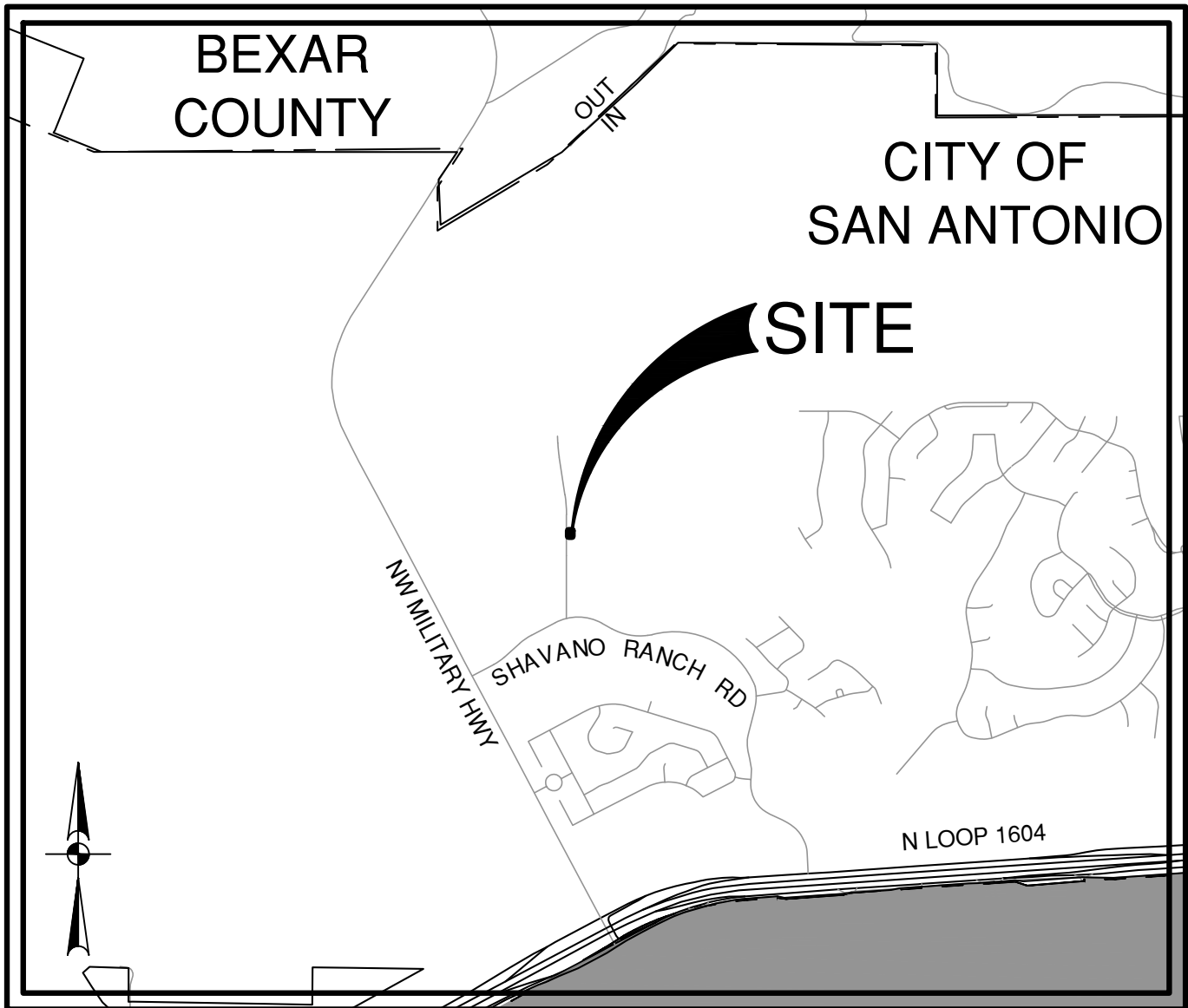
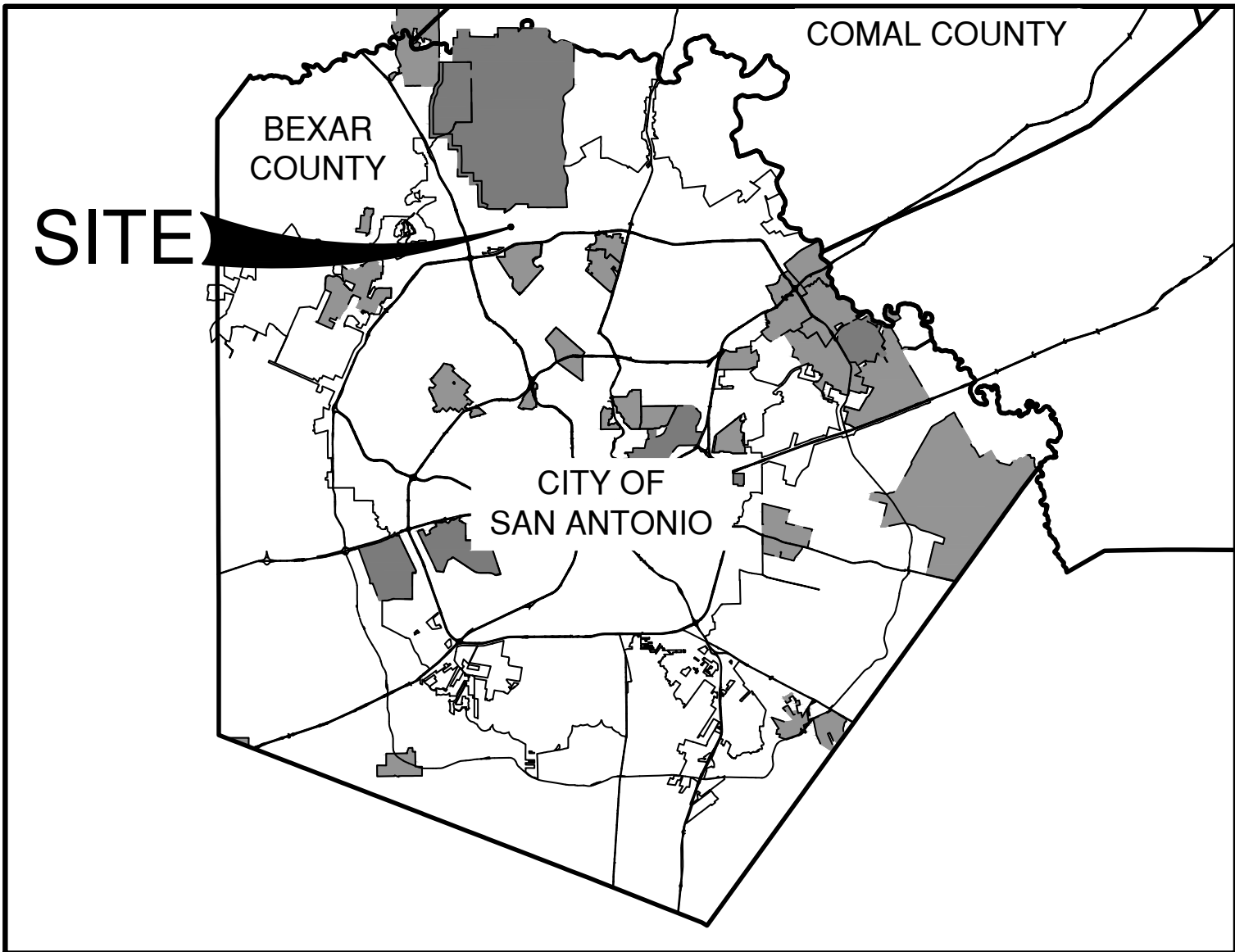


440 QUARRY IMPROVEMENTS PRV ASSEMBLIES

OFFSITE SAWS PRESSURE REDUCING VALVE FACILITY

SAWS SOLICITATION NO.: #####

SAWS JOB NUMBER: #####



LOCATION MAP
NOT-TO-SCALE

SHEET INDEX

Sheet Title	Sheet Number
COVER SHEET	C0.00
GENERAL NOTES	C0.01
DIMENSIONAL CONTROL PLAN	C1.00
OVERALL SITE PLAN	C1.01
LINE A - PLAN AND PROFILE	C2.00
LINE B - PLAN AND PROFILE	C2.01
WATER DETAILS	C3.00
PRV INSTALLATION DETAIL	C3.01
ELECTRICAL ABBREVIATIONS, LEGENDS, AND GENERAL NOTES	E-01
ELECTRICAL SITE PLAN	E-02
ELECTRICAL ONE-LINE AND DETAILS	E-03
ELECTRICAL SCHEDULES SHEET 1	E-04
ELECTRICAL SCADA WIRING DIAGRAMS 1	E-05
ELECTRICAL SCADA WIRING DIAGRAMS 2	E-06
ELECTRICAL SCADA WIRING DIAGRAMS 2	E-07
ELECTRICAL DETAILS	E-08
CONTROLS CABINET DETAILS	E-09
STRUCTURAL DETAILS	S1.0
STRUCTURAL DETAILS	S2.0

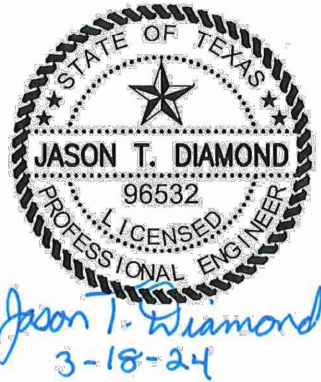
PREPARED FOR:

SHAVANO QUARRY DEVELOPMENT, LTD
11 LYNN BATTS LANE, SUITE 100
SAN ANTONIO, TEXAS 78218

MARCH 2024



SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TBPE FIRM REGISTRATION #470 | TBPLS FIRM REGISTRATION #10028800



WATER (SAWS PRESSURE ZONE 1400W)

DEVELOPER'S NAME: BITTERBLUE, INC.	
ADDRESS: 11 LYNN BATTS LANE, SUITE 100	
CITY: SAN ANTONIO	STATE: TX ZIP: 78218
PHONE# N/A	FAX#
SAWS BLOCK MAP# 138646 TOTAL EDU'S N/A TOTAL ACREAGE 8.482	
TOTAL LINEAR	1009 LF 12" DI. PIPE
FOOTAGE OF PIPE:	38 LF 6" STL PIPE
	32 LF 8" STL PIPE
	10 LF 12" STL PIPE
NUMBER OF LOTS	N/A
SAWS JOB NO.	XXXX-XX
PLAT NO.	22-11800791

SHEET C0.00

GENERAL CONSTRUCTION

- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO SUBMIT REQUEST TO THE SAWS INSPECTION CONSTRUCTION DEPARTMENT BY 12:00PM ON THE WEDNESDAY PRIOR TO THE WEEKEND BEING REQUESTED. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION AT NO COST TO SAWS.
14. PRE-CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS (NSPI).
15. POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
16. CONSTRUCTION SEQUENCING: IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SCHEDULE SEQUENCING FOR REMOVAL AND INSTALLATION OF EXISTING AND PROPOSED SAWS UTILITIES IN CONJUNCTION WITH GENERAL PROJECT CONSTRUCTION. SEQUENCE OF CONSTRUCTION ACTIVITIES SHALL BE CONSIDERED IN ORDER TO MINIMIZE THE EXTENT AND DURATION OF DISTURBANCES.

- # WATER

21. VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)

- ## EXISTING IMPROVEMENTS

HAULING AND STORAGE

TREE PROTECTION NOTES

- ## STORM WATER PROTECTION AND EROSION CONTROL NOTES

STORM WATER PROTECTION AND EROSION CONTROL NOTES

- NOT LIMITED TO, SILT FENCING AND/OR ROCK BERMS IN ALL AREA TO BE IMPACTED BY CURRENT AND ONGOING CONSTRUCTION AND MAINTAIN SUCH STRUCTURES UNTIL SUITABLE GROUND COVER/REVEGETATION IS ACCEPTED. ALL STORM WATER POLLUTION PREVENTION STRUCTURES SHALL BE CONSTRUCTED WITHIN THE WATER LINE EASEMENTS. ANY FEATURES SHOWN OUTSIDE THESE AREAS ARE SHOWN FOR VISUAL CLARITY ONLY.

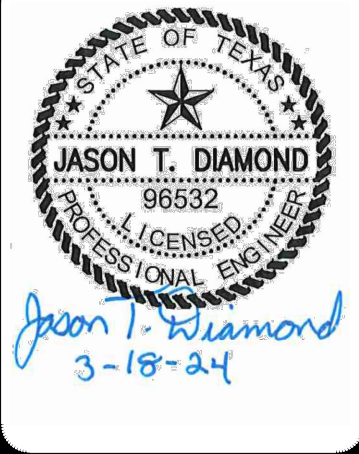
- ## MISCELLANEOUS NOTES

- ## CPS ENERGY NOTE

- ## PRV INSTALLATION NOTE

- | OVERALL QUANTITY TABLE | | | |
|------------------------|---|------|----------|
| ITEM NO | ITEM DESCRIPTION | UNIT | QUANTITY |
| 307 | CONCRETE PAD (SCADA TOWER, PRV ASSEMBLY, ELECTRIC CONTROLS PANEL) | CY | 19 |
| 540 | SWPPP | LS | 1 |
| 550 | TRENCH EXCAVATION SAFETY PROTECTION | LF | 1046 |
| 814 | 12" DUCTILE IRON WATER MAIN | LF | 1009 |
| 816 | 6" STEEL WATER MAIN | LF | 38 |
| 816 | 8" STEEL WATER MAIN | LF | 32 |
| 816 | 12" STEEL WATER MAIN | LF | 10 |
| 828 | 6" GATE VALVE, M.J. W/ VALVE BOX | EA | 4 |
| 828 | 8" GATE VALVE, M.J. W/ VALVE BOX | EA | 4 |
| 828 | 12" GATE VALVE, M.J. W/ VALVE BOX | EA | 8 |
| 828 | 12" DIVISION VALVE, M.J. W/ VALVE BOX | EA | 2 |
| 831 | 12" CUT-IN TEE, M.J. | EA | 4 |
| 836 | DUCTILE IRON FITTINGS | TON | 2 |
| 841 | HYDROSTATIC TESTING | EA | 2 |
| 844.7 | 2" TEMPORARY BLOW-OFF ASSEMBLY | EA | 2 |
| 845 | 8' SECURITY FENCE W/ 3-STRAND BARBED WIRE | LF | 211 |
| 845 | 3'-6" WIDE PERSONNEL GATE | EA | 1 |
| 846 | 2" AIR RELEASE VALVE ASSEMBLY | EA | 2 |
| 903 | 16' WIDE DOUBLE SWING GATE | EA | 1 |
| 905 | REMOVABLE STEEL BOLLARD (SAWS STANDARD DETAIL DD-905-01) | EA | 10 |
| 11295 | 4" PRESSURE REDUCING VALVE (COMPLETE) | LS | 2 |
| 11295 | 8" PRESSURE REDUCING VALVE (COMPLETE) | LS | 2 |
| 11295 | PRV ACCESSORIES (COMPLETE) (INCLUDES FLOWMETER, GAUGES, BLOW-OFFS, ETC.) | LS | 2 |
| 17300 | INSTRUMENTATION & CONTROLS (COMPLETE) | LS | 1 |
| 17328 | ELECTRICAL MATERIAL, LIGHTING, CONTROLS, CPS ELECTRICAL CONNECTION FEE (COMPLETE) | LS | 1 |
| 17328 | SCADA TOWER INSTALLATION (COMPLETE) | LS | 1 |
| COSA 410.2 | GRAVEL SUBGRADE FILLER | CY | 49 |
| COSA 503 | PORTLAND CEMENT CONCRETE DRIVEWAY- COMMERCIAL | SY | 365 |
| COSA 9006.1 | FILTER FABRIC | SY | 495 |
| SC-1 | CPS ENERGY ALLOWANCE | ALW | 1 |
| 100 | MOBILIZATION (MAX 8% OF ITEMS 1-30) | LS | 1 |
| 101 | PREPARATION OF RIGHT-OF-WAY (MAX 5% OF ITEMS 1 - 30) | LS | 1 |
| 102 | INTERMEDIATE DEMOBILIZATION AND REMOBILIZATION | EA | 1 |

DEVELOPER'S NAME: BITTERBLUE, INC.
ADDRESS: 11 LYNN BATTS LANE, SUITE 100
CITY: SAN ANTONIO STATE: TX ZIP: 78218
PHONE# N/A FAX# _____
SAWS BLOCK MAP# 138646 TOTAL EDU# N/A TOTAL ACREAGE 8.482
1009 LF 12" D PIPE
38 LF 6" STIL PIPE
32 LF 8" STIL PIPE
FOOTAGE OF PIPE: 10 LF 12" STIL PIPE PLAT NO. 22-11800791
NUMBER OF LOTS N/A SAWS JOB NO. XXXX-XX

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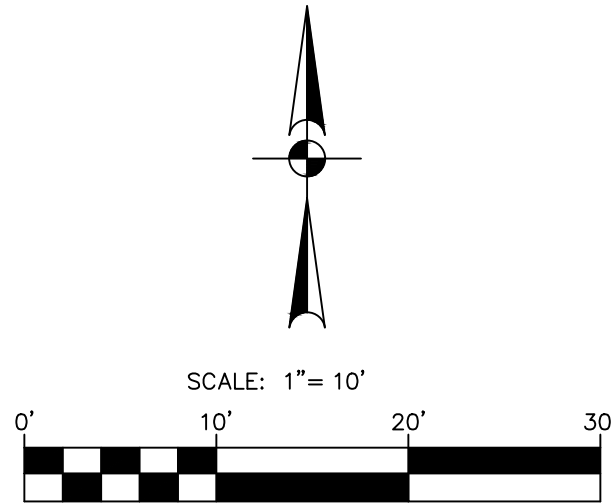
**PAPE-DAWSON
ENGINEERS**
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

4440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX
GENERAL NOTES

PLAT NO. _____
JOB NO. 12934-00
DATE MARCH 2024
DESIGNER CD
CHECKED MP DRAWN RJ
SHEET C0.01

Date: Mar 18, 2024, 10:52am User: ID: Robert Jones
File: \\papd-01\pape-dawson\cadd\24\2403\4400\Design\Civil\PRV\SP-1293400.dwg

THIS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016, CARCO, Digital Globe, Texas Orthology Program, USDA Farm Service Agency.



POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	13772907.35	2106990.77	0.00	DRIVEWAY FLARE
2	13772882.35	2107015.77	0.00	DRIVEWAY FLARE
3	13772866.35	2107015.77	0.00	DRIVEWAY FLARE
4	13772841.35	2106990.77	0.00	DRIVEWAY FLARE
5	13772882.35	2107148.77	0.00	DRIVEWAY
6	13772894.35	2107160.77	0.00	DRIVEWAY
7	13772899.41	2107160.77	0.00	DRIVEWAY
8	13772899.41	2107176.77	0.00	DRIVEWAY
9	13772894.35	2107176.77	0.00	DRIVEWAY
10	13772866.35	2107148.77	0.00	DRIVEWAY
11	13772896.91	2107160.77	0.00	SIDEWALK
12	13772896.91	2107138.27	0.00	SIDEWALK
13	13772899.41	2107138.27	0.00	SIDEWALK
14	13772944.41	2107132.77	0.00	MOW STRIP EDGE
15	13772944.41	2107204.77	0.00	MOW STRIP EDGE
16	13772899.41	2107204.77	0.00	MOW STRIP EDGE
17	13772899.41	2107132.77	0.00	MOW STRIP EDGE
18	13772857.35	2107017.77	0.00	EASEMENT EDGE
19	13772891.35	2107017.77	0.00	EASEMENT EDGE
20	13772891.35	2107132.77	0.00	EASEMENT EDGE

POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
21	13772857.35	2107204.77	0.00	EASEMENT EDGE
22	13772938.91	2107137.77	0.00	ELECTRICAL SLAB
23	13772939.00	2107144.44	0.00	ELECTRICAL SLAB
24	13772927.32	2107144.44	0.00	ELECTRICAL SLAB
25	13772927.23	2107137.77	0.00	ELECTRICAL SLAB
26	13772938.91	2107151.25	0.00	PRV SLAB
27	13772938.91	2107169.25	0.00	PRV SLAB
28	13772927.91	2107169.25	0.00	PRV SLAB
29	13772927.91	2107151.25	0.00	PRV SLAB
30	13772938.91	2107178.75	0.00	PRV SLAB
31	13772938.91	2107196.75	0.00	PRV SLAB
32	13772927.91	2107196.75	0.00	PRV SLAB
33	13772927.91	2107178.75	0.00	PRV SLAB
34	13772907.88	2107144.14	0.00	SCADA SLAB
35	13772907.88	2107148.14	0.00	SCADA SLAB
36	13772903.88	2107148.14	0.00	SCADA SLAB
37	13772903.88	2107144.14	0.00	SCADA SLAB

LEGEND

PROPOSED WATERLINE

PROPERTY LINE

PROPOSED EASEMENT

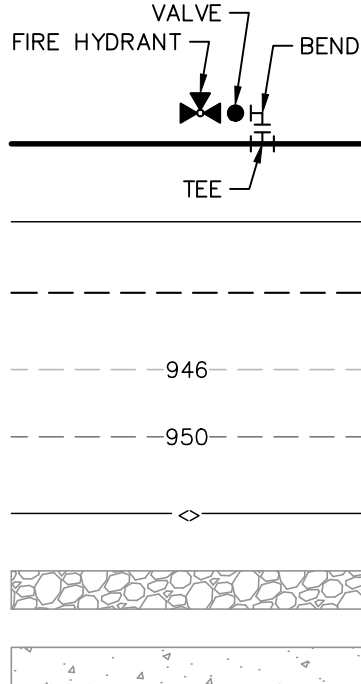
EXISTING 1' CONTOURS

EXISTING 5' CONTOURS

PROPOSED FENCE

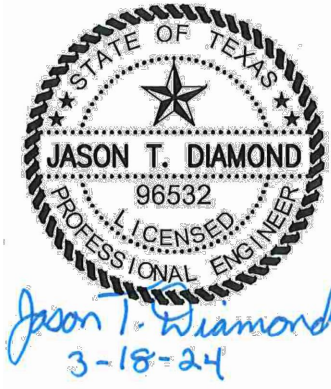
GRAVEL SUBGRADE FILLER

CONCRETE PAVING



DATE

NO. REVISION



PAPE-DAWSON
ENGINEERS

SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
2000 HW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

440 QUARRY IMPROVEMENTS PRV ASSEMBLIES

SAN ANTONIO, TX

OVERALL SITE PLAN

WATER (SAWS PRESSURE ZONE 1400W)

DEVELOPER'S NAME: BITTERBLUE, INC.	
ADDRESS: 11 LYNN BATTS LANE, SUITE 100	
CITY: SAN ANTONIO	STATE: TX
PHONE# N/A	FAX#
SAWS BLOCK MAP# 138648	TOTAL EDU'S. N/A
TOTAL LINEAR	TOTAL ACREAGE 8.482
FOOTAGE OF PIPE:	1009 LF 12" DI. PIPE
	38 LF 6" S/L PIPE
	10 LF 12" S/L PIPE
NUMBER OF LOTS N/A	SAWS JOB NO. XXXX-XX

PLAT NO.

JOB NO. 12934-00

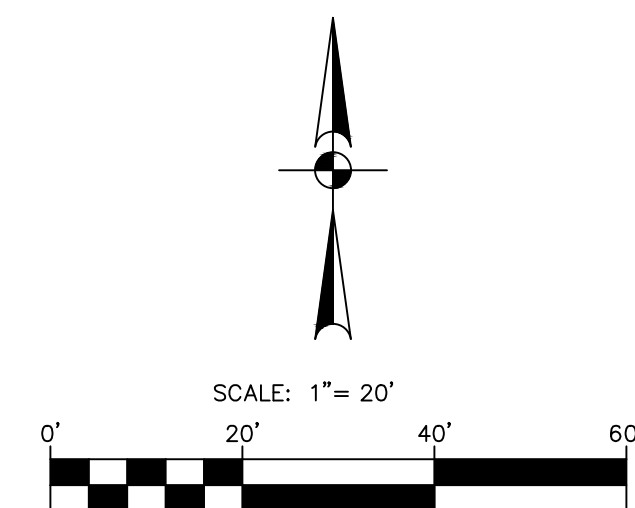
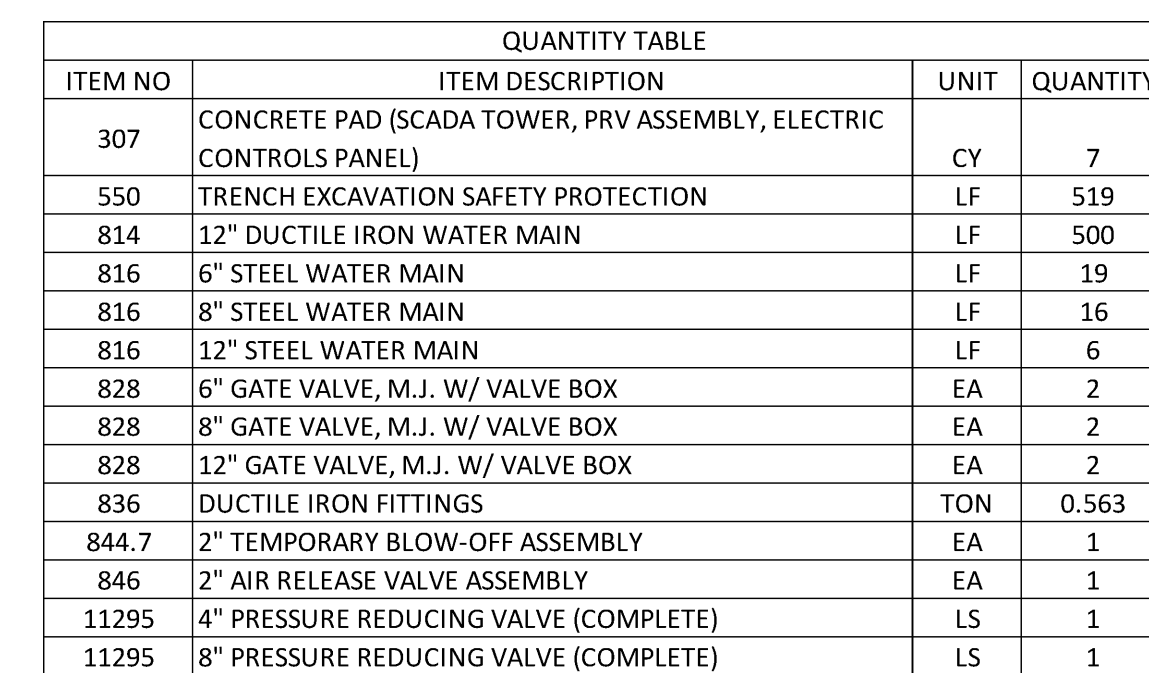
DATE MARCH 2024

DESIGNER CD

CHECKED MP DRAWN RJ

SHEET C1.01

BID SET



PROPOSED WATERLINE

PROPERTY LINE

PROPOSED EASEMENT

EXISTING 1' CONTOURS

EXISTING 5' CONTOURS

PROPOSED 1' CONTOURS

PROPOSED 5' CONTOURS

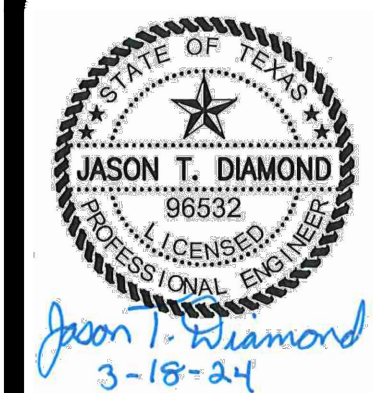
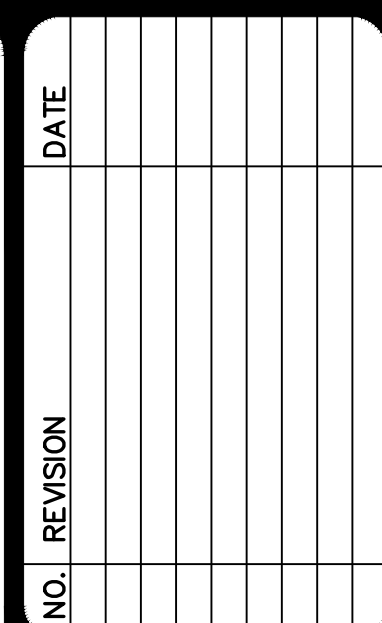
PROPOSED FENCE

GRAVEL SUBGRADE FILLER

CONCRETE PAVING

1. PRESSURE REDUCING VALVES TO BE SET BY PRODUCTION PRIOR TO FIELD OPERATION. CONTACT SAWS INSPECTOR, SO INSPECTOR CONTACTS SAWS PRODUCTION MAINTENANCE DEPARTMENT TO COORDINATE P.R.V. INSTALLATION AND PRESSURE SETTING.

DEVELOPER'S NAME: BITTERBLUE, INC.
ADDRESS: 11 LYNN BATTS LANE, SUITE 100
CITY: SAN ANTONIO STATE: TX ZIP: 78218
PHONE # N/A FAX # _____
SAWS BLOCK MAP# 138646 TOTAL EDU# N/A TOTAL ACREAGE 8.46
1009 LF 12" DI PIPE
38 LF 6" STIL PIPE
12 LF 8" STIL PIPE
FOOTAGE OF PIPE: 10 LF 12" STIL PIPE PLAT NO. 22-1180079
NUMBER OF LOTS N/A SAWS JOB NO. XXXX-XX

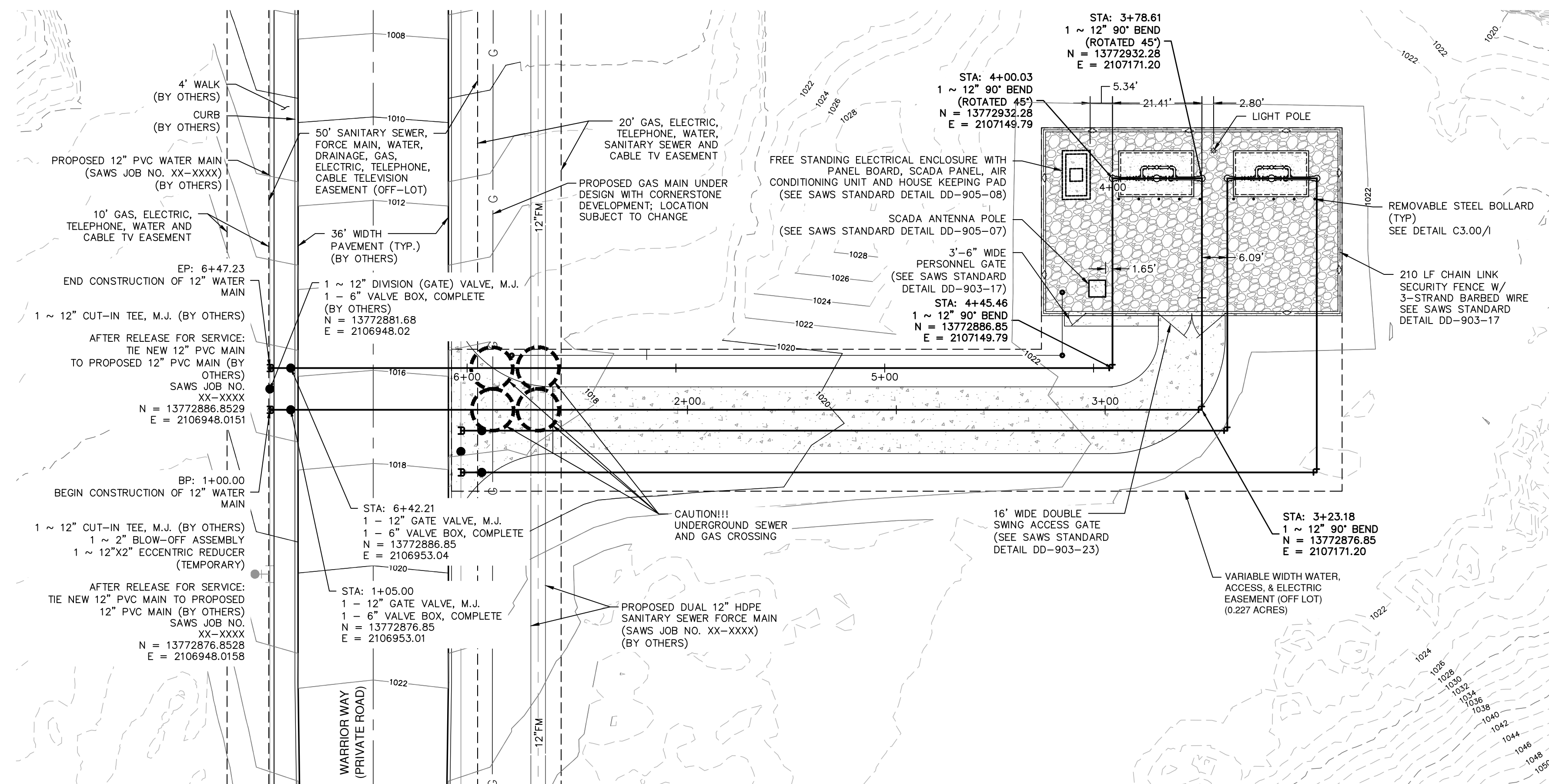


**PAPE-DAWSON
ENGINEERS**

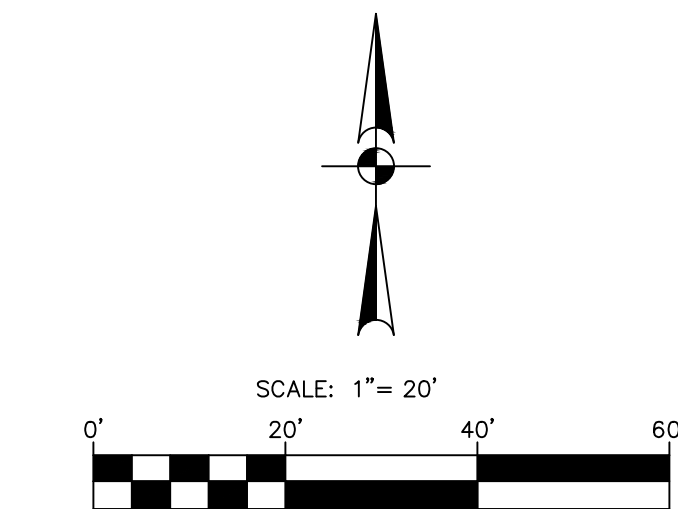
SAN ANTONIO | AUSTIN | HOUSTON | FORT WORTH | DALLAS
20000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028600

4440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX

PLAT NO. _____
JOB NO. 12934-00
DATE MARCH 2024
DESIGNER CD
CHECKED MP DRAWN RJ
SHEET C2.00

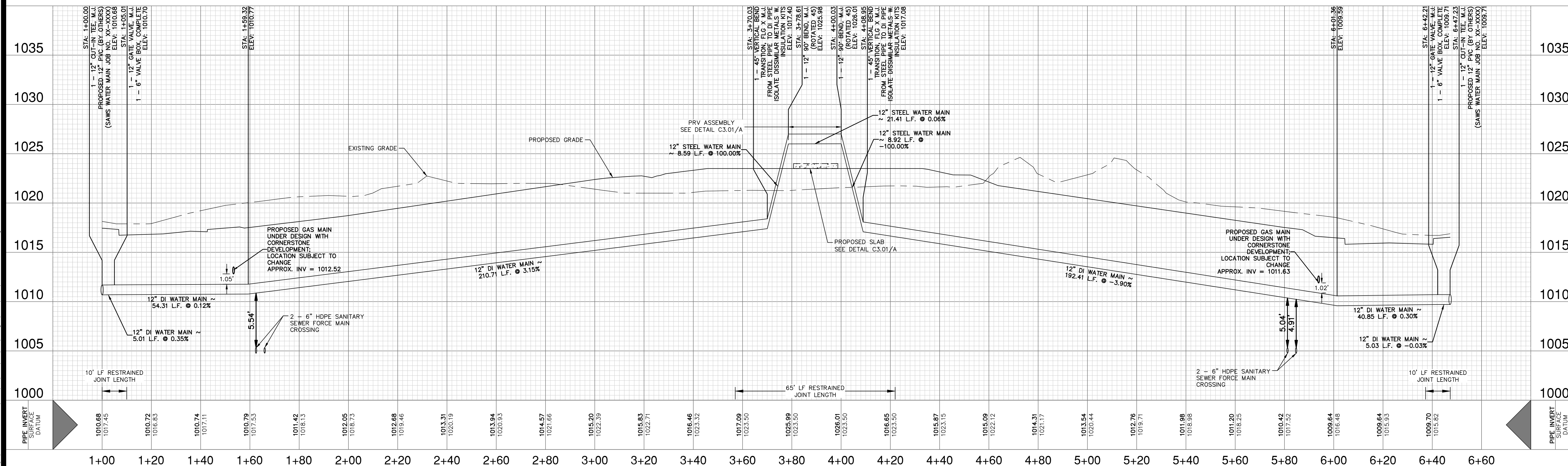


QUANTITY TABLE			
ITEM NO	ITEM DESCRIPTION	UNIT	QUANTITY
307	CONCRETE PAD (SCADA TOWER, PRV ASSEMBLY, ELECTRIC CONTROLS PANEL)	CY	1
550	TRENCH EXCAVATION SAFETY PROTECTION	LF	526
814	12" DUCTILE IRON WATER MAIN	LF	508
816	6" STEEL WATER MAIN	LF	19
816	8" STEEL WATER MAIN	LF	16
816	12" STEEL WATER MAIN	LF	4
828	6" GATE VALVE, M.J. W/ VALVE BOX	EA	2
828	8" GATE VALVE, M.J. W/ VALVE BOX	EA	2
828	12" GATE VALVE, M.J. W/ VALVE BOX	EA	2
836	DUCTILE IRON FITTINGS	TON	0.563
844.7	2" TEMPORARY BLOW-OFF ASSEMBLY	EA	1
846	2" AIR RELEASE VALVE ASSEMBLY	EA	1
11295	4" PRESSURE REDUCING VALVE (COMPLETE)	LS	1
11295	8" PRESSURE REDUCING VALVE (COMPLETE)	LS	1


















NOTES

WATER (SAWS PRESSURE ZONE 1400W)



PLAT NO. _____
JOB NO. 12934-00
DATE MARCH 2024
DESIGNER CD
CHECKED MP DRAWN _____
SHEET C2.01

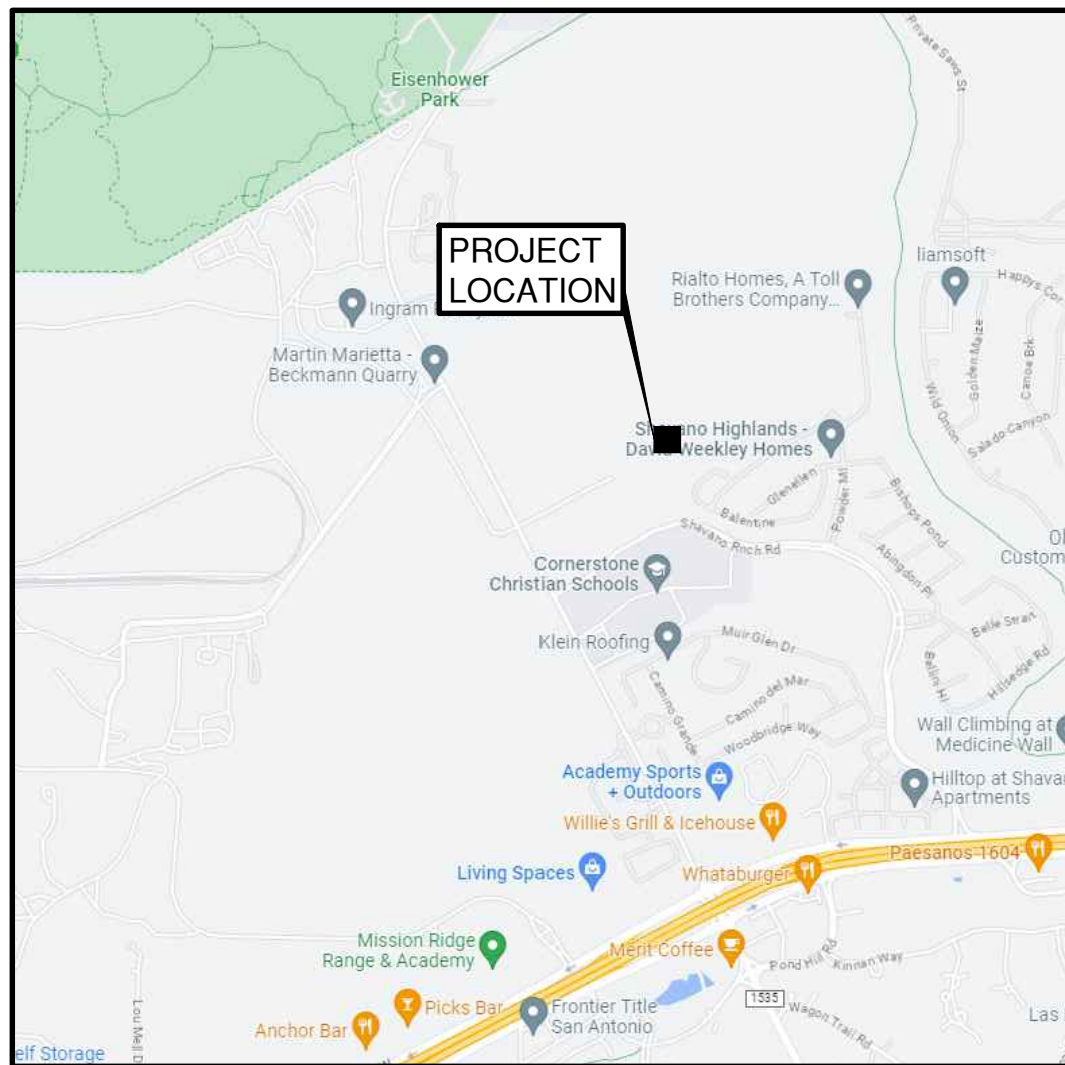
GROUNDING LEGEND	
	A=GROUNDING RECEPTACLE; B=GROUND TEST WELL
	BARE COPPER GROUNDING CONDUCTOR
	GROUNDING CONNECTION
	COPPER CLAD GROUND ROD

LIGHTING FIXTURE LEGEND			
	LED STRIP LIGHT; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE		
	LED STRIP LIGHT WITH BATTERY BACKUP; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE		
	LED FIXTURE, SURFACE OR SUSPENDED, CEILING MOUNTED		
	LED FIXTURE, STANCHION MOUNTED		
	LED FIXTURE, WALL MOUNTED		
	LED LIGHTED EXIT SIGN; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE		
	REMOTE EMERGENCY LIGHTS	 "D"	POLE MOUNTED LED LUMINAIRE. SEE SCHEDULE OR NOTES FOR FIXTURE TYPE, ORIENT FIXTURE FOR CUT-OFF TOWARDS AREA TO BE LIT. ORIENT HOUSE SHIELD TOWARDS BUILDING. SEE DETAILS FOR POLE BASE. PROVIDE POLE CASE GROUND ROD.
		 "E"	EMERGENCY LED LIGHT FIXTURE, SELF CONTAINED, BATTERY OPERATED
		 "D"	PAR LAMP HOLDER. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES.
		 "D"	POLE MOUNTED FLOOR LIGHT. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES. ARROW DENOTES FLOODING AND DIRECTION POLY FOLDS DOWN.

LEGEND & GENERAL NOTES:

1. BRANCH CIRCUIT NUMBERS MAY BE SHOWN NEXT TO SYMBOLS IN MULTIWIRE CIRCUITS.
2. SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE UNLESS OTHERWISE NOTED.
3. LOWER CASE LETTERS NEXT TO SYMBOLS INDICATE FIXTURE(S) CONTROLLED BY THE SWITCH DISPLAYING THE SAME LETTER.
4. THIS IS A STANDARD LEGEND LIST ALL SYMBOLS MAY NOT BE USED.
5. INSTALLATION SHALL BE PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL CODES/ORDINANCES. NOT ALL CODE AND STANDARD REQUIREMENTS MAY BE SHOWN ON PLANS. CONTRACTOR SHALL ADHERE TO CODES AND STANDARDS REGARDLESS OF BEING SHOWN ON PLANS OR SPECIFICATIONS IN DETAILED FASHION.

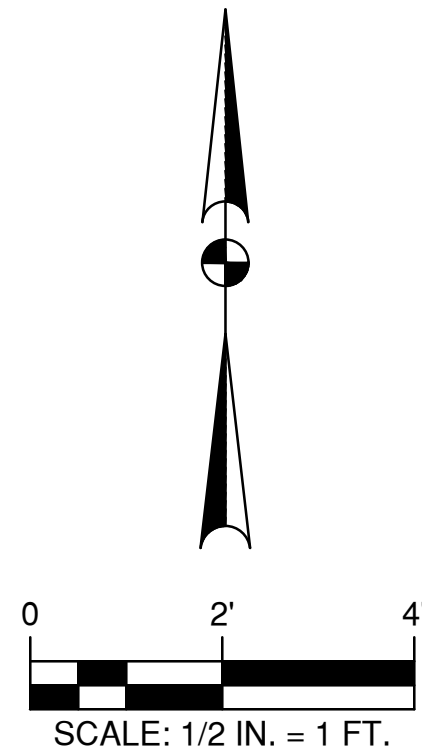
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File: T:\2024\5\NEIS\230258_E-02_ESS.dwg



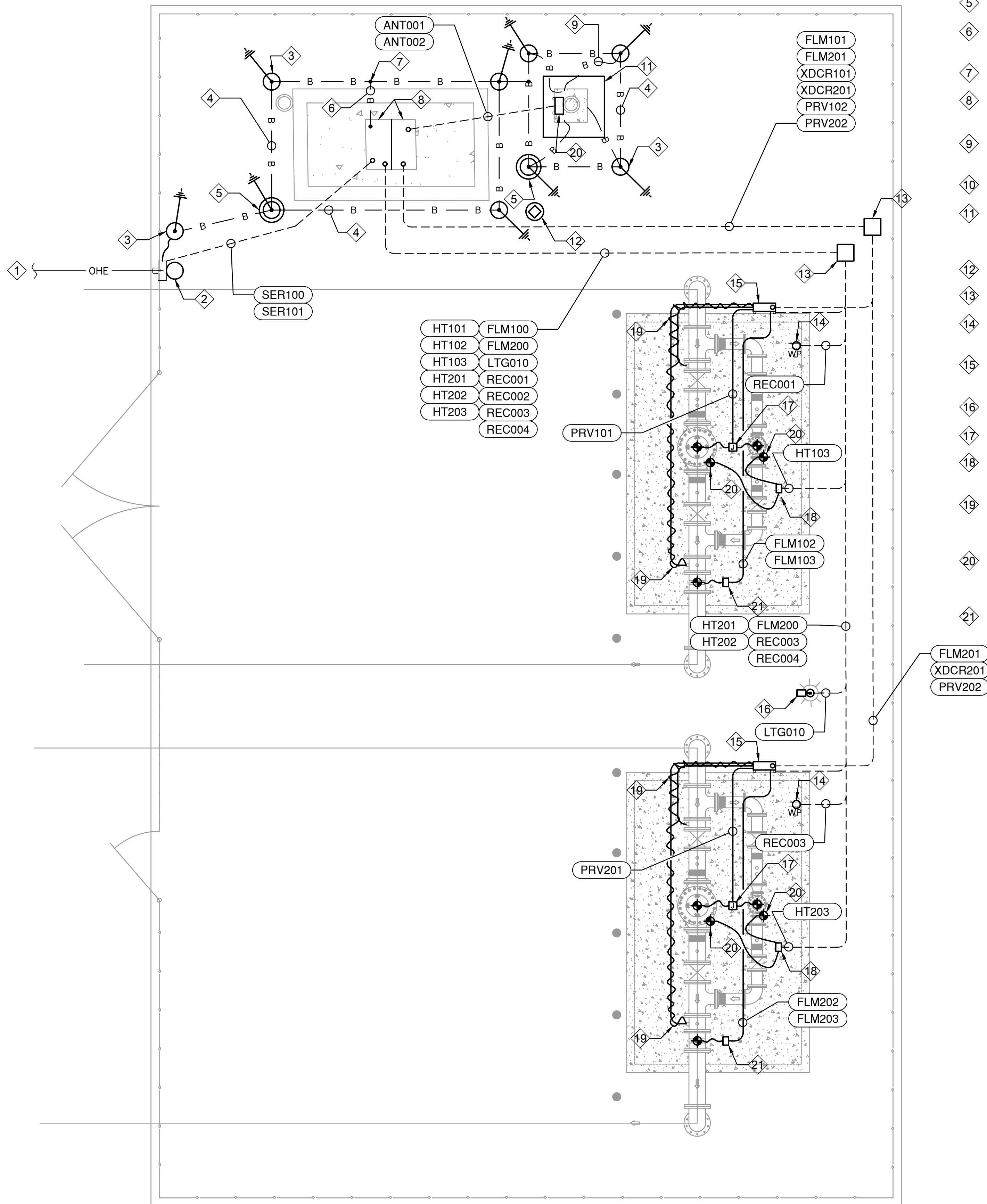
VICINITY MAP

PROJECT COORDINATES

29°36'46.6"N 98°33'54.2"W
SAN ANTONIO, TX 78257



SCALE: 1/2 IN. = 1 FT.



ELECTRICAL SITE PLAN

SCALE: 1/2 IN. = 1 FT.

KEYED NOTES:

- OVERHEAD SERVICE ENTRANCE.
- ELECTRIC SERVICE METER POLE. RE: PRV ONE LINE DIAGRAM & DETAIL.
- 3/4" X 10" COPPER-CLAD GROUND ROD.(TYP).
- #4/0, SD, BARE COPPER GROUNDING CONDUCTOR BURIED MIN. 18" BELOW GRADE.(TYP.)
- GROUND TEST WELL. RE: GROUND TEST WELL DETAIL.
- #6, SD, BARE COPPER GROUNDING CONDUCTOR UP TO GROUND BUS IN PANEL. ROUTE THRU PVC SLEEVE IN CONCRETE PAD.
- EXOTHERMICALLY WELD ALL BELOW GRADE CONNECTIONS (TYP.)
- FREE-STANDING CONTROLS/POWER ENCLOSURE. RE: PRV ONE LINE DIAGRAM AND RACK DETAIL.
- #2/0 SD,BARE COPPER GROUNDING CONDUCTOR BOLTED TO TOWER. (TYP). RE: ANTENNA GROUNDING DETAIL.
- TOWER ENCLOSURE. RE: TYPICAL ANTENNA TOWER DETAIL.
- TOWER FOUNDATION. COORDINATE WITH TOWER MANUFACTURER FOR RECOMMENDED TOWER FOUNDATION CONSTRUCTION BASED ON FINAL TOWER HEIGHT DETERMINED FROM RADIO PATH STUDY.
- MOISTURIZING PORT. RE: MOISTURIZING PORT DETAIL.
- ELECTRICAL HANDHOLE. RE: HANDHOLE INSTALLATION DETAIL.
- POST-MOUNTED RECEPTACLE. RE: POST-MOUNTED RECEPTACLE DETAIL.
- RACK-MOUNTED TRANSMITTER ENCLOSURE. RE: TRANSMITTER ENCLOSURE DETAIL.
- AREA LIGHT. RE: AREA LIGHT DETAIL.
- CONTROLS J-BOX. RE: FREE-STANDING J-BOX DETAIL.
- HEAT TRACE T-STAT. RE: FREE-STANDING HEAT TRACE T-STAT DETAIL.
- HEAT TRACE & INSTALLATION ON PRESSURE PORT SAMPLE LINES. HEAT TRACE SIMILAR TO CHROMALOX SRL 5 CT W/ELASTOMERIC INSULATION.
- HEAT TRACE & INSULATION ON PILOT LINE & REGULATOR TUBING. HEAT TRACE SIMILAR TO CHROMALOX SRL 5CT W/ELASTOMERIC INSULATION.
- FLOW METER J-BOX. RE: FREE-STANDING J-BOX DETAIL.

DATE	
NO.	
REVISION	



SAN ANTONIO, I. AUSTIN, I. HOUSTON, I. FORT WORTH, I. DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

PLAT NO.	
JOB NO.	12934-00
DATE	MARCH 2024
DESIGNER	C.S.
CHECKED	J.C. DRAWN C.S.
SHEET	E-02

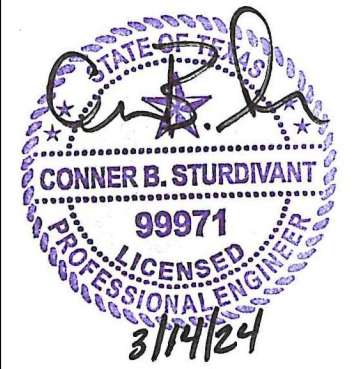
Date: Mar 14, 2024, 9:26am User: J.D. Connors
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CABLE AND CONDUIT SCHEDULE							
CABLE/CONDUIT TAG	CONDUIT QUANTITY	CONDUIT SIZE	FROM	TO	CONDUCTOR (EACH CONDUIT)	CABLE TYPE	DESCRIPTION
ANT001	1	1 IN.	CONTROLS CABINET	TOWER ENCLOSURE	ETHERNET	CAT6e	ETHERNET POE TO INTEGRATED RADIO
ANT002	1	1 IN.	CONTROLS CABINET	TOWER ENCLOSURE	PULL STRING	-	SPARE
FLM100	1	1 IN.	CONTROLS CABINET	TRANSMITTER ENCLOSURE	2-#12 + #12 GND	XHHW-2	ZONE 1 FLOW METER TRANSMITTER POWER
FLM101	1	1 IN.	CONTROLS CABINET	TRANSMITTER ENCLOSURE	1 PR., 18 GA. BELDEN #8760	-	ZONE 1 FLOW METER SIGNAL
FLM102	1	1 IN.	FLOW METER ELEMENT	TRANSMITTER ENCLOSURE	MANUFACTURER'S CABLE	-	ZONE 1 FLOW METER DRIVER CIRCUIT
FLM103	1	1 IN.	FLOW METER ELEMENT	TRANSMITTER ENCLOSURE	MANUFACTURER'S CABLE	-	ZONE 1 FLOW METER SIGNAL
FLM200	1	1 IN.	CONTROLS CABINET	TRANSMITTER ENCLOSURE	2-#12 + #12 GND	XHHW-2	ZONE 2 FLOW METER TRANSMITTER POWER
FLM201	1	1 IN.	CONTROLS CABINET	TRANSMITTER ENCLOSURE	1 PR., 18 GA. BELDEN #8760	-	ZONE 2 FLOW METER SIGNAL
FLM202	1	1 IN.	FLOW METER ELEMENT	TRANSMITTER ENCLOSURE	MANUFACTURER'S CABLE	-	ZONE 2 FLOW METER DRIVER CIRCUIT
FLM203	1	1 IN.	FLOW METER ELEMENT	TRANSMITTER ENCLOSURE	MANUFACTURER'S CABLE	-	ZONE 2 FLOW METER SIGNAL
HT101	1	1 IN.	PANEL "A"	TRANSMITTER ENCLOSURE	2-#12 + #12 GND	XHHW-2	ZONE 1 TRANSMITTER ENCLOSURE HEATER
HT102	1	1 IN.	PANEL "A"	HEAT TRACE T-STAT	2-#10 + #12 GND	XHHW-2	ZONE 1 HEAT TRACE T-STAT
HT103	1	1 IN.	PANEL "A"	ZONE 1 VALVES HEAT TRACE T-STAT	2-#10 + #12 GND	XHHW-2	ZONE 1 HEAT TRACE VALVES T-STAT
HT201	1	1 IN.	PANEL "A"	TRANSMITTER ENCLOSURE	2-#12 + #12 GND	XHHW-2	ZONE 2 TRANSMITTER ENCLOSURE HEATER
HT202	1	1 IN.	PANEL "A"	HEAT TRACE T-STAT	2-#10 + #12 GND	XHHW-2	ZONE 2 HEAT TRACE T-STAT
HT203	1	1 IN.	PANEL "A"	ZONE 2 VALVES HEAT TRACE T-STAT	2-#10 + #12 GND	XHHW-2	ZONE 2 HEAT TRACE VALVES T-STAT
LTG010	1	1 IN.	PANEL "A"	AREA LIGHT	2-#12 + #12 GND	XHHW-2	AREA LIGHT
PRV101	1	1 IN.	PRV'S	TRANSMITTER ENCLOSURE	6-#14	XHHW-2	ZONE 1 PRV 1 (OPEN/CLOSED STATUS, CLOSE) PRV 2 (OPEN/CLOSED STATUS, CLOSE)
PRV102	1	1 IN.	TRANSMITTER ENCLOSURE	CONTROLS CABINET	6-#14	XHHW-2	ZONE 1 PRV 1 (OPEN/CLOSED STATUS, CLOSE) PRV 2 (OPEN/CLOSED STATUS, CLOSE)
PRV201	1	1 IN.	PRV'S	TRANSMITTER ENCLOSURE	6-#14	XHHW-2	ZONE 2 PRV 1 (OPEN/CLOSED STATUS, CLOSE) PRV 2 (OPEN/CLOSED STATUS, CLOSE)
PRV202	1	1 IN.	TRANSMITTER ENCLOSURE	CONTROLS CABINET	6-#14	XHHW-2	ZONE 2 PRV 1 (OPEN/CLOSED STATUS, CLOSE) PRV 2 (OPEN/CLOSED STATUS, CLOSE)
REC001	1	1 IN.	PANEL "A"	POST MOUNTED RECEPTACLE	2-#12 + #12 GND	XHHW-2	ZONE 1 POST MOUNTED RECEPTACLE
REC002	1	1 IN.	PANEL "A"	TRANSMITTER ENCLOSURE RECEPTACLE	2-#12 + #12 GND	XHHW-2	ZONE 1 TRANSMITTER ENCLOSURE RECEPTACLE
REC003	1	1 IN.	PANEL "A"	POST MOUNTED RECEPTACLE	2-#12 + #12 GND	XHHW-2	ZONE 2 POST MOUNTED RECEPTACLE
REC004	1	1 IN.	PANEL "A"	TRANSMITTER ENCLOSURE RECEPTACLE	2-#12 + #12 GND	XHHW-2	ZONE 2 TRANSMITTER ENCLOSURE RECEPTACLE
SER001	1	2 IN.	ELECTRICAL SERVICE	UTILITY METER	3#3	XHHW-2	ELECTRICAL SERVICE
SER100	1	2 IN.	SERVICE DISCONNECT	PANEL "A"	3#3 + #6 GND	XHHW-2	ELECTRICAL SERVICE
SER101	1	2 IN.	SERVICE DISCONNECT	PANEL "A"	PULL STRING	-	SPARE
XDCR101	1	1 IN.	TRANSMITTER ENCLOSURE	CONTROLS CABINET	2 PR., 18 GA. BELDEN #8760	-	ZONE 1 SUPPLY AND DISCHARGE PRESSURE TRANSDUCERS
XDCR201	1	1 IN.	TRANSMITTER ENCLOSURE	CONTROLS CABINET	2 PR., 18 GA. BELDEN #8760	-	ZONE 2 SUPPLY AND DISCHARGE PRESSURE TRANSDUCERS

PANEL "A"		PHASE BUS RATING 100A						WIRE SIZE #6				WITH: <input type="checkbox"/> SOLID NEUTRAL & GROUND <input checked="" type="checkbox"/> ISOLATED GROUND BUS <input checked="" type="checkbox"/> ISOLATED NEUTRAL BUS <input type="checkbox"/> 200% NEUTRAL NOTE: ADJ. CKTS. TO BAL. PNL.			
SERVICE VOLTAGE 240/120V		NEUTRAL BUS RATING 100A						NEU WIRE SIZE #6							
MAIN BREAKER SIZE 100A		SHORT CIRCUIT RATING 22 KAIC						PHASE 1							
		LOCATION						MOUNTING							
CKT. DESCRIPTION	WIRE	BREAKER		VA/WATTS		CKT NO.	CKT NO.	VA/WATTS		BREAKER		WIRE	CKT. DESCRIPTION		
		POLE	AMP	A	B			A	B	POLE	AMP				
SCADA PANEL HEATER	12	1	20	120		1	2	-		1	20	-	SPARE		
SPARE	-	1	20		-	3	4		1000	1	20	12	SCADA PANEL A/C UNIT		
POWER SIDE RECEPTACLE	12	1	20	180		5	6	180		1	20	12	SCADA PANEL RECEPTACLE		
SCADA GFI RECEPTACLE	12	1	20		800	7	8		138	1	20	12	SITE LIGHTING		
PRV HEAT TRACE ZONE 1	10	1	20	100		9	10	100		1	20	10	PRV HEAT TRACE VALVES ZONE 2		
ZONE 1 TRANSMITTER PANEL HEATER	10	1	20		120	11	12		120	1	20	12	ZONE 2 TRANSMITTER PANEL HEATER		
PRV HEAT TRACE VALVES ZONE 1	10	1	20	100		13	14	180		1	20	12	POST-MOUNTED RECEPTACLE		
ZONE 1 TRANSMITTER ENCL. RECEPT.	12	1	20		180	15	16		180	1	20	10	ZONE 2 TRANSMITTER ENCL. RECEPTACLE		
SPARE	-	1	20	-		17	18	200		1	20	10	PRV HEAT TRACE ZONE 2		
TOTAL PHASE A: 1160 VOLT-AMPS				TOTAL PHASE A CURRENT: 10 AMPS						TOTAL CONNECTED LOAD: 3698 VA					
TOTAL PHASE B: 2538 VOLT-AMPS				TOTAL PHASE B CURRENT: 21 AMPS											

LIGHTING FIXTURE SCHEDULE								
MARK	DESCRIPTION	VOLTAGE	VA	LAMP TYPE	MOUNTING	POLE DATA	MANUFACTURER	CATALOG FIXTURE NUMBER
F	AREA LIGHT	120	138	LED	POLE	RE: AREA LIGHT POLE DETAIL	LITHONIA OR APPROVED EQUAL	DSX1LED-P5-40K-TSS-120-SPA-PER-SF

DATE	
NO.	
REVISION	



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO, TX
AUSTIN, TX
HOUSTON, TX
FORT WORTH, TX
DALLAS, TX
2000 NW LOOP 410
SAN ANTONIO, TX 78213
210.375.9000
TEXAS SURVEYING FIRM #470
TEXAS ENGINEERING FIRM #10028800

440 QUARRY IMPROVEMENTS PRV ASSEMBLIES

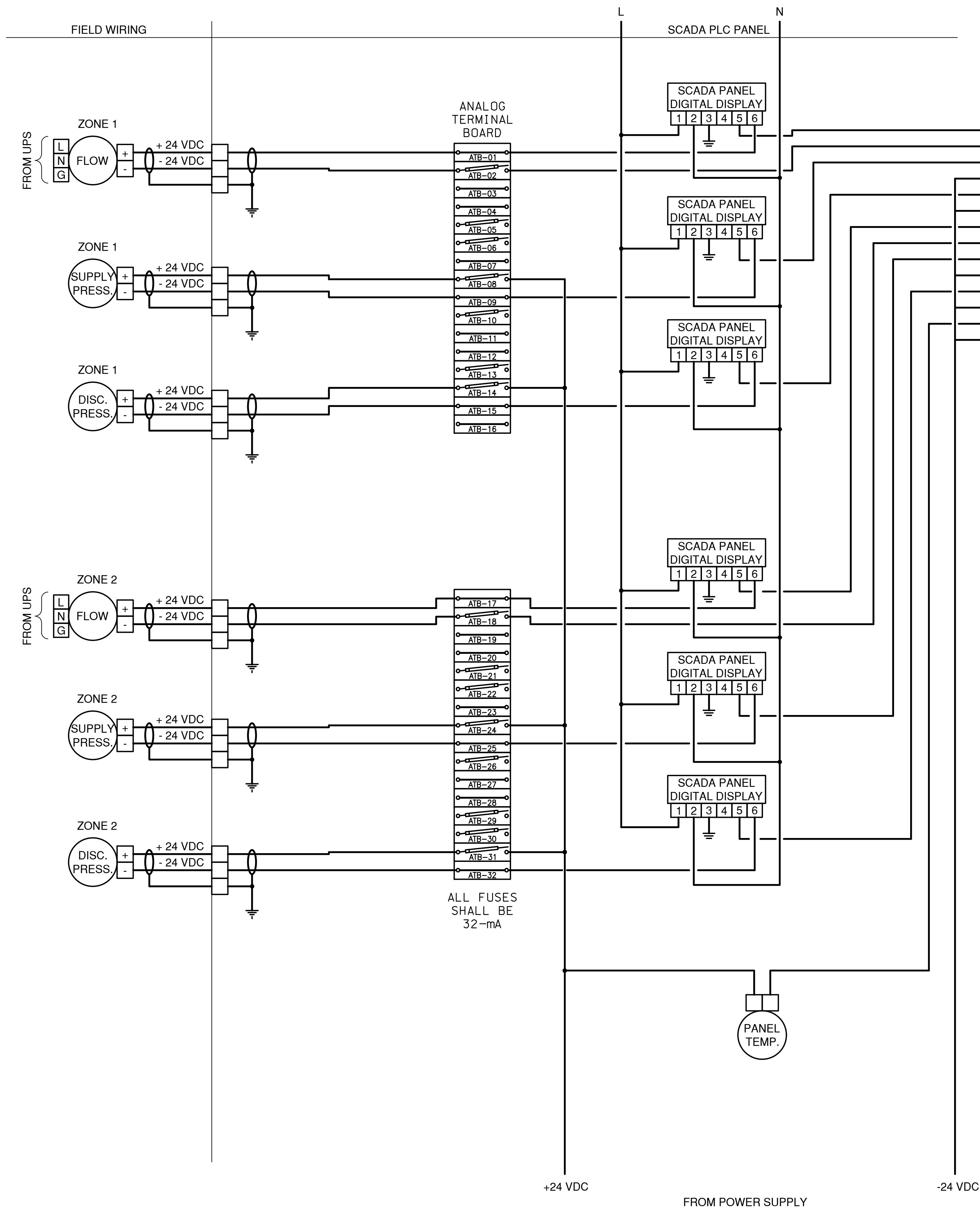
SAN ANTONIO, TX

ELECTRICAL SCHEDULES

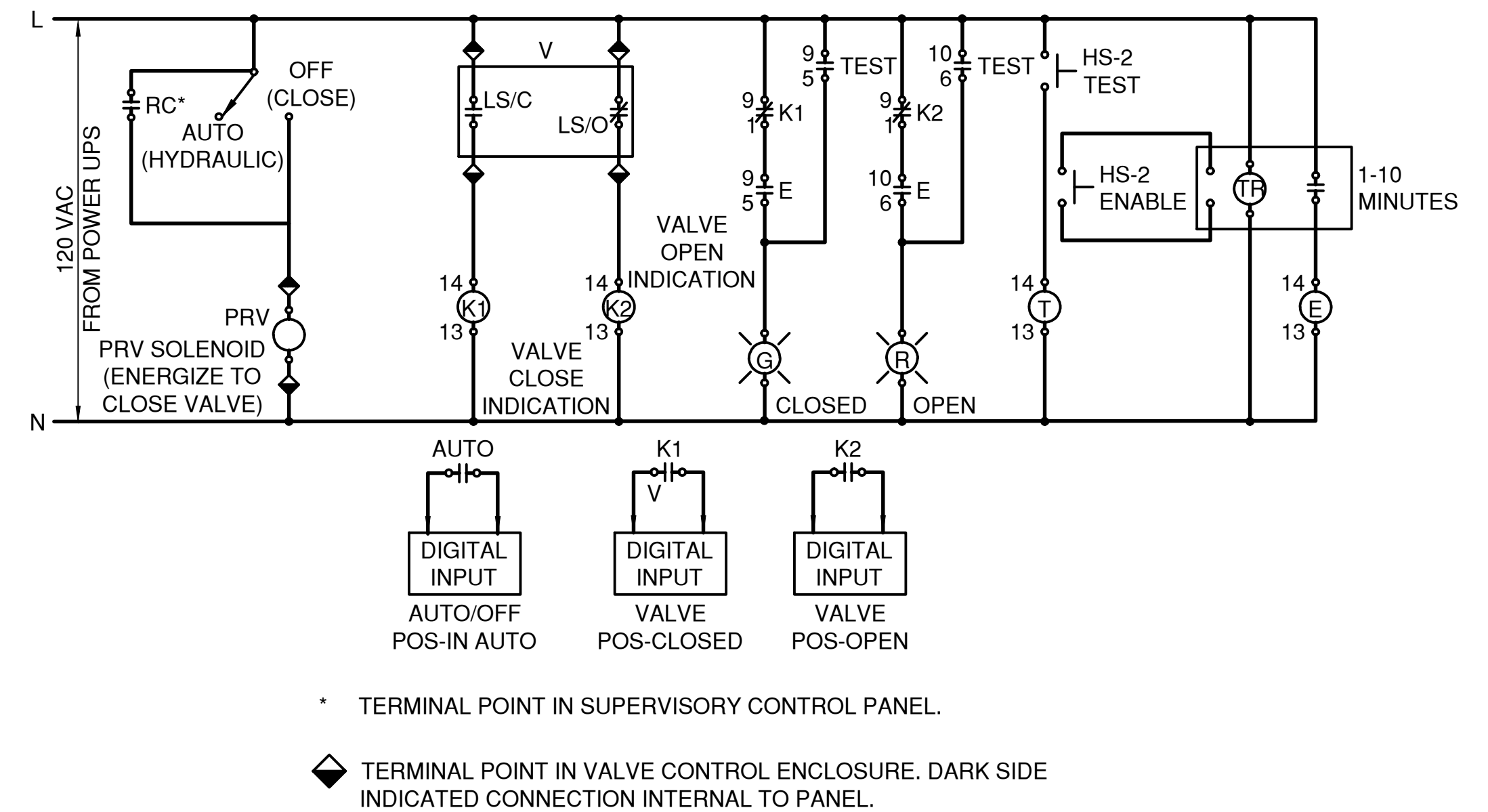
SHEET 1

PLAT NO.	
JOB NO.	12934-00
DATE	MARCH 2024
DESIGNER	C.S.
CHECKED	J.C.
DRAWN	C.S.
SHEET	E-04

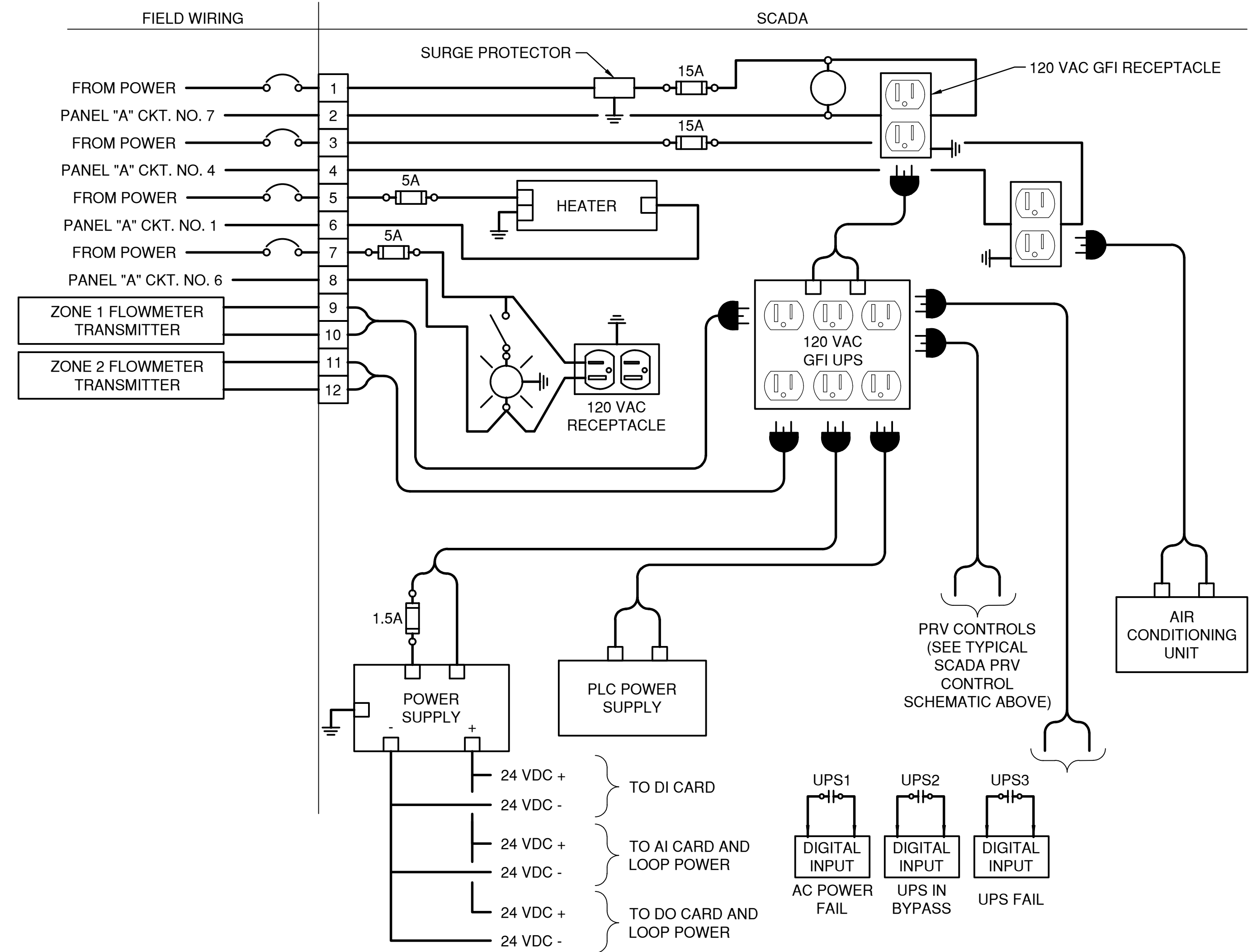
Issue: Mar 14, 2024, 8:29am User: JB - Connors
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SCADA ANALOG INPUT WIRING DIAGRAM
N.T.S.



TYPICAL SCADA PRV CONTROL SCHEMATIC
N.T.S.



SCADA POWER DISTRIBUTION DIAGRAM
N.T.S.

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REVISION	



**PAPE-DAWSON
ENGINEERS**

SAN ANTONIO, I. AUSTIN, I. HOUSTON, I. FORT WORTH, I. DALLAS
2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000
TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

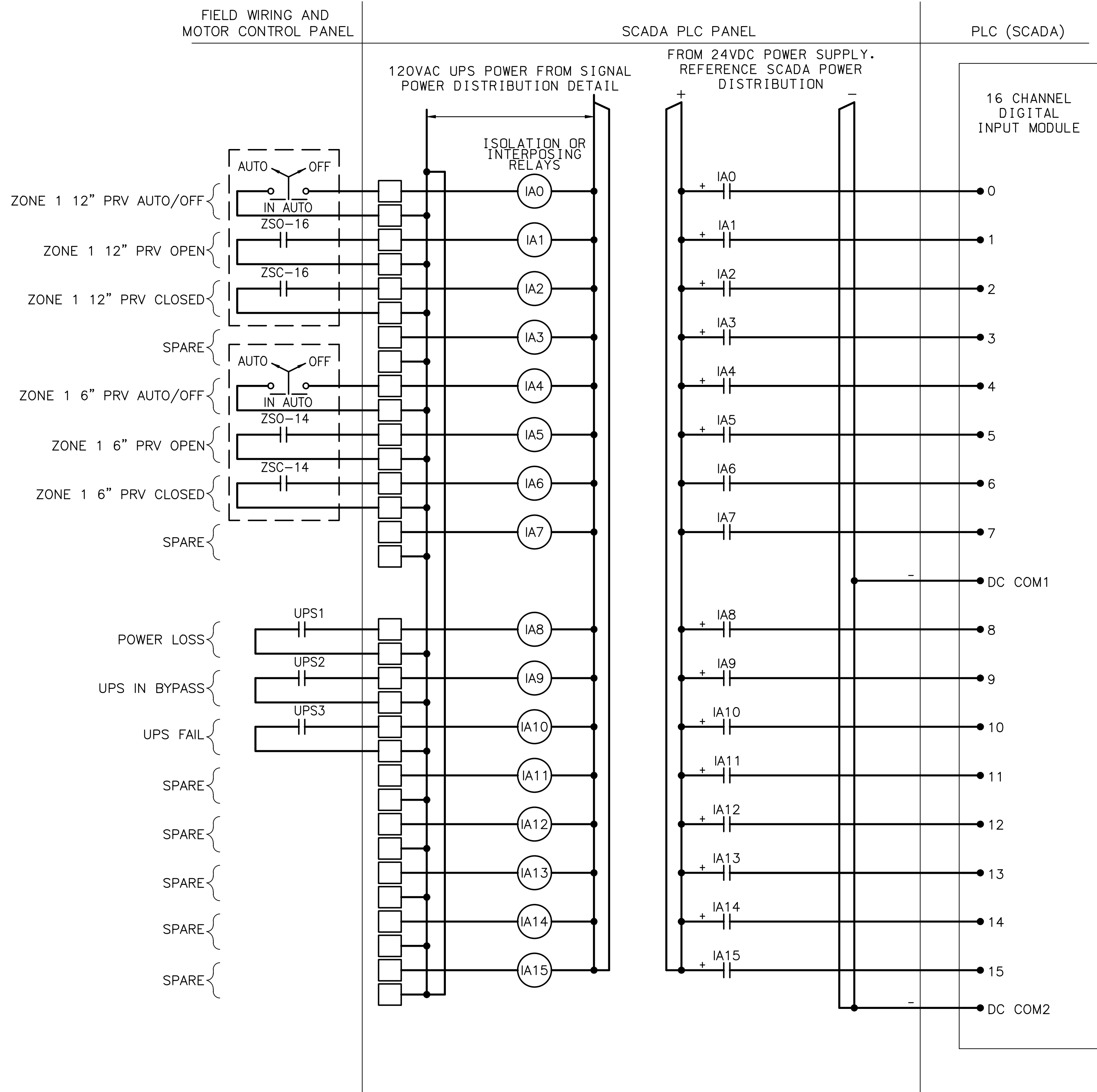
440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX

**ELECTRICAL SCADA WIRING
DIAGRAMS**

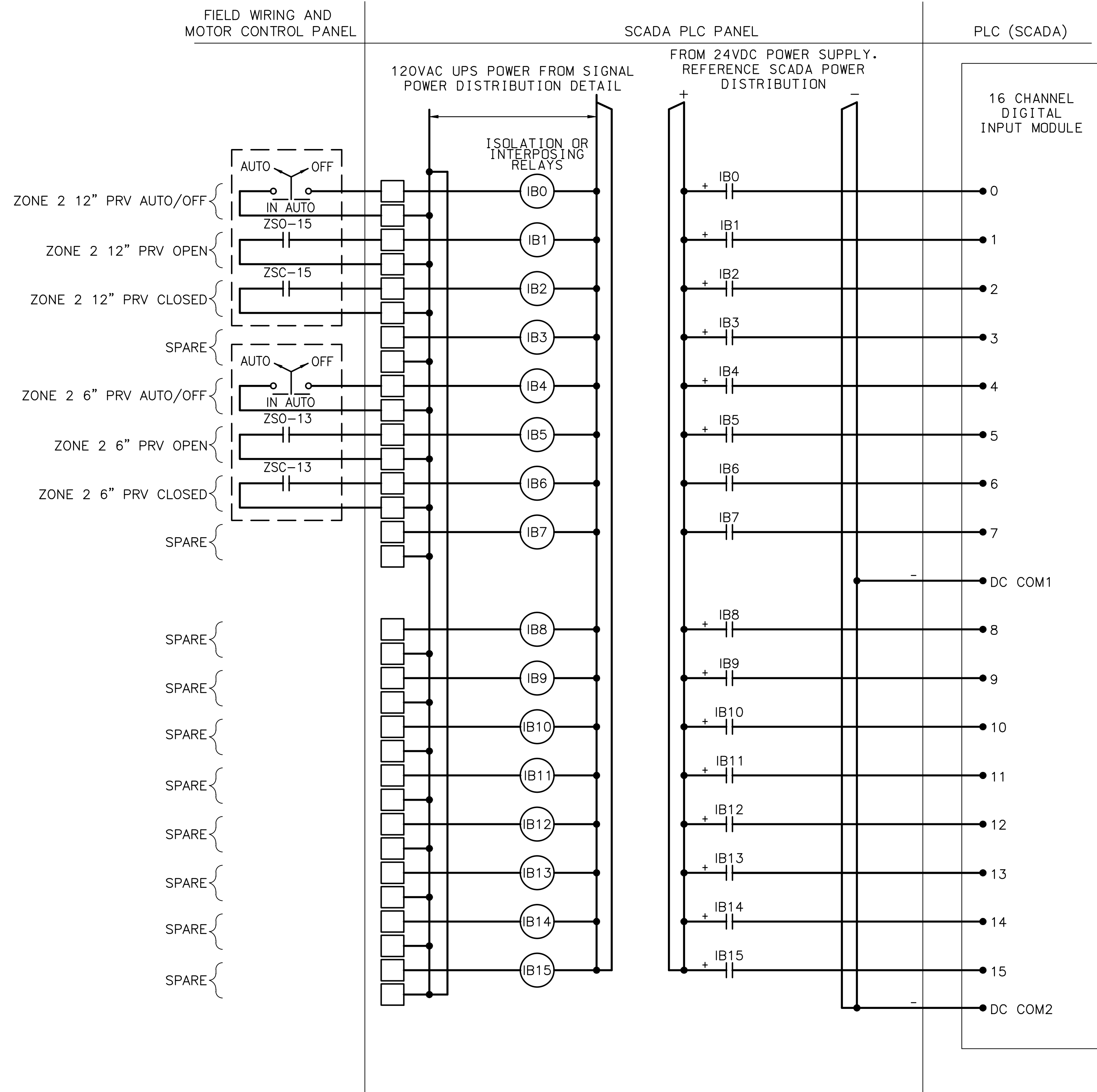
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PLAT NO.	
JOB NO.	12934-00
DATE	MARCH 2024
DESIGNER	C.S.
CHECKED	J.C. DRAWN C.S.
SHEET	E-05

Date: Mar 14, 2024, 8:29am User: J.C. Connors
File: T:\2024\5\NEIS\232258 E-66 EDC.dwg



SCADA DIGITAL INPUT MODULE "A"



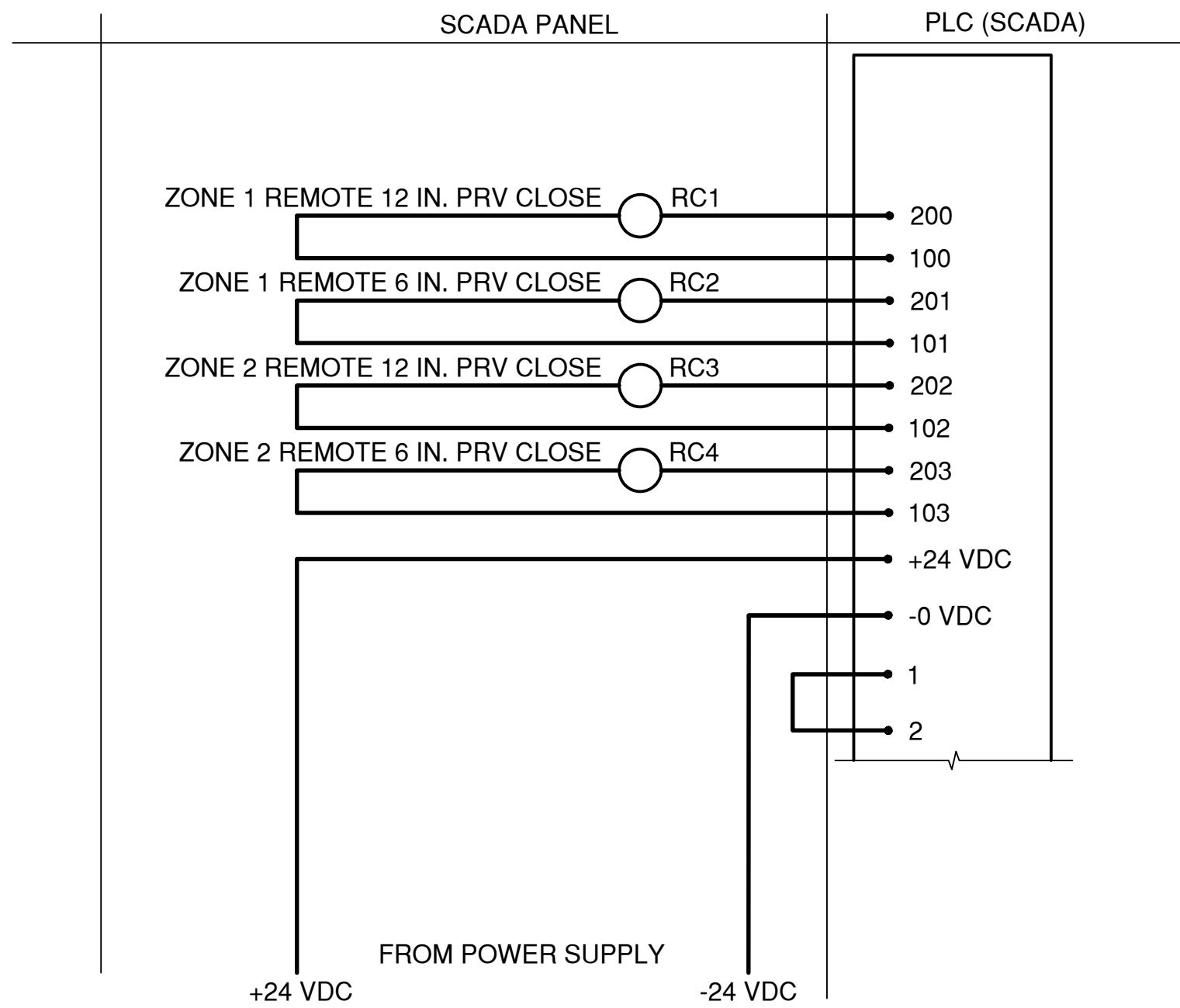
SCADA DIGITAL INPUT MODULE "B"

DIGITAL INPUT NOTES:

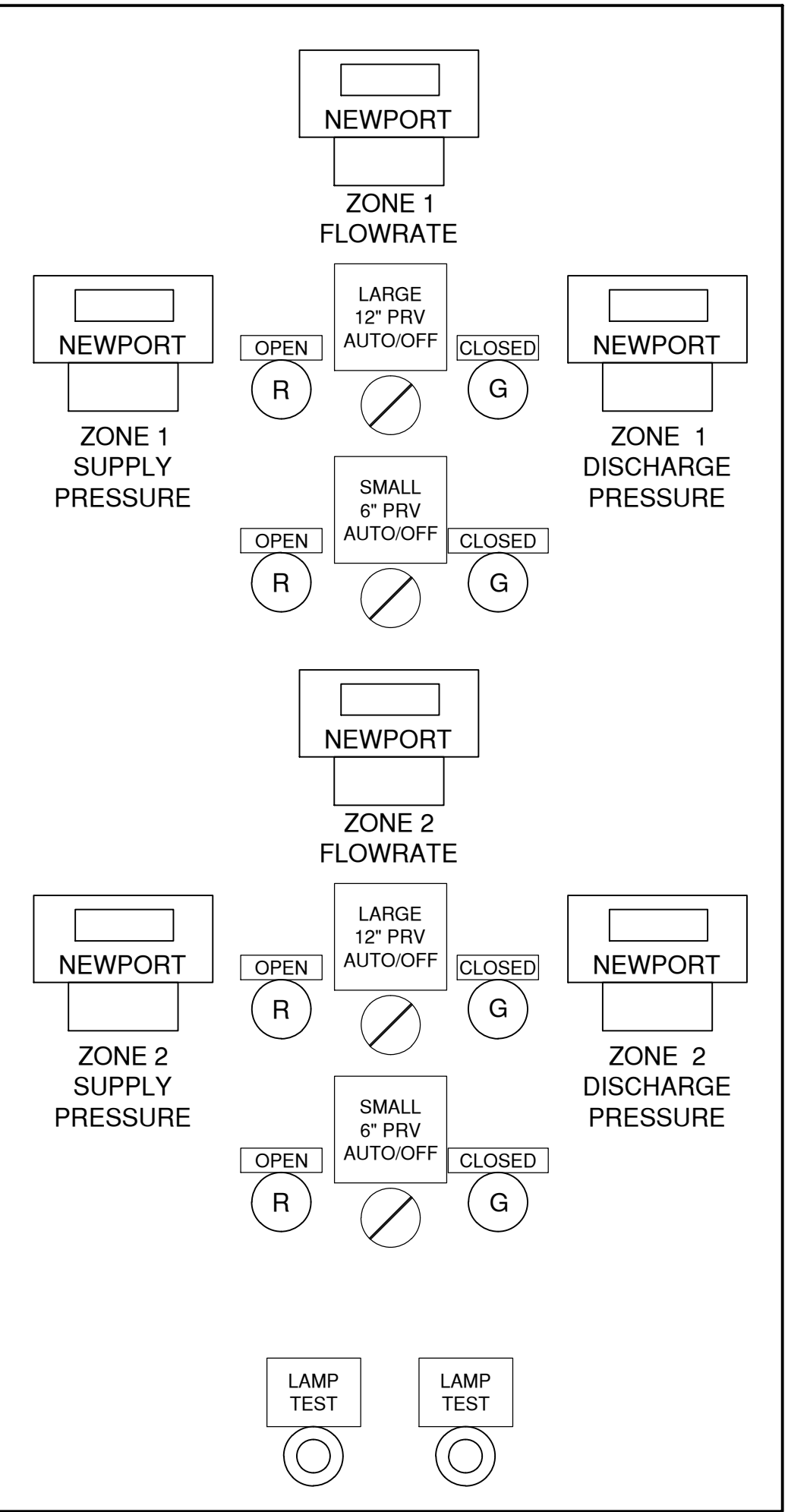
1. INPUT SIGNALS SHALL BE DE-ENERGIZED (0) FOR ANY NORMAL CONDITION, AND EQUIPMENT AT REST. INPUT SIGNALS SHALL BE ENERGIZED (1) FOR ANY ALARM CONDITION AND FOR EQUIPMENT OPERATING.

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NO.	
REVISION	

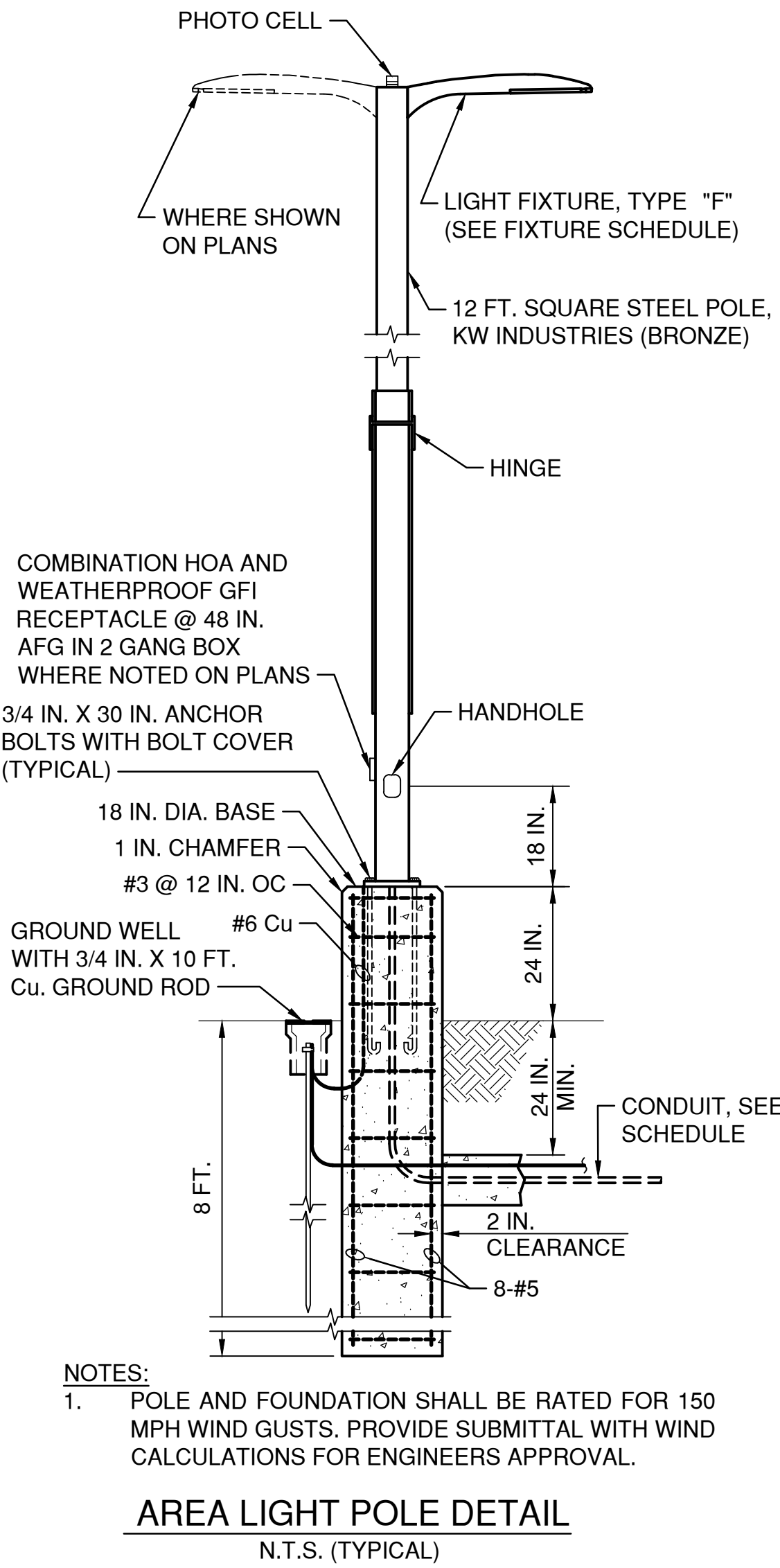
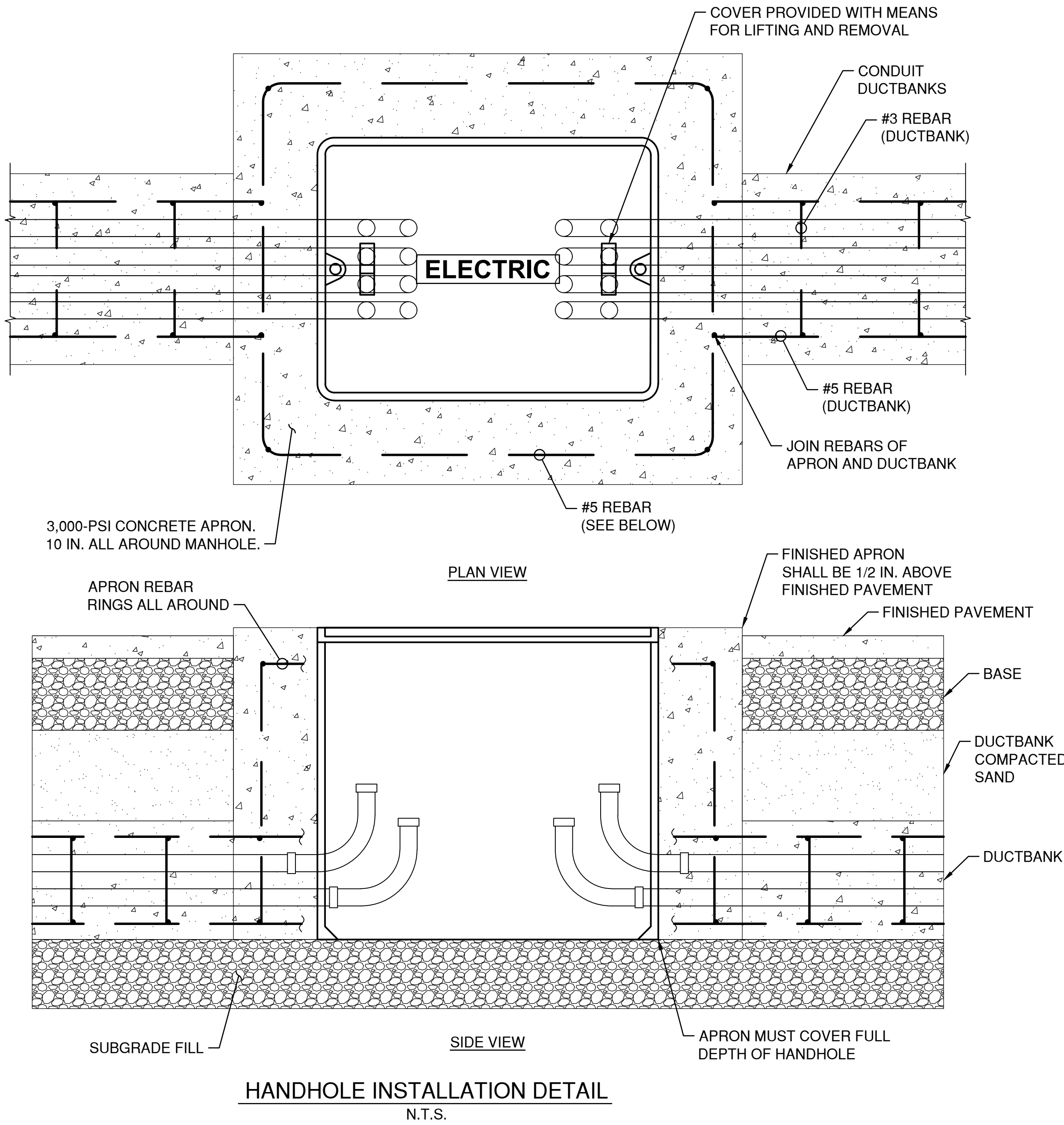
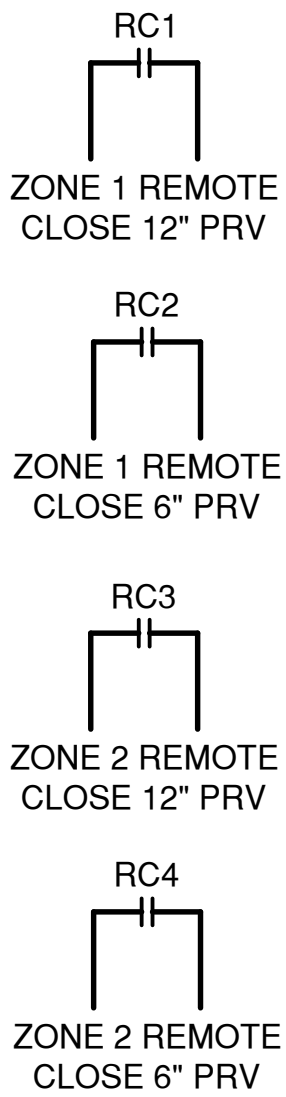




SCADA DIGITAL OUTPUT WIRING DIAGRAM
N.T.S.



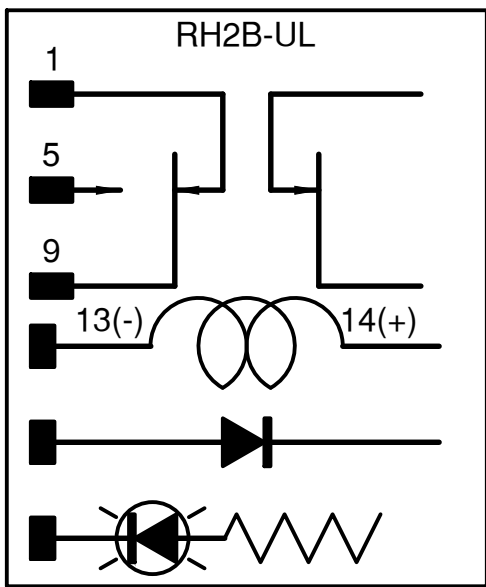
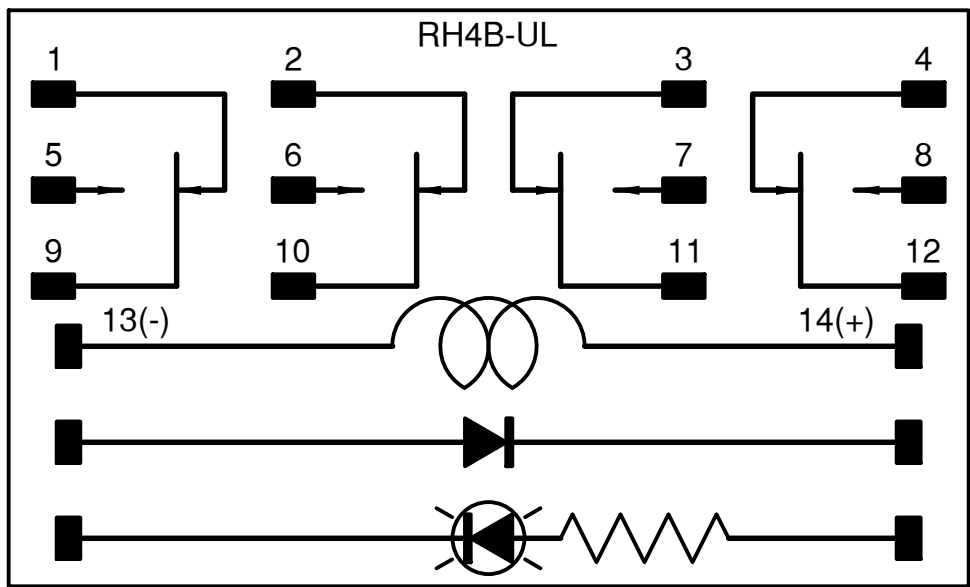
SCADA: SWING-OUT PANEL LAYOUT
SCALE: N.T.S.



NOTES:
1. POLE AND FOUNDATION SHALL BE RATED FOR 150 MPH WIND GUSTS. PROVIDE SUBMITTAL WITH WIND CALCULATIONS FOR ENGINEERS APPROVAL.

VALVE LIMIT SWITCHES			
ROTOR	100% OPEN	TRANSITION	100% CLOSED
LS/0			

— INDICATES CLOSED CONTACT



DATE	
NO.	
REVISION	



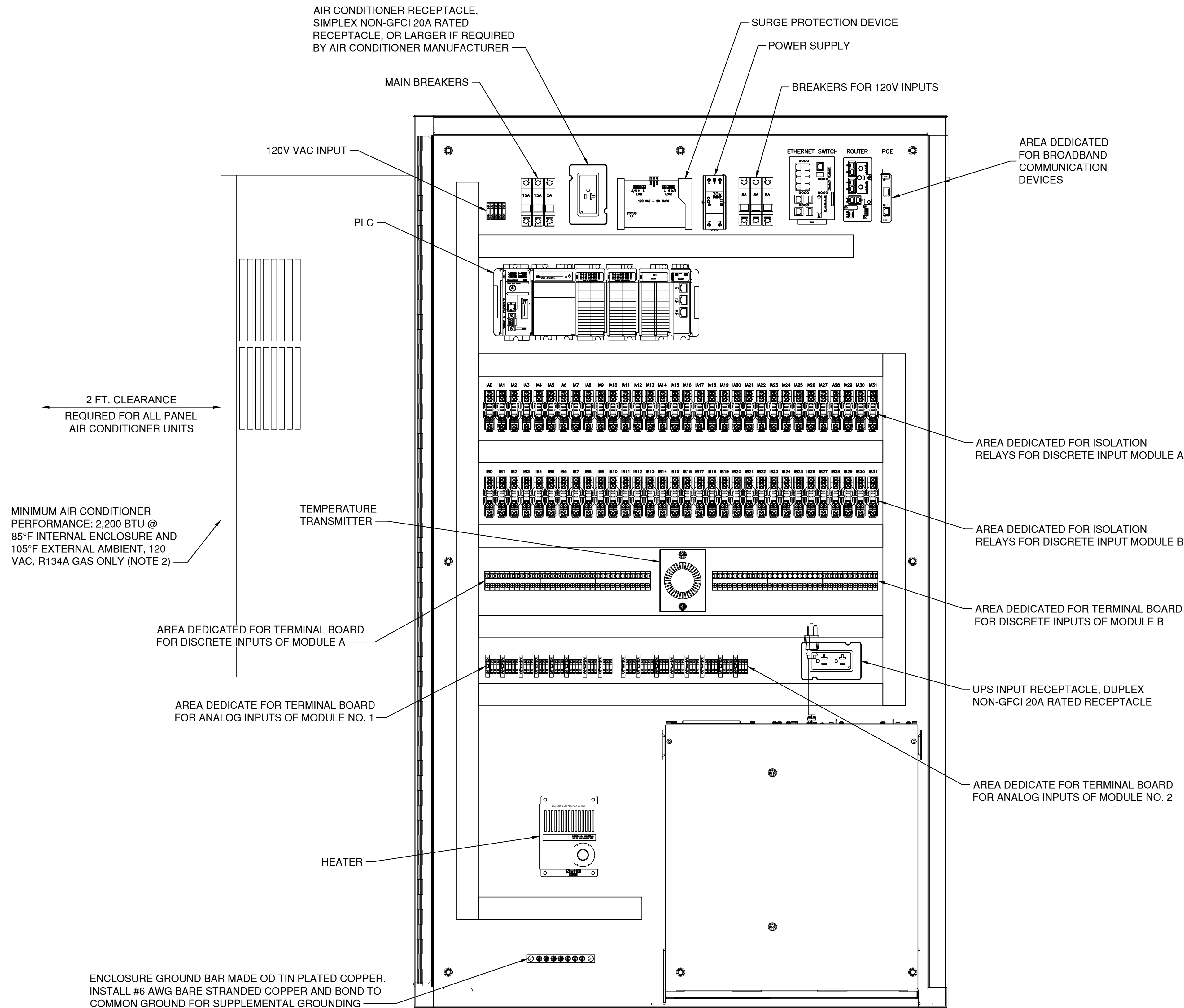
PAPE-DAWSON ENGINEERS
SAN ANTONIO, TX
AUSTIN, TX
HOUSTON, TX
FORT WORTH, TX
DALLAS, TX
2000 NW LOOP 410 | SAN ANTONIO, TX 78213 | 210.375.9000
TEXAS ENGINEERING FIRM #470 | TEXAS SURVEYING FIRM #10028800

440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX
ELECTRICAL SCADA WIRING
DIAGRAMS 2

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PLAT NO.	
JOB NO.	12934-00
DATE	MARCH 2024
DESIGNER	C.S.
CHECKED	J.C.
DRAWN	C.S.
SHEET	E-07

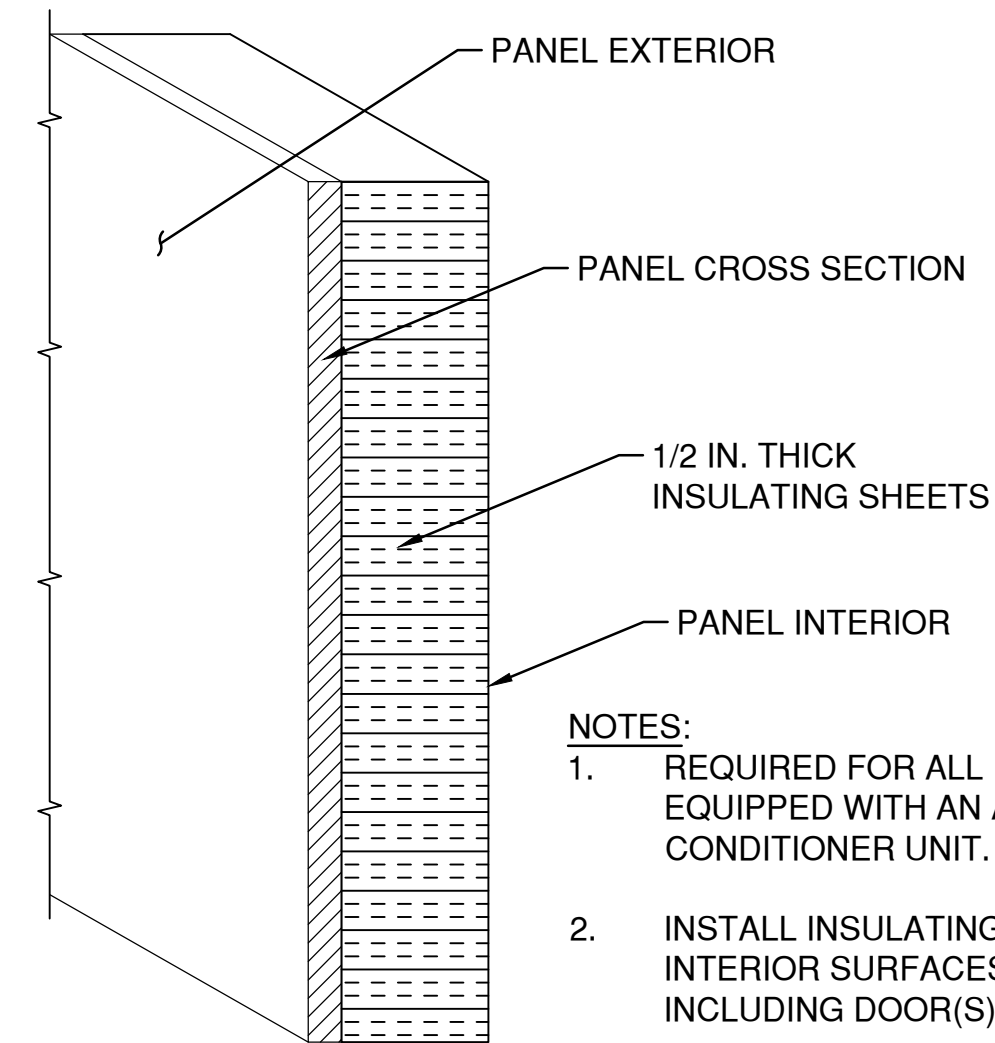
Issue: Mar. 14, 2024, 8:33am User: JB - Conners
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- NOTES:
1. MINIMUM ENCLOSURE DIMENSIONS: 60 IN. H. x 36IN. W. x 16 IN. D.
 2. SEAL AIR CONDITIONER UNIT PENETRATIONS WITH APPROVED MEANS TO MAINTAIN THE ENCLOSURE NEMA 4X CATEGORY.

CONTROLS CABINET INTERIOR PANEL LAYOUT DETAIL
N.T.S.

- GENERAL NOTES:
1. USE SUBMERSIBLE LEVEL TRANSDUCER FOR WET WELL LEVEL CONTROL. A WEIGHT MADE OF SOLID STAINLESS STEEL 316 SHALL BE SOLIDLY FASTENED TO THE INSTRUMENT, PER DETAILS SHOWN ON THESE DRAWINGS.
 2. ALL INSTRUMENT SIGNAL CABLES (SHIELDED CABLES) SHALL BE CONTINUOUS WITHOUT SPLICES.
 3. THE UNINTERRUPTIBLE POWER SUPPLY SHALL BE INSTALLED WITHIN THE SCADA ENCLOSURE WITHOUT INTERFERING WITH ACCESS TO TERMINAL STRIPS, RELAYS, SPACE HEATER OR ANY OTHER TYPE OF DEVICE.
 4. THE ENCLOSURE TEMPERATURE TRANSDUCER SHALL BE PROVIDED WITH RTD TO COVER A TEMPERATURE RANGE OF 0 TO 150°F.
 5. ENCLOSURE SHALL BE RATED NEMA 4X, BE MADE OF STAINLESS STEEL 316 AND SHALL BE WHITE ENAMELED COATED.
 6. SPACE HEATER SHALL BE PROVIDED WITH MINIMUM SAFETY CLEARANCES INDICATED BY MANUFACTURER TO PREVENT DAMAGE DUE TO CLOSENESS TO HEATER.
 7. WHEN AN ETHERNET IP SWITCH OR ROUTER IS REQUIRED, IT SHALL BE INSTALLED IN THE PLC AND RADIO AREA.
 8. ISOLATION RELAYS AND ASSOCIATED TERMINAL BOARDS FOR ANALOG AND DISCRETE INPUT MODULES #2 SHALL NOT BE PROVIDED, UNLESS THE DESIGN SPECIFICALLY REQUIRES A SECOND INPUT MODULE.
 9. INSTALL ONE ISOLATION RELAY FOR EACH DISCRETE INPUT PROVIDED PER EACH MODULE INSTALLED. EACH DISCRETE INPUT LOOP SHALL BE PRE WIRED FROM TERMINAL BOARD, TO ISOLATION RELAY TO MODULE INPUT CHANNEL. SIMILARLY, INSTALL ONE FUSED TERMINAL BOARD WITH A 32-mA FUSE AND ASSOCIATED NEGATIVE AND GROUND TERMINAL BOARDS FOR EACH ANALOG INPUT CHANNEL PROVIDED BY THE MODULE AND ALSO PRE WIRE THE ANALOG LOOPS.
 10. THE ENCLOSURE DOOR SHALL BE PROVIDED WITH AN INTERNAL FOLDING TABLE, AND A POCKET TO STORE WIRING DIAGRAMS AND O&M INFORMATION.



CLIMATE CONTROLLED
PANEL INSULATION DETAIL
N.T.S.

DATE	
NO.	
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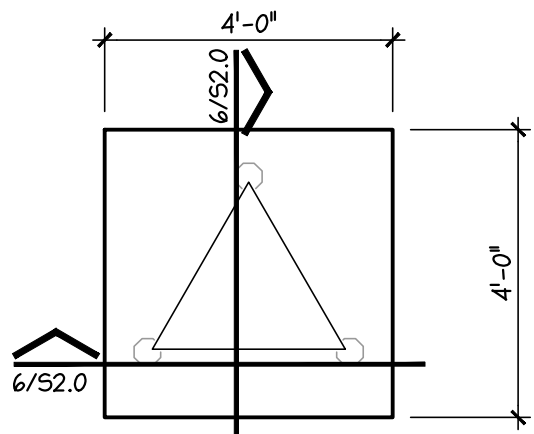


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TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

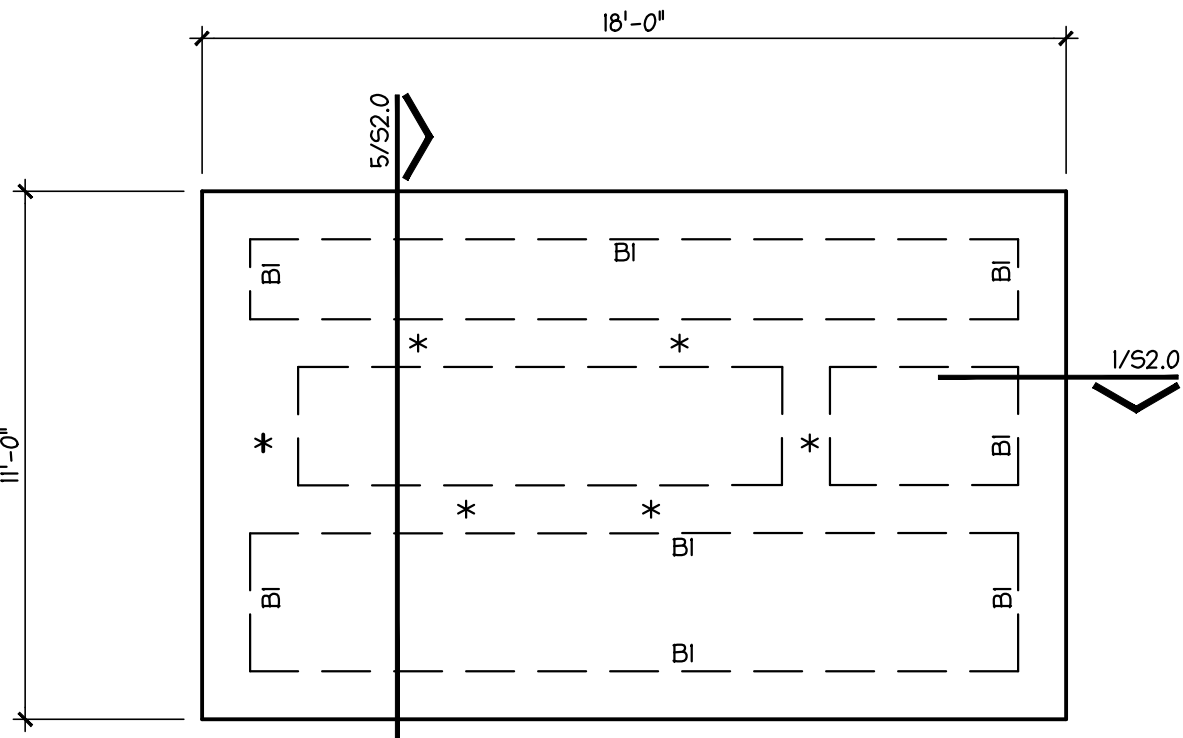
440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX
CONTROLS CABINET DETAILS

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PLAT NO. _____
JOB NO. 12934-00
DATE MARCH 2024
DESIGNER C.S.
CHECKED J.C. DRAWN C.S.
SHEET E-09



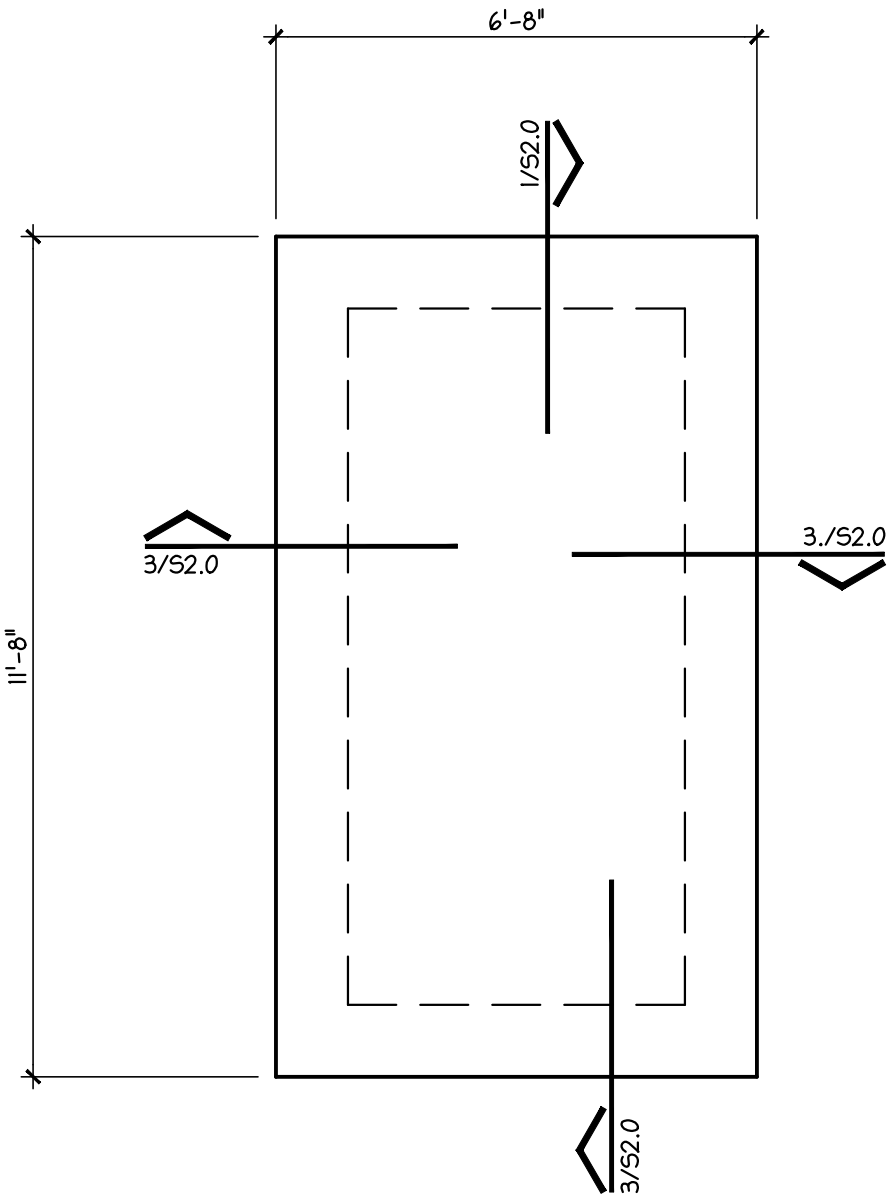
SCADA TOWER FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



PRV FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



- PLAN NOTES:
1. BI - REF. GRADE BEAM SCHEDULE ON SHEET S2.0
 2. T.O.C.=? DENOTES TOP OF CONCRETE ELEVATION RELATIVE TO STRUCTURAL DATUM
 3. * INDICATES PIPE SUPPORT LOCATION, REF CIVIL



ELECTRICAL ENCLOSURE FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



CONCRETE NOTES:

CN-1 ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 "SPECIFICATION FOR STRUCTURAL CONCRETE BUILDINGS" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."

CN-2 CONSTRUCTION TOLERANCES SHALL CONFORM TO ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS."

CN-3 CONTRACTOR SHALL SUBMIT THE FOLLOWING SHOP DRAWINGS:

REINFORCING STEEL -- DETAILING FABRICATION AND ERECTION OF ALL REINFORCING BARS INCLUDING ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE."

CONCRETE MIX DESIGN -- FOR EACH TYPE OF CONCRETE TO BE USED BASED ON AGGREGATE SIZE AND CEMENT PROPORTION. MIX DESIGN SHALL INCLUDE CERTIFICATION OF COMPLIANCE WITH SPECIFIED MATERIALS BASED ON FIELD SAMPLES AND COMPRESSION TEST DATA FOR LABORATORY PREPARED TRIAL MIX OR FIELD TEST DATA FOR SPECIFIED MIX. FIELD TEST DATA SHALL BE FROM AN IDENTICAL MIX DESIGN SUPPLIED FROM PROPOSED BATCH PLANT AND SHALL HAVE BEEN PREPARED WITHIN THE PRECEDING SIX MONTHS.

CN-4 CONTRACTOR SHALL DESIGN, CONSTRUCT, ERECT, SHORE, BRACE AND MAINTAIN FORM WORK ACCORDING TO ACI 301. WOOD FORM WORK SHALL BE #2 COMMON OR BETTER PLYWOOD, EXPOSED SURFACES SHALL BE NEW OR LIKE NEW MOISTURE RESISTANT FIRM PLYWOOD. LIGHTLY COAT FORMS WITH NON-STAINING FORM OIL, REMOVE SURPLUS OIL.

CN-5 REINFORCING STEEL SHALL BE DOMESTIC NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60, EXCEPT TIES AND STIRRUPS MAY BE GRADE 40. BARS DESIGNATED AS CONTINUOUS SHALL BE LAPPED 48 BAR DIAMETERS, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE LAPPED 8" MINIMUM AT SPLICE POINTS OR 1 1/2 MESHES, WHICHEVER IS GREATER.

CN-6 PORTLAND CEMENT SHALL COMPLY WITH ASTM C-150, TYPE 1. FLY ASH SHALL CONFORM TO ASTM C-618. NORMAL WEIGHT AGGREGATE SHALL COMPLY WITH ASTM C33. WATER SHALL BE POTABLE AND COMPLY WITH ASTM C1602. ADMIXTURES SHALL COMPLY WITH THE FOLLOWING PROVISIONS: WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494, PRODUCING FLOWING CONCRETE: ASTM C1017, AIR ENTRAINMENT: ASTM C260, INHIBITING CHLORIDE-INDUCED CORROSION: ASTM C1582.

CN-7 CONCRETE SHALL BE NORMAL WEIGHT, LABORATORY DESIGNED TO DEVELOP MINIMUM SPECIFIED 28 DAY COMPRESSIVE STRENGTH AND PROPORTIONED AS FOLLOWS:

CONCRETE MIXTURE REQUIREMENTS					
APPL.	DESIGN STRN, f _c	w/cm RATIO	MAX AGGR. SIZE	AIR ENTR.	EXPOSURE CLASS
SLAB ON GRADE	3000	NA	1 1/2	NA	NA

w/cm RATIOS NOT SPECIFIED SHALL BE AS REQUIRED TO ACHIEVE DESIGN STRENGTH
IF AN EXPOSURE CLASS IS SPECIFIED, PROVIDE MIX DESIGNS PER ACI 301

CN-8 ALL REINFORCING STEEL SHALL BE FREE OF RUST, SCALE, AND DRIED CONCRETE, AND SHALL BE ACCURATELY BENT AND SECURELY TIED INTO POSITION TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. RAISING REINFORCEMENT DURING POUR WILL NOT BE PERMITTED.

CN-9 CONCRETE COVER SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

- A. CONCRETE CAST AGAINST EARTH -- 3"
- B. CONCRETE EXPOSED TO EARTH OR WEATHER: BARS 3/4" AND LARGER IN DIAMETER -- 2 INCHES BARS SMALLER THAN 3/4" DIAMETER -- 1 1/2"
- C. CONCRETE NOT EXPOSED TO WEATHER OR GROUND: SLAB ON GRADE -- 1 1/2" FROM TOP OF SLAB

CN-10 SET AND BUILD ANCHORAGE AND OTHER EMBEDDED ITEMS INTO FORM WORK AS REQUIRED FOR OTHER WORK THAT IS ATTACHED TO OR SUPPORTED BY CONCRETE. COORDINATE WITH OTHER DISCIPLINES.

CN-11 CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 "STANDARD SPECIFICATION FOR READY-MIXED CONCRETE."

CN-12 CONCRETE WHEN DEPOSITED SHALL HAVE A TEMPERATURE NOT BELOW 50°F OR ABOVE 90°F. APPROPRIATE MEASURES SHALL BE TAKEN TO MAINTAIN TEMPERATURE RANGE AND PREVENT WATER EVAPORATION FOR 5 DAYS AFTER PLACEMENT. SALT OR OTHER CHEMICALS SHALL NOT BE ADDED TO PREVENT FREEZING.

CN-13 CONCRETE SHALL BE CONVEYED TO AND DEPOSITED IN FORM WORK NEAR ITS FINAL POSITION, WITH A FREE VERTICAL DROP NOT EXCEEDING 3 FEET. PLACE CONCRETE IN 12 INCH MAXIMUM LAYERS AND COMPACT EACH LAYER BY MECHANICAL VIBRATING.

CN-14 CONSTRUCTION JOINTS IN MONOLITHIC FRAMING SHALL HAVE PRIOR APPROVAL OF THE ARCHITECT/ENGINEER, U.N.O.

CN-15 SCREENING, RE-STRAIGHTENING, AND FINISHING OPERATIONS SHALL COMPLY WITH ACI 302.1R. COORDINATE ALL FINISHES WITH ARCHITECTURAL DRAWINGS AND FLOOR FINISH REQUIREMENTS. CAREFULLY TOOL ALL EXPOSED EDGES.

CN-16 CURE CONCRETE FOR AT LEAST SEVEN DAYS BY MOISTURE CURING, SEALED MOISTURE RETAINING COVER CURING, OR A CLEAR WATERBORNE CURING COMPOUND CONFORMING TO ASTM C309.

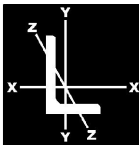
CN-17 SIDE FORMS MAY BE REMOVED AFTER CUMULATIVE CURING AT NOT LESS THAN 50°F FOR 24 HOURS AFTER PLACING CONCRETE. SOFFITS OF SUSPENDED CONCRETE MAY BE REMOVED AFTER CURING FOR AT LEAST SEVEN DAYS AND COMPRESSIVE TEST RESULTS INDICATE AT LEAST 75% OF SPECIFIED DESIGN STRENGTH. RESHORE AS REQUIRED FOR CONSTRUCTION LOADS.

CN-18 PATCH HONEYCOMB, TIE HOLES, AND MINOR DEFECTS WITH ONE PART CEMENT AND TWO PARTS SAND IMMEDIATELY AFTER REMOVING FORMS.

CN-19 EXPOSED CONCRETE SHALL BE RUBBED WITH CARBORUNDUM BRICKS AND WATER AFTER 48 HOURS BUT BEFORE ONE WEEK. PLASTERING SURFACES WILL NOT BE PERMITTED.

CN-20 NOTIFY ENGINEER WHEN FORM WORK AND REINFORCING IS IN PLACE SO ENGINEER CAN OBSERVE REINFORCING STEEL PRIOR TO ALL CONCRETE POURS.

CN-21 INDEPENDENT TESTING LABORATORY SHALL TAKE SAMPLES AND PERFORM SLUMP AND COMPRESSION TESTS PER ASTM C-39 ON CONCRETE PLACED EACH DAY AT THE RATE OF ONE SET OF FOUR CYLINDERS FOR EACH 80 CU. YDS. OR FRACTION THEREOF WITH A MINIMUM INTERVAL OF 50 CU. YDS. BETWEEN SAMPLES.



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TX Firm Reg. No. F-5298

GENERAL NOTES:

GN-1 THIS STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (2015) AS AMENDED AND ADOPTED BY THE CITY OF _____ AND APPLICABLE INDUSTRY STANDARDS (ASC, ACI, ETC.).

GN-2 DESIGN CRITERIA:
DEAD LOADS -- THE WEIGHT OF THE MATERIALS FORMING THE PERMANENT PART OF THE BUILDING. A SUPERIMPOSED DEAD LOAD OF 5 PSF HAS BEEN APPLIED FOR MECHANICAL DUCTS, CONDUITS, CEILING, ETC.

LIVE LOADS - IN ACCORDANCE WITH IBC SECTION 1607

FLOORS:	LOADS
MECHANICAL	150 PSF
ROOFS:	LOADS

LIVE LOADS REDUCTIONS - FLOORS IN ACCORDANCE WITH IBC SECTION 1607.9

LIVE LOADS REDUCTIONS - ROOFS IN ACCORDANCE WITH IBC SECTION 1607.11

WIND LOADS - PER IBC SECTION 1609

ULTIMATE DESIGN WIND SPEED (3 SECOND GUST), V-ult	108 MPH
NOMINAL DESIGN WIND SPEED, V-nsd	84 MPH
EXPOSURE CATEGORY	B
RISK CATEGORY	II
SNOW LOADS - PER IBC SECTION 1608	5 PSF

EARTHQUAKE LOADS - PER IBC SECTIONS 1613

GN-3 THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. CONTRACTOR SHALL CONSIDER ALL LOADS APPLIED TO THE PARTIALLY COMPLETED STRUCTURE AND PROVIDE TEMPORARY BRACING AS REQUIRED UNTIL ALL PERMANENT CONNECTIONS ARE MADE. ANY PROPOSED APPLICATION OF CONSTRUCTION LOADS WHICH EXCEED THE DESIGN LOADS WILL REQUIRE REANALYSIS AND PROBABLE REDESIGN.

GN-4 THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY INTEC (PROJECT NO. S231712, JUNE 5, 2023). THE GEOTECHNICAL ENGINEERING STUDY REPORT INCLUDES OTHER RECOMMENDATIONS THAT EFFECT THE LONG TERM PERFORMANCE OF THE FOUNDATION WHICH ARE BEYOND THE SCOPE OF LEHMANN ENGINEERING'S SERVICES. THE CONTRACTOR AND OWNER SHALL REVIEW THE SOILS REPORT AND IMPLEMENT RECOMMENDATIONS PROVIDED WITH (I.E. LANDSCAPING VEGETATION, ROOT BARRIERS, SITE DRAINAGE, ROOF DRAINS, SOIL MOISTURE MAINTENANCE, ETC.)

GN-5 PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR AND FABRICATOR SHALL VERIFY ALL QUANTITIES, DIMENSIONS AND CONDITIONS AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

GN-6 VERIFY REQUIREMENTS OF OTHER TRADES (MECHANICAL, ELECTRICAL, ETC.) PRIOR TO PROCEEDING WITH FABRICATION OR INSTALLATION OF MATERIALS.

GN-7 UTILITIES PENETRATING BUILDING SHALL BE FLEXIBLE, USING SLEEVE JOINTS, BENDS, LOOPS, ETC. TO PERMIT MOVEMENTS DUE TO EXPANSIVE UNDERLYING SOILS.

GN-8 THE DETAILS DESIGNATED AS "TYPICAL DETAILS", APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN DETAILS.

GN-9 COMPLETED SHOP DRAWINGS SHALL BE PROVIDED FOR FABRICATED ITEMS, REFERENCE INDIVIDUAL SECTIONS FOR SPECIFIC REQUIREMENTS. SUBMIT A MINIMUM OF FOUR COPIES OF EACH SUBMITTAL WITH ADDITIONAL COPIES AS DIRECTED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR AND SUBMITTED THROUGH THE ARCHITECT/ENGINEER PRIOR TO FABRICATION. THE STRUCTURAL DRAWINGS ARE COPYRIGHTED AND SHALL NOT BE REPRODUCED FOR SHOP DRAWINGS.

GN-10 CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER AT LEAST 24 HOURS IN ADVANCE OF ANY CONCRETE POUR OR OTHER ACTION THAT WILL COVER UP STRUCTURAL ELEMENTS SO THE ENGINEER CAN CONDUCT PERIODIC SITE OBSERVATIONS AS REQUIRED TO PROVIDE A FINAL LETTER OF GENERAL COMPLIANCE TO THE OWNER AND/OR BUILDING AUTHORITY. PERIODIC SITE OBSERVATIONS ARE SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND ARE NOT INTENDED TO BE A COMPREHENSIVE OR EXHAUSTIVE CHECK OF THE QUALITY AND/OR QUANTITY OF THE WORK. THESE OBSERVATIONS DO NOT CONSTITUTE THE SPECIAL INSPECTION REQUIREMENTS OF THE IBC SECTION 1704.

GN-11 THE ENGINEER SHALL NOT HAVE CONTROL OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

GN-12 THE OWNER SHALL EMPLOY AN INDEPENDENT TESTING LABORATORY TO PERFORM CONSTRUCTION MATERIALS TESTING FOR THE PROJECT. REFERENCE SPECIFIC SECTIONS FOR TESTING REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER OF THIS REQUIREMENT AND COORDINATE THESE SERVICES AS NECESSARY THROUGHOUT THE PROCESS OF CONSTRUCTION.

GN-13 ASSUMPTIONS HAVE BEEN MADE BY THIS OFFICE REGARDING EXISTING CONDITIONS. ACTUAL CONDITIONS MAY VARY FROM THOSE ASSUMED. THE CONTRACTOR IS TO REPORT ANY SUCH DISCREPANCIES TO THE ENGINEER FOR POSSIBLE MODIFICATIONS NEEDED TO THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH FURTHER WORK.

PAPE-DAWSON ENGINEERS

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TEXAS ENGINEERING FIRM #470 | TEXAS SURVIVING FIRM #10088600

440 QUARRY IMPROVEMENTS PRV ASSEMBLIES
SAN ANTONIO, TX

PLAT NO. _____
JOB NO. 12934--00
DATE MAY 2023
DESIGNER AMS
CHECKED AMS DRAWN JR
SHEET S1.0

