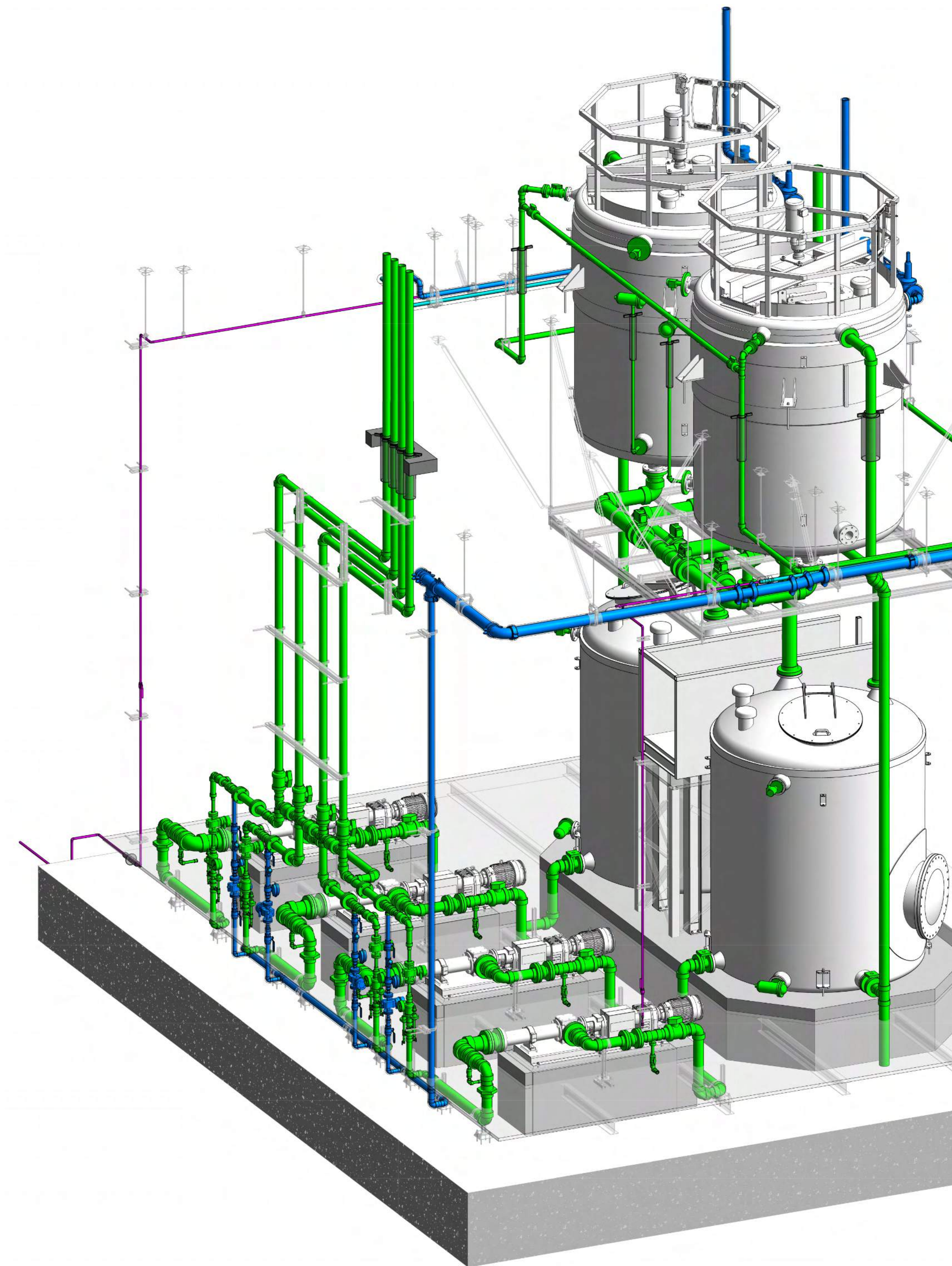




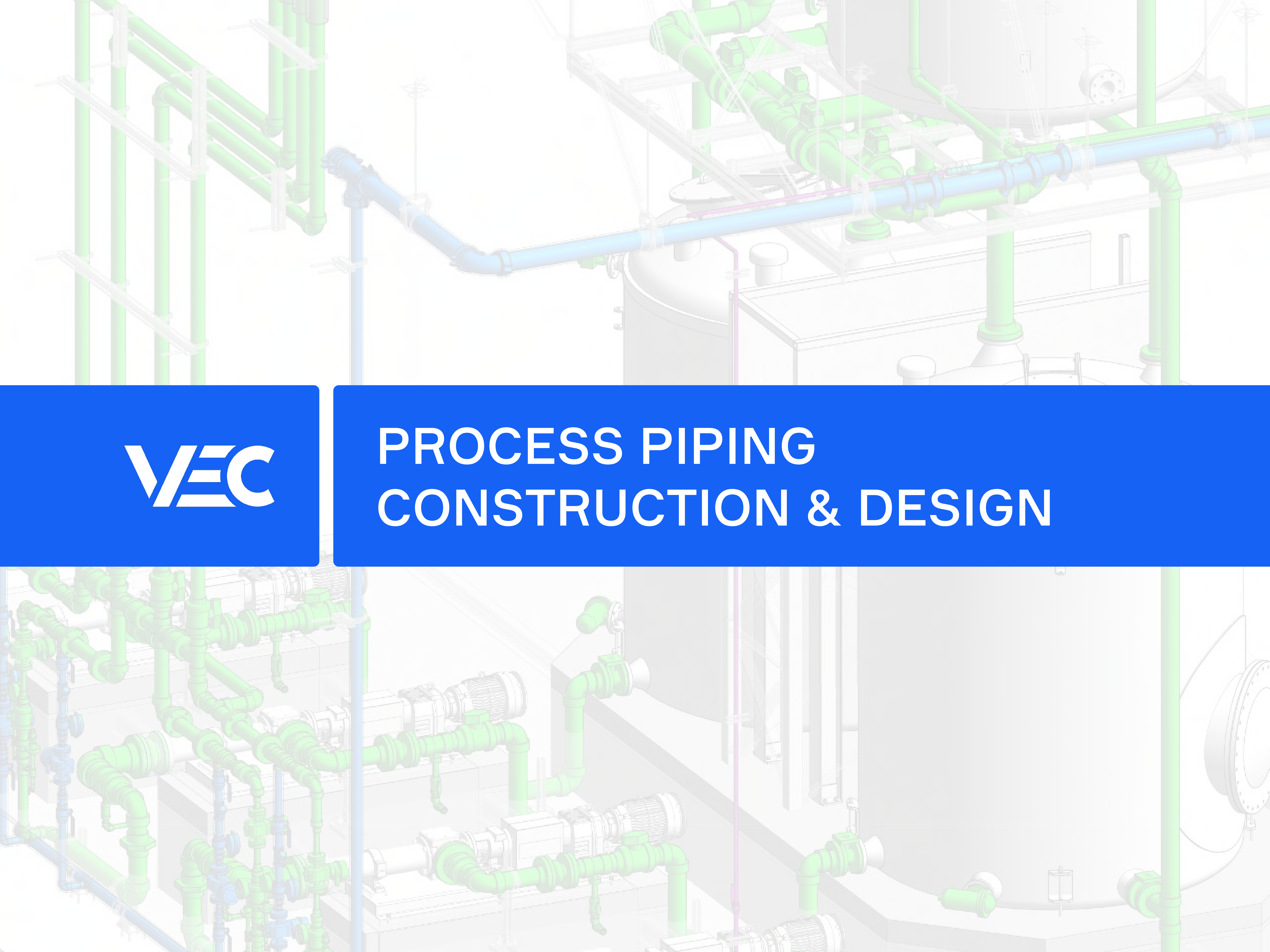
INSTALLATION SAMPLE SET OF DRAWINGS

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PROCESS PIPING CONSTRUCTION & DESIGN



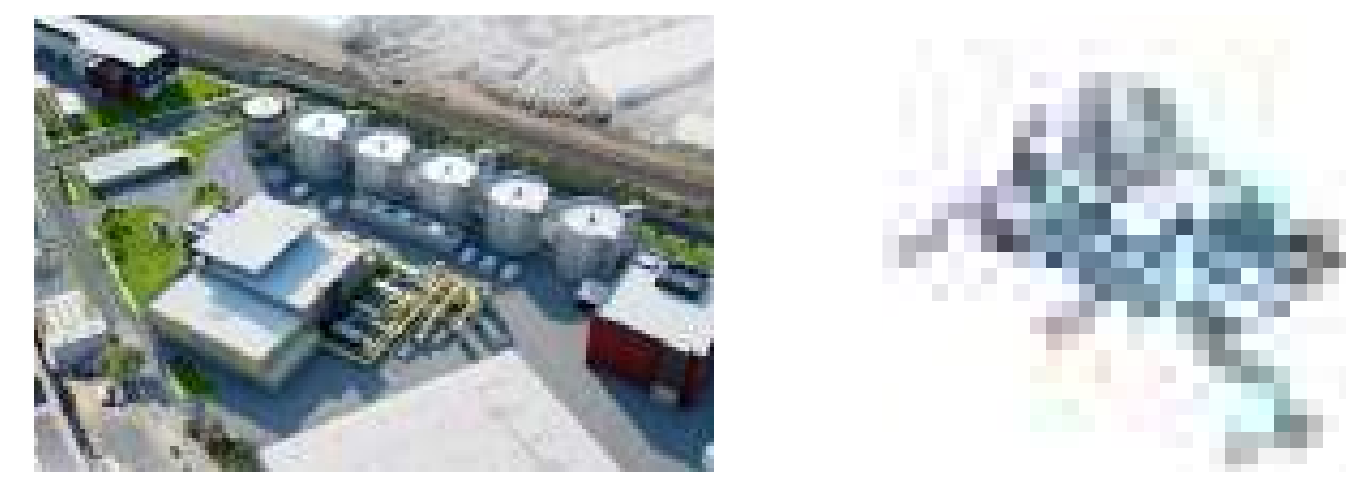
PROJECT EXPERIENCE

PROCESS PIPING

SFPUC B615



SFPUC B921



KEYSIGHT TECHNOLOGIES

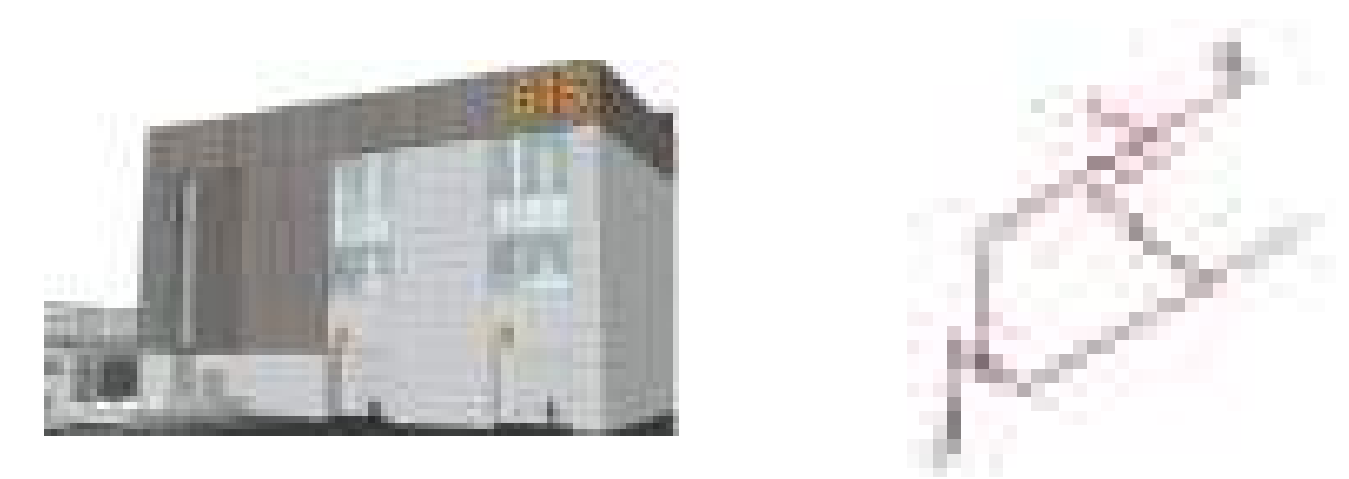


SFPUC B913



HVAC DUCTWORK & PIPING

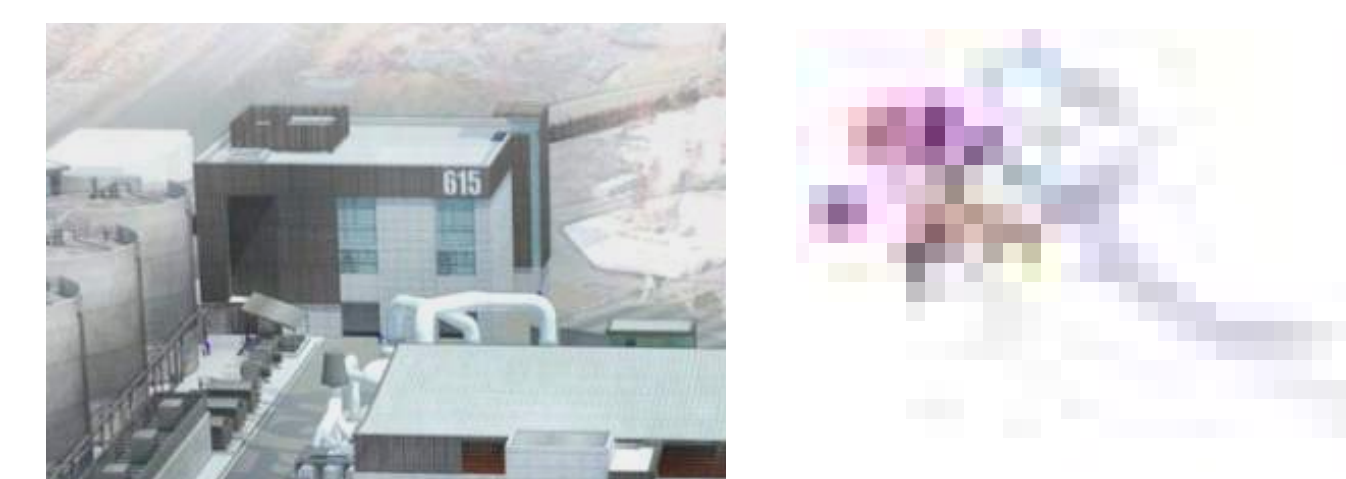
SFPUC B615



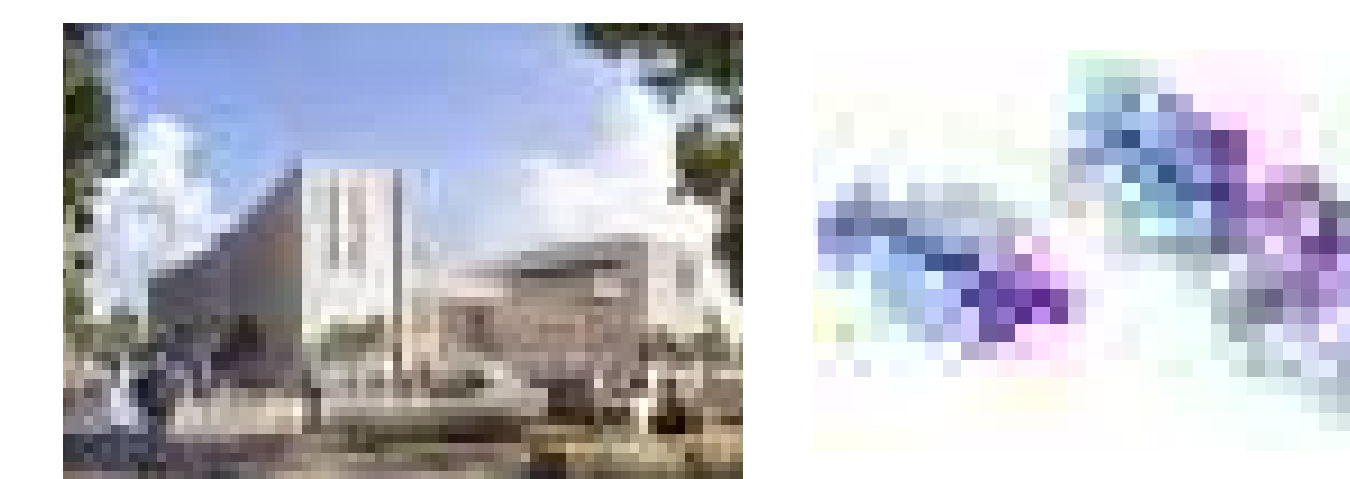
SFPUC B600



SFPUC B615

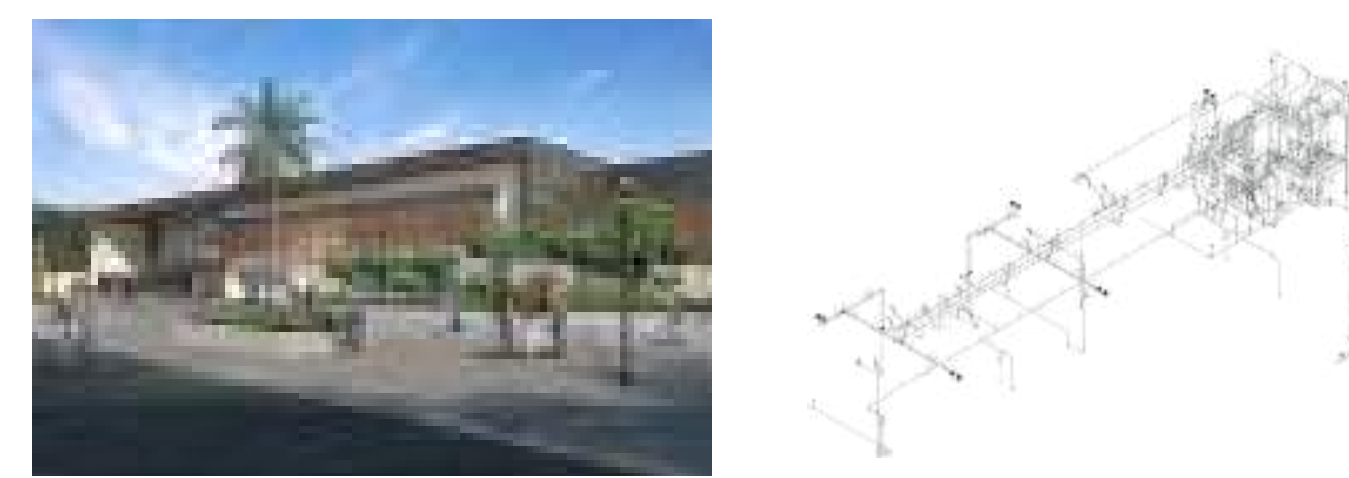


UCSB

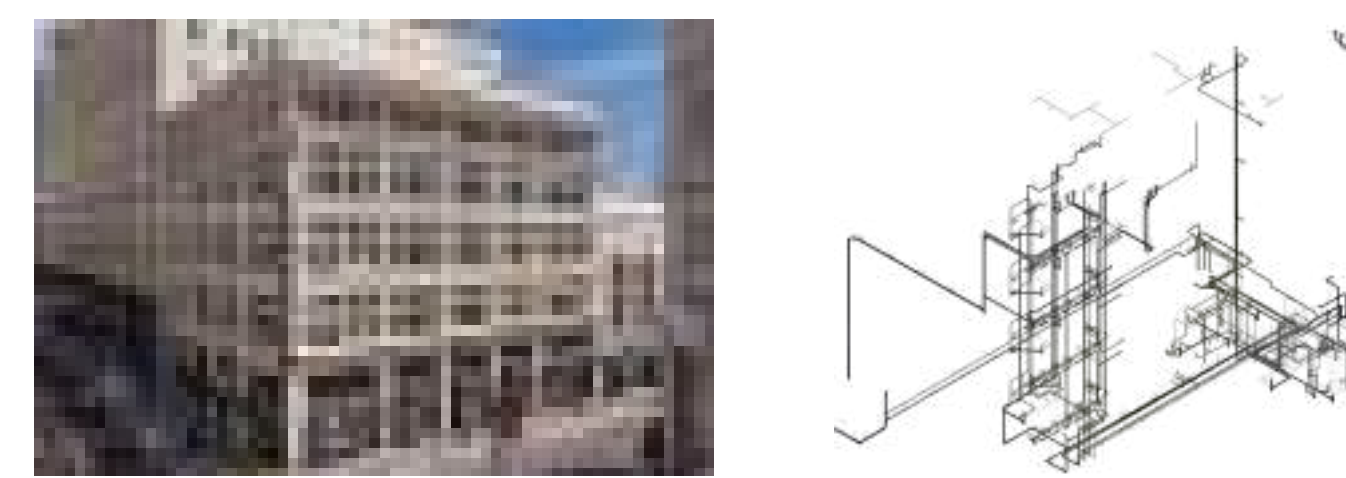


PLUMBING CONSTRUCTION & DESIGN

DEL SOL HIGH SCHOOL



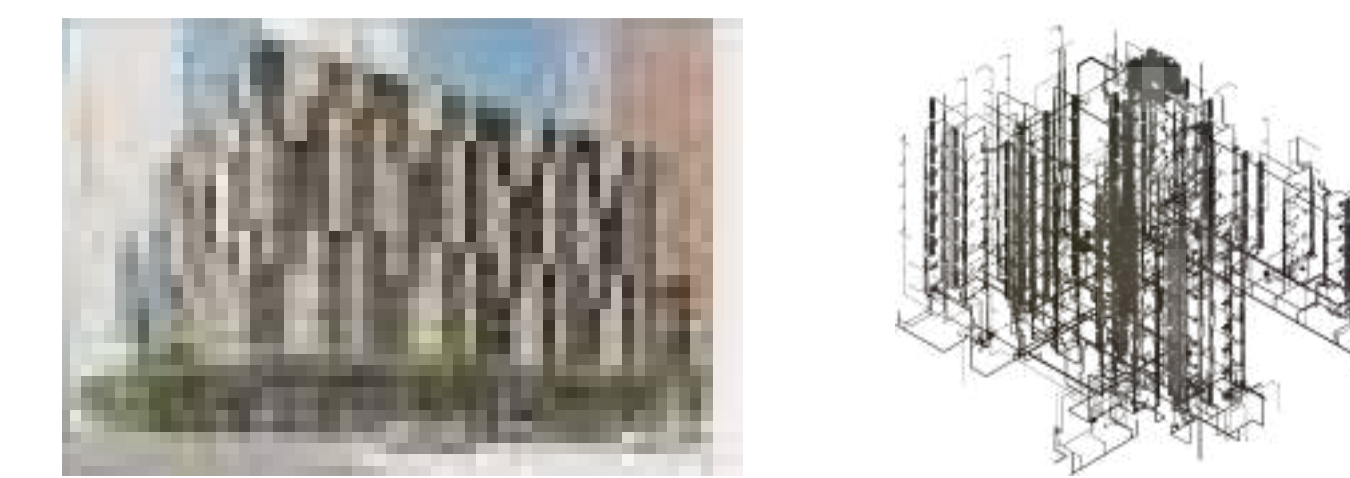
48 STOCKTON



SFPUC B615



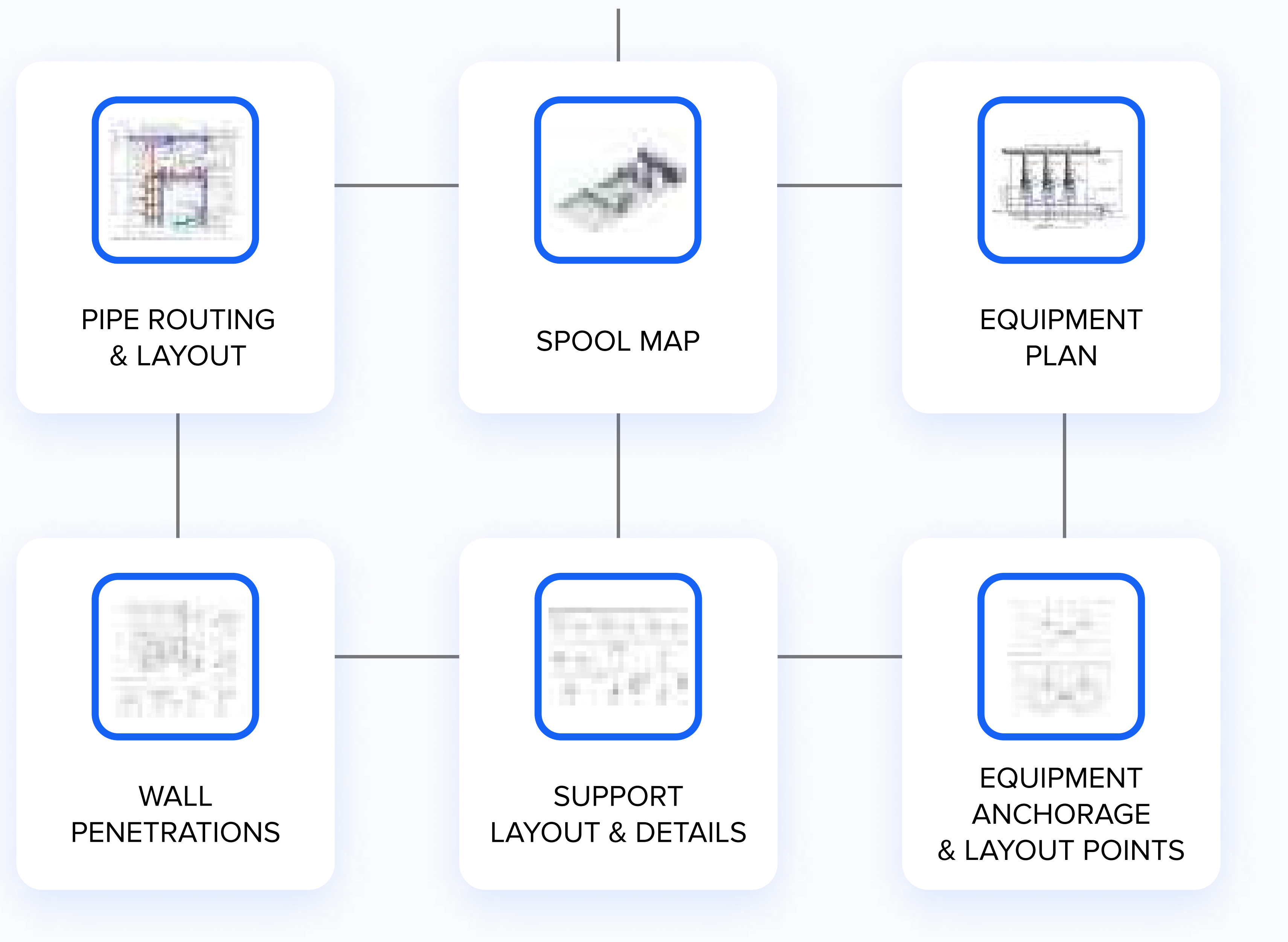
TRANSBAY BLOCK 2-SENIOR HOUSING



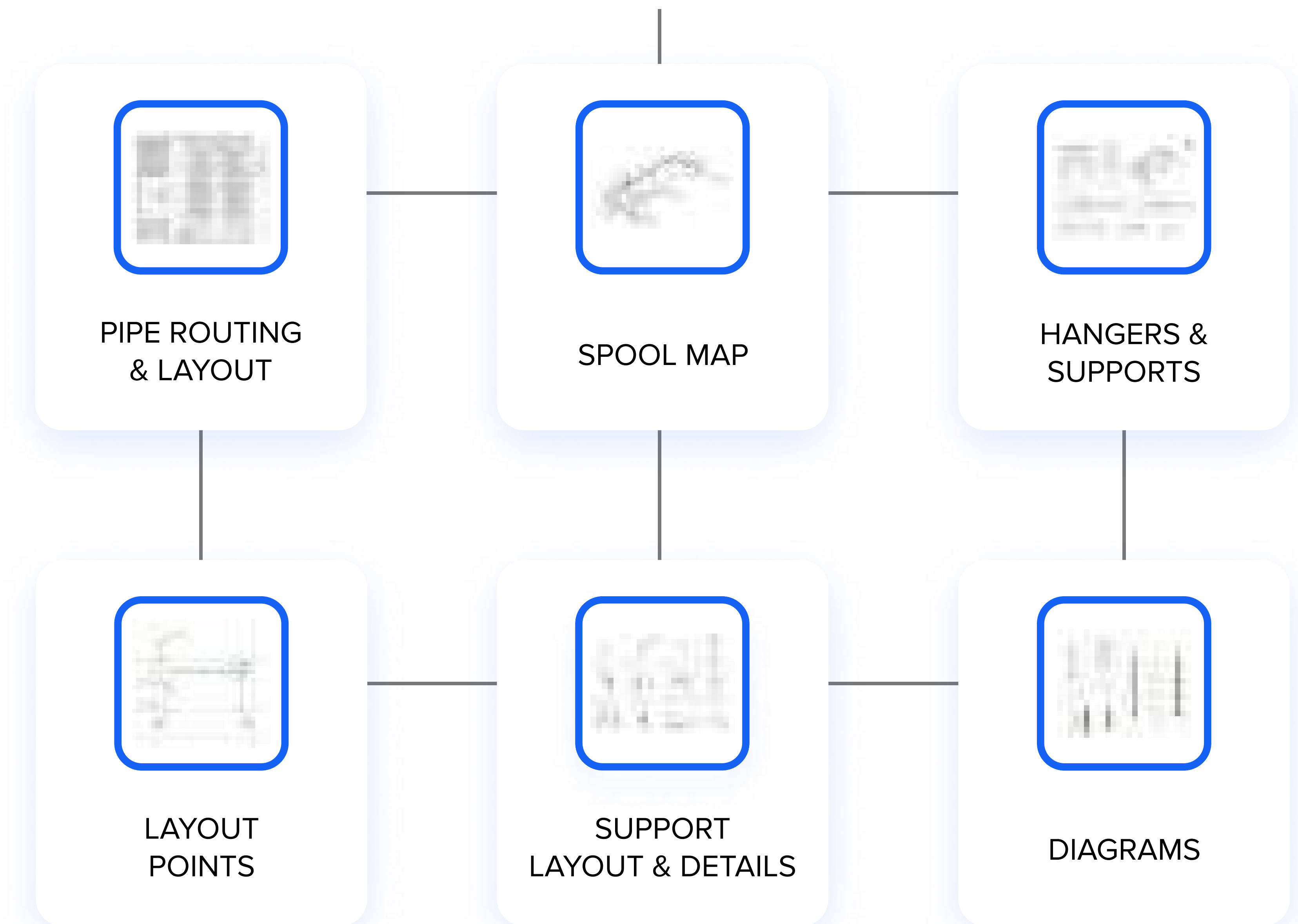
San Francisco (HQ)
201 Spear Street
Suite 1750 San Francisco,
California, 94105

WHAT IS INSIDE?

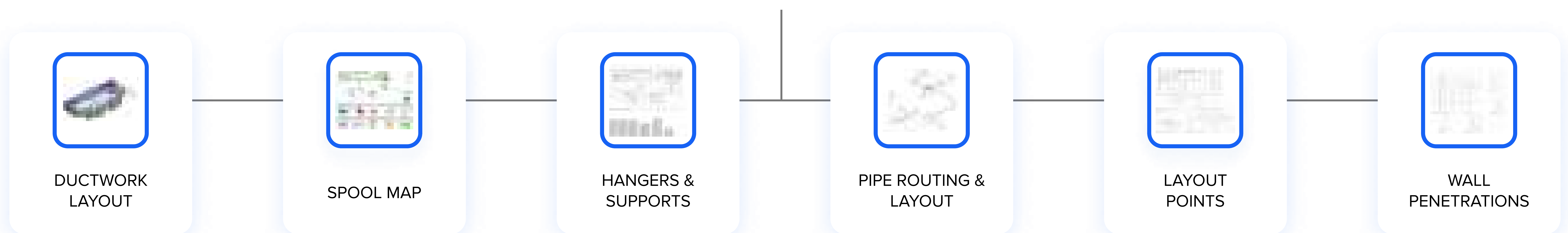
PROCESS PIPING CONSTRUCTION & DESIGN



PLUMBING CONSTRUCTION & DESIGN



HVAC DUCTWORK & PIPING



Pipe Spool Sample

YOUR LOGO HERE

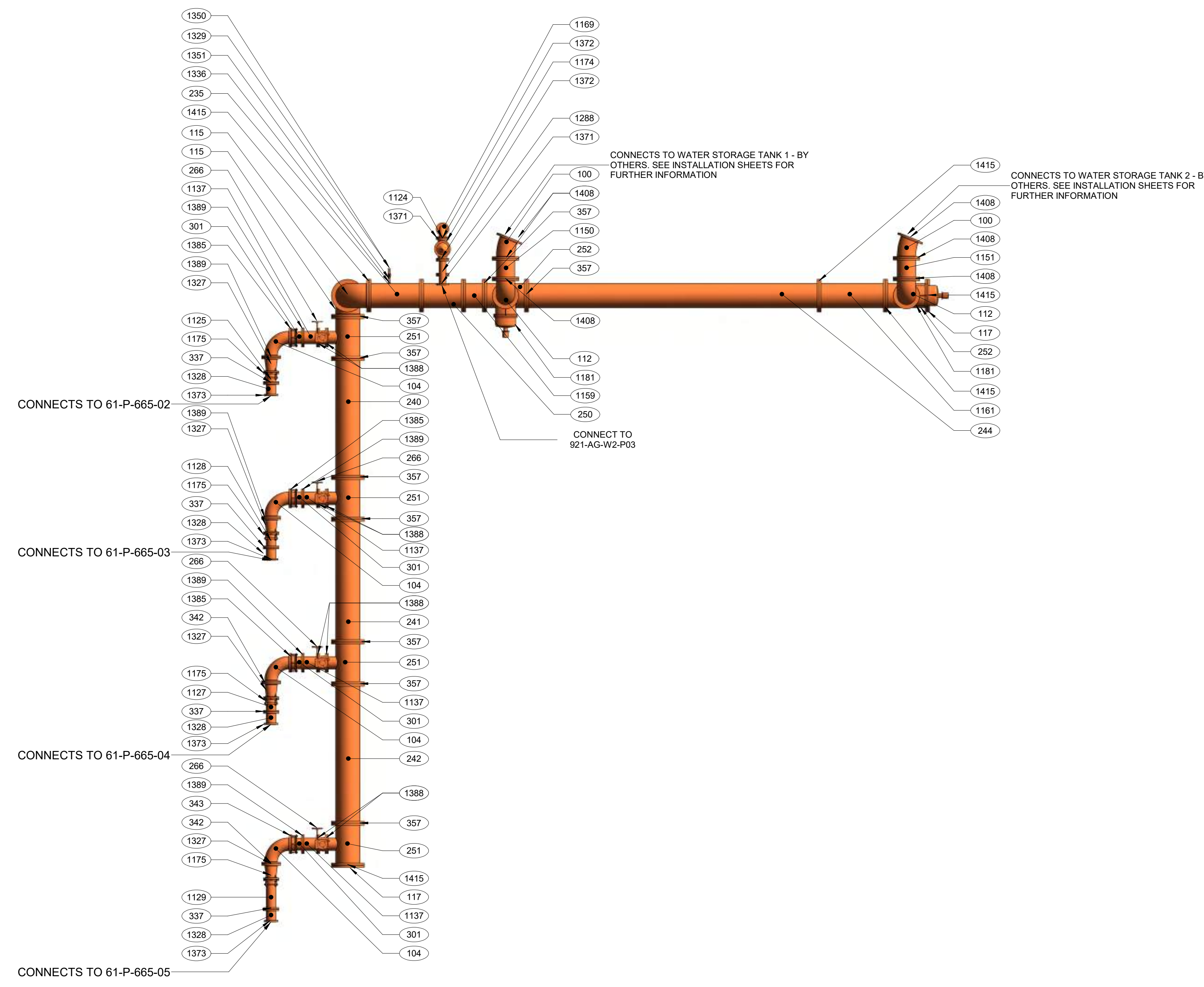


STAMP

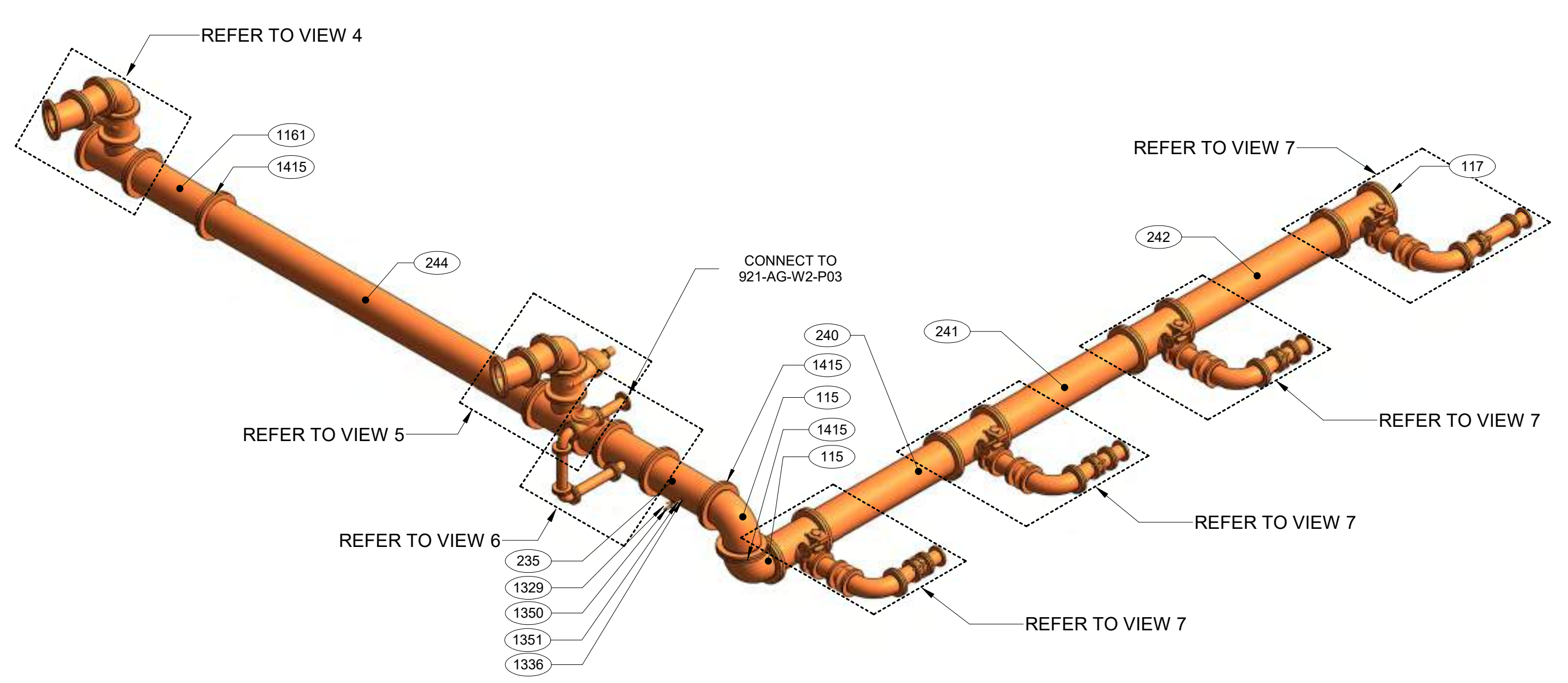
QR CODE



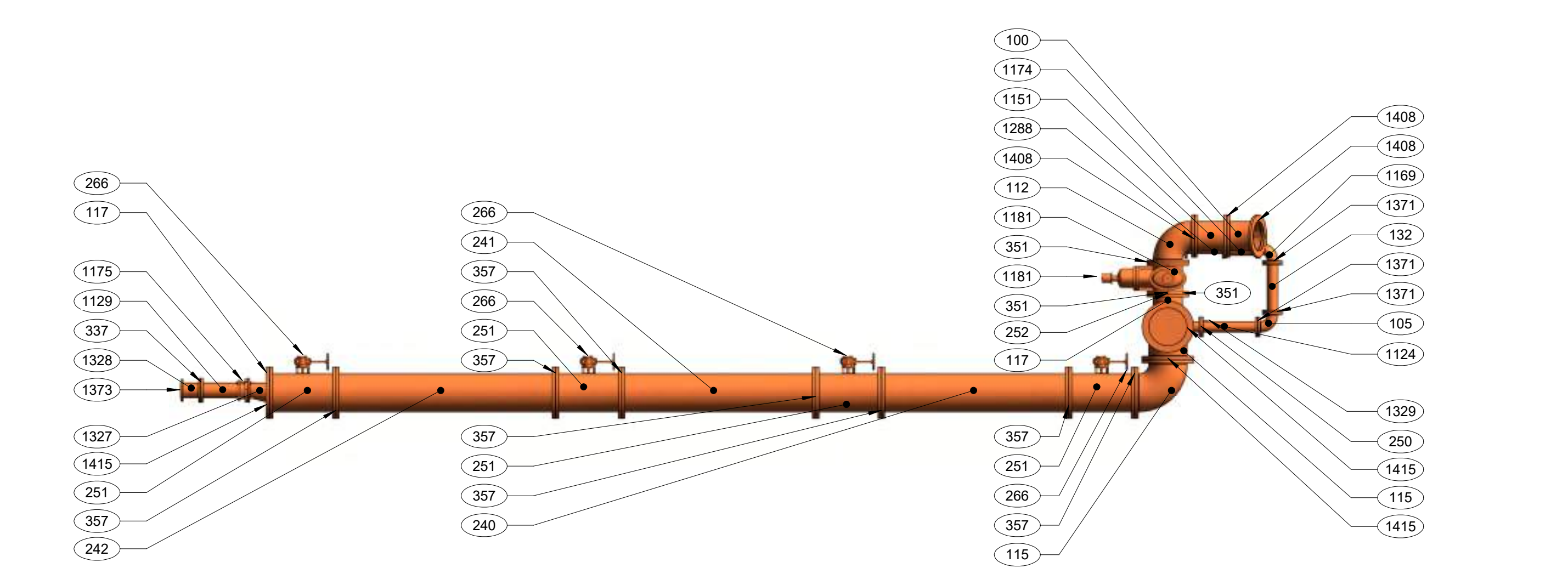
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
SPOOL P04



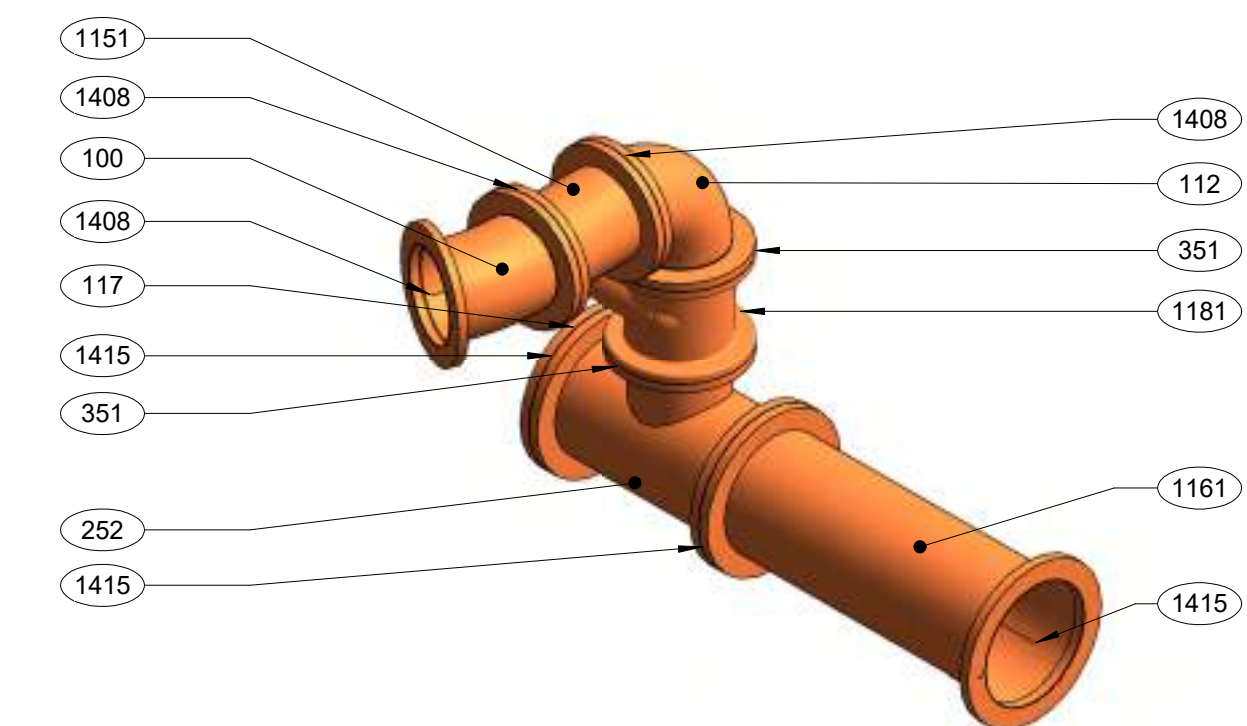
1 PLAN
1/4" = 1'-0"



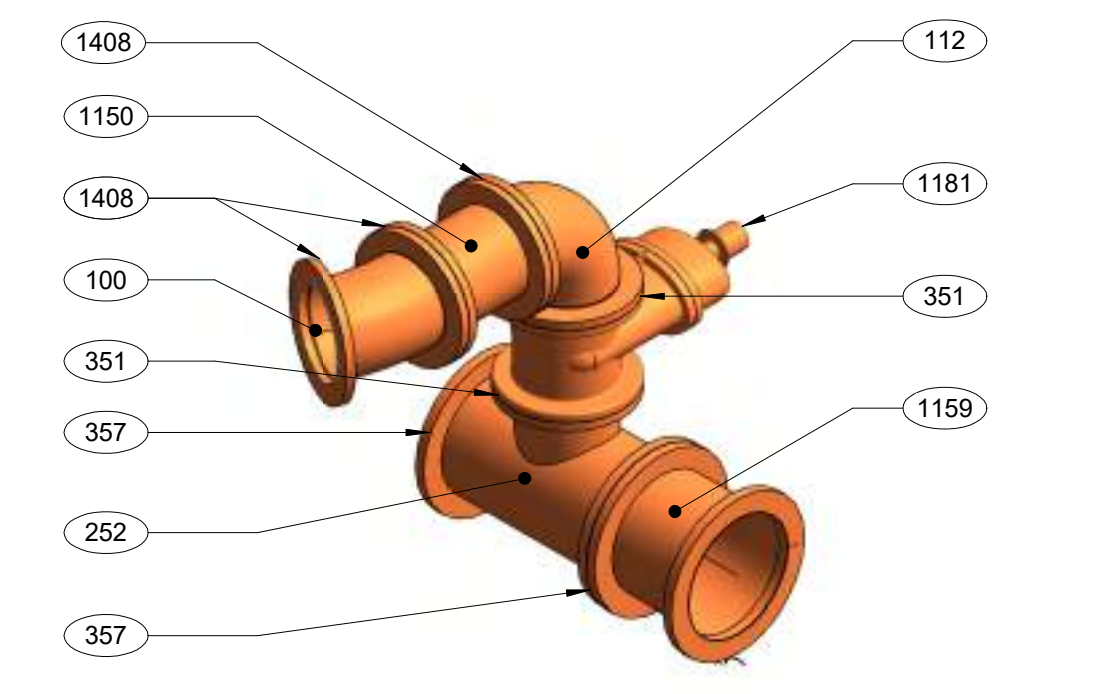
2 ISOMETRIC
N.T.S.



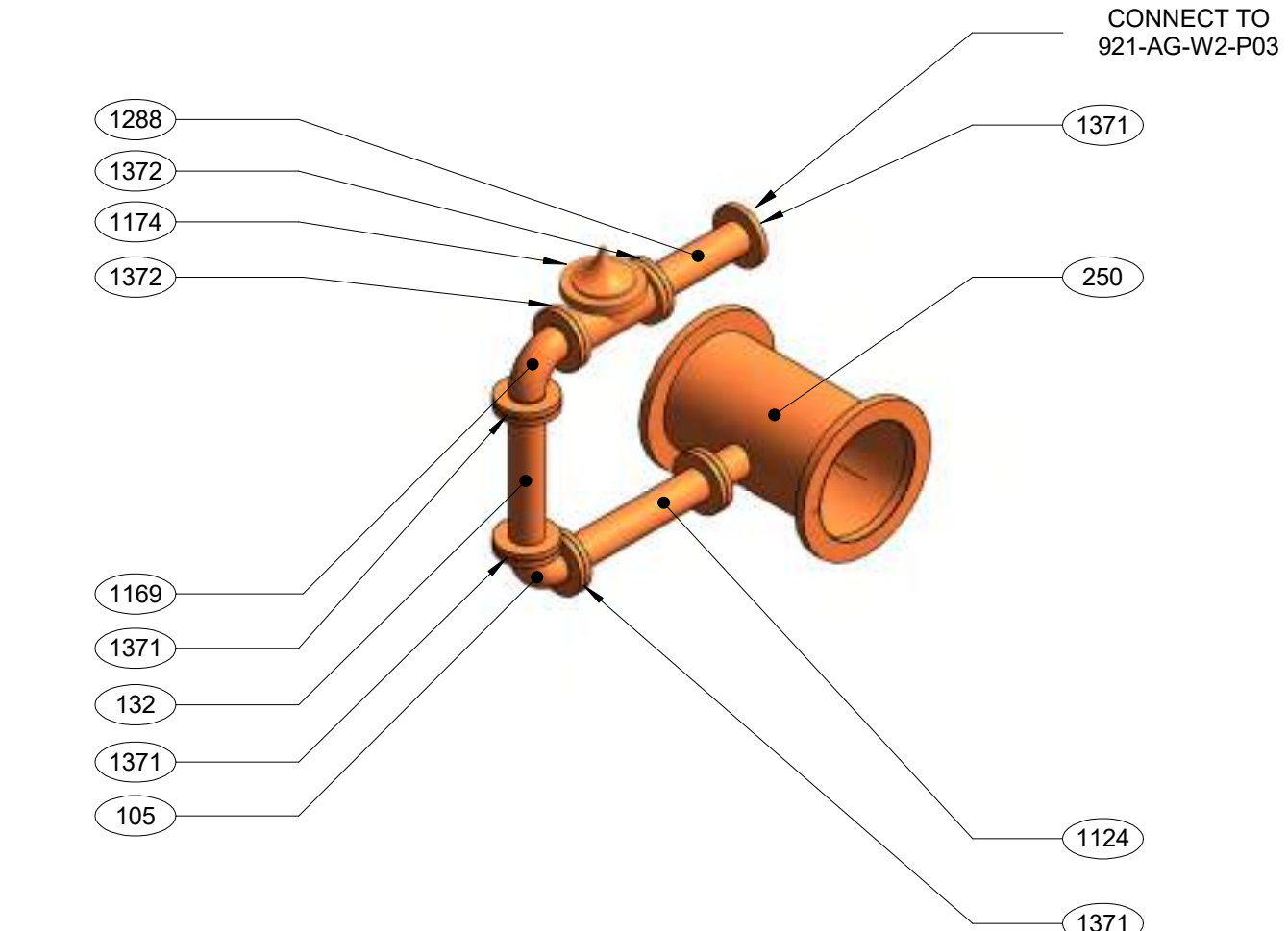
3 ELEVATION
1/4" = 1'-0"



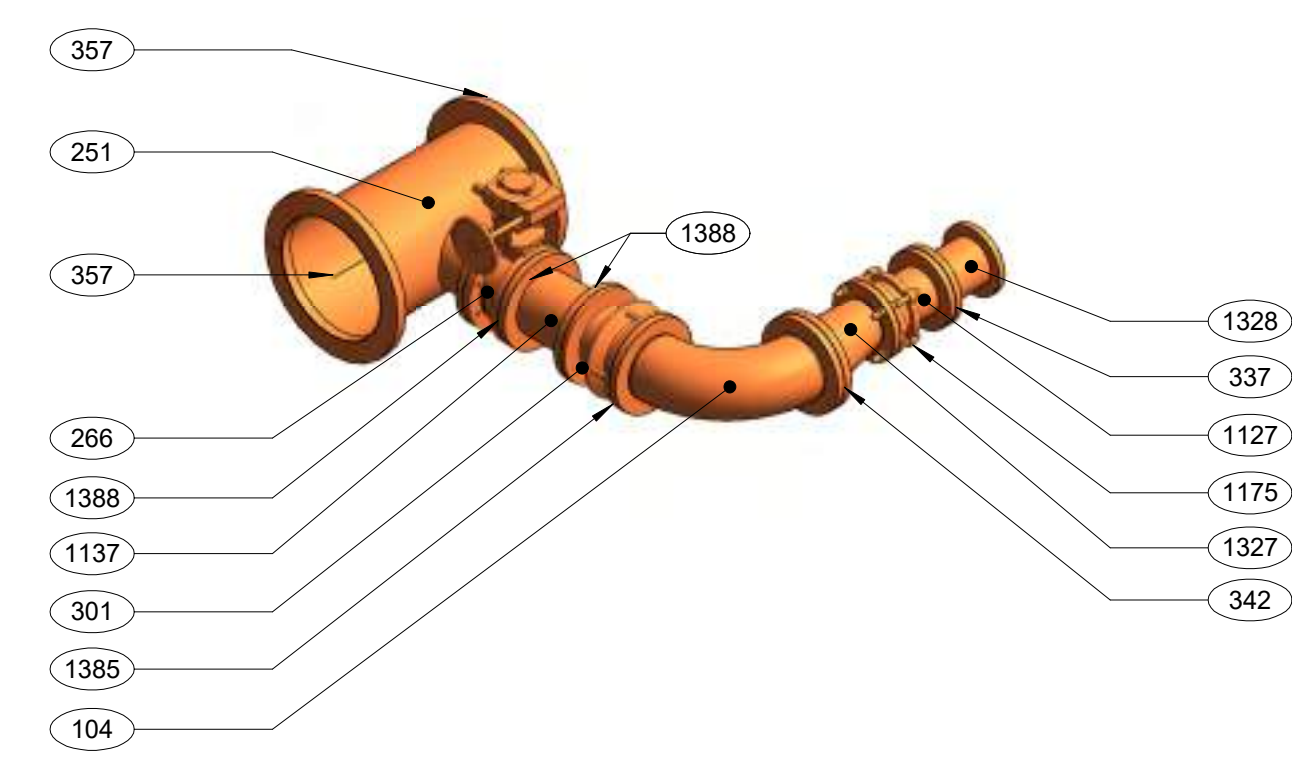
4 ISOMETRIC
N.T.S.



5 ISOMETRIC
N.T.S.



6 ISOMETRIC
N.T.S.



7 ISOMETRIC
N.T.S.

BOM - ABOVE GROUND - P04 PIPES

UNIQUE ID	SPOOL ID	SERVICE ID	QUANTITY	SIZE	LENGTH	MATERIAL	END 1	END 2	LINING	COATING	THREAD O-LET
132	921-W2-132	W2	1	4"	1' - 10 1/2"	DI	FL	FL	CM	SYSTEM NO. 4	No
235	921-W2-235	W2	1	16"	3' - 1 7/8"	DI	FL	FL	CM	SYSTEM NO. 4	Yes
240	921-W2-240	W2	1	16"	7' - 1 1/8"	DI	FL	FL	CM	SYSTEM NO. 4	No
241	921-W2-241	W2	1	16"	7' - 4 1/8"	DI	FL	FL	CM	SYSTEM NO. 4	No
242	921-W2-242	W2	1	16"	8' - 3 7/8"	DI	FL	FL	CM	SYSTEM NO. 4	No
244	921-W2-244	W2	1	16"	17' - 6"	DI	FL	FL	CM	SYSTEM NO. 4	No
1124	921-W2-1124	W2	1	4"	2' - 1 3/4"	DI	FL	FL	CM	SYSTEM NO. 4	No
1125	921-W2-1125	W2	1	6"	5 7/8"	DI	FL	PL	CM	SYSTEM NO. 4	No
1127	921-W2-1127	W2	1	6"	8 1/8"	DI	FL	PL	CM	SYSTEM NO. 4	No
1128	921-W2-1128	W2	1	6"	8 1/2"	DI	FL	PL	CM	SYSTEM NO. 4	No
1129	921-W2-1129	W2	1	6"	1' - 7 3/8"	DI	FL	PL	CM	SYSTEM NO. 4	No
1137	921-W2-1137	W2	4	8"	11"	DI	FL	FL	CM	SYSTEM NO. 4	No
1150	921-W2-1150	W2	1	12"	1' - 2 1/2"	DI	FL	FL	CM	SYSTEM NO. 4	No
1151	921-W2-1151	W2	1	12"	1' - 2 5/8"	DI	FL	FL	CM	SYSTEM NO. 4	No
1159	921-W2-1159	W2	1	16"	1' - 3"	DI	FL	FL	CM	SYSTEM NO. 4	No
1161	921-W2-1161	W2	1	16"	3' - 11 3/8"	DI	FL	FL	CM	SYSTEM NO. 4	No
1288	921-W2-1288	W2	1	4"	1' - 6"	DI	FL	FL	CM	SYSTEM NO. 4	No
1350	921-W2-1350	W2	1	1"	4"	CU	SLDR	SLDR	-	PIPE WRAP TAPE	No
1351	921-W2-1351	W2	1	1"	4 5/8"	CU	SLDR	SLDR	-	PIPE WRAP TAPE	Yes

BOM - ABOVE GROUND - P04 FITTINGS

UNIQUE ID	SPOOL ID	SERVICE ID	QUANTITY	SIZE	ELEMENT TYPE	MATERIAL	END TYPE	LINING	COATING
100	921-W2-100	W2	2	12"	22.50° RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
104	921-W2-104	W2	4	8"	90° LONG RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
105	921-W2-105	W2	1	4"	90° SHORT RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
112	921-W2-112	W2	2	12"	90° SHORT RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
115	921-W2-115	W2	2	16"	90° SHORT RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
117	921-W2-117	W2	2	16"	BLIND FLANGE	DI	FL	CM	SYSTEM NO. 4
250	921-W2-250	W2	1	16"-4"	REDUCING TEE	DI	FL	CM	SYSTEM NO. 4
251	921-W2-251	W2	4	16"-8"	REDUCING TEE	DI	FL	CM	SYSTEM NO. 4
252	921-W2-252	W2	2	16"-12"	REDUCING TEE	DI	FL	CM	SYSTEM NO. 4
1169	921-W2-1169	W2	1	4"	90° SHORT RADIUS ELBOW	DI	FL	CM	SYSTEM NO. 4
1327	921-W2-1327	W2	4	8"-6"	ECCENTRIC REDUCER	DI	FL	CM	SYSTEM NO. 4
1328	921-W2-1328	W2	4	6"-5"	ECCENTRIC REDUCER	DI	FL	CM	SYSTEM NO. 4

BOM - ABOVE GROUND - P04 ACCESSORIES.

UNIQUE ID	SPOOL ID	SERVICE ID	QUANTITY	SIZE	ELEMENT TYPE	MATERIAL	END TYPE	LINING	COATING
266	921-W2-266	W2	4	8"	BUTTERFLY VALVE	CI	FL	-	BLUE DEZURIK EPOXY
301	921-W2-301	W2	4	8"	DISMANTLING JOINT	DI	FL	-	FUSION BONDED EPOXY
1174	921-W2-1174	W2	1	4"	PRESSURE RELIEF VALVE	BR	FL	-	-
1175	921-W2-1175	W2	4	6"	GR FLANGE ADAPTER	DI	FL	-	FUSION BONDED EPOXY
1181	921-W2-1181	W2	2	12"	GATE VALVE	DI	FL	-	FUSION BONDED EPOXY
1329	921-W2-1329	W2	1	1"	BALL VALVE	CU	THRD	-	-

BOM - ABOVE GROUND - P04 NUTS, BOLTS AND GASKETS

UNIQUE ID	BOLT MARK	SERVICE ID	QUANTITY	SIZE	GASKET MATERIAL	BOLT KIT MATERIAL	BOLT QTY PER KIT	BOLT SIZE
337	B-921-6S	W2	4	6"	GARLOCK 7797	A307 / Grade-A	8	3/4"-10
342	B-921-8S	W2	2	8"	-	A307 / Grade-A	8	3/4"-10
343	B-921-023	W2	1	8"	-	A307 / Grade-A	10	3/4"-10
351	B-921-007	W2	4	12"	GARLOCK 7797	A307 / Grade-A	12	7/8"-9
357	B-921-16S	W2	9	16"	GARLOCK 7797	A307 / Grade-A	16	1"-8
1371	B-921-4S	W2	5	4"	GARLOCK 7797	A307 / Grade-A	8	5/8"-11
1372	B-921-029	W2	2	4"	GARLOCK 7797	A307 / Grade-A	8	MISSING INFORMATION
1373	B-921-6S	W2	4	5"	GARLOCK 7797	A307 / Grade-A	8	3/4"-10
1385	B-921-023	W2	3	8"	-	A307 / Grade-A	10	3/4"-10
1388	B-921-002	W2	8	8"	GARLOCK 7797	A307 / Grade-A	8	3/4"-10
1389	B-921-8S	W2	6	8"	GARLOCK 7797	A307 / Grade-A	8	3/4"-10
1408	B-921-12S	W2	6	12"	GARLOCK 7797	A307 / Grade-A	12	7/8"-9
1415	B-921-16S	W2	8	16"	GARLOCK 7797	A307 / Grade-A	16	1"-8

0 12/08/2023
 CURRENT REVISION #
 DATE
 DRAWING SCALE
 SHEET TITLE

ISSUED FOR CONSTRUCTION 12/08/2023
 NO. DESCRIPTION DATE
 ORIGINAL PRINT SIZE = 36x48
 JOB NUMBER 220165
 ISSUED FOR CONSTRUCTION
 DATE 01/16/2024 12:25:14 PM
 DRAWN BY Author
 CHECKED BY CHECKER
 DRAWING SCALE AS SHOWN
 SHEET TITLE
 SPOOL P04
 DRAWING NUMBER
 921.MP.I.AG.5010

Wall Penetrations & Sleeves

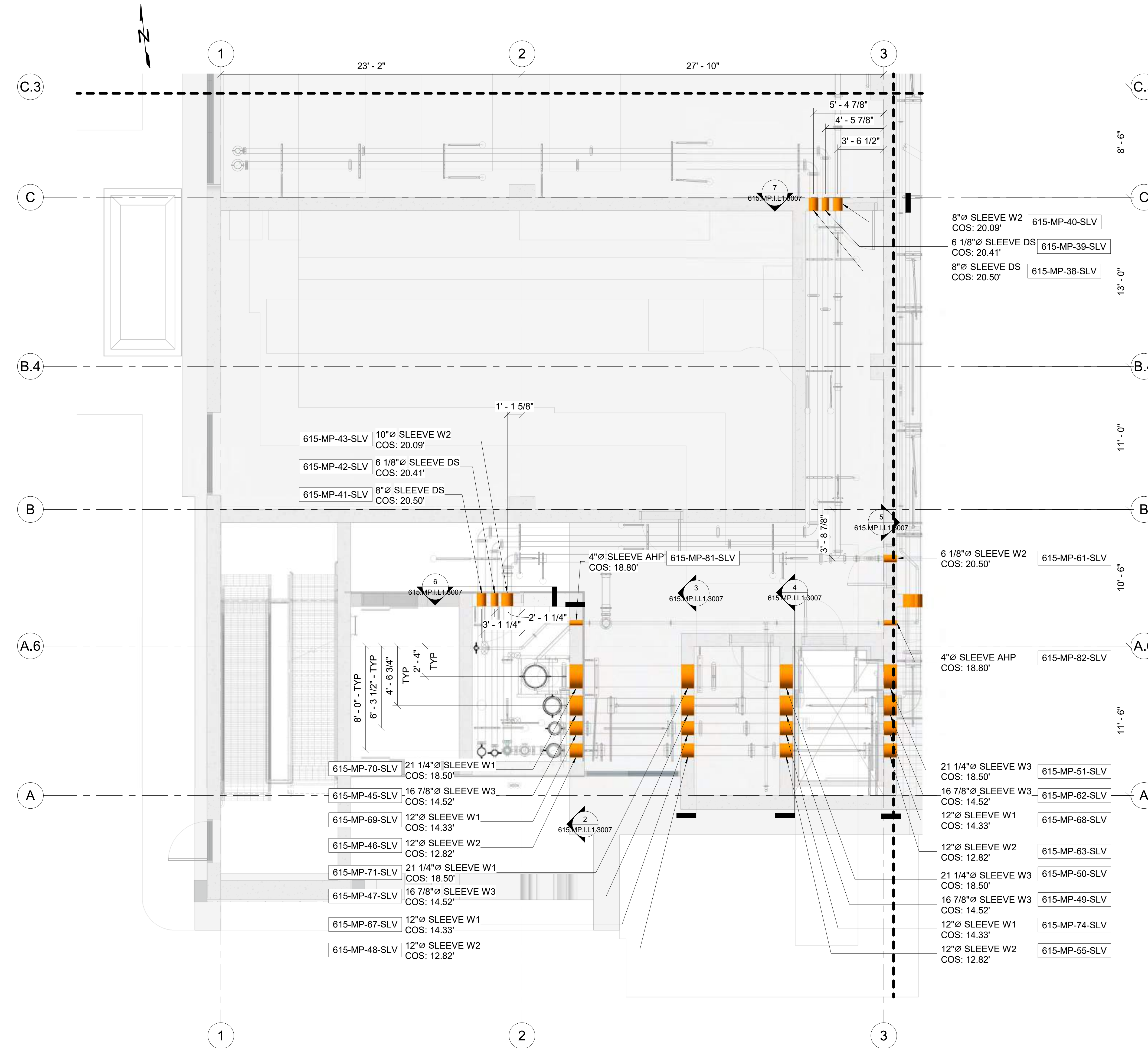
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LOGO
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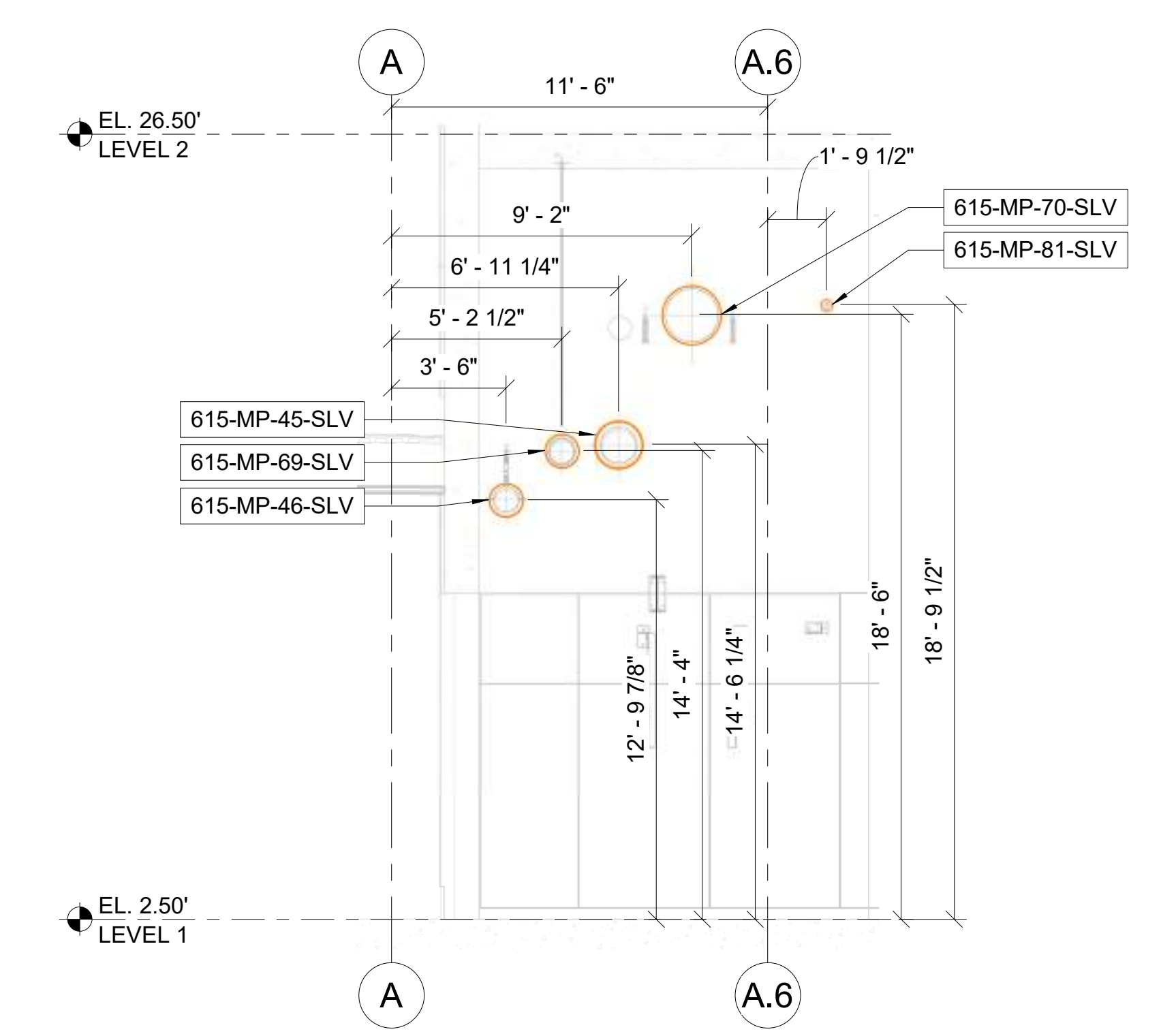
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LEGENDS AND SYMBOLS

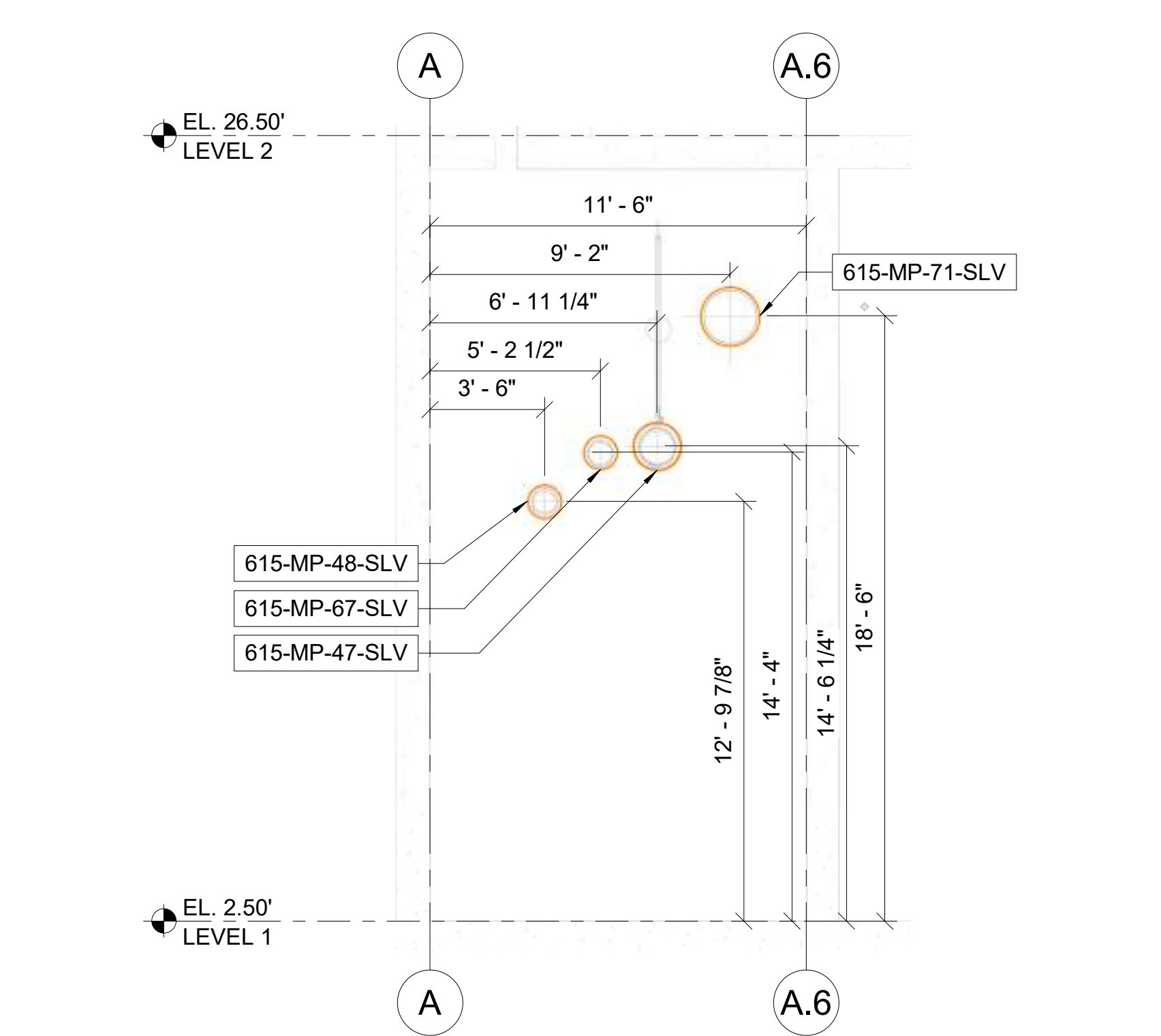
- SLEEVE
- SLEEVE SIZE
- 12" SLEEVE W3 - PIPING SYSTEM
- COS: 13.32' - CENTER OF SLEEVE ELEVATION
- 615-MP-01-SLV - SLEEVE
- SLEEVE NUMBER
- DISCIPLINE/TRADE
- BUILDING NUMBER



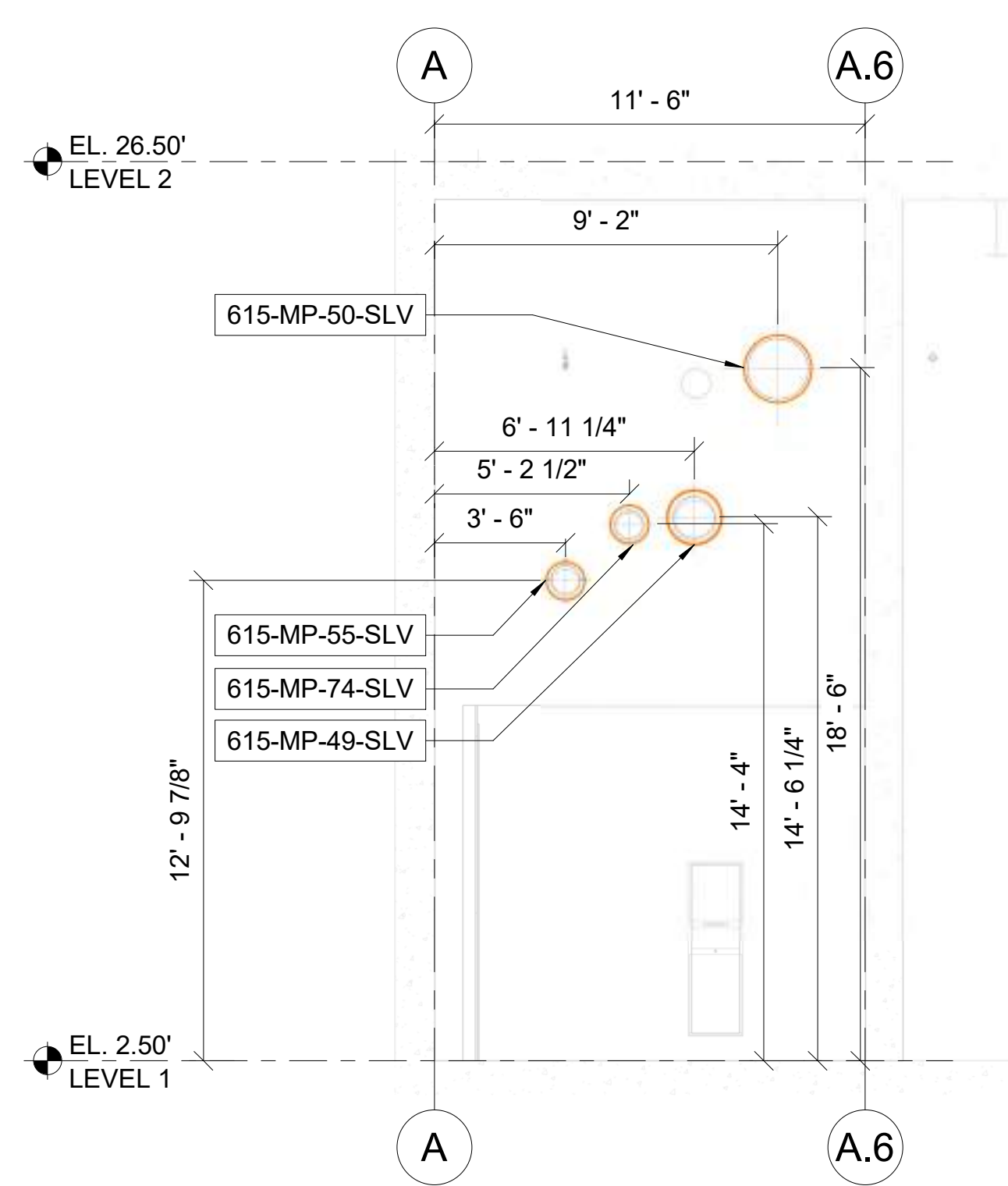
1 LEVEL 1 - AREA C - WALL PENETRATIONS
1/4" = 1'-0"



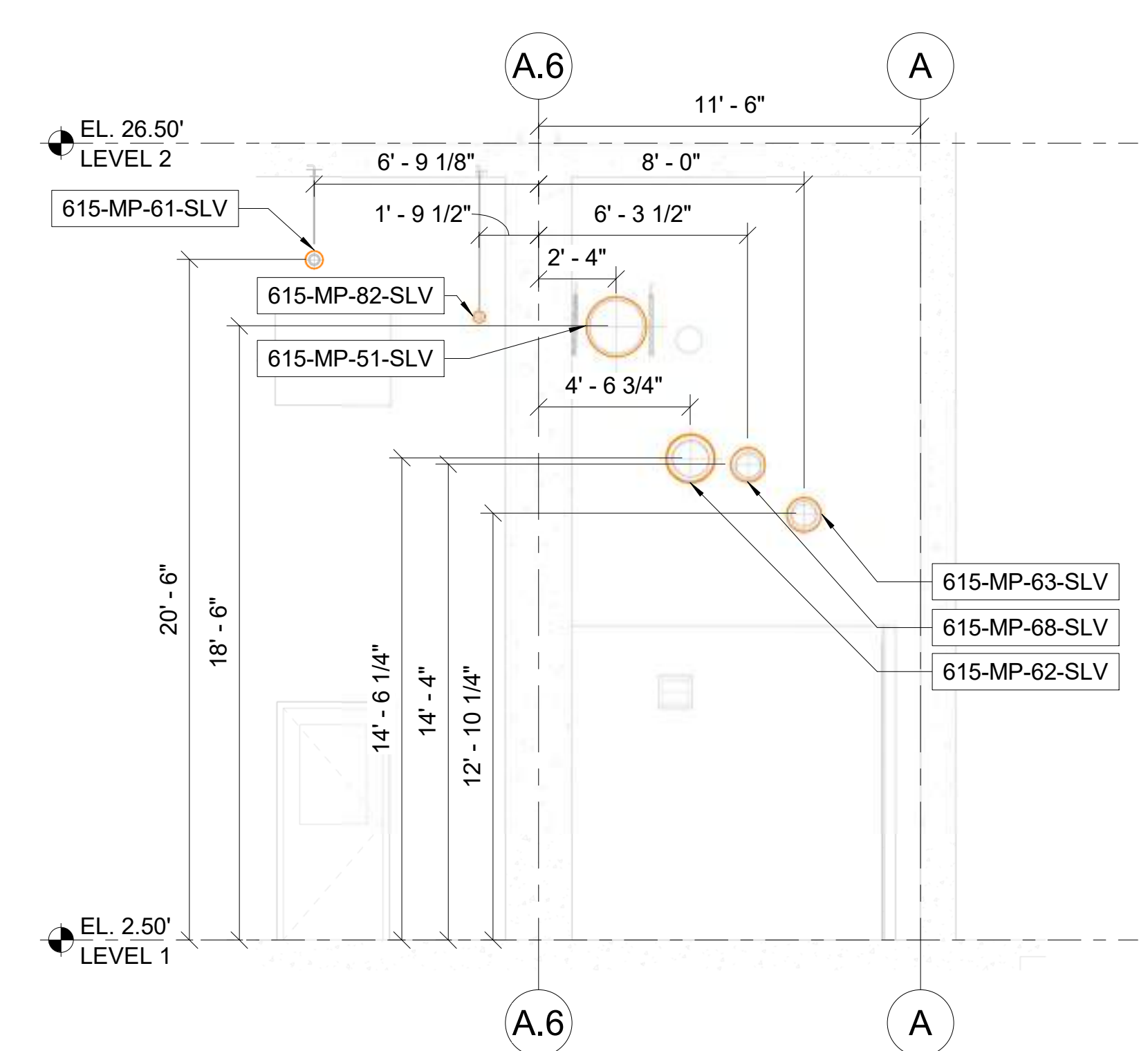
2 SECTION
1/4" = 1'-0"



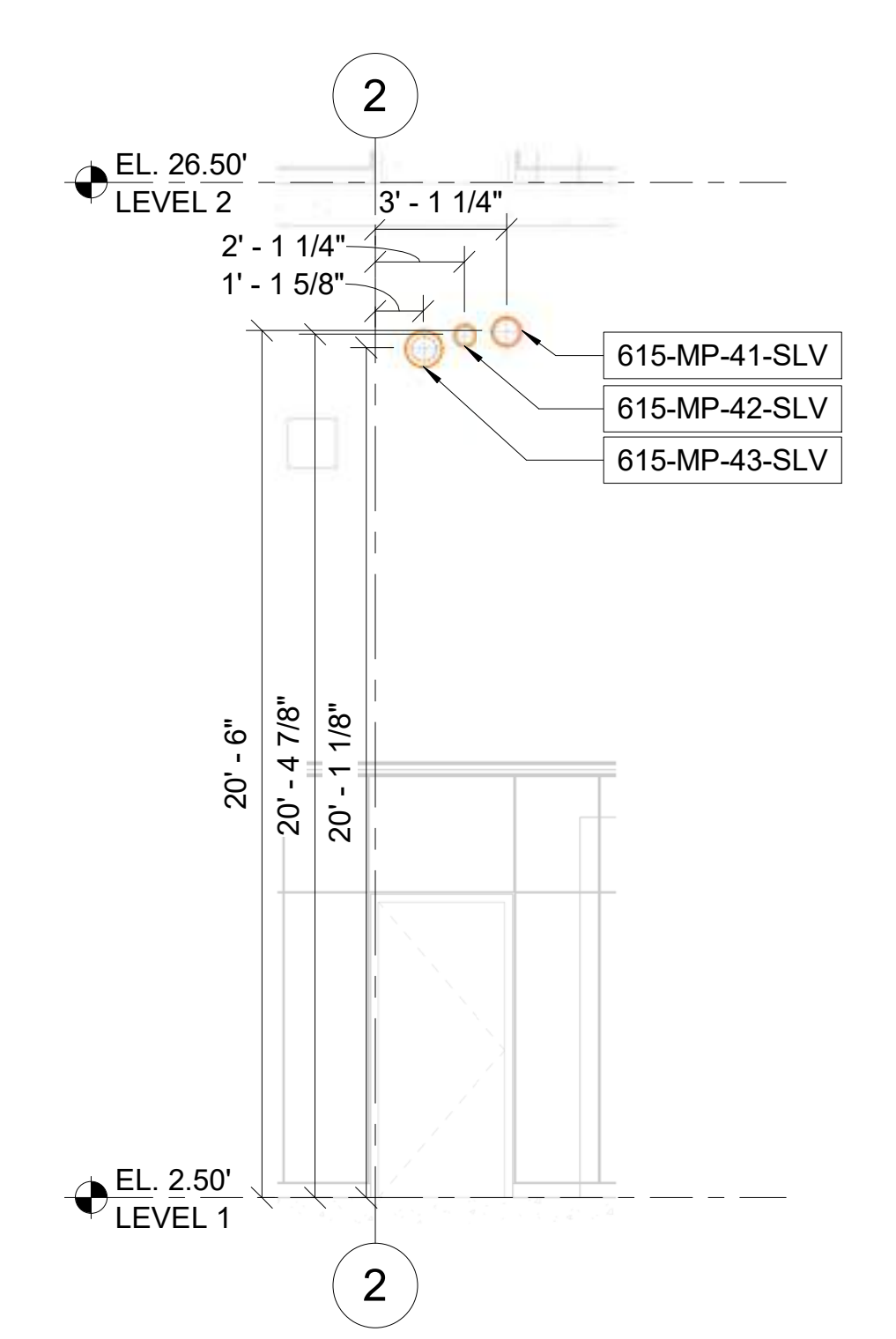
3 SECTION
1/4" = 1'-0"



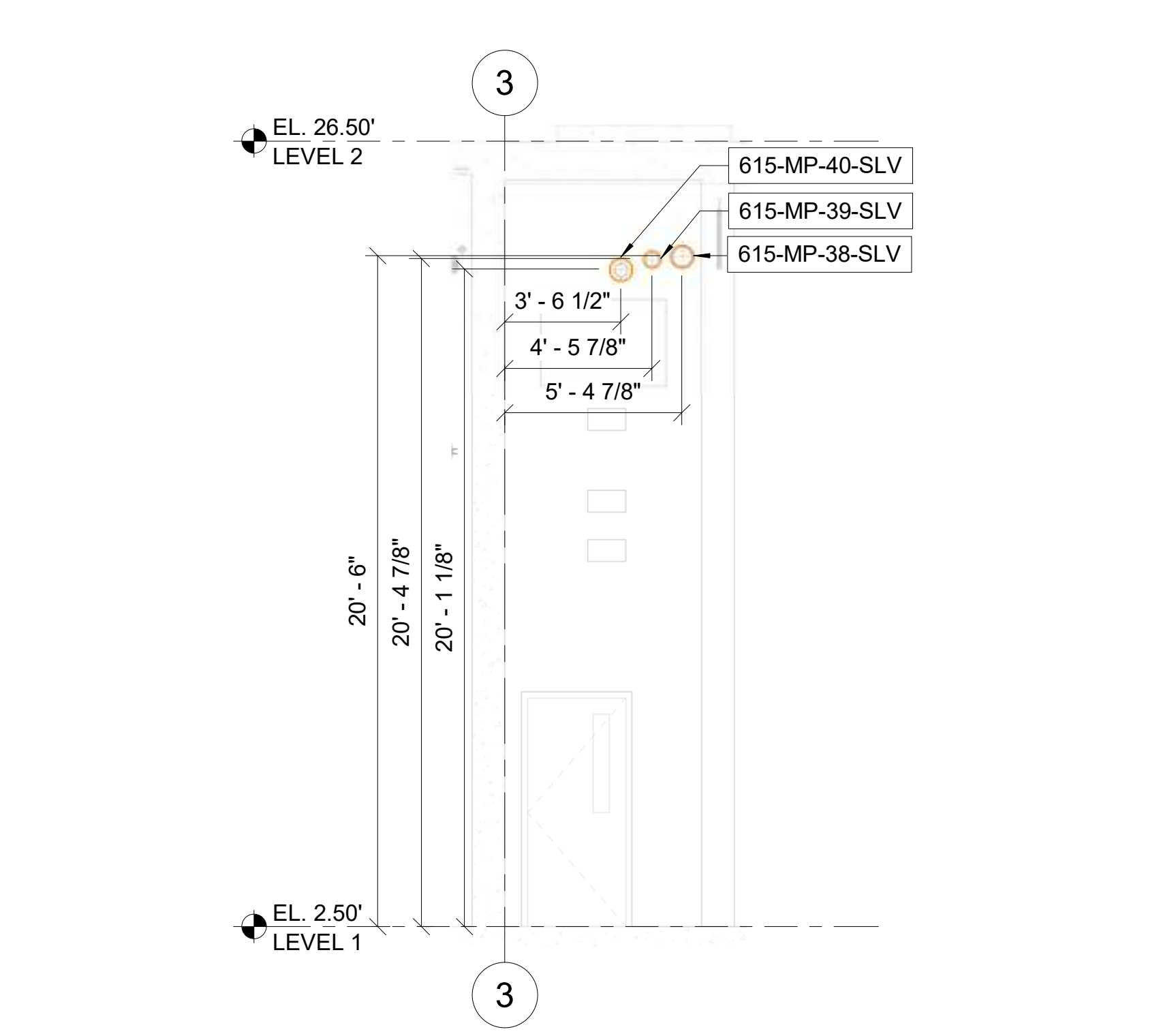
4 SECTION
1/4" = 1'-0"



5 SECTION
1/4" = 1'-0"



6 SECTION
1/4" = 1'-0"



7 SECTION
1/4" = 1'-0"

STAMP

QR CODE



PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

DETAILED WALL PENETRATION & SLEEVES AREA C

NO.	DESCRIPTION	DATE

JOB NUMBER
DATE 01/23/2024 2:48:16 PM
DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

DETAILED WALL PENETRATION & SLEEVES AREA C

DRAWING NUMBER
615.MP.I.L1.3007

Equipment Plan

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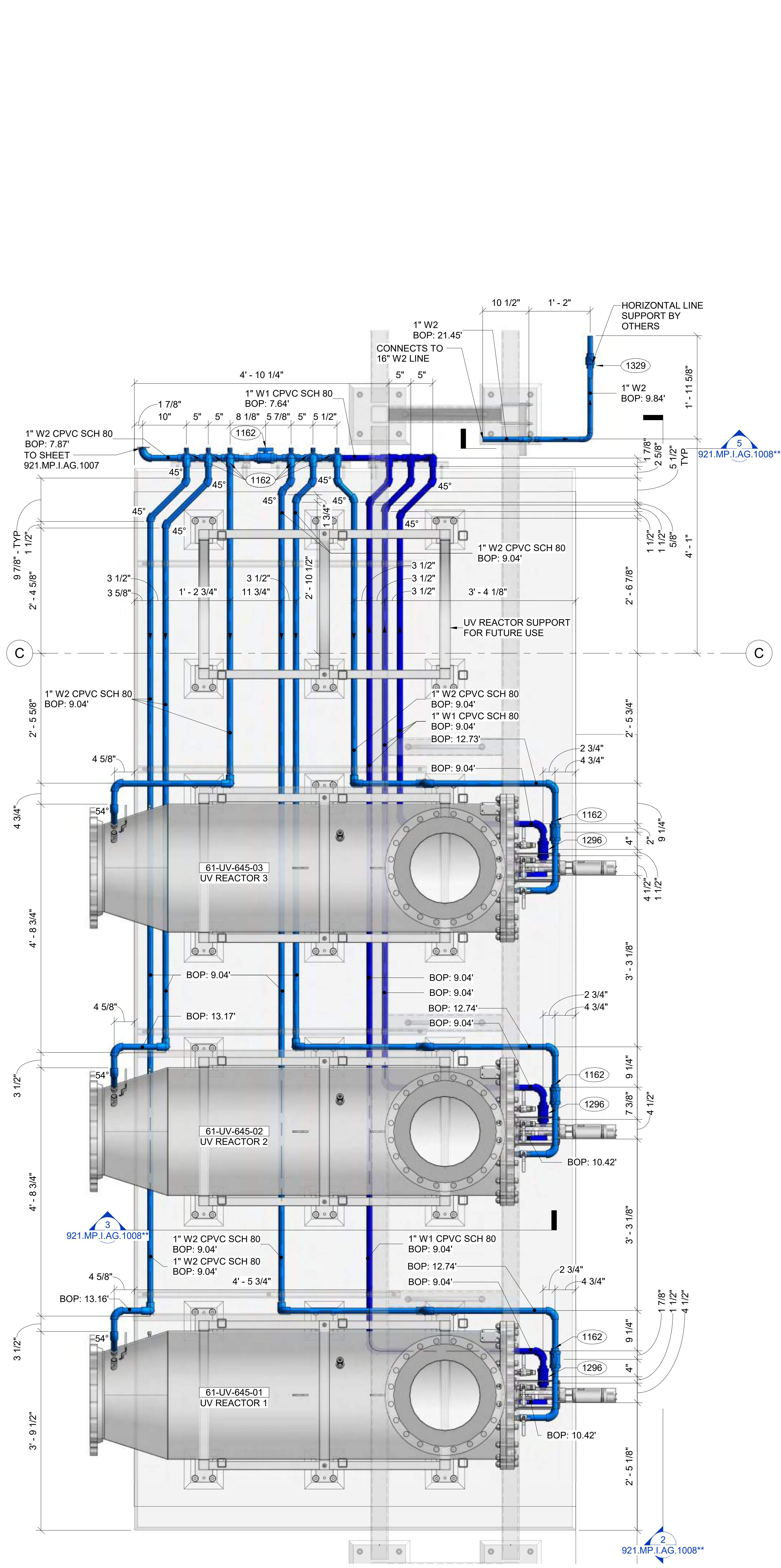
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

UV REACTOR ENLARGED PLAN - NOT SPOOLED

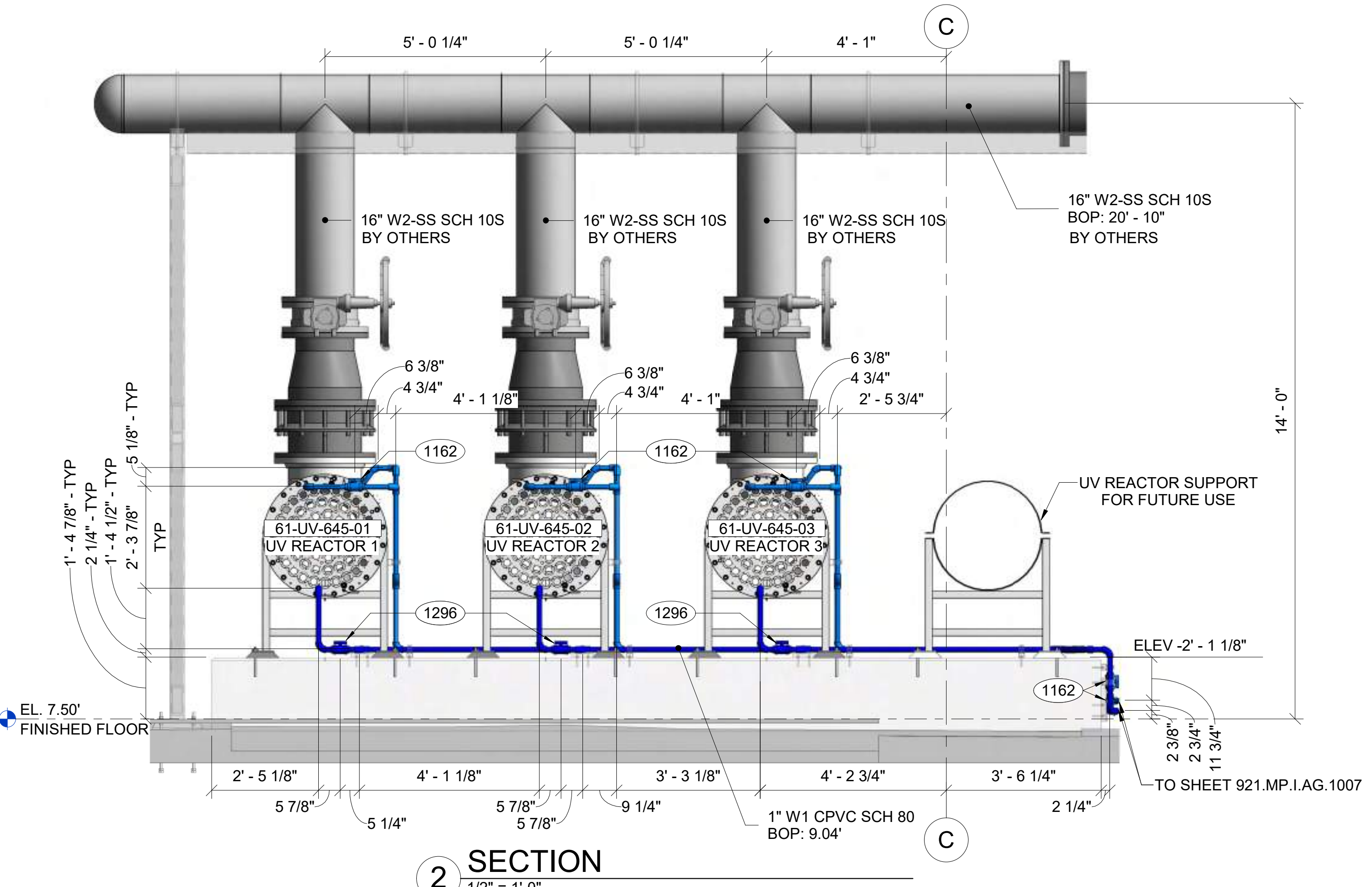
- LEGENDS AND SYMBOLS**
- ALP-AIR, LOW PRESSURE
 - PD-PROCESS DRAIN
 - V-VENT
 - W1-WATER, NO.1 (POTABLE)
 - W2-WATER, NO.2 (NON-POTABLE)
 - W3-WATER, NO.3 (NON-POTABLE)
 - PIPES WITH SPOOL
 - SEE DETAIL SHEET
 - SKID EQUIPMENT
 - EQUIPMENT - SUPPLIED BY CONTRACTOR/INSTALLED BY OTHERS
 - POINT OF CONNECTION (POC)
 - PIPE UP/SECTIONED
 - PIPE SIZE
 - PIPE SYSTEM
 - MATERIAL
 - 1/2" W2 CU B88
 - BOP: - 1 1/2"
 - BOTTOM OF PIPE
 - EQUIPMENT TAG NUMBER
 - 61-TK-620-01
 - W2 WATER STORAGE TANK 1
 - EQUIPMENT NAME
 - 921-XX
 - EXPANSION JOINT NUMBER
 - BUILDING NUMBER

GENERAL SHEET NOTES

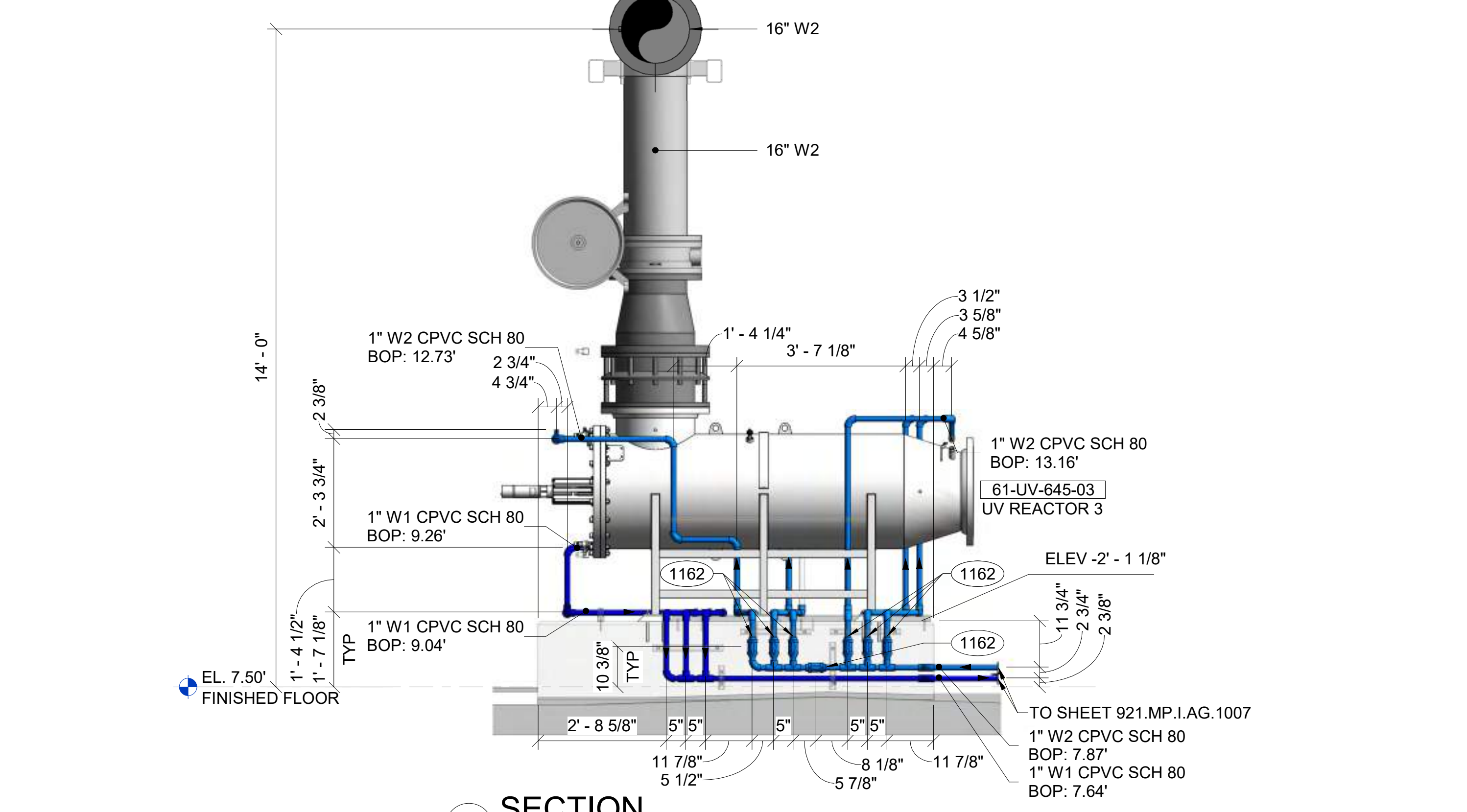
1. ALL BOP ELEVATIONS INCLUDE INSULATION WHERE APPLICABLE



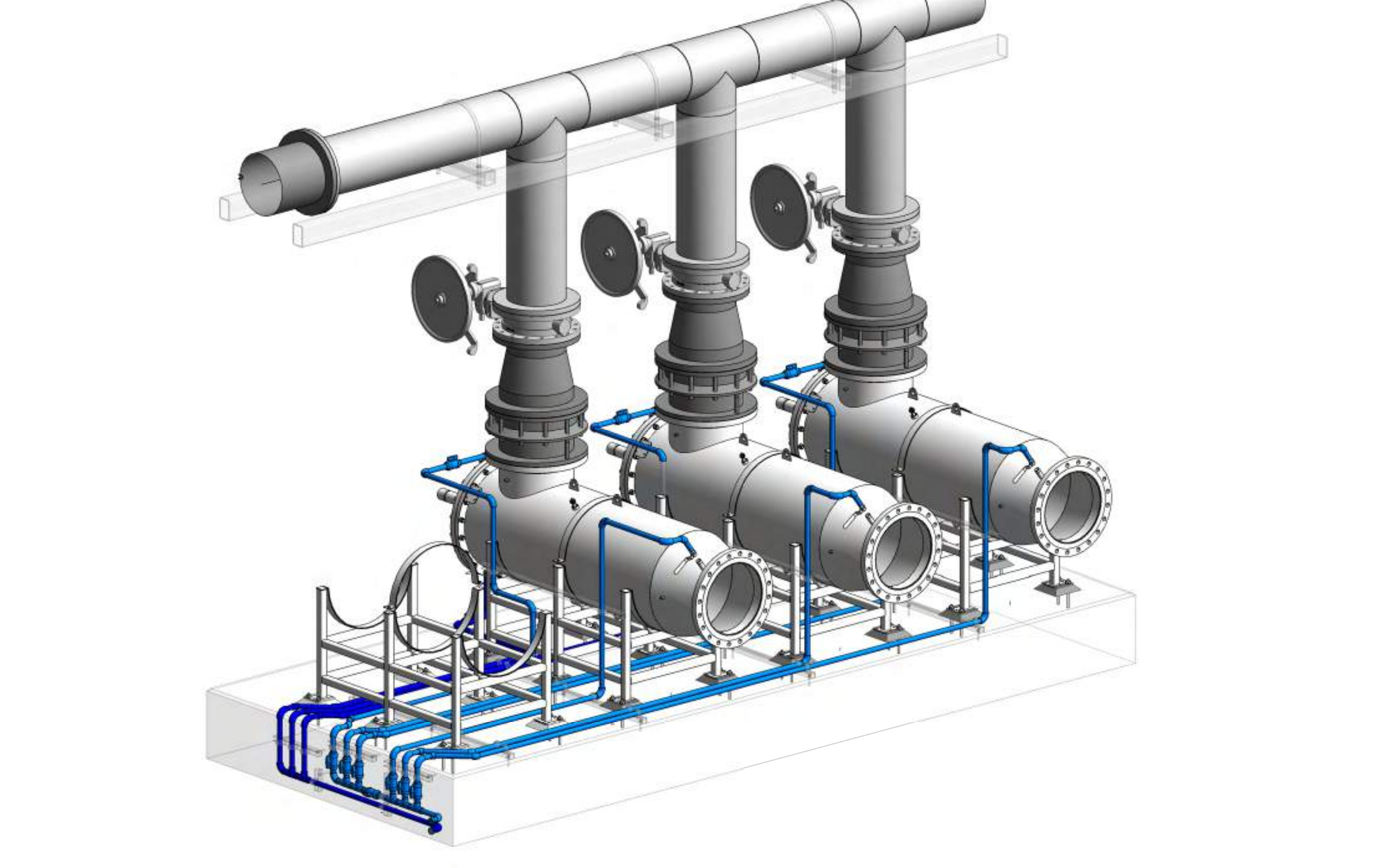
1 ABOVE GROUND - UV REACTOR - ENLARGED PLAN - NOT SPOOLED
1" = 1'-0"



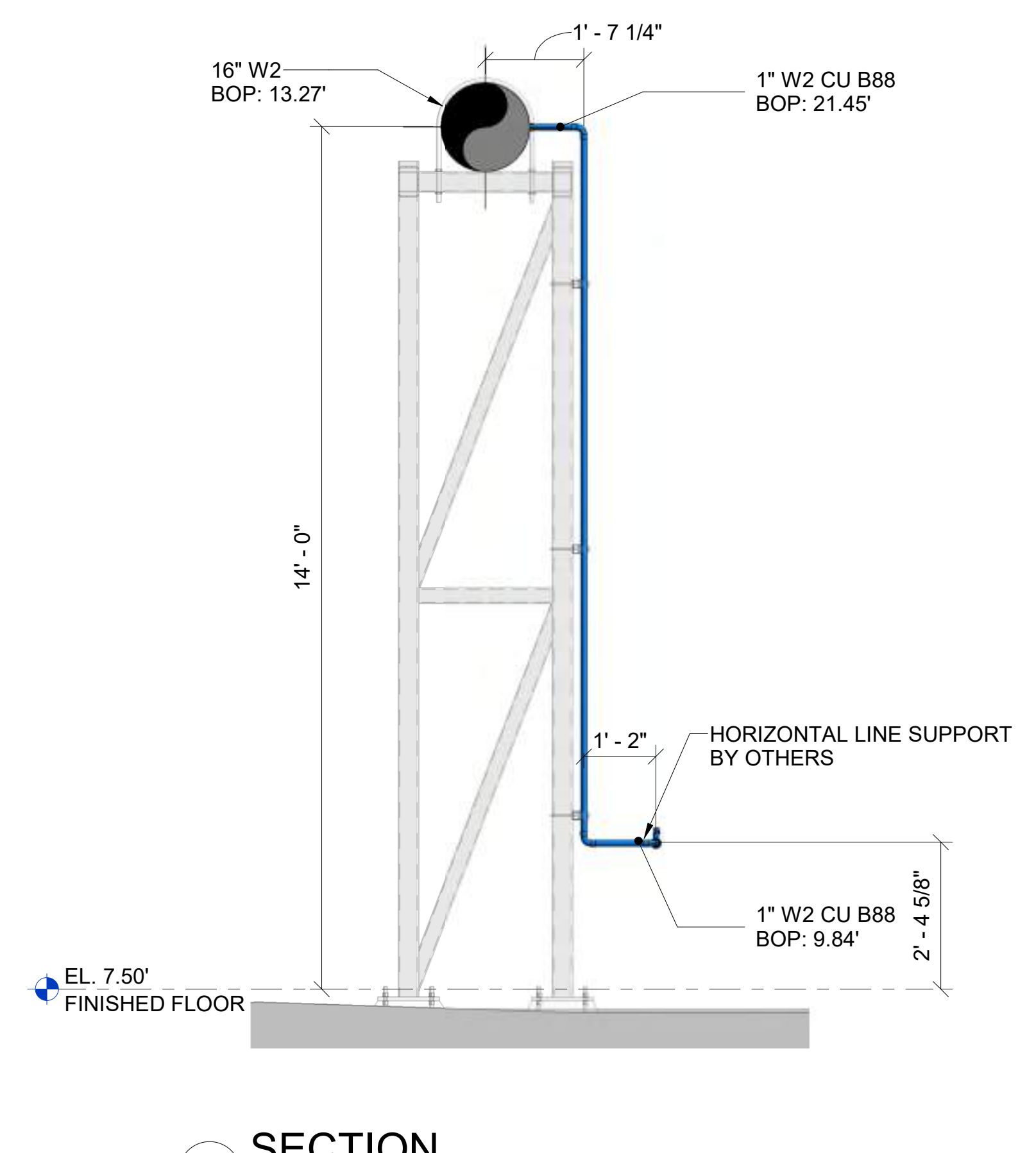
2 SECTION
1/2" = 1'-0"



3 SECTION
1/2" = 1'-0"



5 ISOMETRIC 3D VIEW
N.T.S.



4 SECTION
1/2" = 1'-0"

PIPE ACCESSORIES - PACKAGE C						
UNIQUE ID	SERVICE ID	ELEMENT TYPE	SIZE	SUPPLIER	MODEL	QTY.
1162	W2	BALL VALVE	1"	ASAHI	TRUE UNION TYPE 21/21A	10
1296	W1	BALL VALVE	1"	ASAHI	TRUE UNION TYPE 21/21A	3
1329	W2	BALL VALVE	1"	NIBCO	T-585-70-UL	1

PIPE FITTINGS - PACKAGE C						
ELEMENT TYPE	SERVICE ID	SIZE	CONNECTION END 1	CONNECTION END 2	MATERIAL	QTY.
90° ELBOW	W1	1"	SLV	SLV	CPVC	23
90° ELBOW	W2	1"	SLV	SLV	CPVC	48
TEE	W1	1"	SLV	SLV	CPVC	2
TEE	W2	1"	FL	FL	CPVC	5

PIPES - PACKAGE C						
PIPE SIZE	SERVICE ID	MATERIAL	CONNECTION END 1	CONNECTION END 2	TOTAL LENGTH	THREAD O-LEAD
1"	W1	CPVC	SLV	SLV	55'-4 1/2"	No
1"	W2	CPVC	SLV	SLV	111'-1 5/8"	No
Grand total					166'-6 1/8"	

NO.	DESCRIPTION	DATE

NO.	DESCRIPTION	DATE

UV REACTOR ENLARGED PLAN - NOT SPOOLED
DRAWING NUMBER
921.MP.I.AG.1008

Pipe Rack Design

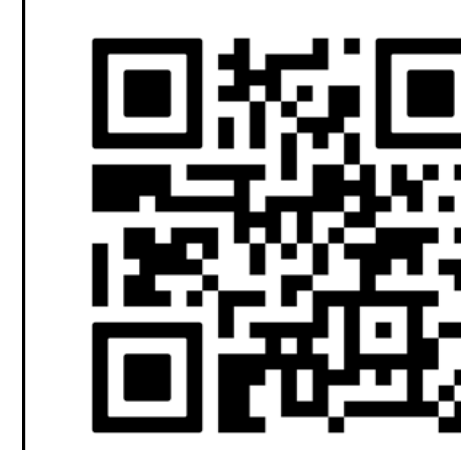
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LOGO
HERE



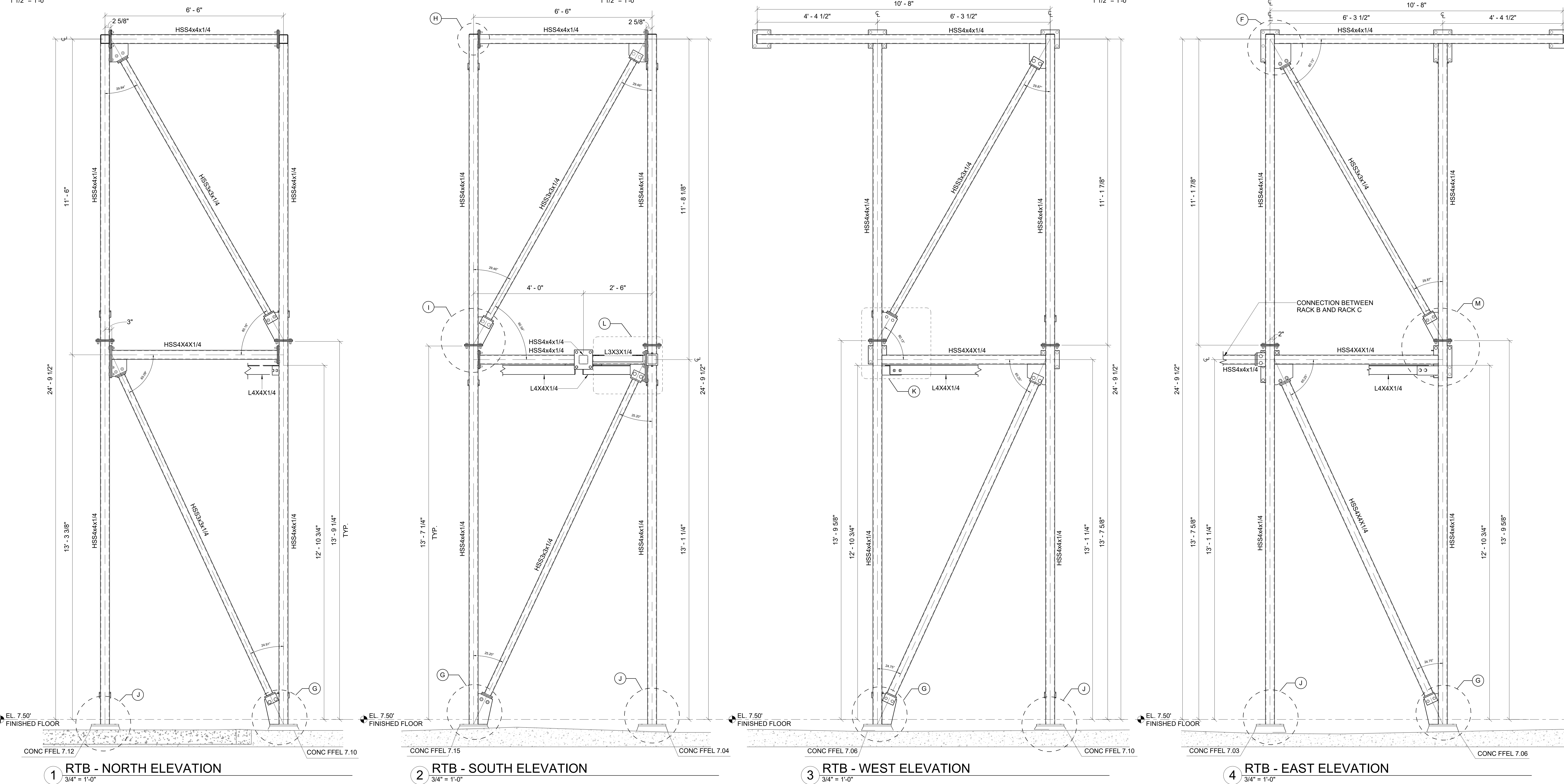
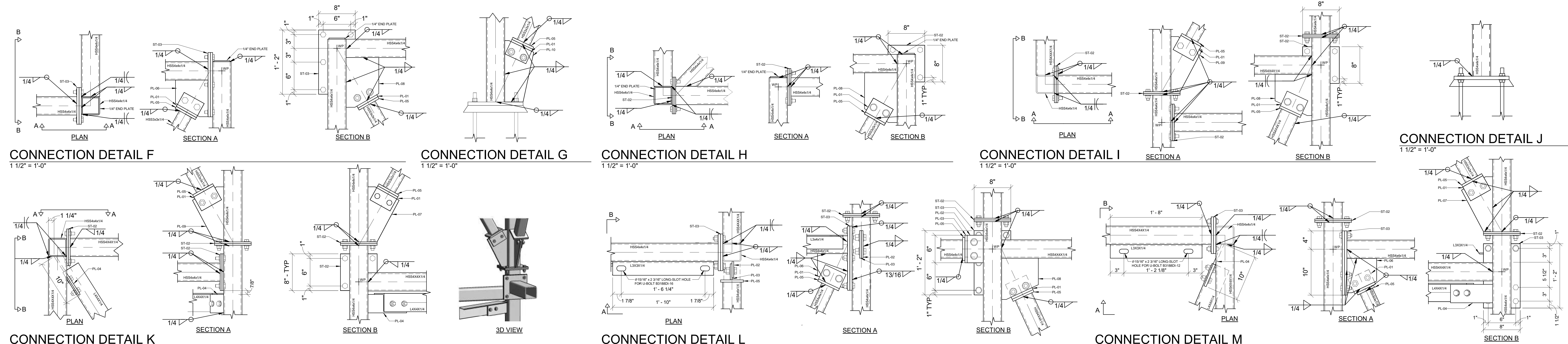
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STAMP

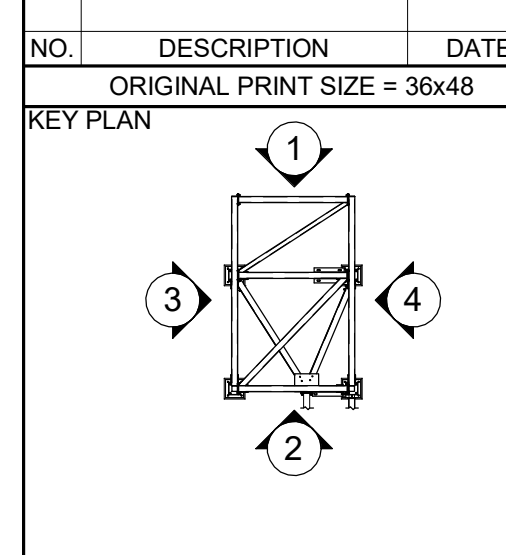
QR CODE



PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
ELEVATIONS - PIPE RACK B



NO.	DESCRIPTION	DATE



JOB NUMBER	
DATE	01/23/2024 12:52:48 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

ELEVATIONS - PIPE RACK B
DRAWING NUMBER
921.MP.I.AG.2013

Baseplate & Support Details

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MARK #	QTY	A	B	C	D (Ø)	E (Ø)	F (Hef)	G	ANCHOR NOTES
MK-01	11	8"	7/8"	4 1/4"	3/4"	2 1/2"	5 9/16"	1/4"	5/8" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M
MK-02	47	8"	1 1/4"	5 1/2"	13/16"	2 1/2"	5 1/2"	3/8"	3/4" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M
MK-03	10	12"	1 1/2"	9"	13/16"	3"	5 1/2"	3/8"	3/4" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M

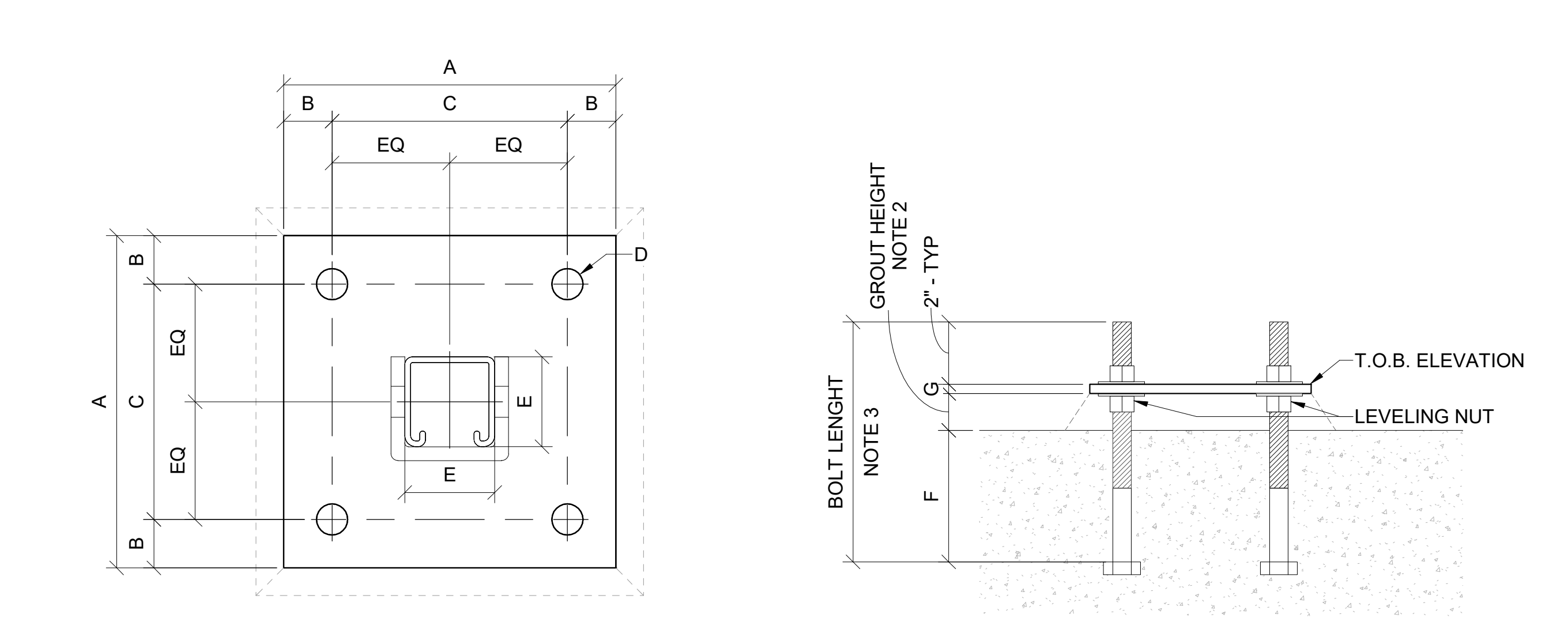
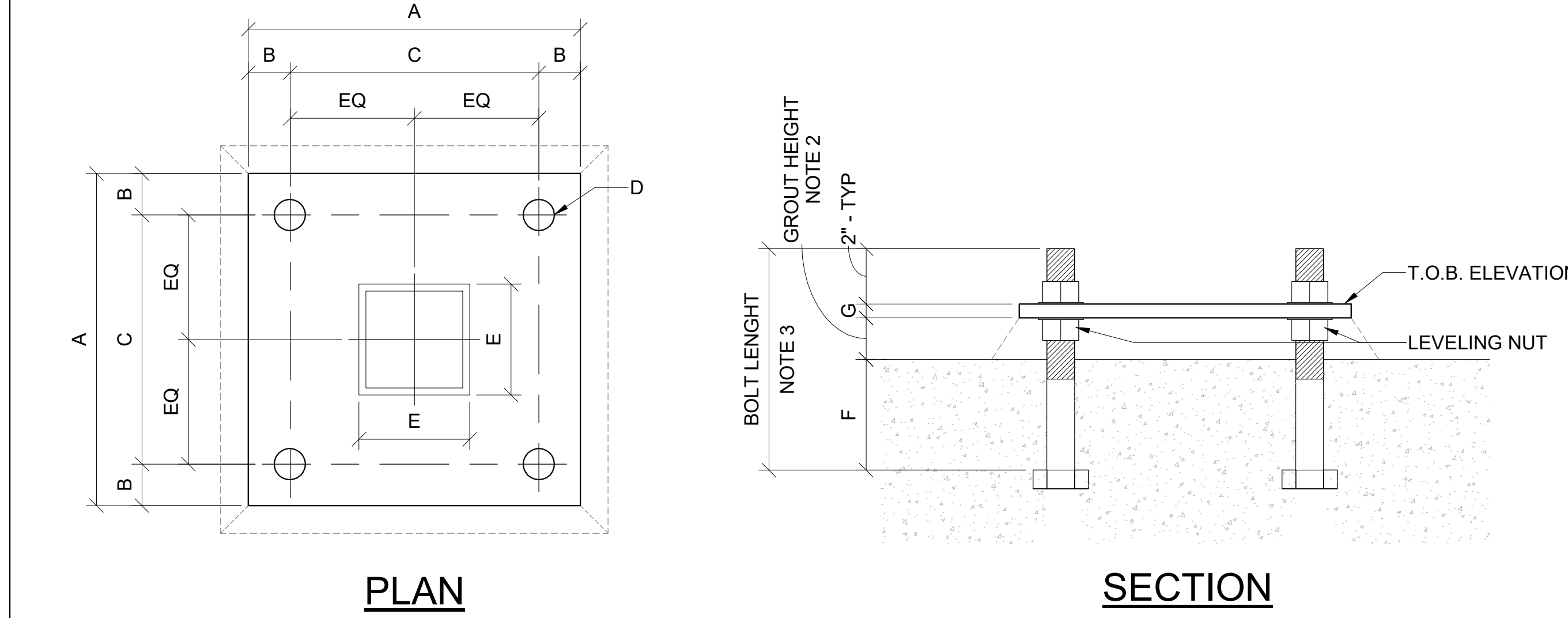
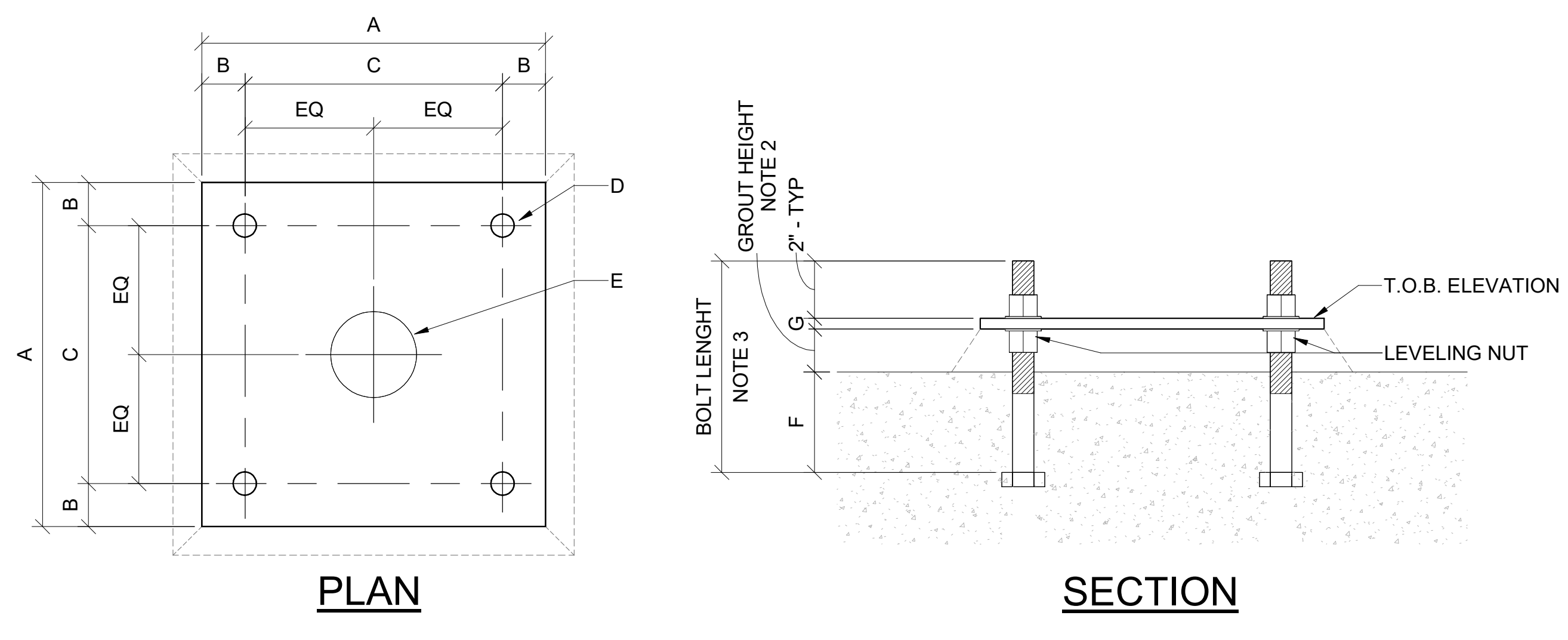
NOTES:
 1- BASEPLATE MATERIAL TO BE TYPE 304 SS.
 2- GROUT HEIGHT VARIES WITH MINIMUM 1 1/2". SEE HEIGHT SPECIFICATIONS ON SHEET 921.MP.S.AG.2003 - AREA B AND SHEET 921.MP.S.AG.2005 - AREA C.
 3- SEE BOLT LENGTH ON SHEET 921.MP.S.AG.2003 - AREA B AND SHEET 921.MP.S.AG.2005 - AREA C.

MARK #	QTY	A	B	C	D (Ø)	E	F (Hef)	G	ANCHOR NOTES
MK-04	17	12"	1 1/2"	9"	1 1/8"	4"	11 5/16"	3/4"	1" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M
MK-05	21	12"	1 1/2"	9"	13/16"	4"	11 5/16"	3/4"	3/4" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M

NOTES:
 1- BASEPLATE MATERIAL TO BE TYPE 304 SS.
 2- GROUT HEIGHT VARIES WITH MINIMUM 1 1/2". SEE HEIGHT SPECIFICATIONS ON SHEET 921.MP.S.AG.2003 - AREA B AND SHEET 921.MP.S.AG.2005 - AREA C.
 3- SEE BOLT LENGTH ON SHEET 921.MP.S.AG.2003 - AREA B AND SHEET 921.MP.S.AG.2005 - AREA C.

MARK #	QTY	A	B	C	D (Ø)	E	F	G	ANCHOR NOTES
MK-06	3	6"	7/8"	4 1/4"	5/8"	1 5/8"	5"	1/4"	1/2" Ø THREADED BOLT HEAVY HEX HEAD ALL ANCHORS 316SS PER SPEC. A193 B8M

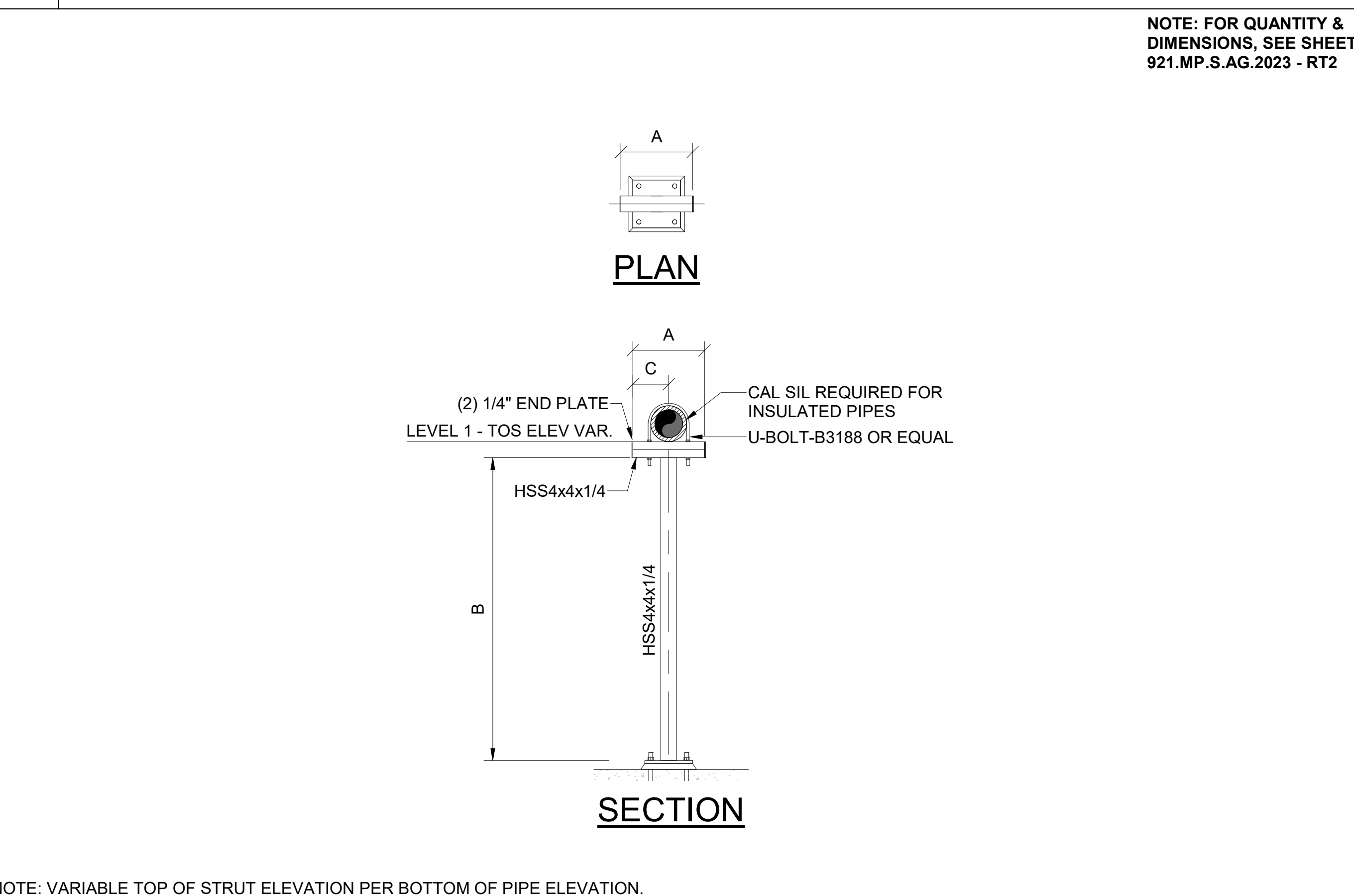
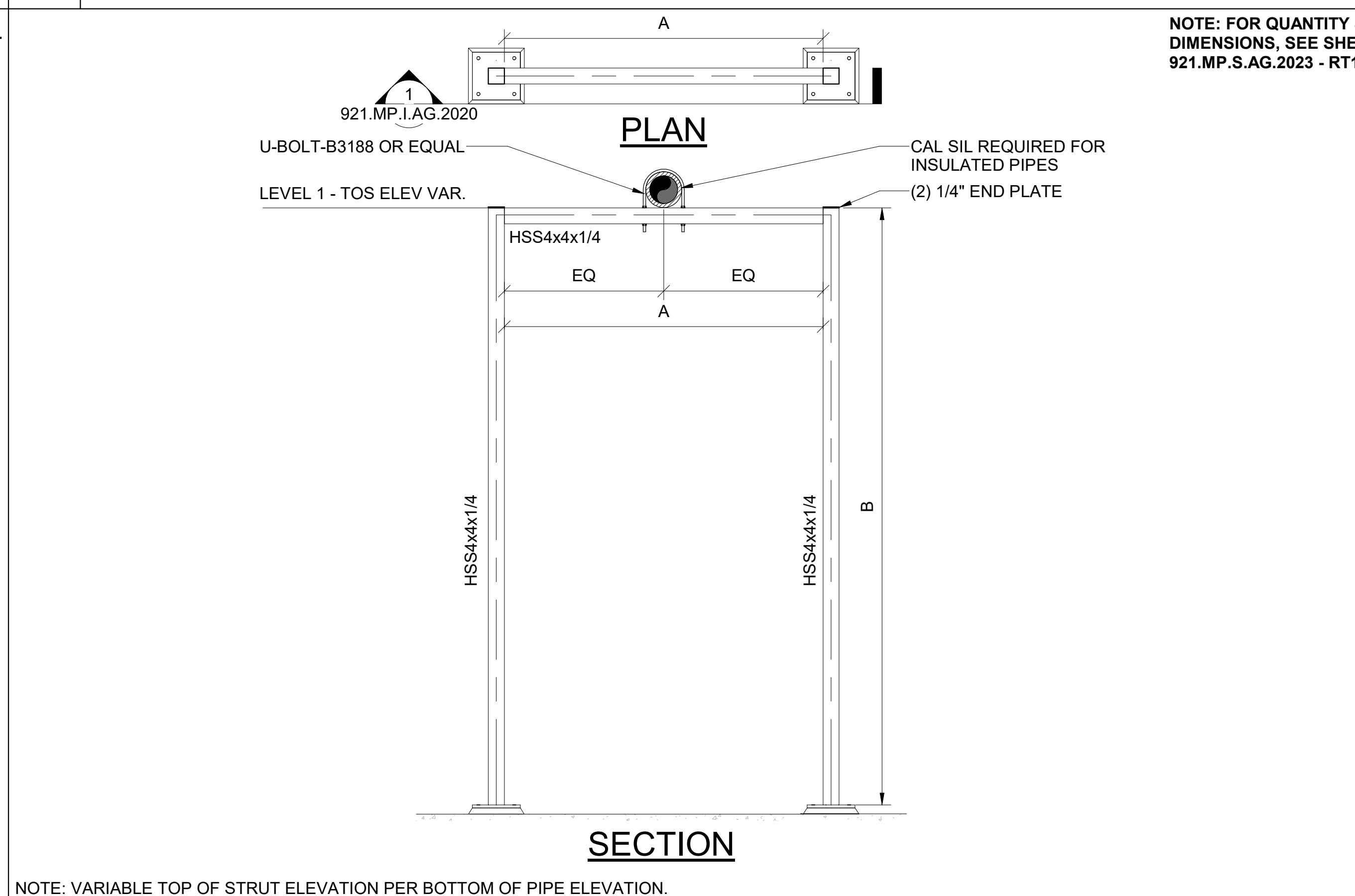
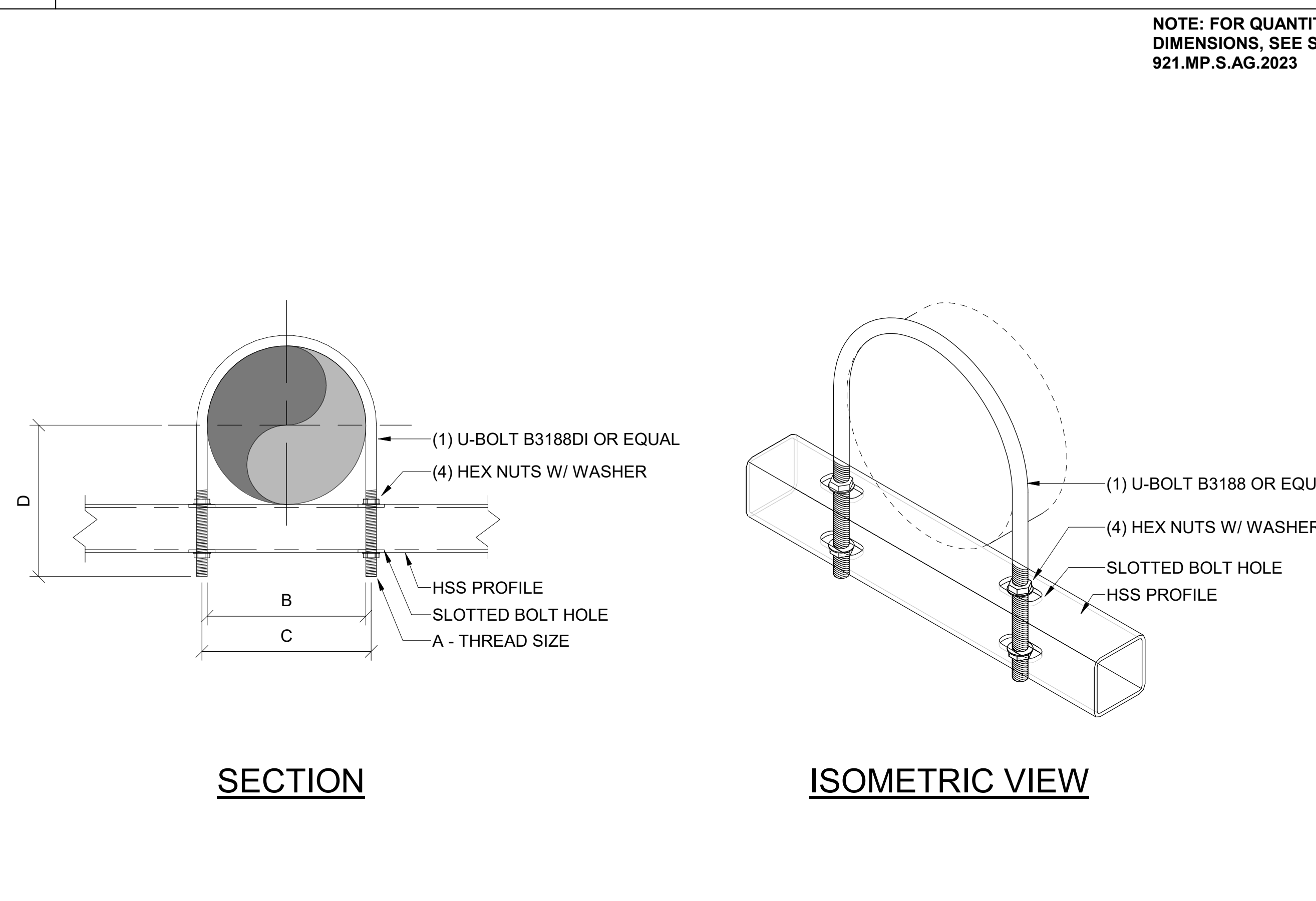
NOTES:
 1- BASEPLATE MATERIAL TO BE TYPE 304 SS.
 2- GROUT HEIGHT VARIES WITH MINIMUM 1 1/2". SEE HEIGHT SPECIFICATIONS ON SHEET 921.MP.S.AG.2005 - AREA C.
 3- SEE BOLT LENGTH ON SHEET 921.MP.S.AG.2005 - AREA C.



A BASEPLATE DETAIL FOR CAST-IN-PLACE ROUNDED POST SUPPORTS

B BASEPLATE DETAIL FOR CAST-IN-PLACE HSS RACK SUPPORTS

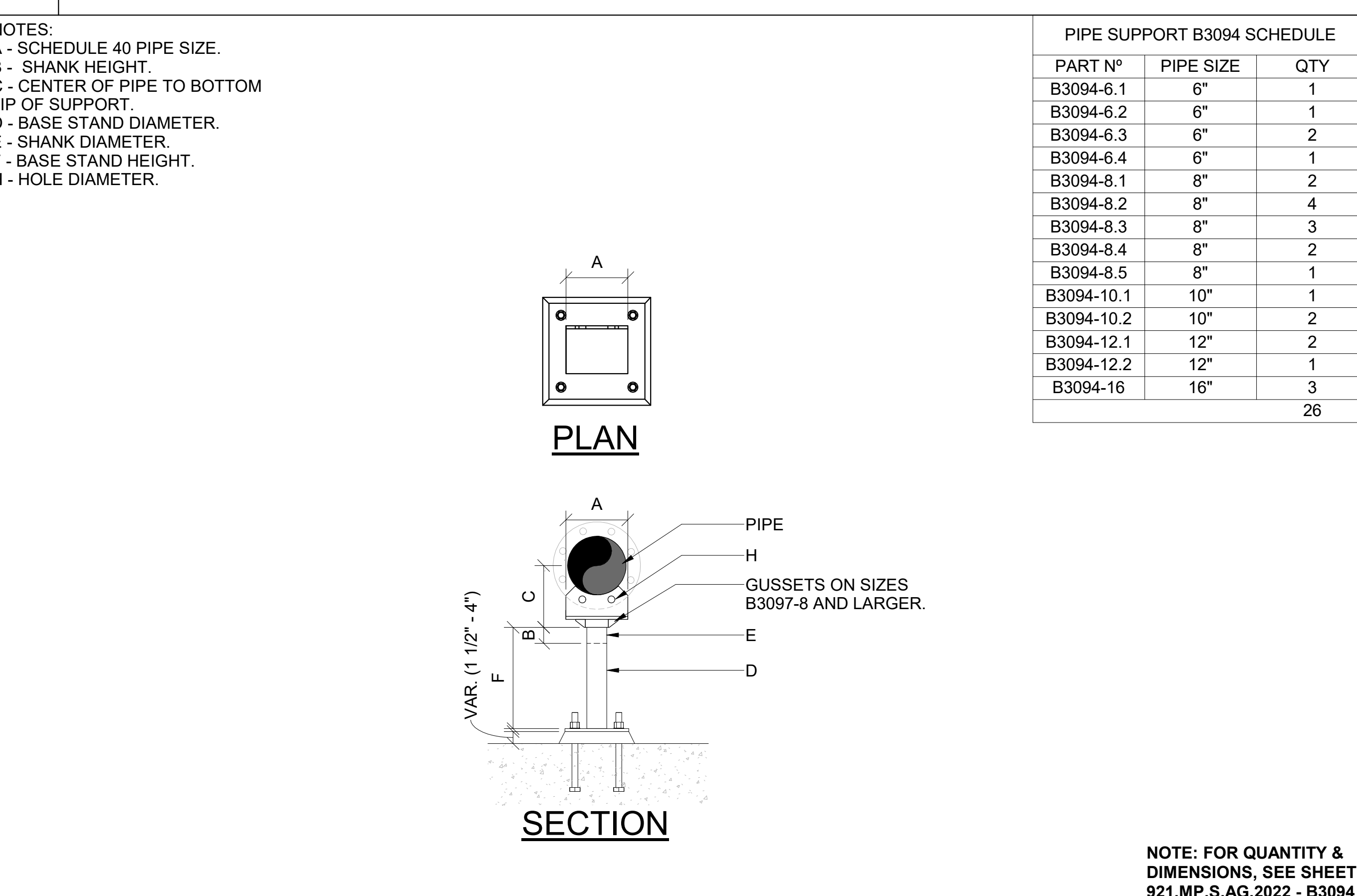
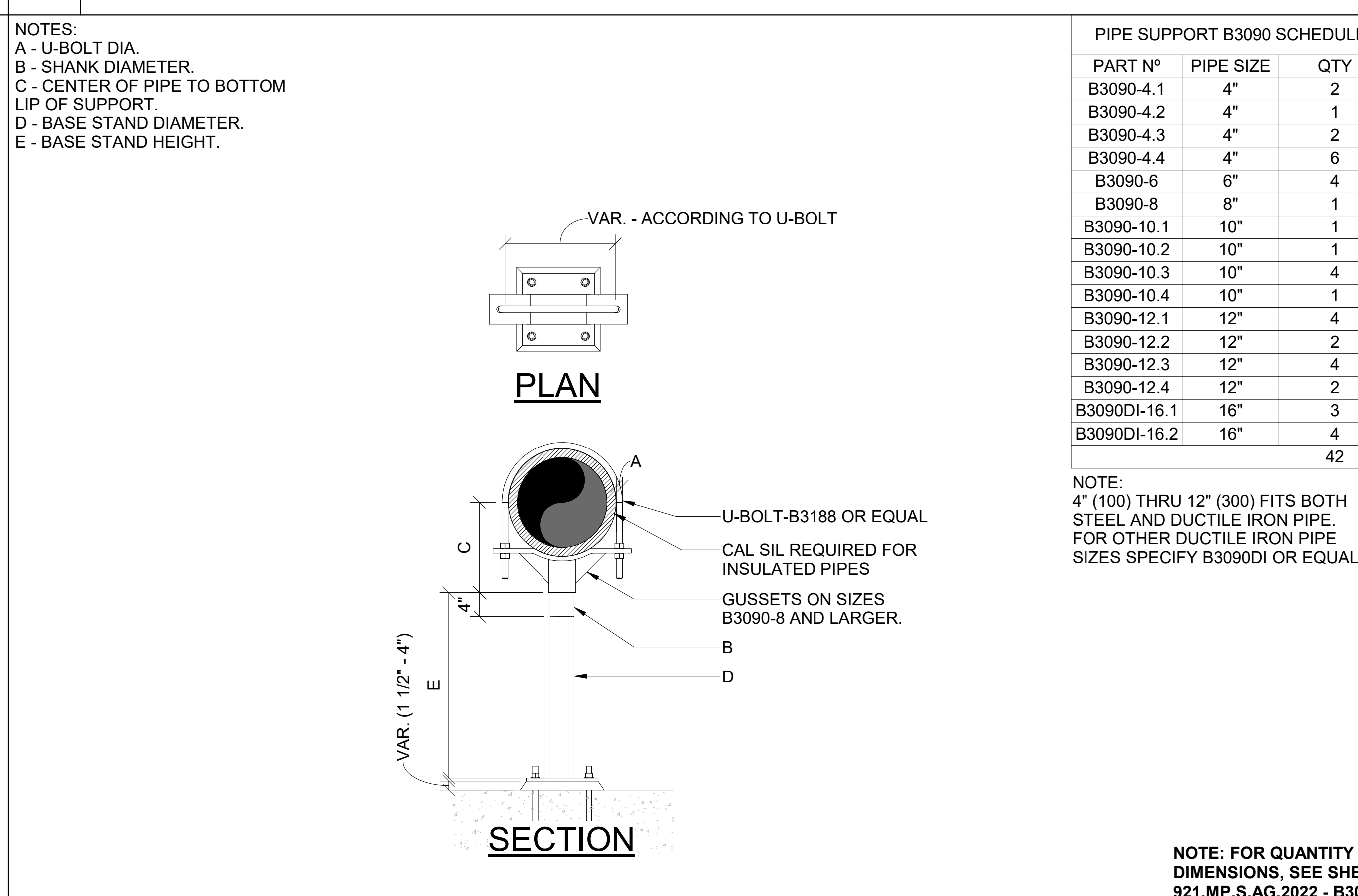
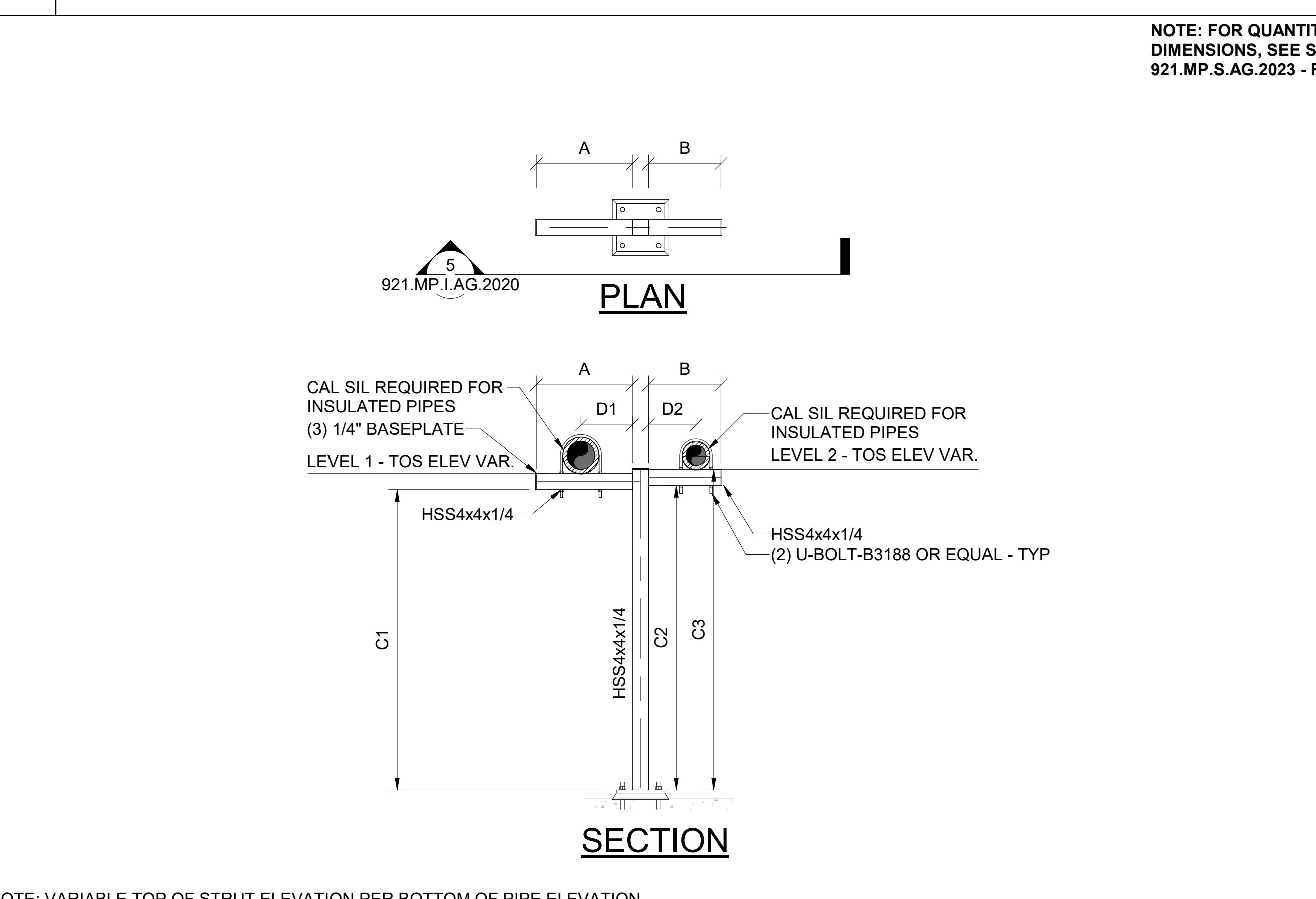
C BASEPLATE DETAIL FOR VERTICAL BRACKET



D U-BOLT ATTACHED TO HSS PROFILE OF PIPE RACKS - TYPICAL DETAIL

E PIPE RACK TYPE 1 - RT1

F PIPE RACK TYPE 2 - RT2



G PIPE RACK TYPE 3 - RT3

H PIPE SUPPORT TYPE 1 - B3090

I PIPE SUPPORT TYPE 2 - B3094

STAMP

QR CODE



PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
DETAILS - BASEPLATES & SUPPORTS

PIPE SUPPORT B3090 SCHEDULE

PART N°	PIPE SIZE	QTY
B3090-4.1	4"	2
B3090-4.2	4"	1
B3090-4.3	4"	2
B3090-4.4	4"	6
B3090-6	6"	4
B3090-8	8"	1
B3090-10.1	10"	1
B3090-10.2	10"	1
B3090-10.3	10"	4
B3090-10.4	10"	1
B3090-12.1	12"	4
B3090-12.2	12"	2
B3090-12.3	12"	4
B3090-12.4	12"	2
B3090DI-16.1	16"	3
B3090DI-16.2	16"	4
		42

PIPE SUPPORT B3094 SCHEDULE

PART N°	PIPE SIZE	QTY
B3094-6.1	6"	1
B3094-6.2	6"	1
B3094-6.3	6"	2
B3094-6.4	6"	1
B3094-8.1	8"	2
B3094-8.2	8"	4
B3094-8.3	8"	3
B3094-8.4	8"	2
B3094-8.5	8"	1
B3094-10.1	10"	1
B3094-10.2	10"	2
B3094-12.1	12"	2
B3094-12.2	12"	1
B3094-16	16"	3
		26

NO. DESCRIPTION DATE

NO.	DESCRIPTION	DATE

ORIGINAL PRINT SIZE = 36x48
KEY PLAN

JOB NUMBER
DATE 01/23/2024 12:53:15 PM
DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

DETAILS - BASEPLATES & SUPPORTS

DRAWING NUMBER
921.MP.I.AG.2020

Pipe Rack & Support Layout

YOUR
LOGO
HERE



STAMP

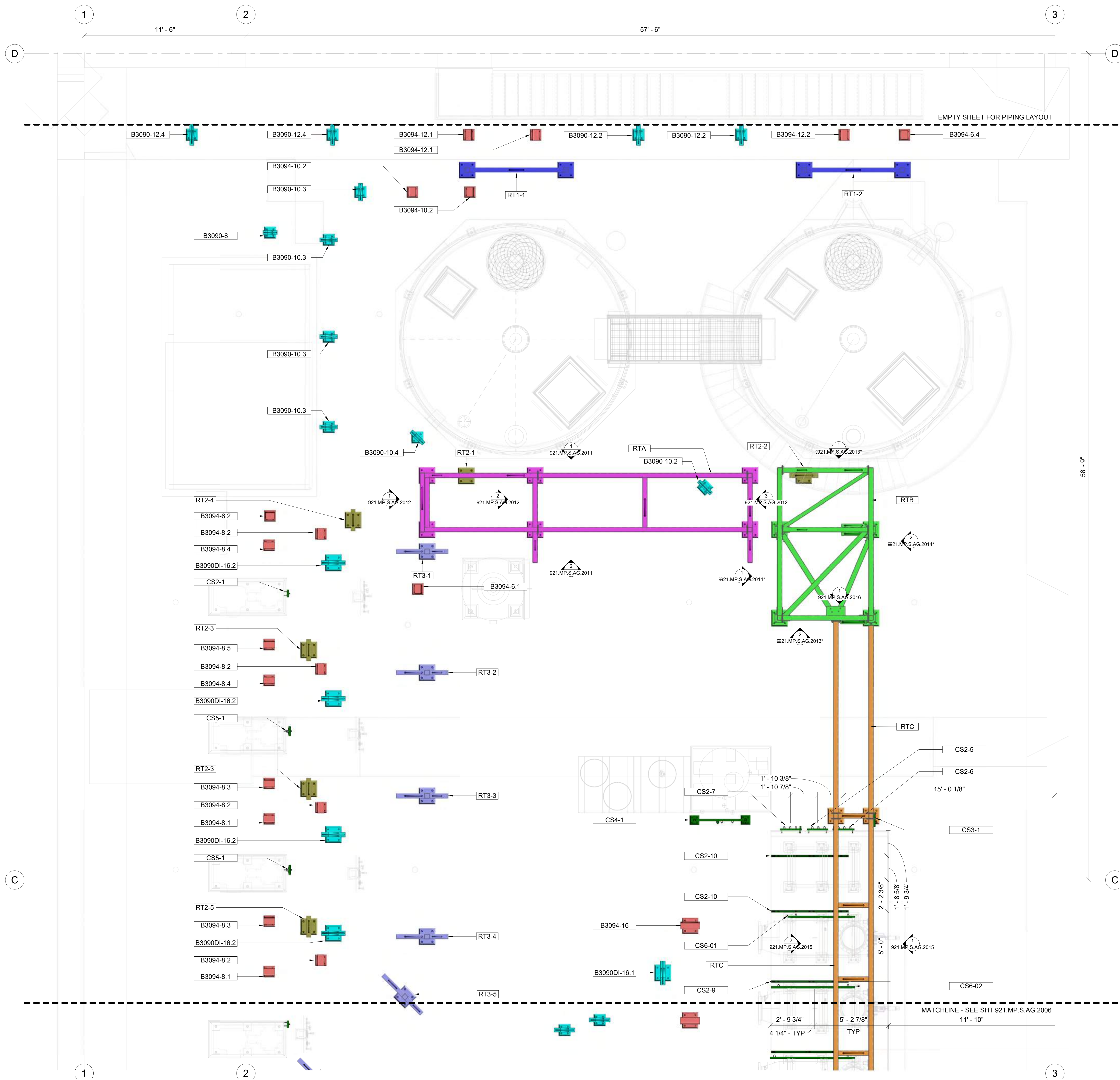
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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

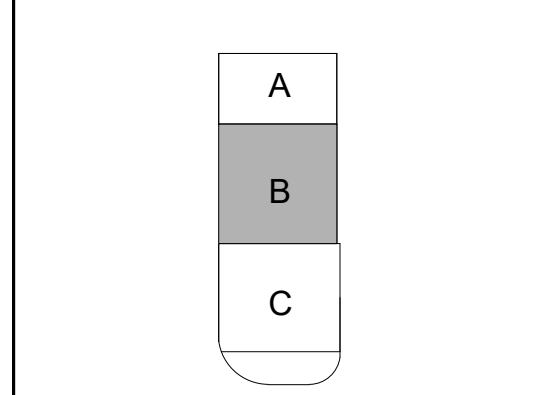
DETAILED PIPE RACK & SUPPORT LAYOUT AREA B

- LEGENDS AND SYMBOLS**
- RT1 - SUPPORT RACK TYPE 1
 - RT2 - SUPPORT RACK TYPE 2
 - RT3 - SUPPORT RACK TYPE 3
 - RT4 - SUPPORT RACK TYPE 4
 - RTA - SUPPORT RACK TYPE A
 - RTB - SUPPORT RACK TYPE B
 - RTC - SUPPORT RACK TYPE C
 - RTD - SUPPORT RACK TYPE D
 - B3090 - PIPE SUPPORT TYPE 1
 - B3094 - PIPE SUPPORT TYPE 2
 - CSX - CUSTOM SUPPORT TYPE 1
 - X = SUPPORT TYPE NUMBER
 - RT1-1 - SUPPORT ID
 - SUPPORT TYPE NUMBER



1 ABOVE GROUND - AREA B - PIPE RACK & SUPPORT LAYOUT
3/8" = 1'-0"

NO.	DESCRIPTION	DATE



JOB NUMBER	220165
ISSUED FOR	CONSTRUCTION
DATE	01/16/2024 12:25:51 PM
DRAWN BY	Author
CHECKED BY	CHECKER
DRAWING SCALE	AS SHOWN
SHEET TITLE	

DETAILED PIPE RACK & SUPPORT LAYOUT AREA B

DRAWING NUMBER
921.MP.S.AG.2004

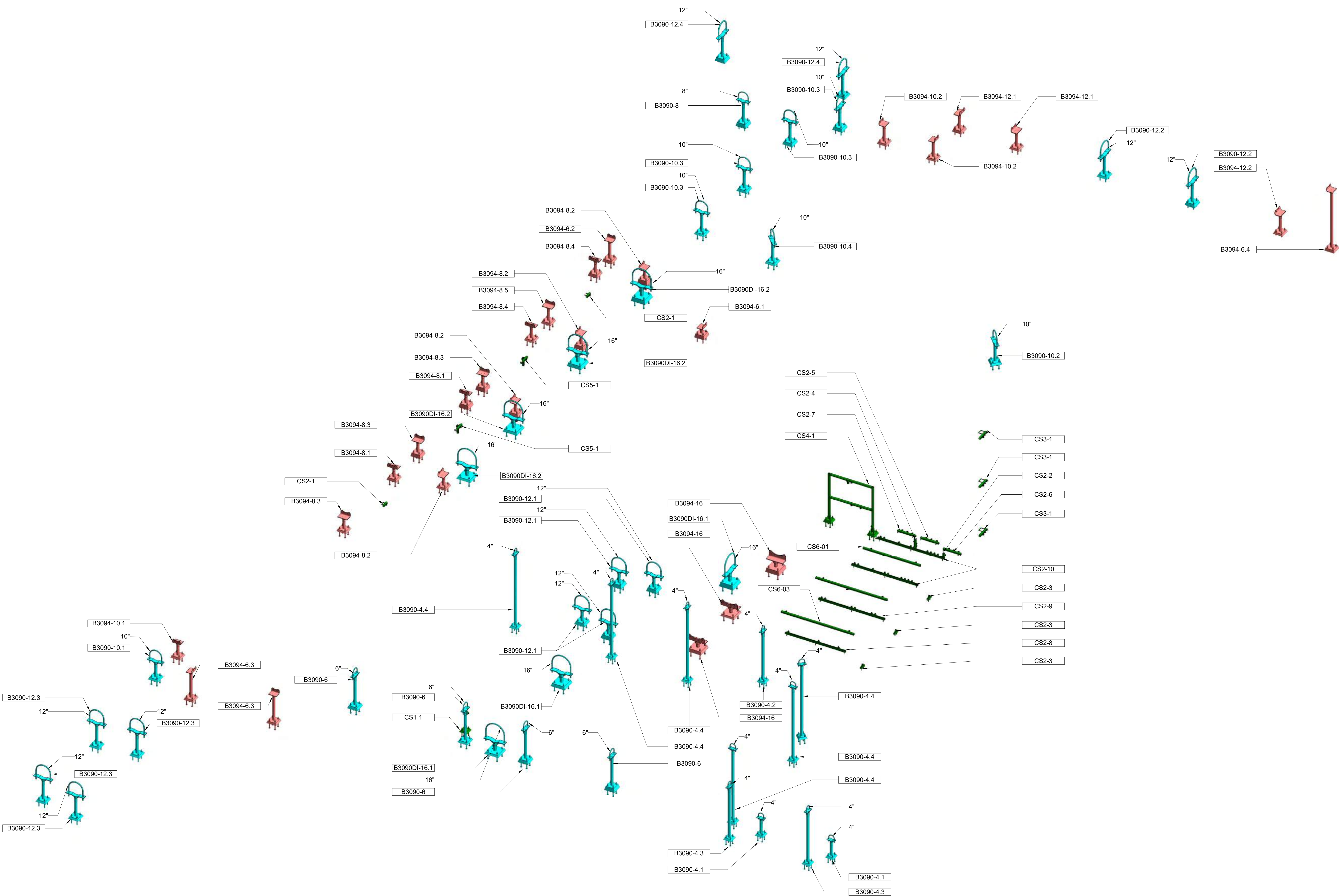
BAA 360 (REV. 2021) - VEC DR TRAINING SAMPLE (SAMPLE) 1/1
 CURRENT REVISION # | CURRENT REVISION DATE

Pipe Support 3D Isometric Design

YOUR
LOGO
HERE



- LEGENDS AND SYMBOLS**
- B3090 - PIPE SUPPORT TYPE 1
 - B3094 - PIPE SUPPORT TYPE 2
 - CSX - CUSTOM SUPPORT TYPE 1
 - X = SUPPORT TYPE NUMBER
- B3094-6 → SUPPORT ID
 X → SUPPORT TYPE NUMBER



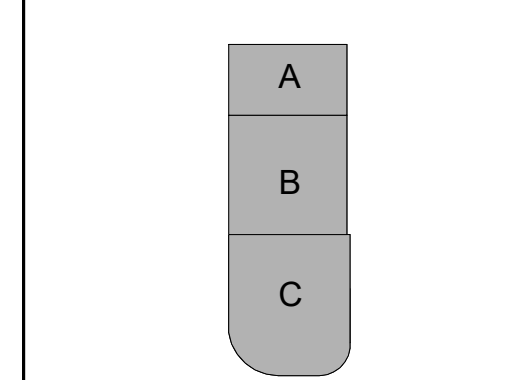
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QR CODE



PROJECT NAME
 BUILDING NAME
 DRAWING PACKAGE
 PROJECT ADDRESS
 3D ISOMETRIC - PIPE SUPPORT

NO. DESCRIPTION DATE
 ORIGINAL PRINT SIZE = 36x48



JOB NUMBER 220165
 ISSUED FOR CONSTRUCTION
 DATE 01/16/2024 12:28:34 PM
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 CHECKED BY: CHECKER
 DRAWING SCALE AS SHOWN
 SHEET TITLE

3D ISOMETRIC - PIPE SUPPORT

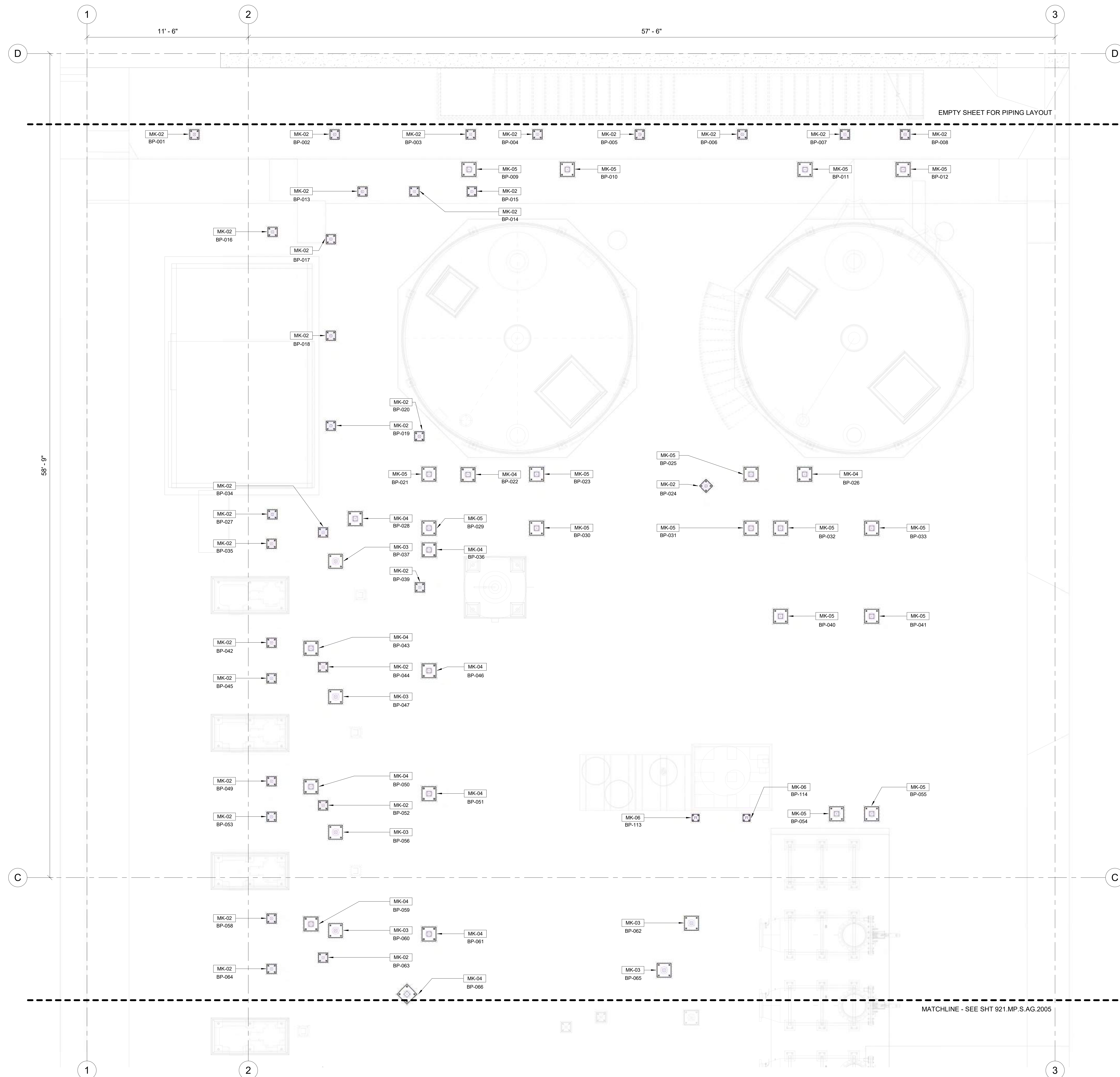
DRAWING NUMBER
921.MP.S.AG.2019

1 PIPE SUPPORT - ISOMETRIC 3D VIEW
 N.T.S.

B:\3601\REV 2021 - VEC DR TRAINING\2024\MP\2019\SAMPLE1.MXD
 CURRENT REVISION # CURRENT REVISION DATE

Detailed Pipe Support & Baseplate Layout

YOUR
LOGO
HERE



LEGENDS AND SYMBOLS

- POST
- BASEPLATE
- GROUT
- LAYOUT POINT
- T.O.B. ELEVATION
- MK-02 BASEPLATE TYPE MARK #
- BP-003 BASEPLATE POINT NUMBER

GENERAL NOTES

1. FOR MK-01 TO MK-03, SEE DETAIL A/921.MP.S.AG.2020.
2. FOR MK-04 AND MK-05, SEE DETAIL B/921.MP.S.AG.2020.
3. FOR MK-06, SEE DETAIL C/921.MP.S.AG.2020.

POINT NUMBER	NORTHING (Y)	EASTING (X)	ELEVATION (Z)	GROUT HEIGHT	BOLT LENGTH
BP-001	75506.13	174099.26	6.90 ft	3 1/4"	11 1/8"
BP-002	75514.27	174105.08	6.90 ft	1 1/2"	9 3/8"
BP-003	75522.17	174110.71	7.11 ft	2 3/8"	10 1/4"
BP-004	75526.03	174113.47	7.11 ft	1 1/2"	9 3/8"
BP-005	75531.99	174117.72	7.09 ft	1 1/2"	9 3/8"
BP-006	75537.94	174121.96	7.09 ft	2 3/4"	10 5/8"
BP-007	75543.89	174126.20	6.88 ft	1 1/2"	9 3/8"
BP-008	75547.38	174128.69	6.88 ft	2 1/4"	10 1/8"
BP-009	75520.62	174112.68	7.17 ft	1 5/8"	15 5/8"
BP-010	75526.32	174116.74	7.17 ft	1 1/2"	15 5/8"
BP-011	75540.11	174126.58	7.18 ft	1 1/2"	15 5/8"
BP-012	75545.81	174130.64	7.18 ft	1 3/4"	15 3/4"
BP-013	75513.54	174109.56	7.20 ft	2 3/4"	10 5/8"
BP-014	75516.54	174111.70	7.10 ft	1 1/2"	9 3/8"
BP-015	75519.87	174114.07	7.10 ft	1 1/2"	9 3/8"
BP-016	75506.63	174108.18	7.20 ft	3 1/2"	11 3/8"
BP-017	75509.72	174111.01	7.20 ft	2 1/2"	10 3/8"
BP-018	75505.72	174116.62	7.20 ft	2"	9 7/8"
BP-019	75501.99	174121.84	7.20 ft	1 1/2"	9 3/8"
BP-020	75506.89	174126.12	7.19 ft	1 1/2"	9 3/8"
BP-021	75505.68	174128.72	7.31 ft	1 1/2"	15 5/8"
BP-022	75507.93	174130.36	7.31 ft	1 1/2"	15 5/8"
BP-023	75511.92	174133.17	7.31 ft	1 1/2"	15 5/8"
BP-024	75521.28	174140.87	7.26 ft	1 1/2"	9 3/8"
BP-025	75524.37	174142.05	7.32 ft	1 3/4"	15 3/4"
BP-026	75527.48	174144.27	7.31 ft	1 1/2"	15 5/8"
BP-027	75494.94	174124.56	7.27 ft	2 1/8"	10"
BP-028	75499.56	174128.24	7.46 ft	3 1/4"	17 3/8"
BP-029	75503.45	174131.84	7.31 ft	2 1/8"	16 1/8"
BP-030	75509.70	174136.29	7.31 ft	1 7/8"	16"
BP-031	75522.14	174145.17	7.32 ft	2 5/8"	16 3/4"
BP-032	75523.85	174146.39	7.32 ft	2"	16"
BP-033	75529.14	174150.16	7.32 ft	2 5/8"	16 3/4"
BP-034	75497.13	174127.70	7.46 ft	3 3/4"	11 5/8"
BP-035	75493.67	174126.23	7.27 ft	2 3/8"	10 1/4"
BP-036	75502.56	174133.11	7.24 ft	1 7/8"	15 7/8"
BP-037	75496.66	174129.90	7.46 ft	3 1/2"	11 3/8"
BP-038	75500.47	174134.91	7.29 ft	3 1/4"	11 1/8"
BP-039	75520.20	174151.51	7.32 ft	1 1/2"	15 5/8"
BP-040	75525.49	174155.28	7.32 ft	2 7/8"	16 7/8"
BP-041	75489.57	174131.98	7.27 ft	1 7/8"	9 3/4"
BP-042	75491.63	174133.93	7.46 ft	2 7/8"	17"
BP-043	75491.55	174135.53	7.46 ft	3 1/8"	11"
BP-044	75488.09	174134.05	7.27 ft	1 1/2"	9 3/8"
BP-045	75497.55	174140.12	7.24 ft	1 1/2"	15 5/8"
BP-046	75491.05	174137.77	7.46 ft	2 3/4"	10 5/8"
BP-047	75483.84	174140.02	7.49 ft	3 3/8"	11 1/4"
BP-048	75485.90	174141.97	7.46 ft	2 1/4"	16 1/4"
BP-049	75492.46	174147.26	7.54 ft	3 3/4"	17 7/8"
BP-050	75485.82	174143.56	7.46 ft	2 3/8"	10 1/4"
BP-051	75482.36	174142.08	7.49 ft	3 1/2"	11 3/8"
BP-052	75515.28	174165.30	7.39 ft	1 1/2"	15 5/8"
BP-053	75517.31	174166.75	7.39 ft	2 3/8"	16 3/8"
BP-054	75485.44	174145.64	7.46 ft	2"	9 7/8"
BP-055	75478.16	174147.99	7.49 ft	3"	10 7/8"
BP-056	75480.22	174149.94	7.46 ft	1 1/2"	15 5/8"
BP-057	75481.37	174151.34	7.46 ft	1 1/2"	9 3/8"
BP-058	75486.65	174155.40	7.54 ft	3 1/4"	17 1/4"
BP-059	75502.33	174165.63	7.50 ft	3 1/2"	11 3/8"
BP-060	75479.53	174152.39	7.46 ft	1 1/2"	9 3/8"
BP-061	75476.07	174150.92	7.49 ft	2"	9 7/8"
BP-062	75498.79	174167.24	7.63 ft	3 5/8"	11 1/2"
BP-063	75482.89	174157.98	7.54 ft	1 1/2"	15 5/8"
BP-064	75506.92	174159.70	7.32 ft	2"	9 1/4"
BP-113	75509.88	174161.81	7.32 ft	1 3/4"	9"

NOTE: ELEVATION FROM SEA LEVEL

STAMP

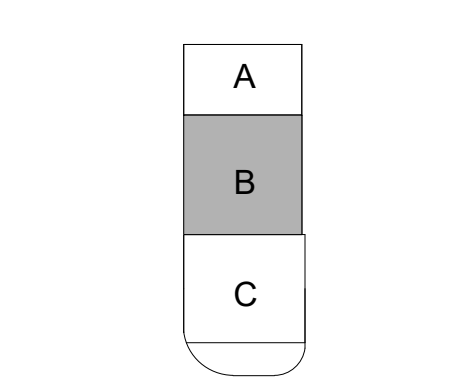
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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

DETAILED PIPE SUPPORT BASEPLATE LAYOUT AREA B

NO. DESCRIPTION DATE
ORIGINAL PRINT SIZE = 36x48



JOB NUMBER 220165
ISSUED FOR CONSTRUCTION
DATE 01/16/2024 12:25:39 PM
DRAWN BY: Author
CHECKED BY: CHECKER
DRAWING SCALE AS SHOWN
SHEET TITLE

DETAILED PIPE SUPPORT BASEPLATE LAYOUT AREA B
DRAWING NUMBER

921.MP.S.AG.2003

1 ABOVE GROUND - AREA B - PIPE SUPPORT BASEPLATE LAYOUT
3/8" = 1'-0"

BIM 360/REV 2021 - VEC DR 17/09/2024 (MP.S.AG.2003) (SAMPLE) (M)
CURRENT REVISION # CURRENT REVISION DATE

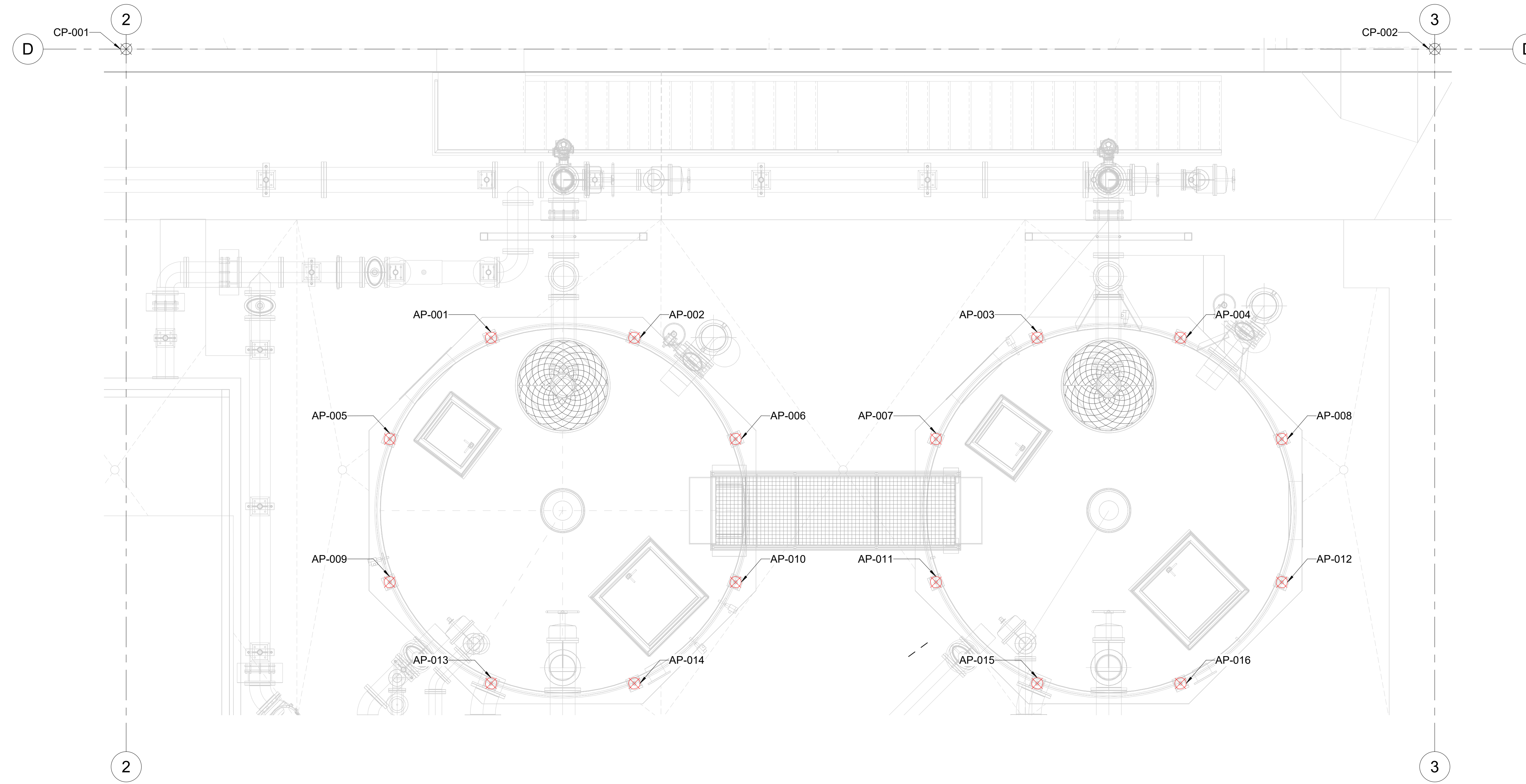
Equipment Anchorage Points

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- LEGENDS AND SYMBOLS**
- ⊗ CP# - CONTROL POINT
 - ⊗ AP# - ANCHORAGE POINT
 - TRIMBLE TYPE
 - TRIMBLE NUMBER



W2 WATER STORAGE TANKS TRIMBLE POINTS

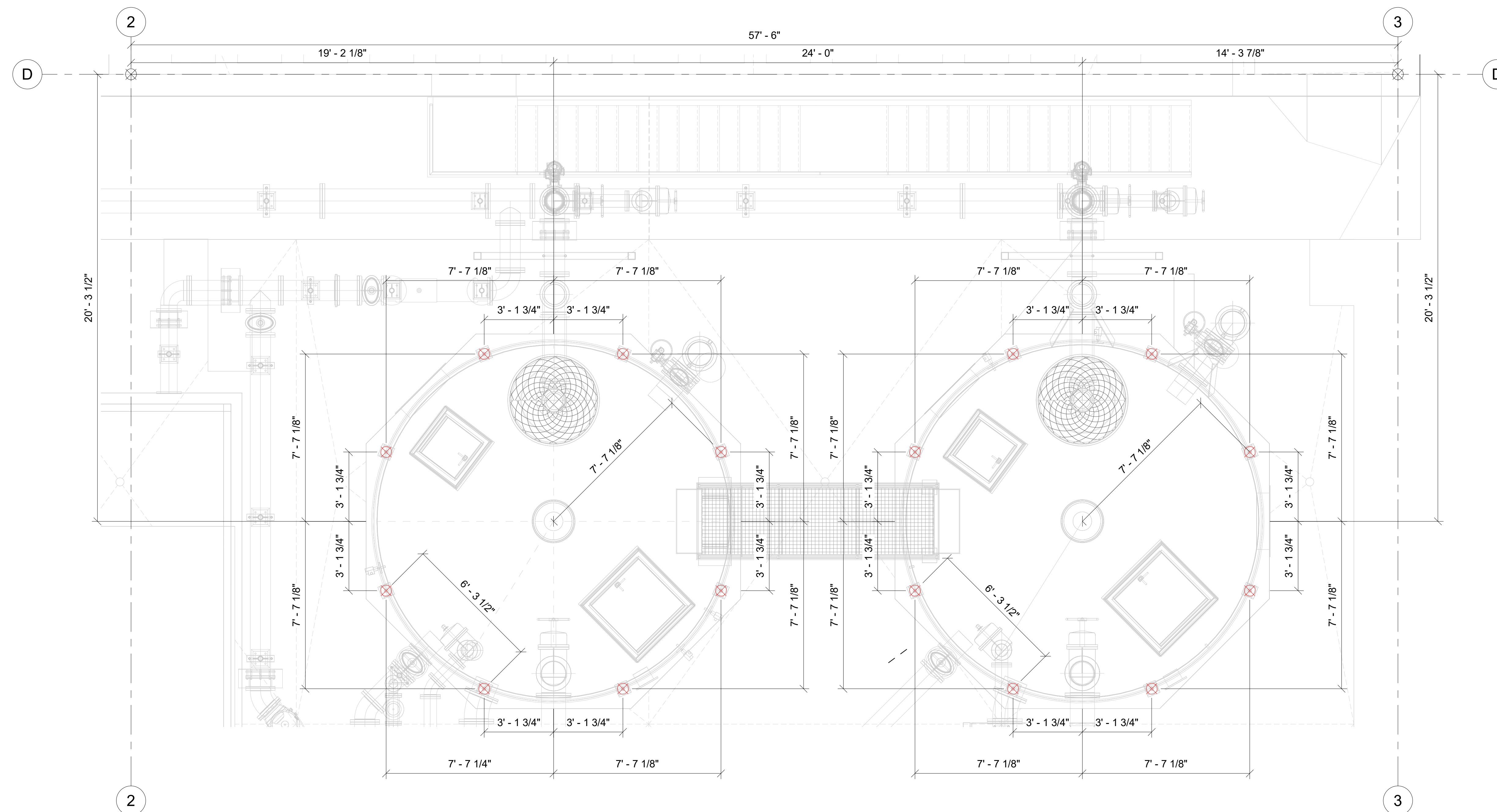
POINT NUMBER	NORTHING (Y)	EASTING (X)
AP-001	75518.287	174116.478
AP-002	75523.412	174120.133
AP-003	75537.827	174130.413
AP-004	75542.952	174134.968
AP-005	75512.079	174117.518
AP-006	75524.451	174126.340
AP-007	75531.620	174131.453
AP-008	75543.991	174140.276
AP-009	75508.422	174122.640
AP-010	75520.796	174131.465
AP-011	75527.966	174136.578
AP-012	75540.337	174145.401
AP-013	75509.454	174128.850
AP-014	75514.589	174132.505
AP-015	75529.004	174142.765
AP-016	75534.129	174146.440

STAMP

QR CODE



1 ENLARGED W2 WATER STORAGE TANKS
3/8" = 1'-0"



2 ENLARGED W2 WATER STORAGE TANKS
3/8" = 1'-0"

PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
W2 WATER STORAGE TANKS

NO.	DESCRIPTION	DATE

KEY PLAN

JOB NUMBER	
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W2 WATER STORAGE TANKS

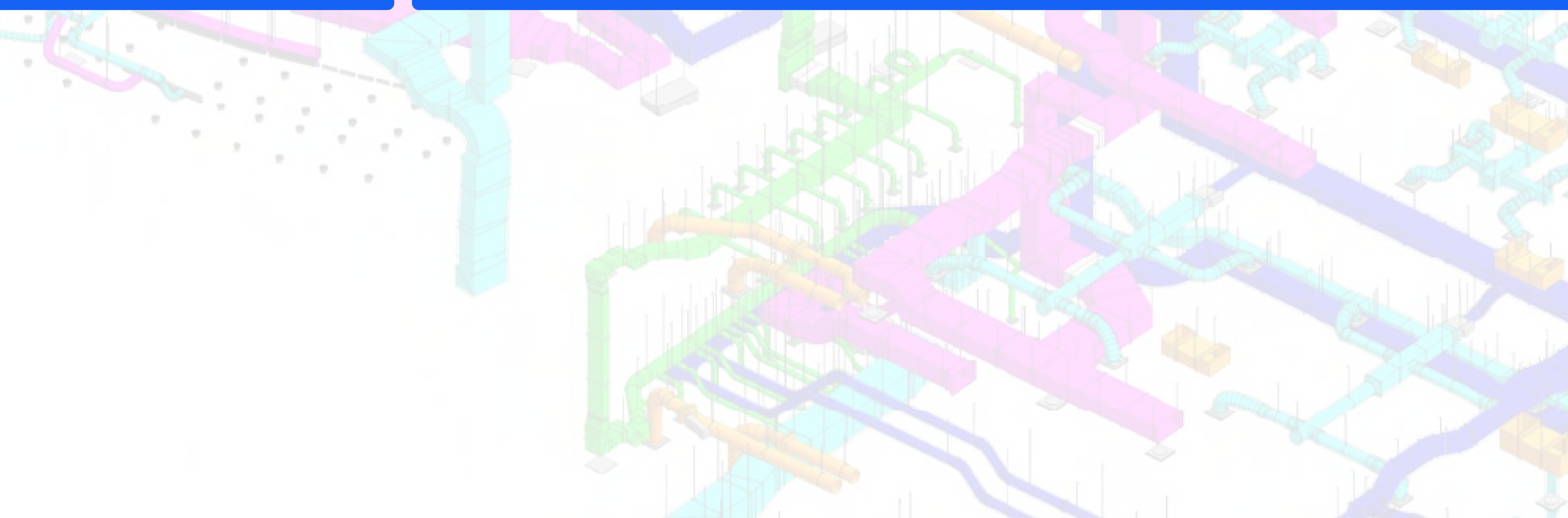
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921.MP.I.AG.6002



VEC

HVAC DUCTWORK & PIPING (DRY)



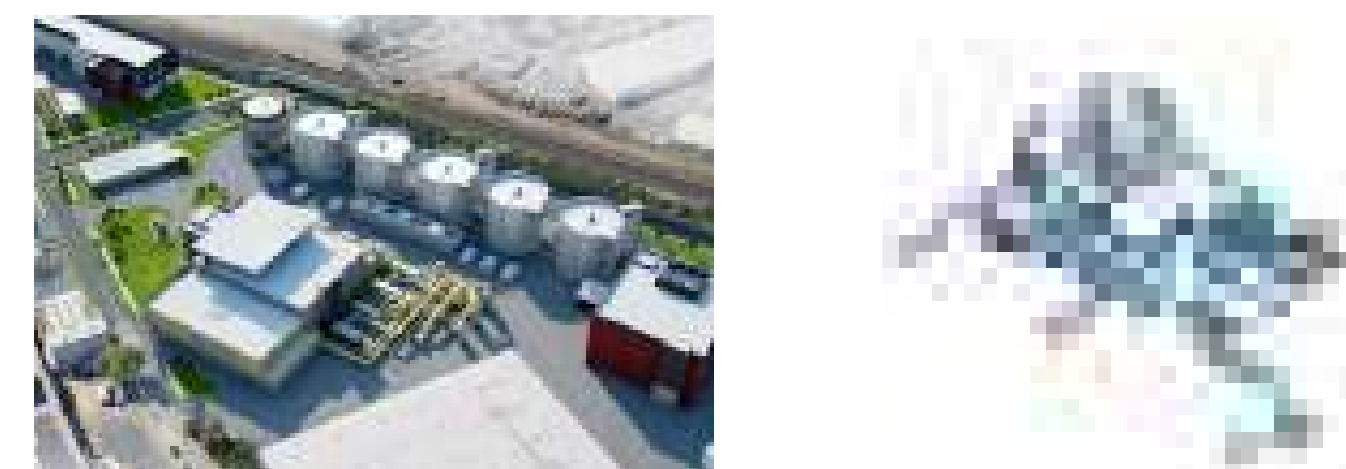
PROJECT EXPERIENCE

PROCESS PIPING

SFPUC B615



SFPUC B921



KEYSIGHT TECHNOLOGIES

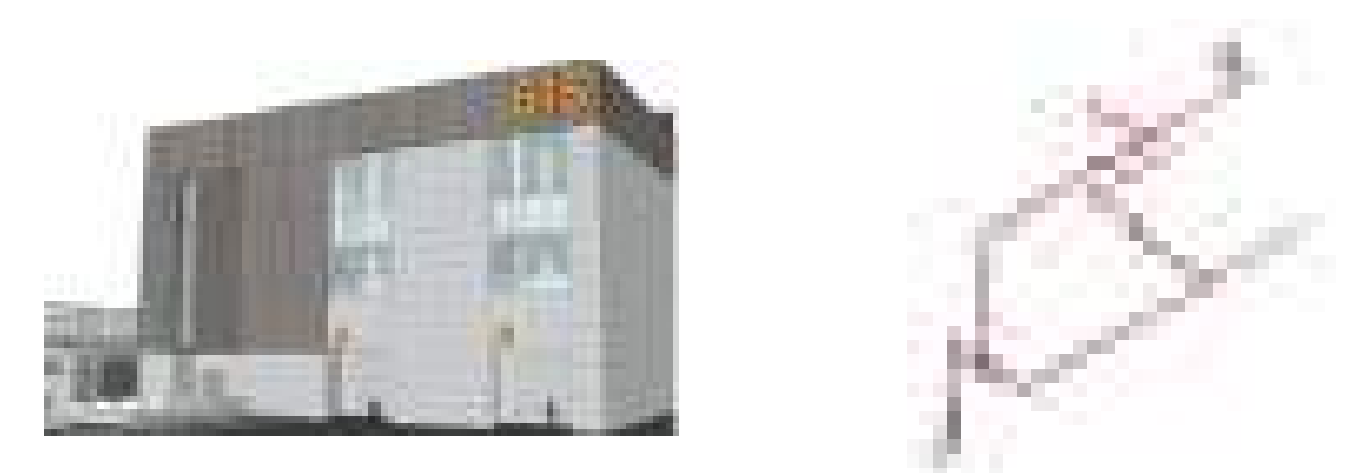


SFPUC B913



HVAC DUCTWORK & PIPING

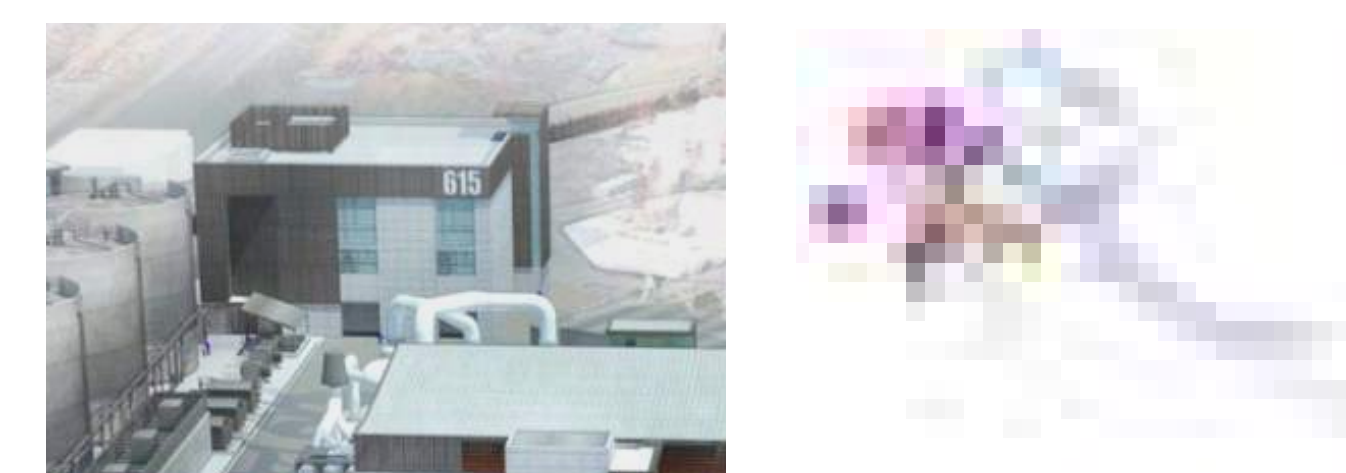
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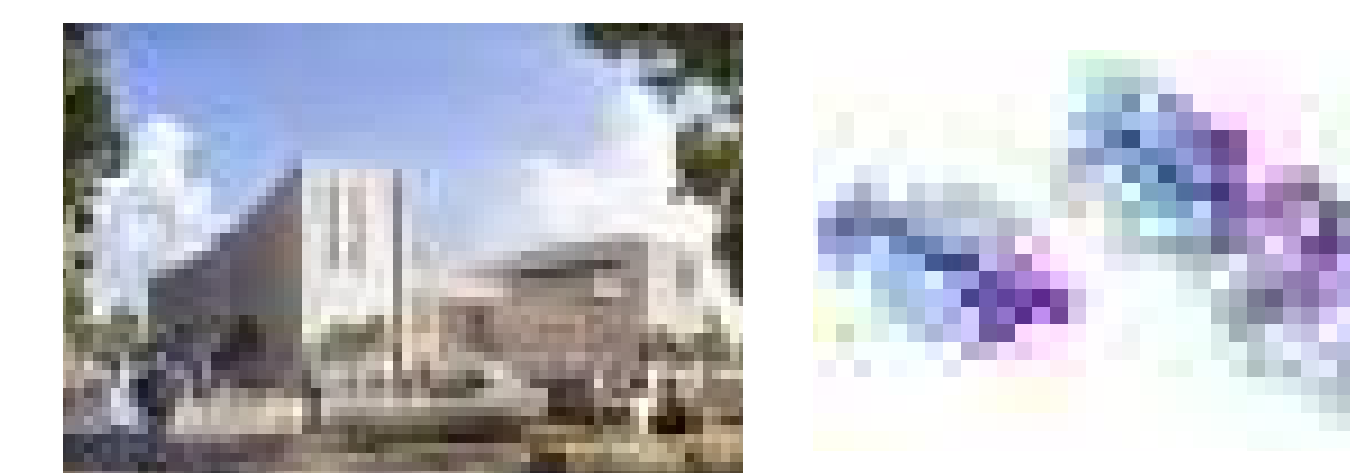
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SFPUC B615

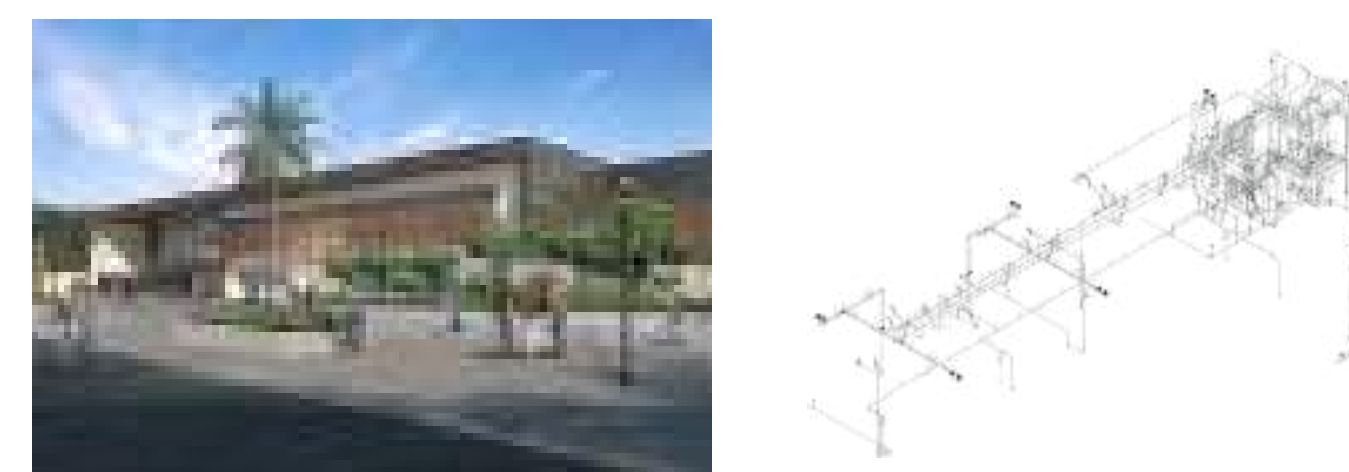


UCSB

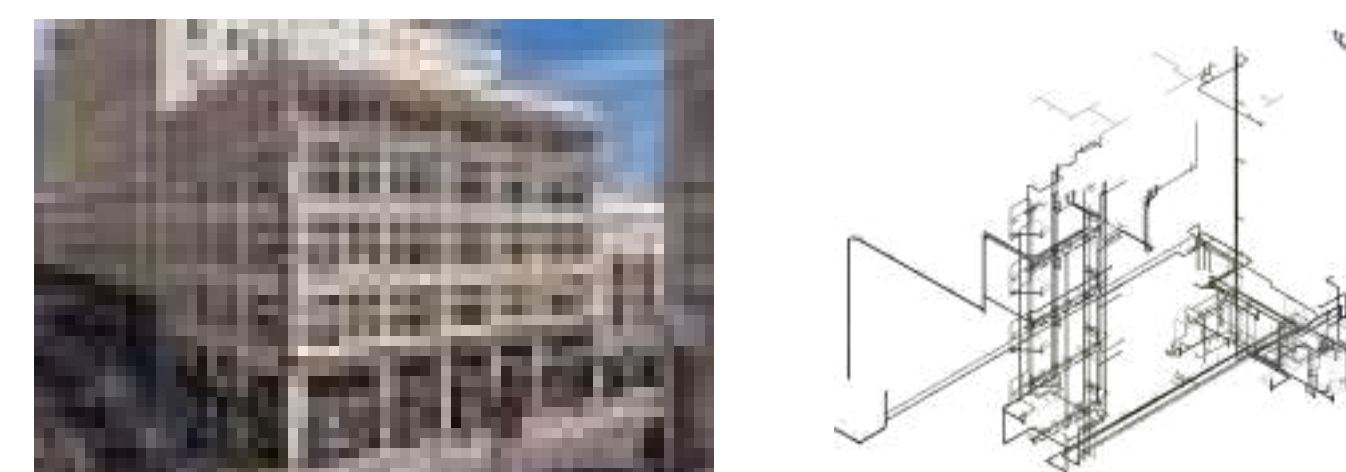


PLUMBING CONSTRUCTION & DESIGN

DEL SOL HIGH SCHOOL



48 STOCKTON



SFPUC B615



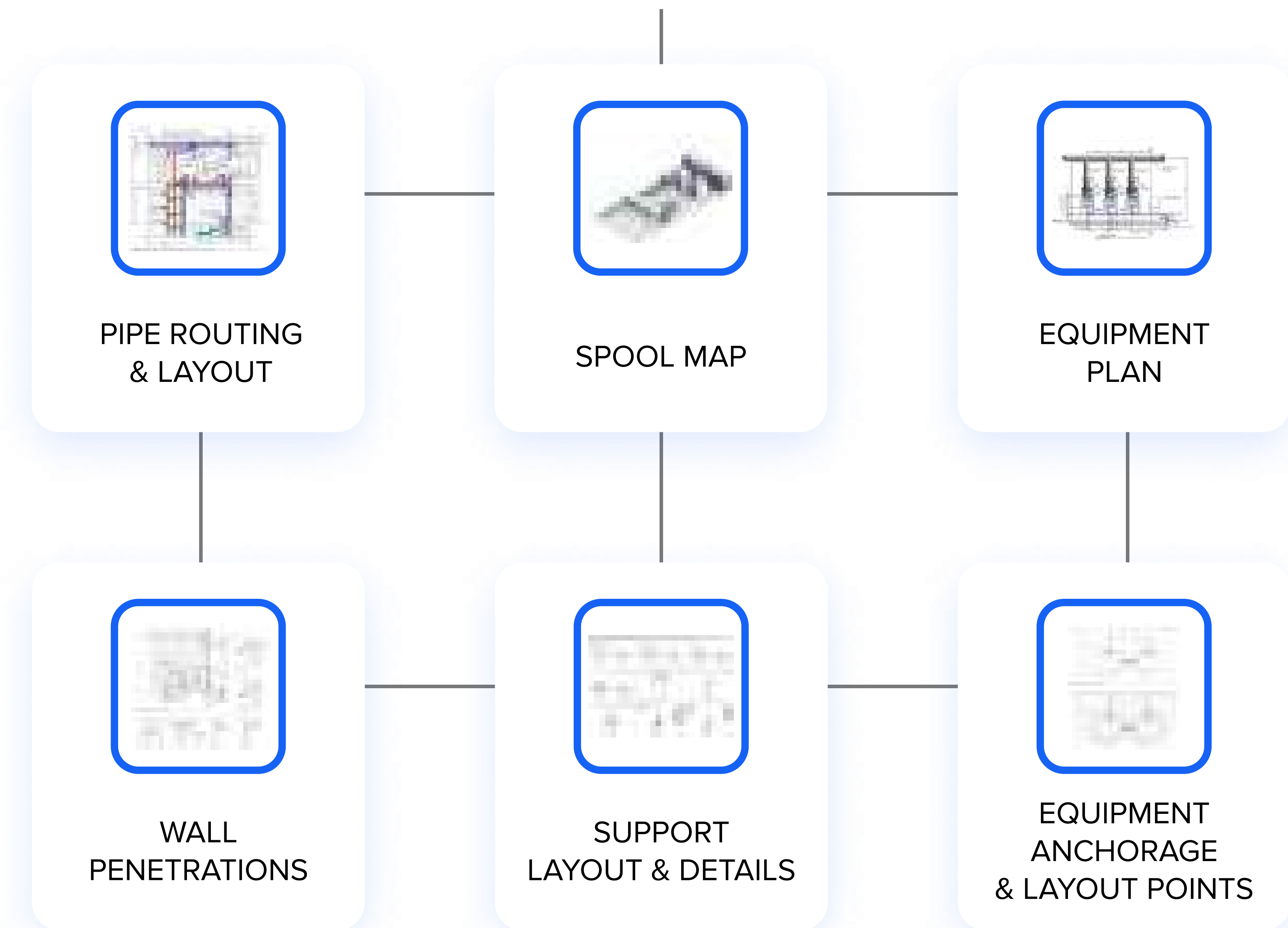
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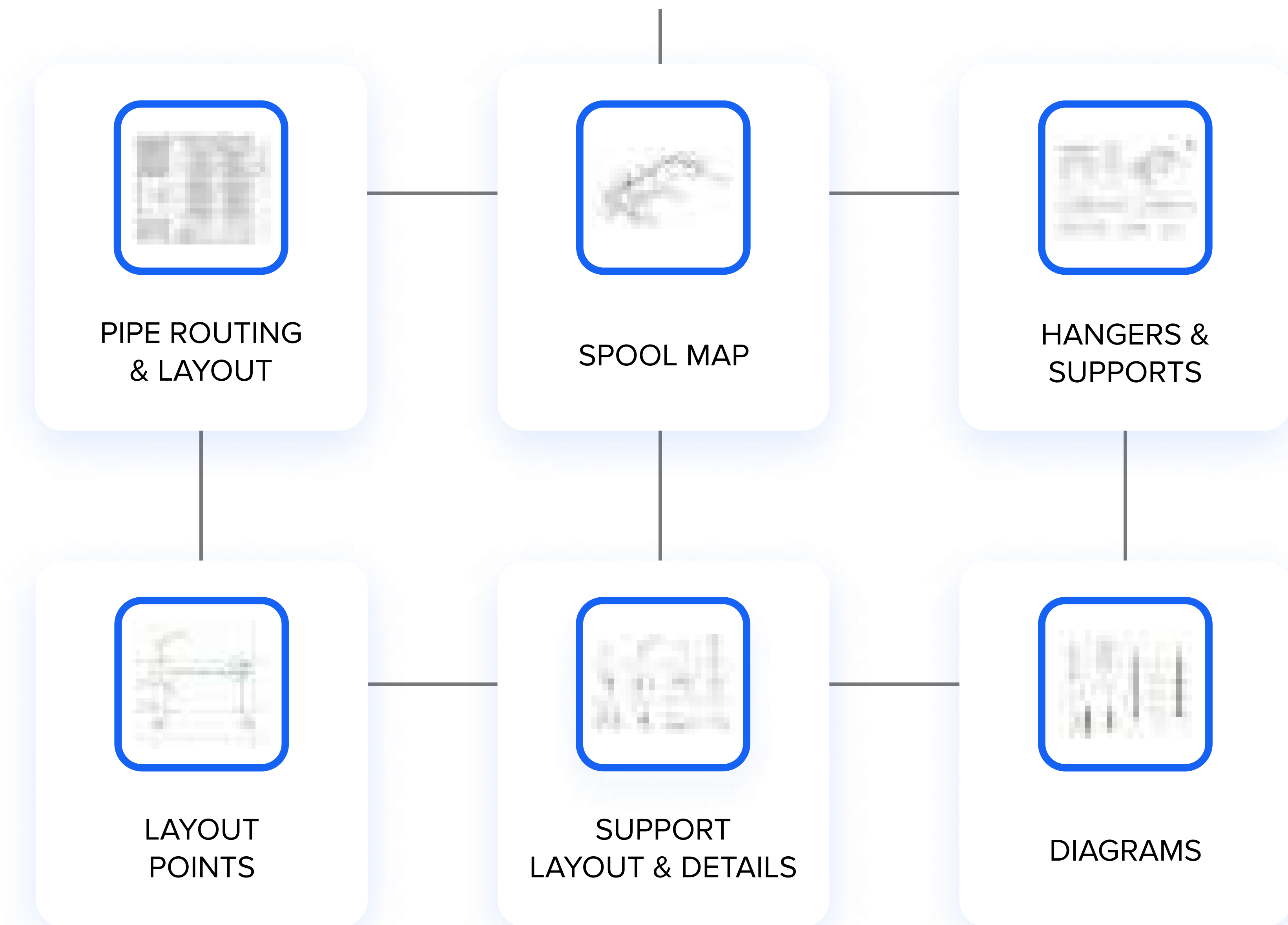
San Francisco (HQ)
201 Spear Street
Suite 1750 San Francisco,
California, 94105

WHAT IS INSIDE?

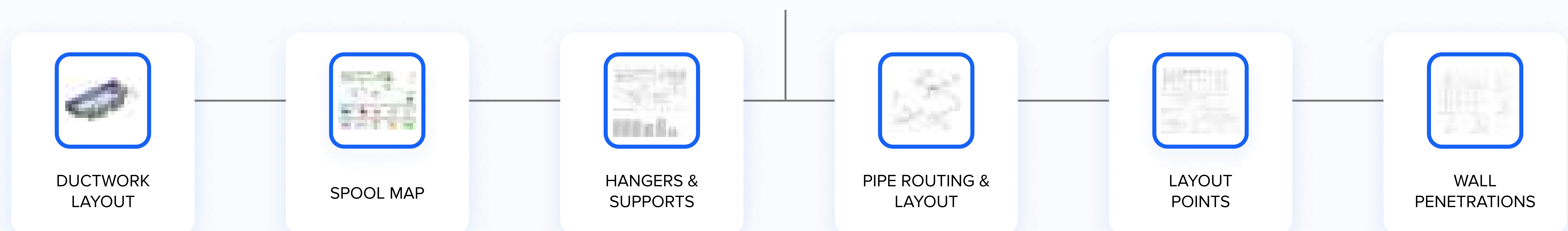
PROCESS PIPING CONSTRUCTION & DESIGN



PLUMBING CONSTRUCTION & DESIGN



HVAC DUCTWORK & PIPING

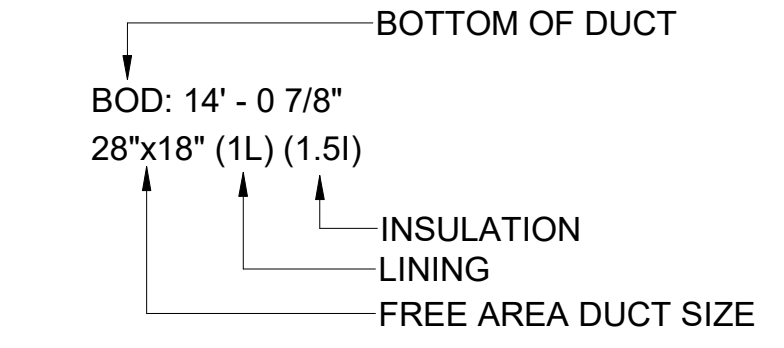


Ductwork Routing & Layout

YOUR LOGO HERE



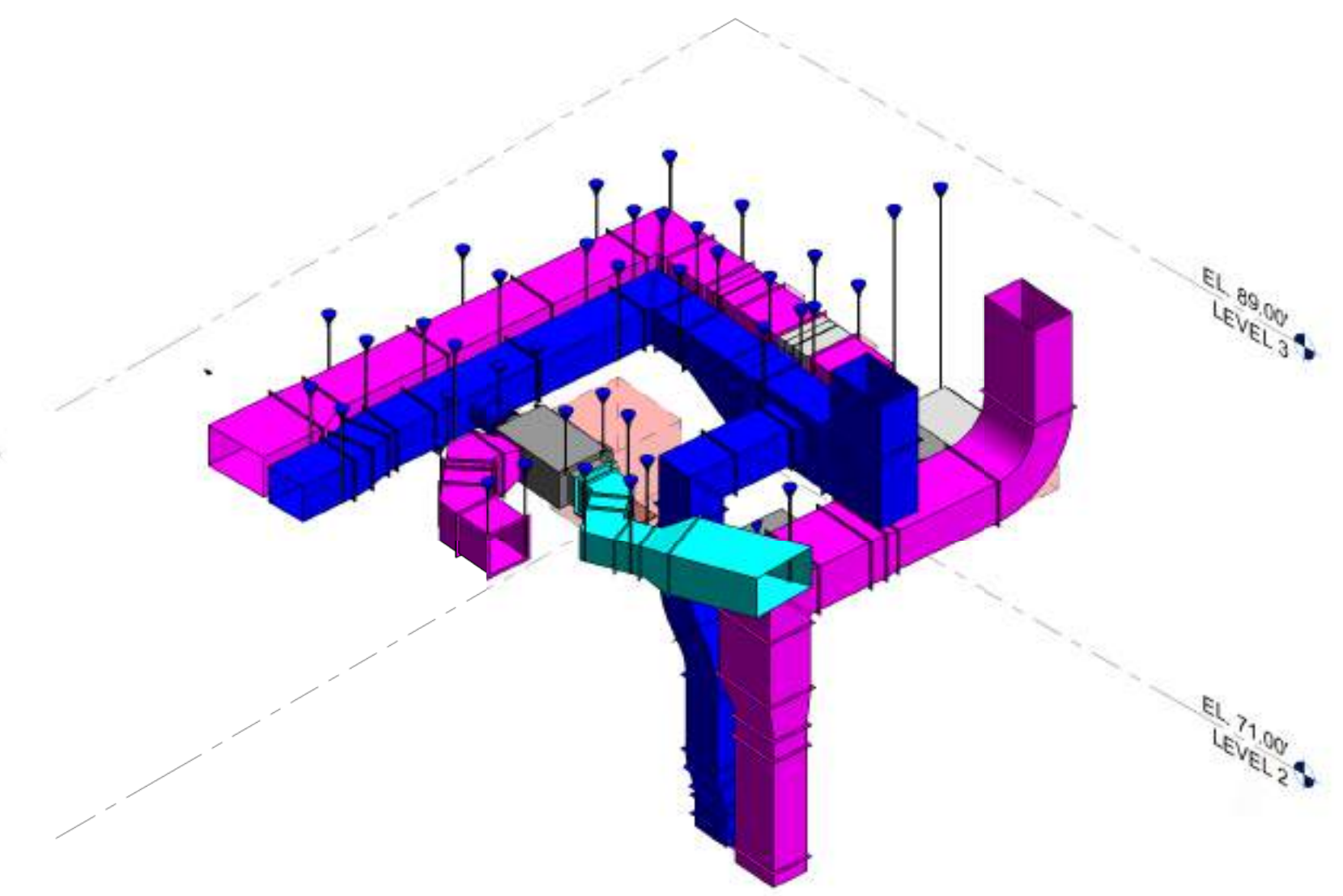
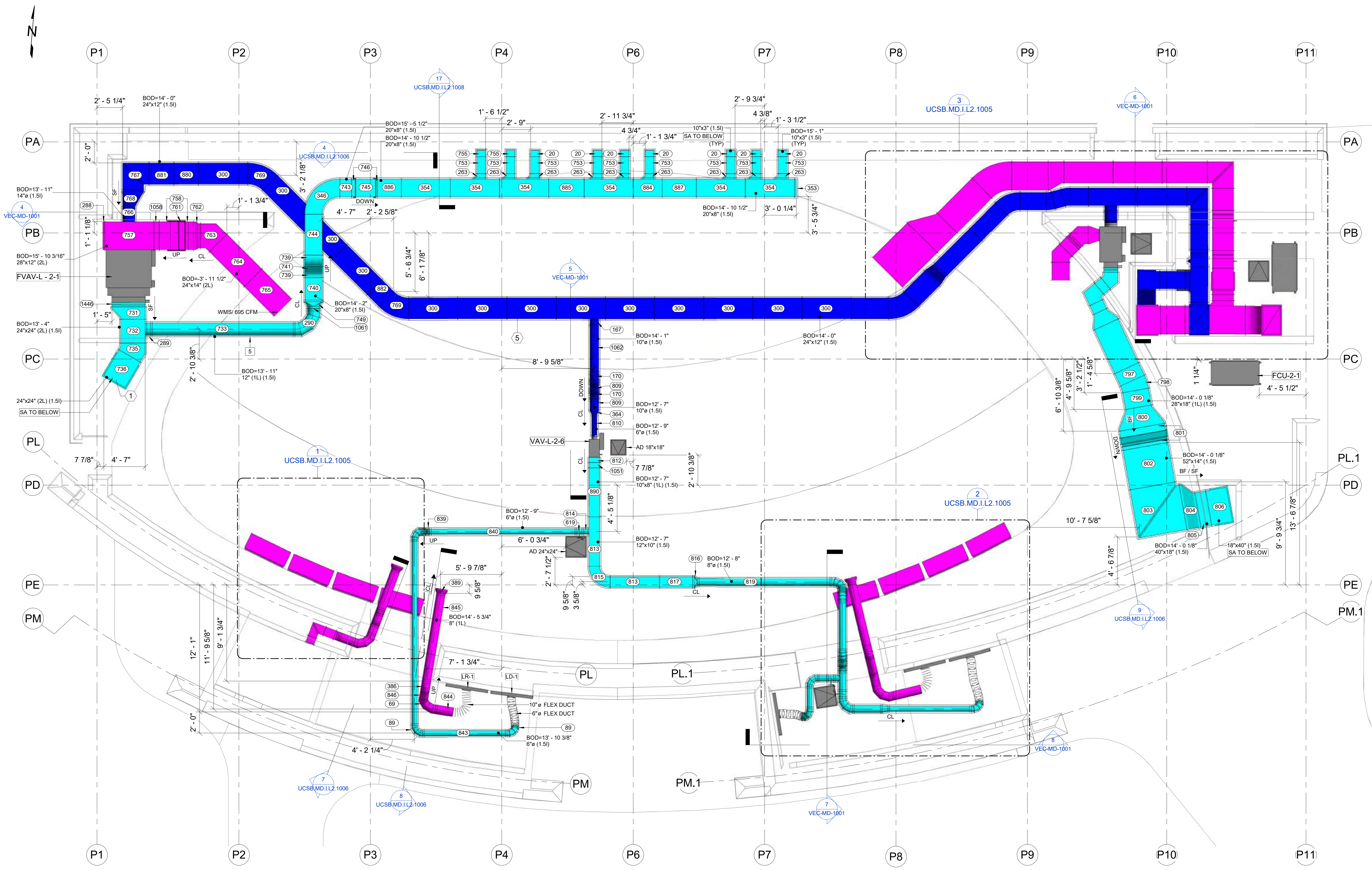
- LEGENDS AND SYMBOLS**
- SA-SUPPLY AIR (LOW PRESSURE)
 - SA-SUPPLY AIR (MEDIUM PRESSURE)
 - RA-RETURN AIR
 - EA-EXHAUST AIR
 - TA-TRANSFER AIR
 - OA-OUTSIDE AIR
 - SUPPLY
 - RETURN (EXTRACT)
 - EXHAUST



- FCU-2-1 = EQUIPMENT TAG NUMBER
 321 = DUCT PART ID
- SHEET KEY NOTES**
- PROVIDE 2" ACOUSTIC LINING
 - PROVIDE MINIMUM 15 FEET OF LINED DUCT

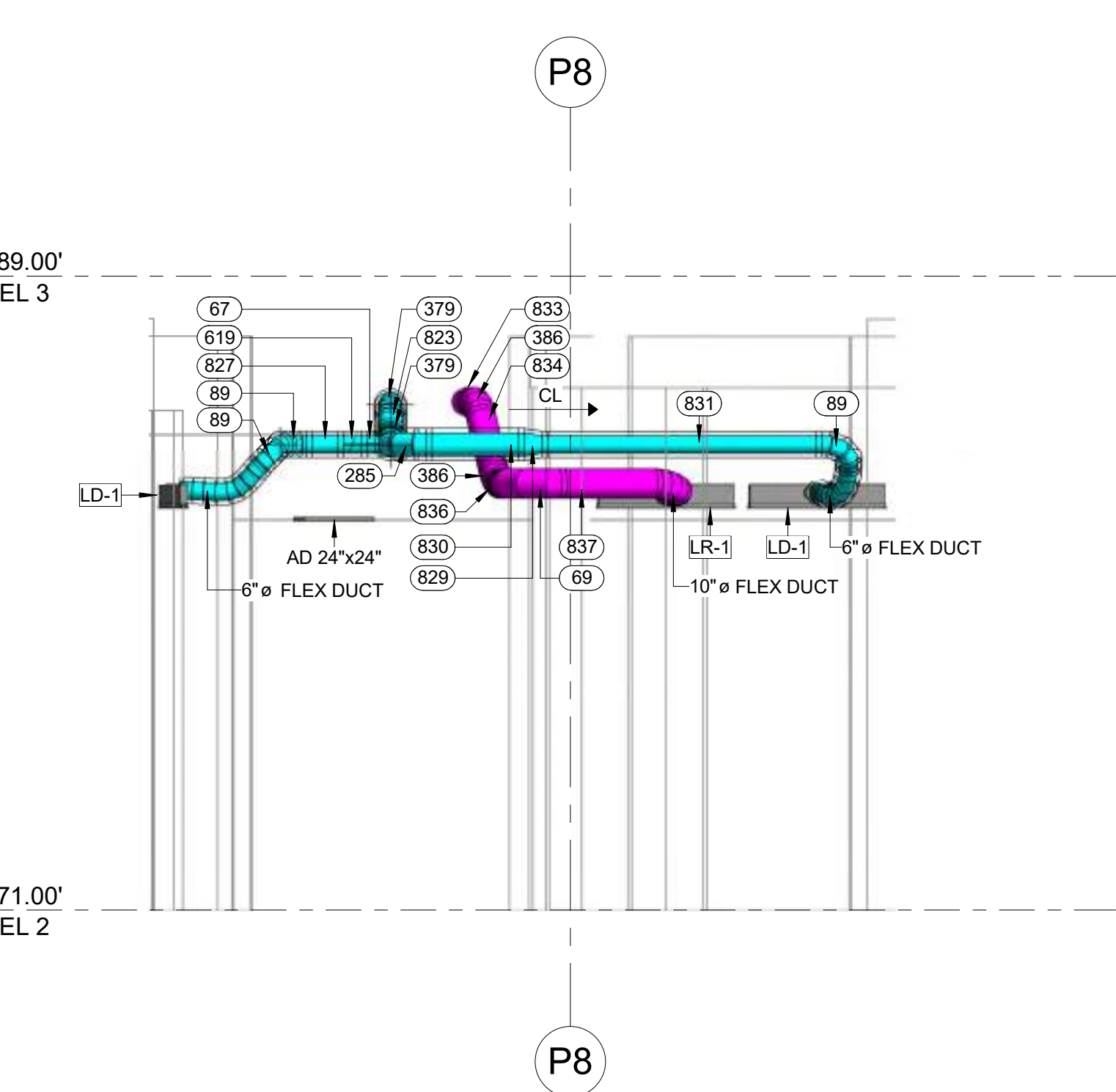
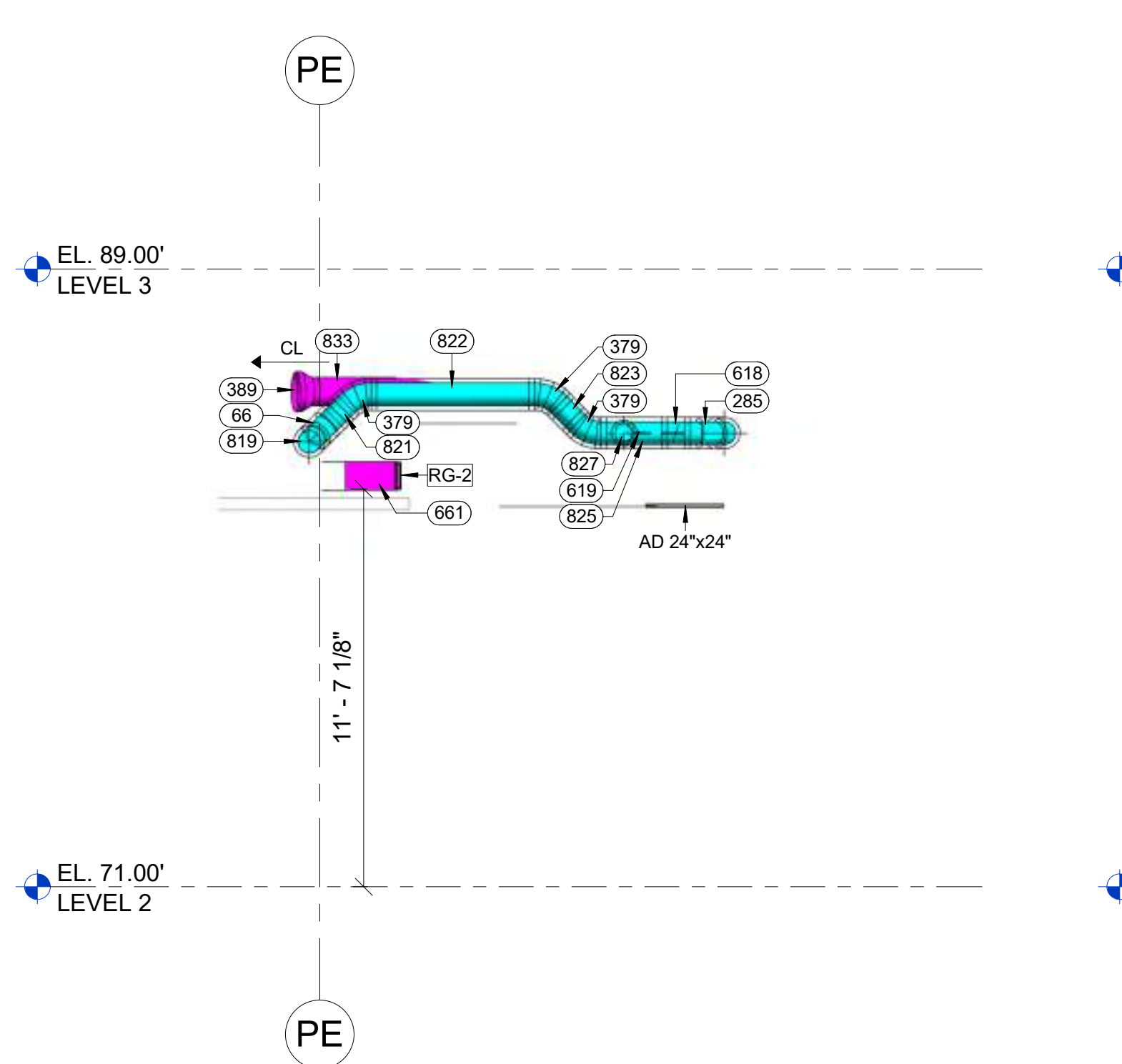
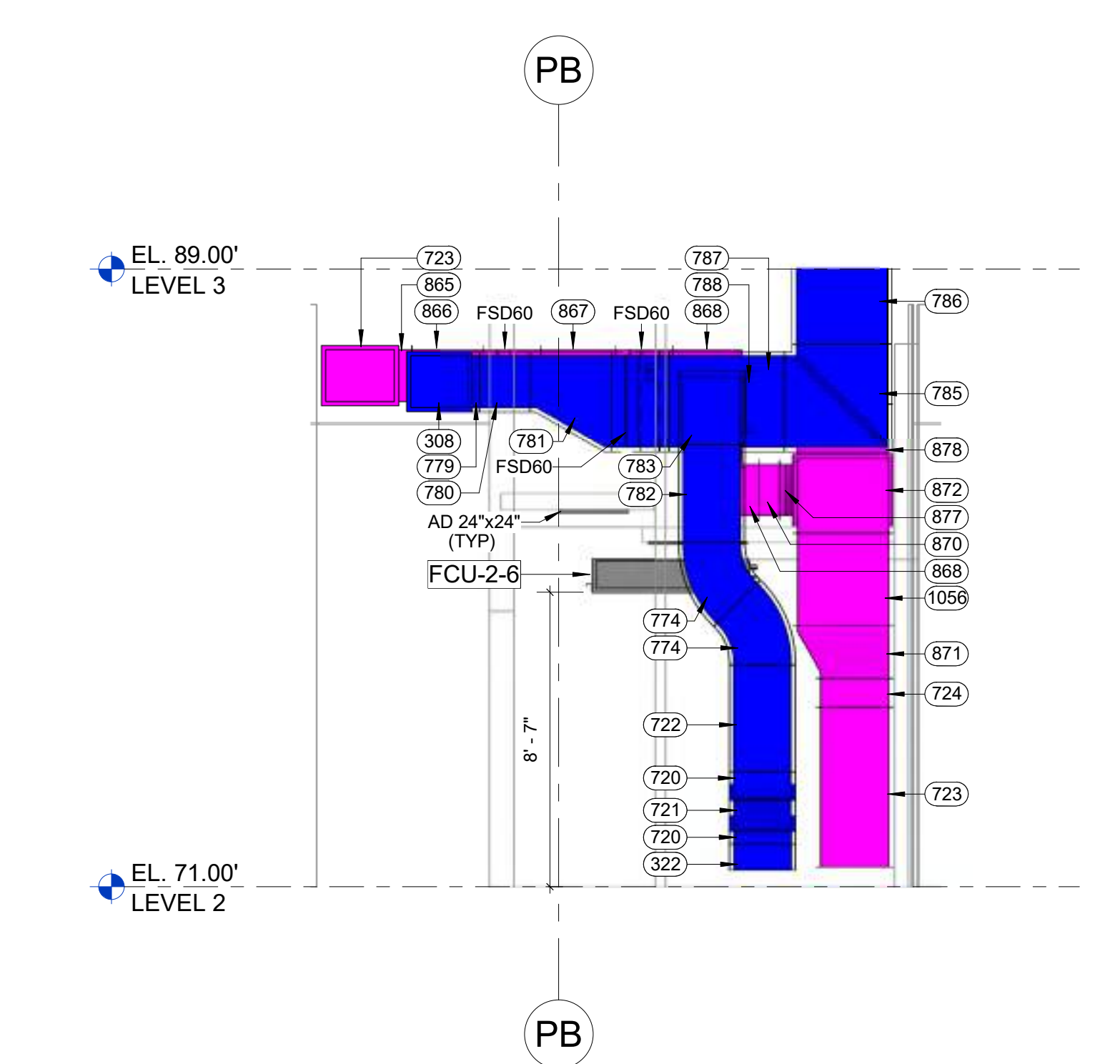
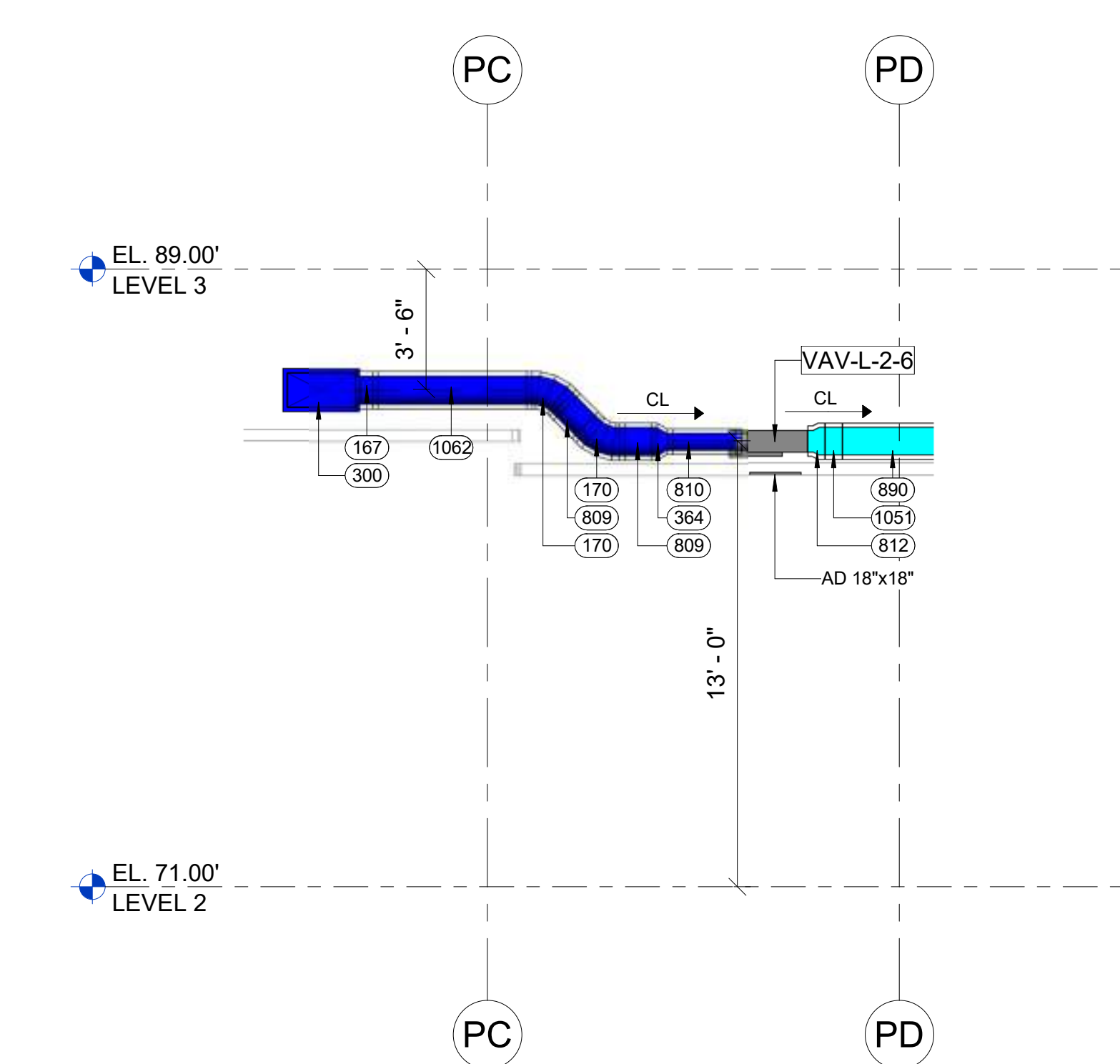
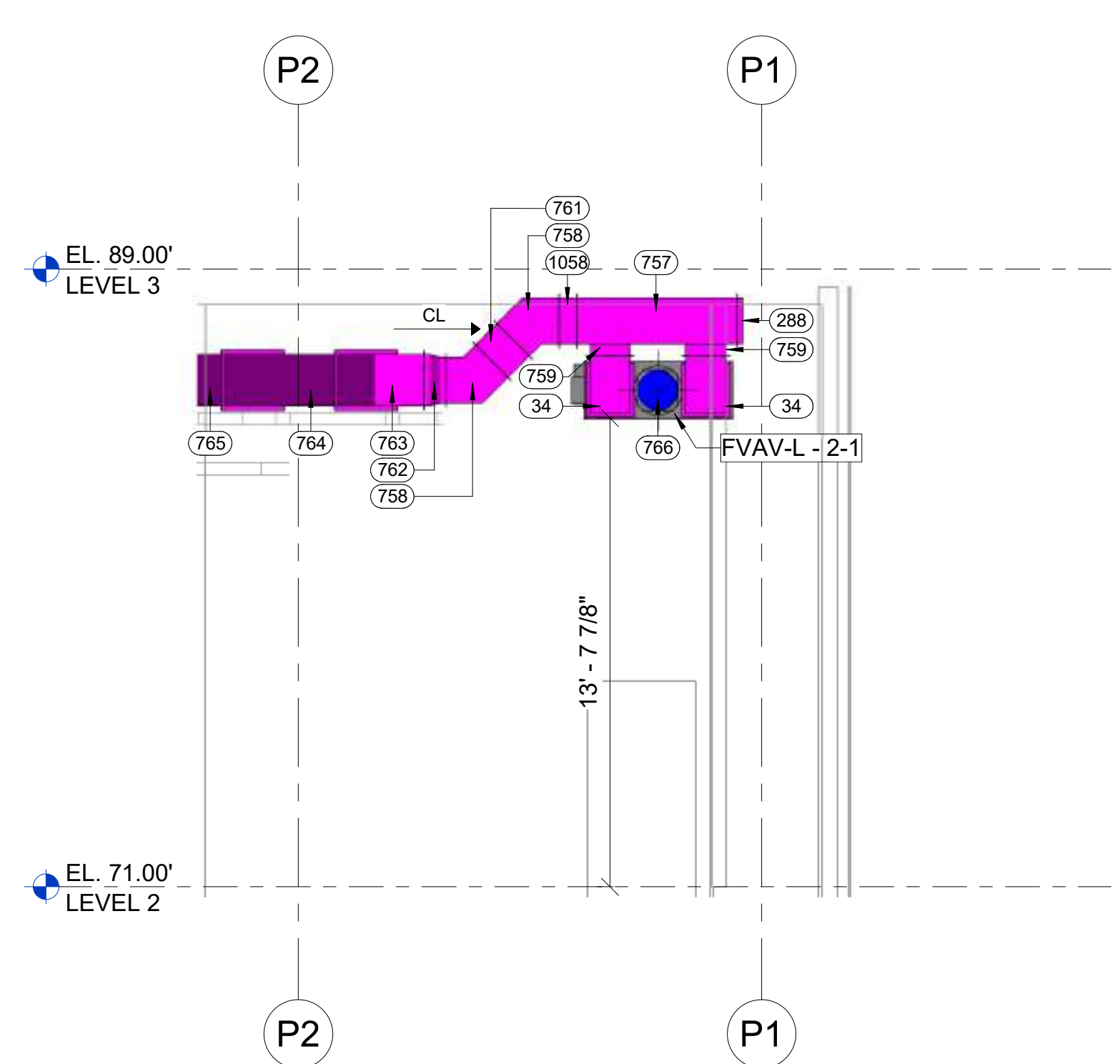
STAMP

QR CODE



1 LEVEL 2 - AREA P DUCT ROUTING & LAYOUT (HIGH)
 1/4" = 1'-0"

2 3D SECTION VIEW



4 SECTION
 1/4" = 1'-0"

5 SECTION
 1/4" = 1'-0"

6 SECTION
 1/4" = 1'-0"

7 SECTION
 1/4" = 1'-0"

8 SECTION
 1/4" = 1'-0"

PROJECT NAME
 BUILDING NAME
 DRAWING PACKAGE
 PROJECT ADDRESS

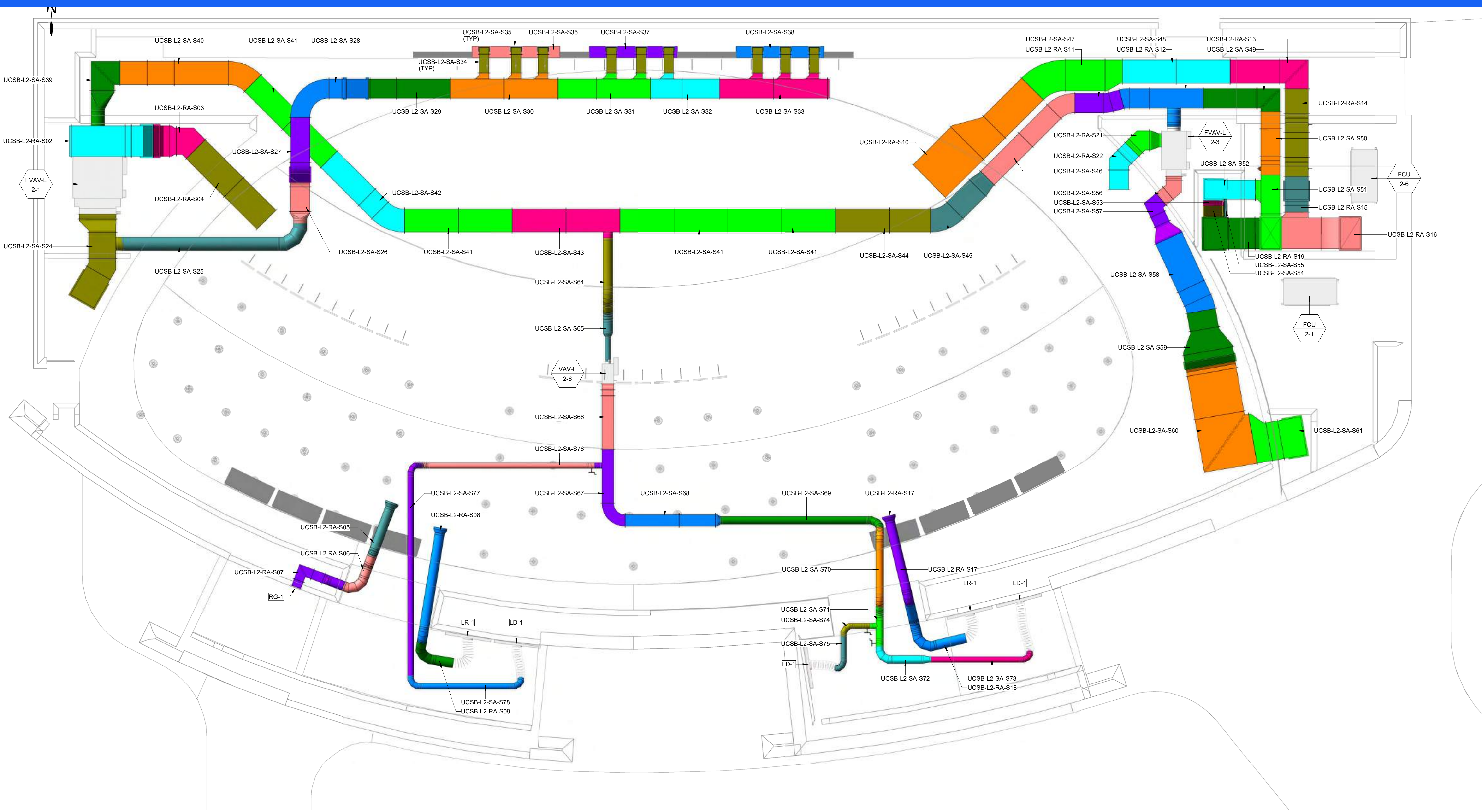
DETAILED DUCT ROUTING & LAYOUT - AREA P (HIGH)

NO.	DESCRIPTION	DATE

JOB NUMBER	
DATE	01/24/2024 5:38:35 PM
CHECKED BY: VEC	
DRAWING SCALE	AS NOTED
DETAILED DUCT ROUTING & LAYOUT - AREA P (HIGH)	
DRAWING NUMBER	VEC-MD-1001

Ductwork Spool Map

YOUR LOGO HERE



LEGENDS AND SYMBOLS

- SPOOL UCSB-L2-XX-S0
- SPOOL UCSB-L2-XX-S1
- SPOOL UCSB-L2-XX-S2
- SPOOL UCSB-L2-XX-S3
- SPOOL UCSB-L2-XX-S4
- SPOOL UCSB-L2-XX-S5
- SPOOL UCSB-L2-XX-S6
- SPOOL UCSB-L2-XX-S7
- SPOOL UCSB-L2-XX-S8
- SPOOL UCSB-L2-XX-S9

S SUPPLY
R RETURN (EXTRACT)
E EXHAUST

UCSB-L2-XX-S05 SPOOL ID END NUM.
 UCSB-L2-XX-S05 SYSTEM
 UCSB-L2-XX-S05 LEVEL
 UCSB-L2-XX-S05 BUILDING

STAMP

QR CODE



1 LEVEL 2 - AREA P SPOOL MAP
1/4" = 1'-0"

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
34	RA	90° ELBOW	16"x16"	1	GALVANIZED	-	1"	TDC/TDC
1445	RA	FLEXIBLE CONNECTOR	14"x16"	1	GALVANIZED	-	-	TDC/TDC

2 UCSB-L2-RA-01 - 3D VIEW

PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
DETAILED SPOOL MAP - AREA P

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
288	RA	END CAP	32"x16"	1	GALVANIZED	-	-	TDC/TDC
758	RA	45° ELBOW	16"x32"	1	GALVANIZED	-	2"	TDC/TDC
759	RA	90° TAP	14"x16"	2	GALVANIZED	-	1"	TDC/TDC

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
757	RA	STRAIGHT DUCT	32"x16"	4'-8"	1	GALVANIZED	-	2"	TDC/TDC
1058	RA	STRAIGHT DUCT	32"x16"	0'-6 1/8"	1	GALVANIZED	-	2"	TDC/TDC

3 UCSB-L2-RA-S02 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
758	RA	45° ELBOW	16"x32"	1	GALVANIZED	-	2"	TDC/TDC
762	RA	TRANSITION	16"x32"-18"x26"	1	GALVANIZED	-	2"	TDC/TDC
763	RA	45° ELBOW	28"x16"	1	GALVANIZED	-	2"	TDC/TDC

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
761	RA	STRAIGHT DUCT	32"x16"	0'-10 3/8"	1	GALVANIZED	-	2"	TDC/TDC

4 UCSB-L2-RA-S03 - 3D VIEW

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
764	RA	STRAIGHT DUCT	28"x16"	4'-8"	1	GALVANIZED	-	-	TDC/TDC
765	RA	STRAIGHT DUCT	28"x16"	4'-0"	1	GALVANIZED	-	2"	TDC/TDC

5 UCSB-L2-RA-S04 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
847	RA	15° GORED ELBOW	10"	1	GALVANIZED	-	-	MALE/MALE
850	RA	90° GORED ELBOW	10"	1	GALVANIZED	-	-	MALE/MALE

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
848	RA	ROUND DUCT	10"	3'-11 15/16"	1	GALVANIZED	-	-	FEM./FEM.

6 UCSB-L2-SA-05 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
847	RA	15° GORED ELBOW	10"	1	GALVANIZED	-	-	MALE/MALE
850	RA	90° GORED ELBOW	10"	1	GALVANIZED	-	-	MALE/MALE

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
849	RA	ROUND DUCT	10"	0'-11 1/2"	1	GALVANIZED	-	-	FEM./FEM.
851	RA	ROUND DUCT	10"	0'-11 13/16"	1	GALVANIZED	-	-	FEM./FEM.

7 UCSB-L2-RA-S06 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
852	RA	TRANSITION	10"x10"	1	GALVANIZED	-	-	MALE/TDC
854	RA	90° ELBOW	10"x6"	1	GALVANIZED	-	-	TDC/TDC

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
853	RA	ROUND DUCT	10"	1'-6 1/2"	1	GALVANIZED	-	-	FEM./FEM.
855	RA	STRAIGHT DUCT	10"x6"	1'-0 1/4"	1	GALVANIZED	-	-	TDC/TDC
856	RA	STRAIGHT DUCT	10"x6"	0'-7 3/8"	1	GALVANIZED	-	-	TDC/TDC

8 UCSB-L2-RA-S07 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
386	RA	45° GORED ELBOW	10"	1	GALVANIZED	-	1"	MALE/MALE
389	RA	TRANSITION	14"x10"	1	GALVANIZED	-	1"	MALE/MALE

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
845	RA	ROUND DUCT	10"	8'-5 7/16"	1	GALVANIZED	-	1"	FEM./FEM.

9 UCSB-L2-RA-S08 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
69	RA	90° GORED ELBOW	10"	1	GALVANIZED	-	1"	MALE/MALE

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
844	RA	ROUND DUCT	10"	1'-8 3/4"	1	GALVANIZED	-	1"	FEM./FEM.
846	RA	ROUND DUCT	10"	1'-0 5/16"	1	GALVANIZED	-	1"	FEM./FEM.

10 UCSB-L2-RA-S09 - 3D VIEW

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
859	RA	STRAIGHT DUCT	32"x20"	4'-8"	1	GALVANIZED	-	2"	TDC/TDC
861	RA	STRAIGHT DUCT	48"x22"	4'-8"	1	GALVANIZED	-	2"	TDC/TDC

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
860	RA	TRANSITION	48"x22"-32"x20"	1	GALVANIZED	-	2"	TDC/TDC

11 UCSB-L2-RA-S10 - 3D VIEW

BOM - DUCT FITTINGS - SPOOLS

ID	SYSTEM	TYPE	SIZE	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
860	RA	TRANSITION	48"x22"-32"x20"	1	GALVANIZED	-	2"	TDC/TDC

BOM - DUCTS - SPOOLS

ID	SYSTEM	TYPE	SIZE	LENGTH	QTY.	MATERIAL	INSULATION	LINING	CONN. END.
859	RA	STRAIGHT DUCT	32"x20"	4'-8"	1	GALVANIZED	-	2"	TDC/TDC
861	RA	STRAIGHT DUCT	48"x22"	4'-8"	1	GALVANIZED	-	2"	TDC/TDC

12 UCSB-L2-RA-S11 - 3D VIEW

NO. DESCRIPTION DATE

ORIGINAL PRINT SIZE = 36x48

KEY PLAN

JOB NUMBER
DATE 01/24/2024 5:37:24 PM

DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

DETAILED SPOOL MAP - AREA P

DRAWING NUMBER

VEC-MD-5001

Exterior Wall Penetrations

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HERE



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GENERAL SHEET NOTES

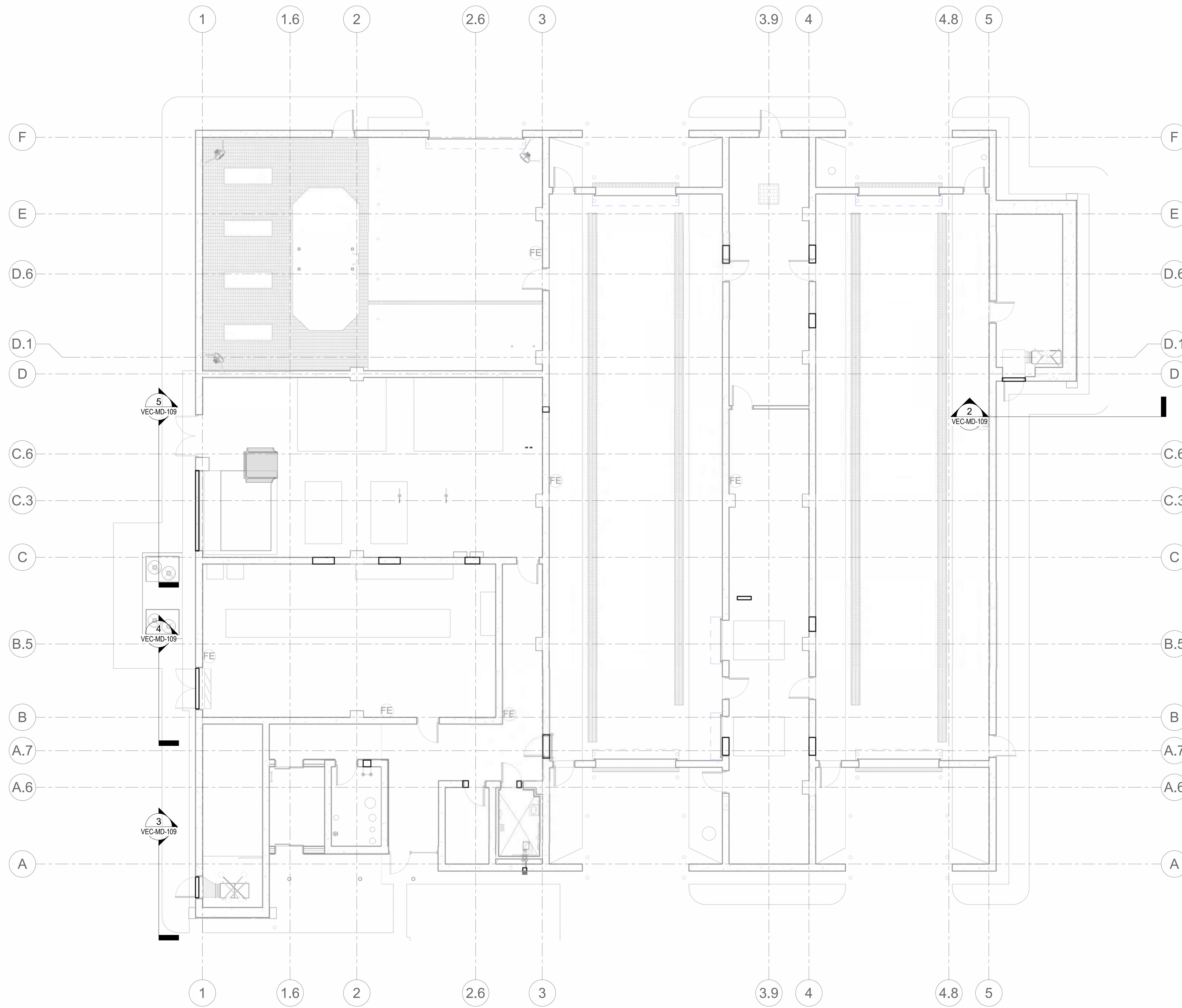
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2. ALL PENETRATION ELEVATIONS BASED ON LEVEL 1 ELEVATION (2' - 6")

STAMP

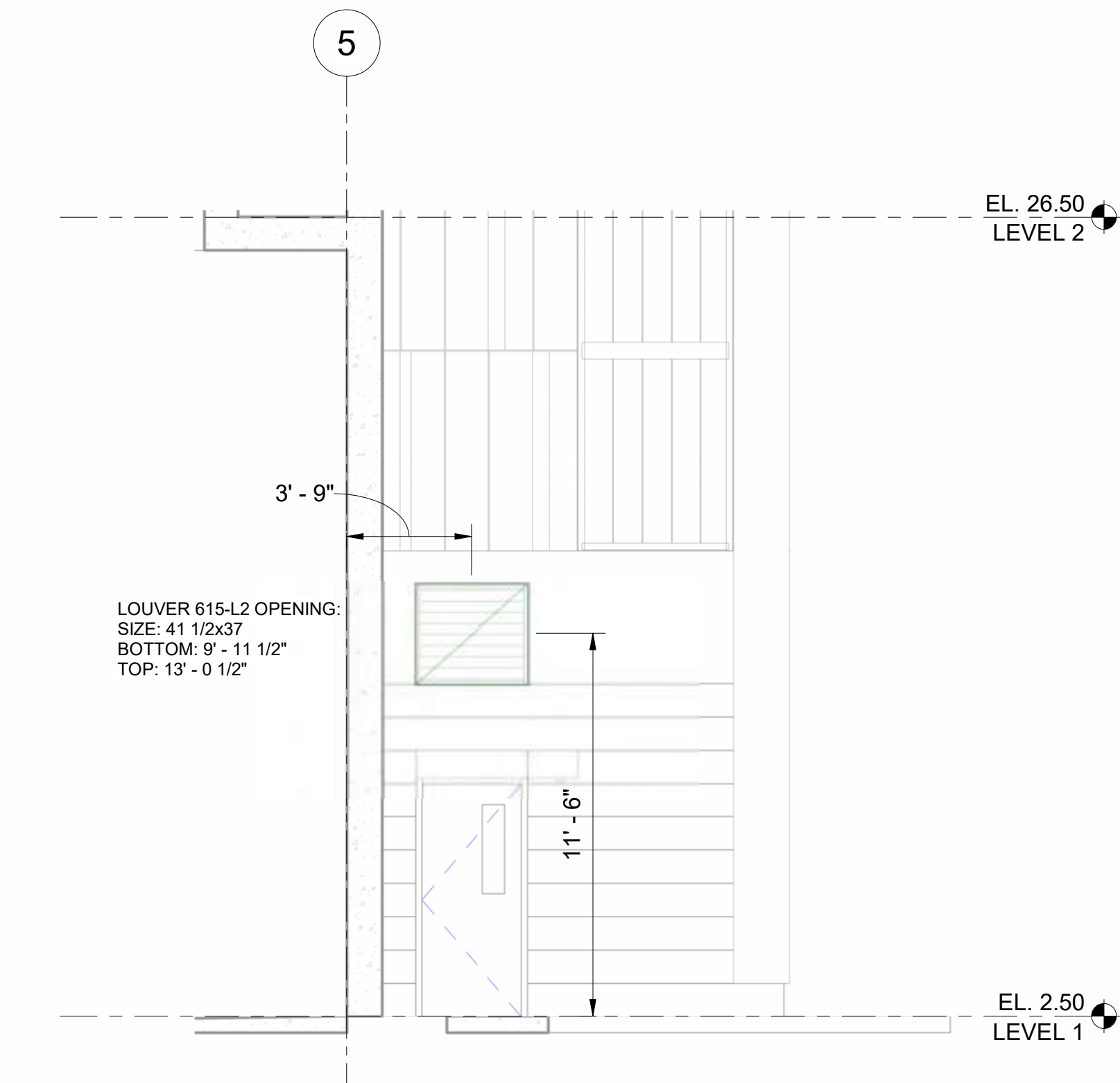
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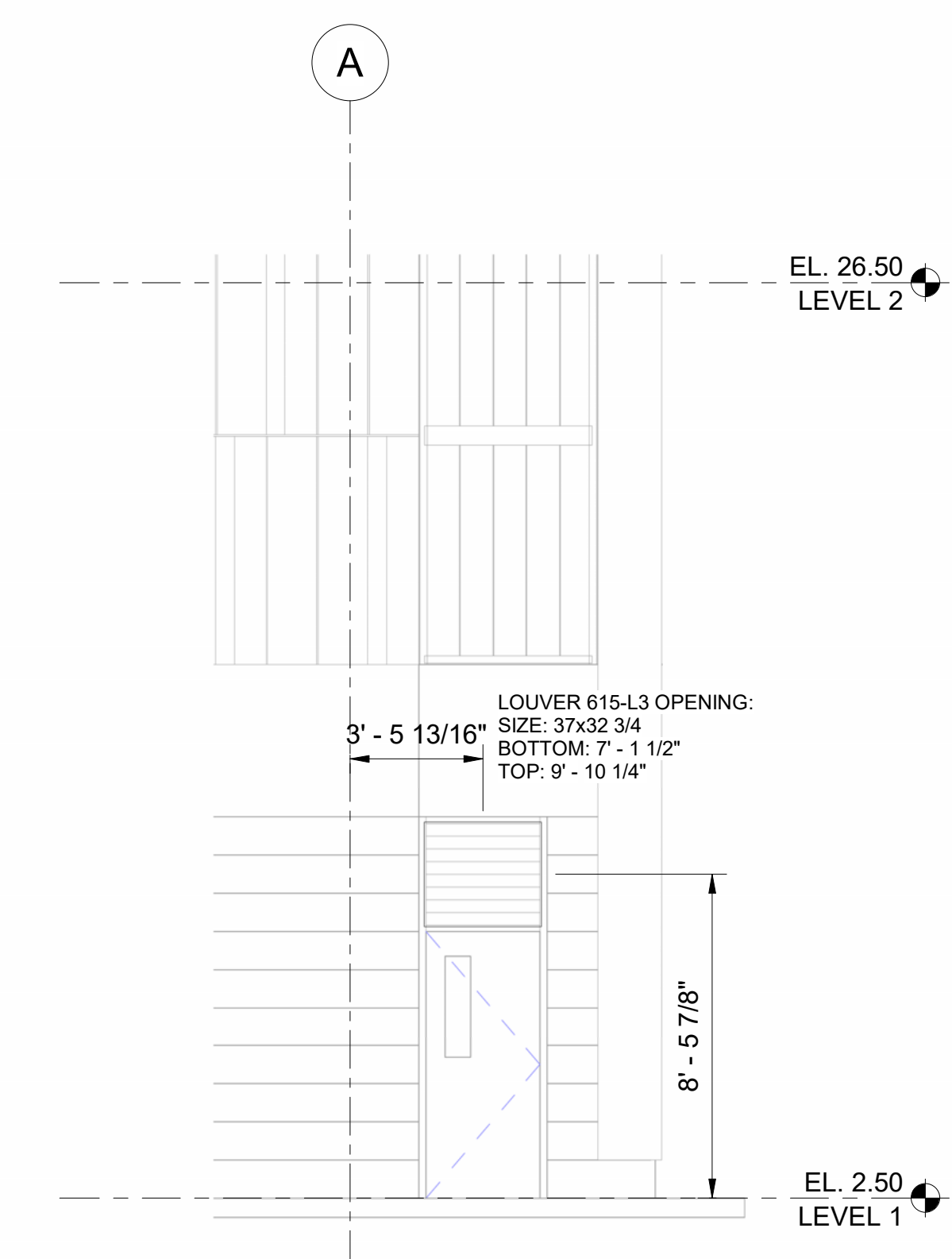
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
EXTERIOR WALL PENETRATIONS



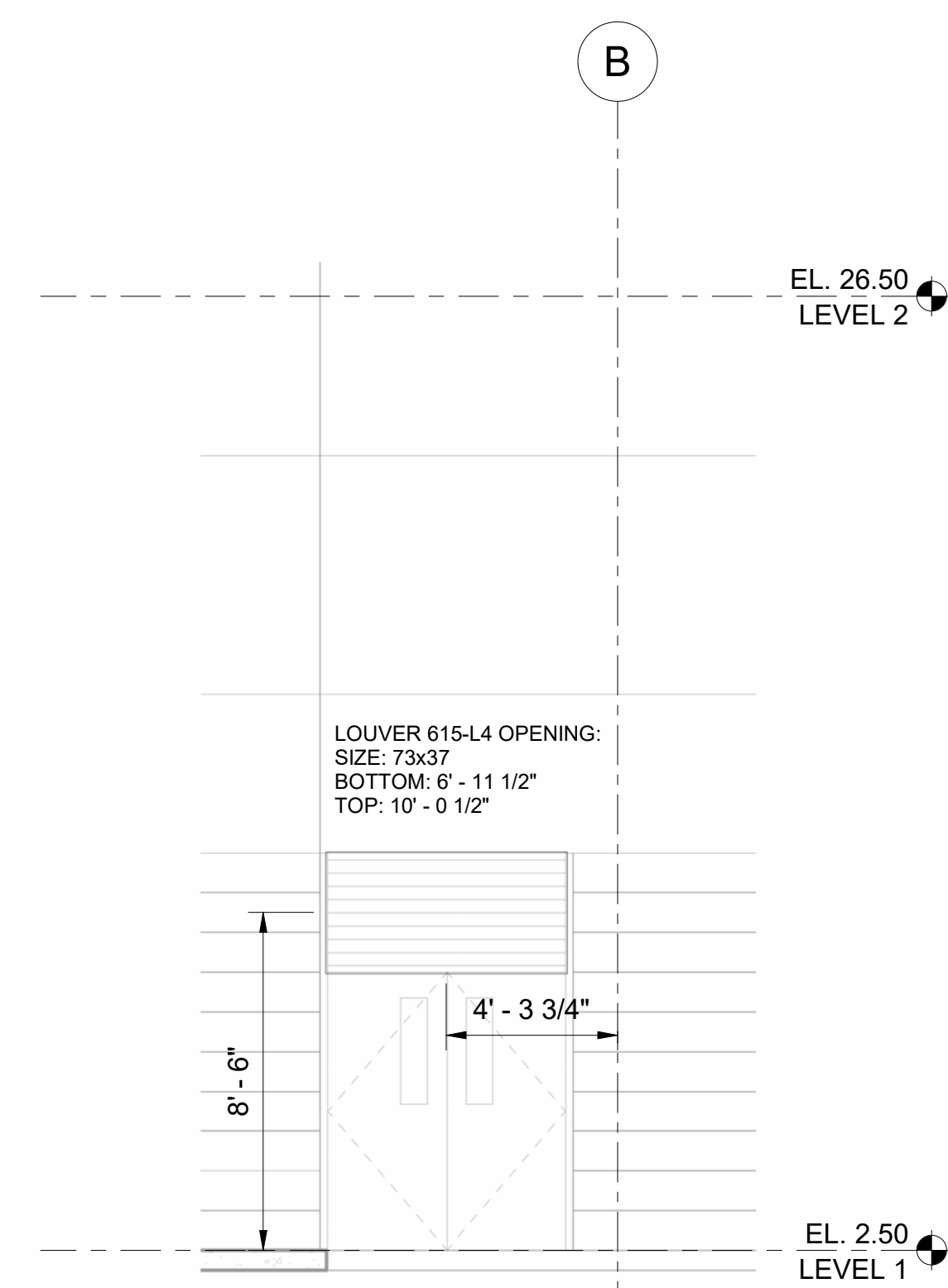
1 SAMPLE EXTERIOR WALL PENETRATIONS
1/8" = 1'-0"



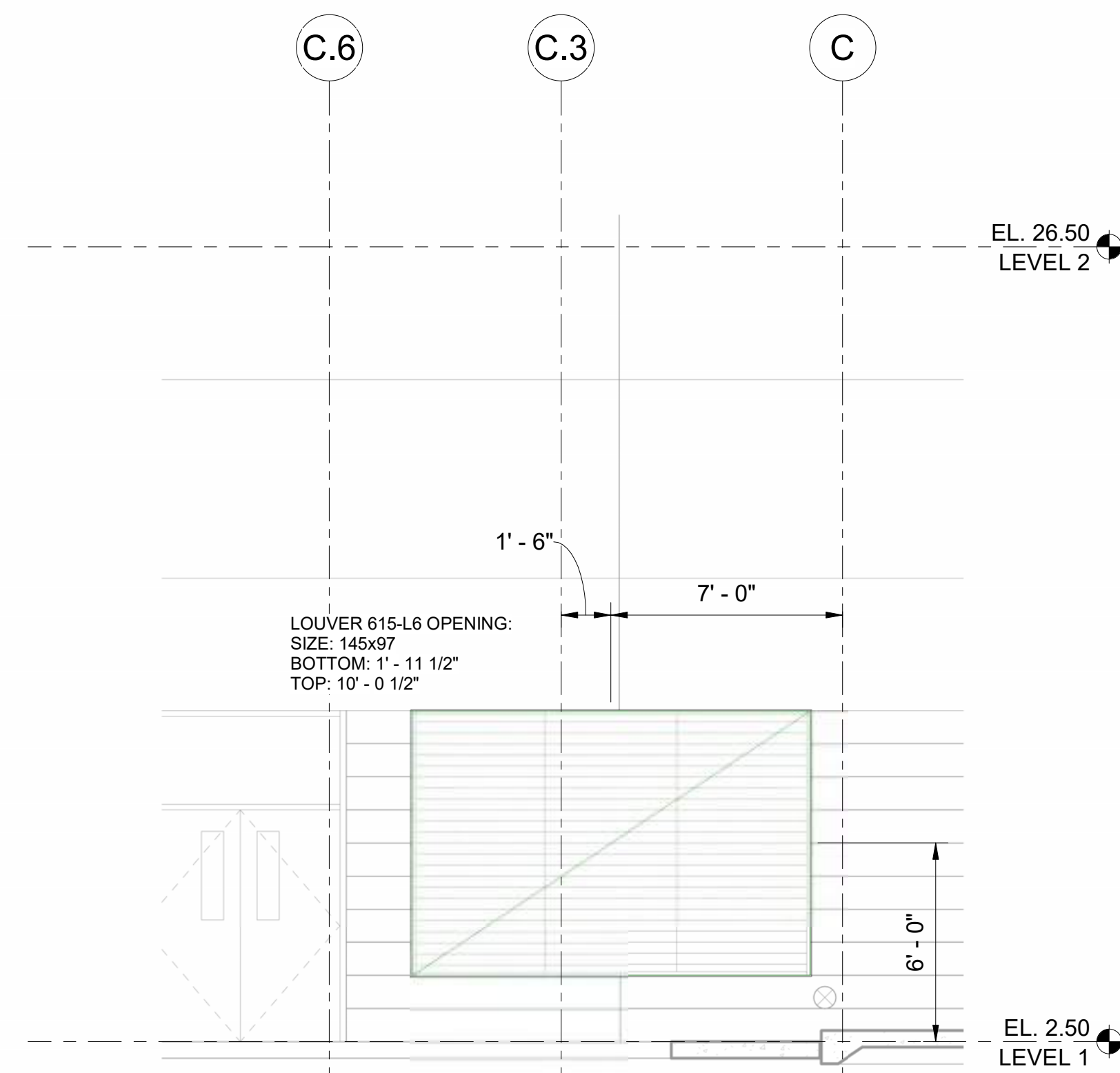
2 SECTION VIEW 02
1/4" = 1'-0"



3 SECTION VIEW 03
1/4" = 1'-0"



4 SECTION VIEW 04
1/4" = 1'-0"



5 SECTION VIEW 05
1/4" = 1'-0"

NO.	DESCRIPTION	DATE
KEY PLAN		

JOB NUMBER	
DATE	2/15/2024 4:22:11 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

EXTERIOR OPENINGS			
Fabrication Notes	Size	Bottom	Top
615-CAP OPENING	7x7	12' - 5 1/2"	13' - 0 1/2"
615-L2 OPENING	42x37	9' - 11 1/2"	13' - 0 1/2"
615-L3 OPENING	37x33	7' - 1 1/2"	9' - 10 1/4"
615-L4 OPENING	73x37	6' - 11 1/2"	10' - 0 1/2"
615-L6 OPENING	145x97	1' - 11 1/2"	10' - 0 1/2"

EXTERIOR WALL PENETRATIONS

DRAWING NUMBER

VEC-MD-109



HVAC DUCTWORK & PIPING (WET)

Hydronic Supply Routing & Layout

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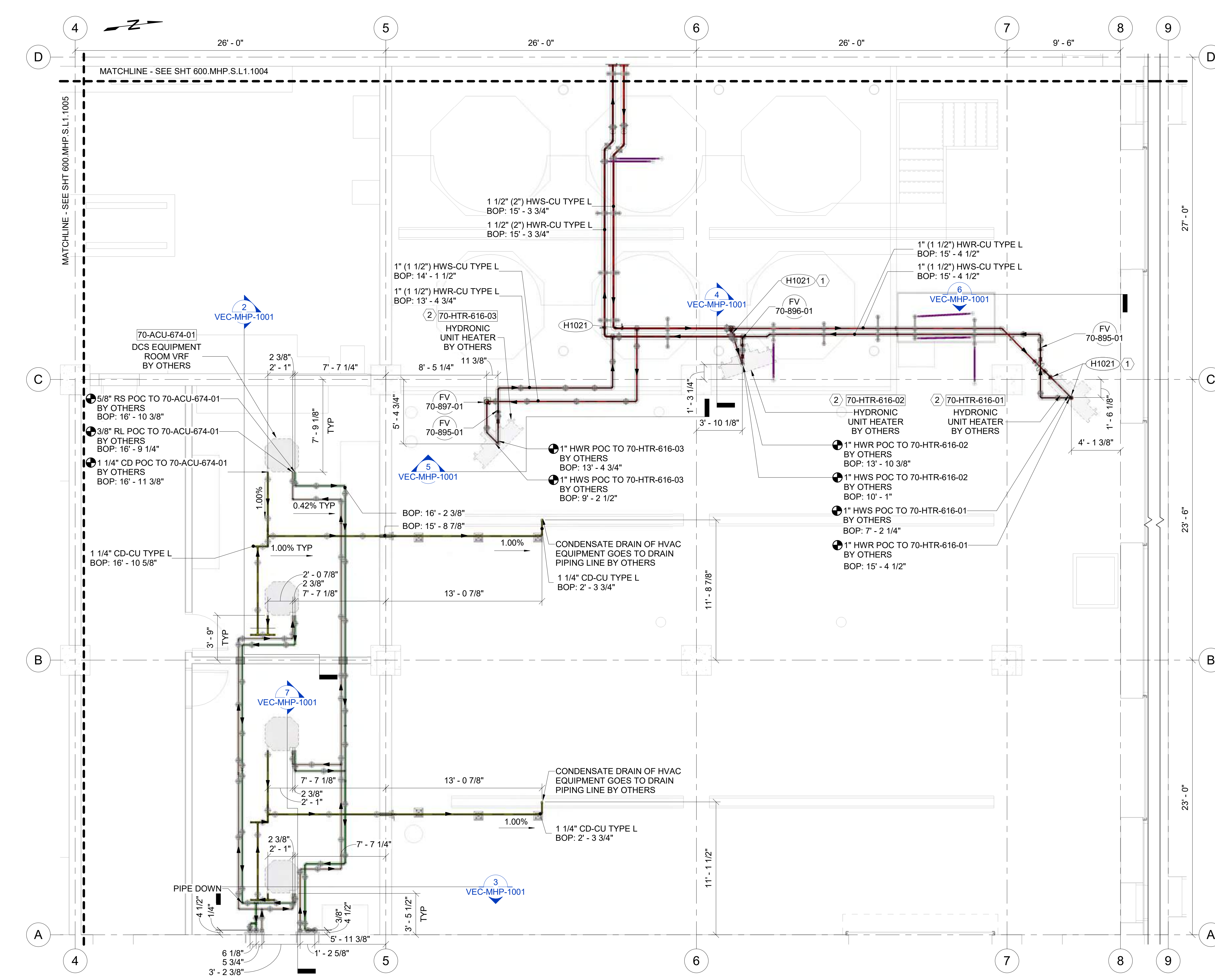
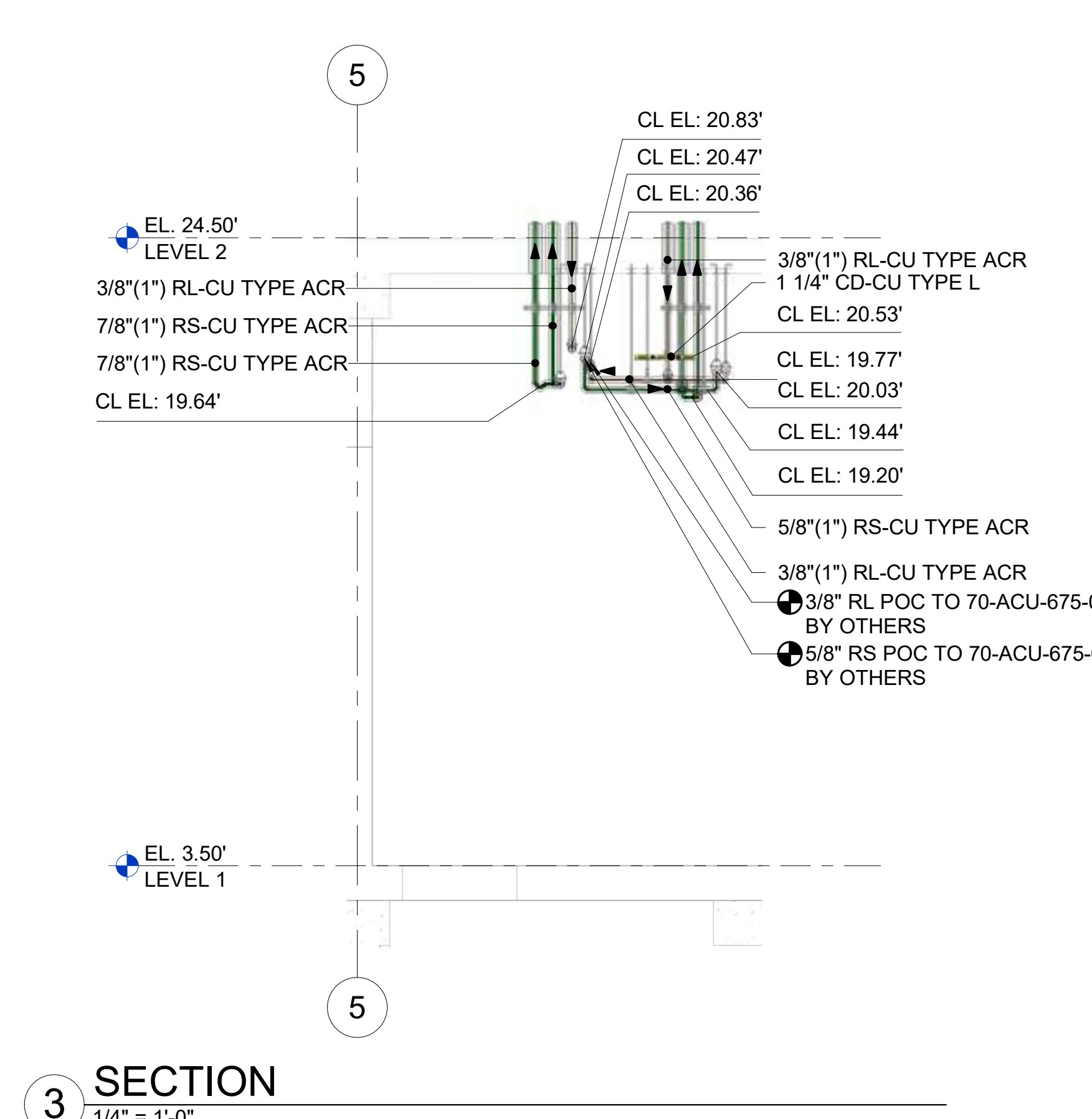
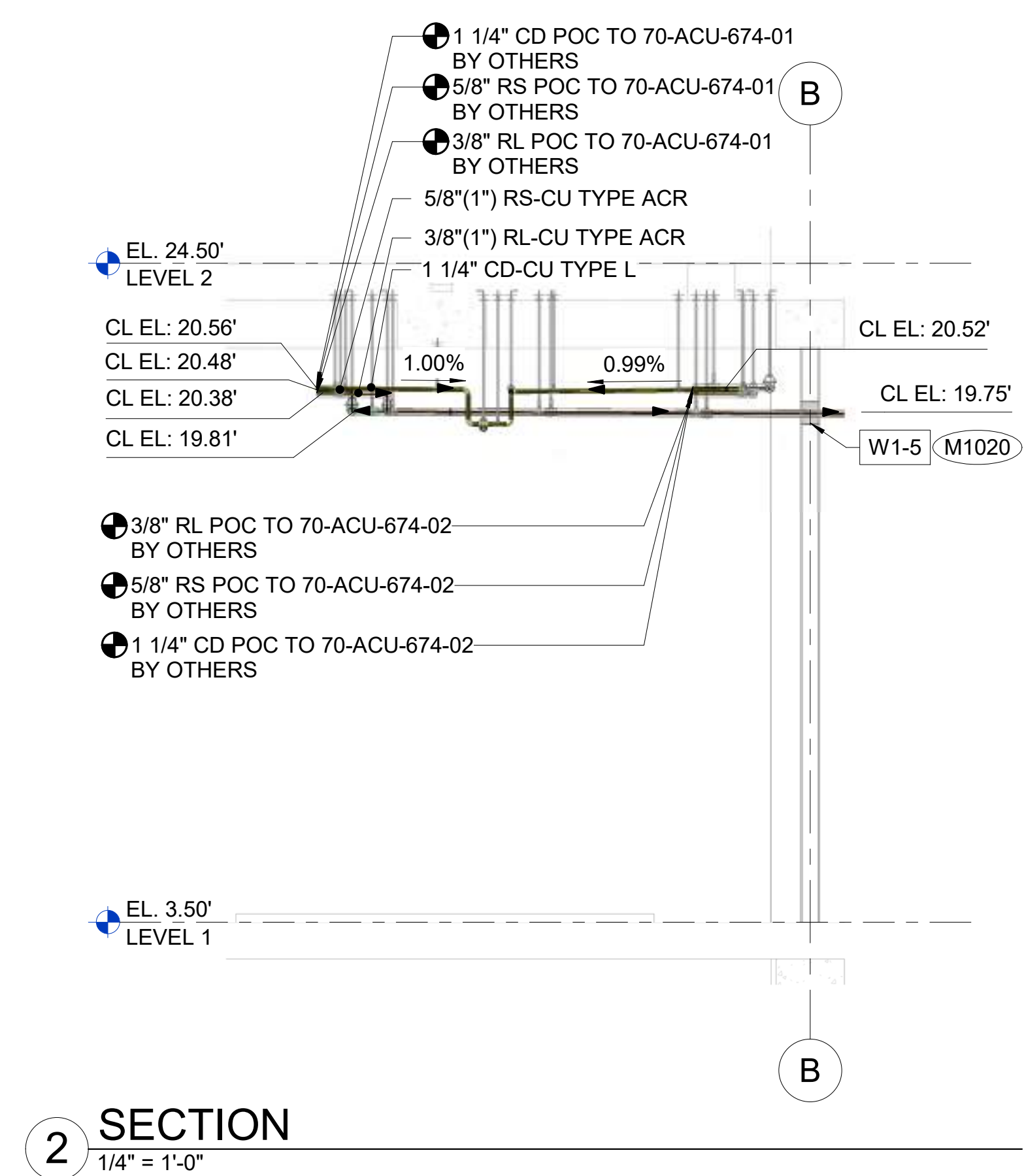
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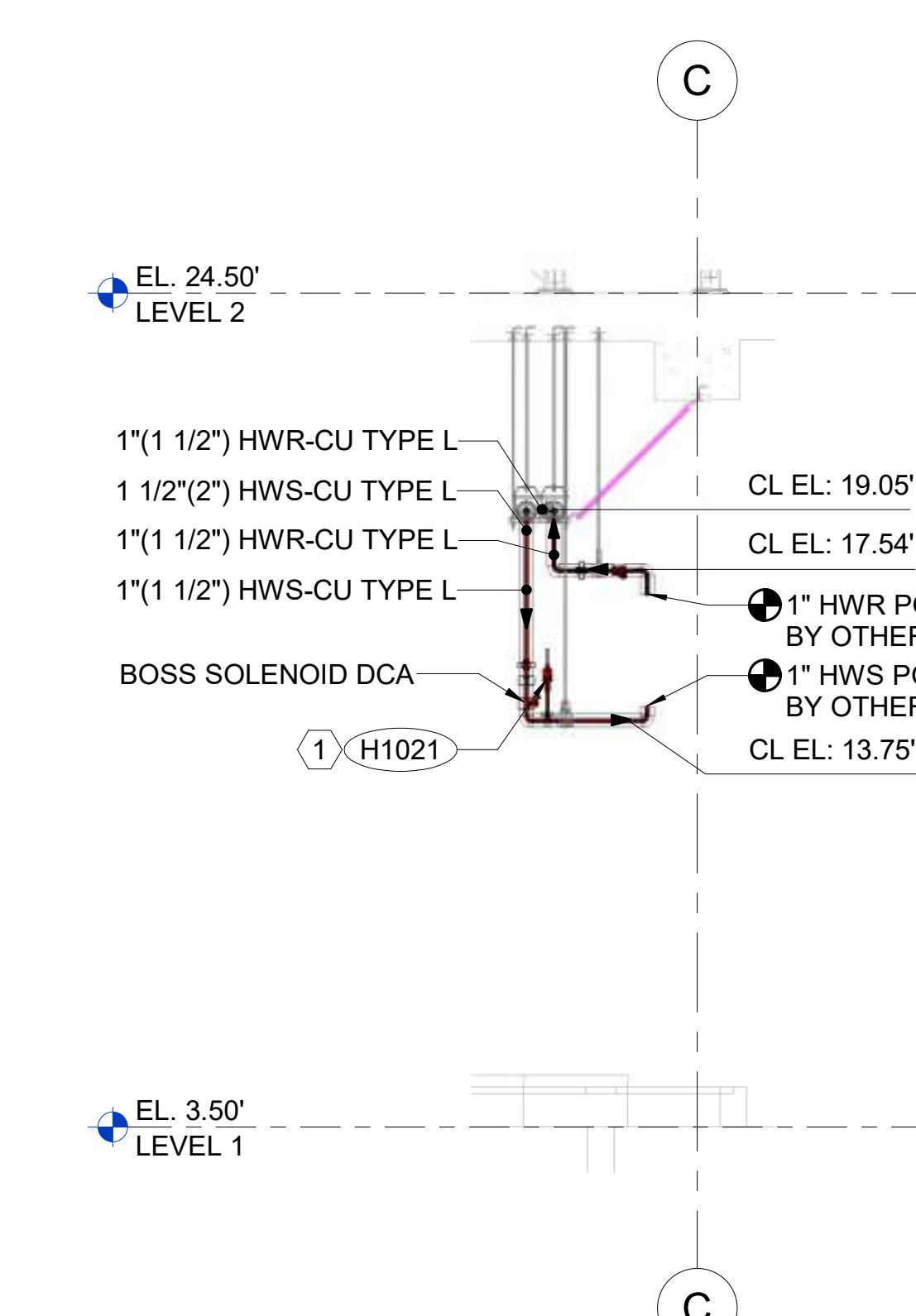


PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
DETAILED PIPE ROUTING & LAYOUT AREA F

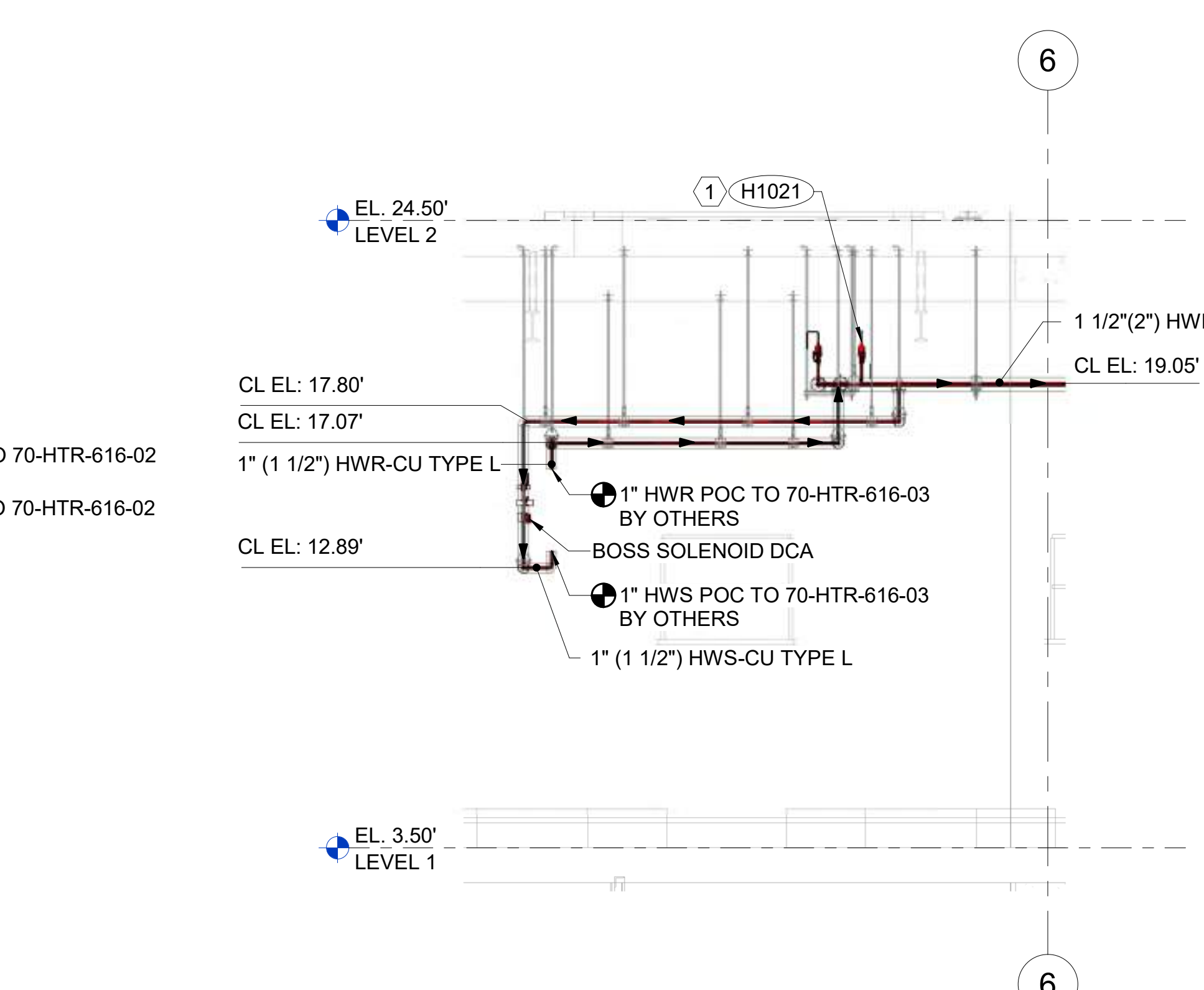
- LEGENDS AND SYMBOLS**
- CD-CONDENSATE DRAIN
 - HWR-HOT WATER RETURN
 - HWS-HOT WATER SUPPLY
 - RL-REFRIGERANT LIQUID
 - RS-REFRIGERANT SUCTION
 - EQUIPMENT - SUPPLIED BY CONTRACTOR/INSTALLED BY OTHERS
 - SEISMIC BRACING
 - POINT OF CONNECTION (POC)
 - PIPE UP/SECTIONED
 - 1"(1 1/2") HWR-CU TYPE L
 - MATERIAL
 - PIPE SYSTEM
 - INS. THICKNESS
 - PIPE SIZE
 - (M1020) STANDARD DETAIL REFERENCE
 - FUNCTION ABBREVIATION
 - 70-894-01
 - FUNCTION NUMBER
 - EQUIPMENT TAG NUMBER
 - 70-HTR-616-01
 - HYDRONIC UNIT HEATER BY OTHERS
 - EQUIPMENT NAME
 - W1-5
 - SLEEVE NUMBER
 - SLEEVE LEVEL
 - SLEEVE TYPE
 - BOP: 7'-2"
 - BOTTOM OF PIPE ELEVATION
 - # SHEET KEY NOTES



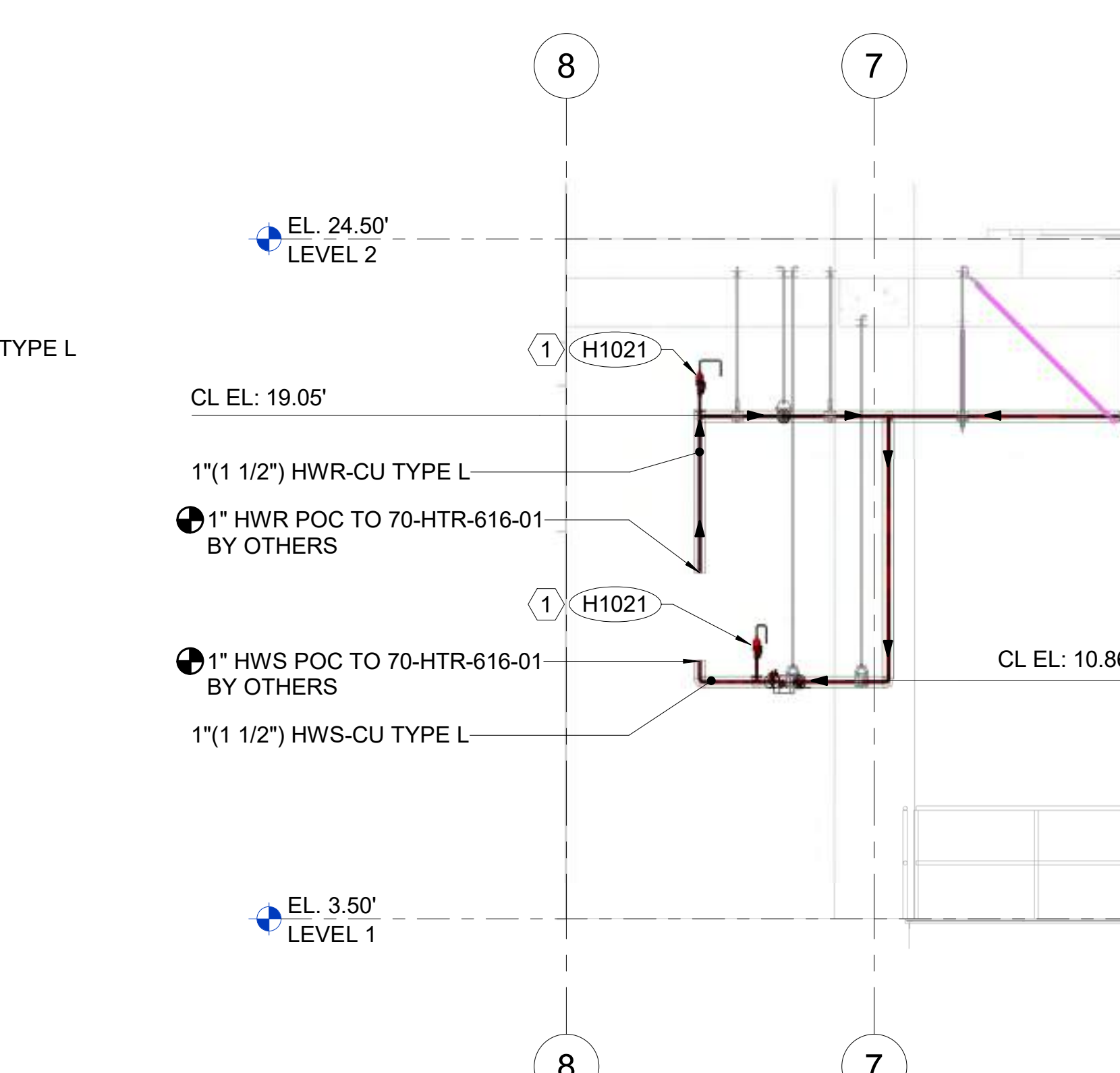
1 LEVEL 1 - AREA F - PIPE ROUTING & LAYOUT
1/4" = 1'-0"



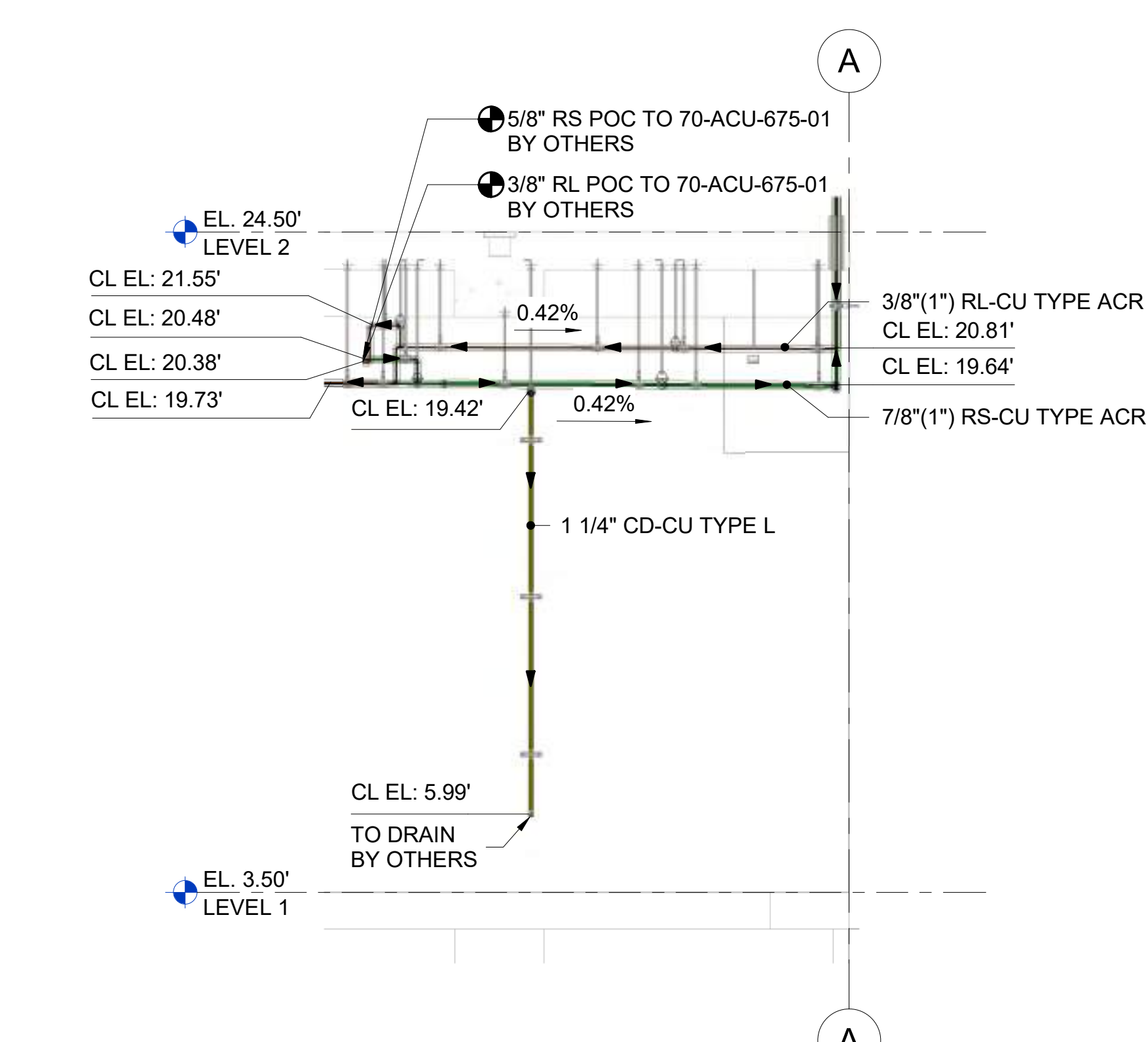
4 SECTION
1/4" = 1'-0"



5 SECTION
1/4" = 1'-0"



6 SECTION
1/4" = 1'-0"



7 SECTION
1/4" = 1'-0"

NO.	DESCRIPTION	DATE

JOB NUMBER
DATE 01/25/2024 3:28:45 PM
DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

DETAILED PIPE ROUTING & LAYOUT AREA F
DRAWING NUMBER
VEC-MHP-1001

Hydronic Supply Routing & Layout - Isometrics

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- LEGENDS AND SYMBOLS**
- CD-CONDENSATE DRAIN
 - HWR-HOT WATER RETURN
 - HWS-HOT WATER SUPPLY
 - RL-REFRIGERANT LIQUID
 - RS-REFRIGERANT SUCTION
 - EQUIPMENT - SUPPLIED BY CONTRACTOR/INSTALLED BY OTHERS
 - SEISMIC BRACING
 - POINT OF CONNECTION (POC)
 - PIPE UPSECTIONED
 - 1"(1 1/2") HWR-CU TYPE L
 - MATERIAL
 - PIPE SYSTEM
 - INS. THICKNESS
 - PIPE SIZE
 - (M102) STANDARD DETAIL REFERENCE
 - FUNCTION ABBREVIATION
 - 70-894-11 FUNCTION NUMBER
 - EQUIPMENT TAG NUMBER
 - 70-HTR-616-01 HYDRONIC UNIT HEATER BY OTHERS
 - EQUIPMENT NAME
 - W1-5+ SLEEVE NUMBER
 - SLEEVE LEVEL
 - SLEEVE TYPE
 - BOP: 7'-2" BOTTOM OF PIPE ELEVATION
 - SHEET KEY NOTES**
 - 1 PENDING RESPONSE TO VEC RFI 005.

STAMP

QR CODE



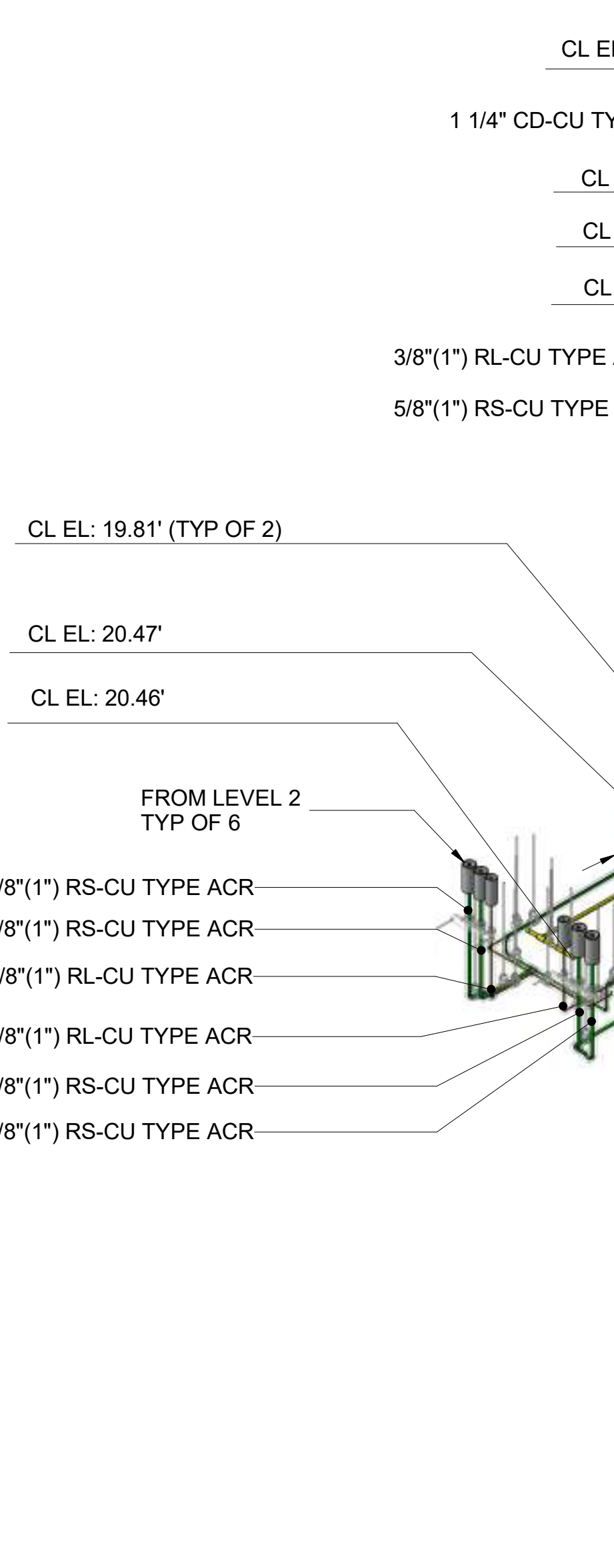
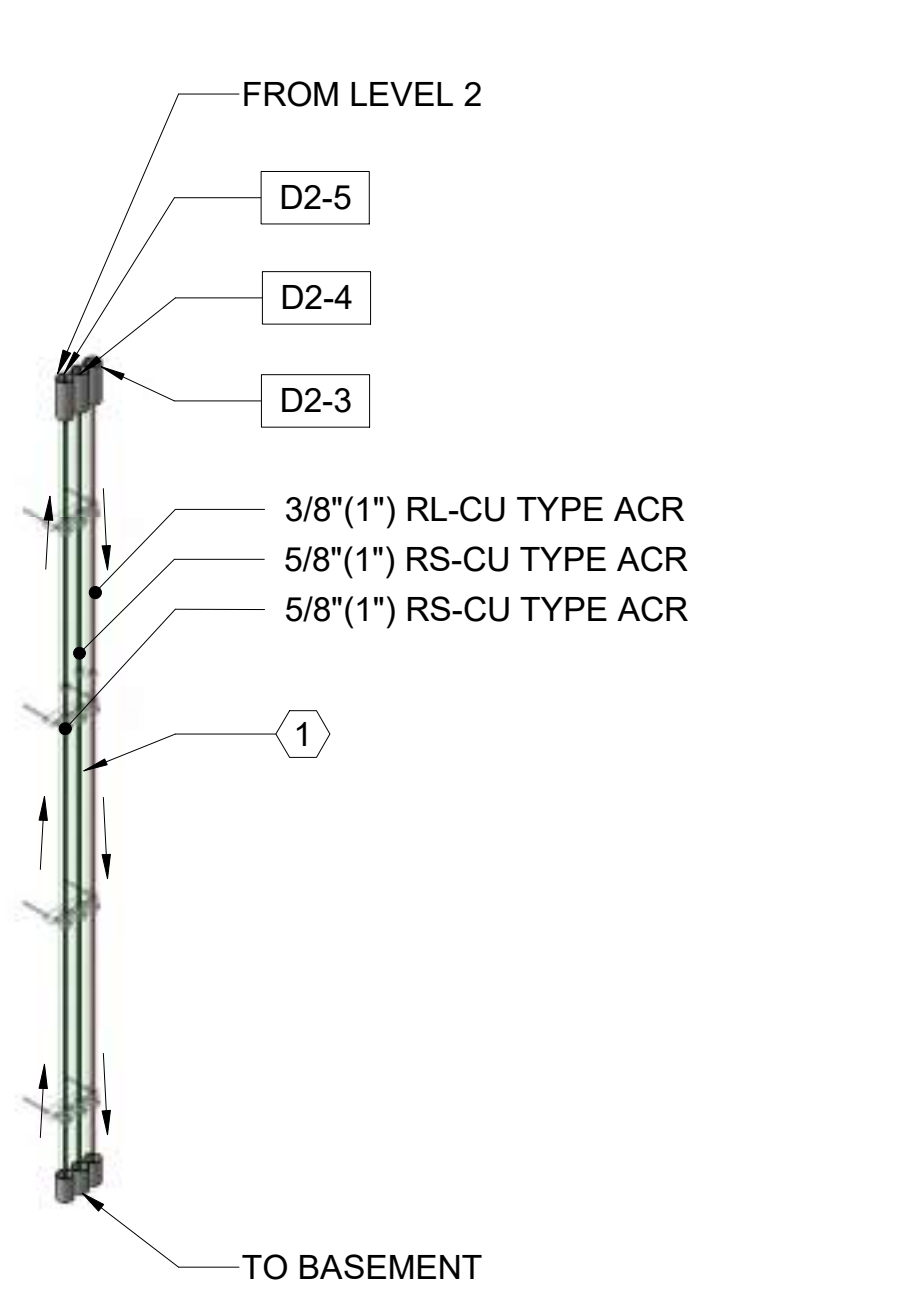
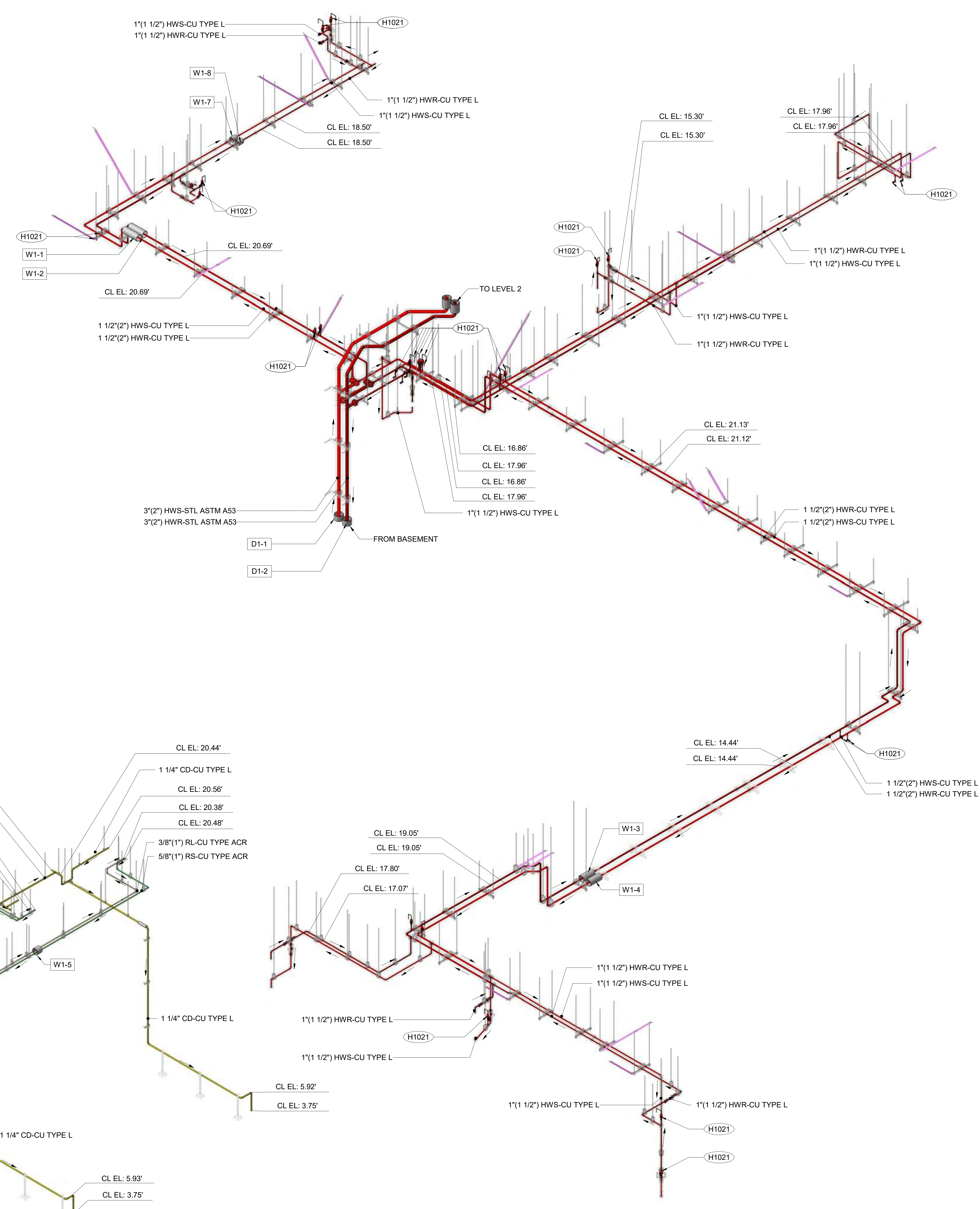
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
3D ISOMETRIC - LEVEL 1

NO.	DESCRIPTION	DATE

JOB NUMBER	
DATE	01/25/2024 3:28:48 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

3D ISOMETRIC - LEVEL 1

DRAWING NUMBER
VEC-MHP-1002



1 LEVEL 1 - PIPE ROUTING & LAYOUT - ISOMETRIC 3D VIEW

Hydronic Supply Layout Point

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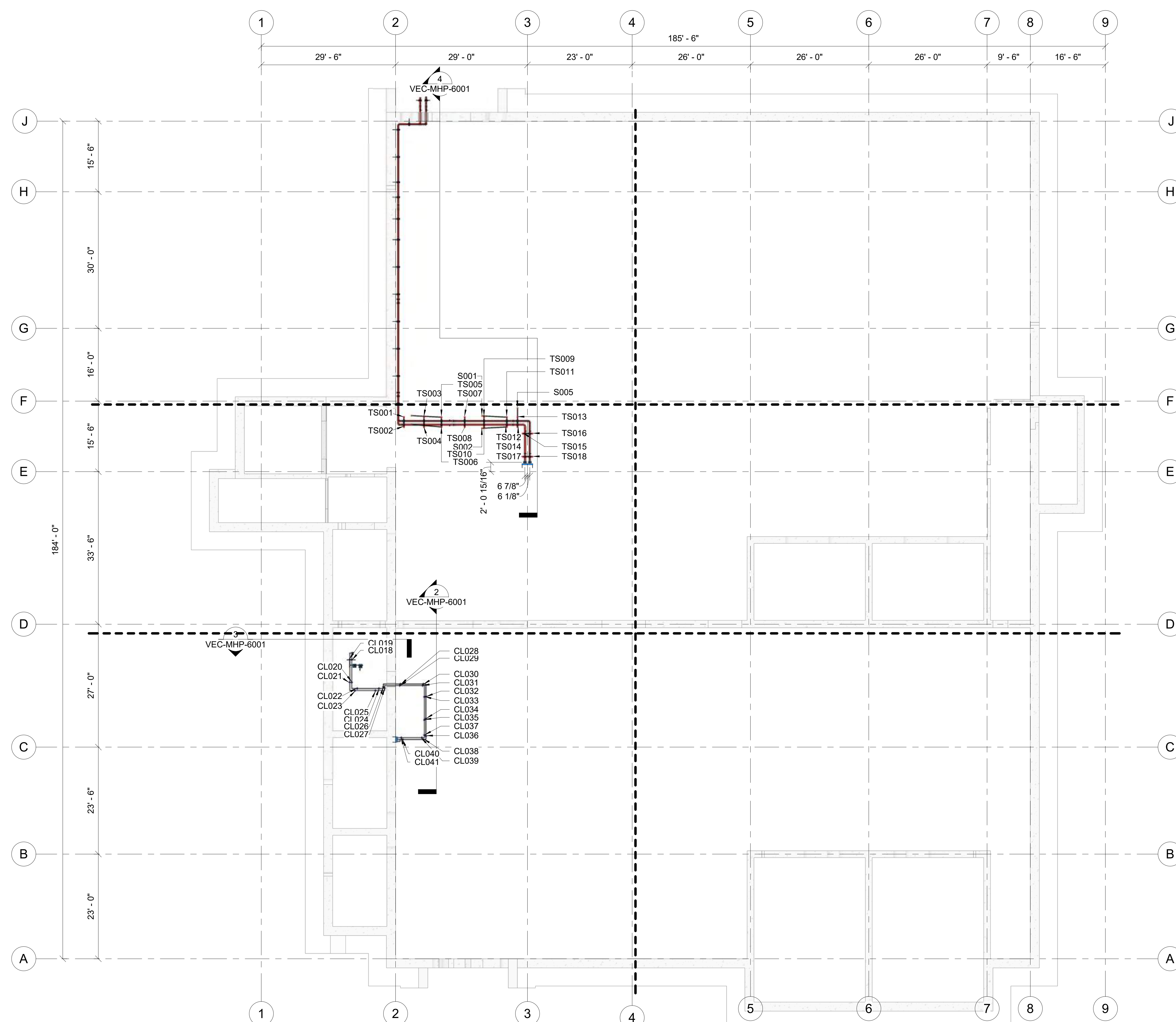
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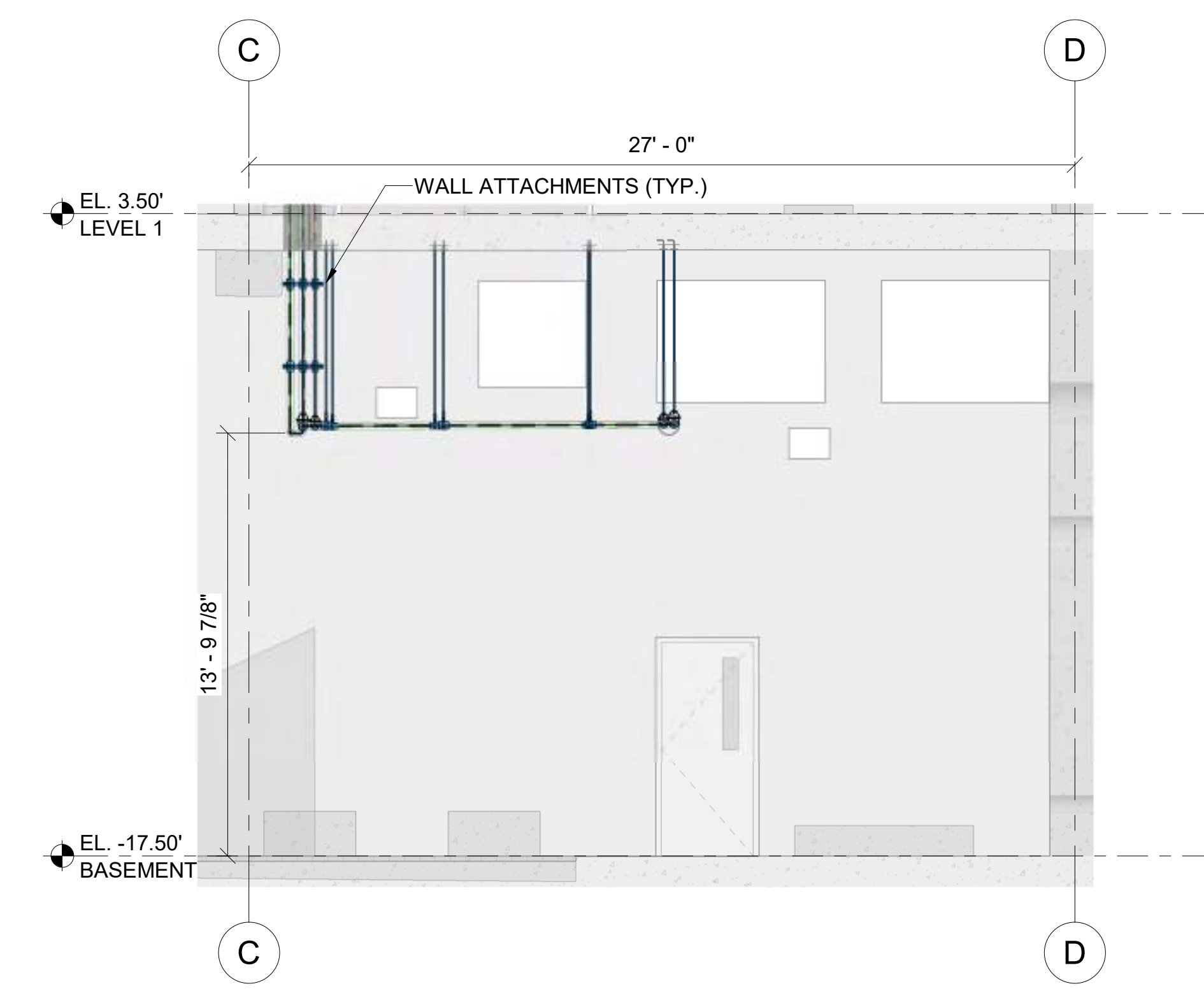


PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

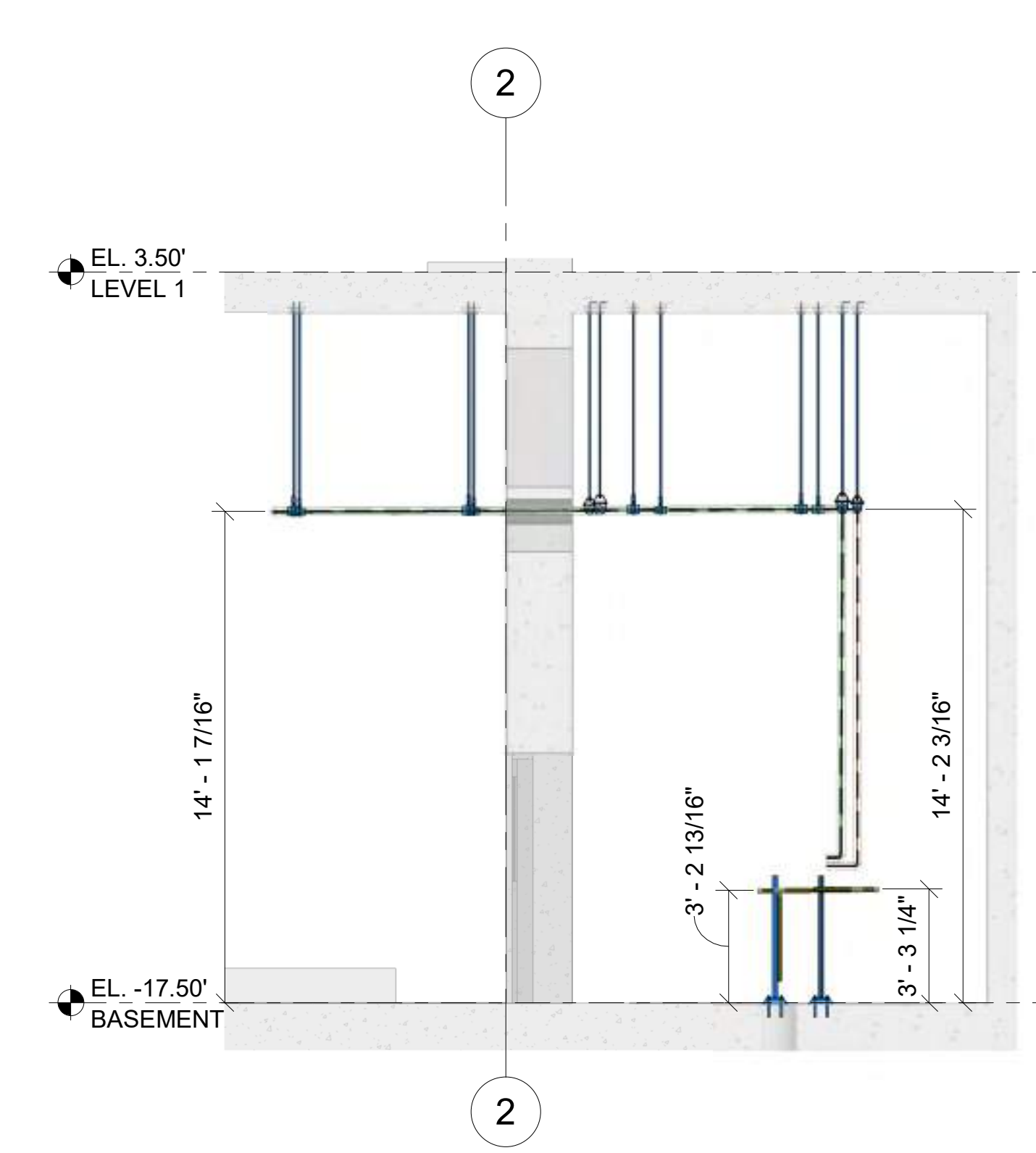
OVERALL TRIMBLE LAYOUT



1 BASEMENT - OVERALL TRIMBLE LAYOUT
3/32" = 1'-0"



2 SECTION
1/4" = 1'-0"



3 SECTION
1/4" = 1'-0"

- CD-CONDENSATE DRAIN
- HWS-HOT WATER SUPPLY
- HWR-HOT WATER RETURN
- RL-REFRIGERANT LIQUID
- RS-REFRIGERANT SUCTION
- SUPPORTS
- SEISMIC BRACING
- SEISMIC BRACING FOR TRAPEZE SUPPORTED SYSTEMS

- CP# - CONTROL POINT
- SV# - SLEEVE POINT
- PP# - PROCESS PIPE POINT
- TS# - TRAPEZE SUPPORT POINT
- JS# - J-HANGER SUPPORT POINT
- SS# - SADDLE SUPPORT POINT
- RS# - RACK SUPPORT POINT
- PD# - PAD POINT
- S# - SEISMIC SUPPORT POINT
- CL# - CLEVIS SUPPORT POINT
- LB# - LARRATT BROS POINT
- PE# - PENETRATION POINT
- SHEET KEY NOTES

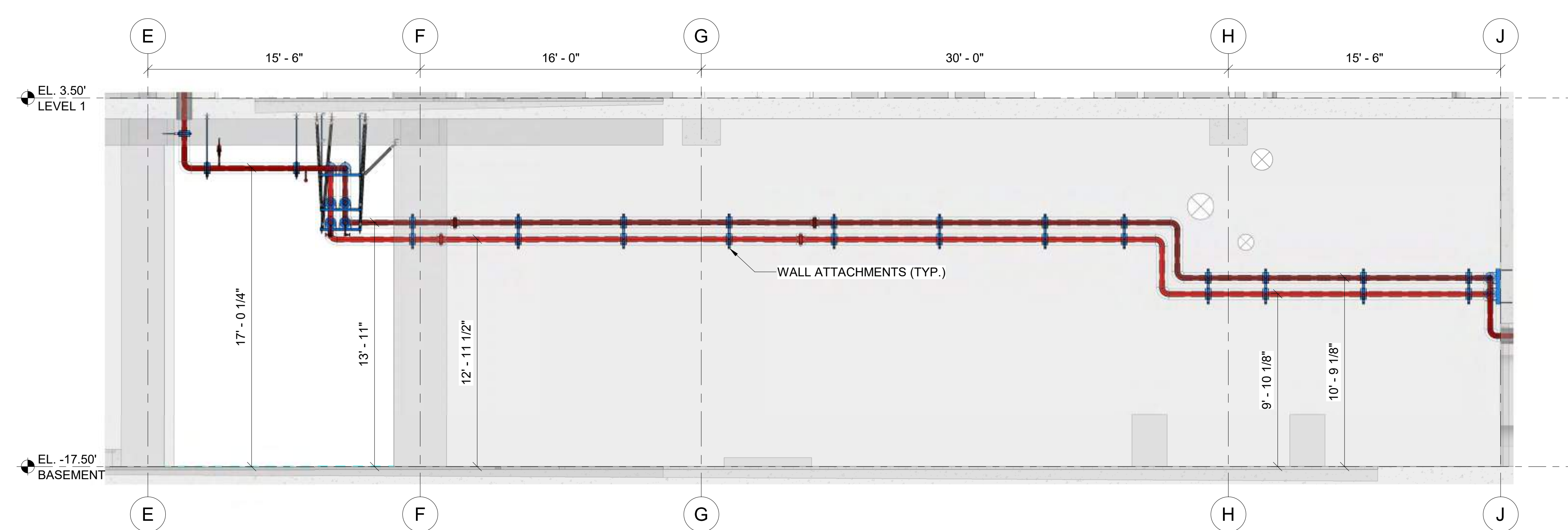
LIST OF LARRATT BROS POINTS				
POINT NUMBER	NORTH	EAST	DESCRIPTION	
LB1	75842.34	174005.14	(5) GRID '5' @ (5) GRID 'E'	
LB2	75857.25	174006.78	(10) GRID '5' @ (5) GRID 'E'	
LB3	75859.23	174033.47	(5) GRID '5' @ (10) GRID 'D'	
LB4	75780.43	174074.31	(5) GRID '4' @ (10) GRID 'C'	
LB5	75808.27	174077.36	(5) GRID '4' @ (10) GRID 'C'	
LB6	75777.55	174100.65	(10) GRID '3' @ (10) GRID 'A'	
LB7	75805.38	174103.70	(5) GRID '4' @ (10) GRID 'A'	

LIST OF PENETRATION POINTS				
POINT NUMBER	NORTH	EAST	DESCRIPTION	
PE001	75797.75	174003.20	(0.53) GRID '3' @ (2.08) GRID 'E'	
PE002	75798.79	174003.31	(0.51) GRID '3' @ (2.08) GRID 'E'	
PE003	75763.24	174060.19	(0.37) GRID '2' @ (2.16) GRID 'C'	
PE004	75763.21	174060.58	(0.37) GRID '2' @ (1.77) GRID 'C'	
PE005	75763.16	174061.00	(0.37) GRID '2' @ (1.35) GRID 'C'	

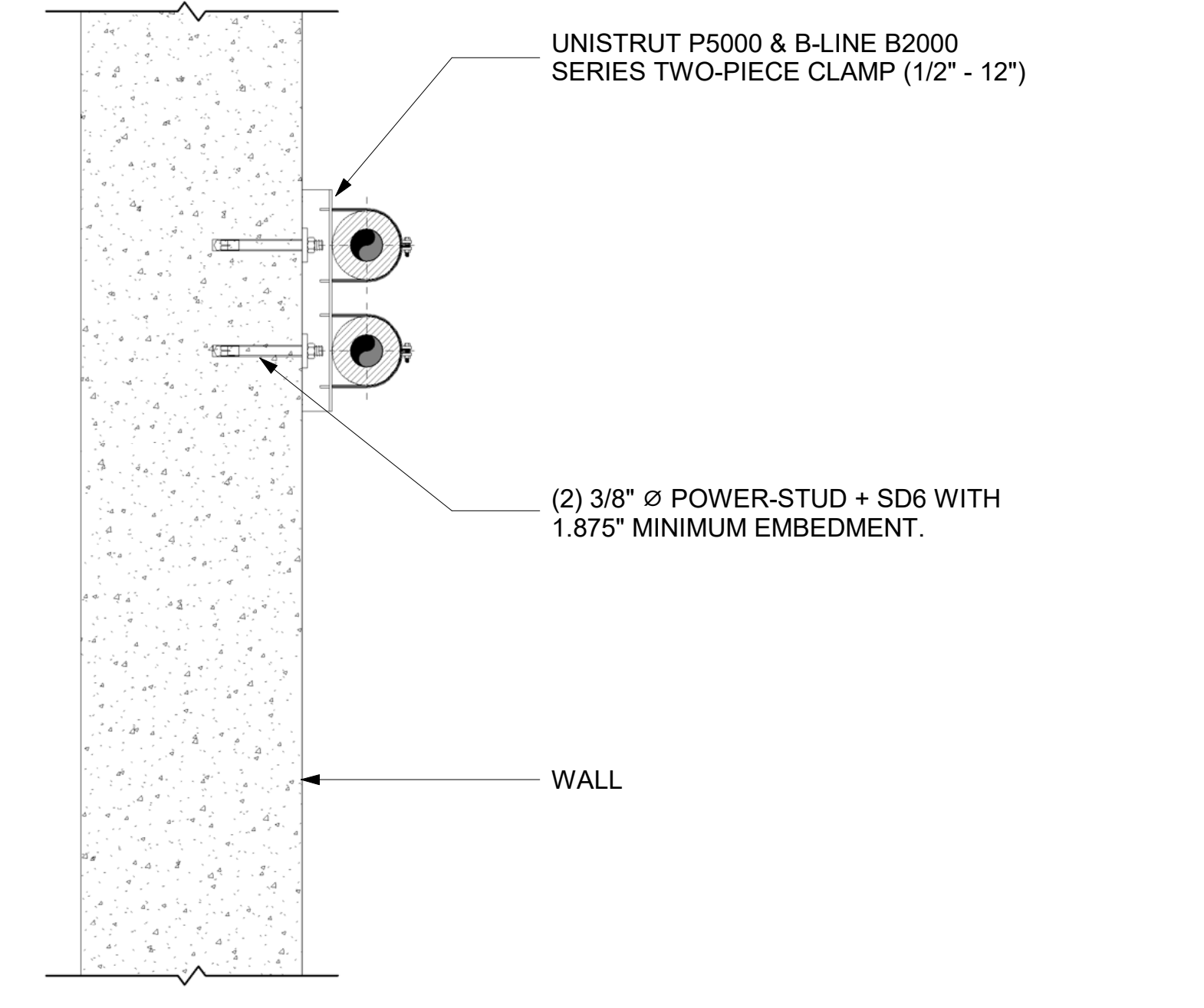
LIST OF SEISMIC INSERT POINTS				
POINT NUMBER	NORTH	EAST	ELEVATION	DESCRIPTION
S001	75789.44	173991.95	2.35	-
S002	75789.14	173994.66	2.35	-
S003	75789.14	173994.66	2.35	-
S004	75789.14	173994.66	2.35	-
S005	75797.38	173991.09	0.89	-

LIST OF CONTROL POINTS				
POINT NUMBER	NORTH	EAST	ELEVATION	DESCRIPTION
CP729110	75898.85	173948.46	-21'-6 1/4"	(7) GRID '7' @ (6) GRID 'H'
CP729111	75905.15	173955.19	-21'-5 3/4"	GRID '7' @ GRID 'H'
CP729112	75883.00	174093.10	-21'-4 3/4"	(7) GRID '7' @ (6) GRID 'B'
CP729113	75899.30	174099.82	20'-9 7/8"	GRID '7' @ GRID 'B'
CP729114	75905.74	174056.86	-16'-2"	(2.16) GRID '8' @ (6) GRID 'D'
CP729120	75892.15	174009.60	-21'-5 1/2"	(7) GRID '7' @ (6) GRID 'E'
CP729121	75898.45	174016.32	-21'-5 7/8"	GRID '7' @ GRID 'E'
CP729122	75788.90	174088.82	-21'-6 1/8"	GRID '3' @ GRID 'B'
CP729123	75748.97	174039.68	15'-8 5/8"	(16.05) GRID '2' @ (6) GRID 'D'
CP729124	75804.75	173944.19	-21'-6 3/8"	GRID '3' @ GRID 'H'

LIST OF LAYOUT POINTS					
POINT NUMBER	NORTH	EAST	Elevation from Level	ELEVATION	DESCRIPTION
CL018	75755.12	174042.12	-1'-1 1/2"	-18.63	
CL019	75754.70	174042.06	-1'-1 1/2"	-18.63	
CL020	75754.58	174047.09	-1'-1 1/2"	-18.63	
CL021	75754.16	174047.03	-1'-1 1/2"	-18.63	
CL022	75755.61	174048.55	-1'-1 1/2"	-18.63	
CL023	75755.07	174048.96	-1'-1 1/2"	-18.63	
CL024	75760.41	174049.08	-1'-1 1/2"	-18.63	
CL025	75759.59	174049.46	-1'-1 1/2"	-18.63	
CL026	75761.40	174048.86	-1'-1 1/2"	-18.63	
CL027	75761.67	174048.13	-1'-1 1/2"	-18.63	
CL028	75765.22	174046.61	-1'-1 1/2"	-18.63	
CL029	75765.04	174048.93	-1'-1 1/2"	-18.63	
CL030	75770.21	174049.16	-1'-1 1/2"	-18.63	
CL031	75770.01	174049.48	-1'-1 1/2"	-18.63	
CL032	75770.48	174051.96	-1'-1 1/2"	-18.63	
CL033	75770.13	174051.99	-1'-1 1/2"	-18.63	
CL034	75769.96	174056.71	-1'-1 1/2"	-18.63	
CL035	75769.58	174056.96	-1'-1 1/2"	-18.63	
CL036	75769.54	174060.52	-1'-1 1/2"	-18.63	
CL037	75769.22	174060.27	-1'-1 1/2"	-18.63	
CL038	75768.89	174061.21	-1'-1 1/2"	-18.63	
CL039	75768.61	174060.78	-1'-1 1/2"	-18.63	
CL040	75764.41	174060.71	-1'-1 1/2"	-18.63	
CL041	75764.13	174060.29	-1'-1 1/2"	-18.63	
TS001	75772.36	173990.36	-1'-1 3/8"	-18.61	
TS002	75772.13	173992.51	-1'-1 1/2"	-18.61	
TS003	75776.76	173990.84	-1'-1 3/8"	-18.61	
TS004	75776.52	173993.00	-1'-1 3/8"	-18.61	
TS005	75780.57	173991.26	-1'-1 3/8"	-18.61	
TS006	75780.33	173993.41	-1'-1 3/8"	-18.61	
TS007	75785.63	173991.81	-1'-1 3/8"	-18.61	
TS008	75785.39	173993.97	-1'-1 3/8"	-18.61	
TS009	75789.86	173992.28	-1'-1 3/8"	-18.61	
TS010	75789.62	173994.43	-1'-1 3/8"	-18.61	
TS011	75794.83	173992.82	-1'-1 3/8"	-18.61	
TS012	75794.59	173994.98	-1'-1 3/8"	-18.61	
TS013	75797.16	173993.08	-2'-7 3/8"	-20.11	
TS014	75796.92	173995.23	-2'-7 3/8"	-20.11	
TS015	75797.89	173996.80	-1'-1 3/8"	-18.61	
TS016	75800.05	173997.04	-1'-1 3/8"	-18.61	
TS017	75797.34	174001.85	-1'-1 3/8"	-18.61	
TS018	75799.49	174002.09	-1'-1 3/8"	-18.61	



4 SECTION
1/4" = 1'-0"



5 DETAIL WALL ANCHORAGE W/O DIMS
3/4" = 1'-0"

NO.	DESCRIPTION	DATE
	ORIGINAL PRINT SIZE = 36x48	

JOB NUMBER	DATE	CHECKED BY	DRAWING SCALE
	02/16/2024 2:13:52 PM	VEC	AS NOTED

OVERALL TRIMBLE LAYOUT

VEC-MHP-6001

Wall Penetration & Sleeves

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LEGENDS AND SYMBOLS

- SLEEVE - TYPE AA
- SLEEVE SIZE
- PIPING SYSTEM
- CENTER OF SLEEVE
- SLEEVE ID

GENERAL SHEET NOTES

1. WAITING RESPONSE OF RFI #005 & RFI #006 THAT MAY AFFECT THE L4 PENETRATION DRAWINGS.

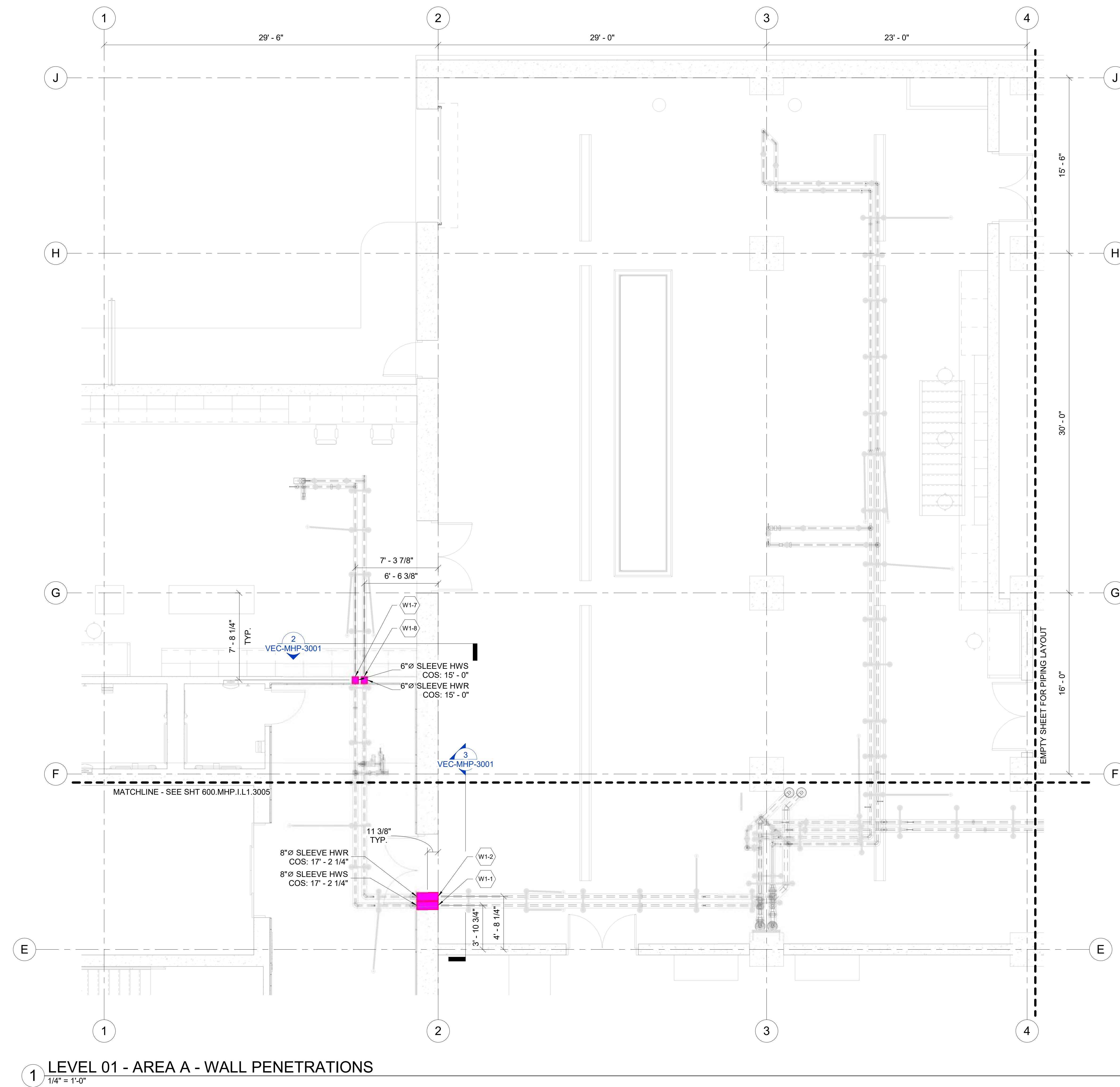
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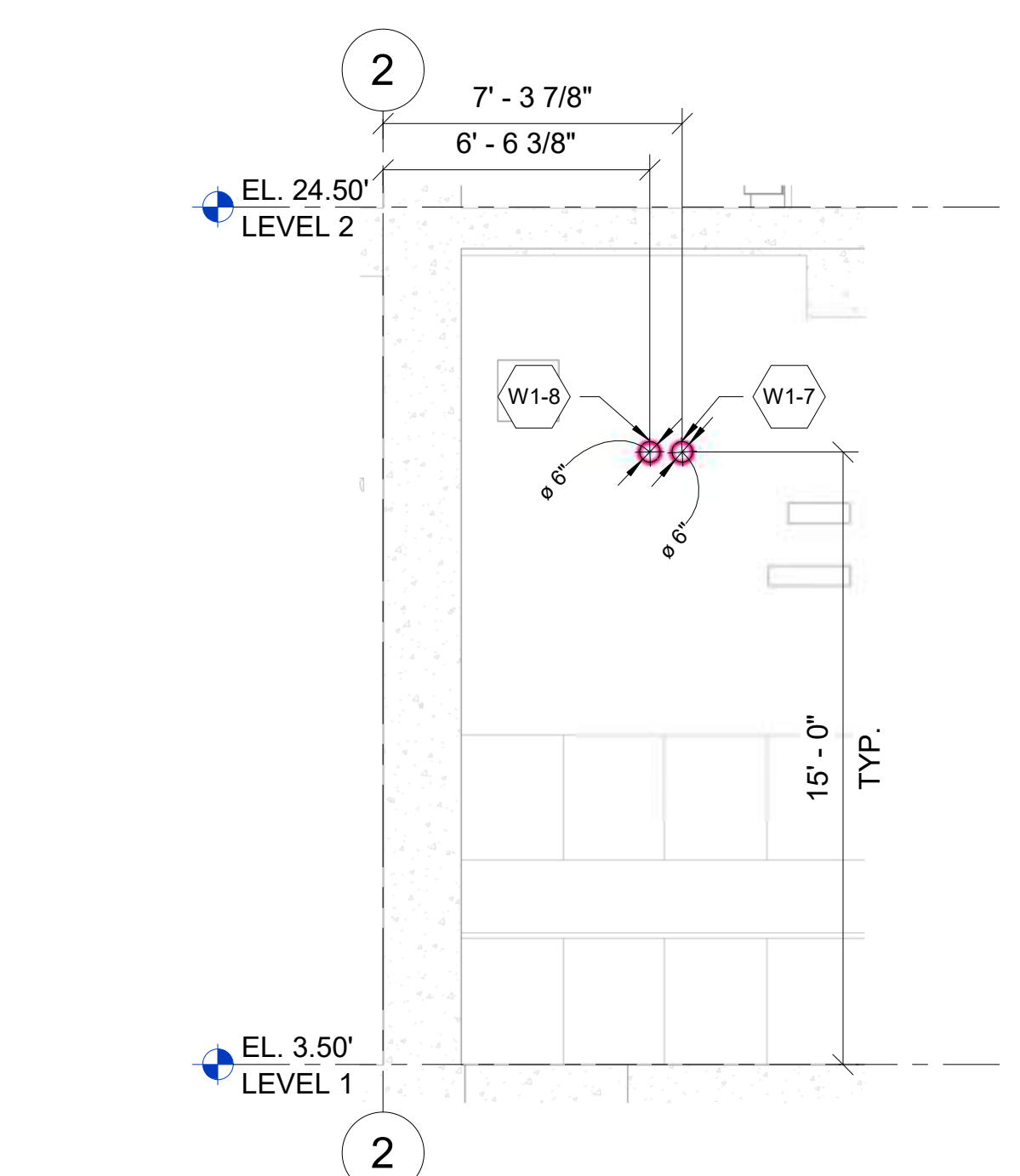


PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

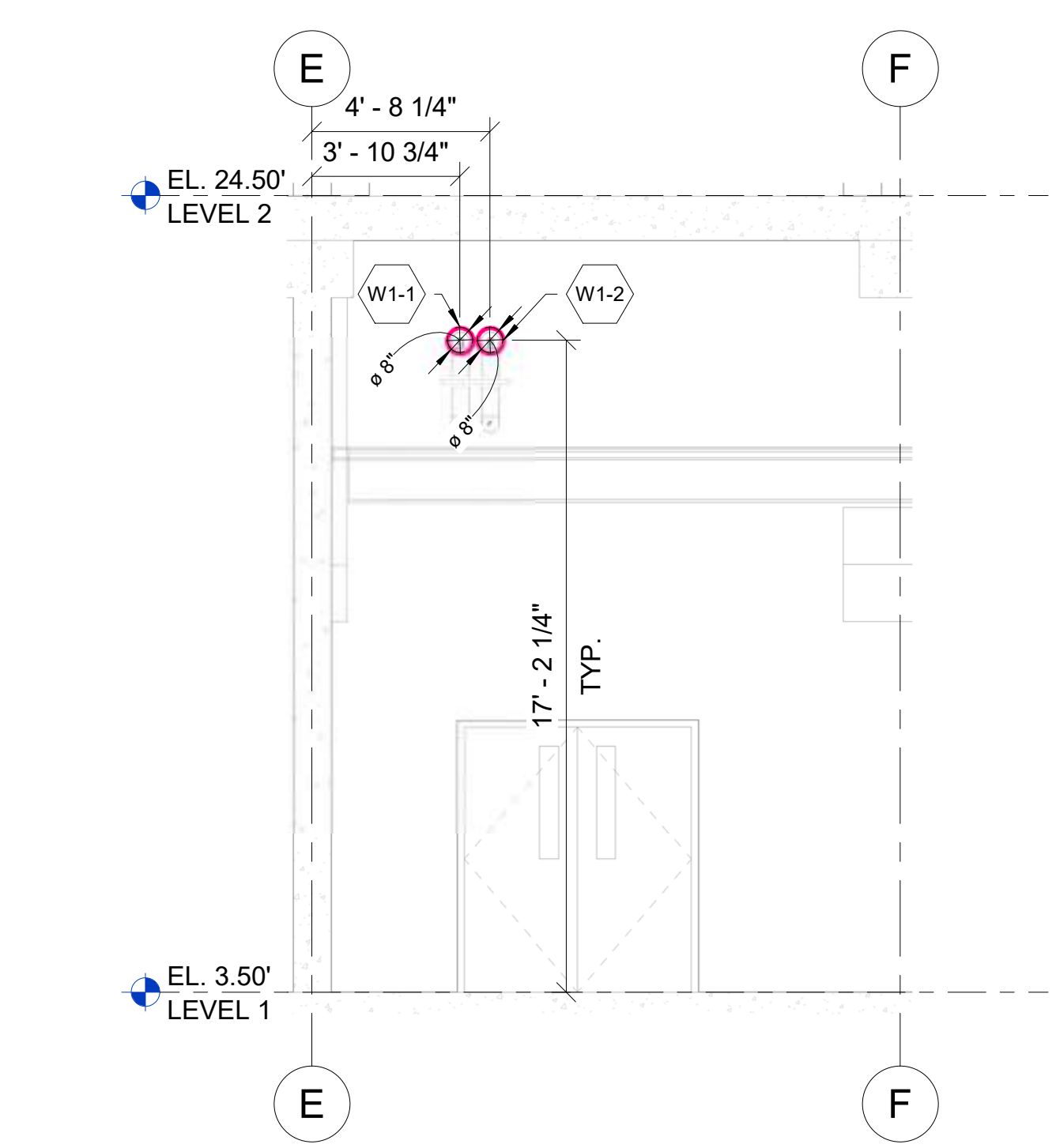
DETAILED WALL PENETRATION & SLEEVES AREA C



1 LEVEL 01 - AREA A - WALL PENETRATIONS
1/4" = 1'-0"



2 SECTION
1/4" = 1'-0"



3 SECTION
1/4" = 1'-0"

L01 - WALL SLEEVES SCHEDULE									
TAG	SERVICE	DETAIL	SLV. TYPE	PIPE SIZE	INS. THICKNESS	COS	SLV. DIAMETER	SLV. LENGTH	
W1-1	HWS	M1020	WALL	1-1/2"	2"	17'-2 1/4"	8"	1'-10 3/4"	
W1-2	HWR	M1020	WALL	1-1/2"	2"	17'-2 1/4"	8"	1'-10 3/4"	
W1-3	HWR	M1020	WALL	1-1/2"	2"	10'-11 1/4"	8"	1'-6"	
W1-4	HWS	M1020	WALL	1-1/2"	2"	10'-11 1/4"	8"	1'-6"	
W1-5	RL/RS	M1020	WALL	3/8" - 5/8"	1"	16'-3 1/8"	8"	7 1/4"	
W1-6	RL/RS	M1020	WALL	3/8" - 5/8"	1"	17'-0 1/2"	8"	7 1/4"	
W1-7	HWS	M1020	WALL	1"	0' 1 1/2"	15'-0"	6"	7 1/4"	
W1-8	HWR	M1020	WALL	1"	0' 1 1/2"	15'-0"	6"	7 1/4"	
W1-9	CD	M1020	WALL	1 1/4"	NONE	15'-9 3/4"	2 1/2"	1'-0"	
W1-10	CD	M1020	WALL	1 1/4"	NONE	15'-11 1/8"	2 1/2"	1'-0"	

NO.	DESCRIPTION	DATE

KEY PLAN

JOB NUMBER	
DATE	01/25/2024 3:27:13 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	DETAILED WALL PENETRATION & SLEEVES AREA C
DRAWING NUMBER	VEC-MHP-3001



VEC

PLUMBING VDC

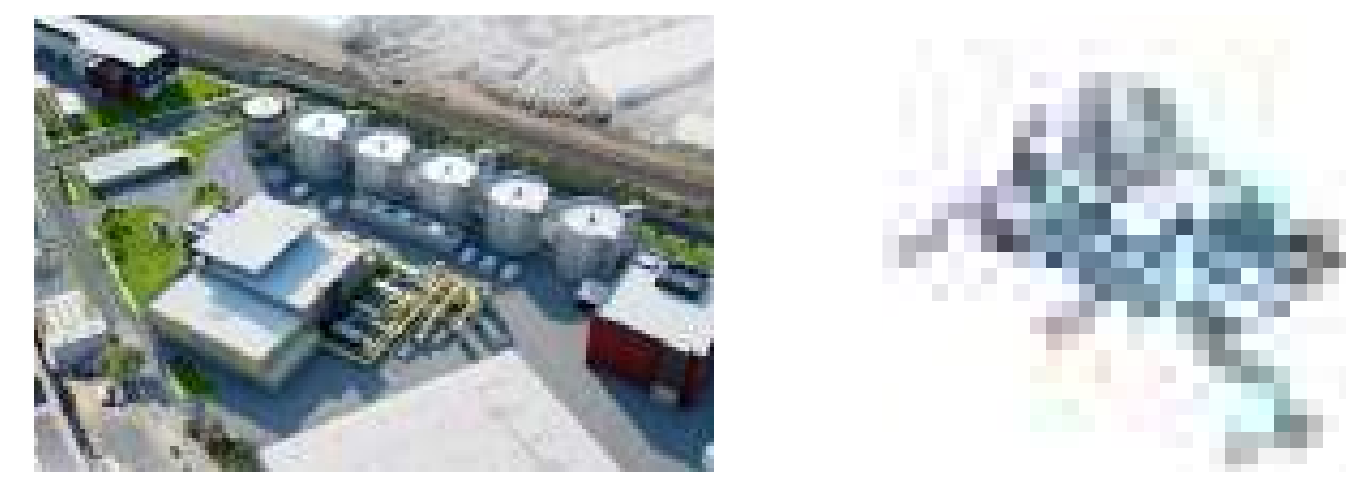
PROJECT EXPERIENCE

PROCESS PIPING

SFPUC B615



SFPUC B921



KEYSIGHT TECHNOLOGIES

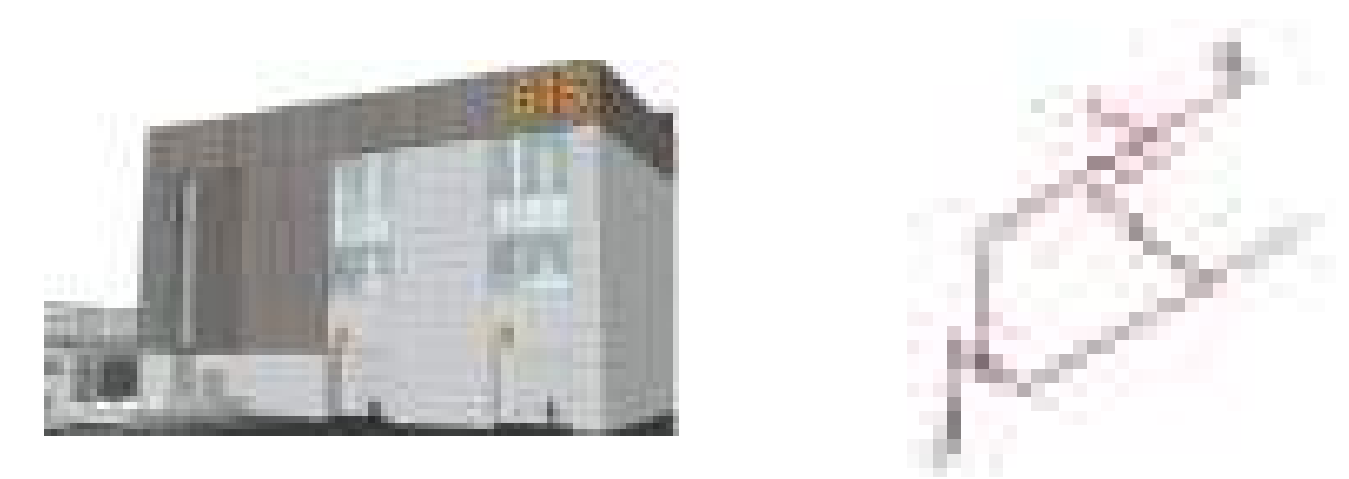


SFPUC B913



HVAC DUCTWORK & PIPING

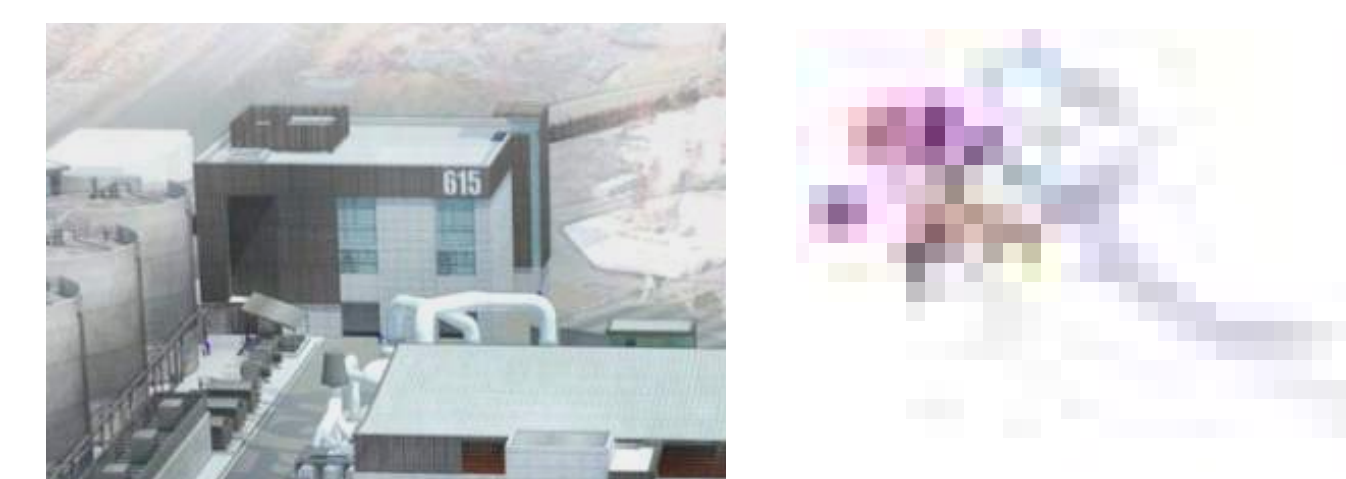
SFPUC B615



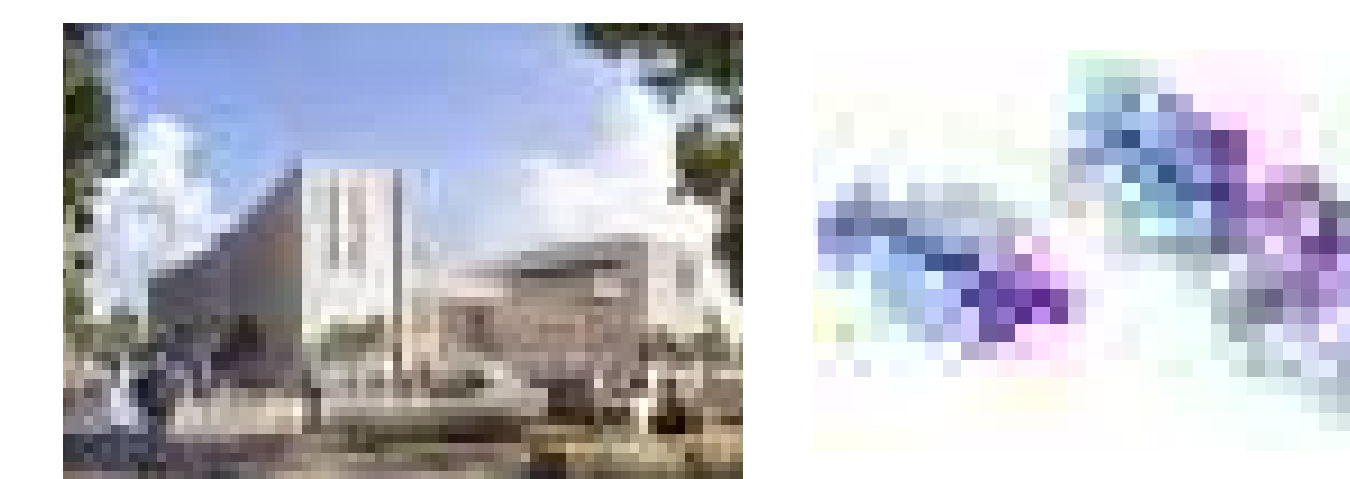
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SFPUC B615

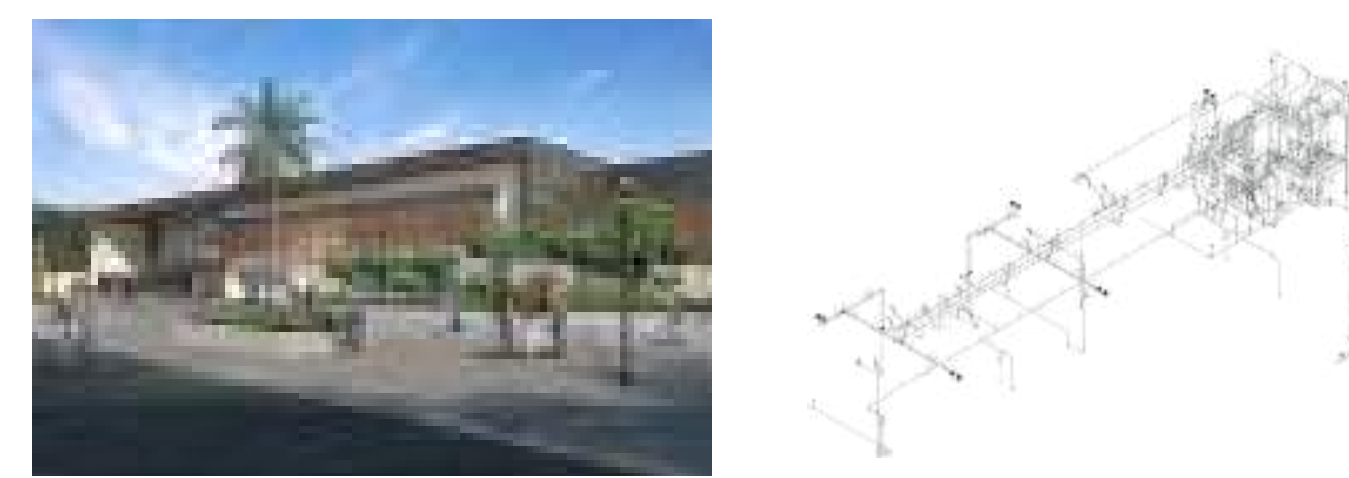


UCSB

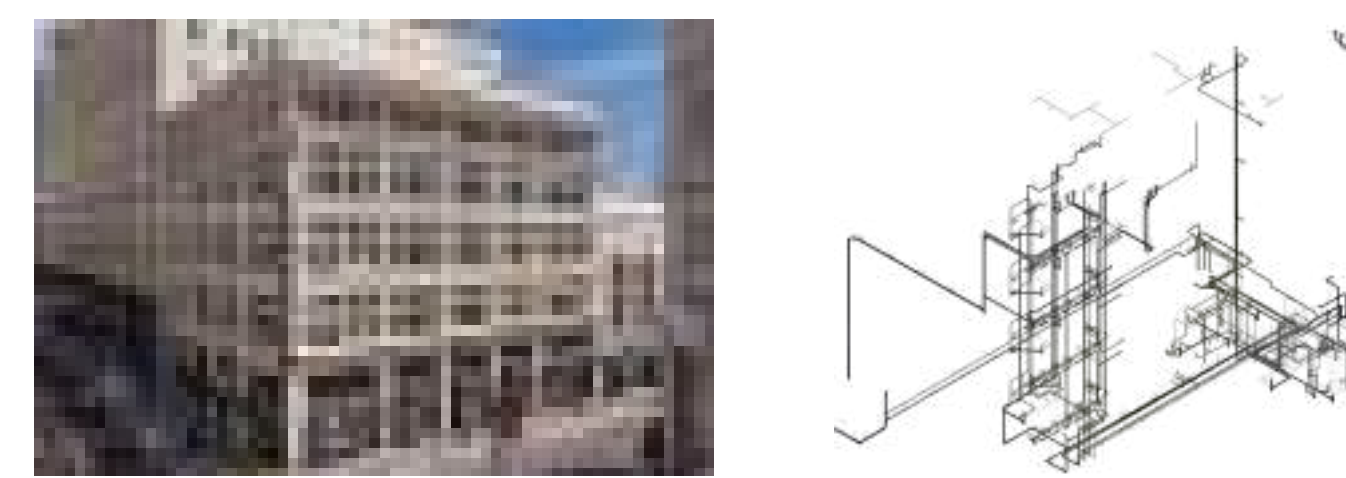


PLUMBING CONSTRUCTION & DESIGN

DEL SOL HIGH SCHOOL



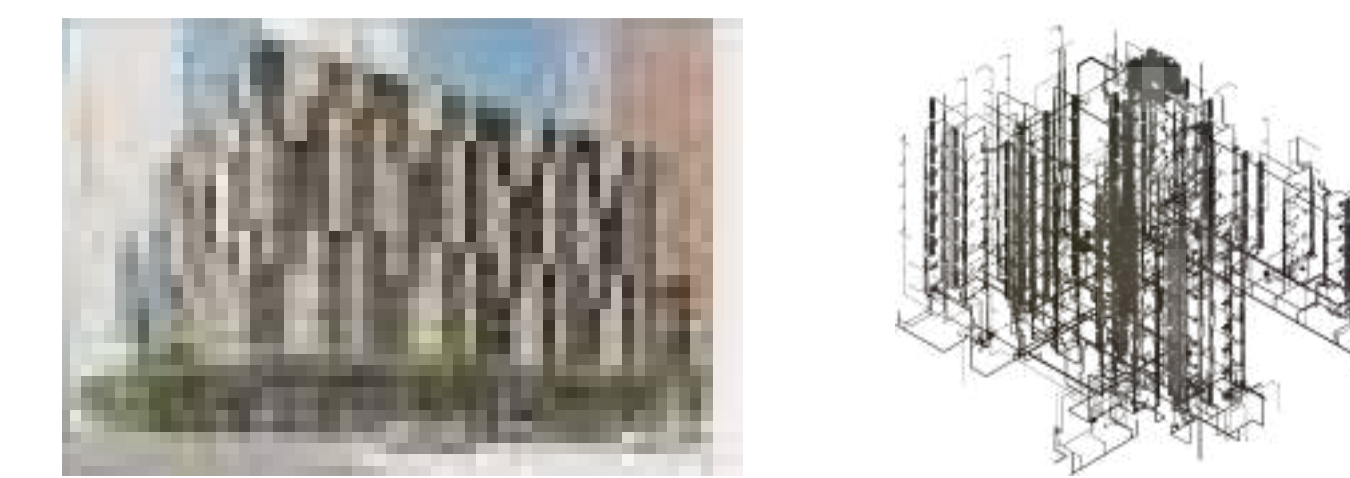
48 STOCKTON



SFPUC B615



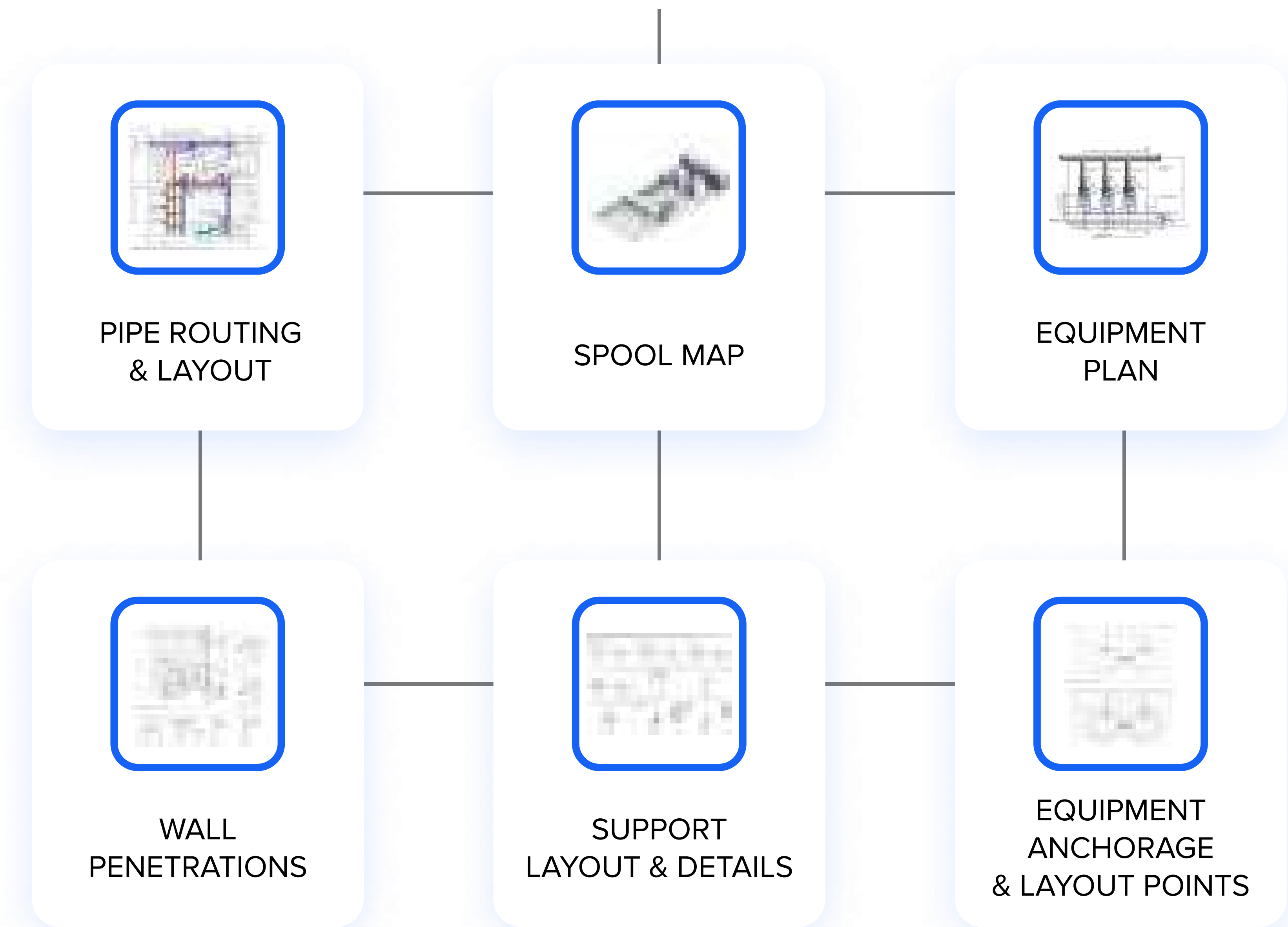
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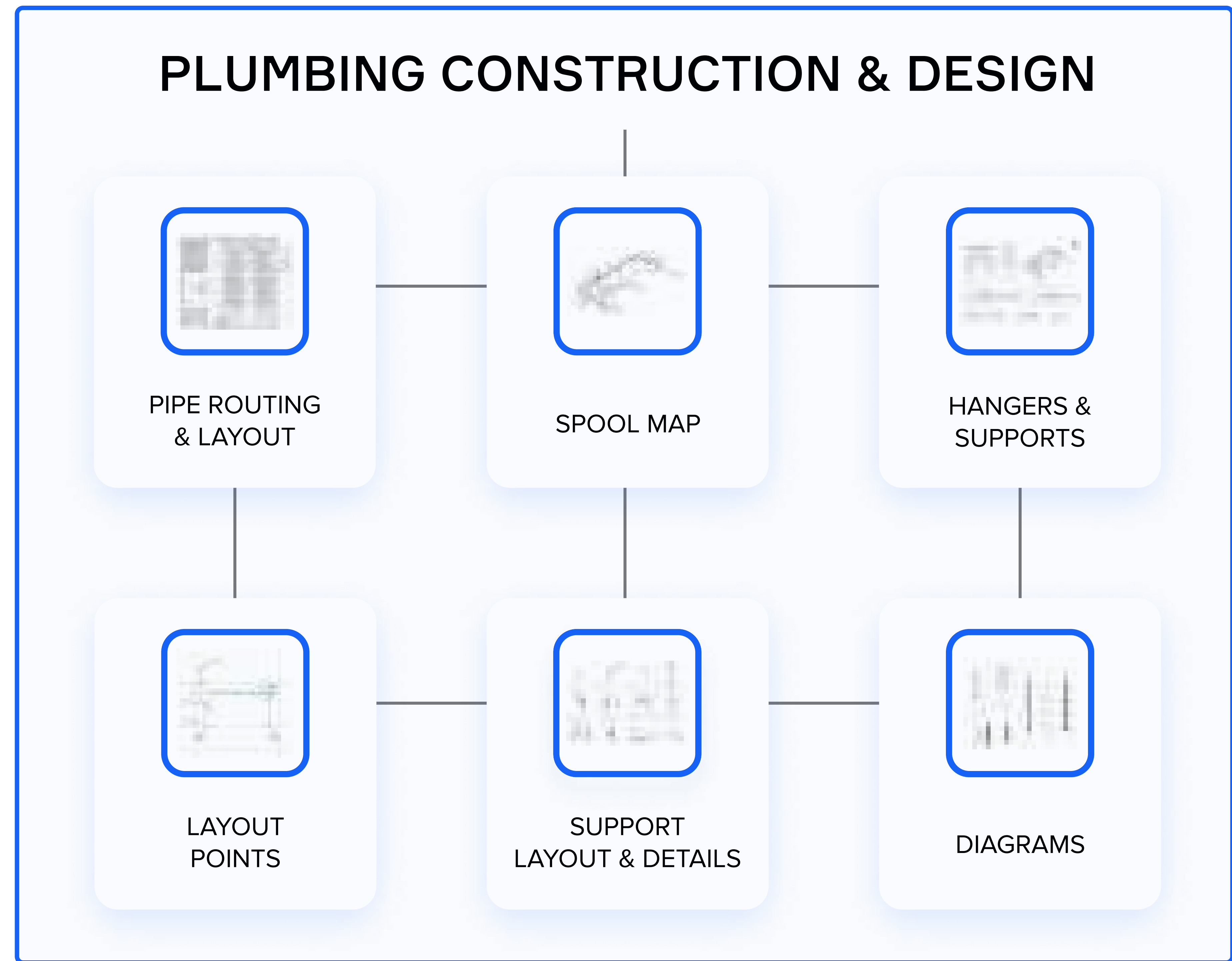
San Francisco (HQ)
201 Spear Street
Suite 1750 San Francisco,
California, 94105

WHAT IS INSIDE?

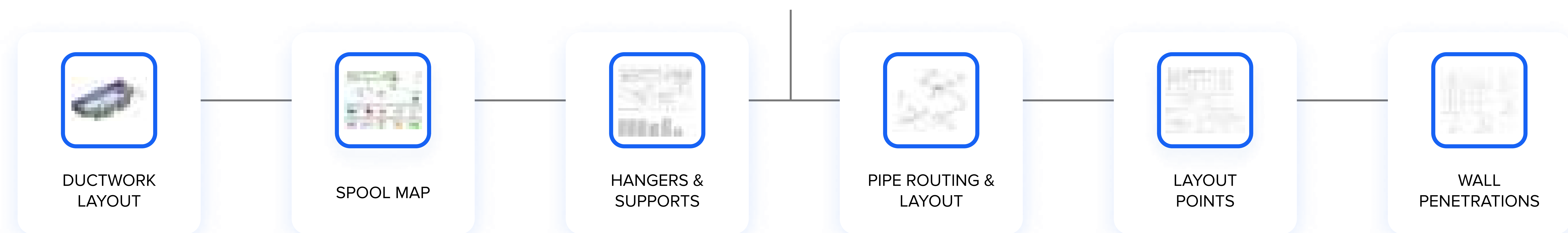
PROCESS PIPING CONSTRUCTION & DESIGN



PLUMBING CONSTRUCTION & DESIGN

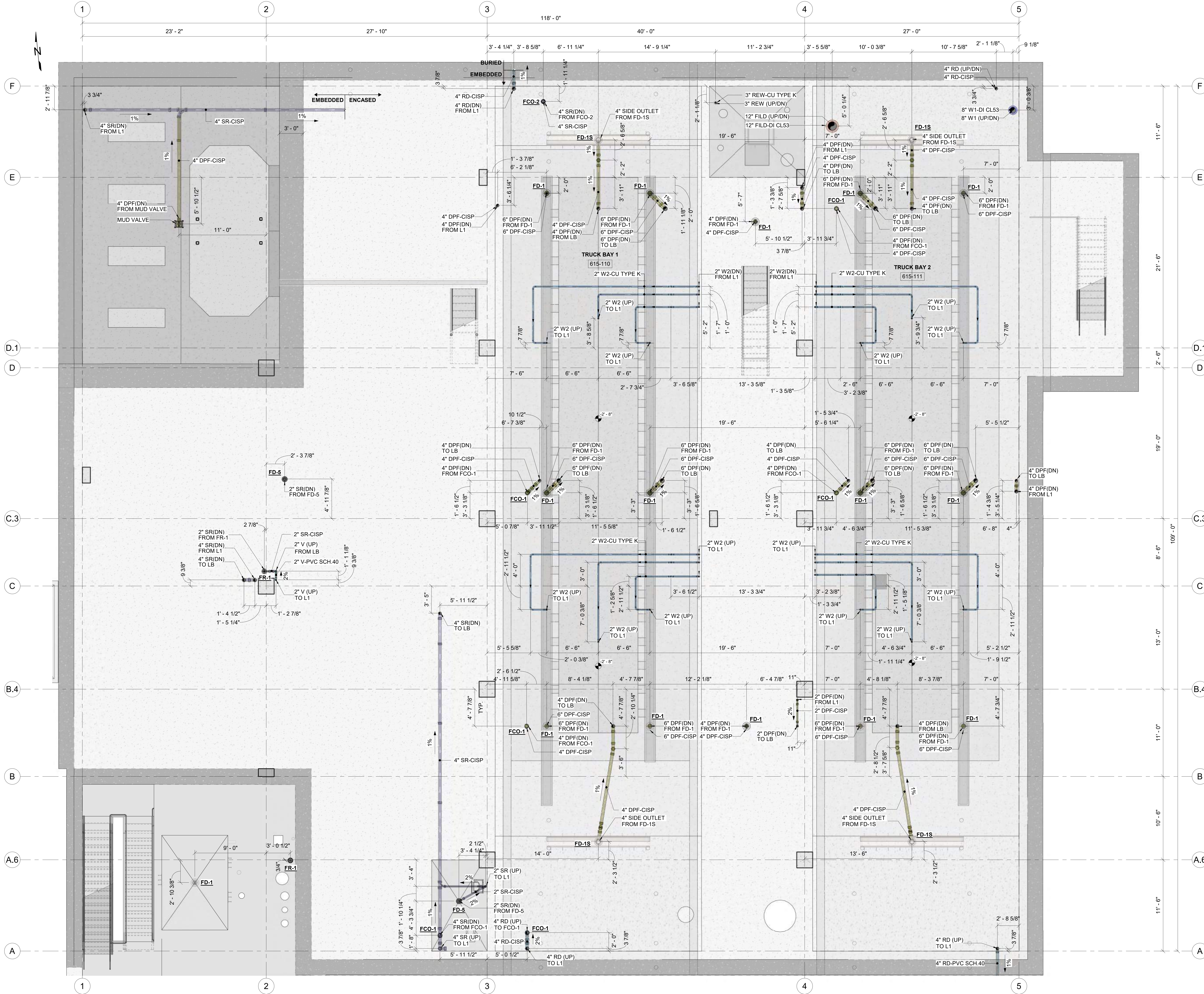


HVAC DUCTWORK & PIPING



Pipe Routing & Layout

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LEGENDS AND SYMBOLS

- DPF-DRAIN, PROCESS FLOOR
- REW-WATER, TERTIARY RECYCLED
- RD-DRAIN, ROOF
- SR-SEWAGE, RAW
- V-VENT
- W1-WATER, N#1 (POTABLE)
- W2-WATER, N#2 (NON-POTABLE)
- W2H-WATER, N#2 (NON-POTABLE), HOT
- DHW-WATER, HOT (DOMESTIC USE POTABLE)

POINT OF CONNECTION (POC)

PIPE UP/SECTIONED

L1 - LEVEL 1
LB - LOWER BASEMENT

8" W2-DI CL53

PIPE SIZE
PIPE SYSTEM
PIPE SIZE

PIPE SIZE
PIPE SYSTEM
DN/DOWN/JUP

LEVEL
FROM/TO

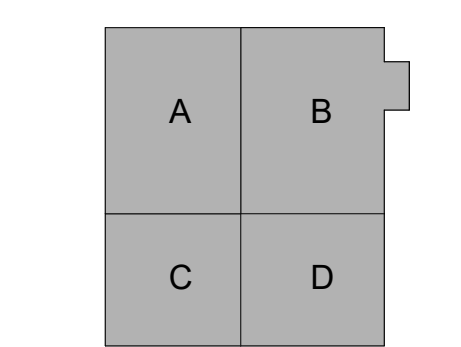
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QR CODE



PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
PLUMBING PIPING LAYOUT

NO.	DESCRIPTION	DATE



JOB NUMBER	
DATE	01/23/2024 6:02:29 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

PLUMBING PIPING LAYOUT

DRAWING NUMBER
VEC-PLC-101

1 IN-SLAB - PIPING LAYOUT - PLAN VIEW
1/4" = 1'-0"

Pipe Routing & Layout - Isometrics

YOUR
LOGO
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- LEGENDS AND SYMBOLS**
- DPF-DRAIN, PROCESS FLOOR
 - REW-WATER, TERTIARY RECYCLED
 - RD-DRAIN, ROOF
 - SR-SEWAGE, RAW
 - V-VENT
 - W1-WATER, N°1 (POTABLE)
 - W2-WATER, N°2 (NON-POTABLE)
 - W2H-WATER, N°2 (NON-POTABLE), HOT
 - DHW - WATER, HOT (DOMESTIC USE POTABLE)
 - UG/LB/L1 PIPES

- PL-XX-SLV = SLEEVE ID
- L1 - LEVEL 1
- LB - LOWER BASEMENT
- UG - UNDERGROUND

- 8" W2-DI CL53 MATERIAL
- PIPE SYSTEM
- PIPE SIZE

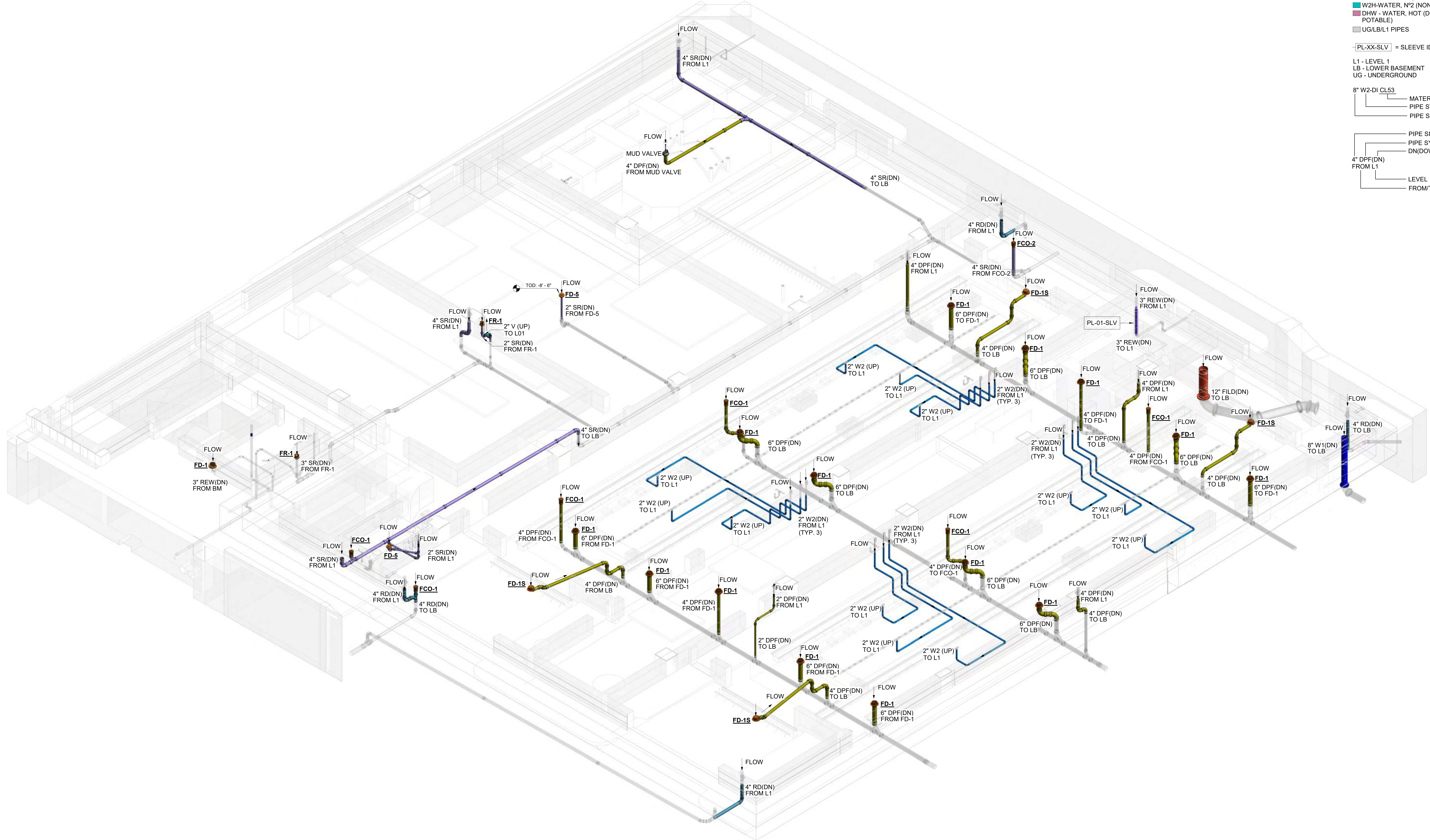
- PIPE SIZE
- PIPE SYSTEM
- DN(DOWN)UP
- LEVEL
- FROM/TO

STAMP

QR CODE



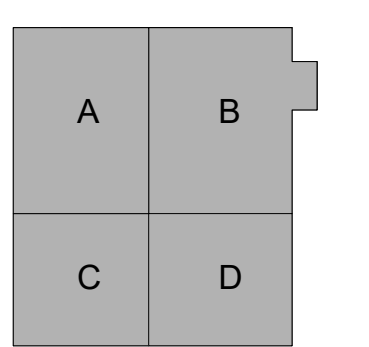
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
ISOMETRIC PERSPECTIVE



1 IN-SLAB - PIPING LAYOUT - 3D ISOMETRIC

NO.	DESCRIPTION	DATE

KEY PLAN



JOB NUMBER	
DATE	01/24/2024 5:13:23 PM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

ISOMETRIC
PERSPECTIVE

DRAWING NUMBER

VEC-PLC-201

Pipe Spool Map

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LOGO
HERE



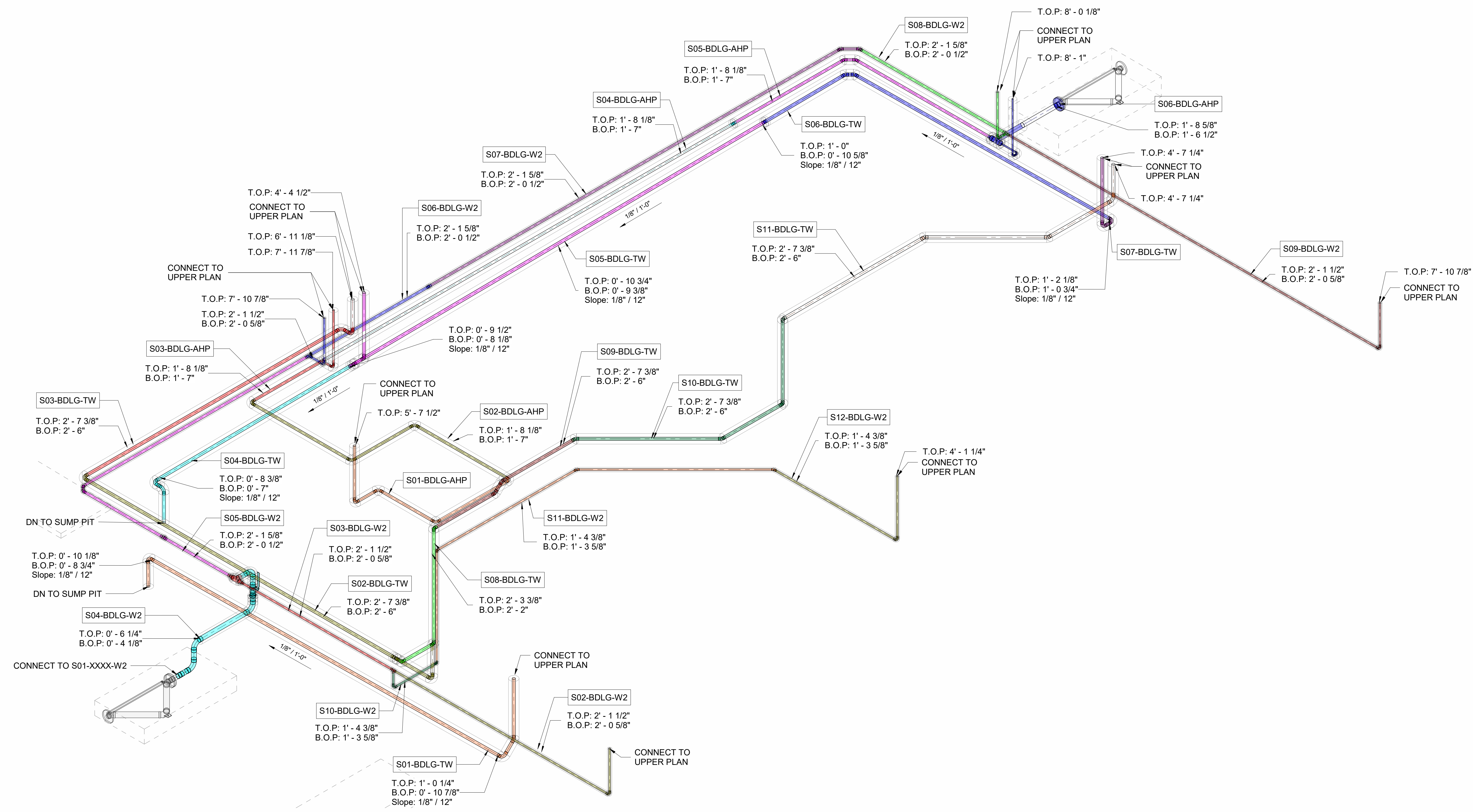
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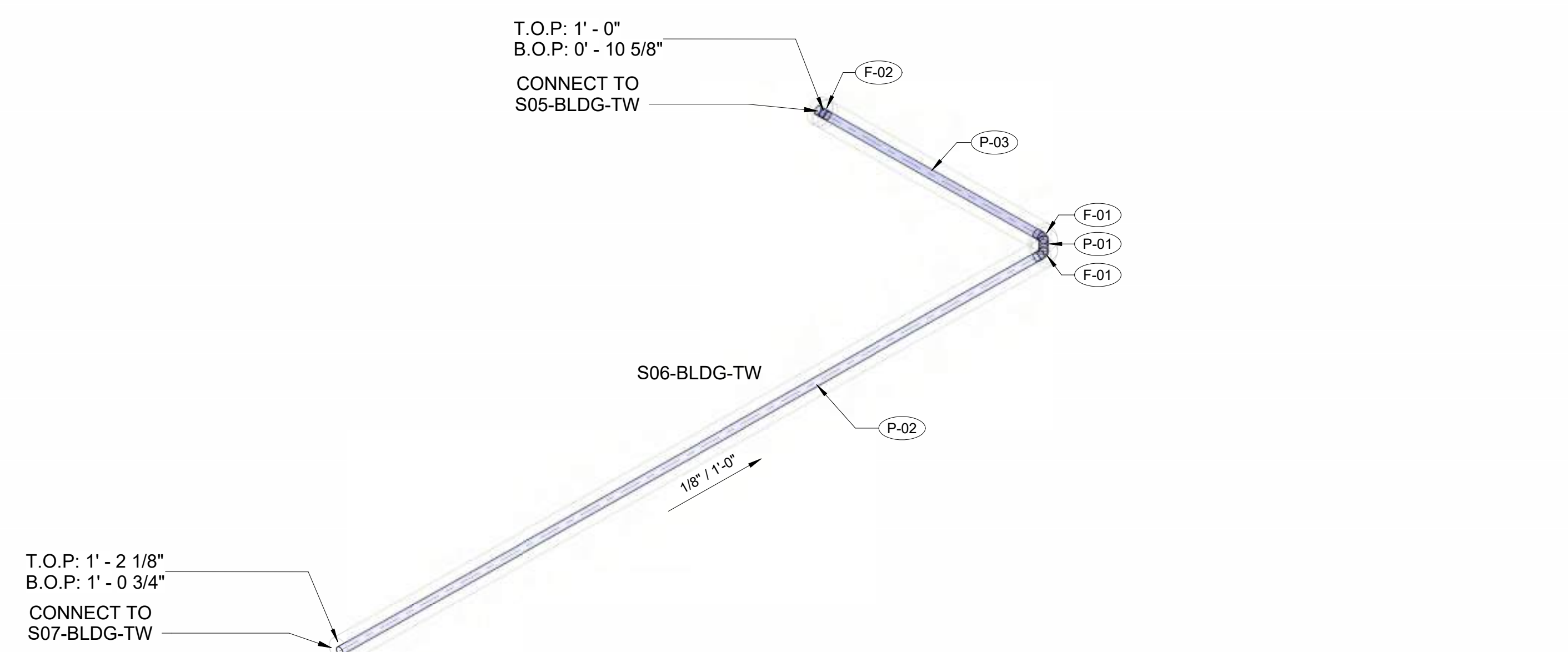
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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
SPOOLS & BOM

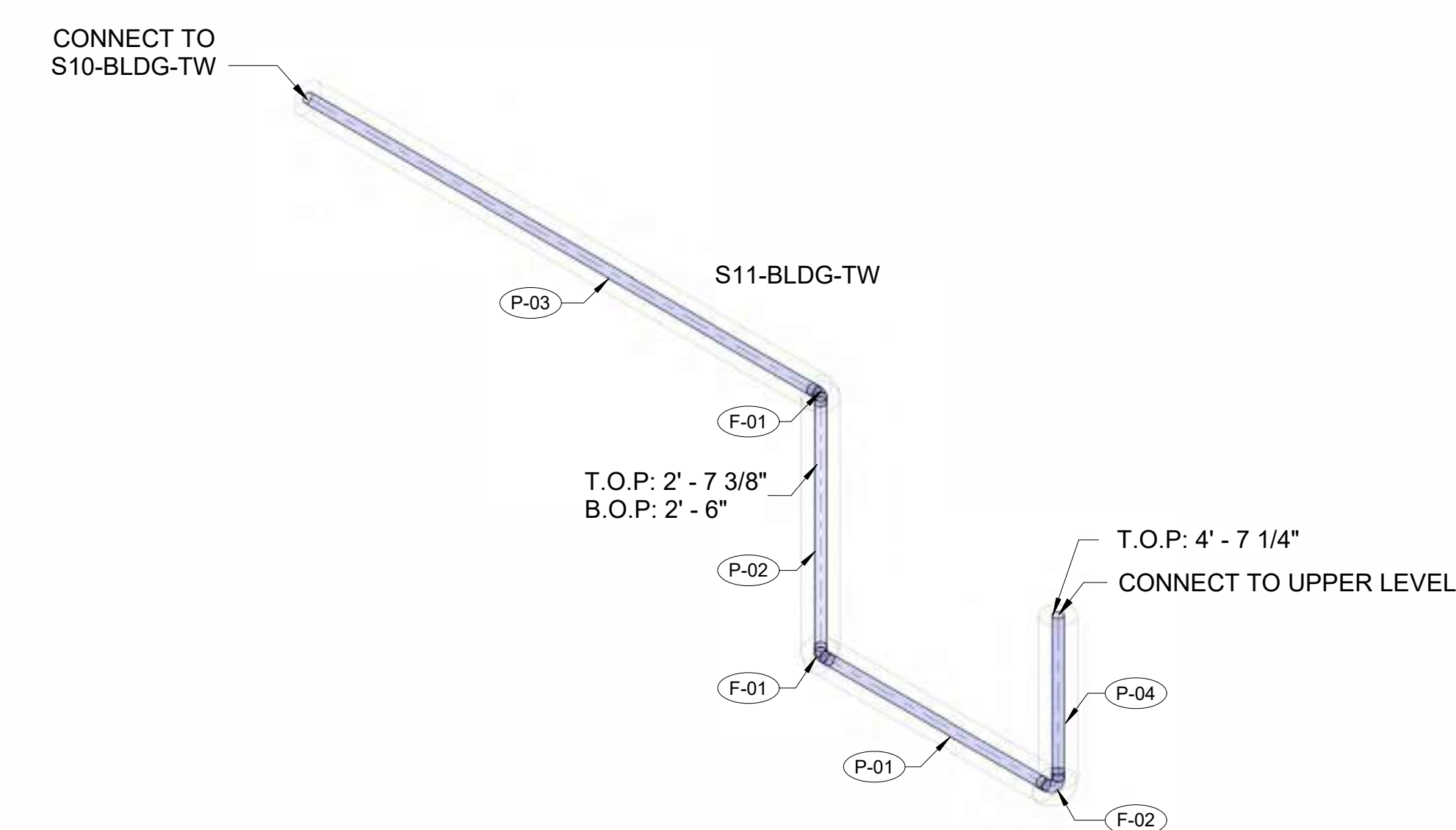


1 LOWER PLAN - SPOOL MAP - ISOMETRIC 3D VIEW



5 LOWER PLAN - S06-BLDG-TW - ISOMETRIC 3D VIEW

BOM - FITTINGS - SPOOLS - PIPES CU									
ID	SERVICE ID	FLUID NAME	SIZE	QTY.	MATERIAL	TYPE	CONN. END 1	CONN. END 2	
F-01	TW	WATER, TEMPERED	1 1/4"	2	WROUGHT COPPER AND COPPER ALLOY (BRASS OR BRONZE); MATERIALS AND DIM. PER ASME B16.22	45 ELBOW	SOLDERED	SOLDERED	
F-02	TW	WATER, TEMPERED	1 1/4"	1	WROUGHT COPPER AND COPPER ALLOY (BRASS OR BRONZE); MATERIALS AND DIM. PER ASME B16.22	COUPLING	SOLDERED	SOLDERED	
BOM - PIPES - SPOOLS - CU									
ID	SERVICE ID	FLUID NAME	SIZE	LENGTH	MATERIAL	END 1	END 2		
P-01	TW	WATER, TEMPERED	1 1/4"	3'	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		
P-02	TW	WATER, TEMPERED	1 1/4"	12' - 4 7/8"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		
P-03	TW	WATER, TEMPERED	1 1/4"	3' - 10 1/4"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		



6 LOWER PLAN - S11-BLDG-TW - ISOMETRIC 3D VIEW

BOM - FITTINGS - SPOOLS - PIPES CU									
ID	SERVICE ID	FLUID NAME	SIZE	QTY.	MATERIAL	TYPE	CONN. END 1	CONN. END 2	
F-01	TW	WATER, TEMPERED	1 1/4"	2	WROUGHT COPPER AND COPPER ALLOY (BRASS OR BRONZE); MATERIALS AND DIM. PER ASME B16.22	45 ELBOW	SOLDERED	SOLDERED	
F-02	TW	WATER, TEMPERED	1 1/4"	1	WROUGHT COPPER AND COPPER ALLOY (BRASS OR BRONZE); MATERIALS AND DIM. PER ASME B16.22	LONG ELBOW	SOLDERED	SOLDERED	
BOM - PIPES - SPOOLS - CU									
ID	SERVICE ID	FLUID NAME	SIZE	LENGTH	MATERIAL	END 1	END 2		
P-01	TW	WATER, TEMPERED	1 1/4"	2' - 11 3/4"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		
P-02	TW	WATER, TEMPERED	1 1/4"	4' - 2 1/8"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		
P-03	TW	WATER, TEMPERED	1 1/4"	6' - 9 3/4"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		
P-04	TW	WATER, TEMPERED	1 1/4"	1' - 10 5/8"	COPPER ASTM B88 TYPE L, DRAWN	SOLDERED	SOLDERED		

NO. DESCRIPTION DATE
ORIGINAL PRINT SIZE = 36x48
KEY PLAN

JOB NUMBER
DATE 01/23/2024 4:04:15 PM
DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

SPOOLS & BOM

DRAWING NUMBER

VEC-PLC-301

Layout Points

YOUR LOGO HERE



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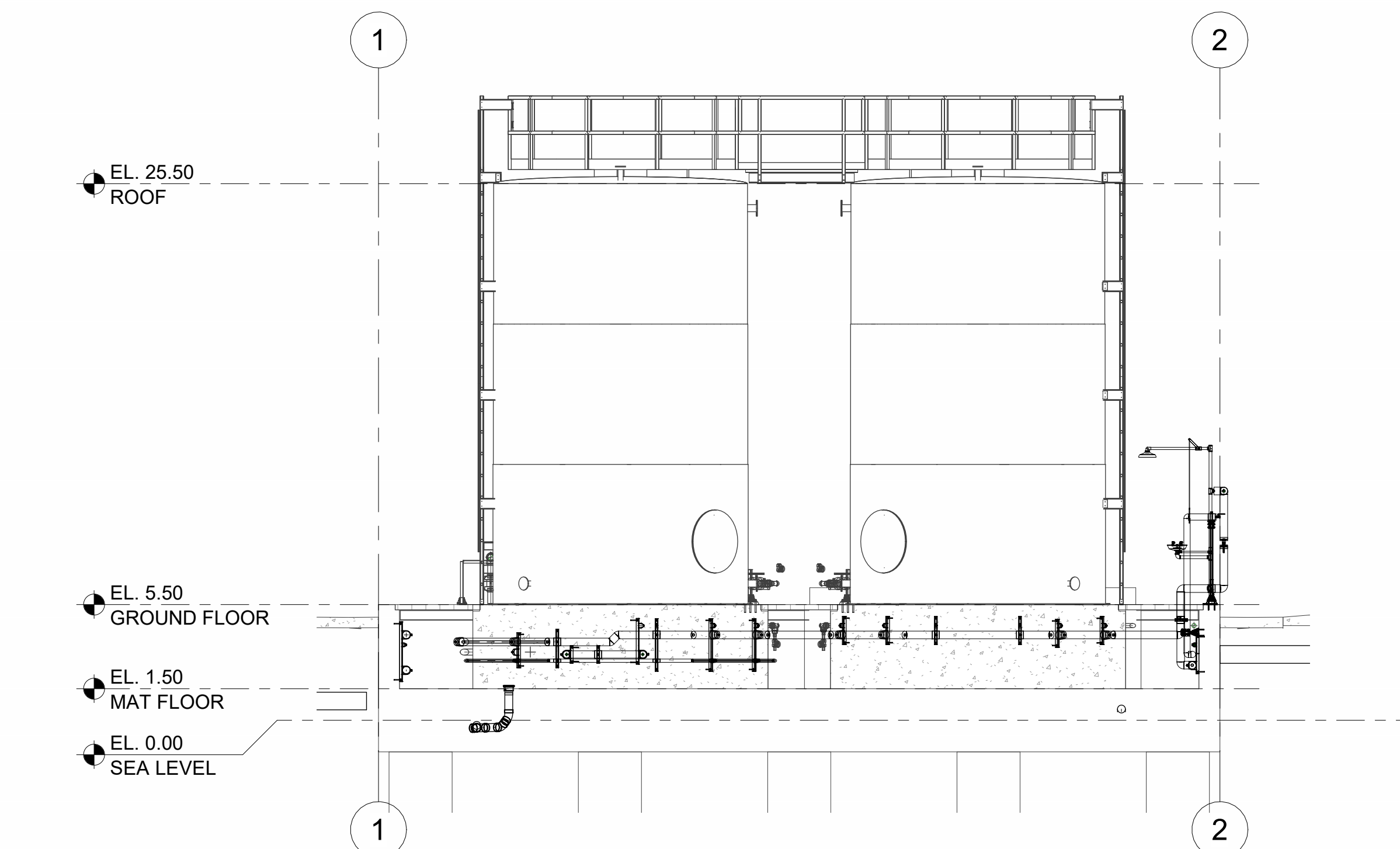
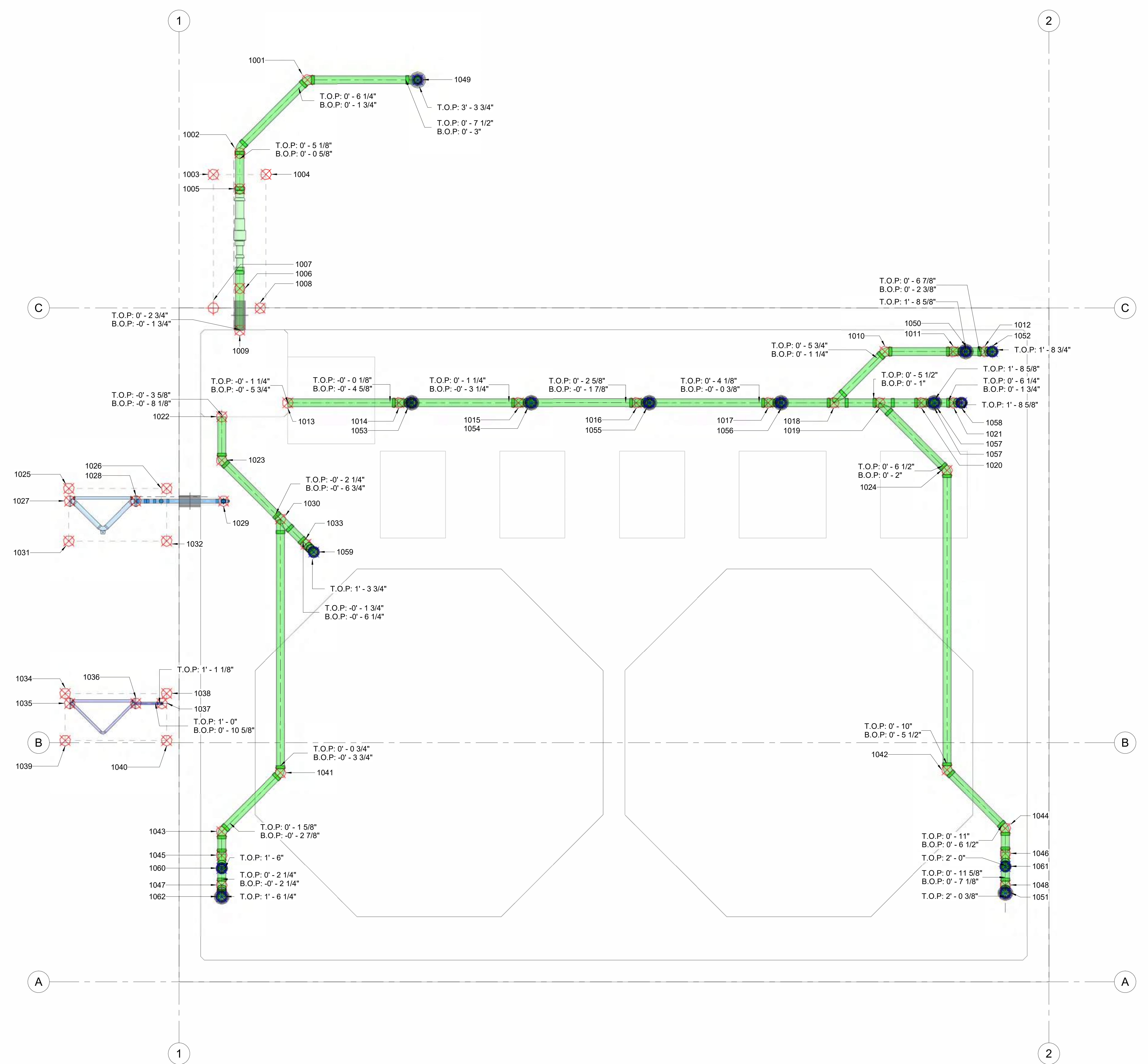
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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
LAYOUT POINT

LEGENDS AND SYMBOLS

- ⊗ LP - LAYOUT POINT
 - ⊗ RP - RISER POINT
 - ⊗ CP - CONTROL POINT
 - ▬ DAR-DRAIN, ACID RESISTANT
 - W1, WATER NO.1 (POTABLE)
 - W2, WATER NO.2 (NON-POTABLE)
 - PEA GRAVEL
- TRIMBLE TYPE
TRIMBLE NUMBER
CP-1034A
- TOP OF PIPE
TOP = X FT
BOP = X FT
BOTTOM OF PIPE



NOTE: ALL THE ELEVATIONS ARE BASED OF SEA LEVEL (0.0)

POINT NUMBER	NORTHING (Y)	EASTING (X)	ELEVATION (Z)
1001	75579.50	174036.45	0.387
1002	75575.01	174037.39	0.285
1003	75573.45	174037.49	-0.471
1004	75575.42	174038.89	-0.471
1005	75574.05	174038.73	0.253
1006	75571.39	174042.46	0.158
1007	75569.88	174042.49	-0.595
1008	75571.63	174043.74	-0.595
1009	75570.27	174044.02	0.045
1010	75593.85	174062.05	0.297
1011	75596.41	174063.87	0.362
1012	75597.60	174064.72	0.392
1013	75570.13	174048.03	-0.296
1014	75574.29	174050.99	-0.189
1015	75578.76	174054.18	-0.075
1016	75583.18	174057.33	0.038
1017	75588.11	174060.85	0.164
1018	75590.56	174062.60	0.227
1019	75592.29	174063.83	0.27
1020	75593.86	174064.94	0.311
1021	75595.07	174065.81	0.343
1022	75567.29	174046.79	-0.486
1023	75566.13	174048.42	-0.445
1024	75593.02	174068.16	0.363
1025	75559.65	174045.38	0.497
1026	75563.31	174048.00	0.497
1027	75559.34	174045.88	0.917
1028	75561.82	174047.65	0.917
1029	75565.11	174049.99	0.917
1030	75566.76	174052.18	-0.365
1031	75568.25	174047.35	0.497
1032	75561.91	174049.96	0.497
1033	75567.04	174053.81	-0.331
1034	75554.04	174052.97	0.497
1035	75553.94	174053.46	0.94
1036	75556.42	174055.23	0.94
1037	75557.39	174055.92	0.94
1038	75557.83	174055.68	0.497
1039	75552.78	174054.73	0.497
1040	75556.58	174057.44	0.497
1041	75559.98	174061.69	-0.12
1042	75585.01	174079.38	0.65
1043	75556.21	174062.32	-0.041
1044	75585.64	174083.12	0.729
1045	75555.58	174063.21	-0.024
1046	75584.96	174084.06	0.753
1047	75554.78	174064.33	0.01
1048	75584.12	174085.25	0.783
1049	75583.83	174039.40	3.649
1050	75596.88	174064.21	1.984
1051	75583.91	174085.54	2.327
1052	75597.89	174064.92	2.026
1053	75574.77	174051.33	1.589
1054	75579.25	174054.52	1.69
1055	75583.67	174057.68	1.835
1056	75588.61	174061.20	1.895
1057	75594.34	174065.29	2.028
1058	75595.36	174066.02	2.068
1059	75567.12	174054.31	1.758
1060	75555.23	174063.70	1.844
1061	75584.62	174084.55	2.281
1062	75554.47	174064.76	1.792

1 IN-SLAB - PIPE LAYOUT & TRIMBLE POINTS - PLAN VIEW
1/2" = 1'-0"

LAYOUT POINT

DRAWING NUMBER
VEC-PLC-401

Hangers & Supports

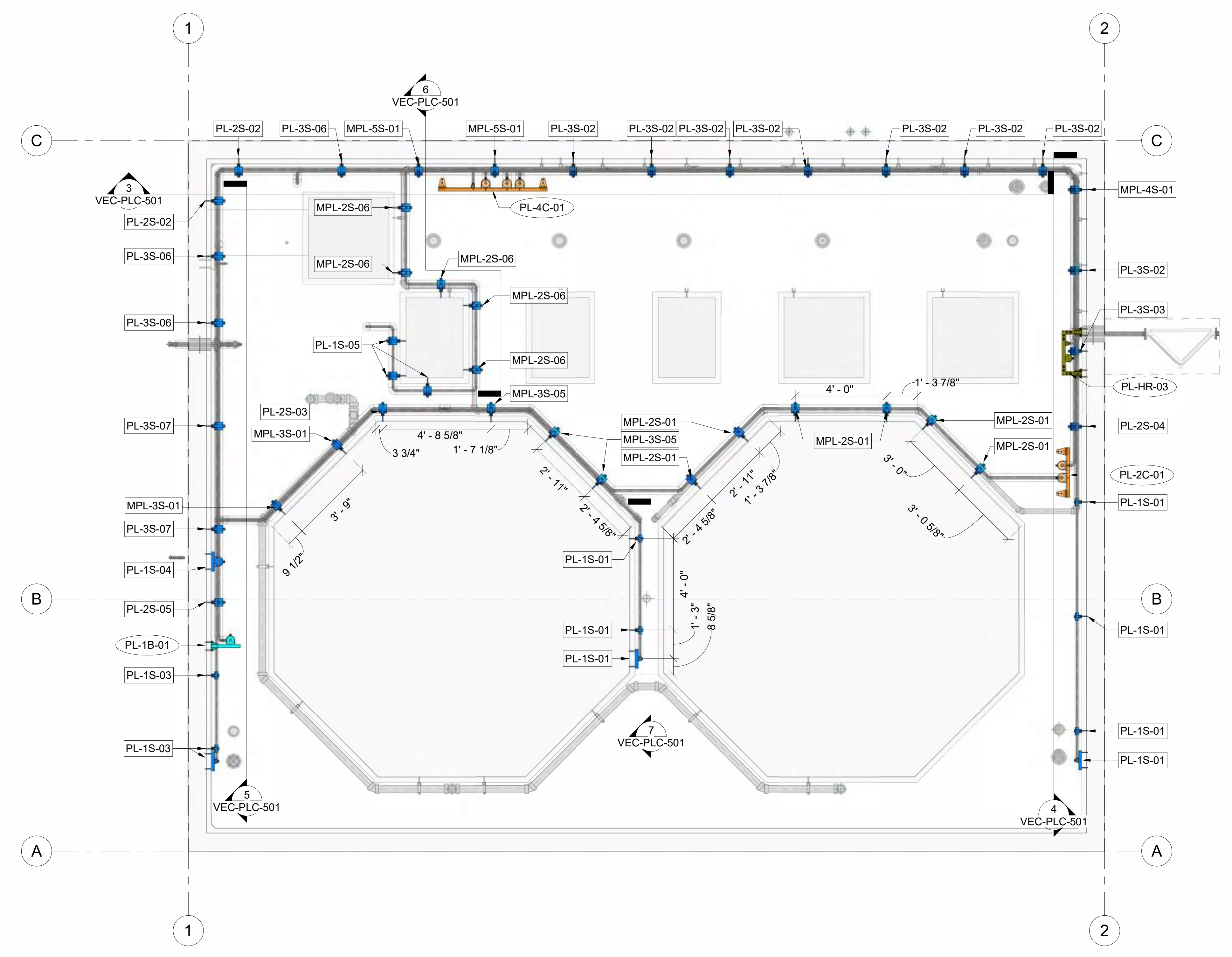
YOUR
LOGO
HERE



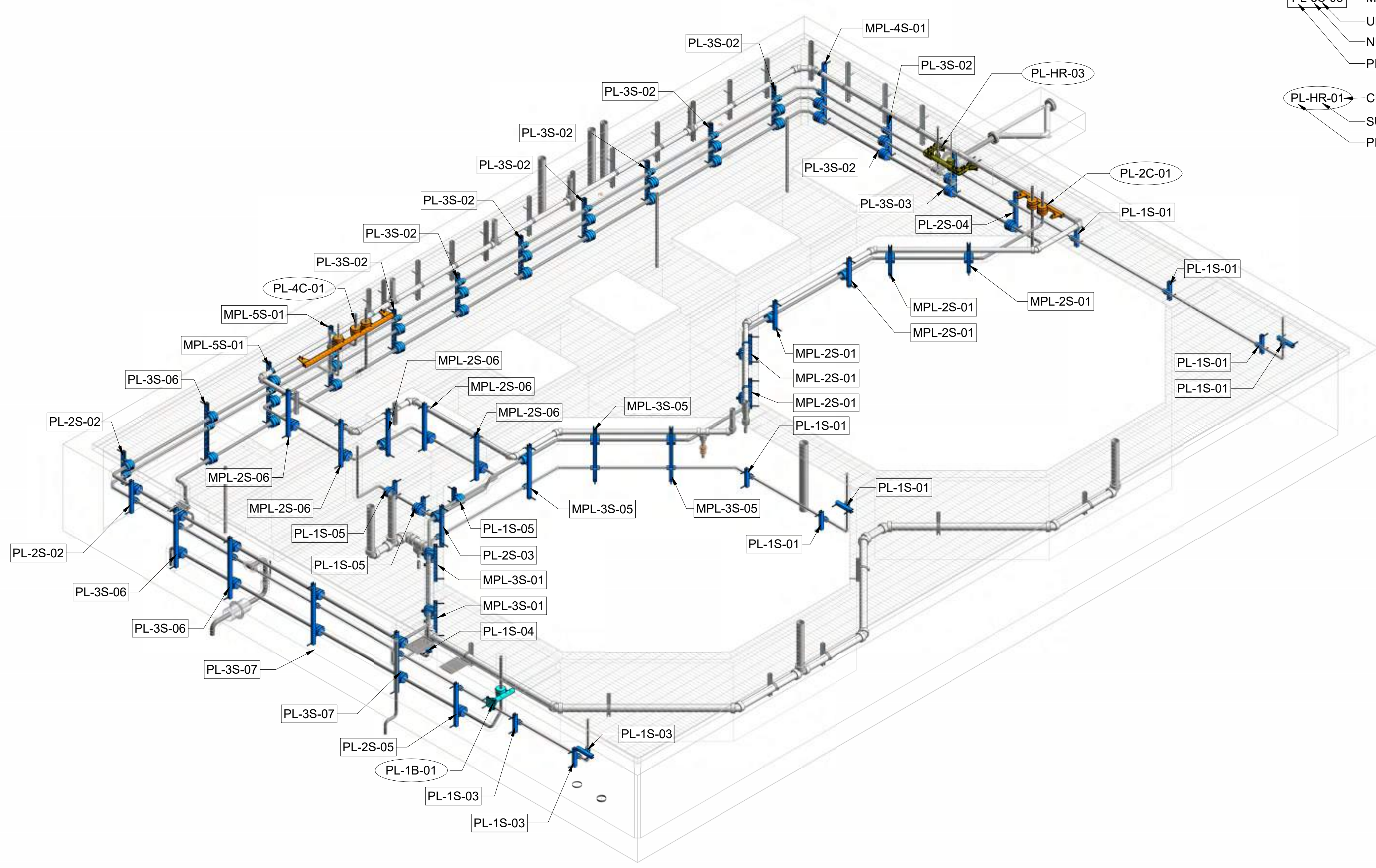
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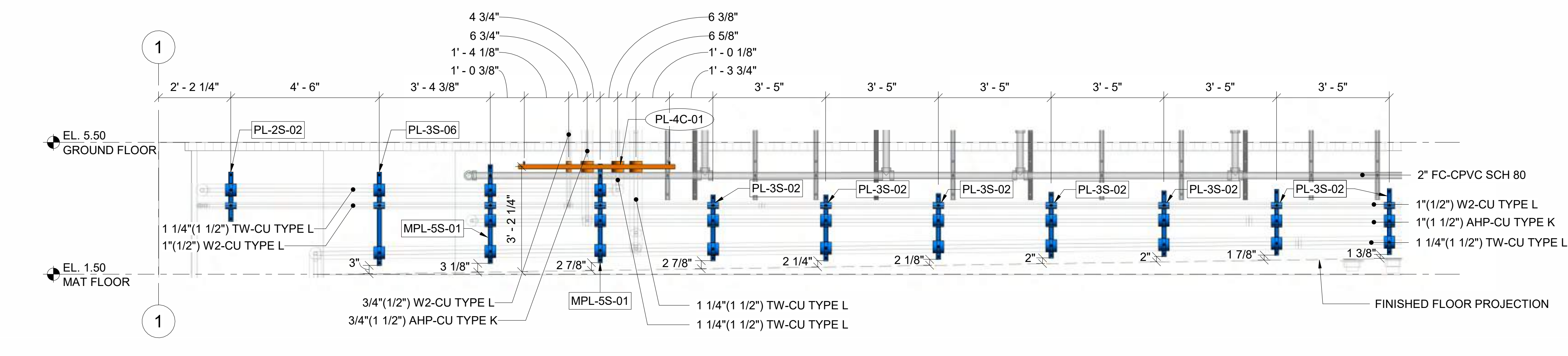
- LEGENDS AND SYMBOLS**
- PLUMBING PIPE
 - MECHANICAL PIPE
 - M2214 SUPPORT
 - C1- SUPPORT - 9/XXX.PL.S.G.2002
 - C4- SUPPORT - 10/XXX.PL.S.G.2002
 - C11- SUPPORT - 13/XXX.PL.S.G.2003
 - C12- SUPPORT - 14/XXX.PL.S.G.2003
 - PL-3S-08 → M2212/M2214 SUPPORT ID
 - UNISTRUT CHANNEL TYPE
 - NUMBER OF CLAMPS
 - PIPING SYSTEM
 - PL-HR-01 → CUSTOM SUPPORT ID
 - SUPPORT TYPE
 - PIPING SYSTEM



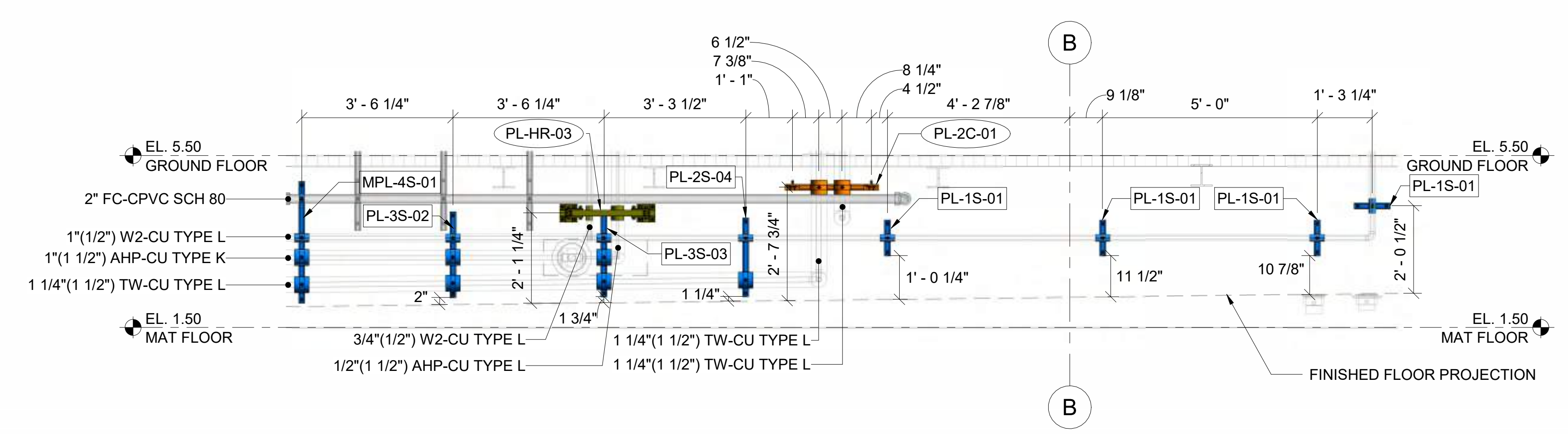
1 LOWER PLAN - HANGERS & SUPPORTS - PLAN VIEW
3/8" = 1'-0"



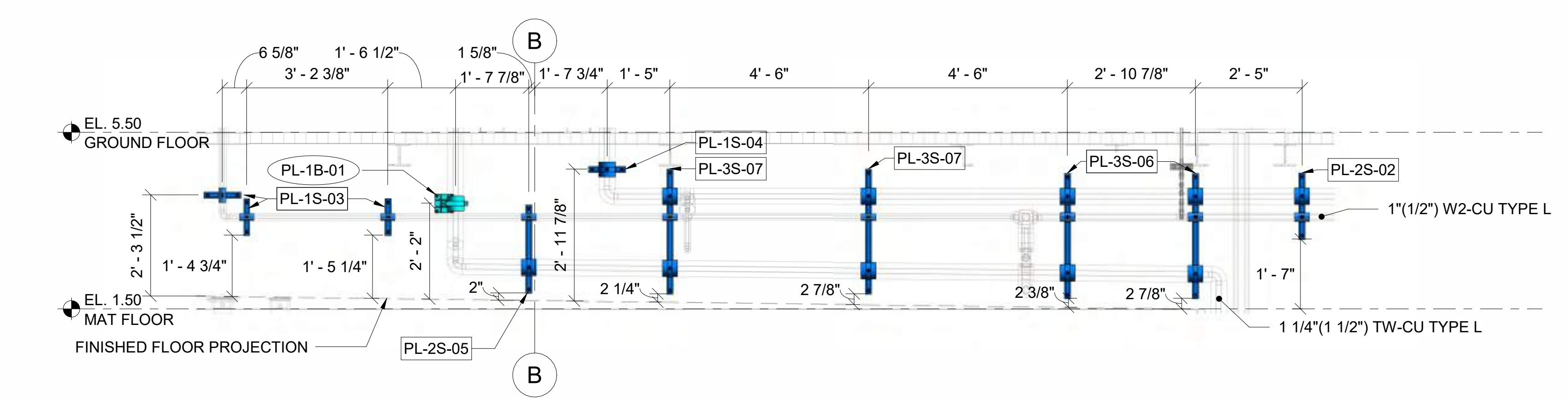
2 LOWER PLAN - HANGERS & SUPPORTS - ISOMETRIC 3D VIEW



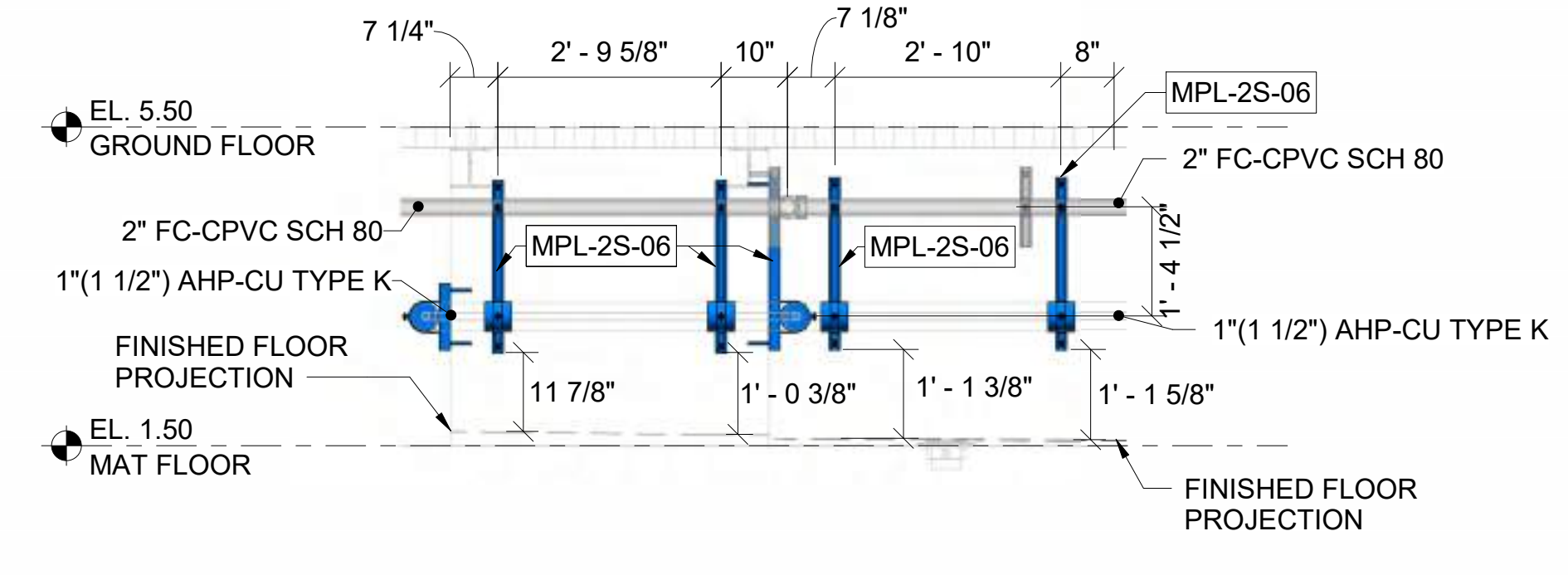
3 SECTION
1/2" = 1'-0"



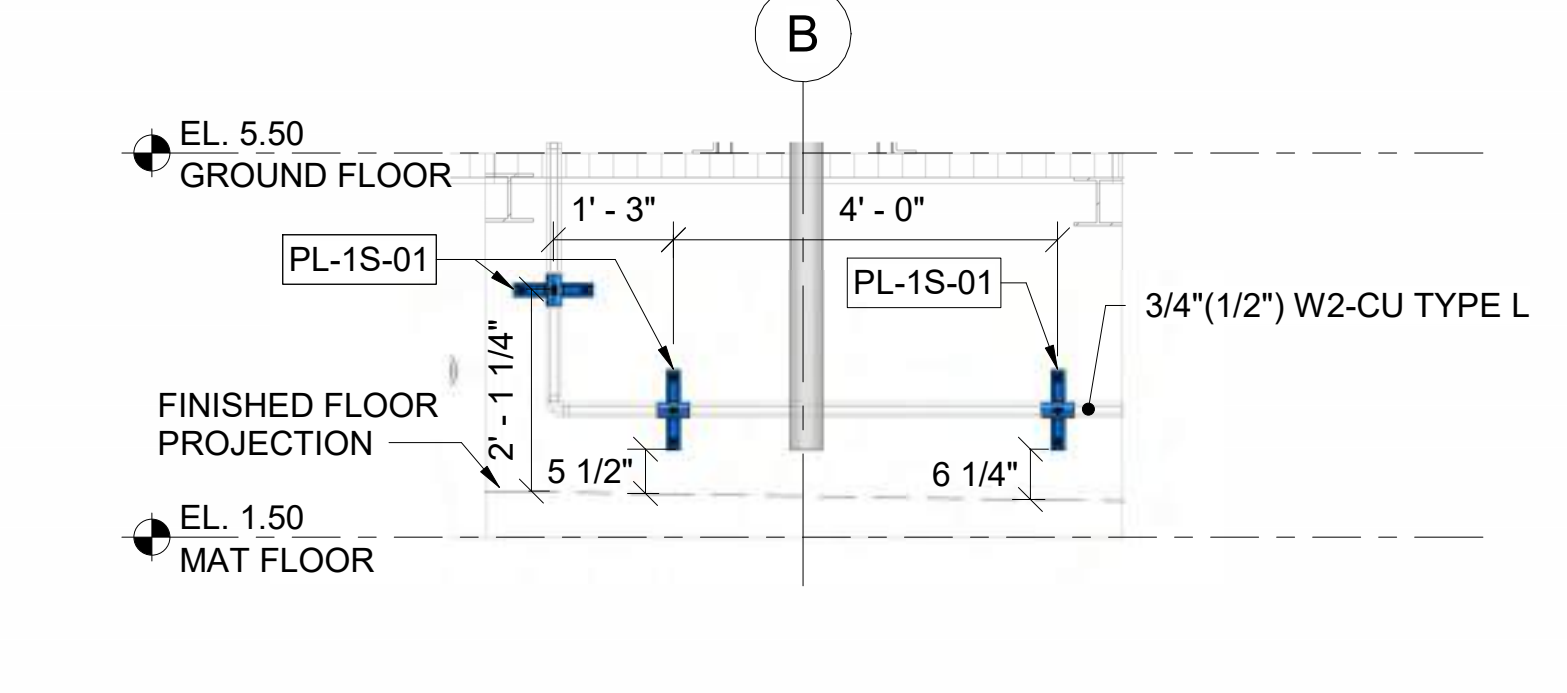
4 SECTION
1/2" = 1'-0"



5 SECTION
1/2" = 1'-0"



6 SECTION
1/2" = 1'-0"



7 SECTION
1/2" = 1'-0"

PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS

HANGERS & SUPPORTS LAYOUT & SECTIONS

NO.	DESCRIPTION	DATE

JOB NUMBER	
DATE	01/23/2024 4:04:42 PM
DRAWN BY: VEC	
CHECKED BY: VEC	
DRAWING SCALE	AS NOTED
SHEET TITLE	HANGERS & SUPPORTS LAYOUT & SECTIONS
DRAWING NUMBER	VEC-PLC-501

Support Details

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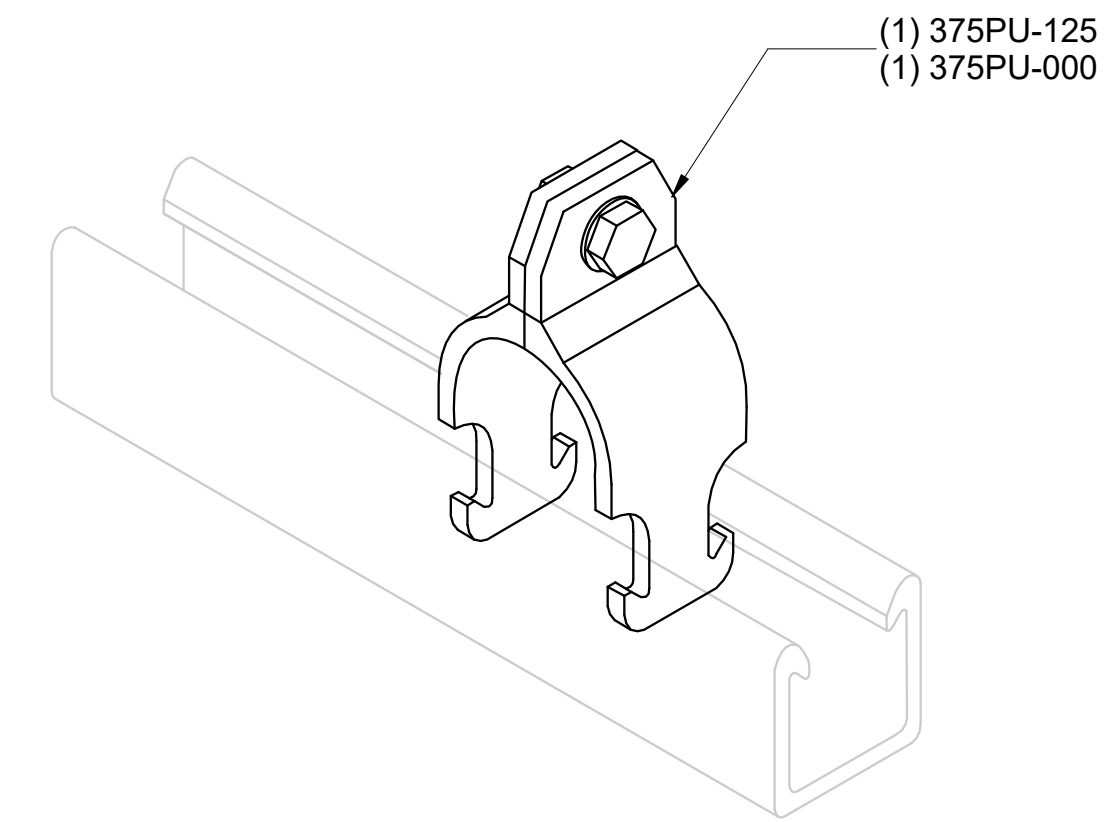
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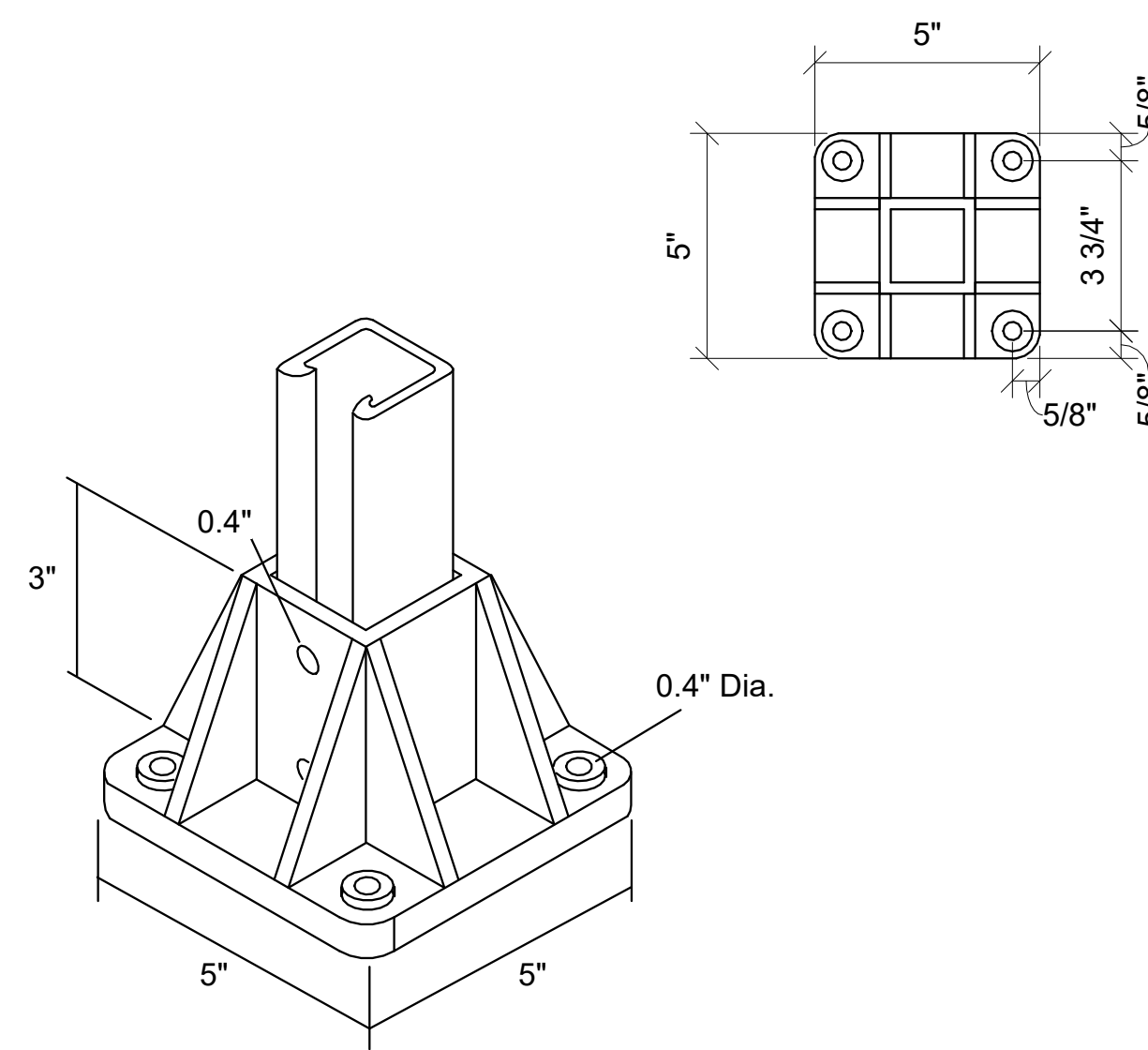
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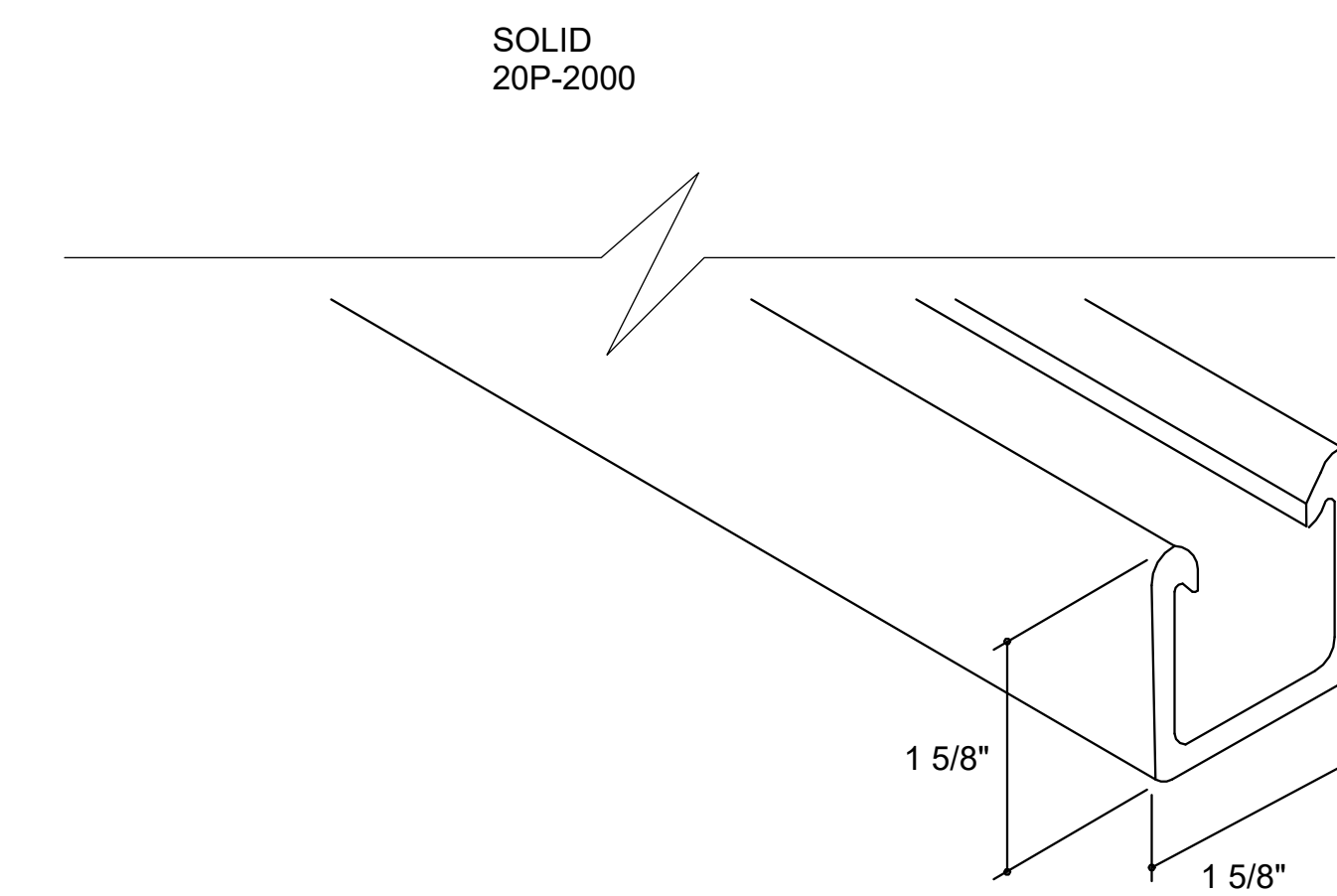
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
DETAILS



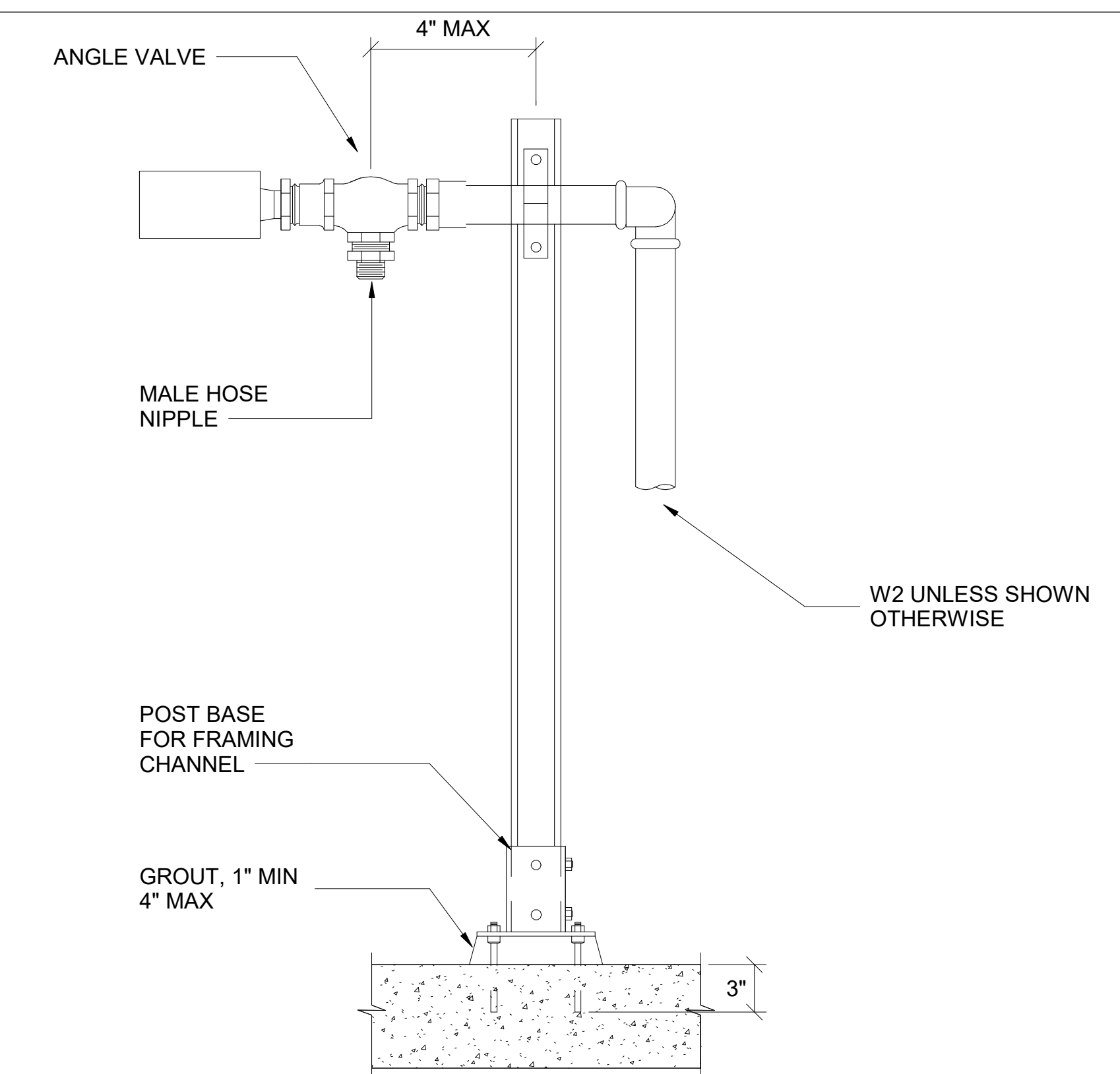
REFERENCE DETAIL - AICKINSTRUT FIBERGLASS - RIGID PIPE CLAMP PCR-050 TO PCR-800 - 1/2" TO 8" SIZES



REFERENCE DETAIL - AICKINSTRUT FIBERGLASS - POST BASES 20PU-5853 (1-5/8" x 1-5/8")



REFERENCE DETAIL - AICKINSTRUT - HEAVY DUTY CHANNEL 20P-2000 - 1 5/8" CHANNEL PROFILE

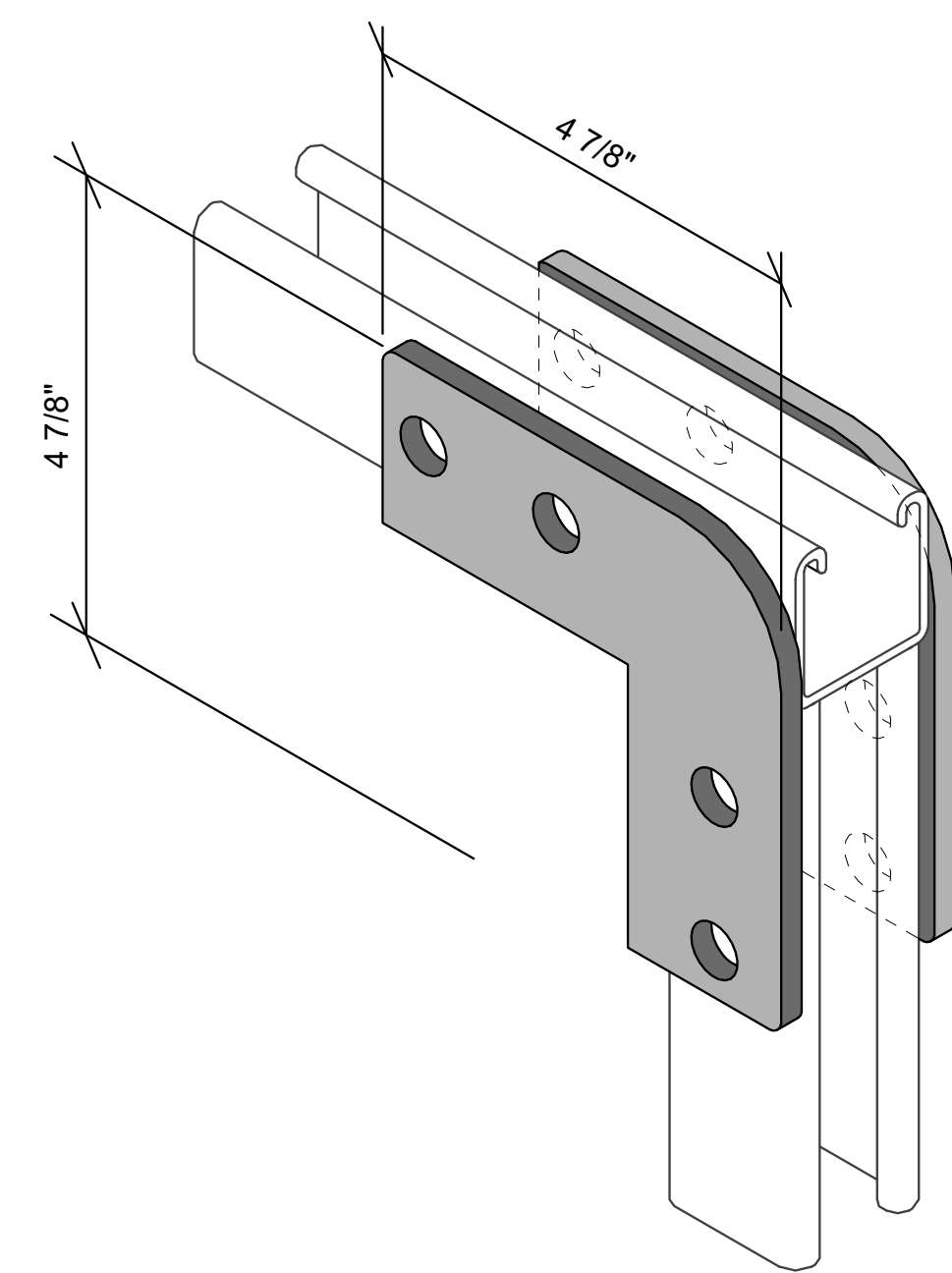


1 DETAIL RIGID PIPE CLAMPS

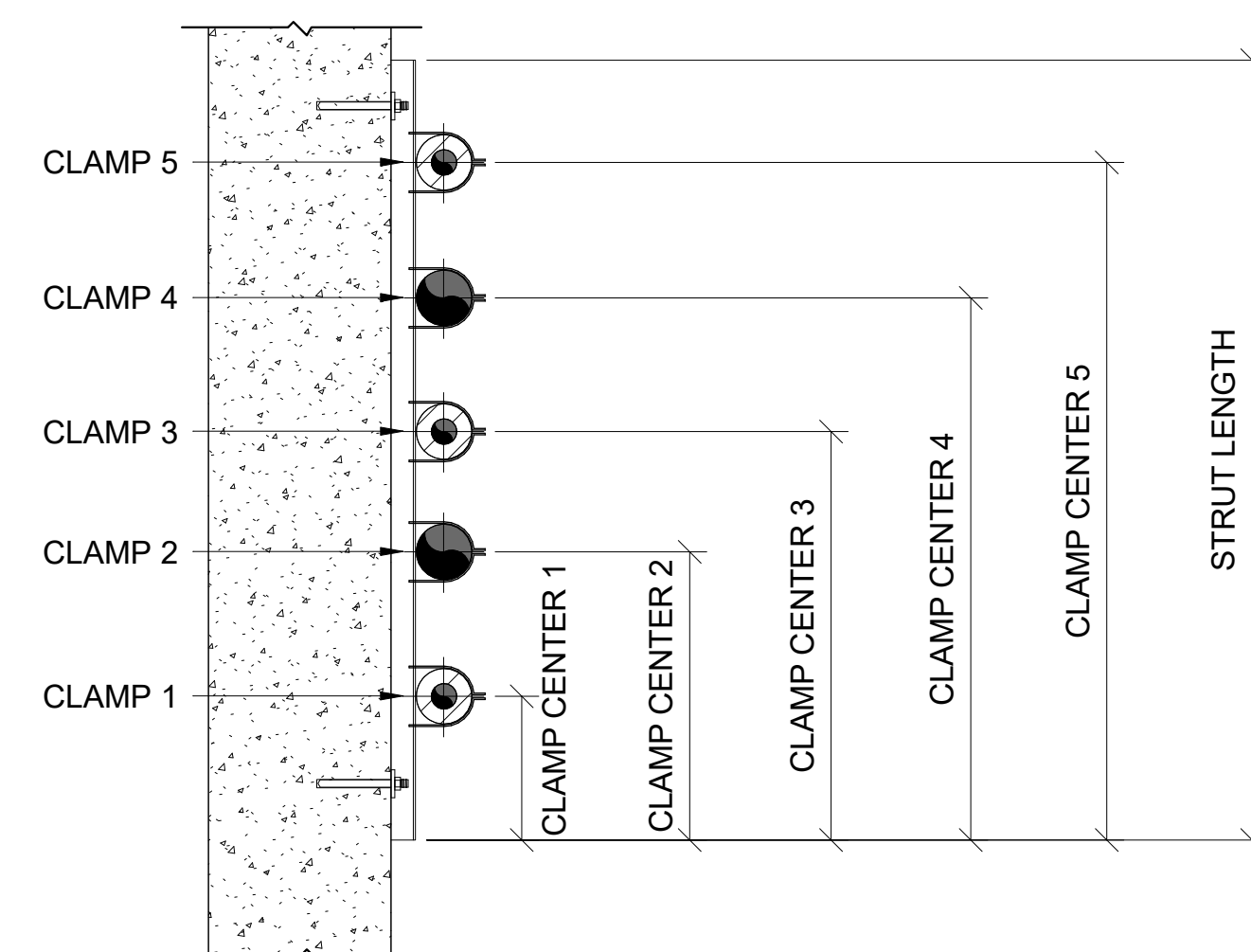
2 DETAIL 20PU-5853 - POST BASES

3 DETAIL 20P-2000 - 1 5/8" CHANNEL - SOLID

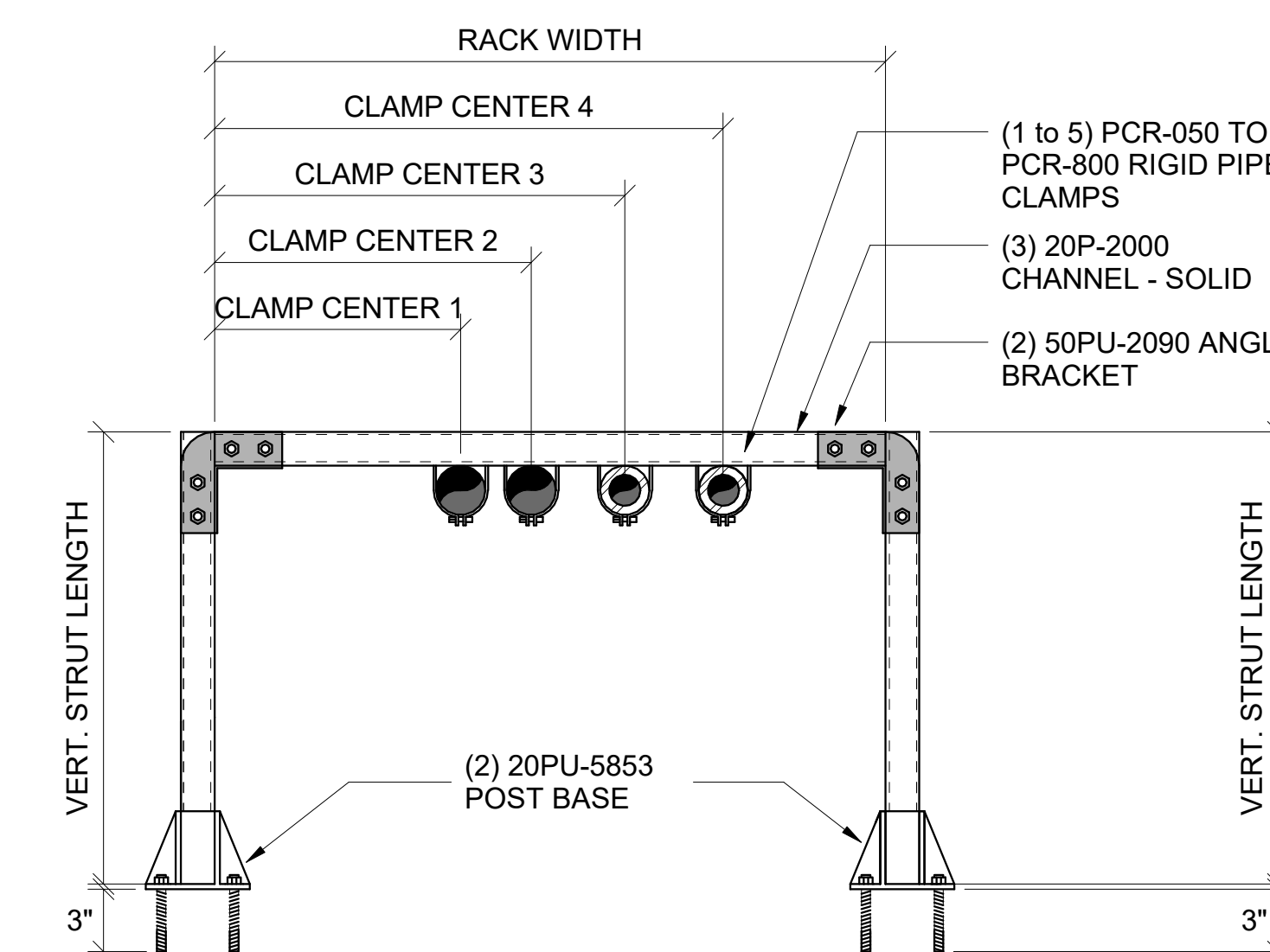
4 DETAIL P4004 - POST MOUNTED UTILITY WATER STATION



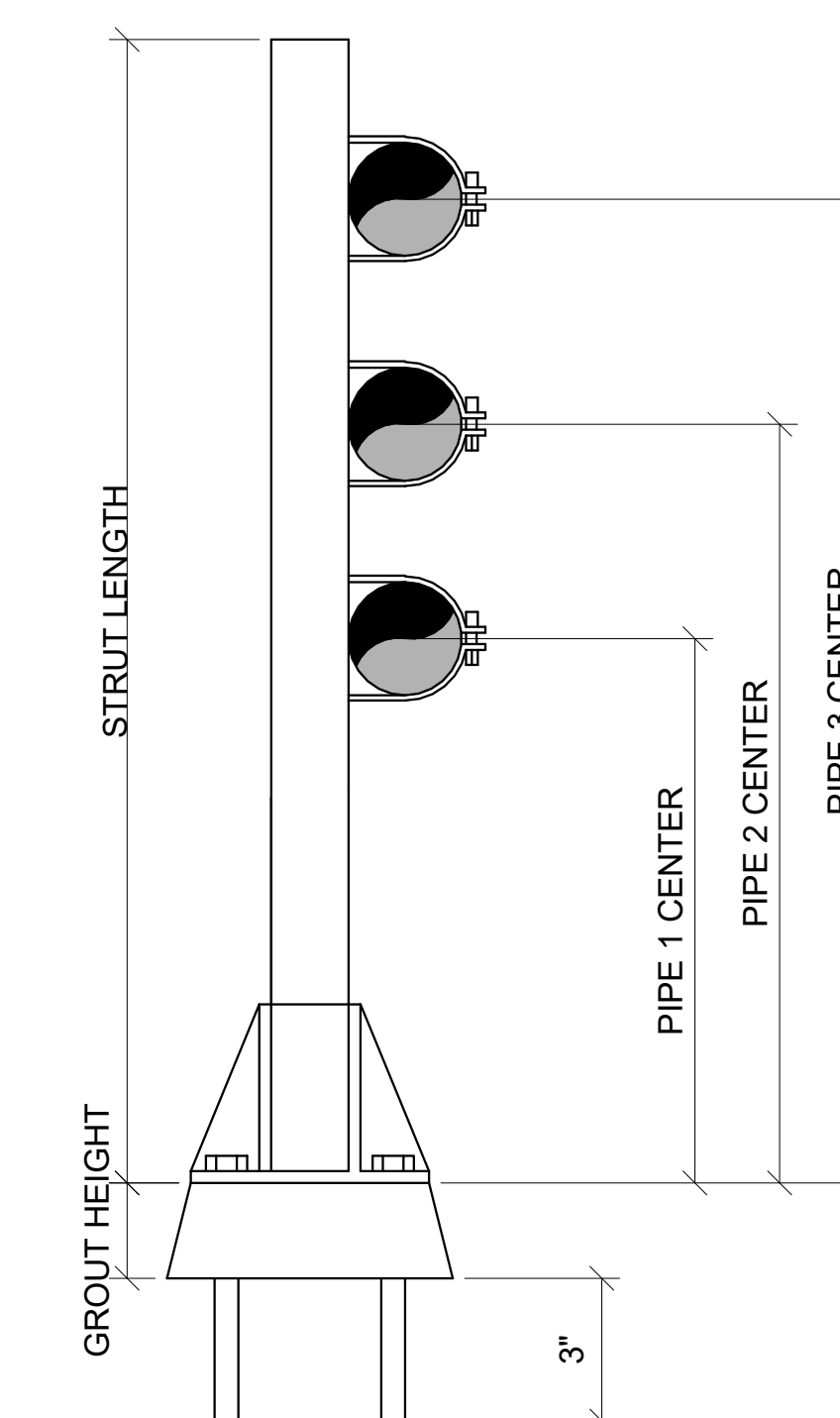
REFERENCE DETAIL - AICKINSTRUT - CHANNEL FITTINGS - 50PU-2090 PROVIDED WITH 8 HOLES 9/16" DIAMETERS EACH.



6 SUPPORT - M2214 - TYPE P, STACKED PIPE WALL, SINGLE CHANNEL - 5 CLAMPS

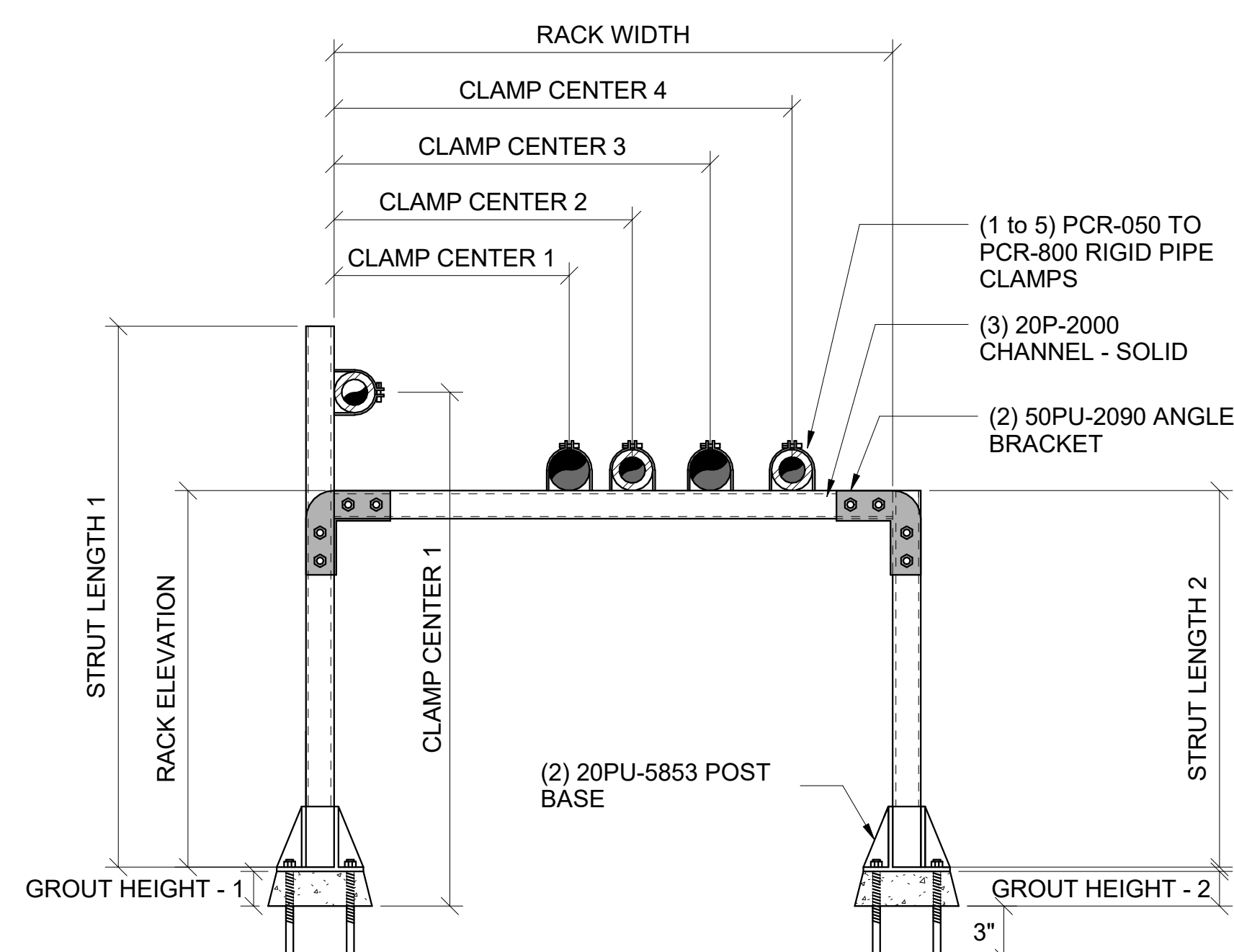


7 SUPPORT - CUSTOM TYPE 1 - HORIZONTAL PIPE RACK

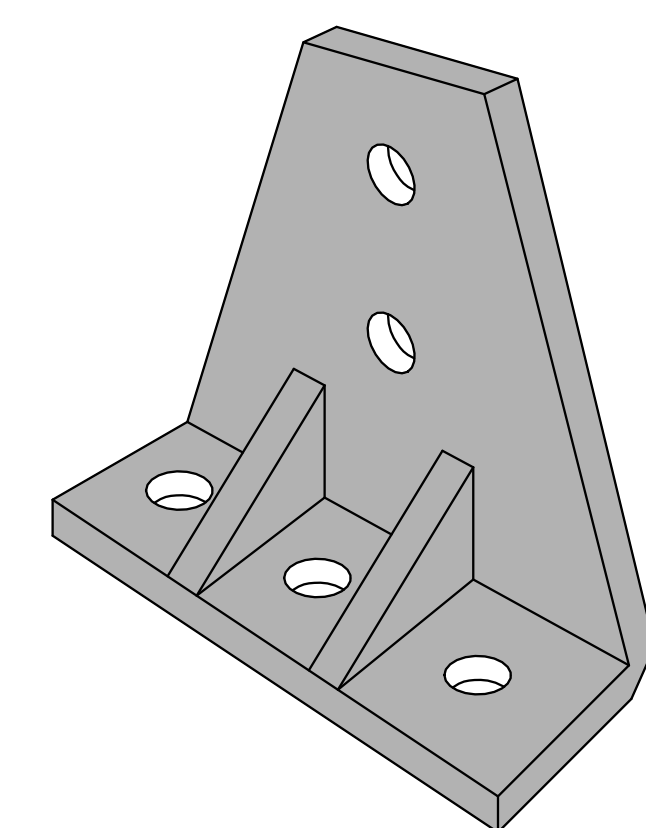


8 SUPPORT - CUSTOM TYPE 4 - POST MOUNTED BRACKET

5 DETAIL - 50PU-2090 - 90 ANGLE 8 HOLES BRACKET

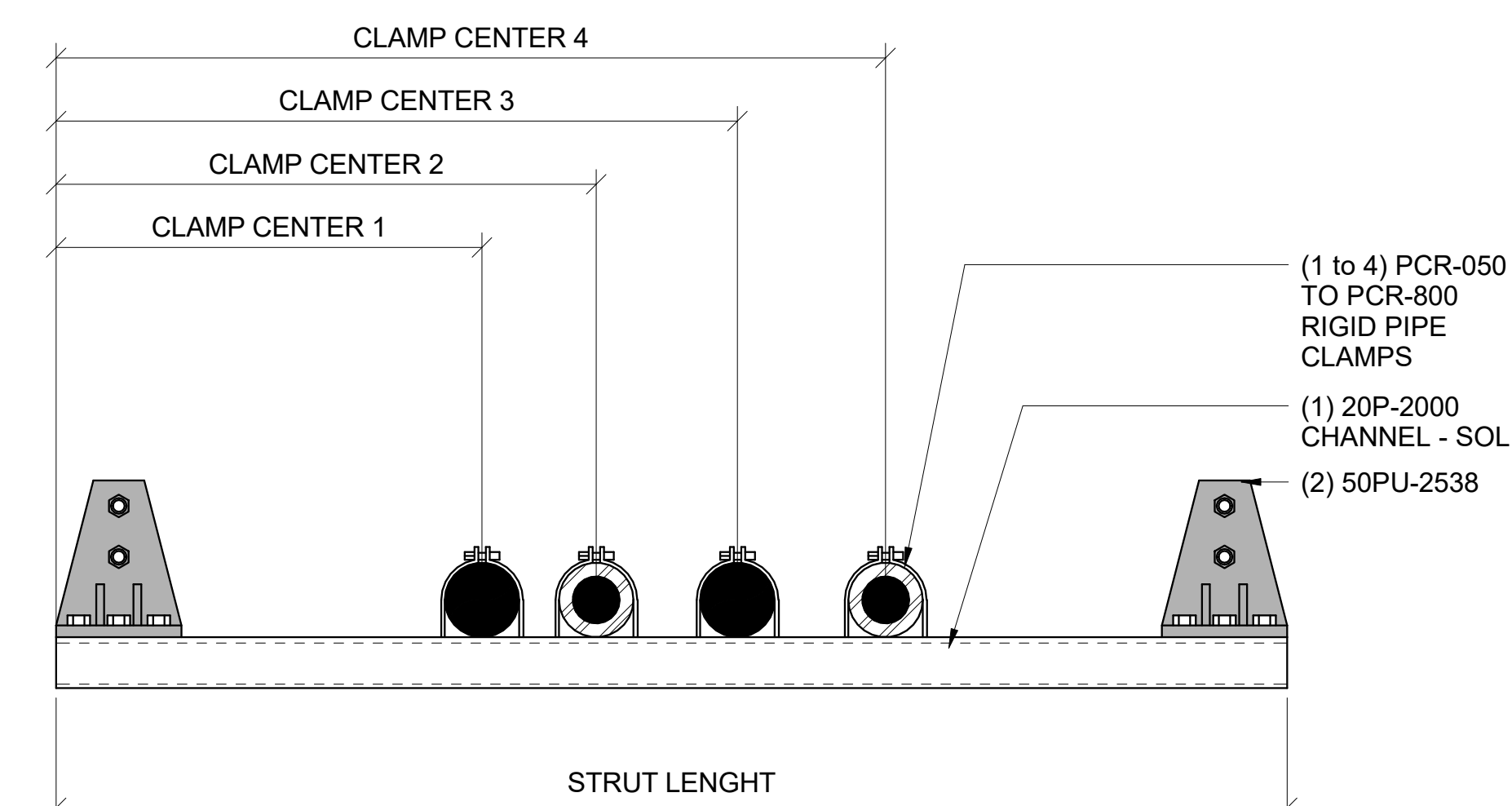


9 SUPPORT - CUSTOM TYPE 6 - VERTICAL PIPE RACK

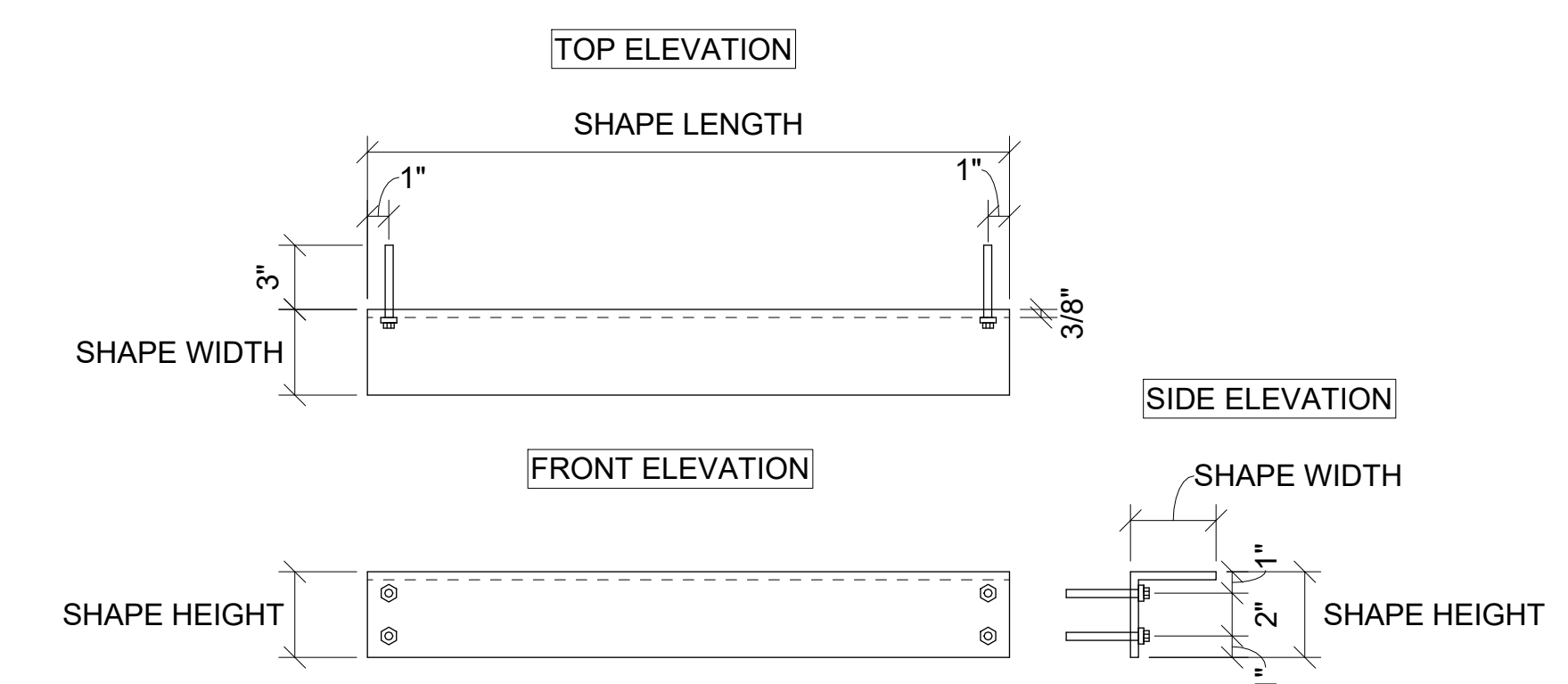


REFERENCE DETAIL - AICKINSTRUT - CHANNEL FITTINGS - POLYU. 4"H x 5"W, 5 HOLE, 6 SIDED FITTING

10 DETAIL - 50PU-2538



11 SUPPORT - CUSTOM TYPE 11 - FIBERGLASS BRACKET TYPE 2538



12 SUPPORT - CUSTOM TYPE 12 - FIBERGLASS L SHAPE 4"X4"X30"

NO. DESCRIPTION DATE

KEY PLAN ORIGINAL PRINT SIZE = 36x48

JOB NUMBER
DATE 01/23/2024 4:04:43 PM
DRAWN BY: VEC
CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

DETAILS

DRAWING NUMBER

VEC-PLC-502

Wall Penetration & Sleeves

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LEGENDS AND SYMBOLS

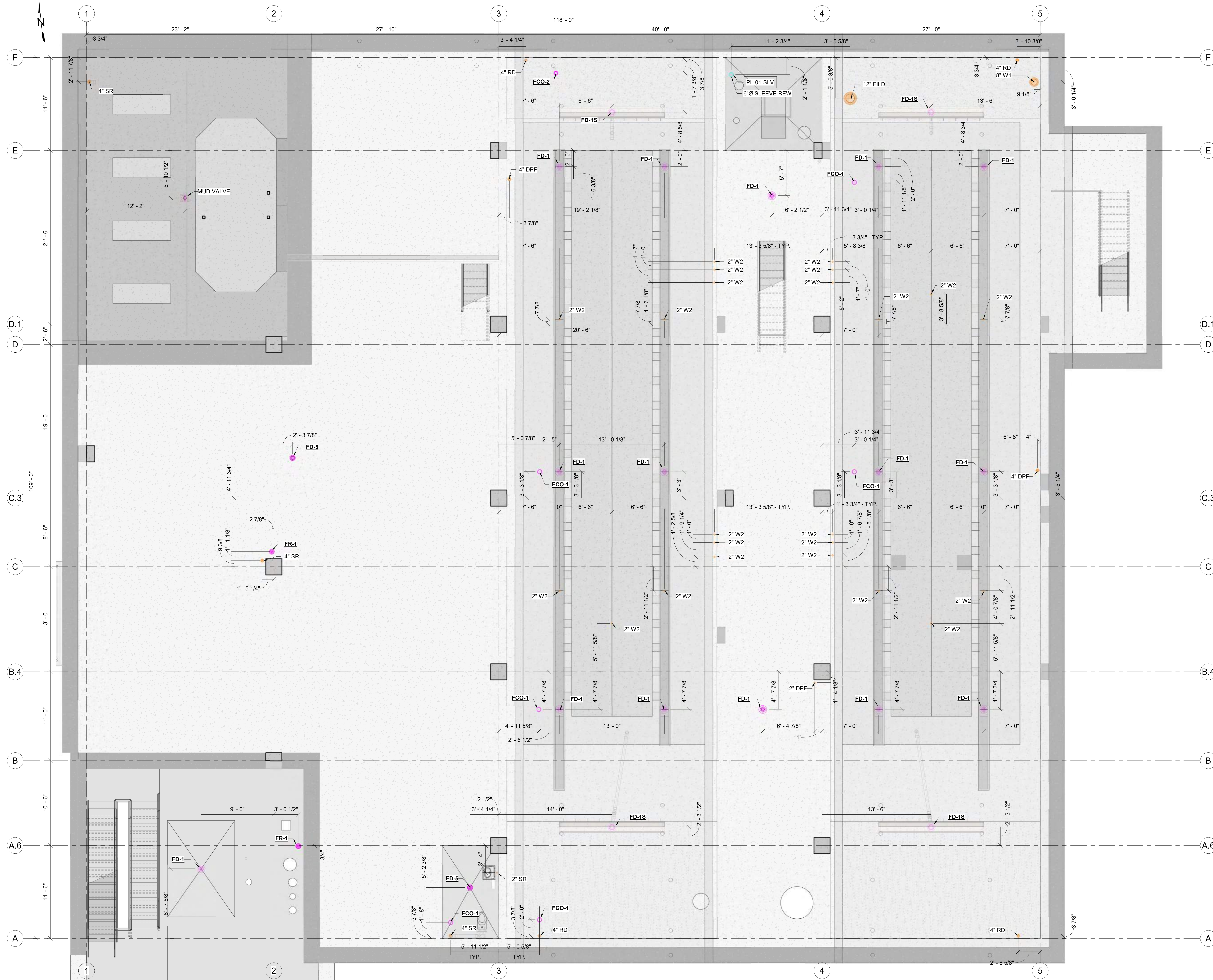
- SLEEVE
 - PIPE STUB UP
 - FCO / FD / FR / MUD VALVE
 - PL-XX-SLV = SLEEVE ID
 - XX"Ø SLEEVE XXX" PIPING SYSTEM
 - 4" RD
 - PIPE SYSTEM
 - PIPE SIZE
- DPF - DRAIN, PROCESS FLOOR
 FILD - FILTRATE, DEWATERING
 REW - WATER, TERTIARY RECYCLED
 SR - SEWAGE, RAW
 W1 - WATER, N°1 (POTABLE)
 W2 - WATER, N°2 (NON-POTABLE)
 V - VENTILATION
 SLV - SLEEVE
 INS - INSULATION
 BOP - BOTTOM OF PIPE
 COS - CENTER OF SLEEVE ELEVATION
 FCO - FLOOR CLEANOUT
 FD - FLOOR DRAIN
 FR - FUNNEL RECEPTOR

STAMP

QR CODE



PROJECT NAME
 BUILDING NAME
 DRAWING PACKAGE
 PROJECT ADDRESS
 PENETRATIONS & SLEEVES

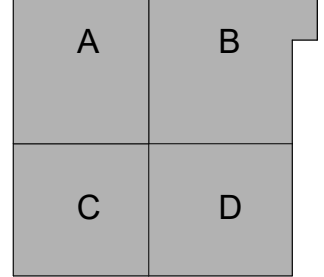


1 IN-SLAB - PENETRATION & SLEEVES - PLAN VIEW
 1/4" = 1'-0"

NO.	DESCRIPTION	DATE

ORIGINAL PRINT SIZE = 36x48

KEY PLAN



JOB NUMBER	
DATE	01/23/2024 6:02:52 PM
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CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

PENETRATIONS & SLEEVES

DRAWING NUMBER

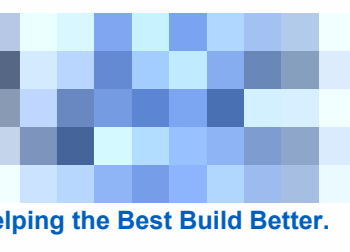
VEC-PLC-601



PLUMBING DESIGN

Underground Pipe Layout

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QR CODE

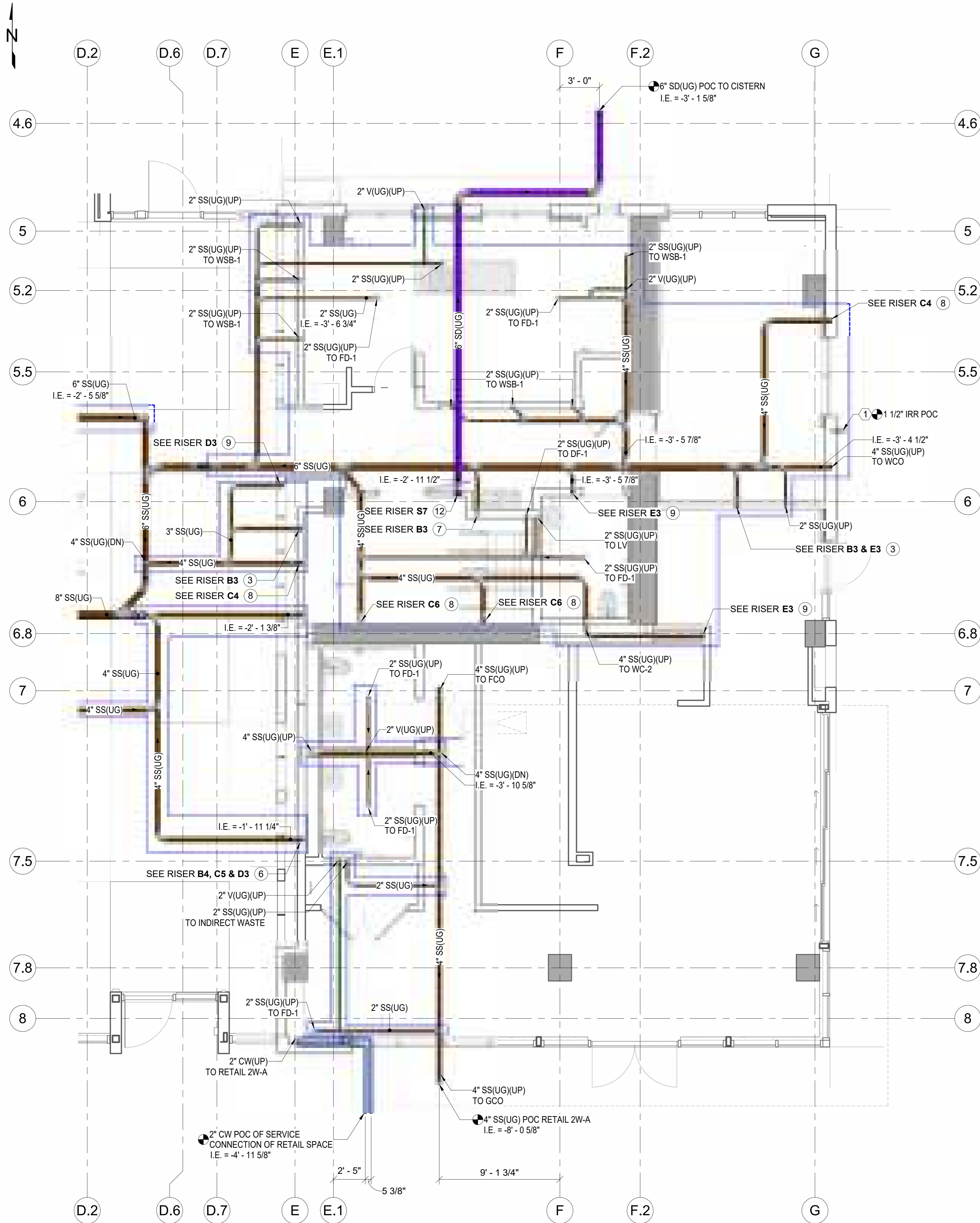


LEGENDS AND SYMBOLS

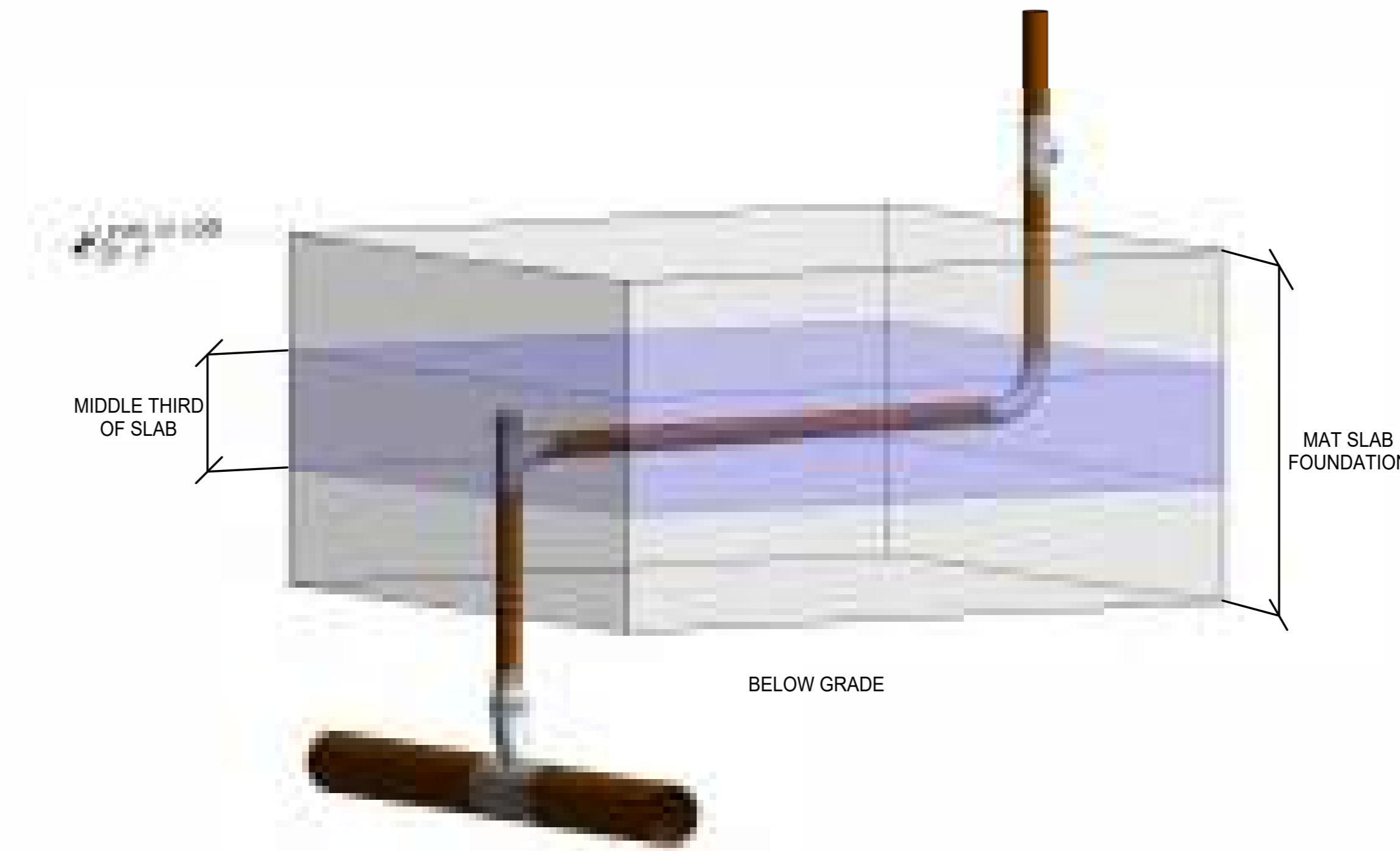
- CW DOMESTIC COLD WATER
- HW DOMESTIC HOT WATER
- HWR DOMESTIC HOT W. RETURN
- IRR IRRIGATION WATER
- TP TRAP PRIMER
- CD CONDENSATE DRAIN
- SS SANITARY WASTE
- V VENT
- SD STORM DRAIN
- OD OVERFLOW DRAIN
- FO FUEL OIL
- EQUIPMENT - BY OTHERS
- SLEEVES OR BLOCKOUTS
- IN-SLAB PIPES
- CLEARANCE
- UNDERGROUND PIPING
- OVERHEAD PIPING
- BOP: BOTTOM OF PIPE
- I.E.: INVERT ELEVATION
- AP: ACCESS PANEL
- SOV: SHUT OFF VALVE
- BV: BALANCING VALVE
- POINT OF CONNECTION (POC)
- 6"(1/2") HWR PIPE SYSTEM
- INS. THICKNESS
- PIPE SIZE
- XXXX EQUIPMENT TAG
- 11 EQUIPMENT NUMBER

GENERAL NOTES:

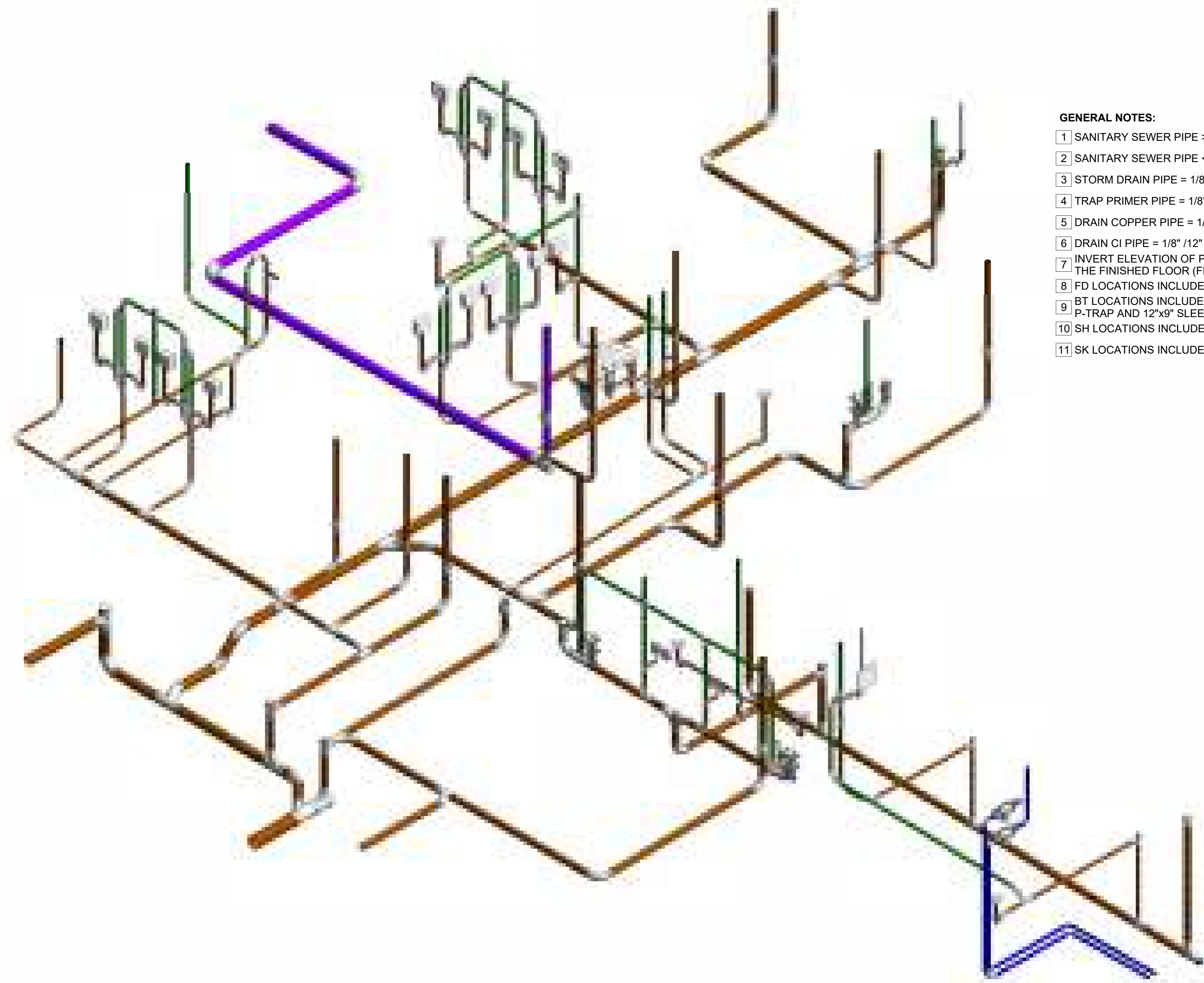
- 1] SANITARY SEWER PIPE > 4" = 1/8" / 12" SLOPE U.N.O.
- 2] SANITARY SEWER PIPE < 4" = 1/4" / 12" SLOPE U.N.O.
- 3] STORM DRAIN PIPE = 1/8" / 12" SLOPE U.N.O.
- 4] TRAP PRIMER PIPE = 1/8" / 12" SLOPE U.N.O.
- 5] DRAIN COPPER PIPE = 1/4" / 12" SLOPE U.N.O.
- 6] DRAIN CI PIPE = 1/8" / 12" SLOPE U.N.O.
- 7] INVERT ELEVATION OF PIPE RELATIVE TO THE FINISHED FLOOR (FF).
- 8] FD LOCATIONS INCLUDE P-TRAP (TYP).
- 9] BT LOCATIONS INCLUDE 12"x12" ACCESS PANEL, P-TRAP AND 12"x9" SLEEVE.
- 10] SH LOCATIONS INCLUDE P-TRAP AND 8"x8" SLEEVE.
- 11] SK LOCATIONS INCLUDE WCO.



1 UNDERGROUND - PIPING LAYOUT - FLOOR PLAN
1/4" = 1'-0"



2 UNDERGROUND - PIPE IN-SLAB - DETAIL VIEW



3 UNDERGROUND - PIPING LAYOUT - ISOMETRIC VIEW

PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
UNDERGROUND PIPING LAYOUT

NO. DESCRIPTION DATE
ORIGINAL PRINT SIZE = 36x48
KEY PLAN

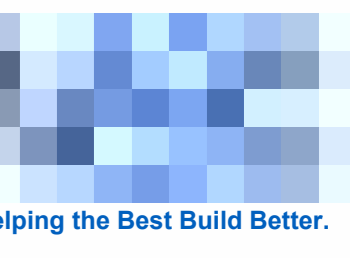
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CHECKED BY: VEC
DRAWING SCALE AS NOTED
SHEET TITLE

UNDERGROUND PIPING LAYOUT

DRAWING NUMBER
VEC-PLD-103a

Underground Pipe Layout

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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
UNDERGROUND PIPING LAYOUT

LEGENDS AND SYMBOLS

- CW DOMESTIC COLD WATER
- HW DOMESTIC HOT WATER
- HWR DOMESTIC HOT W. RETURN
- IRR IRRIGATION WATER
- TP TRAP PRIMER
- CD CONDENSATE DRAIN
- SS SANITARY WASTE
- V VENT
- SD STORM DRAIN
- OD OVERFLOW DRAIN
- FO FUEL OIL
- EQUIPMENT - BY OTHERS
- SLEEVES OR BLOCKOUTS
- IN-SLAB PIPES
- CLEARANCE
- UNDERGROUND PIPING
- OVERHEAD PIPING
- BOP: BOTTOM OF PIPE
- I.E.: INVERT ELEVATION
- AP: ACCESS PANEL
- SOV: SHUT OFF VALVE
- BV: BALANCING VALVE
- POINT OF CONNECTION (POC)

- 6"(1/2") HWR PIPE SYSTEM
- INS. THICKNESS
- PIPE SIZE
- EQUIPMENT TAG
- EQUIPMENT NUMBER

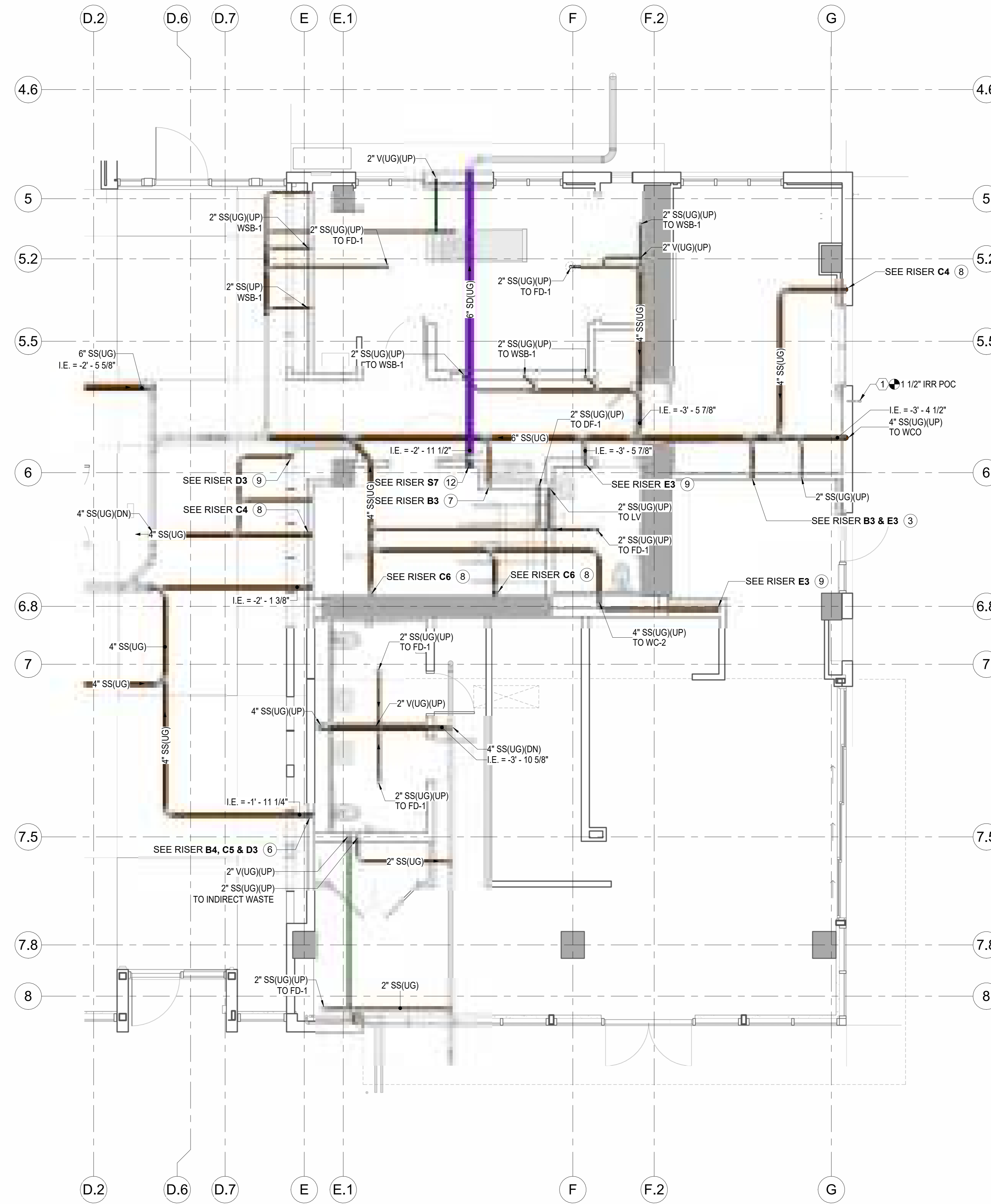
GENERAL NOTES:

- 1) SANITARY SEWER PIPE > 4" = 1/8" / 12" SLOPE U.N.O.
- 2) SANITARY SEWER PIPE < 4" = 1/4" / 12" SLOPE U.N.O.
- 3) STORM DRAIN PIPE = 1/8" / 12" SLOPE U.N.O.
- 4) TRAP PRIMER PIPE = 1/8" / 12" SLOPE U.N.O.
- 5) DRAIN COPPER PIPE = 1/4" / 12" SLOPE U.N.O.
- 6) DRAIN CI PIPE = 1/8" / 12" SLOPE U.N.O.
- 7) INVERT ELEVATION OF PIPE RELATIVE TO THE FINISHED FLOOR (FF).
- 8) FD LOCATIONS INCLUDE P-TRAP (TYP).
- 9) BT LOCATIONS INCLUDE 12"x12" ACCESS PANEL, P-TRAP AND 12"x9" SLEEVE.
- 10) SH LOCATIONS INCLUDE P-TRAP AND 8"x8" SLEEVE.
- 11) SK LOCATIONS INCLUDE WCO.



1 UNDERGROUND - BELOW GRANDE - FLOOR PLAN

1/4" = 1'-0"



2 UNDERGROUND - IN-SLAB - FLOOR PLAN

1/4" = 1'-0"

NO. DESCRIPTION DATE

ORIGINAL PRINT SIZE = 36x48

KEY PLAN

JOB NUMBER

DATE 01/25/2024 10:15:46 AM

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DRAWING SCALE AS NOTED

SHEET TITLE

UNDERGROUND
PIPING LAYOUT

DRAWING NUMBER

VEC-PLD-103b

Pipe Routing & Layout

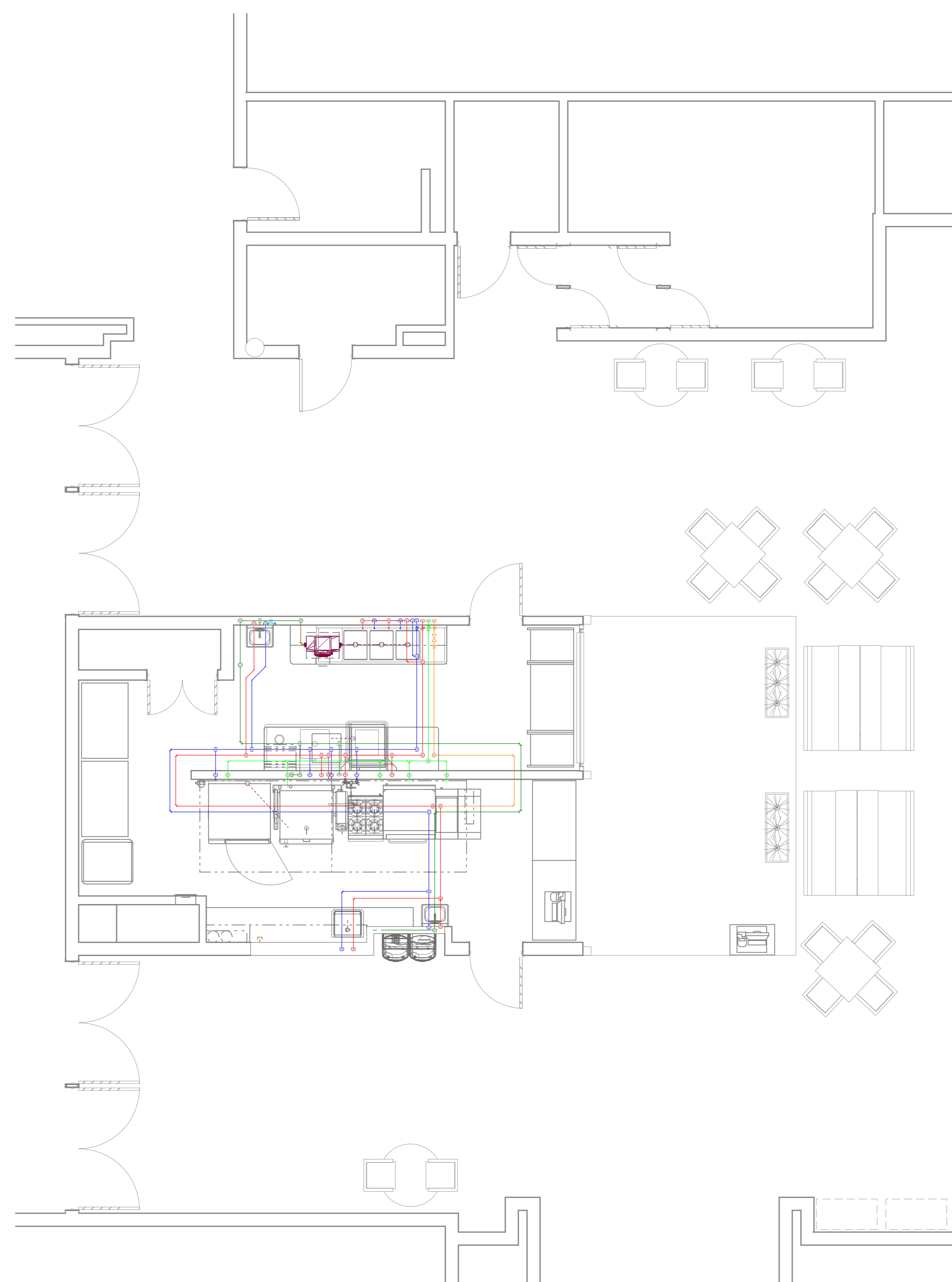
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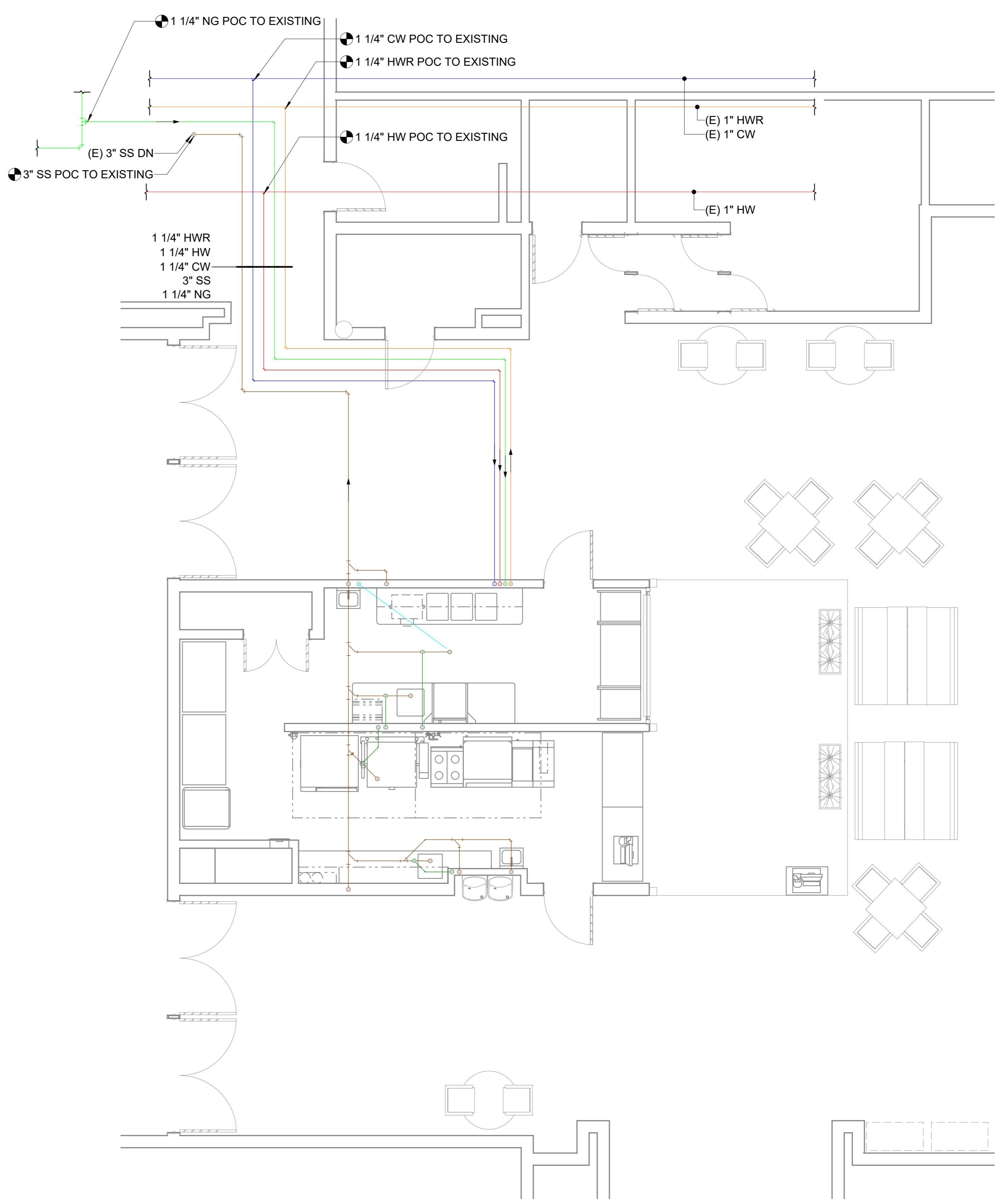
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1 UPPER LEVEL - OVERALL PIPING LAYOUT - PLAN VIEW
1/4" = 1'-0"



2 LOWER LEVEL - OVERALL PIPING LAYOUT - PLAN VIEW
1/4" = 1'-0"

- LEGENDS AND SYMBOLS**
- CW COLD WATER
 - HW HOT WATER
 - HWR HOT WATER RETURN
 - TP TRAP PRIMER
 - SS SANITARY SEWER
 - IW INDIRECT WASTE
 - V VENT
 - NG NATURAL GAS
 - EQUIPMENT - BY OTHERS
 - UNDER SLAB PIPES
 - OVERHEAD PIPES
 - ABOVE SLAB PIPES (INDIRECT WASTE)
 - (E): EXISTING
 - SOV: SHUT OFF VALVE
 - POINT OF CONNECTION (POC)
 - ⊕ PIPE UPSECTIONED
 - 6"(1/2") W2-DI CL53
 - MATERIAL
 - PIPE SYSTEM
 - INS. THICKNESS
 - PIPE SIZE

- GENERAL NOTES**
1. ALL BOP ELEVATIONS INCLUDE INSULATION WHERE APPLICABLE
 2. INVERT ELEVATION OF PIPE RELATIVE TO THE FINISHED FLOOR (FF).
 3. SANITARY SEWER:
 - PIPE > 4" = 1/8" / 12" SLOPE U.N.O.
 4. SANITARY SEWER:
 - PIPE < 4" = 1/4" / 12" SLOPE U.N.O.
 5. DRAIN COPPER:
 - PIPE = 1/4" / 12" SLOPE U.N.O.
 6. TRAP PRIMER:
 - PIPE = 1/8" / 12" SLOPE U.N.O.
 7. FD LOCATIONS INCLUDE P-TRAP (TYP).

PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
OVERALL PIPING LAYOUT

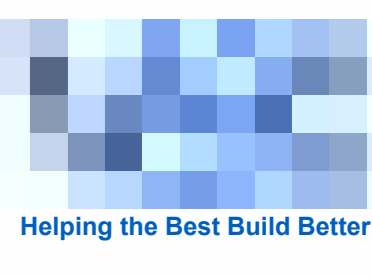
NO.	DESCRIPTION	DATE

JOB NUMBER	
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DRAWING SCALE	AS NOTED
SHEET TITLE	

OVERALL PIPING LAYOUT
DRAWING NUMBER
VEC-PLD-101

Layout, Isometrics & Details

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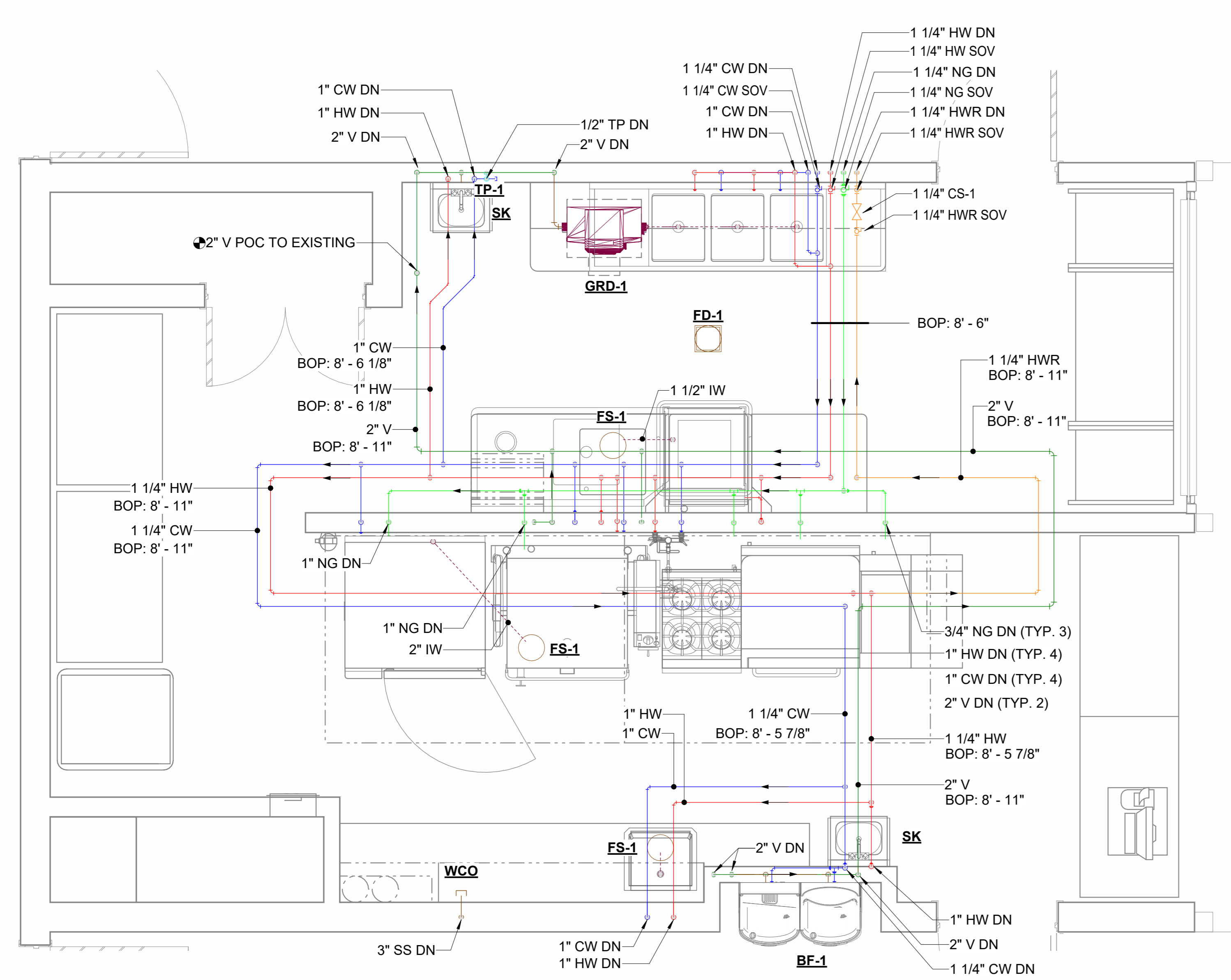
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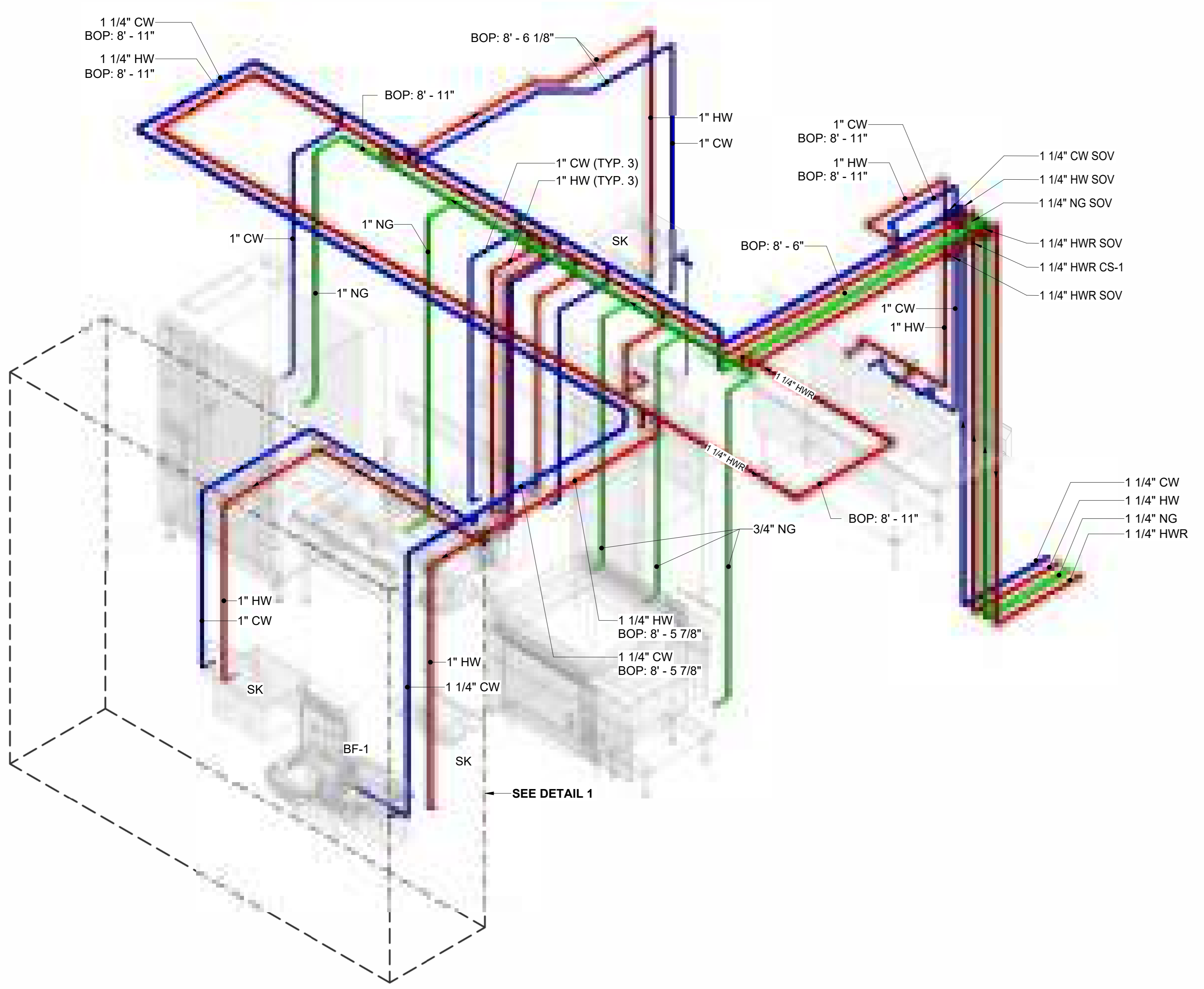
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
DW PIPING LAYOUT



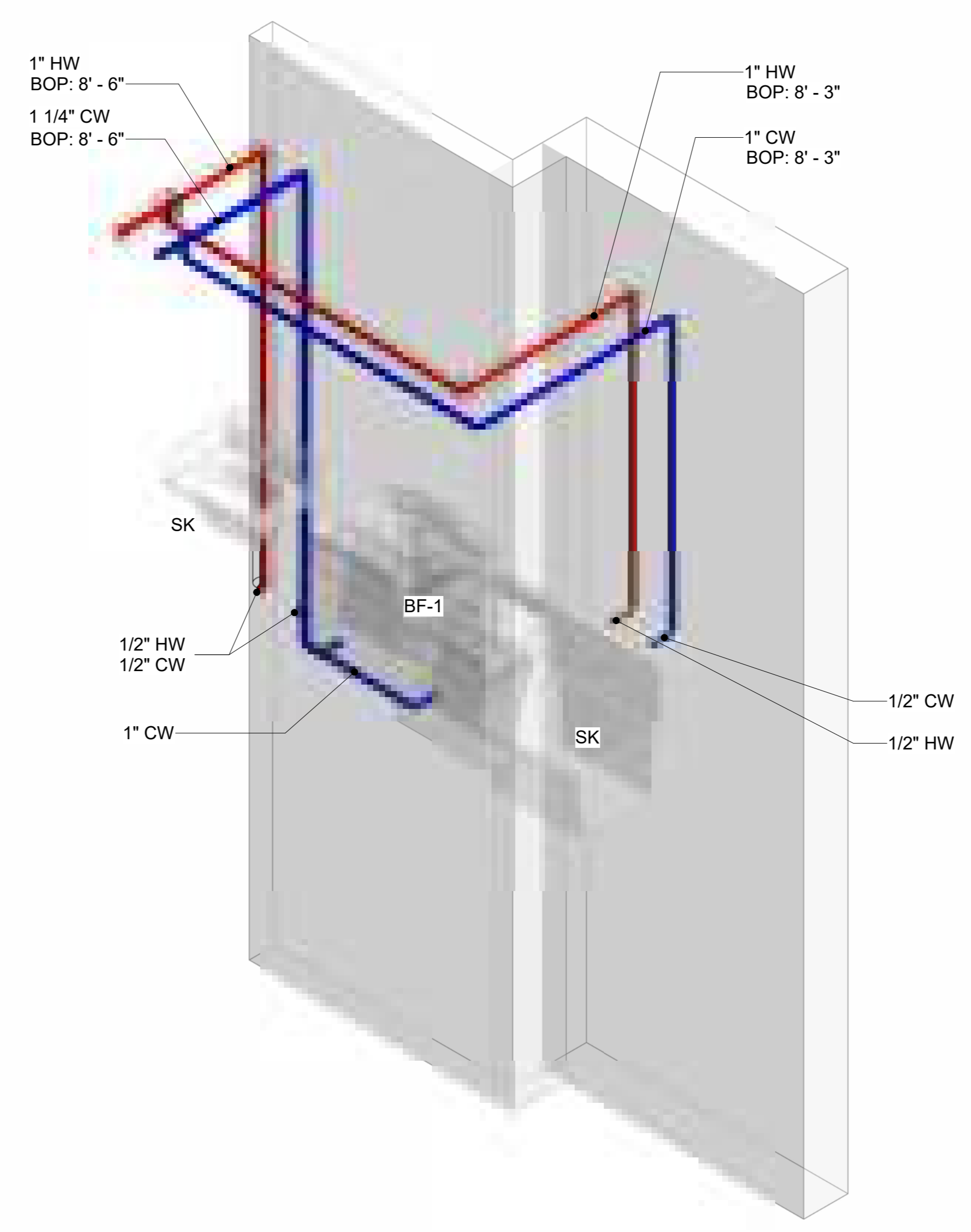
- LEGENDS AND SYMBOLS**
- CW COLD WATER
 - HW HOT WATER
 - HWR HOT WATER RETURN
 - TP TRAP PRIMER
 - SS SANITARY SEWER
 - IW INDIRECT WASTE
 - V VENT
 - NG NATURAL GAS
 - EQUIPMENT - BY OTHERS
 - UNDER SLAB PIPES
 - OVERHEAD PIPES
 - ABOVE SLAB PIPES (INDIRECT WASTE)
 - (E): EXISTING
 - SOV: SHUT OFF VALVE
 - ☉ POINT OF CONNECTION (POC)
 - ☉ PIPE UP/SECTIONED
 - 6"(1/2") W2-DI CL53
 - MATERIAL
 - PIPE SYSTEM
 - INS. THICKNESS
 - PIPE SIZE

- GENERAL NOTES**
1. ALL BOP ELEVATIONS INCLUDE INSULATION WHERE APPLICABLE
 2. INVERT ELEVATION OF PIPE RELATIVE TO THE FINISHED FLOOR (FF).
 3. SANITARY SEWER:
 - PIPE > 4" = 1/8" / 12" SLOPE U.N.O.
 4. SANITARY SEWER:
 - PIPE < 4" = 1/4" / 12" SLOPE U.N.O.
 5. DRAIN COPPER:
 - PIPE = 1/4" / 12" SLOPE U.N.O.
 6. TRAP PRIMER:
 - PIPE = 1/8" / 12" SLOPE U.N.O.
 7. FD LOCATIONS INCLUDE P-TRAP (TYP).

1 UPPER LEVEL - OVERALL PIPING LAYOUT - ENLARGED PLAN VIEW
1/2" = 1'-0"



2 UPPER LEVEL - DW&NG - ISOMETRIC VIEW



3 DETAIL 1 - DW&NG - ISOMETRIC VIEW

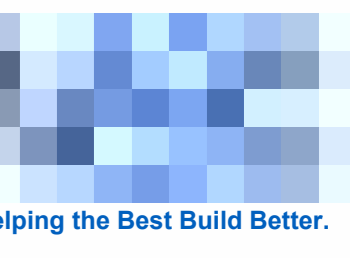
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CHECKED BY: VEC	
DRAWING SCALE	AS NOTED
SHEET TITLE	

DW PIPING LAYOUT
DRAWING NUMBER
VEC-PLD-201

Layout, Riser Diagram & Isometrics

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PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
PIPING LAYOUT - HOT & COLD WATER

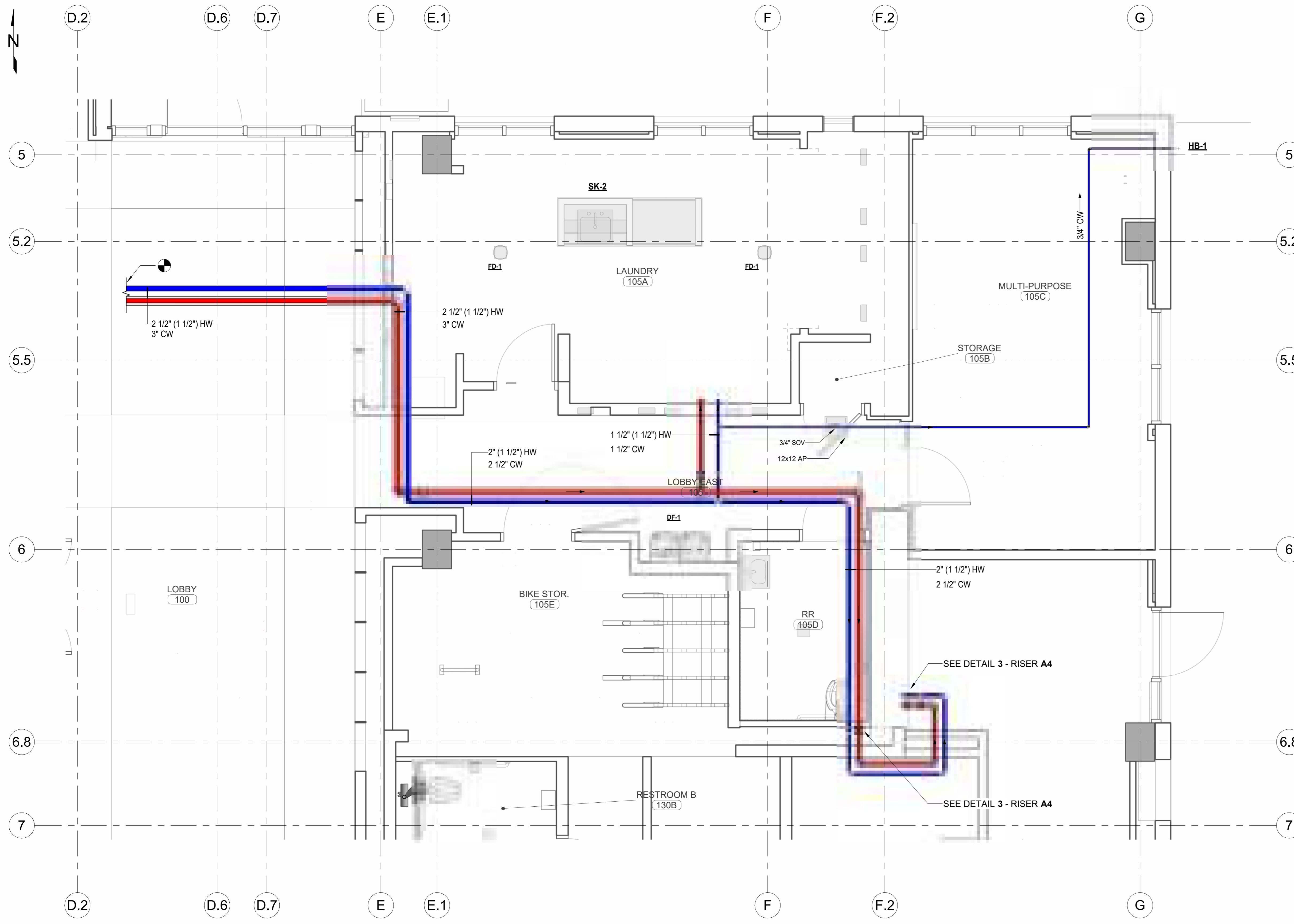
NO. DESCRIPTION DATE
ORIGINAL PRINT SIZE = 36x48
KEY PLAN

JOB NUMBER
DATE 01/25/2024 10:16:10 AM
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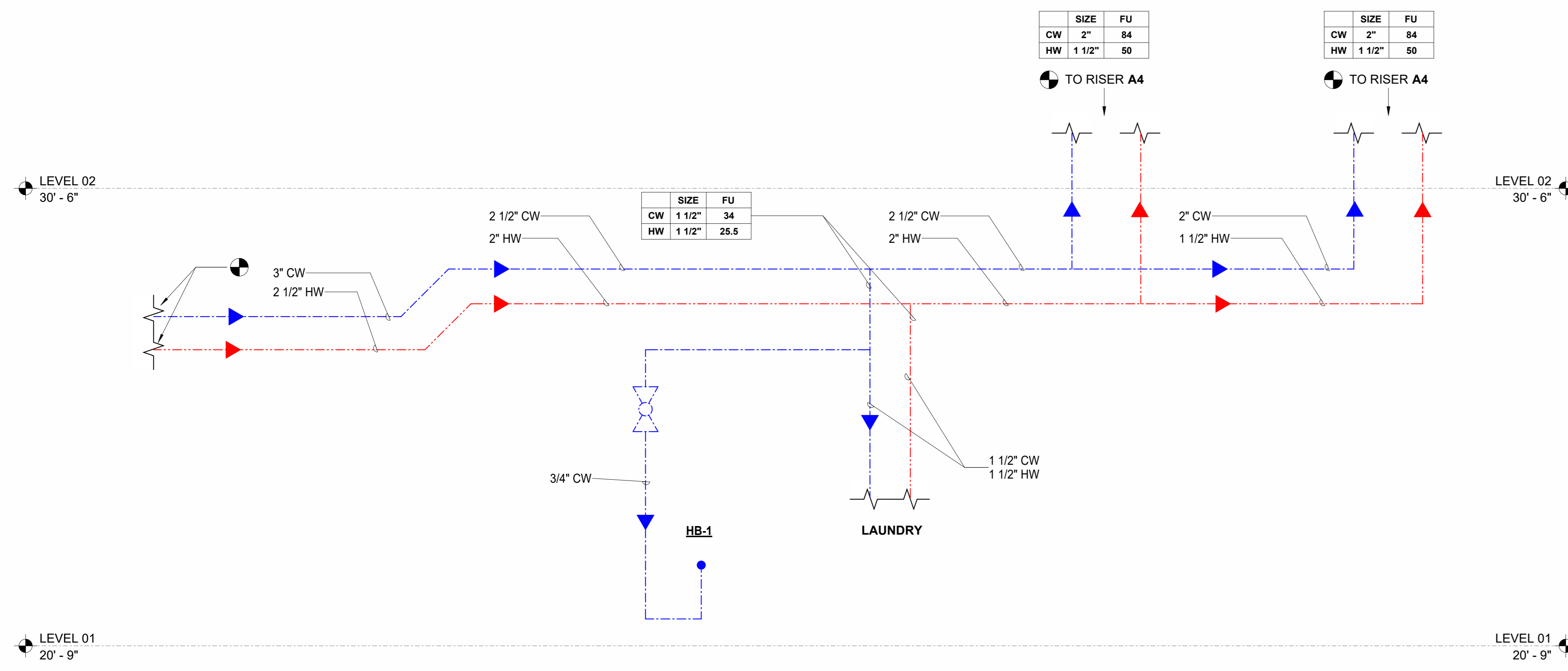
PIPING LAYOUT - HOT & COLD WATER

DRAWING NUMBER

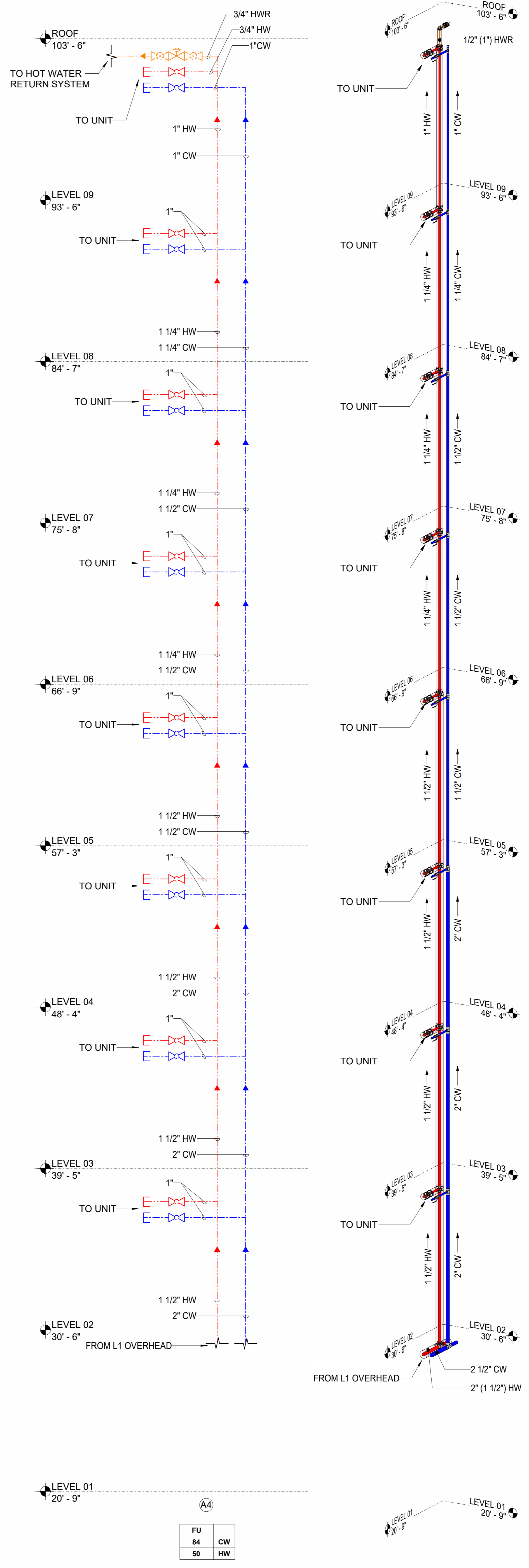
VEC-PLD-104



1 FIRST FLOOR - FLOOR PLAN
N.T.S.



2 DOMESTIC WATER DIAGRAM
N.T.S.



3 RISER A4
N.T.S.

- LEGENDS AND SYMBOLS**
- CW DOMESTIC COLD WATER
 - HW DOMESTIC HOT WATER
 - HWR DOMESTIC HOT W. RETURN
 - SLEEVES OR BLOCKOUTS
 - UNDERGROUND PIPING
 - OVERHEAD PIPING
 - BOP: BOTTOM OF PIPE
 - AP: ACCESS PANEL
 - SOV: SHUT OFF VALVE
 - 6"(1/2") HWR PIPE SYSTEM
 - PIPE SIZE
 - EQUIPMENT TAGKNNESS
 - EQUIPMENT NUMBER
 - CW DOMESTIC COLD WATER
 - HW DOMESTIC HOT WATER
 - HWR DOMESTIC HOT W. RETURN
 - POINT OF CONNECTION (POC)
 - MATCHING MARKER
 - 6"(1/2") HWR PIPE SYSTEM
 - INS. THICKNESS
 - PIPE SIZE

Waste & Vent Diagrams

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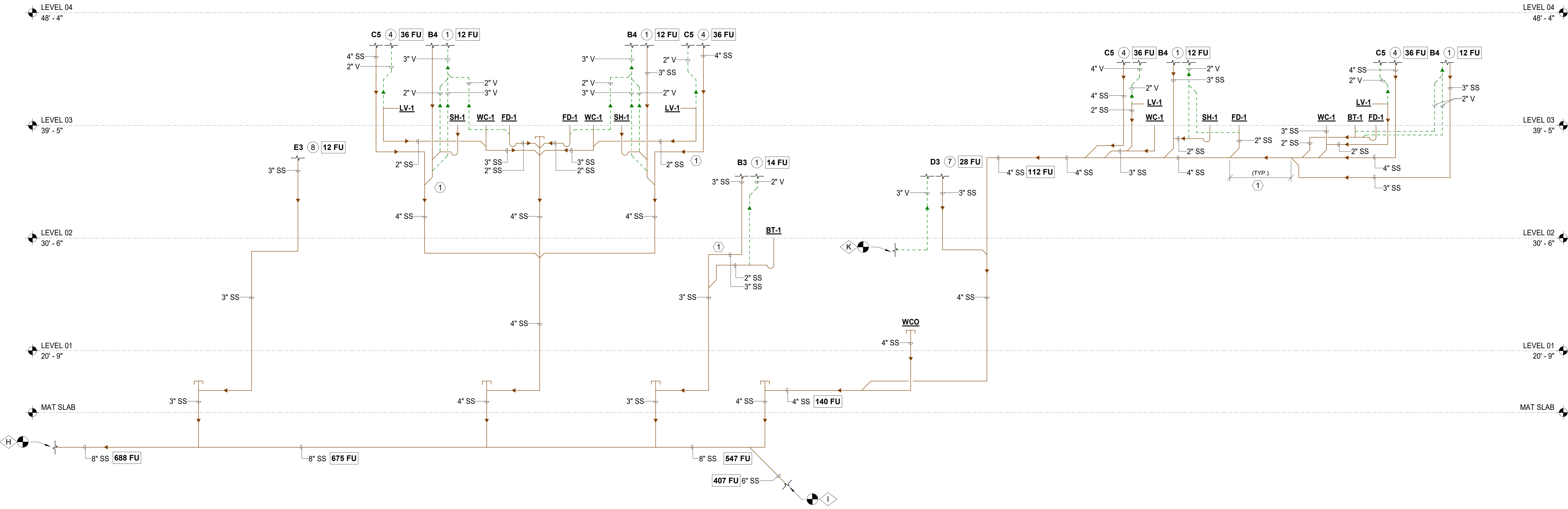
www.vec-us.com

STAMP

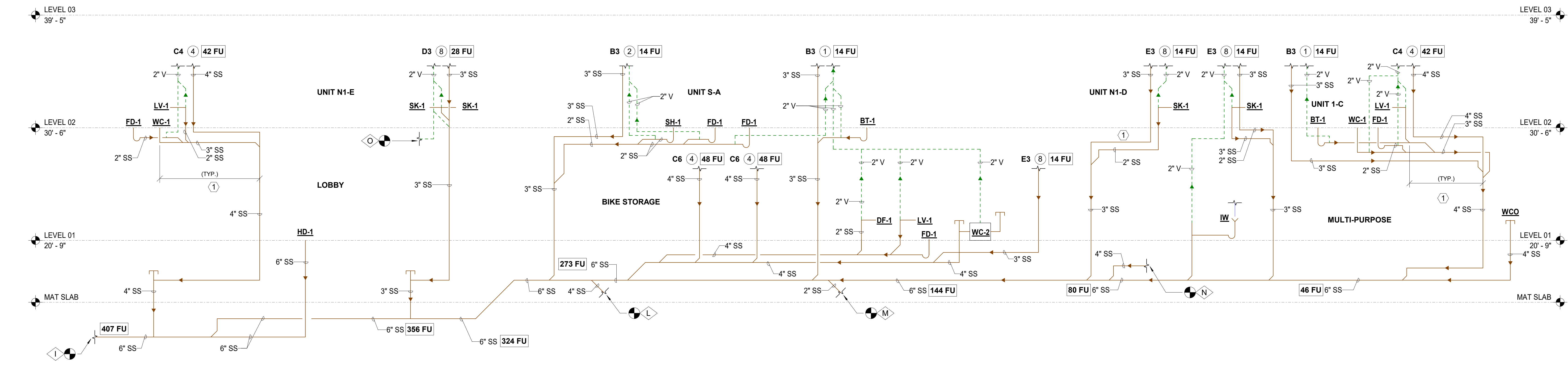
QR CODE



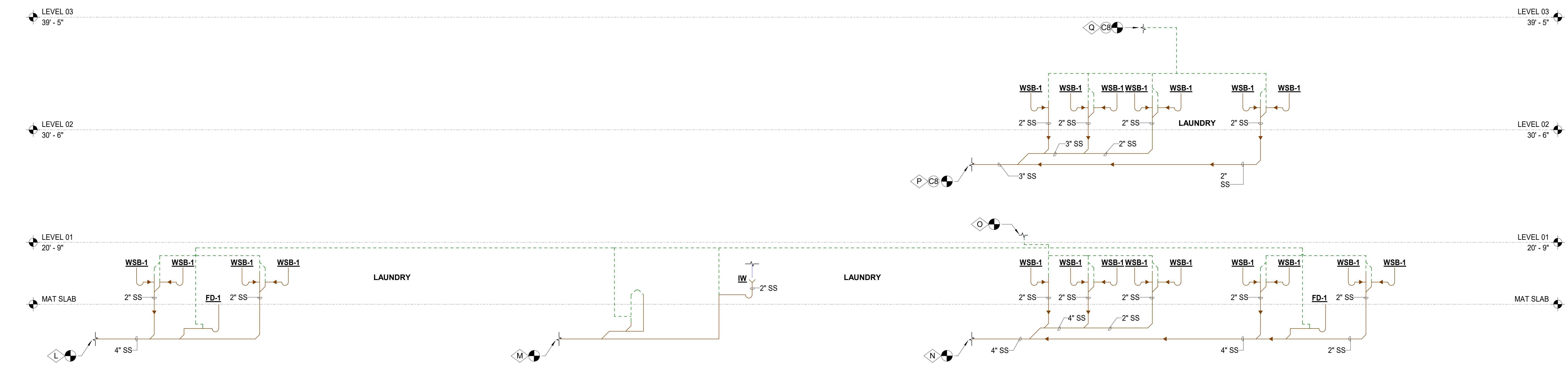
PROJECT NAME
BUILDING NAME
DRAWING PACKAGE
PROJECT ADDRESS
WASTE & VENT DIAGRAMS



1 WASTE & VENT RISER DIAGRAM
N.T.S.



2 WASTE & VENT RISER DIAGRAM
N.T.S.



3 WASTE & VENT RISER DIAGRAM
N.T.S.

LEGENDS AND SYMBOLS

- SS SANITARY WASTE
- V VENT
- POINT OF CONNECTION (POC)
- MATCHING MARKER
- 6"(1/2") HWR PIPE SYSTEM
- INS. THICKNESS
- PIPE SIZE

SHEET NOTES:

1 8 FEET CONSIDERED FROM A RISER CONTAINING SUDS-PRODUCING FIXTURES

- RISERS NOTES:**
- SS & V RISERS, SH-1/BT-1, SEE DETAIL
 - SS & V RISERS, WC-1, LV-1, FD-1 & BT-1, SEE DETAIL
 - SS & V RISERS, WC-1, LV-1, FD-1 & SH-1, SEE DETAIL
 - SS & V RISERS, WC-1, LV-1 & FD-1, SEE DETAIL
 - SS & V RISERS, LV-1 & FD-1, SEE DETAIL
 - SS & V RISERS, WC-1, LV-1 & FD-1, SEE DETAIL
 - SS & V RISERS, SK-1/BACK-TO-BACK, SEE DETAIL
 - SS & V RISERS, SK-1/LV-1, SEE DETAIL
 - SS & V RISERS, WC-1, SEE DETAIL
 - SS & V RISERS, MS-1, FD-1 & SK-1, SEE DETAIL
 - SS & V RISERS, LV-1, SEE DETAIL

NO.	DESCRIPTION	DATE

JOB NUMBER	
DATE	2/16/2024 10:17:06 AM
DRAWN BY	VEC
CHECKED BY	VEC
DRAWING SCALE	AS NOTED
SHEET TITLE	

WASTE & VENT DIAGRAMS
DRAWING NUMBER
VEC-PLD-603