




BORING LOG STRIP LEGEND

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%



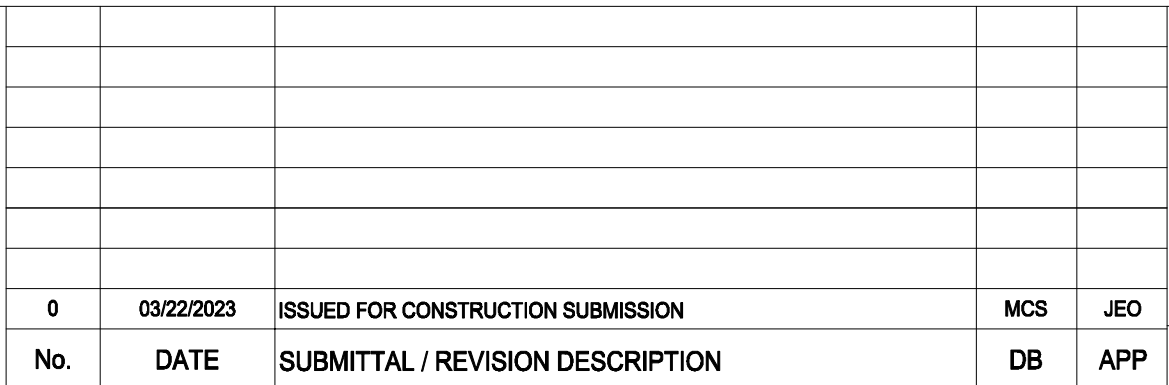
B101

11000psi = UCS

2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

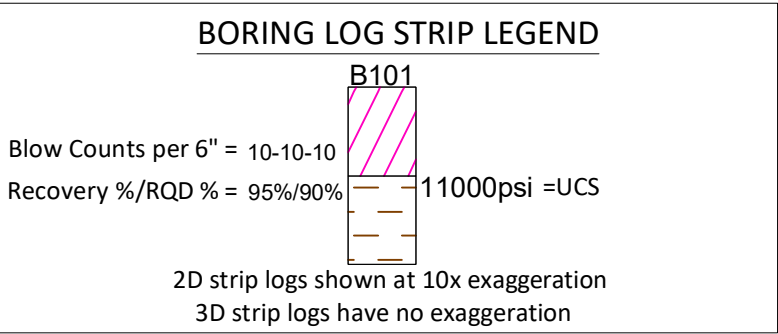


Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	DLH	ORGANIC Fat CLAY
	DL	ORGANIC Lean CLAY
	DL/GH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	SW	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgravel
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
	Water Table	Water Table during drilling
	Delayed Water Table	Water Table after drilling

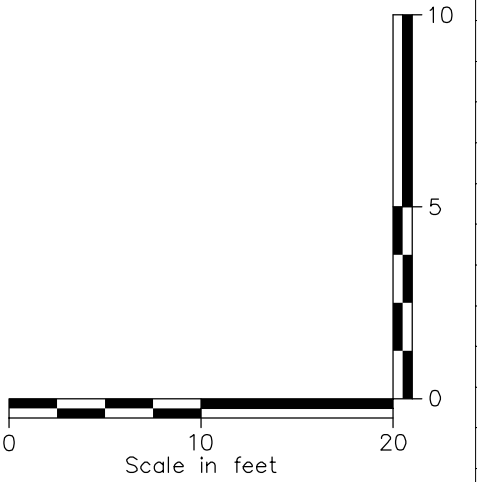


KIEWIT PROJECT NO.
21162
CHA PROJECT NO.
066076
DRAWING NO.

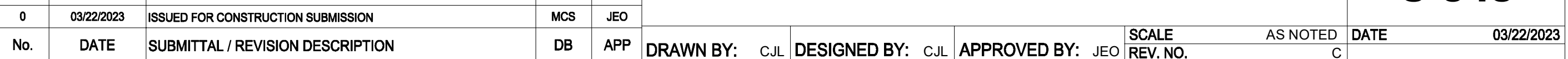
DATE	03/22/2023
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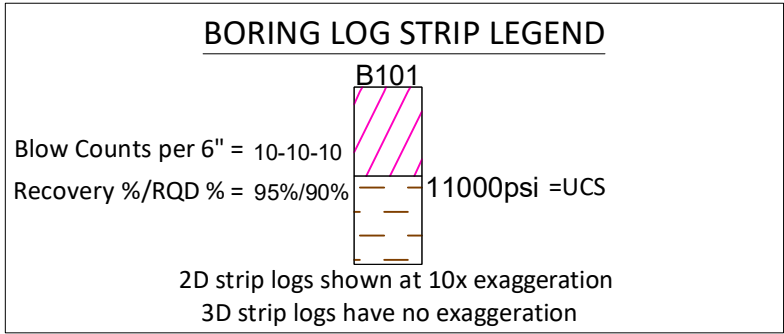


Legend		
	ASPHALT	Asphalt
	Bedrock	Bedrock
	Boulder	Boulder
	CH	Fat CLAY
	CH-MH	SILTY Fat CLAY
	CL	Lean CLAY
	CL-ML	SILTY CLAY
	CONCRETE	Concrete
	Fill	Fill
	GC	CLAYEY GRAVEL
	GC-GM	SILTY CLAYEY GRAVEL
	GM	SILTY GRAVEL
	GP	Poorly Graded GRAVEL
	GP-GC	Poorly Graded Gravel with CLAY
	GP-GM	Poorly Graded GRAVEL with SILT
	GW	Well Graded GRAVEL
	GW-GC	Well Graded GRAVEL with CLAY
	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	OH	ORGANIC Fat CLAY
	OL	ORGANIC Lean CLAY
	OL/OH	ORGANIC SOIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
	SC	CLAYEY SAND
	SC-SM	SILT, CLAYEY SAND
	SHALE	Shale
	SILTSTONE	Siltstone
	SM	SILTY SAND
	SP	Poorly Graded SAND
	SP-SC	Poorly Graded SAND with CLAY
	SP-SM	Poorly Graded SAND with SILT
	Sw	Well graded SAND
	SW-SC	Well Graded SAND with CLAY
	SW-SM	Well Graded SAND with SILT
	Topsoil	Topsoil
	USGS 601	Gravel or Conglomerate 1
	USGS 654	Subgraywacke
	USGS 670	Interbedded Sandstone and Shale
	USGS 702	Quartzite
	USGS 705	Schist
	USGS 705	Schist
	USGS 708	Gneiss
	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
	Water	Water
	Weathered Rock	Undefined
	Water Table before Drilling	Water Table during drilling
	Water Table after Drilling	Water Table after drilling

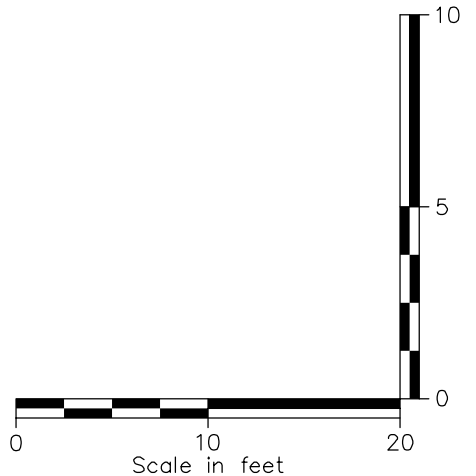


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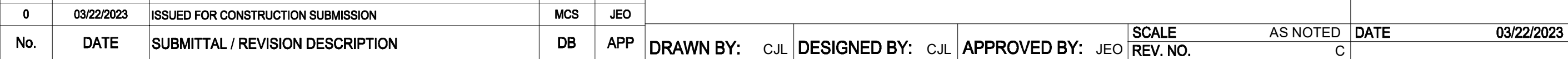


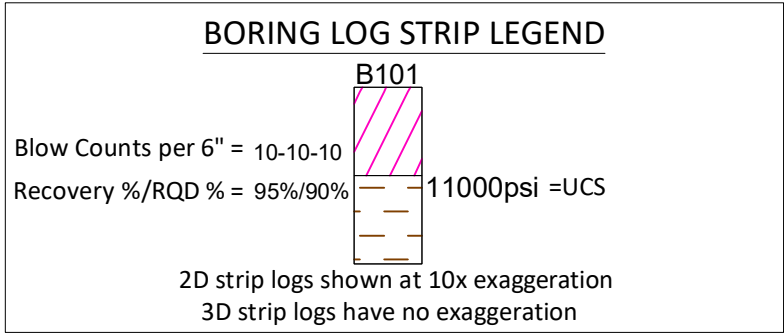


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	CL-ML	SILTY CLAY
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	Void	Void
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	Water Table	Water Table during drilling
	Delayed Water Table	Water Table after drilling

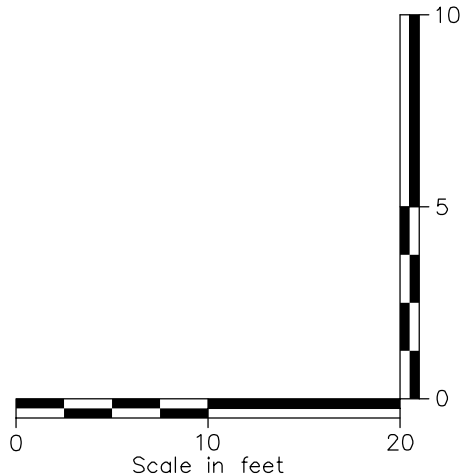


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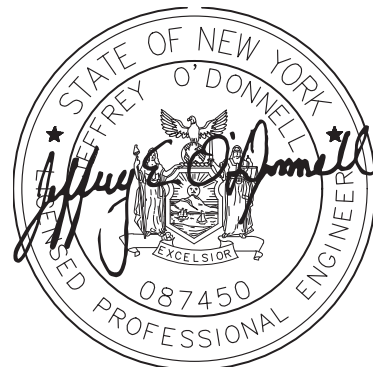




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	CONCRETE	Concrete
	FILL	FILL
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B



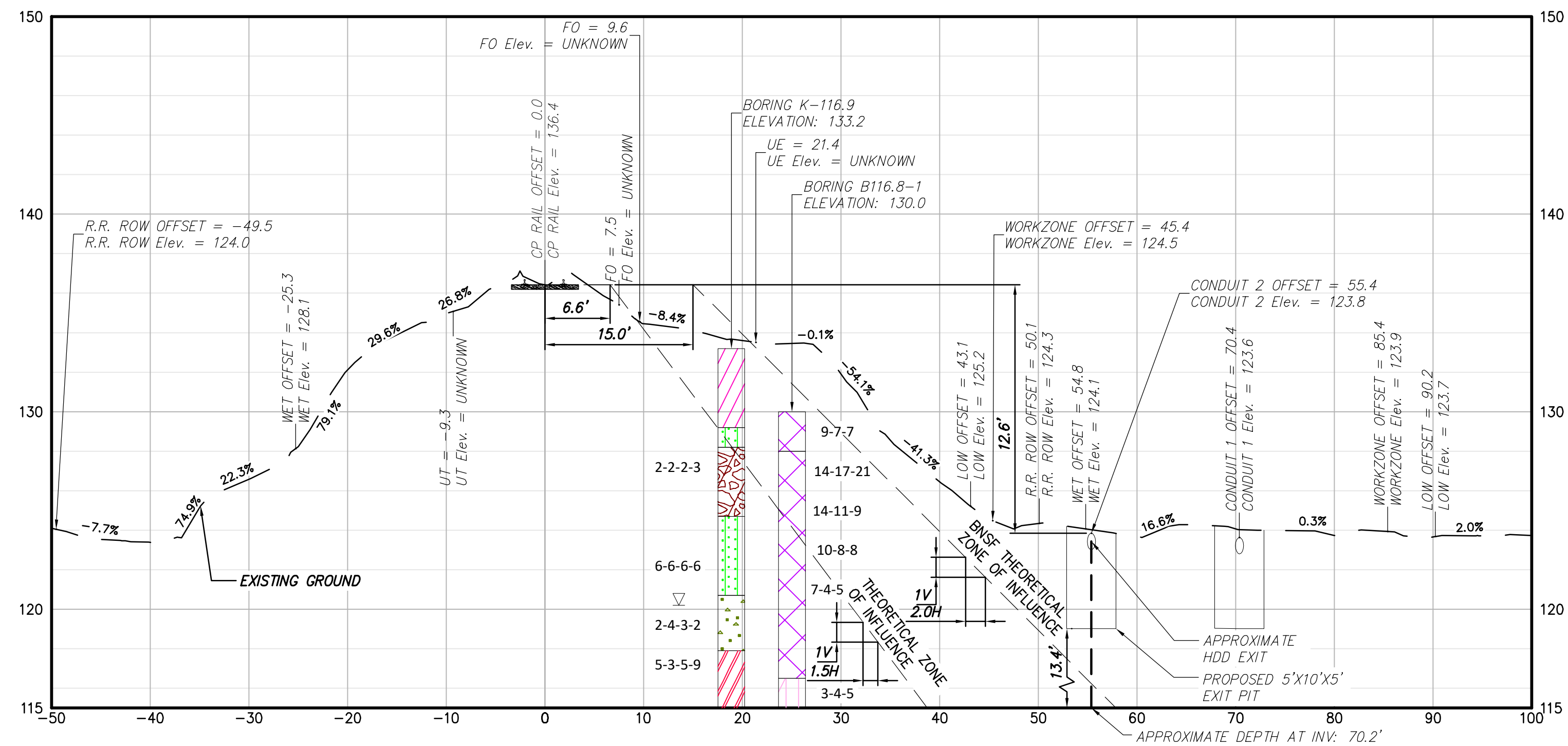
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

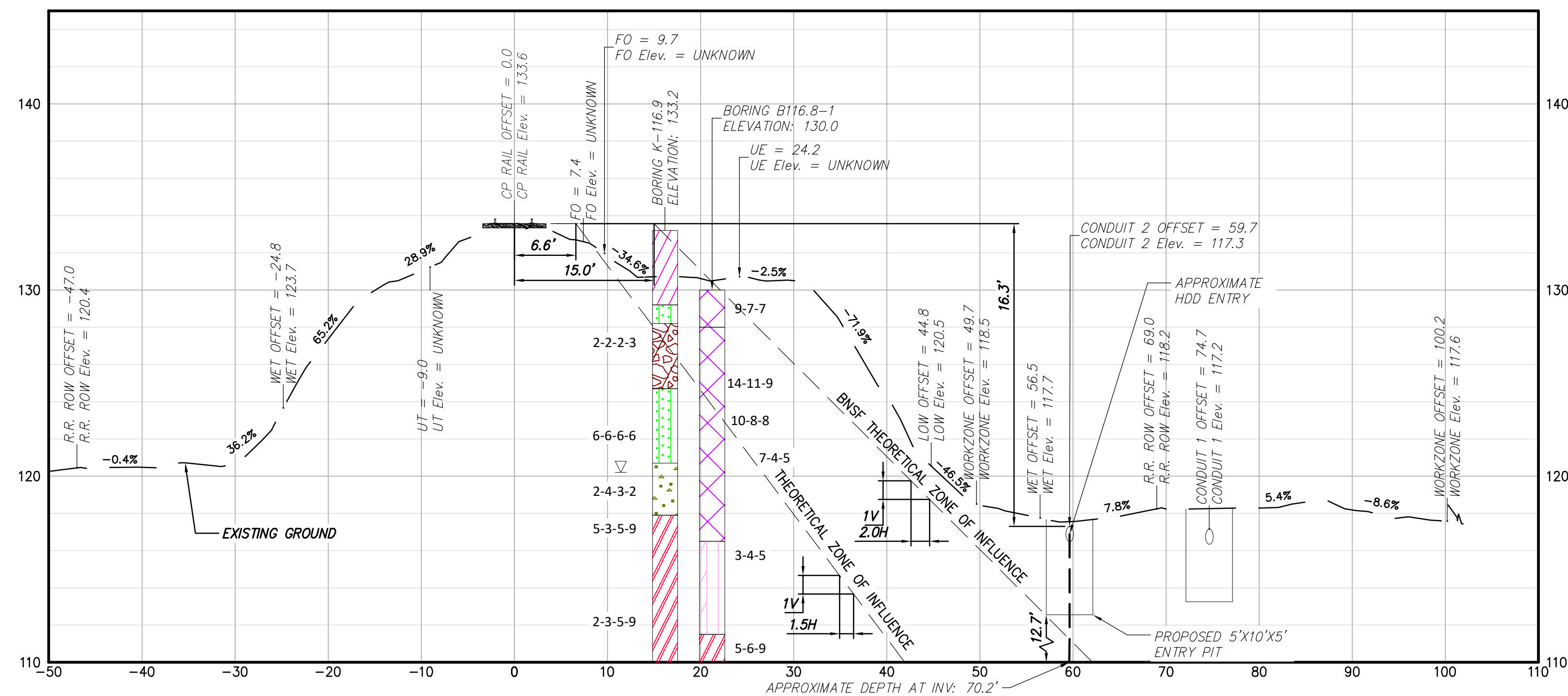
KIEWIT PROJECT NO.
21162
CHA PROJECT NO.
066076
DRAWING NO.

C-646

DATE	03/22
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2	HDD #7 CONDUIT 2 EXIT PIT CUT SECTION; STA. 15269+04 CP RAIL CANADIAN MAINLINE MP: 73.11
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1	HDD #7 CONDUIT 2 ENTRY PIT CUT SECTION: STA. 15256+14 CP RAIL CANADIAN MAINLINE MP: 73.36
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BORING LOG STRIP LEGEND



































Blow Counts per 6" = 10-10-10

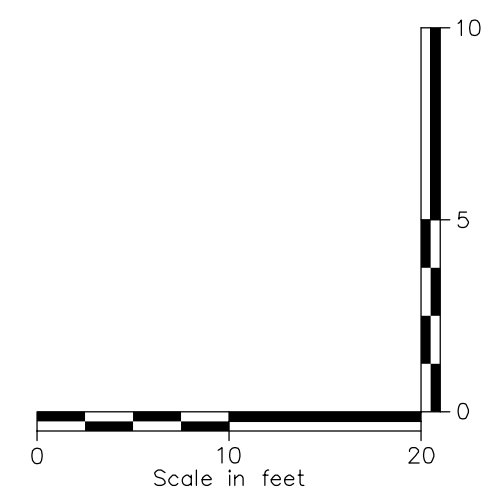
Recovery %/RQD % = 95%/90%

11000psi = UCS

2D strip logs shown at 10x exaggeration

3D strip logs have no exaggeration

Legend		
	ASPHALT	Asphalt
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	Boulder	Boulder
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	CONCRETE	Concrete
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	GW-GM	Well Graded GRAVEL with SILT
	Limestone	Limestone
	MH	Elastic SILT
	ML	SILT
	DH	ORGANIC Fat CLAY
	DL	ORGANIC Lean CLAY
	DL/DH	ORGANIC SDIL
	PT	PEAT
	Rock	Rock
	Sandstone	Sandstone
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	SC-SM	SILT, CLAYEY SAND
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	USGS 705	Schist
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	USGS 708	Gneiss
	USGS 718	Granite 1
	Void	Void
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	Weathered Rock	Undefined
	Water Table	Water Table during drilling
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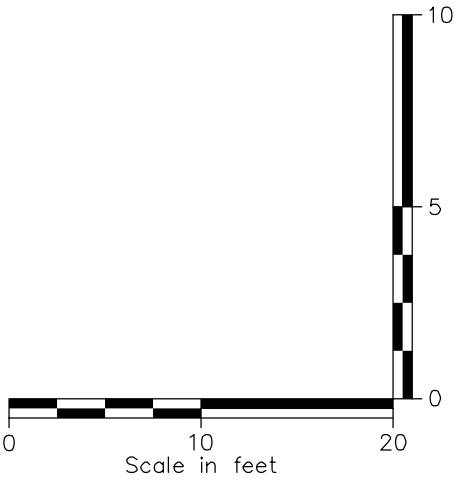


BORING LOG STRIP LEGEND

Blow Counts per 6" = 10-10-10
Recovery %/RQD % = 95%/90%

11000psi = UCS

2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

B

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF ANY ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION	MCS	JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
RAIL CROSS SECTION DETAILS HDD 8

KIEWIT PROJECT NO.
21162
CHA PROJECT NO.
066076
DRAWING NO.
C-647
DATE 03/22/2023



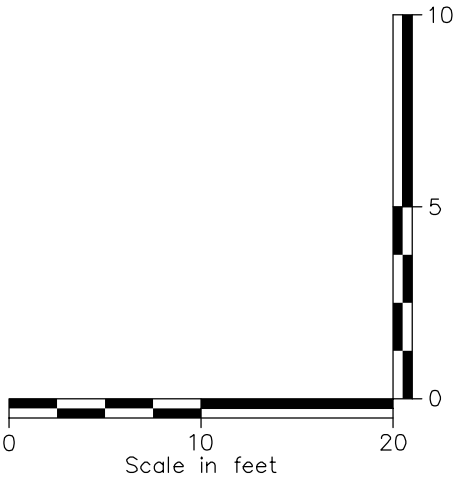
BORING LOG STRIP LEGEND

Blow Counts per 6" = 10-10-10

Recovery %/RQD % = 95%/90%

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2D strip logs shown at 10x exaggeration
3D strip logs have no exaggeration

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0	03/22/2023	ISSUED FOR CONSTRUCTION SUBMISSION			JEO
No.	DATE	SUBMITTAL / REVISION DESCRIPTION			APP

CHAMPLAIN HUDSON POWER EXPRESS
SEGMENT 3 (PACKAGE 1C) WHITEHALL TO FORT ANN
RAIL CROSS SECTION DETAILS HDD 8

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

C-647.1

E 03/22/202

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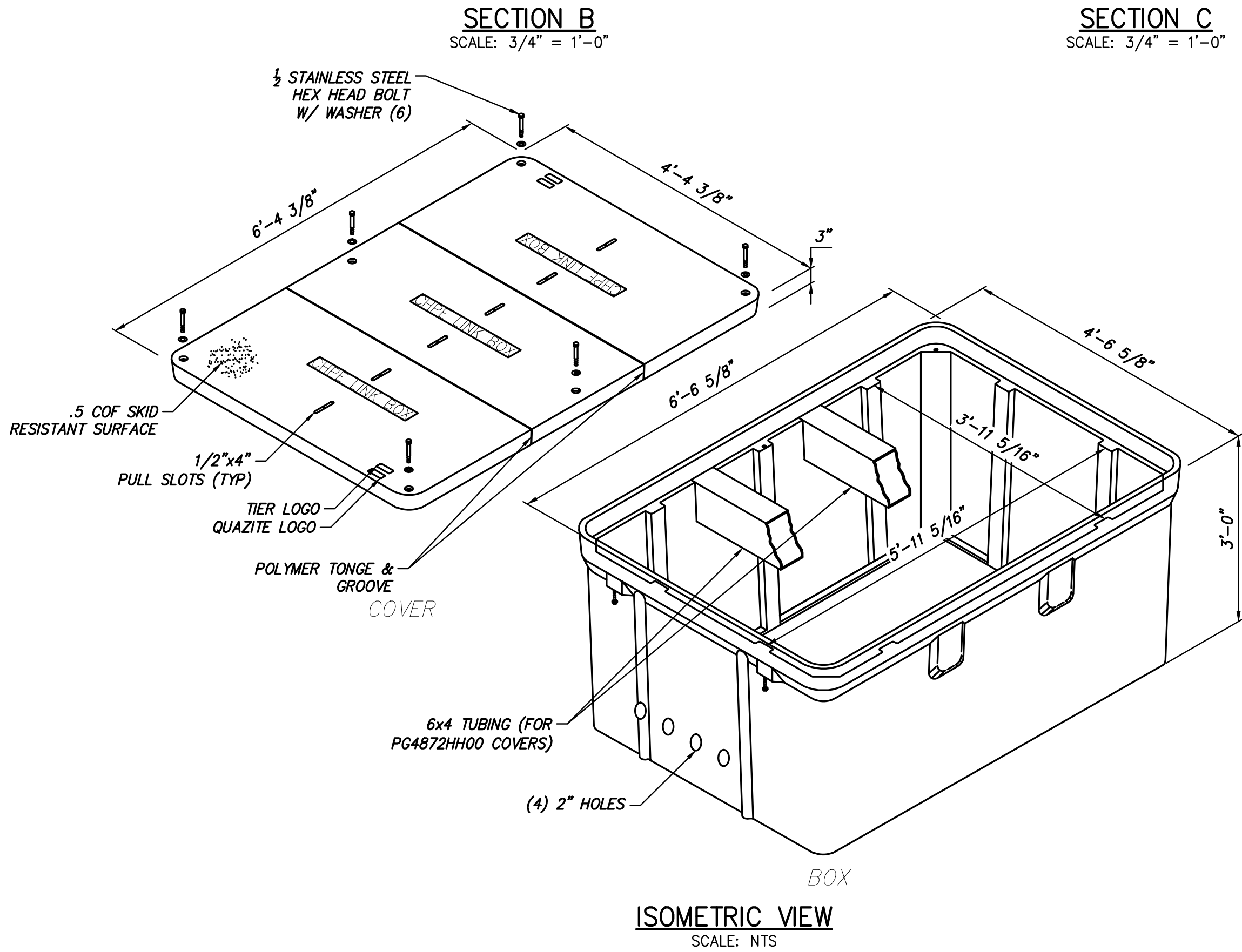
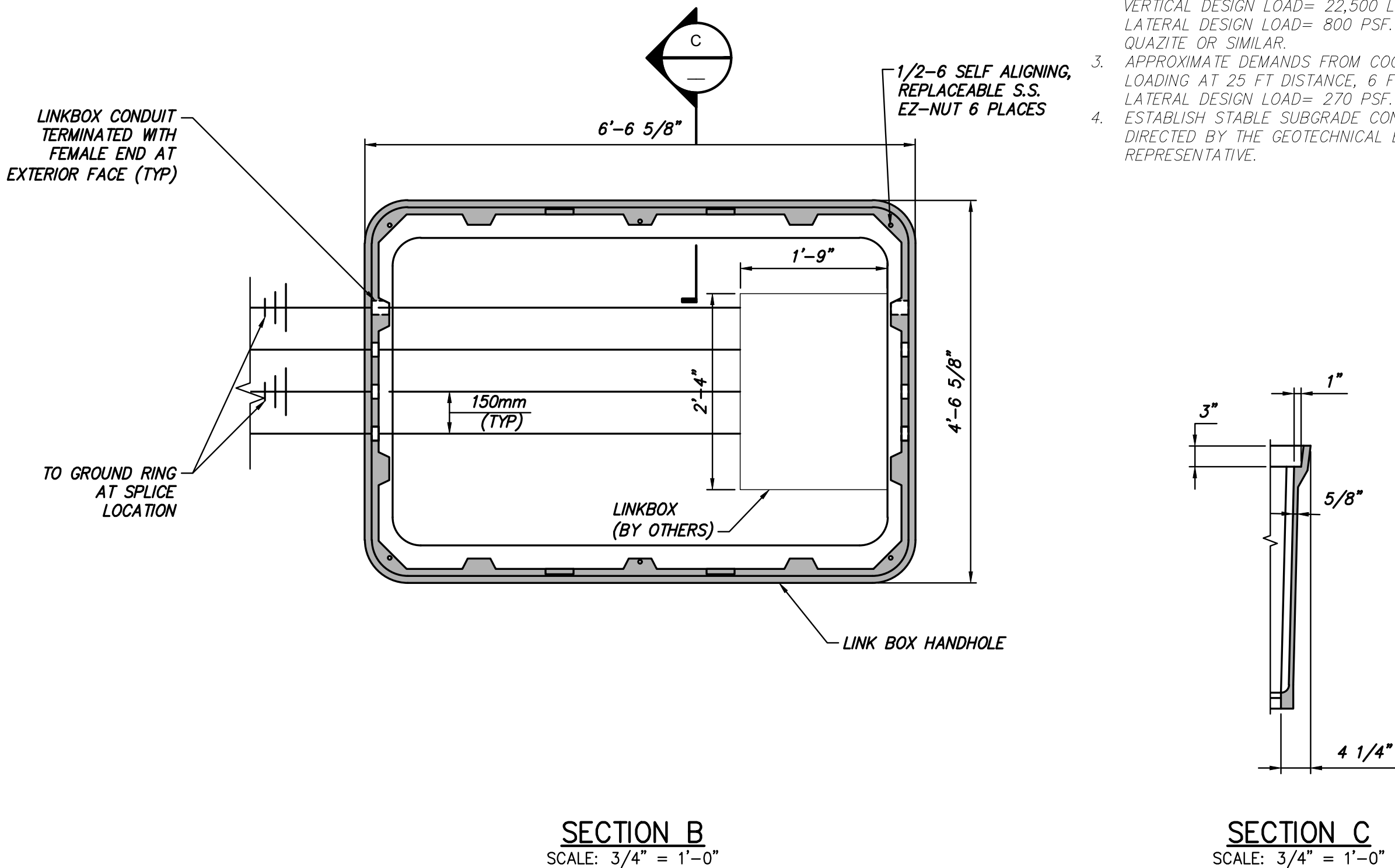
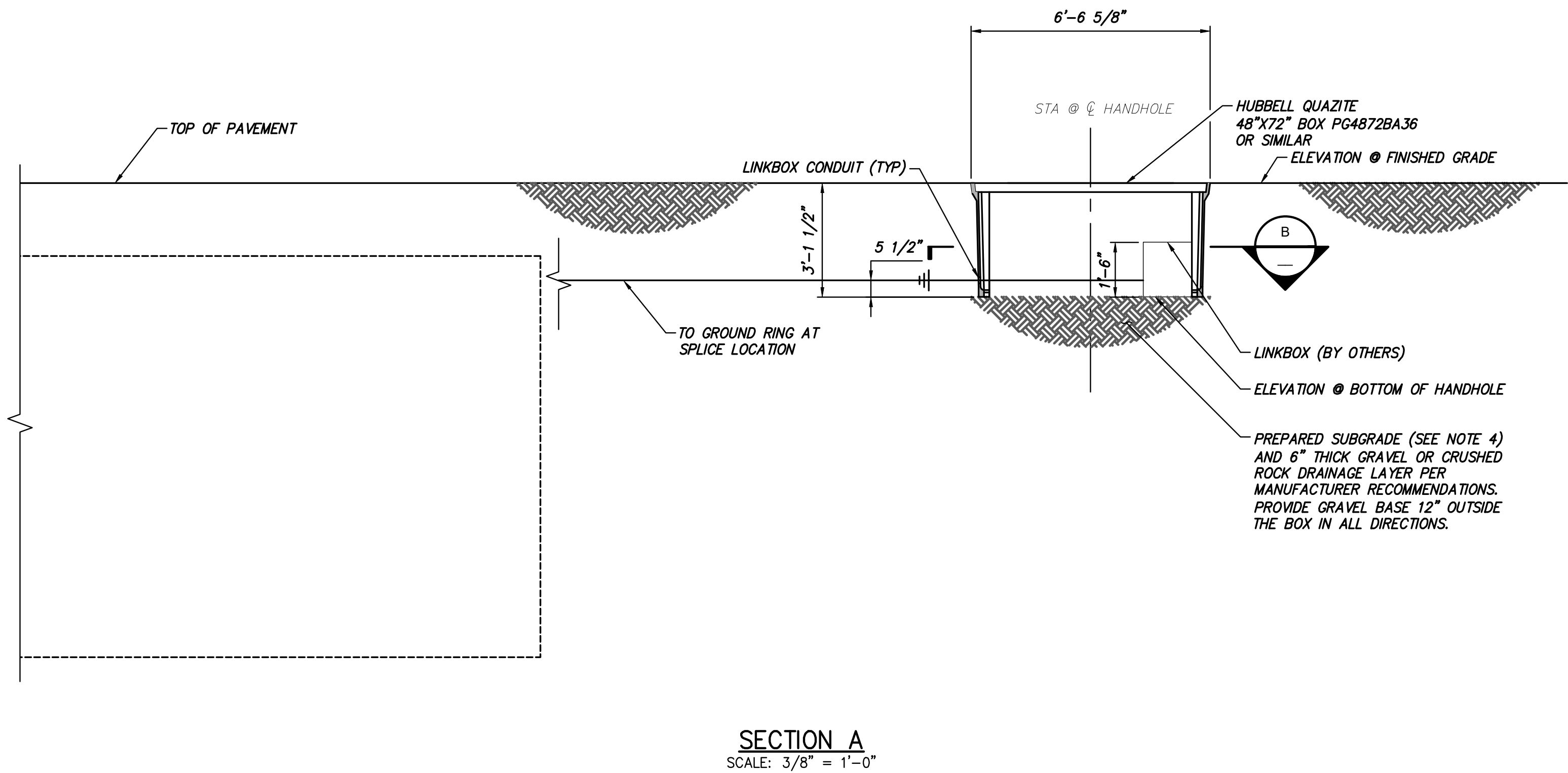
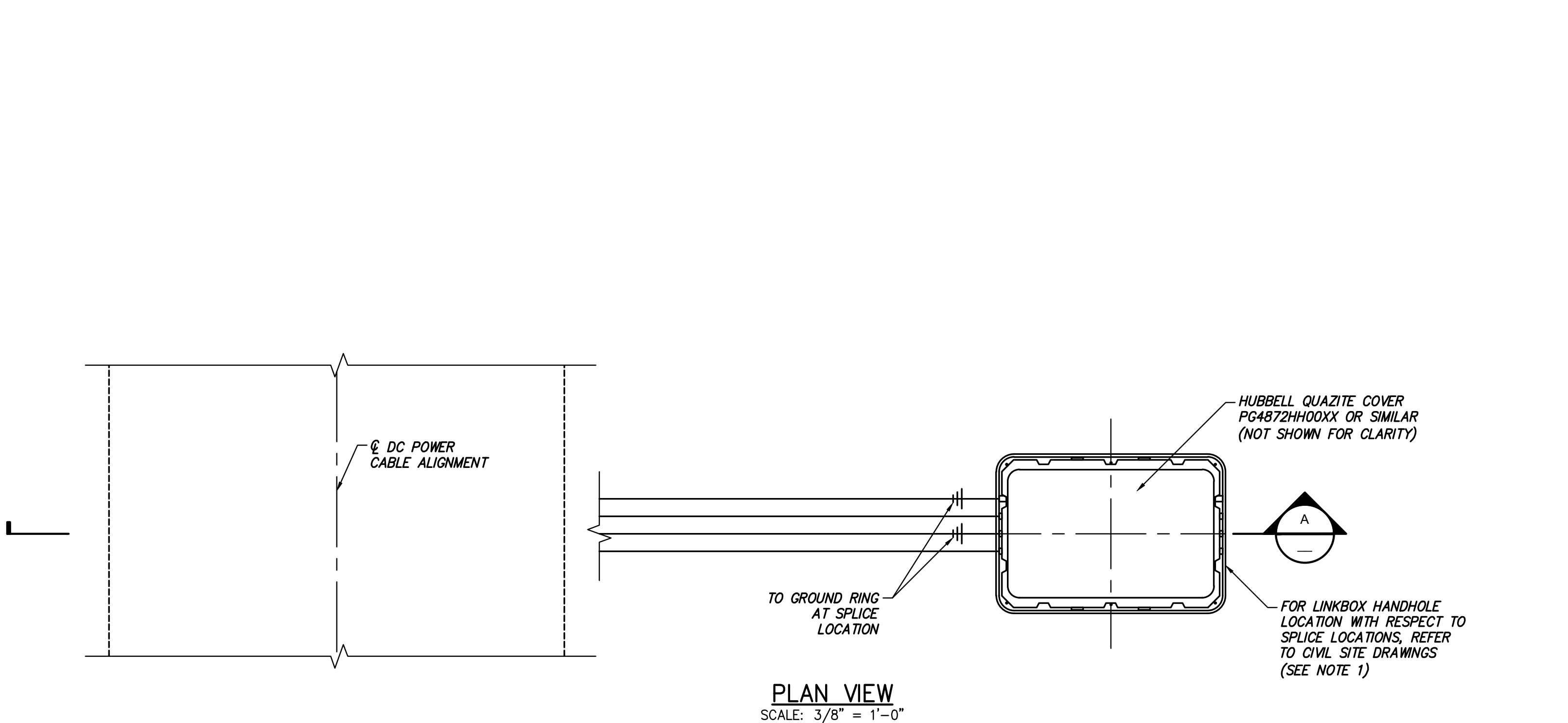
2

3

4

NOTES:

1. FOR LINK BOX DETAILS SEE ELECTRICAL DRAWINGS.
2. 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.
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.



HUBBELL QUAZITE 48"x72" CORRUGATED WALL ASSEMBLY
PART NO. PG4872HH00XX AND PG4872BA36



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0	12/16/2022	FINAL EM&CP SUBMISSION				JNK	OO		
No.	DATE	SUBMITTAL / REVISION DESCRIPTION				DB	APP		

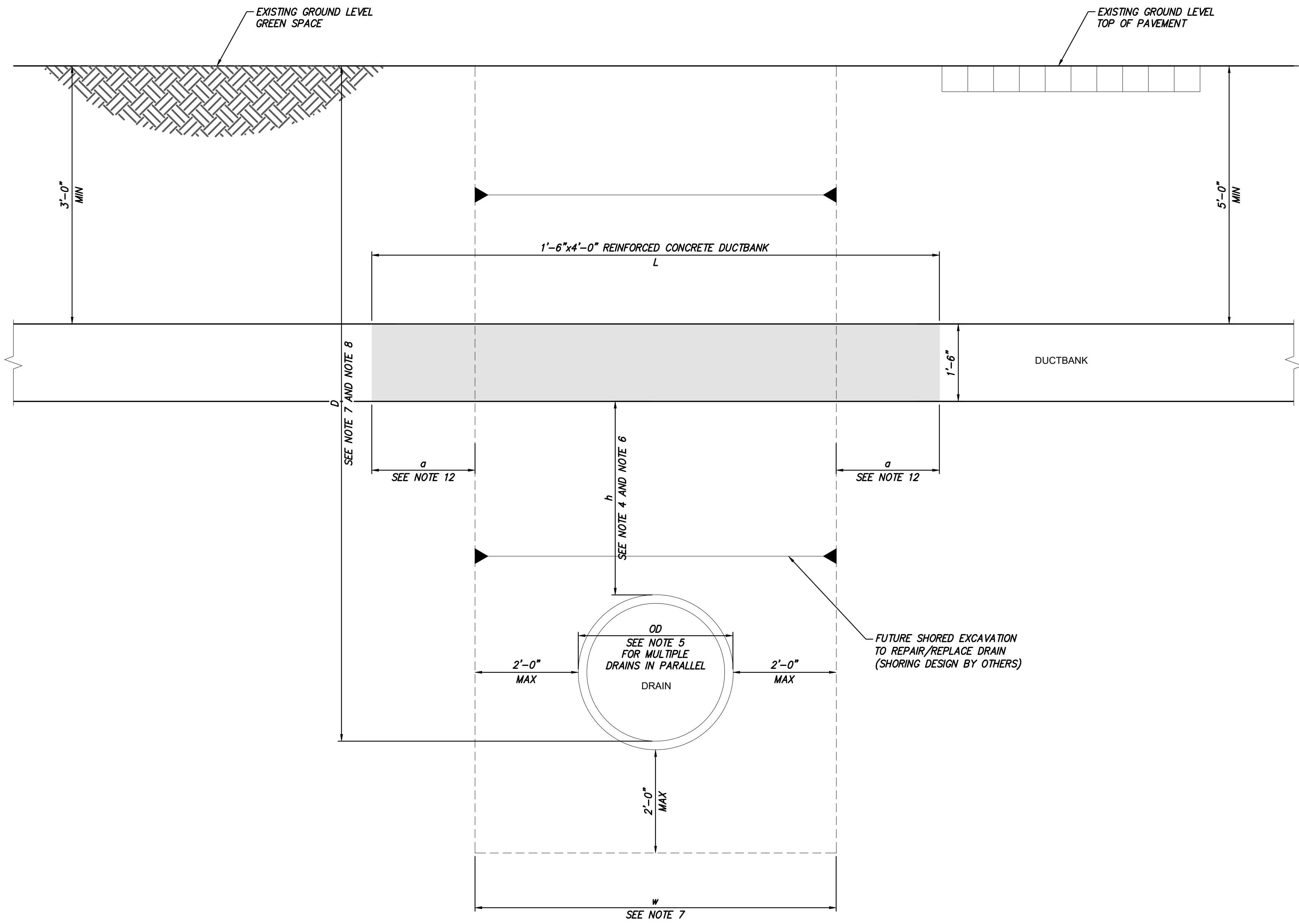
CHAMPLAIN HUDSON POWER EXPRESS

FRP LINK BOX HANDHOLES

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN 0	DATE 12/16/2022
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KIEWIT PROJECT NO. 21162
DRAWING NO. S-711
DATE 12/16/2022

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TYPICAL DUCT BANK SECTION OVER UTILITIES
(FOR D < 14FT)
SCALE: NTS

NOTES:

1. TYPICAL SECTION AND FOLLOWING NOTES PROVIDED PROPOSED DESIGN CRITERIA TO BE APPLIED FOR DRAINS LOCATED BELOW THE DUCT BANK WITHIN THE NYSDOT RIGHT OF WAY, PENDING APPROVAL.
2. EXCAVATION FOR / CONSTRUCTION OF FUTURE DRAIN REPAIRS/REPLACEMENTS, AND RELATED SHORING CALCULATIONS BY OTHERS.
3. D = DISTANCE FROM EXISTING GROUND LEVEL TO DRAIN INVERT.
4. h = DISTANCE FROM BOTTOM OF TRENCH PROTECTIVE CONCRETE/BOTTOM OF BRIDGING SUPPORT, TO TOP OF EXISTING DRAINAGE PIPE.
5. FOR SINGLE PIPE, OD = OUTSIDE DIAMETER OF PIPE; FOR MULTIPLE PIPES IN PARALLEL, OD = DISTANCE BETWEEN OUTSIDE EDGES OF EXTERIOR PIPES.
6. REFER TO CIVIL PLAN & PROFILE DRAWINGS FOR VALUE OF "h".
7. FOR D≤14FT, ALL FUTURE EXCAVATIONS TO REPAIR/REPLACE EXISTING DRAINAGE PIPES WILL BE SHORED EXCAVATION, WITH MAXIMUM EXCAVATION WIDTH OF w=2FT+OD+2FT (DESIGN/CONSTRUCTION BY OTHERS).
8. FOR D>14FT, TRENCH-LESS METHOD WILL BE USED TO REPAIR/REPLACE EXISTING DRAINAGE PIPES (DESIGN/CONSTRUCTION BY OTHERS).
9. BRIDGING SUPPORT IS PROVIDED OVER LENGTH L = w+2a.
10. BRIDGING SUPPORT IS NOT PROVIDED WHEN D>14FT.
11. BRIDGING SUPPORT IS DESIGNED TO CARRY DUCT BANK WEIGHT, ONLY. SOIL ABOVE THE DUCT BANK IS REMOVED BEFORE EXCAVATING UNDER THE DUCT BANK.
12. "a" DIMENSION IS 2'-0" MINIMUM.



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1	12/05/2022	REVISED NYSDOT HWP SUBMISSION	JNK	OO	
0	09/21/2022	FINAL EM&CP SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

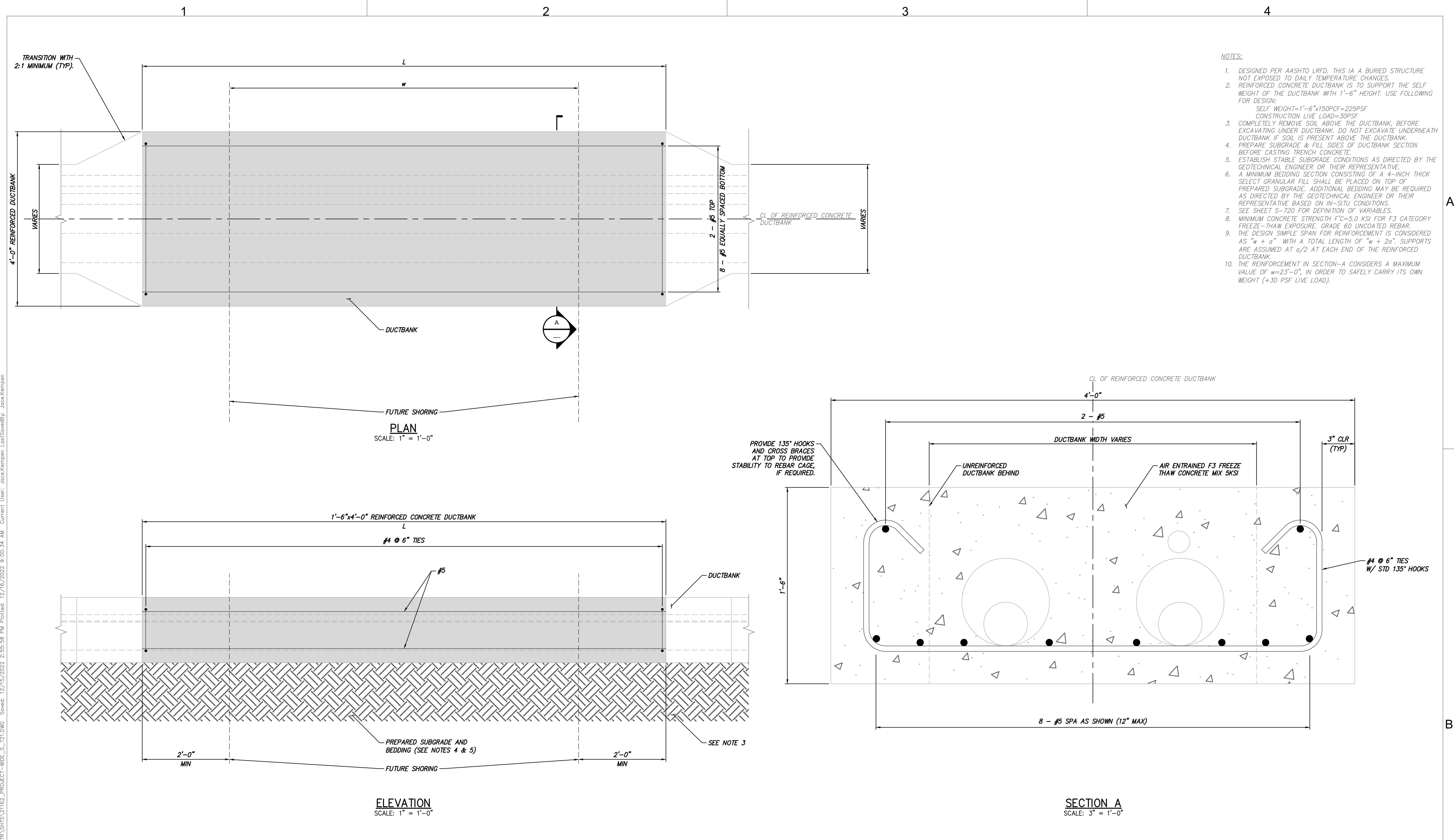
CHAMPLAIN HUDSON POWER EXPRESS


REINFORCING TRAY OVER UTILITIES

KIEWIT PROJECT NO.		21162
DRAWING NO.		S-720
DATE	06/09/2022	
SH.NO.	XX OF XXX	


DRAWN BY:	DRH	DESIGNED BY:	JNK	APPROVED BY:	OO	SCALE	AS SHOWN
						REV. NO.	

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Champlain Hudson
Power Express



Kiewit



ANDREA F. GRUNLI
094103
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
2	12/16/2022	FINAL EM&CP SUBMISSION	JNK	OO
1	12/05/2022	REVISED NYSOT HWP SUBMISSION	JNK	OO
0	9/21/2022	FINAL EM&CP SUBMISSION	JNK	OO

CHAMPLAIN HUDSON POWER EXPRESS

REINFORCING TRAY DETAILS

DRAWN BY: DRH

DESIGNED BY: JNK

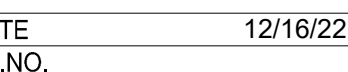
APPROVED BY: OO

SCALE: AS SHOWN
REV. NO.

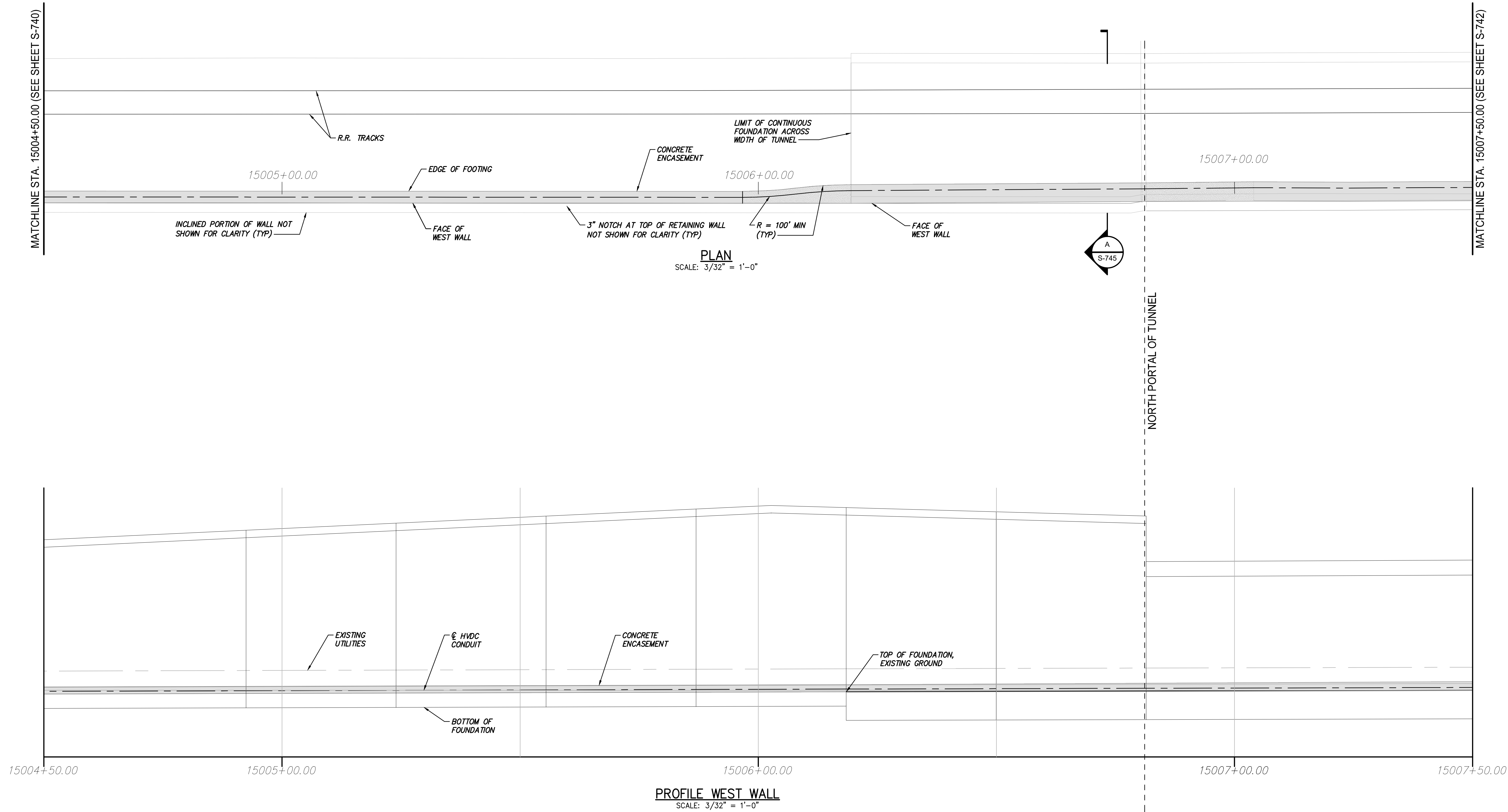
KIEWIT PROJECT NO.
21162

DRAWING NO.
S-721

DATE
SH.NO. XX



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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

0	12/16/2022	FINAL EM&CP SUBMISSION					JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION					DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

WALL PLAN AND ELEVATION II

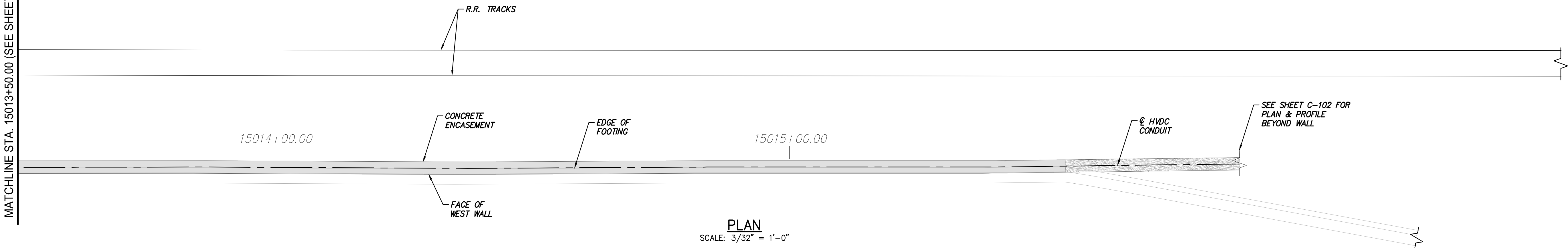
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			REV. NO.		12/16/22

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-741
DATE	12/16/22
SH.NO.	0

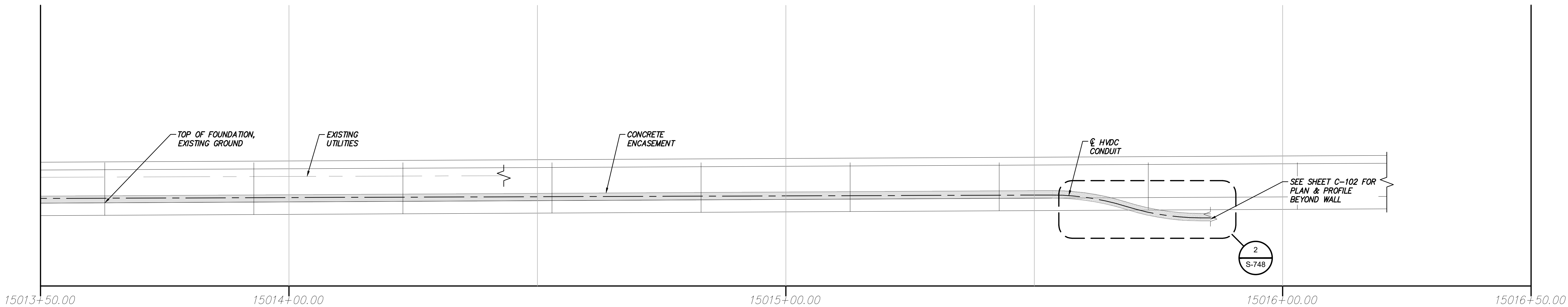


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MATCHLINE STA. 15013+50.00 (SEE SHEET S-743)



PLAN
SCALE: 3/32" = 1'-0"



PROFILE WEST WALL
SCALE: 3/32" = 1'-0"



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION					DB	APP	

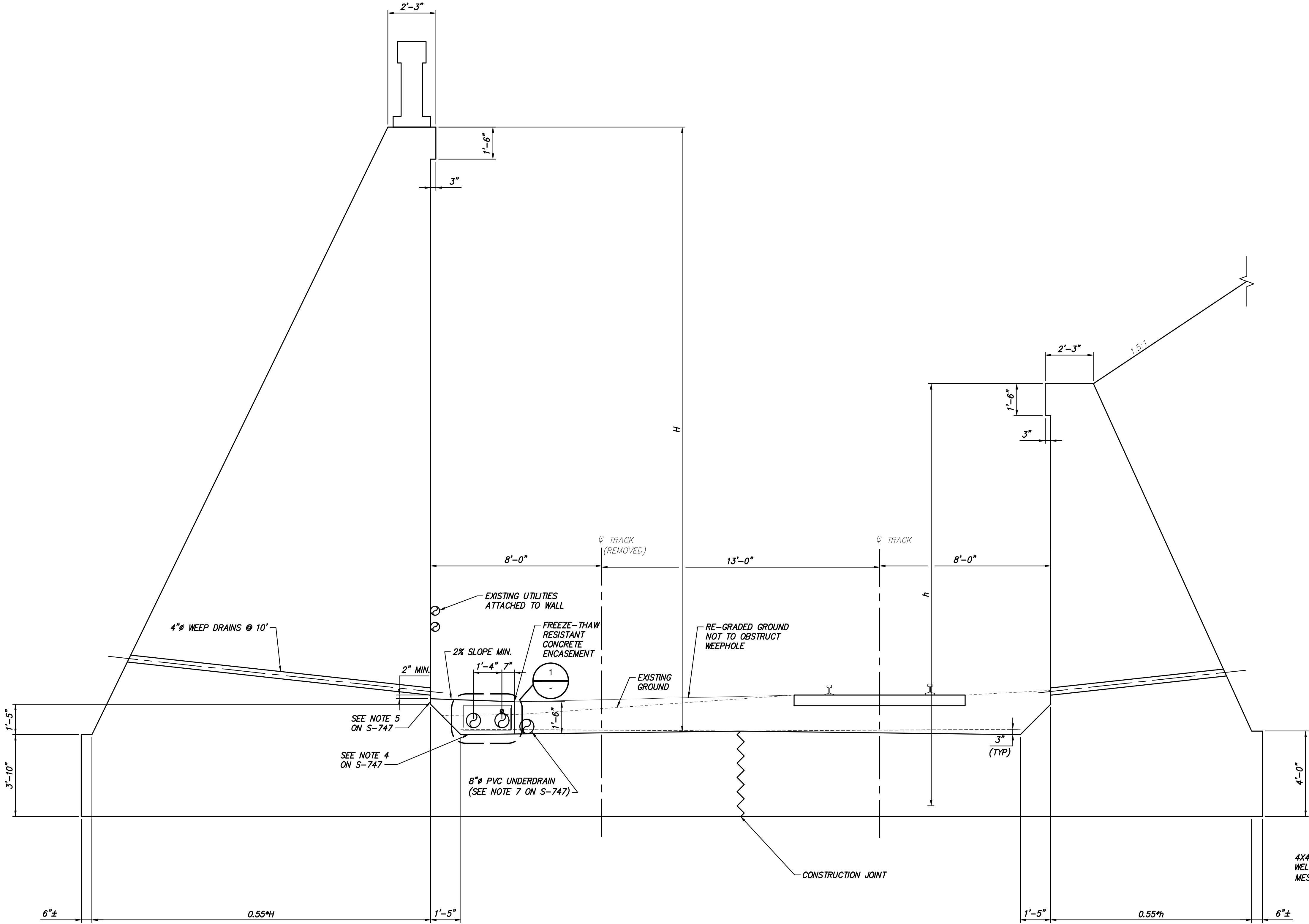
CHAMPLAIN HUDSON POWER EXPRESS

WALL PLAN AND ELEVATION V

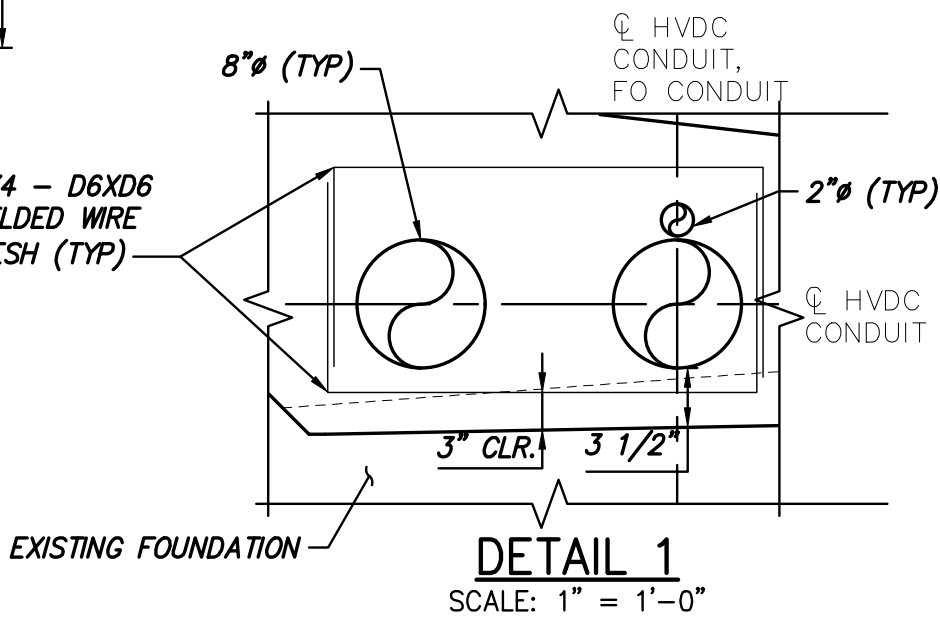
DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE	AS SHOWN	DATE
			REV. NO.		12/16/22

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-744
SH.NO.	0

NOTES:
1. SEE NOTES ON S-747.



APPROX. STA. 15006+60
SECTION A
SCALE: 3/8" = 1'-0"



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0	12/16/2022	FINAL EM&CP SUBMISSION					JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION					DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

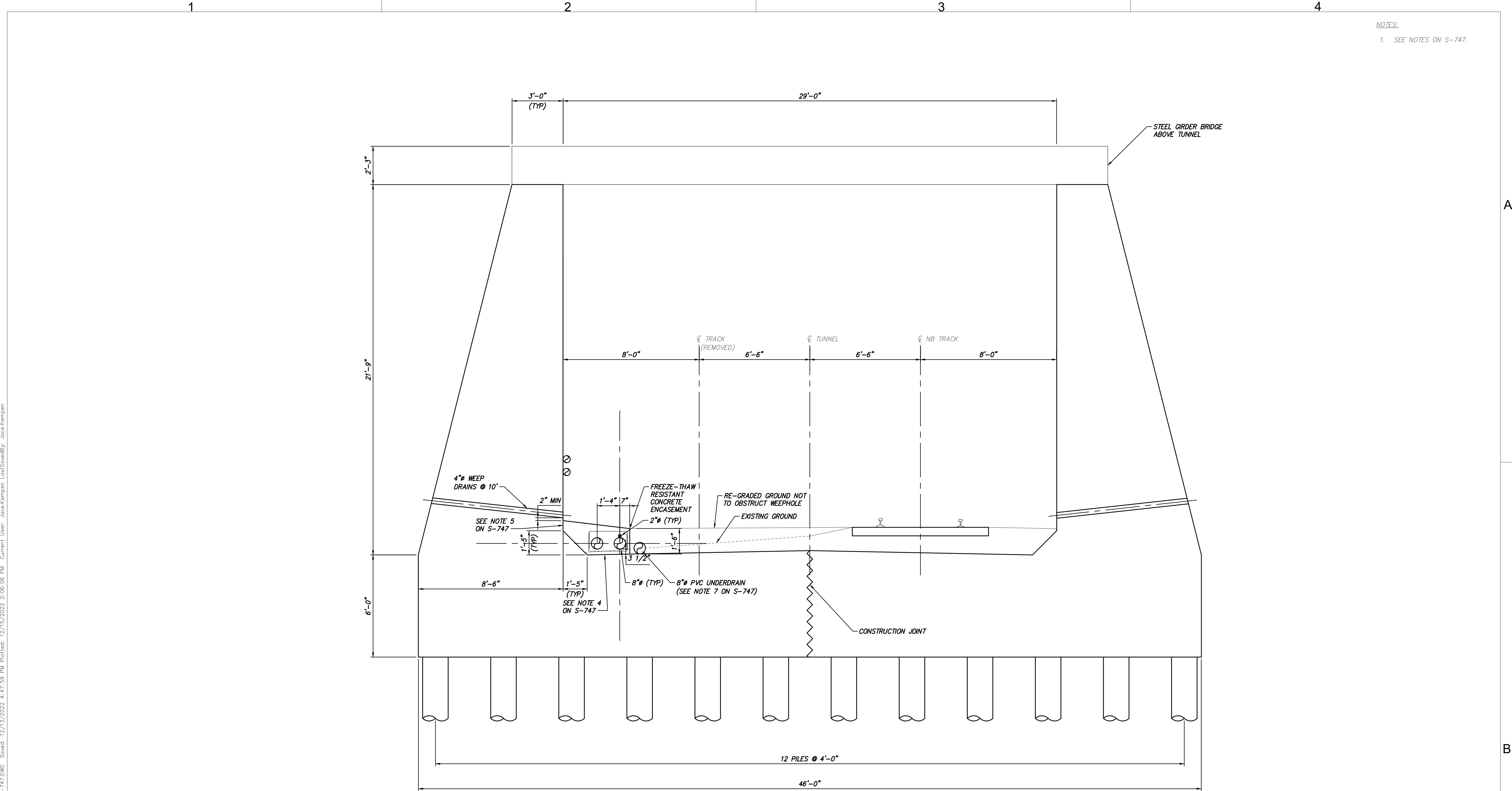
WALL ATTACHMENT SECTIONS I

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE: AS SHOWN	DATE: 12/16/22
			REV. NO.	SH. NO.

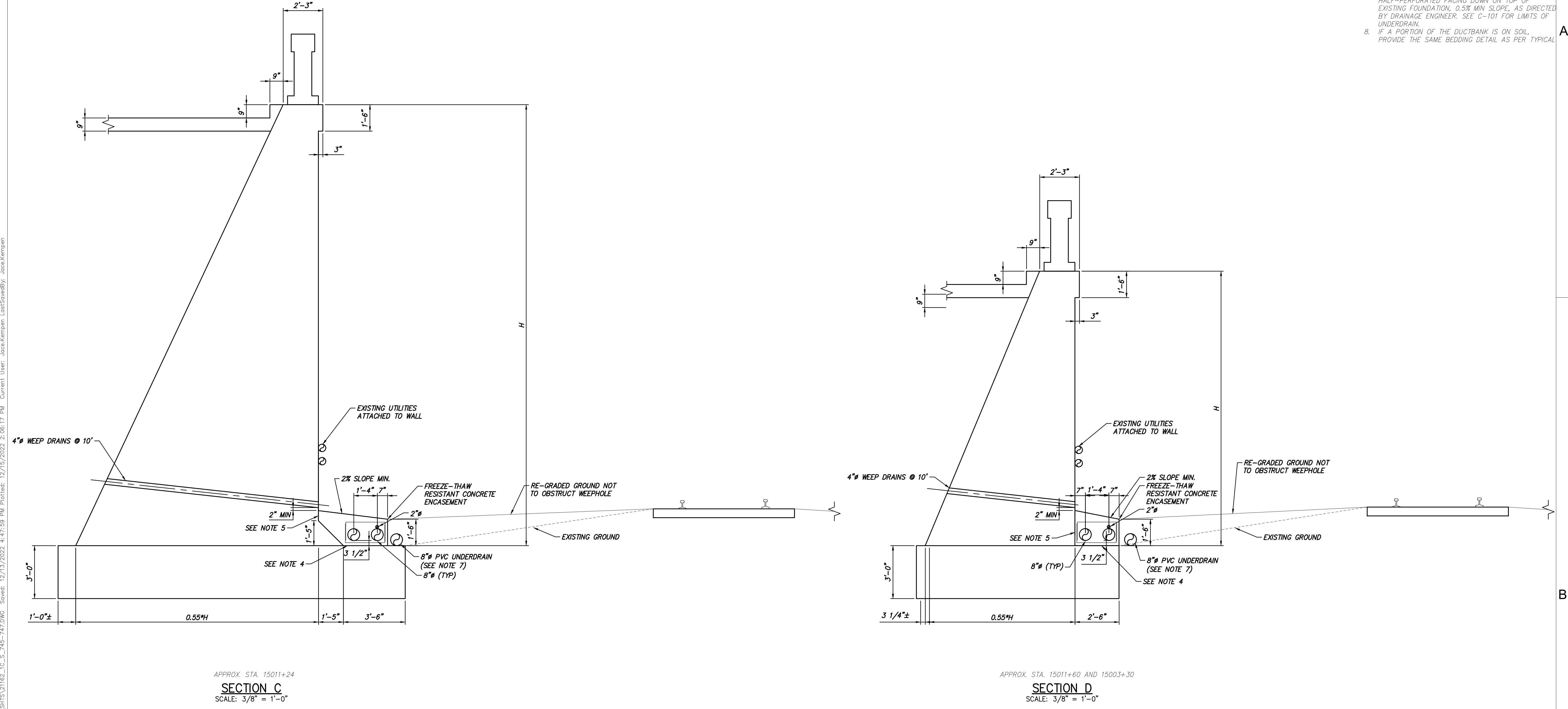
KIEWIT PROJECT NO.
21162


DRAWING NO.

S-745




APPROX. STA. 15008+15
SECTION B – TYPICAL TUNNEL CROSS SECTION
SCALE: 3/8" = 1'-0"






Champlain Hudson Power Express



Kiewit



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
0	12/16/2022	FINAL EM&CP SUBMISSION	JNK	OO

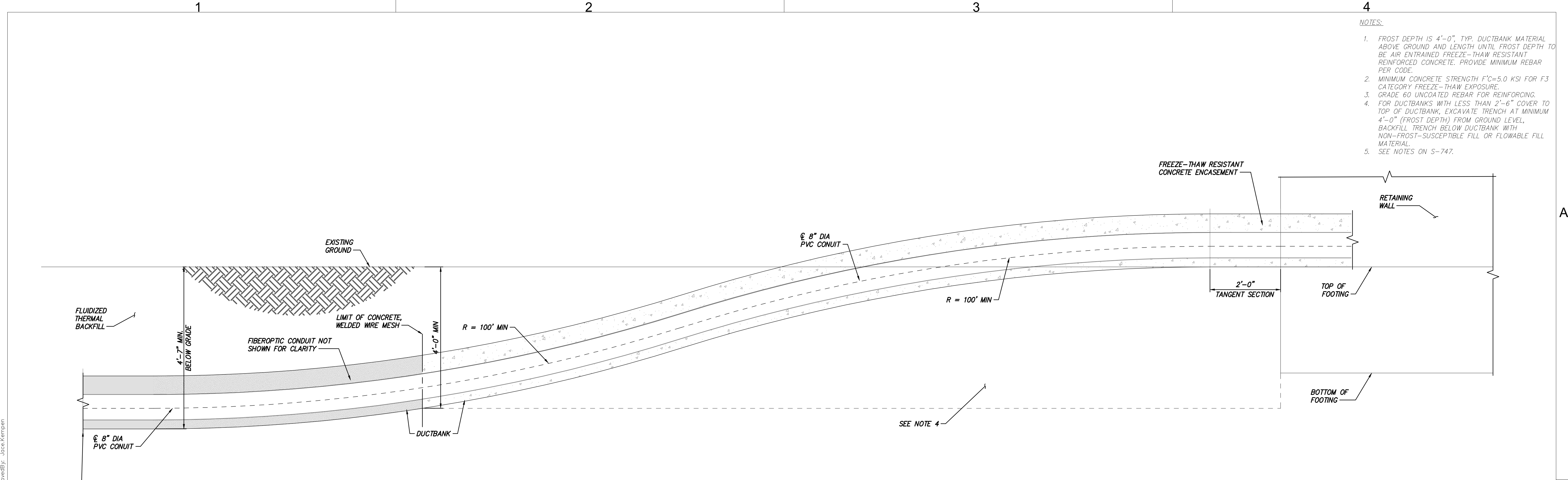
CHAMPLAIN HUDSON POWER EXPRESS

WALL ATTACHMENT SECTIONS III

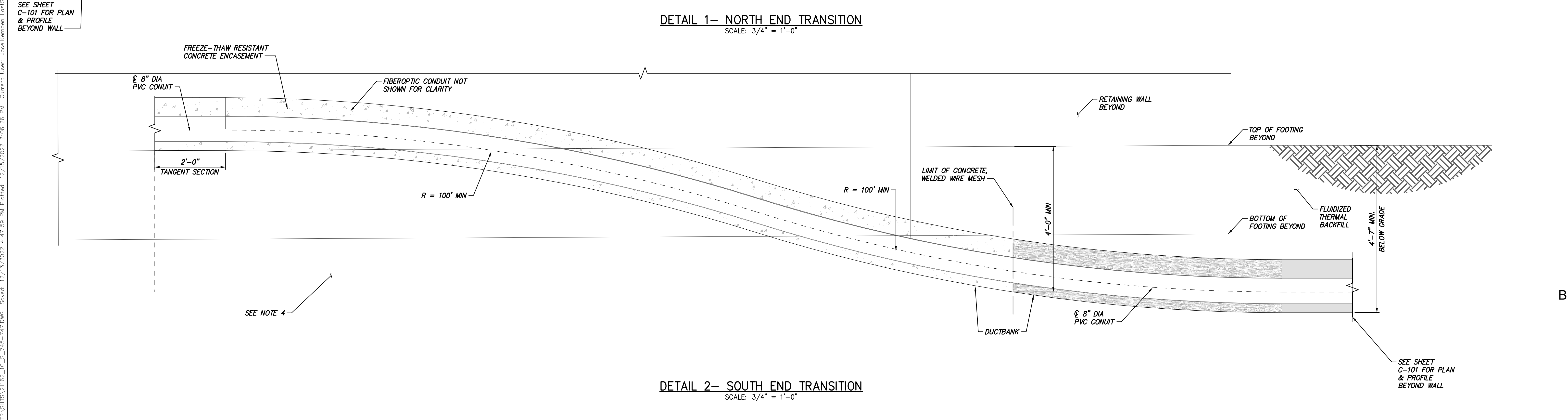
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						REV.NO.		SH.NO.	0

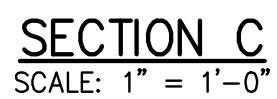
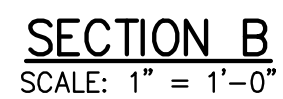
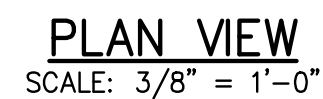
KIEWIT PROJECT NO. 21162

DRAWING NO. **S-747**

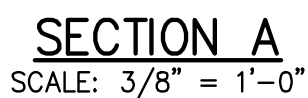


- NOTES:
1. FROST DEPTH IS 4'-0", TYP. DUCTBANK MATERIAL ABOVE GROUND AND LENGTH UNTIL FROST DEPTH TO BE AIR ENTRAINED FREEZE-THAW RESISTANT REINFORCED CONCRETE. PROVIDE MINIMUM REBAR PER CODE.
 2. MINIMUM CONCRETE STRENGTH F'C=5.0 KSI FOR F3 CATEGORY FREEZE-THAW EXPOSURE.
 3. GRADE 60 UNCOATED REBAR FOR REINFORCING.
 4. 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.
 5. SEE NOTES ON S-747.

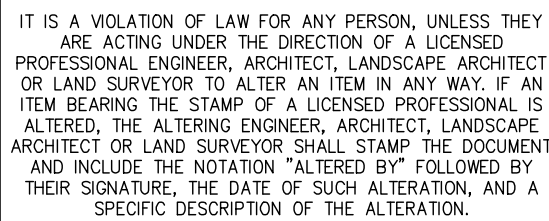




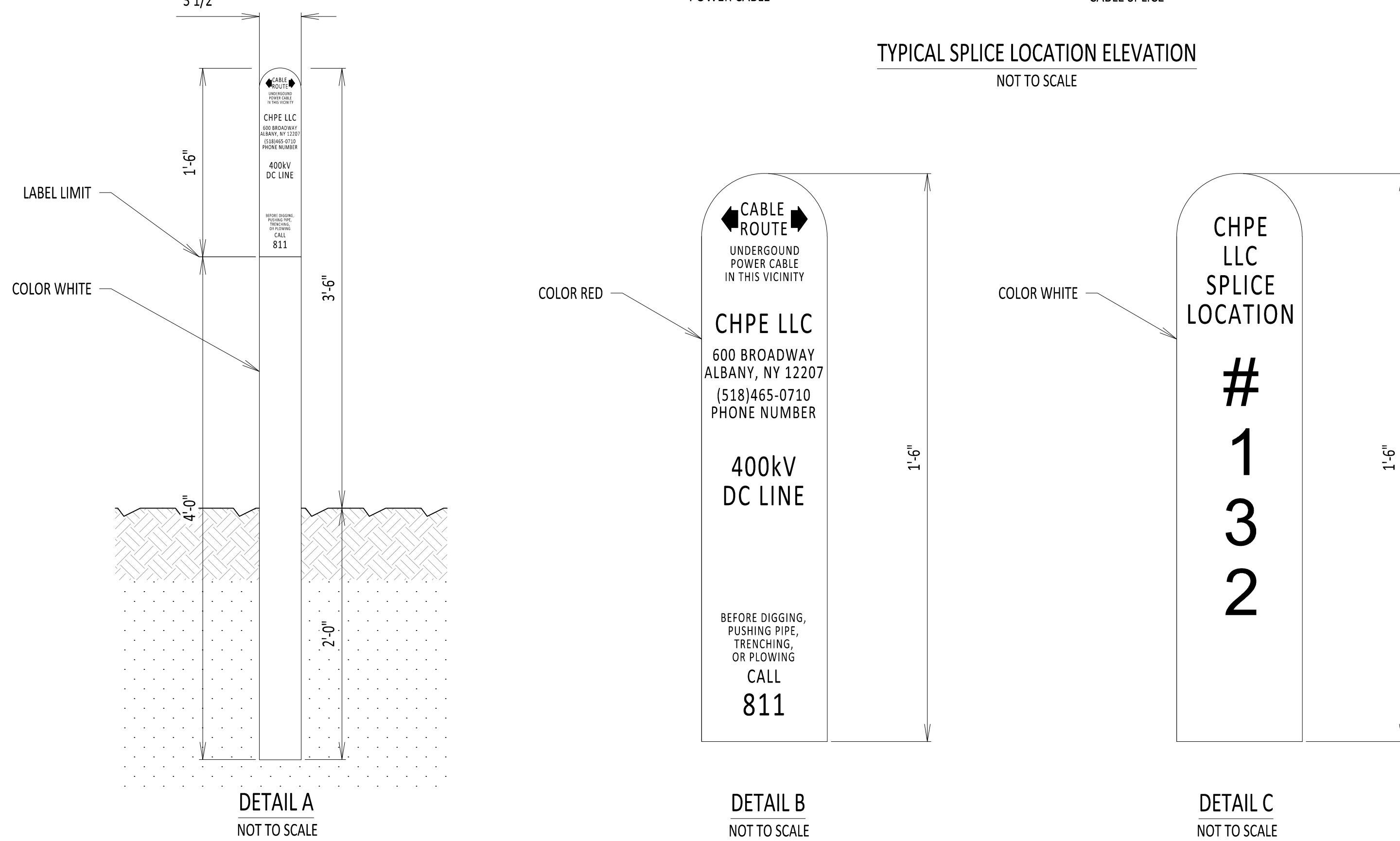
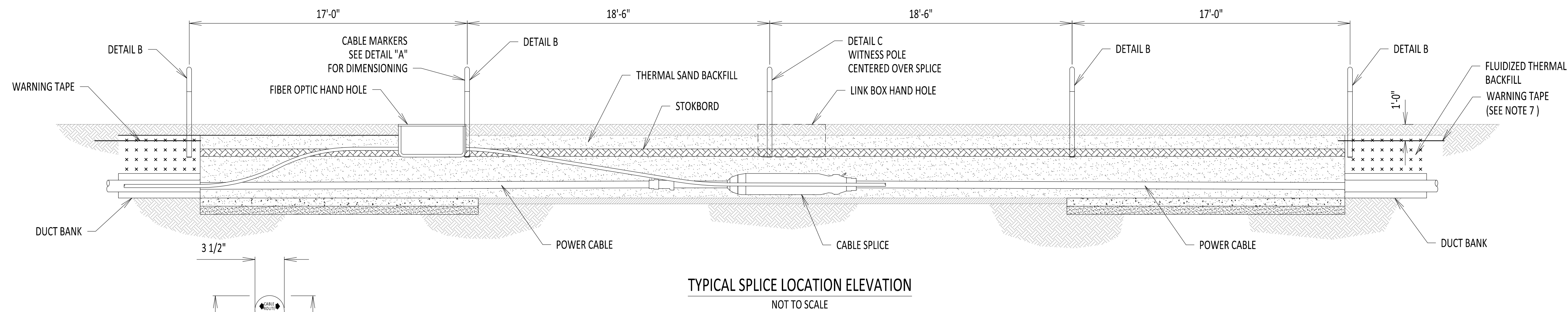
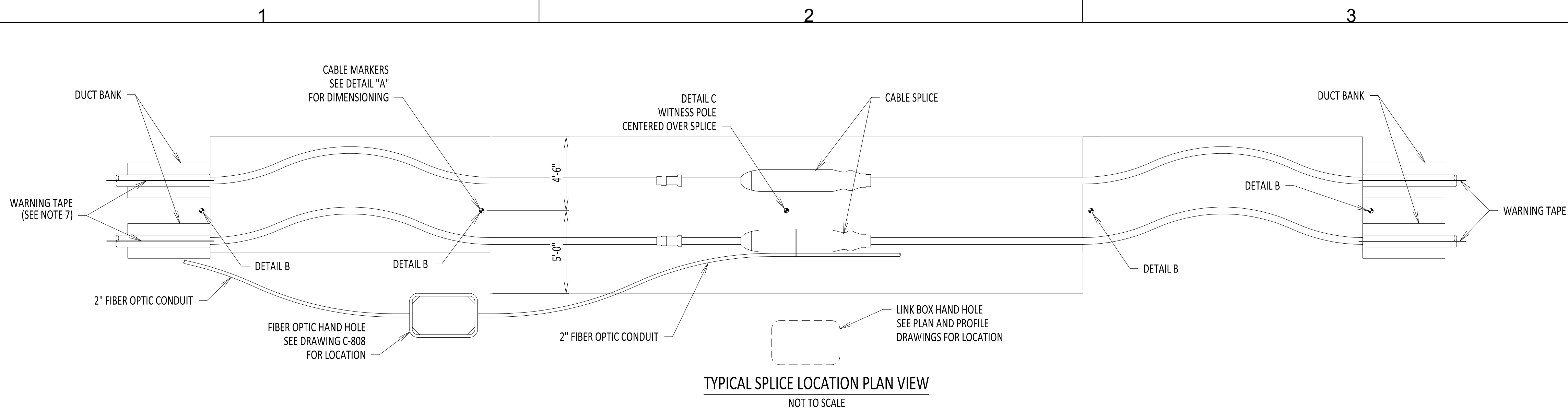
1. DESIGN LIVE LOAD: ANSI TIER 22 (OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC).
VERTICAL DESIGN LOAD= 22,500 LBS;
LATERAL DESIGN LOAD= 800 PSF.
QUAZITE OR SIMILAR.
2. ESTABLISH STABLE SUBGRADE CONDITIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE.



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



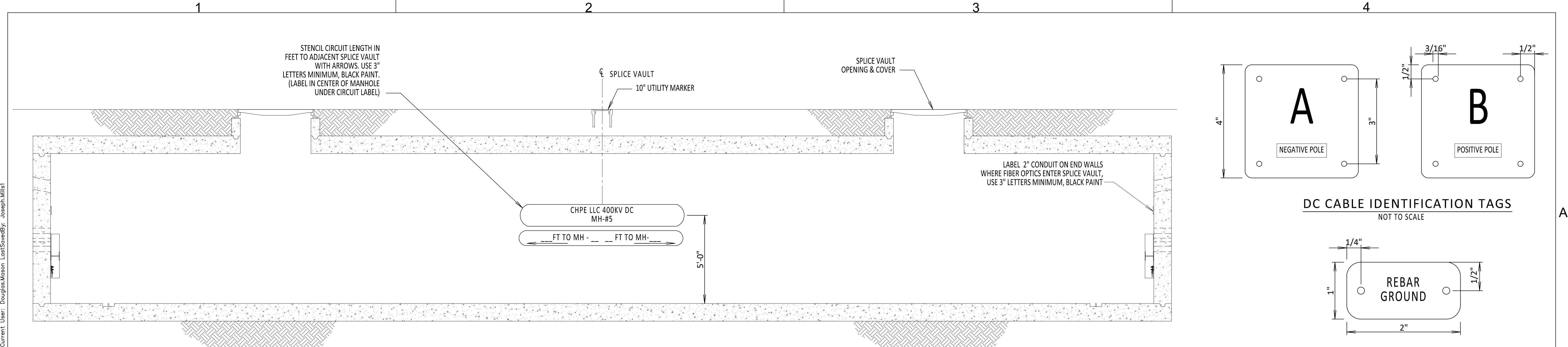
					CHAMPLAIN HUDSON POWER EXPRESS FRP COMMUNICATION HANDHOLES					KIEWIT PROJECT NO. 21162	
										DRAWING NO.	
										S-771	
0	12/05/2022	REVISED NYSDOT HWP SUBMISSION	JNK	OO							
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN	DATE SH.NO.	06/09/2022 XX OF XXX



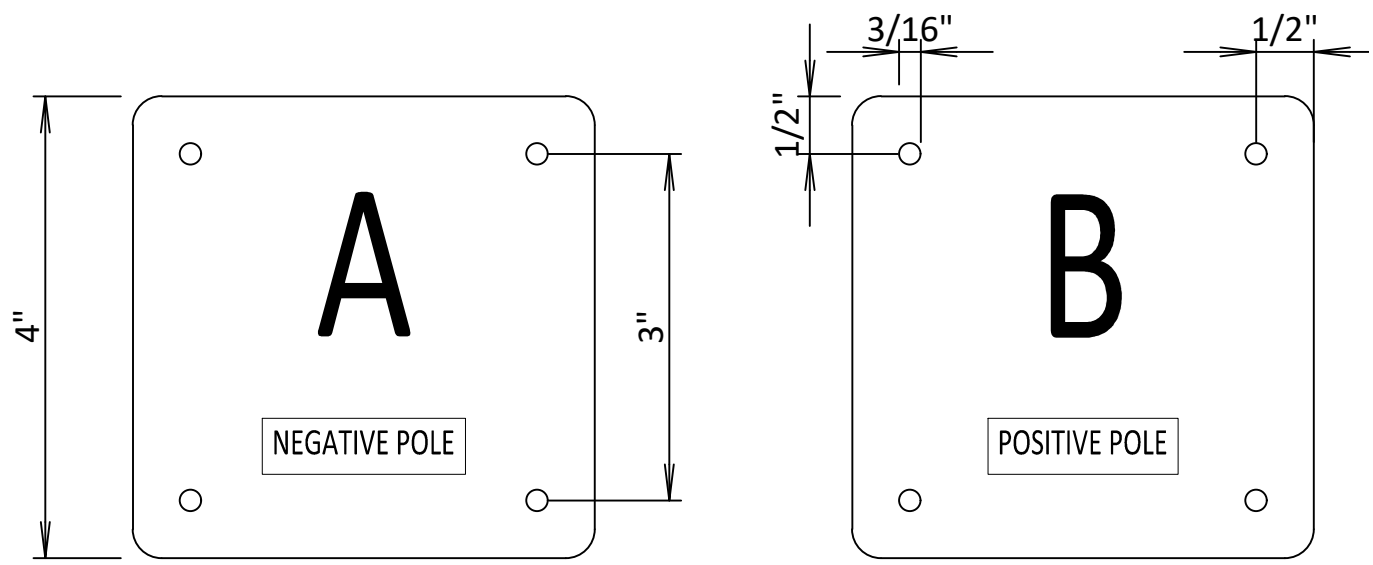
- # NOTES:
1. POLES TO BE INSTALLED AT A DEPTH OF 2'-0" MINIMUM TO OPTIMIZE STABILITY.
 2. IN PAVED AREAS, USE A-TAG PAVEMENT MARKERS OR APPROVED EQUAL
 3. EXCLUDING ROAD SURFACES, CONDUIT LOCATED WITHIN RAILROAD RIGHT-OF-WAY SHALL BE MARKED USING POLE MARKERS LOCATED ABOVE THE CENTERLINE OF THE CONDUIT. CROSSINGS SHALL BE MARKED ON BOTH SIDES OF THE TRACK.
 4. POLE SHALL DISPLAY THE FOLLOWING: NAME AND ADDRESS OF OWNER, CONTENTS OF CONDUIT, CONDUIT DEPTH BELOW GRADE, AND EMERGENCY TELEPHONE NUMBER.
 5. POLES AND NEW CONSTRUCTION ELECTRIC A-TAG PAVEMENT MARKERS OR APPROVED EQUAL SHALL BE PLACED OVER THE PIPE AT ALL CHANGES IN DIRECTION OF THE CONDUIT. IN NO EVENT SHALL THEY BE PLACED MORE THAN 500 FEET APART.
 6. OWNER MUST MAINTAIN SIGNS ON RAILWAY RIGHT-OF-WAY.
 7. CABLE MARKERS PER AREMA CHAPTER 1 SECTION 5.5.2.i. A 6 INCH WIDE WARNING TAPE SHALL BE INSTALLED 1 FOOT BELOW NATURAL GRADE AND DIRECTLY OVER THE UNDERGROUND WIRELINE WITHIN THE RAILROAD RIGHT-OF-WAY. WARNING TAPE IS NOT REQUIRED FOR HORIZONTAL DIRECTION DRILLING ROUTES LOCATED ON RAILROAD PROPERTY. WITNESS POLES MUST BE PLACED AT RAILROAD RIGHT-OF-WAY FOR CROSSINGS AND PLACED EVERY 500 FEET FOR PARALLEL WIRELINES.
 8. POLE MARKER LABEL SHALL BE VISIBLE 360 DEGREES AROUND POST. USE AT LEAST TWO LABELS PER POLE, AND ADD MORE AS NECESSARY TO MEET THIS REQUIREMENT.

						CHAMPLAIN HUDSON POWER EXPRESS				KIEWIT PROJECT NO.			
										21162		CHA PROJECT NO.	
										066076		DRAWING NO.	
										C-801			
0	03/15/2023	ISSUED FOR CONSTRUCTION	DLM	ASM					DATE	03/15/2023			
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY:	DLM	DESIGNED BY: SD	APPROVED BY: ASM	SCALE REV. NO.	0	SH.NO.	OF	

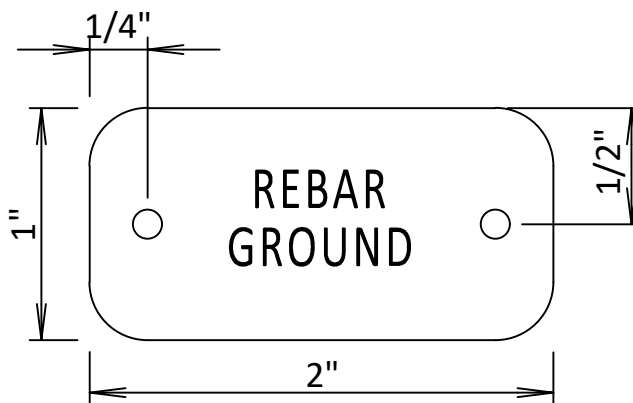
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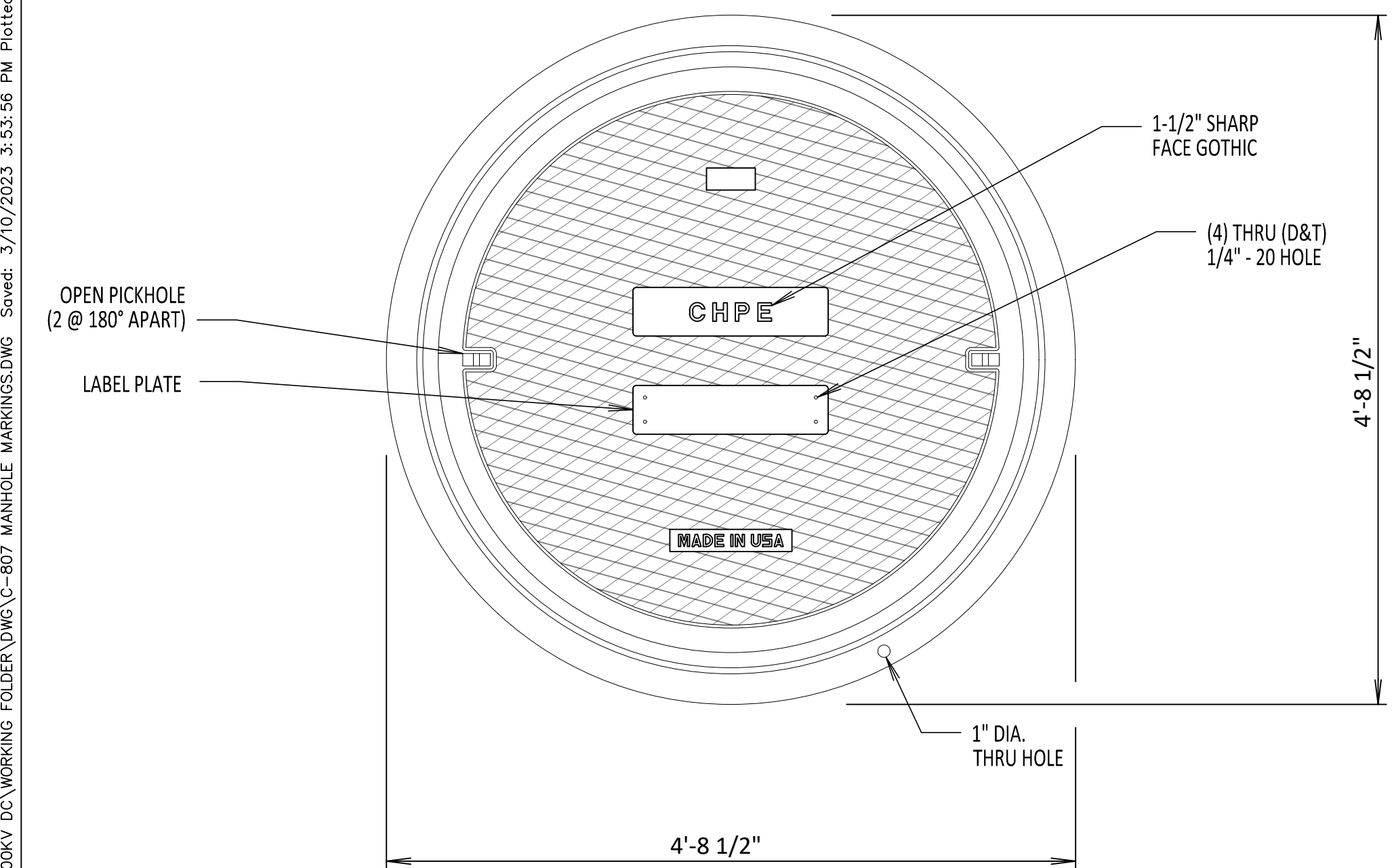
INSIDE SPLICE VAULT
NOT TO SCALE



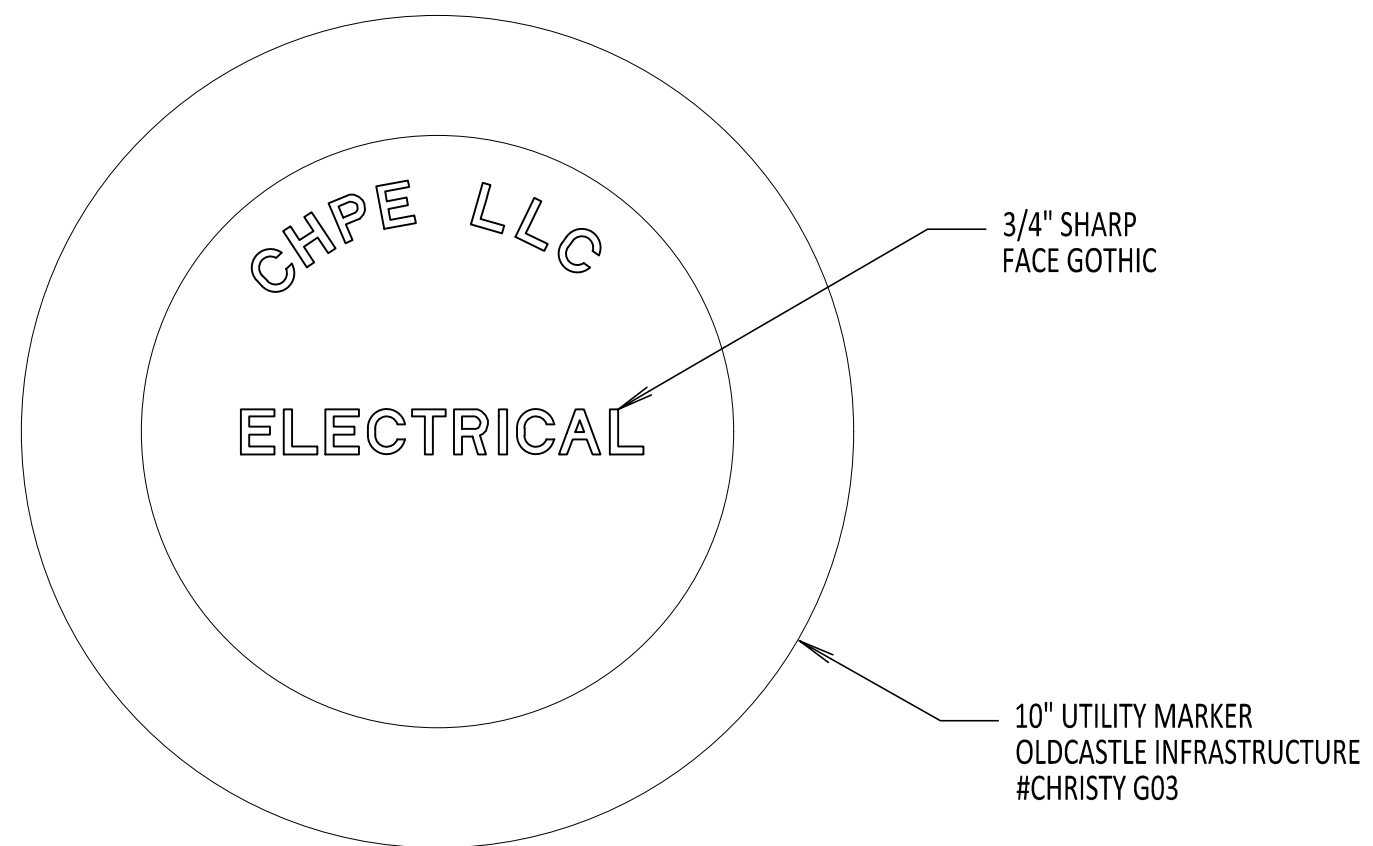
DC CABLE IDENTIFICATION TAGS
NOT TO SCALE



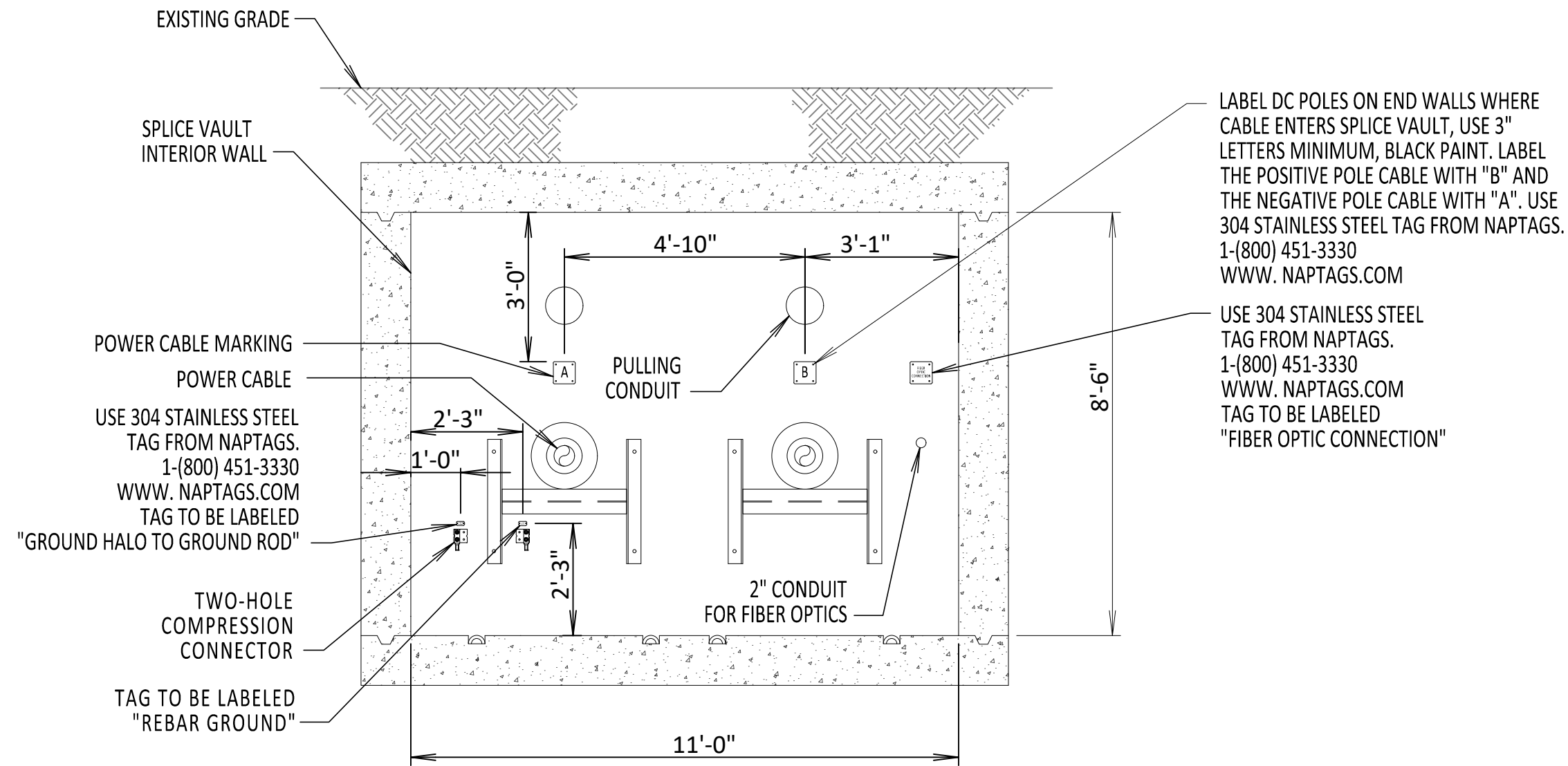
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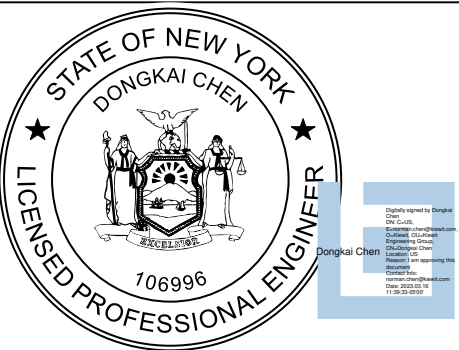
SPLICE VAULT LID MARKINGS PLAN VIEW
NOT TO SCALE



UTILITY MARKER DETAIL
NOT TO SCALE



INSIDE ENDWALL VIEW
NOT TO SCALE



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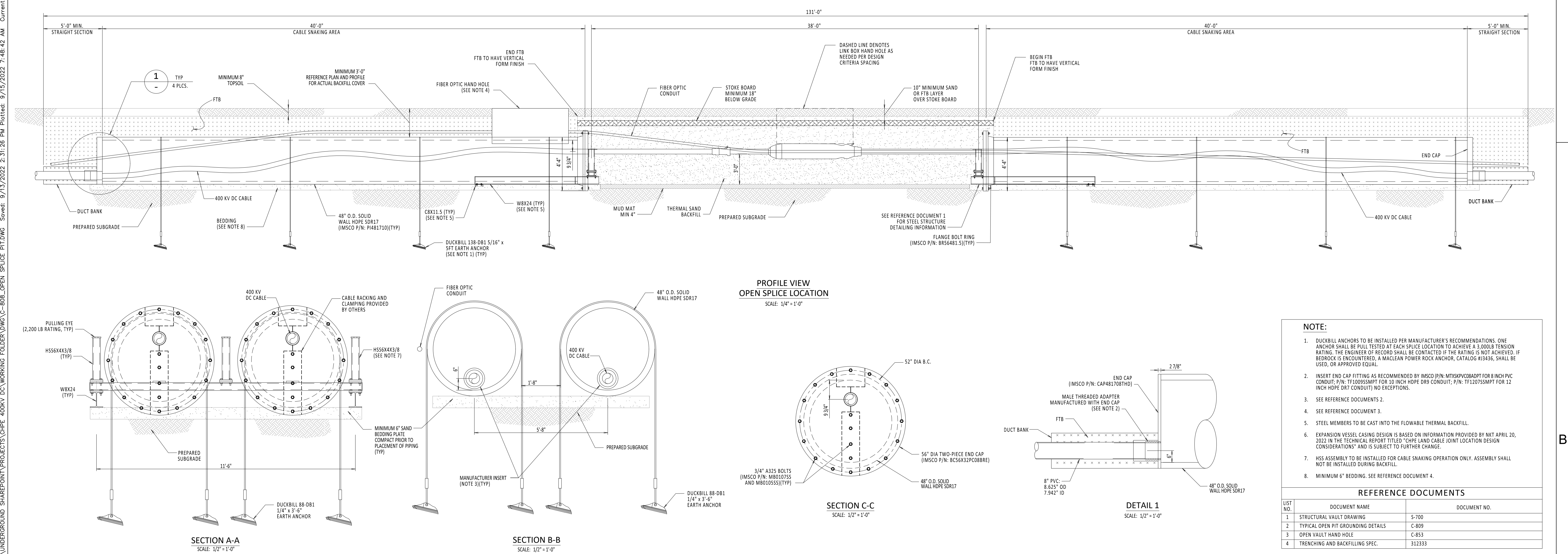
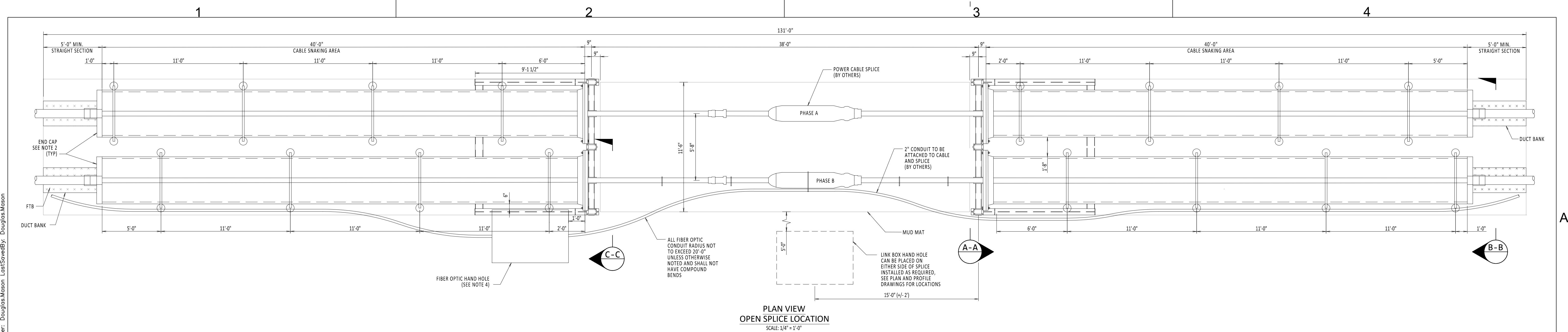
0	03/15/2023	ISSUED FOR CONSTRUCTION		DLM	ASM
No.	DATE	SUBMITTAL / REVISION DESCRIPTION		DB	APP

CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT AND CABLE MARKING DETAILS

DRAWN BY: DLM DESIGNED BY: SD APPROVED BY: ASM SCALE: REV. NO. 0

KIEWIT PROJECT NO.	
21162	
CHA PROJECT NO.	
066076	
DRAWING NO.	
C-807	
DATE	03/15/2023
SH.NO.	OF



NOTE:

1. DUCKBILL ANCHORS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. ONE ANCHOR SHALL BE PULL TESTED AT EACH SPICE LOCATION TO ACHIEVE A 3,000LB TENSION RATING. THE ENGINEER OF RECORD SHALL BE CONTACTED IF THE RATING IS NOT ACHIEVED. IF BEDROCK IS ENCOUNTERED, A MACLEAN POWER ROCK ANCHOR, CATALOG #J3436, SHALL BE USED, OR APPROVED EQUAL.
2. INSERT END CAP FITTING AS RECOMMENDED BY IMSCO (P/N: MTSKXPC08ADPT FOR 8 INCH PVC CONDUIT; P/N: TF120SSMPT FOR 10 INCH HOPE DR9 CONDUIT; P/N: TF120SSMPT FOR 12 INCH HOPE DR7 CONDUIT) NO EXCEPTIONS.
3. SEE REFERENCE DOCUMENTS 2.
4. SEE REFERENCE DOCUMENT 3.
5. STEEL MEMBERS TO BE CAST INTO THE FLOWABLE THERMAL BACKFILL.
6. EXPANSION VESSEL CASING DESIGN IS BASED ON INFORMATION PROVIDED BY NKT APRIL 20, 2022 IN THE TECHNICAL REPORT TITLED "CPE AND CABLE JOINT LOCATION DESIGN CONSIDERATIONS" AND IS SUBJECT TO FURTHER CHANGE.
7. HSS ASSEMBLY TO BE INSTALLED FOR CABLE SNAKING OPERATION ONLY. ASSEMBLY SHALL NOT BE INSTALLED DURING BACKFILL.
8. MINIMUM 6" BEDDING. SEE REFERENCE DOCUMENT 4.

REFERENCE DOCUMENTS		
LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	STRUCTURAL VAULT DRAWING	5-700
2	TYPICAL OPEN PIT GROUNDING DETAILS	C-809
3	OPEN VAULT HAND HOLE	C-853
4	TRACING AND BACKFILLING SPEC.	312333

[illegible]

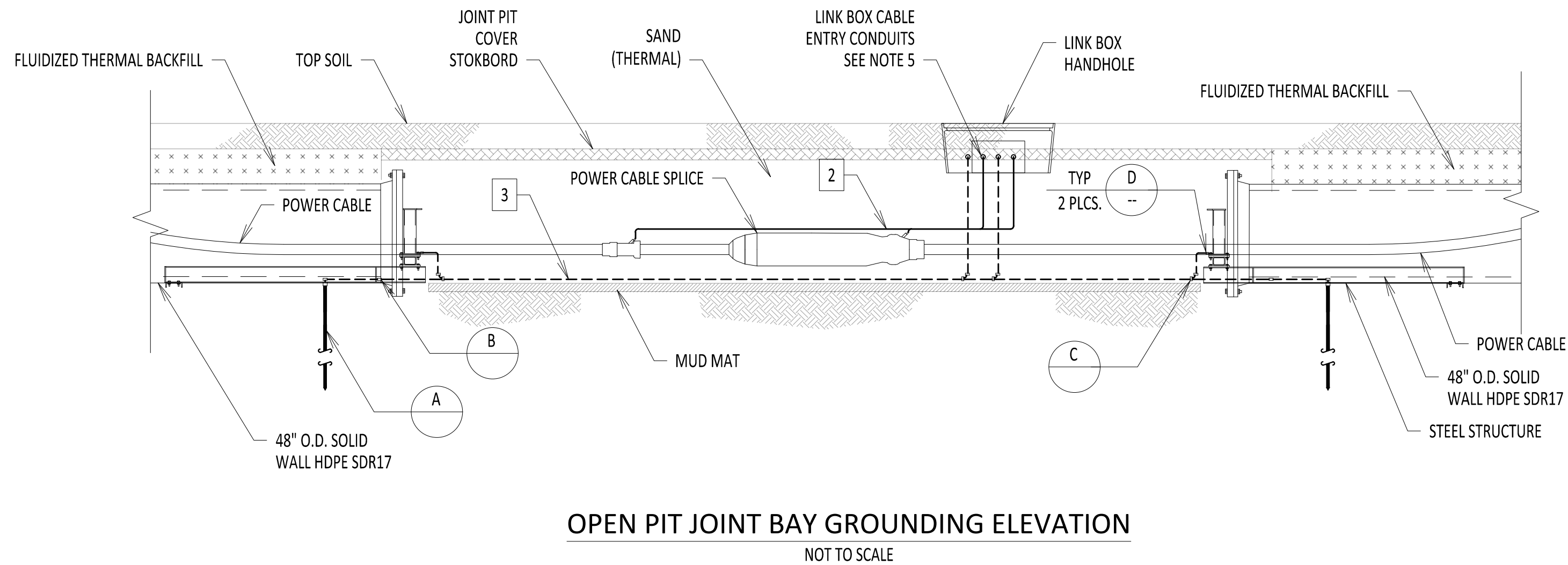
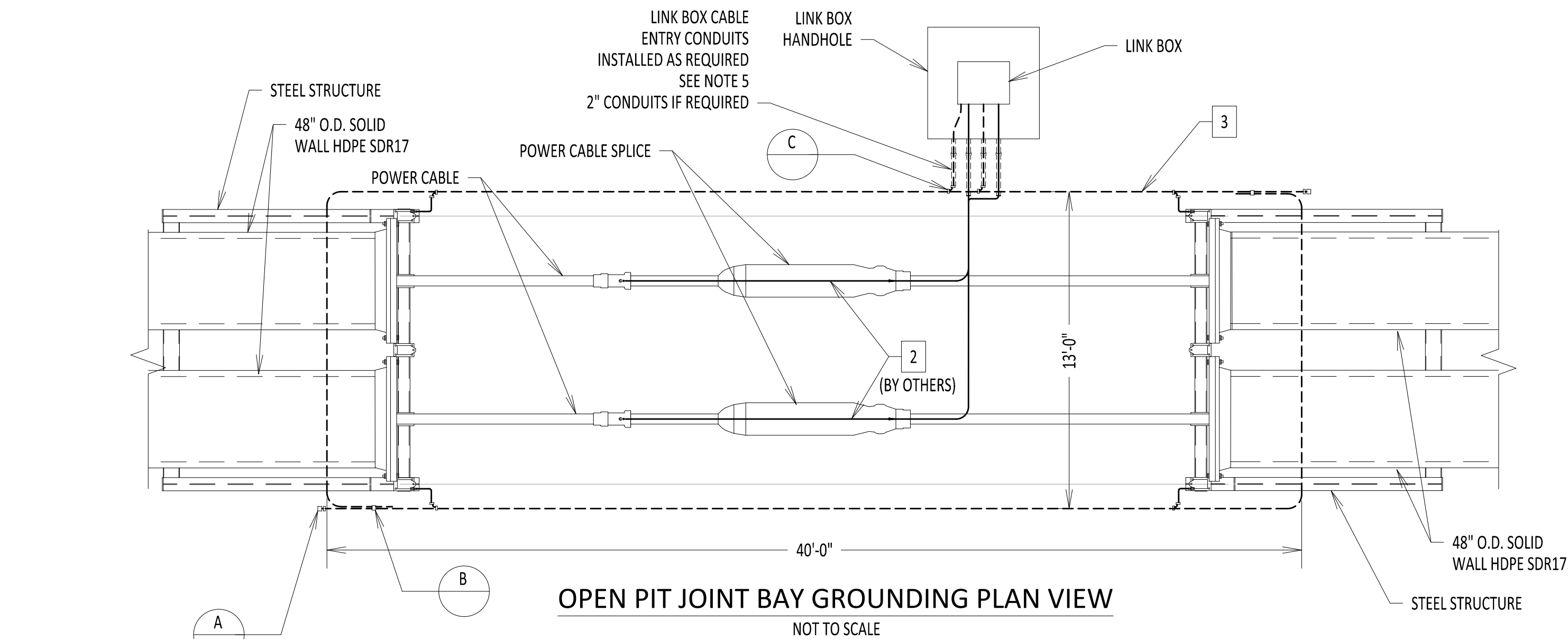
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1

2

3

4



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 SPLICE 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.

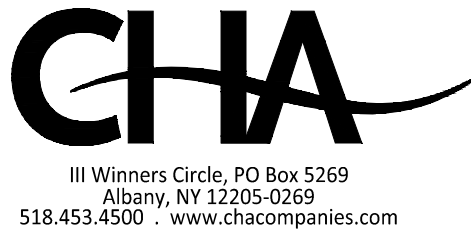
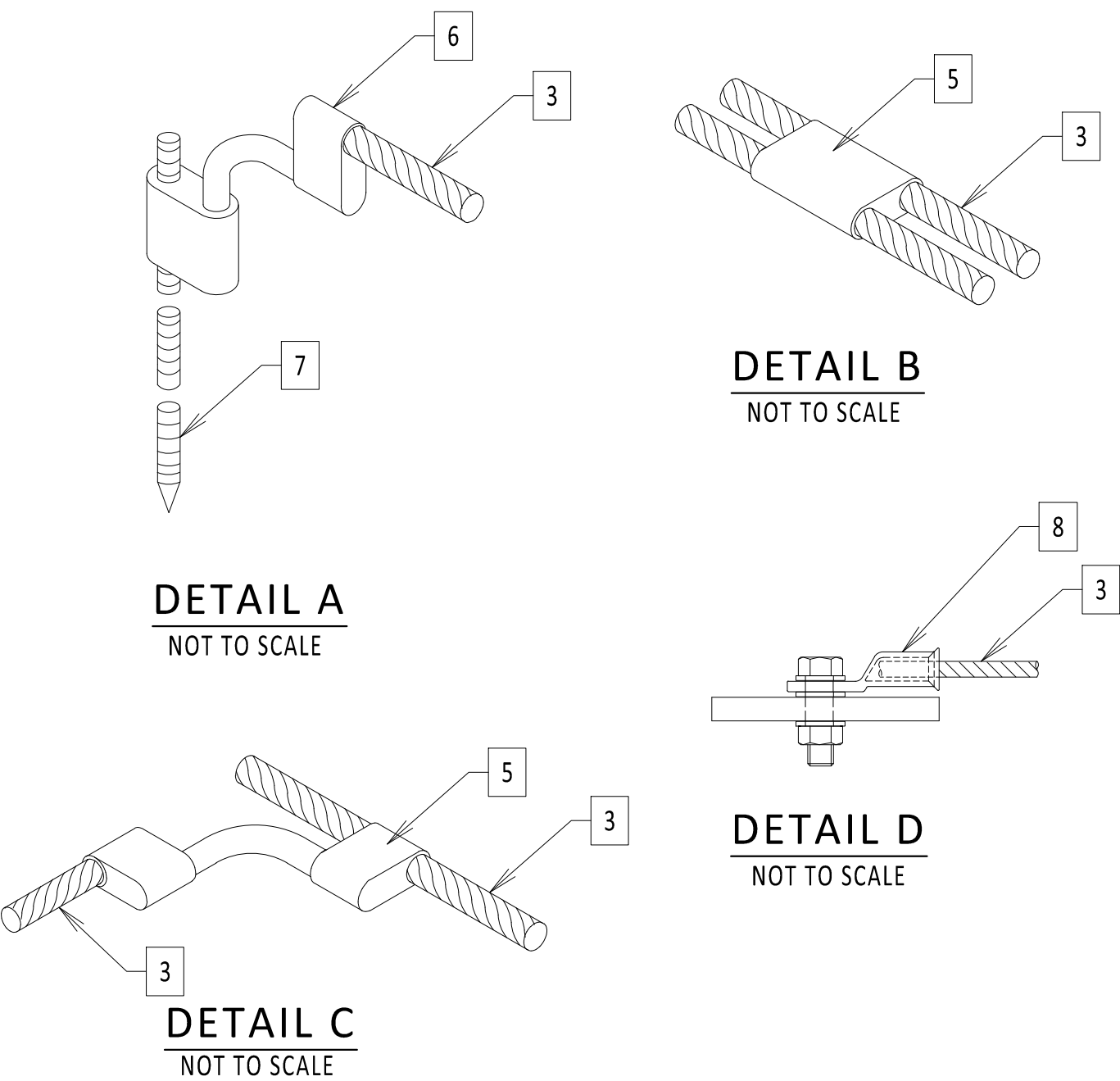
BILL OF MATERIALS

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 SPLICE 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 SPLICE 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