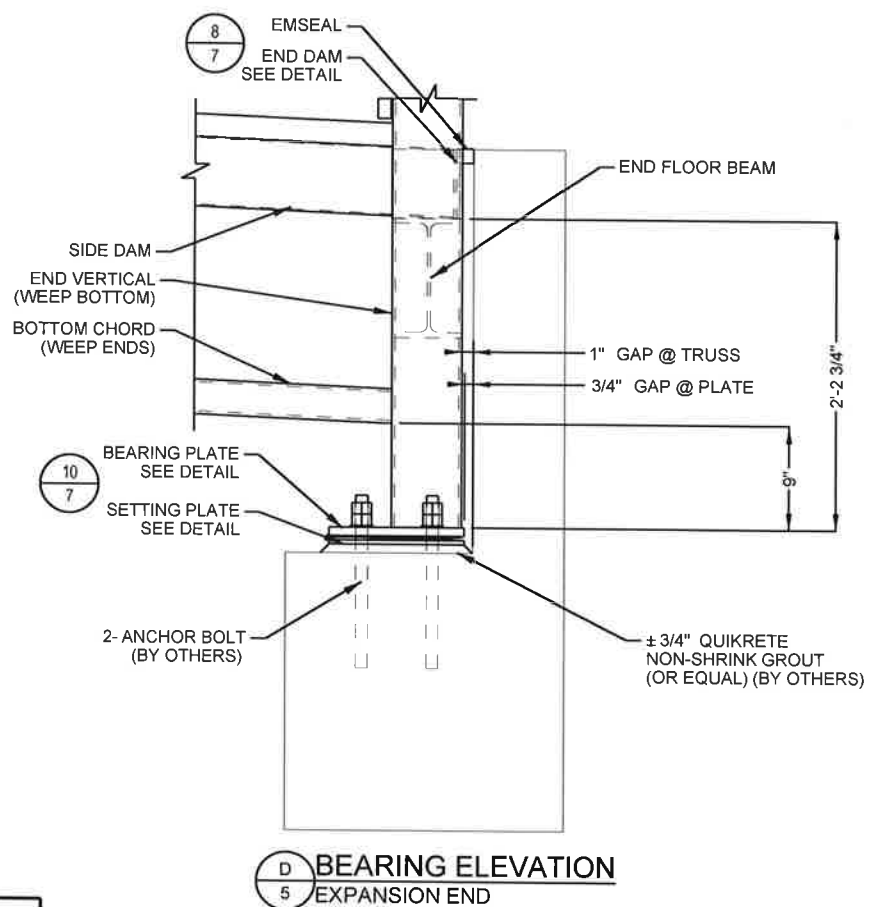
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BRIDGE PLAN



C 5 BEARING ELEVATION
FIXED END



D 5 BEARING ELEVATION
EXPANSION END

ANCHOR NOTE:
BOTTOM NUT FINGER TIGHT,
TOP NUT TIGHT AT EXPANSION
END ONLY. BOTH NUTS TIGHT
AT FIXED END ONLY.

LIFTING WEIGHTS			
ITEM	QTY	UNIT WEIGHT (LBS)	TOTAL WEIGHT (LBS)
BRIDGE SECTION #1	1	13,000	13,000
LOOSE ITEMS			110
* TOTAL BRIDGE WEIGHT:			13,110

* FULL STRUCTURE WEIGHT DOES NOT INCLUDE WEIGHT OF CONCRETE OR UTILITIES



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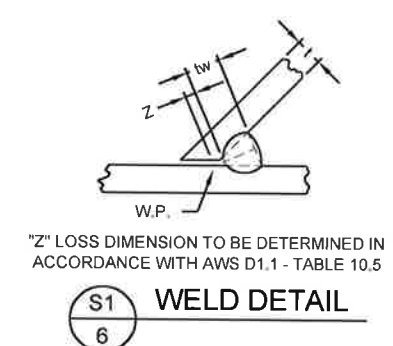
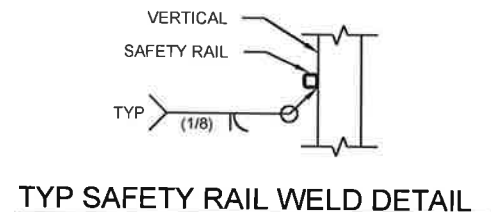
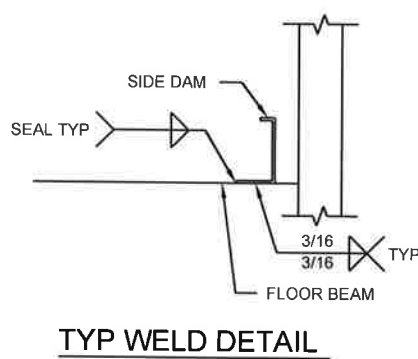
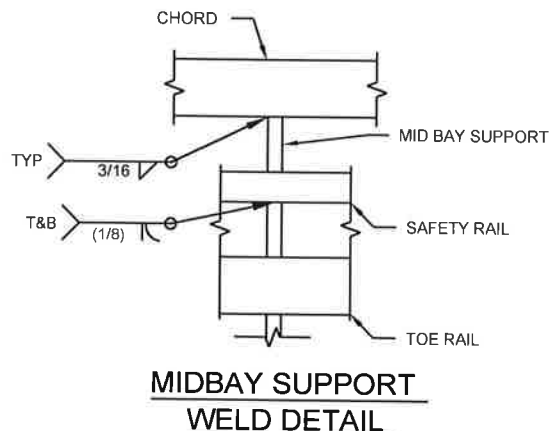
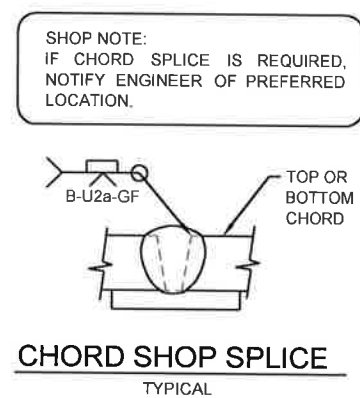
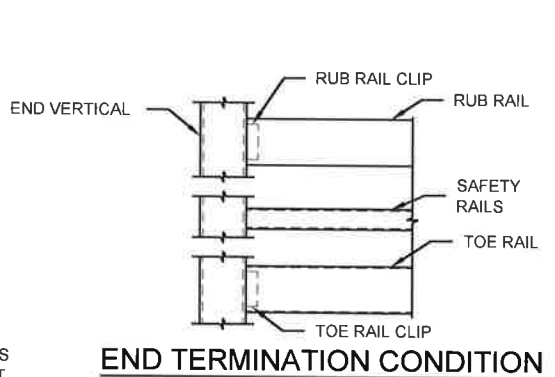
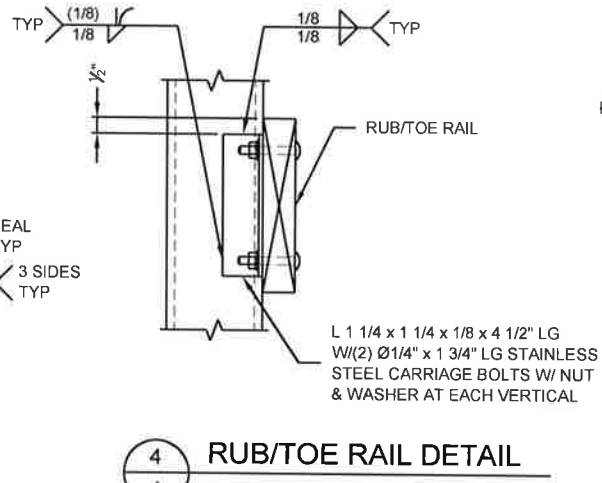
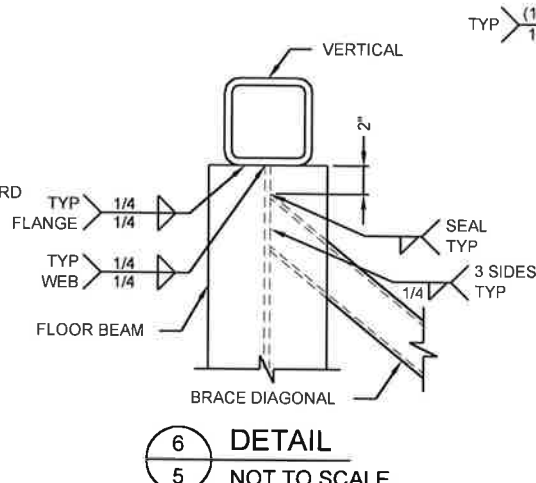
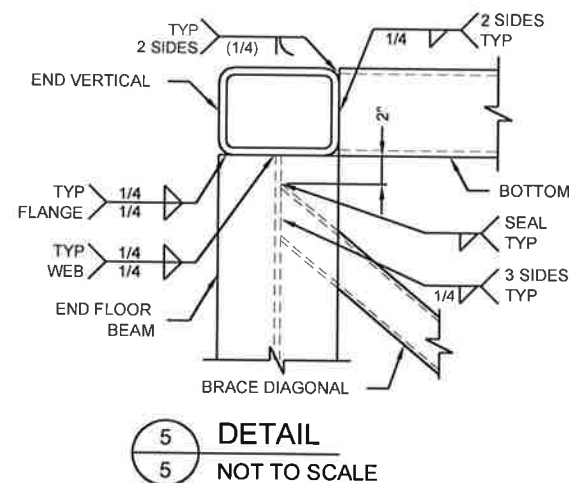
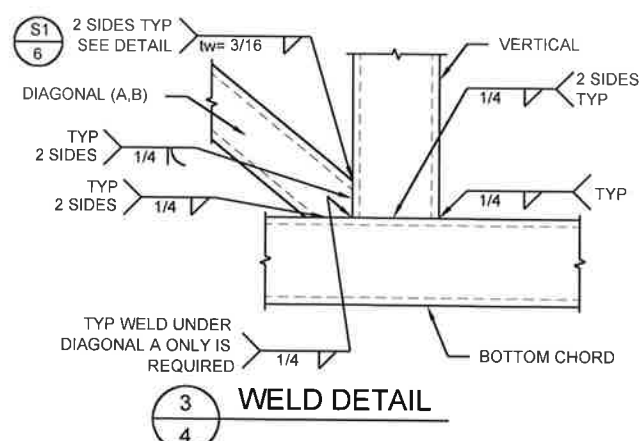
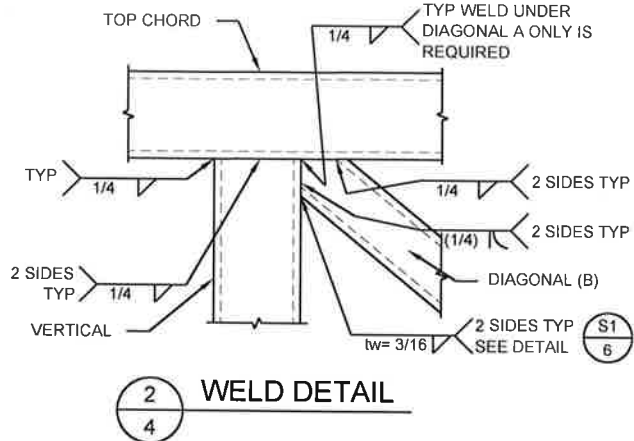
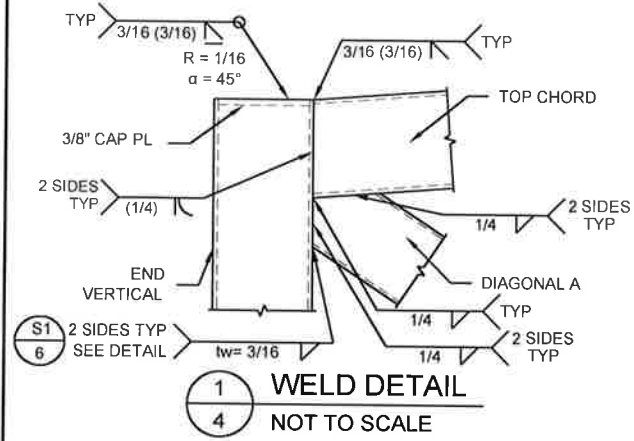
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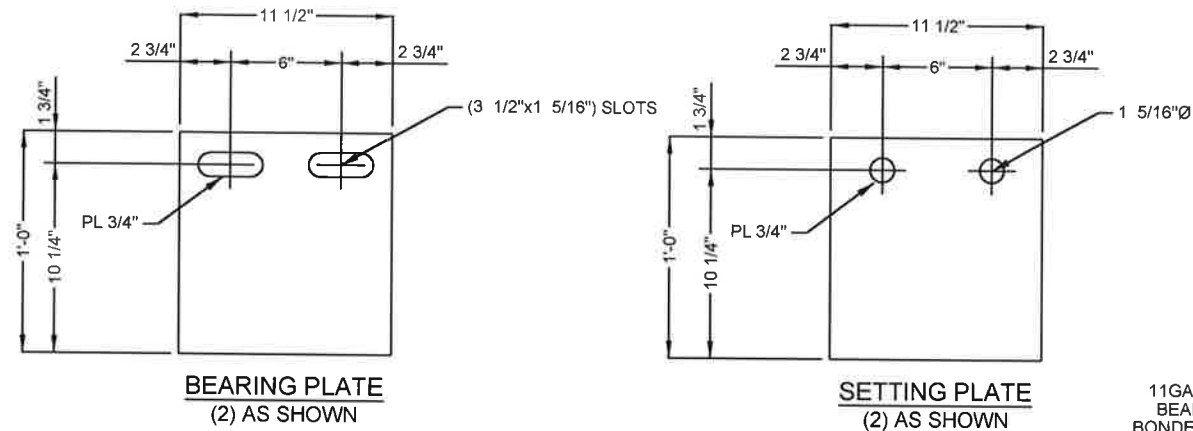
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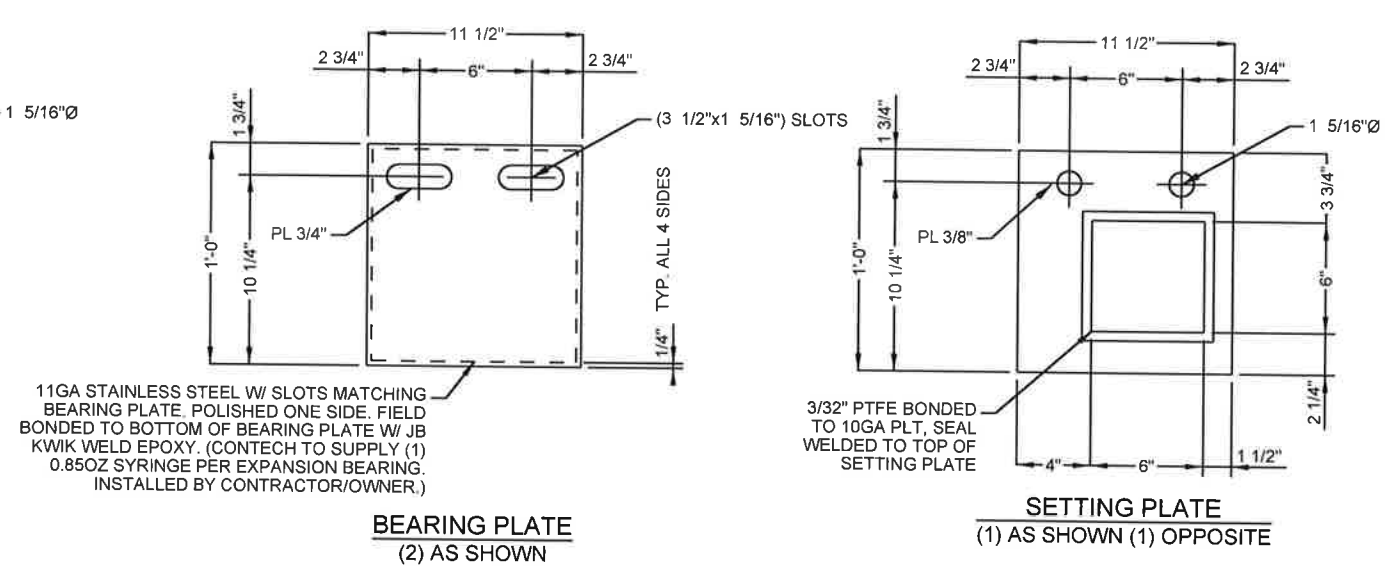
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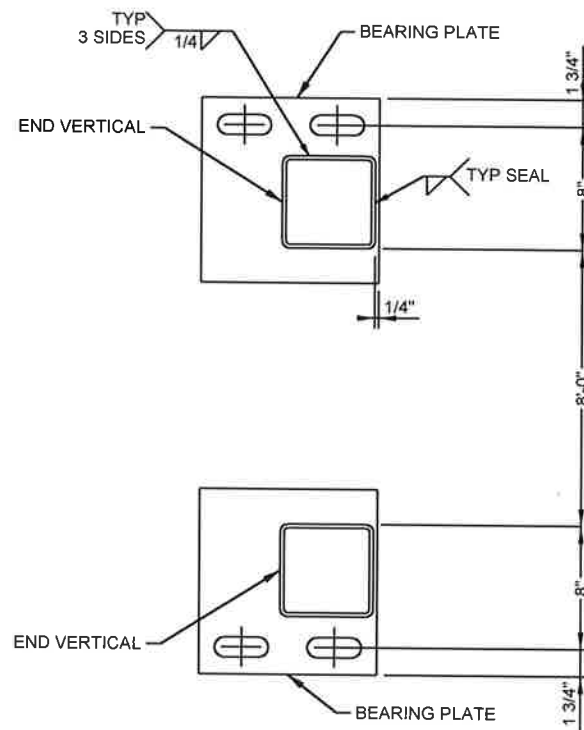




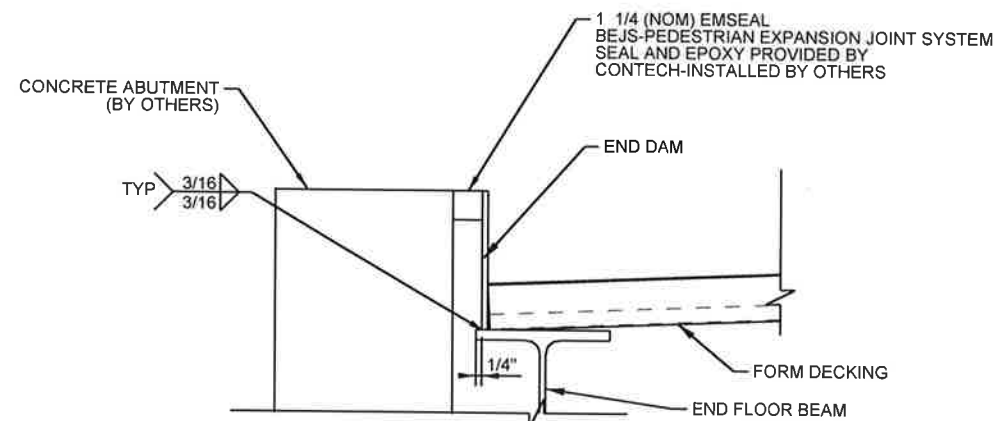
9
5 FIXED BEARING DETAILS



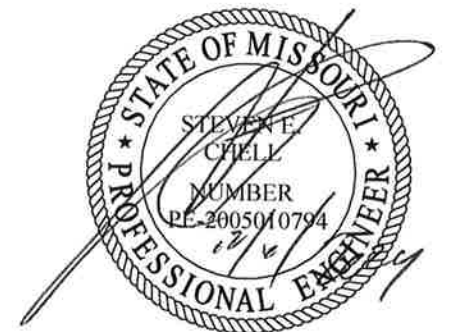
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5 EXPANSION BEARING DETAILS



7
5 WELD DETAIL



8
5 COVER DETAIL



CONTECH
ENGINEERED SOLUTIONS LLC
A QUIKRETE COMPANY
8301 State Highway 29 North, Alexandria, MN 56308
800-328-2047 320-345-9126

CONTINENTAL
BRIDGE
CONTECH
CONTRACT
DRAWING

65'-0" X 8'-0"
FLAT BRANCH PEDESTRIAN BRIDGE
PEDESTRIAN TRUSS - CONNECTOR
COLUMBIA, MO

PROJECT No.: 800024	SEQ. No.: 020	DATE: 10-31-24
DESIGNED: TMP	DRAWN: TLR	
CHECKED: TMP	APPROVED: SEC	
SHEET NO.: 7	OF 7	