




GAME FARM ROAD DETOUR PLAN
NTS



FOR EMCP REVIEW
NOT FOR CONSTRUCTION

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
E	12/16/2022	FINAL SUBMISSION	ZR	JLB
D	11/11/2022	DRAFT FINAL SUBMISSION	ZR	JLB
C	6/6/2022	60% DESIGN SUBMISSION	ZR	JLB
B	2/11/2022	PRELIMINARY DESIGN DEVELOPMENT	ZR	JLB
A	1/24/2022	PRELIMINARY PROGRESS	ZR	JLB

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM

WORK ZONE TRAFFIC CONTROL
GAME FARM ROAD DETOUR

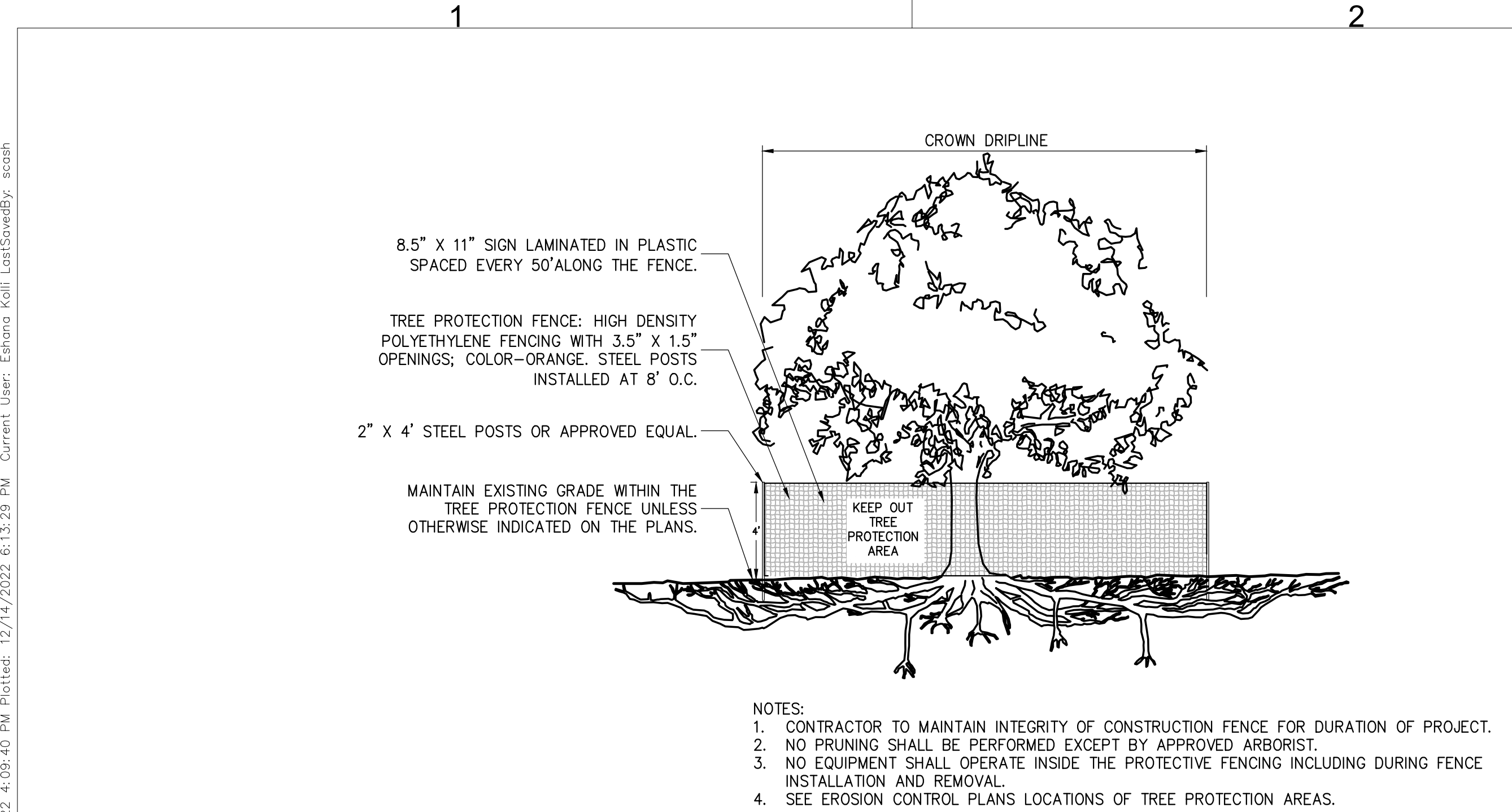
DRAWN BY: ZR DESIGNED BY: JLB APPROVED BY: XX SCALE AS SHOWN REV. NO. DATE 12/16/2022 OF

KIEWIT PROJECT NO. 21162
EDR PROJECT NO. 21075
DRAWING NO. C-511

File: P:\210714-CHPE-CABLE_INSTALL-KEWIT\60_CAD\20_ENGINEERING_CAD_FILES\PACKAGE_5A\NY_ENVIRONMENTAL_(EROSION_CONTROL)\01_KCE\SHEET_FILES\21162_5A_C601-C602-0611.DWG Saved: 12/14/2022 4:09:40 PM Plotted: 12/14/2022 6:13:29 PM Current User: Esiana Kalli LastSavedBy: scash

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A	12/16/2022	FINAL SUBMISSION	MK	NH
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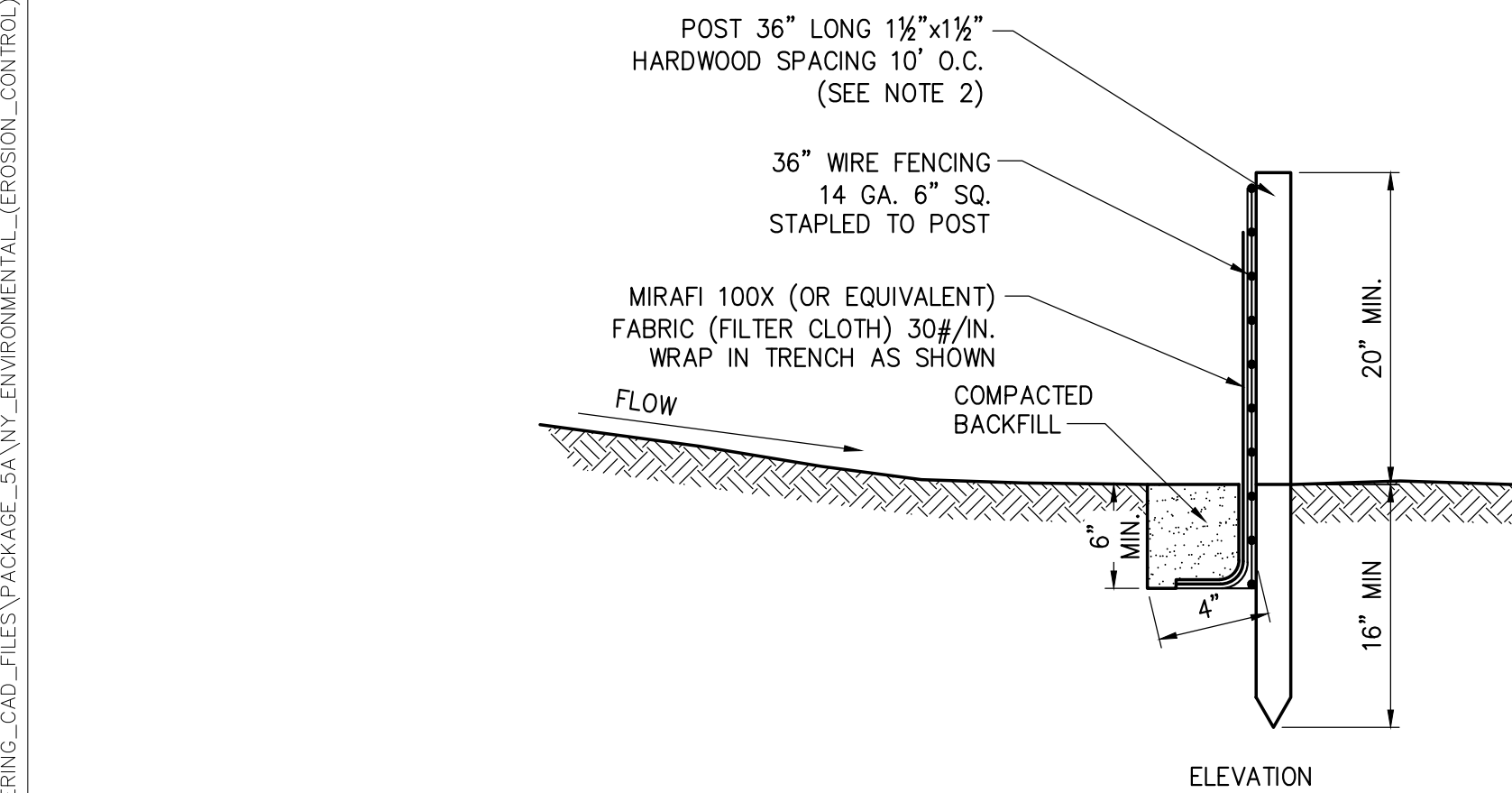
CHAMPLAIN HUDSON POWER EXPRESS SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM EROSION AND SEDIMENT CONTROL DETAILS				KIEWIT PROJECT NO. 21162 KC PROJECT NO. 120174 DRAWING NO. C-601	
DRAWN BY:	MK	DESIGNED BY:	MK	APPROVED BY:	NH
SCALE	AS SHOWN	DATE	12/16/2022	REV. NO.	A
OF		OF		OF	



1

TREE PROTECTION

NOT TO SCALE



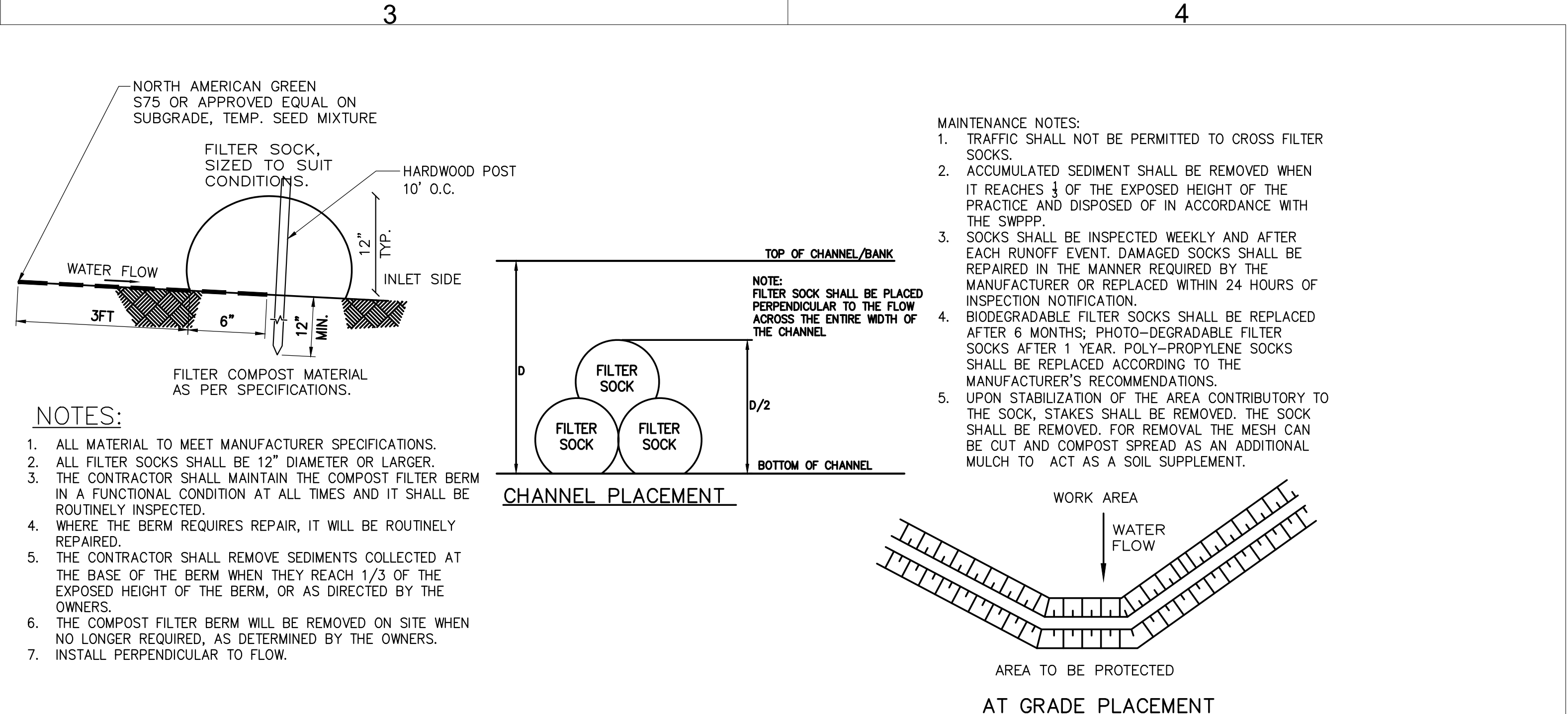
3

SILT FENCE

SCALE: N.T.S.

NOTES:

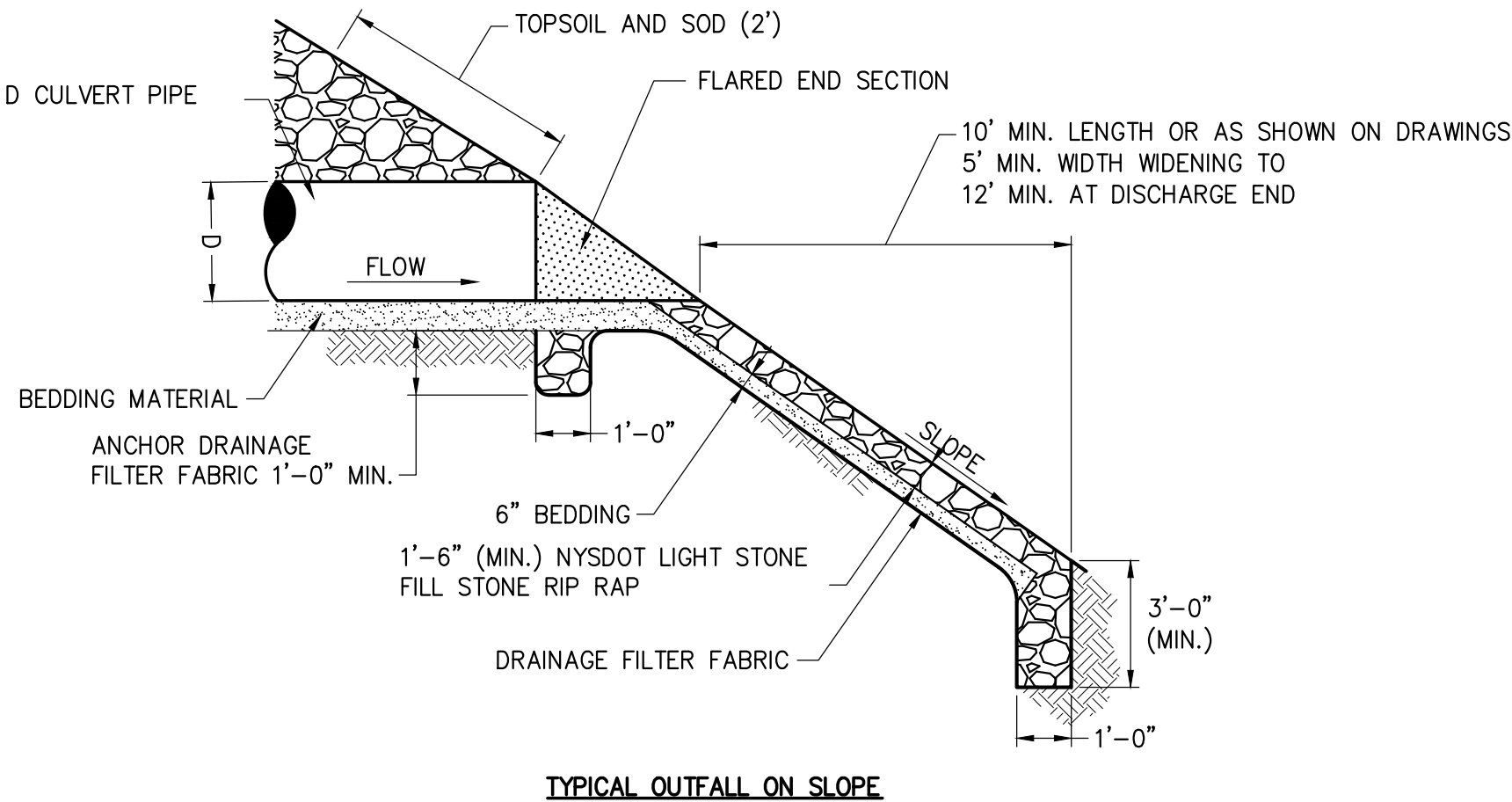
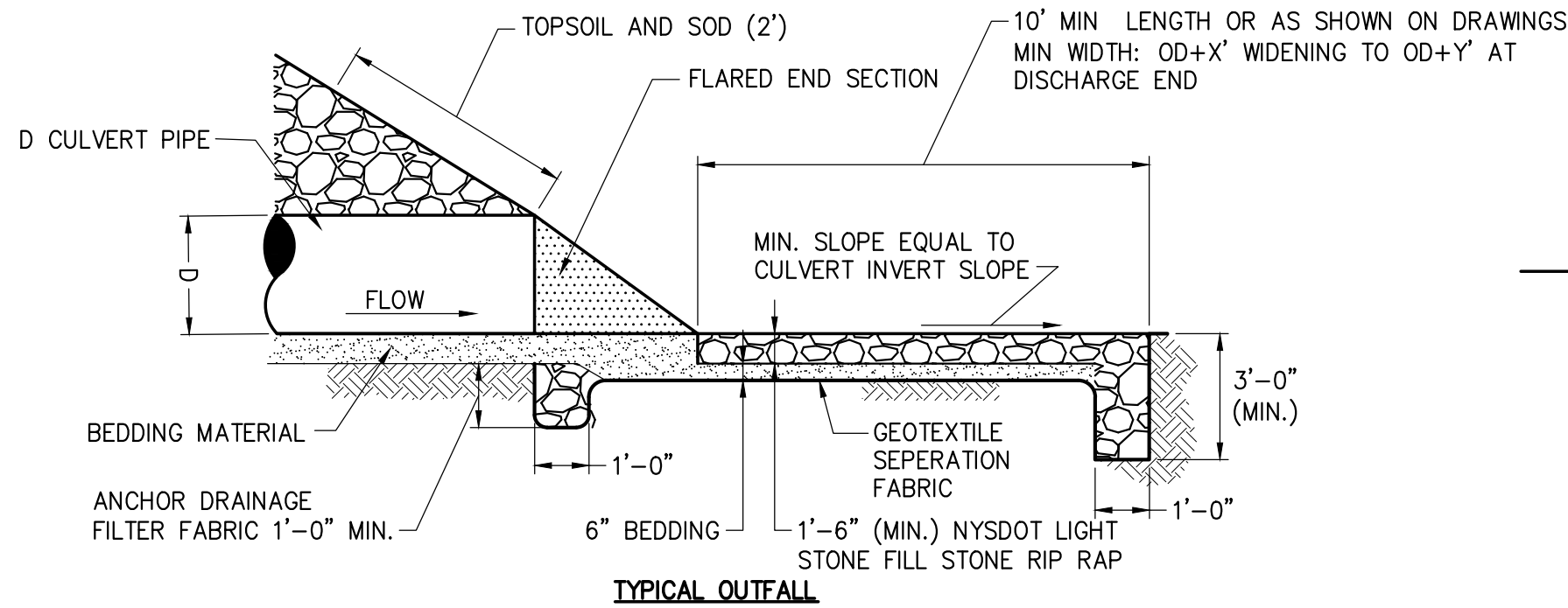
- TIE FABRIC TO WIRE FENCE IN ACCORDANCE WITH
MANUFACTURERS RECOMMENDATIONS.
- IF EXTRA STRENGTH FABRIC (GREATER THAN 50#/INCH) IS USED,
WIRE CAN BE DELETED IF POST SPACING IS REDUCED TO 6' O.C.
- AT THE ENDS OF THE FENCING THE FIRST 20' SHALL BE TURNED
UP THE SLOPE 2'.
- POSTS SHOULD BE INCLINED TOWARD THE DIRECTION FLOW CAME
FROM.
- OVERLAP FABRIC A MINIMUM OF 6" AND FOLDED AT JOINTS.
ATTACH FILTER FABRIS TO STAKES ALLOWING EXTENSION INTO
TRENCH AS SHOWN; SECURE TO STAKES AS NOTED.
- THE MAXIMUM AREA OF RUNOFF PER 100LF. OF FENCE SHALL
NOT EXCEED 0.25 ACRES.
- MAINTENANCE SHALL BE PERFORMED AS NECESSARY. THE
FENCING SHALL BE CHECKED AFTER EVERY STORM TO ENSURE
THEIR PROPER FUNCTIONING.
- WHEN FENCE IS NO LONGER NEEDED, THE ACCUMULATED SILT,
THE POSTS AND FABRIC SHALL BE REMOVED AND TRENCH BACK
FILLED WITH TOPSOIL AND SEEDED.
- FENCING SHOULD BE PLACED AS SHOWN ON THE DRAWING OR IF
NOT SHOWN, 10' BEYOND THE TOE OF THE OF THE SLOPE AND
AT A SPACING IN ACCORDANCE WITH THE TABLE.
- EXCAVATE TRENCH AS PER DETAIL AND SET POSTS AT 10' O.C.
- BACKFILL WITH COMPACTED, EXCAVATED SOIL FROM TRENCH.



2

COMPOST FILTER SOCK DETAIL

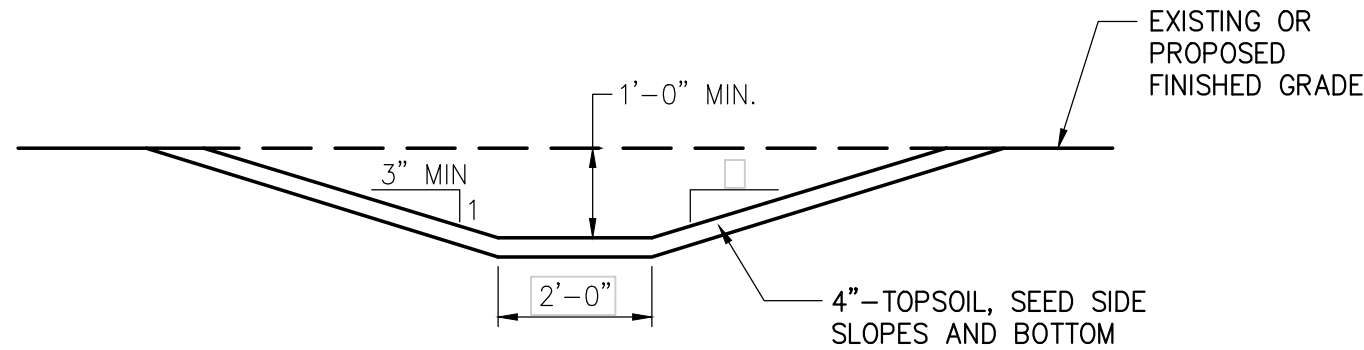
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4

TYPICAL CULVERT OUTFALL RIP RAP

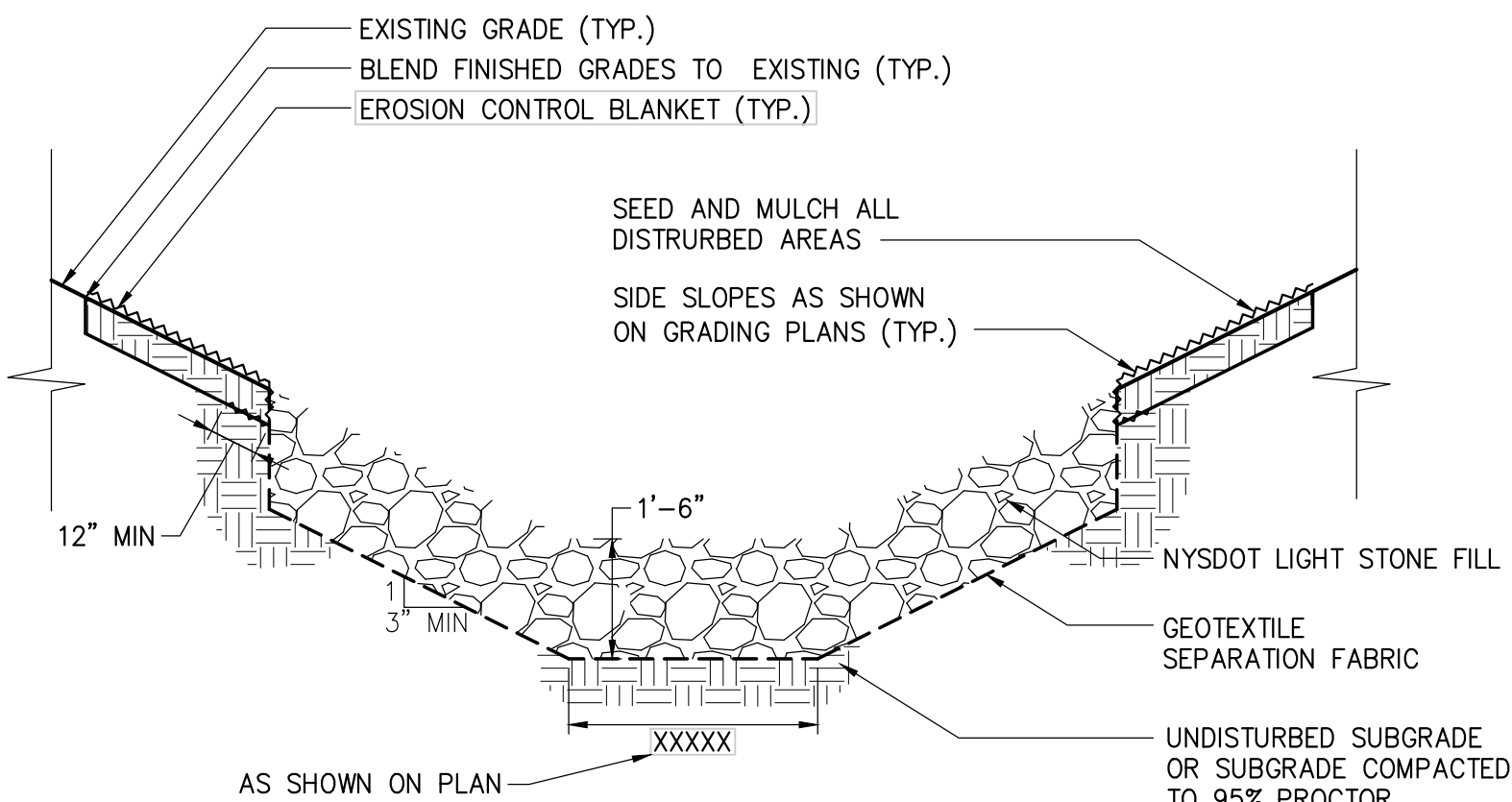
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5

TYPICAL GRASS DRAINAGE SWALE

SCALE: N.T.S.

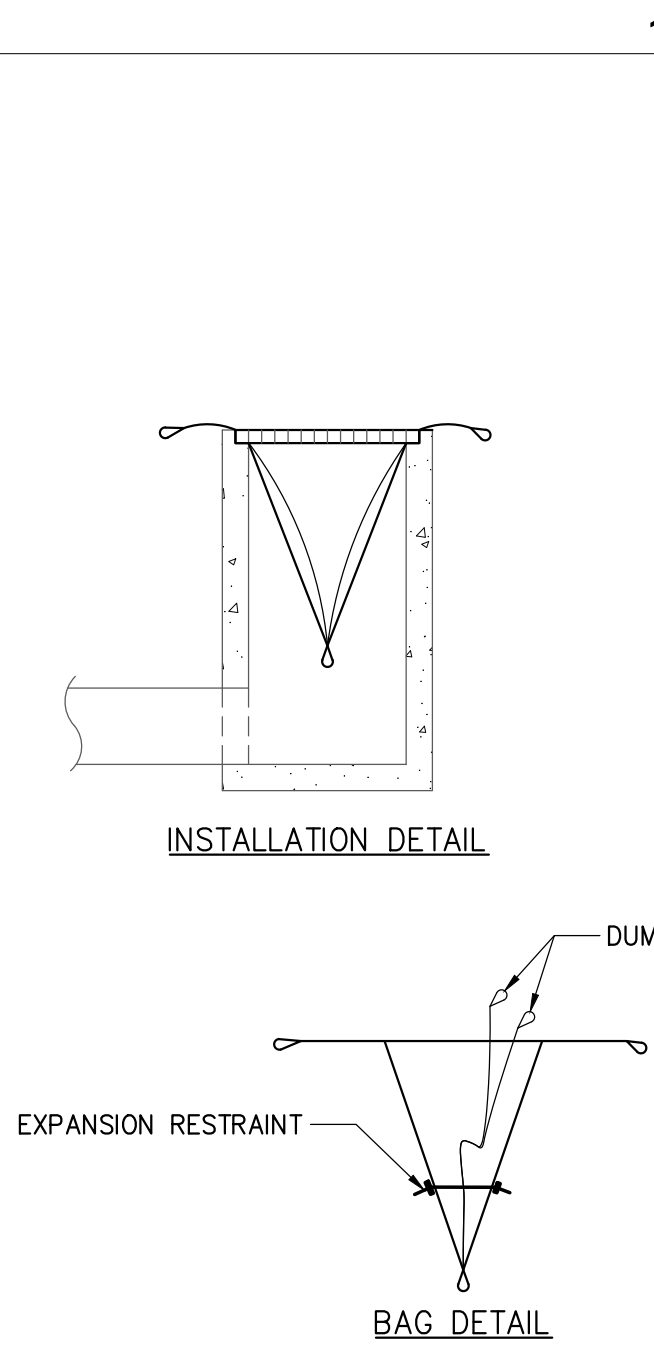


6

LIGHT STONE-LINED DRAINAGE CHANNEL

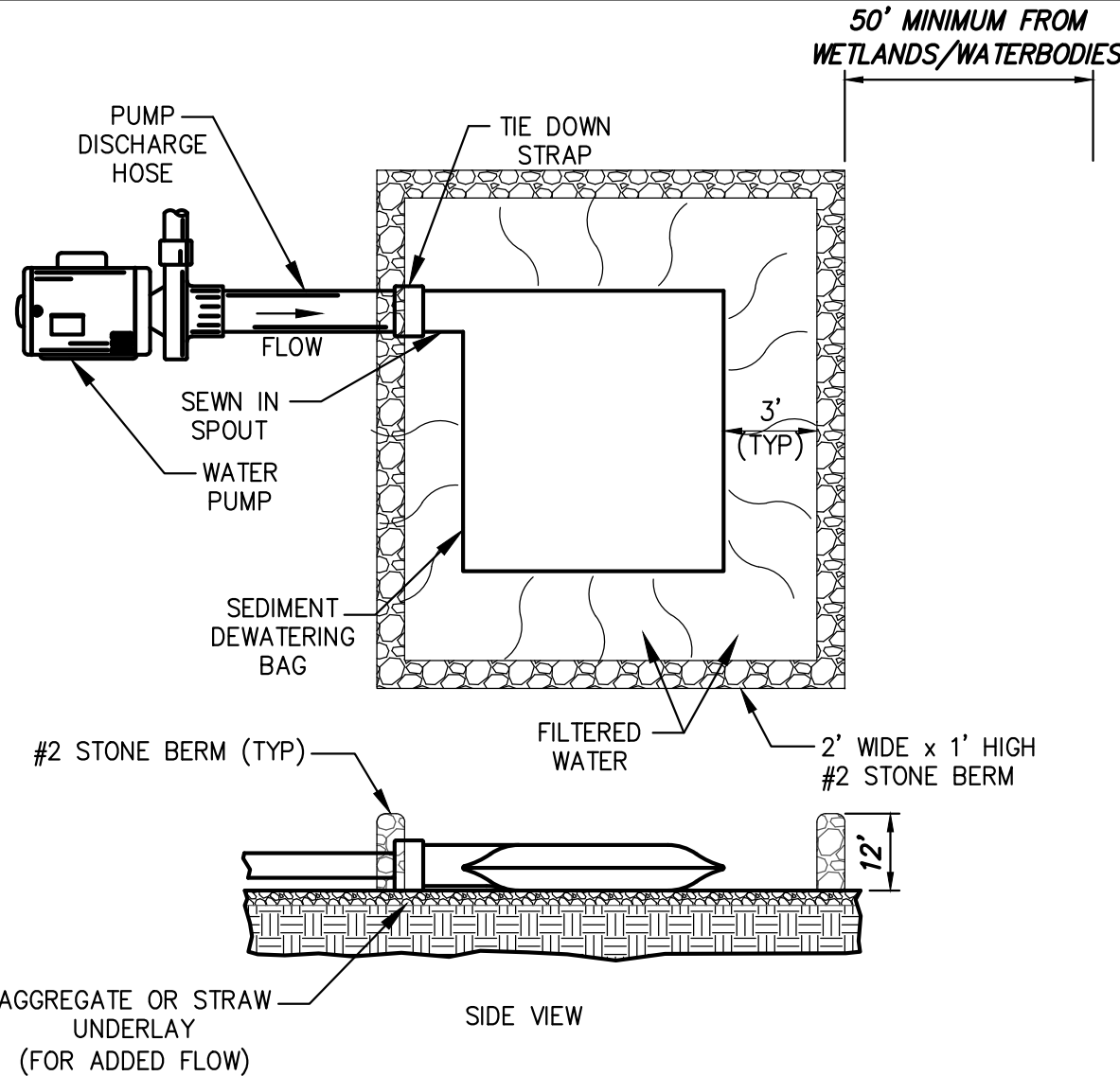
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1 INLET PROTECTION

SCALE: N.T.S.



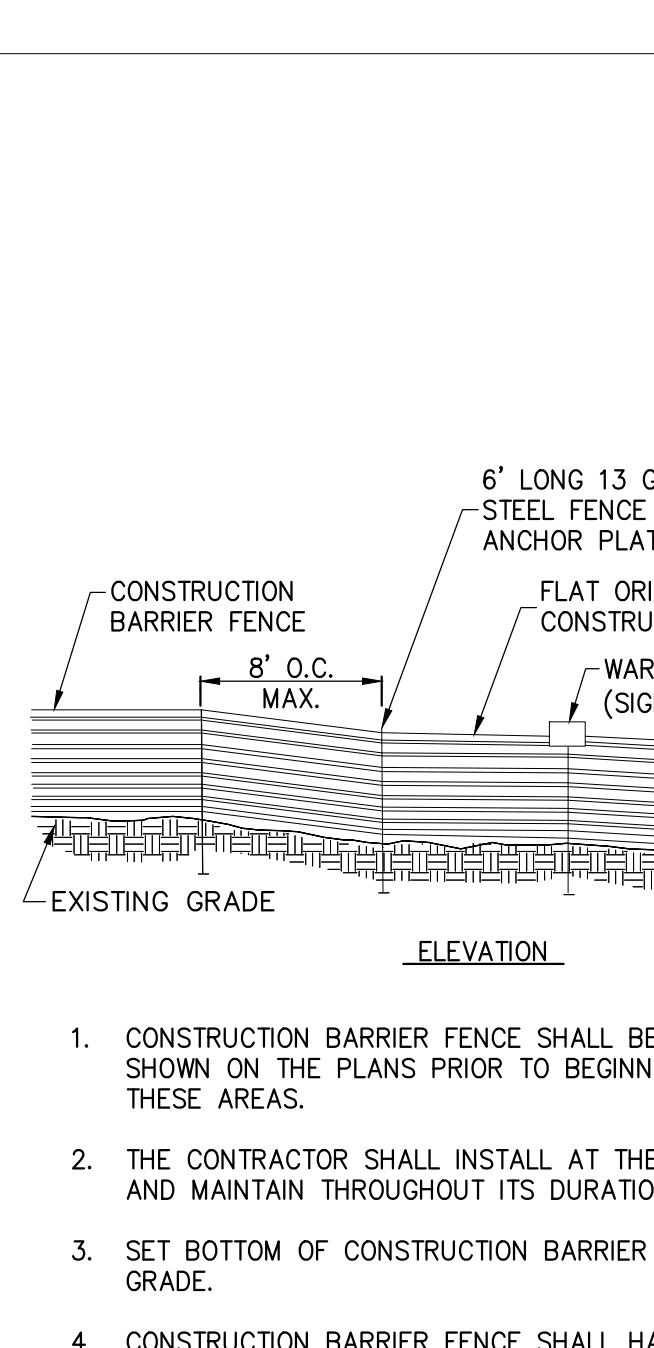
NOTE: THE SEDIMENT DEWATERING BAG WILL BE MANUFACTURED IN THE U.S.A. FROM A NONWOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

SEDIMENT DEWATERING BAG SPECIFICATIONS

Mechanical Properties	Test Method	Units	MARV
Grab Tensile Strength	ASTM D 4632	kN (lbs)	0.9 (205) x 0.9 (205)
Grab Tensile Elongation	ASTM D 4632	%	50 x 50
Puncture Strength	ASTM D 4833	kN (lbs)	0.58 (130)
Mullen Burst Strength	ASTM D 3786	kPa (psi)	2618 (380)
Trapezoid Tear Strength	ASTM D 4533	kN (lbs)	0.36 (80) X 0.36 (80)
UV Resistance	ASTM D 4355	%	70
Apparent Opening Size	ASTM D 4751	Mm (US Std Sieve)	0.180 (80)
Flow Rate	ASTM D 4491	1/min/m ² (gal/min/ft ²)	3866 (95)
Permittivity	ASTM D 4491	Sec ⁻¹	1.2

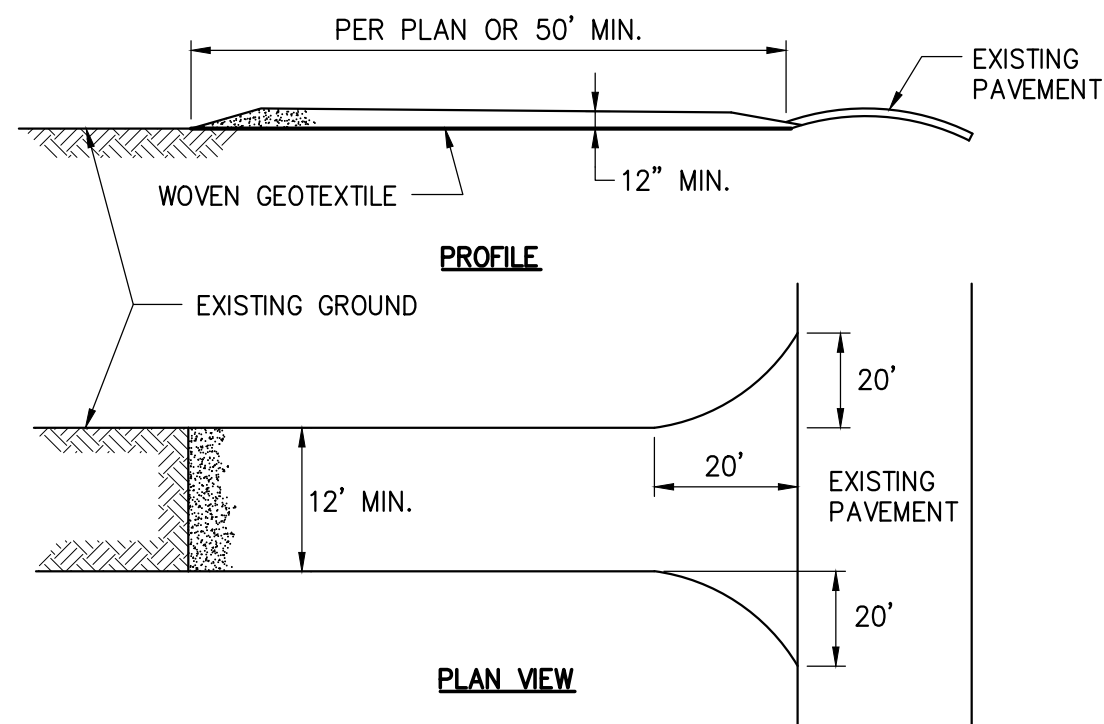
4 SEDIMENT DEWATERING BAG

SCALE: N.T.S.



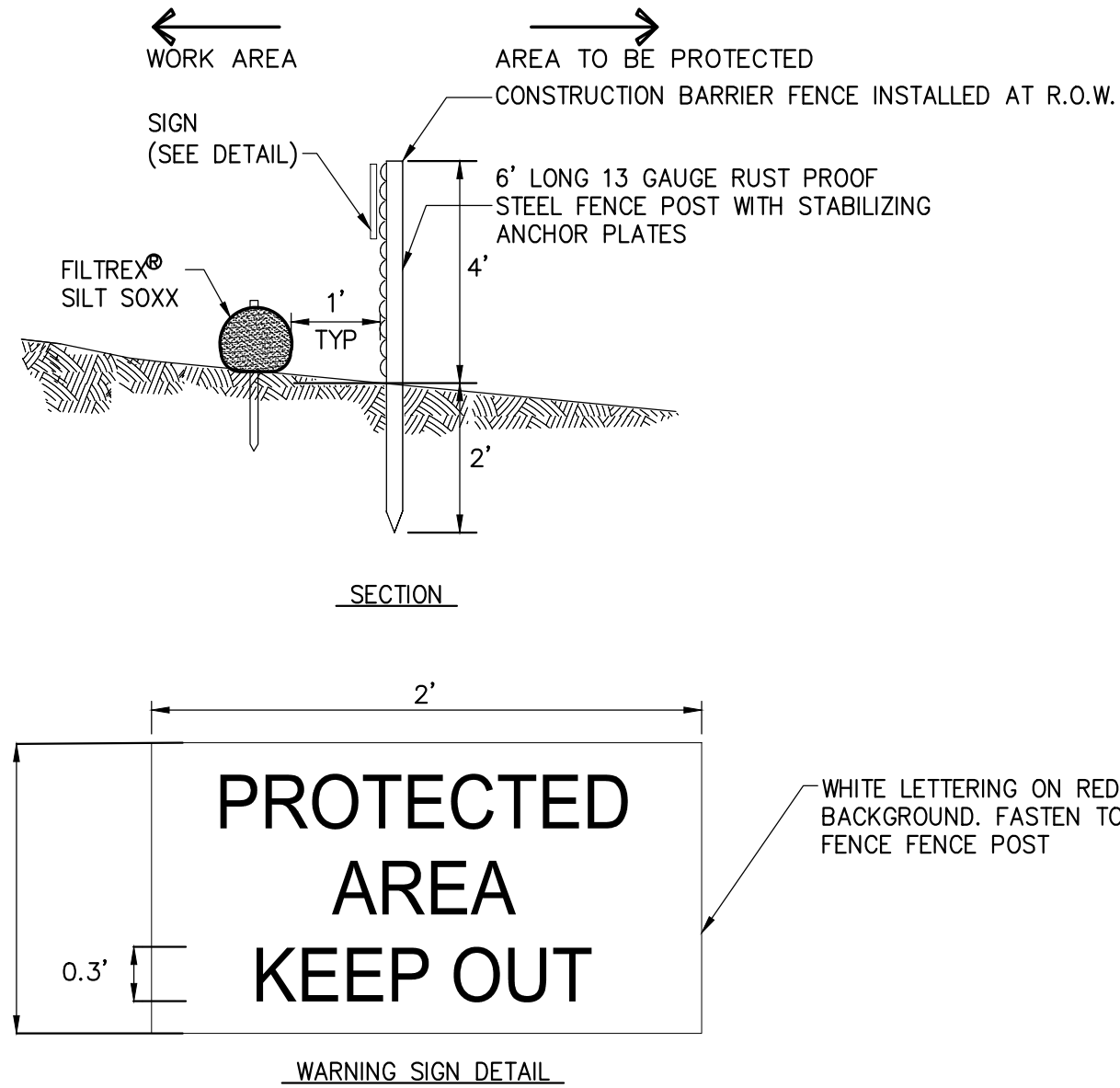
2 WETLAND PROTECTION FENCE

SCALE: N.T.S.



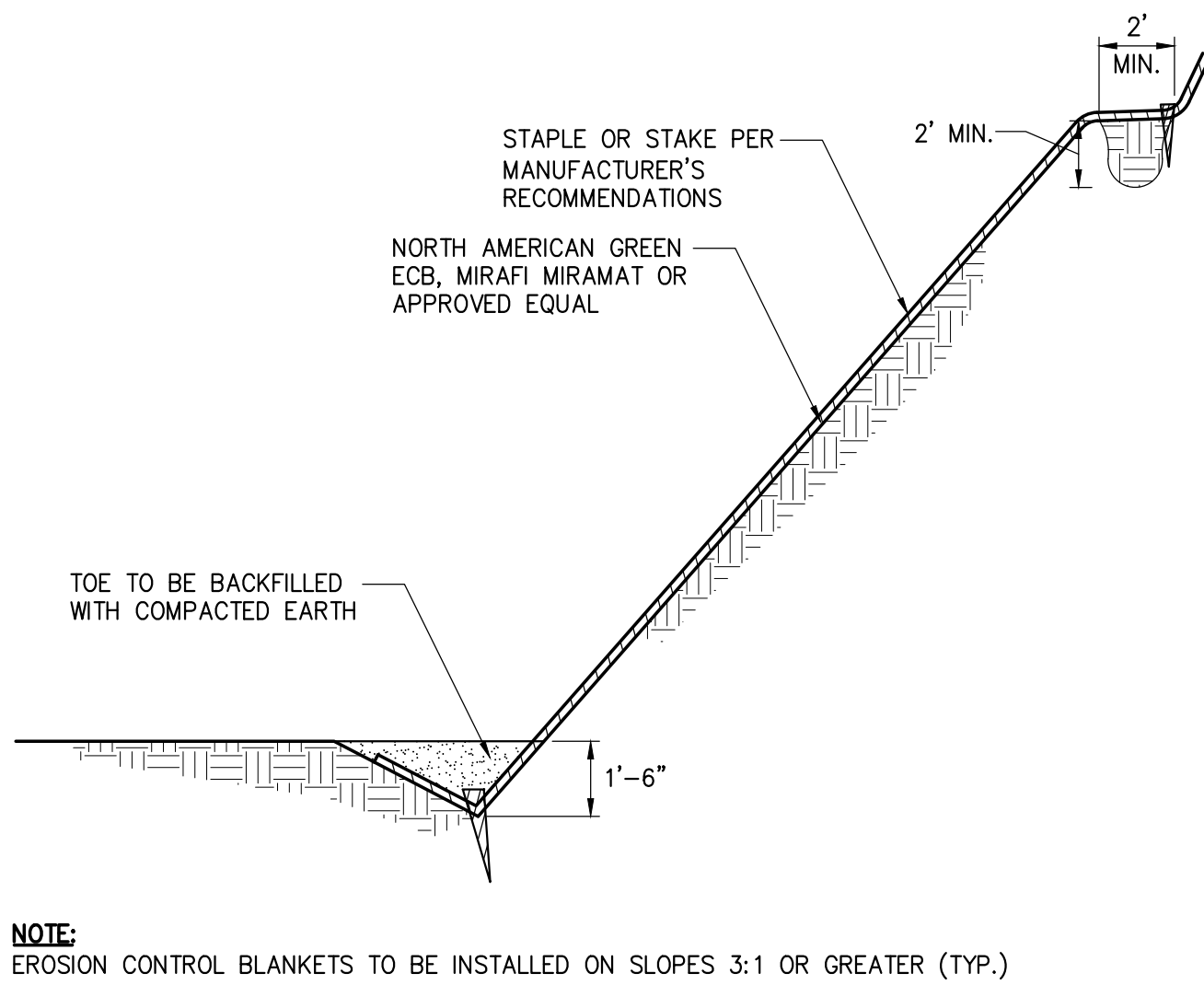
5 STABILIZED CONSTRUCTION ACCESS

SCALE: N.T.S.



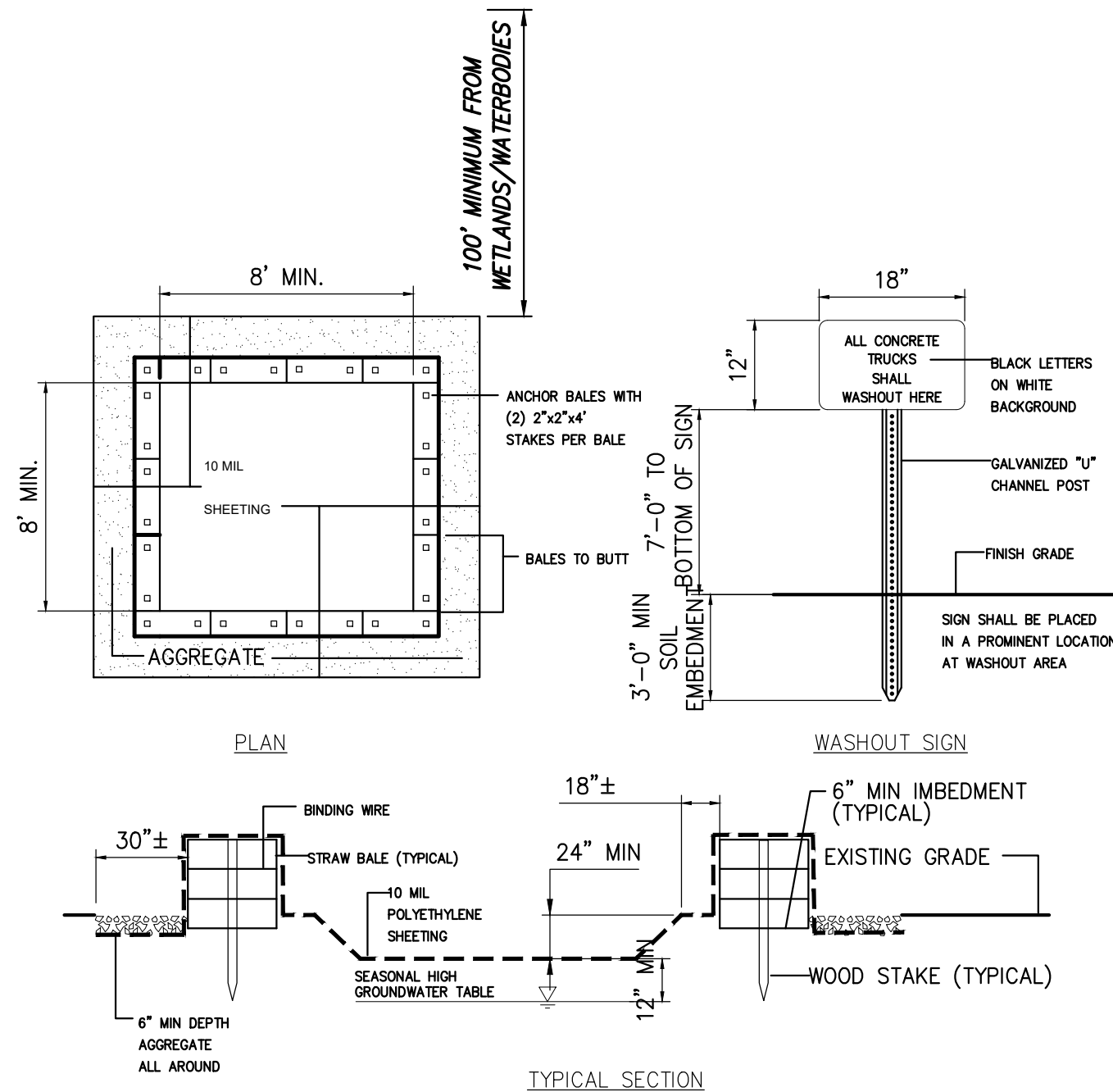
6 CONCRETE WASHOUT AREA

SCALE: N.T.S.



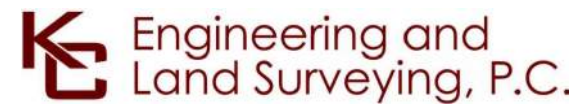
3 EROSION CONTROL BANK STABILIZATION DETAIL

SCALE: N.T.S.



MAINTENANCE NOTES:

- ALL CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHALL BE PUMPED TO A STABILIZED AREA SUCH AS A GRASS FILTER STRIP.
- ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF SITE.
- DISPOSE OF THE HARDENED MATERIAL OFF-SITE IN A CONSTRUCTION/DEMOLITION LANDFILL.
- THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.
- INSPECT THE PROJECT SITE FREQUENTLY TO ENSURE THAT NO CONCRETE DISCHARGES ARE TAKING PLACE IN NON-DESIGNATED AREAS.
- LOCATION(S) TO BE DETERMINED IN THE FIELD BY THE OWNER'S REPRESENTATIVE



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A	12/16/2022	FINAL SUBMISSION	MK	NH
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM
EROSION AND SEDIMENT CONTROL DETAILS

DRAWN BY:	MK	DESIGNED BY:	MK	APPROVED BY:	NH	SCALE	AS SHOWN	DATE	12/16/2022
REV. NO.	A	SH. NO.	OF						

KIEWIT PROJECT NO.	21162
KC PROJECT NO.	120174
DRAWING NO.	C-602

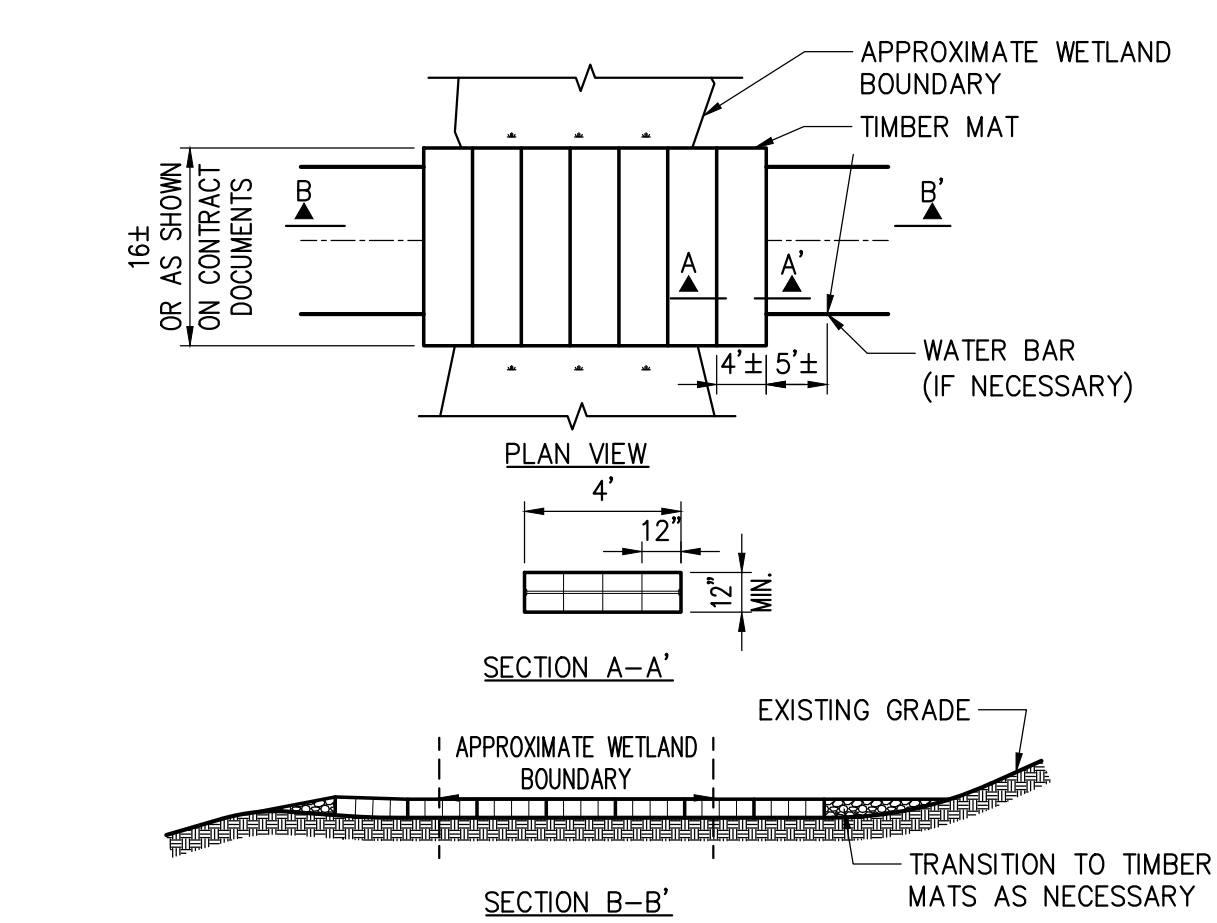
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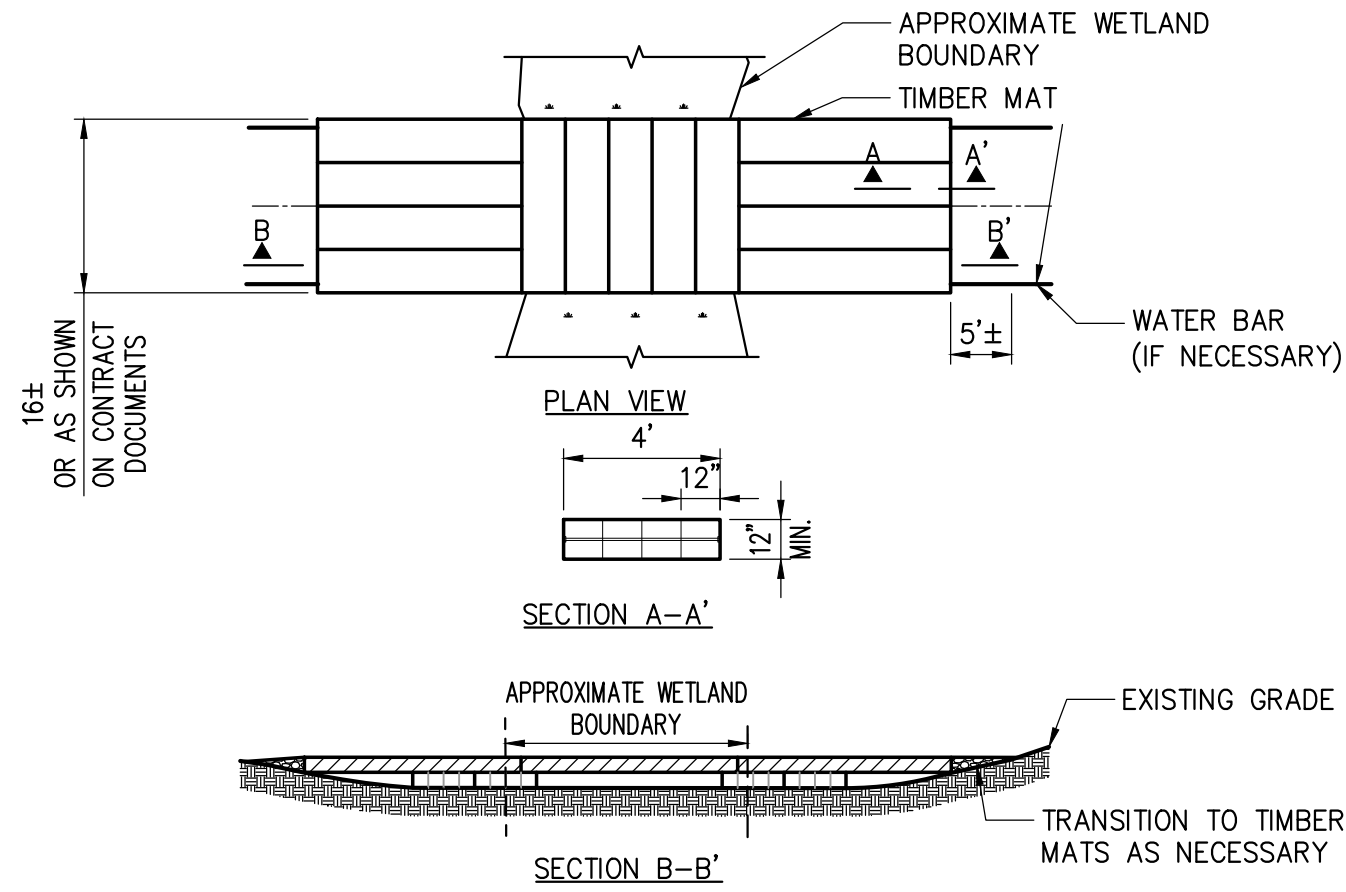
4



- NOTES:
1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
 2. BASED ON ACTUAL SITE CONDITIONS, MULTIPLE LAYERS OF TIMBER MATS MAY BE REQUIRED.
 3. TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
 4. SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT SHOULD BE REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.
 5. PERIMETER EROSION AND SEDIMENT CONTROL ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
 6. UNLESS PERMITTED FROM REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
 7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.

NOTE: GEOTEXTILE FABRIC TO BE INSTALLED UNDER MATTING (TYP)

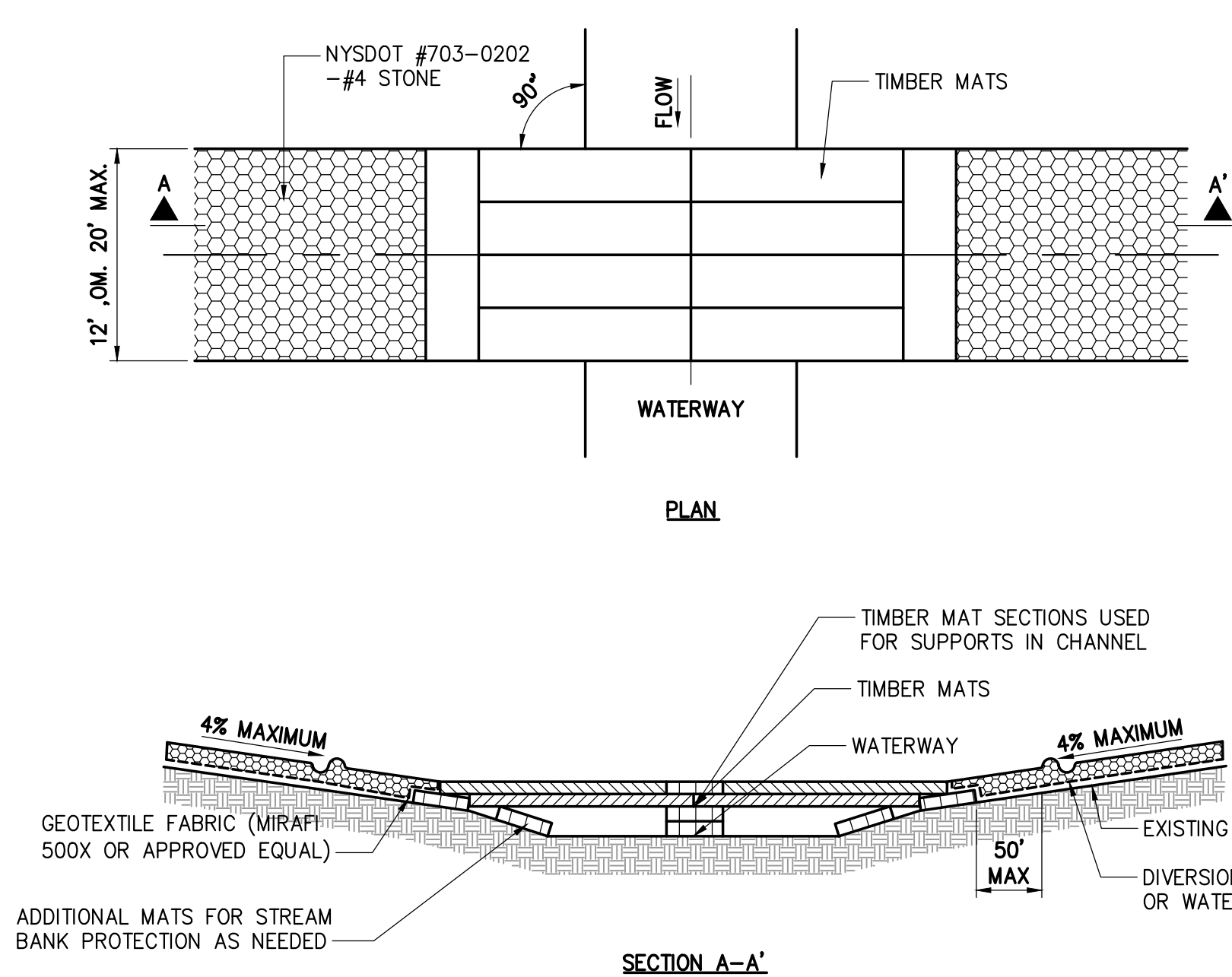
OPTION "A"
NOT TO SCALE



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NOTE: GEOTEXTILE FABRIC TO BE INSTALLED UNDER MATTING (TYP)

OPTION "B"
NOT TO SCALE

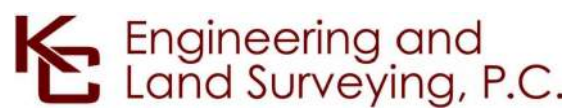


NOTES:

1. IN-STREAM EXCAVATION SHOULD BE COMPLETED IN ACCORDANCE WITH "TEMPORARY ACCESS WATERWAY CROSSING" ON PAGE 2.32 OF THE 2016 NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (OR NEWEST VERSION).
2. THE CONSTRUCTION OF ANY CROSSING SHOULD NOT CAUSE A SIGNIFICANT WATER LEVEL DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. FISH SPAWNING OR MIGRATION DATES CAN VARY ACROSS NEW YORK, AND RESTRICTIONS IMPOSED BY THE NYSDEC MY VARY AND MUST BE VERIFIED.
3. THE TEMPORARY WATERWAY CROSSING SHOULD BE AT RIGHT ANGLES TO THE STREAM WHERE APPROACH CONDITIONS DICTATE, THE CROSSINGS MAY VARY 15 DEGREES FROM A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF THE STREAM AT THE INTENDED CROSSING LOCATION.
4. ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH SHOULD BE LIMITED TO A MAXIMUM HEIGHT OF 2 FEET ABOVE THE EXISTING FLOOD PLAIN ELEVATION.
5. A WATER DIVERTING STRUCTURE SUCH AS A SWALE OR WARE BAR SHOULD BE CONSTRUCTED (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES) 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING. THIS WILL PREVENT ROADWAY SURFACE RUNOFF FROM DIRECTLY ENTERING THE WATERWAY. THE 50 FEET MEASURED IS MEASURED FROM THE TOP OF THE WATERWAY BANK. IF THE ROADWAY APPROACH IS CONSTRUCTED WITH A REVERSE GRADE AWAY FROM THE WATERWAY, A SEPARATE DIVERTING STRUCTURE IS NOT REQUIRED.
6. ALL CROSSINGS SHOULD HAVE ONE TRAFFIC LANE. THE MINIMUM WIDTH SHOULD BE 12 FEET WITH A MAXIMUM WIDTH OF 20 FEET.
7. ANCHORS: TIMBER MATS SHOULD BE SECURELY ANCHORED AT ONLY ONE END, USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ANCHORING SHOULD BE SUFFICIENT TO PREVENT THE TIMBER MATS FORM FLOATING DOWNSTREAM AND POSSIBLY CAUSING AN OBSTRUCTION TO THE FLOW.

1 TIMBER MATTING (WETLAND CROSSING)

SCALE: N.T.S.



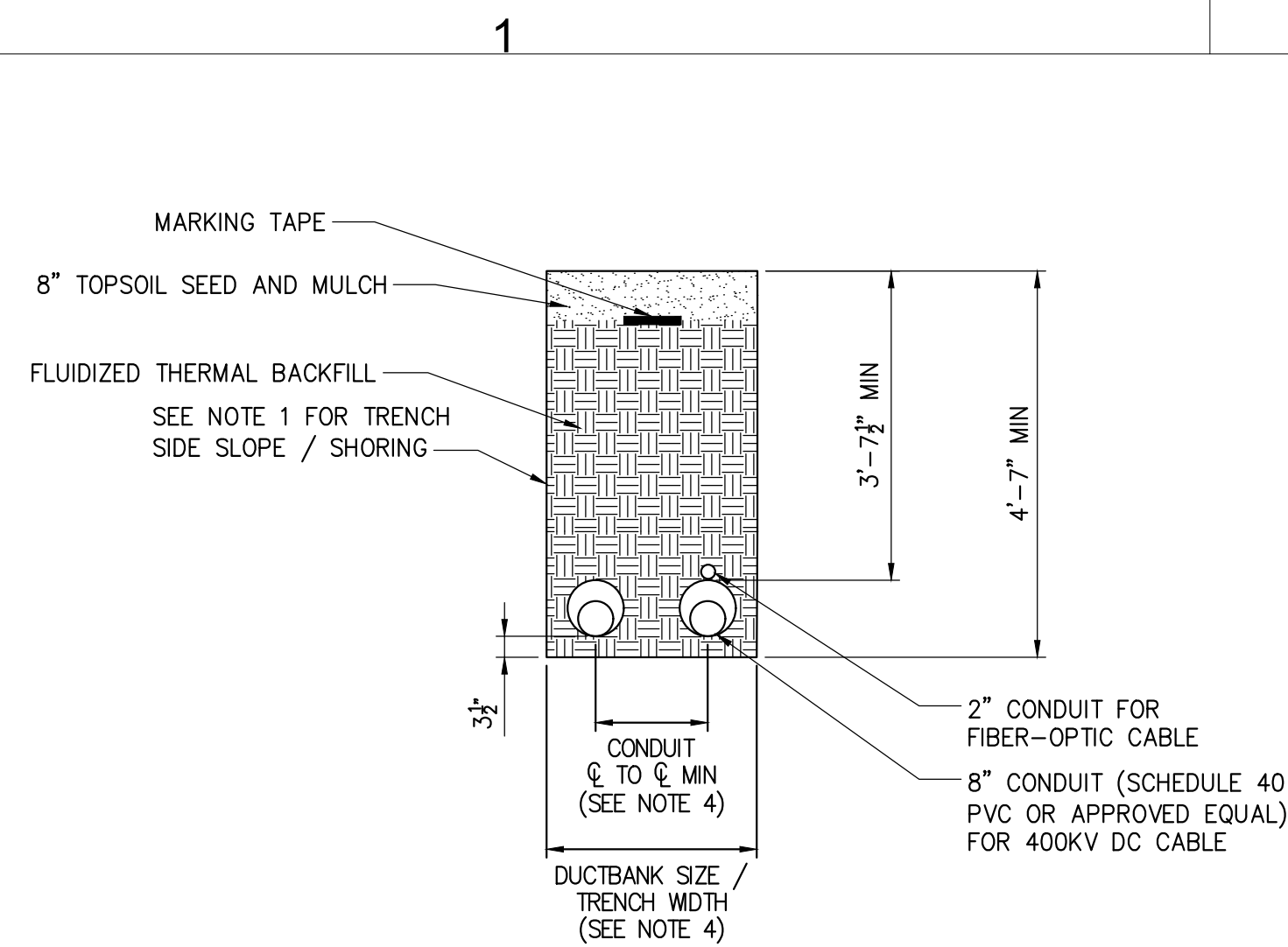
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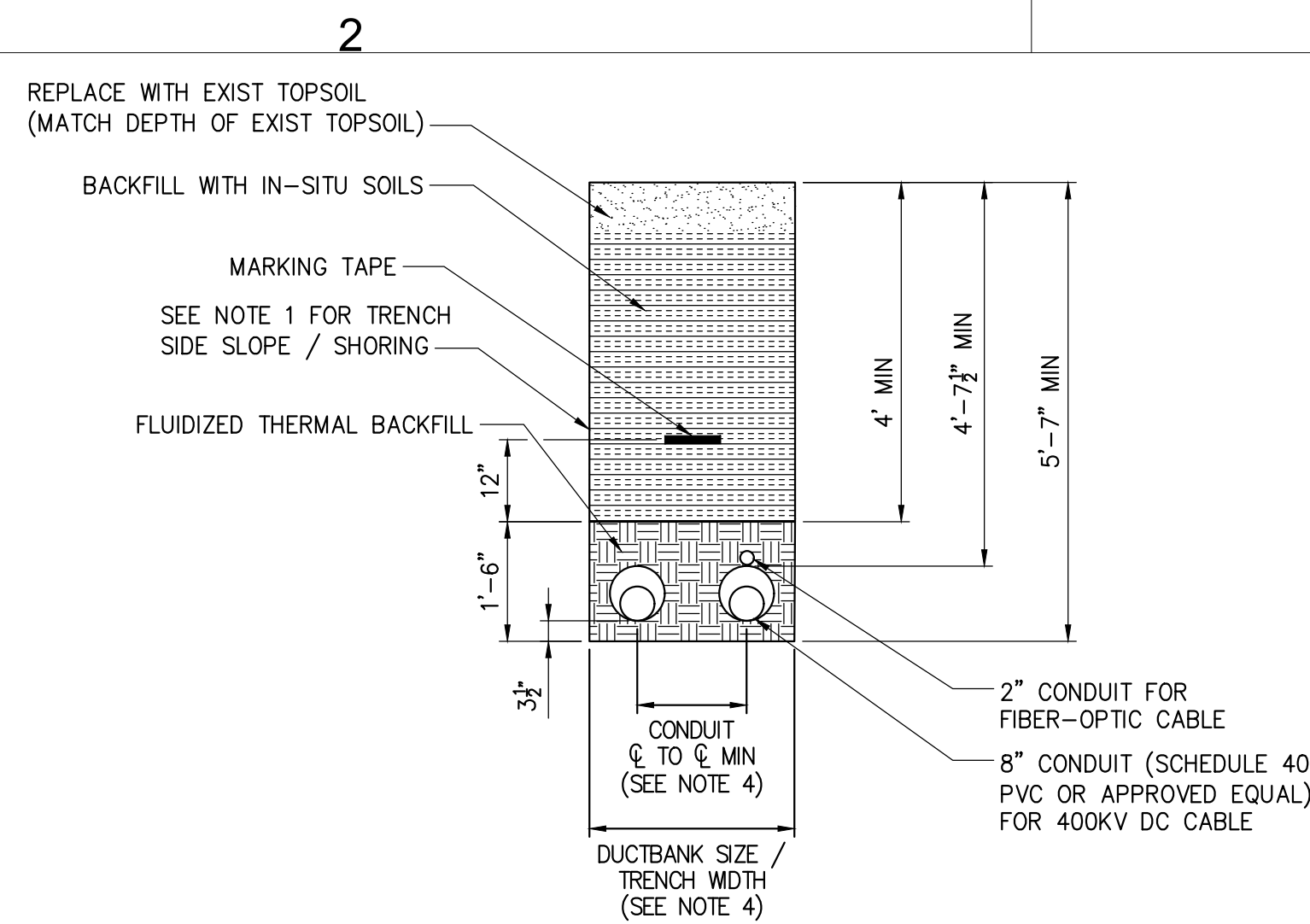
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A	12/16/2022	FINAL SUBMISSION	MK	NH
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM
WETLAND CROSSING DETAILS

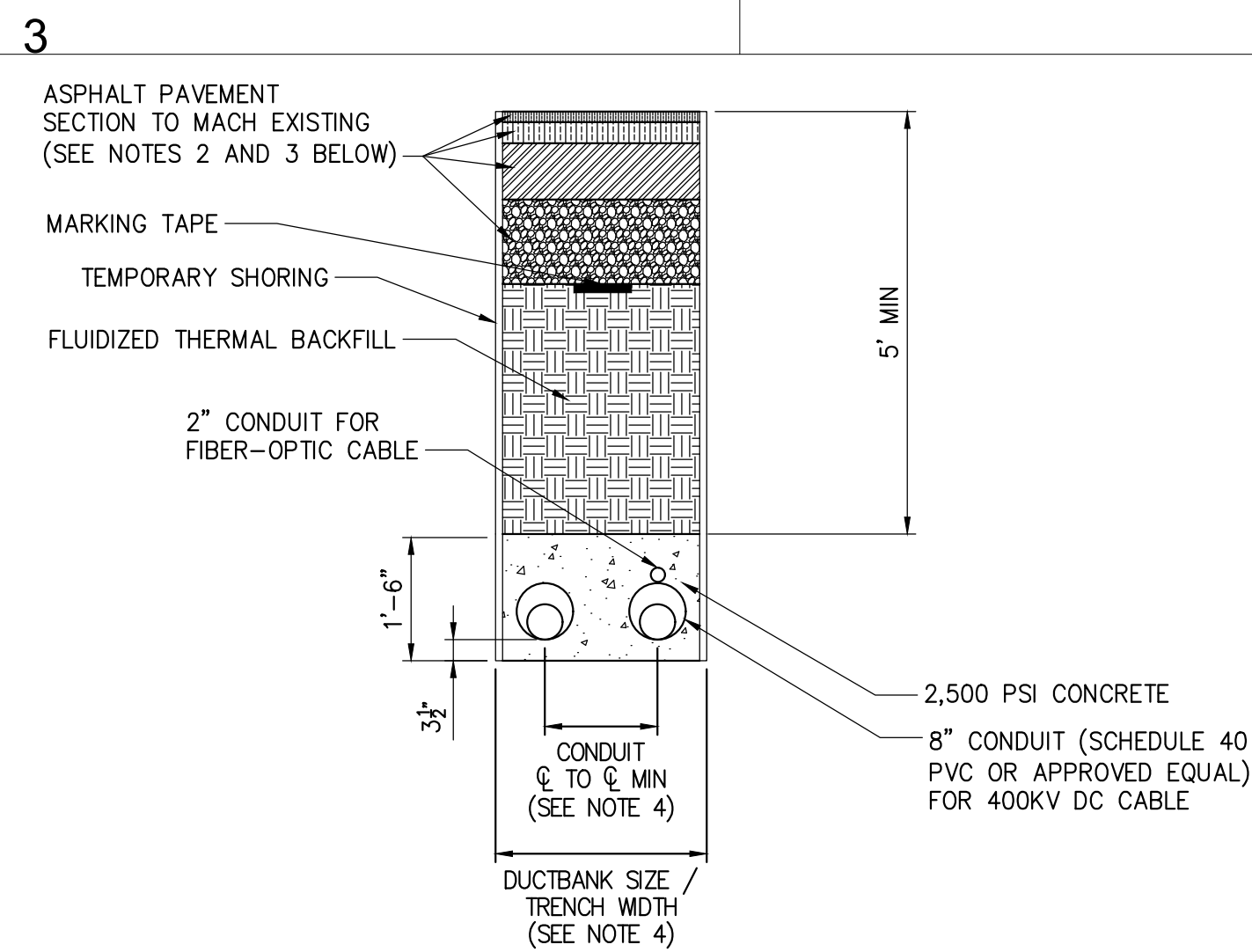
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KC PROJECT NO.	120174
DRAWING NO.	C-611
DRAWN BY:	MK
DESIGNED BY:	MK
APPROVED BY:	NH
SCALE	AS SHOWN
REV. NO.	A
DATE	12/16/2022
SH. NO.	OF



OPEN TRENCH



OPEN TRENCH WITHIN AGRICULTURAL LANDS

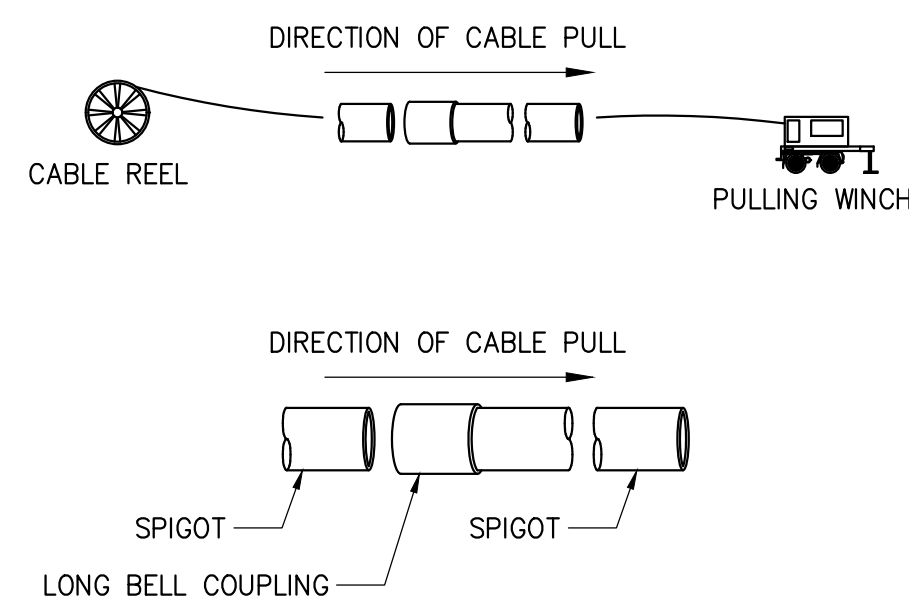


DUCTBANK IN ROADWAY

- NOTES:
1. SLOPING, BENCHING, OR SHORING SHALL BE IN ACCORDANCE WITH OSHA EXCAVATION STANDARDS, 29 CFR PART 1926, SUBPART P. AT LOCATIONS WHERE THE TRENCH IS NOT SHORED, SLOPING AND/OR BENCHING WILL DEPEND ON TYPE OF SOILS ENCOUNTERED ON SITE. SLOPE FROM EDGE OF ROADWAY TO BOTTOM OF EXCAVATIONS MAY BE FLATTER THAN 2:1 (H:V) FOR AASHTO HS-20 LOADING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EVALUATING SLOPE STABILITY BASED ON ACTUAL EQUIPMENT FOR SITE OPERATIONS AS DETERMINED BY A GEOTECHNICAL ENGINEER.
 2. SEE DETAIL 4 ON DETAIL SHEET C-631 FOR PAVEMENT TRANSITION DETAIL.
 3. SEE SHEET C-631 FOR SURFACE RESTORATION DETAILS.
 4. SEE PLAN AND PROFILE SHEETS FOR CONDUIT \varnothing TO \varnothing AND DUCTBANK SIZE TRENCH WIDTH (NOTE ABOVE PROFILE VIEW).

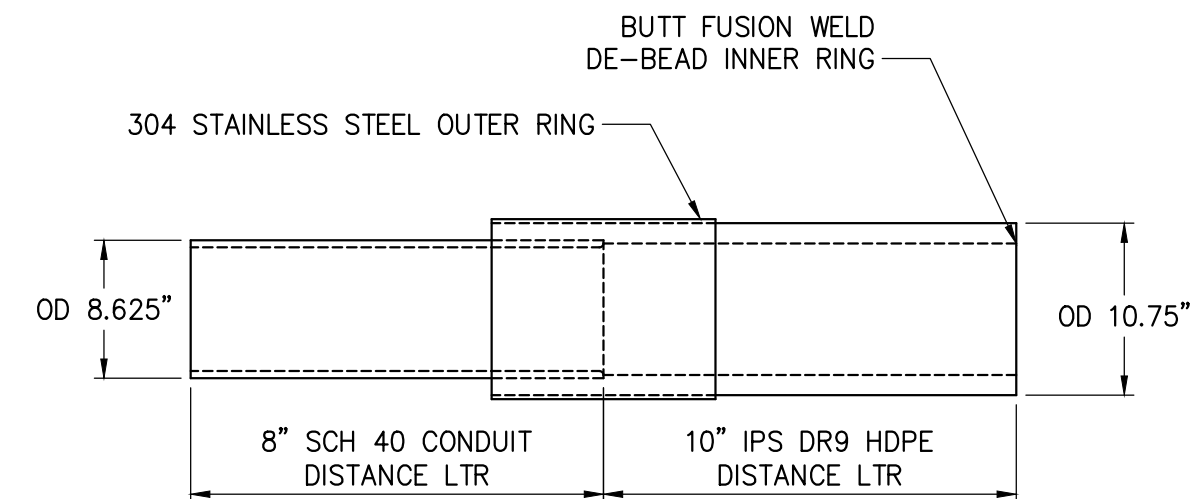
1 TYPICAL TRENCHING DETAILS

NOT TO SCALE



2 TYPICAL COUPLING DIRECTION OF PULL DETAIL

NOT TO SCALE

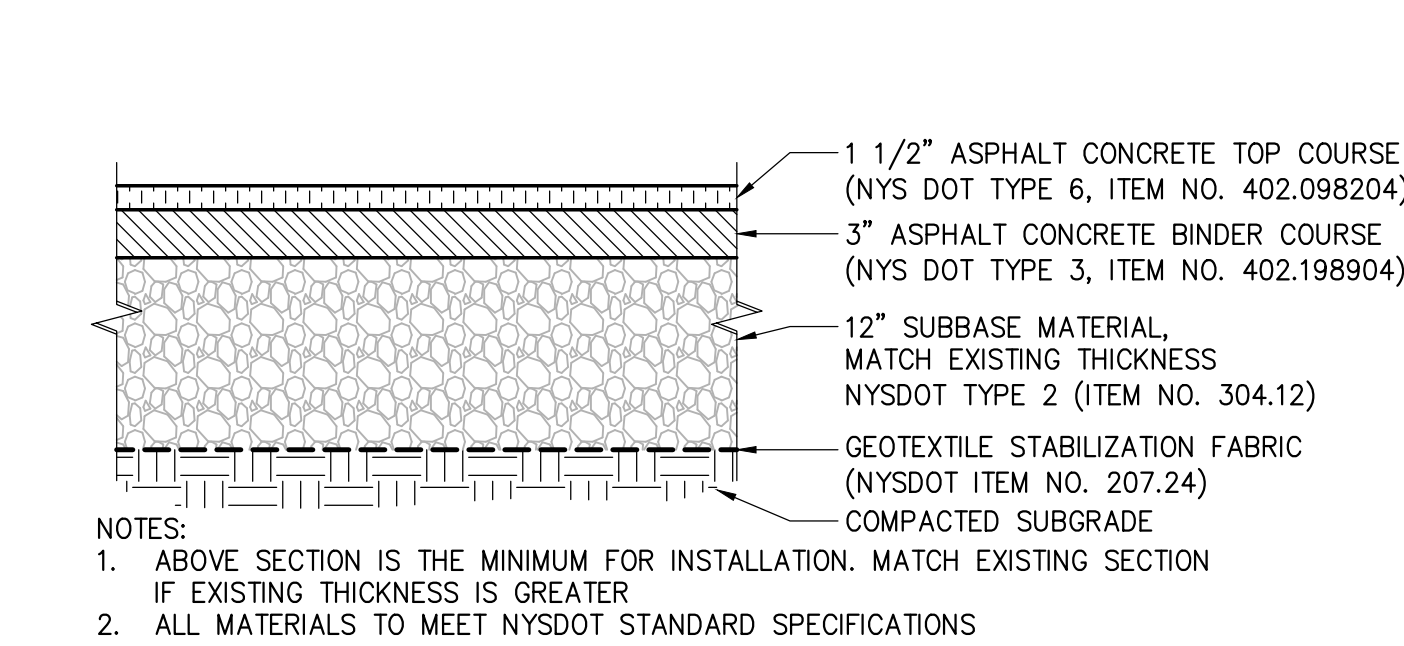


3 8"-10" PVC/HDPE TRANSITION COUPLING DETAIL

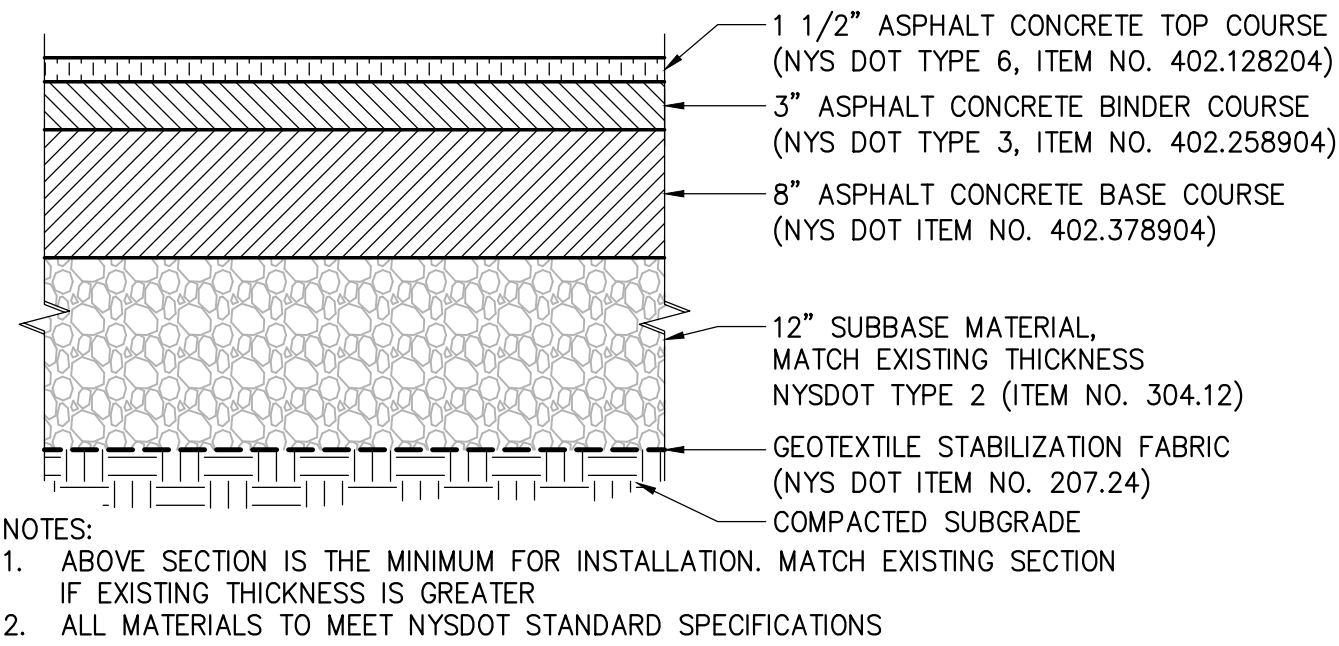
NOT TO SCALE

NOTE:
THIS TRANSITION COUPLING COMES ASSEMBLED
AS A UNIT. POLY-CAM, ISCO INDUSTRIES P/N:
737-1008PVC40P0109 TRANSITION COUPLING
SHALL ARRIVE FROM VENDOR WITH NO ROUGH
EDGES OR PROTRUSIONS ON INTERIOR.
INTEGRITY OF COUPLING TO BE FIELD-VERIFIED
PRIOR TO INSTALLATION. IF UNSATISFACTORY,
CONTRACTOR TO SHAPE OR SAND MINOR
IRREGULARITIES PRIOR TO INSTALLATION.

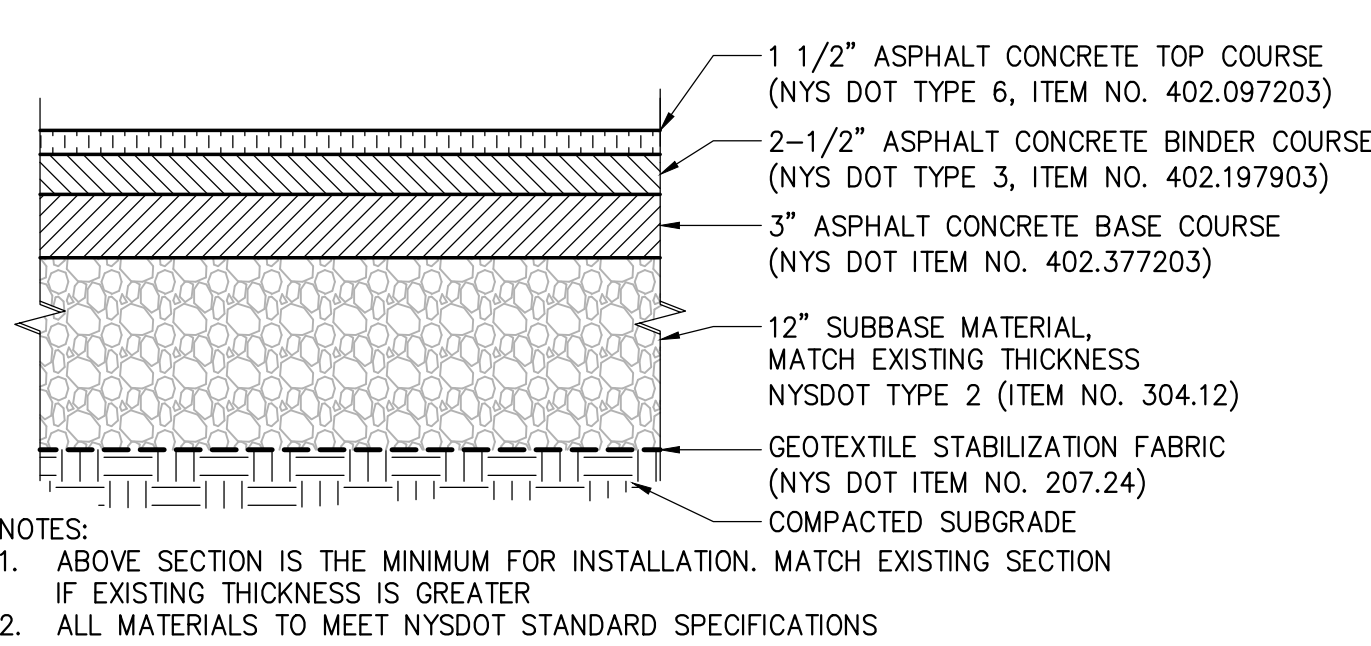
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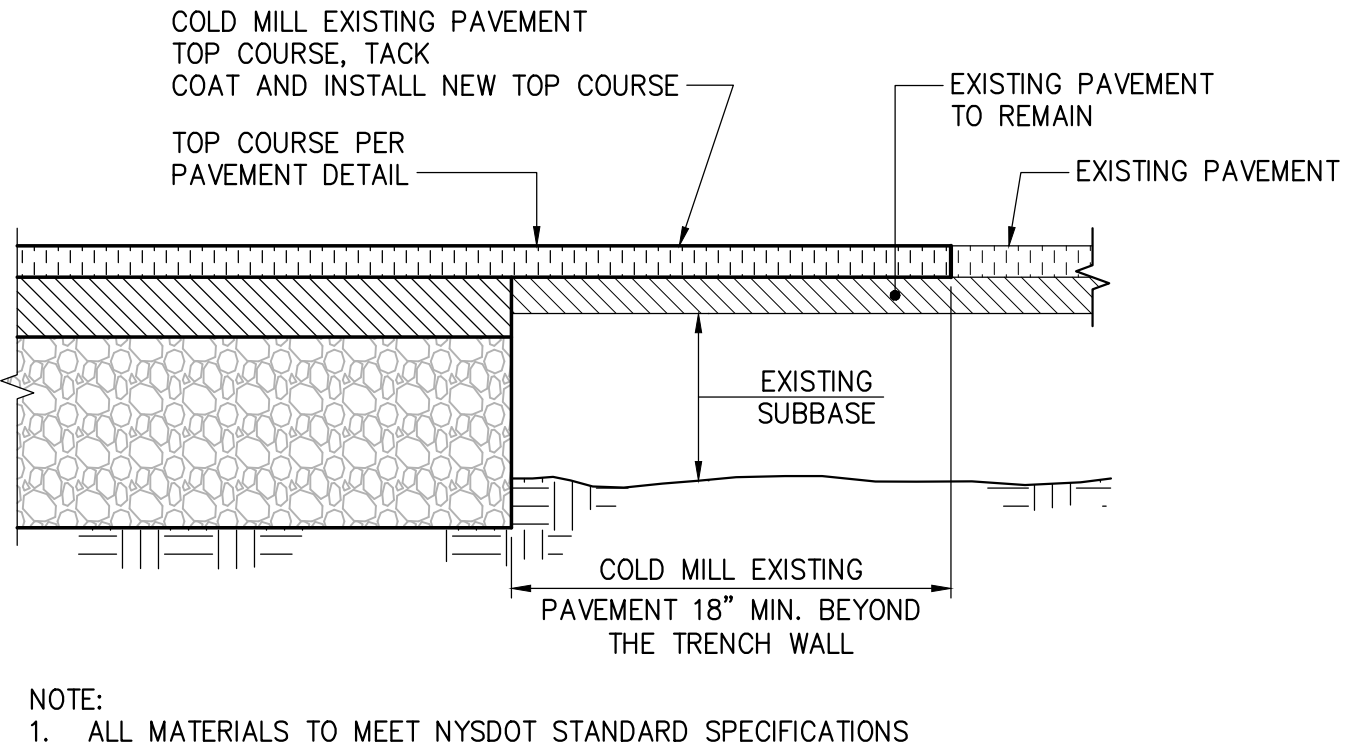
1 ASPHALT CONCRETE PAVEMENT DETAIL
(PRIVATE DRIVEWAY)
SCALE: N.T.S.



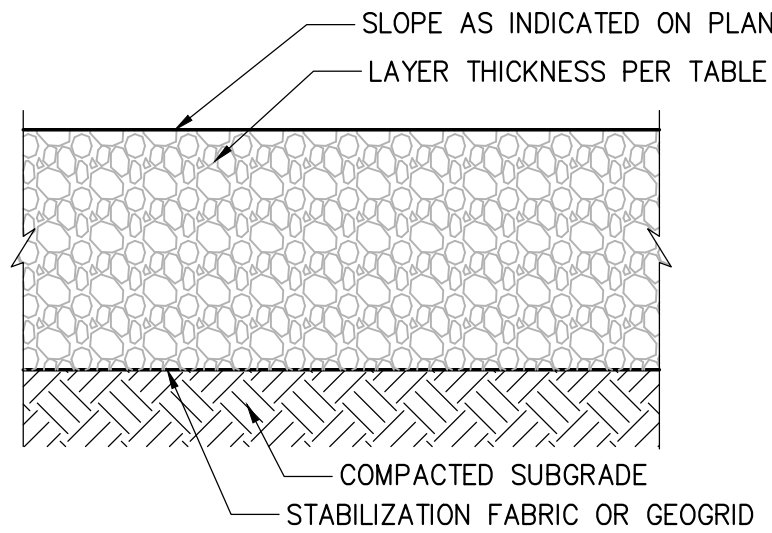
2 ASPHALT CONCRETE PAVEMENT
(WITHIN NYSDOT ROADWAYS)
SCALE: N.T.S.



3 ASPHALT CONCRETE PAVEMENT
(WITHIN COUNTY OR TOWN ROADWAYS)
SCALE: N.T.S.



4 PAVEMENT TRANSITION DETAIL
SCALE: N.T.S.

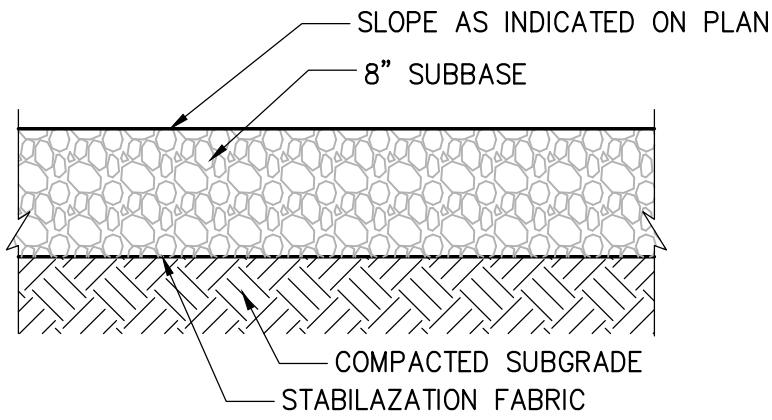


TEMPORARY ACCESS ROAD SECTION			
CBR	180N GEOTEXTILE	BX1200 GEOGRID ²	RS580I GEOTEXTILE
0.5	24 INCH RIP RAP ³ + 6 INCH AGGREGATE ⁴	--	24 INCH RIP RAP + 4 INCH AGGREGATE
1.0	20 INCH AGGREGATE	12 INCH AGGREGATE	9 INCH AGGREGATE
1.5	15 INCH AGGREGATE	9 INCH AGGREGATE	--
2.0	12 INCH AGGREGATE	6 INCH AGGREGATE	--
3.0+	9 INCH AGGREGATE	6 INCH AGGREGATE	--

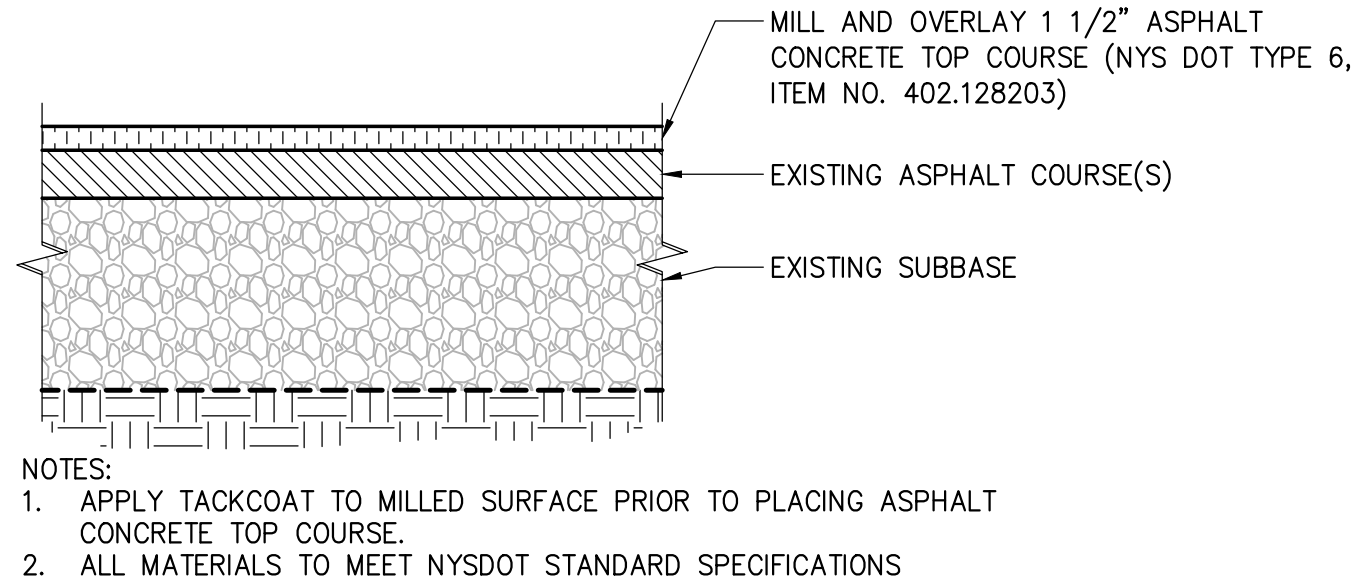
NOTES:
¹ ESTIMATE CBR IN THE FIELD USING A DYNAMIC CONE PENETROMETER.
² SEPARATOR GEOTEXTILE FABRIC SUCH AS MIRAFI 140N SHOULD BE INCLUDED BENEATH GEOGRID LAYER ON COHESIVE SUBGRADE
³ RIP RAP TO BE NYSDOT LIGHT STONE FILL.
⁴ A LAYER OF #57 STONE MAY BE REQUIRED ON TOP OF GEOTEXTILE TO PREVENT DAMAGING OR PUNCHING OF THE FABRIC.
⁵ GEOGRID AND GEOTEXTILES SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATION INCLUDING OVERLAP AND EDGE DETAILS.

NOTE:
ACCESS ROAD SECTIONS PER KIEWIT GEOTECHNICAL

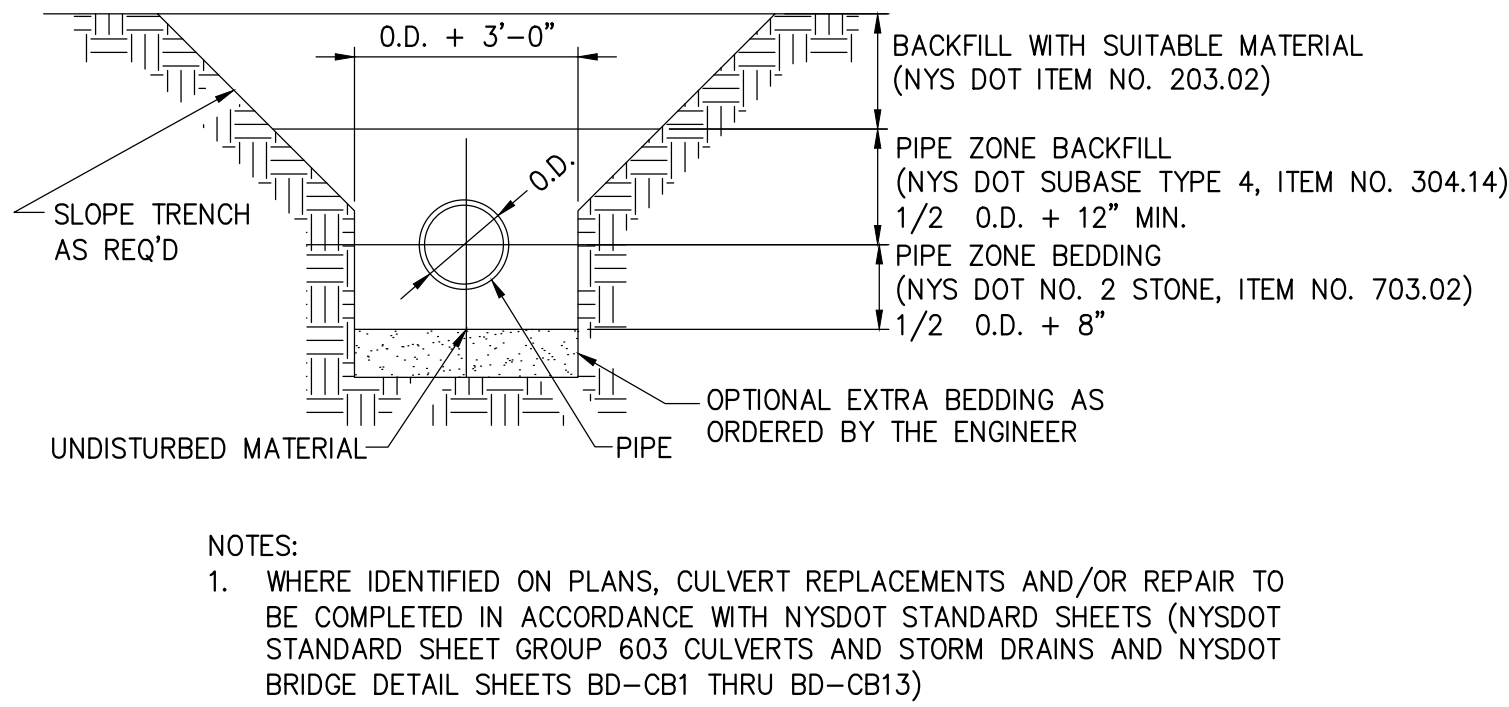
5 TEMPORARY ACCESS ROAD
SCALE: N.T.S.



6 GRAVEL PAVEMENT
SCALE: N.T.S.



7 MILL AND OVERLAY ASPHALT CONCRETE PAVEMENT DETAIL
SCALE: N.T.S.



8 CULVERT REPLACEMENT
SCALE: N.T.S.



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
E	12/16/2022	FINAL SUBMISSION	BV	TK
D	11/11/2022	DRAFT FINAL SUBMISSION	BV	TK
C	06/06/2022	60% DESIGN SUBMISSION	BV	TK
B	02/11/2022	PRELIMINARY DESIGN DEVELOPMENT	BV	TK
A	01/24/2022	PRELIMINARY PROGRESS	BV	TK

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM
SURFACE RESTORATION DETAILS

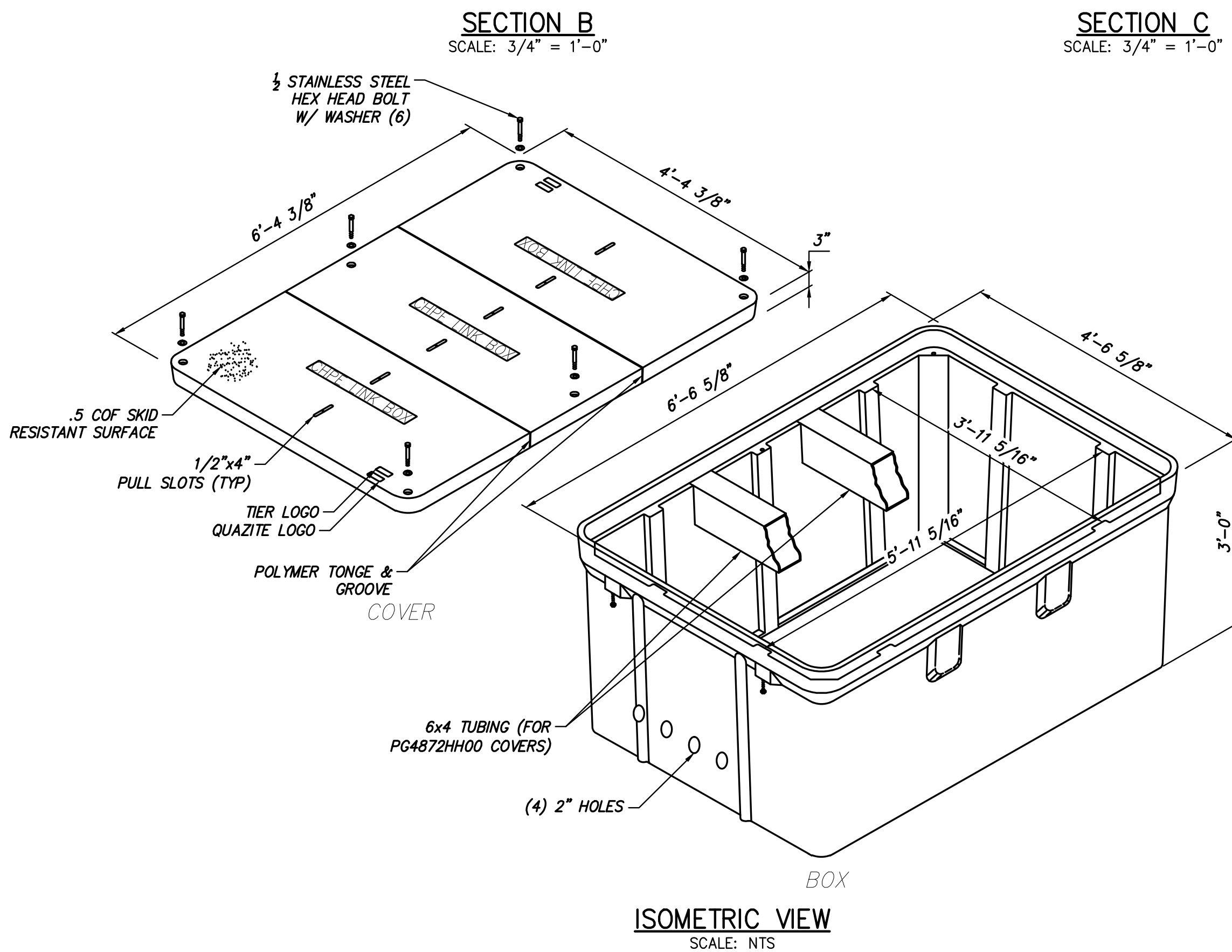
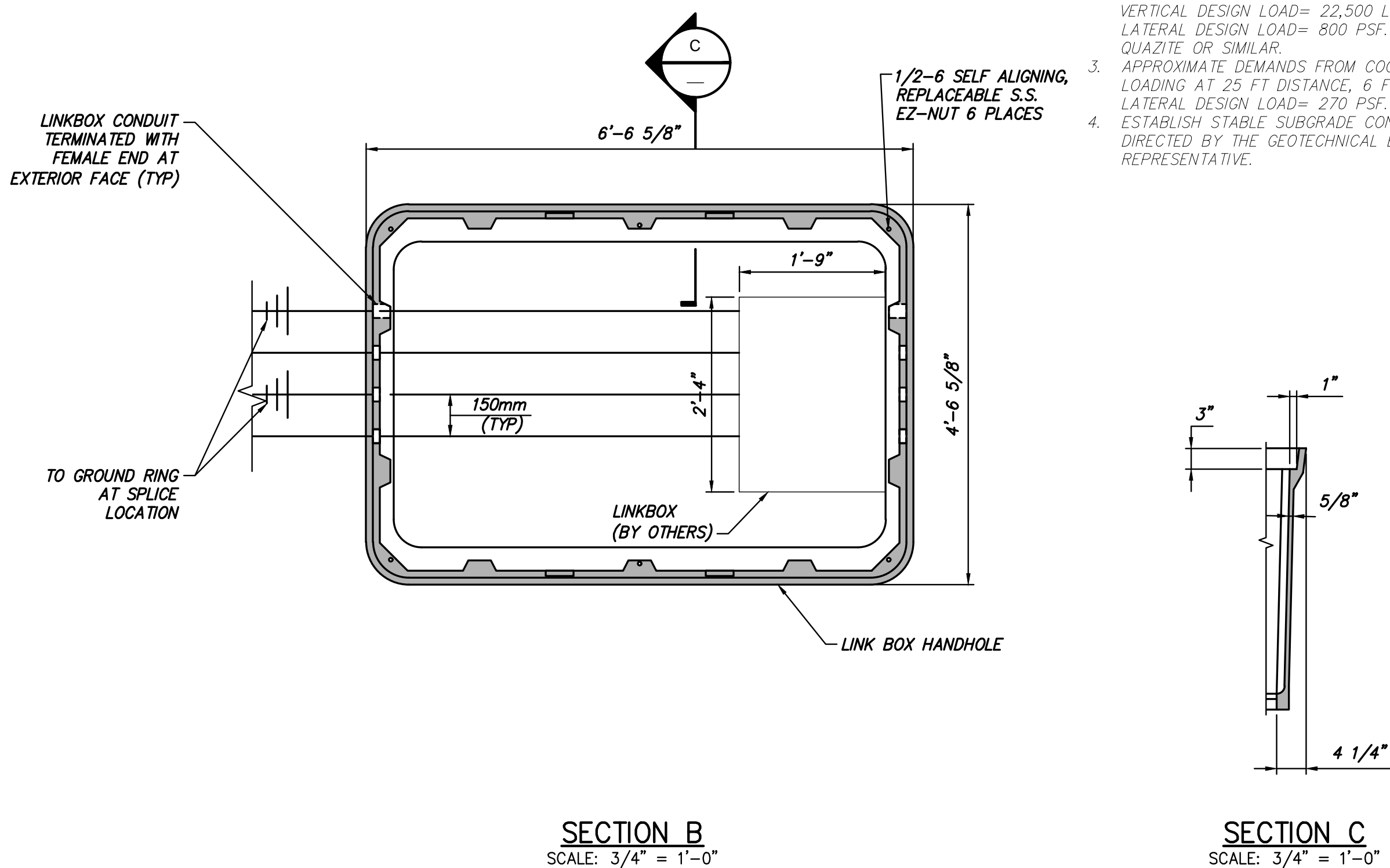
DRAWN BY:	AR	DESIGNED BY:	BV	APPROVED BY:	TK	SCALE	AS SHOWN	DATE	12/16/2022
						REV. NO.	E	SH. NO.	OF

KIEWIT PROJECT NO.
21162

DRAWING NO.

C-631

1. FOR LINK BOX DETAILS SEE ELECTRICAL DRAWINGS.
2. DESIGN LIVE LOAD: ANSI TR 22 (OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC).
VERTICAL DESIGN LOAD = 22,500 LBS;
LATERAL DESIGN LOAD = 800 PSF.
QUAZITE OR SIMILAR.
3. APPROXIMATE DEMANDS FROM COOPER E-80 LIVE LOADING AT 25 FT DISTANCE, 6 FT BELOW GROUND:
LATERAL DESIGN LOAD = 270 PSF.
4. ESTABLISH STABLE SUBGRADE CONDITIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE.



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					CHAMPLAIN HUDSON POWER EXPRESS					KIEWIT PROJECT NO. 21162	
										DRAWING NO.	
										S-711	
0	12/16/2022	FINAL SUBMISSION	JNK	OO							
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN B	DATE SH.NO.	12/16/2022



SCALE: $1/16'' = 1'-0''$



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



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



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CHAMPLAIN HUDSON POWER EXPRESS

BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
PLAN AND ELEVATION

KIEWIT PROJECT NO.

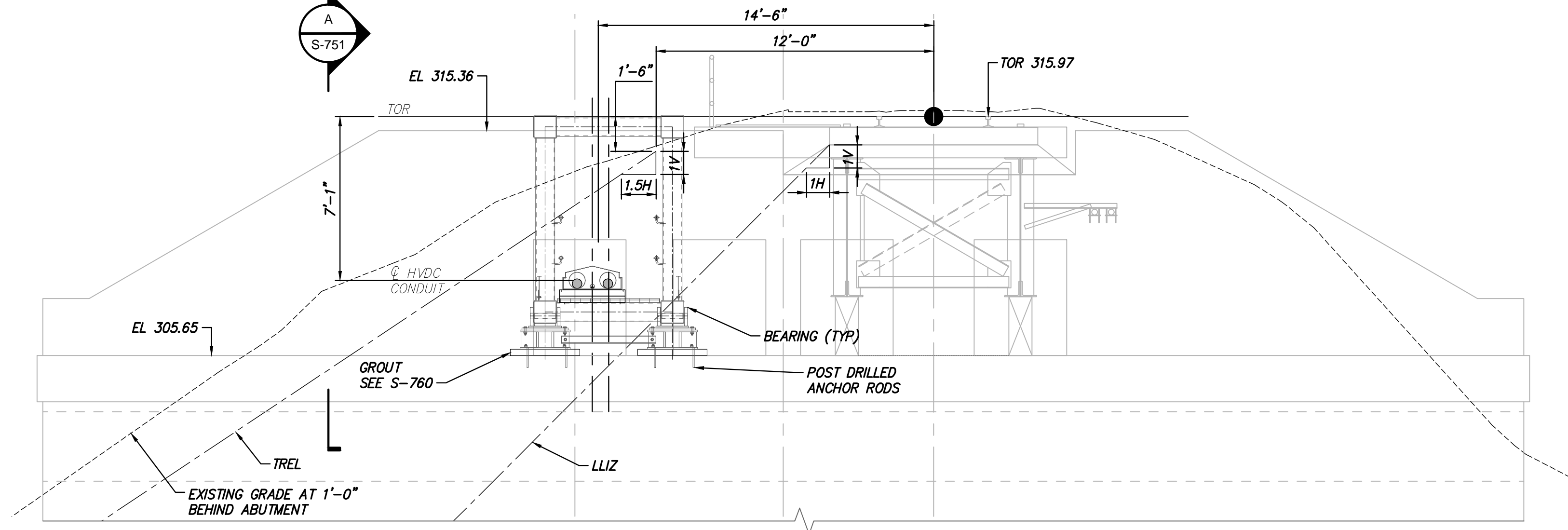
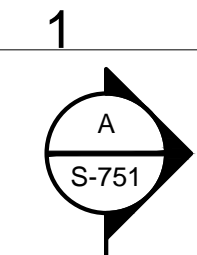
21162

DRAWING NO.

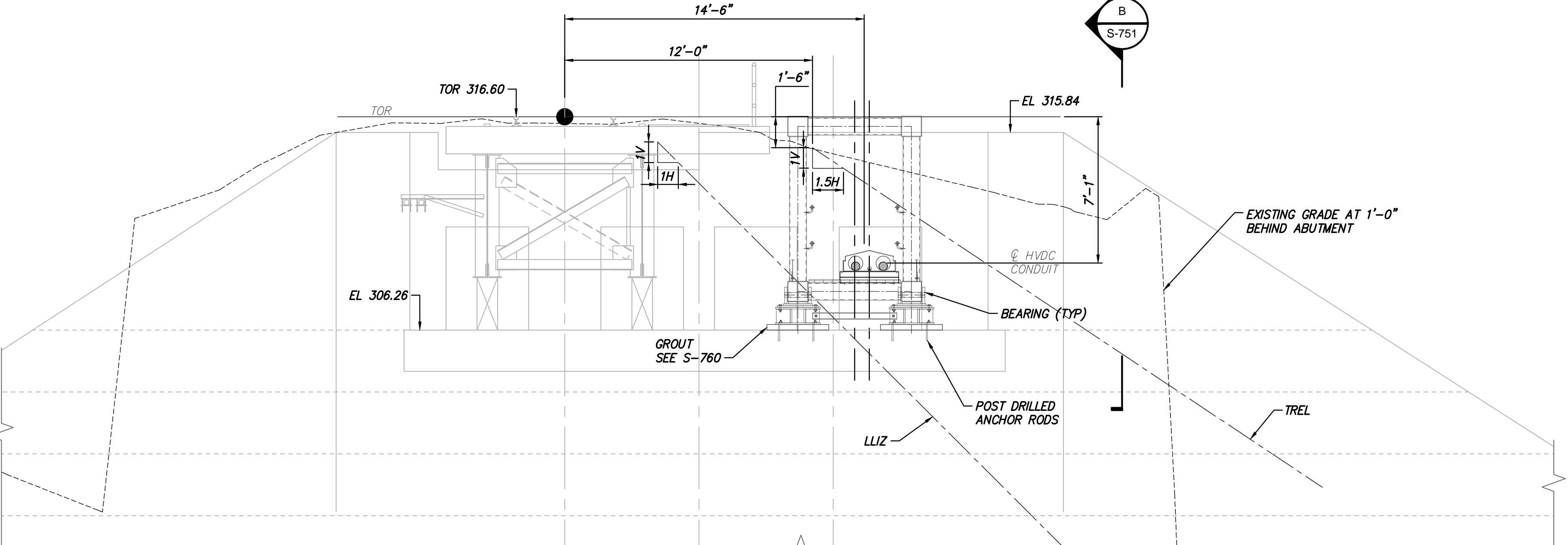
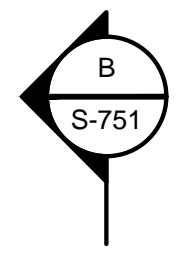
S-750

DATE	12/16/2022
SH.NO.	

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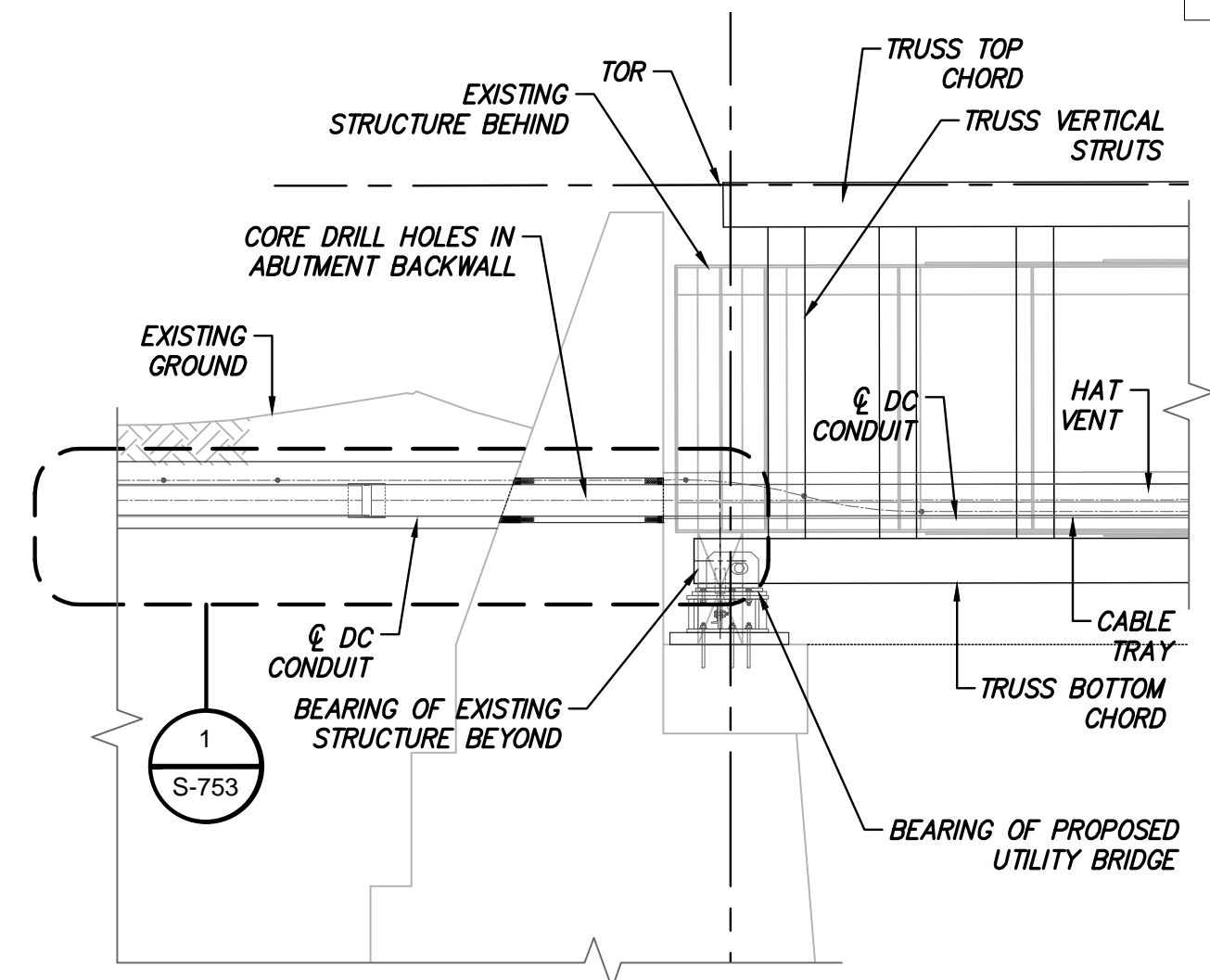


NORTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"



SOUTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"

3



SECTION A
SCALE: 1/4" = 1'-0"

4

BRIDGE NO. 8

NOTES:

- UTILITY TRUSS BRIDGE DESIGN PER AREMA.
- WEIGHT OF CABLE TRAY + HAT VENT = 20.57 PLF
WEIGHT OF CABLE + CONDUITS (2xDC+1xF0) = 47.53 PLF
WEIGHT OF CABLE TRAY WITH CABLES & CONDUITS = 68.1 PLF
- ENVIRONMENTAL LOADS PER AREMA §15 -1.3.8 :
TRANSVERSE WIND = 50 PSF
LONGITUDINAL WIND = 50% x 50 PSF = 25 PSF

ENVIRONMENTAL LOADS PER ASCE 7-16 §7:
SNOW LOAD = 45 PSF

LIVE LOAD DURING CONSTRUCTION / INSPECTION = 60PSF

CABLE PULL LOADS TO BE CONSIDERED PENDING ALIGNMENT FINALIZATION.

- CABLE TRAY ACCOMODATES EXPANSION/CONTRACTION OVER UNISTRUTS WITH HOLD DOWN CLAMP & EXPANSION GUIDE.

FOR SW FIBERGLASS CONDUITS (RTRC, REINFORCED THERMOSET RESIN CONDUIT), PROVIDE:
- NO EXPANSION JOINT, FOR CONDUIT LENGTH LESS THAN 50FT,
- ONE EXPANSION JOINT MIDWAY, FOR CONDUIT LENGTH BETWEEN 50FT & 200FT,
- ONE EXPANSION JOINT EVERY 200FT APART, FOR CONDUIT LENGTH OVER 200FT, ANCHORING BETWEEN 0-RINGS.

TEMPERATURE CHANGE OF 120°F ON 100FT LONG SW FIBERGLASS (RTRC) CONDUIT RESULTS IN ±1.8IN EXPANSION/CONTRACTION. 0-RING EXPANSION JOINT PROVIDES ±6IN OF FREE TRAVEL IN EACH DIRECTION AT SET POSITION.

- DRILL ABUTMENT BACKWALL WITH 2 x 12IN DIA + 1 x 4IN DIA CORE DRILLS, AT EACH ABUTMENT. USE RUBBER LINK SEAL (GARLOCK OR SIMILAR) BETWEEN THE RTRC CONDUIT & DRILLED SURFACE TO PROVIDE WATERTIGHTNESS. LINK SEALS INSTALLED AT 1.5IN MIN RECESS. COVER LINK SEAL SURFACE WITH GROUT.
- UTILITY TRUSS BRIDGE TO BE SUPPORTED ON EXISTING PIERS OVER NEW BEARINGS.
- DIMENSIONS TO BE VERIFIED WITH FIELD SURVEY.
- SEE SHEETS C-124 & C-125 FOR PLAN & PROFILE.
- FOR DUCTBANK TO BRIDGE TRANSITION, SEE S-753.
- SEE TEMPORARY WORKS DRAWINGS FOR SHORING CONSTRUCTION DETAILS.
- TREL: THEORETICAL RAILROAD EMBANKMENT LINE (1.5H:1.0V STARTING AT 1'-6" BELOW AND 12'-0" AWAY FROM TOP OF RAIL CENTERLINE)
- LLIZ: RAILROAD LIVE LOAD INFLUENCE ZONE (1.0H: 1.0V STARTING AT BOTTOM EDGE OF RAIL TIE)
- FOR DUCTBANKS WITH LESS THAN 2'-6" COVER TO TOP OF DUCTBANK, EXCAVATE TRENCH AT MINIMUM 4'-0" (FROST DEPTH) FROM GROUND LEVEL, BACKFILL TRENCH BELOW DUCTBANK WITH NON-FROST-SUSCEPTIBLE FILL OR FLOWABLE FILL MATERIAL.
- STRUCTURAL STEEL PLATES & SHAPES SHALL BE ASTM A709, GRADE 50W (A588) (FY=50KSI).
- TRUSS MEMBER SIZES ARE AS FOLLOWING:

SPAN	CHORDS	STRUTS
30FT	HSS 12x12x3/8	HSS 10x10x3/8
50FT	HSS 12x12x3/8	HSS 10x10x3/8
60FT	HSS 12x12x5/8	HSS 10x10x5/8
90FT	HSS 12x12x5/8	HSS 10x10x5/8

SECTION B
SCALE: 1/4" = 1'-0"



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B	12/16/2022	FINAL SUBMISSION	JNK	OO					
A	11/11/2022	DRAFT FINAL SUBMISSION	JNK	OO					
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP					

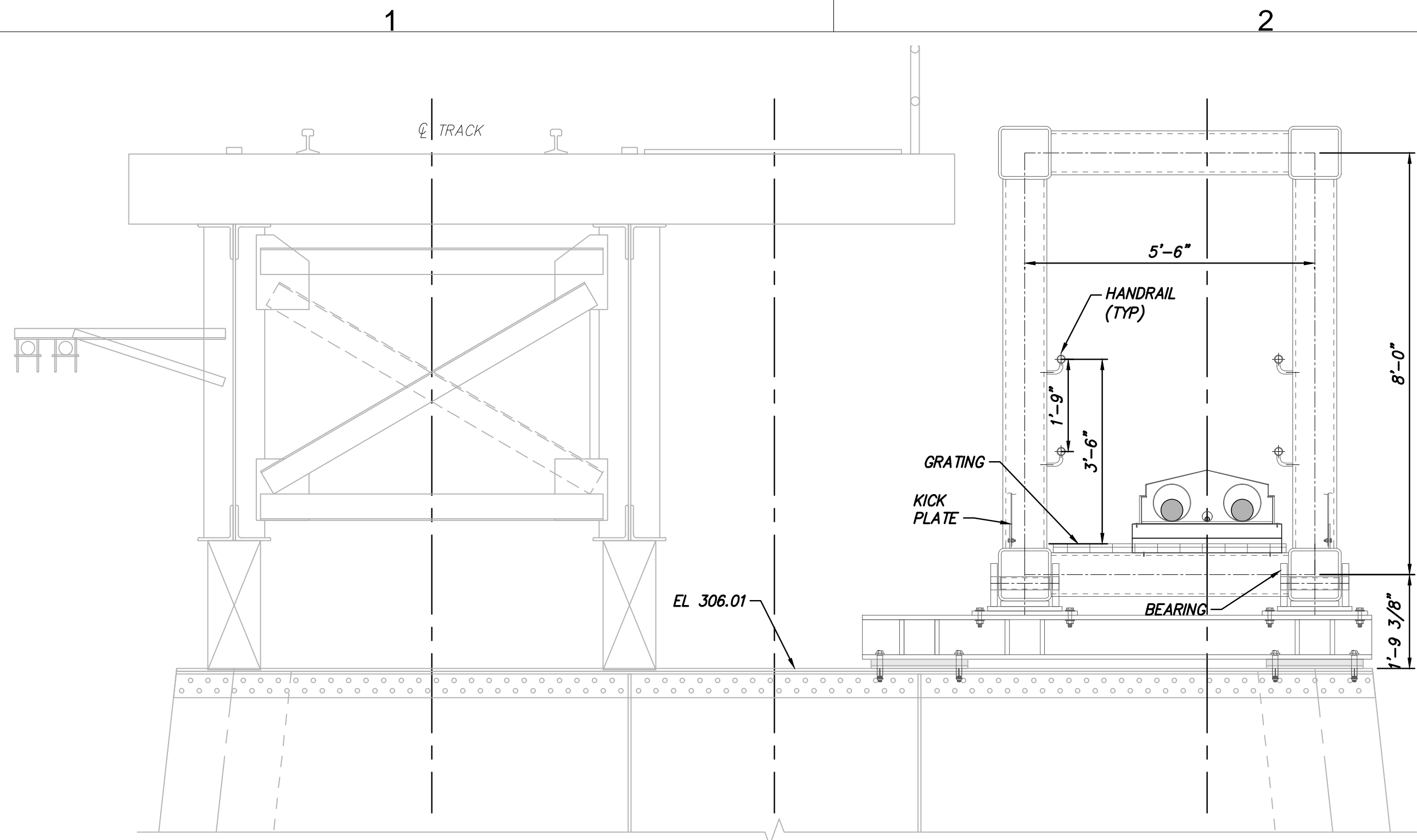
CHAMPLAIN HUDSON POWER EXPRESS

**BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
ABUTMENT ELEVATIONS AND SECTIONS**

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-751
DATE	12/16/2022
SH.NO.	B

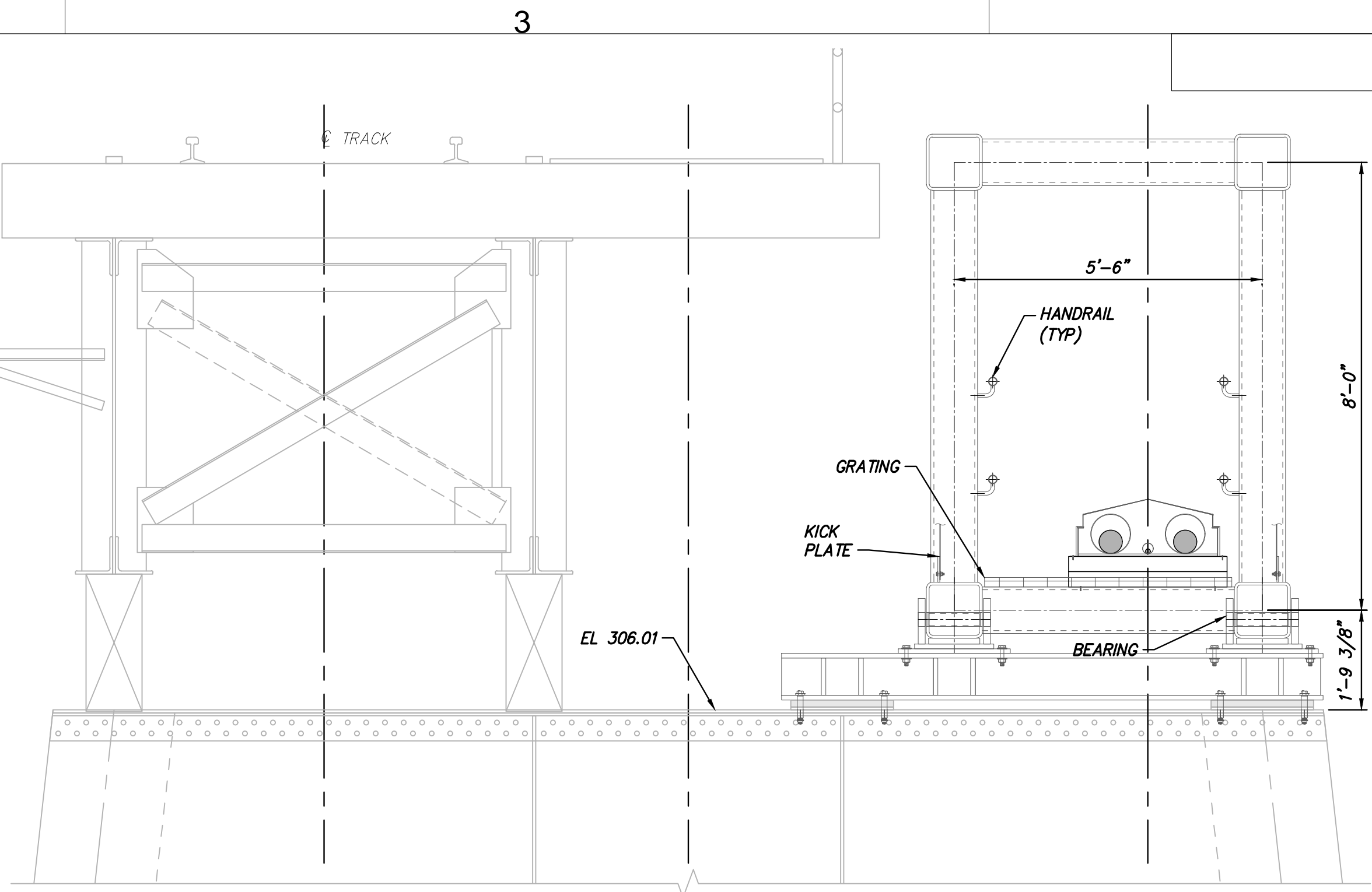
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						REV.NO.	B	SH.NO.	

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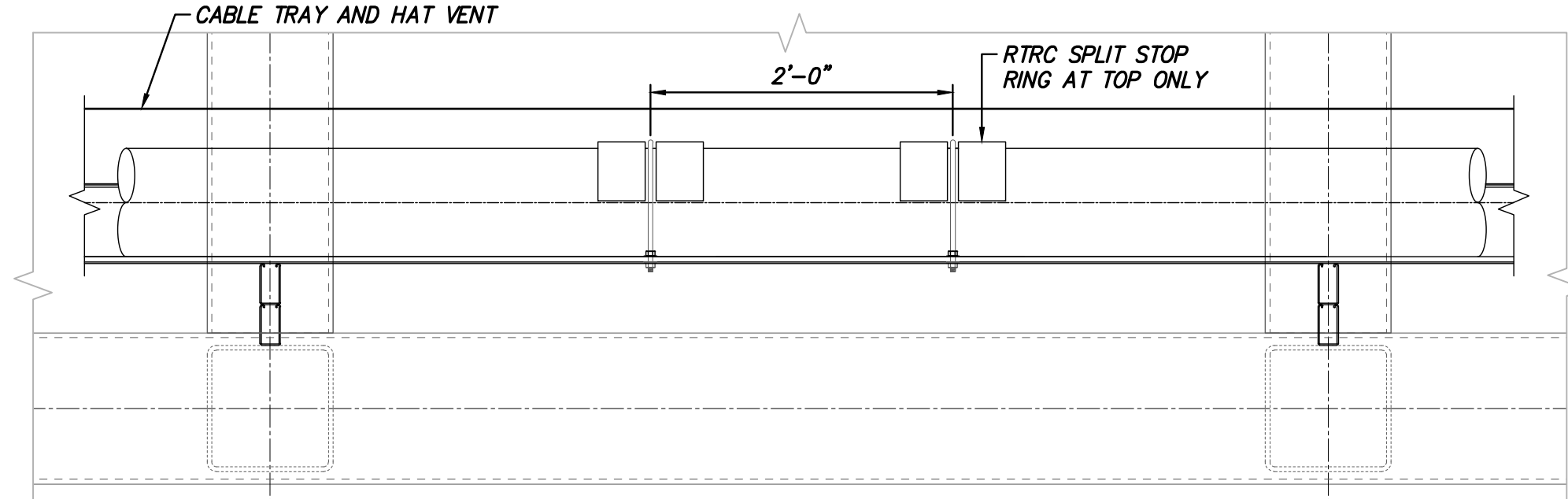
SECTION A
SCALE: 1/2" = 1'-0"

NOTE: 30' AND 50' SPANS

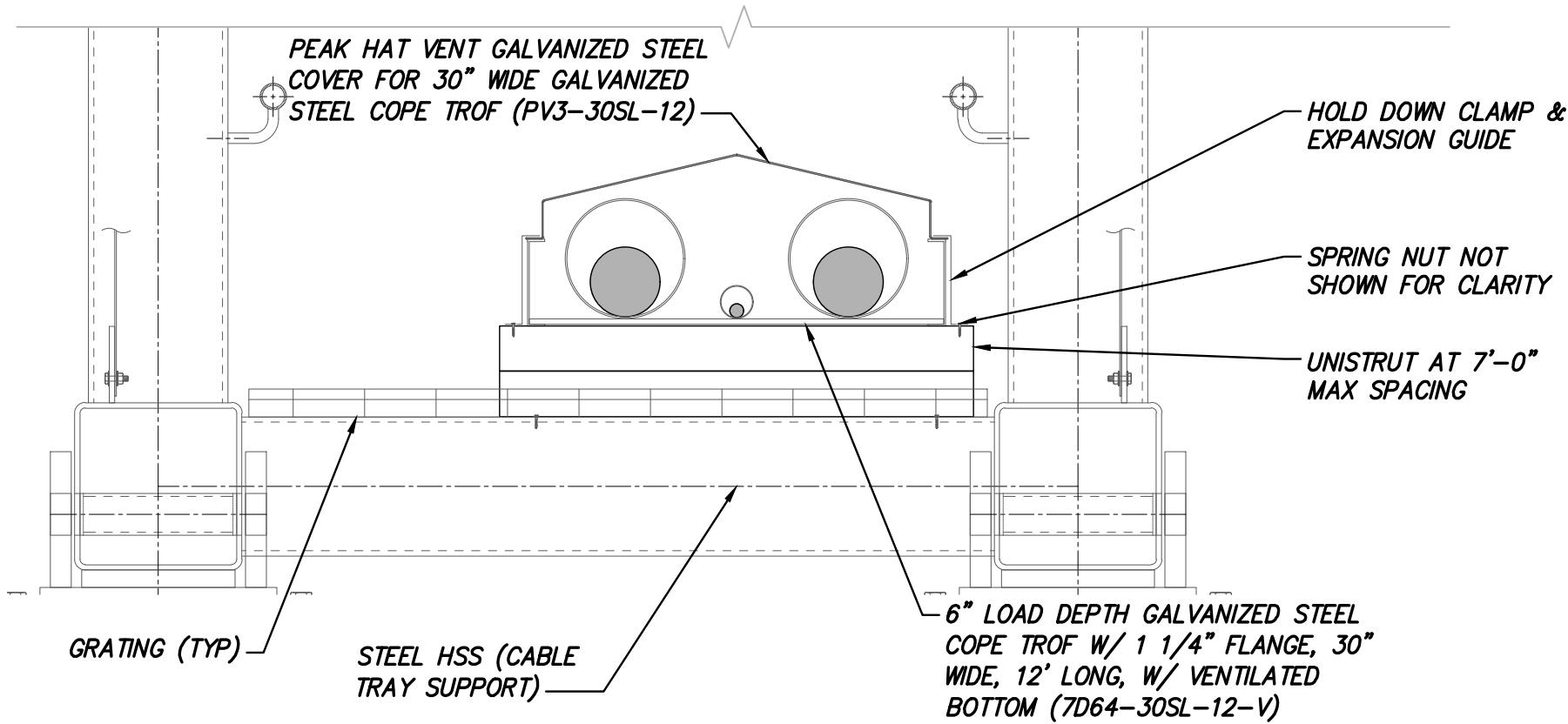


SECTION B
SCALE: 1/2" = 1'-0"

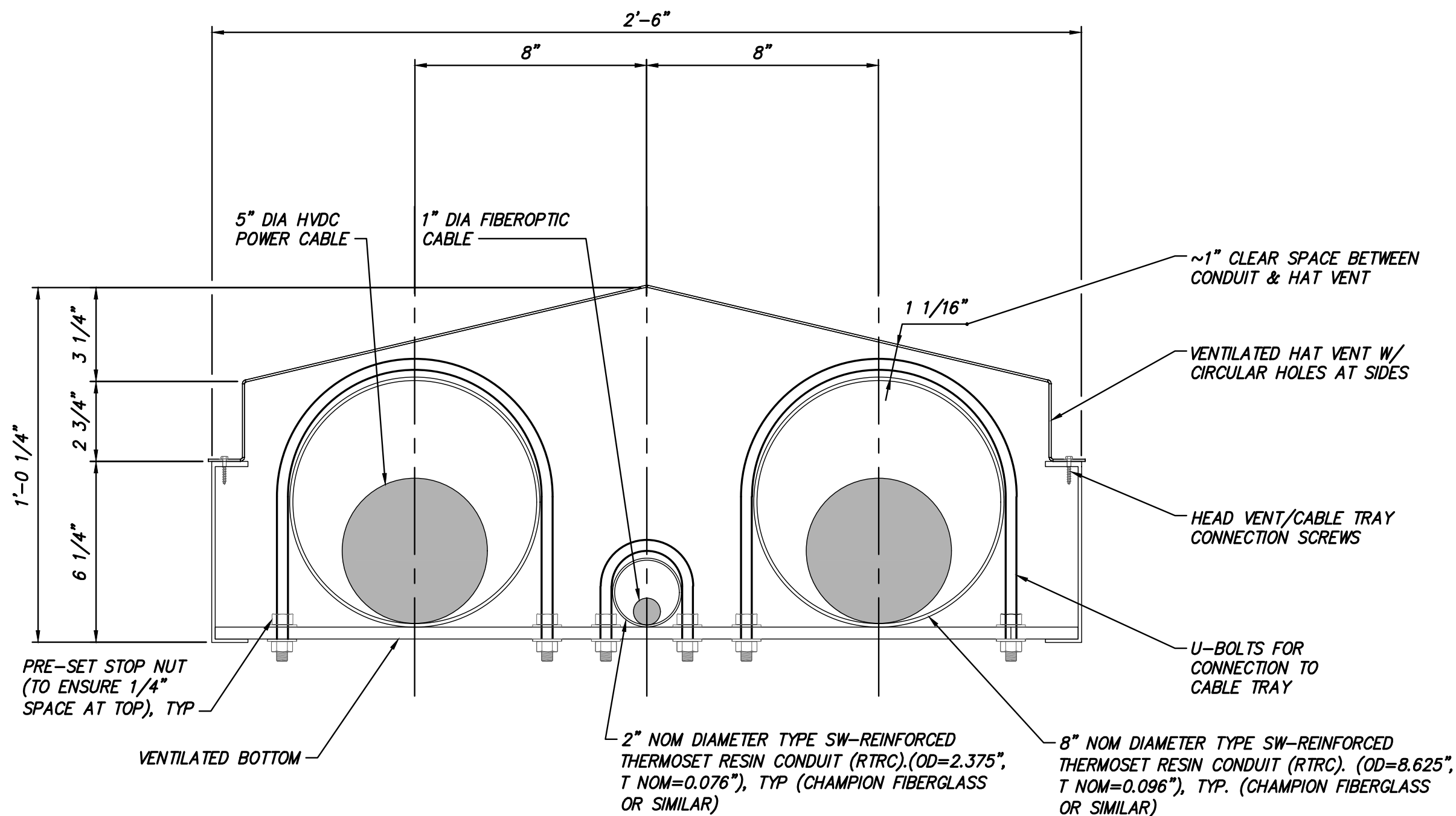
NOTE: 60' AND 90' SPANS



DETAIL 1 - ANCHORING WITH SPLIT STOP RING - ELEVATION
SCALE: 1" = 1'-0"

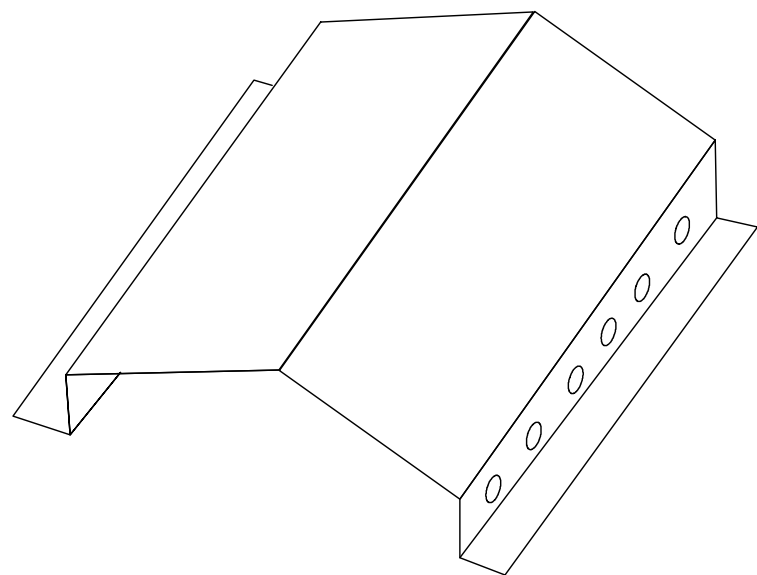


SECTION C - CABLE TRAY ATTACHMENT AT UNISTRUT SUPPORT
SCALE: 1" = 1'-0"

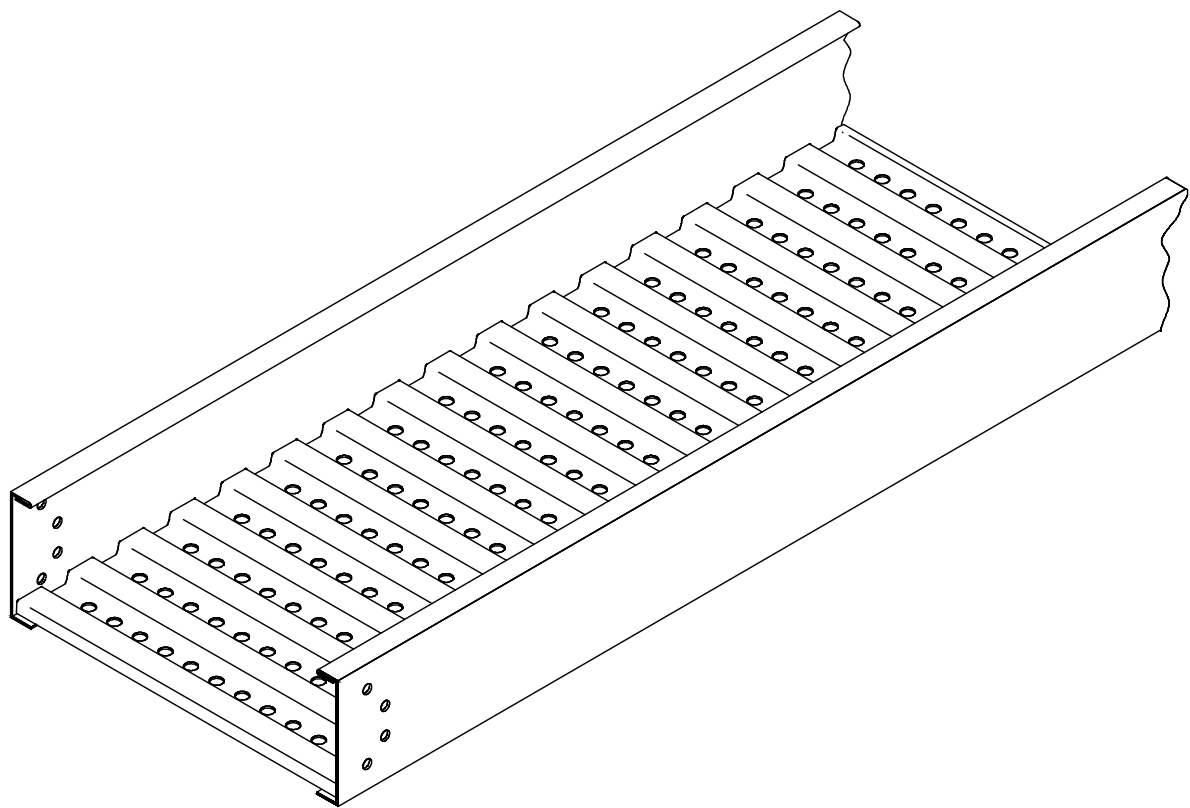


NOTE:
U-BOLTS ARE PROVIDED AT APPROXIMATELY 12'-0" SPACING. RTRC CONDUITS ARE FREE TO MOVE LONGITUDINALLY. PROVIDE MINIMUM SPACING OF 1/16" ON THE SIDES & 1/4" AT THE TOP, BETWEEN THE OUTSIDE OF RTRC CONDUIT AND THE U-BOLT. U-BOLTS NOT TO RESTRAIN CONDUIT LONGITUDINALLY.

CABLE TRAY AND HAT VENT AT U-BOLT
SCALE: 3" = 1'-0"



VENTILATED HAT - ISOMETRIC VIEW
SCALE: NTS



VENTILATED TROF - ISOMETRIC VIEW
SCALE: NTS



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B	12/16/2022	FINAL SUBMISSION	JNK	OO	
A	11/11/2022	DRAFT FINAL SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

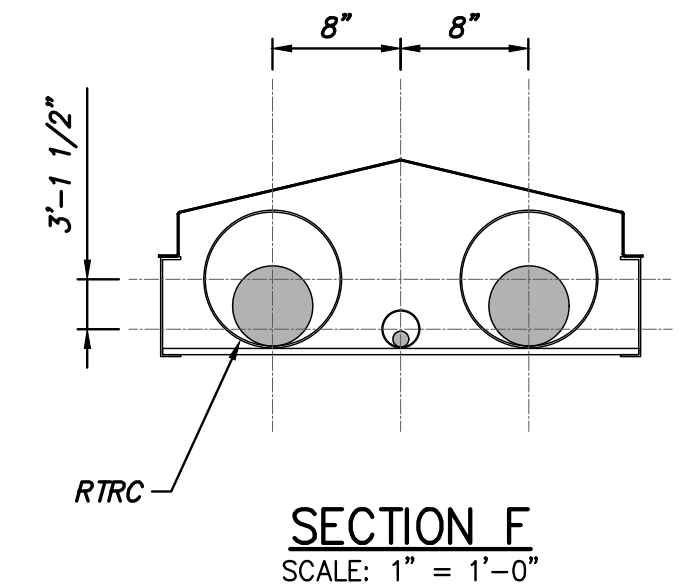
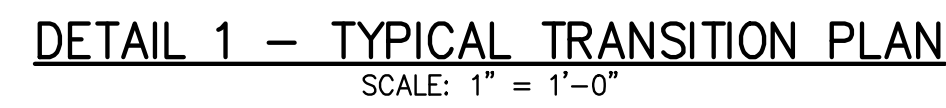
BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
SECTIONS AND DETAILS

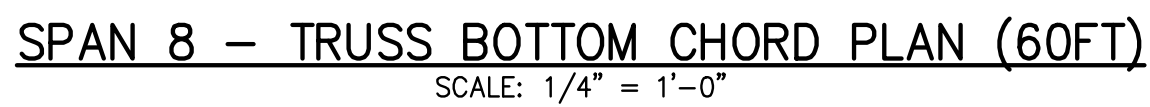
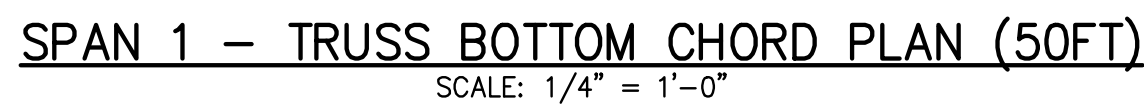
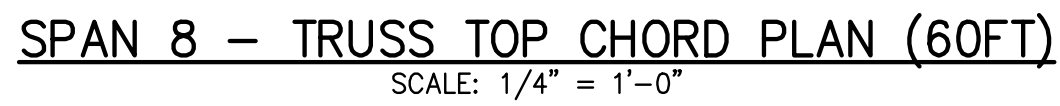
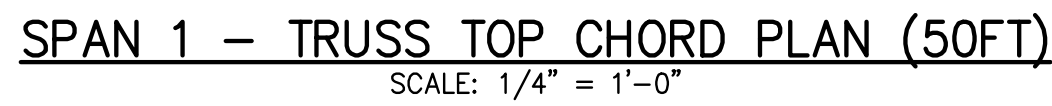
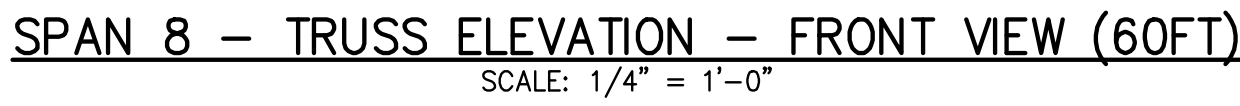
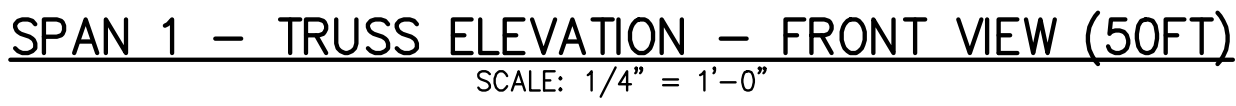
KIEWIT PROJECT NO.
21162

DRAWING NO.

S-752

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO SCALE AS SHOWN DATE 12/16/2022
REV. NO. B SH.NO.





SEE NOTES ON S-751.



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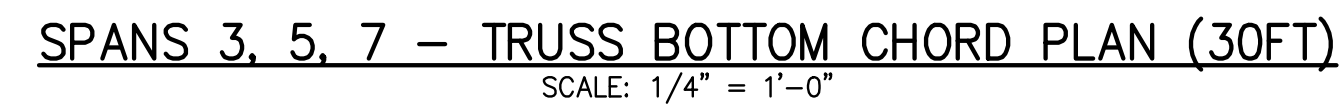
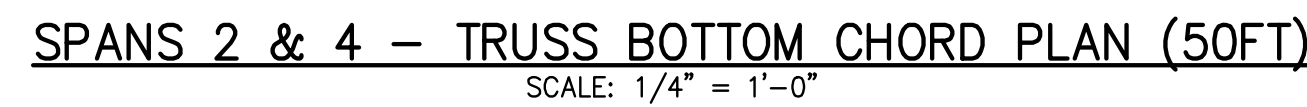
B	12/16/2022	FINAL SUBMISSION	JNK	OO
A	11/11/2022	DRAFT FINAL SUBMISSION	JNK	OO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

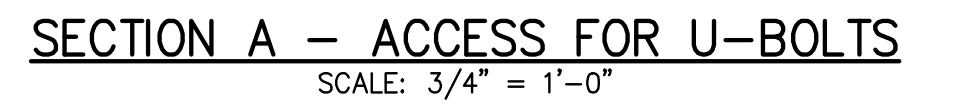
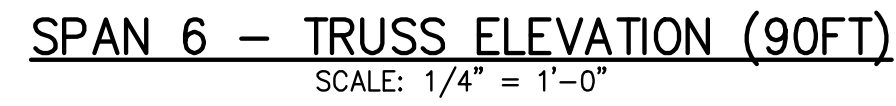
CHAMPLAIN HUDSON POWER EXPRESS

BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
SPANS 1 AND 8 - PLAN AND ELEVATION

S-754

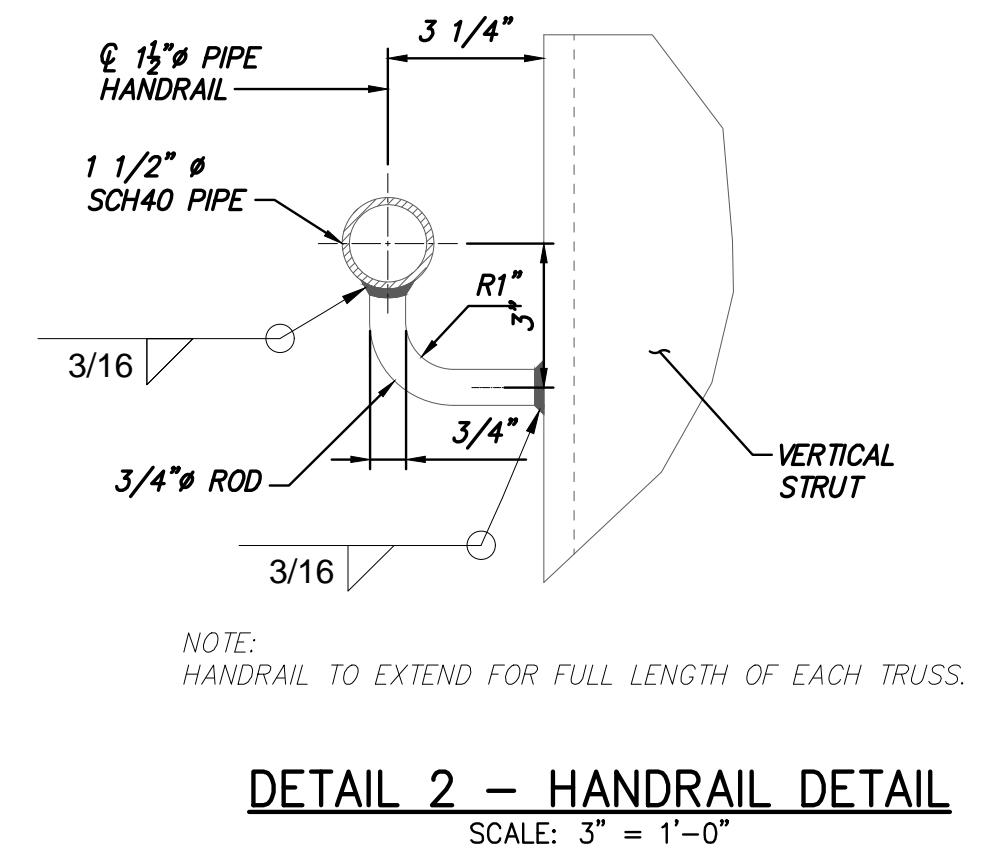
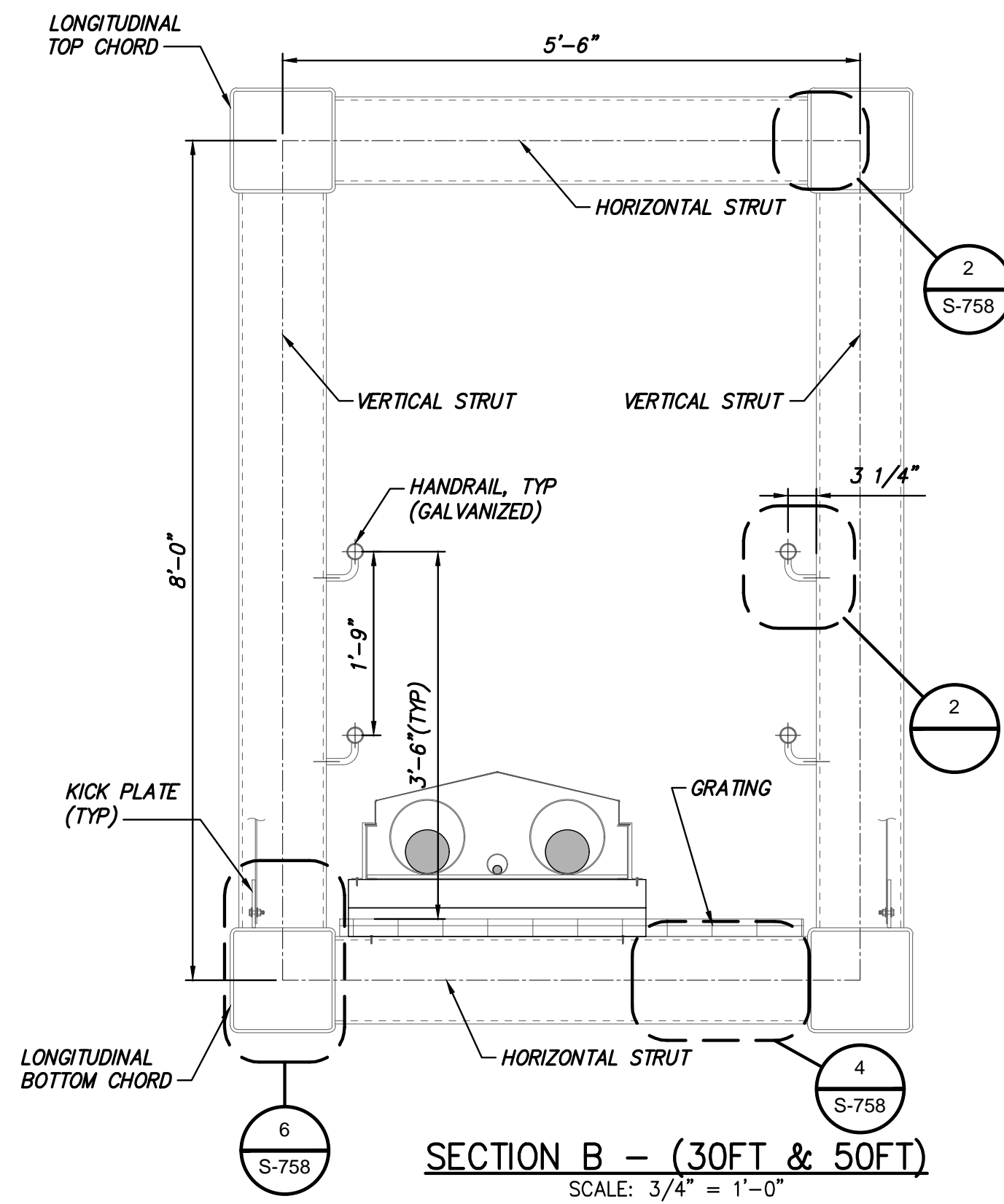
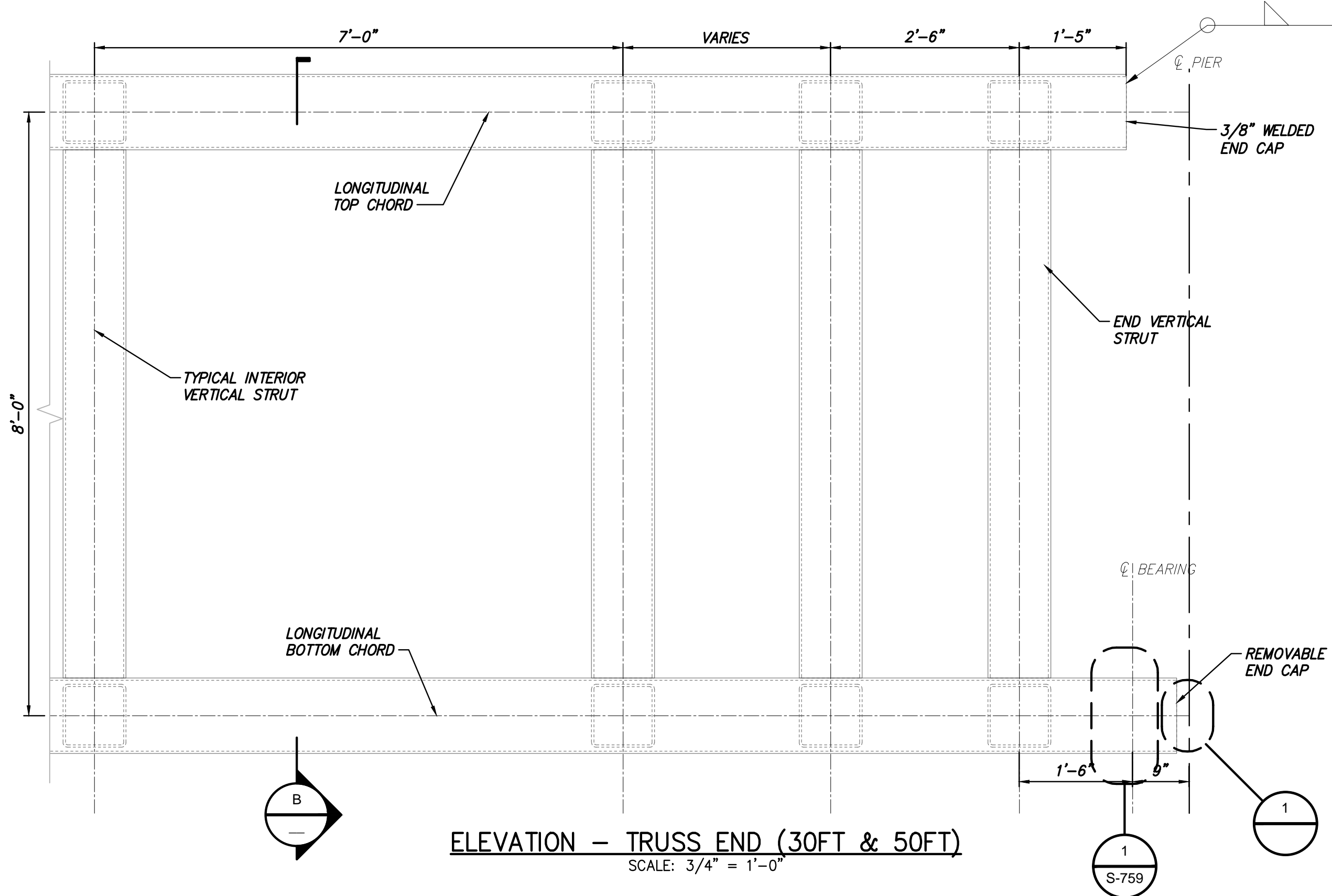
12/16/2022



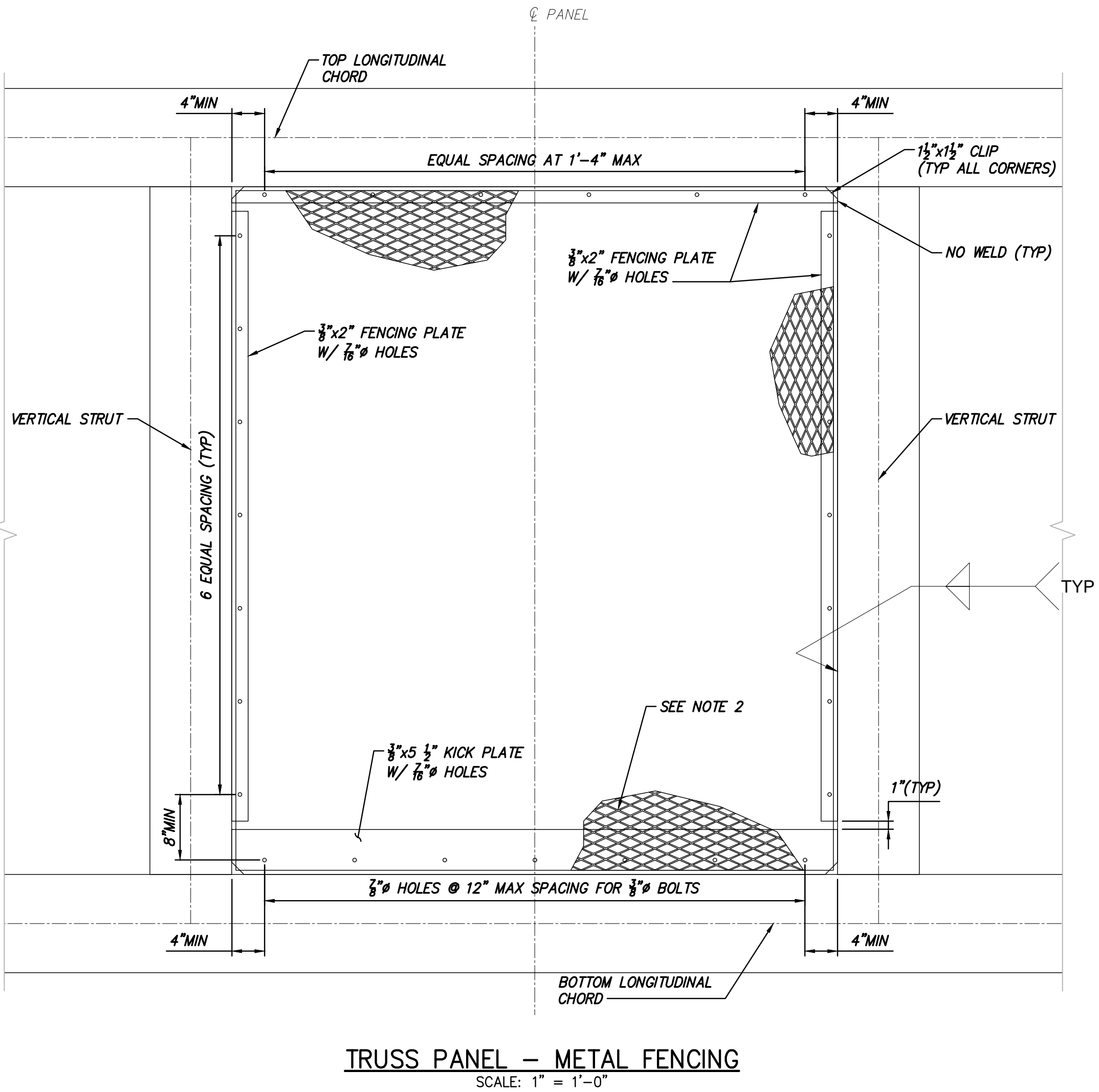
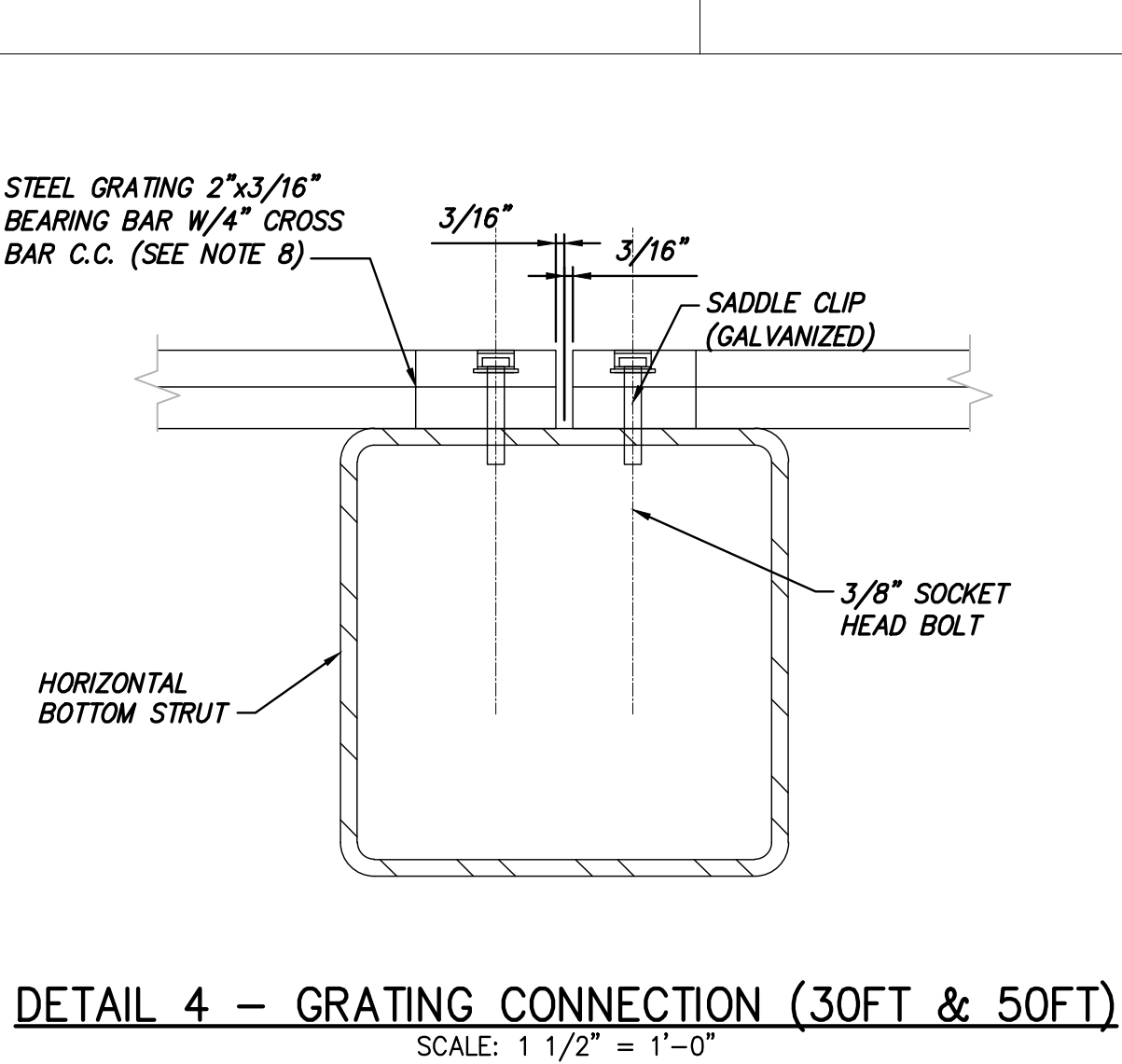
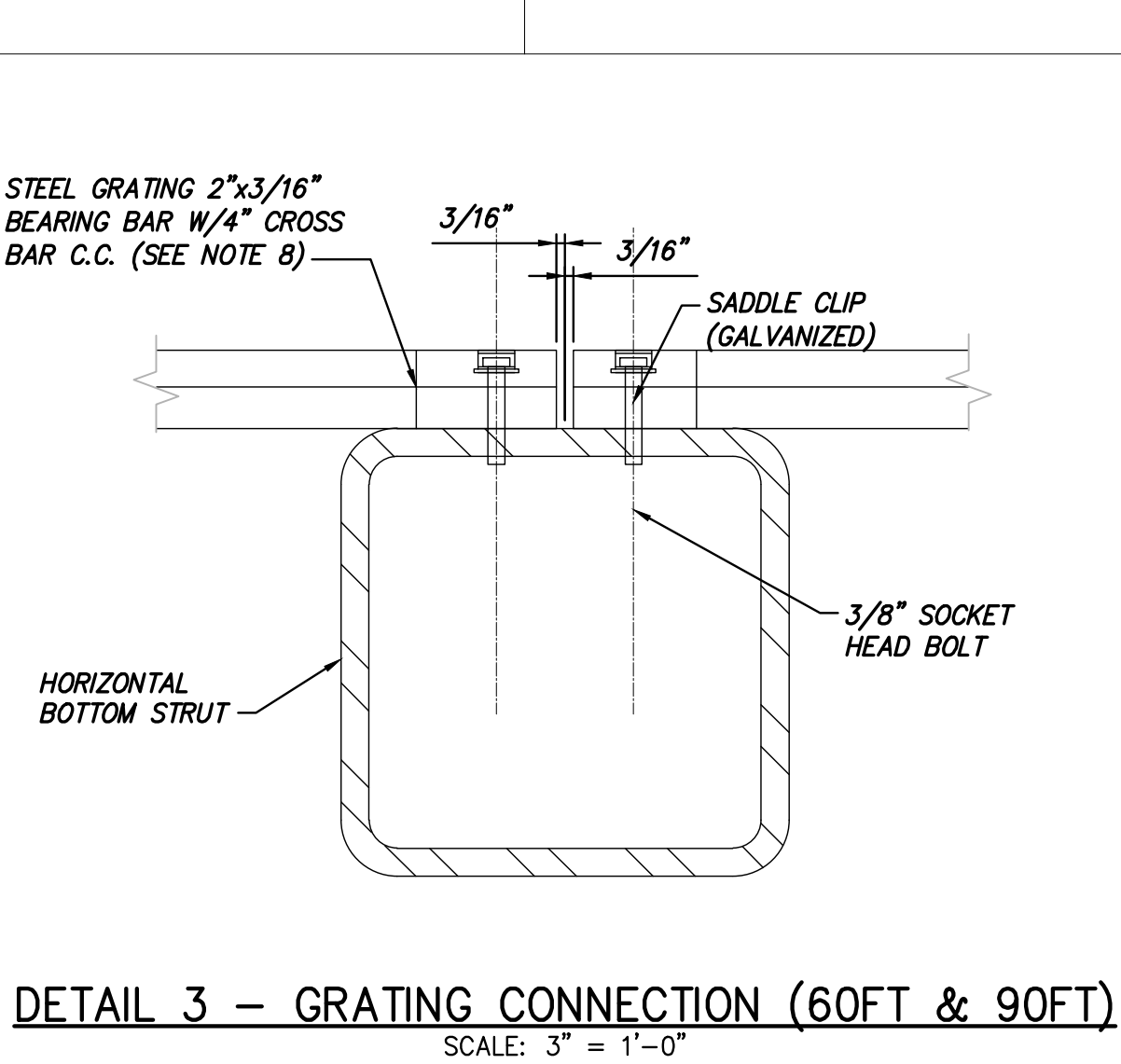
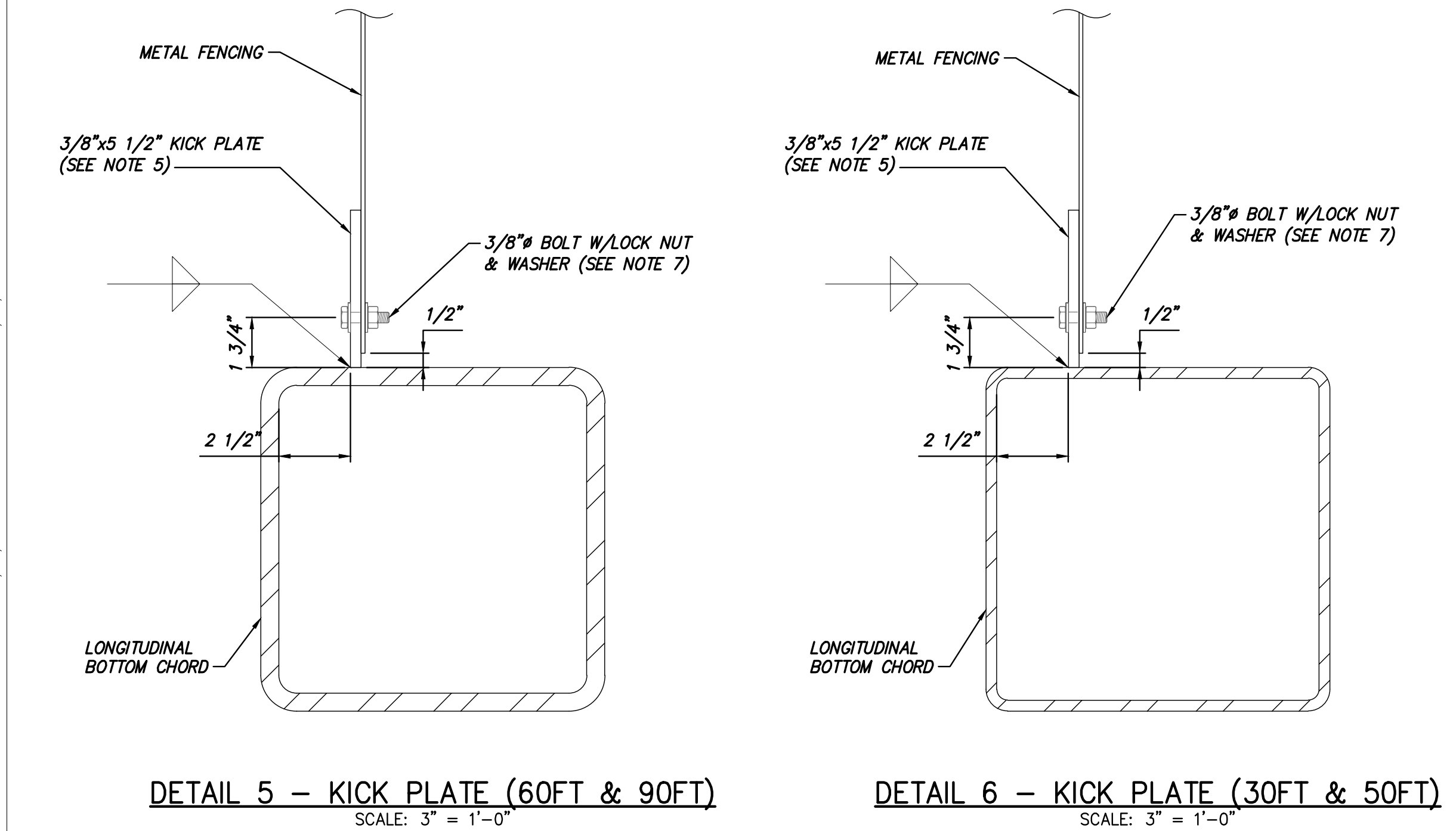
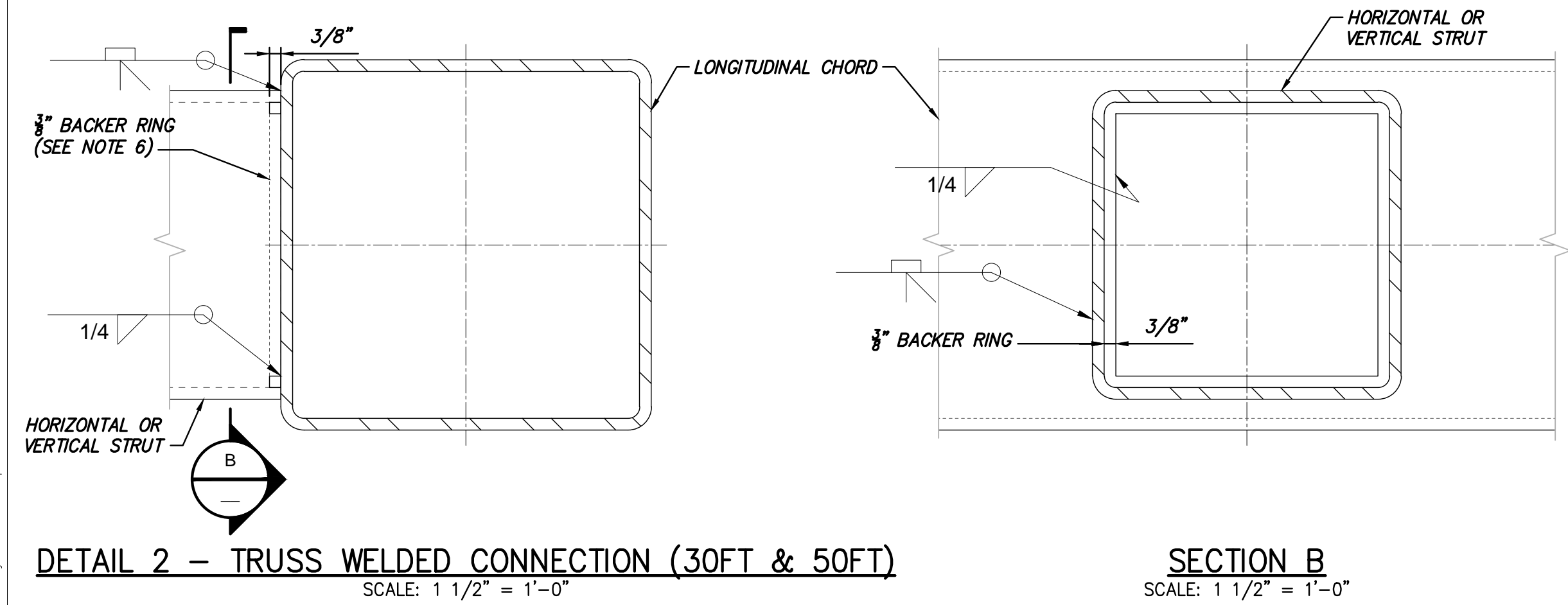
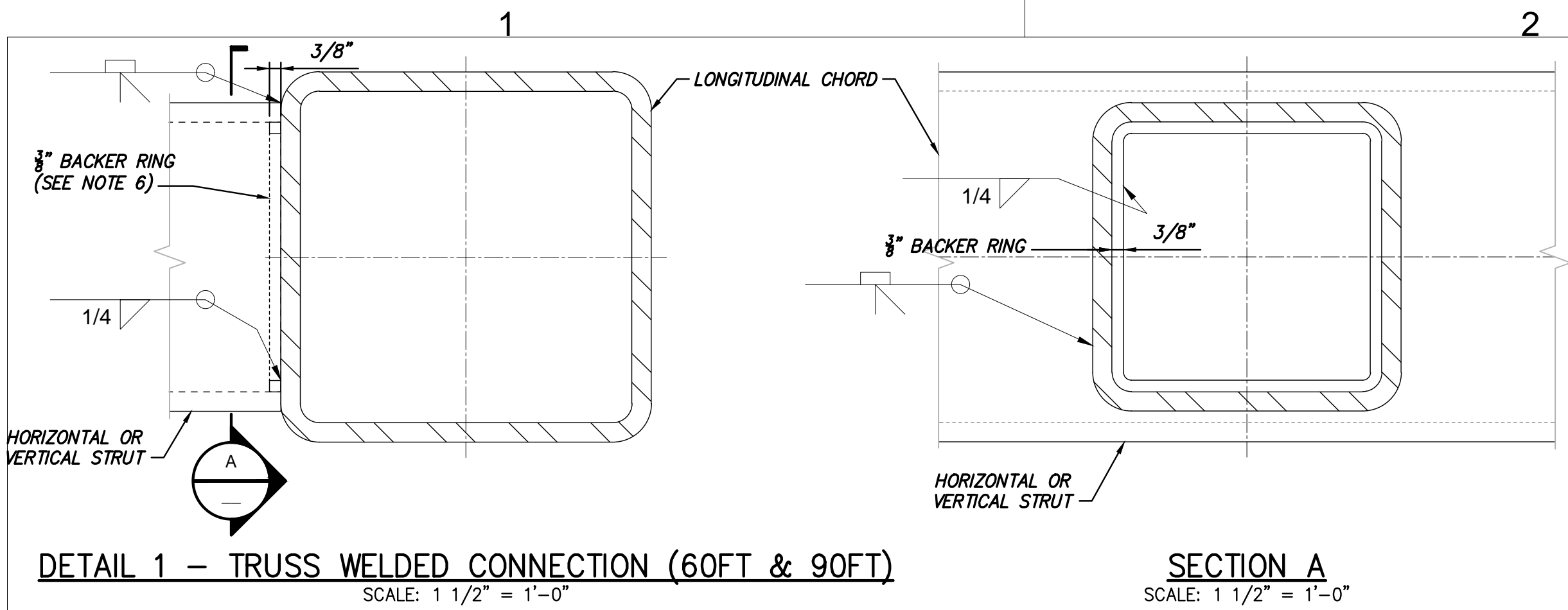


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						CHAMPLAIN HUDSON POWER EXPRESS				KIEWIT PROJECT NO. 21162			
												DRAWING NO.	
												S-756	
B	12/16/2022	FINAL SUBMISSION		JNK	OO								
A	11/11/2022	DRAFT FINAL SUBMISSION		JNK	OO								
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN B	DATE SH.NO.	12/16/2022		



- NOTES:
- SEE NOTES ON S-751.
 - GALVANIZED METAL FENCING: 1.33"x3.00" LG. W/9 DIAMONDS/LF. 0.142" WIDTH x 0.134" THICKNESS. 75% OPEN AREA.
 - METAL FENCING SHALL BE MINIMUM 1/2" CLEAR TO ALL CHORD AND STRUT MEMBERS.
 - DRILL 7/16"Ø HOLES FOR 3/8"Ø BOLTS IN FENCING PLATES.
 - KICK PLATE SHALL ONLY BE FURNISHED AT BOTTOM LONGITUDINAL CHORDS.
 - FULL PENETRATION WELDED CHORD TO STRUT CONNECTION WITH THE BACKER RING ATTACHED TO THE CHORD WITH A CONTINUOUS FILLET WELD AROUND THE INTERIOR FACE OF THE RING. THE THICKNESS OF THE BACKING RING SHALL NOT EXCEED 3/8".
 - WASHER SHALL BE OVERSIZE FENDER-WASHER, MIN OD=1.625", MIN THICKNESS=0.056".
 - SMOOTH SURFACE STANDARD DUTY GRATING CLOSED MESH WITH 69.5% OPEN AREA. (TYPE 15W4 CLOSE MESH VULCRAFT OR SIMILAR)



B	12/16/2022	FINAL SUBMISSION	JNK	OO	
A	11/11/2022	DRAFT FINAL SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

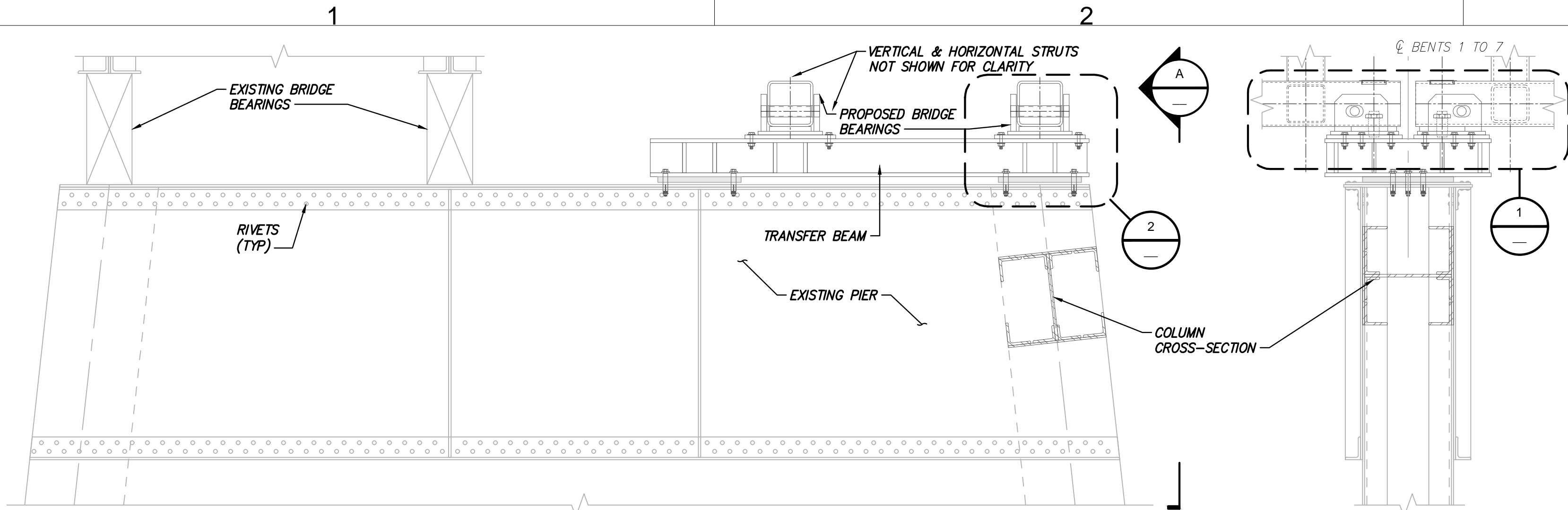
BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
TYPICAL WELD AND FENCE DETAILS

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-758
DATE	12/16/2022
SH.NO.	

DRAWN BY:	DRH	DESIGNED BY:	JNK	APPROVED BY:	OO	SCALE	AS SHOWN	DATE	12/16/2022
						REV.NO.		B	SH.NO.

NOTES:

- SEE NOTES ON S-751.
- THE UNTHREADED GRIP LENGTH OF THE LOCK PIN SHALL BE 13 3/4". PLACE A RECESS NUT AT EACH END OF THE PIN.
- INSERT NEOPRENE PAD AND 7 1/4" OD WASHER OVER PIPE NIPPLE. INSTALL REMOVABLE CAP PLATE.
- DECK PLATE FOR ACCESS TO PIPE NIPPLE. 6" Ø STAINLESS STEEL DECK PLATE, BECKSON MARINE, CNC EST OR SIMILAR. SEE S-760 FOR DETAILS.

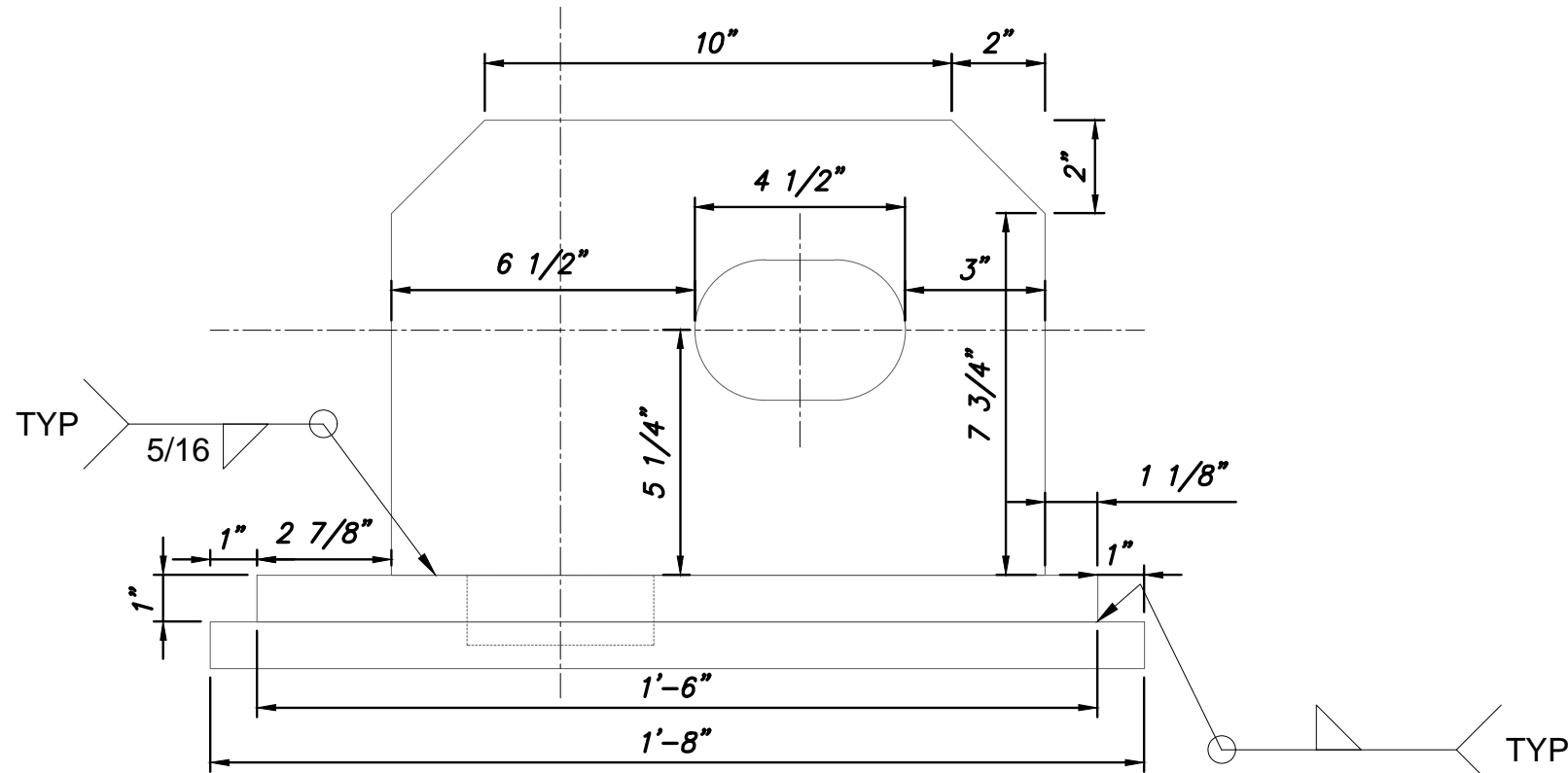


TYPICAL PIER TOP-ELEVATION

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

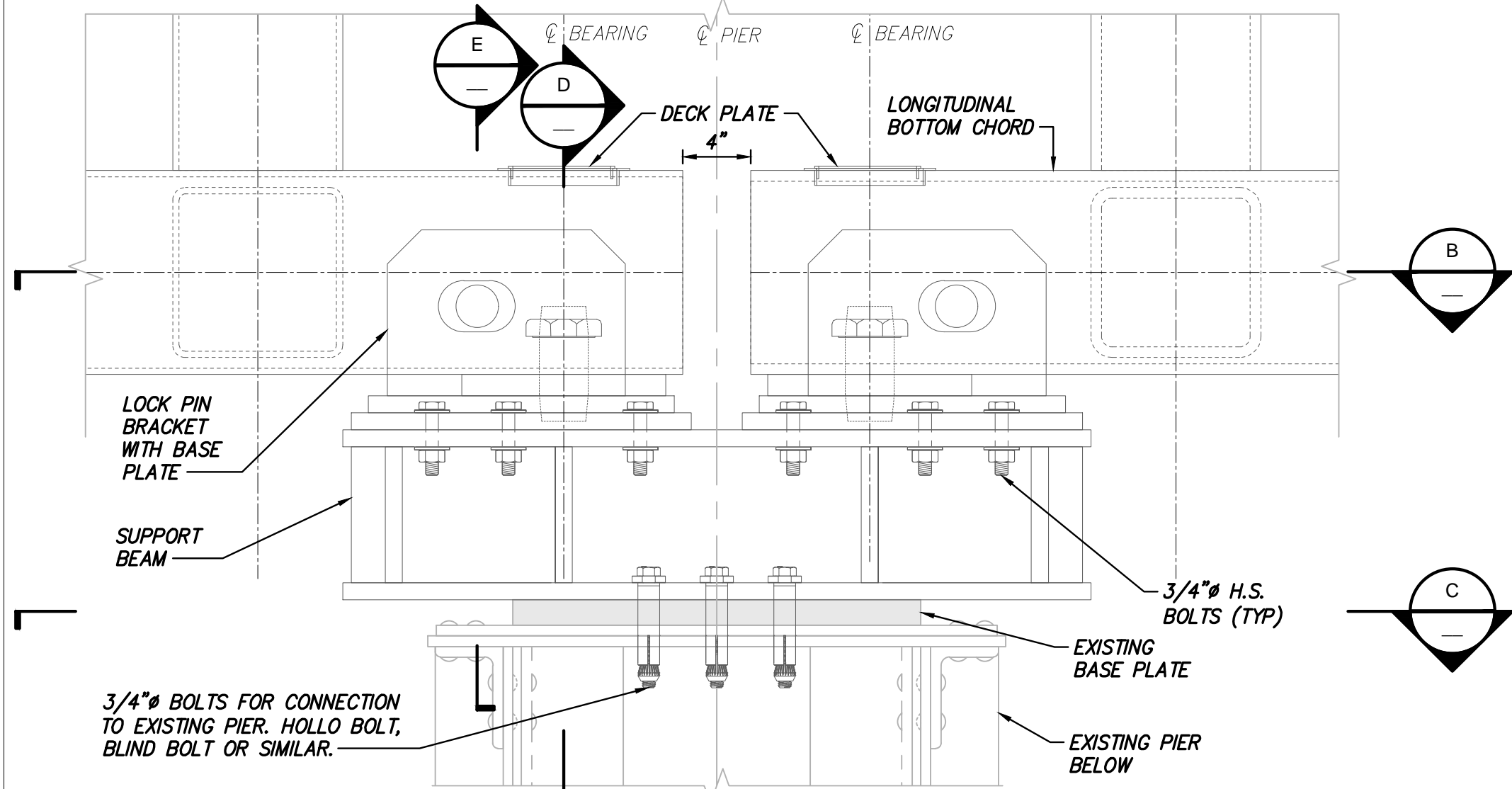
SECTION A

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



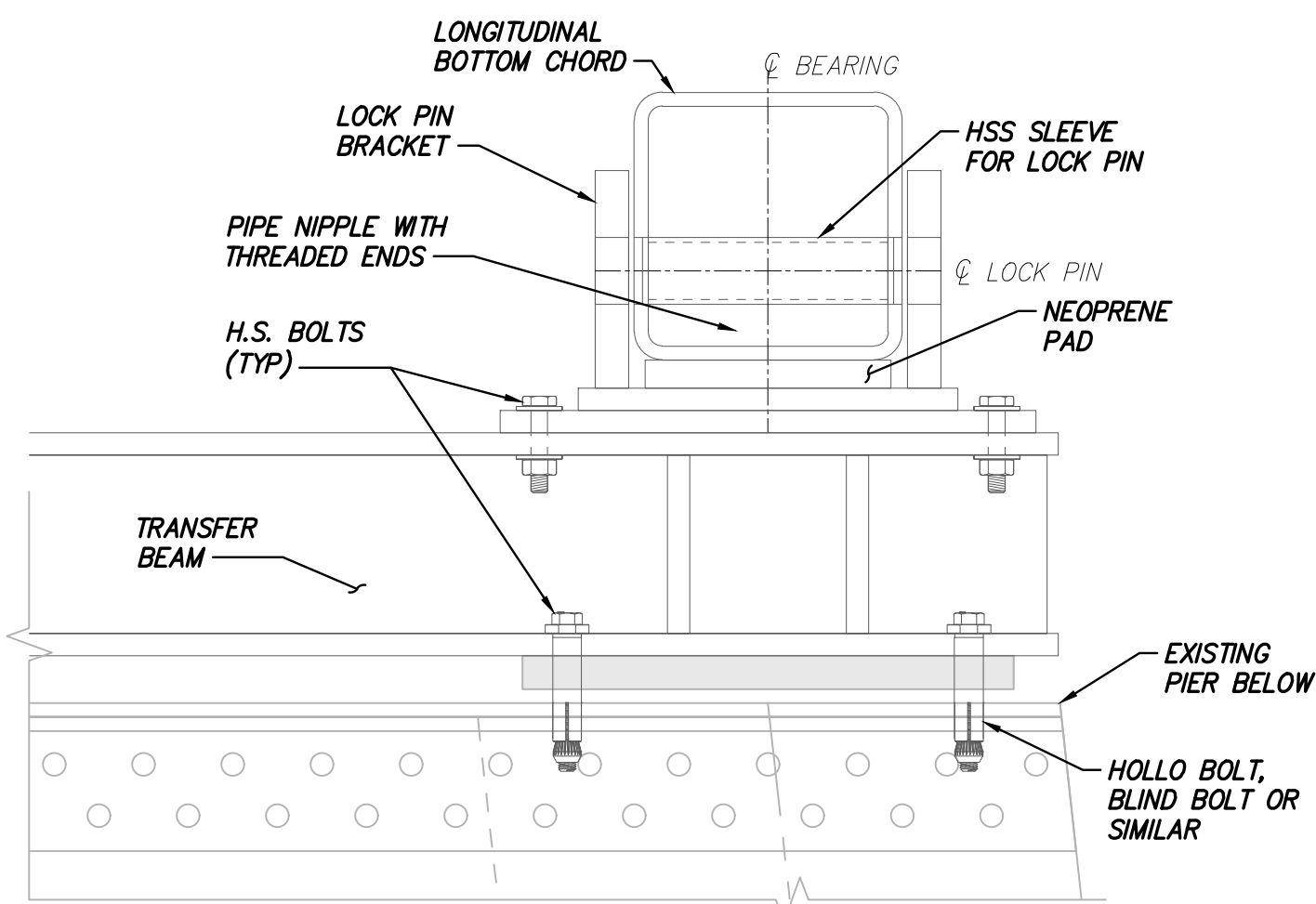
LOCK PIN BRACKET DETAIL

SCALE: 3" = 1'-0"



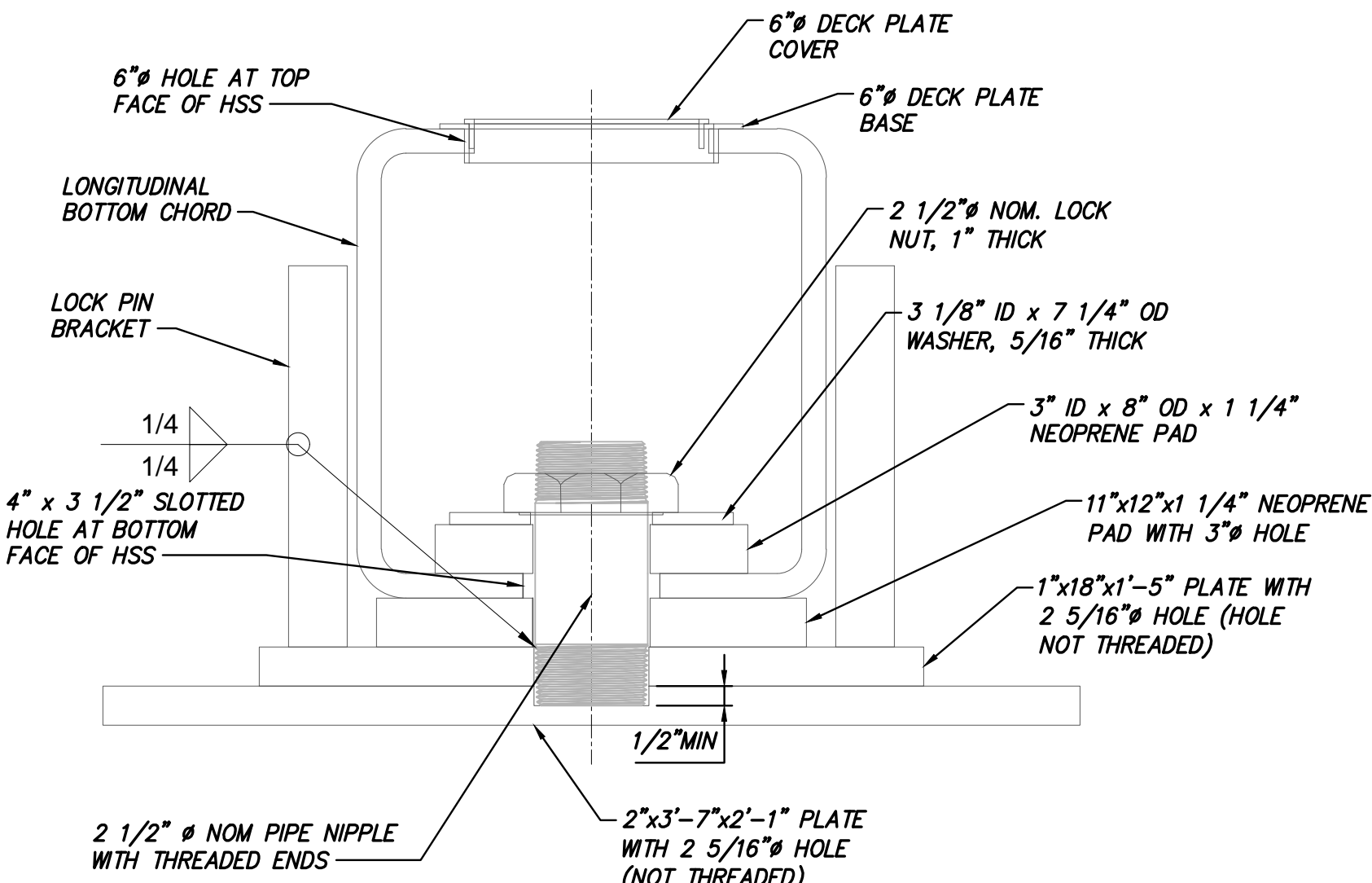
DETAIL 1 - TYPICAL BEARING DETAIL AT PIERS - ELEVATION

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



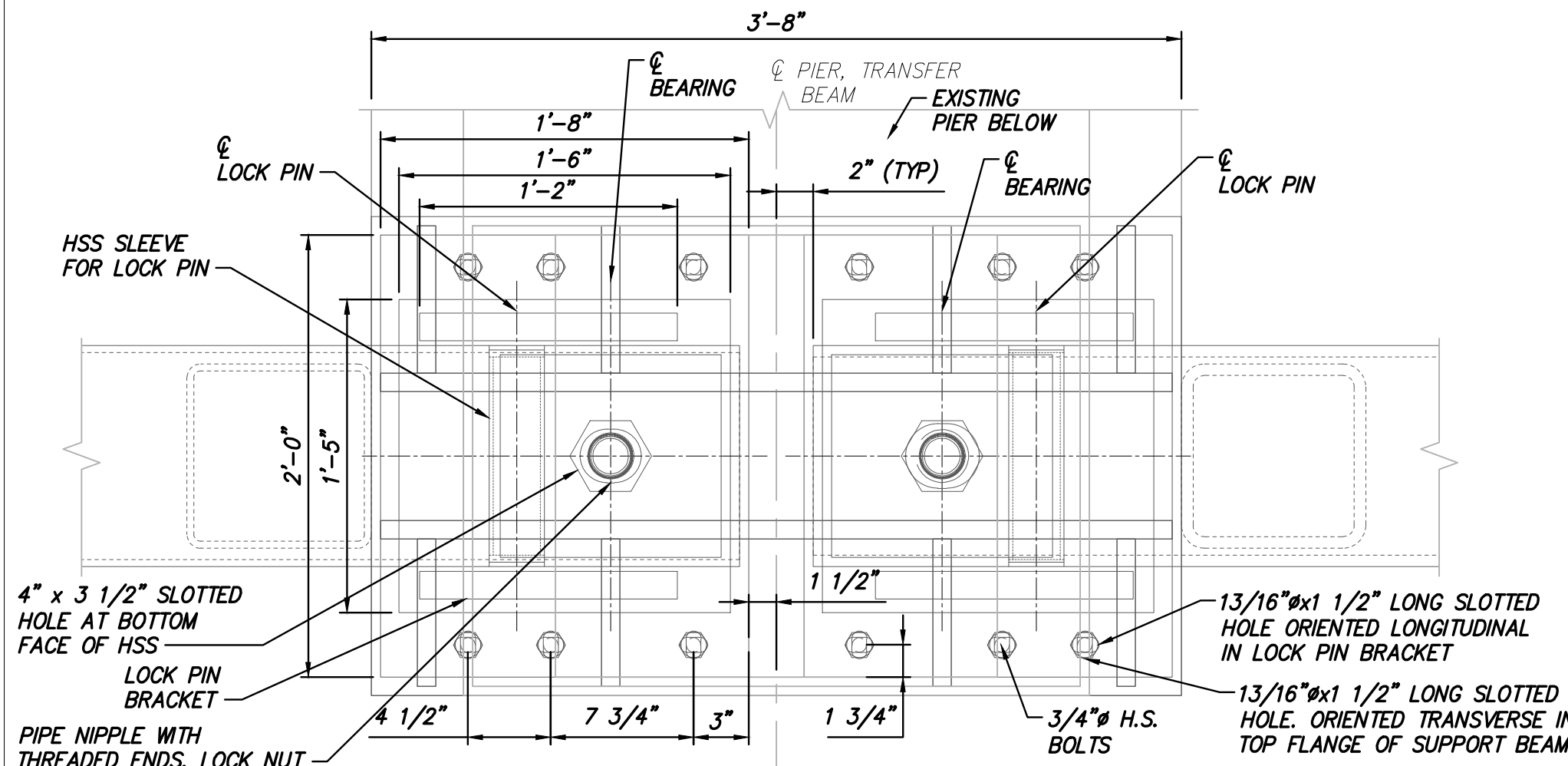
DETAIL 2

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



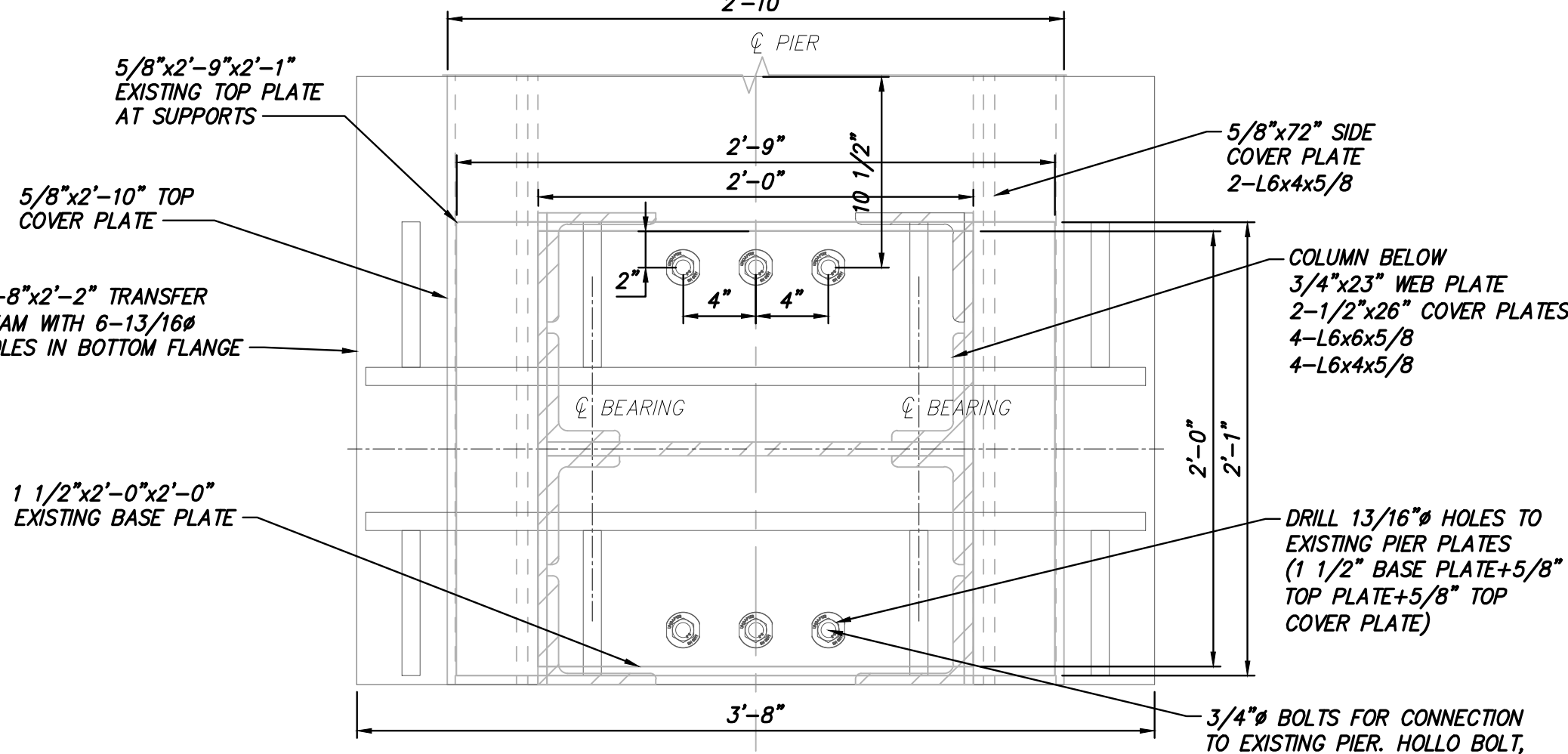
SECTION D

SCALE: 3" = 1'-0"



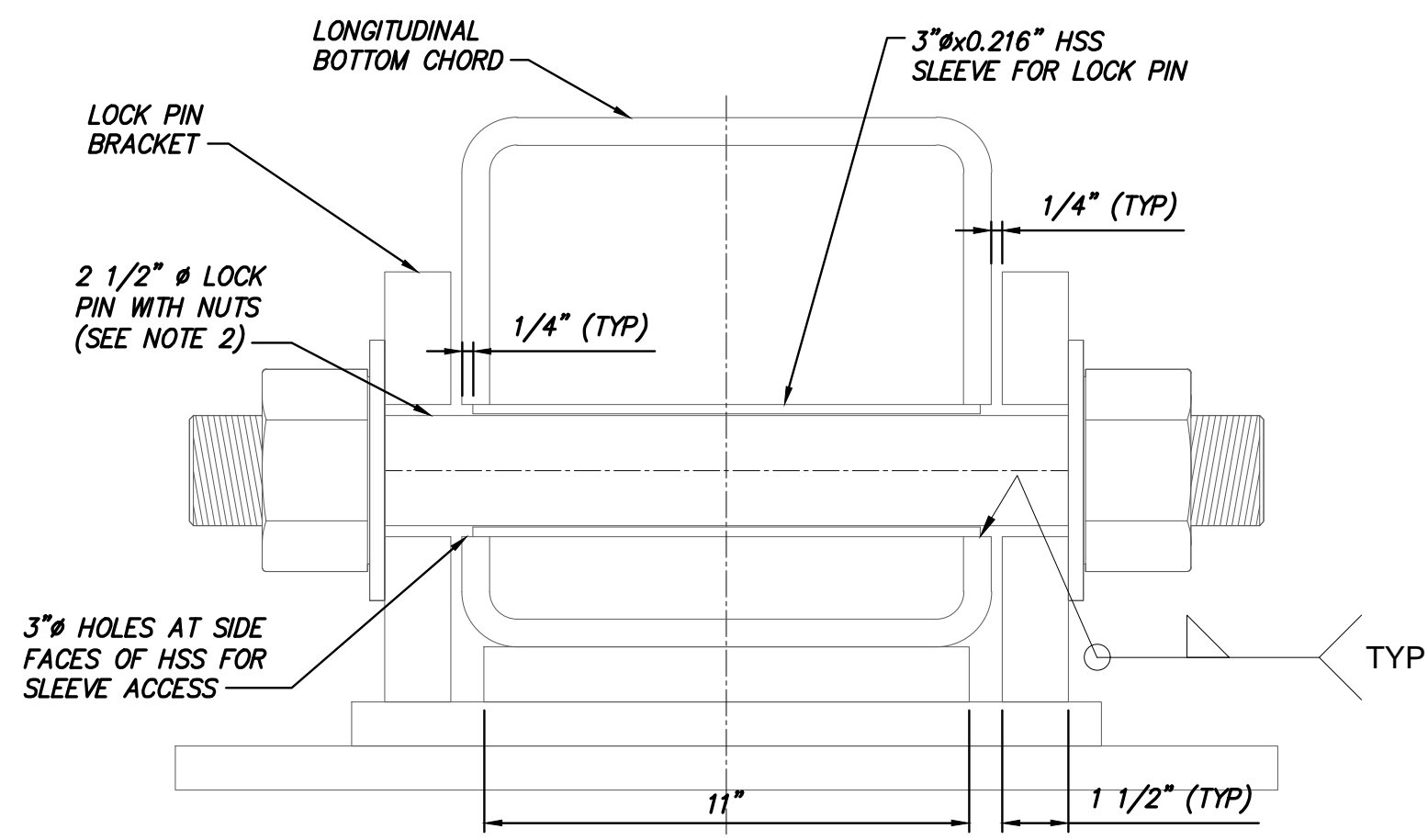
SECTION B-LOCK PIN BRACKET TO SUPPORT BEAM CONNECTION

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



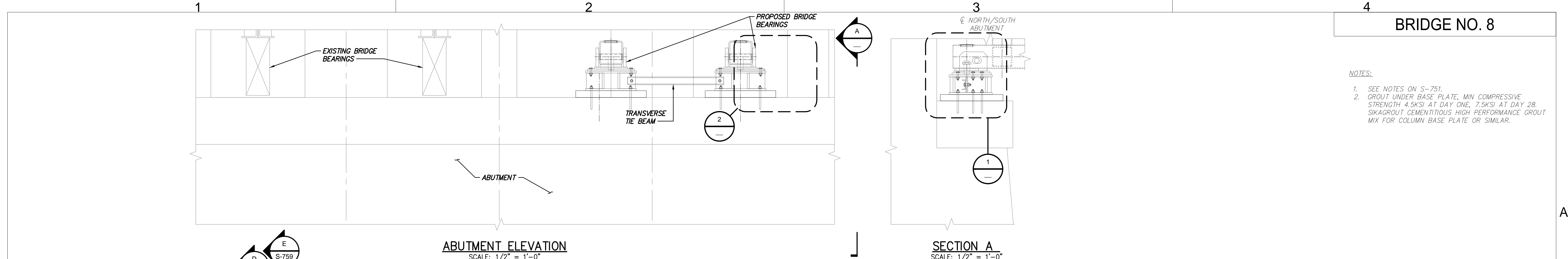
SECTION C-SUPPORT BEAM TO PIER CONNECTION

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



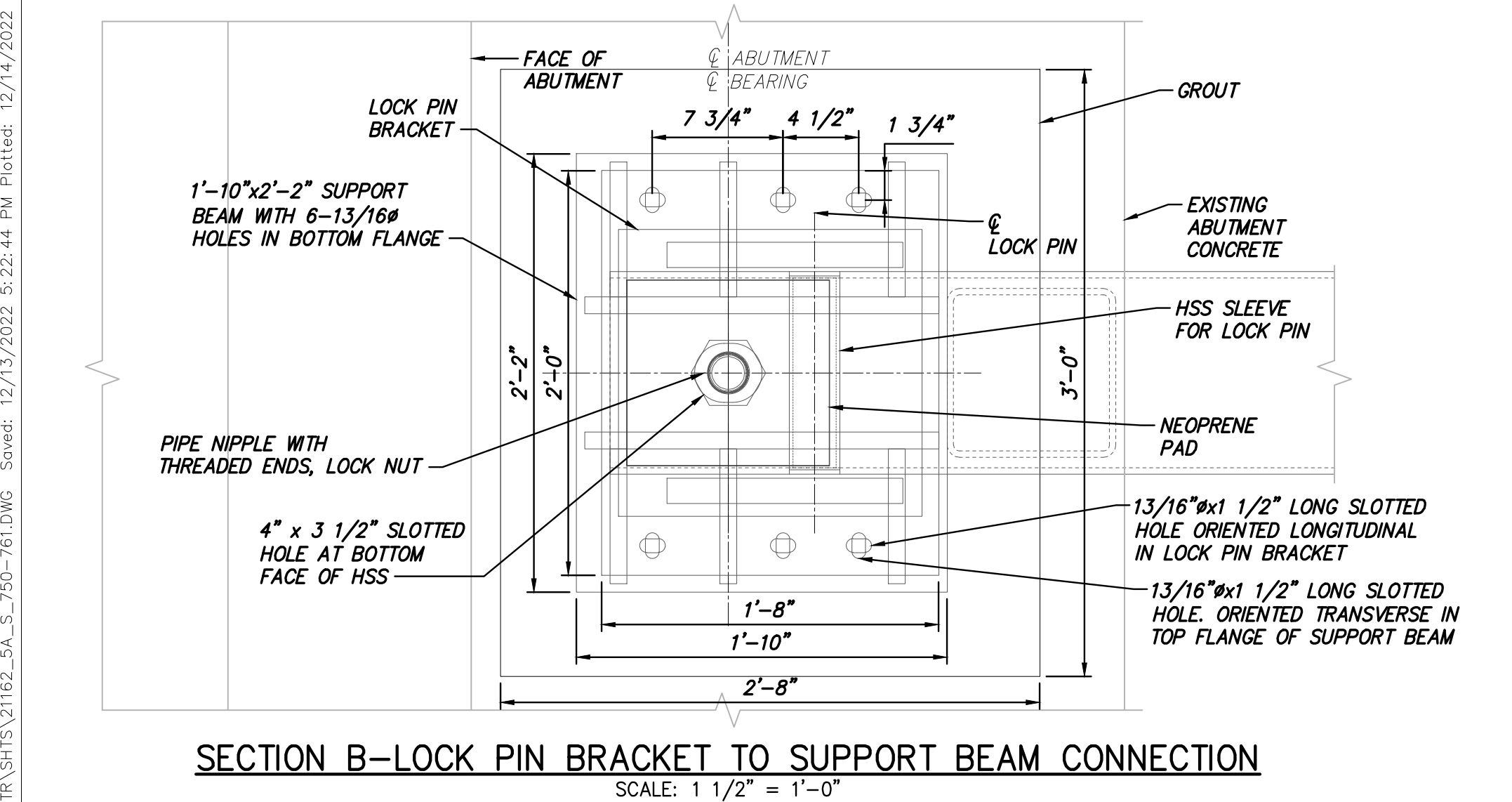
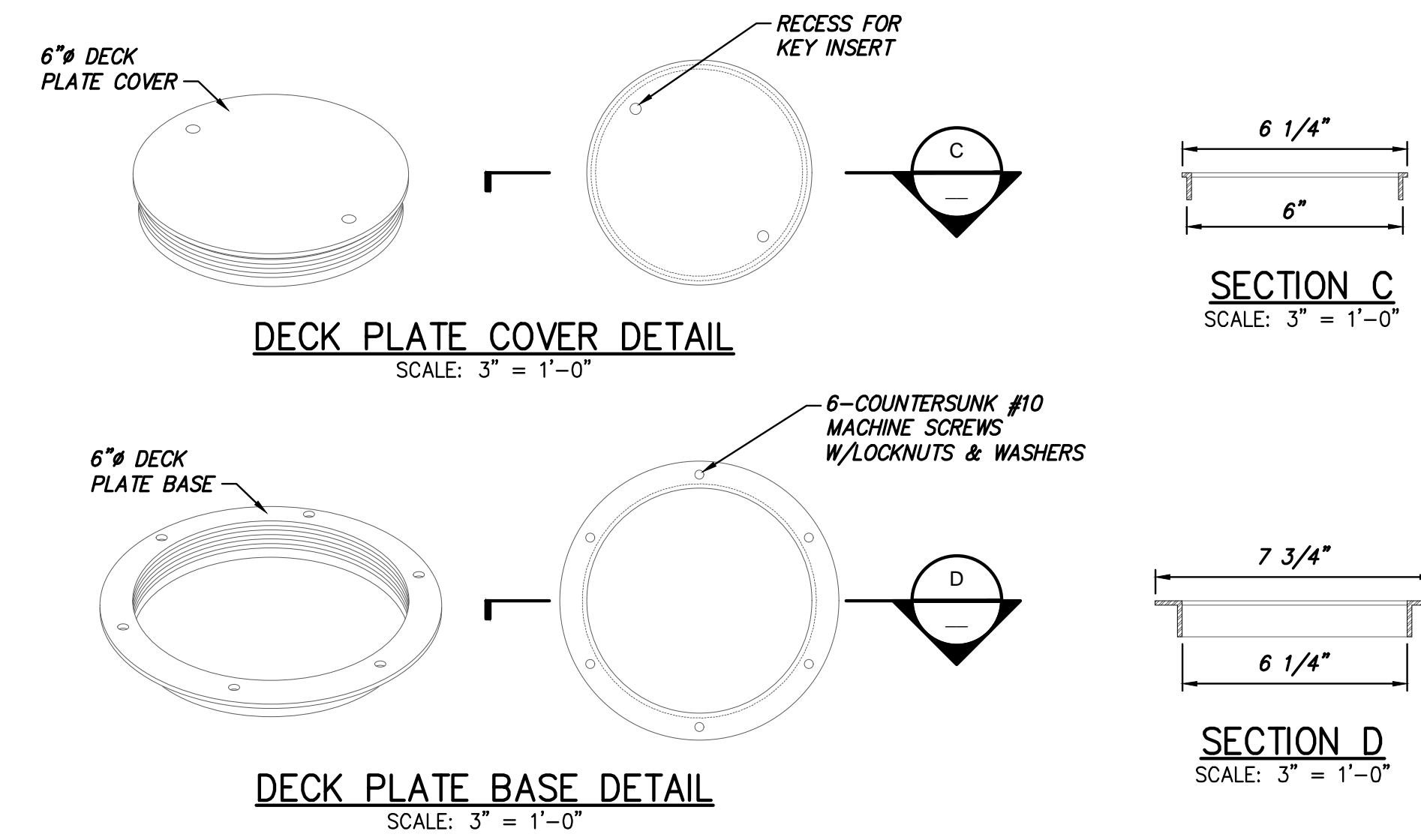
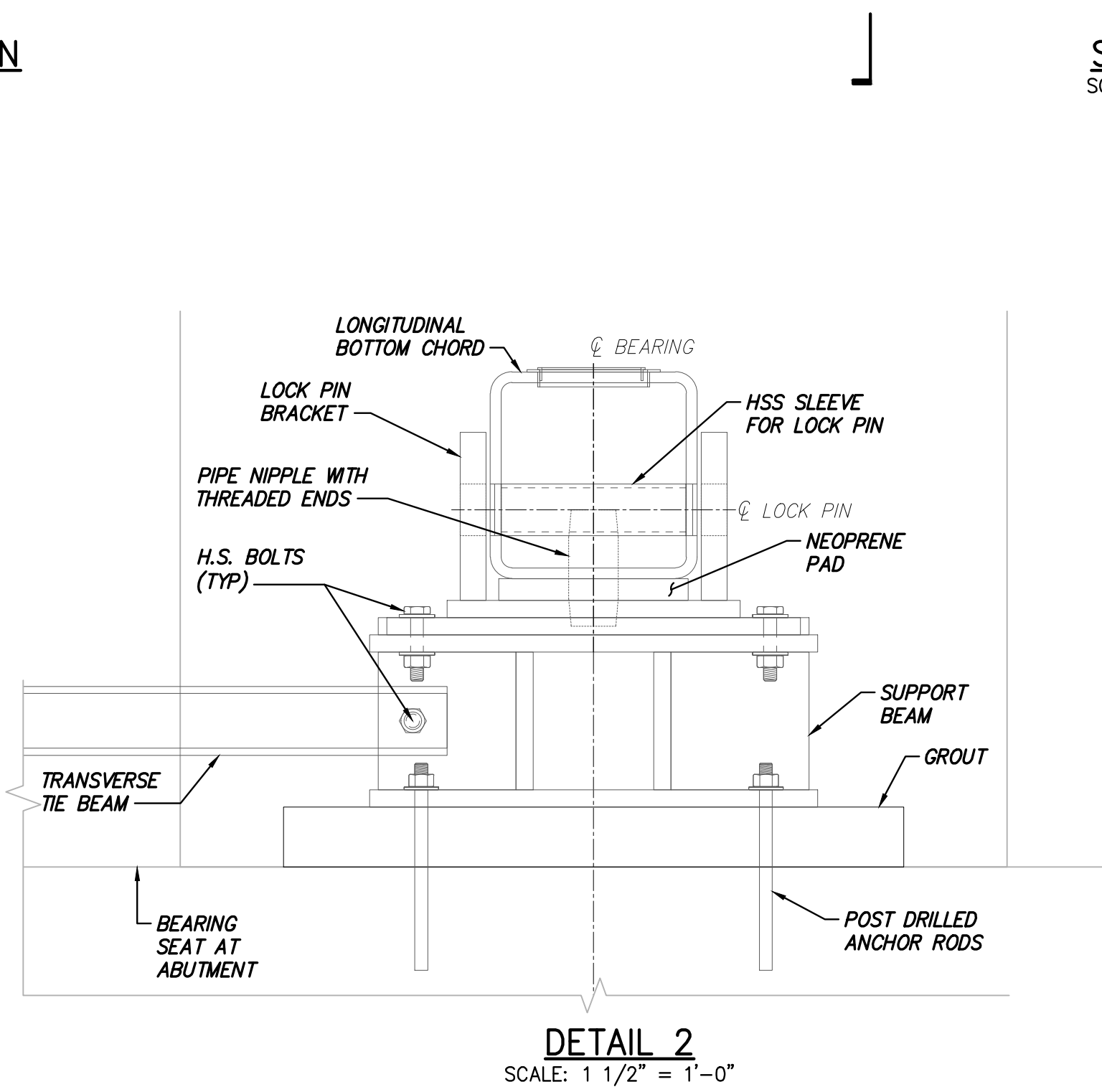
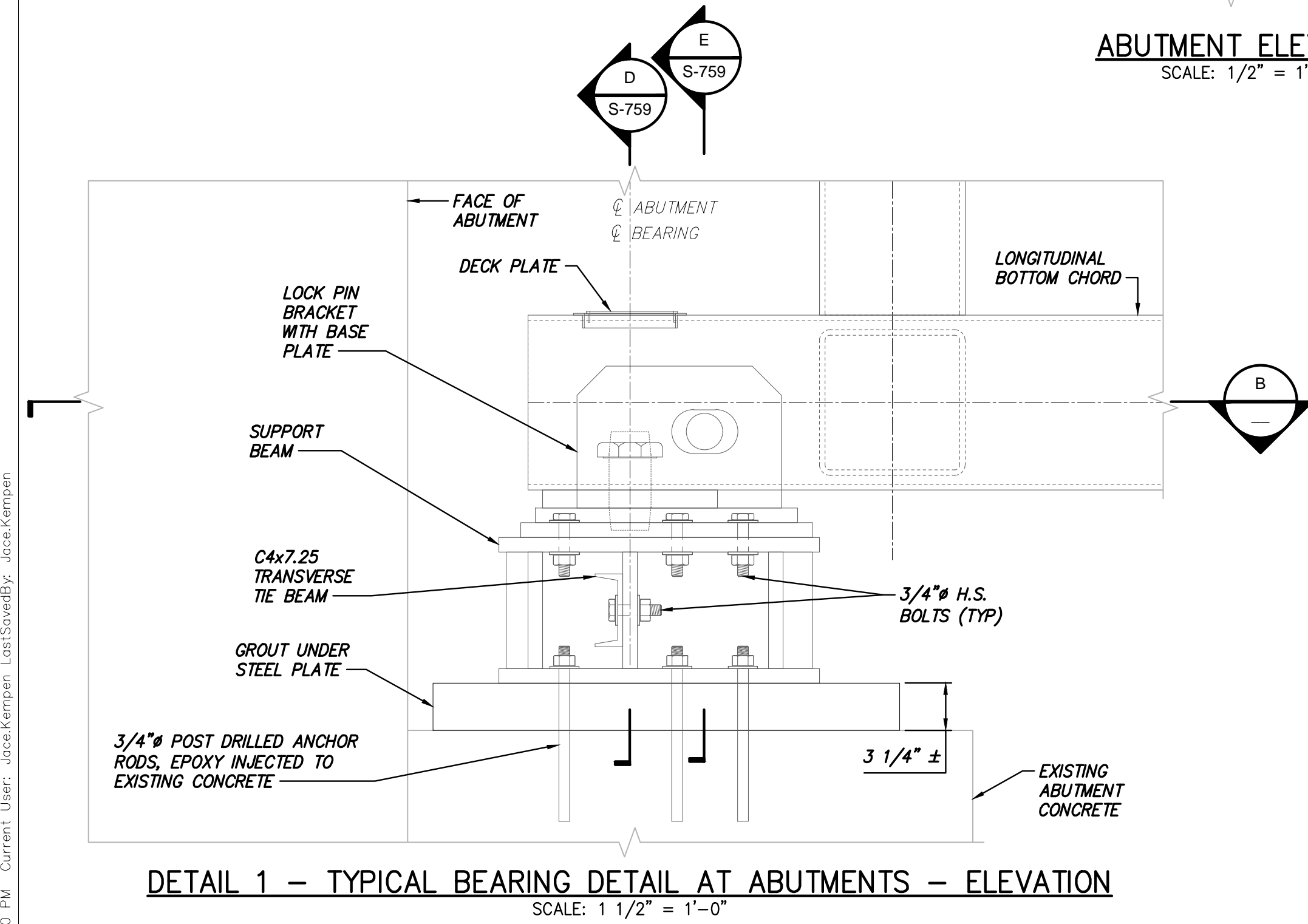
SECTION E

SCALE: 3" = 1'-0"



NOTES:

- SEE NOTES ON S-751.
- GROUT UNDER BASE PLATE; MIN. COMPRESSIVE STRENGTH 4.5KSI AT DAY ONE, 7.5KSI AT DAY 28. SIKAGROUT CEMENTITIOUS HIGH PERFORMANCE GROUT MIX FOR COLUMN BASE PLATE OR SIMILAR.



Champlain Hudson Power Express

Kiewit

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
A	12/16/2022	FINAL SUBMISSION	JNK	OO

CHAMPLAIN HUDSON POWER EXPRESS

BRIDGE NO. 8 - UTILITY TRUSS BRIDGE
TYPICAL BEARING AT ABUTMENTS

DRAWN BY: DRH

DESIGNED BY: JNK

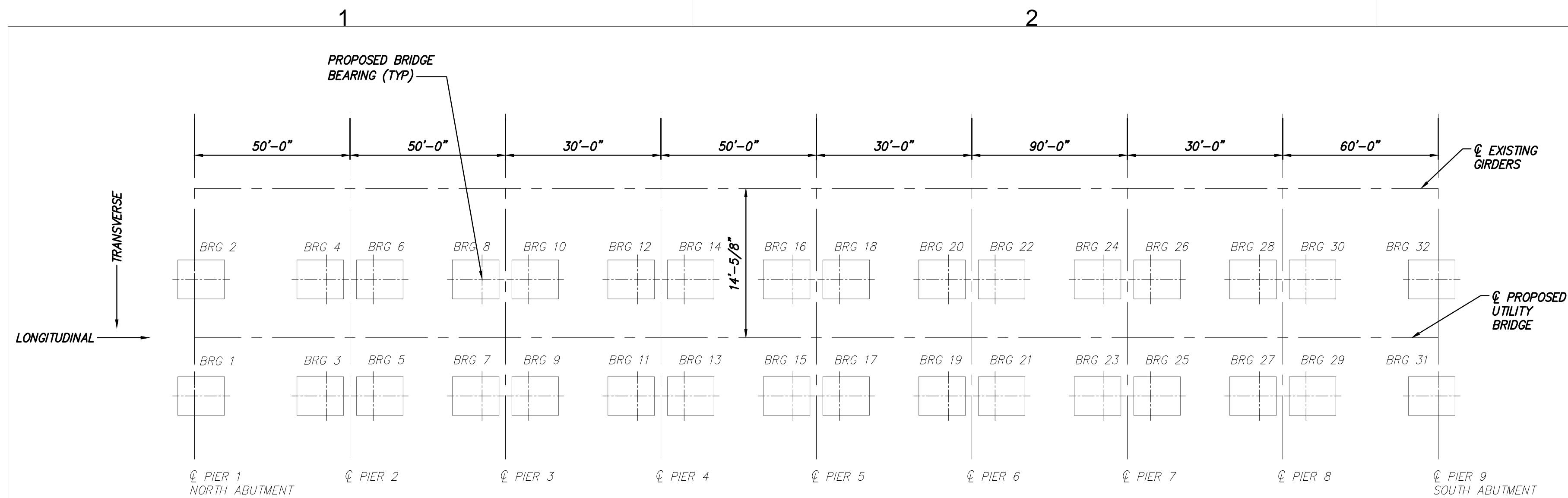
APPROVED BY: OO

SCALE: AS SHOWN
REV. NO. A

KIEWIT PROJECT NO.
21162

DRAWING NO.
S-760

DATE
12/16/2022



PROPOSED BRIDGE-BEARING LAYOUT
SCALE: NTS

SPAN	BEARING LABEL	DEAD LOAD VERTICAL (KIP)	LIVE LOAD VERTICAL (KIP)	SNOW LOAD VERTICAL (KIP)	LONG. WIND VERTICAL (KIP)	LONG. WIND LONGITUDINAL (KIP)	TRAN. WIND VERTICAL (KIP)	TRAN. WIND TRANSVERSE (KIP)
1	1,2,3,4	13.4	4.2	3.5	± 0.4	-2.2	± 9.3	5.7
2,4	5,6,7,8 13,14,15,16	13.3	4.1	3.4	± 0.4	-2.2	± 9.1	5.6
3,5,7	9,10,11,12 17,18,19,20 25,26,27,28	7.8	2.4	2.0	± 0.4	-1.3	± 5.5	3.3
6	21,22,23,24	29.8	7.4	6.2	± 0.4	-3.9	± 16.5	10.1
8	29,30,31,32	20.8	5.0	4.2	± 0.4	-2.6	± 11.1	6.8

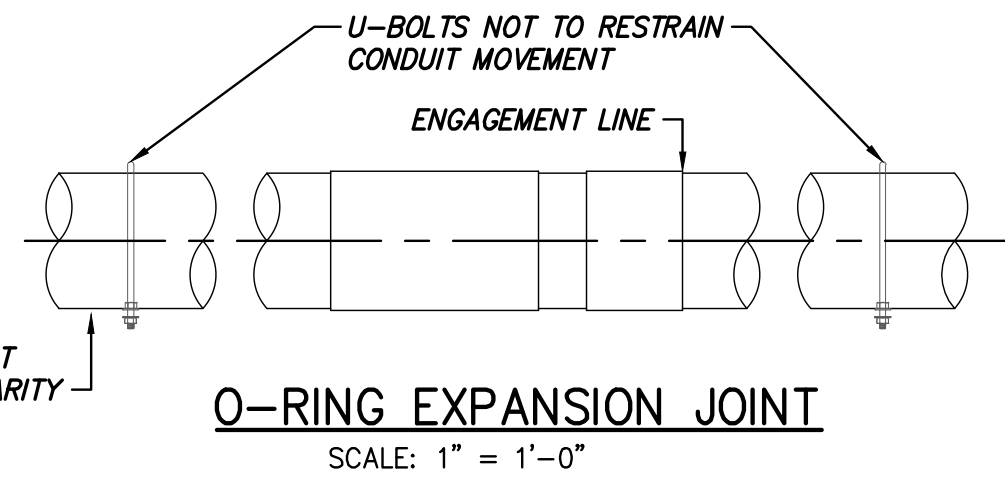
NOTE:
REACTIONS REPORTED AT PROPOSED BRIDGE BEARING ELEVATION.
(NOT AT PIER ELEVATION)

PROPOSED BRIDGE-BEARING REACTIONS
SCALE: NTS

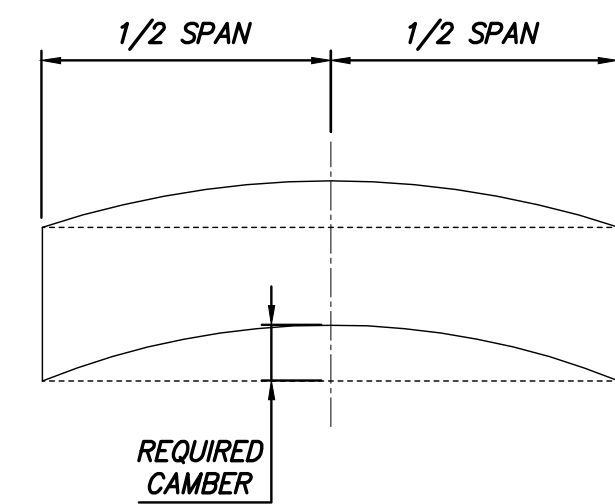
PIER	EXISTING BEARING PLATE THICKNESS
2	2.28"
3	1.68"
4	2.40"
5	1.20"
6	1.20"
7	2.16"
8	1.44"

EXISTING BRIDGE – BEARING PLATE THICKNESSES
SCALE: NTS

NOTE: EXISTING BEARING PLATE THICKNESSES ESTIMATED BASED ON SURVEY DATA. SHIM PLATES TO BE PROVIDED WHERE NECESSARY TO BRING TRUSS TO GRADE.



NOTE: WHEN SET AT ENGAGEMENT LINE POSITION AT SET TEMPERATURE, O-RING EXPANSION JOINT PROVIDES 6"± OF FREE TRAVEL IN EITHER DIRECTION. (CHAMPION SINGLE EXPANSION JOINT SOCKET X SOCKET WITH O-RING : 80C-SW-37 & 20C-SW-37, OR SIMILAR)

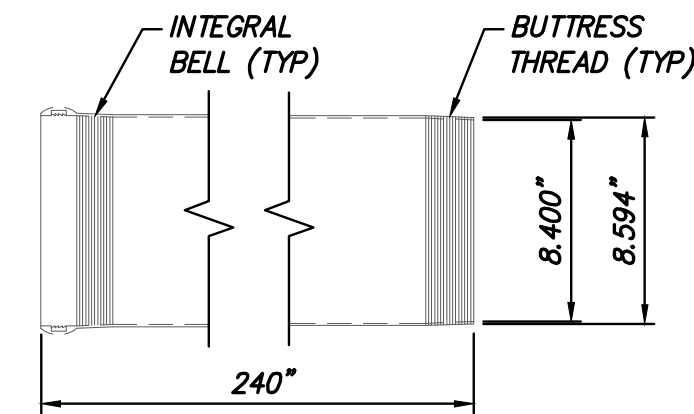
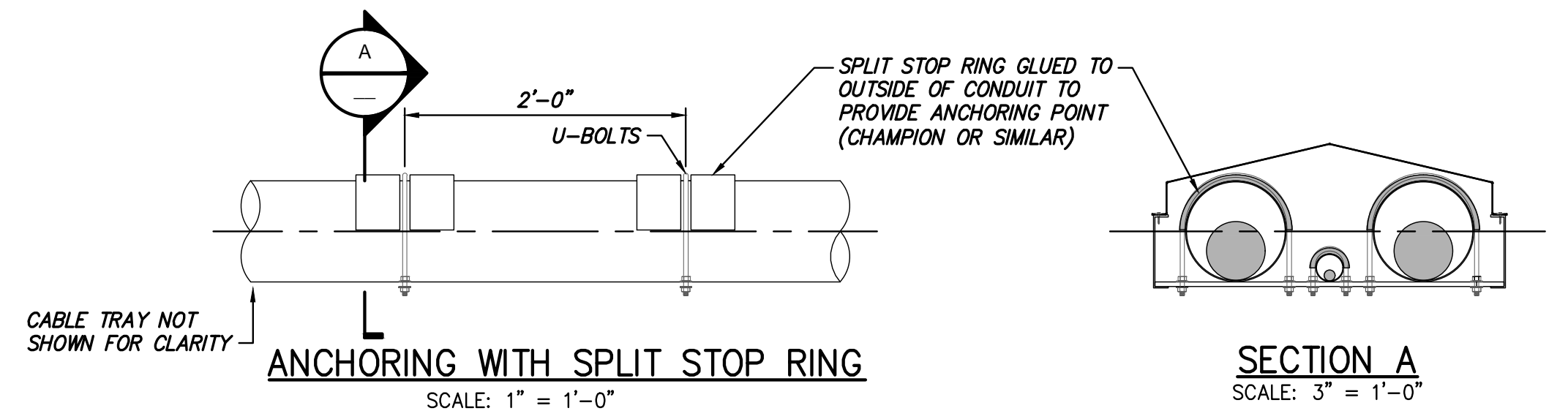


CAMBER DIAGRAM
SCALE: NTS

SPAN	C-C SUPPORT	BOTTOM CHORD LENGTH	NO OF STRUTS	TRUSS STEEL WEIGHTS	REQUIRED CAMBER	DESIGN THERMAL MOVEMENT
1	49'-3"	50'-5"	4x10	26.0 KIP	1 1/2"	0.46"
2,4	48'-6"	49'-8"	4x10	26.0 KIP	1 1/2"	0.45"
3,5,7	28'-6"	29'-8"	4x6	15.0 KIP	7/8"	0.26"
6	88'-6"	89'-8"	4x16	70.0 KIP	2 3/4"	0.82"
8	59'-3"	60'-5"	4x12	50.0 KIP	1 3/4"	0.55"

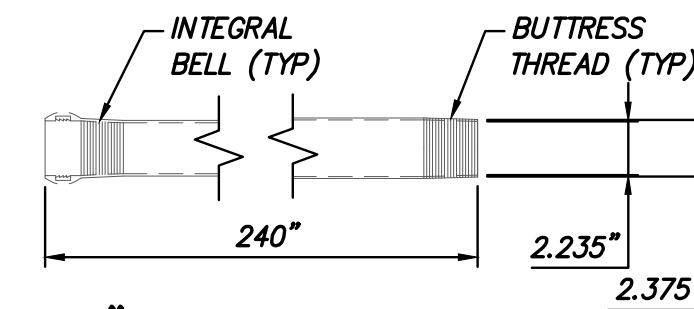
NOTE:
TRUSS WEIGHT INCLUDES HSS SECTIONS ONLY.
TOTAL DESIGN THERMAL MOVEMENT CALCULATED WITH
0.00000645"/°F & $\Delta T = 120^{\circ}\text{F}$ ($T_{\text{MAX}} - T_{\text{MIN}}$).

TRUSS HSS STEEL WEIGHTS & CAMBER
SCALE: NTS



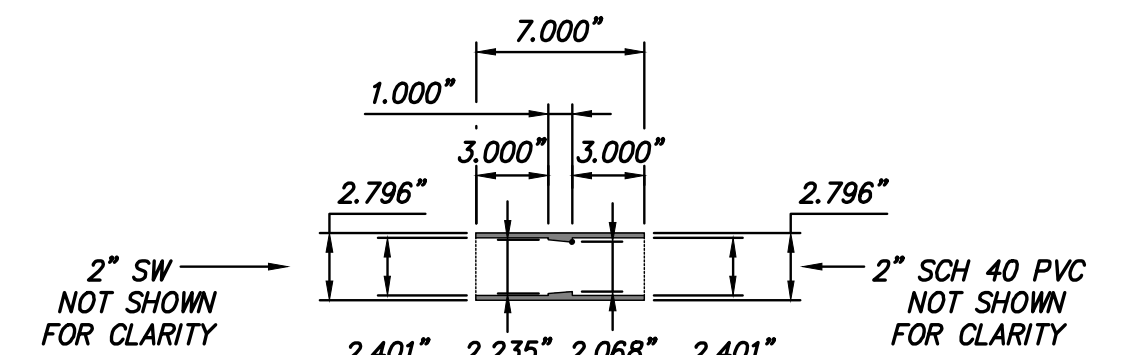
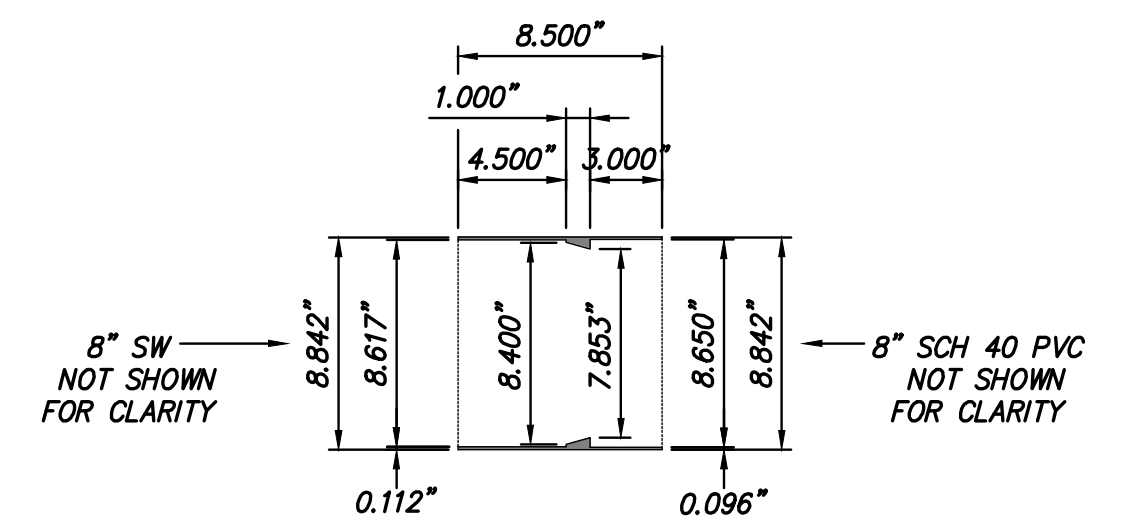
8" IPS CONDUIT

NOTE: CHAMPION INTERFERENCE GASKET JOINT
(80C-SW-20-G)



2" IPS CONDUIT

NOTE: CHAMPION INTERFERENCE GASKET JOINT
(20C-SW-20-G)



RTRC TO PVC COUPLING

SCALE: 1 1/2" = 1'-0"
NOTE: CHAMPION REDUCING ADAPTER
(80C-SW-27-PVC40 AND 20C-SW-27-2PVC40)

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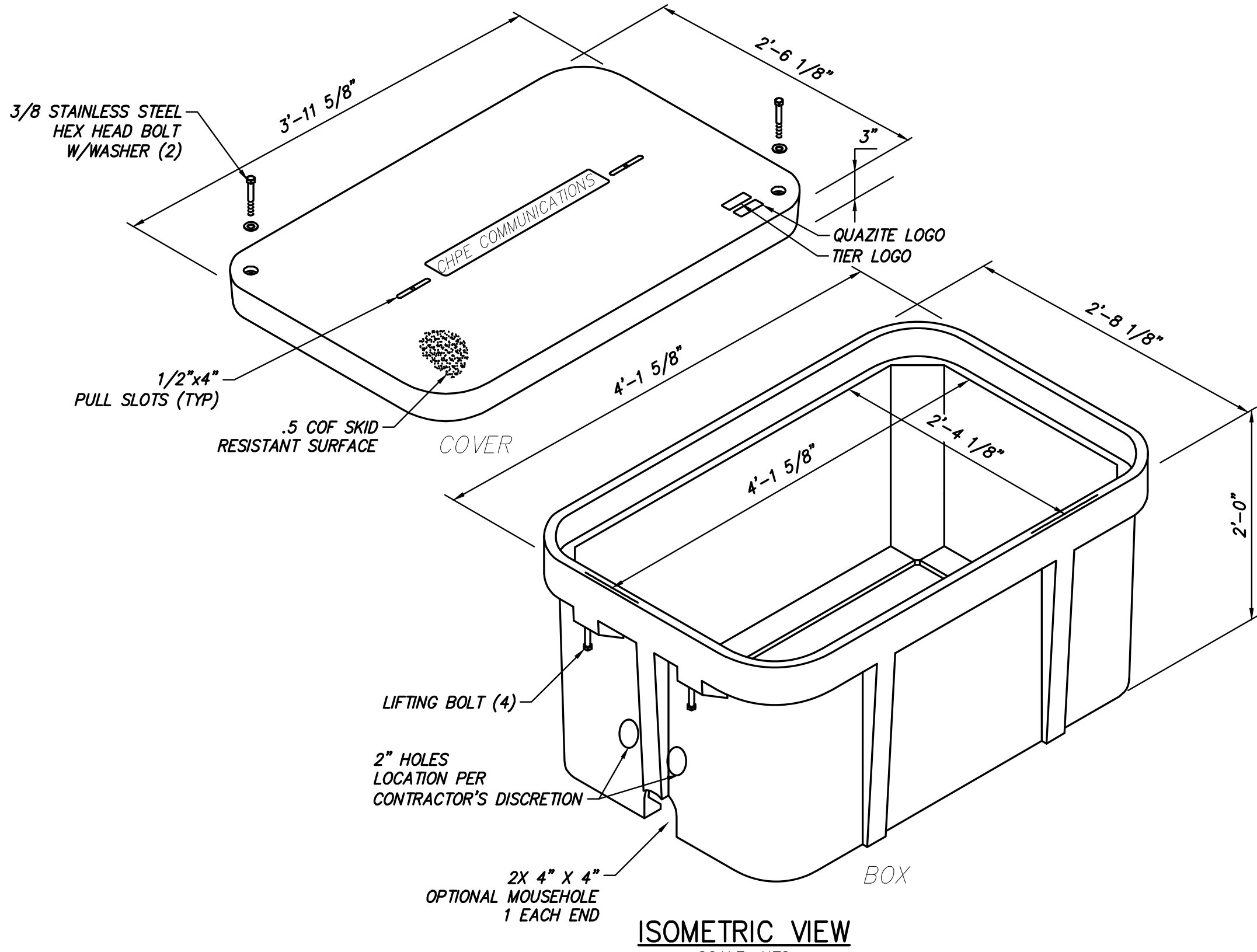
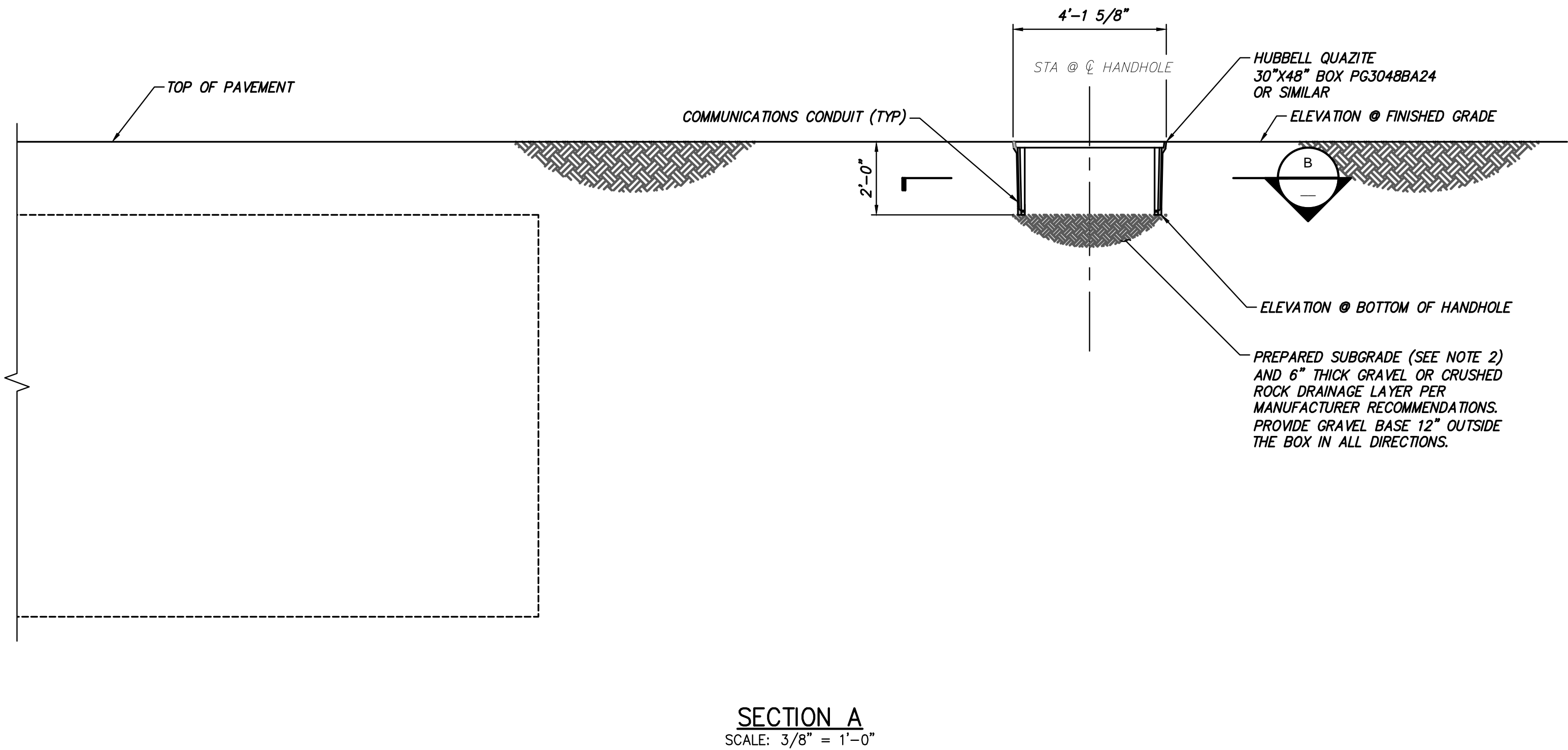
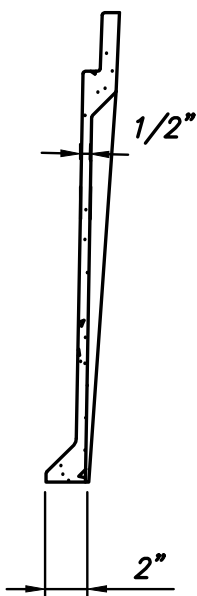
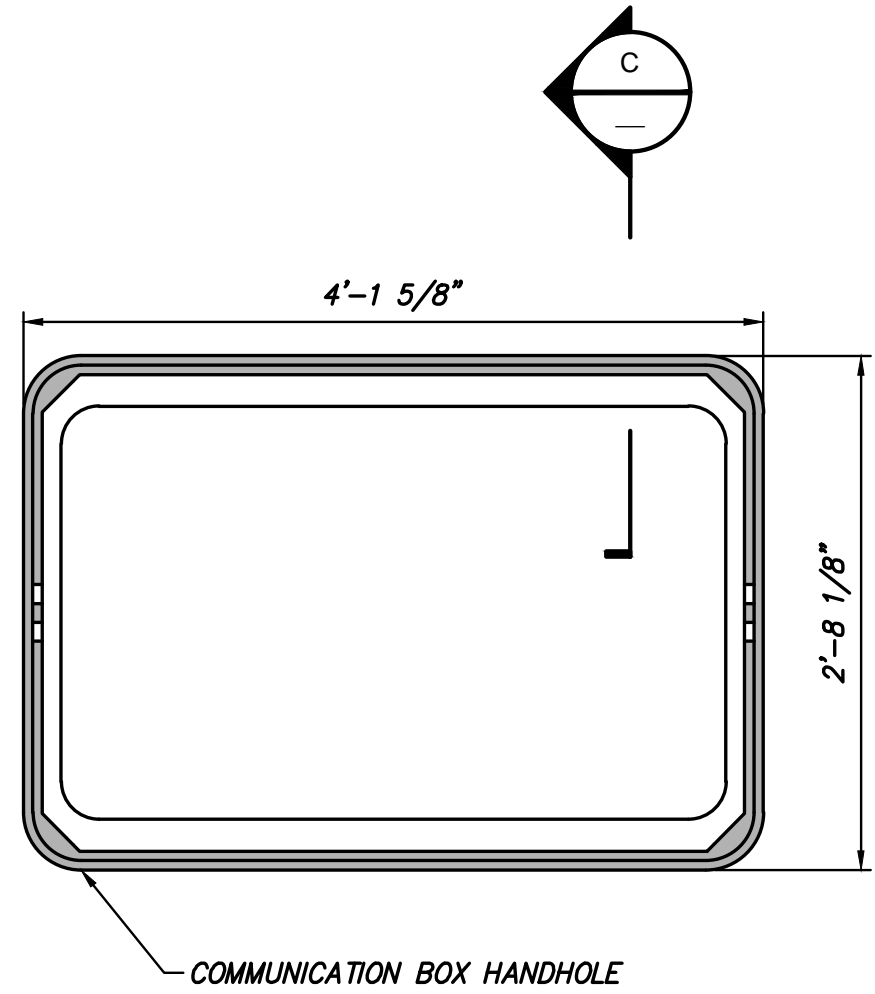
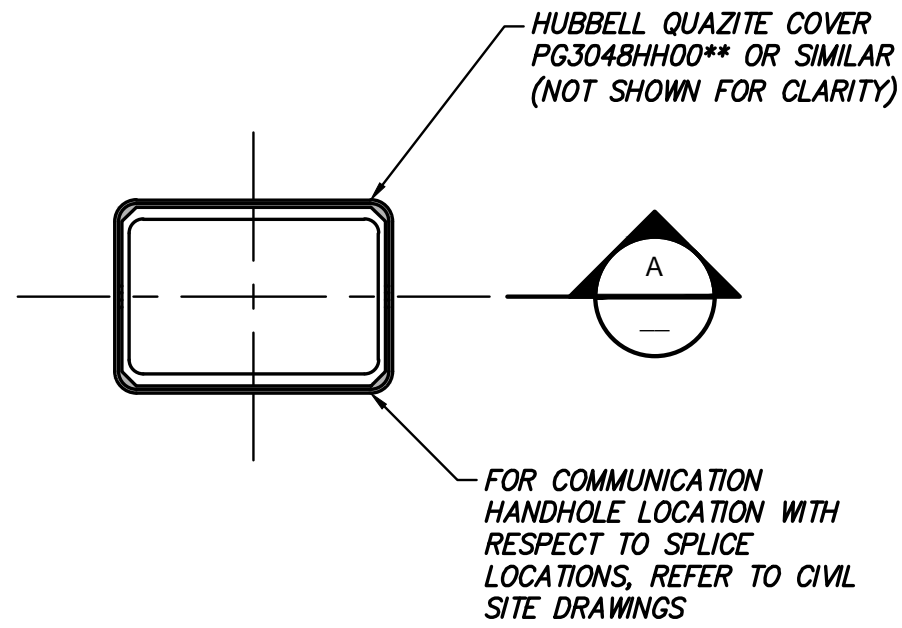
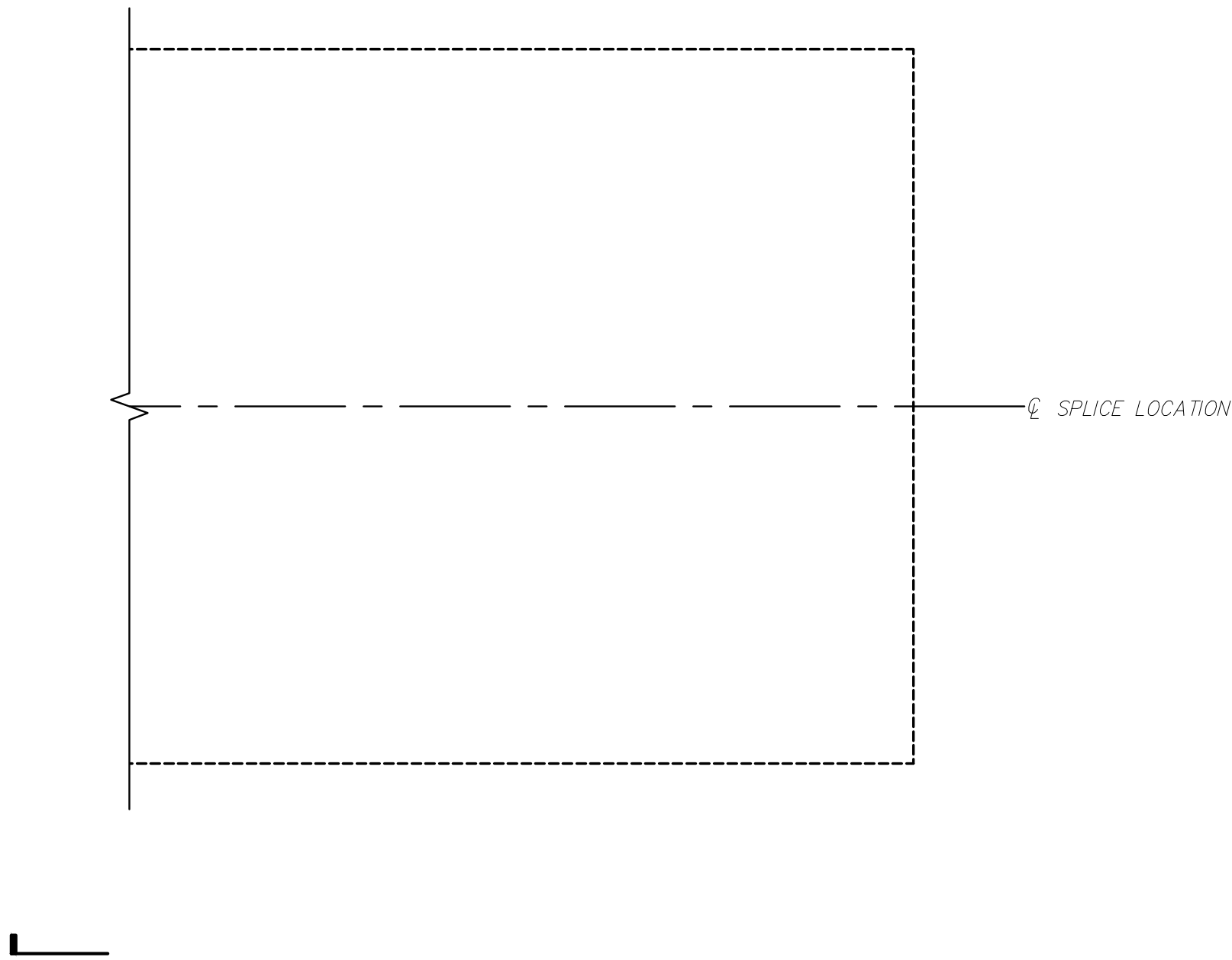
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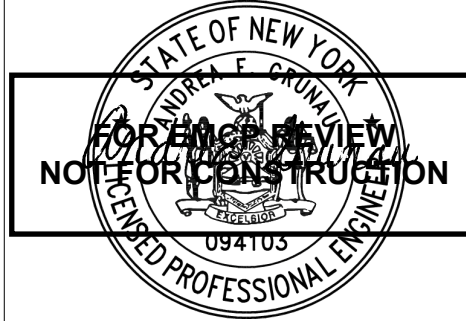
4

NOTES:

- DESIGN LIVE LOAD: ANSI TIER 22 (OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC).
VERTICAL DESIGN LOAD= 22,500 LBS;
LATERAL DESIGN LOAD= 800 PSF.
QUAZITE OR SIMILAR.
- ESTABLISH STABLE SUBGRADE CONDITIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE.



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0	12/05/2022	REVISED NYSDOT HWP SUBMISSION	JNK	OO					
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP					

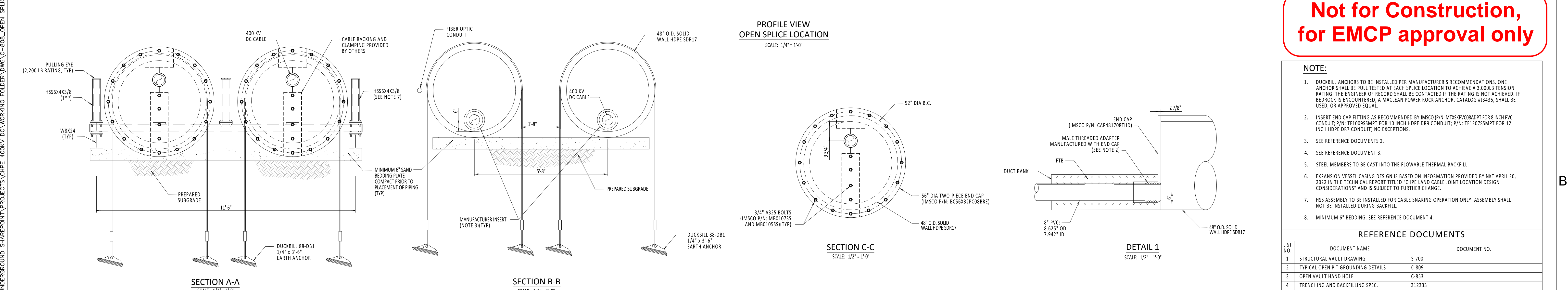
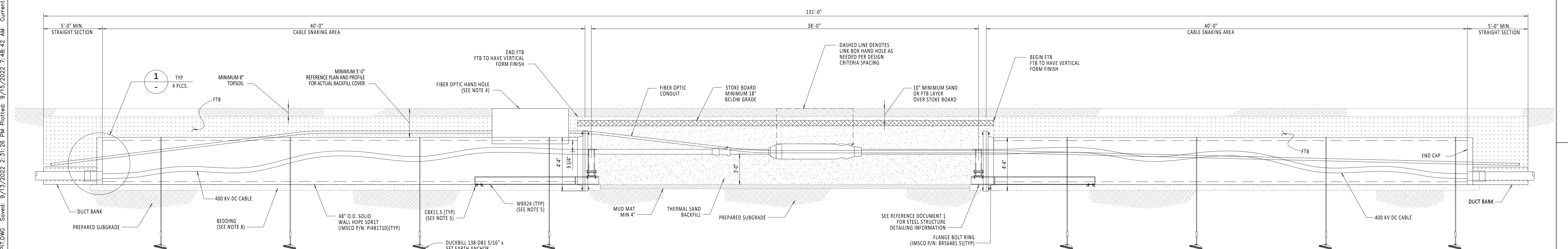
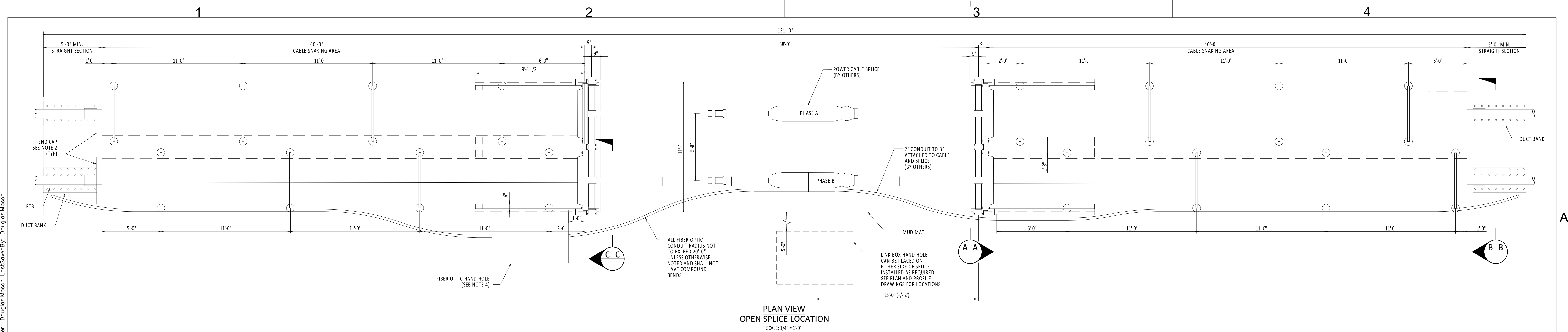
CHAMPLAIN HUDSON POWER EXPRESS
FRP COMMUNICATION HANDHOLES

HUBBELL QUAZITE 30"x48" CORRUGATED WALL ASSEMBLY
PART NO. PG3048HH00** AND PG3048BA24

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN	DATE SH.NO.	06/09/2022 XX OF XXX
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KIEWIT PROJECT NO. 21162	
DRAWING NO. S-771	

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for EMCP approval only**


REFERENCE DOCUMENTS		
LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	STRUCTURAL VAULT DRAWING	S-700
2	TYPICAL OPEN PIT GROUNDING DETAILS	C-809
3	OPEN VAULT HAND HOLE	C-853
4	TRENCHING AND BACKFILLING SPEC.	312333



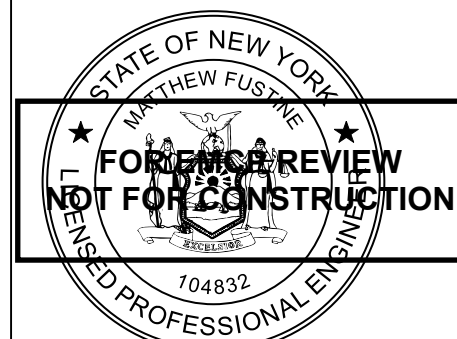
Champlain Hudson Power Express



Kiewit



III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com



STATE OF NEW YORK
MATTHEW FUSHE
104832
FOR REVIEW
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REGISTERED PROFESSIONAL ENGINEER

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0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	SS	ASM
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS

TYPICAL OPEN PIT SPLICE CASING DETAILS

DRAWN BY: DLM DESIGNED BY: ss APPROVED BY: ASM SCALE: 1/2" = 1'-0"

KIEWIT PROJECT NO. 21162
CHA PROJECT NO. 066076
DRAWING NO. C-808

DATE 09/16/2022
SH.NO. OF XXX

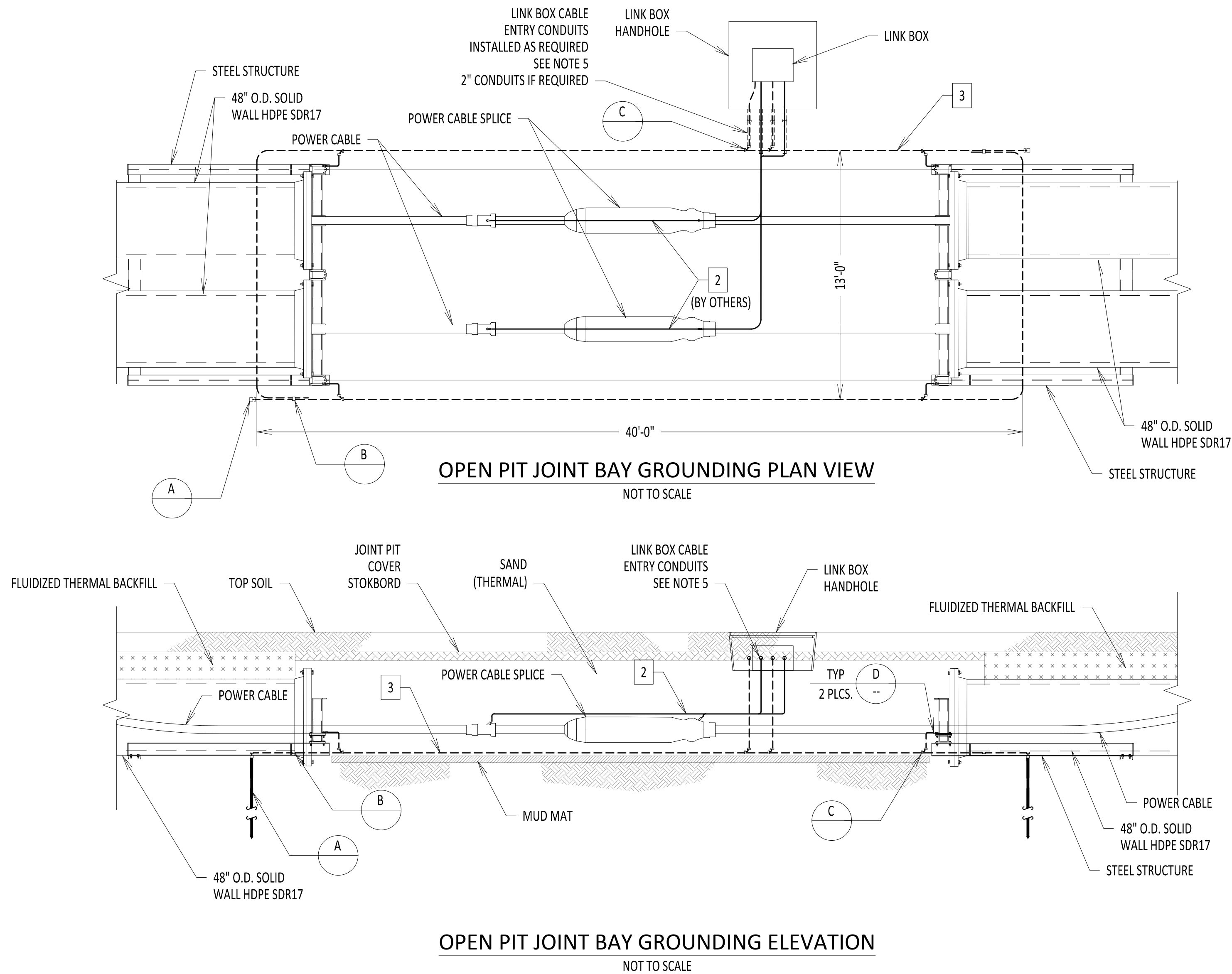
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1

2

3

4



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NOTES:

- FOR ADDITIONAL DESIGN PARAMETERS SEE SPECIFICATIONS.
- ALL GROUND CONNECTIONS SHALL BE IRREVERSIBLE COMPRESSION CONNECTION UNLESS OTHERWISE NOTED.
- LINK BOX WILL CONTAIN FOUR DISCONNECTING LINKS, AS PROVIDED BY VENDOR.
- POLYWATER FST SHALL BE USED TO SEAL CONDUIT.
- BONDING CABLE CONNECTION BETWEEN HIGH VOLTAGE DC CABLE SPICE AND LINK BOX SHALL BE NO LONGER THAN 30 FEET. FIELD FIT EXACT LOCATION.
- RESISTANCE OF GROUND GRID MEASURED RELATIVE TO DEEP EARTH SHALL BE 10 OHMS OR LESS. LENGTH AND NUMBER OF GROUND RODS TO BE DETERMINED BASED ON MEASURED GROUND ROD RESISTANCE.
- KIEWIT HAS PROVIDED GROUNDING AS PER NKT REQUIREMENTS. NO OTHER ELECTRICAL SYSTEM DESIGN HAS BEEN INCLUDED BY KIEWIT.

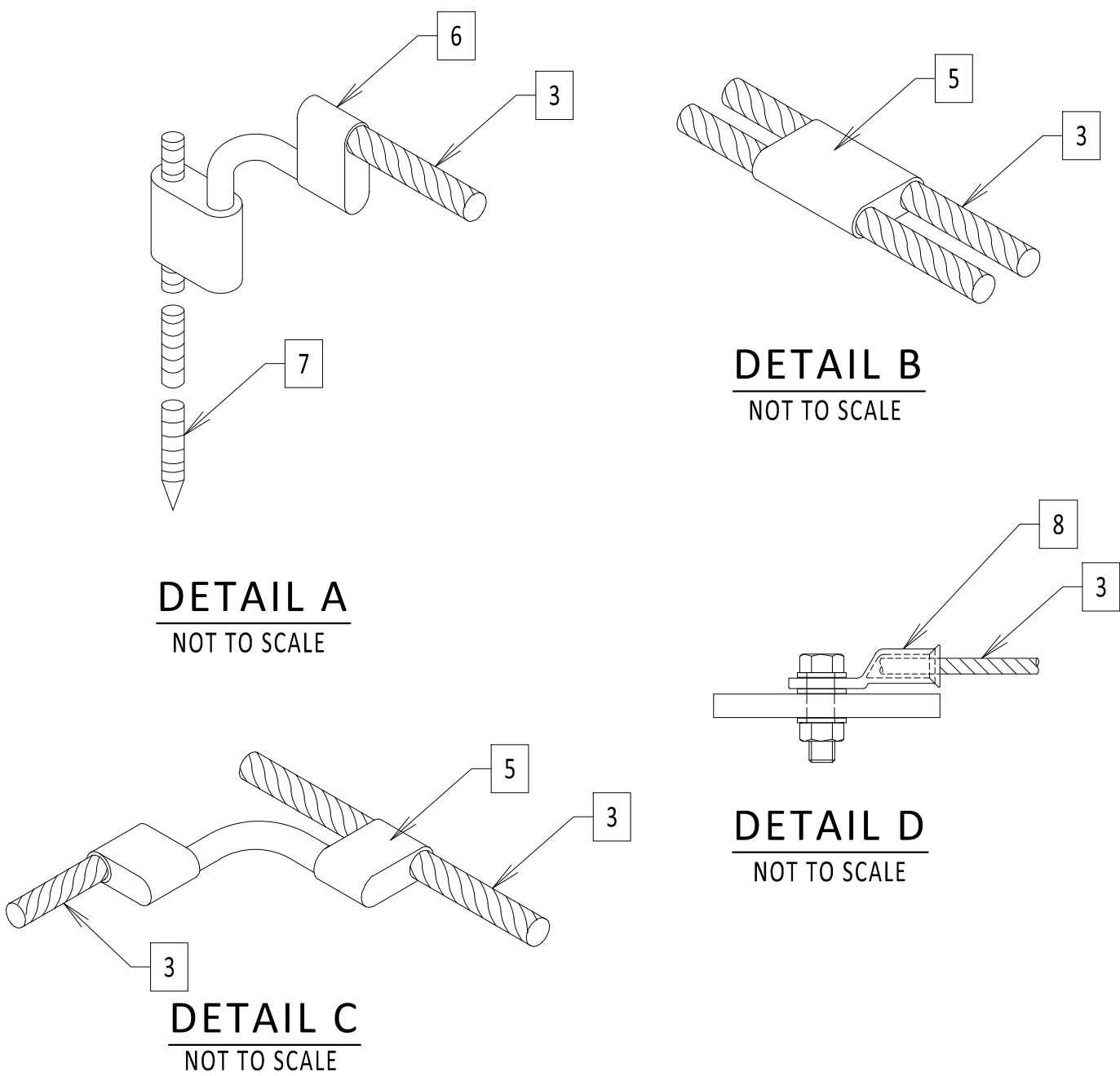
BILL OF MATERIALS

ITEM NO.	ITEM DESCRIPTION	MANUFACTURER & CATALOG NO.	PROVIDER	INSTALLER
1	LINK BOX	AS REQUIRED	NKT	KIEWIT
2	INSULATED GROUND CABLE	AS REQUIRED	NKT	NKT
3	BARE 4/0 GROUND CABLE	AS REQUIRED	KIEWIT	KIEWIT
4	COMPRESSION CROSS GRID CONNECTOR	BURNDY YGL29C29	KIEWIT	KIEWIT
5	COMPRESSION C CONNECTOR	BURNDY YGHC29C29	KIEWIT	KIEWIT
6	COMPRESSION CONNECTION TO GROUND ROD	BURNDY YGL34C29	KIEWIT	KIEWIT
7	3/4" X 10'-0" GROUND ROD	NVENT ERICO 613400	KIEWIT	KIEWIT
8	3/4" STUD RING TERMINAL	BURNDY YAD28M20E34	KIEWIT	KIEWIT

APPROVED EQUAL MATERIAL MAYBE SUBMITTED FOR REVIEW AND APPROVAL.
QUANTITIES ARE MINIMUM - PROVIDER IS RESPONSIBLE FOR ALL MATERIAL ITEMS AND QUANTITIES.

REFERENCE DRAWINGS

LIST NO.	DRAWING NAME	DRAWING NO.
1	STRUCTURAL VAULT DRAWINGS	S-700
2	TYPICAL OPEN PIT SPICE CASING DETAILS	C-808
3	GROUNDING SPECIFICATIONS	260526.01



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0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	SD	ASM	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

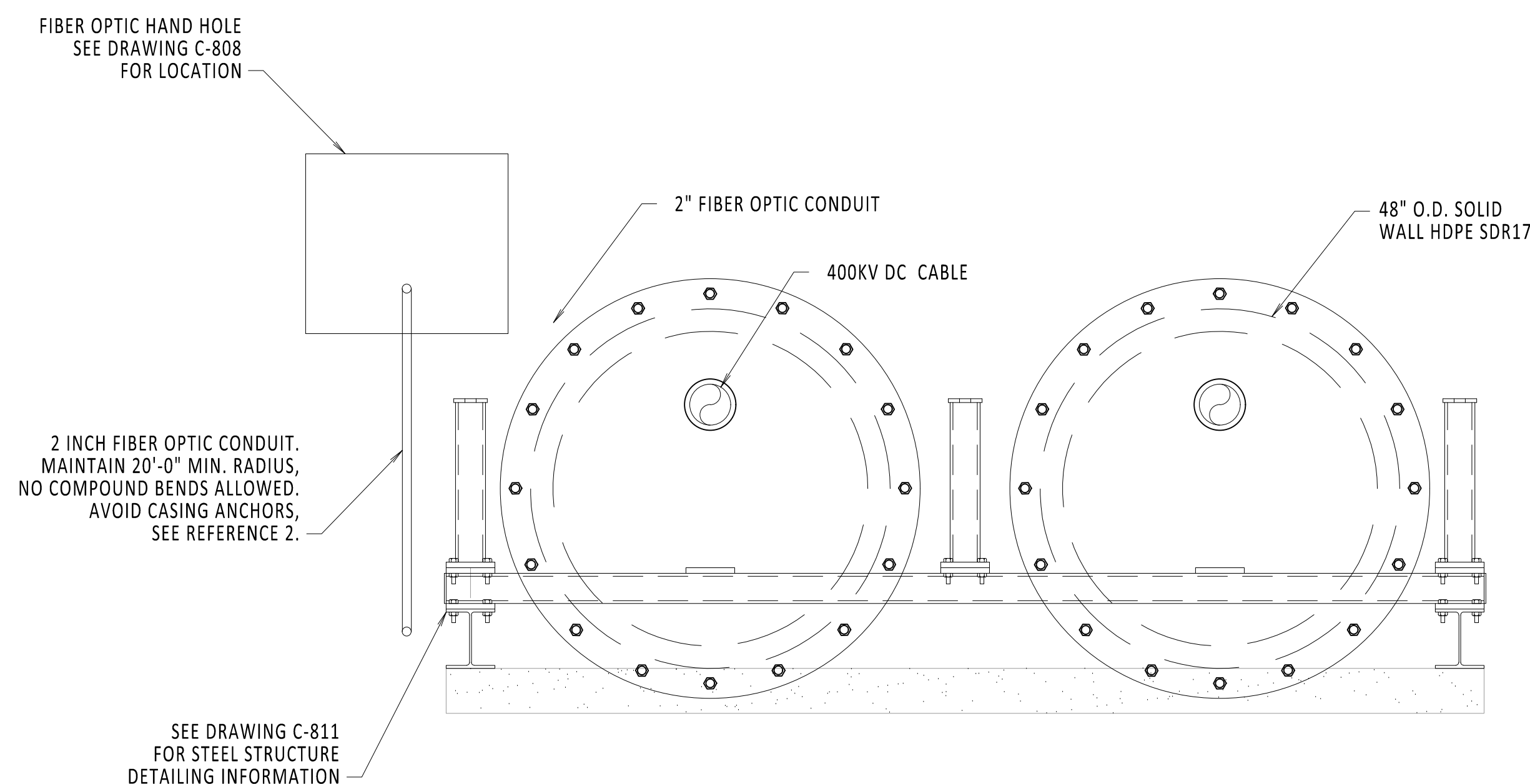
OPEN PIT SPICE
GROUNDING DETAILS

DRAWN BY: DLM DESIGNED BY: SD APPROVED BY: ASM SCALE: NOT TO SCALE REV. NO.

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-809
DATE	09/16/2022
SH.NO.	OF XXX

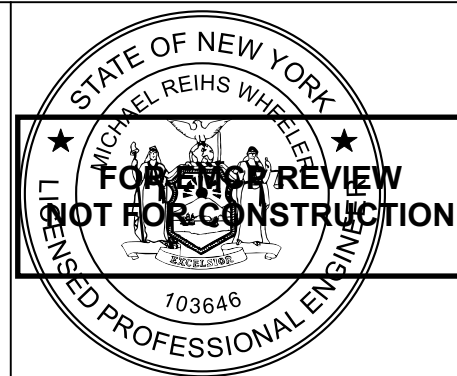
1. ADD HAND HOLE TO ALL OPEN VAULT LOCATIONS.
2. FIBER OPTIC SPLICE CLOSURE ONLY AT SPECIFIC LOCATIONS.

LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	FRP FIBER COMMUNICATION HAND HOLE	S-771
2	TYPICAL OPEN PIT SPLICE CASING DETAILS	C-808
3	STEEL SUPPORT DETAILS	C-811



NOT TO SCALE

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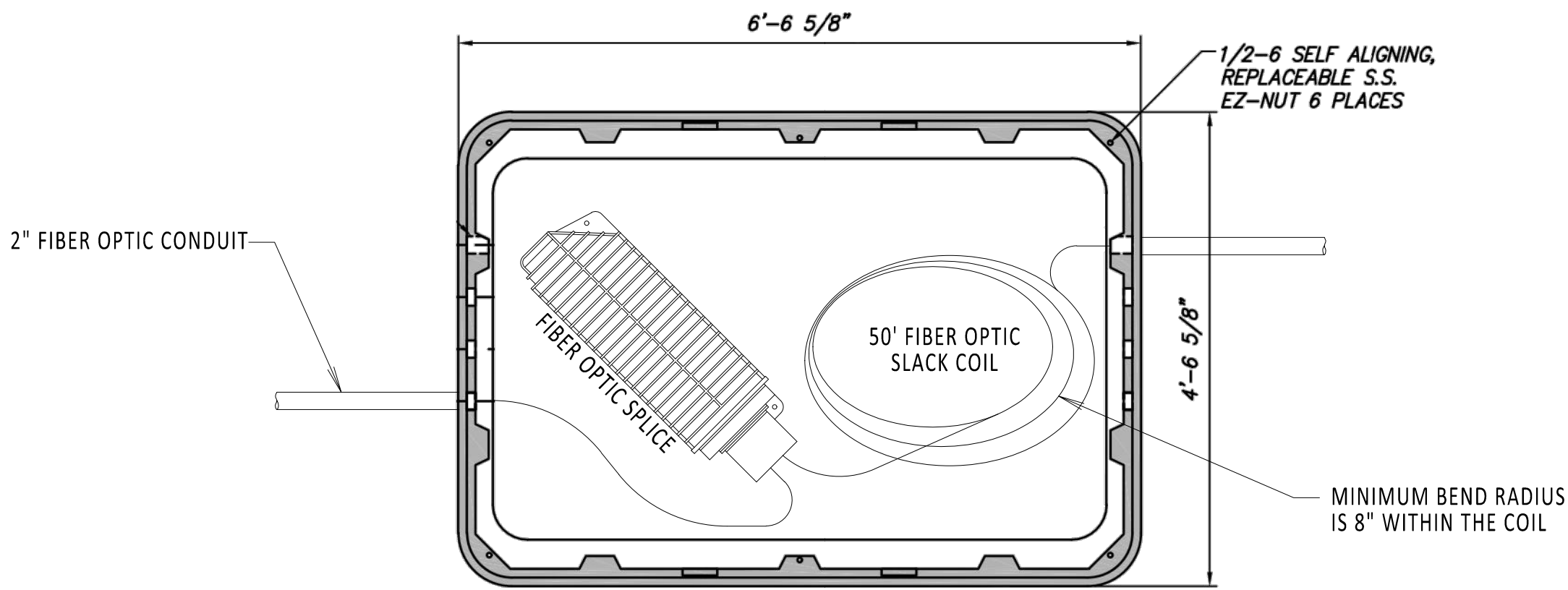
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0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	DM	MK
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

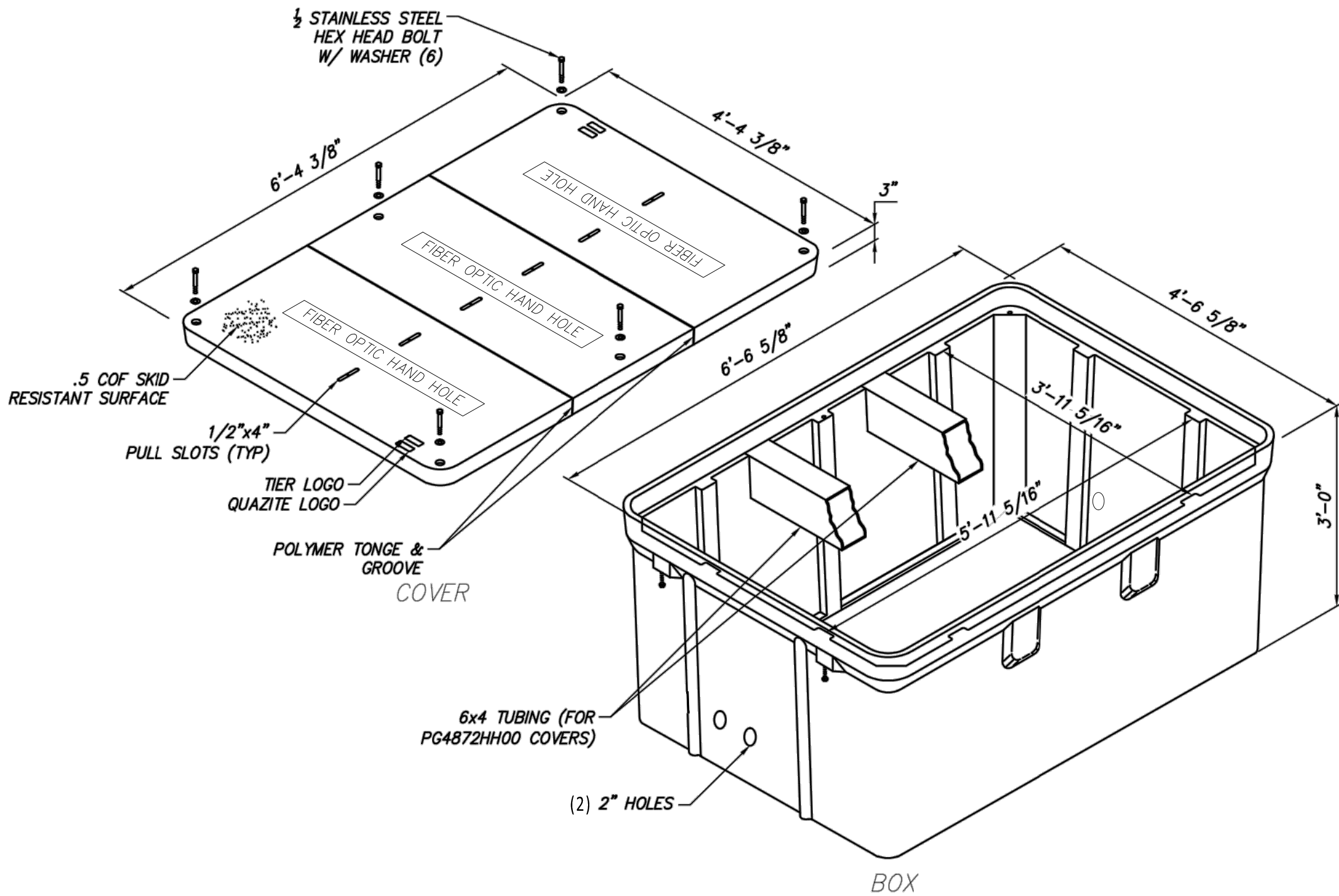
C-853

DATE	09/16/2022
SH.NO.	OF XXX

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HAND HOLE
TOP VIEW
NOT TO SCALE



ISOMETRIC VIEW
NOT TO SCALE

Not for Construction,
for EMCP approval only

NOTES:

- FIBER OPTIC COIL TO BE PLACED IN BOTTOM OF HAND HOLE. OBSERVE MINIMUM BEND RADIUS.
- SPLICE ALL FIBERS STRAIGHT THROUGH.
- FIBER OPTIC SPLICE CLOSURE ONLY AT SPECIFIC LOCATIONS.
- GROUNDING REQUIREMENTS TO BE DETERMINED.
- HAND HOLE AT ALL OPEN SPLICE LOCATIONS.

REFERENCE DOCUMENTS

LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	TYPICAL OPEN PIT SPLICE CASING DETAILS	C-808
2	FIBER OPTIC SPLICE DETAILS	C-855



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0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	DM	MK					
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP					

CHAMPLAIN HUDSON POWER EXPRESS

FIBER OPTIC HAND HOLE DETAILS

KIEWIT PROJECT NO.
21162
CHA PROJECT NO.
066076
DRAWING NO.

C-854

DRAWN BY:	TJM	DESIGNED BY:	MK	APPROVED BY:	XX	SCALE		DATE	09/16/2022
						REV. NO.		SH.NO.	OF XXX

1. GROUNDING DETAILS. TBD.
2. MAINTAIN 18" SWEEPS ON ALL CONDUITS.
3. DTS HUT FIBERS WILL SPlice TO BLUE TUBE FIBER COLORS BLUE, ORANGE, GREEN AND BROWN.



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						CHAMPLAIN HUDSON POWER EXPRESS FIBER OPTIC SPLICE DIAGRAM				KIEWIT PROJECT NO.			
										21162		DATE	
										CHA PROJECT NO.		09/16/2022	
										066076		SH.NO.	
										DRAWING NO.		OF XXX	
												C-855	
0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION			DM	MK							
No.	DATE	SUBMITTAL / REVISION DESCRIPTION			DB	APP	DRAWN BY: TJMC	DESIGNED BY: MK	APPROVED BY: XX	SCALE REV. NO.			

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1

2

3

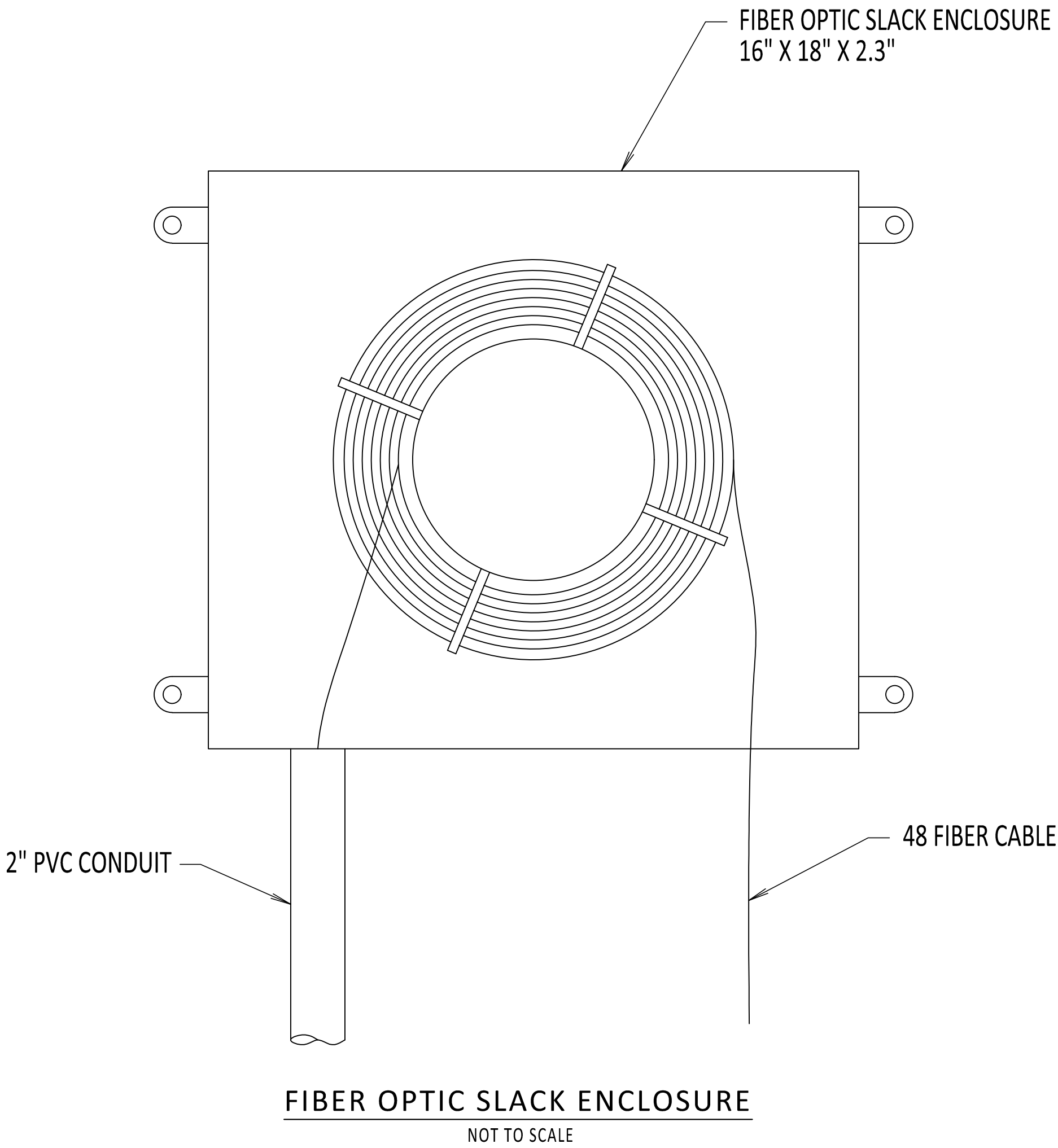
4

NOTES:

1. DO NOT KINK OR TWIST FIBER OPTIC CABLE.
2. IN VAULT PULL FROM DISTANT MANHOLE THEN COIL AND PLACE IN THE FIBER OPTIC SLACK ENCLOSURE.

REFERENCE DOCUMENTS

LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	TRANSITION VAULT WITH FIBER OPTIC DETAILS	C-850
2	ENCLOSED VAULT WITH FIBER OPTIC DETAILS	C-852



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0	09/16/2022	EM&CP REGULATORY RE-SUBMISSION	DM	MK	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

FIBER OPTIC SLACK ENCLOSURE DETAIL

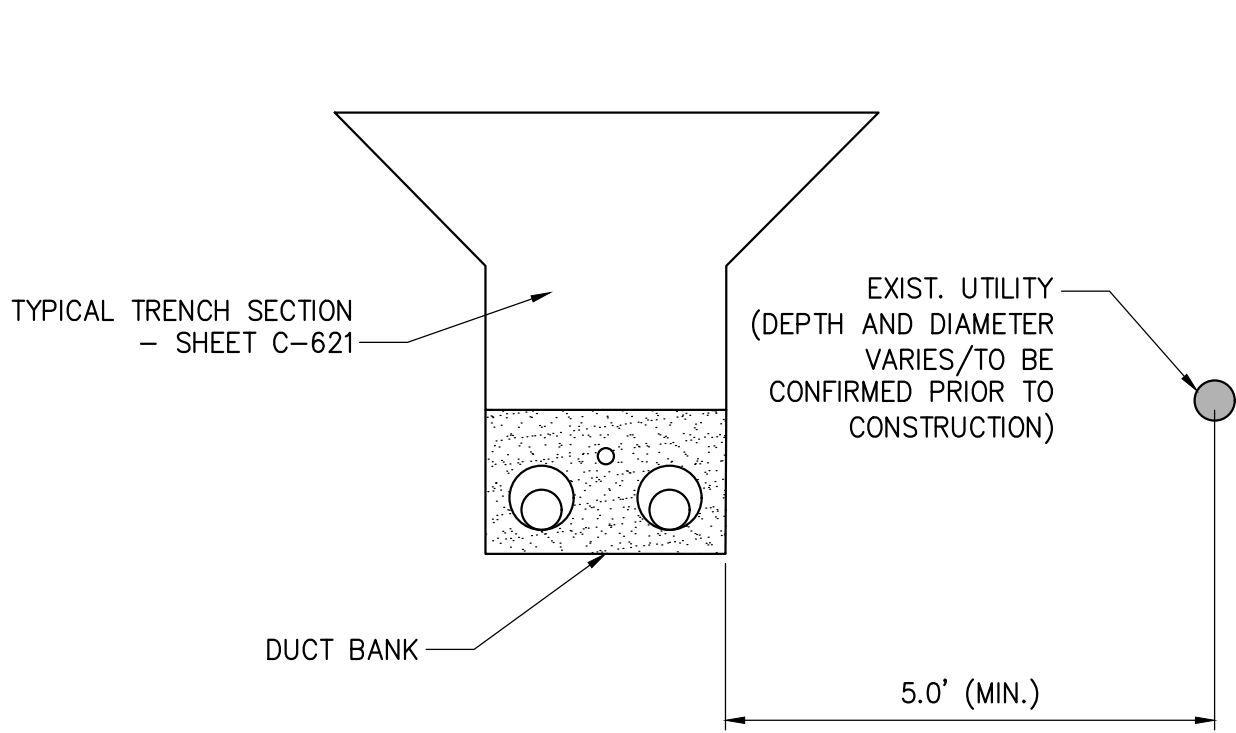
KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-856
DATE	09/16/2022
SH.NO.	OF XXX

DRAWN BY:	TJM	DESIGNED BY:	MK	APPROVED BY:	XX	SCALE	
						REV. NO.	

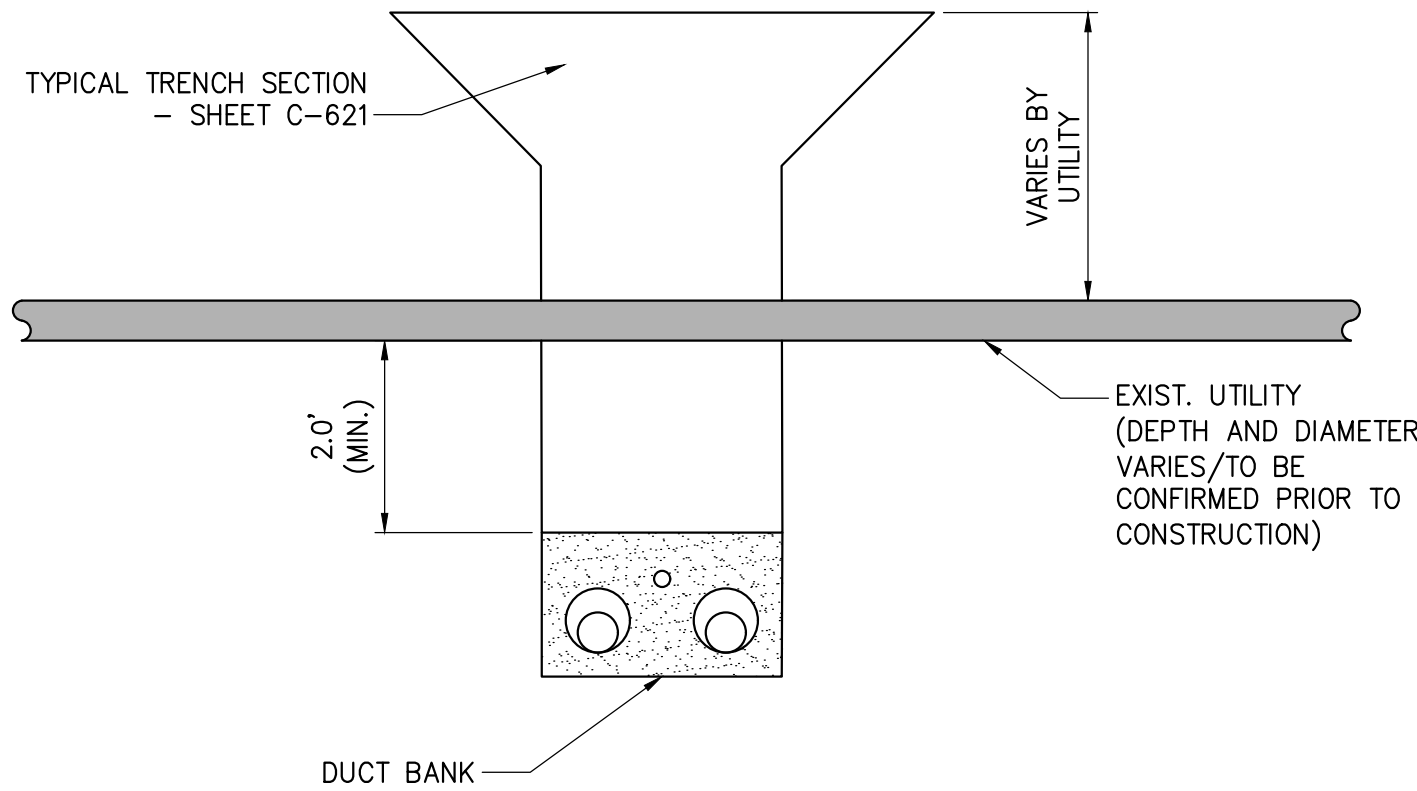
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NATIONAL GRID NOTES

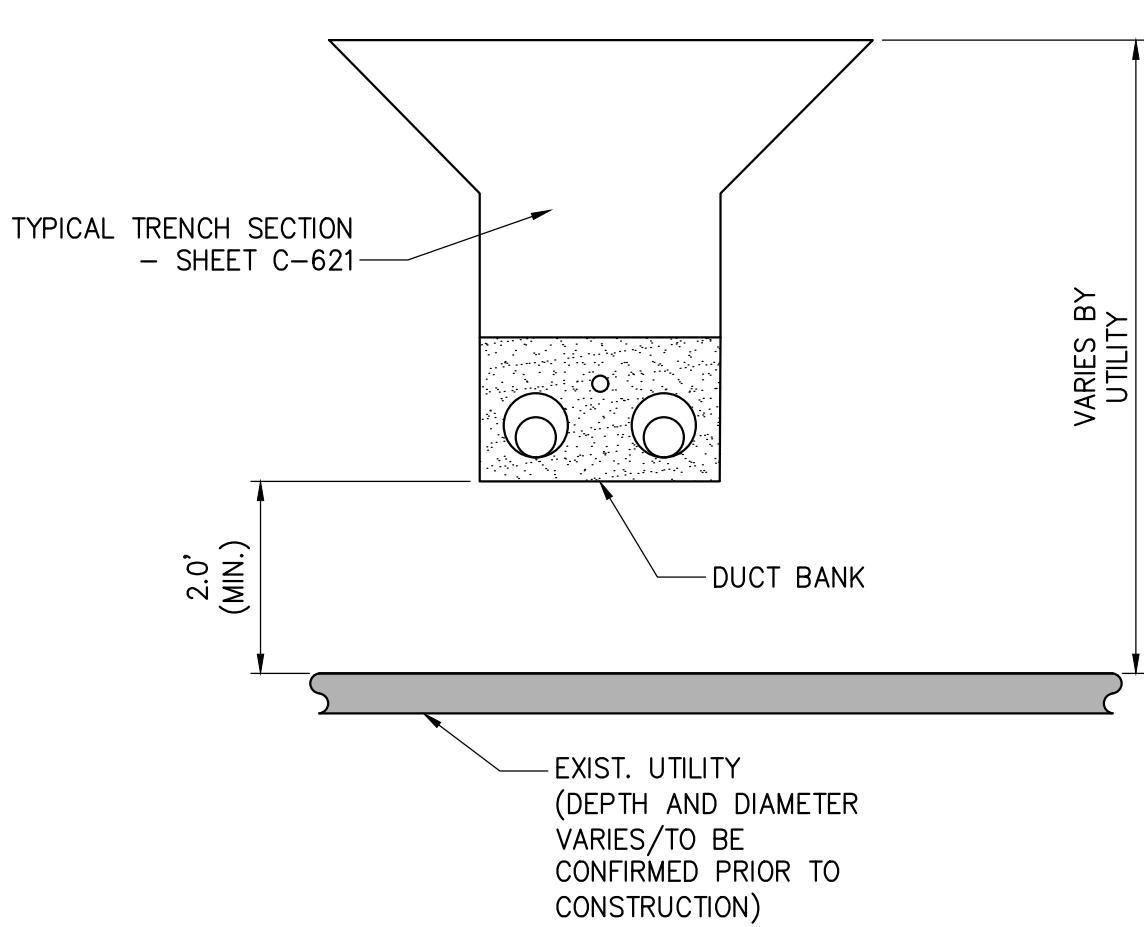
1. THE CONTRACTOR SHALL OBSERVE AND ABIDE BY THE APPLICABLE POWER LINE SAFETY REGULATIONS 29 C.F.R. § 1926.1406 – 1926.1411.
2. THE CONTRACTOR SHALL TRAIN EMPLOYEES WORKING AS DEDICATED SPOTTERS IN ACCORDANCE WITH 29 C.F.R. § 1926.1408(G)(2).
3. CONSTRUCTION UNDER TRANSMISSION LINES REQUIRES A DEDICATED SPOTTER, AS APPLICABLE.
4. THE CONTRACTOR SHALL SUBMIT QUALIFIED INDIVIDUALS' RESUMES TO NATIONAL GRID.



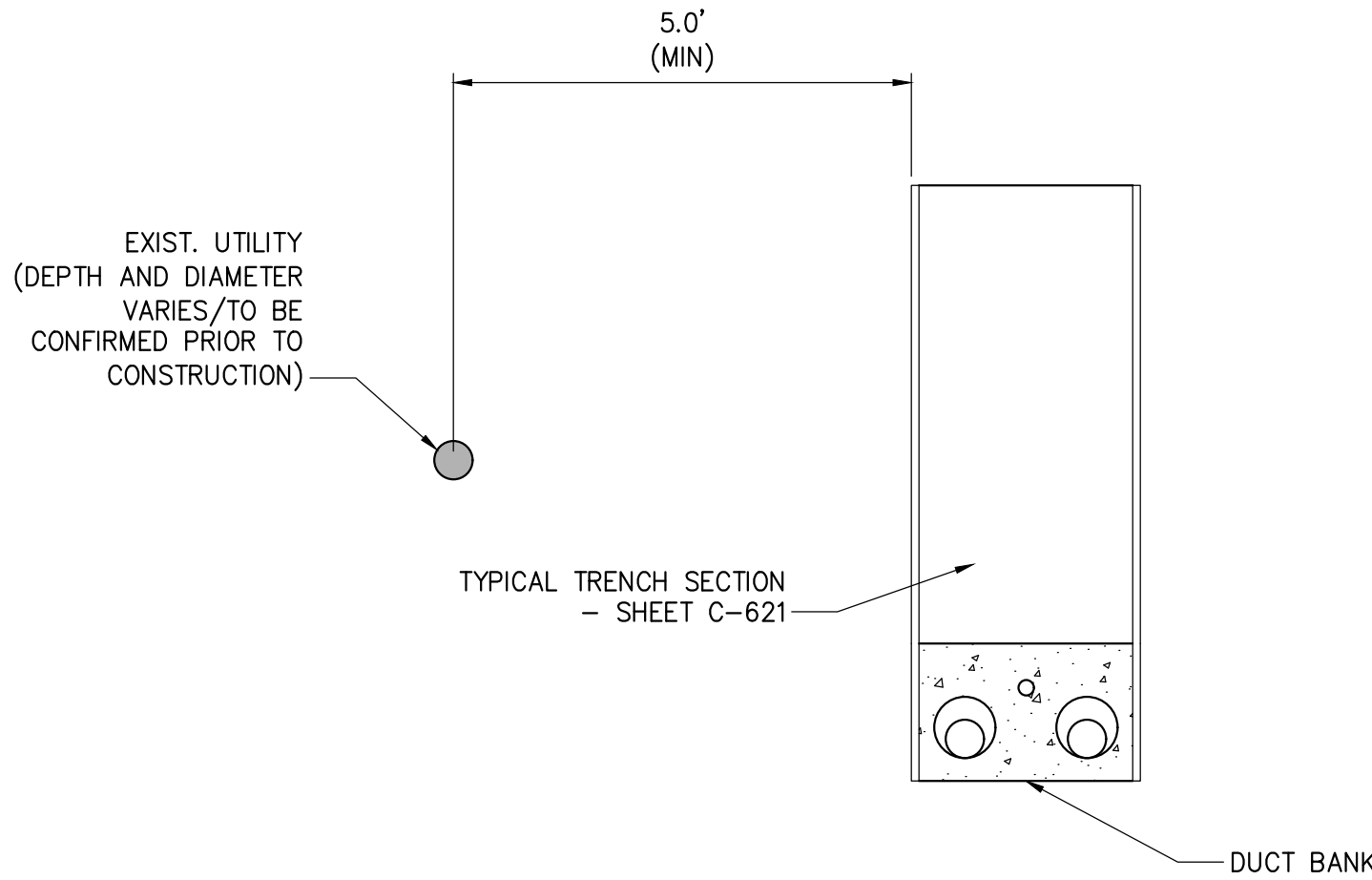
1 OPEN TRENCH -- HORIZONTAL SEPARATION
NOT TO SCALE



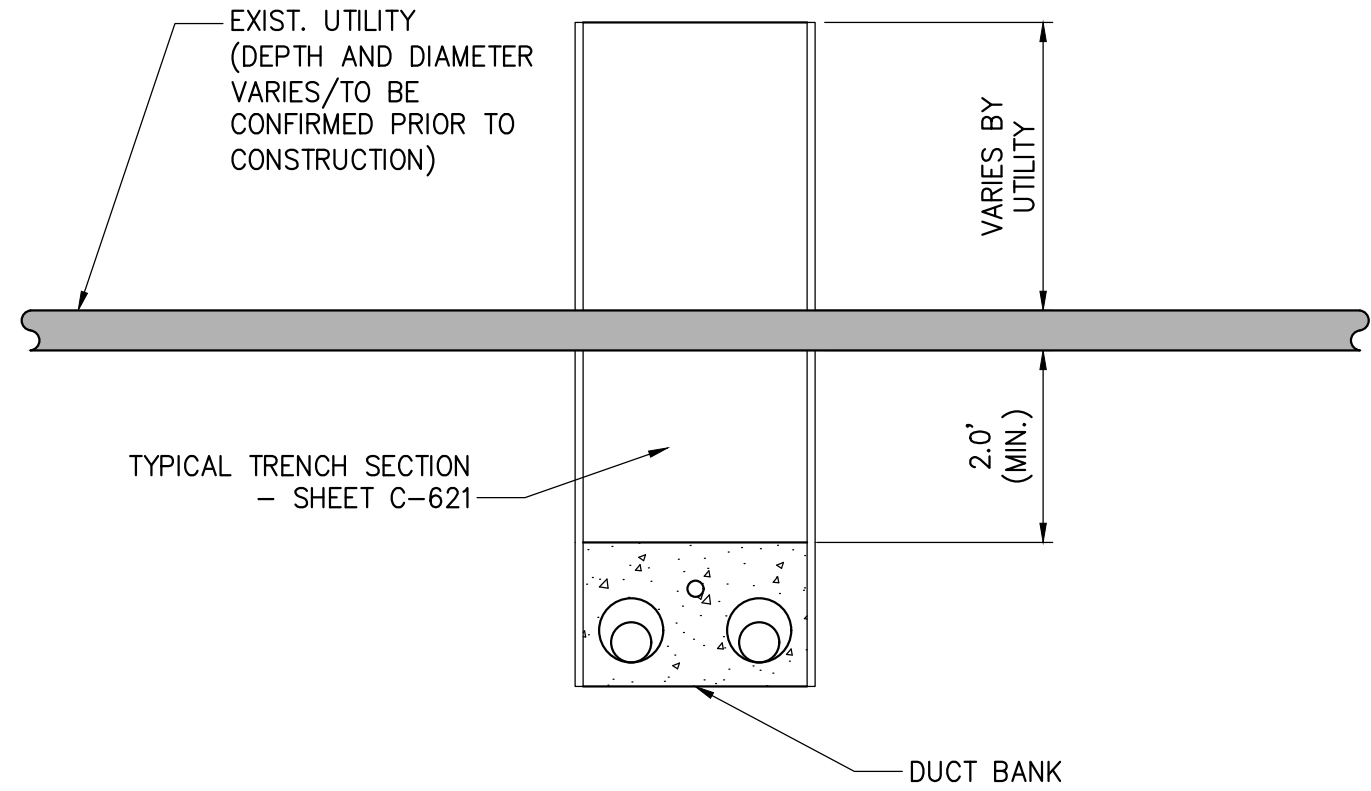
2 OPEN TRENCH -- VERTICAL SEPARATION (UNDER)
NOT TO SCALE



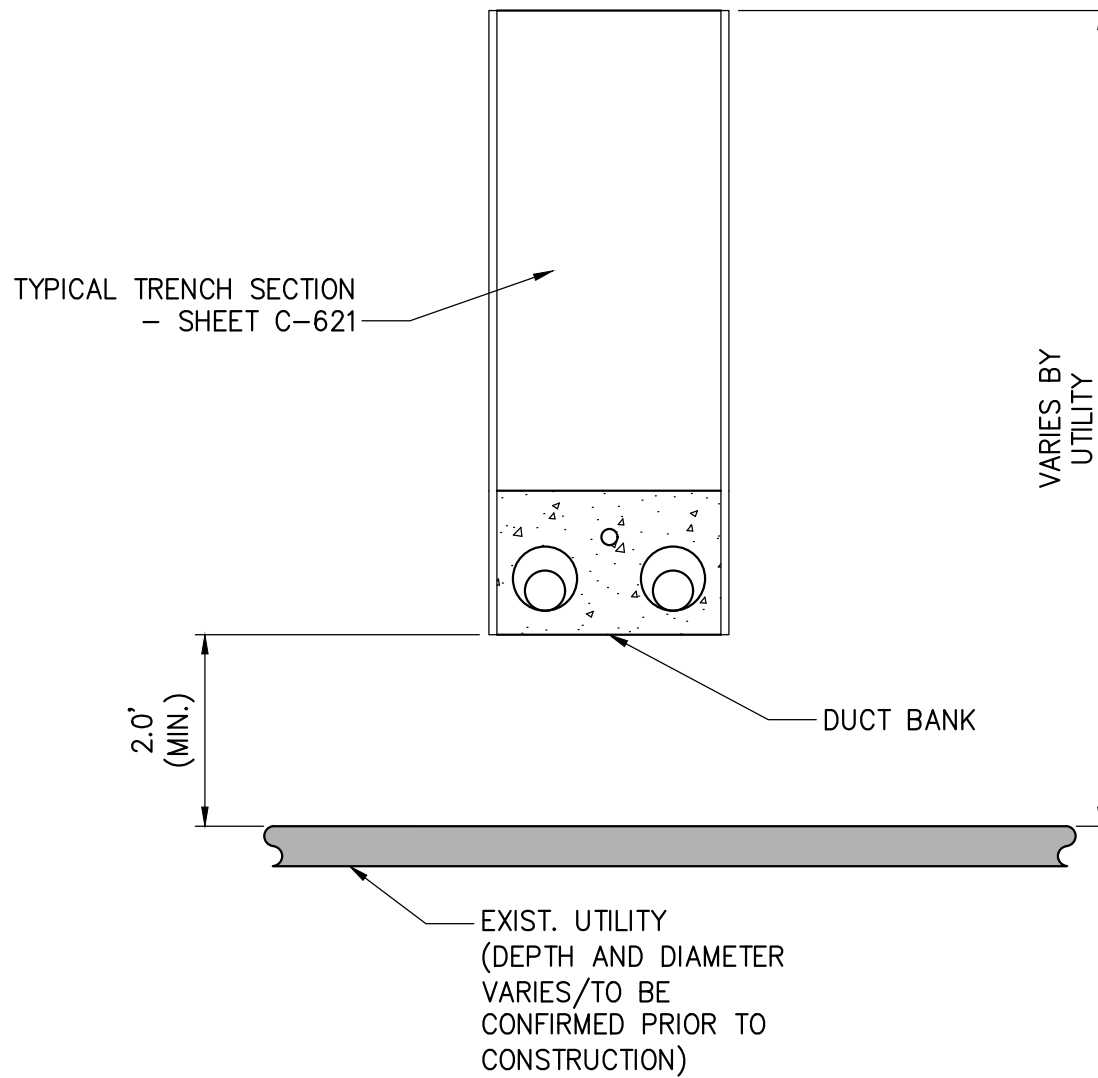
3 OPEN TRENCH -- VERTICAL SEPARATION (OVER)
NOT TO SCALE



4 TYPICAL DUCTBANK IN ROADWAY -- HORIZONTAL SEPARATION
NOT TO SCALE



5 TYPICAL DUCTBANK IN ROADWAY -- VERTICAL SEPARATION (UNDER)
NOT TO SCALE



6 TYPICAL DUCTBANK IN ROADWAY -- VERTICAL SEPARATION (OVER)
NOT TO SCALE



FOR EMCP REVIEW
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X	XX	XXX	BV	TK
X	XX	XXX	BV	TK
X	XX	XXX	BV	TK
E	12/16/2022	FINAL SUBMISSION	BV	TK
D	11/11/2022	DRAFT FINAL SUBMISSION	BV	TK
C	06/06/2022	60% DESIGN SUBMISSION	BV	TK
B	02/11/2022	PRELIMINARY DESIGN DEVELOPMENT	BV	TK
A	01/24/2022	PRELIMINARY PROGRESS	BV	TK
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 8 (PACKAGE 5A) - CSX: ROTTERDAM - BETHLEHEM
UTILITY TYPICAL SEPARATION DETAILS

DRAWN BY:	AR	DESIGNED BY:	BV	APPROVED BY:	TK	SCALE	AS SHOWN	DATE	12/16/2022
						REV. NO.	E	SH.NO.	OF

KIEWIT PROJECT NO.	21162
DRAWING NO.	C-901