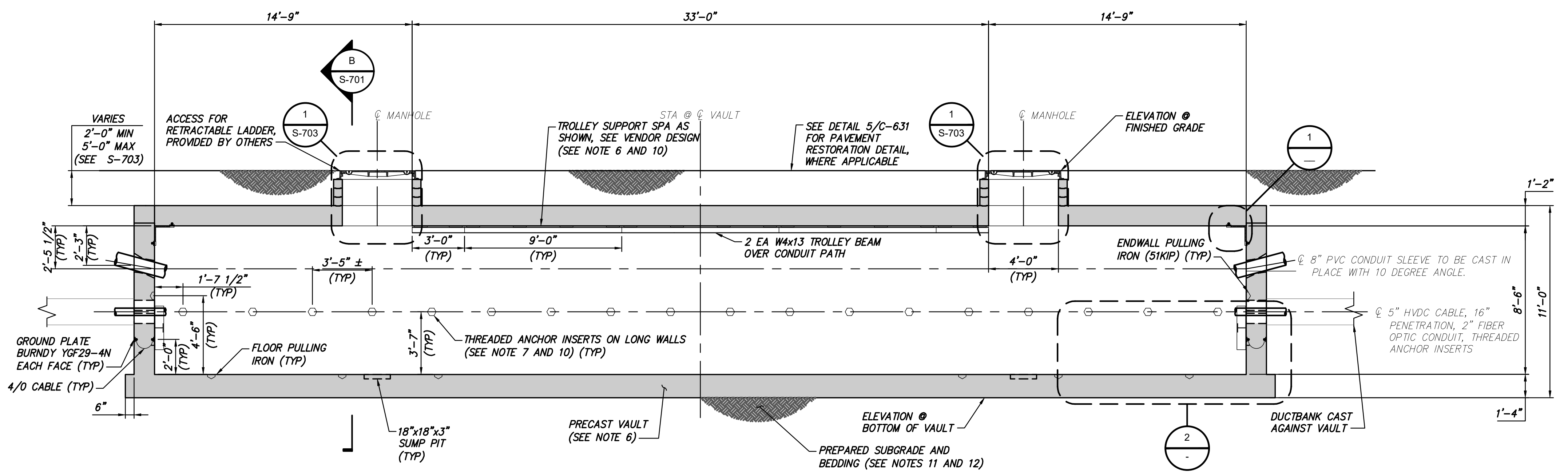
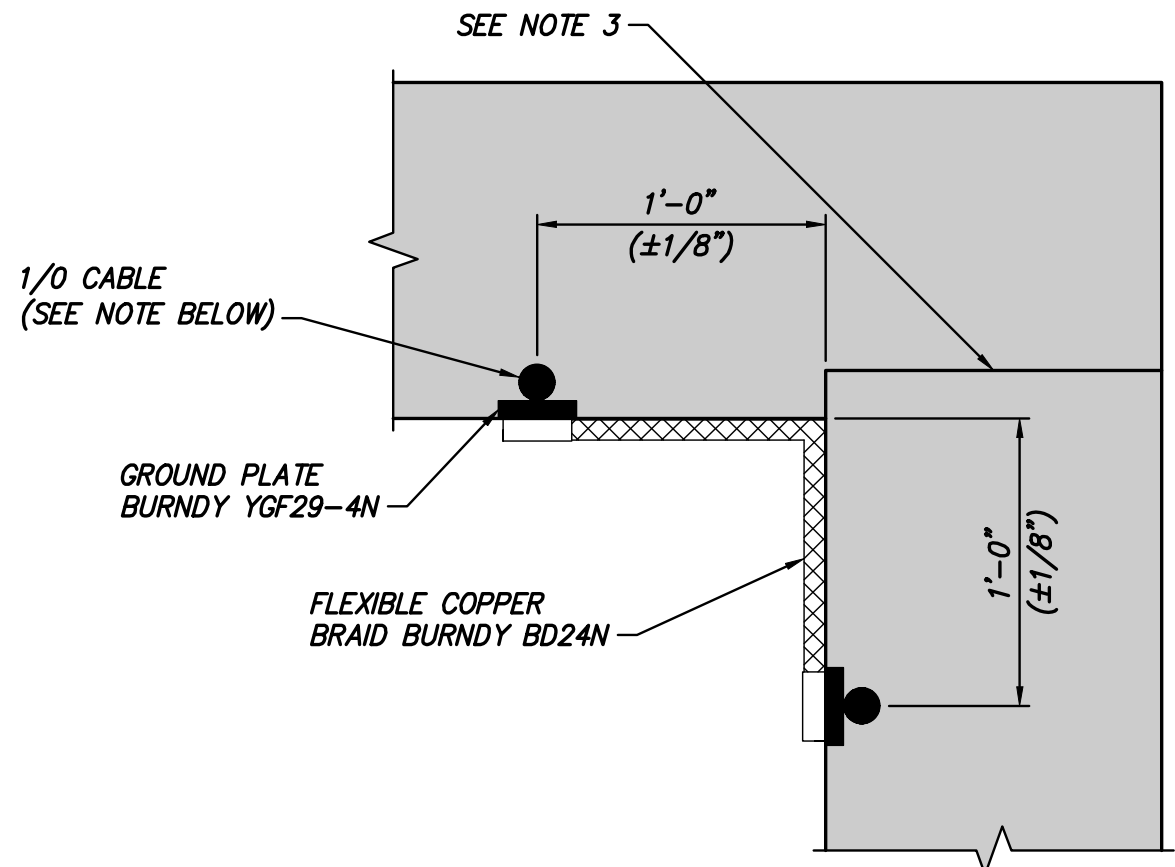


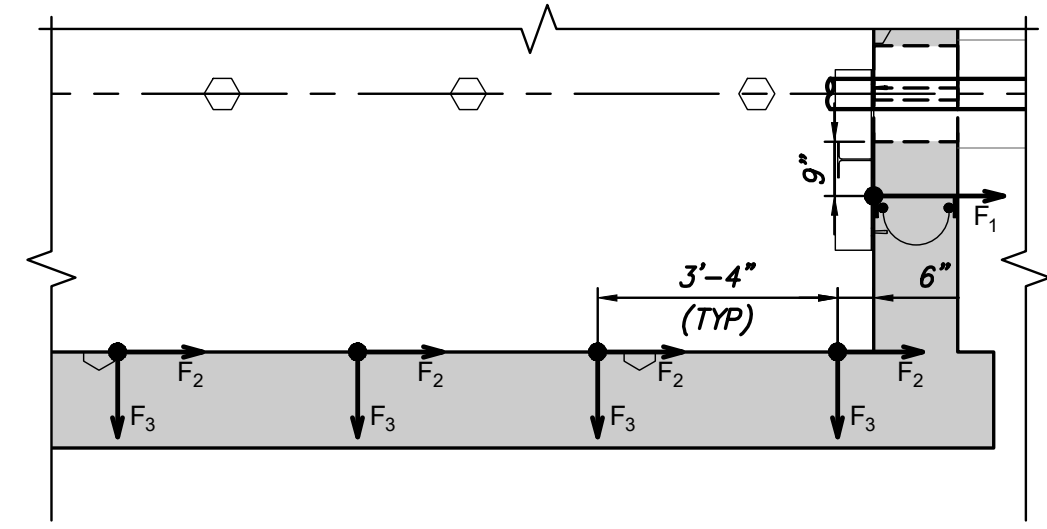
PLAN VIEW
SCALE: 1/4" = 1'-0"



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



DETAIL 1
SCALE: 1 1/2" = 1'-0"
NOTE: USED TO ELECTRICALLY JOIN PRECAST CONCRETE SECTIONS TOGETHER. BY MEANS OF REBAR CONNECTIONS, TO BE APPLIED AT EACH PRECAST SECTION, SUCH THAT ALL SECTIONS ARE JOINED TOGETHER.



DETAIL 2
SCALE: 3/8" = 1'-0"
NOTE: FORCES PROVIDED IN DETAIL 2 ARE PER CABLE AND ARE THE RESULT OF POST-INSTALLED CABLE RACKING EQUIPMENT. FORCES ARE POSITIVE IN THE DIRECTION IN WHICH THEY ARE DRAWN AND ARE ALIGNED WITH 5° HVDC CABLE. RACKING FORCES ARE NOT CONCURRENT WITH FLOOR PULLING IRON OR ENDWALL PULLING IRON FORCES. RACKING INSTALLED AT EACH END OF THE VAULT, FORCES APPLIED SYMMETRICALLY AT EACH END.
F₁ = 9.0 KIP F₂ = 2.3 KIP F₃ = 7.9 KIP

File: P:\VIE-CHPE\3-DES\07 STA VAULT\2162-SPICE VAULT.dwg, Scale: 5/1/2023 5:14:14 PM, Plot: 5/2/2023 11:27:52 AM, Camlin User: jay.kumar, Layer: Splice Vault



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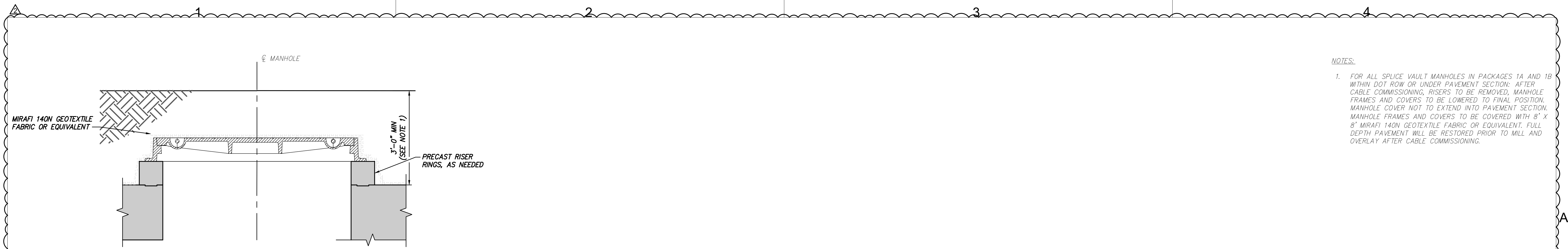
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1	02/10/2023	REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES	JNK	OO
0	12/21/2022	IFC SUBMISSION	JNK	OO

CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT PLAN AND ELEVATION

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE: AS SHOWN	DATE: 2
REV. NO.				SH.NO.

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-700



FINAL POSITION OF MANHOLE
DETAIL 1
SCALE: 1" = 1'-0"

- NOTES:
- FOR ALL SPLICE VAULT MANHOLES IN PACKAGES 1A AND 1B WITHIN DOT ROW OR UNDER PAVEMENT SECTION: AFTER CABLE COMMISSIONING, RISERS TO BE REMOVED, MANHOLE FRAMES AND COVERS TO BE LOWERED TO FINAL POSITION. MANHOLE COVER NOT TO EXTEND INTO PAVEMENT SECTION. MANHOLE FRAMES AND COVERS TO BE COVERED WITH 8' X 8' MIRAFI 140N GEOTEXTILE FABRIC OR EQUIVALENT. FULL DEPTH PAVEMENT WILL BE RESTORED PRIOR TO MILL AND OVERLAY AFTER CABLE COMMISSIONING.

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0	12/21/2022	IFC SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT DETAILS

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO SCALE: AS SHOWN DATE: 2/21/2023
REV. NO. SH. NO.

KIEWIT PROJECT NO.	21162
DRAWING NO.	S-703
DATE	2/21/2023
SH. NO.	

File: P:\VIE-CHPE\3-DES\07 STA\CHPE\CHPE-STRUCTURE-AND-S-705-CHPE.DWG, Scale: 1/4"=1'-0", Date: 11/25/15, Author: JNK, Plot: 11/25/15, Plotter: HP DesignJet T1100, Plot Style: CHPE.ctb, Sheet: 1 of 1

DESIGN SPECIFICATIONS

1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020
2. NYSDOT LRFD BRIDGE DESIGN SPECIFICATIONS, 2021
3. NYSDOT LRFD BLUE PAGES, 2021
4. AREMA MANUAL FOR RAILWAY ENGINEERING, VOLUME 2 STRUCTURES, 2016
5. ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES

DESIGN LOADS

1. DEAD LOADS
 - 1.1. CONCRETE UNIT WEIGHT = 150 PCF
 - 1.2. STEEL UNIT WEIGHT = 490 PCF
2. SUPERIMPOSED DEAD LOADS
 - 2.1. WEIGHT OF TWO HVDC CABLES + ONE FIBER OPTIC CABLE AND ASSOCIATED CONDUIT = 47.53 PLF
 - 2.2. WEIGHT OF CABLE TRAY = 20.57 PLF
 - 2.3. PULLING IRON, TROLLEY BEAM, ANCHORAGE, EMBED FORCES NOTED ON DRAWINGS WHERE APPLICABLE.
3. EARTH LOADS
 - 3.1. SOIL BACKFILL UNIT WEIGHT = 125 PCF
4. LIVE LOAD SURCHARGE
 - 4.1. 100 PSF MINIMUM
5. LIVE LOADS
 - 5.1. 300 PSF MINIMUM AT GROUND SURFACE OF TRENCH SECTIONS AND VAULTS.
 - 5.2. HL-93
 - 5.3. COOPER E-80
 - 5.4. ANSI-SCTE TIER 22 (FOR HANDHOLES ONLY, SEE MATERIALS 7.1 BELOW)
6. WIND LOADS
 - 6.1. 50 PSF TRANSVERSE
 - 6.2. 10 PSF LONGITUDINAL
7. SNOW LOADS
 - 7.1. 50 PSF
8. WATER
 - 8.1. STRUCTURES ARE ASSUMED TO BE SUBMERGED.
9. THERMAL LOADS
 - 9.1. STRUCTURES ARE SUBJECT TO THERMOMECHANICAL LOADING FROM HVDC CABLES.
 - 9.2. TEMPERATURE GRADIENT.
10. SEISMIC LOADING
 - 10.1. BURIED STRUCTURES ARE NOT SUBJECT TO SEISMIC PROVISIONS.

MATERIALS:

1. REINFORCED CONCRETE
 - 1.1. f'_c = 4,500 PSI AT 28 DAYS, UNO
 - 1.2. F2 FREEZE-THAW CATEGORY WHERE NOTED
2. REINFORCING STEEL
 - 2.1. ASTM A706, GRADE 60, UNO
3. STRUCTURAL STEEL
 - 3.1. ASTM A36, UNO
4. BOLTS
 - 4.1. ASTM A325, UNO
5. NUTS
 - 5.1. ASTM A563, UNO
6. WASHERS
 - 6.1. ASTM F436, UNO
7. POLYMER CONCRETE
 - 7.1. ANSI-SCTE 77 2017
8. REINFORCED THERMOSETTING RESIN CONDUIT
 - 8.1. NEC 355
9. PVC
 - 9.1. SCH 40

ABBREVIATIONS:

APPR	APPROACH
BRG	BEARING
CIP	CAST IN PLACE
CL	CENTERLINE
CLR	CLEAR COVER
DIA	DIAMETER
EL	ELEVATION
G	GIRDER
HS	HIGH STRENGTH
ICS	INTERMEDIATE CONDUIT SUPPORT
ID	INSIDE DIAMETER
IPS	IRON PIPE SIZE
KSI	KIPS PER SQUARE INCH
LLV	LONG LEG VERTICAL
NOM	NOMINAL
OD	OUTSIDE DIAMETER
PC	PRECAST
PL	PLATE
PROT	PROTECTIVE
PVC	POLYVINYL CHLORIDE
RT	ROUTE
STA	STATION
SW	STANDARD WALL
T	THICKNESS
UNO	UNLESS NOTED OTHERWISE



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0	12/21/2022	IFC SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

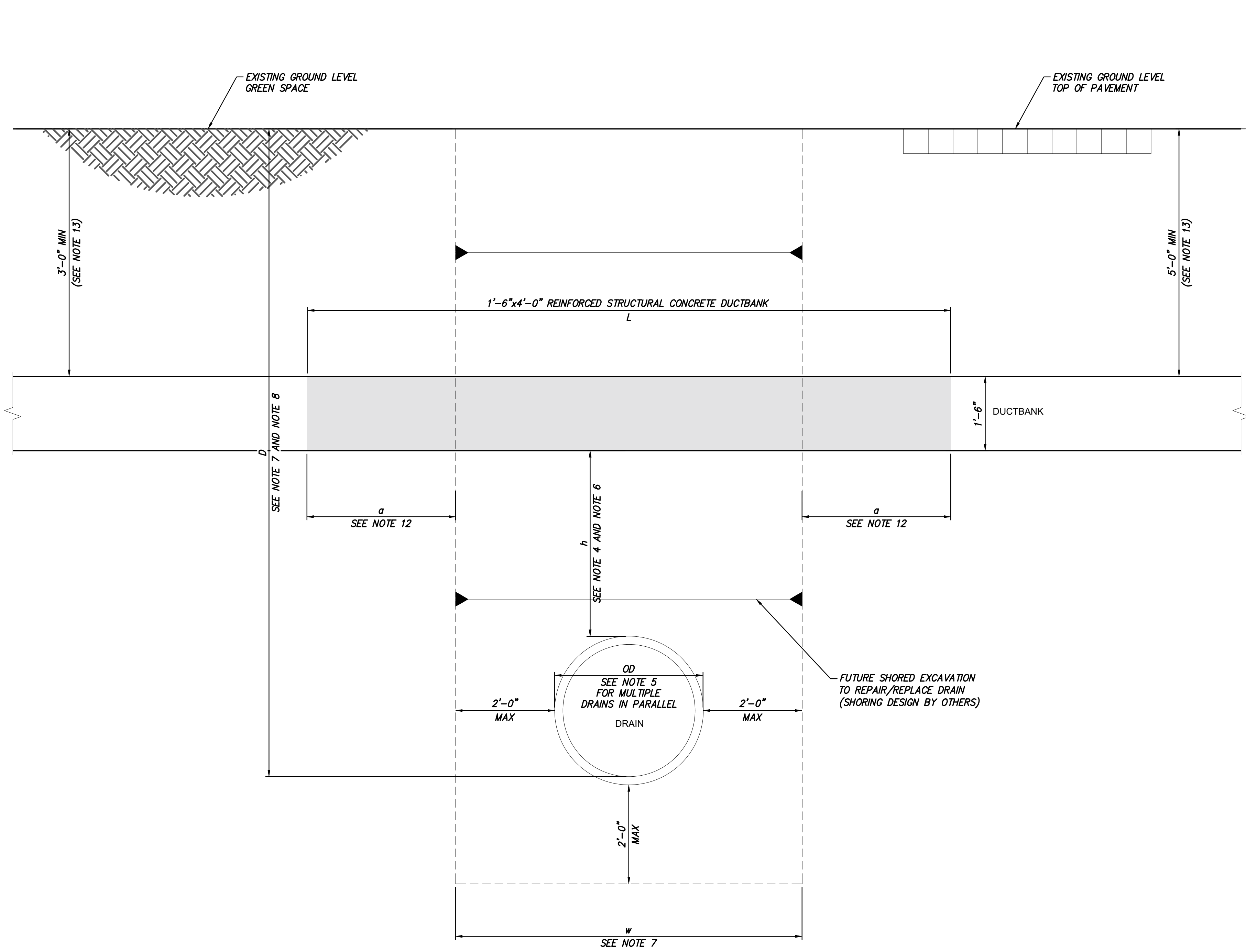
CHAMPLAIN HUDSON POWER EXPRESS

STRUCTURAL GENERAL NOTES AND ABBREVIATIONS

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE REV. NO.	AS SHOWN 2	DATE SH.NO.
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KIEWIT PROJECT NO. 21162
DRAWING NO. S-705

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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 OR OTHER UTILITIES LOCATED BELOW THE DUCT BANK WITHIN THE NYSDOT RIGHT OF WAY AND/OR OTHER PRIVATE PROPERTY OWNERS AND JURISDICTIONS, 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 3'-0" MINIMUM.
PER GEOTECHNICAL TRENCH REPORT, 1.5 KSF MINIMUM BEARING CAPACITY ASSUMED.
 13. SEE NOTE 11/S-721, SPECIFIC TO PACKAGE 8:
FOR STA. 80000+50 TO 80001+50 (ADJACENT TO WILLIS AVE. BRIDGE), MINIMUM COVER IS 2'-0". TYPICAL COVER IN PACKAGE 8 IS 3'-0" MINIMUM.



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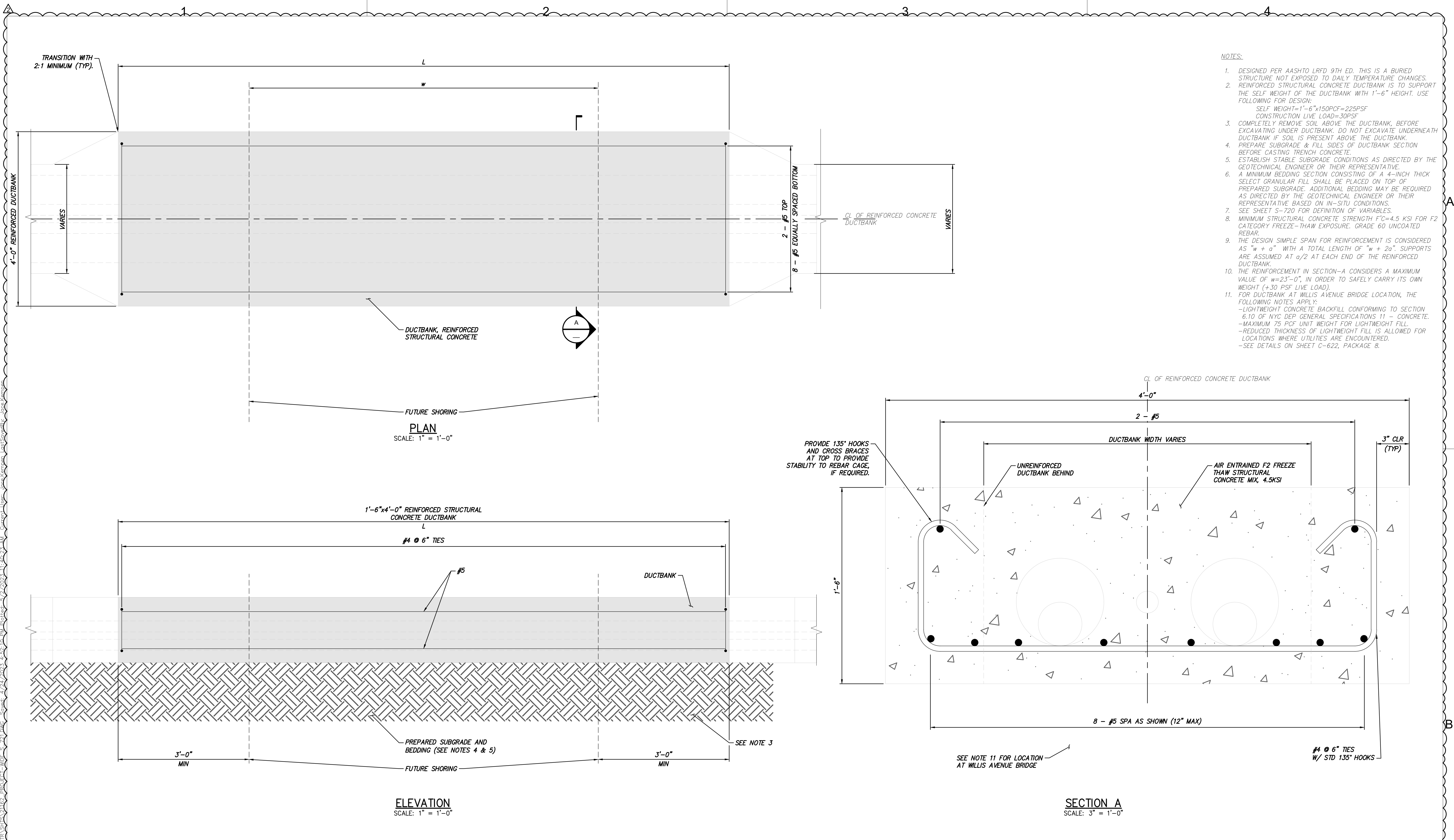
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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	

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REINFORCING TRAY OVER UTILITIES

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO SCALE AS SHOWN DATE
REV. NO. 2 SH.NO.


KIEWIT PROJECT NO.	21162
DRAWING NO.	S-720




- NOTES:
- DESIGNED PER AASHTO LRFD 9TH ED. THIS IS A BURIED STRUCTURE NOT EXPOSED TO DAILY TEMPERATURE CHANGES.
 - REINFORCED STRUCTURAL CONCRETE DUCTBANK IS TO SUPPORT THE SELF WEIGHT OF THE DUCTBANK WITH 1'-6" HEIGHT. USE FOLLOWING FOR DESIGN:
SELF WEIGHT=1'-6"x150PCF=225PSF
CONSTRUCTION LIVE LOAD=30PSF
 - COMPLETELY REMOVE SOIL ABOVE THE DUCTBANK, BEFORE EXCAVATING UNDER DUCTBANK. DO NOT EXCAVATE UNDERNEATH DUCTBANK IF SOIL IS PRESENT ABOVE THE DUCTBANK.
 - PREPARE SUBGRADE & FILL SIDES OF DUCTBANK SECTION BEFORE CASTING TRENCH CONCRETE.
 - ESTABLISH STABLE SUBGRADE CONDITIONS AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE.
 - A MINIMUM BEDDING SECTION CONSISTING OF A 4-INCH THICK SELECT GRANULAR FILL SHALL BE PLACED ON TOP OF PREPARED SUBGRADE. ADDITIONAL BEDDING MAY BE REQUIRED AS DIRECTED BY THE GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE BASED ON IN-SITU CONDITIONS.
 - SEE SHEET S-720 FOR DEFINITION OF VARIABLES.
 - MINIMUM STRUCTURAL CONCRETE STRENGTH F'C=4.5 KSI FOR F2 CATEGORY FREEZE-THAW EXPOSURE. GRADE 60 UNCOATED REBAR.
 - THE DESIGN SIMPLE SPAN FOR REINFORCEMENT IS CONSIDERED AS "w + a" WITH A TOTAL LENGTH OF "w + 2a". SUPPORTS ARE ASSUMED AT a/2 AT EACH END OF THE REINFORCED DUCTBANK.
 - THE REINFORCEMENT IN SECTION-A CONSIDERS A MAXIMUM VALUE OF w=23'-0", IN ORDER TO SAFELY CARRY ITS OWN WEIGHT (+30 PSF LIVE LOAD).
 - FOR DUCTBANK AT WILLIS AVENUE BRIDGE LOCATION, THE FOLLOWING NOTES APPLY:
-LIGHTWEIGHT CONCRETE BACKFILL CONFORMING TO SECTION 6.10 OF NYC DEP GENERAL SPECIFICATIONS 11 - CONCRETE.
-MAXIMUM 75 PCF UNIT WEIGHT FOR LIGHTWEIGHT FILL.
-REDUCED THICKNESS OF LIGHTWEIGHT FILL IS ALLOWED FOR LOCATIONS WHERE UTILITIES ARE ENCOUNTERED.
-SEE DETAILS ON SHEET C-622, PACKAGE 8.



Champlain Hudson Power Express



Kiewit



LUIS GERARDO YUNESKY
087775
LICENSED PROFESSIONAL ENGINEER

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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

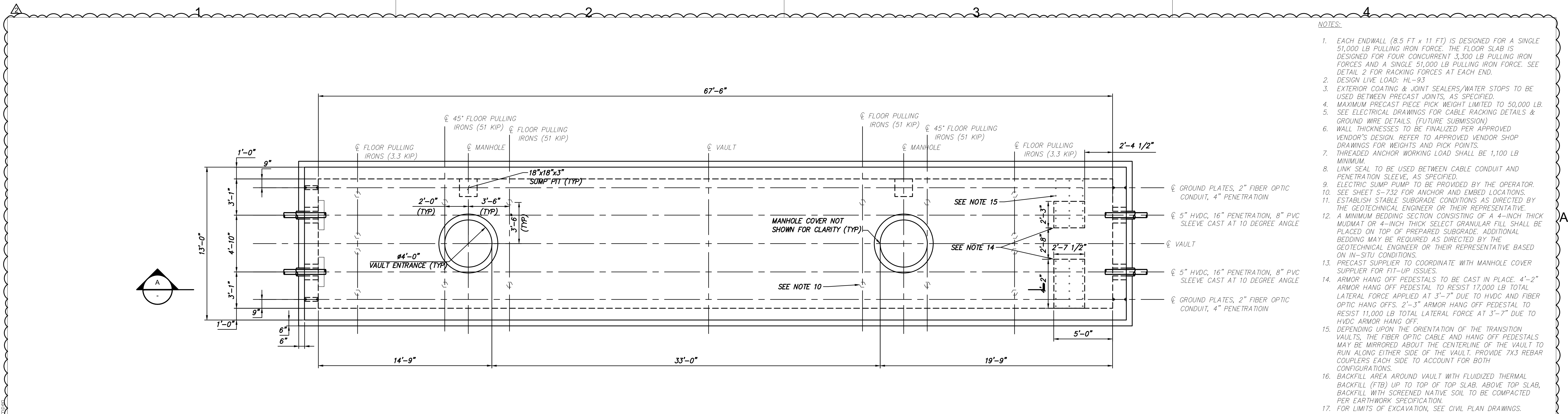
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REINFORCING TRAY DETAILS

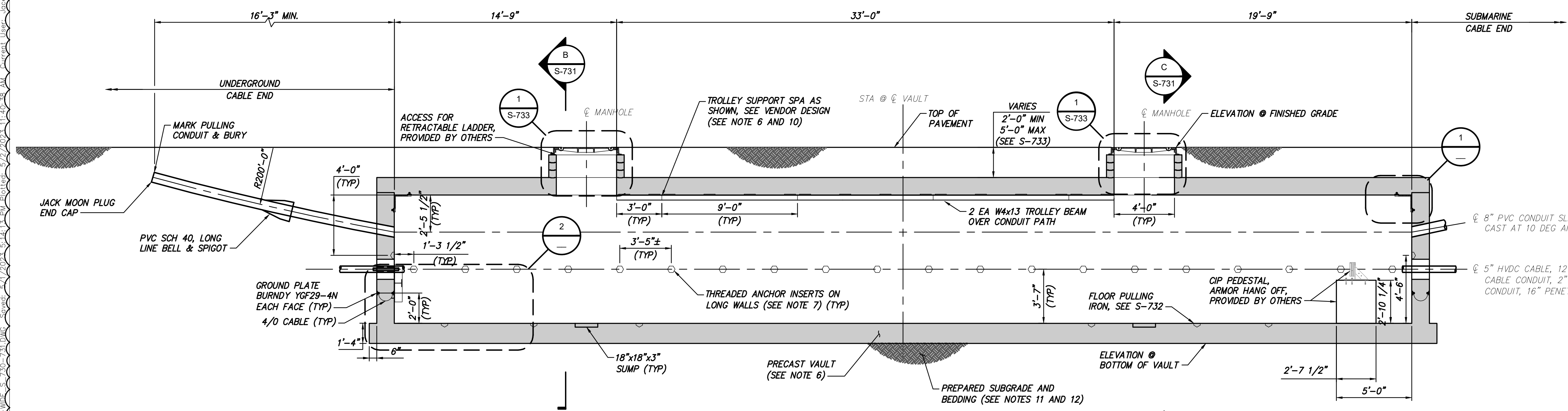
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REV. NO.				SH.NO.

KIEWIT PROJECT NO. 21162

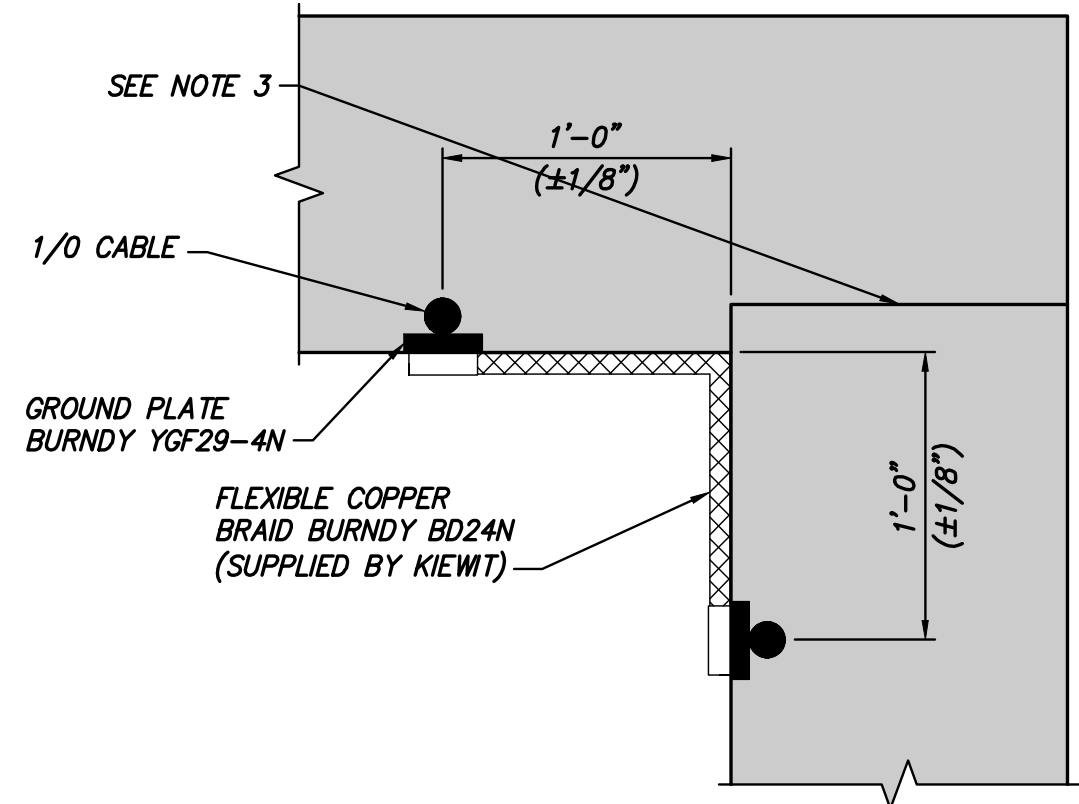
DRAWING NO. **S-721**



PLAN VIEW
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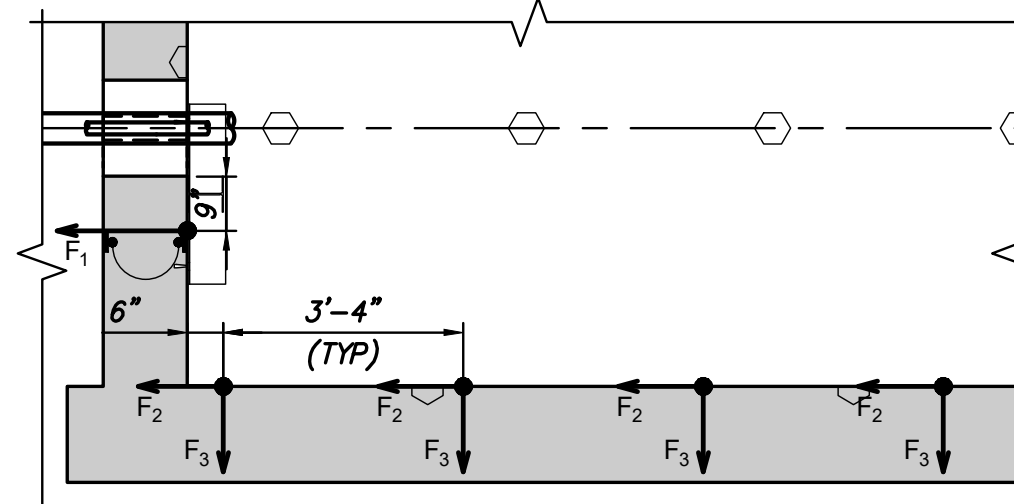


SECTION VIEW A
SCALE: 1/4" = 1'-0"



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



NOTE: USED TO ELECTRICALLY JOIN PRECAST CONCRETE SECTIONS TOGETHER, BY MEANS OF REBAR CONNECTIONS. TO BE APPLIED AT EACH PRECAST SECTION, SUCH THAT ALL SECTIONS ARE JOINED TOGETHER.




DETAIL 2
SCALE: 3/8" = 1'-0"

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$F_1 = 9.0 \text{ KIP}$ $F_2 = 2.3 \text{ KIP}$ $F_3 = 7.9 \text{ KIP}$





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CHAMPLAIN HUDSON POWER EXPRESS

TRANSITION VAULT PLAN AND ELEVATION

DRAWN BY: DRH

DESIGNED BY: JNK

APPROVED BY: OO

SCALE: AS SHOWN

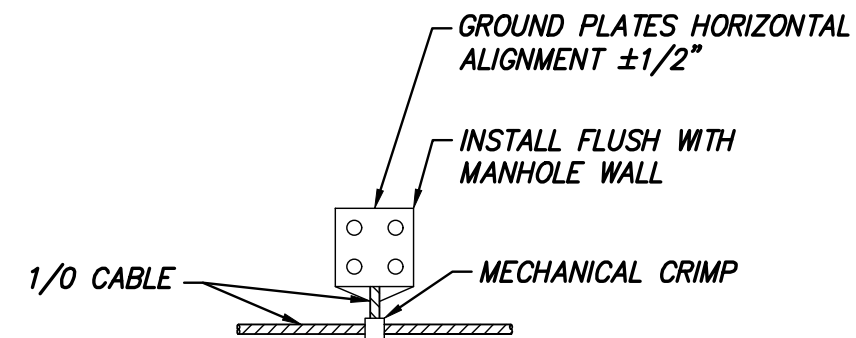
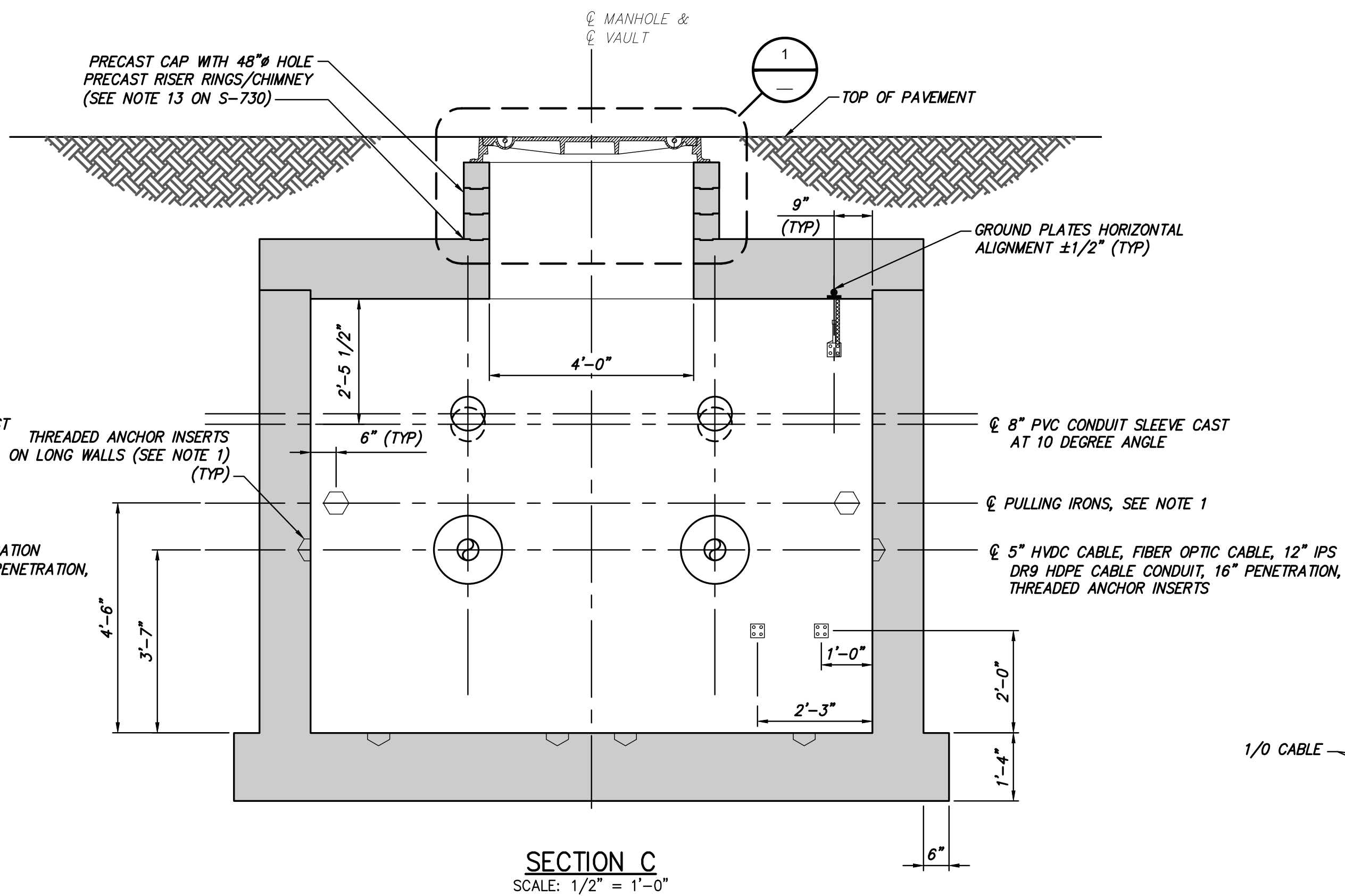
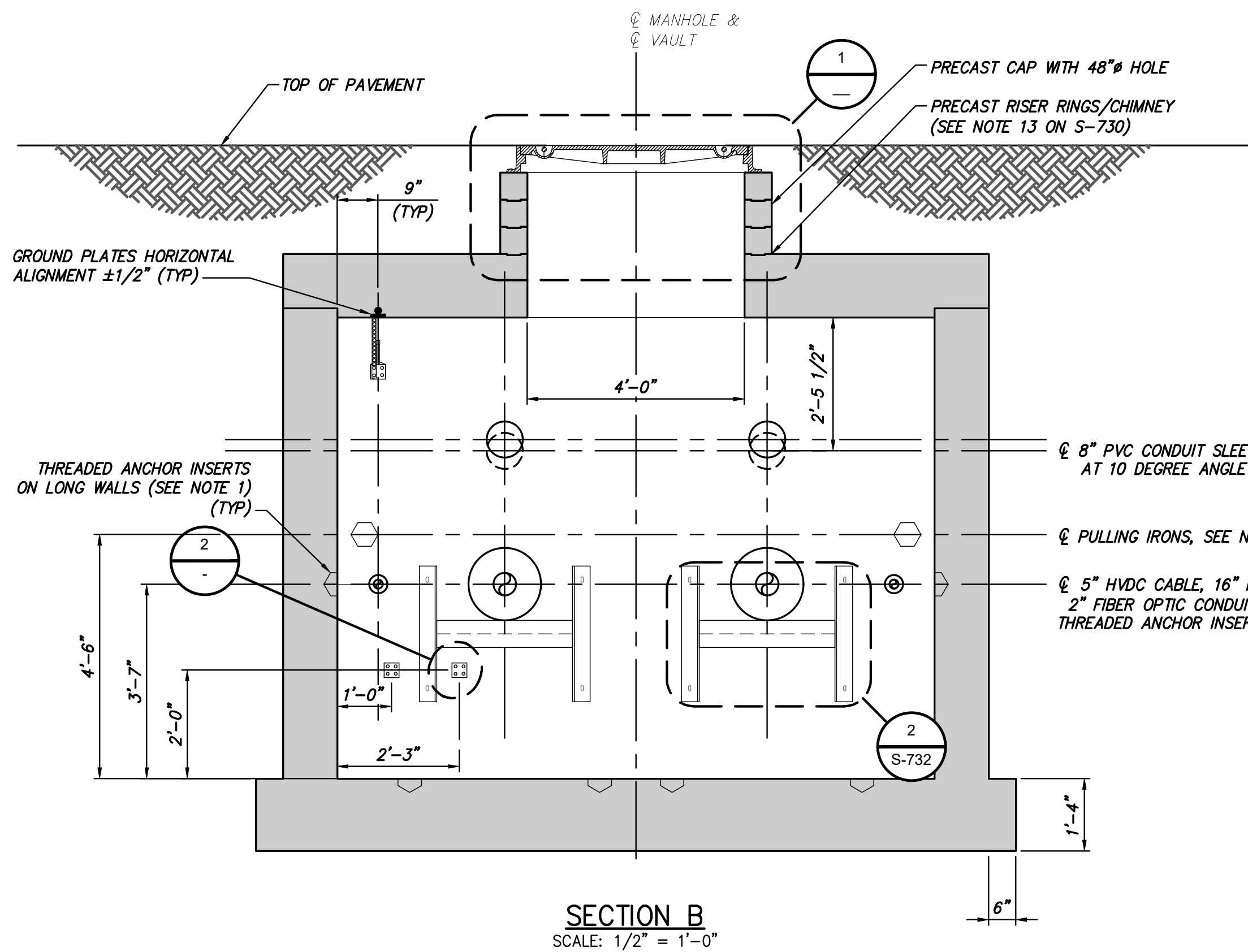
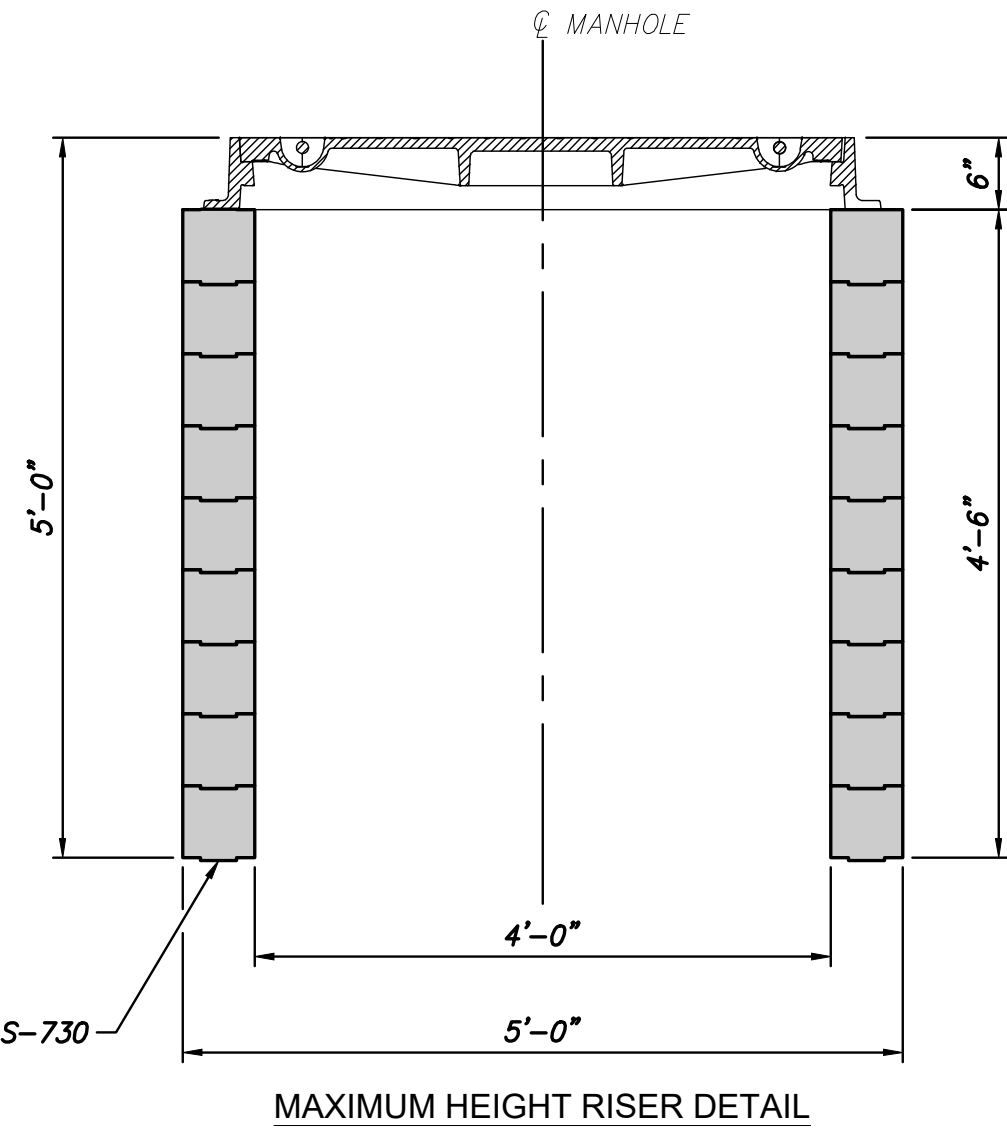
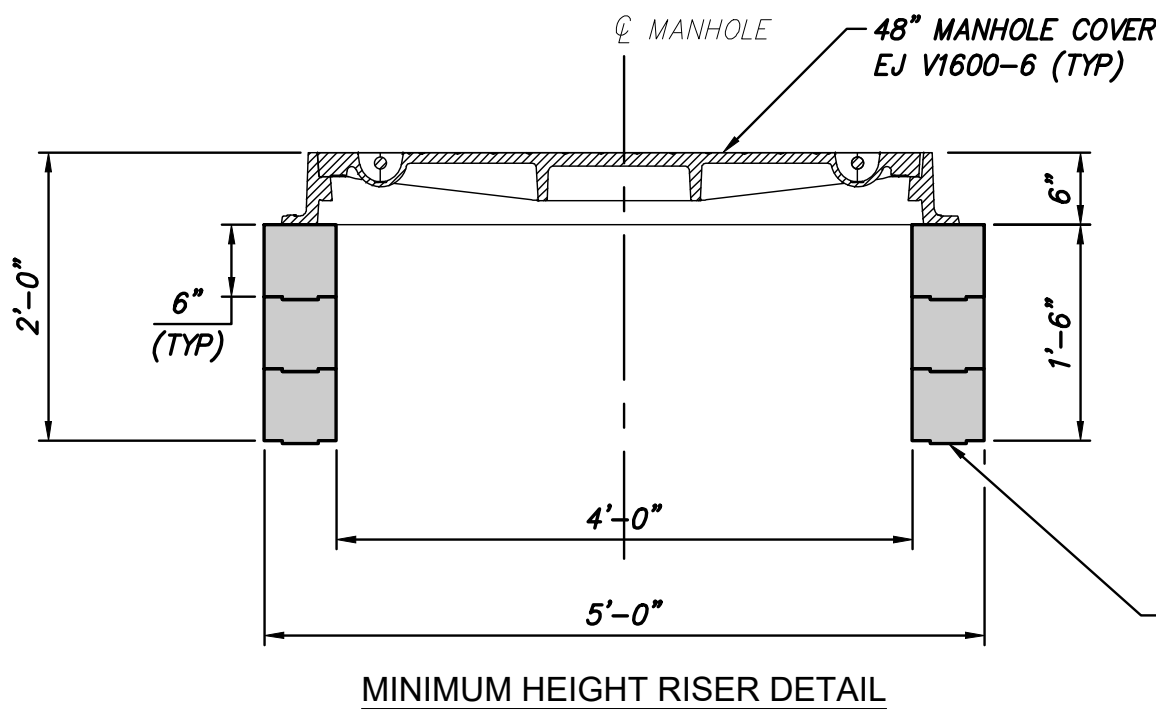
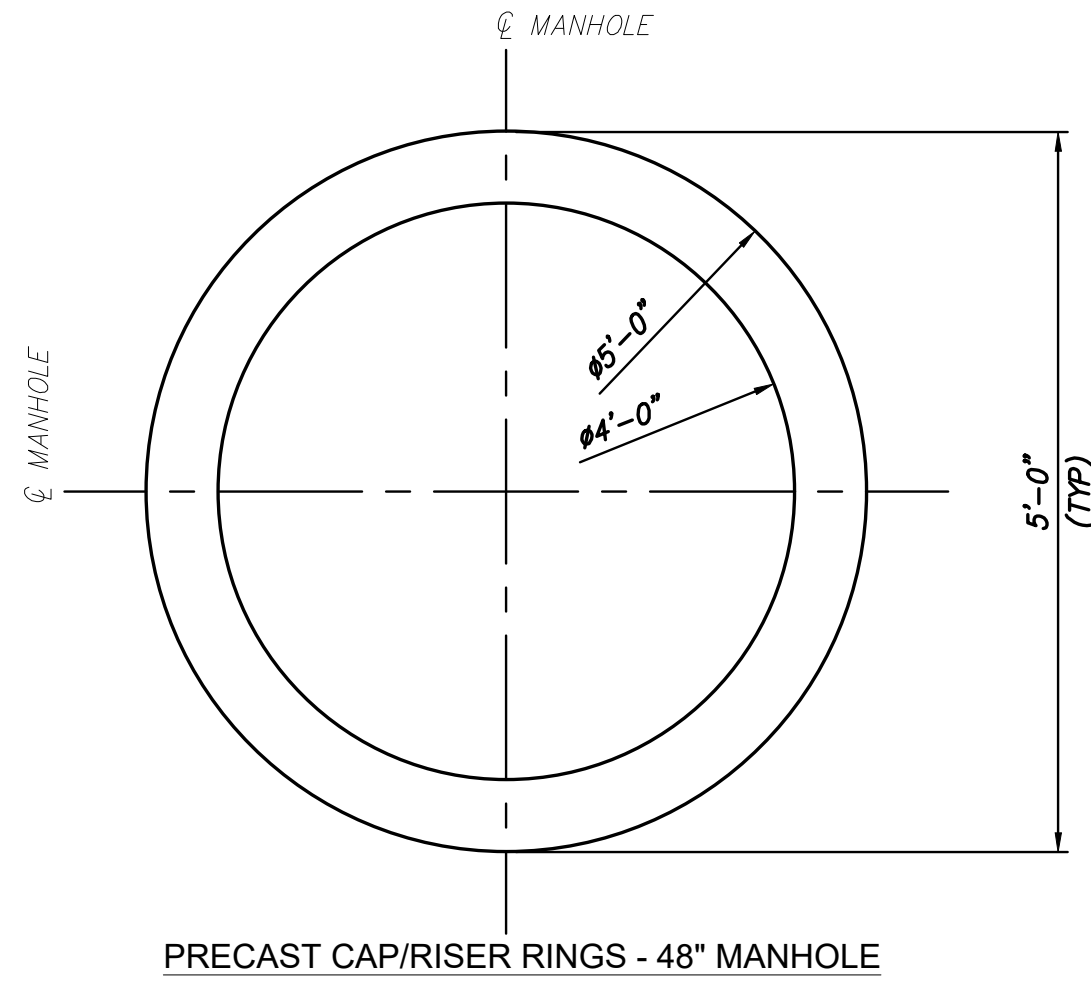
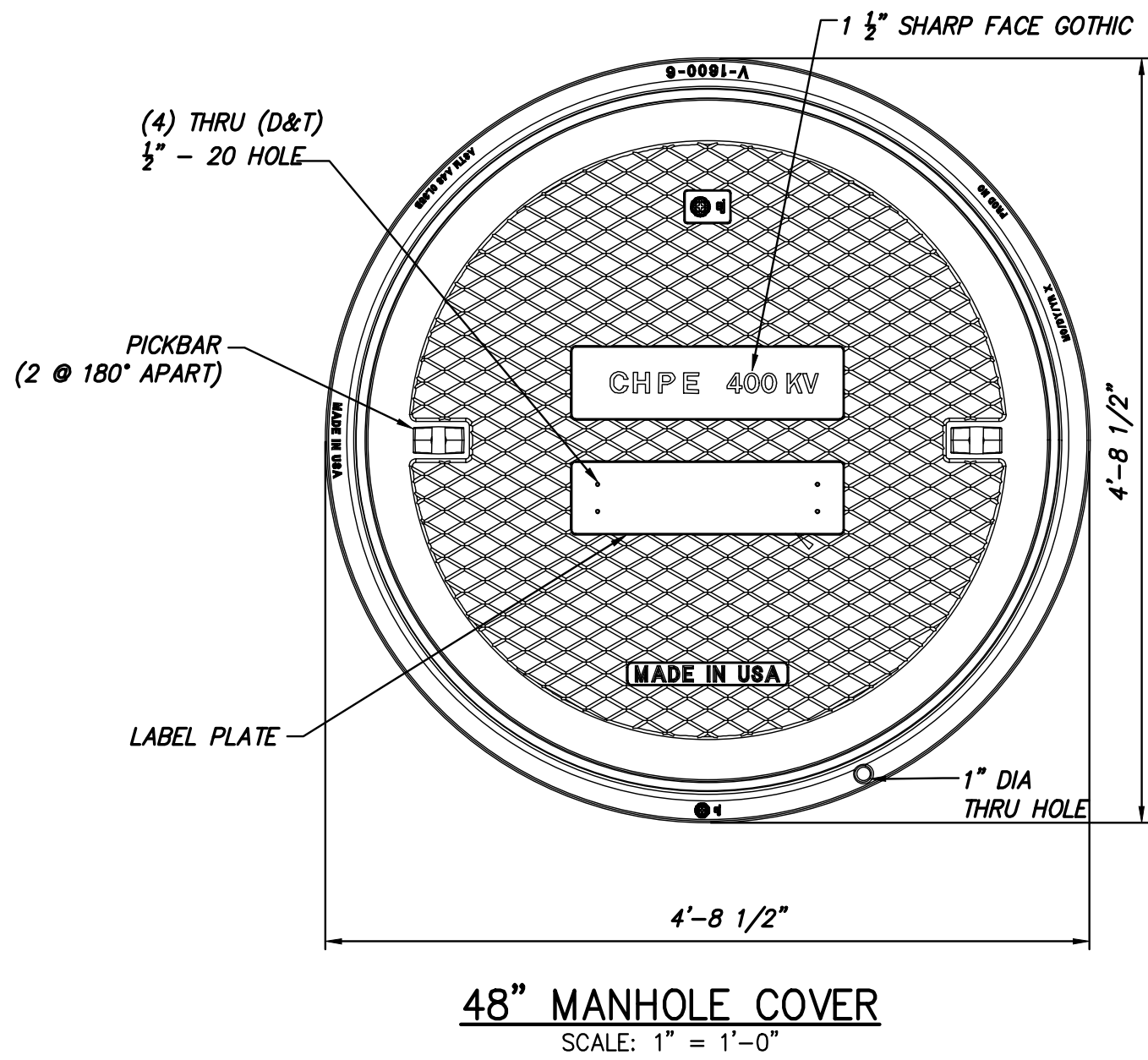
DATE: 2

KIEWIT PROJECT NO. 21162

DRAWING NO. S-730

DATE SH. NO.

- NOTES:
- REFER TO NOTES ON SHEET S-730.
 - MANHOLE COVER SHALL BE RATED FOR HL-93 WHEEL LOADING MINIMUM PER S-730 NOTES AND S-705 DESIGN LOADS.



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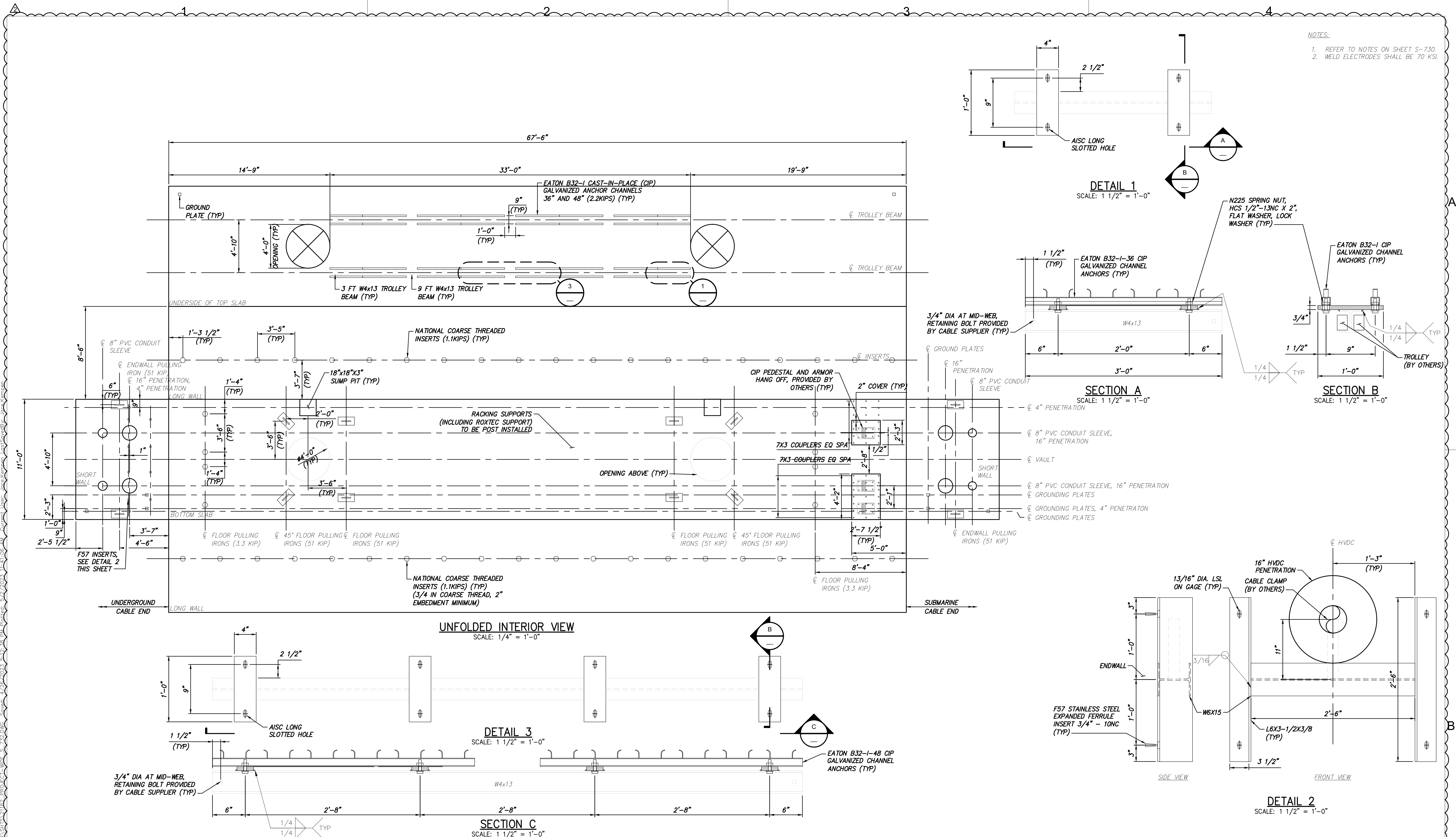
CHAMPLAIN HUDSON POWER EXPRESS


TRANSITION VAULT SECTION AND DETAILS

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE: AS SHOWN	DATE: SH.NO.
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KIEWIT PROJECT NO. 21162

DRAWING NO. S-731






Champlain Hudson
Power Express



Kiewit



MARK WANCHOW
LICENSED PROFESSIONAL ENGINEER
090036

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0	12/21/2022	IFC SUBMISSION	JNK	OO

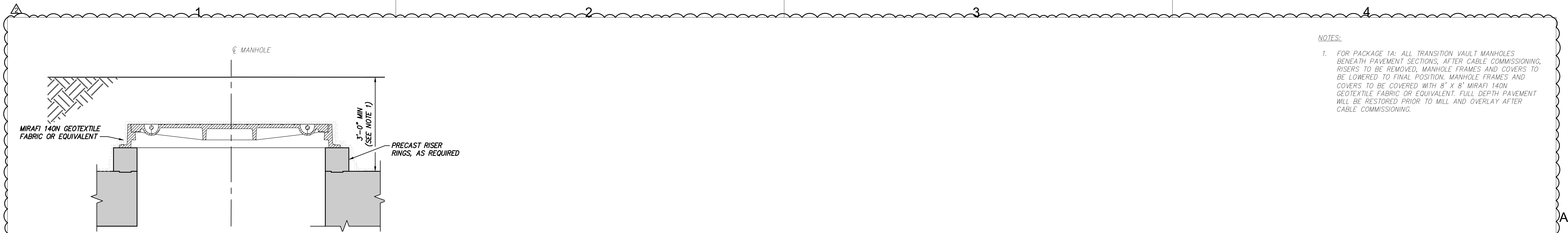
CHAMPLAIN HUDSON POWER EXPRESS

TRANSITION VAULT ANCHOR AND EMBED DETAILS

DRAWN BY: DRH	DESIGNED BY: JNK	APPROVED BY: OO	SCALE: AS SHOWN	DATE: 2
			REV. NO.	SH.NO.

KIEWIT PROJECT NO. 21162

DRAWING NO. **S-732**



FINAL POSITION OF MANHOLE
DETAIL 1
SCALE: 3/8" = 1'-0"

- NOTES:
- FOR PACKAGE 1A: ALL TRANSITION VAULT MANHOLES BENEATH PAVEMENT SECTIONS, AFTER CABLE COMMISSIONING, RISERS TO BE REMOVED, MANHOLE FRAMES AND COVERS TO BE LOWERED TO FINAL POSITION. MANHOLE FRAMES AND COVERS TO BE COVERED WITH 8' X 8' MIRAFI 140N GEOTEXTILE FABRIC OR EQUIVALENT. FULL DEPTH PAVEMENT WILL BE RESTORED PRIOR TO MILL AND OVERLAY AFTER CABLE COMMISSIONING.

File: P:\KIE-CHPE\3-DES\07 STA\DWG\CHPE-POWER-WVP-S-733-TRANS-Vault.dwg, 5/2/2023, 11:45:55 AM, Created, User: jay.kamdar, Scale: 3/8"=1'-0"



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.

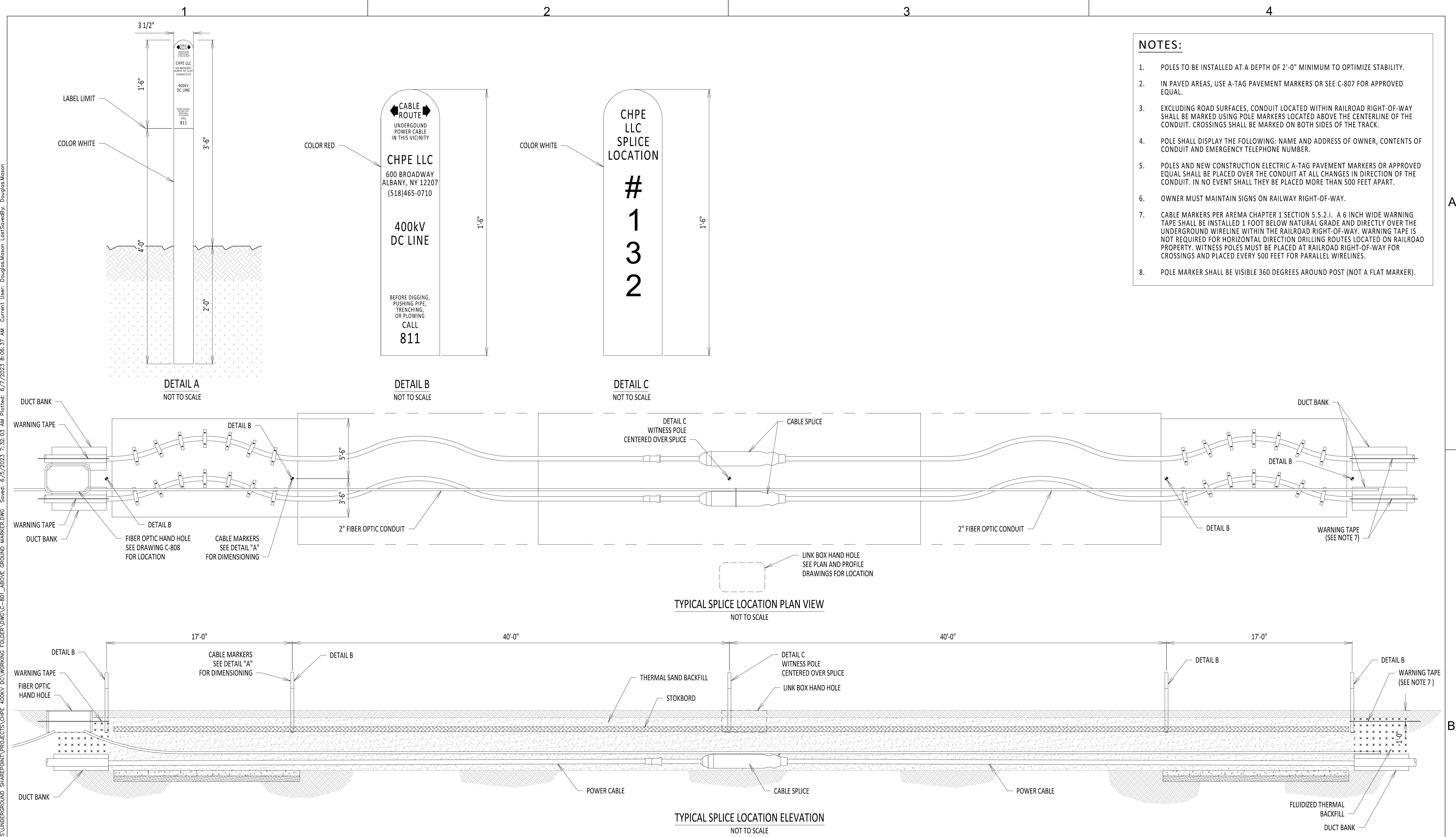
2	05/03/2023	RFC - VAULT UPDATES	JNK	OO	
1	02/10/2023	REV 1 - IFC - NYSDOT HWP, SPLICE VAULT UPDATES	JNK	OO	
0	12/21/2022	IFC SUBMISSION	JNK	OO	
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	


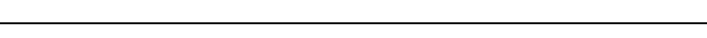
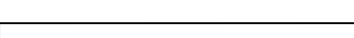
CHAMPLAIN HUDSON POWER EXPRESS

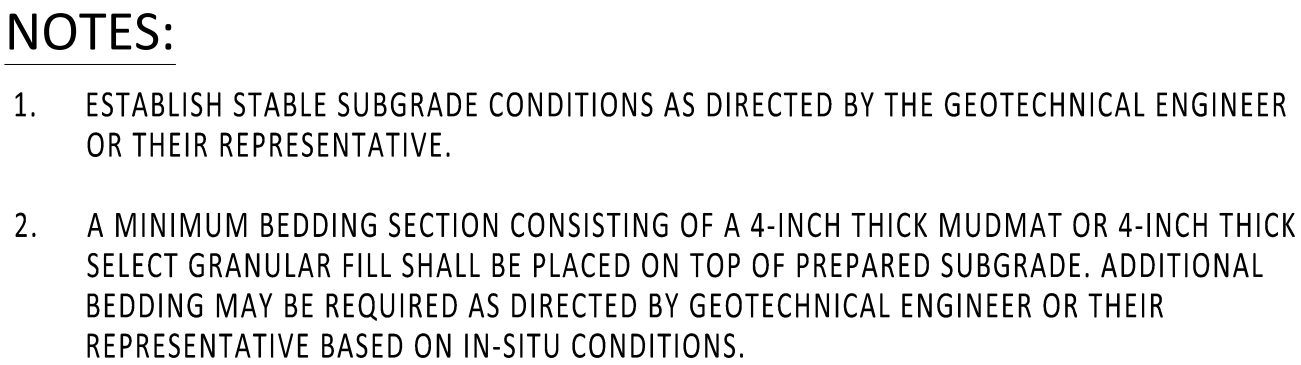
TRANSITION VAULT DETAILS

DRAWN BY: DRH DESIGNED BY: JNK APPROVED BY: OO SCALE AS SHOWN DATE
REV. NO. 2 SH.NO.

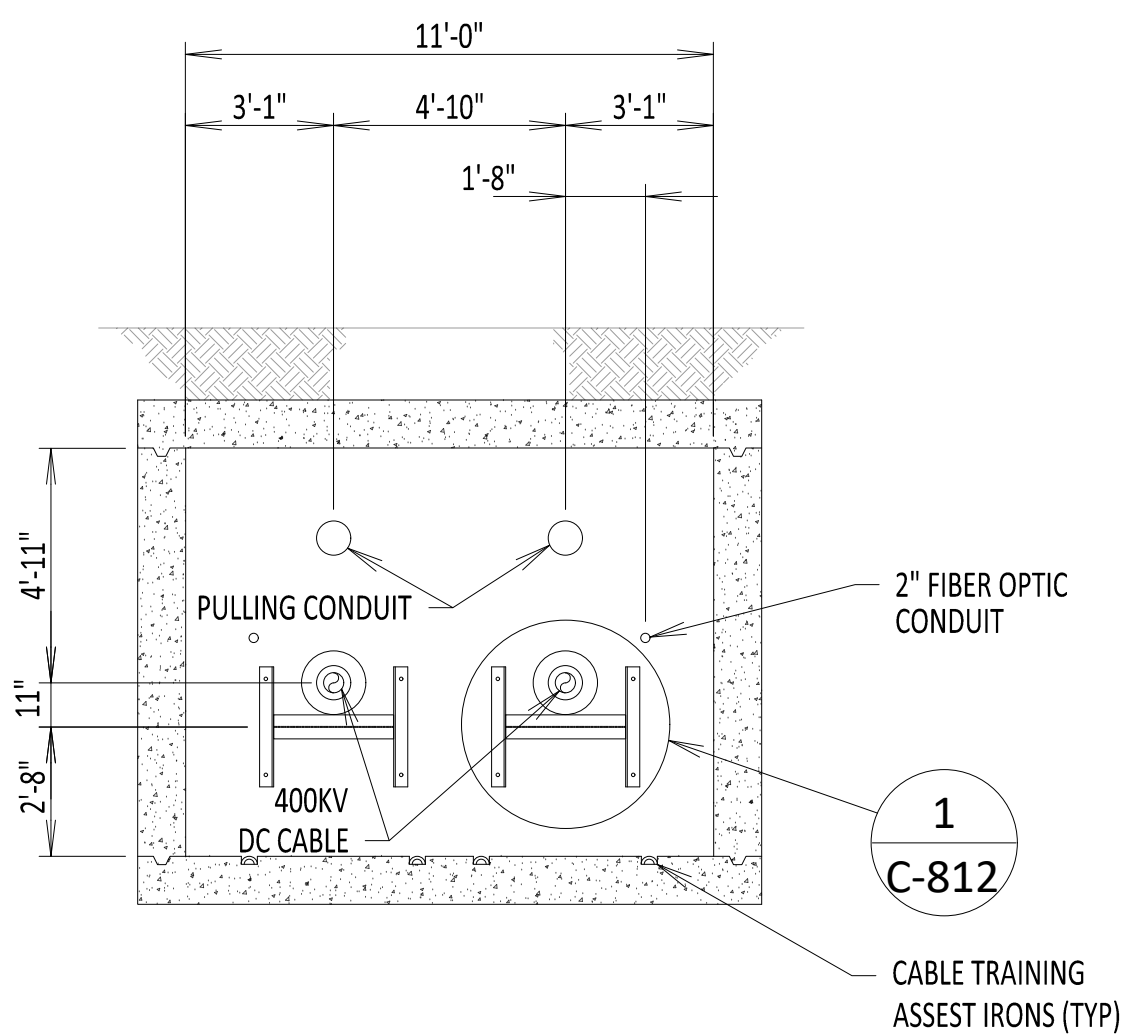
KIEWIT PROJECT NO.	21162
DRAWING NO.	S-733
DATE	
SH.NO.	



 CHPE Champlain Hudson Power Express			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 ANY 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.	06/08/2023	ISSUED FOR CONSTRUCTION SUBMISSION	DLM	ASM	CHAMPLAIN HUDSON POWER EXPRESS				KIEWIT PROJECT NO. 21162
				No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP	DRAWN BY: DLM	DESIGNED BY: SD	APPROVED BY: ASM	SCALE REV. NO.



REFERENCE DOCUMENTS		
LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	STRUCTURAL VAULT DRAWING	S-700
2	TYPICAL VAULT GROUNDING DETAILS	C-803
3	DUCT BANK CONNECTION DETAILS	C-812
4	FIBER OPTIC SPLICE DETAILS	C-855
5	FIBER OPTIC H-FRAME BRACKET DETAIL	C-856



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

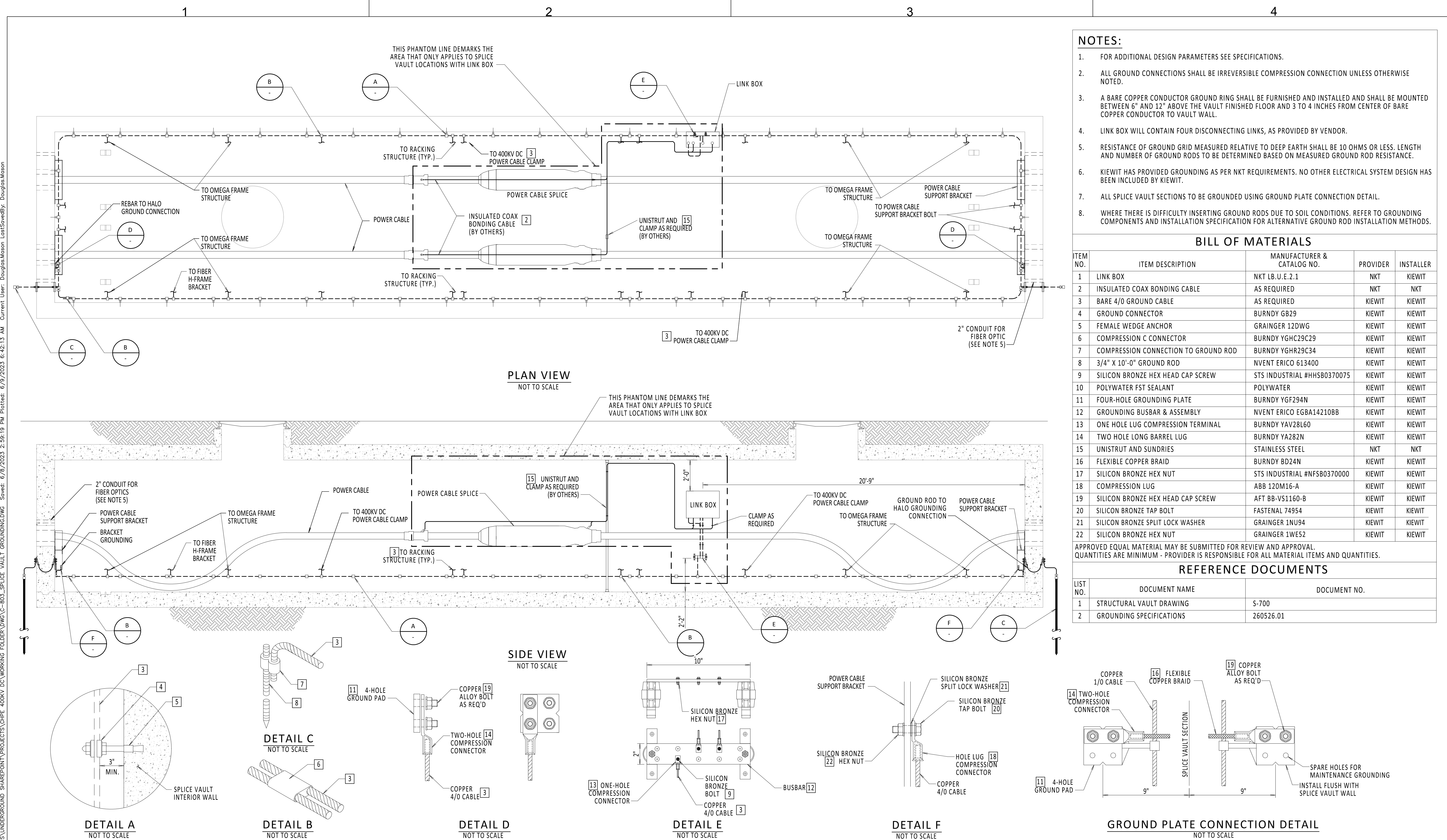
0	06/08/2023	ISSUED FOR CONSTRUCTION SUBMISSION	DLM	ASM
No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP

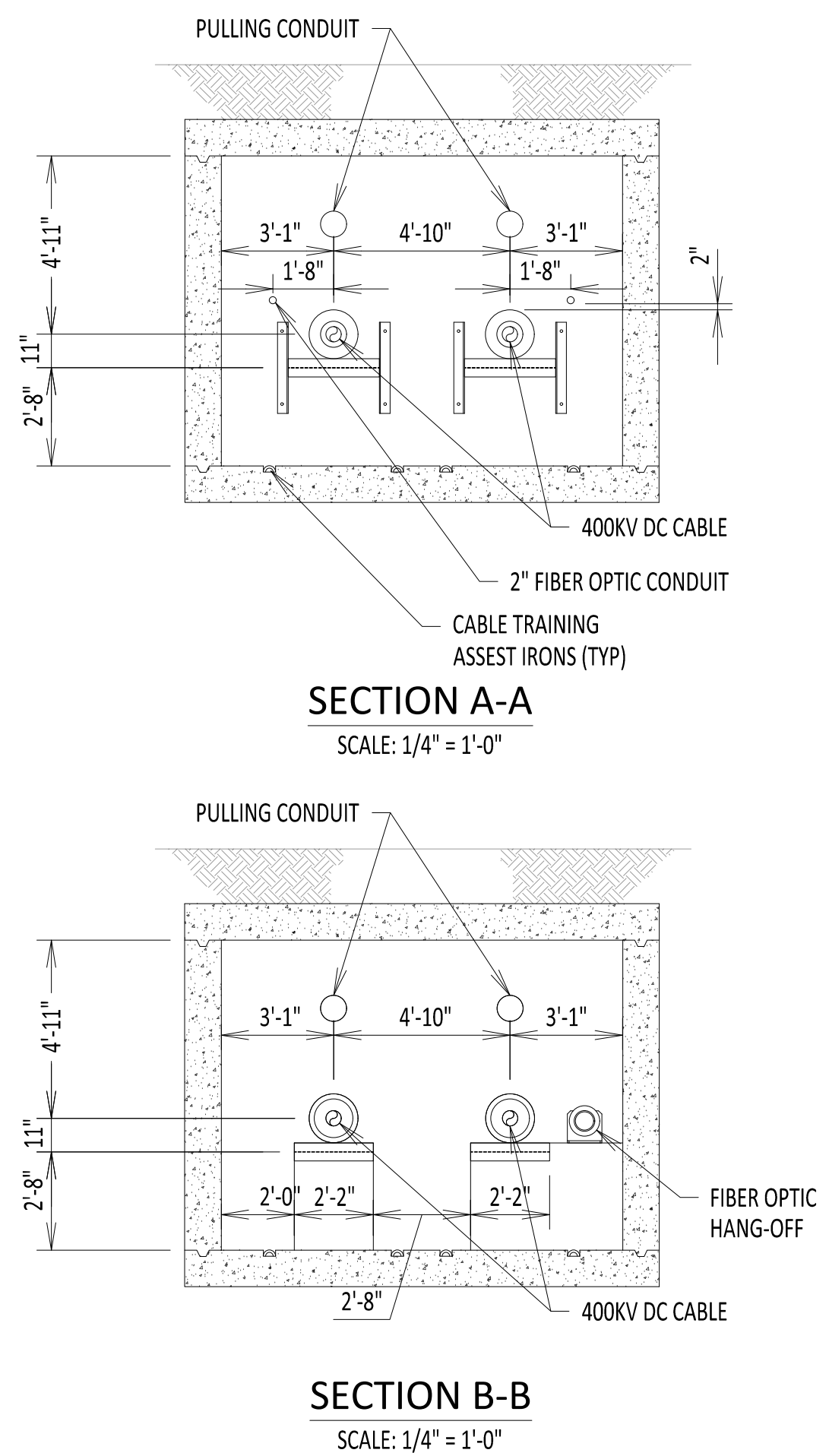
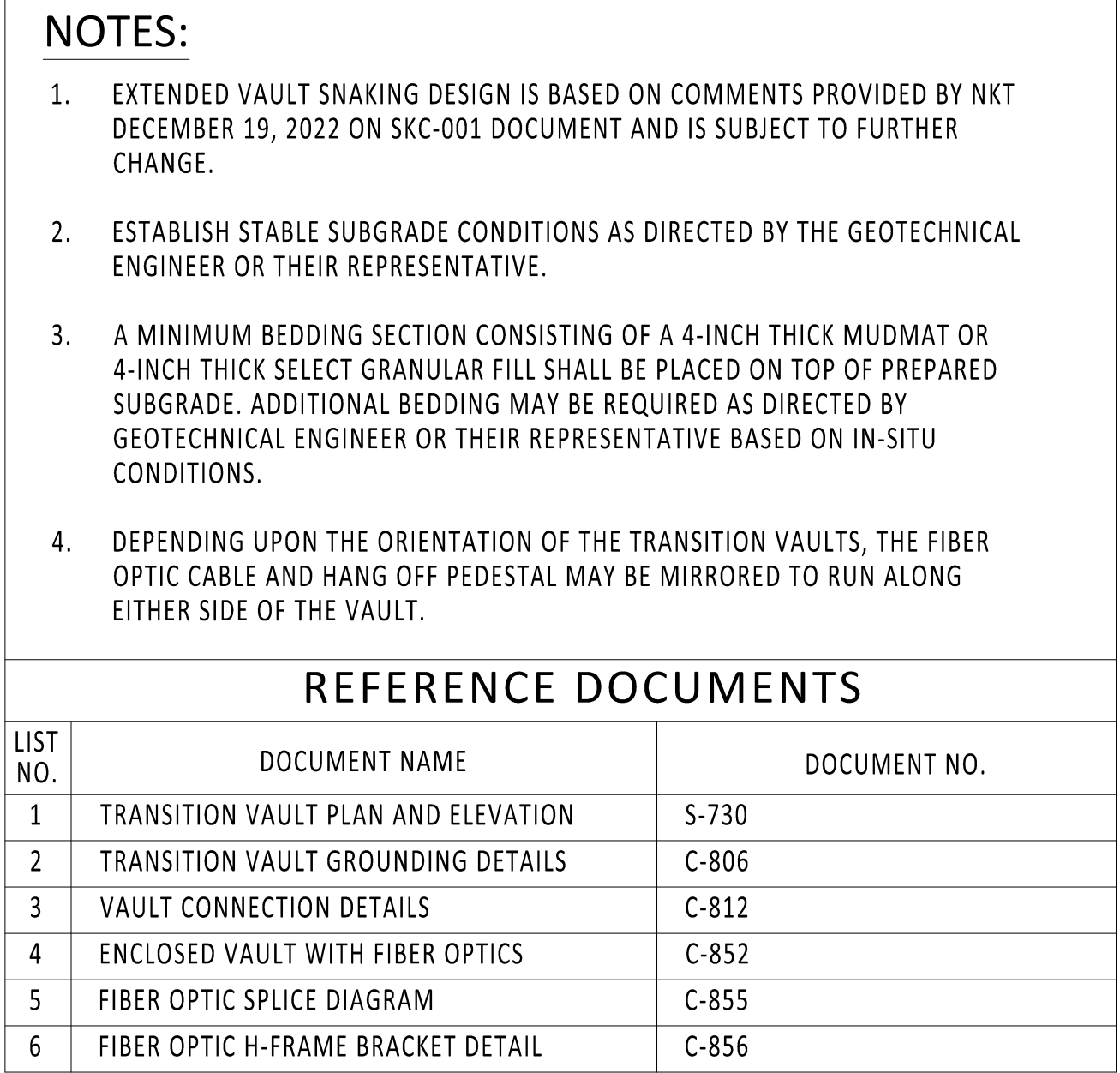
TYPICAL VAULT DETAILS

DRAWN BY: DLM	DESIGNED BY: SD	APPROVED BY: ASM	SCALE	DATE 06/08/2023
			REV. NO. 0	SH. NO. OF

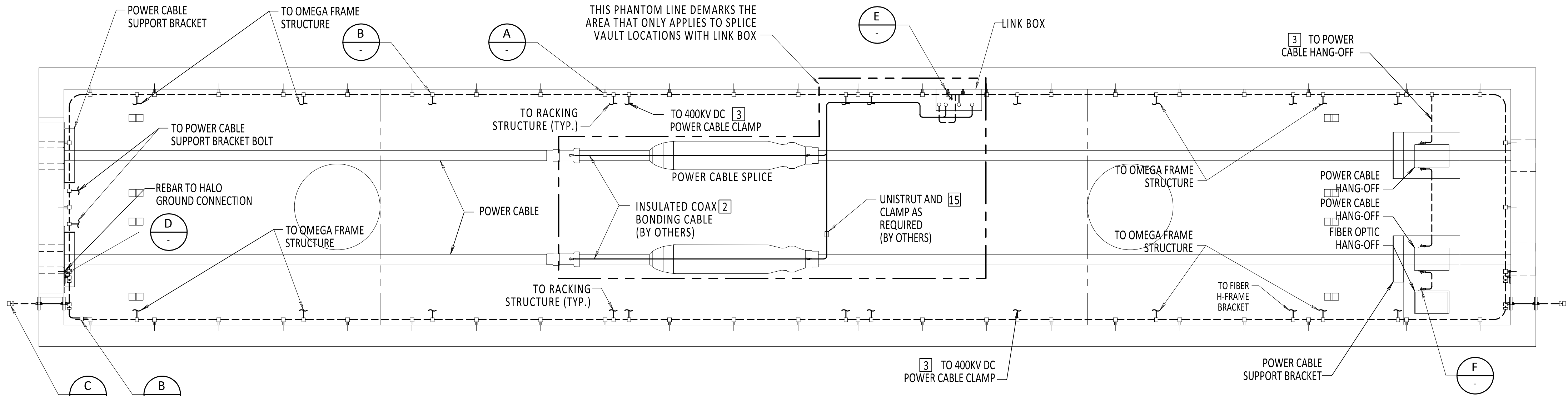
KIEWIT PROJECT NO.	
21162	
CHA PROJECT NO.	
066076	
DRAWING NO.	
C-802	
DATE	06/08/2023
SH.NO.	OF

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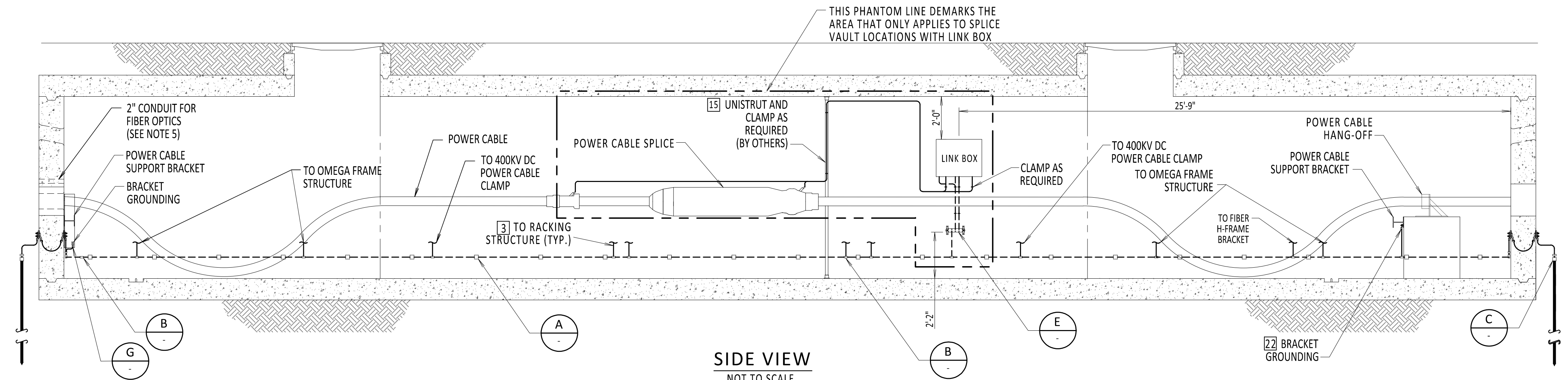




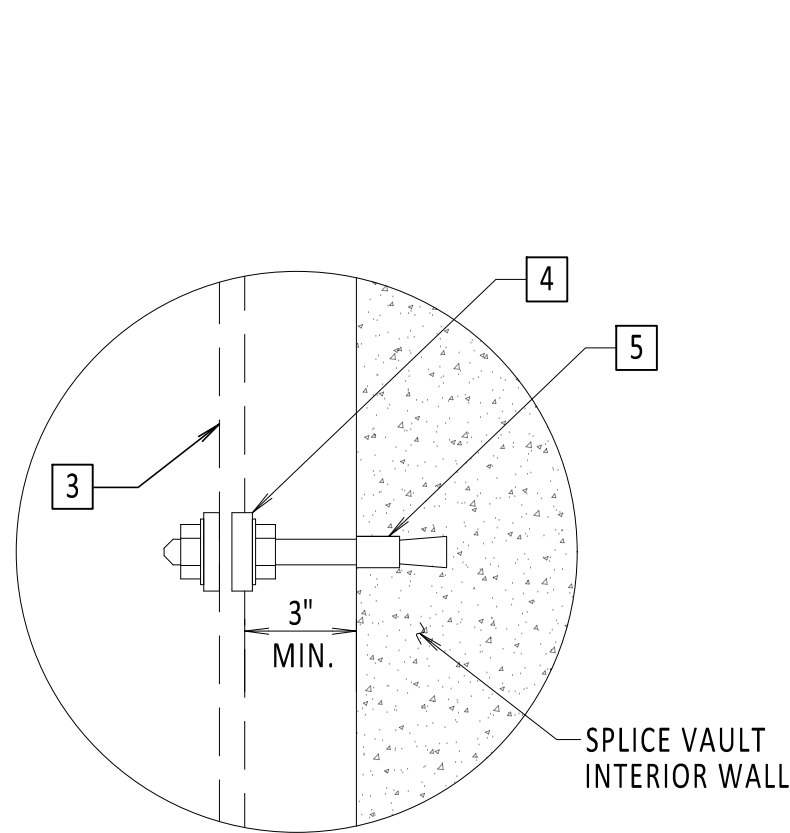
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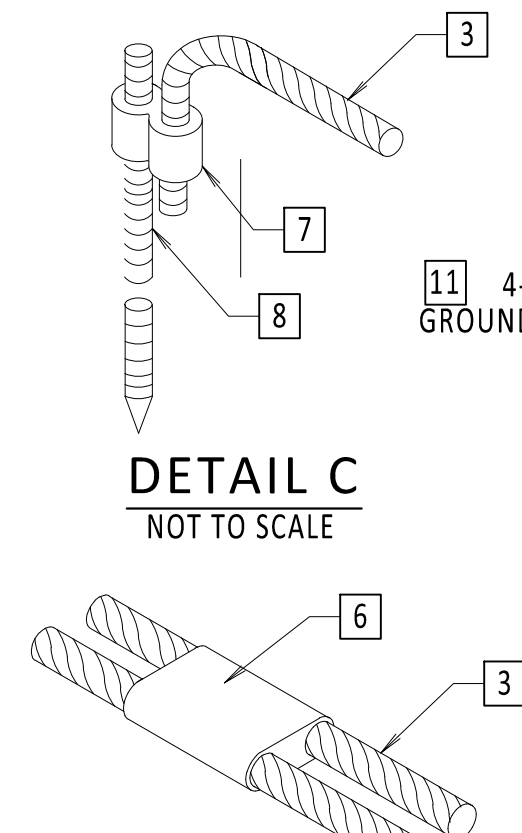
PLAN VIEW
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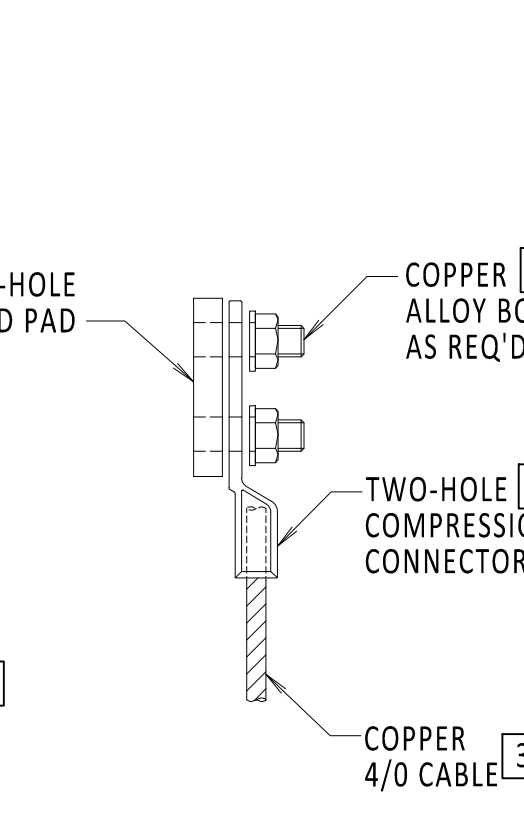
SIDE VIEW
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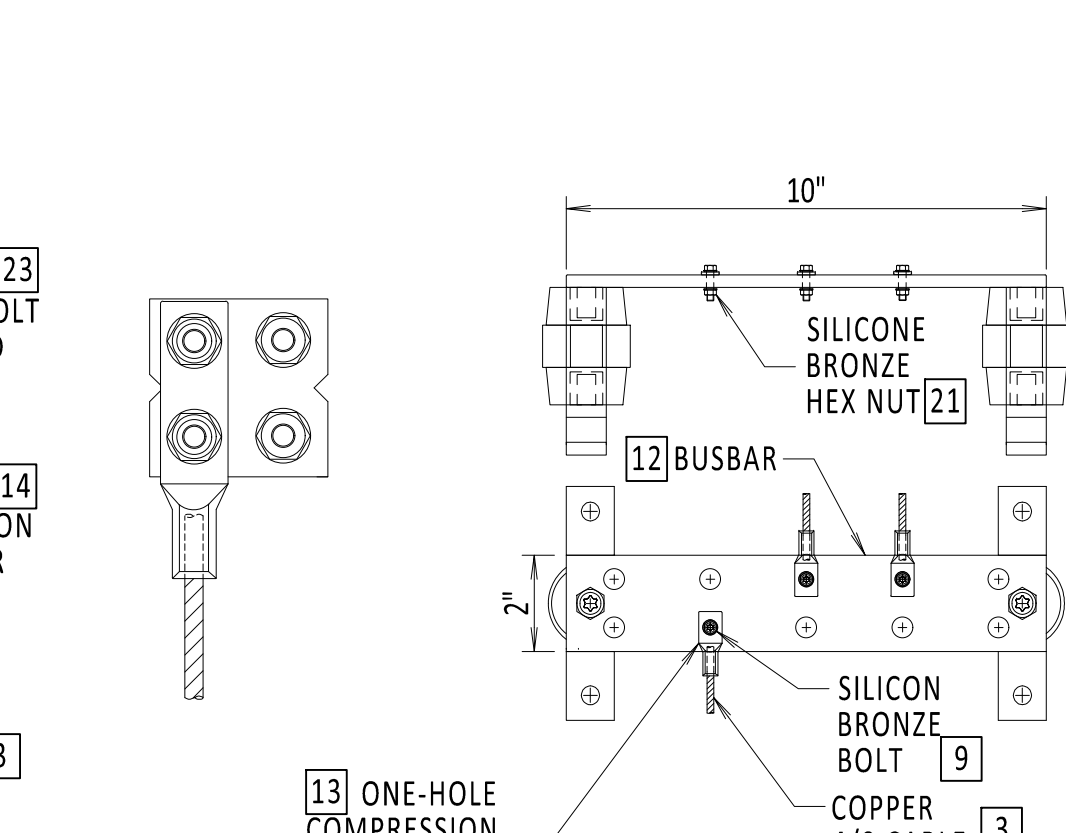
DETAIL A
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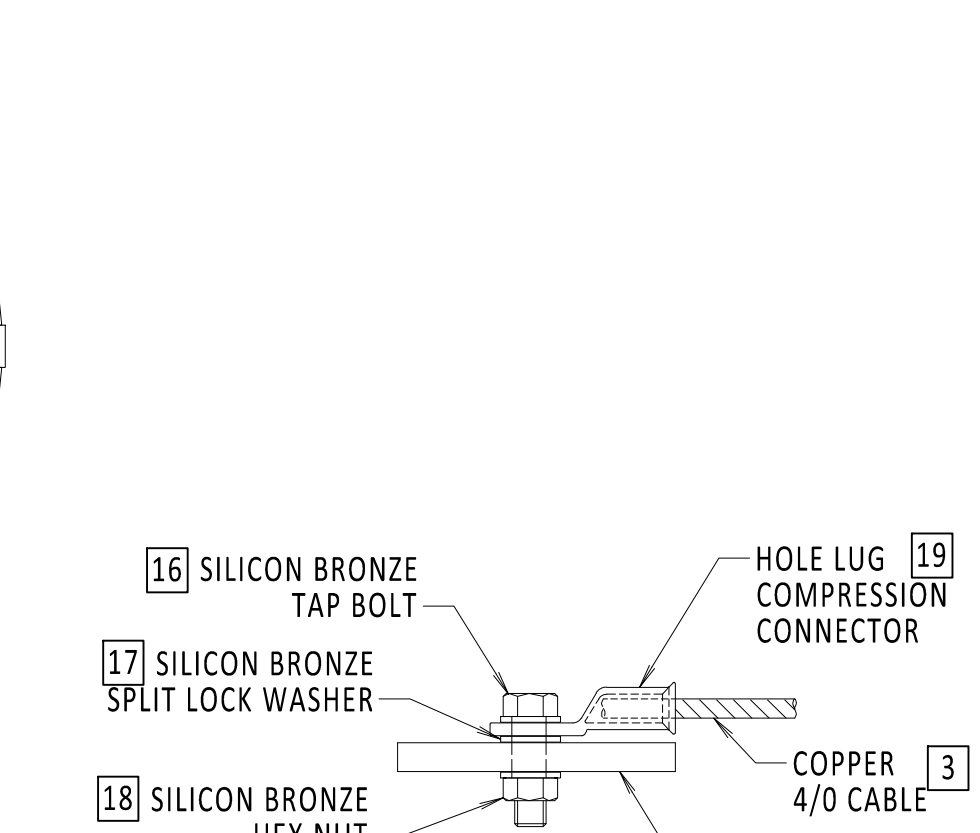
DETAIL B
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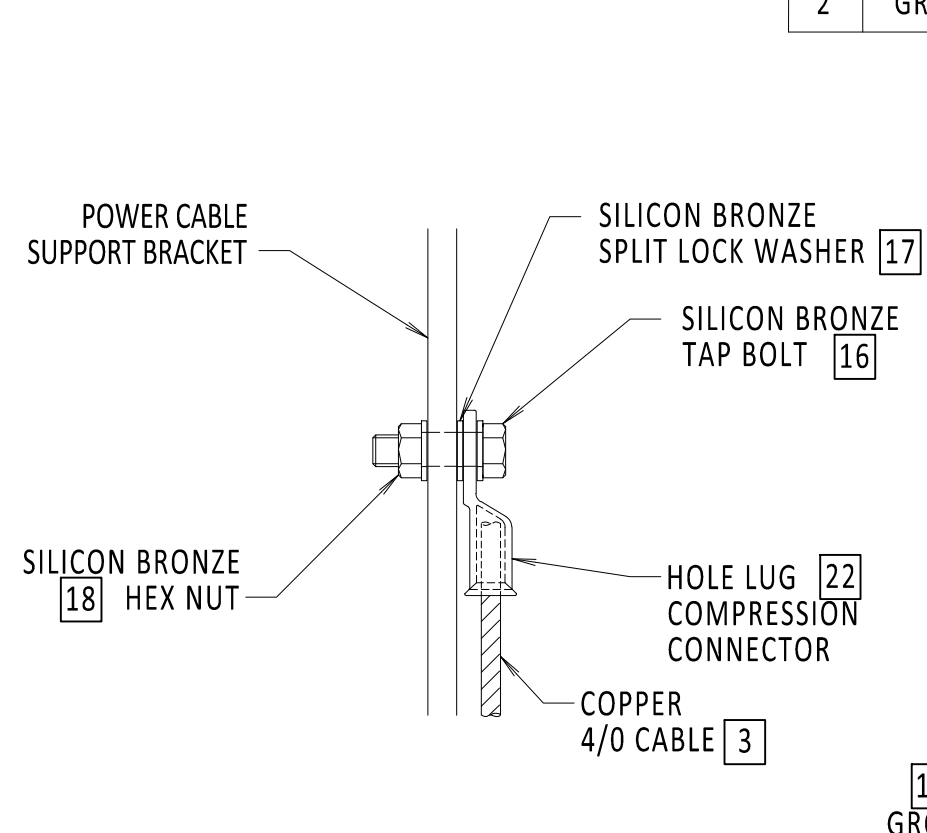
DETAIL D
NOT TO SCALE



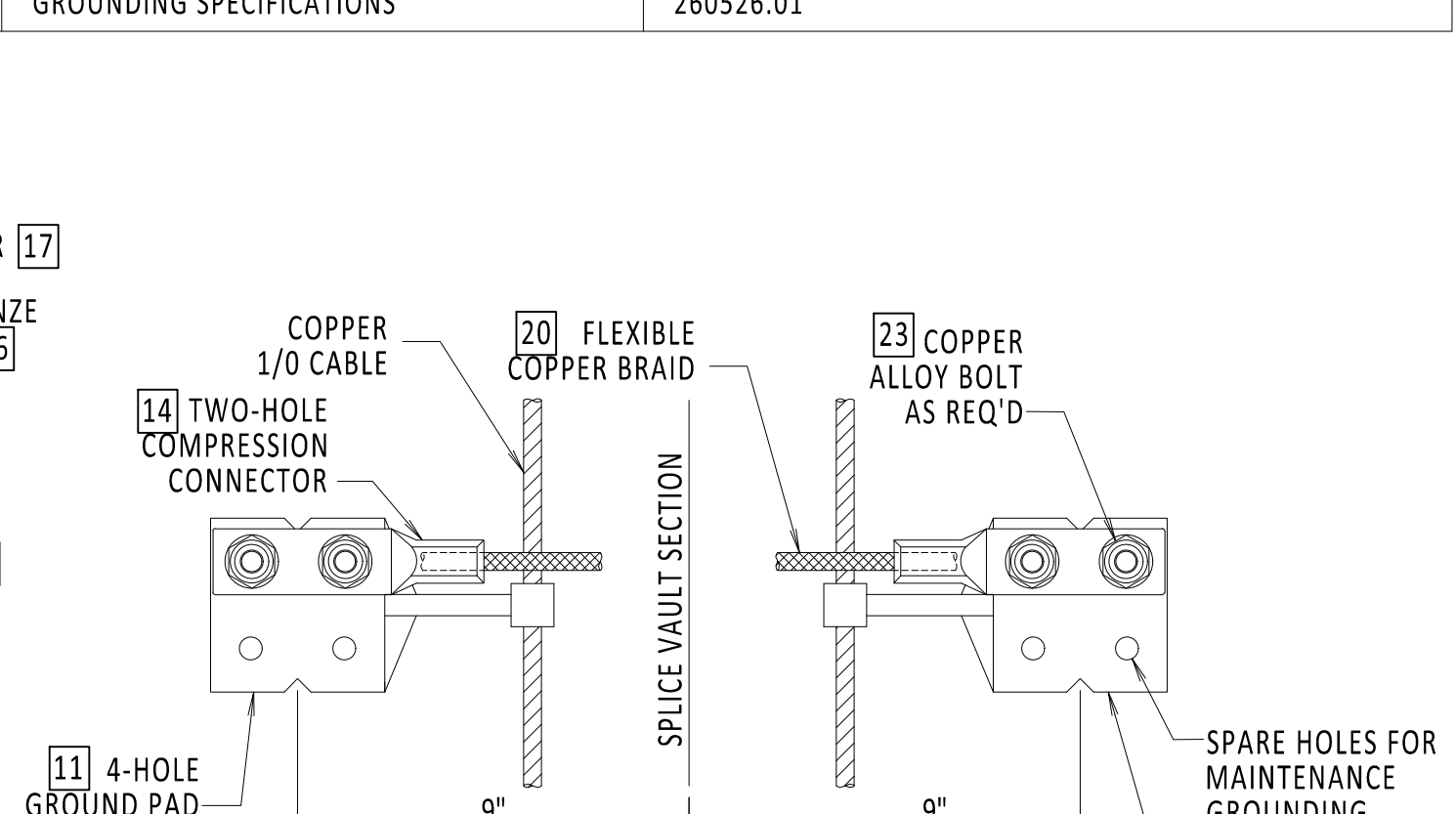
DETAIL E
NOT TO SCALE



DETAIL F
NOT TO SCALE



DETAIL G
NOT TO SCALE



GROUND PLATE CONNECTION DETAIL
NOT TO SCALE

NOTES:

- FOR ADDITIONAL DESIGN PARAMETERS SEE SPECIFICATIONS.
- ALL GROUND CONNECTIONS SHALL BE IRREVERSIBLE COMPRESSION CONNECTION UNLESS OTHERWISE NOTED.
- A BARE COPPER CONDUCTOR GROUND RING SHALL BE FURNISHED AND INSTALLED AND SHALL BE MOUNTED BETWEEN 6" AND 12" ABOVE THE VAULT FINISHED FLOOR AND 3 TO 4 INCHES FROM CENTER OF BARE COPPER CONDUCTOR TO VAULT WALL.
- LINK BOX WILL CONTAIN FOUR DISCONNECTING LINKS, AS PROVIDED BY VENDOR.
- 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.
- FIBER OPTIC HANG-OFF TO INCLUDE MARINE FIBER OPTIC CABLE SLACK STORAGE AND IN-LINE FIBER OPTIC SPLICE. (BY OTHERS)
- ALL SPLICE VAULT SECTIONS TO BE GROUNDING USING GROUND PLATE CONNECTION DETAIL.
- WHERE THERE IS DIFFICULTY INSERTING GROUND RODS DUE TO SOIL CONDITIONS. REFER TO GROUNDING COMPONENTS AND INSTALLATION SPECIFICATION FOR ALTERNATIVE GROUND ROD INSTALLATION METHODS.

BILL OF MATERIALS

ITEM NO.	ITEM DESCRIPTION	MANUFACTURER & CATALOG NO.	PROVIDER	INSTALLER
1	LINK BOX	NKT LB.U.E.2.1	NKT	KIEWIT
2	INSULATED COAX BONDING CABLE	AS REQUIRED	NKT	NKT
3	BARE 4/0 GROUND CABLE	AS REQUIRED	KIEWIT	KIEWIT
4	GROUND CONNECTOR	BURNDY GB29	KIEWIT	KIEWIT
5	FEMALE WEDGE ANCHOR	GRAINGER 12DWG	KIEWIT	KIEWIT
6	COMPRESSION C CONNECTOR	BURNDY YGHC29C29	KIEWIT	KIEWIT
7	COMPRESSION CONNECTION TO GROUND ROD	BURNDY YGHR29C34	KIEWIT	KIEWIT
8	3/4" X 10'-0" GROUND ROD	NVENT ERICO 613400	KIEWIT	KIEWIT
9	SILICON HEX HEAD CAP SCREW	STS INDUSTRIAL #HHSB0370075	KIEWIT	KIEWIT
10	POLYWATER FST SEALANT	POLYWATER	KIEWIT	KIEWIT
11	FOUR-HOLE GROUNDING PLATE	BURNDY YGF294N	KIEWIT	KIEWIT
12	GROUNDING BUSBAR & ASSEMBLY	NVENT ERICO EGBA14210BB	KIEWIT	KIEWIT
13	ONE HOLE LUG COMPRESSION TERMINAL	BURNDY YAV28L60	KIEWIT	KIEWIT
14	TWO HOLE LONG BARREL LUG	BURNDY YA282N	KIEWIT	KIEWIT
15	UNISTRUT AND SUNDRIES	STAINLESS STEEL	NKT	NKT
16	SILICON BRONZE TAP BOLT	FASTENAL 74954	KIEWIT	KIEWIT
17	SILICON BRONZE SPLIT LOCK WASHER	GRAINGER 1NU94	KIEWIT	KIEWIT
18	SILICON BRONZE HEX NUT	GRAINGER 1WE52	KIEWIT	KIEWIT
19	HOLE LUG COMPRESSION CONNECTOR	BURNDY YA28	KIEWIT	KIEWIT
20	FLEXIBLE COPPER BRAID	BURNDY BD24N	KIEWIT	KIEWIT
21	SILICON BRONZE HEX NUT	STS INDUSTRIAL #NFSB0370000	KIEWIT	KIEWIT
22	COMPRESSION LUG	ABB 120M16-A	KIEWIT	KIEWIT
23	SILICON BRONZE HEX HEAD CAP SCREW	AFT BB-VS1160-B	KIEWIT	KIEWIT

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

REFERENCE DOCUMENTS

LIST NO.	DOCUMENT NAME	DOCUMENT NO.
1	STRUCTURAL VAULT DRAWING	S-730
2	GROUNDING SPECIFICATIONS	260526.01



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION	DB	APP
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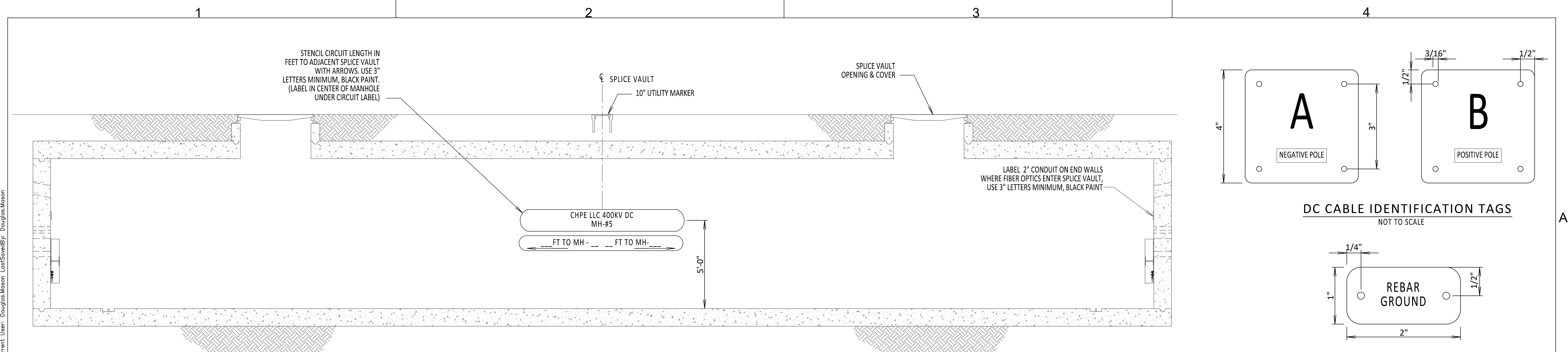
CHAMPLAIN HUDSON POWER EXPRESS

TRANSITION VAULT GROUNDING DETAILS

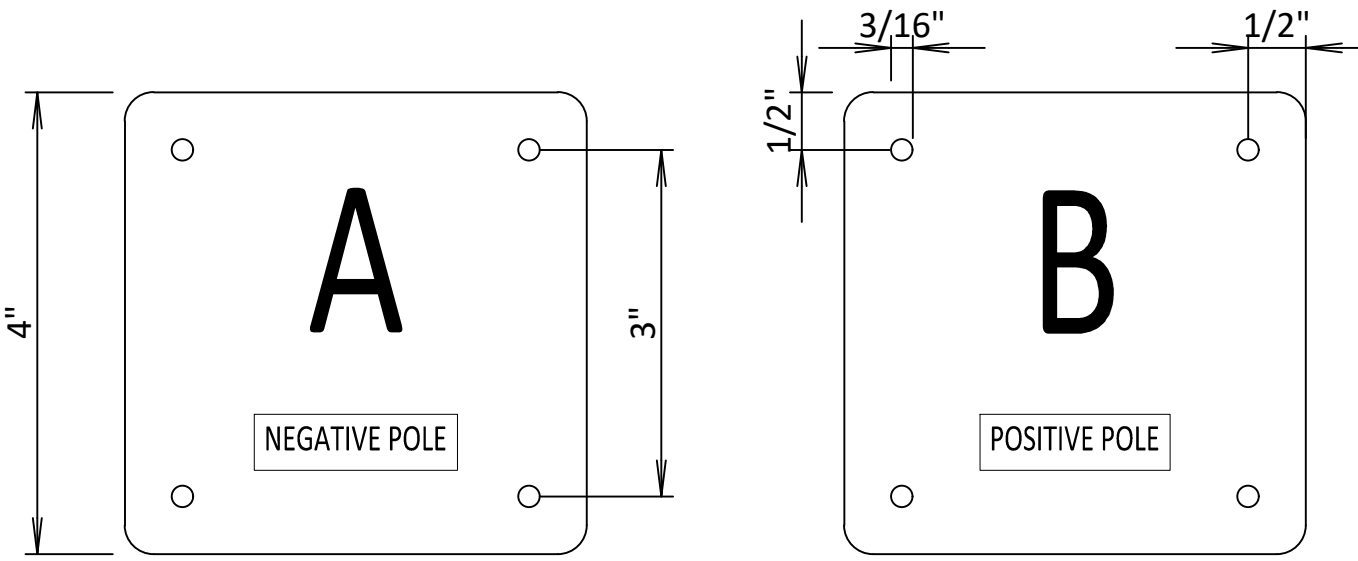
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REV. NO. 0 SH. NO. OF

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-806
DATE	06/08/2023
SH. NO.	OF

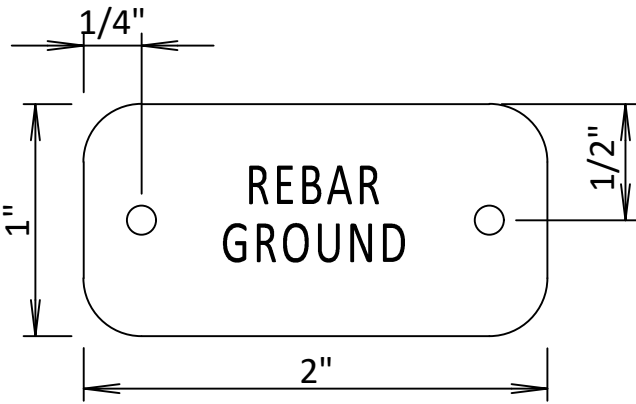
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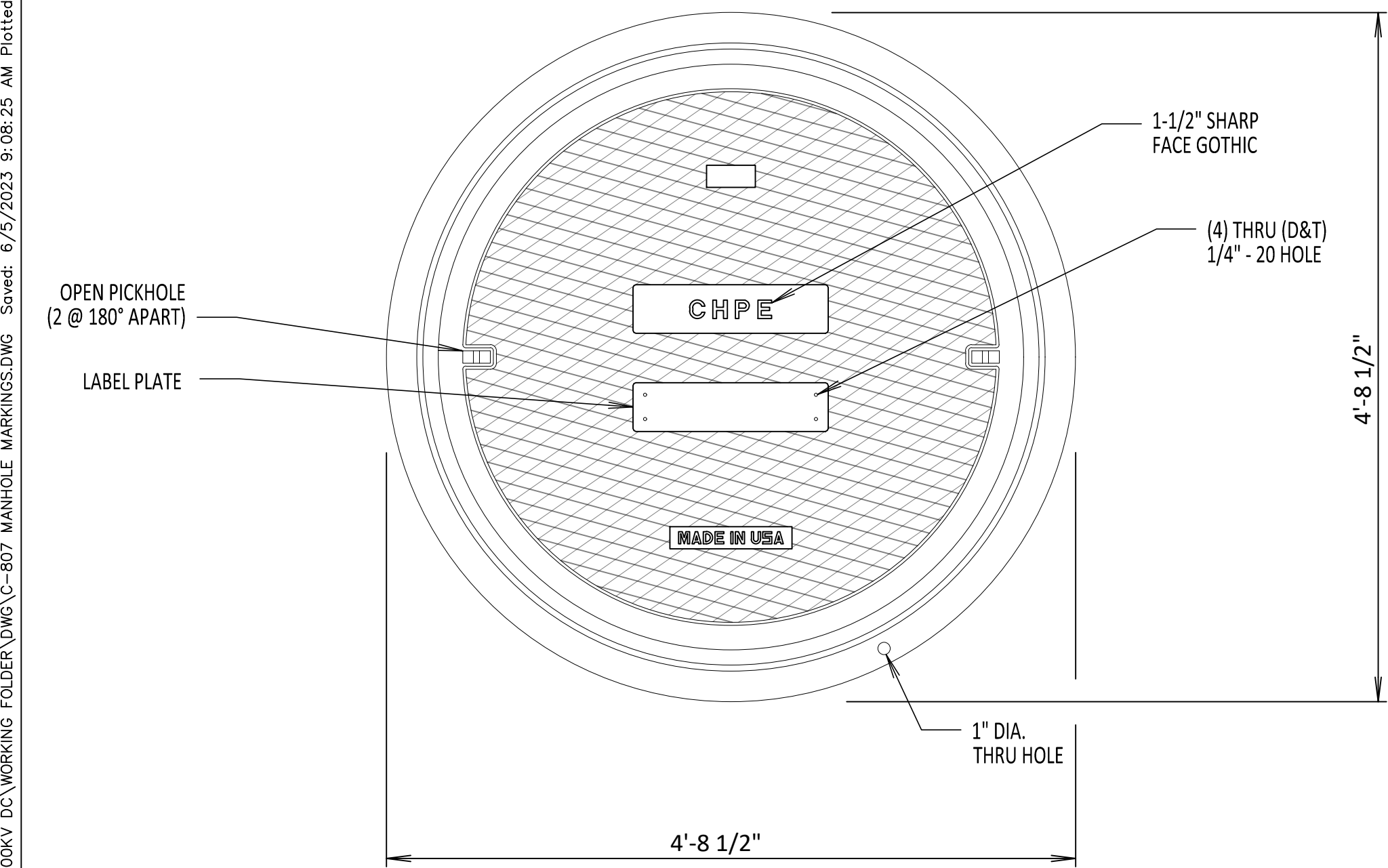
INSIDE SPLICE VAULT
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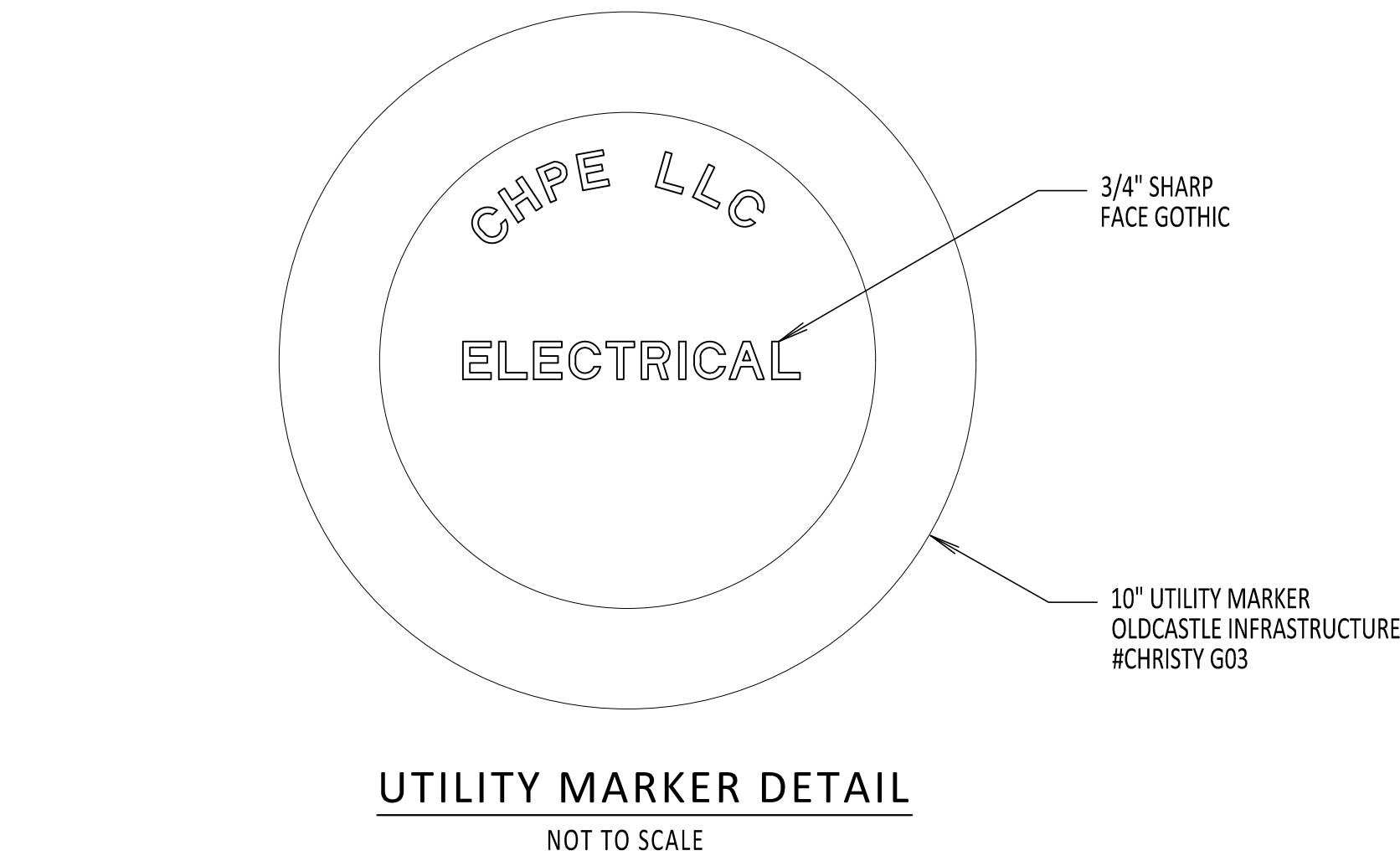
DC CABLE IDENTIFICATION TAGS
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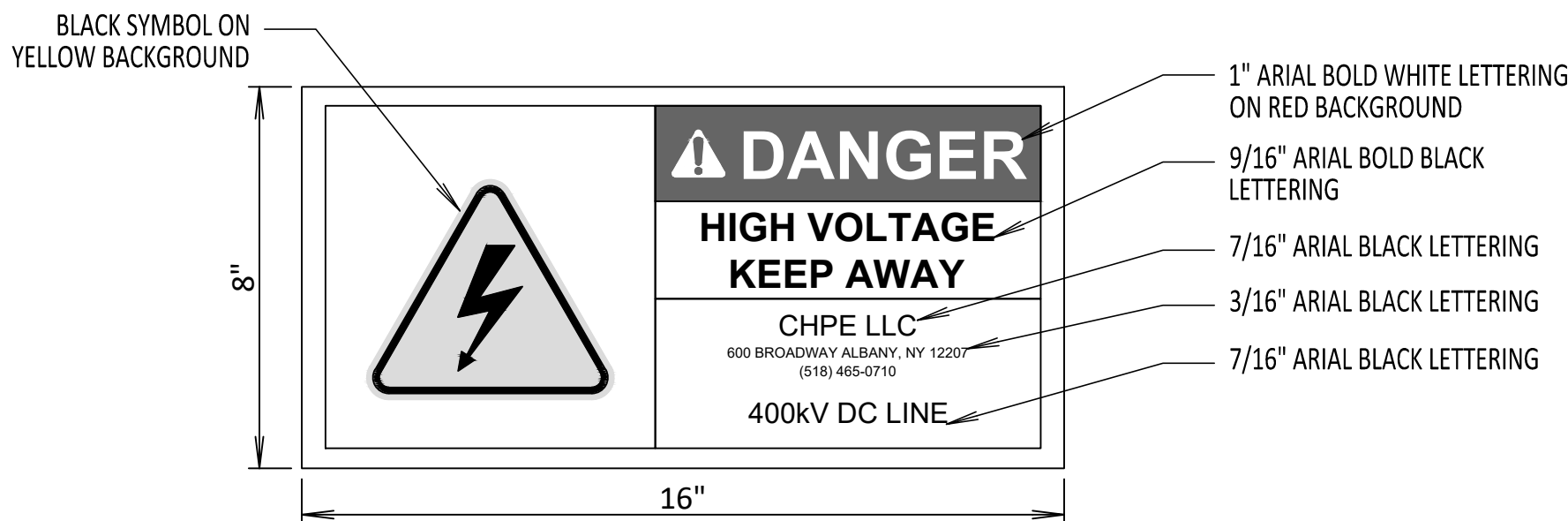
IDENTIFICATION TAGS
NOT TO SCALE



SPLICE VAULT LID MARKINGS PLAN VIEW
NOT TO SCALE

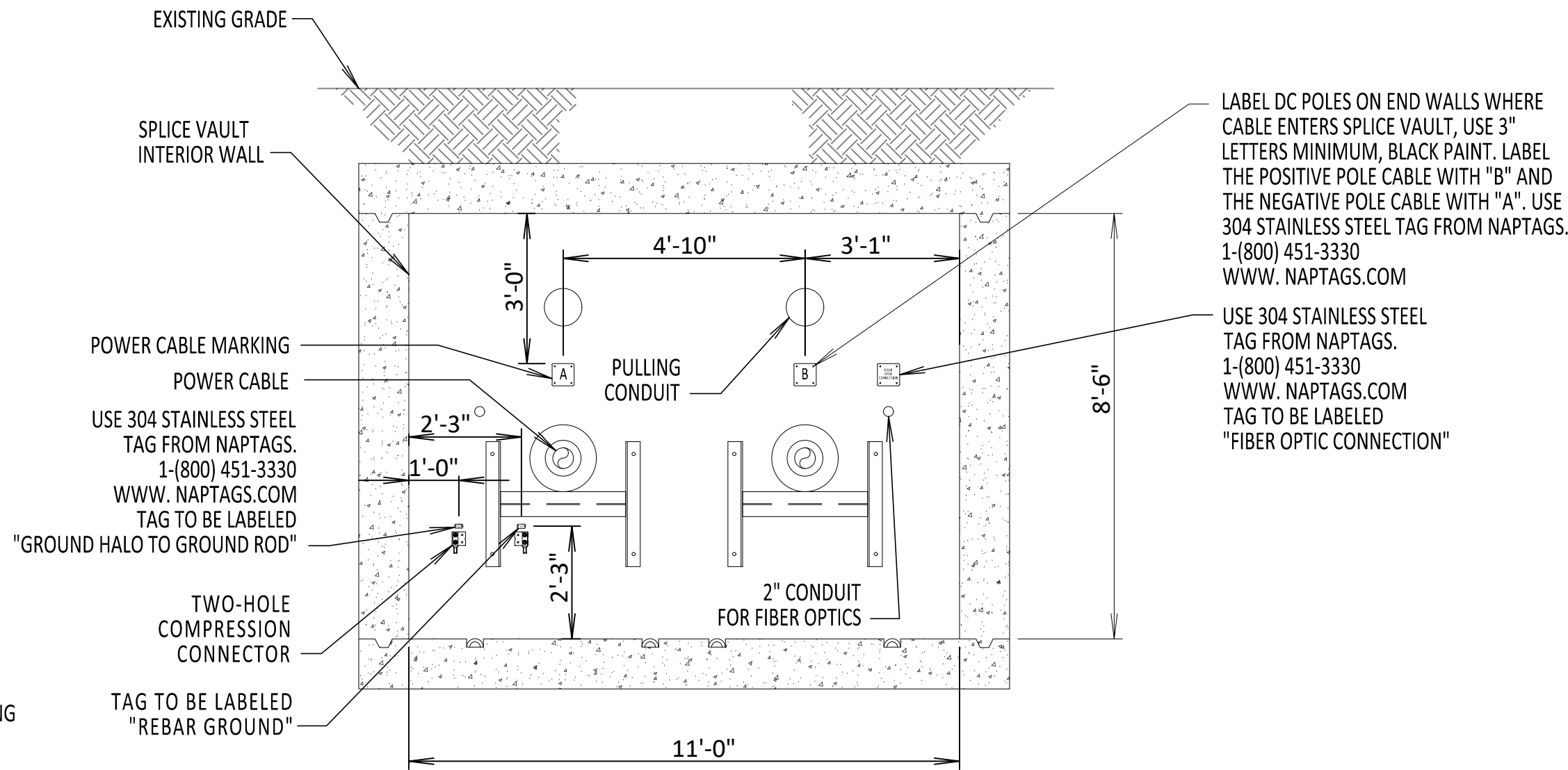


UTILITY MARKER DETAIL
NOT TO SCALE



DETAIL 1 - CABLE TRAY WARNING LABEL
NOT TO SCALE

NOTE:
1. AFFIX DETAIL 1 LABEL TO THE CABLE TRAY BRIDGE ATTACHMENT AND AT 10-FOOT INTERVALS ALONG THE ENTIRE LENGTH OF THE CABLE TRAY ON THE BRIDGE



INSIDE ENDWALL VIEW
NOT TO SCALE

NOTE:
1. SEE PLAN AND PROFILES FOR LOCATION SPECIFIC LABELING INSTRUCTIONS OF WHICH SIDES RECEIVE EACH POLARITY LABEL.



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No.	DATE	SUBMITTAL / REVISION DESCRIPTION				DB	APP		

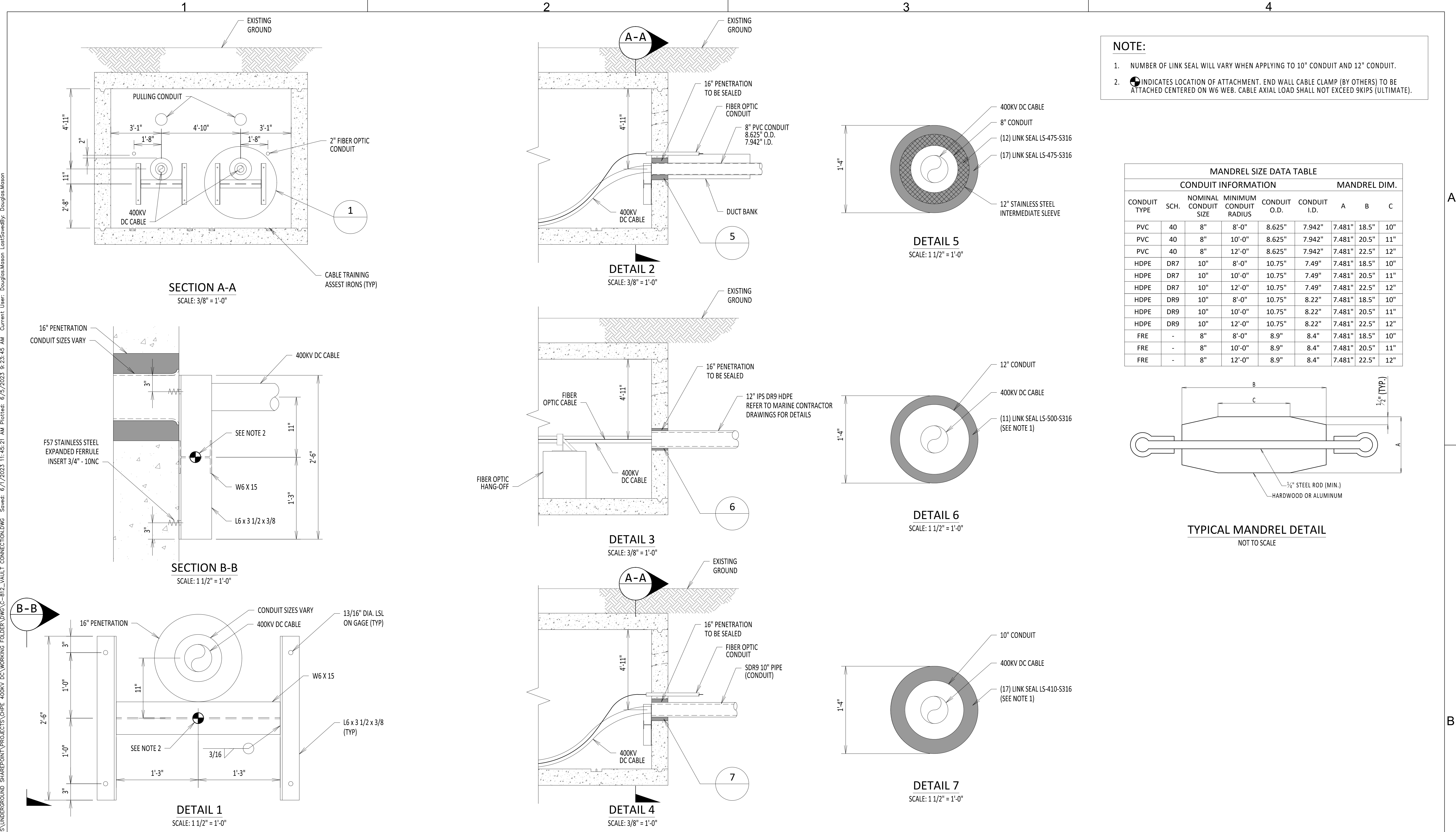
CHAMPLAIN HUDSON POWER EXPRESS

SPLICE VAULT AND CABLE MARKING DETAILS

DRAWN BY:	DLM	DESIGNED BY:	SD	APPROVED BY:	ASM	SCALE		DATE	06/08/2023
						REV. NO.	0	SH.NO.	OF

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-807
DATE	06/08/2023
SH.NO.	OF

File: R:\INFO\IPD\USG STANDARDS\UNDERGROUND SHAREPOINT\PROJECTS\CHPE 400KV DC WORKING FOLDER\DWG\0-812_VAULT CONNECTION.DWG Saved: 6/7/2023 11:45:21 AM Plotted: 6/5/2023 9:23:45 AM Current User: Douglas.Mason LastSavedBy: Douglas.Mason



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0	06/08/2023	ISSUED FOR CONSTRUCTION SUBMISSION		DLM	ASM
No.	DATE	SUBMITTAL / REVISION DESCRIPTION		DB	APP

CHAMPLAIN HUDSON POWER EXPRESS

VAULT CONNECTION
DETAILS

DRAWN BY: DLM DESIGNED BY: SS APPROVED BY: ASM SCALE: NOT TO SCALE
REV. NO. 0

KIEWIT PROJECT NO.	21162
CHA PROJECT NO.	066076
DRAWING NO.	C-812
DATE	06/08/2023
SH.NO.	OF