



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**  
 PROJECT NO. PRJ000165  
 BID NO. 202305 CONTRACT ID NO. 23-0041-CIP  
**JANUARY 2023**

CITY COUNCIL

MAYOR

JOSH SCHROEDER

CITY COUNCIL MEMBERS

- AMANDA PARR DISTRICT 1
- SHAWN HOOD DISTRICT 2
- MIKE TRIGGS DISTRICT 3
- RON GARLAND DISTRICT 4
- KEVIN PITTS MAYOR PRO TEM / DISTRICT 5
- JAKE FRENCH DISTRICT 6
- BEN STEWART DISTRICT 7

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ASSISTANT CITY MANAGER

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NICK WOOLERY

WATER SERVICES UTILITY DIRECTOR

CHELSEA SOLOMON, P.E.

SYSTEMS ENGINEERING DIRECTOR

WESLEY WRIGHT, P.E.

UTILITY ENGINEER

DAVID MUNK, P.E.

SAN GABRIEL WWTP  
1107 N. COLLEGE ST  
GEORGETOWN, TX 78626



LOCATION PLAN  
NTS



AUSTIN, TEXAS  
**Transportation**

**CONFORMED DRAWINGS**



*[Signature]* 1-26-23  
 CITY OF GEORGETOWN, CIP MANAGER DATE

*[Signature]* 01/26/23  
 CITY OF GEORGETOWN, SYSTEM ENGINEERING DIRECTOR DATE

PREPARED BY:

*Alexandra T. Doozy* 1/26/23  
 CDM Smith TEXAS REGISTRATION NUMBER F-3043 DATE



**Water**

**Environment**

**Transportation**

**Energy**

**Facilities**

XREFs: [CDMS\_2234, REVW\_A\_D00DY-SEA], [IMAGES: []]  
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6	G	6	ABBREVIATIONS II
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15	SG-DA	1	SAN GABRIEL WWTP COARSE BAR SCREEN DEMOLITION PLAN AND SECTIONS
16	SG-DA	2	SAN GABRIEL WWTP INFLUENT LIFT STATION DEMOLITION LOWER AND UPPER PLAN
17	SG-DA	3	SAN GABRIEL WWTP INFLUENT LIFT STATION DEMOLITION PHOTOS
18	SG-DA	4	SAN GABRIEL WWTP INFLUENT LIFT STATION DEMOLITION ROOF PLAN
19	SG-DA	5	SAN GABRIEL WWTP INFLUENT LIFT STATION DEMOLITION SECTIONS
20	SG-DB	1	SAN GABRIEL WWTP GRIT CHAMBER DEMOLITION PLAN AND SECTIONS
21	SG-DC	1	SAN GABRIEL WWTP TREATMENT UNIT DEMOLITION PLAN
22	SG-DC	2	SAN GABRIEL WWTP TREATMENT UNIT DEMOLITION PHOTOS
23	SG-DD	1	SAN GABRIEL WWTP BLOWER AREA DEMOLITION PLAN AND SECTIONS
24	SG-DE	1	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK DEMOLITION PLAN
25	SG-DE	2	SAN GABRIEL WWTP SLUDGE DRYING BEDS DEMOLITION PLAN
26	SG-DE	3	SAN GABRIEL WWTP SLUDGE DRYING BEDS DEMOLITION DETAILS
27	SG-DF	1	SAN GABRIEL WWTP SODIUM BISULFITE DEMOLITION PHOTOS AND DETAILS
28	SG-DF	2	SAN GABRIEL WWTP SODIUM BISULFITE DEMOLITION PHOTOS
29	SG-DF	3	SAN GABRIEL WWTP ABANDONED HYDROPNEUMATIC TANK DEMOLITION PHOTO
30	SG-DG	1	SAN GABRIEL WWTP WET WEATHER STORAGE DEMOLITION PLAN

**CIVIL**

31	SG-C	1	SAN GABRIEL WWTP EXISTING SITE PLAN AND CONTROL SURVEY
32	SG-C	2	SAN GABRIEL WWTP PROPOSED SITE PLAN
33	SG-C	3	SAN GABRIEL WWTP GRADING AND PAVING PLAN
34	SG-C	4	SAN GABRIEL WWTP PLAN AND PROFILE
35	SG-C	5	SAN GABRIEL WWTP YARD PIPING PLAN NORTH
36	SG-C	6	SAN GABRIEL WWTP YARD PIPING PLAN SOUTH
37	SG-C	7	SAN GABRIEL WWTP TEMPORARY EROSION CONTROL PLAN AND CONTRACTOR STAGING AREA
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40	CZ	3	CIVIL DETAILS III
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44	SG-AI	1	ARCHITECTURAL COORDINATED ELECTRICAL HOUSES LIFE SAFETY PLANS
45	SG-AH	1	SAN GABRIEL WWTP ARCHITECTURAL ADMINISTRATION AND BLOWER BUILDING DEMOLITION AND MODIFICATION FLOOR PLANS
46	AZ	1	ARCHITECTURAL DOOR AND WINDOW SCHEDULE AND DETAILS

**STRUCTURAL**

47	S	1	STRUCTURAL DESIGN CRITERIA AND GENERAL NOTES
48	S	2	STRUCTURAL GENERAL NOTES, SYMBOLS AND ABBREVIATIONS
49	SG-SA	1	SAN GABRIEL WWTP COARSE BAR SCREEN IMPROVEMENTS PLAN, SECTIONS AND DETAILS
50	SG-SA	2	SAN GABRIEL WWTP INFLUENT LIFT STATION MODIFICATIONS FOUNDATION PLAN
51	SG-SA	3	SAN GABRIEL WWTP INFLUENT LIFT STATION MODIFICATIONS TOP PLAN
52	SG-SA	4	SAN GABRIEL WWTP INFLUENT LIFT STATION MODIFICATIONS SECTIONS
53	SG-SB	1	SAN GABRIEL WWTP GRIT CHAMBER MODIFICATIONS LOWER PLAN
54	SG-SB	2	SAN GABRIEL WWTP GRIT CHAMBER MODIFICATIONS UPPER PLAN AND SECTIONS
55	SG-SB	3	SAN GABRIEL WWTP GRIT CHAMBER MODIFICATIONS SECTIONS
56	SG-SB	4	SAN GABRIEL WWTP GRIT CHAMBER PLATFORM DETAILS AND SECTIONS
57	SG-SC	1	SAN GABRIEL WWTP AERATION BASIN MODIFICATIONS PLAN AND SECTIONS
58	SG-SC	2	SAN GABRIEL WWTP RAS METER VAULTS PLAN AND SECTION
59	SG-SD	1	SAN GABRIEL WWTP BLOWER IMPROVEMENTS PLAN AND SECTION
60	SG-SE	1	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK MODIFICATIONS - PLAN AND SECTION
61	SG-SF	1	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE AND FEED AREA PLANS
62	SG-SF	2	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE AND FEED AREA SECTIONS AND DETAIL
63	SG-SG	1	SAN GABRIEL WWTP WET WEATHER STORAGE MODIFICATIONS PLAN AND SECTIONS
64	SG-SI	1	SAN GABRIEL WWTP COORDINATED ELECTRICAL HOUSES I AND II PLAN AND SECTION
65	SG-SI	2	SAN GABRIEL WWTP COORDINATED ELECTRICAL HOUSE III PLAN AND SECTION
66	SZ	1	STRUCTURAL STANDARD DETAILS I
67	SZ	2	STRUCTURAL STANDARD DETAILS II
68	SZ	3	STRUCTURAL STANDARD DETAILS III
69	SZ	4	STRUCTURAL STANDARD DETAILS IV
70	SZ	5	STRUCTURAL STANDARD DETAILS V
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73	SZ	8	STRUCTURAL SPECIAL INSPECTIONS I
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**PROCESS MECHANICAL**

75	M	1	PROCESS MECHANICAL LEGEND
76	SG-MA	1	SAN GABRIEL WWTP COARSE BAR SCREEN MODIFICATION PLAN AND SECTIONS
77	SG-MA	2	SAN GABRIEL WWTP INFLUENT LIFT STATION PLAN
78	SG-MA	3	SAN GABRIEL WWTP INFLUENT LIFT STATION SECTION I
79	SG-MA	4	SAN GABRIEL WWTP INFLUENT LIFT STATION SECTION II
80	SG-MB	1	SAN GABRIEL WWTP GRIT CHAMBER IMPROVEMENTS PLANS
81	SG-MB	2	SAN GABRIEL WWTP GRIT CHAMBER IMPROVEMENTS - SECTIONS I
82	SG-MB	3	SAN GABRIEL WWTP GRIT CHAMBER IMPROVEMENTS - SECTIONS II
83	SG-MC	1	SAN GABRIEL WWTP PROCESS AREA ENLARGED PLAN
84	SG-MC	2	SAN GABRIEL WWTP ENLARGED PROCESS AREA SECTION I
85	SG-MC	3	SAN GABRIEL WWTP TREATMENT UNIT LOWER PLAN
86	SG-MC	4	SAN GABRIEL WWTP TREATMENT UNIT SECTIONS II
87	SG-MC	5	SAN GABRIEL WWTP RAS METER VAULTS PLAN AND SECTION
88	SG-MD	1	SAN GABRIEL WWTP BLOWER AREA PLAN
89	SG-MD	2	SAN GABRIEL WWTP BLOWER AREA SECTIONS I
90	SG-ME	1	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK MODIFICATIONS - PLAN
91	SG-ME	2	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK MODIFICATIONS - SECTION
92	SG-MF	1	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE AND FEED AREA - PLAN
93	SG-MF	2	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE AND FEED AREA - SECTION
94	SG-MG	1	SAN GABRIEL WWTP WET WEATHER STORAGE MODIFICATIONS PLAN
95	MZ	1	STANDARD MECHANICAL DETAILS I
96	MZ	2	STANDARD MECHANICAL DETAILS II
97	MZ	3	STANDARD MECHANICAL DETAILS III
98	MZ	4	STANDARD MECHANICAL DETAILS IV
99	MZ	5	STANDARD MECHANICAL DETAILS V
100	MZ	6	STANDARD MECHANICAL DETAILS VI
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102	H	1	HVAC LEGEND, SYMBOLS, AND ABBREVIATIONS
103	H	2	HVAC SCHEDULE AND CONTROLS SCHEMATICS
104	SG-HI	1	SAN GABRIEL WWTP COORDINATED E-HOUSE I HVAC PLAN
105	SG-HI	2	SAN GABRIEL WWTP COORDINATED E-HOUSE II HVAC PLAN
106	SG-HI	3	SAN GABRIEL WWTP COORDINATED E-HOUSE III HVAC PLAN
107	HZ	1	HVAC DETAILS

**ELECTRICAL**

108	E	1	ELECTRICAL LEGEND I
109	E	2	ELECTRICAL LEGEND II
110	E	3	ELECTRICAL NOTES
111	E	4	ELECTRICAL LIGHTING FIXTURE SCHEDULE
112	SG-D	100	SAN GABRIEL WWTP OVERALL SITE ELECTRICAL DEMOLITION PLAN
113	SG-D	200	SAN GABRIEL WWTP EXISTING ELECTRICAL DISTRIBUTION DEMOLITION ONE-LINE DIAGRAM
114	SG-D	300	SAN GABRIEL WWTP EXISTING SWITCHGEAR SWGR-1 DEMOLITION ONE-LINE DIAGRAM
115	SG-D	400	SAN GABRIEL WWTP EXISTING SWITCHBOARD SWBD-1 DEMOLITION ONE-LINE DIAGRAM
116	SG-D	500	SAN GABRIEL WWTP EXISTING MOTOR CONTROL CENTER MCC-1 DEMOLITION ONE-LINE DIAGRAM
117	SG-D	600	SAN GABRIEL WWTP EXISTING MOTOR CONTROL CENTER MCC-2 DEMOLITION ONE-LINE DIAGRAM
118	SG-D	700	SAN GABRIEL WWTP EXISTING MOTOR CONTROL CENTER MCC-3 DEMOLITION ONE-LINE DIAGRAM
119	SG-D	800	SAN GABRIEL WWTP EXISTING POWER PANEL PP-F DEMOLITION ONE-LINE DIAGRAM
120	SG-DA	100	SAN GABRIEL WWTP EXISTING COARSE BAR SCREEN ELECTRICAL DEMOLITION PLAN
121	SG-DA	200	SAN GABRIEL WWTP EXISTING INFLUENT LIFT STATION ELECTRICAL BUILDING DEMOLITION PLAN
122	SG-DA	300	SAN GABRIEL WWTP EXISTING INFLUENT LIFT STATION ELECTRICAL DEMOLITION PLAN
123	SG-DB	100	SAN GABRIEL WWTP EXISTING HEADWORKS BUILDING ELECTRICAL DEMOLITION PLAN
124	SG-DD	100	SAN GABRIEL WWTP EXISTING BLOWER AREA ELECTRICAL DEMOLITION PLAN
125	SG-DG	100	SAN GABRIEL WWTP EXISTING IRRIGATION HIGH SERVICE PUMP STATION ELECTRICAL DEMOLITION PLAN
126	SG-DG	200	SAN GABRIEL WWTP EXISTING IRRIGATION TRANSFER PUMP STATION ELECTRICAL DEMOLITION PLAN
127	SG-DH	100	SAN GABRIEL WWTP EXISTING BUILDING ELECTRICAL DEMOLITION PLAN
128	SG-E	1	SAN GABRIEL WWTP OVERALL SITE ELECTRICAL NEW WORK PLAN
129	SG-E	2	SAN GABRIEL WWTP SWITCHGEAR SWGR-1 ONE-LINE DIAGRAM
130	SG-E	3	SAN GABRIEL WWTP SWITCHGEAR SWGR-2 ONE-LINE DIAGRAM
131	SG-E	4	SAN GABRIEL WWTP NEW MOTOR CONTROL CENTER MCC-1 ONE-LINE DIAGRAM
132	SG-E	5	SAN GABRIEL WWTP NEW MOTOR CONTROL CENTER MCC-2 ONE-LINE DIAGRAM
133	SG-E	6	SAN GABRIEL WWTP NEW MOTOR CONTROL CENTER MCC-3 ONE-LINE DIAGRAM
134	SG-E	7	SAN GABRIEL WWTP NEW MOTOR CONTROL CENTER MCC-4 ONE-LINE DIAGRAM
135	SG-E	8	SAN GABRIEL WWTP COORDINATED E-HOUSE I PLAN
136	SG-E	9	SAN GABRIEL WWTP COORDINATED E-HOUSE II PLAN
137	SG-E	10	SAN GABRIEL WWTP COORDINATED E-HOUSE III PLAN
138	SG-E	11	SAN GABRIEL WWTP PANELBOARD SCHEDULES
139	SG-E	12	SAN GABRIEL WWTP ELECTRICAL DUCTBANK SCHEDULE I
140	SG-E	13	SAN GABRIEL WWTP ELECTRICAL DUCTBANK SCHEDULE II
141	SG-E	14	SAN GABRIEL WWTP ELECTRICAL DUCTBANK SCHEDULE III
142	SG-E	15	SAN GABRIEL WWTP ELECTRICAL DUCTBANK SCHEDULE IV
143	SG-E	16	SAN GABRIEL WWTP ELECTRICAL DUCTBANK SCHEDULE V
144	SG-EA	1	SAN GABRIEL WWTP COARSE BAR SCREEN POWER PLAN
145	SG-EA	2	SAN GABRIEL WWTP INFLUENT LIFT STATION POWER PLAN
146	SG-EB	1	SAN GABRIEL WWTP GRIT CHAMBER LOWER LEVEL POWER PLAN
147	SG-EB	2	SAN GABRIEL WWTP GRIT CHAMBER UPPER LEVEL POWER PLAN
148	SG-EC	1	SAN GABRIEL WWTP AERATION BASIN POWER PLAN
149	SG-EC	2	SAN GABRIEL WWTP RAS METER VAULTS ELECTRICAL PLAN
150	SG-ED	1	SAN GABRIEL WWTP BLOWER AREA POWER PLAN

**ELECTRICAL**

151	SG-EE	1	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK PD BLOWER PLAN
152	SG-EF	1	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE AND FEED AREA POWER AND LIGHTING PLAN
153	SG-EG	1	SAN GABRIEL WWTP WET WEATHER STORAGE TANK PLAN
154	SG-EG	2	SAN GABRIEL WWTP PECAN BRANCH TRANSFER PUMP STATION PLAN
155	SG-EG	3	SAN GABRIEL WWTP IRRIGATION HIGH SERVICE PUMP STATION POWER PLAN
156	SG-EH	1	SAN GABRIEL WWTP ADMINISTRATION AND BLOWER BUILDING MODIFICATION POWER PLAN
157	EY	1	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC I
158	EY	2	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC II
159	EY	3	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC III
160	EY	4	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC IV
161	EY	5	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC V
162	EY	6	SAN GABRIEL WWTP ELECTRICAL SCHEMATIC VI
163	EZ	1	ELECTRICAL STANDARD DETAILS I
164	EZ	2	ELECTRICAL STANDARD DETAILS II
165	EZ	3	ELECTRICAL STANDARD DETAILS III

**INSTRUMENTATION**

166	I	1	INSTRUMENTATION LENDEND I
167	I	2	INSTRUMENTATION LENDEND II
168	SG-I	1	SAN GABRIEL WWTP CONTROL SYSTEM ARCHITECTURE
169	SG-IA	1	SAN GABRIEL WWTP BAR SCREEN AND INFLUENT LIFT STATION P&ID
170	SG-IB	1	SAN GABRIEL WWTP GRIT REMOVAL P&ID
171	SG-IB	2	SAN GABRIEL WWTP GRIT CLASSIFIER P&ID
172	SG-IC	1	SAN GABRIEL WWTP TREATMENT UNIT AND RETURN ACTIVATED SLUDGE P&ID
173	SG-ID	1	SAN GABRIEL WWTP AERATION BLOWER SYSTEM P&ID
174	SG-IE	1	SAN GABRIEL WWTP AERATED SLUDGE HOLDING TANK BLOWER AND MISCELLANEOUS P&ID
175	SG-IF	1	SAN GABRIEL WWTP SODIUM BISULFITE STORAGE SYSTEM P&ID
176	SG-IF	2	SAN GABRIEL WWTP SODIUM BISULFITE FEED SYSTEM P&ID
177	SG-IG	1	SAN GABRIEL WWTP WW BLOWER AND PECAN BRANCH TRANSFER PUMP STATION P&ID
178	SG-IG	2	SAN GABRIEL WWTP IRRIGATION TRANSFER PUMP STATION P&ID
179	IZ	1	INSTRUMENTATION INSTALLATION DETAILS I
180	IZ	2	INSTRUMENTATION INSTALLATION DETAILS II

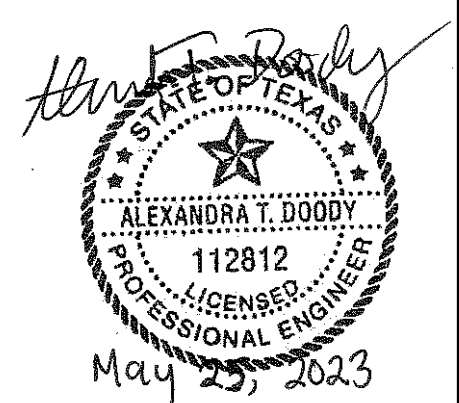
DESIGNED BY:	J. MAYER
DRAWN BY:	K. REESE
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A.WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

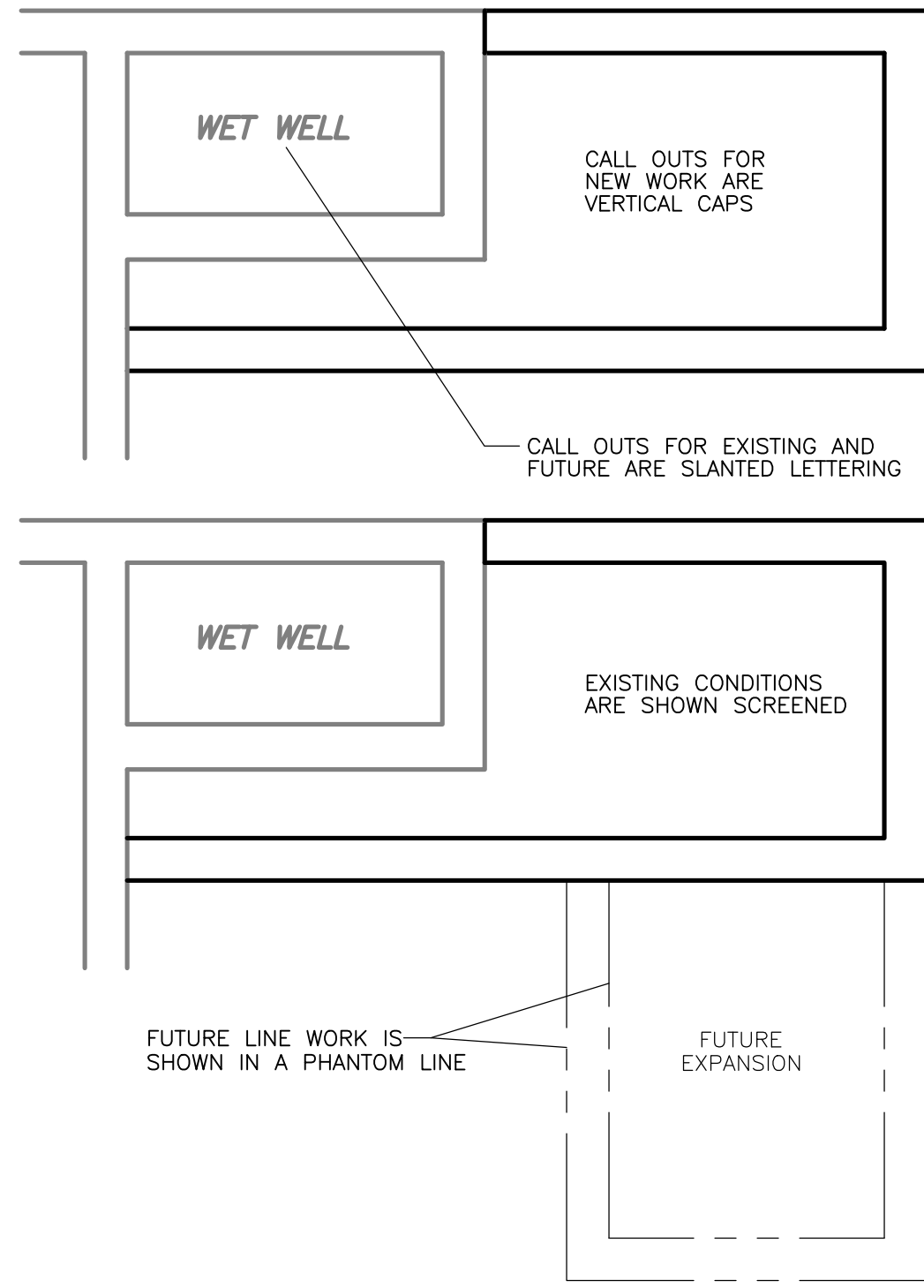
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**DRAWING INDEX**

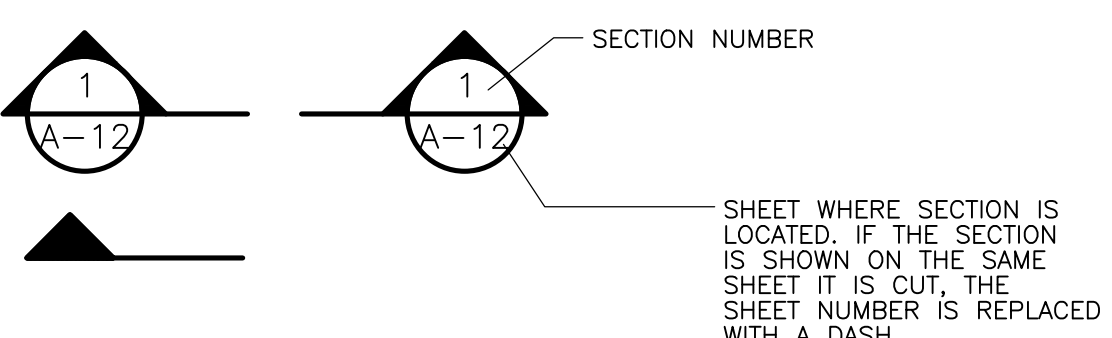
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SHEET NO.	G-2



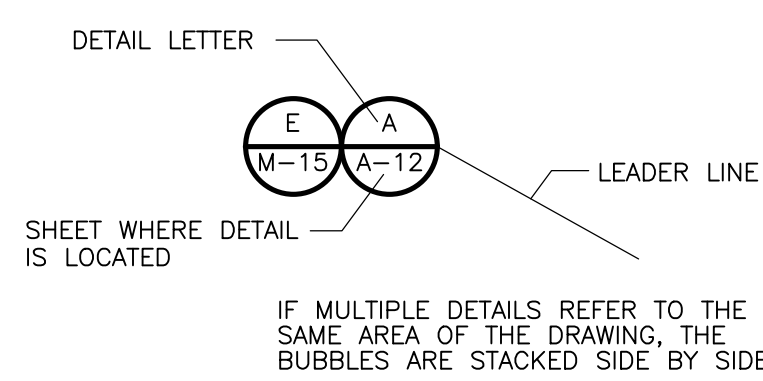
**EXISTING OR FUTURE CONDITION DESIGNATION**



**SECTION CUT SYMBOLS**



**DETAIL CALL OUT SYMBOLS**



**DRAWING, SECTION & DETAIL TITLES**

SUBTITLE OR DESCRIPTION (AS REQ'D)

**PLAN**

1/4" = 1'-0"

SUBTITLE OR DESCRIPTION (AS REQ'D)

**ELEVATION**

1/4" = 1'-0"

**SECTION**

3/4" = 1'-0"

**1**

S-6

SECTION NUMBER

SHEET WHERE SECTION CUT IS TAKEN \*

**DETAIL**

3/4" = 1'-0"

**A**

A-3

DETAIL LETTER

SHEET WHERE DETAIL IS TAKEN \*

**SCHEMATIC**

3/4" = 1'-0"

**1**

M-6

SCHEMATIC NUMBER

SHEET WHERE SCHEMATIC IS TAKEN \*

**DIAGRAM**

3/4" = 1'-0"

**1**

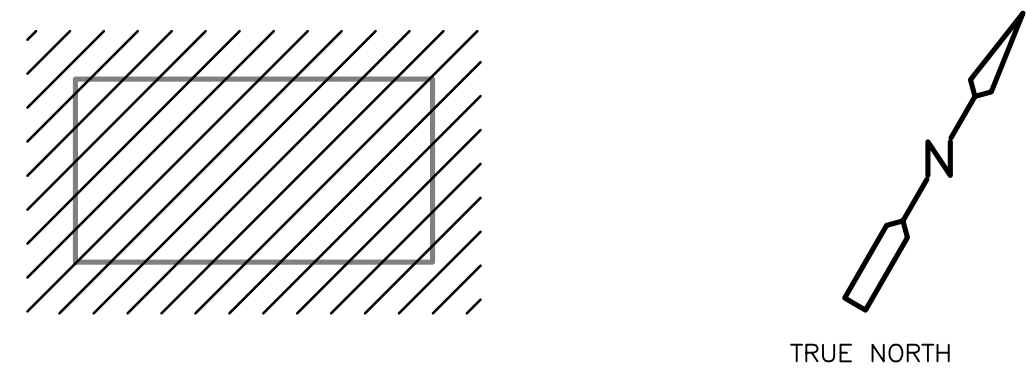
I-6

DIAGRAM NUMBER

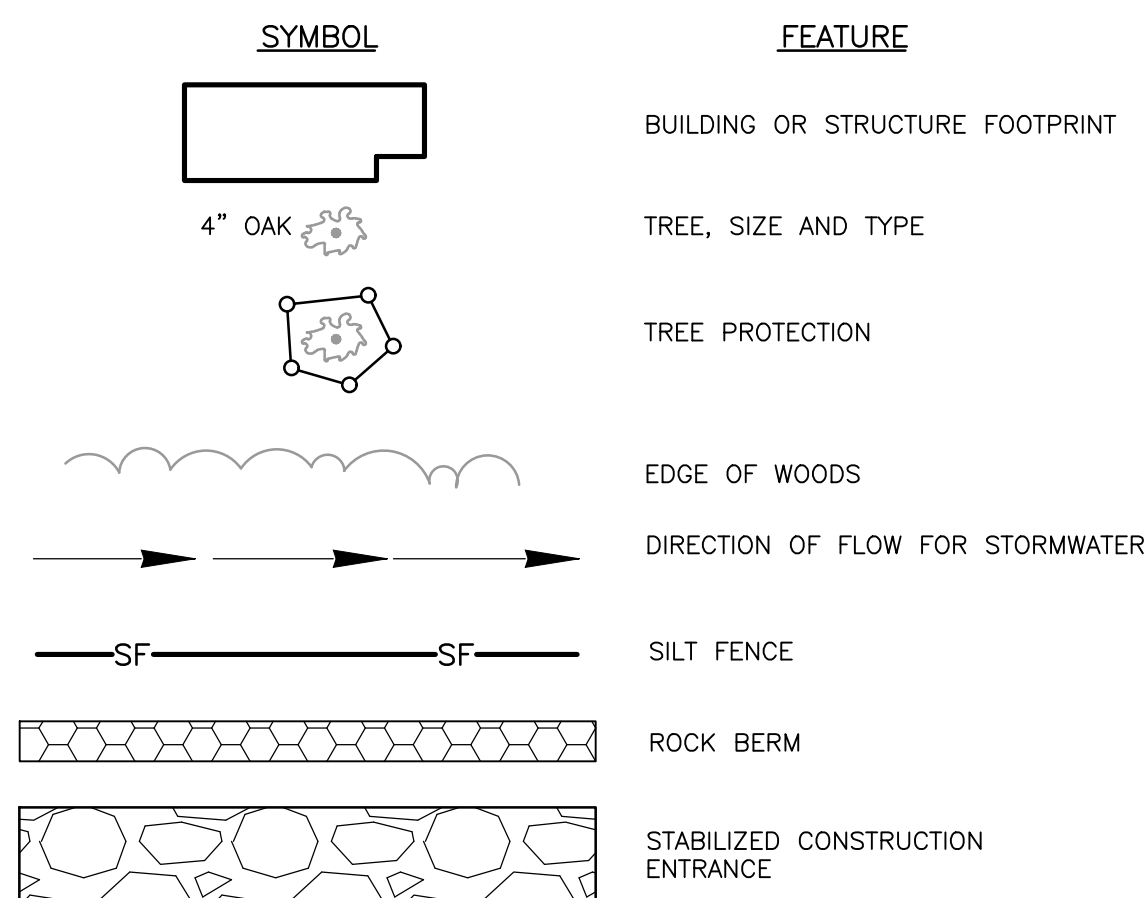
SHEET WHERE DIAGRAM IS TAKEN \*

\* IF SECTION, DETAIL, SCHEMATIC OR DIAGRAM IS DRAWN ON THE SAME SHEET THAT IT IS TAKEN FROM, THE SHEET NUMBER IS REPLACED WITH A HYPHEN. IF THE SECTION IS REFERENCED ON MULTIPLE SHEETS, THE SHEET NUMBER SHOWN INDICATES THE FIRST SHEET THE SECTION IS TAKEN FROM.

**ITEMS TO BE REMOVED OR DEMOLISHED NORTH ARROW ORIENTATION**

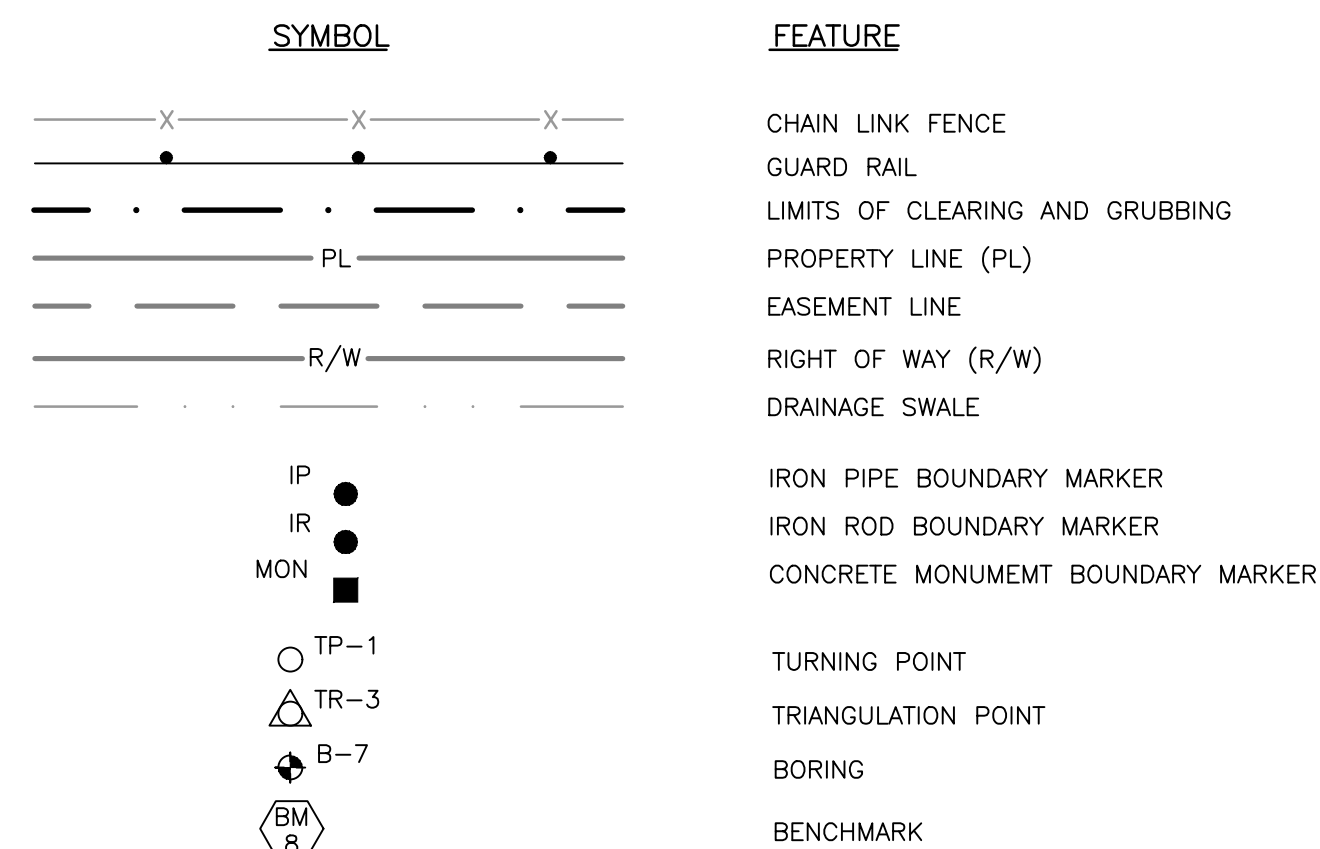


**LANDSCAPE & DRAINAGE SYMBOLS**

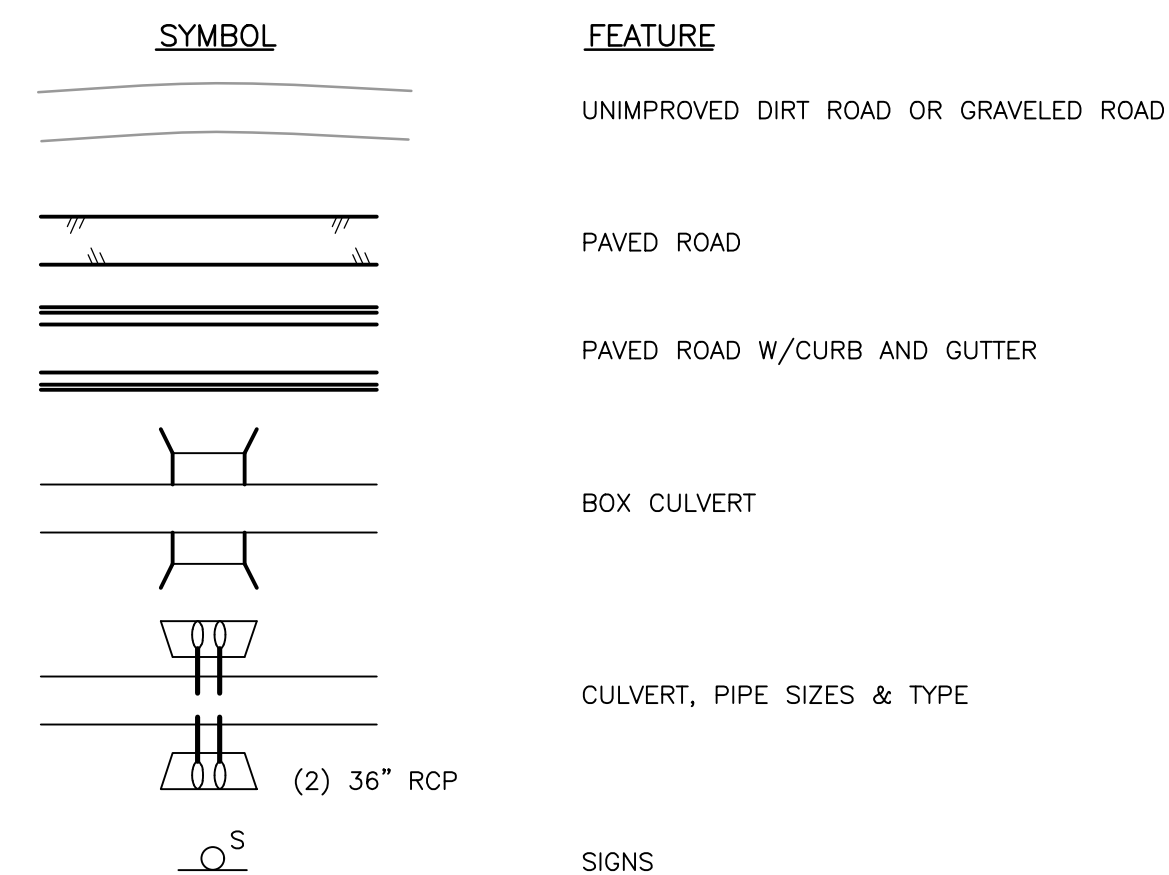


EXISTING ELEVATIONS & DIMENSIONS SHOWN ON DRAWINGS ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.

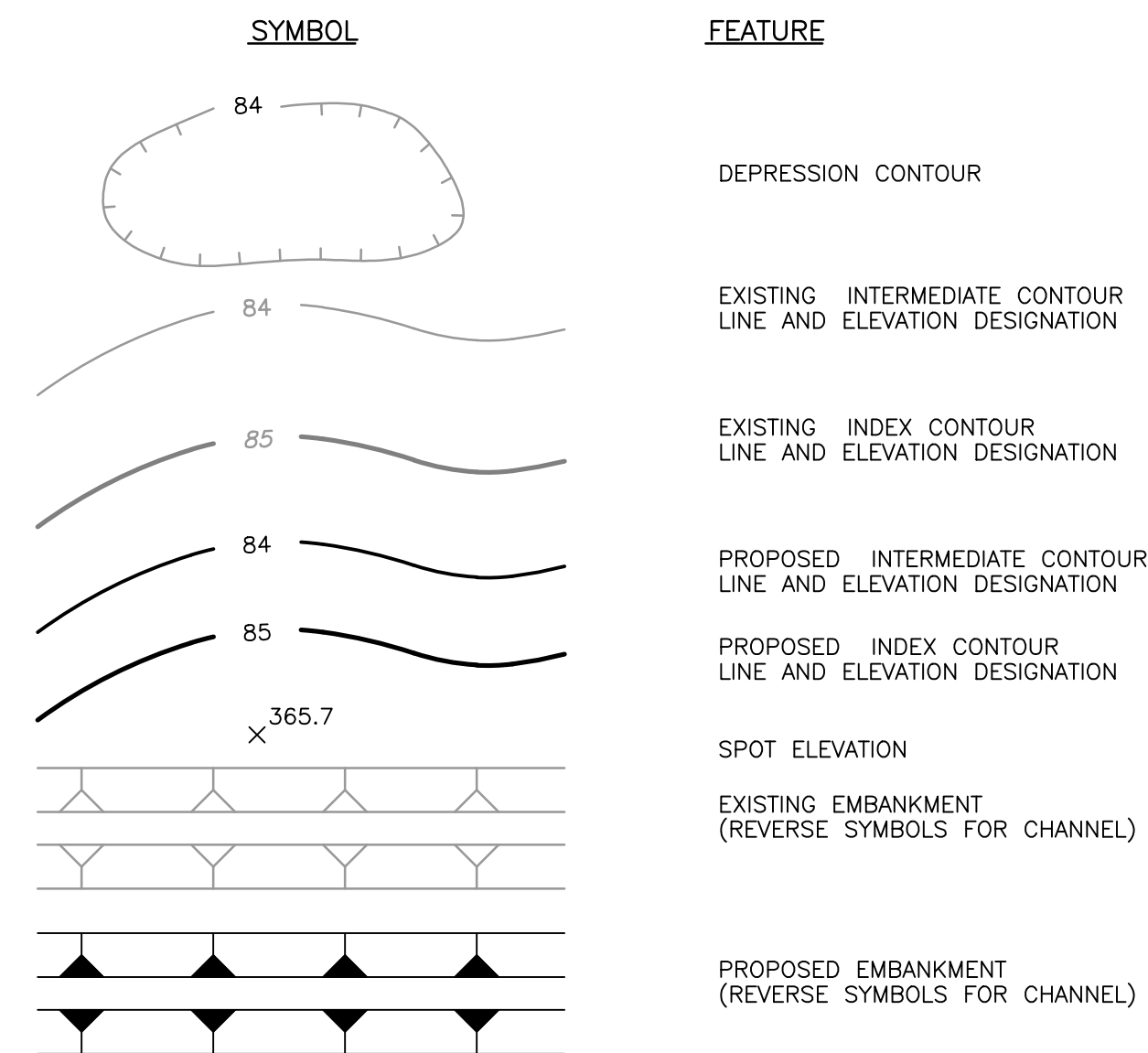
**BOUNDARY & MARKER SYMBOLS**



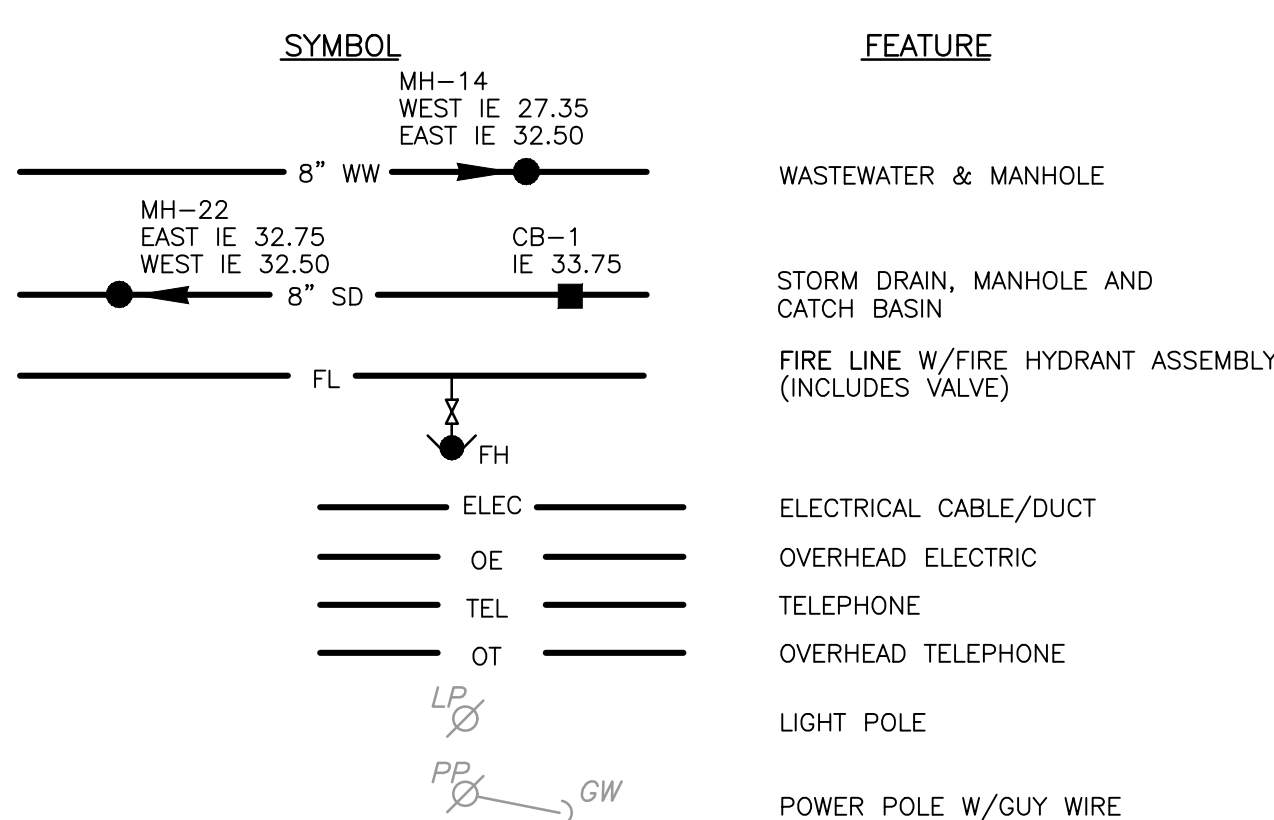
**TRAVELED WAY SYMBOLS**



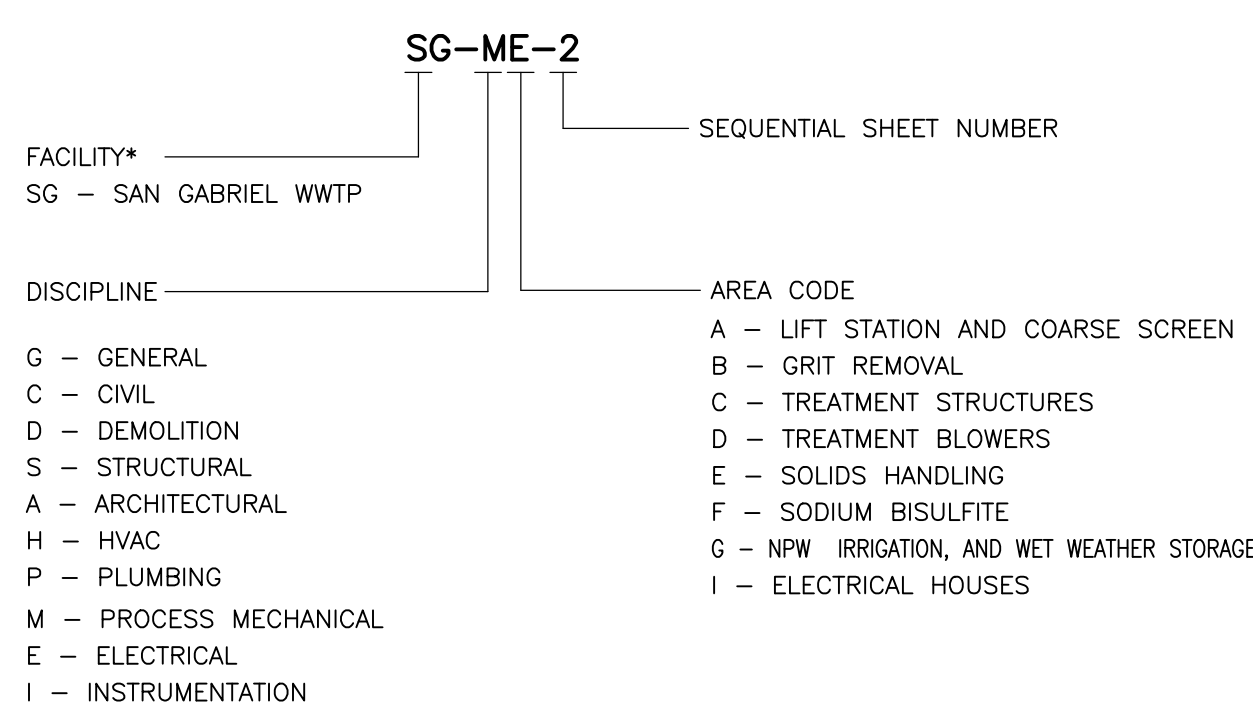
**SURFACE ELEVATION SYMBOLS**



**UNDERGROUND/OVERHEAD UTILITY SYMBOLS**

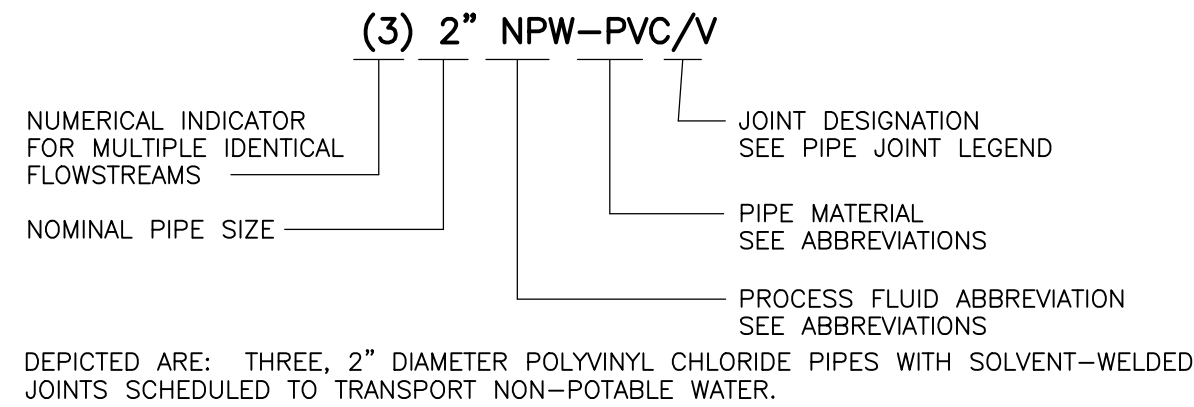


**DRAWING IDENTIFICATION SYSTEM**



DEPICTED IS: SAN GABRIEL WWTP PROCESS MECHANICAL SHEET NO. 2 OF THE SOLIDS HANDLING.

**PIPE TAG**



- CONTRACTOR SHALL PROVIDE "AS BUILT" DRAWINGS TO THE ENGINEER SO THAT THE REPRODUCIBLE OF THE ENGINEERING DRAWINGS MAY BE CORRECTED TO REFLECT "RECORD DRAWING" CONDITIONS AS INDICATED IN SPECIFICATION 017700 "CLOSEOUT PROCEDURES"
- THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AND MAINTAIN ALL NECESSARY WARNING AND SAFETY DEVICES TO PROTECT WORKMEN AND THE PUBLIC SAFETY AND HEALTH UNTIL THE WORK HAS BEEN COMPLETED AND ACCEPTED BY THE CITY.
- THE LOCATIONS OF EXISTING UTILITIES & STRUCTURES SHOWN ON THESE DRAWINGS ARE APPROXIMATE & ALL MAY NOT BE SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND VERIFY IN THE FIELD THE LOCATION OF ALL EXISTING UTILITIES & STRUCTURES PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION IN THE VICINITY OF UTILITIES, NOTIFY THE FOLLOWING AS APPLICABLE.
 

CITY OF GEORGETOWN	512-930-3555
FRONTIER	512-869-2231
CITY OF GEORGETOWN ELECTRIC ENGINEERING	512-930-3651
TEXAS ONE CALL	811 OR 800-344-8377
- TREES NOT SHOWN TO BE REMOVED SHALL NOT BE REMOVED WITHOUT ENGINEER'S APPROVAL. TREES APPROVED BY THE ENGINEER TO BE TRIMMED, SHALL BE CUT USING PROPER TOOLS AND THE TREE CUT SHALL BE PROPERLY SEALED AS INDICATED IN SECTION 015639 AND CIP9.
- ELECTRICAL LINES ARE LOCATED CLOSE TO THE PROJECT. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436(C)) CONCERNING OPERATIONS IN THE VICINITY OF ELECTRICAL LINES AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES.
- CONTRACTOR SHALL PARTICIPATE IN A PRE-CONSTRUCTION MEETING WITH THE OWNER, ENGINEER, AND OTHER AFFECTED PARTIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- NO BURNING OF TREES, BRUSH, RUBBISH, VEGETATION, OR OTHER OBJECTIONABLE MATTER WILL BE ALLOWED ON THE PROJECT SITE. ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF IN A MANNER ACCEPTABLE TO THE CITY OF GEORGETOWN. ALL EXCESS EXCAVATED MATERIALS SHALL BE HAULED OFF-SITE.
- NO BLASTING WILL BE ALLOWED.
- ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF EACH SEDIMENTATION/EROSION CONTROL MEASURE ON THIS PROJECT.
- UNSUITABLE MATERIAL, STUMPS, OR EXCESS EXCAVATED MATERIALS SHALL BE KNOWN AS "WASTE" AND SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BECOME HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT IN AN ENVIRONMENTALLY SOUND & LEGALLY APPROVED MANNER. THE CONTRACTOR SHALL NOTIFY THE CITY OF GEORGETOWN PRIOR TO OFFSITE DISPOSAL. THIS NOTIFICATION SHALL INCLUDE THE DISPOSAL LOCATION AND COPY OF THE PERMIT ISSUED TO RECEIVE THE MATERIAL.
- THE CONTRACTOR SHALL GIVE THE OWNER A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION. THE PHASES OF CONSTRUCTION ARE AS FOLLOWS:
  - INSTALL EROSION AND SEDIMENTATION CONTROL.
  - INSTALL TREE PROTECTION.
  - SITE VISIT BY OWNER'S INSPECTOR.
  - AFTER INSPECTOR APPROVAL, BEGIN CONSTRUCTION.
  - UPON CONSTRUCTION COMPLETION, RESTORE ALL DISTURBED AREAS.
  - ARRANGE FOR FINAL INSPECTION.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES.
- ALL EXISTING UTILITIES, STRUCTURES, AND PIPES SHALL BE PROTECTED BY CONTRACTOR.
- CARE SHALL BE TAKEN TO PROTECT EXISTING FACILITIES.
- FINISHED GRADES SHALL SLOPE UNIFORMLY.
- TRACK EQUIPMENT WILL NOT BE ALLOWED ON PAVED ROADWAYS WITHOUT APPROPRIATE PROTECTION FOR THE PAVEMENT AS APPROVED BY THE ENGINEER.
- SURVEY CONTROL POINTS ARE SHOWN ON CIVIL SHEETS. THIS INFORMATION SERVES AS ONE-TIME BENCHMARK INFORMATION. CONTRACTOR TO PROVIDE ADDITIONAL LINES AND GRADES AS REQUIRED.
- ALL POTABLE WATER PIPING SHALL BE RESTRAINED PER AWWA GUIDELINES WITH A MINIMUM FACTOR OF SAFETY OF TWO. PROCESS PIPING RESTRAINED JOINTS SHALL BE PROVIDED AT ALL FITTINGS, AS DESCRIBED BELOW, UP TO THE FIRST JOINT OF PIPE WITHOUT A FITTING, AND SHALL BE DESIGNED PER AWWA GUIDELINES WITH A MINIMUM FACTOR OF SAFETY OF TWO. FITTINGS INCLUDE ALL VERTICAL AND HORIZONTAL CHANGES IN PIPE DIAMETER (REDUCERS), OR DIRECTION (E.G. TEES, BENDS, ELBOWS, AND CROSSES), PLUGS, VALVES, OTHER LOCATIONS SHOWN ON THE DRAWINGS, AND ON ALL BURIED PIPING HAVING FLEXIBLE JOINTS. JOINTS SHOULD BE DESIGNED TO PREVENT THE PIPE FROM MOVING WHEN SUBJECTED TO OPERATING AND TEST PRESSURES. RESTRAINED JOINTS SHALL HAVE CADMIUM PLATED OR OTHER APPROVED CORROSION RESISTANT BOLTS, NUTS, ETC. RESTRAINED JOINTS SHALL BE LOCK-FAST BY AMERICAN CAST IRON PIPE COMPANY, TR FLEX BY U.S. PIPE COMPANY, OR AN APPROVED EQUAL\*. REFER TO SECTION W1.
- ALL CONSTRUCTION MATERIAL/DEBRIS SHALL BE PLACED IN AN ON-SITE CONTAINER AND DISPOSED OF PROPERLY AT AN AUTHORIZED LANDFILL.
- AT THE COMPLETION OF WORK AND IMMEDIATELY PRIOR TO FINAL INSPECTION, CLEANING OF THE ENTIRE PROJECT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTIONS CIP14, CIP17 AND G8.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING FACILITIES (SIGNS, UTILITIES, POLES, STRUCTURES, ETC). NOT ALL FACILITIES, ETC, ARE SHOWN.
- ANY EXISTING PAVEMENT, CURBS, AND/OR SIDEWALKS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ANY EXISTING FENCES, WALLS, AND FACILITIES DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
- ALL DISTURBED AREAS SHALL BE GRADED, HYDROMULCHED OR SODDED, AS INDICATED ON THE DRAWINGS AND RESTORED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL FOLLOW SEQUENCE OF CONSTRUCTION SPECIFIED IN SECTION CIP3 AND SHALL NOT DEVIATE WITHOUT WRITTEN AUTHORIZATION FROM ENGINEER.
- UNLESS OTHERWISE NOTED, ALL FLEXIBLE COUPLINGS, FLANGE COUPLING ADAPTERS, ETC, SHALL BE RESTRAINED PER SPECIFICATIONS & DETAILS.
- WHEN MAKING CONNECTIONS TO NEW OR EXISTING PIPING, CONTRACTOR SHALL PROVIDE ALL FITTINGS, ADAPTERS, CONNECTING PIECES, SLEEVES, FLEXIBLE COUPLINGS, ETC REQUIRED TO MAKE THE CONNECTIONS IN A MANNER SATISFACTORY TO THE ENGINEER REGARDLESS OF WHETHER OR NOT THESE COMPONENTS ARE SHOWN ON THE DRAWINGS.
- WHEN CONNECTING TO EXISTING MANHOLES, FIELD VERIFY EXISTING INVERT ELEVATIONS AND MODIFY PROPOSED INVERT ELEVATIONS TO ACHIEVE CONTINUOUS DOWNWARD SLOPE.
- ALL CONNECTIONS BETWEEN NEW AND/OR EXISTING PIPING, VALVES, FITTINGS, ETC, WHERE DISSIMILAR METALS WILL BE IN CONTACT SHALL BE PROTECTED BY INSULATING SYSTEMS AS APPROVED BY THE ENGINEER.
- ALL CAPS/PLUGS NOT SHOWN ON YARD PIPING PLAN SHEETS. CONTRACTOR IS RESPONSIBLE FOR ALL CAPS/PLUGS. ALL EXPOSED ENDS OF PIPES TO BE ABANDONED IN PLACE SHALL BE CAPPED/PLUGGED WITH CONCRETE OR MECHANICAL CAPS/PLUGS. RESTRAINED MECHANICAL CAPS OR PLUGS ARE REQUIRED FOR PIPES THAT WILL REMAIN IN SERVICE OR FOR FUTURE STUBOUTS.
- ALL PIPING UNDER STRUCTURES SHALL BE CONCRETE ENCASED, UNLESS SPECIFICALLY NOTED OTHERWISE.
- CLEARING IS NOT ALLOWED BETWEEN MARCH 1ST AND SEPTEMBER 1ST.
- PIPE ALIGNMENT BENDS OF LESS THAN MANUFACTURER'S PUBLISHED ACCEPTABLE DEFLECTION MAY BE MADE BY DEFLECTING THE JOINTS PER ENGINEER'S APPROVAL. BENDS OF MORE THAN MANUFACTURER'S PUBLISHED ACCEPTABLE DEFLECTION SHALL BE MADE WITH MANUFACTURER'S STANDARD FITTINGS PER ENGINEER'S APPROVAL.

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

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 DRAWN BY: S. RAJI  
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 CROSS CHK'D BY: A. WOELKE  
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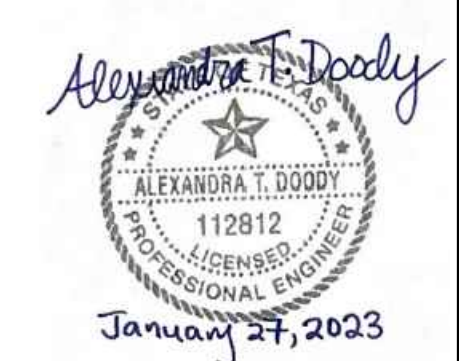
CITY OF GEORGETOWN, TEXAS

**SAN GABRIEL WWTP REHABILITATION**

**GENERAL / CIVIL LEGEND**

G-3

PROJECT NO.	2048-264953
FILE NAME:	G003NFLG.DWG
SHEET NO.	G-3





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#	NUMBER	B	BORING	CGV	CHLORINE GAS (VACUUM)	CT	CURRENT TRANSFORMER	E	EMERGENCY WATER	FCC	FILTER CONTROL CONSOLE
&	AND	B TO B	BACK TO BACK	CH	CONCRETE HARDENER	CTG	COATING	EAT	ENTERING AIR TEMPERATURE	FCV	FLOW CONTROL VALVE
<	ANGLE	BCP	BLOWER CONTROL PANEL	CHAM	CHAMFER	CTR	CENTER (ED)	EB	EXPANSION BOLT	FD	FLOOR DRAIN
@	AT	BCV	BALL CHECK VALVE	CHAN	CHANNEL	CTU	CENTRAL TELEMETRY UNIT	EC	EMPTY CONDUIT	FDMPR	FIRE DAMPER
2S1W	TWO SPEED, ONE WINDING	BD	BOARD	CHKD	CHECKERED	CU	COPPER	ECC	ECCENTRIC	FDN	FOUNDATION
2S2W	TWO SPEED, TWO WINDING	BDD	BACKDRAFT DAMPER	CHL	CHLORINATOR	CU	CUBIC	ED-F	EQUIPMENT DRAIN (FLUSH TYPE)	FE	FILTER EFFLUENT
2S2W	TWO SPEED, TWO WINDING	BEL	BELOW	CHR	CHLOROPRENE RUBBER (NEOPRENE)	CU FT	CUBIC FOOT (FEET)	ED-O	EQUIPMENT DRAIN (EXTENDED TYPE-OPEN)	FE	FIRE EXTINGUISHER
A	AIR (COMPRESSED)	BEV	BEVEL (ED)	CI	CAST IRON	CU YD	CUBIC YARD	ED-S	EQUIPMENT DRAIN (EXTENDED TYPE-SEALED)	Fe CL3	FERRIC CHLORIDE
A, AMP	AMPERE	BF	BLIND FLANGE	CIGL	CAST IRON PIPE GLASS LINED	CUH	CABINET UNIT HEATER	EDH	ELECTRIC DUCT HEATER	FES	FERROUS SULFATE
A/C	AIR CONDITIONING	BFD	BUTTERFLY VALVE DAMPER	CINF	CLARIFIER INFLUENT	CUP	COPPER PIPE	EF	EACH FACE	FF	FACTORY FINISH
AA	AERATION AIR	BFP	BELT FILTER PRESS	CIP	CAST IN PLACE	CV	CHECK VALVE	EFF	EFFLUENT	FF	FAR FACE
AB	AERATION BASIN	BFPV	BACK FLOW PREVENTER	CIP	CAST IN PLACE	CVR	CONVECTOR	EFM	EFFLUENT FLOW METER	FGL	FIBERGLASS
ABA	AEROBIC BASIN AERATOR	BFV	BUTTERFLY VALVE	CIR	CIRCLE	CW	CLOCKWISE	EG	EMERGENCY GENERATION SYSTEM	FH	FIRE HYDRANT
ABC	ASBESTOS CEMENT	BFVM	BUTTERFLY VALVE MOTOR OPERATED	CIRC	CIRCUMFERENTIAL	CW	CLOCKWISE	EG	EMERGENCY GENERATION SYSTEM	FHMS	FLATHEAD MACHINE SCREW
ABDN	ABANDON	BGO	BURIED GEAR OPERATOR	CIS	CAST IRON SOIL PIPE	CWO	CLEARWELL OVERFLOW	EGC	EQUIPMENT GROUNDING CONDUCTOR	FHWS	FLATHEAD WOOD SCREW
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	CIU	CAST IRON PIPE UNLINED	CJ	CONSTRUCTION JOINT	CWR	COOLING WATER RETURN	EGO	ELEVATED GEAR OPERATOR	FI	FILTER INFLUENT
ABV	ABOVE	BL	BASELINE	CKT	CIRCUIT	CWS	COOLING WATER SUPPLY	EL	ELEVATION	FIG	FIGURE
AC	AIR COMPRESSOR	BLDG	BUILDING	CL or C	CENTERLINE	D	PENNY	ELEC	ELECTRIC(AL)	FIN	FINISH(ED)
ACCU	AIR CONDITIONING CONDENSING UNIT	BLK	BLOCK	CL2	CHLORINE SYSTEM	DAF	DISSOLVED AIR FLOTATION	ELEV	ELEVATOR	FINW	FINISHED WATER
ACCV	AIR CUSHION CHECK VALVE	BLKG	BLOCKING	CL2G	CHLORINE (GAS)	DAL	DISSOLVED ALUM	EMERG	EMERGENCY	FL	FIRE LINE
ACMU	ACOUSTICAL MASONRY UNIT	BLR	BLOWER	CL2L	CHLORINE (LIQUID)	DAP	DIAPHRAGM AIR PURGE	EMG	EMERGENCY GENERATOR	FL	FLASHING
ACP	ASBESTOS CEMENT PIPE	BM	BENCHMARK	CL2S	CHLORINE SOLUTION	DAV	DIAPHRAGM AIR VENT	ENGR	ENGINEER	FL	FLOOR
ACT	ACOUSTICAL TILE	BOT	BOTTOM	CL2V	CHLORINE VENT	DB	DECIBEL	ENT	ENTERING, ENTRANCE	FLD	FUSIBLE LINK DAMPER
ACU	AIR CONDITIONING UNIT	BP	BOOSTER PUMP	CLF	CURRENT LIMITING FUSE	DB	DRY BULB	EOP	EDGE OF PAVEMENT	FLEX	FLEXIBLE
ADDL	ADDITIONAL	BPRV	BACK PRESSURE REGULATING VALVE	CLG	CEILING	DC	DIRECT CURRENT	EP	ELECTRICAL PANEL	FLG	FLANGE(D)
ADH	ADHESIVE	BRC	BRIDGE CRANE	CLJ	CONTROL JOINT	DCU	DISTRIBUTED CONTROL UNIT	EPDM	ETHYLENE PROPYLENE RUBBER	FLG	FLOORING
ADJ	ADJUSTABLE, ADJUST	BRG	BEARING	CLKG	CAULKING	DEMO	DEMOLITION	EQ	EQUAL (LY)	FLM	FLASH MIXER
ADPT	ADAPTER	BRK	BRICK	CLR	CLARIFIER	DEPT	DEPARTMENT	EQPT	EQUIPMENT	FLP	FAIL LAST POSITION
AFD	ADJUSTABLE FREQUENCY DRIVE	BRS	BRASS	CLSM	CONTROLLED LOW STRENGTH MATERIAL	DET	DETAIL	EQUIV	EQUIVALENT	FLR	FILLER
AFF	ABOVE FINISHED FLOOR	BRZ	BRONZE	CLW	CLARIFIED WATER (CLARIFIER EFFLUENT)	DFI	DISK FILTER INFLUENT	ESMT	EASEMENT	FLT	FILTRATE
AFG	ABOVE FINISHED GRADE	BS	BLENDED SLUDGE	CM	CORRUGATED METAL	DI	DUCTILE IRON	ESP	EFFLUENT SAMPLE PUMPS	FLW	FILTERED WATER
AFM	AIR FLOW METER	BS	BOTH SIDES	CMON	CONCRETE MONUMENT	DIA	DIAMETER	EST	ESTIMATE (D)	FM	FLOW METER
AGG	AGGREGATE	BSMT	BASEMENT	CMP	CORRUGATED METAL PIPE	DIAG	DIAGONAL	ETC	ETCETERA	FO	FAIL OPEN
AHP	AIR HORSEPOWER	BSP	BLACK STEEL PIPE	CMU	CONCRETE MASONRY UNITS	DIFF	DIFFUSER	EUH	ELECTRIC UNIT HEATER	FO	FUEL OIL
AHU	AIR HANDLING UNIT	BTU	BRITISH THERMAL UNIT	CND	CONDUIT	DIGL	DUCTILE IRON GLASS LINED	EV	EVAPORATOR VENT	FOB	FLAT ON BOTTOM
AI	AIR INSTRUMENT	BTWN	BETWEEN	CNR	CONDENSATE RETURN	DIP	DUCTILE IRON PIPE	EVA	ELECTRICAL GEAR ACTUATOR	FOR	FUEL OIL RETURN
AI	ANALOG INPUT	BUR	BUILT UP ROOF (ING)	CNS	CONDENSATE SUPPLY	DIR	DIRECTION	EVAP	EVAPORATOR (ION)	FOS	FUEL OIL SUPPLY
AL	ALUMINUM	BV	BALL VALVE	COL	COLUMN	DISCH	DISCHARGE	EW	EACH WAY	FOT	FLAT ON TOP
AL VT	ALUM VENT	BVM	MOTORIZED BALL VALVE	COMB	COMBINATION	DISP	DISPENSER	EWC	ELECTRIC WATER COOLER	FOV	FUEL OIL VENT
ALS	ALUM SOLUTION	BWP	BACK WASH PUMP	COMP	COMBUSTION	DIV	DIVISION	EXA	EXHAUST AIR	FP	FILTER PRESS
ALSS	ALUM SYSTEM	BWR	BACKWASH RETURN	COMP JT	COMPRESSION JOINT	DIW	DEIONIZED WATER	EXH	EXHAUST	FPM	FEET PER MINUTE
ALST	ALUM STORAGE TANK	BWS	BACKWASH SUPPLY	CONC	CONCRETE	DL	DEAD LOAD	EXP	EXPANSION	FPT	FEMALE PIPE THREAD
ALT	ALTERNATE (ING)	BWW	BACKWASH WATER	COND	CONDUCTIVITY	DN	DOWN	EXP JT	EXPANDED JOINT	FR	FRAME
ALT	ALTITUDE	BYP	BYPASS	CONN	CONNECTION	DO	DISSOLVED OXYGEN	EXT	EXISTING	FRP	FIBERGLASS REINFORCED PLASTIC
ALU	ALUMINUM SULFATE	C TO C	CENTER TO CENTER	CONST	CONSTRUCTION	DOI	DOOR INTERLOCK	EXTD	EXTENDED	FRR	FLUORINE RUBBER(viton)
ALUM	ALUM (CHEMICAL)	CA	COMPRESSED AIR	CONT	CONTINUOUS	DP	DAMPPOOFING	EY	EPOXY	FS	FLOOR STAND
ANOD	ANODIZE	CAB	CABINET	COR	CORNER(S)	DR	DRAIN	F	FAHRENHEIT OR FILTRATE	FT	FEET/FOOT
AO	ANALOG OUTPUT	CC	CLOSED LOOP COOLING SYSTEM	CORR	CORRUGATED	DR	DRIVE	f'c	CONCRETE COMPRESSION STRESS	FTG	FOOTING/FITTING
AP	ACCESS PANEL	CC	COOLING COIL, CONTROL CONDUIT	CPLG	COUPLING	DSCL	DEWATERED SLUDGE CAKE	f'm	MASONRY PRISM STRESS	FTR	FINNED TUBE RADIATION
APPROX	APPROXIMATE (LY)	CCC	CENTRAL CONTROL CONSOLE	CPOL	CATIONIC POLYMER	DT	DRAIN TANK	FAB	FABRICATE (OR, ED)	FTW	FILTER TO WASTE
AR	AIR RECEIVER	CCS	CHLORINE CYLINDER SCALE	CPP	CONCRETE PRESSURE PIPE	DV	DIAPHRAGM VALVE	FAC	FACILITY	FU	FUSE
ARCH	ARCHITECT (URAL) (URE)	CCW	COUNTER CLOCKWISE	CPT	CONTROL POWER TRANSFORMER	DW	DISTILLED WATER	FAC	FLANGED ADAPTOR COUPLING	FURN	FURNISHED
ARND	AROUND	CD	CONDENSATE DRAIN	CPVC	CHLORINATED POLYVINYLCHLORIDE PIPE	DWG	DRAWING	FAM	FIRST ANOXIC MIXERS	FXD	FIXED
ARV	AIR RELEASE VALVE	CDM	CLARIFIER DRIVE MECHANISM	CR	CHLORINE RESIDUAL	DWL	DOWEL	FAP	FILTRATE AIR PURGE	G	NATURAL GAS
ARVV	AIR RELEASE VALVE/VACUUM	CEFF	CLARIFIER EFFLUENT	CRS	COURSE (S)	DWP	DEWATERING PUMP	FB	FLOOR BOX (BUSHING TYPE)	GA	GAGE
AS	ACTIVATED SLUDGE, AIR SUPPLY	CEM	CEMENT	CS	CARBON STEEL	DWTR	DEWATER(ED)	FBO	FURNISHED BY OTHERS	GALV	GALVANIZED
ASHT	AERATED SLUDGE HOLDING TANK	CENT	CENTRIFUGAL	CS	CONTROL SWITCH			FBR	FULL VOLTAGE REVERSING	GALVS	GALVANIZED STEEL
ASPH	ASPHALT	CF	COMPRESSIBLE FILLER	CSC	CONCRETE STEEL CYLINDER			FAM	FIRST ANOXIC MIXERS	GALVSP	GALVANIZED STEEL PIPE
ASSOC	ASSOCIATION	CFM	CUBIC FEET PER MINUTE	CSK	COUNTERSINK			FAP	FILTRATE AIR PURGE	GC	GRIT CLASSIFIER
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	CFS	CUBIC FEET PER SECOND	CSL	CONDITIONED SLUDGE			FB	FLOOR BOX (BUSHING TYPE)	GCR	GRIT CONCENTRATOR
ATC	AUTOMATIC TEMPERATURE CONTROL	CG	CHLORINE GAS (PRESSURE)	CSM	CHLORINE SULPHONILE POLYETHYLENE (HYPALON)			FBO	FURNISHED BY OTHERS	GEC	GROUNDING ELECTRODE CONDUCT
ATS	AUTOMATIC TRANSFER SWITCH	CGFB	CEMENTITIOUS GLASS FIBER BOARD	CSMP	CAUSTIC METERING PUMPS			FBR	FULL VOLTAGE REVERSING	GEN	GENERATOR
AUTO	AUTOMATIC			CSTG	CASTING			FC	FAIL CLOSED	GFI	GROUND FAULT INTERRUPTER
AUX	AUXILIARY			CT	CERAMIC TILE			FC	FLEX CONNECTION	GI	GALVANIZED IRON
AV	ACID VENT							FCA	FLANGED COUPLING ADAPTOR	GL	GLASS
AVG	AVERAGE									GLB	GLASS BLOCK
AW	ACID WASTE									GLV	GLOBE VALVE
AWG	AMERICAN WIRE GAUGE									GOV	GLOBE VALVE
AWL	AVERAGE WATER LEVEL									GP	GLASS PIPE
AX	CURRENT TRANSDUCER										

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

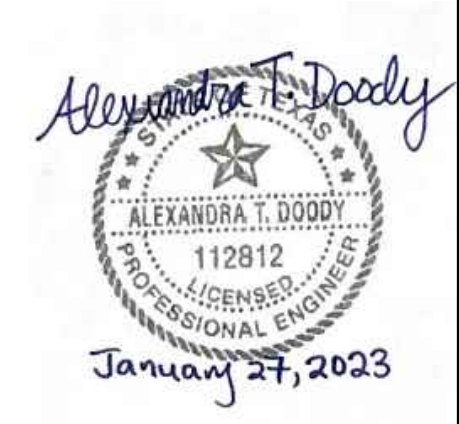
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CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

<b>ABBREVIATIONS I</b>	
<b>G-5</b>	

PROJECT NO.	2048-264953
FILE NAME:	G005NFAB-SG.DWG
SHEET NO.	G-5



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GP	GALLONS PER DAY	JB	JUNCTION BOX	MG/L	MILLIGRAMS PER LITER	PA	PLANT AIR	PS	PRIMARY SLUDGE	RR	RETURN REGISTER
GPM	GALLONS PER MINUTE	JC	JANITOR'S CLOSET	MGD	MILLION GALLONS PER DAY	PA	POLYAMIDE	PS	PUMP STATION	RS	RAW SEWAGE
GR	GRADE	JCT	JUNCTION	MH	MANHOLE	PAC	PLANT AIR COMPRESSOR	PSC	PRIMARY SCUM	RSL	RAW SLUDGE
GRAV	GRAVITY	JT	JOINT	MHS	METAL HOSE	PAG	AIRGAP PROTECTED WATER	PSE	PNEUMATIC SCUM EJECTORS	RSM	RETURN ACTIVATED SLUDGE METER
GRC	GRIT REMOVAL CHAMBER	JT FLR	JOINT FILLER	MIN	MINIMUM	PB	POLYBUTYLENE	PSF	POUNDS PER SQUARE FOOT	RSP	RETURN ACTIVATED SLUDGE PUMPS
GRP	GRIT REMOVAL PUMPS	KGV	KNIFE GATE VALVE	MIS	MECHANICAL INFLUENT SCREEN	PB	PUSHBUTTON	PSI	POUNDS PER SQUARE INCH	RST	RIGID STEEL
GRS	GALVANIZED RIGID STEEL	KO	KNOCKOUT	MISC	MISCELLANEOUS	PBAV	PLASTIC BALL VALVE	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	RT	RIGHT
GRTG	GRATING	L	LINE OR STRUCTURAL ANGLE DESIGNATION	MJ	MECHANICAL JOINT	PC	POINT OF CURVE (ATURE)	PSIG	POUNDS PER SQUARE INCH GAGE	RT	RUBBER TILE
GSC	GRIT SCREEN	LA	LIGHTNING ARRESTER	ML	MIXED LIQUOR	PC	POLYCARBONATE	PSP	PLANT SITE PUMP	RT	RUNNING TIME METER
GSKT	GASKET	LAB	LABORATORY	MO	MASONRY OPENING	PCC	POINT OF COMPLEX CURVATURE	PT	POINT	RTU	REMOTE THERMAL UNIT
GV	GATE VALVE	LAD	LADDER	MOD	MOTOR OPERATED DAMPER	PCCP	PRESTRESSED CONCRETE CYLINDER PIPE	PT	POTENTIAL TRANSFORMER	RVNR	REDUCE VOLTAGE NON-REVERSING
GYP	GYPSUM	LAM	LAMINATED	MON	MONUMENT	PCF	POUND PER CUBIC FOOT	PTD	PAINTED	RW	RAW WATER
HAS	HEADED ANCHOR STUD	LAM	LAMINATED	MOT	MOTOR	PCTFE	POLYCHLOROTRIFLUOROETHYLENE	PTFE	POLYTETRAFLUOROETHYLENE	RWL	RAIN WATER LEADER
HB	HOSE BIBB	LAT	LEAVING AIR TEMPERATURE	MPH	MILES PER HOUR	PCV	PRESSURE CONTROL VALVE	PUD	PERFORATED UNDERDRAIN	S	SOUNDING
HC	HEATING COIL	LAV	LAVATORY	MR	MOISTURE RESISTANT	PD	PUMP DISCHARGE OR POSITIVE DISPLACEMENT	PV	PLUG VALVE	S	SOUTH
HCL	HYDROCHLORIC ACID	LB	POUND	MRPP	METAL REINFORCED PLASTIC PIPE	PE	PLAIN END	PVC	POLYVINYL CHLORIDE	S	STEEL S-SHAPE DESIGNATION
HD	HEAVY DUTY	LBS	POUNDS	MSG	MOTORIZED SLUICE GATES	PE	PLANT EFFLUENT	PVI	POINT OF VERTICAL INTERSECTION	S02G	SULFUR DIOXIDE (GAS)
HDPE	HIGH DENSITY POLYETHYLENE	LCP	LOCAL CONTROL PANEL	MTD	MOUNTED	PEFL	PRIMARY EFFLUENT	PVMT	PAVEMENT	S02S	SULFUR DIOXIDE SOLUTION
HDR	HEADER	LCW	LABORATORY COLD WATER	MTG	MOUNTING	PEP	PLANT EFFLUENT PUMP	PVRV	PRESSURE VACUUM RELIEF VALVE	SA	SUPPLY AIR
HDWD	HARDWOOD	LF	LINEAL FEET	MTL	METAL	PERF	PERFORATED	PW	POTABLE WATER	SAN	SANITARY
HDWR	HARDWARE	LG	LONG	MV	MUD VALVE	PERIM	PERIMETER	PWD	PRIMARY WATER DRAIN	SAT	SUSPENDED ACOUSTICAL TILE
HEX	HEXAGON	LH	LABORATORY HOT WATER	MX	MIXER	PF	PHENOL-FORMALDEHYDE	PWL	PEAK WATER LEVEL	SBS	SODIUM BISULFITE
HFAC	HARNESSED FLANGED ADAPTOR COUPLING	LHW	LABORATORY HOT WATER	N	NORTH	PFM	POWER FACTOR METER	PWM	POTABLE WATER METER	SC	SCUM
HFL	HYDROFLUOSILIC ACID	LIME	LIME, DRY	N2	NITROGEN	PGA	PURGE AIR (LIME SILOS)	QT	QUARRY TILE	SCB	SCREENING CONVEYOR BELT
HGR	HANGER	LKR	LOCKER	NAOH	SODIUM CHLORIDE	PGC	PISTA GRIT CHAMBERS	QTB	QUARRY TILE BASE	SCCP	STEEL CYLINDER CONCRETE PIPE
HGT	HEIGHT	LLH	LONG LEG HORIZONTAL	NBR	NITRILE RUBBER	pH	HYDROGEN ION CONCENTRATION	QTY	QUALITY OR QUANTITY	SCHED	SCHEDULE
HH	HANDHOLE	LLV	LONG LEG VERTICAL	NC	NORMALLY CLOSED	PHOS	PHOSPHATE	R	RISER(S)	SCJ	SLAB CONTROL JOINT
HM	HOLLOW METAL	LNTL	LINTEL	NEC	NATIONAL ELECTRIC CODE	PHW	PROTECTED HOT WATER	R+S	BACKER ROD & SEALANT	SCL	SCRUBBING LIQUID
HOA	HAND-OFF-AUTO	LO	LOUVERS	NEUT	NEUTRAL	PI	POINT OF INTERSECTION	R/W	RIGHT-OF-WAY	SCR	SILICON CONTROLLED RECTIFIER
HOR	HORIZONTAL	LOC	LOCATION/LOCATED	NF	NEAR FACE	PINF	PRIMARY INFLUENT	RA	RETURN AIR	SCRN	SCREEN (MECHANICAL BAR SCREEN)
HP	HIGH POINT	LONG	LONGITUDINAL	NIC	NOT IN CONTRACT	PIP	POLYETHYLENE PIPE	RA	RETURN AIR	SCV	SILENT CHECK VALVE
HP	HORSE POWER	LP	LIGHT POLE	NO	NORMALLY OPEN OR NUMBER	PIF	PREMOLDED JOINT FILLER	RAD	RADIUS	SD	STORM DRAIN
HPA	HIGH PRESSURE AIR	LP	LOW POINT	NO	NOMINAL	PJF	PREMOLDED JOINT FILLER	RAS	RETURN ACTIVATED SLUDGE	SD	SUPPLY DIFFUSER
HR	HANDRAIL	LPA	LOW PRESSURE AIR	NOM	NOMINAL	PL	PILOT LIGHT	RB	RUBBER BASE	SE	SCRAPER EQUIPMENT
HS	HIGH SERVICE	LPNL	LIGHTING PANEL	NOS	NATIONAL OCEANOGRAPHIC SURVEY	PL	PLATE	RC	REINFORCED CONCRETE	SEC	SECONDS
HS	HIGH STRENGTH	LPO	LIQUID POLYMER	NPOL	NONIONIC POLYMER	PL	PLATE DESIGNATION	RCC	REINFORCED CONCRETE CYLINDER	SECT	SECTION
HSM	HIGH SERVICE MAIN	LR	LONG RADIUS	NPT	AMERICAN NATIONAL TAPER PIPE THREAD	PL OR P L	PROPERTY LINE	RCP	REINFORCED CONCRETE PIPE	SEF	SECONDARY EFFLUENT
HTHW	HIGH TEMPERATURE HOT WATER	LS	LONG SERVICE MAIN	NPW	(NON-POTABLE) WATER	PLC	PROGRAMMABLE LOGIC CONTROLLER	RCM	RECLAIMED WATER MAIN	SEJ	SLAB EXPANSION JOINT
HVA	HYDRAULIC VALVE ACTUATOR	LSM	LOW SERVICE MAIN	NPWP	NON POTABLE WATER PUMP	PLK	PLANK	RD	ROOF DRAIN	SF	SEAMLESS FLOORING
HVAC	HEATING, VENTILATING & AIR CONDITIONING	LSYS	LIME SYSTEM	NR	NATURAL RUBBER	PLP	POLYPHOSPHATE	RDWD	REDWOOD	SF	SUPPLY FAN
HW	POTABLE HOT WATER	LT	LEFT	NRS	NON-RISING STEM	PLS	PLASTIC LINED STEEL	RECT	RECEPTACLE	SF	SUPPLY FAN
HWA	HIGH WATER ALARM	LT	LIGHT (S)	NSG	NON-SHRINK GROUT	PLT	PLANT	REF	REFERENCE/REFER	SF	SILT FENCE
HWL	HIGH WATER LEVEL	LV	LIME VENT	NTS	NOT TO SCALE	PLW	PLANT WATER	REF	ROOF EXHAUST FAN	SFR	SYNTHETIC FIBER REINFORCED
HWR	HOT WATER RETURN	LVG	LEAVING	O/E	OR EQUAL	PLYWD	PLYWOOD	REG	REGISTER	SG	SLUICE GATE
HWS	HOT WATER SUPPLY	LW	LIGHTWEIGHT	O2	OXYGEN (GAS)	PM	PRESSED METAL	REINF	REINFORCE (D, ING)	SG-C	SLUICE GATE - MANUAL CRANK OPERATOR
HWW	HIGH PRESSURE WASHWATER	OA	OUTSIDE AIR	OC	ON CENTER OR ODOR CONTROL	PNL	PANEL	REQD	REQUIRED	SG-HW	SLUICE GATE - HAND WHEEL OPERATOR
Hz	HERTZ	OCB	ODOR CONTROL BLOWER	OCB	ODOR CONTROL BLOWER	PO	POLYMER SOLUTION	REQD	REQUIRED	SG-M	SLUICE GATE - MOTOR OPERATOR
IA	INSTRUMENT AIR	OCF	ODOR CONTROL FAN	OCF	ODOR CONTROL FAN	POJ	PUSH ON JOINT	RESID	RESIDUAL	SGFT	STRUCTURAL GLAZED FACING TILE
IAW	IN ACCORDANCE WITH	OCS	ODOR CONTROL SCRUBBER	OCS	ODOR CONTROL SCRUBBER	POLM	POLYMER	REV	REVISION	SGR	SLUDGE GRINDER
ID	INSIDE DIAMETER	OCW	OZONE SYSTEM COOLING WATER	OCW	OZONE SYSTEM COOLING WATER	POLYE	POLYETHYLENE	RF	ROOF FAN	SH	SHIELDED
IE	INVERT ELEVATION	OD	OUTSIDE DIAMETER	OD	OUTSIDE DIAMETER	POLYP	POLYPROPYLENE	RFG	ROOFING	SHC	SODIUM HYPOCHLORITE
IF	INSIDE FACE	OE	OVERHEAD ELECTRIC	OE	OVERHEAD ELECTRIC	POM	POLYOXYMETHYLENE	RG	RETURN GRILLE	SHT	SHEET
IFM	INFLUENT FLOW METERS	OF	OUTSIDE FACE	OF	OUTSIDE FACE	POT	POINT OF TANGENCY	RGH	ROUGH	SIM	SIMILAR
IIR	ISOBUTENE ISOPRENE (BUTYL) RUBBER	OFF	OFFICE	OFF	OFFICE	POTH	POTASSIUM HYDROXIDE	RH	RELATIVE HUMIDITY	SJ	SOLDERED JOINT
IN	INCH	OG	OZONE OFF GAS	OG	OZONE OFF GAS	POTP	POTASSIUM PERMANGANATE	RH	RUBBER HOSE	SK	SINK
INF	INFLUENT	OH	OVERHEAD (DOOR)	OH	OVERHEAD (DOOR)	PP	POWER POLE	RIS	RUBBER IN SHEAR	SL	SIGNAL LINE
INFP	INFLUENT PUMP	OL	OVERLOAD	OL	OVERLOAD	PPM	PARTS PER MILLION	RJ	RESTRAINED JOINT	SL	SLUDGE
INSTR	INSTRUMENT (TATION)	OPER	OPERATOR	OPER	OPERATOR	PQM	POWER QUALITY METER	RJ	RUSTIFICATION JOINT	SLG	SLIDE GATE
INSUL	INSULATION	OPNG	OPENING	OPNG	OPENING	PR	PAIR	RLCI	RUBBER LINED CAST IRON	SLG-C	SLIDE GATE - MANUAL CRANK OPERATOR
INT	INTERIOR	OPP	OPPOSITE	OPP	OPPOSITE	PR	PRETREATED WATER SYSTEM, PAIR	RLDI	RUBBER LINED DUCTILE IRON	SLG-HW	SLIDE GATE - HAND WHEEL OPERATOR
INVT	INVERT	OPP HD	OPPOSITE HAND	OPP HD	OPPOSITE HAND	PRC	POINT OF REVERSE CURVE	RLG	RAILING	SLG-M	SLIDE GATE - MOTOR
IPB	IRON PIPE BOUNDARY	OPT	OPTION(AL)	OPT	OPTION(AL)	PRCST	PRECAST	RMS	ROOT MEAN SQUARE	SLNT	SEALANT
IRB	IRON ROD BOUNDARY	OS	OXIDIZED SLUDGE	OS	OXIDIZED SLUDGE	PREFAB	PRE-FABRICATED	RND	ROUND	SLP	SLUDGE PUMP
IRP	INTERNAL RECYCLE PUMPS	OT	OVERHEAD TELEPHONE	OT	OVERHEAD TELEPHONE	PRESS	PRESSURE	RO	ROUGH OPENING	SLV	SLEEVE
IRR	IRRIGATION	OTV	OVERHEAD TELEVISION	OTV	OVERHEAD TELEVISION	PREST	PRESSURE TREATED	ROT	ROTAMETER	SN	SOLID NEUTRAL OR SUPERNATANT
ISOL	ISOLATOR, ISOLATION	OV	OVER	OV	OVER	PRIM	PRIMARY	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR		
		OVFD	OVERFLOW	OVFD	OVERFLOW	PRMLD	PREMOLDED	RPM	REVOLUTIONS PER MINUTE		
		OZ	OZONATED AIR	OZ	OZONATED AIR	PRW	PRESSURE WASTE	RR	RAILROAD		
		OZE	OZONE EXHAUST	OZE	OZONE EXHAUST						

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

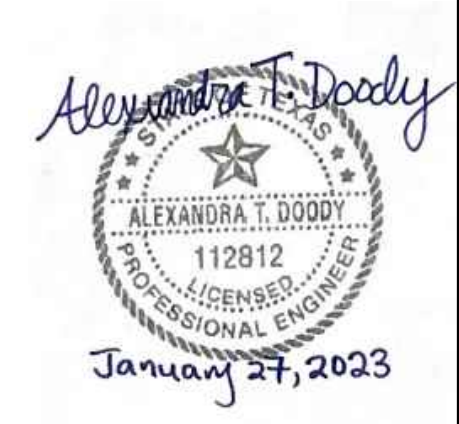
DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

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CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

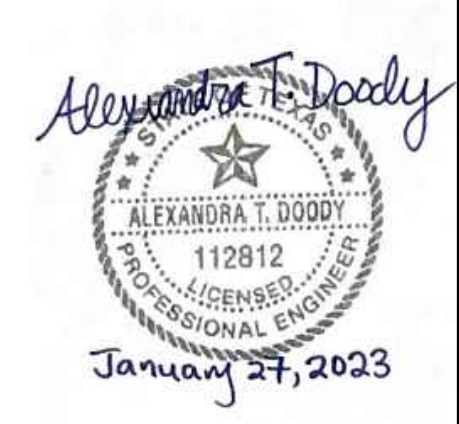
**ABBREVIATIONS II**

PROJECT NO. 2048-264953  
 FILE NAME:G006NFAB-SG.DWG  
 SHEET NO. G-6



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SOFL	SODIUM FLUORIDE	TOB	TOP OF BERM/BANK	W	WEST
SOJ	SLIP ON JOINT	TOC	TOP OF CURB/CONCRETE	W	WIDE
SOLN	SOLUTION	TOIL	TOILET	W/	WITH
SOLV	SOLENOID VALVE	TOPG	TOPPING	W/A	WHERE APPLICABLE
SP	SUMP PUMP	TOS	TOP OF STEEL	W/O	WITHOUT
SPEC	SPECIFICATION, SPECIFIED	TOW	TOP OF WALL	WAP	WALL PIPE
SPL	SAMPLE	TOXS	THICKENED OXIDIZED SLUDGE	WAS	WASTE ACTIVATED SLUDGE
SPL	SAMPLE LINE	TP	TURNING POINT	WB	WET BULB
SPR	SPRING	TPRP	THERMOPLASTIC REINFORCED PIPE	WBW	WASTE BACKWASH WATER
SPR	SPRINKLER LINE	TPS	THICKENED PRIMARY SLUDGE	WC	WATER CLOSET
SPTG	SEPTAGE	TR	TRIANGULATION POINT	WD	WIDTH
SPW	SPRAY WATER	TRNS	TRANSITION	WD	WOOD
SQ	SQUARE	TRNSV	TRANSVERSE	WDW	WINDOW
SR	SLUDGE RETURN	TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)	WF	WIDE FLANGE
SS	SANITARY SEWER OR STAINLESS STEEL	TSL	TOP OF SLAB OR THICKENED SLUDGE	WG	WASTE GAS
SSC	SECONDARY SCUM	TUBV	TIME UNION BALL VALVE	WH	WATER HEATER
SSFL	SODIUM SILICO FLUORIDE	TURB	TURBIDITY	WHDM	WATTHOUR DEMAND METER
SSIL	SODIUM SILICATE	TV	TELESCOPING VALVE	WHDR	WATTHOUR DEMAND RECORDER
SSK	SERVICE SINK	TWAS	THICKENED WASTE ACTIVATED SLUDGE	WHM	WATTHOUR METER
SSL	SECONDARY SLUDGE	TWF	THROUGH WALL FLASHING	WIPA	WASTE ISOPROPYL ALCOHOL
SST	STAINLESS STEEL	TYP	TYPICAL	WJ	WELDED JOINT
ST PR	STATIC PRESSURE OR SPACE (D)	U	HEAT TRANSFER COEFFICIENT	WL	WATER LEVEL
STA	STATION	UC	UNDERCUT	WL	WATER LINE
STD	STANDARD	UD	UNDERDRAIN	WM	WATER MAIN
STIF	STIFFENER	UGND	UNDERGROUND	WM	WATTMETER
STIR	STIRRUP (S)	UGTC	UNDERGROUND TELEPHONE CABLE	WNBA	WASTE N. BUTYL ACETATE
STL	STEEL	UH	UNIT HEATER	WNC	WASTE NON-CHLORINATED
STOR	STORAGE	UL	UNDERWRITERS LABORATORY	WOAS	WASTE OXYGEN ACTIVATED SLUDGE
STR	STRAINER	UN	UNION	WP	WELDED PIPE
STRUC	STRUCTURE (S, URAL)	UNO	UNLESS NOTED OTHERWISE	WP	WORKING POINT
STWY	STAIRWAY	UPVC	UN-PLASTICISED POLYVINYL CHLORIDE	WPG	WATERPROOFING
SUPT	SUPERINTENDENT	UR	URINAL	WR	WASHWATER RECOVERY
SUSP	SUSPENDED	V	VOLTS	WS	WATER SURFACE OR WATERSTOP
SW	SWITCH	VA	VENT AIR	WSD	WASHWATER DRAIN
SWBD	SWITCHBOARD	VA-H	HYDRAULIC VALVE OPERATOR	WSH	WASHWATER
SWD	SIDE WATER DEPTH	VA-M	MOTOR VALVE OPERATOR	WSL	WASTE SLUDGE
SWGR	SWITCHGEAR	VA-P	PNEUMATIC VALVE OPERATOR	WSM	WASTE ACTIVATED SLUDGE METER
SWK	SIDEWALK	VA-S	SOLENOID VALVE OPERATOR	WSP	WASTE ACTIVATED SLUDGE PUMPS
SYM	SYMMETRICAL	VAC	VACUUM	WSV	WALL SLEEVE
T	TREAD(S)	VAR	VARIOUS/VARIABLE	WT	STEEL TEE-SHAPE DESIGNATION
T&B	TOP AND BOTTOM	VAV	VARIABLE AIR VOLUME	WT	WEIGHT
T&G	TONGUE AND GROOVE	VB	VALVE BOX	WTHPRF	WEATHERPROOF
TAN	TANGENCY	VBR	VACUUM BREAKER	WTP	WATER TREATMENT PLANT
TAS	THICKENED ACTIVATED SLUDGE	VC	VICTAULIC COUPLING (SHOULDERED ENDS)	WW	WASTE WATER
T&G	TONGUE AND GROOVE	VC	VITRIFIED CLAY	WWF	WELDED WIRE FABRIC
TAN	TANGENCY	VCP	VITRIFIED CLAY PIPE	WWP	WASHWATER PUMPS
TAS	THICKENED ACTIVATED SLUDGE	VCT	VINYL COMPOSITION TILE	WWTP	WASTEWATER TREATMENT PLANT
TD	TEMPERATURE DIFFERENCE	VD	VOLUME DAMPER	WX	WATT TRANSDUCER
TD	TRENCH DRAIN	VE	VACUUM EXHAUST	XFER	TRANSFER
TDC	TIME DELAY ON CLOSING	VEL	VELOCITY	XFMR	TRANSFORMER
TDD	TIME DELAY AFTER DEENERGIZATION-OFF DELAY	VERT	VERTICAL	XP	EXPLOSION PROOF
TDE	TIME DELAY AFTER ENERGIZATION-ON DELAY	VFD	VARIABLE FREQUENCY DRIVE	YD	YARD
TDO	TIME DELAY ON OPENING	VIB	VIBRATION	YR	YEAR
TECH	TECHNICAL	VIPA	VIRGIN ISOPROPHYL ALCOHOL	ZOPH	ZINC ORTHOPHOSPHATE
TEL	TELEPHONE	VNBA	VIRGIN N. BUTYL ACETATE		
TEMP	TEMPERATURE	VOL	VOLUME		
TEMP	TEMPERED	VS	VARIABLE SPEED		
TEMP	TEMPORARY	VSD	VARIABLE SPEED DRIVE		
TER	TERRAZZO	VT	VENT		
TERB	TERRAZZO BASE	VTR	VENT THRU ROOF		
TF	TOP FACE				
TF	TRANSFER FAN				
TFP	TRANSFER PUMP				
TG	TRANSFER GRILLE				
THD	THREADED				
THK	THICK(NESS)				
THR	THRESHOLD				
TKBD	TACKBOARD				
TKD	TANK DRAIN				
TLV	TELESCOPING VALVE				
TM	TELEMETER OR TIME				



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

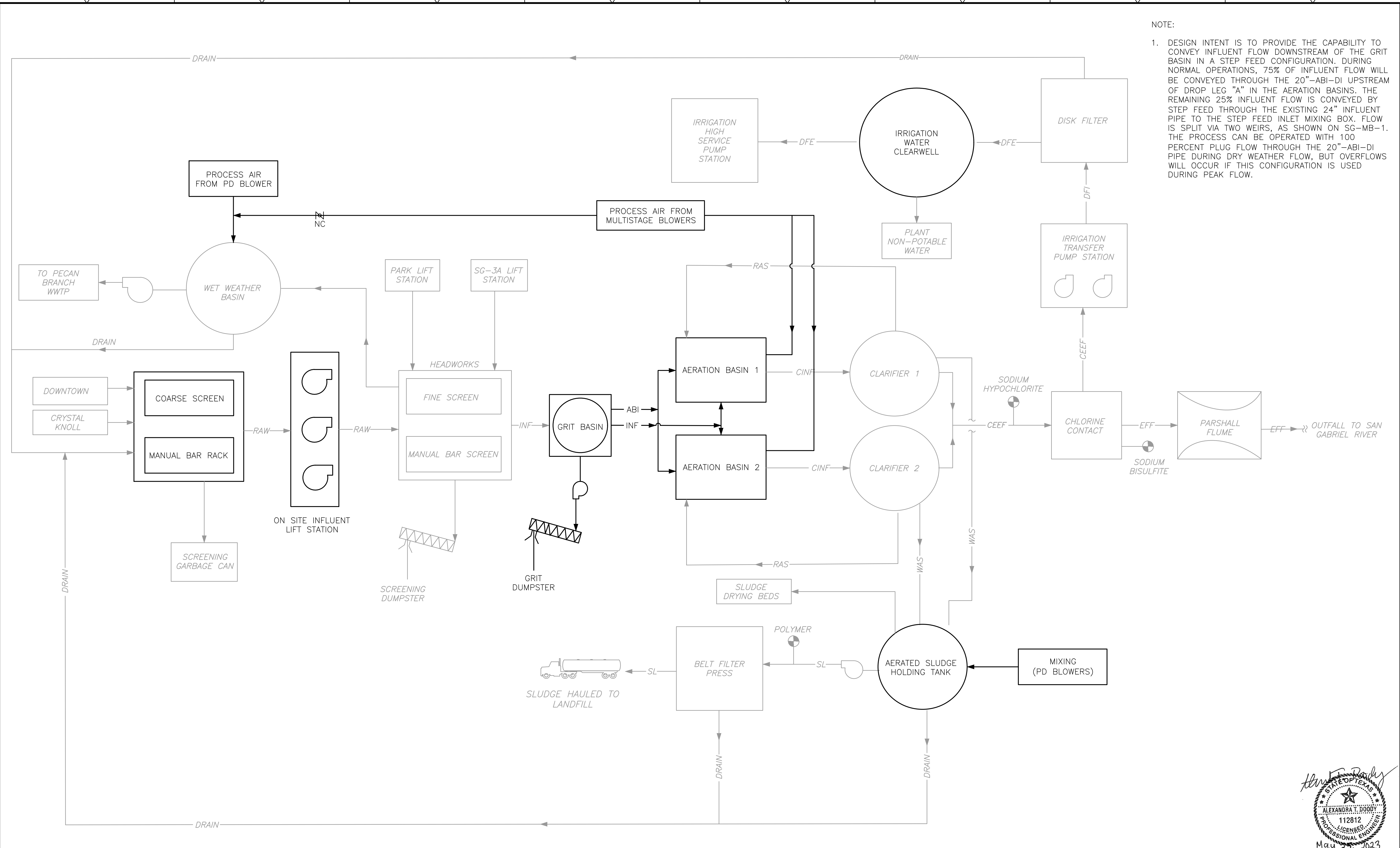


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ABBREVIATIONS III  
 SHEET NO. G-7

PROJECT NO. 2048-264953  
 FILE NAME: G007NFAB-SG.DWG  
 SHEET NO. G-7

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NOTE:  
 1. DESIGN INTENT IS TO PROVIDE THE CAPABILITY TO CONVEY INFLUENT FLOW DOWNSTREAM OF THE GRIT BASIN IN A STEP FEED CONFIGURATION. DURING NORMAL OPERATIONS, 75% OF INFLUENT FLOW WILL BE CONVEYED THROUGH THE 20"-ABI-DI UPSTREAM OF DROP LEG "A" IN THE AERATION BASINS. THE REMAINING 25% INFLUENT FLOW IS CONVEYED BY STEP FEED THROUGH THE EXISTING 24" INFLUENT PIPE TO THE STEP FEED INLET MIXING BOX. FLOW IS SPLIT VIA TWO WEIRS, AS SHOWN ON SG-MB-1. THE PROCESS CAN BE OPERATED WITH 100 PERCENT PLUG FLOW THROUGH THE 20"-ABI-DI PIPE DURING DRY WEATHER FLOW, BUT OVERFLOWS WILL OCCUR IF THIS CONFIGURATION IS USED DURING PEAK FLOW.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	JAM	ATD	REVISION FOR ADDENDUM NO. 3

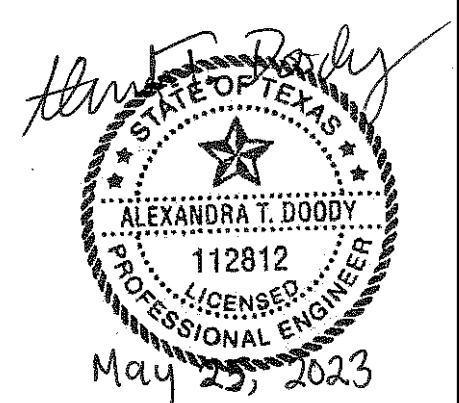
DESIGNED BY: J. MAYER  
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTW  
 REHABILITATION

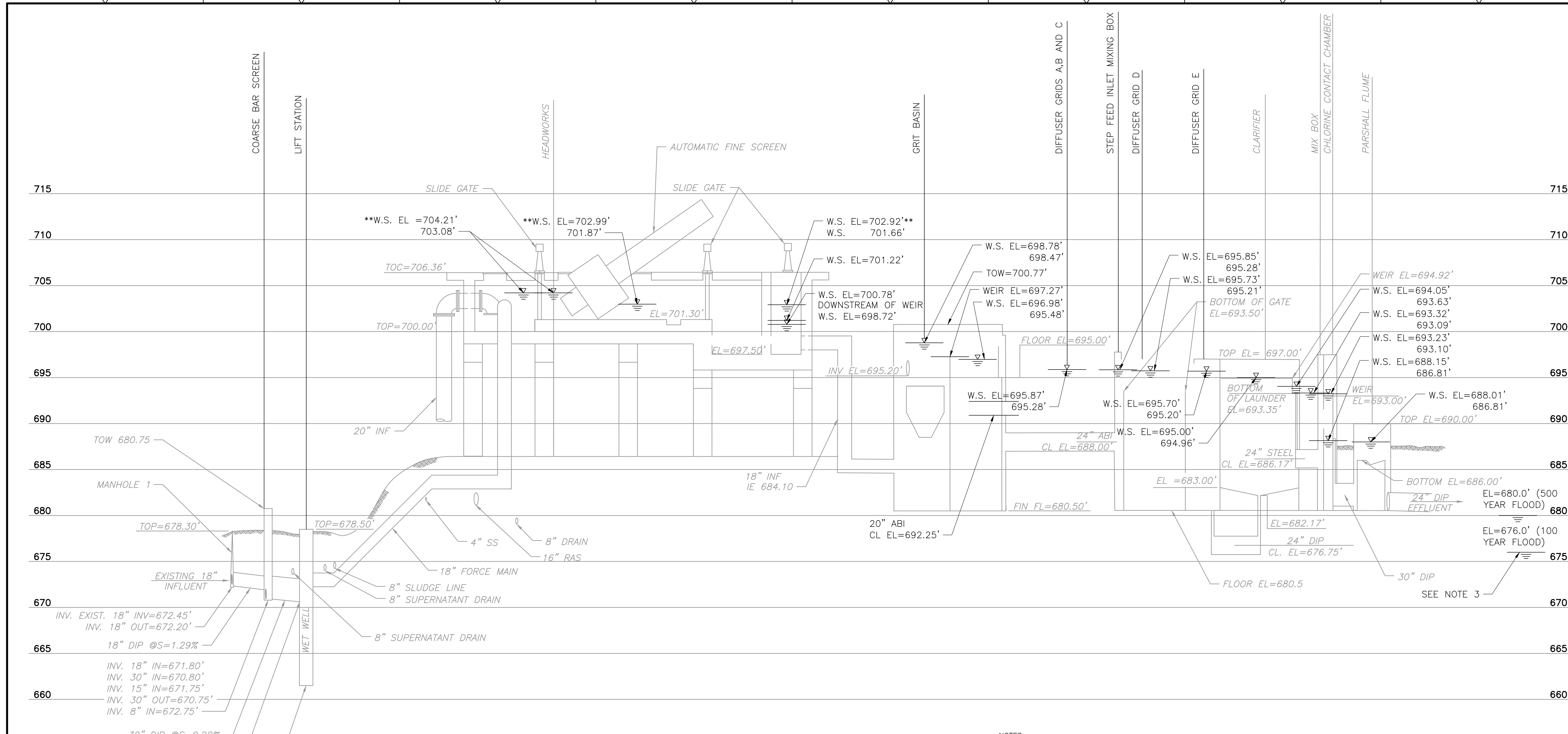
SAN GABRIEL WWTW  
 PROPOSED PROCESS FLOW DIAGRAM

PROJECT NO. 2048-264953  
 FILE NAME: SGG1.DWG  
 SHEET NO. SG-G-1

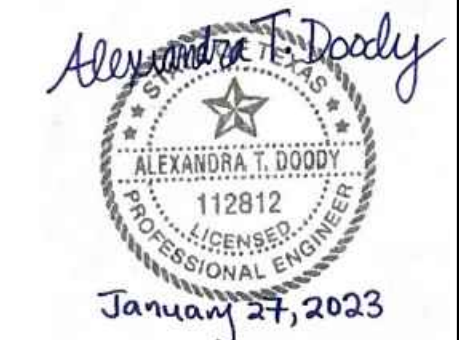




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- NOTES:**
- EXISTING STRUCTURE ELEVATIONS FROM 1981 PLANT DRAWINGS HAVE BEEN ADJUSTED UPWARD BY 0.5 FEET BASED ON THE CHANGE OF PROJECT DATUM MENTIONED IN THE 2011 SAN GABRIEL WASTEWATER TREATMENT PLANT WET WEATHER AND IRRIGATION WATER IMPROVEMENTS PROJECT HYDRAULIC PROFILE DRAWING SEALED BY JAVIER RAMIREZ.
  - REFER TO CIVIL SHEETS FOR YARD PIPING AND PROFILE DATA.
  - FLOOD ELEVATIONS SHOWN ARE BASED ON FIRM PANEL 48491C0293F EFFECTIVE FROM 12-10-2019.
  - PROCESS DEPICTED HEREIN IS WITH 75% OF INFLUENT FLOW BEING CONVEYED BY PLUG FLOW THROUGH THE 20"-ABI-DI UPSTREAM OF DROPLEG GRID A. REMAINDER 25% INFLUENT FLOW IS CONVEYED BY STEP FEED THROUGH EXISTING 24"-INF-DI TO THE STEP FEED INLET MIXING BOX. FLOW IS SPLIT VIA WEIR SIZING DISTRIBUTION, AS SHOWN ON SG-MB-1.
- LEGEND**
- W.S. EL @ PEAK FLOW TREATMENT UNIT (7.5 MGD)  
 W.S. EL @ AVERAGE FLOW (2.5 MGD)
- NOTE : \*\* DESIGNATES THAT CORRESPONDING ELEVATION IS AT 15.5 MGD PEAK FLOW.  
 HEADWORKS SCREEN IS DESIGNED FOR 15.5 MGD CAPACITY.



DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJ
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

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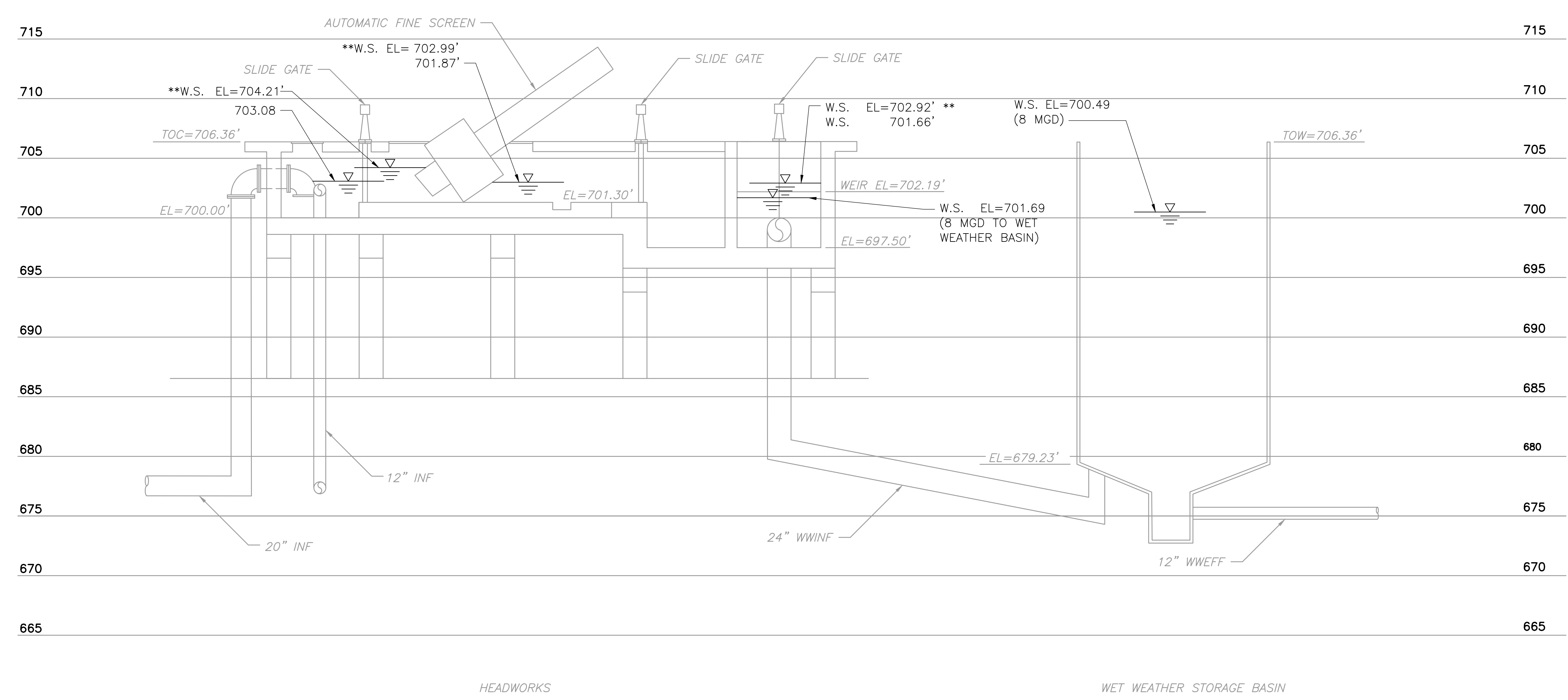
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 HYDRAULIC PROFILE I**

SHEET NO.  
**SG-G-2**

PROJECT NO.	2048-264953
FILE NAME:	SGG2.DWG

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HEADWORKS WET WEATHER STORAGE BASIN

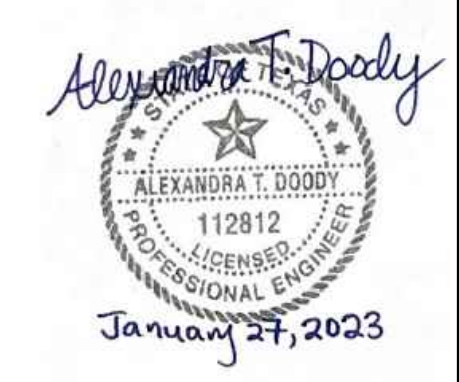
FLOW DIVERSION TO WET WEATHER STORAGE

- NOTES:**
- EXISTING STRUCTURE ELEVATIONS FROM 1981 PLANT DRAWINGS HAVE BEEN ADJUSTED UPWARD BY 0.5 FEET BASED ON THE CHANGE OF PROJECT DATUM MENTIONED IN THE 2011 SAN GABRIEL WASTEWATER TREATMENT PLANT WET WEATHER AND IRRIGATION WATER IMPROVEMENTS PROJECT HYDRAULIC PROFILE DRAWING SEALED BY JAVIER RAMIREZ.
  - REFER TO CIVIL SHEETS FOR YARD PIPING AND PROFILE DATA.
  - HYDRAULIC PROFILE IS SHOWN FOR INFORMATIONAL PURPOSE ONLY. NO CHANGES ARE PROPOSED TO STRUCTURES SHOWN ON THIS DRAWING.

**LEGEND**

W.S. EL @ PEAK FLOW TREATMENT UNIT (7.5 MGD)  
 W.S. EL @ AVERAGE FLOW (2.5 MGD)

NOTE : \*\* DESIGNATES THAT CORRESPONDING ELEVATION IS AT 15.5 MGD PEAK FLOW. HEADWORKS SCREEN IS DESIGNED FOR 15.5 MGD CAPACITY.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 HYDRAULIC PROFILE II**  
 SHEET NO.  
**SG-G-3**

PROJECT NO.	2048-264953
FILE NAME:	SGG3.DWG
SHEET NO. <b>SG-G-3</b>	

# DESIGN CRITERIA

INFLUENT DESIGN CRITERIA	
WASTEWATER FLOWS (MGD)	
ANNUAL AVERAGE DAY (ADF)	2.50
PEAK 2-HOUR FLOW TO HEADWORKS	15.50
PEAK 2-HOUR FLOW TO TREATMENT STRUCTURE	7.50
INFLUENT LOADS	
AVERAGE INFLUENT BOD5, mg/l	159
AVERAGE INFLUENT TSS, mg/l	214
AVERAGE INFLUENT AMMONIA-N, mg/l	32
MAXIMUM DAY INFLUENT BOD5 LOAD, lb/d	5,512
MAXIMUM DAY INFLUENT TSS LOAD, lb/d	7,181
MAXIMUM DAY INFLUENT AMMONIA-N LOAD, lb/d	1,066
MAXIMUM DAY INFLUENT TKN, lb/d	1,640

COARSE BAR SCREEN	
NUMBER	1
TYPE	Mechanical Multi-Rake
BAR SPACING, in	3/4"
PEAK DESIGN CAPACITY, mgd	3.70
ESTIMATED SCREENINGS QUANTITY, cubic yards/week	1.00- 2.60
GARBAGE CAN CAPACITY, gallons/week	95

ON-SITE INFLUENT LIFT STATION	
NUMBER OF PUMPS	3 (2 duty, 1 standby)
TYPE	Submersible, Constant Speed
TOTAL FIRM CAPACITY, mgd	5.25
DESIGN CAPACITY, EACH gpm	1,825
DESIGN TDH, ft	53
MOTOR, hp	50

HEADWORKS	
FINE SCREEN	
NUMBER	1
UNIT CAPACITY, mgd	15.50
PERFORATION SIZE, mm	6

WET WEATHER STORAGE BASIN	
GENERAL DESIGN CRITERIA	
TOTAL VOLUME, gallons	550,000
MAXIMUM SIDE WATER DEPTH, ft	21
DIAMETER, ft	65
MIXING TYPE	Wide Band Coarse Bubble Diffusers
TANK MIXING BLOWER	
BLOWER NUMBER	1
BLOWER TYPE	Tri-Lobe Positive Displacement
CAPACITY EACH, scfm	1,500
DESIGN PRESSURE, psig	10
BLOWER MOTOR, hp	125

PECAN BRANCH TRANSFER PUMP STATION	
NUMBER	2
TYPE	Vertical Turbine Can Pumps
DESIGN FLOW, gpm	1,500
DESIGN TDH, ft	214
MOTOR, hp	200

GRIT REMOVAL SYSTEM	
GENERAL DESIGN CRITERIA	
NUMBER CHAMBERS	1
TYPE	Stacked Tray Vortex Separator
UNIT CAPACITY, mgd	7.50
HEADLOSS THROUGH SYSTEM (PEAK), inches	12
CAPTURE EFFICIENCY	95% of 106 µm particles and larger
CONFIGURATION	9-ft diameter, 7 trays
GRIT PUMPS	
NUMBER	2 (1 duty, 1 standby)
TYPE	Recessed Impeller
DESIGN CAPACITY, gpm	250
DESIGN TDH, ft	18
MOTOR, hp	10
GRIT CLASSIFIER	
NUMBER	1
CLARIFIER DIAMETER SIZE, in	84
DESIGN FLOW	250 gpm
CAPTURE EFFICIENCY	95% of 75 µm particles and larger
AUGER MOTOR, hp	2
AGITATOR MOTOR, hp	1
GRIT DUMPSTER	
NUMBER	1
TYPE	Dewatering Front Loader
CAPACITY, cubic yards	3

AERATION TANKS	
GENERAL	
NUMBER	2
SIDE WATER DEPTH, ft	15
TOTAL VOLUME, EACH TANK, million gallons	0.95
AEROBIC VOLUME, DIFFUSER GRID A,B, AND C, EACH TANK, million gallons	0.36
AEROBIC VOLUME, DIFFUSER GRID D, EACH TANK, million gallons	0.35
AEROBIC VOLUME, DIFFUSER GRID E, EACH TANK, million gallons	0.24
DIFFUSERS	
DIFFUSER TYPE	Fine Bubble 9-inch Ceramic Disk
DESIGN AVERAGE AIR FLOW, scfm	4,100
DESIGN MAX DAY AIR FLOW, scfm	5,600
MAIN AERATION BLOWERS	
NUMBER	4 (3 duty, 1 standby)
TYPE	Multistage Centrifugal
MOTOR, hp	125
CAPACITY, scfm	1,867
DESIGN PRESSURE, psig	8.50
TOTAL FIRM CAPACITY, scfm	5,600

SECONDARY CLARIFIERS	
NUMBER	2
DIAMETER, ft	85
SIDE WATER DEPTH, ft	12
MAX DAY OVERFLOW RATE, gpd/sf	440
MAX DAY SOLIDS LOADING, lbs/d/sf	35

RAS AIRLIFT PUMPS	
RAS AIRLIFT AIR DEMAND, scfm (each)	30"
NUMBER PUMPS	2 PER TRAIN (4 TOTAL)
AIRLIFT DIAMETER, inches	12"
STATIC SUBMERGENCE, %	90"
STATIC SUBMERGENCE, ft	13"
FLOW CAPACITY PER PUMP, gpm	500 - 1,000"
AIR SUPPLY REQUIRED PER LIFT, scfm	25 TO 40"
TOTAL RAS PUMPING CAPACITY, mgd	5.6"

CHLORINE CONTACT CHAMBER	
NUMBER	2
TOTAL VOLUME, gallons	240,000"

SLUDGE TRANSFER (WAS) AIRLIFT PUMPS	
AIRLIFT DIAMETER, inches	6"
STATIC SUBMERGENCE, %	82"
STATIC SUBMERGENCE, ft	12"
FLOW CAPACITY PER PUMP, gpm	120-260"
AIR SUPPLY REQUIRED PER LIFT, scfm	14-21"
TOTAL WAS PUMPING CAPACITY, mgd	0.75"

AERATED SLUDGE HOLDING TANK (DIGESTER)	
GENERAL	
NUMBER	1
EXISTING VOLUME, gal	485,000
NEW VOLUME, gal	100,000
TOTAL FUTURE VOLUME, gal	585,000
MAXIMUM SIDE WATER DEPTH, ft	15
AVERAGE HYDRAULIC DETENTION TIME (days)	
MIXING TYPE	Wide Band Coarse Bubble Diffusers
BLOWERS	
NUMBER	2 (1 duty/1 standby)
TYPE	Tri-Lobe Positive Displacement
CAPACITY EACH, scfm	1,650
DESIGN PRESSURE, psig	8
BLOWER MOTOR, hp	150

SLUDGE FEED PUMPS	
NUMBER	2
TYPE	Progressing Cavity with VFDs
MOTOR, hp	20
DESIGN FLOW, gpm	250
DESIGN TDH, ft	80

SLUDGE DEWATERING	
GENERAL	
NUMBER	1
TYPE	Belt Filter Press (3-Belt)
BELT WIDTH, meters	2
DESIGN LOADING RATE, gpm	250
FEED SOLIDS CONCENTRATION, %	0.8 - 3.0
CONVEYOR	
NUMBER	1
state	Serpentix Belt Conveyor
CAPACITY, lbs/hr	15,000

NON-POTABLE WATER PUMPS	
NUMBER	1
TYPE	Centrifugal
MOTOR, hp	20
PRESSURE, psi	165
REUSE CLEARWELL	
DIAMETER, ft	94
TOTAL STORAGE, gal	390,000

FILTRATION FOR RECLAIMED WATER	
NUMBER	1
TYPE	Pile Cloth Disk Filters
PEAK LOADING RATE, gpm/sf	6.5

IRRIGATION TRANSFER PUMP STATION	
NUMBER	2
TYPE	Vertical turbine can pumps
DESIGN FLOW, gpm	694
DESIGN TDH, ft	28
MOTOR, hp	10

IRRIGATION HIGH SERVICE PUMP STATION	
NUMBER	4
TYPE	Vertical turbine can pumps
PUMP NO. 1	
DESIGN CAPACITY, gpm	100
DESIGN TDH, ft	250
MOTOR, hp	10
PUMP NO. 2	
DESIGN CAPACITY, gpm	420
DESIGN TDH, ft	369
MOTOR, hp	50
PUMP NO. 3 & 4	
DESIGN CAPACITY, gpm	840
DESIGN TDH, ft	369
MOTOR, hp	125

SODIUM HYPOCHLORITE CHEMICAL FEED SYSTEM	
TANKS	
NUMBER	2
TOTAL VOLUME, gal	6,000

SODIUM BISULFITE CHEMICAL FEED SYSTEM	
TANKS	
NUMBER	2
TOTAL VOLUME, gal	2,900
FEED PUMPS	
NUMBER	2
TYPE	Peristaltic
CAPACITY, gph	2
DESIGN PRESSURE, psi	3

**NOTES:**

\* ESTIMATED PER INFORMATION AVAILABLE IN 1981 RECORD DRAWINGS. NOT FIELD VERIFIED.

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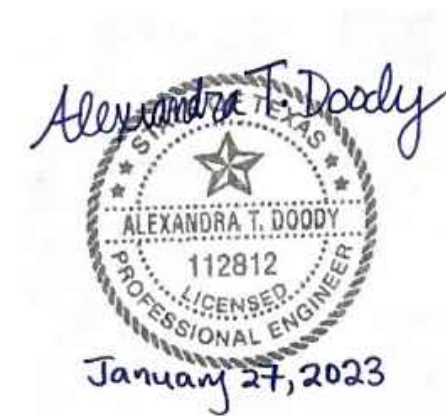
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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER	 9430 Research Blvd., Suite 1-200 Austin, TX 78759 Tel: (512) 346-1100 TBPE Firm Registration No. F-3043
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SHEET CHK'D BY: A. DOODY	
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APPROVED BY: A. DOODY	
DATE: JANUARY 2023	

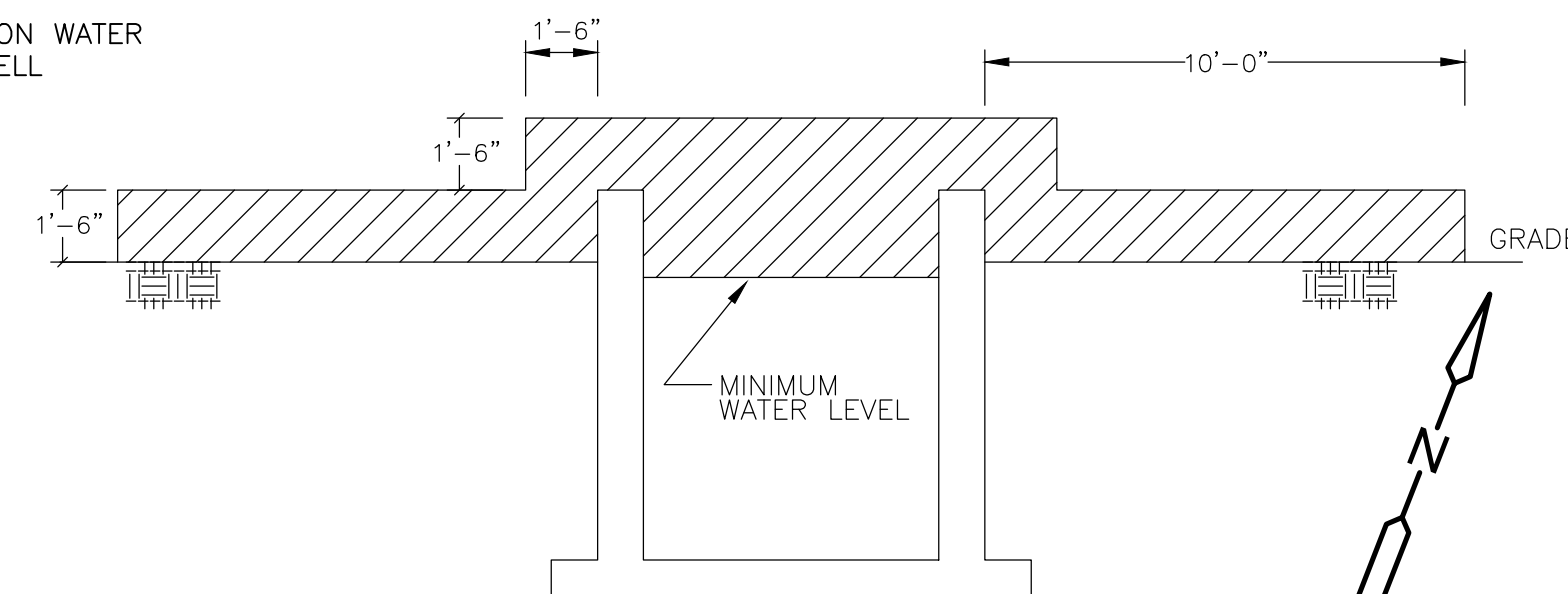
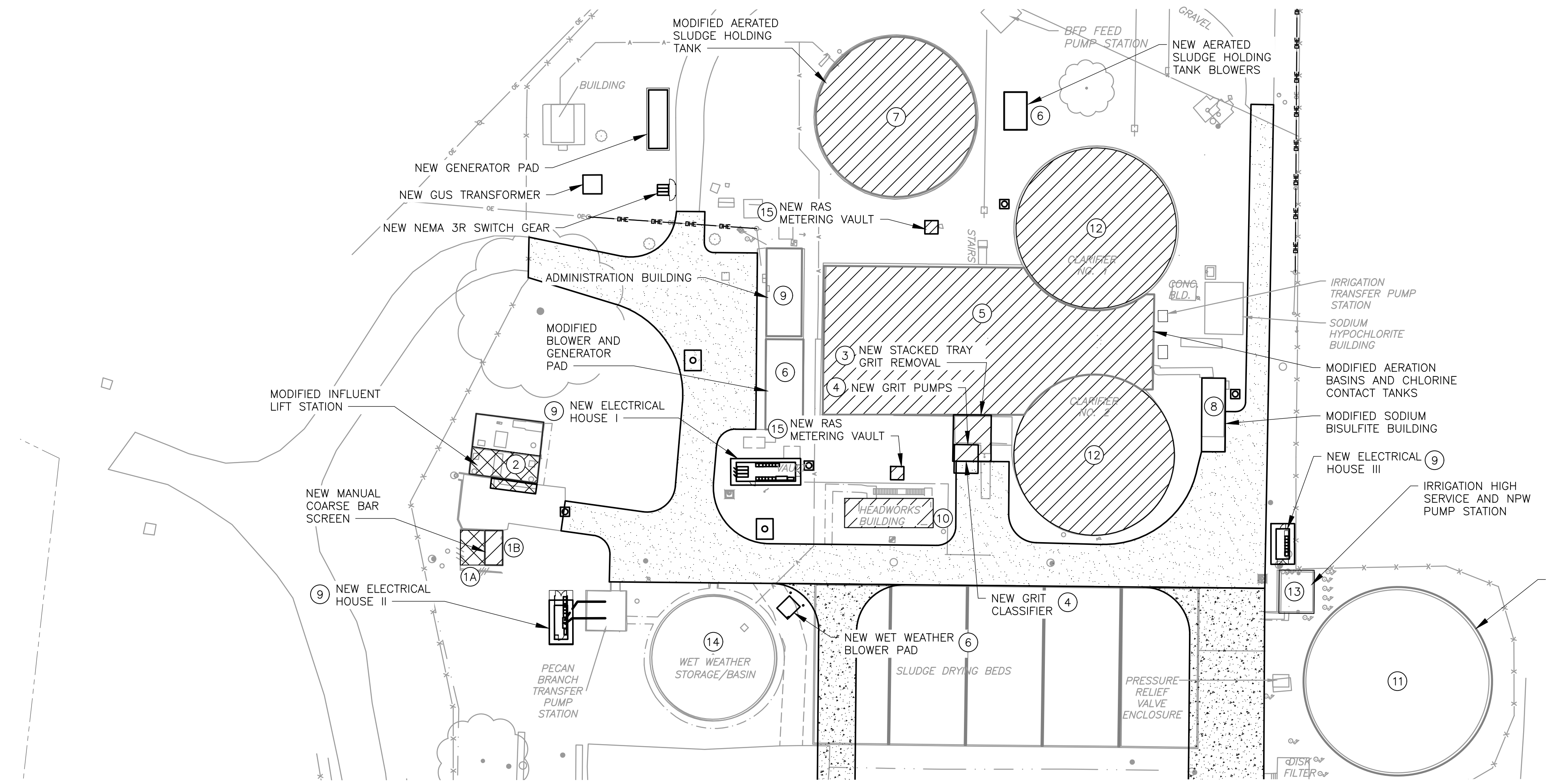
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 REHABILITATION**

**SAN GABRIEL WWTP  
 DESIGN CRITERIA**

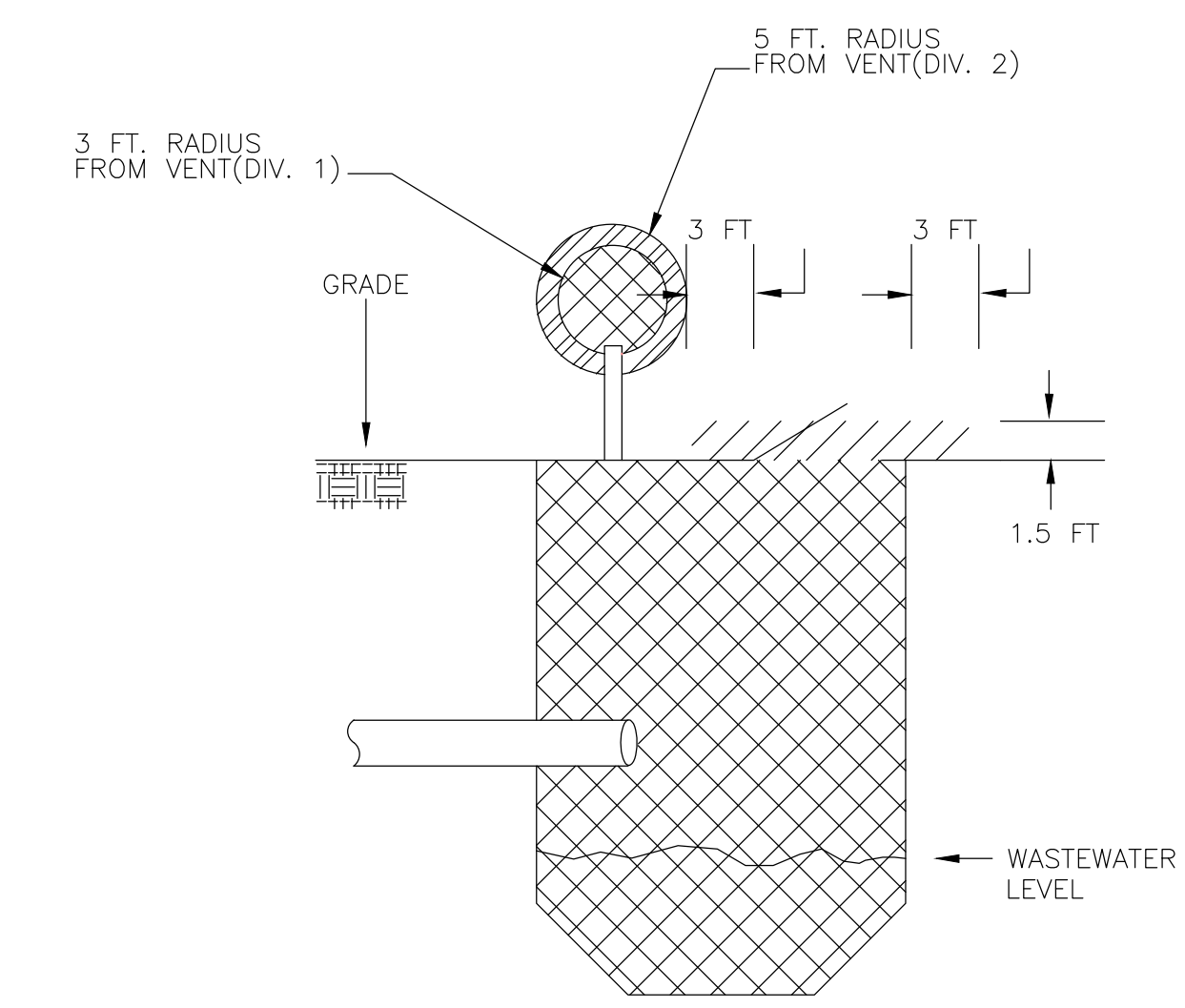
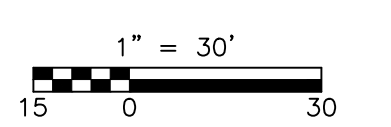
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FILE NAME:	SGG4.DWG
SHEET NO.	
<b>SG-G-4</b>	



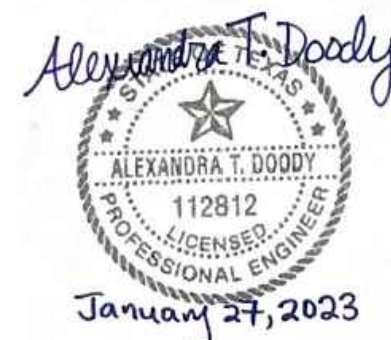
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NFPA 820, FIGURE A-5-2  
UNCOVERED PRIMARY SETTLING TANKS  
NTS



NFPA 820, FIGURE A.4.2(c)  
WET WELL  
NTS



**AREA CLASSIFICATION LEGEND:**



**ABBREVIATIONS:**

- N/A - NOT APPLICABLE
- CGD - COMBUSTIBLE GAS DETECTION
- H - HYDRANT
- FE - PORTABLE FIRE EXTINGUISHER
- FAS - FIRE ALARM SYSTEM
- NR - NO REQUIREMENT
- FDS - FIRE DETECTION SYSTEM
- FPM - FIRE PROTECTION MEASURES

TAG	BUILDING STRUCTURE	ENVIRONMENTAL DESIGNATION	FIRE PROTECTION SYSTEMS	NFP 820 CLASSIFICATION	NFPA 820 - 2020 TABLE REFERENCE	EXTENT OF CLASSIFIED AREA
1A	MECHANICAL COARSE BAR SCREEN	WET/CORROSIVE	FE, H	CLASS 1, DIV 1	TABLE 5.2.2 ROW 2(A)	ENTIRE SPACE
1B	MANUAL COARSE BAR SCREEN	WET/CORROSIVE	FE, H	CLASS 1, DIV 2	TABLE 5.2.2 ROW 2(c)	WITHIN 10 FT. ENVELOPE AROUND EQUIPEMENT AND OPEN CHANNEL
2A	INFLUENT LIFT STATION - LOWER LEVEL	WET/CORROSIVE	N/A	CLASS 1, DIV 1	TABLE 4.2.2 ROW 16(a)	ENTIRE SPACE
2B	INFLUENT LIFT STATION - UPPER LEVEL	WET/CORROSIVE	N/A	CLASS 1, DIV 2	TABLE 4.2.2 ROW 16(a)	ENTIRE SPACE, REFER TO FIGURE A.4.2 (c) ON THIS SHEET
3	GRIT BASIN - STACKED TRAY REMOVAL	WET/CORROSIVE	FE, H	CLASS 1, DIV 2	TABLE 5.2.2 ROW 5(c)	WITHIN 10 FT. ENVELOPE AROUND EQUIPEMENT AND OPEN CHANNEL
4	GRIT BASIN - GRIT PUMPS/CLASSIFIER	WET/CORROSIVE	FE, H	CLASS 1, DIV 2	TABLE 5.2.2 ROW 5(c)	WITHIN 10 FT. ENVELOPE AROUND EQUIPEMENT AND OPEN CHANNEL
5	TREATMENT UNIT	WET/CORROSIVE	H	CLASS 1, DIV 2	"TABLE 5.2.2 ROW 8(a) TABLE 5.2.2 ROW 7(c)"	INTERIOR OF THE TANK FROM MINIMUM WATER SURFACE TO THE TOP OF THE TANK WALL, 18" ABOVE THE TOP OF THE TANK AND EXTENDING 18" BEYOND THE EXTERIOR WALL, ENVELOPE 18" ABOVE GRADE EXTENDING 10' HORIZONTALLY FROM THE EXTERIOR TANK WALLS. SEE FIGURE A-5-2 ON THIS SHEET
6	BLOWERS	DRY	N/A	UNCLASSIFIED	N/A	N/A
7	AERATED SLUDGE HOLDING TANK	WET/CORROSIVE	N/A	CLASS 1, DIV 2	TABLE 6.2.2 ROW 11(c)	ENVELOPE 18" ABOVE WATER SURFACE AND 10' HORIZONTALLY FROM WETTED WALLS
8	SODIUM BISULFITE STORAGE AND FEED AREA	WET/CORROSIVE	N/A	UNCLASSIFIED	N/A	N/A
9	ADMINISTRATION AND ELECTRICAL BUILDINGS	DRY	N/A	UNCLASSIFIED	N/A	N/A
10	HEADWORKS	WET/CORROSIVE	FE, H	CLASS 1, DIV 2	TABLE 5.2.2 ROW 2(c)	WITHIN 10 FT. ENVELOPE AROUND EQUIPEMENT AND OPEN CHANNEL
11	IRRIGATION CLEARWELL	WET	H	UNCLASSIFIED	TABLE 5.2.2 ROW 27	N/A
12	CLARIFIERS	WET	H	CLASS 1, DIV 2	TABLE 5.2.2 ROW 16	N/A
13	IRRIGATION HIGH SERVICE AND NPW PUMP STATION	WET	H	UNCLASSIFIED	TABLE 5.2.2 ROW 21	N/A
14	WET WEATHER STORAGE BASIN	WET/CORROSIVE	N/A	UNCLASSIFIED	TABLE 4.2.2 ROW 33	N/A
15	RAS METERING VAULT	WET/CORROSIVE	N/A	CLASS 1, DIV 2	TABLE 4.2.2 ROW 34(a)	ENTIRE SPACE

**NOTE:**  
1. THIS TABLE IS INCLUDED FOR CONTRACTOR CONVENIENCE BUT IT DOES NOT OVERRIDE THE SPECIFICATIONS.

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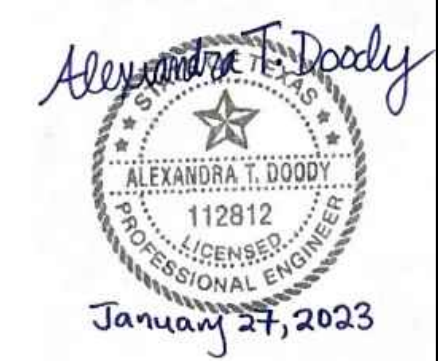
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**SAN GABRIEL WWTP  
 AREA CLASSIFICATION**  
 SHEET NO. **SG-G-5**

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TAG	BUILDING STRUCTURE	ENVIRONMENTAL DESIGNATION	NFP 820 CLASSIFICATION	NEMA 250 ENCLOSURE CLASSIFICATION	NEMA 250 ENCLOSURE MATERIALS (SEE NOTE 4)	CONDUIT TYPE (SEE NOTE 5)	MATERIALS FOR ELECTRICAL OUTLET AND DEVICE BOXES, MOUNTING PLATES AND FITTINGS	ELECTRICAL FRAMING CHANNEL AND CONDUIT/CABLE TRAY SUPPORTS MATERIAL	DUCTWORK MATERIALS	MATERIALS FOR DUCTWORK SUPPORTS (SEE NOTES 3 AND 4)	"PIPING SUPPORTS (ALL TRADES) (SEE NOTES 3 AND 4)"	GRATING	HANDRAIL	ANCHOR BOLTS FOR ALL TRADES	MOUNTING HARDWARE FOR ALL TRADES (SEE NOTE 2)
1A	MECHANICAL COARSE BAR SCREEN	WET/CORROSIVE	CLASS 1, DIV 1	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	FPR, ALUMINUM	ALUMINUM	316 SST	316 SST
1B	MANUAL COARSE BAR SCREEN	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	FPR, ALUMINUM	ALUMINUM	316 SST	316 SST
2	INFLUENT LIFT STATION	WET/CORROSIVE	CLASS 1, DIV 1	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	FPR, ALUMINUM	ALUMINUM	316 SST	316 SST
3	GRIT BASIN – STACKED TRAY REMOVAL	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM	ALUMINUM	316 SST	316 SST
4	GRIT BASIN – GRIT PUMPS/CLASSIFIER	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM	ALUMINUM	316 SST	316 SST
5	TREATMENT UNIT	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM	ALUMINUM	316 SST	316 SST
6	BLOWERS	DRY	UNCLASSIFIED	NEMA 4X	PAINTED STEEL	RIGID ALUMINUM	CAST ALUMINUM	HOT DIPPED GALVANIZED STEEL	GALVANIZED STEEL, ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	N/A	ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL
7	AERATED SLUDGE HOLDING TANK	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM	ALUMINUM	316 SST	316 SST
8	SODIUM BISULFITE STORAGE AND FEED AREA	WET/CORROSIVE	UNCLASSIFIED	NEMA 4X	FRP	RIGID, NON-METALLIC, SCHEDULE 80 PVC	PVC	316 SST	N/A	N/A	316 SST OR FRP	FRP	FRP	316 SST	316 SST
9	ADMINISTRATION AND ELECTRICAL BUILDINGS	DRY	UNCLASSIFIED	NEMA 1/NEMA 12	PAINTED STEEL	RIGID ALUMINUM	CAST ALUMINUM	HOT DIPPED GALVANIZED STEEL	GALVANIZED STEEL, ALUMINUM, FRP	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	N/A	ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL
10	HEADWORKS	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM, SST	ALUMINUM	316 SST	316 SST
11	IRRIGATION CLEARWELL	WET	UNCLASSIFIED	NEMA 4X	PAINTED STEEL	RIGID ALUMINUM	CAST ALUMINUM	HOT DIPPED GALVANIZED STEEL	GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	N/A	ALUMINUM	316 SST	316 SST
12	CLARIFIERS	WET	CLASS 1, DIV 2	NEMA 7	316 SST	CAST ALUMINUM	CAST ALUMINUM	316 SST	GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM	ALUMINUM	316 SST	316 SST
13	IRRIGATION HIGH SERVICE AND NPW PUMP STATION	WET	UNCLASSIFIED	NEMA 4X	PAINTED STEEL	RIGID ALUMINUM	CAST ALUMINUM	HOT DIPPED GALVANIZED STEEL	GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	N/A	ALUMINUM	316 SST	316 SST
14	WET WEATHER STORAGE BASIN	WET/CORROSIVE	UNCLASSIFIED	NEMA 4X	316 SST	RIGID ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	ALUMINUM	ALUMINUM	316 SST	316 SST
15	RAS METERING VAULT	WET/CORROSIVE	CLASS 1, DIV 2	NEMA 4X	316 SST	RIGID ALUMINUM	CAST ALUMINUM	316 SST	ALUMINUM, FRP	316 SST	316 SST	N/A	ALUMINUM	316 SST	316 SST

**NOTES:**

- THIS TABLE IS INCLUDED FOR CONTRACTOR CONVENIENCE BUT IT DOES NOT OVERRIDE THE SPECIFICATIONS.
- HARDWARE MATERIALS SHALL BE SIMILAR FOR PROCESS MECHANICAL, PLUMBING, FIRE, HVAC, ELECTRICAL AND INSTRUMENTATION AND CONTROLS SYSTEM UNLESS OTHERWISE NOTED.
- PIPE SUPPORT MATERIALS SHALL BE SIMILAR FOR PROCESS MECHANICAL, PLUMBING, FIRE, HVAC PIPING SYSTEMS.
- MATERIALS NOTED ABOVE APPLY TO ALL AREAS OF THE PROJECT UNLESS OTHERWISE NOTED.
- LIQUID TIGHT FLEXIBLE ALUMINUM CONDUIT SHALL BE USED FOR CONNECTION TO ONLY VIBRATING EQUIPMENT IN ALL AREAS. CONDUIT BENDS OF MORE THAN 15 DEGREES IN DUCTBANKS AND LOCATIONS WHERE CONDUIT TRANSITIONS FROM BELOW GRADE SHALL BE PVC COATED.



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 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



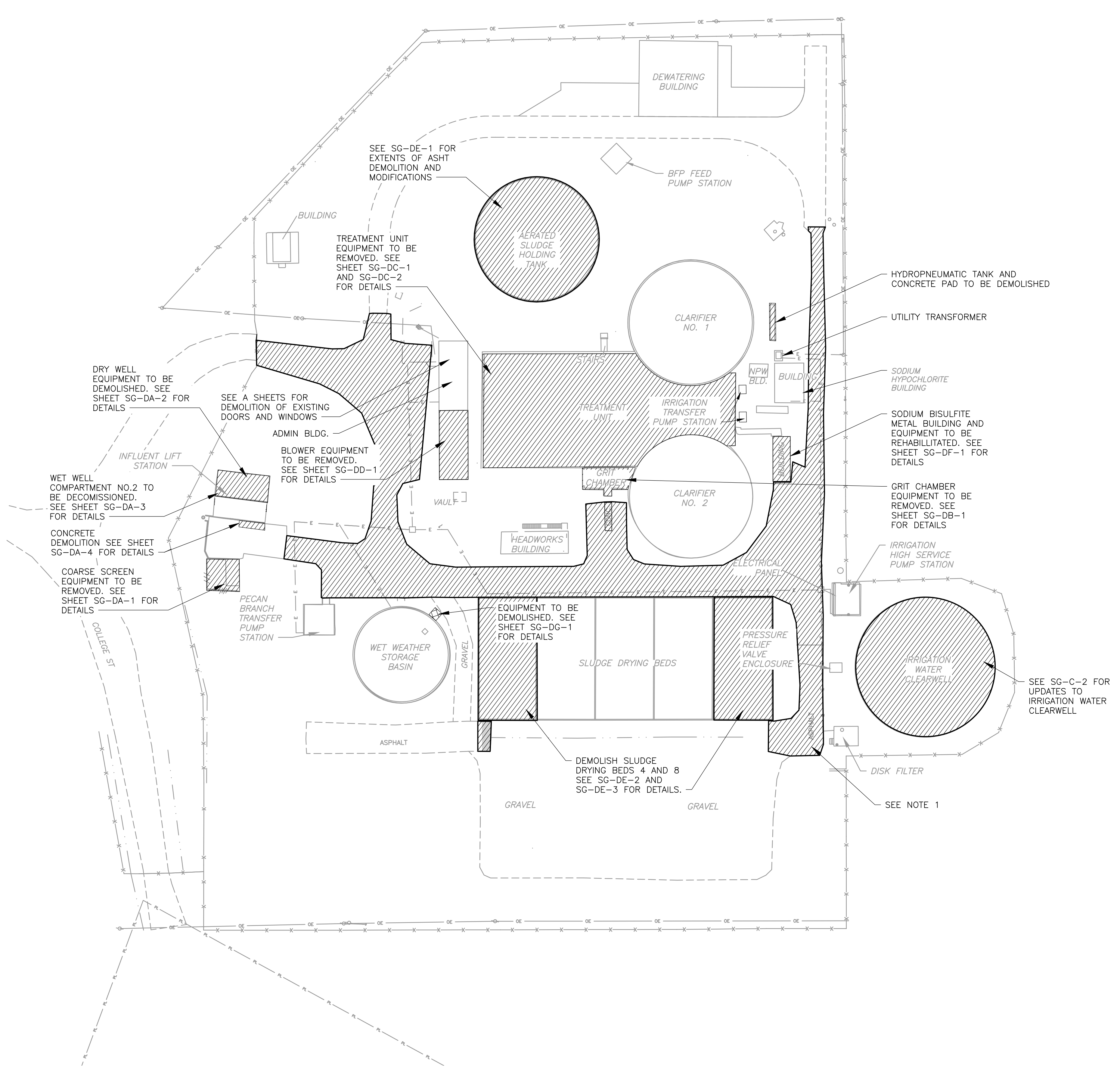
9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SG-G-6.DWG  
 SHEET NO.  
**SG-G-6**

**SAN GABRIEL WWTP MATERIALS SCHEDULE**

XREFS: [CDMS\_2234\_DS, CEP2024, CEP201ST, CDEMO200, REW\_A\_DODDY-SEAL, CDMS\_2234\_SG] Images: [ALEXANDRA T. DOODY]  
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- NOTES
- REFER TO PAVING AND GRADING PLAN SHEET FOR DEMOLITION AND REPLACEMENT OF PAVEMENT.
  - NOT ALL ITEMS TO BE DEMOLISHED ARE SHOWN ON THIS SHEET. REFER TO MECHANICAL, STRUCTURAL, ELECTRICAL AND OTHER DISCIPLINE SHEETS FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
  - PERIMETER SECURITY FENCE (TEMPORARY AND/OR PERMANENT) SHALL BE MAINTAINED AROUND WWTP AT ALL TIMES.
  - PLANT SHALL REMAIN IN OPERATION AT ALL TIMES. MAINTAIN ROAD AND EQUIPMENT ACCESS.
  - FIELD VERIFY LOCATION OF EXISTING MANHOLE. DEMO AROUND EXISTING MANHOLE AS REQUIRED.
  - COORDINATE WITH PLANT STAFF BEFORE ANY DEMOLITION BEGINS. CONTRACTOR IS NOT ALLOWED TO OPEN AND CLOSE ANY VALVES, GATES, ETC WITHOUT PERMISSION FROM PLANT STAFF. ONLY PLANT STAFF CAN SHUT DOWN THE OPERATION OF ANY EXISTING FACILITIES.
  - ALL MECHANICAL EQUIPMENT, TANKS, PUMPS, MOTORS, ETC. THAT WILL NOT BE SALVAGED BY OWNER SHALL BE DISPOSED OF, SALVAGED OR RECYCLED ACCORDING TO GOVERNMENT REGULATIONS BY CONTRACTOR.
  - CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY DURING CONSTRUCTION. ALL SAFETY ISSUES SHALL BE ADDRESSED IMMEDIATELY AS IDENTIFIED BY ENGINEER AND PLANT STAFF.
  - CONTRACTOR SHALL DISCOVER AND PROTECT ALL EXISTING UTILITIES AND STRUCTURES THAT ARE REQUIRED TO REMAIN IN SERVICE DURING ALL PHASES OF DEMOLITION.
  - ALL PHOTOS, TAKEN IN 2021-2022, INCLUDED IN THE DEMOLITION SHEETS ARE FOR ILLUSTRATION ONLY. THEY DO NOT REPRESENT ALL THE EQUIPMENT, FACILITIES, ETC THAT REQUIRE REMOVAL ALONG WITH THE CONCRETE STRUCTURES.

REV. NO.	DATE	DRWN	CHKD	REMARKS
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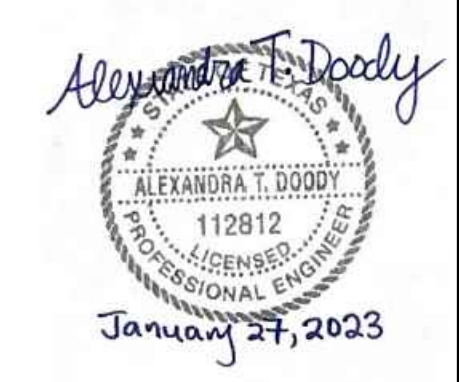
DESIGNED BY: J. MAYER  
 DRAWN BY: R. MESQUITA  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

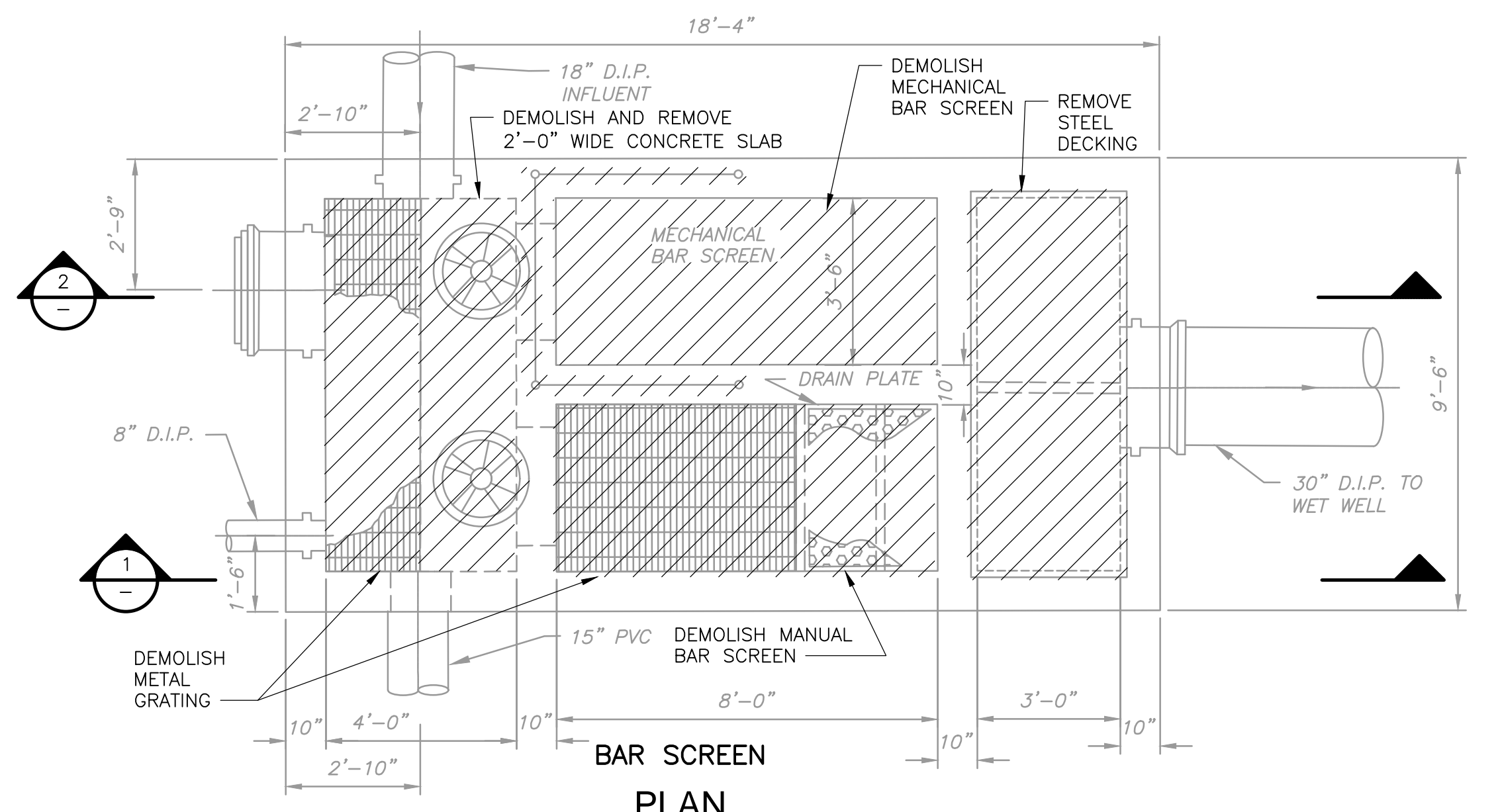


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

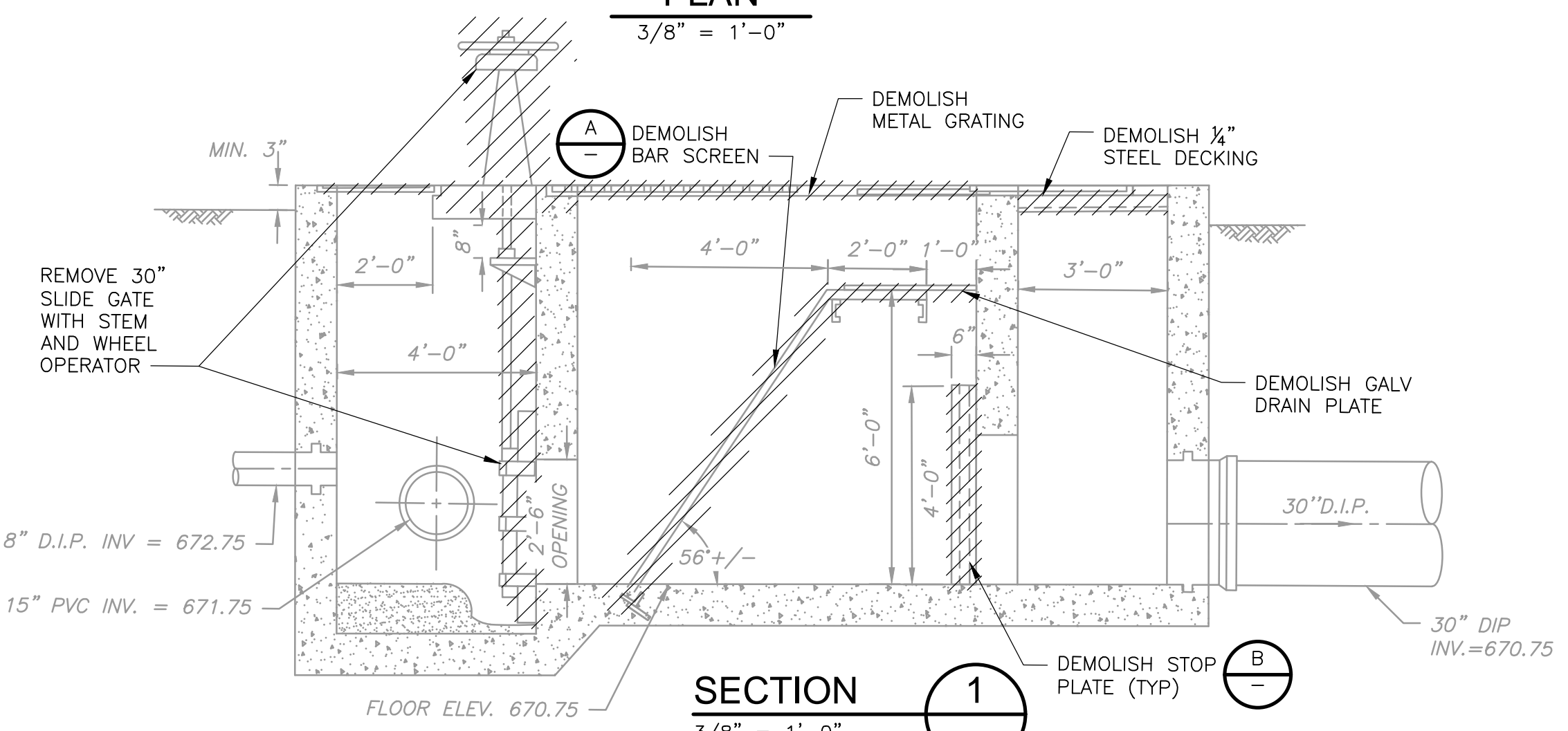
SAN GABRIEL WWTP  
 OVERALL DEMOLITION PLAN  
 AND GENERAL DEMOLITION NOTES

PROJECT NO. 2048-264953  
 FILE NAME: C201DEMO.DWG  
 SHEET NO. SG-D-1

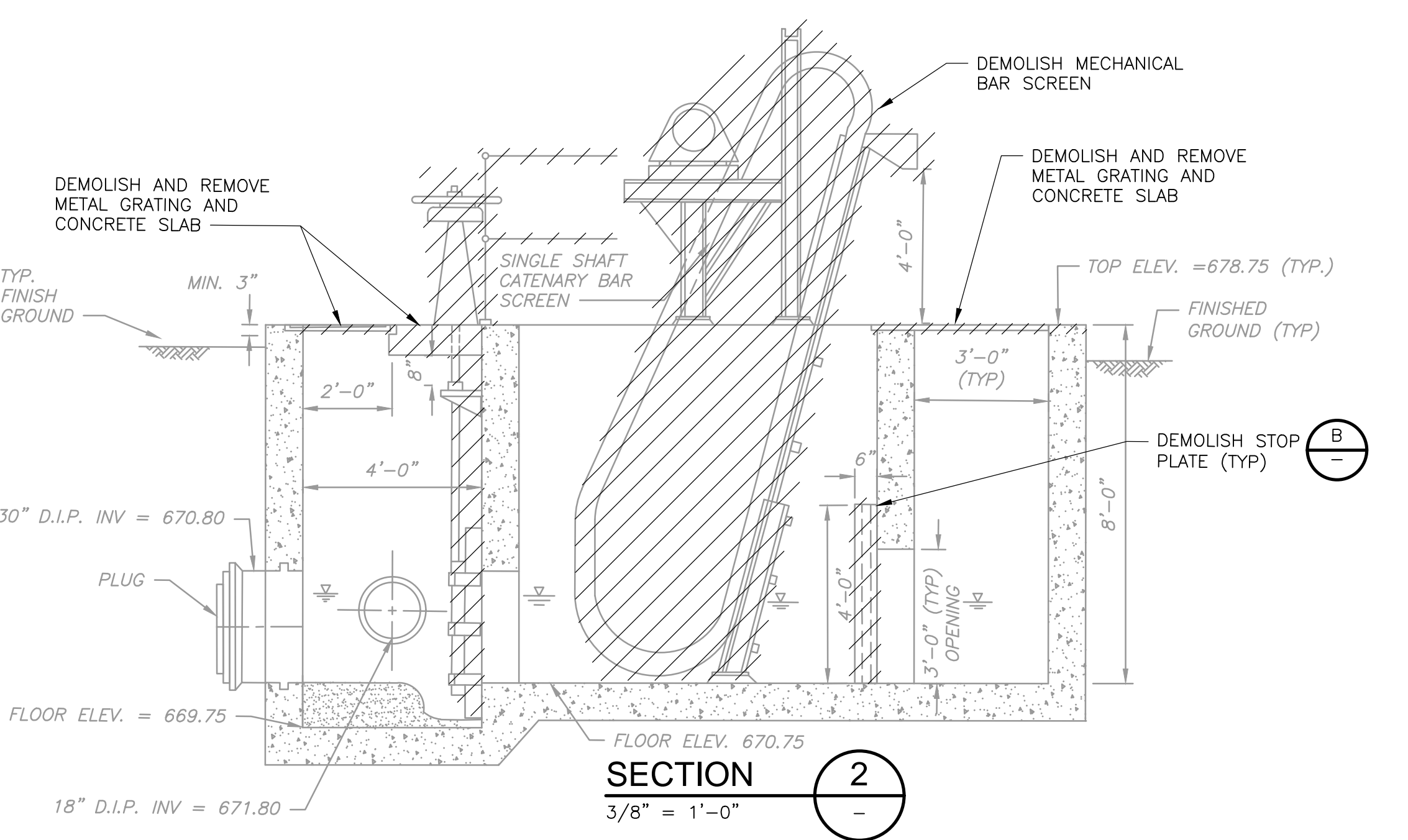




**PLAN**  
3/8" = 1'-0"



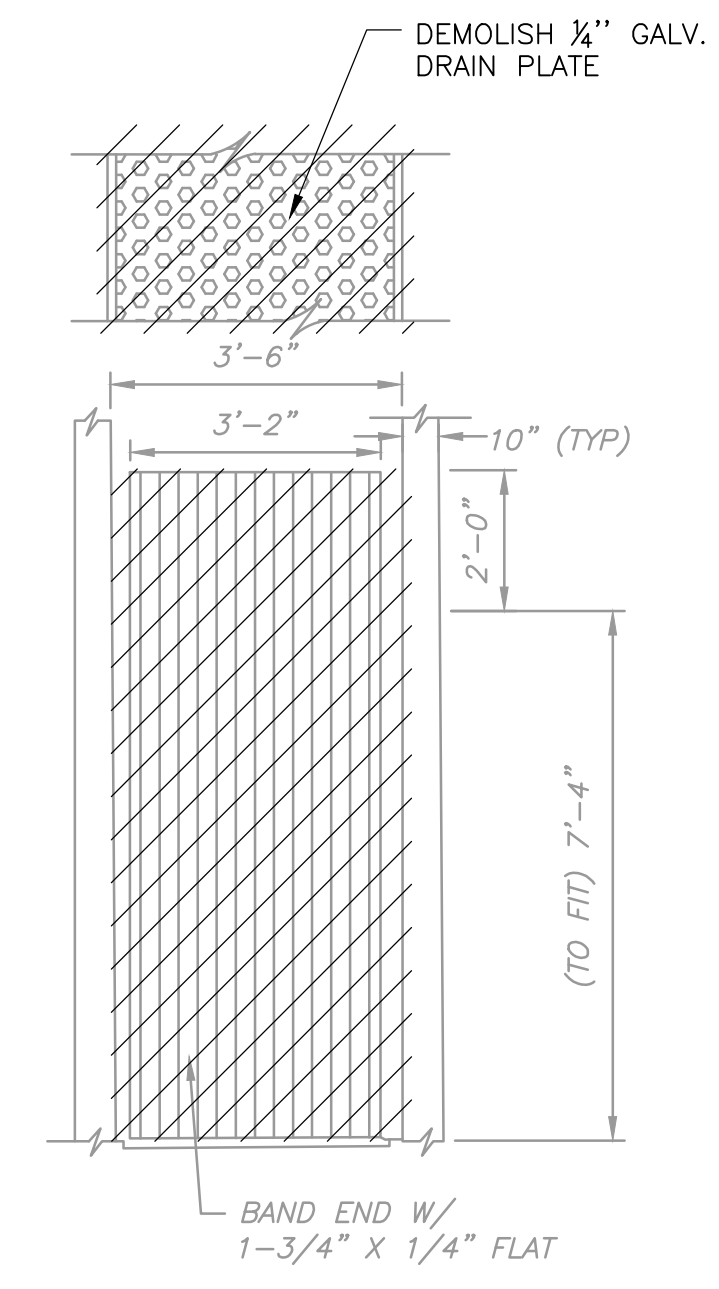
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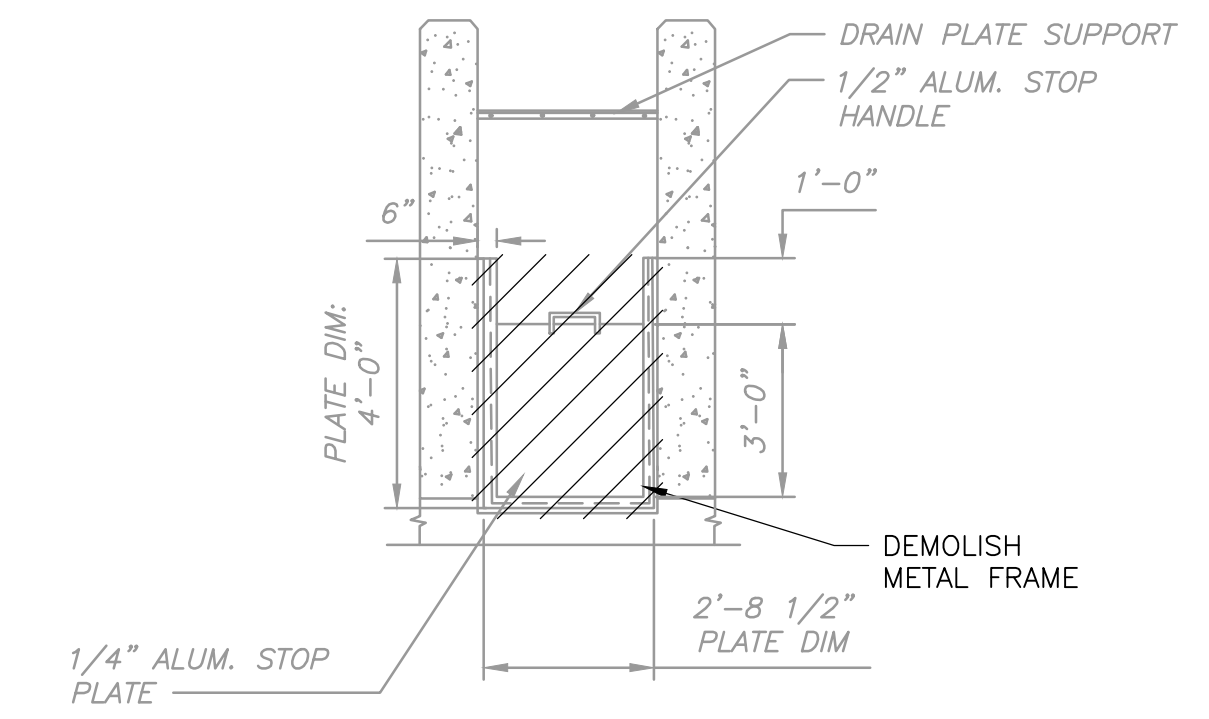
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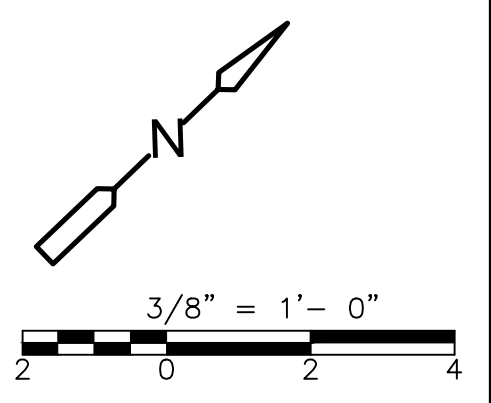
**BAR SCREEN DEMOLITION DETAIL PHOTO**  
NTS



**BAR SCREEN DETAIL A**  
NTS



**STOP PLATE ELEVATION DETAIL B**  
NTS



XREFS: [MFC009BS, MES009BS, REVW\_A\_DOODY-SEAL, SEF001BS, CDMS\_2234\_SC] Images: [ALEXANDRA T. DOODY, BAR SCREEN]  
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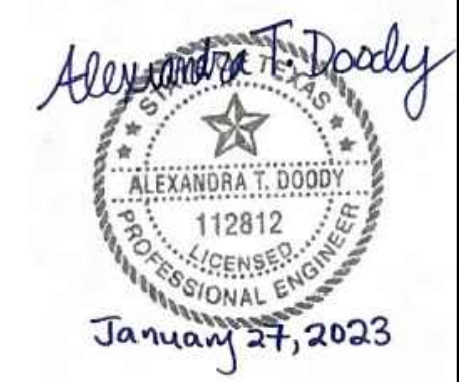
DESIGNED BY:	J. MAYER
DRAWN BY:	S. LOKHANDE
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

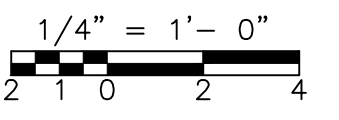


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP COARSE BAR SCREEN DEMOLITION PLAN AND SECTIONS**

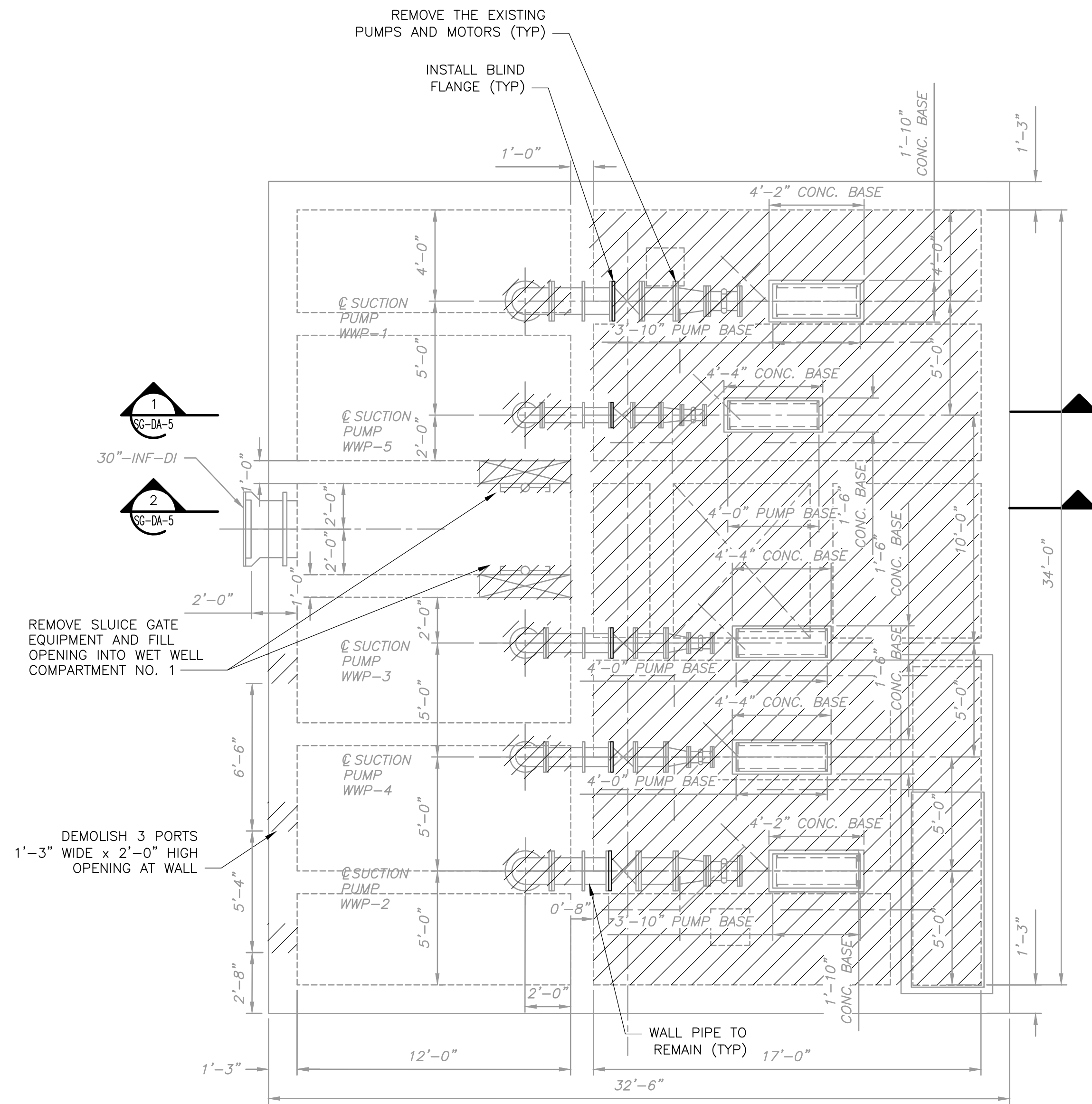
PROJECT NO.	2048-264953
FILE NAME:	SGDA1.DWG
SHEET NO.	SG-DA-1



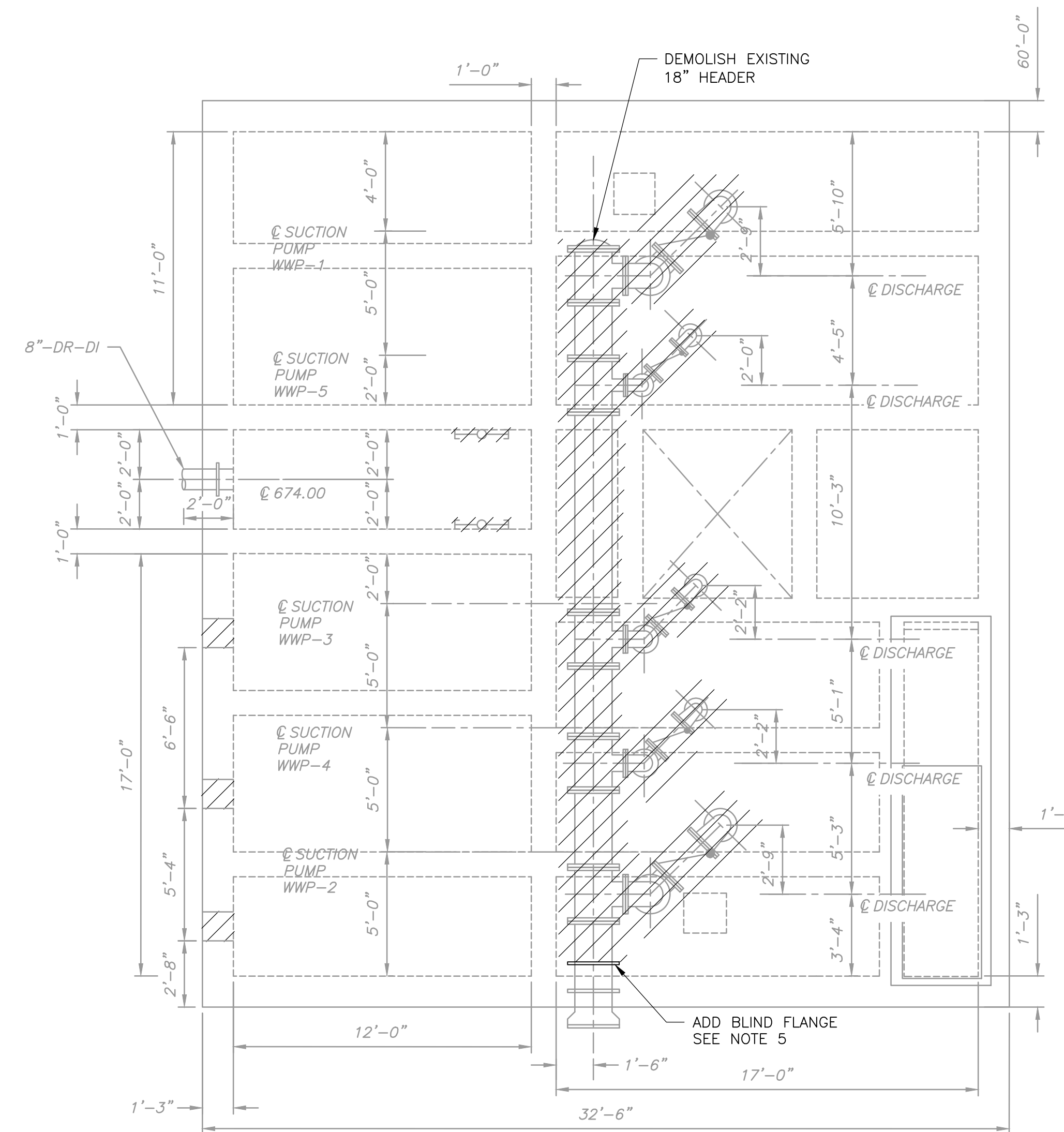


**NOTES:**

1. CONTRACTOR TO PROCEED WITH CAUTION WHEN REMOVING THE PUMPS, MOTORS AND ASSOCIATED EQUIPMENT AS THEY SHALL BE SALVAGED.
2. FILL DRY PIT AND WET WELL COMPARTMENT NO. 2 WITH CONTROLLED LOW STRENGTH MATERIAL PER SPEC 312323.33.
3. CONCRETE PADS TO REMAIN.
4. CONTRACTOR TO DEMOLISH HVAC, LIGHTING, ELECTRICAL ITEMS.
5. EXISTING 18"-FM-DI TO BE DEMOLISHED INSIDE THE DRY WELL AND TO BE CUT SUCH THAT THE CONTRACTOR CAN INSTALL A BLIND FLANGE AS SHOWN. SEE DETAILS FOR NEW FORCEMAIN INTERCONNECT ON SG-MA-2.



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



**NOTES:**

1. SEE SG-DA-4 FOR DEMOLITIONS IN SLAB/ GRATING/ HATCHES AT THIS WALL.

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

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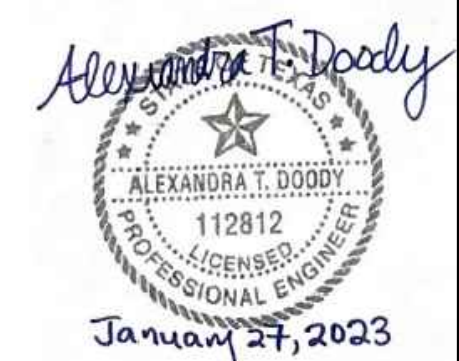
DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

**CDM Smith**  
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CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 INFLUENT LIFT STATION DEMOLITION  
 LOWER AND UPPER PLAN**

PROJECT NO.	2048-264953
FILE NAME:	SGDA2.DWG
SHEET NO.	<b>SG-DA-2</b>





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PHOTO  
NTS

NOTES:

1. CONTRACTOR TO PROCEED WITH CAUTION WHEN REMOVING THE PUMPS, MOTORS AND ASSOCIATED EQUIPMENT AS THEY SHALL BE SALVAGED.
2. FILL DRY PIT AND WET WELL COMPARTMENT NO. 2 WITH CONTROLLED LOW STRENGTH MATERIAL PER SPEC 312323.33.
3. CONCRETE PADS TO REMAIN.
4. CONTRACTOR TO DEMOLISH ALL (WHETHER HATCHED OR NOT) HVAC, LIGHTING, ELECTRICAL ITEMS.



PHOTO  
NTS

*Alexandra T. Doody*  
  
 ALEXANDRA T. DOODY  
 112812  
 LICENSED PROFESSIONAL ENGINEER  
 January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

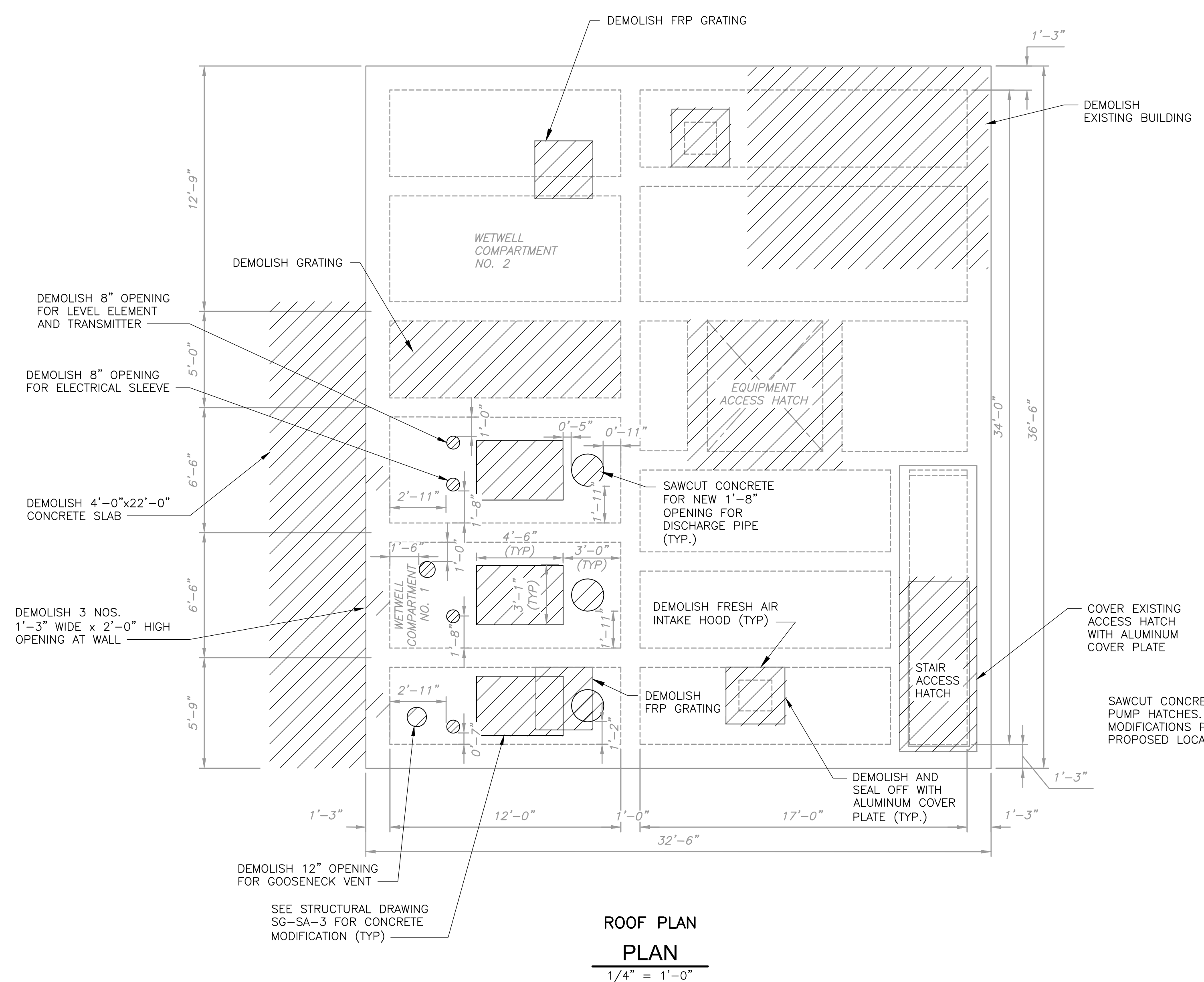
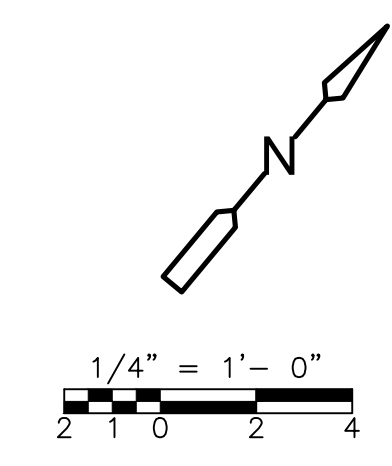
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 INFLUENT LIFT STATION DEMOLITION  
 PHOTOS

PROJECT NO.	2048-264953
FILE NAME:	SGDA3.DWG
SHEET NO.	SG-DA-3

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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

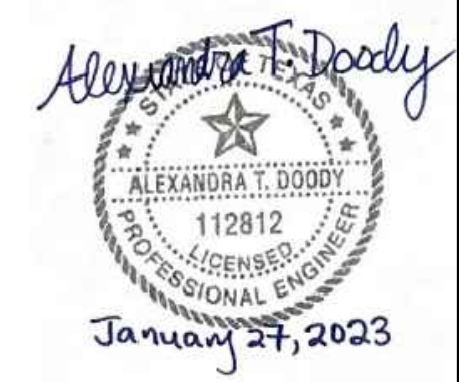
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 DRAWN BY: S. RAJ  
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 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

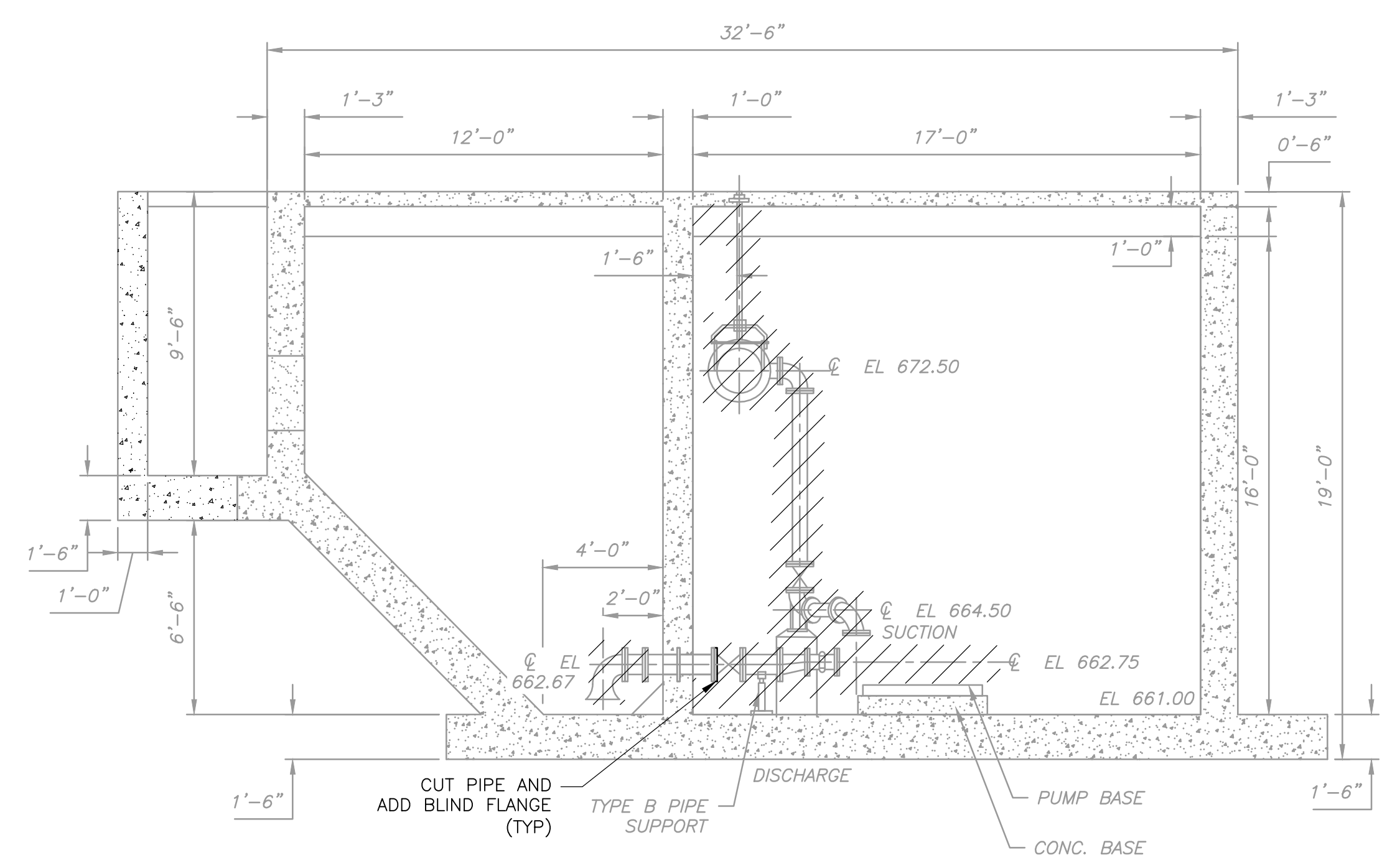
SAN GABRIEL WWTP  
 INFLUENT LIFT STATION DEMOLITION  
 ROOF PLAN  
 SG-DA-4

PROJECT NO. 2048-264953  
 FILE NAME: SGDA4.DWG  
 SHEET NO.  
 JANUARY 27, 2023

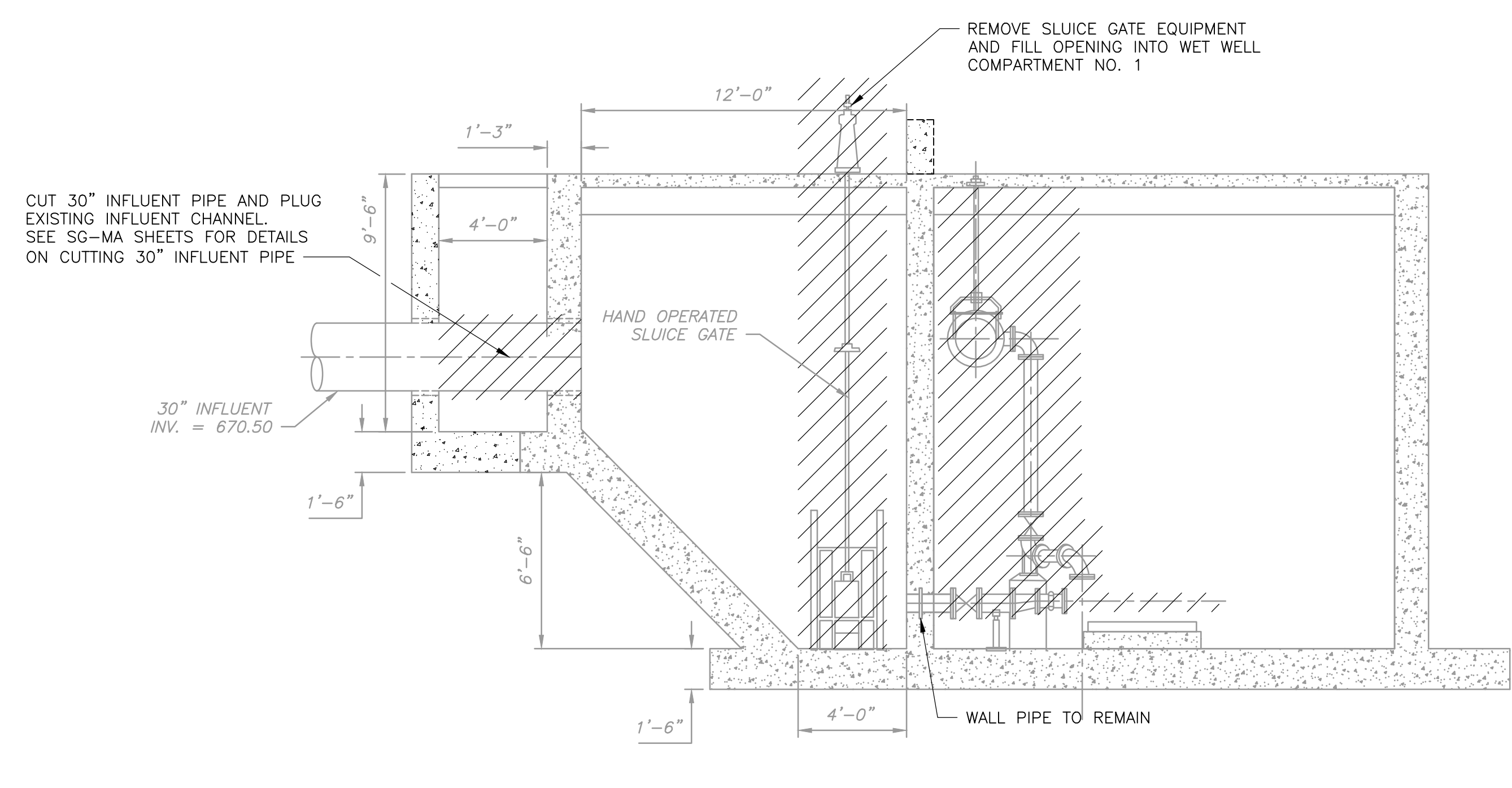


1/4" = 1'-0"  
 2 1 0 2 4

- NOTES:
- CONTRACTOR TO PROCEED WITH CAUTION WHEN REMOVING THE PUMPS AS THEY WILL BE SALVAGED.
  - FILL DRY PIT AND WET WELL COMPARTMENT NO. 2 WITH CONTROLLED LOW STRENGTH MATERIAL PER SPEC 312323.33.



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



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

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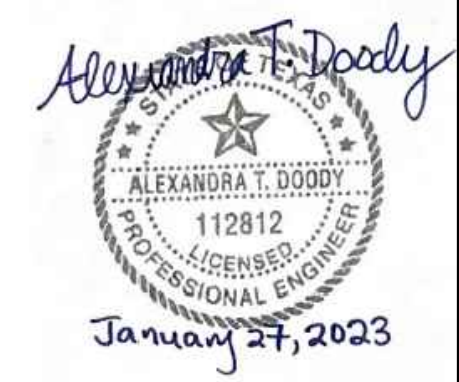
DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
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 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



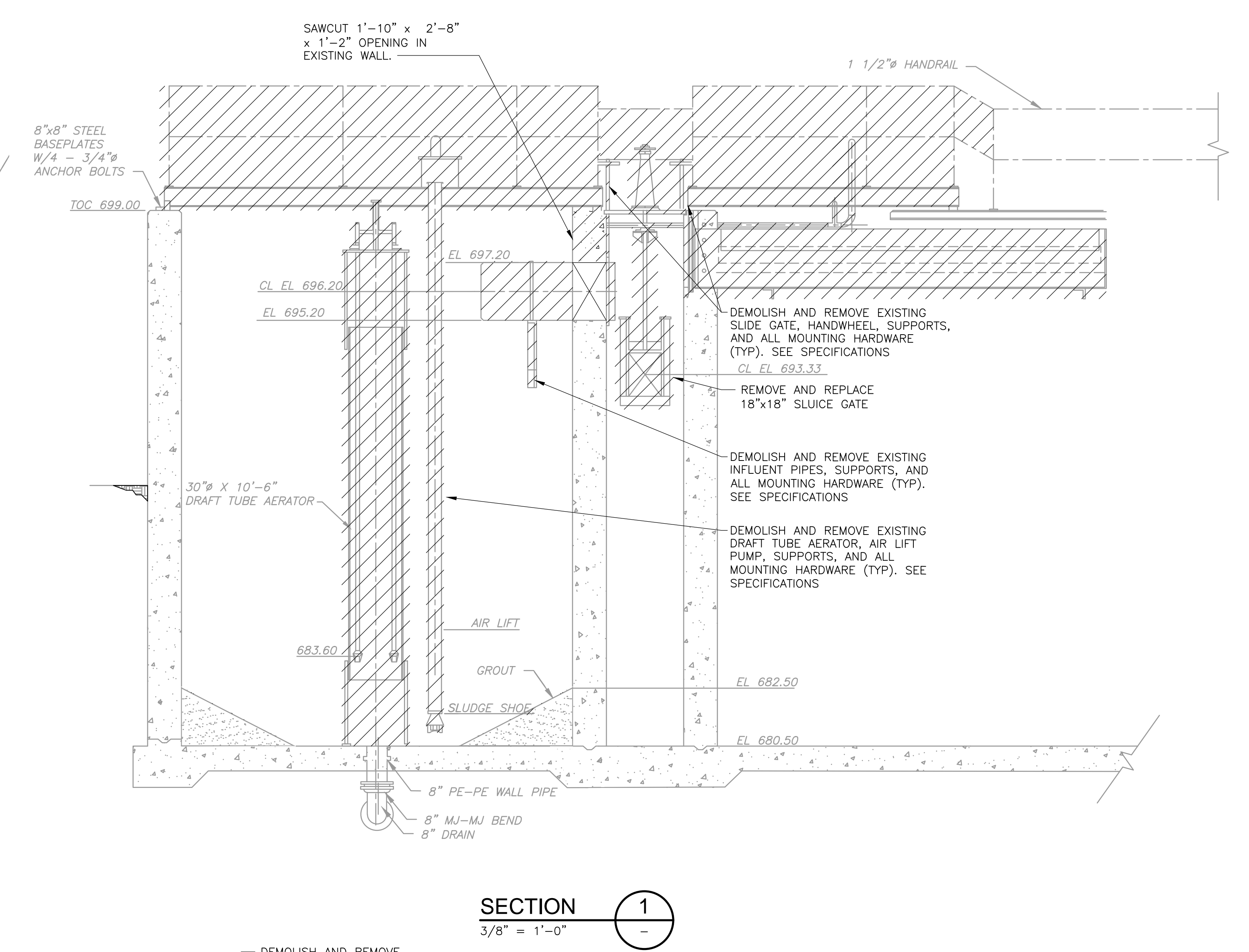
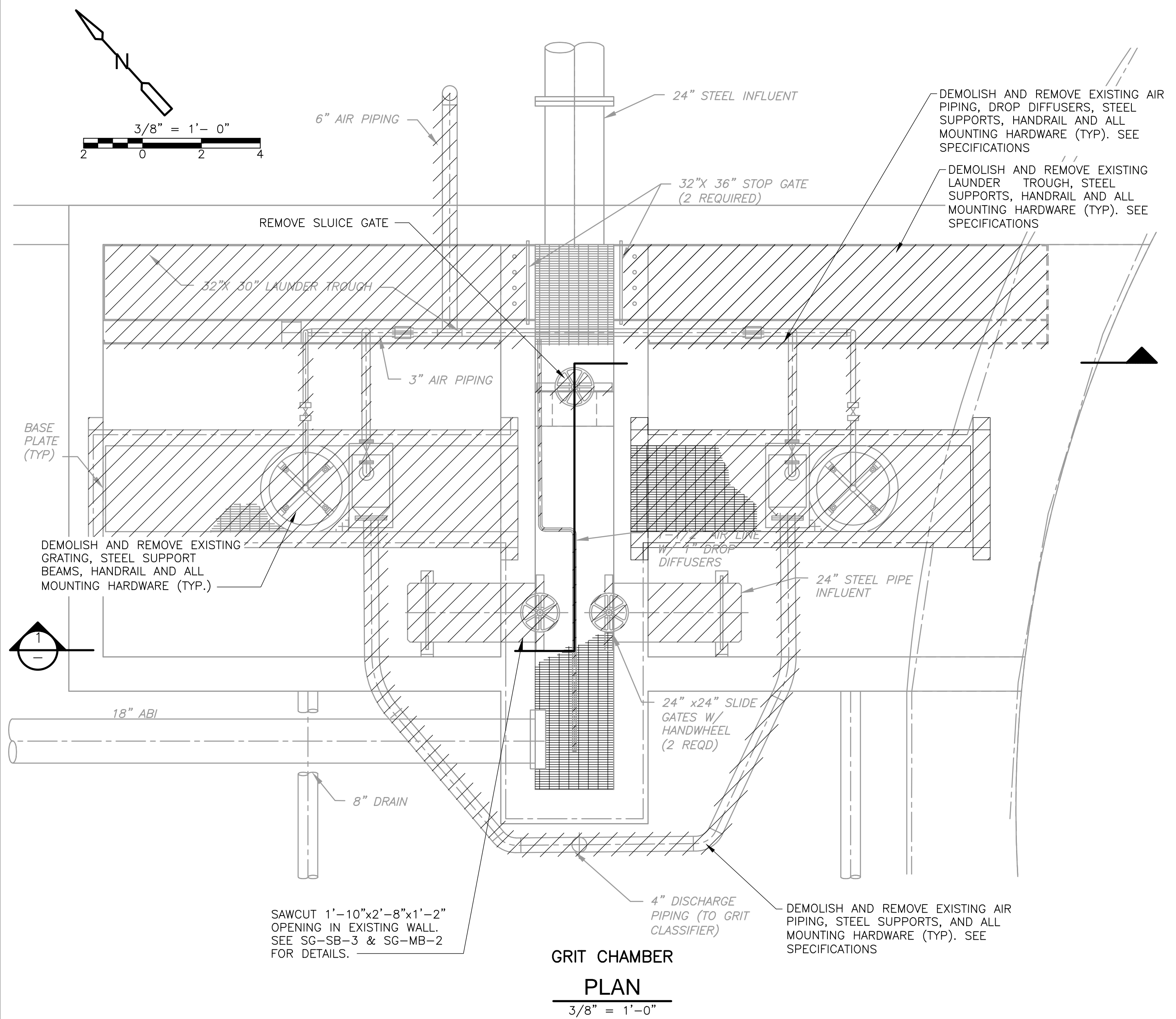
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 INFLUENT LIFT STATION DEMOLITION  
 SECTIONS  
 SG-DA-5

PROJECT NO. 2048-264953  
 FILE NAME: SGDA5.DWG  
 SHEET NO. SG-DA-5



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**GRIT WASHER**  
NTS

**NOTE:**  
1. DEMOLISH ONLY EXISTING GRIT BASIN EQUIPMENT. STRUCTURE WILL REMAIN IN PLACE.

Alexandra T. Doody  
 112812  
 PROFESSIONAL ENGINEER  
 January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: B. FLETCHER  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

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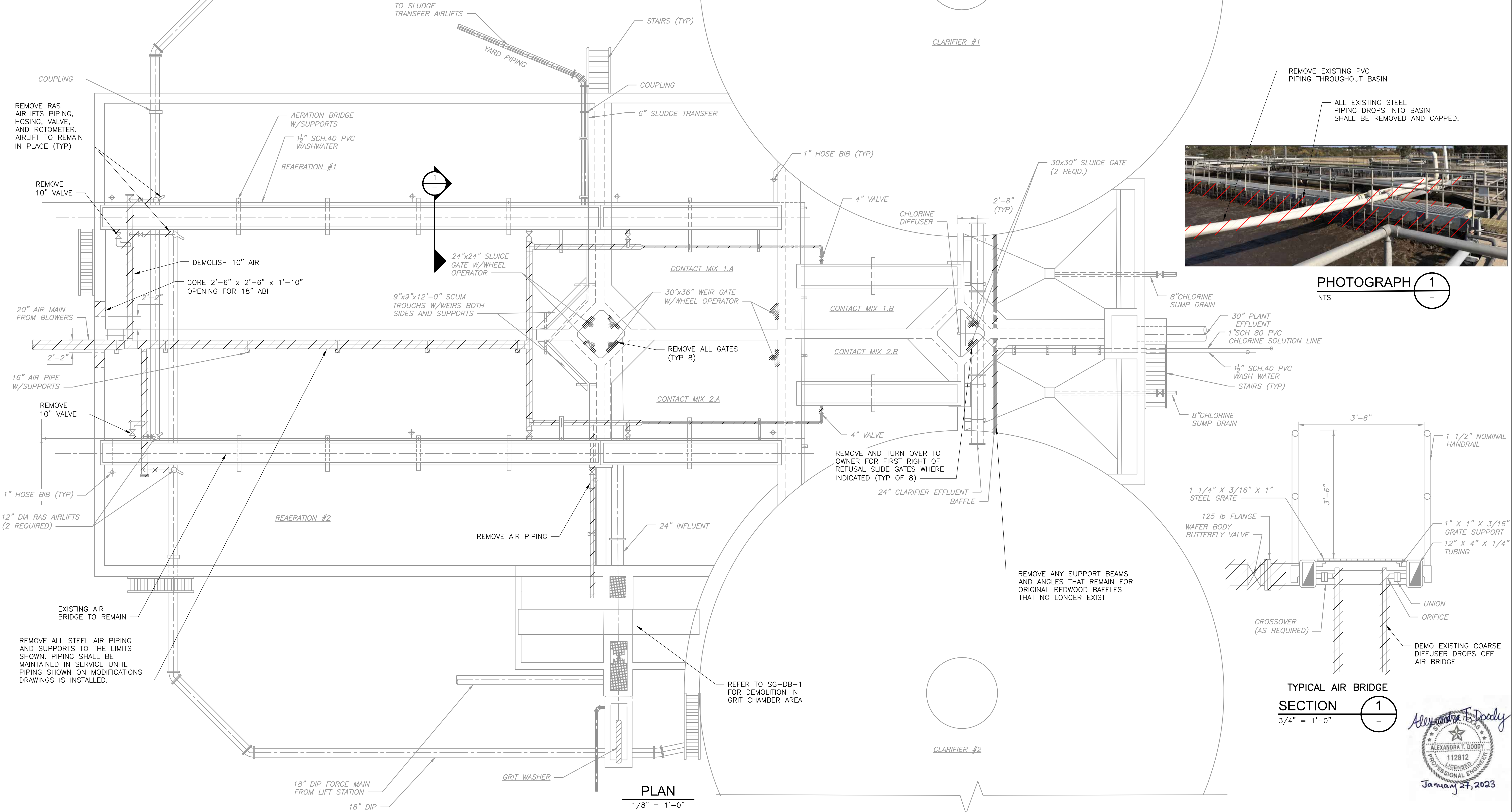
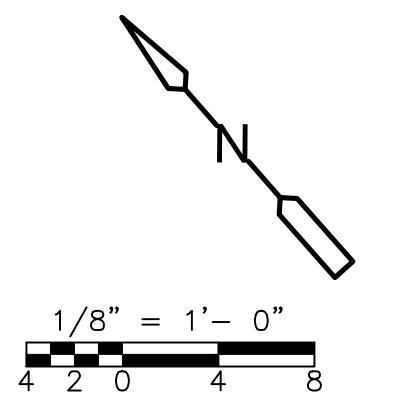
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT CHAMBER DEMOLITION  
 PLAN AND SECTIONS  
 SG-DB-1

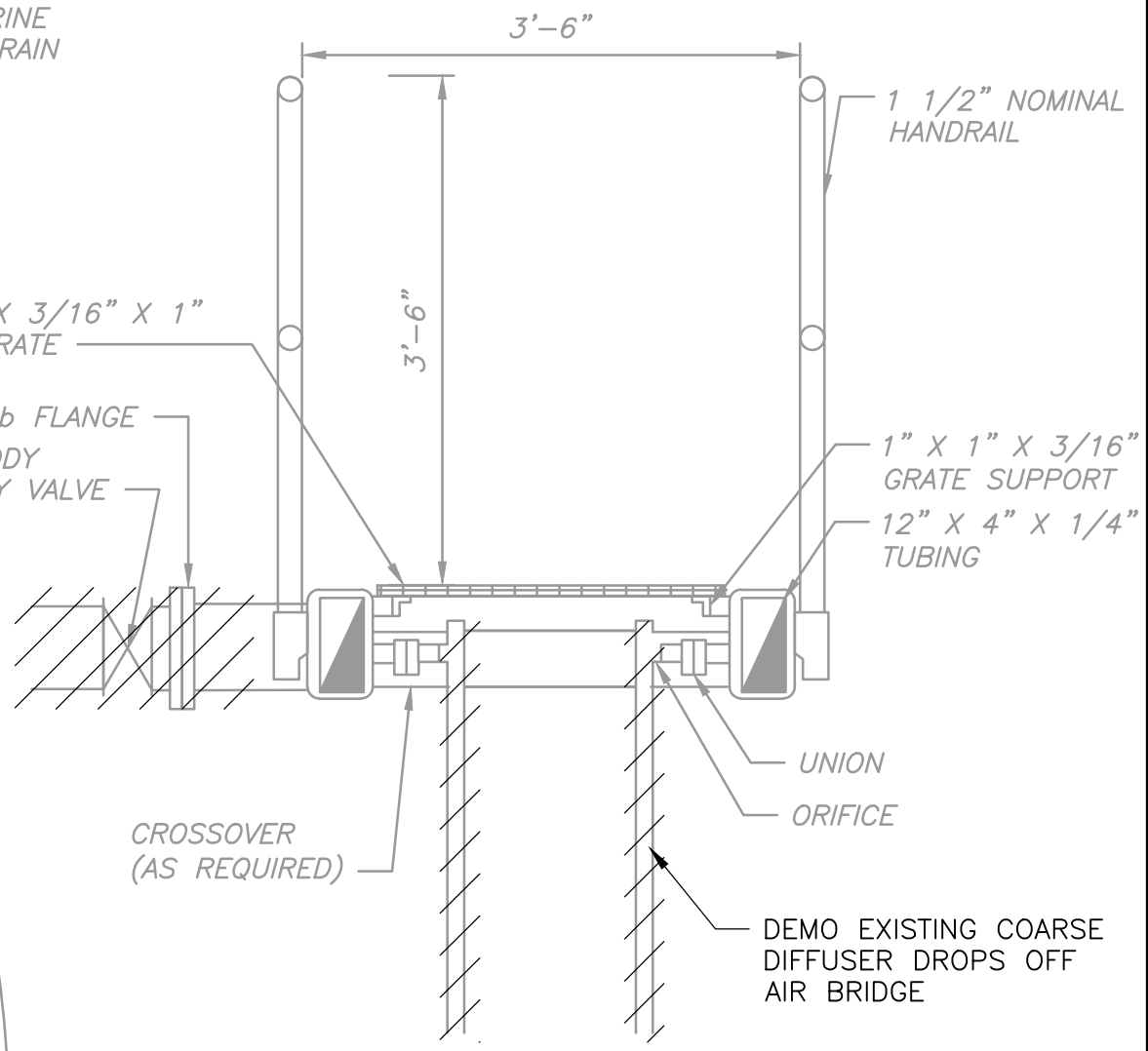
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 SHEET NO.  
**SG-DB-1**

NOTES:

1. REMOVE STEEL AIR PIPE TO LIMITS SHOWN AFTER NEW STAINLESS STEEL AIR PIPE ON MODIFICATIONS DRAWINGS IS BROUGHT INTO SERVICE.
2. ONE AERATION BASIN SHALL REMAIN IN SERVICE DURING CONSTRUCTION.
3. REFER TO SECTION CIP3 FOR MAINTENANCE OF PLANT OPERATION REQUIREMENTS.



PHOTOGRAPH 1  
NTS



Alexandra T. Doody  
ALEXANDRA T. DOODY  
112812  
LICENSED PROFESSIONAL ENGINEER  
January 27, 2023

XREFS: [MEP004TU, REVW\_A\_DOODY-SEAL, CDMs\_2234\_SG] Images: [ALEXANDRA T. DOODY, TREATMENT UNIT]  
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DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
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 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
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 Austin, TX 78759  
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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 TREATMENT UNIT DEMOLITION PLAN**

PROJECT NO.	2048-264953
FILE NAME:	SGDC1.DWG.DWG
SHEET NO.	SG-DC-1



**PHOTO 2**  
NTS



**PHOTO 3**  
NTS

**NOTE:**  
1. CONTRACTOR TO DEMOLISH EXISTING INFLUENT AIRLIFT PVC PIPING THAT ORIGINATES FROM THE GRIT BASIN AND IS ROUTED ALONG AERATION BASIN. RETAIN THIS PIPING FOR USE DURING CONSTRUCTION UNTIL NEW 20"-ABI-DI PIPING IS BROUGHT INTO SERVICES.

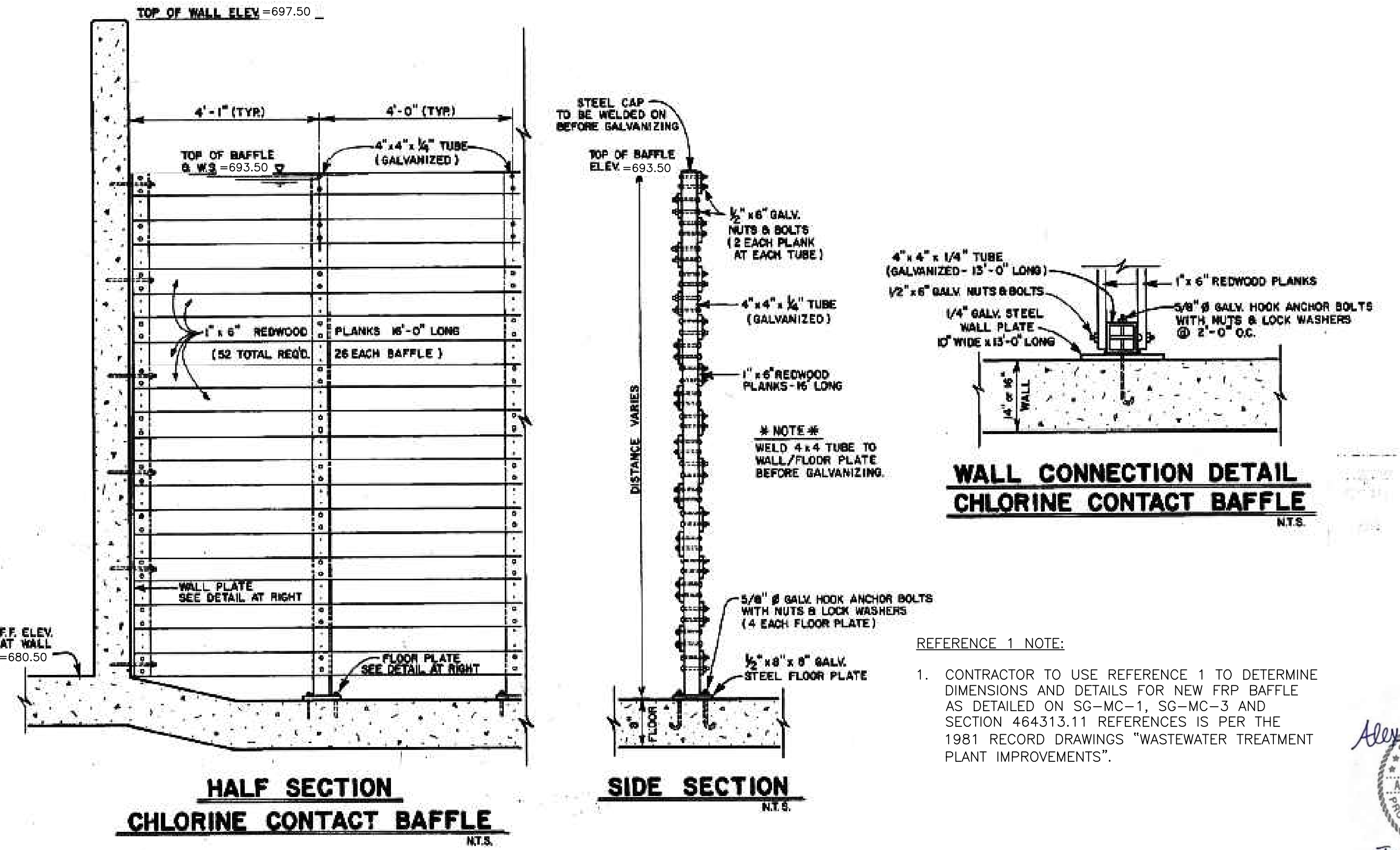


**PHOTO 4**  
NTS

REMOVE EXISTING AIR PIPING, VALVE, AND ROTOMETER. CONTRACTOR TO ONLY REPLACE AIR PIPING AND VALVE (TYP 4 LOCATIONS)

REMOVE AND REPLACE EXISTING HOUSING TO AIRLIFT. CONTRACTOR TO CONFORM TO MANUFACTURER'S RECOMMENDATIONS.

12" RAS AIRLIFT TO REMAIN



**HALF SECTION**  
**CHLORINE CONTACT BAFFLE**  
NTS

**SIDE SECTION**  
NTS

**WALL CONNECTION DETAIL**  
**CHLORINE CONTACT BAFFLE**  
NTS

**REFERENCE 1 NOTE:**  
1. CONTRACTOR TO USE REFERENCE 1 TO DETERMINE DIMENSIONS AND DETAILS FOR NEW FRP BAFFLE AS DETAILED ON SG-MC-1, SG-MC-3 AND SECTION 464313.11 REFERENCES IS PER THE 1981 RECORD DRAWINGS "WASTEWATER TREATMENT PLANT IMPROVEMENTS".

*Alexandra T. Dody*  
ALEXANDRA T. DODY  
112812  
PROFESSIONAL ENGINEER  
January 27, 2023

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

**CDM Smith**  
9430 Research Blvd., Suite 1-200  
Austin, TX 78759  
Tel: (512) 346-1100  
TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
SAN GABRIEL WWTP  
REHABILITATION

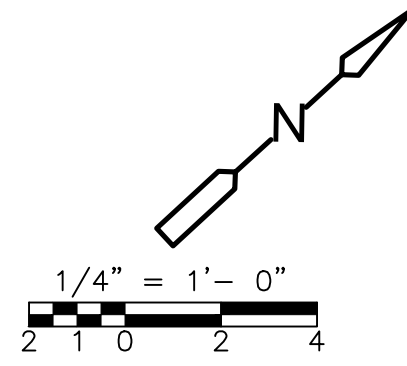
SAN GABRIEL WWTP  
TREATMENT UNIT DEMOLITION  
PHOTOS

PROJECT NO.	2048-264953
FILE NAME:	SGDC2.DWG
SHEET NO.	SG-DC-2

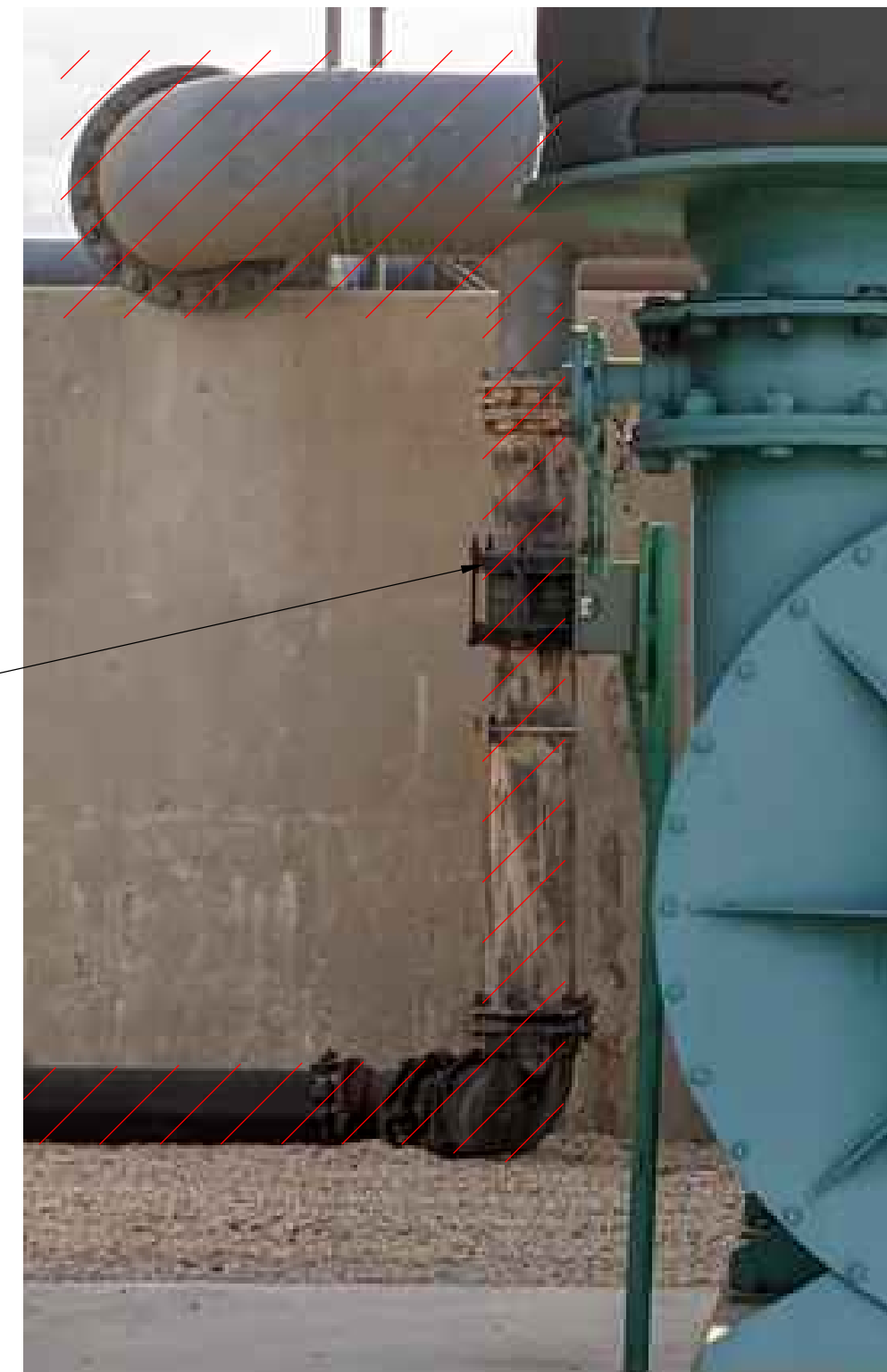
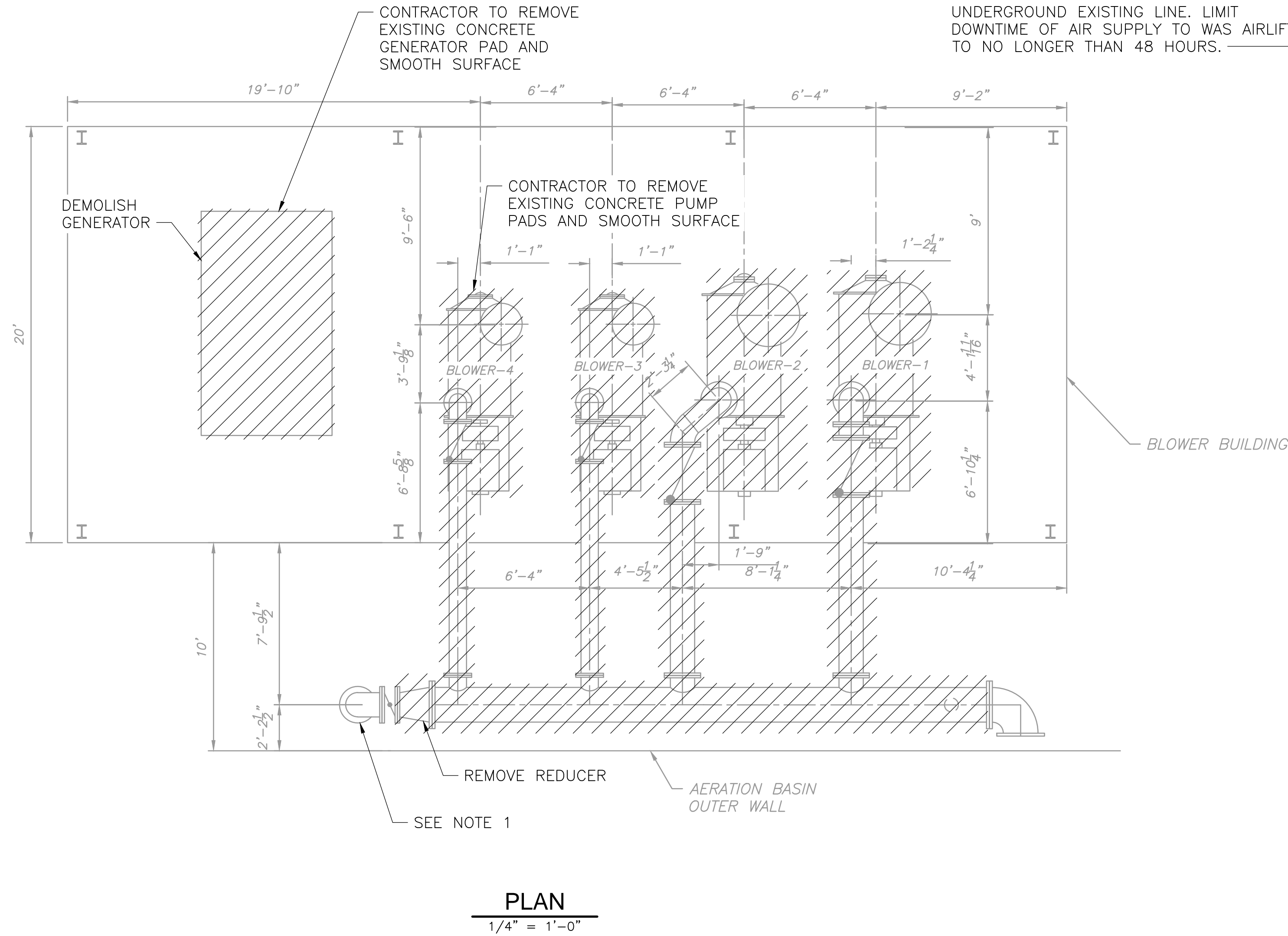
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**NOTES:**

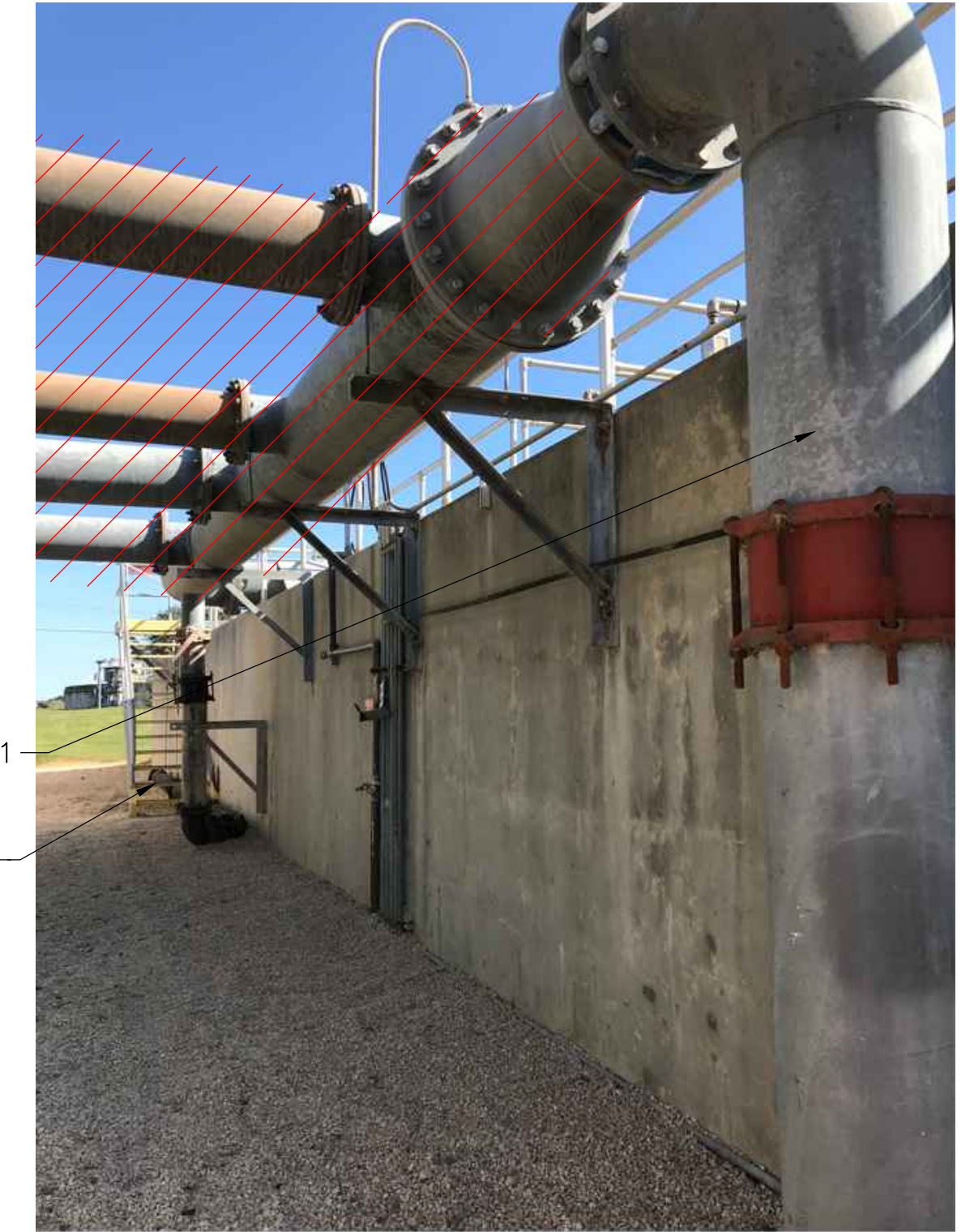
- 12"-LPA-STL LINE GOING TO WET WEATHER STORAGE BASIN TO BE RETAINED.
- SEE SG-MC SHEETS FOR DETAILS ON NEW ABOVE GRADE 8"-LPA-SS TO EXISTING 8"-LPA- DI CONNECTION TO SERVICE WAS AIRLIFTS. EXISTING 90 DEG BEND TO BE REMOVED AND REPLACED WITH A 90 DEG STAINLESS STEEL BEND AS DETAILED ON PROCESS MECHANICAL SHEETS.



CONTRACTOR TO REMOVE EXISTING ABOVE GROUND 8"-LPA-SS FOR WAS AIRLIFTS. SEE SG-MC-4 FOR DETAILS ON INTERCONNECT OF NEW 8"-LPA-SS TO UNDERGROUND EXISTING LINE. LIMIT DOWNTIME OF AIR SUPPLY TO WAS AIRLIFTS TO NO LONGER THAN 48 HOURS.



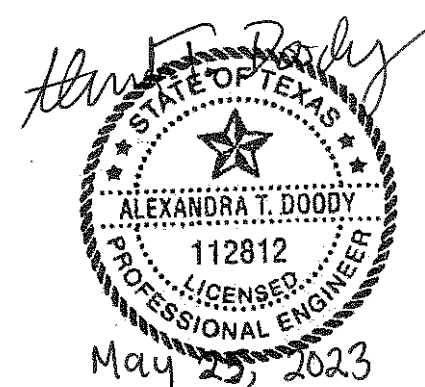
**PHOTO - 1**  
NTS



**PHOTO - 3**  
NTS



**PHOTO - 2**  
NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	JAM	ATD	REVISION FOR ADDENDUM NO. 3

DESIGNED BY: J. MAYER	<p>9430 Research Blvd., Suite 1-200 Austin, TX 78759 Tel: (512) 346-1100 TBPE Firm Registration No. F-3043</p>
DRAWN BY: S. RAJI	
SHEET CHK'D BY: A. DOODY	
CROSS CHK'D BY: A. WOELKE	
APPROVED BY: A. DOODY	
DATE: JANUARY 2023	

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 BLOWER AREA DEMOLITION  
 PLAN AND SECTIONS**

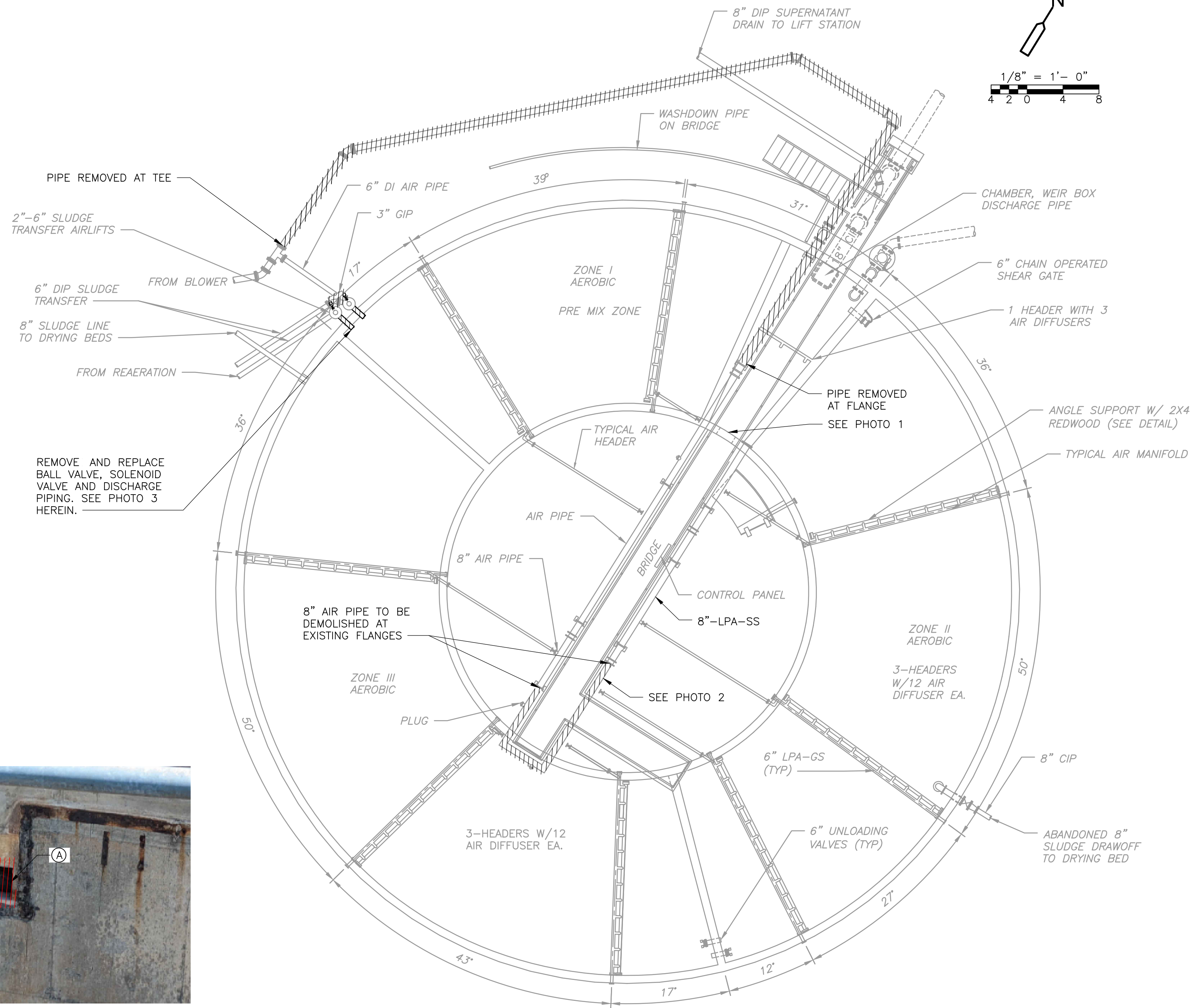
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FILE NAME: SGDD1.DWG
SHEET NO. <b>SG-DD-1</b>

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**PHOTO 1**  
N.T.S.

A. FILL EXISTING CORED HOLE WITH CONCRETE FILL AS SPECIFIED IN SECTION 030000.



**AERATED SLUDGE HOLDING TANK UNIT DEMOLITION**

**PLAN**

1/8" = 1'-0"



- A. EXISTING PIPE TO BE DEMOLISHED AT FLANGES.
- B. LOCATION OF TIE-IN TO NEW WIDEBAND DIFFUSERS. SEE SG-ME-1 FOR NEW PIPE MODIFICATIONS

**PHOTO 2**  
N.T.S.



REMOVE AND REPLACE BALL VALVE, SOLENOID VALVE (TYP. OF TWO)

REMOVE AND REPLACE 6" WAS-DI DISCHARGE AT EXISTING FLANGE. CONTRACTOR TO SUPPLY 6" WAS-DI PIPE AS NECESSARY TO CONNECT TO WAS AIRLIFT VIA FLANGE AS SHOWN.

**PHOTO 3**  
N.T.S.

*Alexandra T. Doody*  
  
 ALEXANDRA T. DOODY  
 112812  
 LICENSED PROFESSIONAL ENGINEER  
 January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY:	A. KOWALKOWSKI
DRAWN BY:	S. RAJ
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

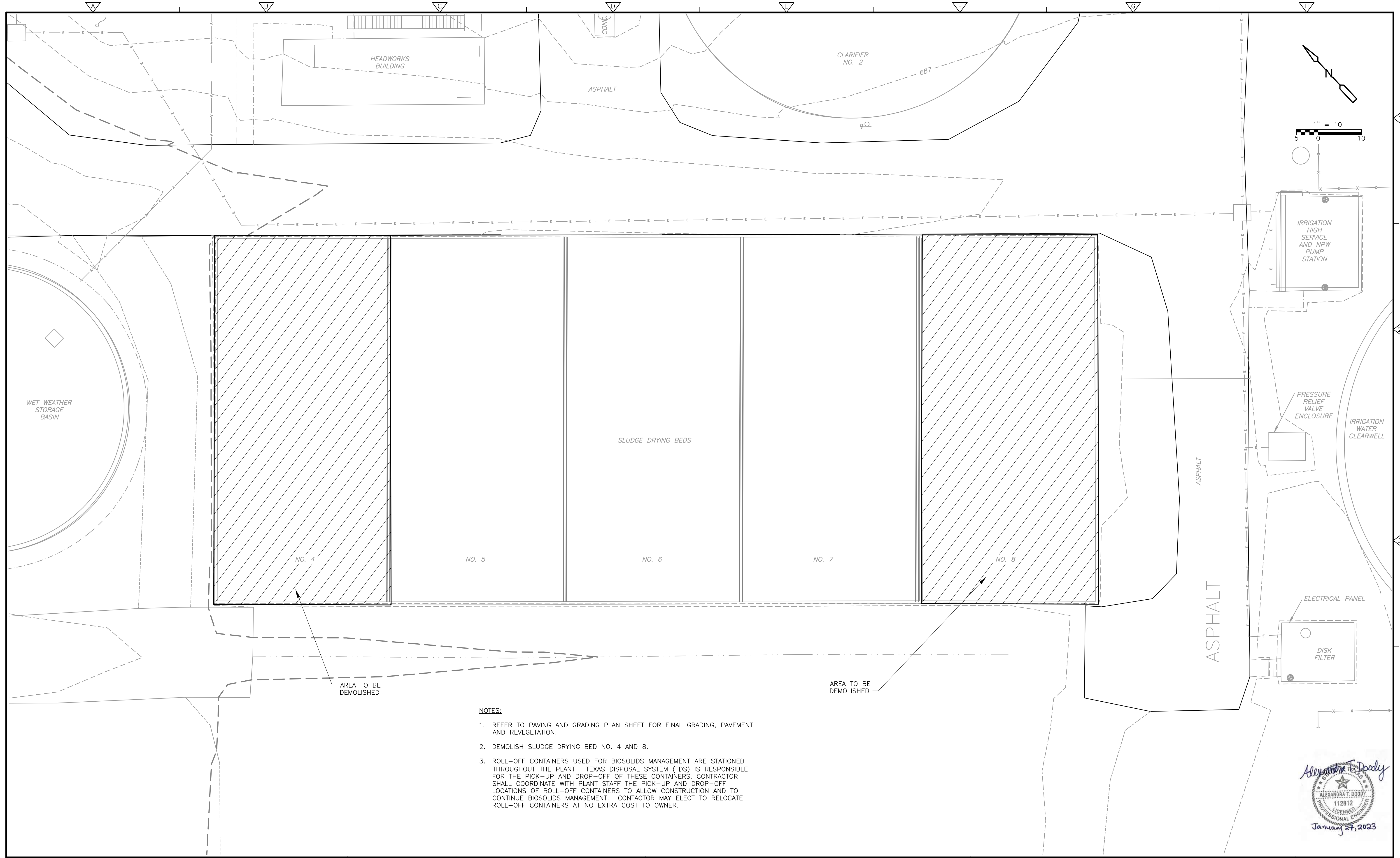
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING  
 TANK DEMOLITION PLAN**

PROJECT NO.	2048-264953
FILE NAME:	SGDE1.DWG
SHEET NO.	<b>SG-DE-1</b>



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- NOTES:**
- REFER TO PAVING AND GRADING PLAN SHEET FOR FINAL GRADING, PAVEMENT AND REVEGETATION.
  - DEMOLISH SLUDGE DRYING BED NO. 4 AND 8.
  - ROLL-OFF CONTAINERS USED FOR BIOSOLIDS MANAGEMENT ARE STATIONED THROUGHOUT THE PLANT. TEXAS DISPOSAL SYSTEM (TDS) IS RESPONSIBLE FOR THE PICK-UP AND DROP-OFF OF THESE CONTAINERS. CONTRACTOR SHALL COORDINATE WITH PLANT STAFF THE PICK-UP AND DROP-OFF LOCATIONS OF ROLL-OFF CONTAINERS TO ALLOW CONSTRUCTION AND TO CONTINUE BIOSOLIDS MANAGEMENT. CONTACTOR MAY ELECT TO RELOCATE ROLL-OFF CONTAINERS AT NO EXTRA COST TO OWNER.

REV. NO.	DATE	DRWN	CHKD	REMARKS
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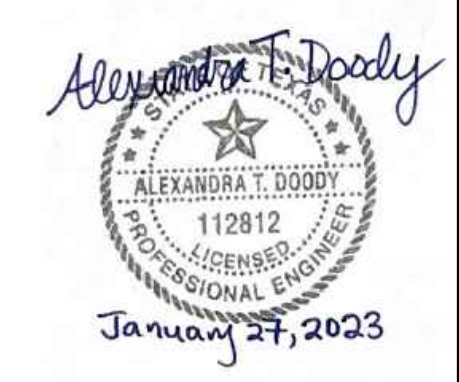
DESIGNED BY: J. MAYER  
 DRAWN BY: R. MESQUITA  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



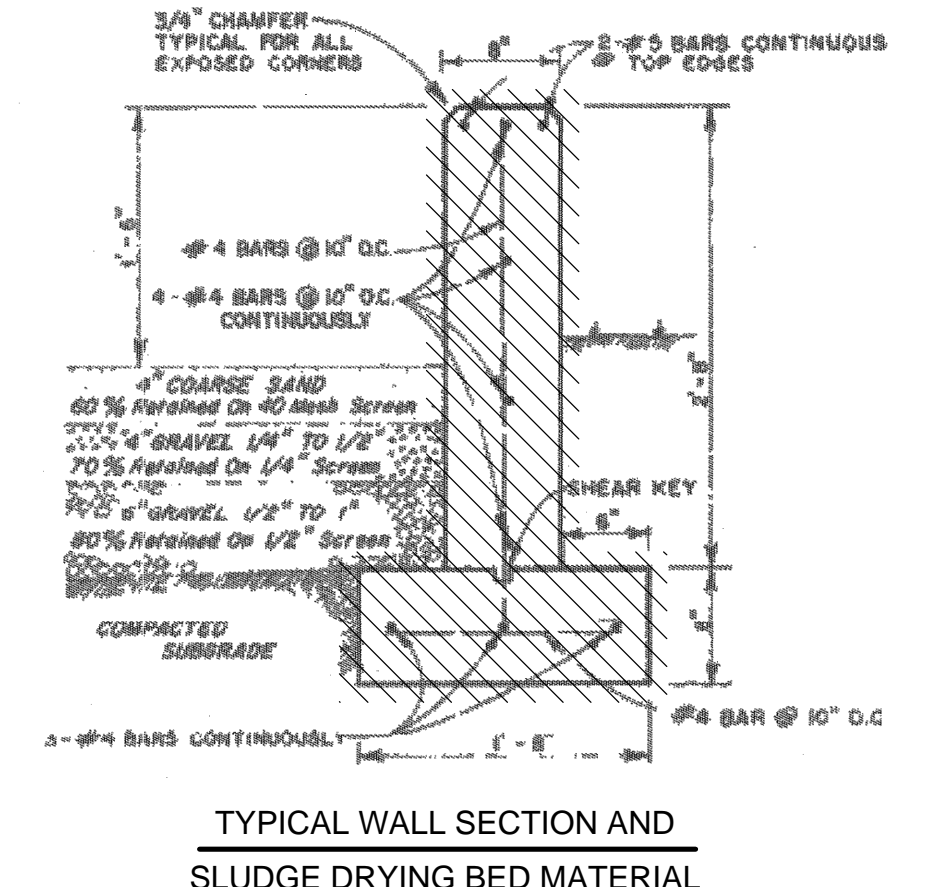
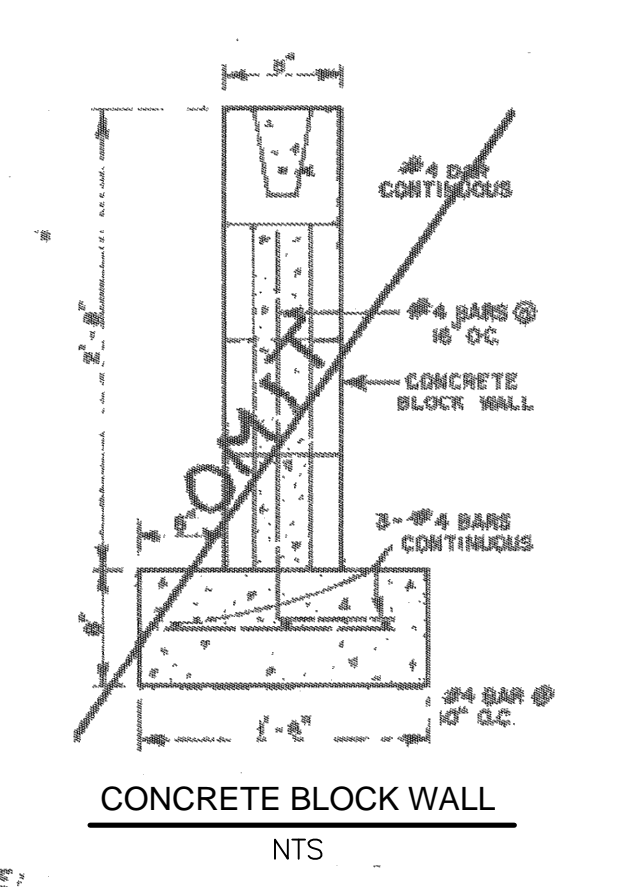
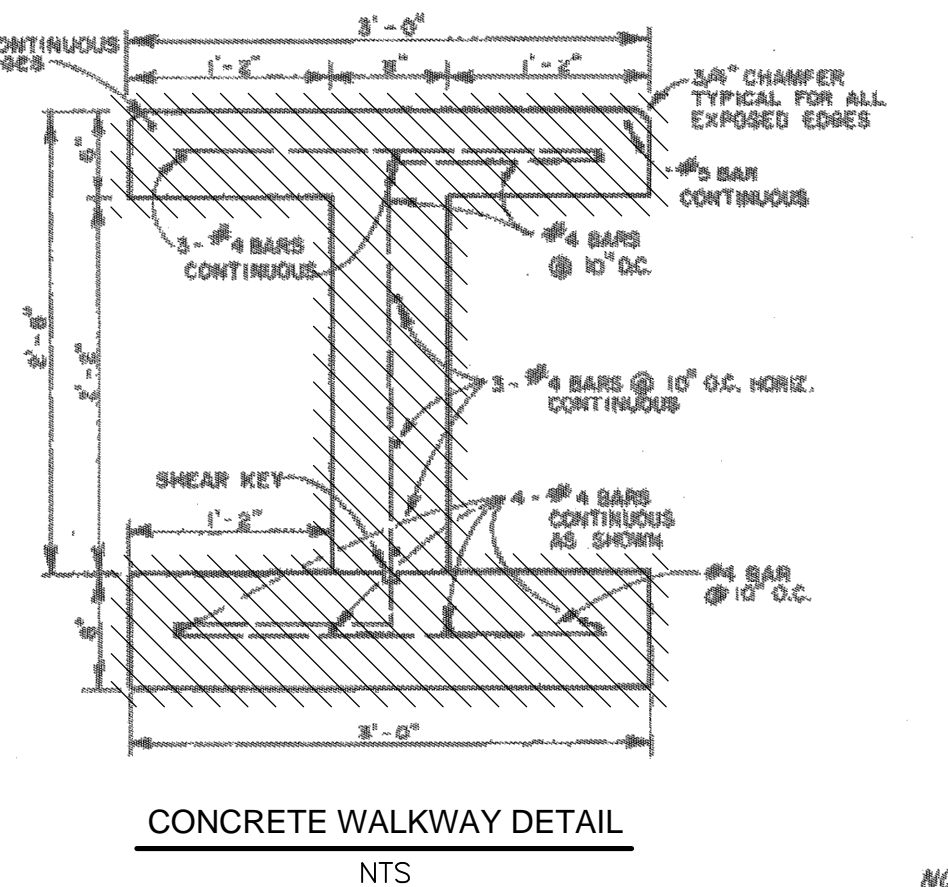
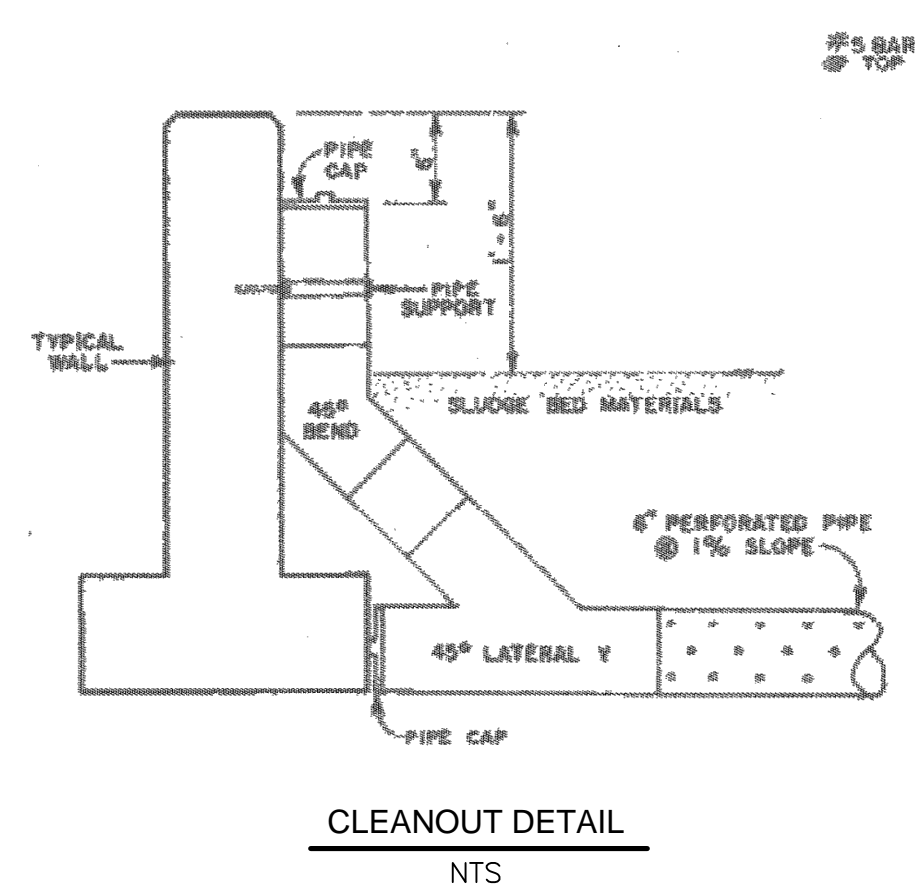
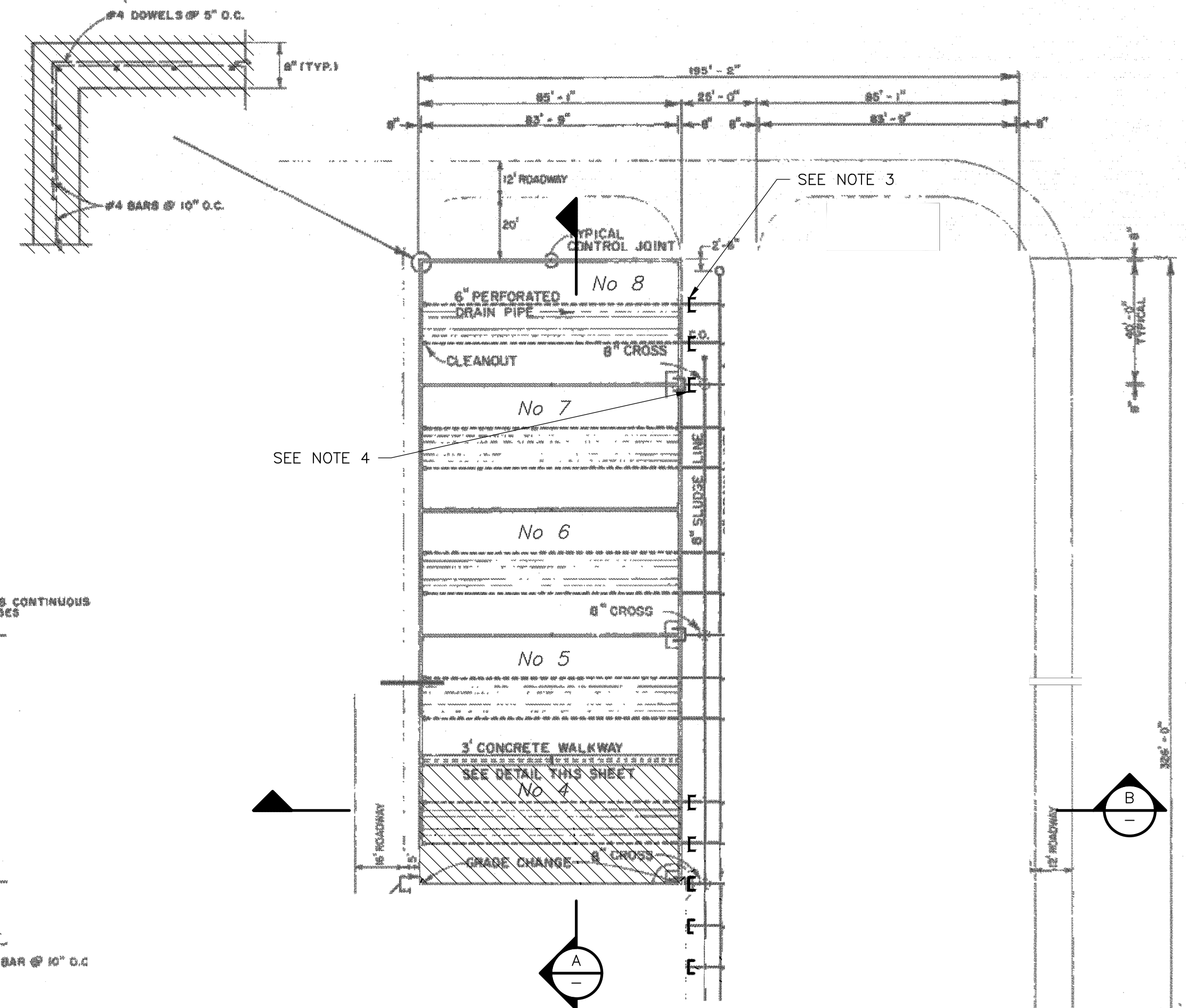
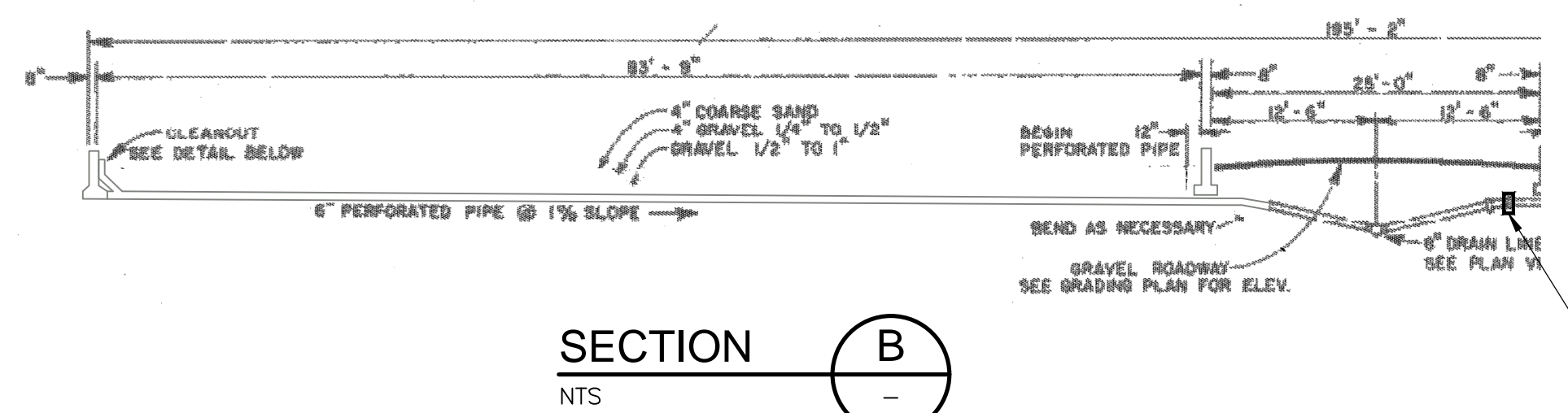
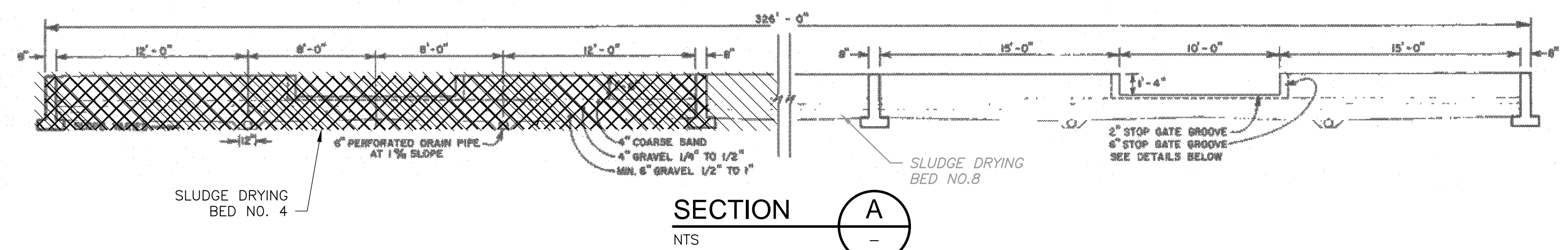
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTTP  
 REHABILITATION

SAN GABRIEL WWTTP  
 SLUDGE DRYING BEDS DEMOLITION PLAN

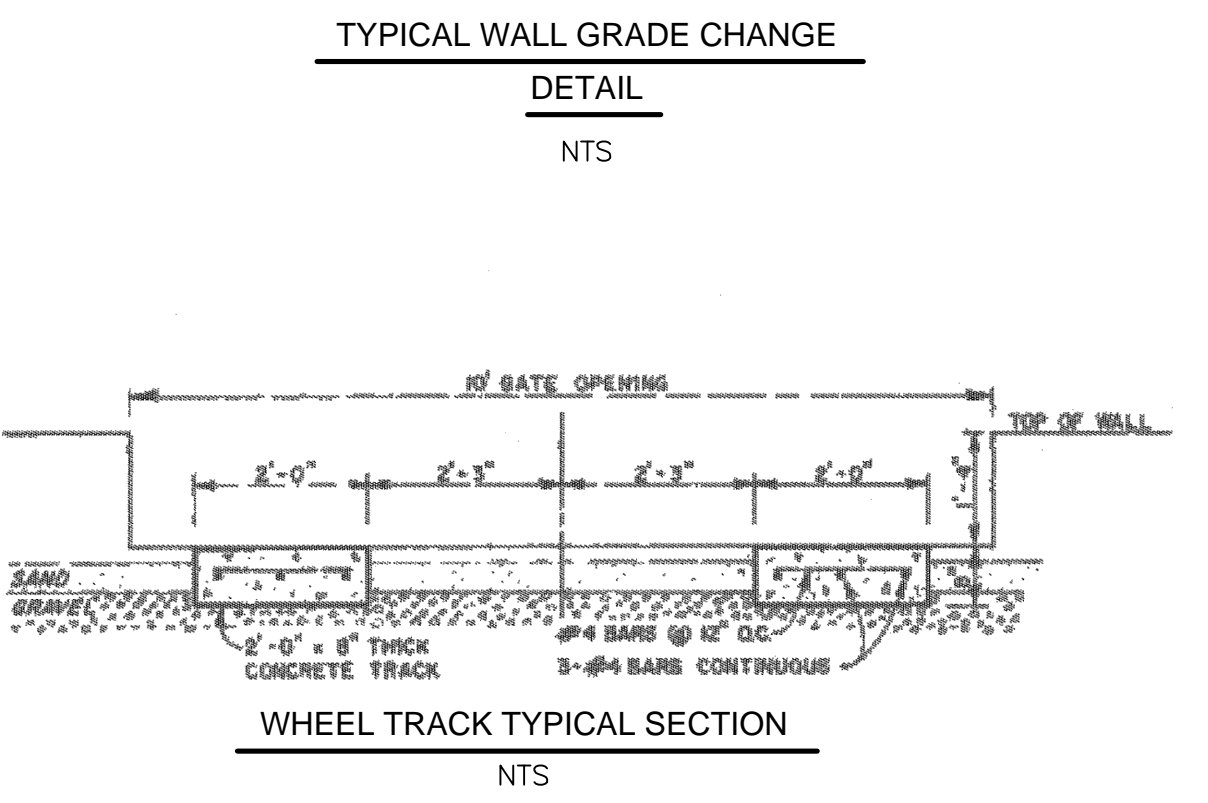
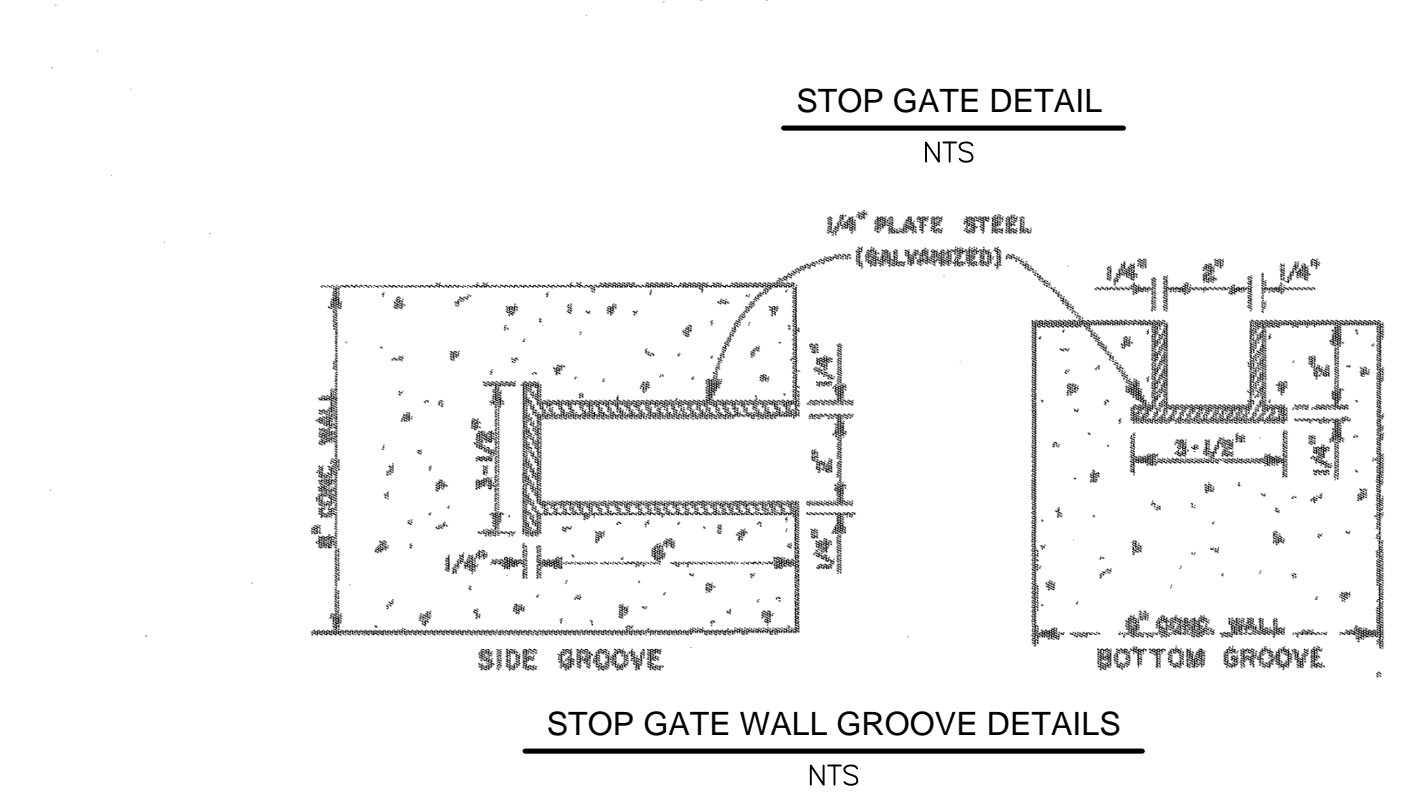
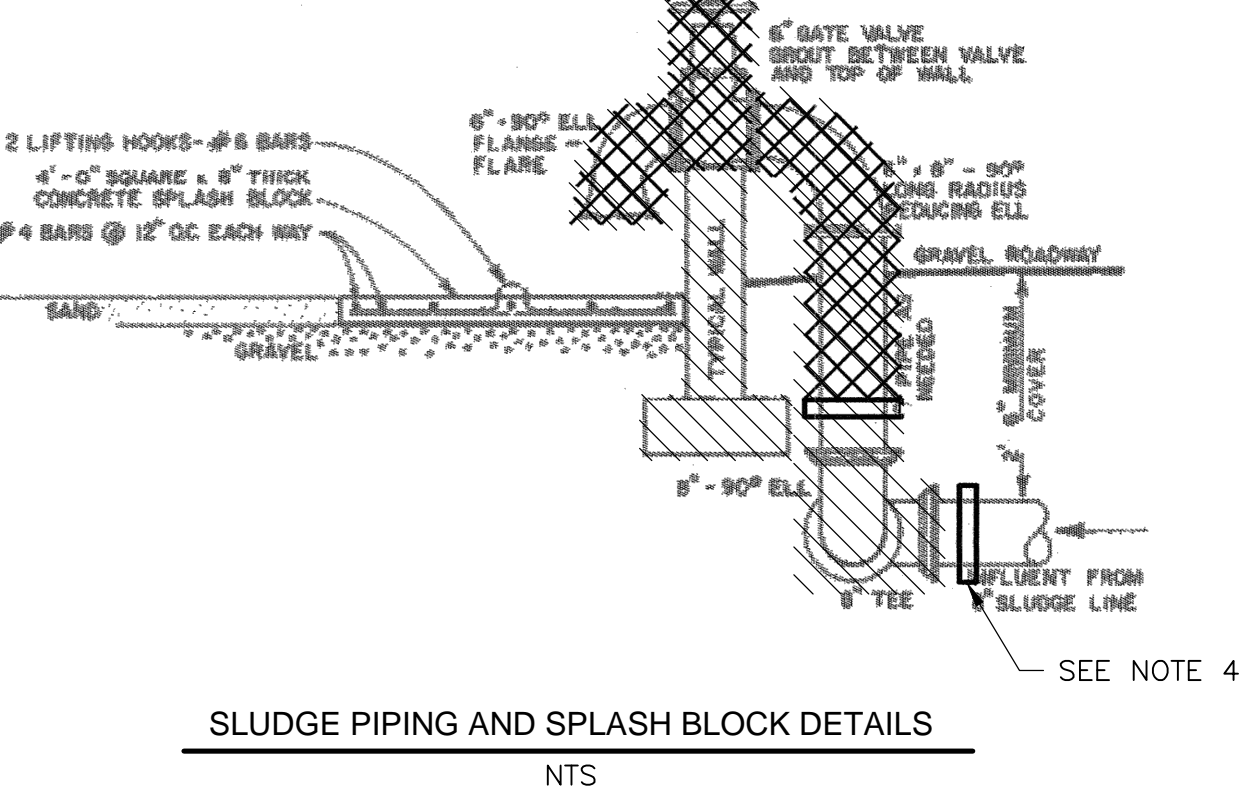
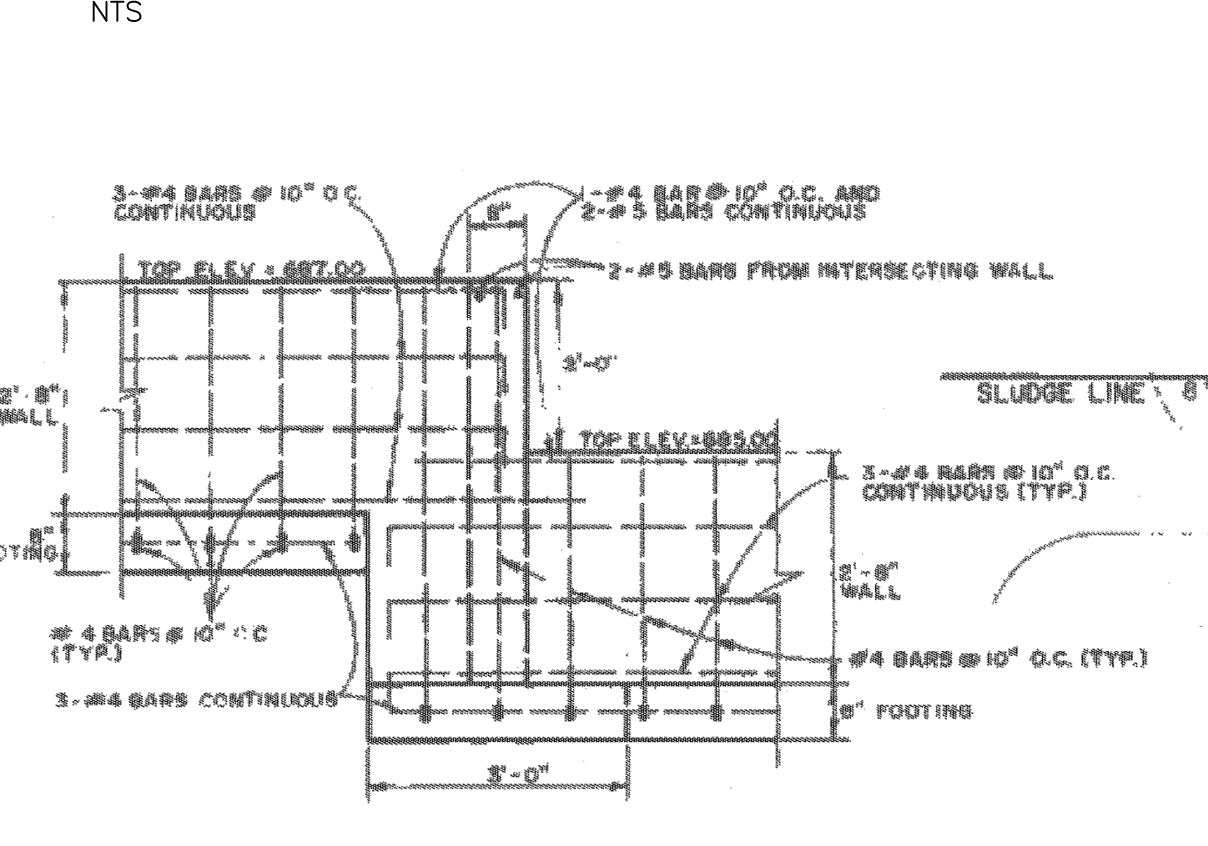
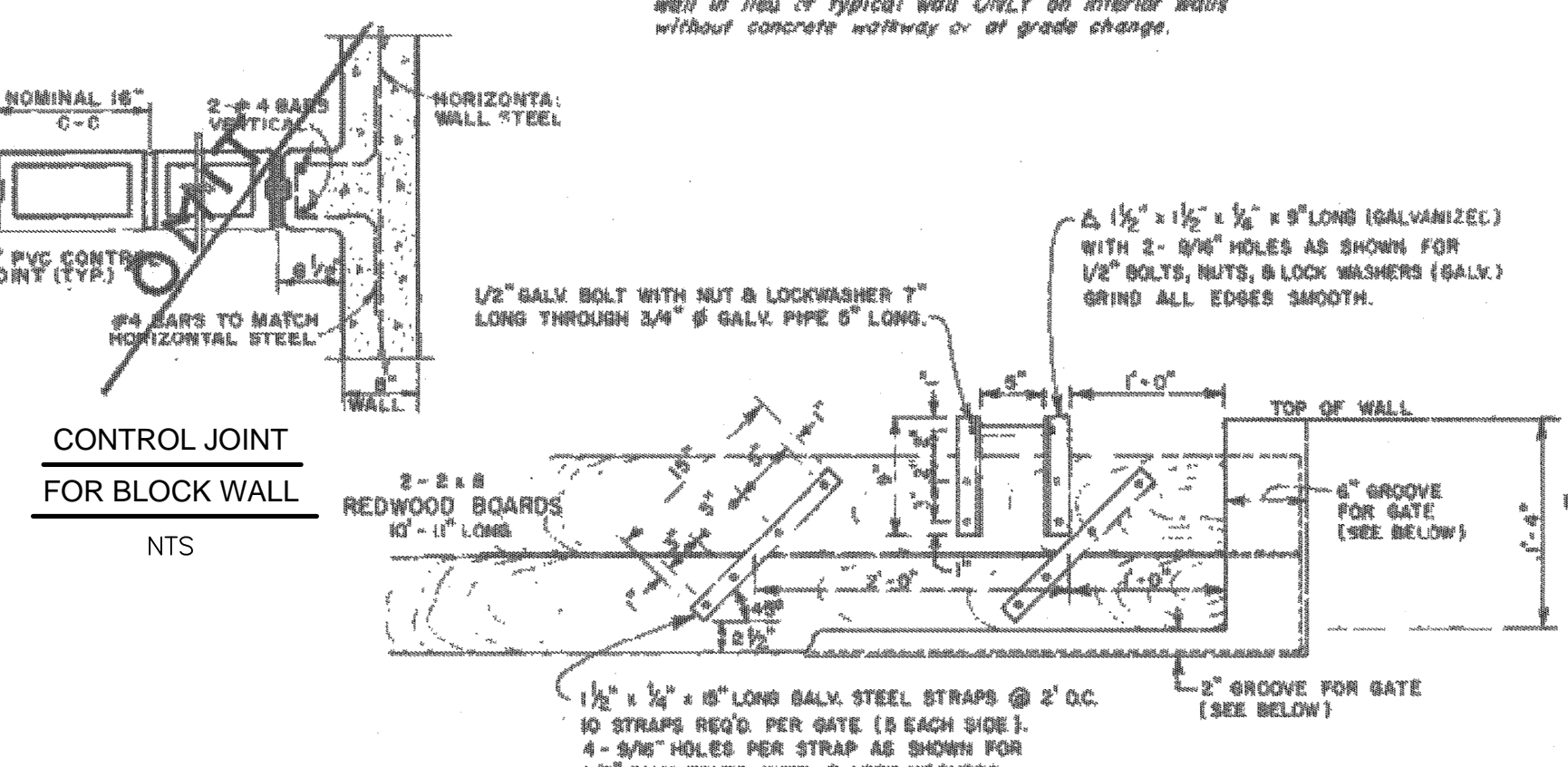
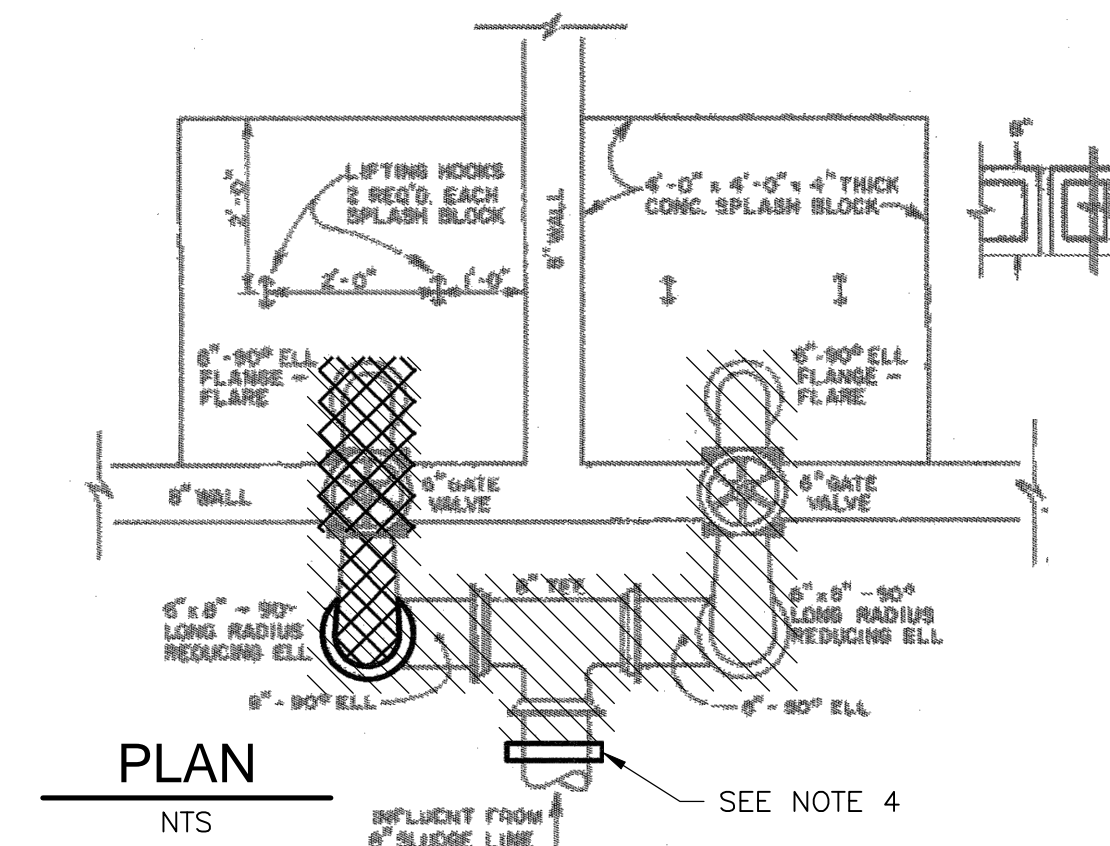
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 FILE NAME: C201DKPL.DWG  
 SHEET NO.  
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**NOTE:**  
Contractor has the option of using concrete block wall in lieu of typical wall ONLY on interior walls without concrete walkway or at grade change.



- DEMOLITION NOTES**
- DRAWINGS OF EXISTING SLUDGE DRYING BEDS ARE NOT TO SCALE & ARE BEST AVAILABLE INFORMATION. ACTUAL DETAILS MAY VARY, BUT IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLETELY REMOVE THE CONCRETE & PIPING AS DETAILED.
  - CONCRETE WALLS & FOOTINGS & DRAIN PIPING SHALL BE DEMOLISHED AND REMOVED.
  - INSTALL A PLUG OR CAP ON EXISTING DRAIN LINES FOR BASINS NO. 4 & 8.
  - PLUG EXISTING 8' INFLUENT SLUDGE LINE PIPE TO BASINS NO. 4 & 8.
  - OWNER SHALL REMOVE & DISPOSE OF ANY SLUDGE IN BASINS NO. 4 & 8 PRIOR TO DEMOLITION OF BASINS BY CONTRACTOR. COORDINATE WITH OWNER BEFORE DEMOLITION.
  - SEE GRADING PLAN SHEET FOR FINISHED GRADING OF DEMOLISHED BASIN AREA.

January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 SLUDGE DRYING BEDS  
 DEMOLITION DETAILS**

PROJECT NO. 2048-264953  
 FILE NAME: SGDK2.DWG  
 SHEET NO.  
**SG-DE-3**



SAW CUT 1'-0"x1'-0"x0-6"  
PORT INTO EXISTING WALL.  
SEE SG-SF-1 FOR DETAILS.  
SEE NOTE 2.

**PHOTO**  
NTS

SAW CUT 2'-0"x1'-0"x0-6"  
PORT INTO EXISTING WALL.  
SEE SG-SF-1 FOR DETAILS.  
SEE NOTE 2.

SAW CUT 1'-0"x1'-0"x0-6"  
PORT INTO EXISTING WALL.  
SEE SG-SF-1 FOR DETAILS.  
SEE NOTE 2.



**PHOTO**  
NTS

**NOTES:**

1. SODIUM BISULFITE TANK, LADDER, SECONDARY CONTAINMENT, CONCRETE TANK PAD, STRUCTURAL COLUMNS AND ROOF FRAMING TO REMAIN. CONTRACTOR TO REMOVE AND REPLACE PIPING, VALVES, TRANSDUCERS, AND PUMP SKID. COORDINATION WITH CONSTRUCTION OF SODIUM BISULFITE EQUIPMENT IS REQUIRED AS PLANT MUST CONTINUE TO PROVIDE CHEMICAL SERVICE DURING CONSTRUCTION.
2. SAW CUT OPENING ONLY AFTER CONTAINMENT WALL MODIFICATIONS ARE COMPLETE.

*Alexandra T. Doody*  
ALEXANDRA T. DOODY  
112812  
PROFESSIONAL ENGINEER  
January 27, 2023

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 SODIUM BISULFITE DEMOLITION  
 PHOTOS AND DETAILS

PROJECT NO.	2048-264953
FILE NAME:	SGDF1.DWG
SHEET NO.	SG-DF-1

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PHOTO  
NTS

NOTES:

- DEMOLITION OF EXISTING SODIUM BISULFITE BUILDING AND EQUIPMENT SHALL BE COORDINATED WITH CONSTRUCTION OF NEW SBS EQUIPMENT. PLANT MUST CONTINUE TO PROVIDE CHEMICAL SERVICE DURING CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE SEQUENCE OF DEMOLITION WITH OWNER PRIOR TO ANY AND ALL ELECTRICAL WORK ASSOCIATED WITH EXISTING EQUIPMENT AND SYSTEMS.
- IN ALL AREAS INVOLVING DEMOLITION, ALL EQUIPMENT, UNUSED WIRING, UNUSED CONDUIT, PULLBOXES, AND SUPPORT MATERIAL MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED. THE AREAS SHALL BE CLEANED OF DEMOLITION DEBRIS.
- REFER ALSO TO ELECTRICAL DEMOLITION DRAWINGS.

Alexandra T. Doody  
 112812  
 PROFESSIONAL ENGINEER  
 January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
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 Tel: (512) 346-1100  
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 SODIUM BISULFITE DEMOLITION PHOTOS

PROJECT NO. 2048-264953  
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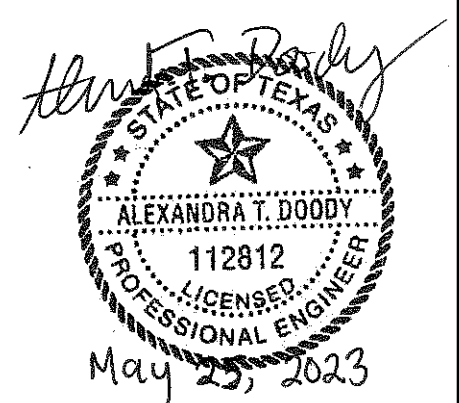


PHOTO

NTS

NOTE:

1. ABANDONED TANK AND ASSOCIATED TANK PAD TO BE DEMOLISHED AND REMOVED. CONTRACTOR TO COORDINATE WITH OWNER TO ENSURE TANK IS FULLY EMPTY PRIOR TO DEMOLITION.



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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	SKM	ATD	REVISION FOR ADDENDUM NO.3

DESIGNED BY: J. MAYER
DRAWN BY: S. RAJI
SHEET CHK'D BY: A. DOODY
CROSS CHK'D BY: A. WOELKE
APPROVED BY: A. DOODY
DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 DOVE SPRINGS WWTP AND SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 ABANDONED HYDROPNEUMATIC  
 TANK DEMOLITION PHOTO

PROJECT NO. 2048-264953
FILE NAME: SGDF3.DWG
SHEET NO. SG-DF-3

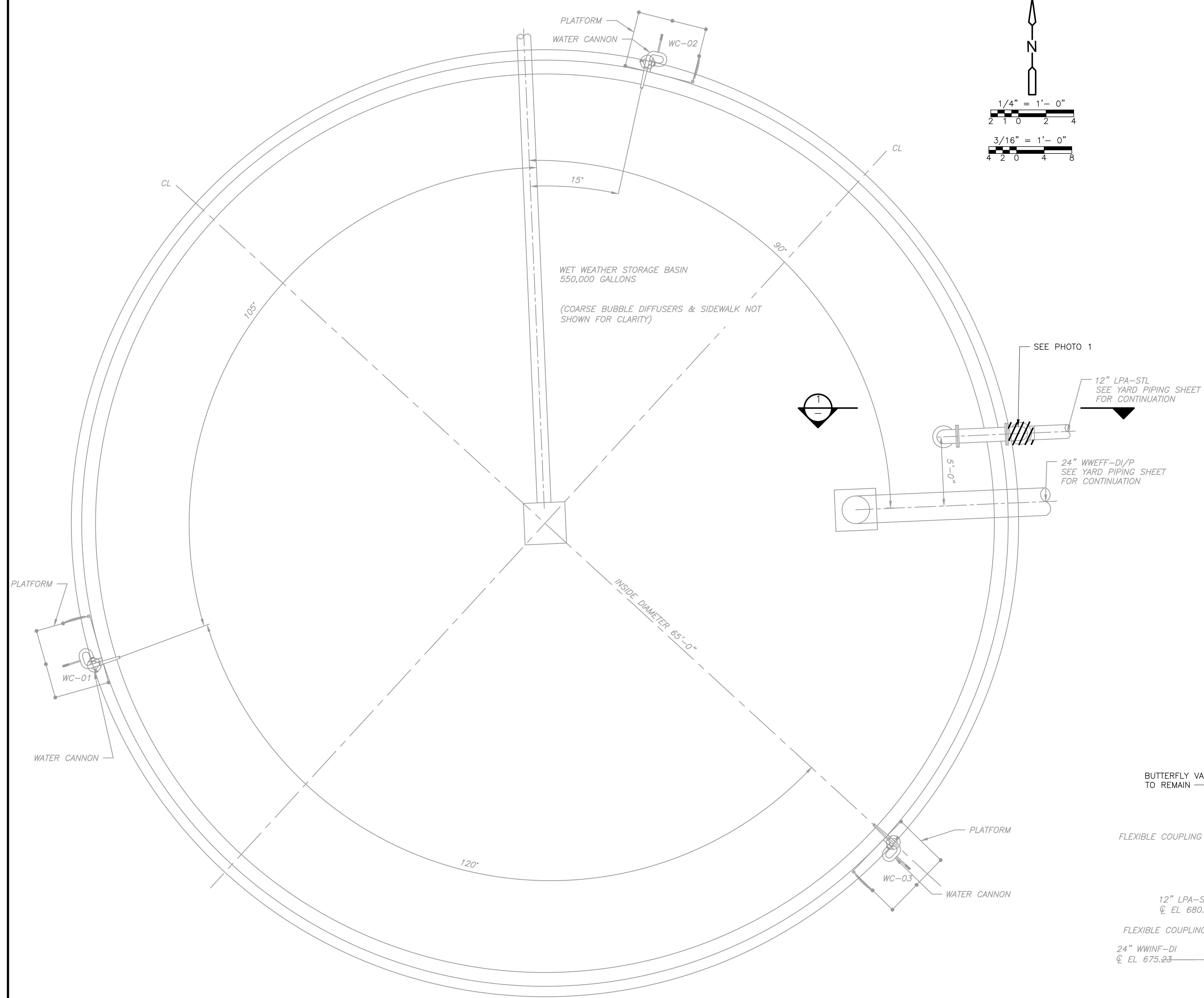
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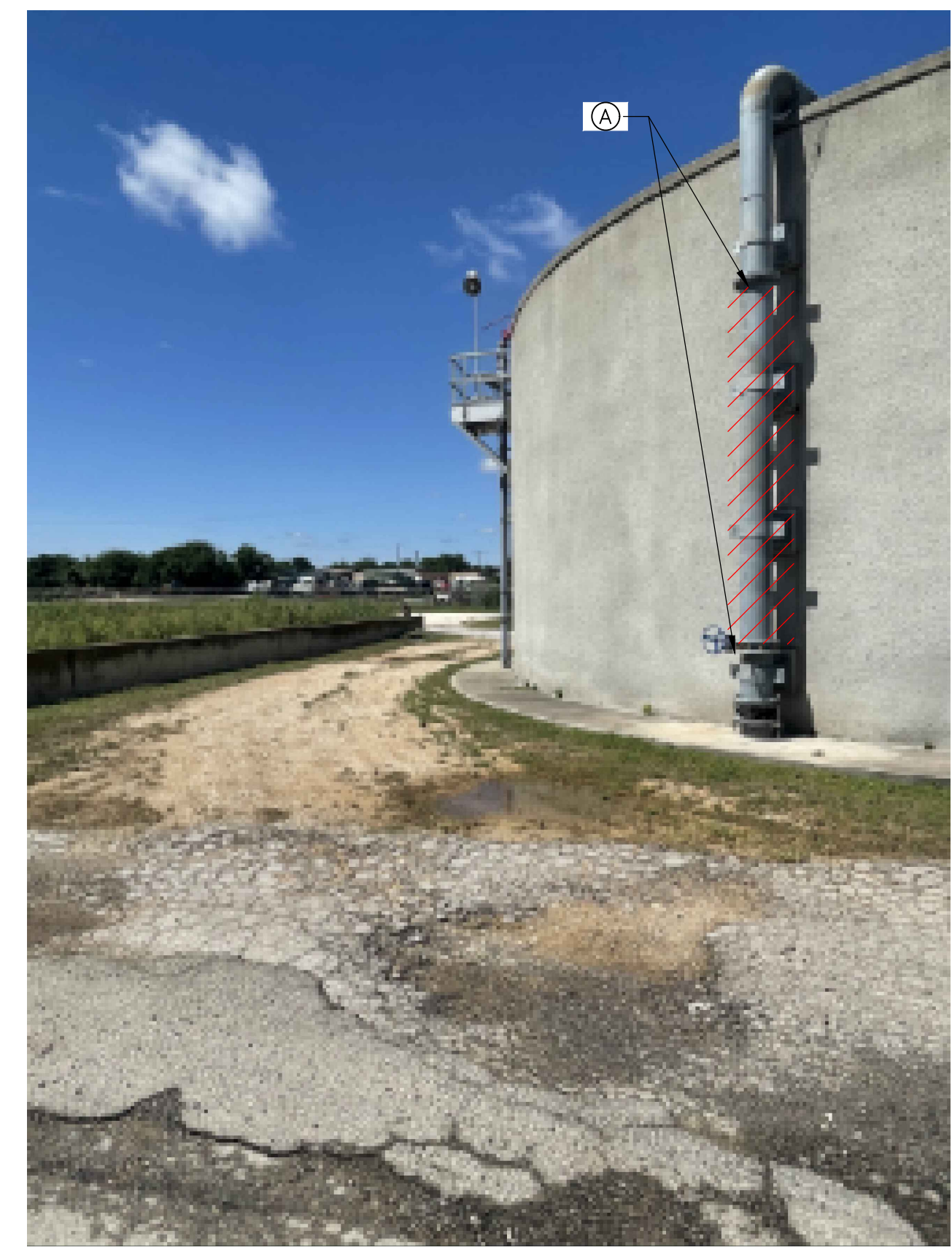
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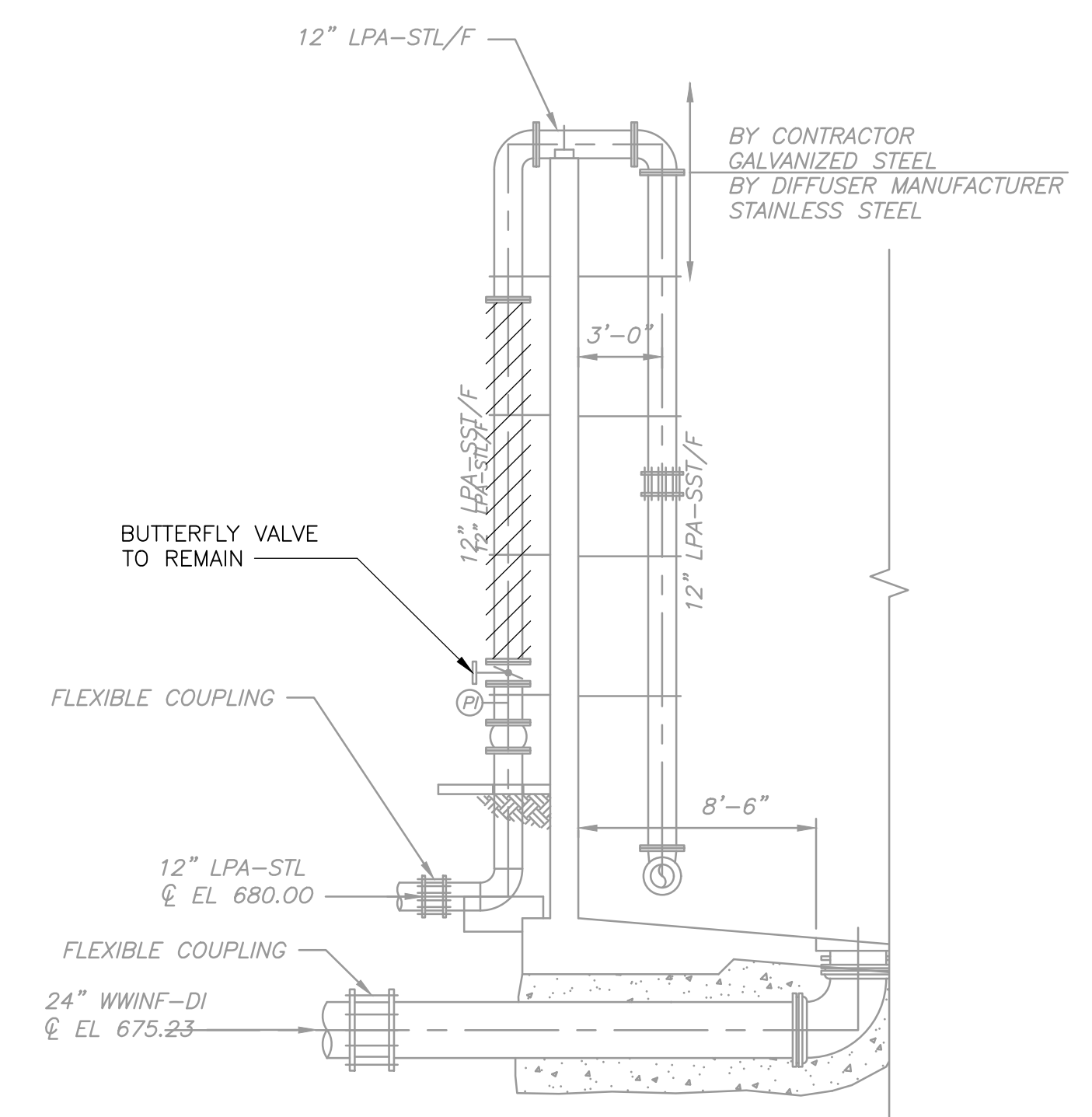
**PLAN**  
1/4" = 1'-0"

**NOTE:**  
1. SEE SHEET SG-C-2 FOR WET WEATHER STORAGE BASIN LOCATION.

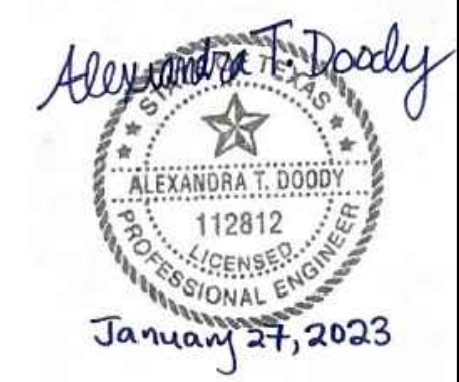


**A.** EXISTING PIPE TO BE DEMOLISHED BETWEEN FLANGES FOR NEW PD BLOWER TIE-IN CONNECTION. SEE SHEET SG-MG-1 FOR NEW PIPE MODIFICATIONS

**PHOTO 1**



**ILLUSTRATIVE SECTION 1**  
3/16" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY:	A. KOWALKOWSKI
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023



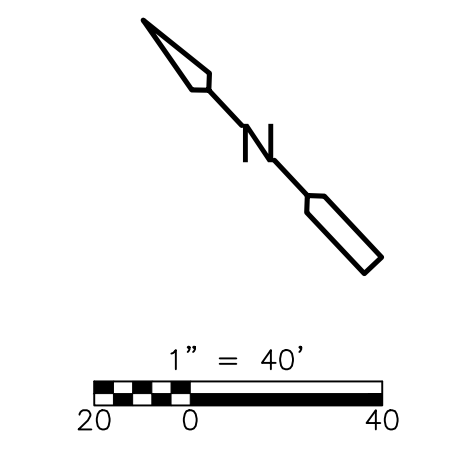
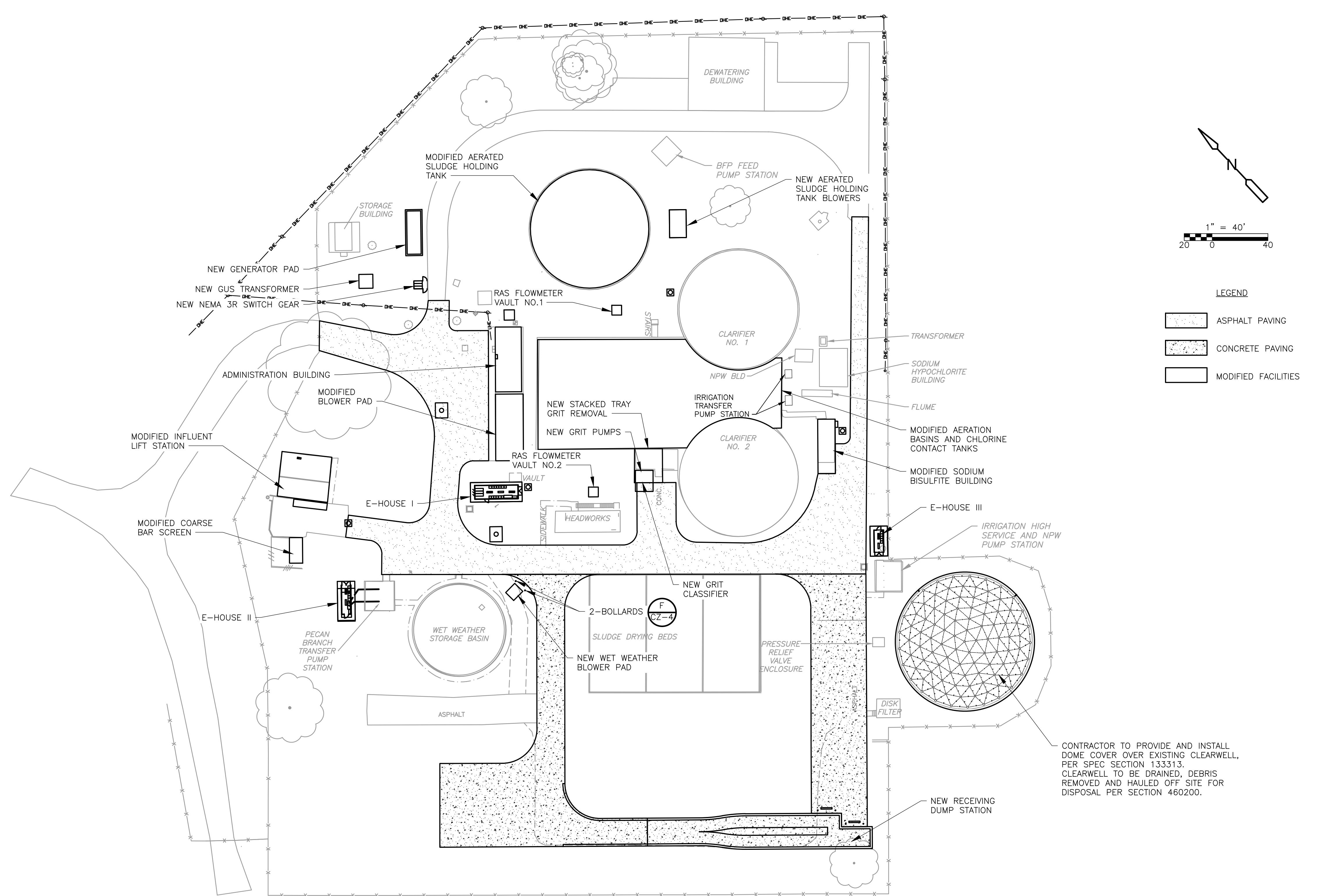
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
REHABILITATION**

**SAN GABRIEL WWTP  
WET WEATHER STORAGE  
DEMOLITION PLAN**

PROJECT NO.	2048-264953
FILE NAME:	SGDG1.DWG
SHEET NO.	<b>SG-DG-1</b>



XREFS: [CDMS\_2234\_CWP201PL\_EWP002TPL\_REW\_A\_DOODY-SEAL\_CEP201ST] Images: [ ]  
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**LEGEND**

	ASPHALT PAVING
	CONCRETE PAVING
	MODIFIED FACILITIES

**NOTES**

- REFER TO SECTION CIP3 FOR SUMMARY OF WORK AND MAINTENANCE OF PLANT OPERATION REQUIREMENTS.

CONTRACTOR TO PROVIDE AND INSTALL DOME COVER OVER EXISTING CLEARWELL, PER SPEC SECTION 133313. CLEARWELL TO BE DRAINED, DEBRIS REMOVED AND HAULED OFF SITE FOR DISPOSAL PER SECTION 460200.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. MALPASS  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: E. WEIMER  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 PROPOSED SITE PLAN**  
 SHEET NO.  
**SG-C-2**

PROJECT NO. 2048-264953  
 FILE NAME: C202STPL.DWG  
 SHEET NO.  
**SG-C-2**





NOTES

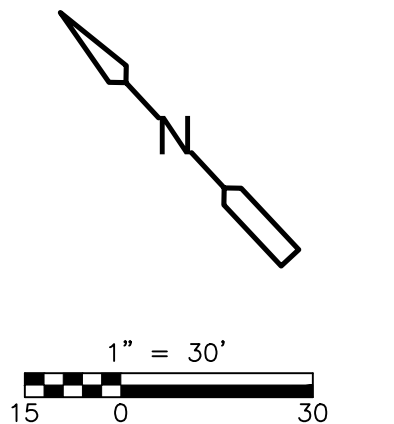
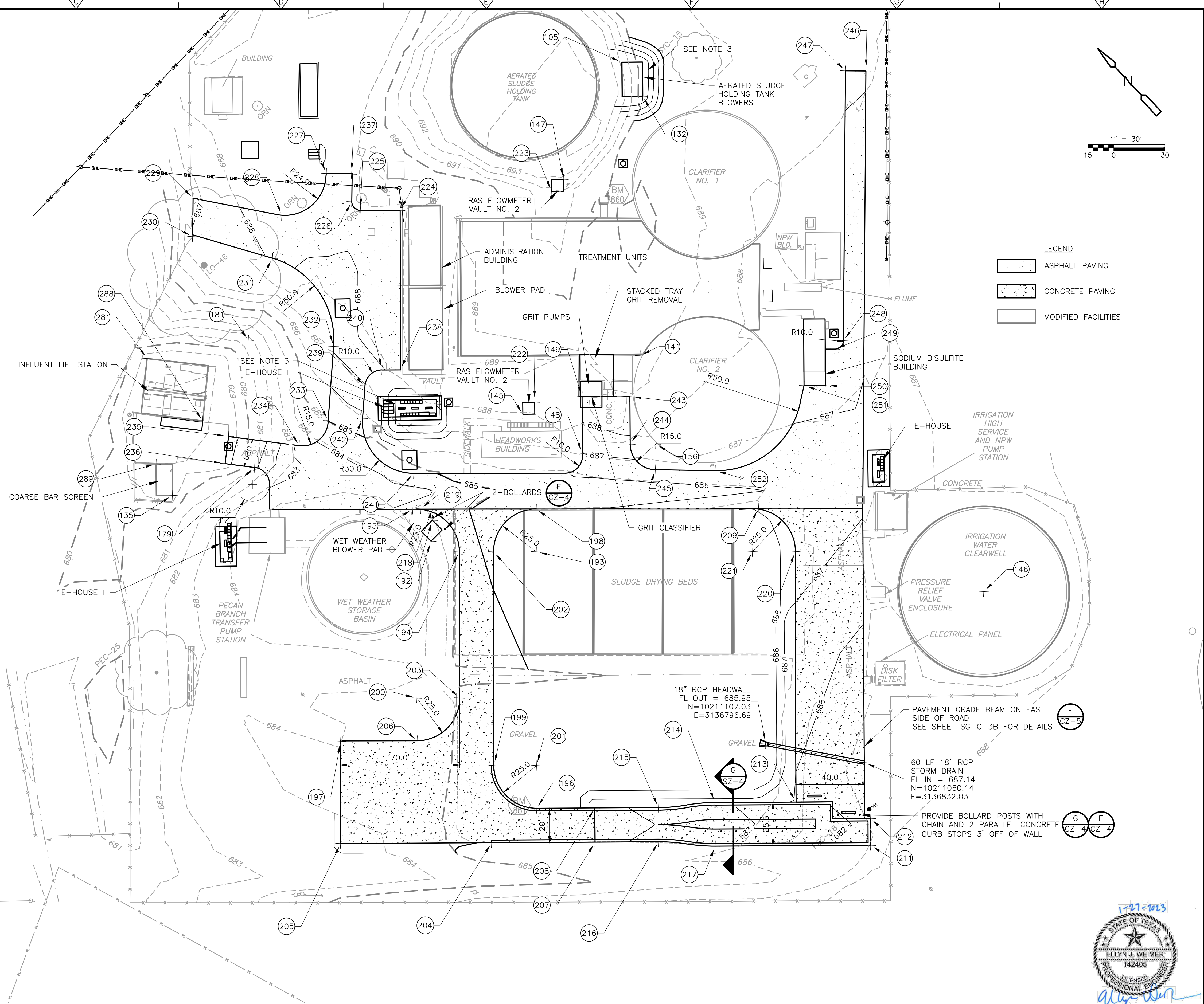
- COORDINATES ARE SURFACE VALUES BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD 83, CENTRAL ZONE 4203. TO CONVERT COORDINATES AND DISTANCES TO GRID VALUES DIVIDE BY A COMBINED SURFACE ADJUSTMENT FACTOR OF 1.00013. ELEVATIONS REPORTED ARE ORTHOMETRIC HEIGHTS BASED ON NAVD 88 AND RECONCILED TO CITY OF GEORGETOWN CONTROL.
- NEW ASPHALT PAVING TO BE REPLACED BY CONTRACTOR. SEE DETAIL D SHEET CZ-4.
- CONTRACTOR TO REGRADE AROUND NEW E-HOUSES, ASHT BLOWER PAD, AND INFRASTRUCTURE IN ORDER TO TIE INTO EXISTING GRADE AT A MINIMUM OF A 3H:1V SLOPE AND PROVIDE DRAINAGE IN THE DIRECTION OF EXISTING FLOW.

CONTROL LIST

PNT#	NORTHING	EASTING	ELEV	DESCRIPTION
800	10211431.8500	3137098.0990	688.48	TPT-80DW-LVLD
802	10211629.9500	3136873.5200	689.10	TPT-80DW-LVLD
860	10211403.1489	3136948.5103	684.07	TPT-80DW-LVLD
861	10211177.2165	3136665.6765	685.54	TPT-80DW-LVLD

POINT TABLE		
POINT NO.	NORTHING	EASTING
105	10211458.93	3137002.48
132	10211436.01	3136998.18
135	10211448.02	3136637.53
141	10211324.63	3136894.96
145	10211345.41	3136821.19
146	10211087.38	3136950.98
147	10211431.26	3136931.12
148	10211305.13	3136831.60
149	10211329.65	3136853.66
156	10211280.19	3136867.01
179	10211427.80	3136684.06
181	10211485.38	3136731.41
192	10211326.49	3136731.48
193	10211280.52	3136772.87
194	10211310.73	3136739.52
195	10211347.54	3136736.17
196	10211169.19	3136672.22
197	10211275.40	3136613.60
198	10211299.06	3136789.65
199	10211204.57	3136670.38
200	10211264.12	3136663.65
201	10211187.79	3136688.92
202	10211297.30	3136754.34
203	10211247.34	3136682.19
204	10211172.00	3136639.14
205	10211231.03	3136573.37
206	10211245.52	3136646.95
207	10211131.62	3136684.12
208	10211146.51	3136697.48
209	10211211.95	3136886.17
211	10211021.91	3136802.23
212	10211033.63	3136812.75
213	10211069.94	3136786.89
214	10211101.64	3136751.58
215	10211121.67	3136725.15
216	10211106.79	3136711.79
217	10211082.66	3136734.55
218	10211335.04	3136740.30

POINT TABLE		
POINT NO.	NORTHING	EASTING
219	10211344.49	3136739.80
220	10211178.85	3136885.18
221	10211195.62	3136866.63
222	10211345.95	3136831.08
223	10211430.73	3136921.23
224	10211481.99	3136848.22
225	10211497.56	3136830.99
226	10211504.68	3136830.68
227	10211526.94	3136830.74
228	10211526.29	3136795.02
229	10211568.60	3136763.30
230	10211552.18	3136748.05
231	10211511.41	3136774.10
232	10211449.15	3136765.87
233	10211419.12	3136734.29
234	10211419.72	3136711.96
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236	10211441.06	3136672.78
237	10211516.71	3136841.42
238	10211412.72	3136785.55
239	10211419.76	3136763.99
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242	10211406.63	3136750.18
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245	10211269.25	3136856.75
246	10211359.18	3137104.76
247	10211367.31	3137095.93
248	10211251.23	3136988.96
249	10211250.92	3136981.92
250	10211238.85	3136963.42
251	10211247.19	3136954.17
252	10211245.36	3136882.24
281	10211517.25	3136680.37
288	10211468.40	3136679.88
289	10211467.98	3136642.75



LEGEND

[Pattern]	ASPHALT PAVING
[Pattern]	CONCRETE PAVING
[Pattern]	MODIFIED FACILITIES

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: E. WEIMER  
 DRAWN BY: S. MALPASS  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. RHAMES  
 APPROVED BY: E. WEIMER  
 DATE: JANUARY 2023

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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

PROJECT NO. 2048-264953  
 FILE NAME: C203STPL.DWG  
 SHEET NO.  
**SAN GABRIEL WWTP  
 GRADING AND PAVING PLAN**  
**SG-C-3**

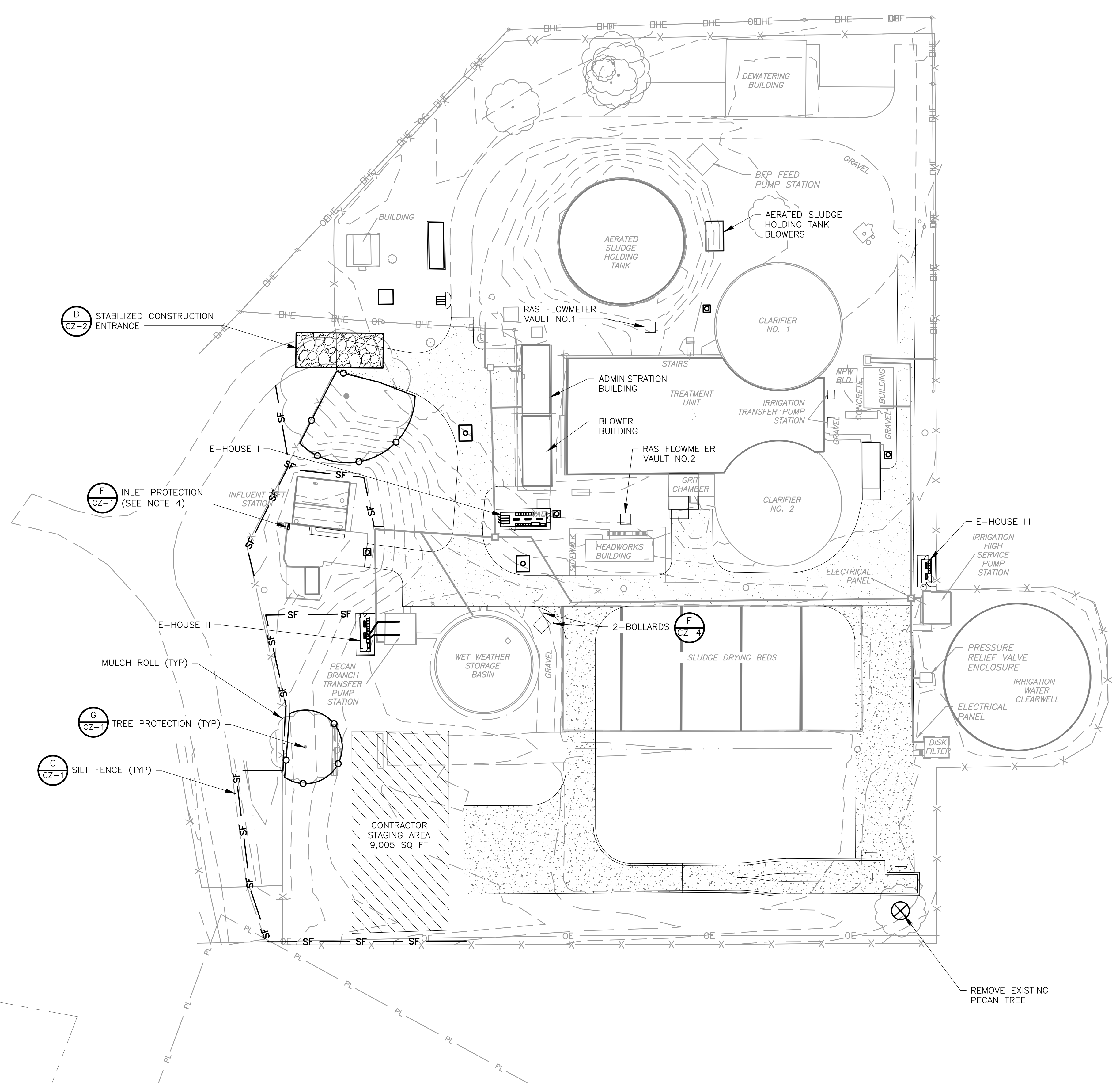
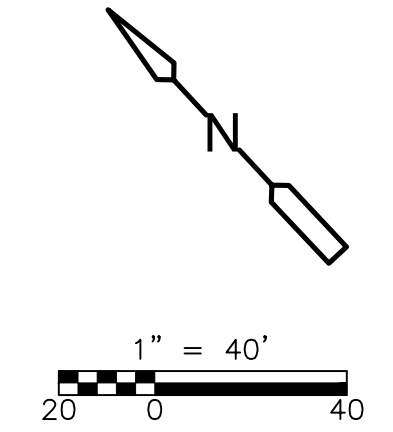






NOTES

1. CONTRACTOR SHALL MAINTAIN WWTP SECURITY AT ALL TIMES.
2. CONTRACTOR SHALL COORDINATE AND VERIFY CONTRACTOR LAYDOWN AREAS WITH OWNER.
3. USE OF PLANT ENTRANCE GATE SHALL BE COORDINATED WITH OWNER.
4. THE EXISTING CURB INLET RECEIVES A SIGNIFICANT FRACTION OF PLANT DRAINAGE. CONTRACTOR SHALL MAINTAIN CURB INLET AND CONCRETE PAD FREE OF SEDIMENT. CURB INLET PROTECTION SHALL BE INSTALLED IN ACCORDANCE WITH SECTION G66.
5. CONTRACTOR SHALL MAINTAIN PLANT ROADS FREE OF SEDIMENT.
6. INSTALL AND MAINTAIN SILT FENCE AROUND PERIMETER OF CONTRACTOR LAYDOWN AREA.
7. REVEGETATE ALL AREAS OF DISTURBANCE WHEN CONSTRUCTION IS COMPLETE.
8. LOCATION & SIZE OF CONTRACTOR'S STAGING AREAS FOR FIELD OFFICES, STORAGE, EQUIPMENT & MATERIAL ARE GENERAL. CONTRACTOR SHALL SUBMIT STAGING PLAN TO OWNER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.



- LEGEND**
- ASPHALT PAVING
  - CONCRETE PAVING
  - MODIFIED FACILITIES
  - STABILIZED CONSTRUCTION ENTRANCE
  - TREE REMOVAL
  - SILT FENCE
  - TREE PROTECTION
  - MULCH ROLL

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

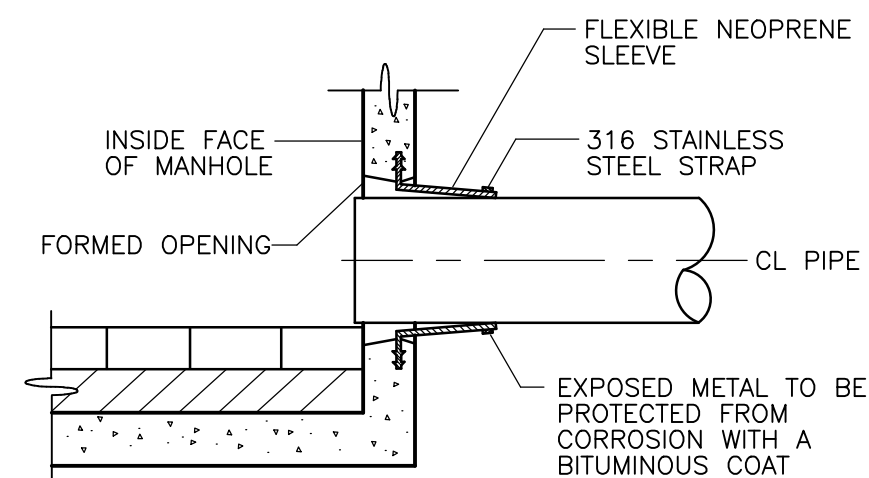
DESIGNED BY: E. WEIMER  
 DRAWN BY: E. WEIMER  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. RHAMES  
 APPROVED BY: E. WEIMER  
 DATE: JANUARY 2023

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 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 TEMPORARY EROSION CONTROL PLAN  
 AND CONTRACTOR STAGING AREA**

PROJECT NO. 2048-264953  
 FILE NAME: C206ECP.DWG  
 SHEET NO.  
**SG-C-7**



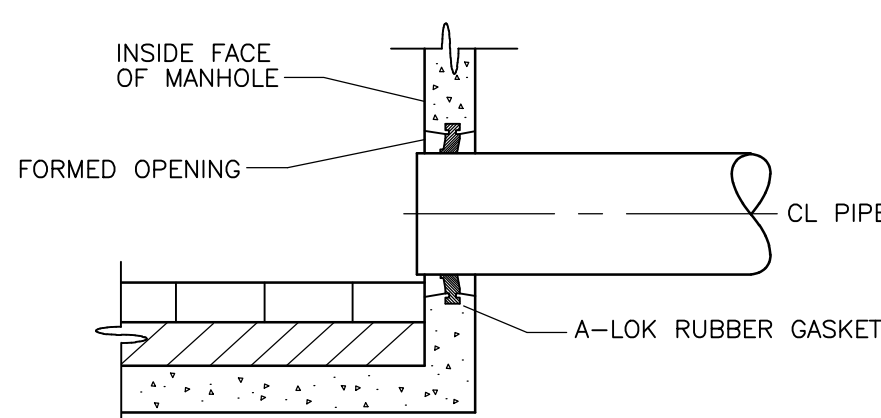
NOTE

- 1 OPENING IN WALL > PIPE OD - TO FIT SLEEVE OD.
- 2 PROVIDE GASKETED "SMOOTH" MANHOLE ADAPTOR FOR PROFILE - WALL PVC PIPE.

**FLEXIBLE SLEEVE PIPE CONNECTION**

DETAIL A

NTS



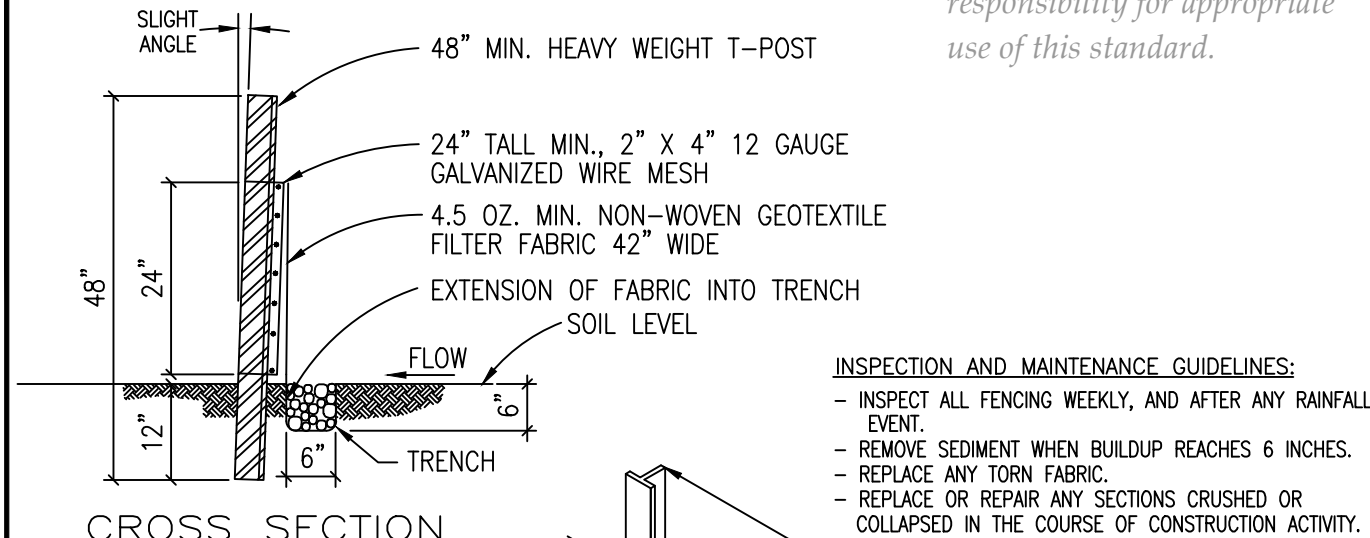
NOTE

- 1 PROVIDE GASKETED "SMOOTH" MANHOLE ADAPTOR FOR PROFILE - WALL PVC PIPE.

**A-LOK SYSTEM PIPE CONNECTION**

DETAIL B

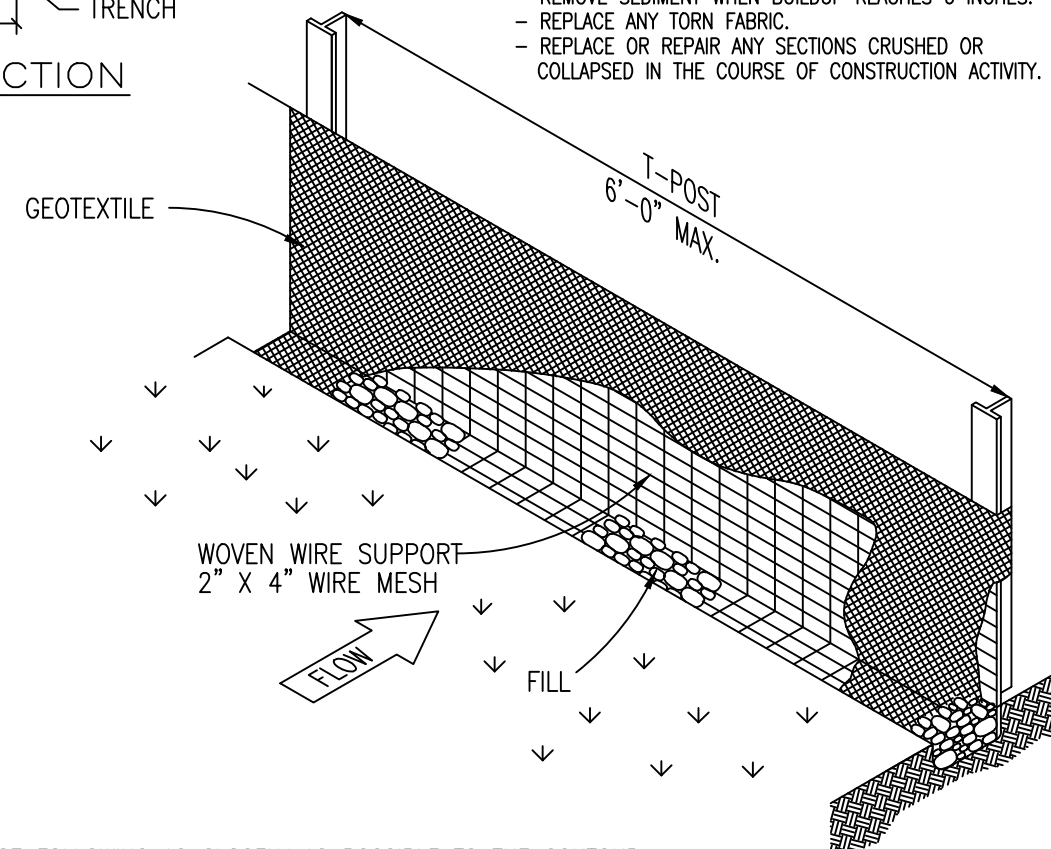
NTS



CROSS SECTION

The Architect/Engineer assumes responsibility for appropriate use of this standard.

- INSPECTION AND MAINTENANCE GUIDELINES:
- INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL EVENT.
  - REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.
  - REPLACE ANY TORN FABRIC.
  - REPLACE OR REPAIR ANY SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY.



INSTALLATION:

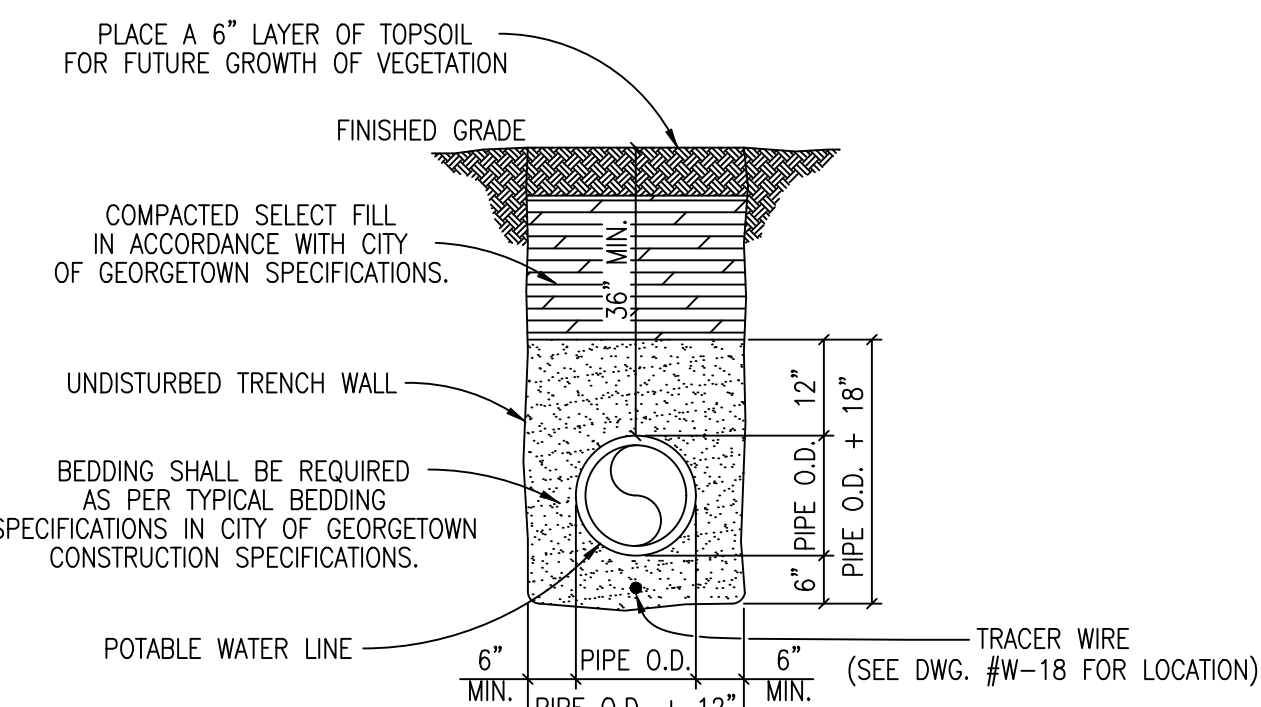
- LAYOUT THE SILT FENCE FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.
- CLEAR THE GROUND OF DEBRIS, ROCKS, PLANTS (INCLUDING GRASSES TALLER THAN 2") TO PROVIDE A SMOOTH FLOW APPROACH SURFACE. EXCAVATE 6" DEEP X 6" WIDE TRENCH ON UPSTREAM SIDE OF FACE PER PLANS.
- DRIVE THE HEAVY DUTY T-POST AT LEAST 12 INCHES INTO THE GROUND AND AT A SLIGHT ANGLE TOWARDS THE FLOW.
- ATTACH THE 2" X 4" 12 GAUGE WELDED WIRE MESH TO THE T-POST WITH 11 1/2 GAUGE GALVANIZED T-POST CLIPS. THE TOP OF THE WIRE TO BE 24" ABOVE GROUND LEVEL. THE WELDED WIRE MESH TO BE OVERLAPPED 6" AND TIED AT LEAST 6 TIMES WITH HOG RINGS.
- THE SILT FENCE TO BE INSTALLED WITH A SKIRT A MINIMUM OF 6" WIDE PLACED ON THE UPHILL SIDE OF THE FENCE INSIDE EXCAVATED TRENCH. THE FABRIC TO OVERLAP THE TOP OF THE WIRE BY 1'.
- ANCHOR THE SILT FENCE BY BACKFILLING WITH EXCAVATED DIRT AND ROCKS (NOT LARGER THAN 2").
- GEOTEXTILE SPLICES SHOULD BE A MINIMUM OF 18" WIDE ATTACHED IN AT LEAST 6 PLACES. SPLICES IN CONCENTRATED FLOW AREAS WILL NOT BE ACCEPTED.
- SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

ADOPTED 6/21/2006

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	EC02
	SILT FENCE DETAIL	

DETAIL C

NTS



- TRENCH WIDTHS
- \*PIPE LESS THAN 20" DIAMETER  
1'-0" + PIPE O.D.
  - \*20" DIAMETER PIPE AND LARGER  
2'-0" + PIPE O.D.

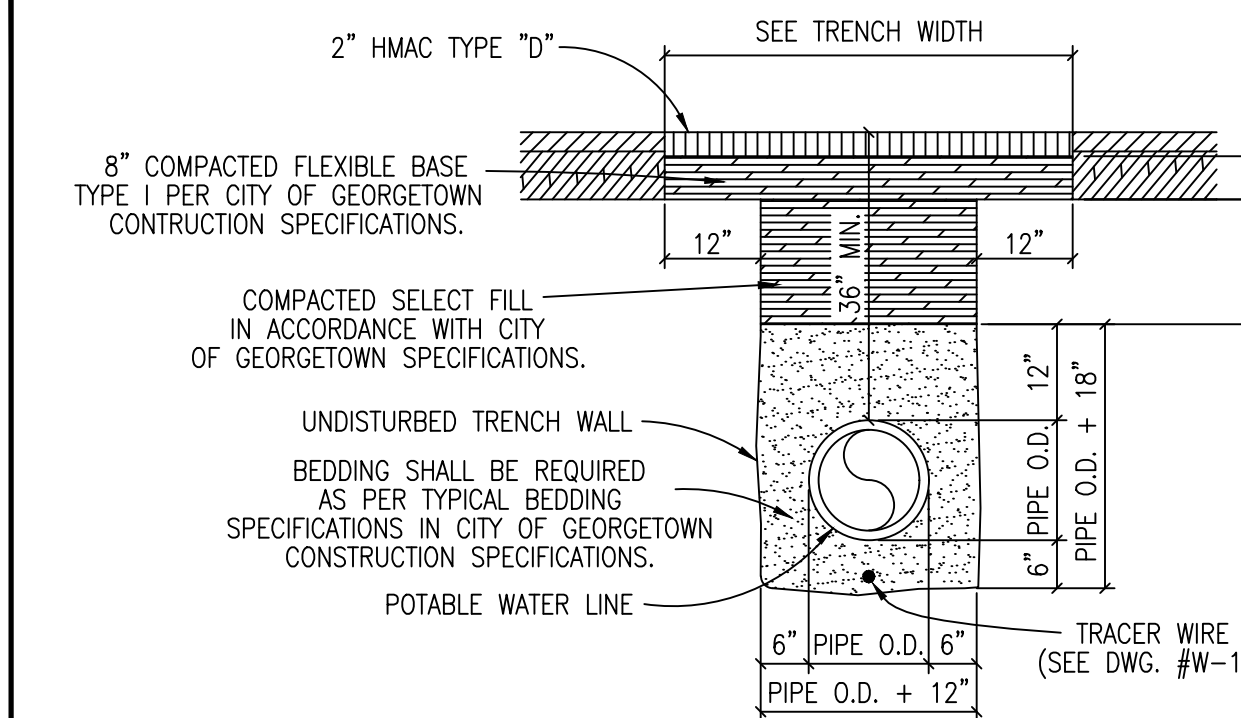
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	W02
	TRENCH AND EMBEDMENT DETAIL UNDER NON-PAVED AREAS	

DETAIL D

NTS



- TRENCH WIDTHS
- \*PIPE LESS THAN 20" DIAMETER  
1'-0" + PIPE O.D.
  - \*20" DIAMETER PIPE AND LARGER  
2'-0" + PIPE O.D.

- NOTES:
1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
  2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 6" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
  3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWS.
  4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
  5. DENSITY TESTS SHALL BE TAKEN IN ACCORDANCE WITH THE CITY OF GEORGETOWN CONSTRUCTION SPECIFICATIONS AND STANDARDS.
  6. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

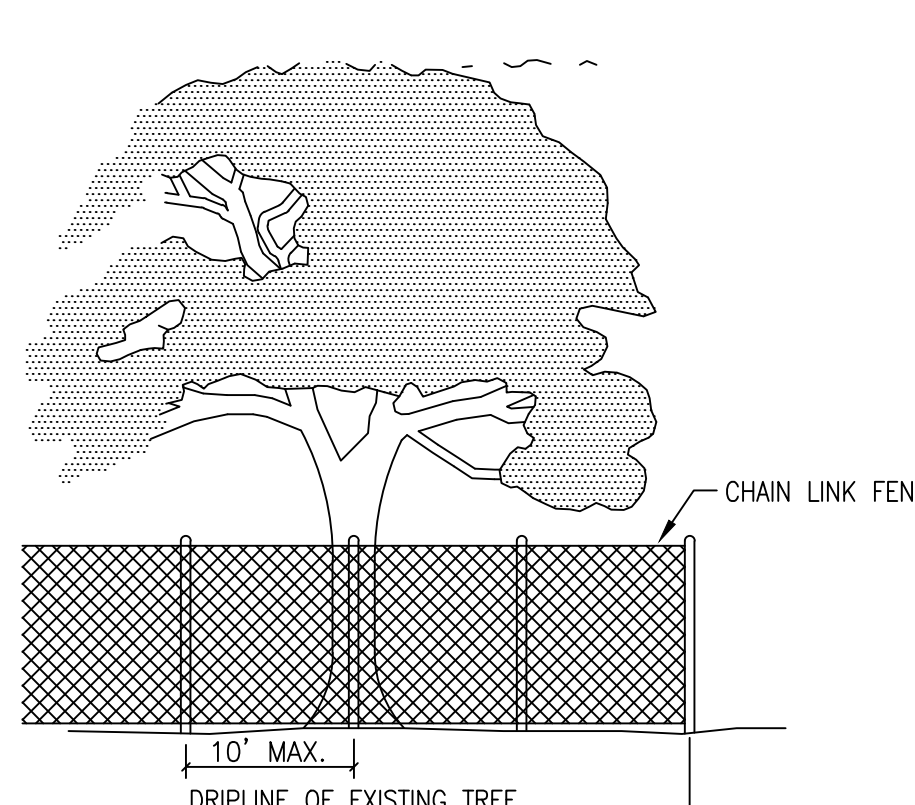
The Architect/Engineer assumes responsibility for appropriate use of this standard.

ADOPTED 6/21/2006

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	W17
	TRENCH AND EMBEDMENT AND PAVEMENT REPLACEMENT DETAIL UNDER EXISTING ROADWAY	

DETAIL E

NTS



NOTES:

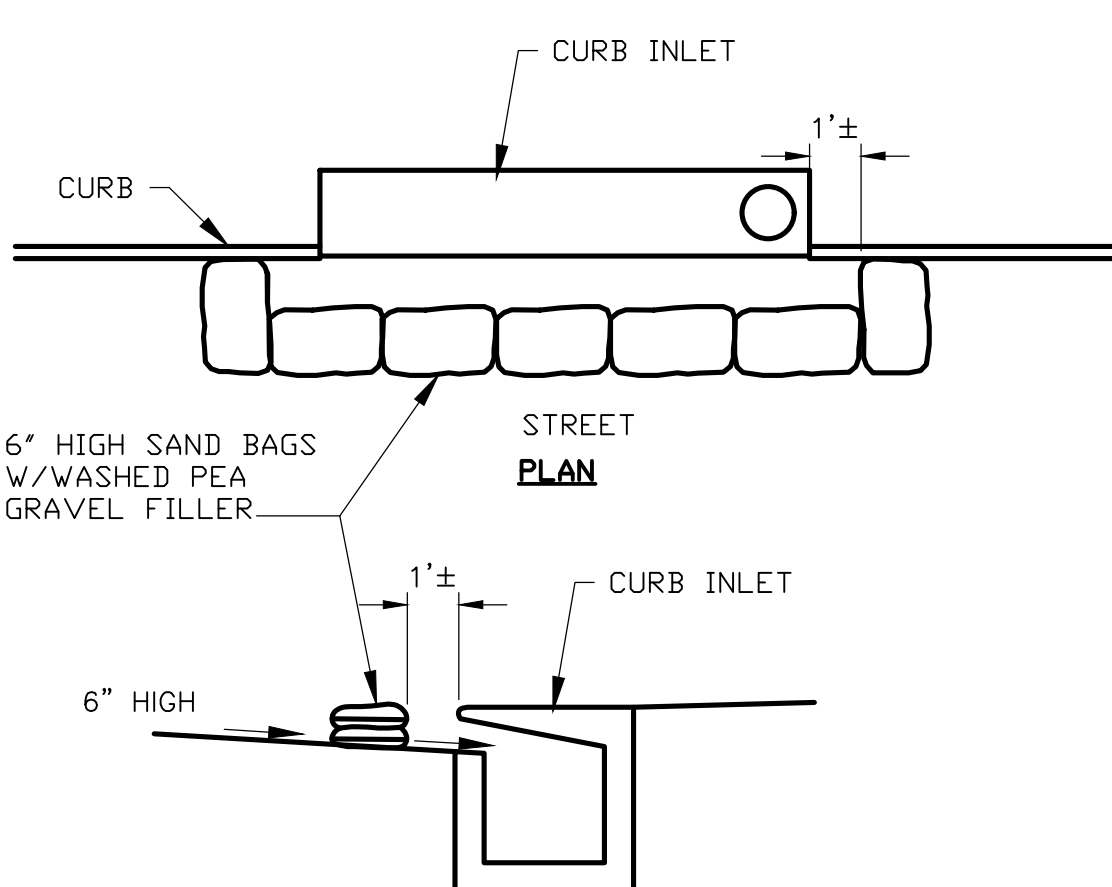
1. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
2. FENCES SHALL COMPLETELY SURROUND THE TREE, OR CLUSTERS OF TREES; WILL BE LOCATED AT THE OUTERMOST LIMIT OF THE TREE BRANCHES (DRIPLINE), AND WILL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT IN ORDER TO PREVENT THE FOLLOWING:
  - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MATERIALS
  - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN SIX INCHES (6") CUT OR FILL, OR TRENCHING NOT REVIEWED AND AUTHORIZED BY THE CITY.
  - C. WOUNDS TO EXPOSED ROOTS, TRUNKS OR LIMBS BY MECHANICAL EQUIPMENT.
  - D. OTHER ACTIVITIES DETRIMENTAL TO TREES, SUCH AS CHEMICAL STORAGE, CEMENT TRUCK CLEANING AND FIRE.
3. EXCEPTIONS TO INSTALLING FENCES AT TREE DRIPLINES MAY BE PERMITTED IN THE FOLLOWING CASES:
  - A. WHERE PERMEABLE PAVING IS TO BE INSTALLED, ERECT THE FENCE AT THE OUTER LIMITS OF THE PERMEABLE PAVING AREA.
  - B. WHERE TREES ARE CLOSE TO PROPOSED BUILDINGS, ERECT THE FENCE NO CLOSER THAN SIX FEET (6'-0") TO BUILDING.

ADOPTED 6/21/2006

	CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS	EC09
	TREE PROTECTION - CHAIN LINK FENCE	

DETAIL F

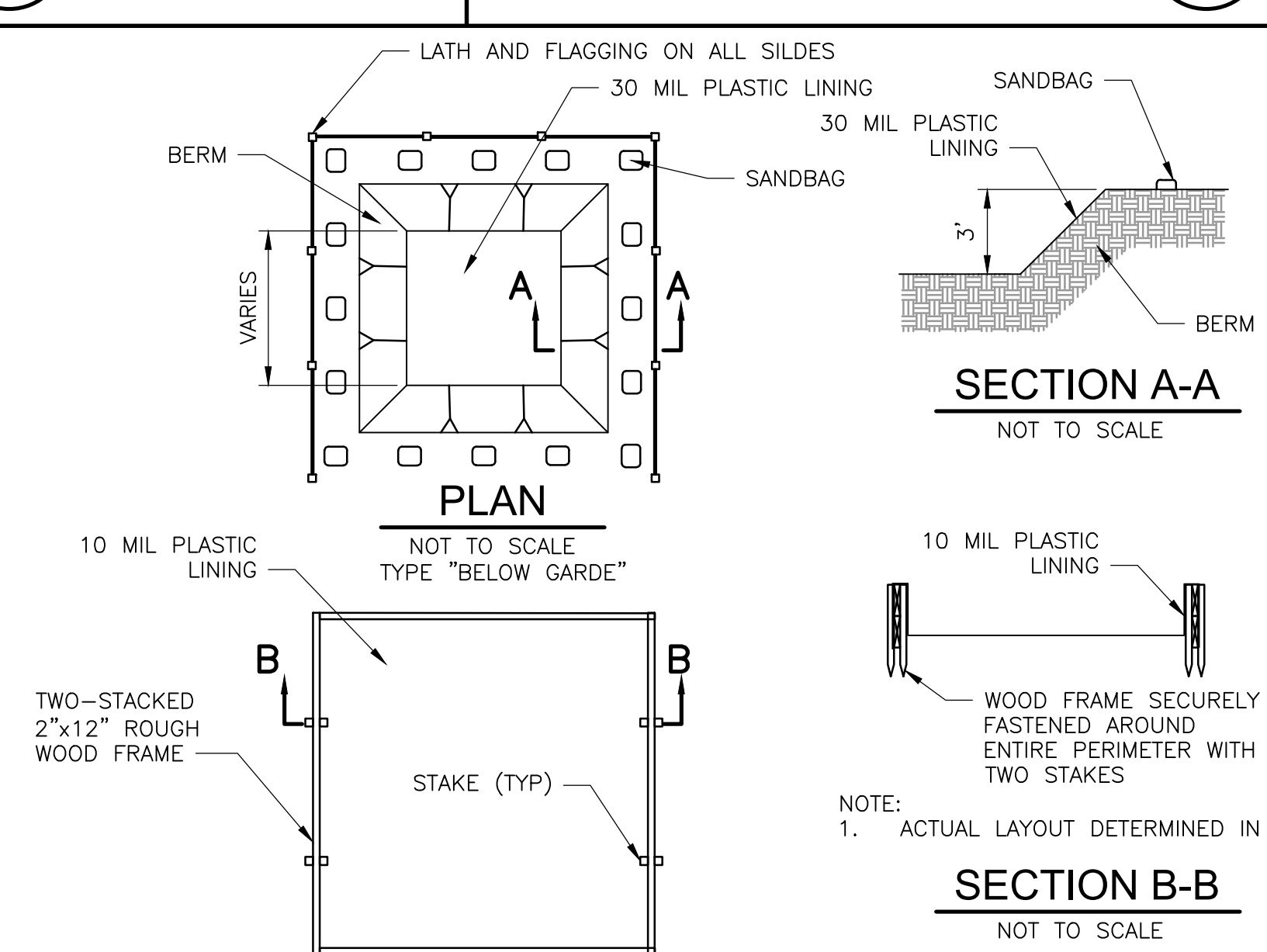
NTS



CURB INLET PROTECTION

DETAIL G

NTS



CONCRETE WASHOUT AREA

DETAIL H

NTS

- NOTE:
1. BASED ON SITE CONDITIONS, THE CONTRACTOR MAY SELECT BELOW OR ABOVE GRADE CONCRETE WASHOUT AREA.



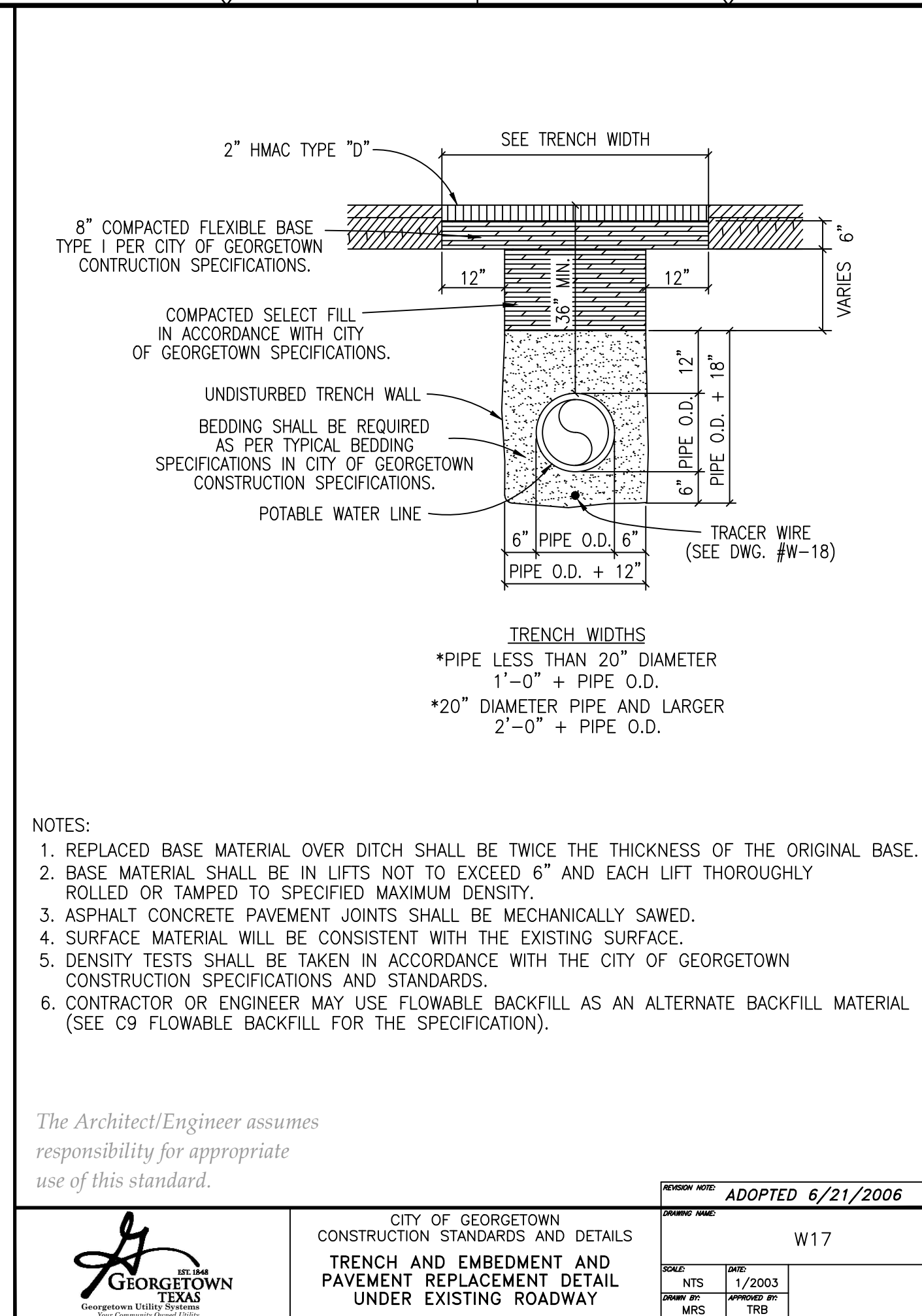
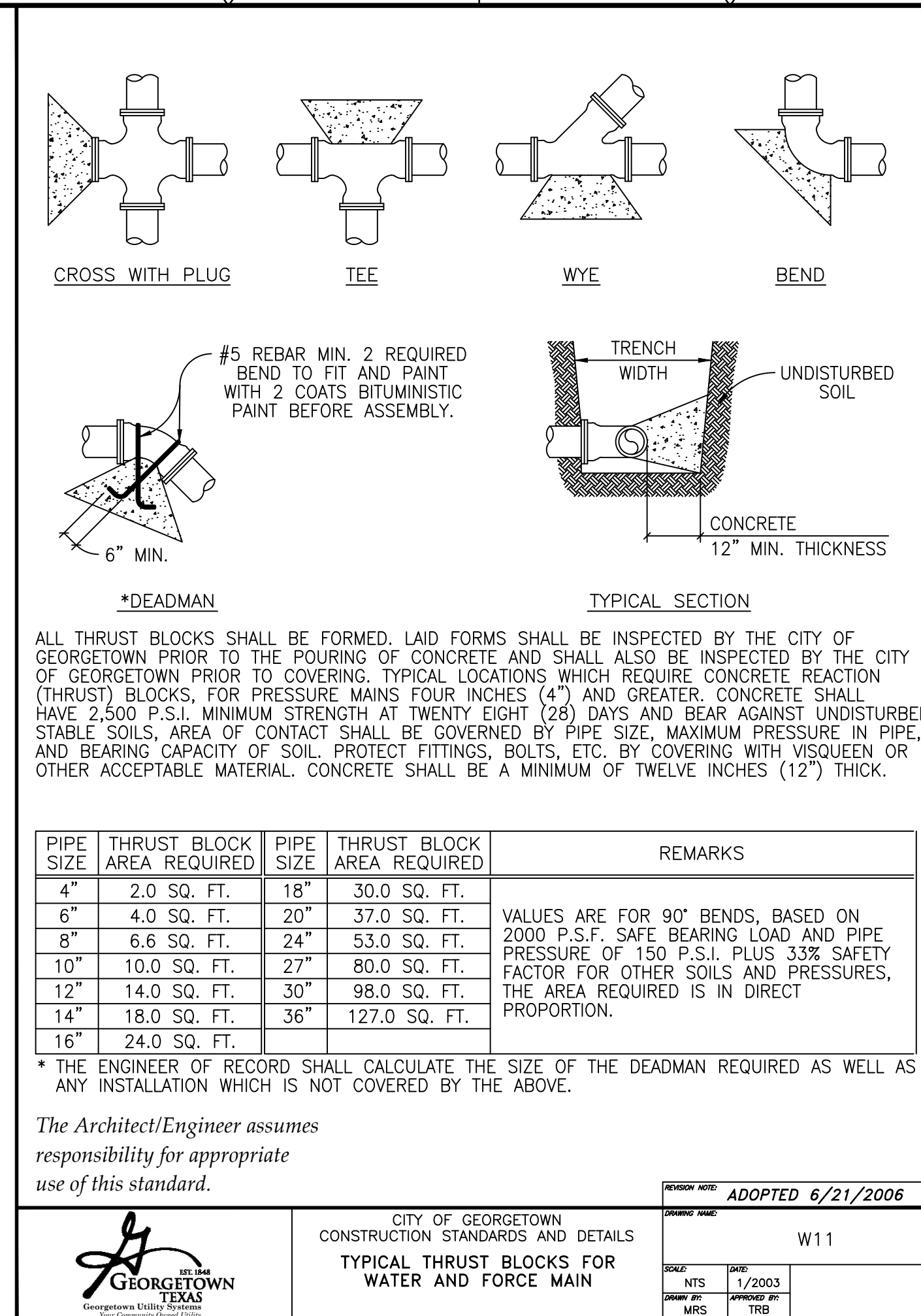
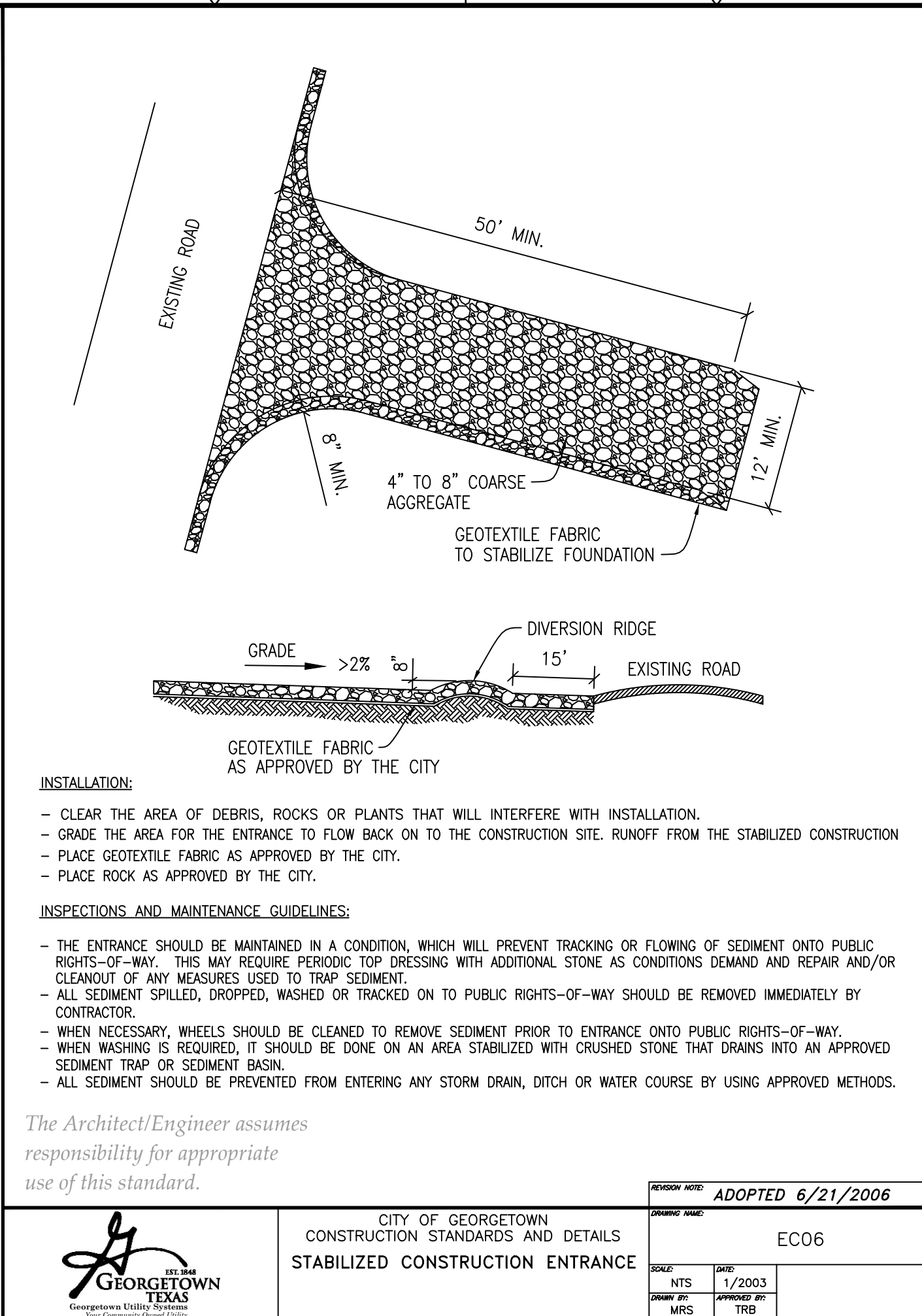
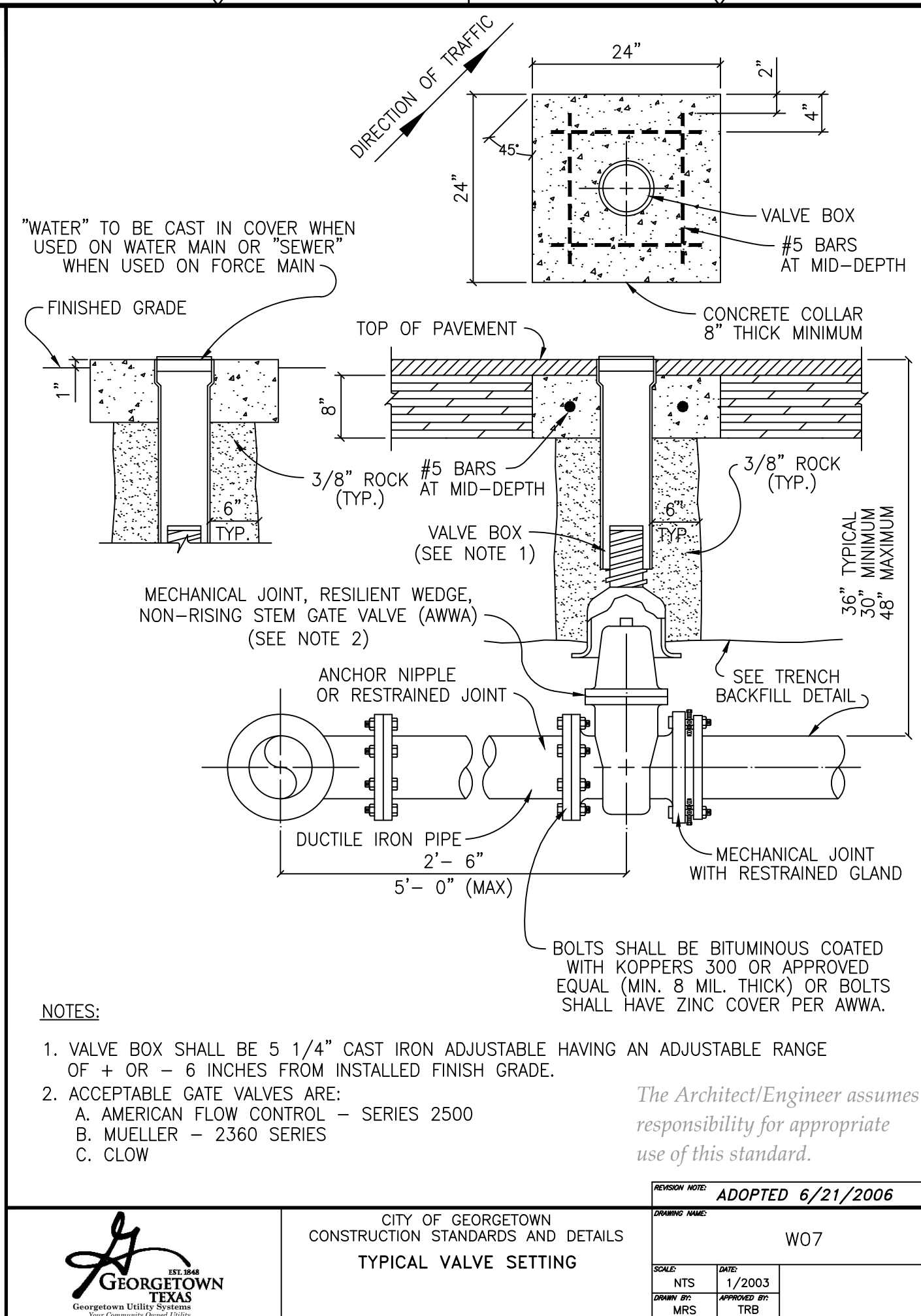
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DESIGNED BY:	E. WEIMER
DRAWN BY:	S. MALPASS
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

CIVIL DETAILS I  
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 FILE NAME: CZ01CLDT.DWG  
 SHEET NO. CZ-1

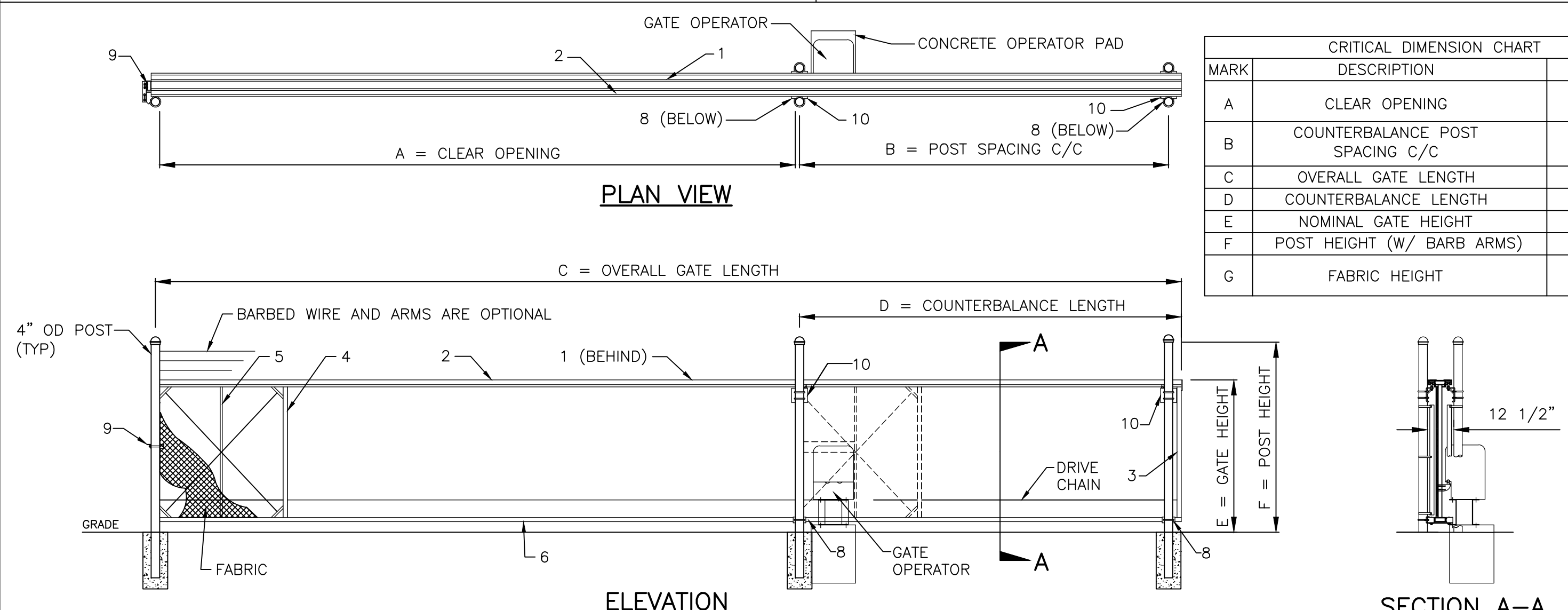


DETAIL A

DETAIL B

DETAIL C

DETAIL D



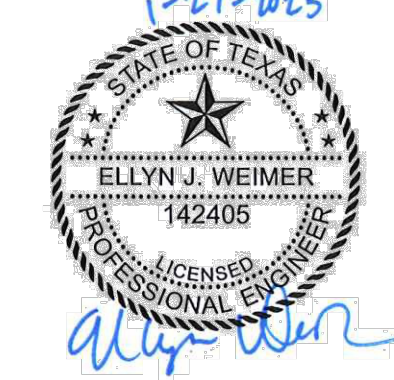
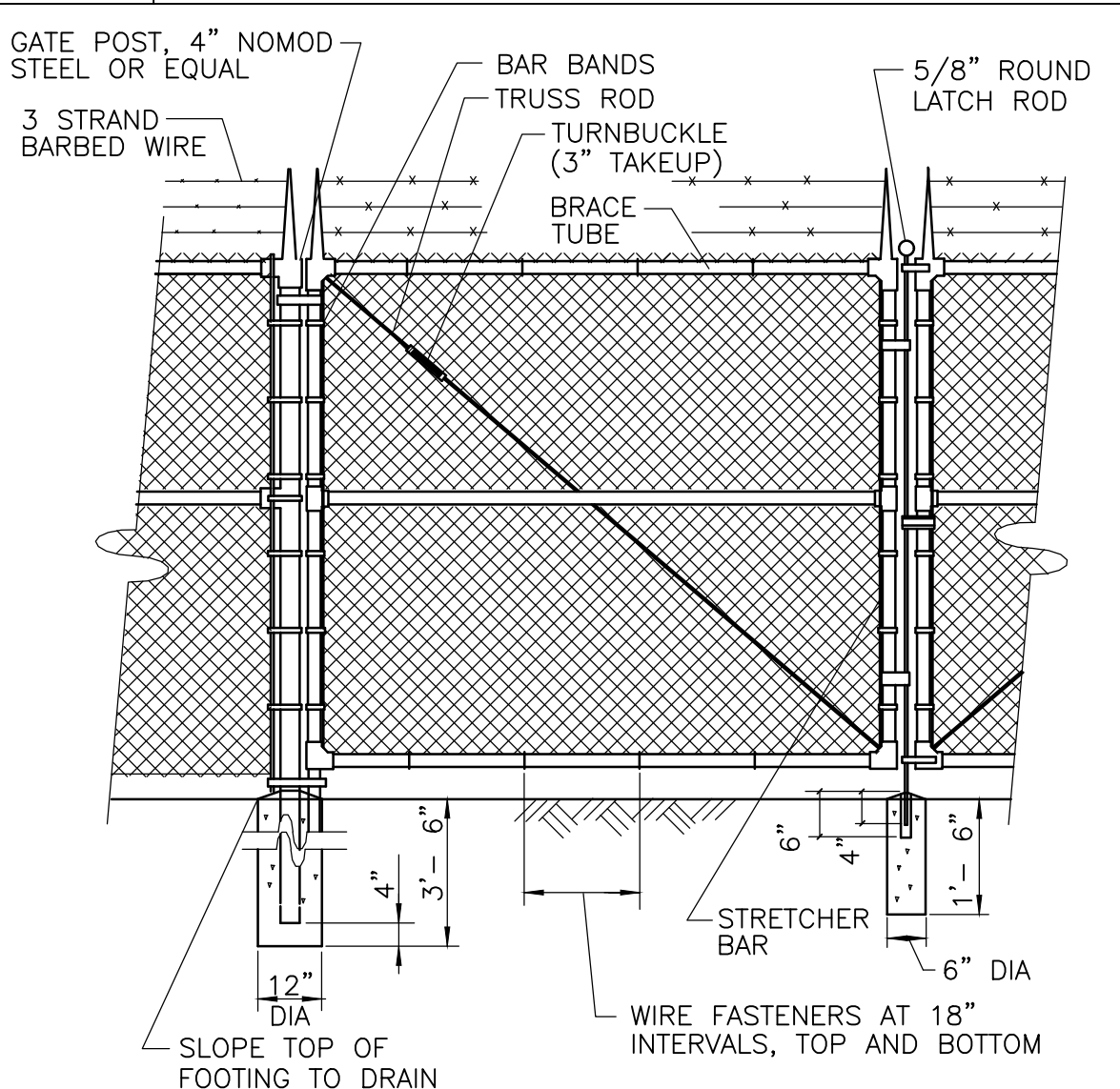
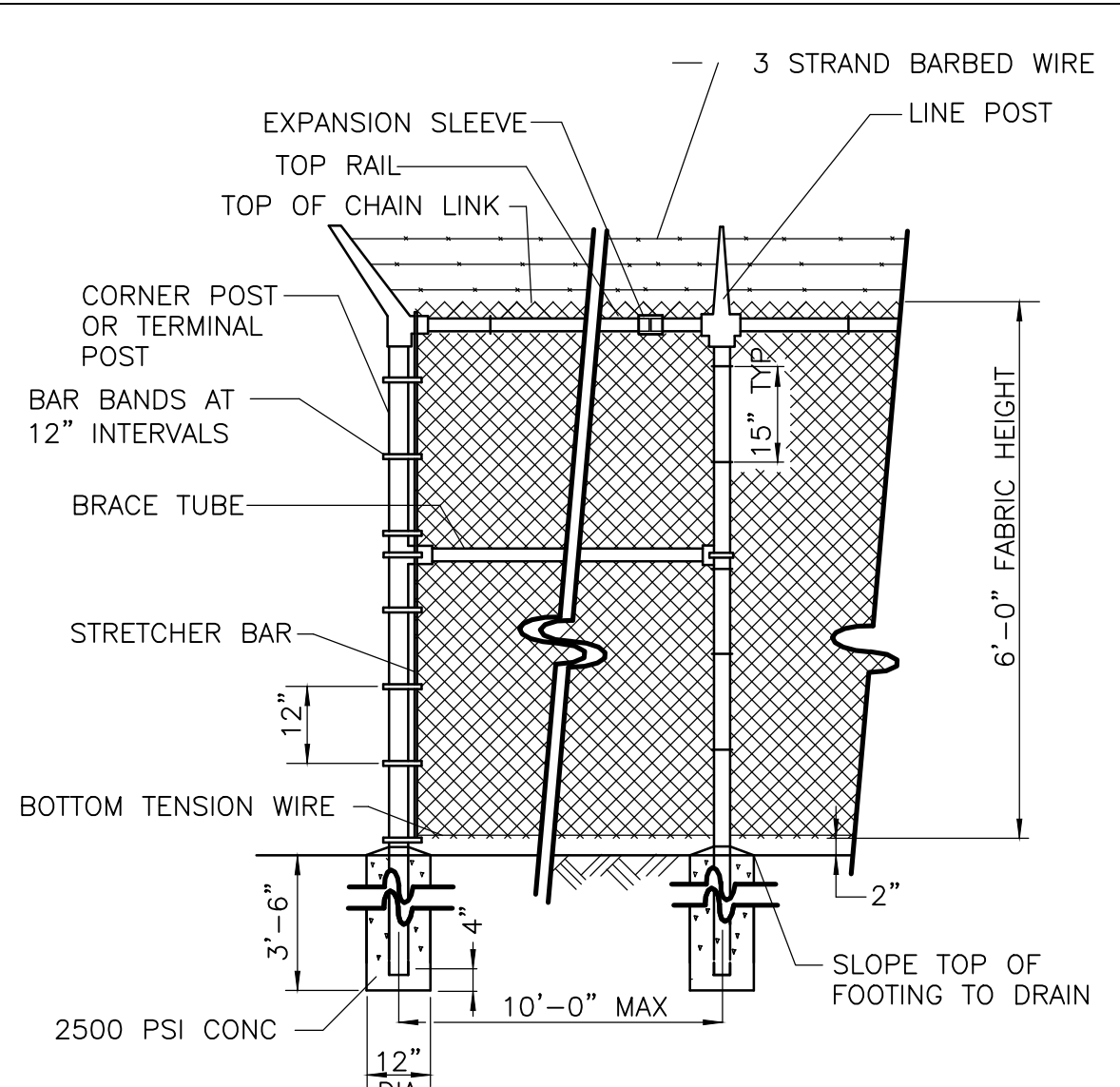
DETAIL E

DETAIL C

DETAIL D

**NOTES:**

- REFER TO SPECIFICATION SECTION 323113 FRO DETAILS
- CONTRACTOR SHALL COORDINATE WITH GATE MANUFACTURER FOR NECESSARY ARRANGEMENT REQUIRED FOR INSTALLATION OF GATE OPERATOR.



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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

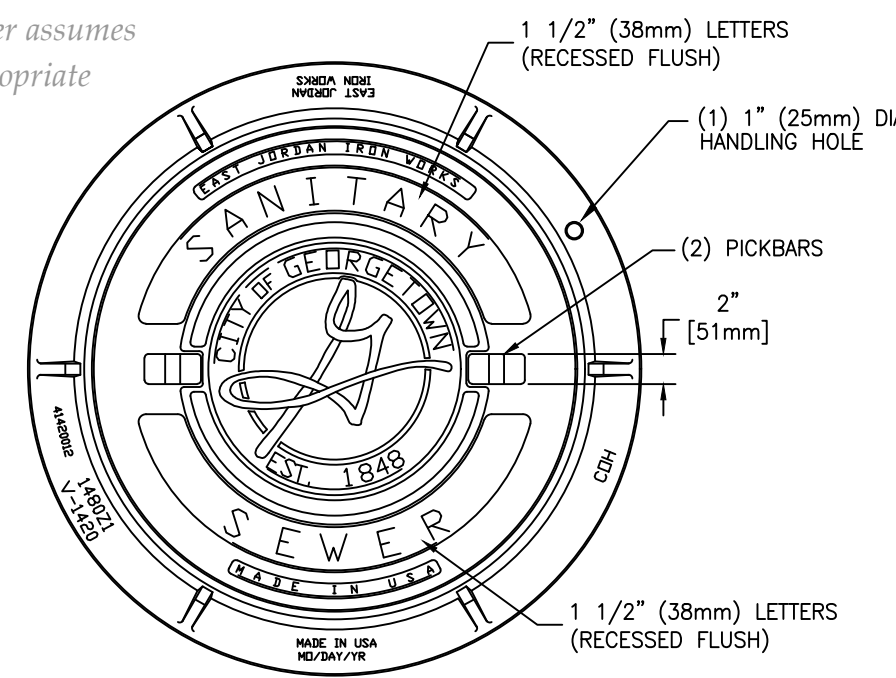
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 DRAWN BY: S. MALPASS  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



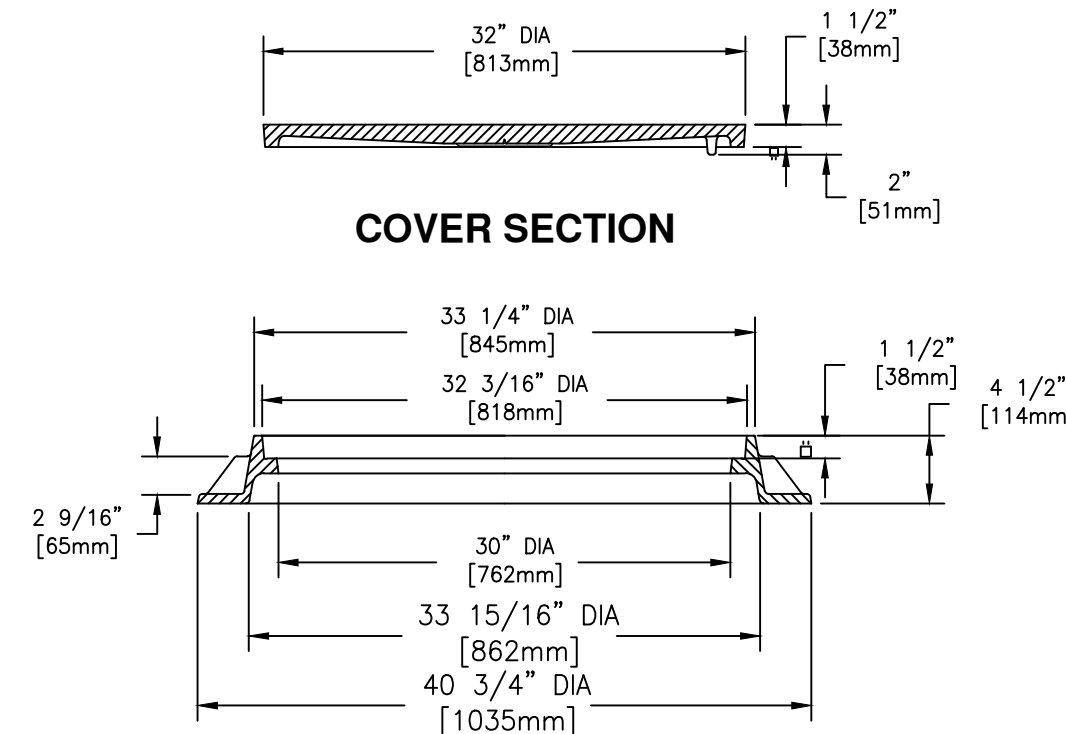
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

CIVIL DETAILS II  
 PROJECT NO. 2048-264953  
 FILE NAME: CZ02CLDT.DWG  
 SHEET NO. CZ-2

The Architect/Engineer assumes responsibility for appropriate use of this standard.



COVER SECTION



FRAME SECTION

- NOTES:
- STANDARD WASTEWATER MANHOLE SET TO BE EAST JORDAN IRON WORKS, INC. CATALOG NO. 1480A V-1420/1480Z1, COVER TO BE STAMPED WITH "SANITARY SEWER".
  - STANDARD WASTEWATER MANHOLE SET TO BE HEAVY DUTY LOAD RATED.
  - FOR MORE DETAILED SPECIFICATIONS REFER TO EAST JORDAN IRON WORKS, INC. REFERENCE PRODUCT DRAWING 41420012 00148390.
  - FOR BOLTED WASTEWATER MANHOLE SET REFER TO DETAIL WW07A.

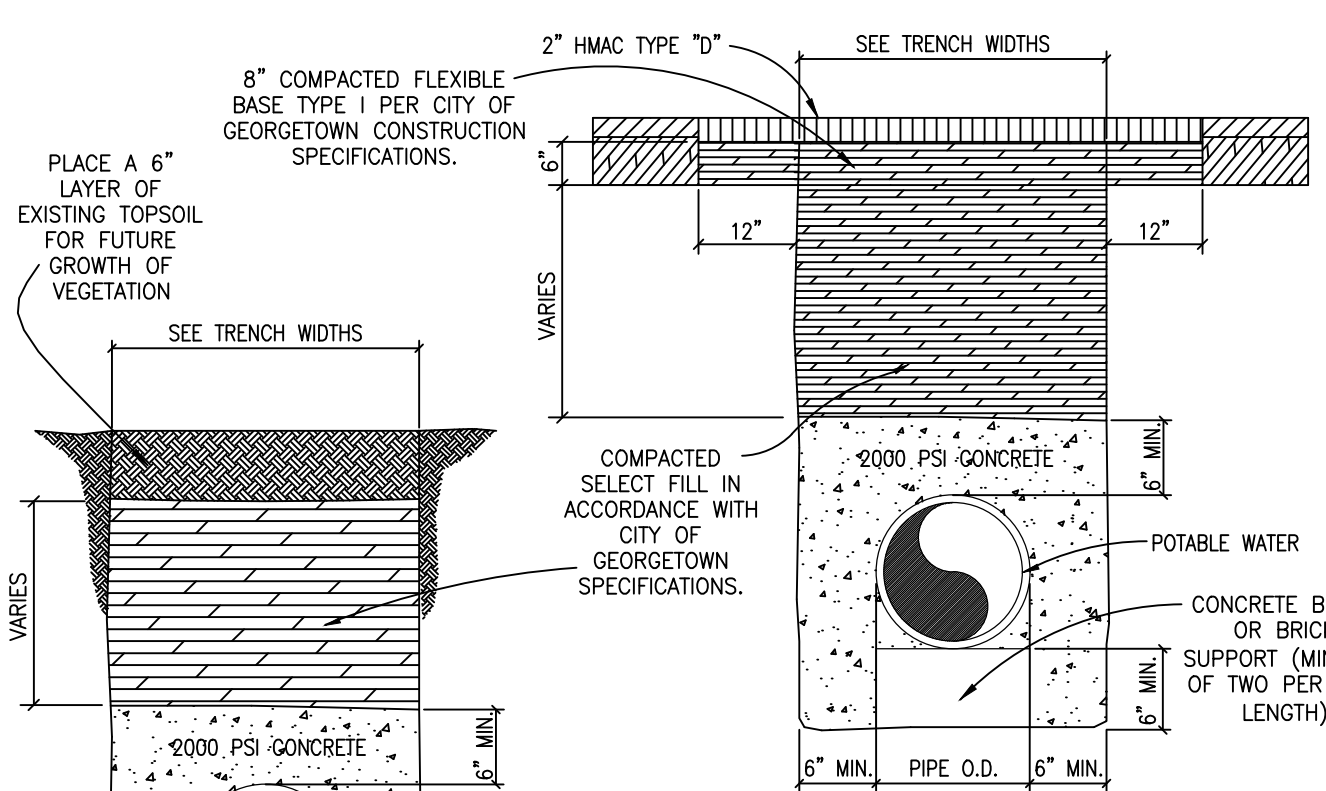
REVISION: ADOPTED 6/21/2006



CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
STANDARD WASTEWATER  
MANHOLE SET

DATE: 1/2003  
DRAWN BY: MRS  
APPROVED BY: TRB

DETAIL A



CONCRETE ENCASEMENT UNDER EXISTING AND PROPOSED ROADWAY

CONCRETE ENCASEMENT UNDER NATURAL GROUND

- NOTES:
- ENCASEMENT TO BE CONSTRUCTED WHERE SEWER LINES PASS OVER OR UNDER A WATER MAIN WITH LESS THAN TWELVE INCHES (12") CLEAR DISTANCE.
  - AT CROSSINGS, ENCASEMENT SHALL EXTEND TEN FEET (10'-0") ON EITHER SIDE OF CROSSING.
  - BEGINNING AND ENDING OF ENCASEMENTS SHALL NOT BE MORE THAN SIX INCHES (6") FROM A PIPE JOINT.
  - WHERE WATER AND SEWER LINES PARALLEL WITH LESS THAN TEN FEET (10'-0") HORIZONTAL CLEAR DISTANCE, NO ENCASEMENT IS REQUIRED IF BOTH LINES ARE 150 PSI PRESSURE PIPE.
  - RAW WATER MAINS SHALL BE 150 PSI PRESSURE RATED WHEN PARALLELING POTABLE WATER MAINS WITH LESS THAN NINE FEET (9'-0") HORIZONTAL CLEARANCE.
  - WHERE MINIMUM COVER, THIRTY SIX INCHES (36") IS NOT AVAILABLE, ENCASEMENT WILL BE REQUIRED.
  - ALL CONCRETE ENCASEMENTS MUST BE FORMED AND INSPECTED BY THE CITY OF GEORGETOWN INSPECTOR PRIOR TO PLACING CONCRETE AND BACKFILLING.
  - CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE C9 FLOWABLE BACKFILL FOR THE SPECIFICATION).

The Architect/Engineer assumes responsibility for appropriate use of this standard.

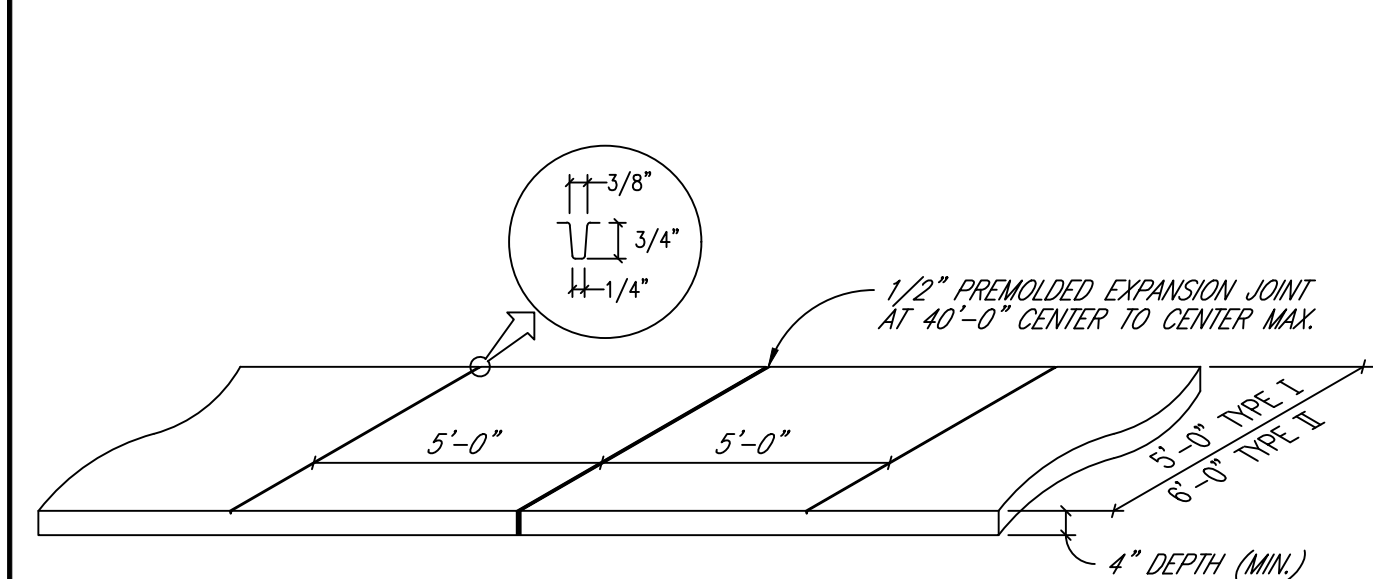
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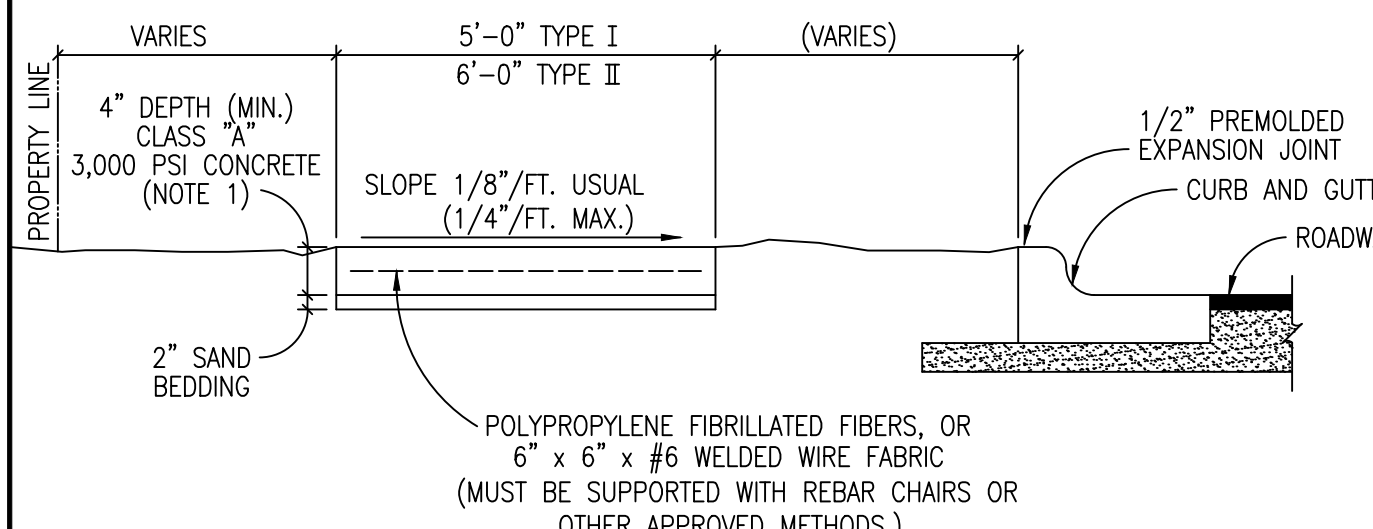
CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
CONCRETE ENCASEMENT DETAIL

DATE: 1/2003  
DRAWN BY: MRS  
APPROVED BY: TRB

DETAIL B



TYPE I - AS REQUIRED FOR SINGLE FAMILY, DUPLEXES AND TOWNHOUSES.  
TYPE II - AS REQUIRED FOR APARTMENTS, OFFICE AND PARKING LOTS, COMMERCIAL AND INDUSTRIAL.



- NOTES:
- FOR ROLLER STAMPED SIDEWALK: MATCH TO SPECIFICATIONS.
  - STANDARD LOCATION OF SIDEWALK IS OFF BACK OF CURB. SPECIAL DESIGNS MAY BE APPROVED BY THE CITY ENGINEER, PRIOR TO FINAL DESIGN.
  - SIDEWALK SHALL CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT STANDARDS.
  - IF REQUIRED ALL SIDEWALKS SHALL BE SUBMITTED AND APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION BY THE ENGINEER RECORD.
  - ANY VARIANCE IN TEXTURE, GRADE OR ALIGNMENT MUST BE APPROVED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION.

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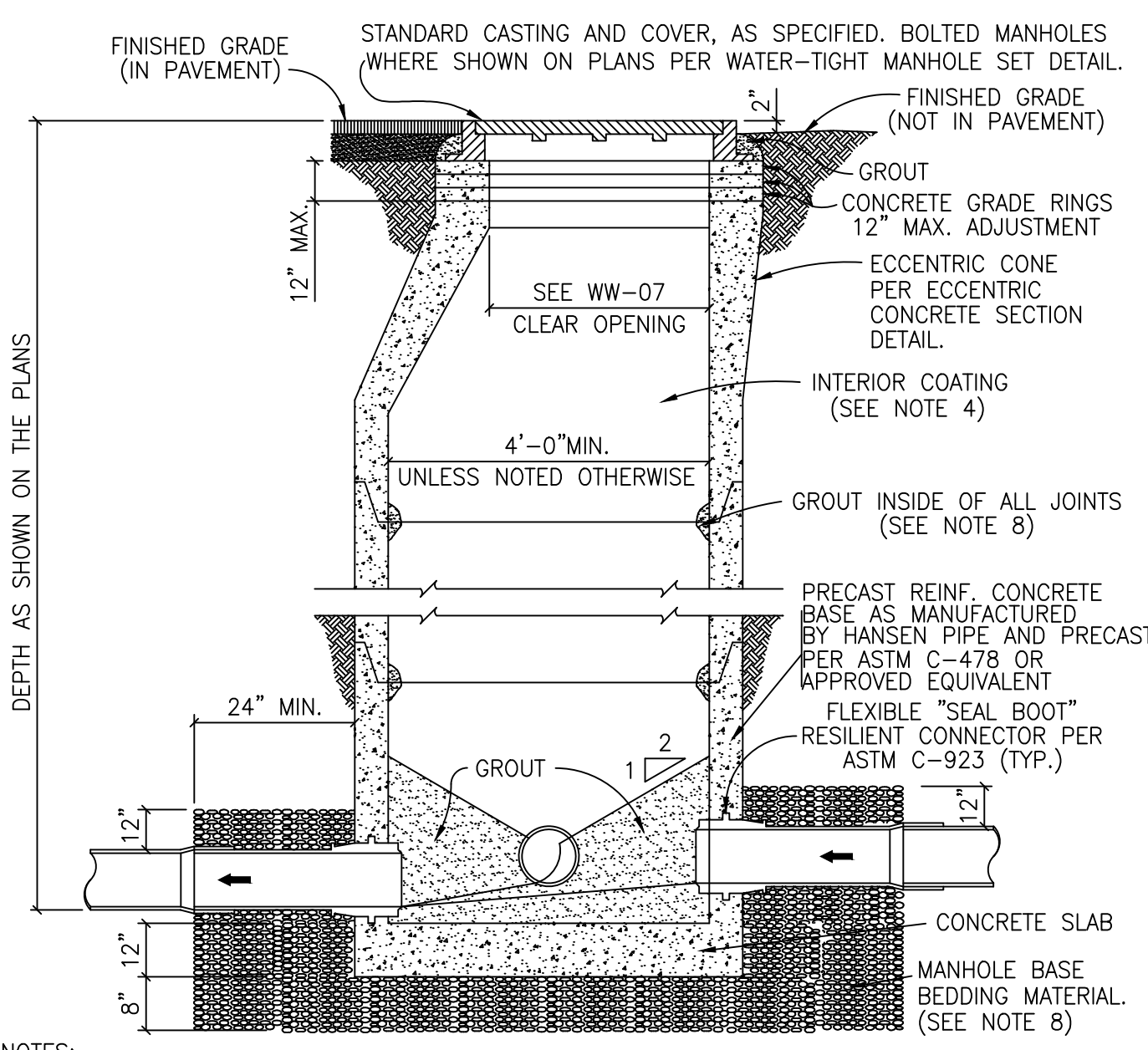
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CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
SIDEWALK SECTION AND JOINT DETAIL

DATE: 1/2003  
DRAWN BY: MRS  
APPROVED BY: TRB

DETAIL C



- NOTES:
- MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH PROFILE GASKET - SINGLE OFF-SET JOINTS.
  - SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
  - SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
  - AN 80 MIL COAT OF RAVEN LINING SYSTEMS, RAVEN 405 ULTRA HIGH BUILD EPOXY COATING, OR SPRAY WALL EPOXY COATING, OR APPROVED EQUAL, TO BE APPLIED TO ENTIRE INTERIOR OF EACH WASTEWATER MANHOLE AND UNDERSIDE OF FLAT TOPS.
  - ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
  - MANHOLES TO BE VENTED ARE IDENTIFIED ON MANHOLE SCHEDULE, REFERENCE MANHOLE VENT DETAIL.
  - MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
  - GROUT SHALL MEET THE REQUIREMENTS AS STATED BY THE COATING MANUFACTURER.
  - MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:  
SIEVE SIZE 2", PERCENT (8) RETAINED 0  
SIEVE SIZE 1 1/2", % RETAINED 0-10  
SIEVE SIZE 1", % RETAINED 45-80  
SIEVE SIZE 3/4", % RETAINED 85-100  
SIEVE SIZE 3/8", % RETAINED 95-100

The Architect/Engineer assumes responsibility for appropriate use of this standard.

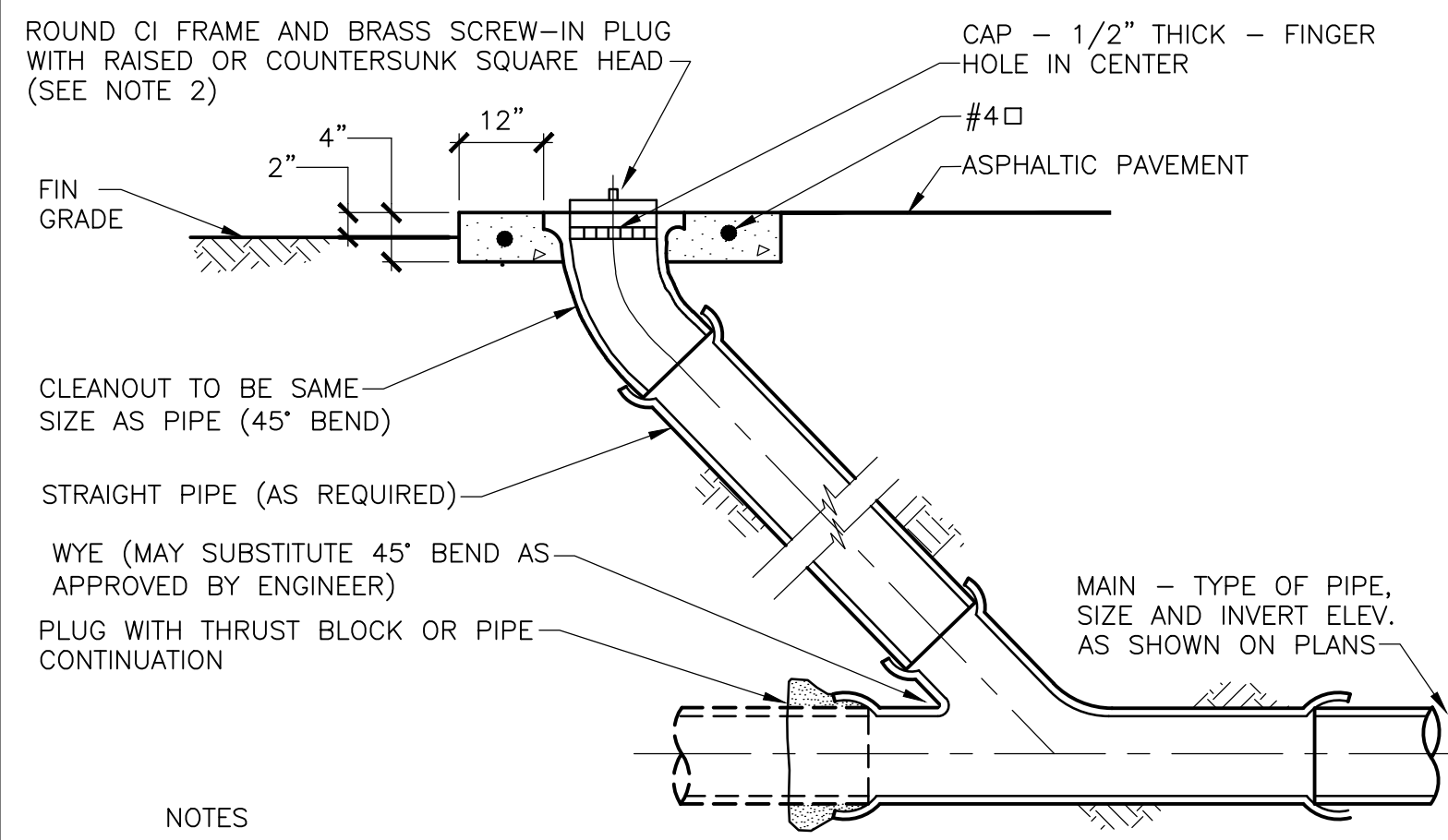
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CITY OF GEORGETOWN  
CONSTRUCTION STANDARDS AND DETAILS  
STANDARD MANHOLE - SECTION

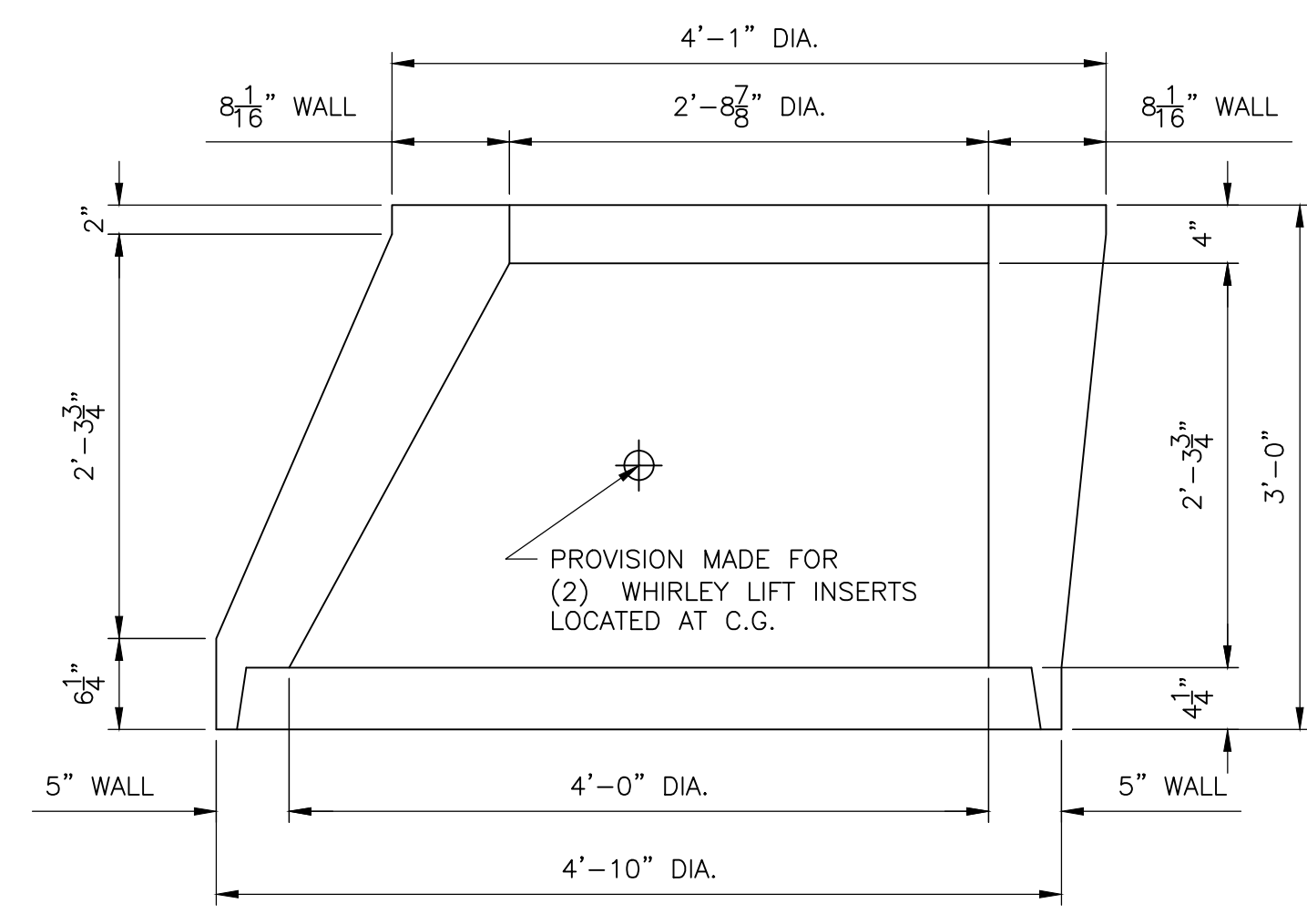
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DETAIL D

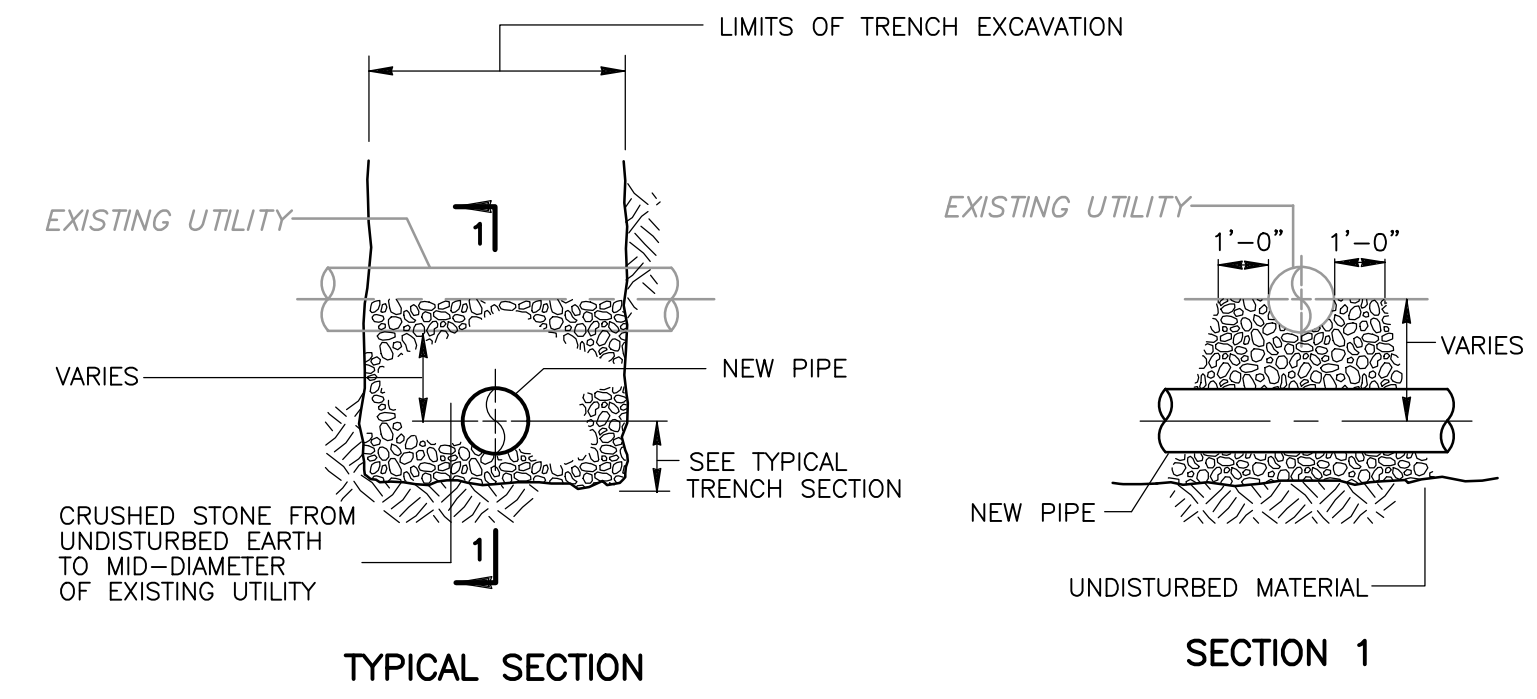


- NOTES:
- CLEANOUT DETAIL AS SHOWN FOR GRAVITY SYSTEM. PIPE JOINTS SHALL BE RESTRAINED FOR PRESSURE SYSTEM (FORCE MAIN)
  - PROVIDE 1" FEMALE QUICK-DISCONNECT CONNECTION AND PLUG PER SECTION 15120 UNLESS IN ROADWAY
  - ADD REDUCER AS REQUIRED TO CONNECT THE MAIN TO THE CLEANOUT AS CALLED OUT ON THE DRAWINGS.

PIPE LINE CLEANOUT  
DETAIL E



ECCENTRIC CONCRETE SECTION  
DETAIL E



UTILITIES CROSSING: FOR CROSSINGS SEPARATED BY LESS THAN 12"  
DETAIL F



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DRAWN BY:	S. MALPASS
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

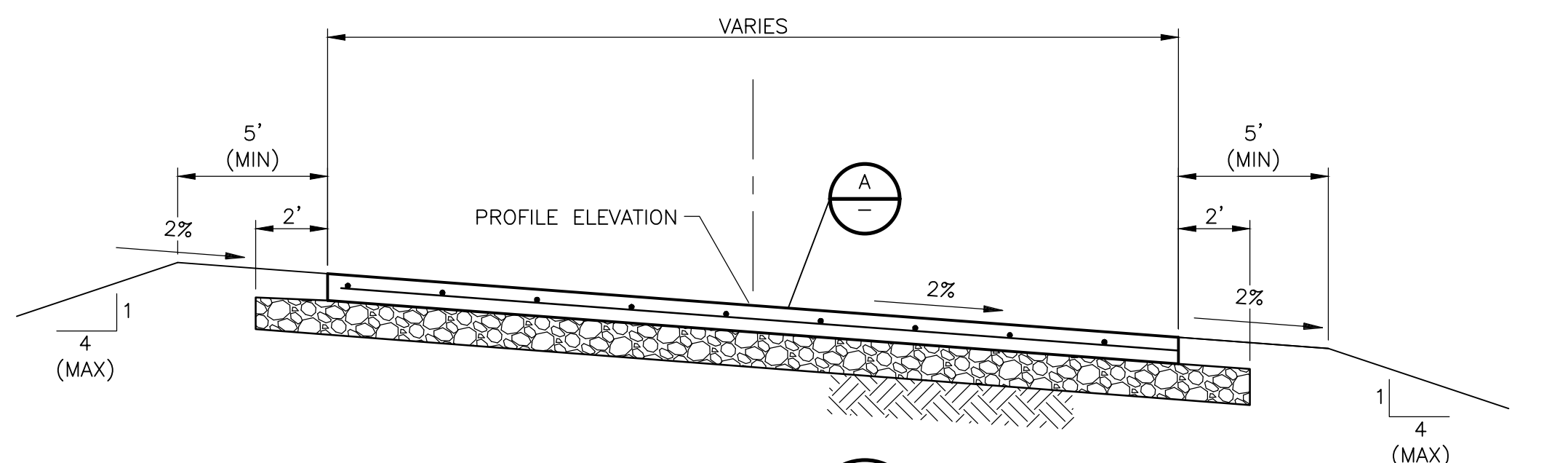
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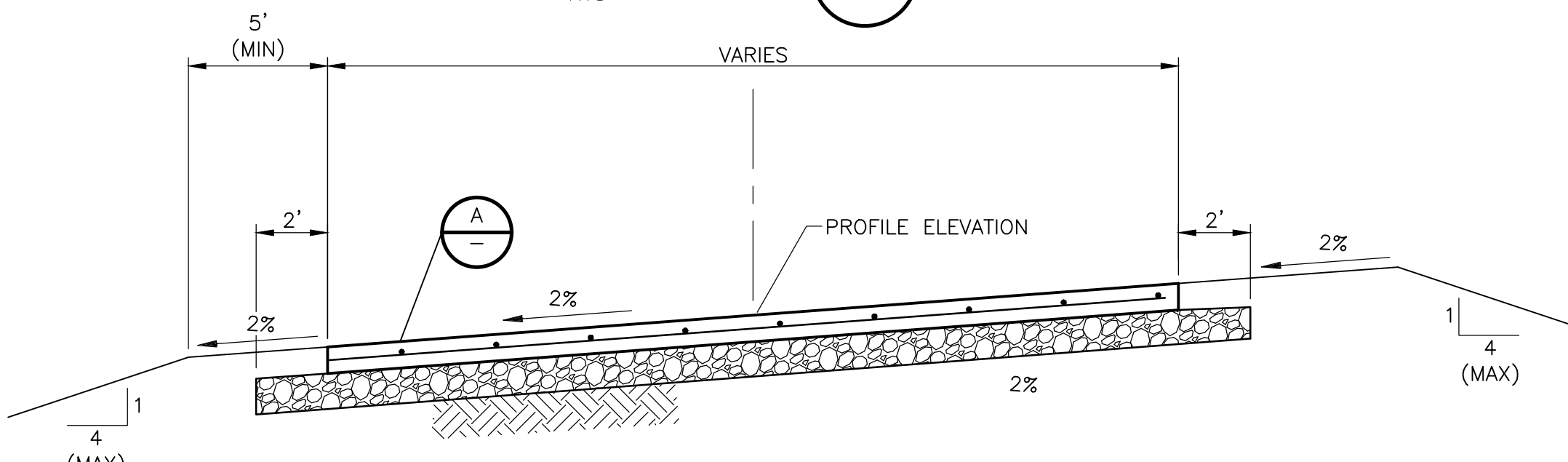
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SAN GABRIEL WWTP  
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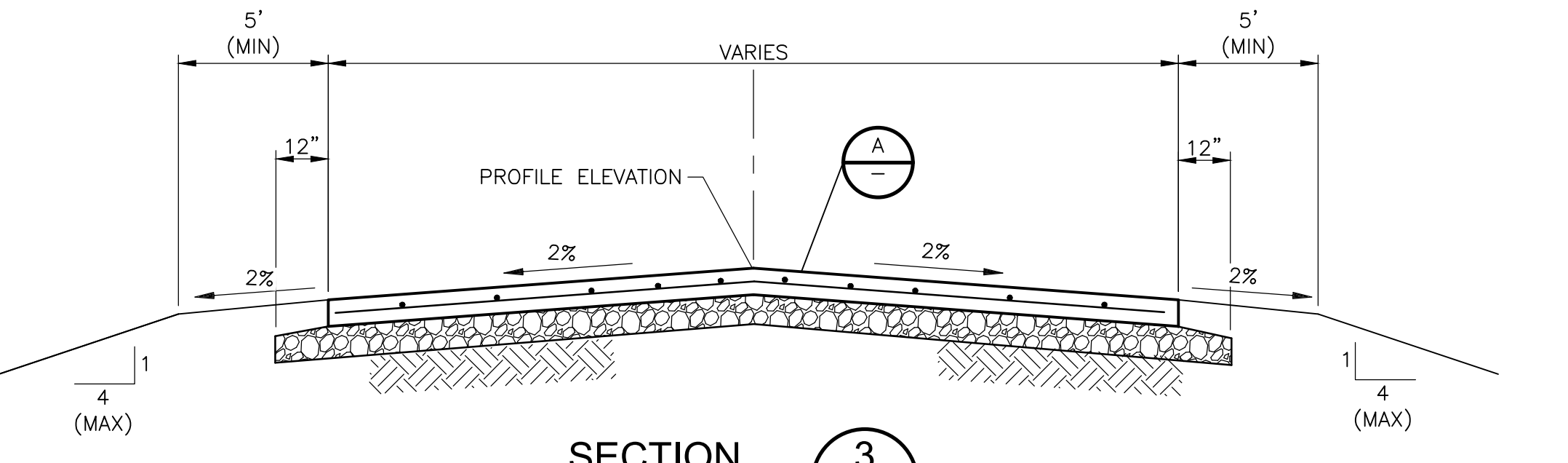




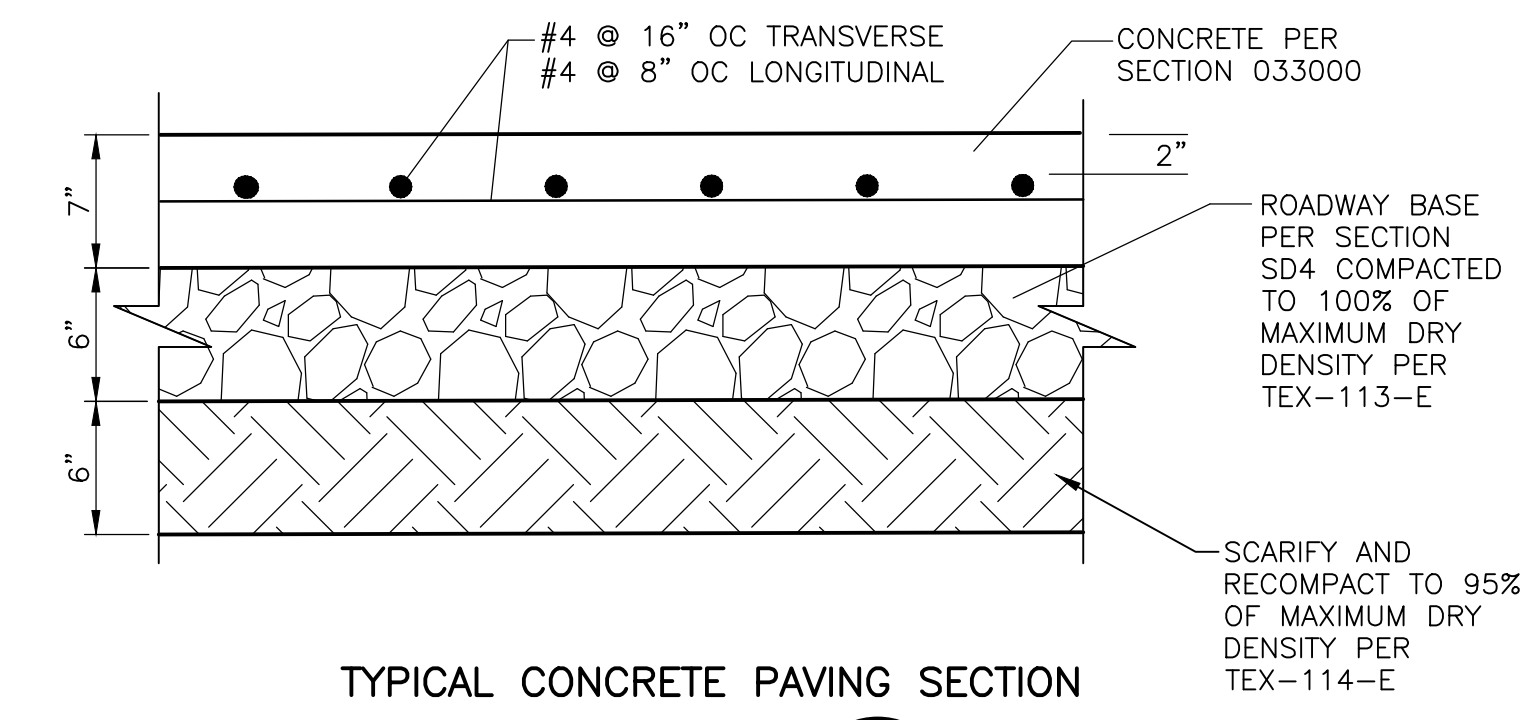
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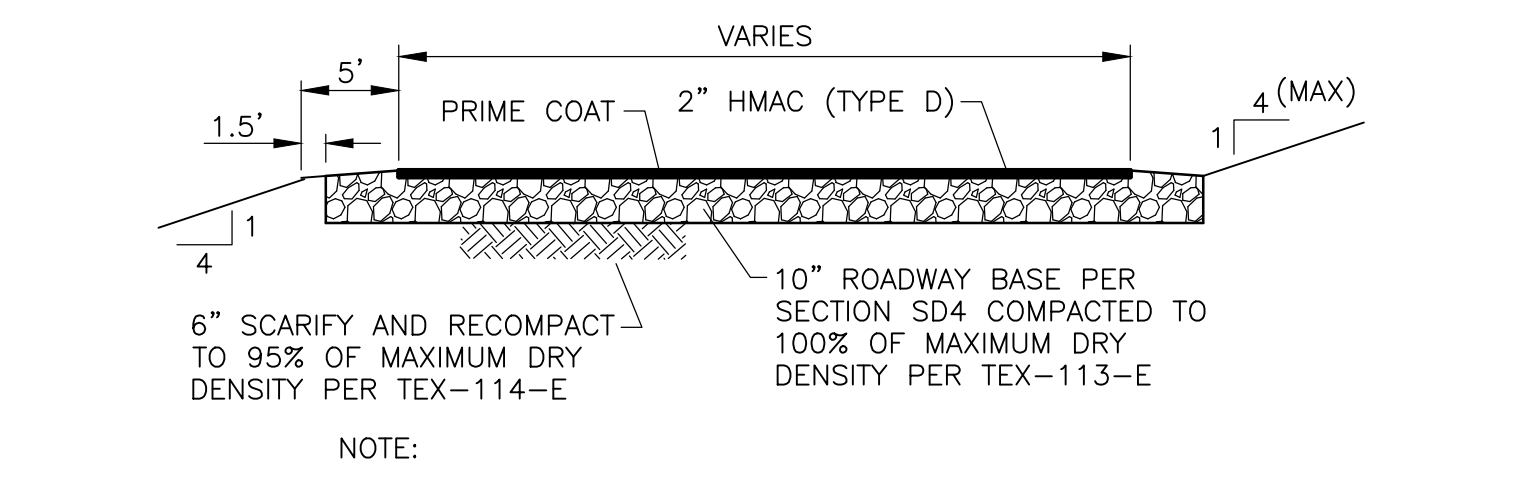
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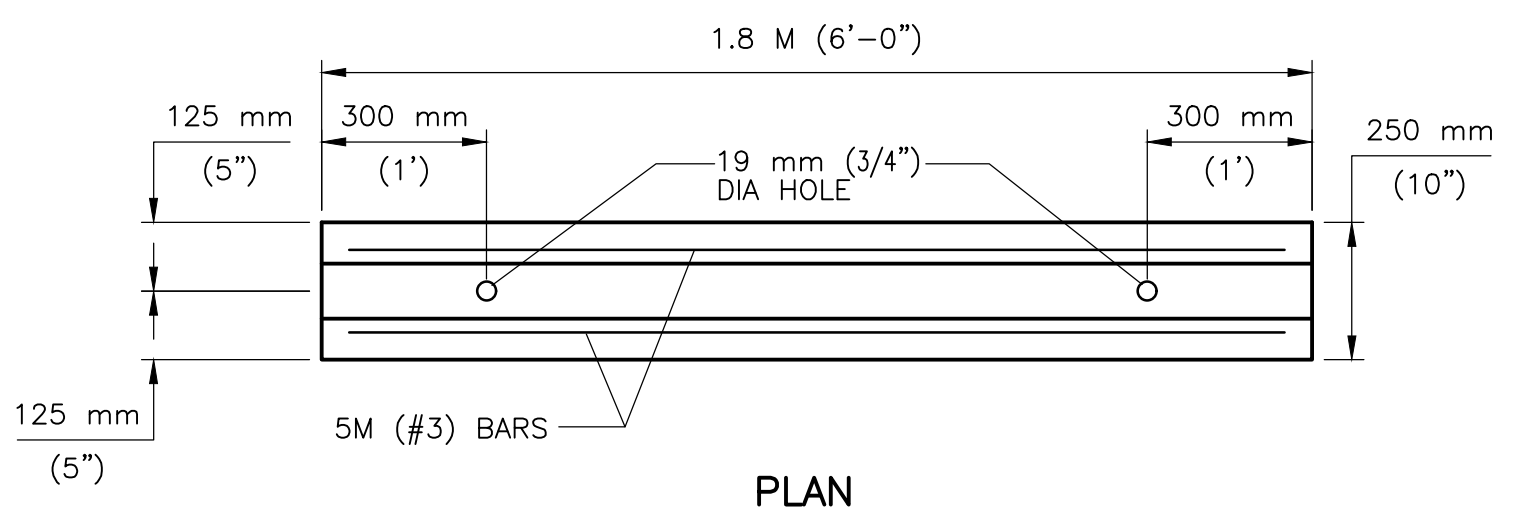
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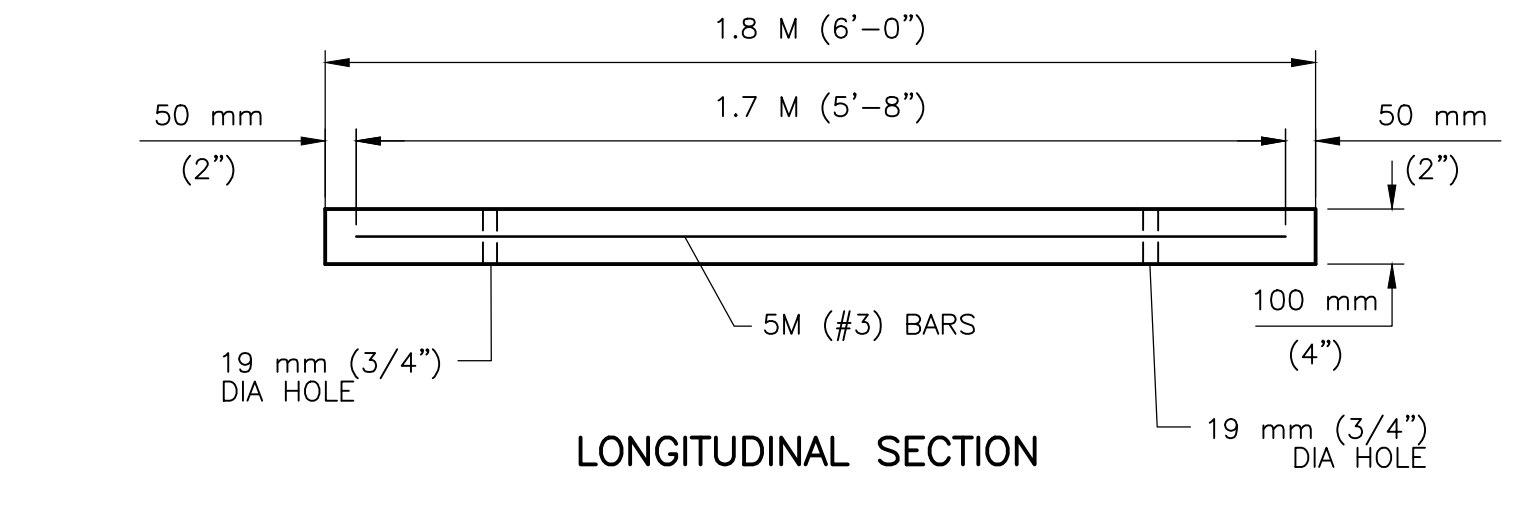
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DETAIL C  
NTS



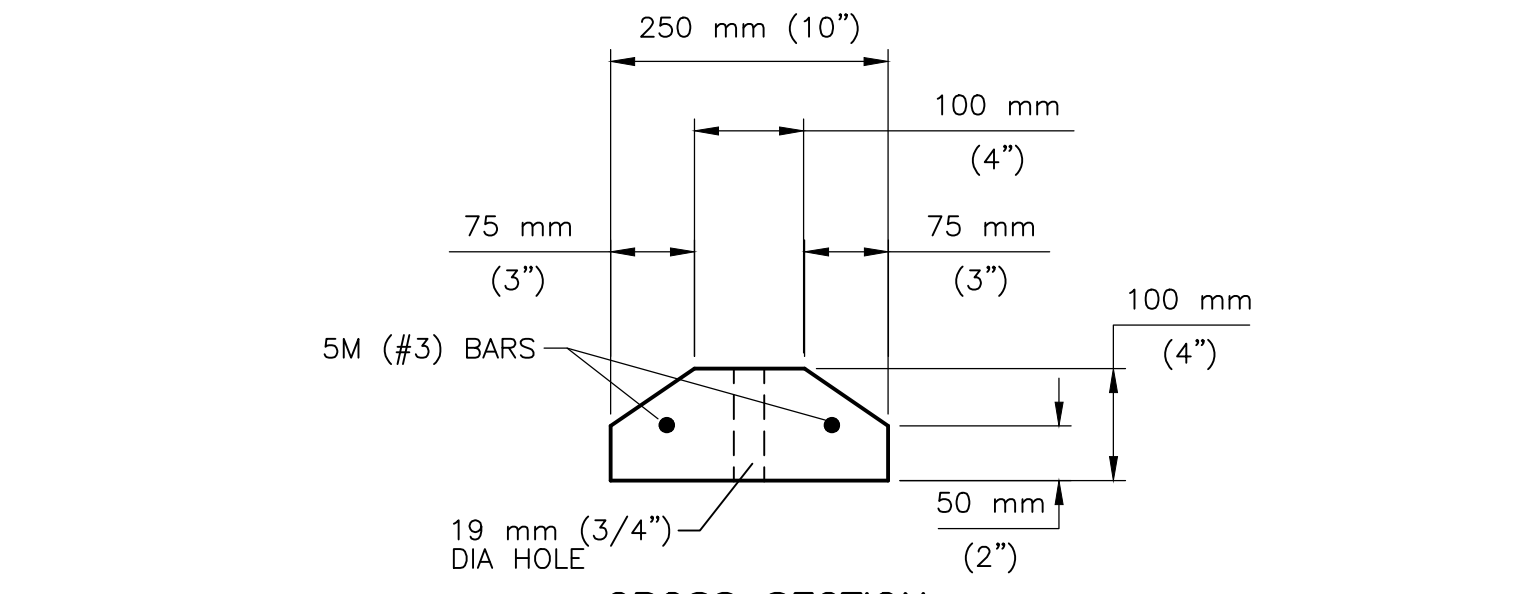
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DETAIL D  
NTS



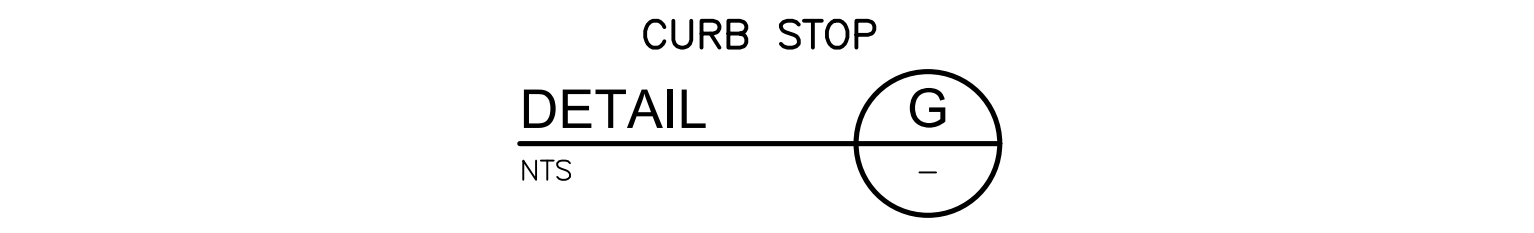
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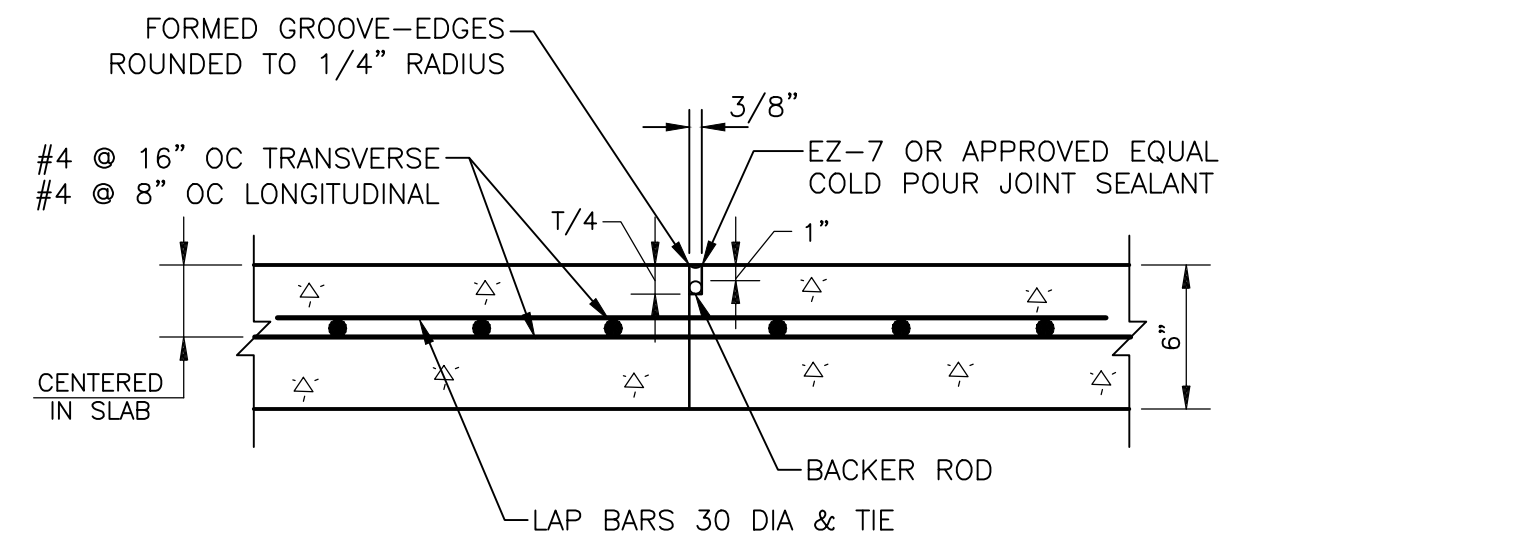
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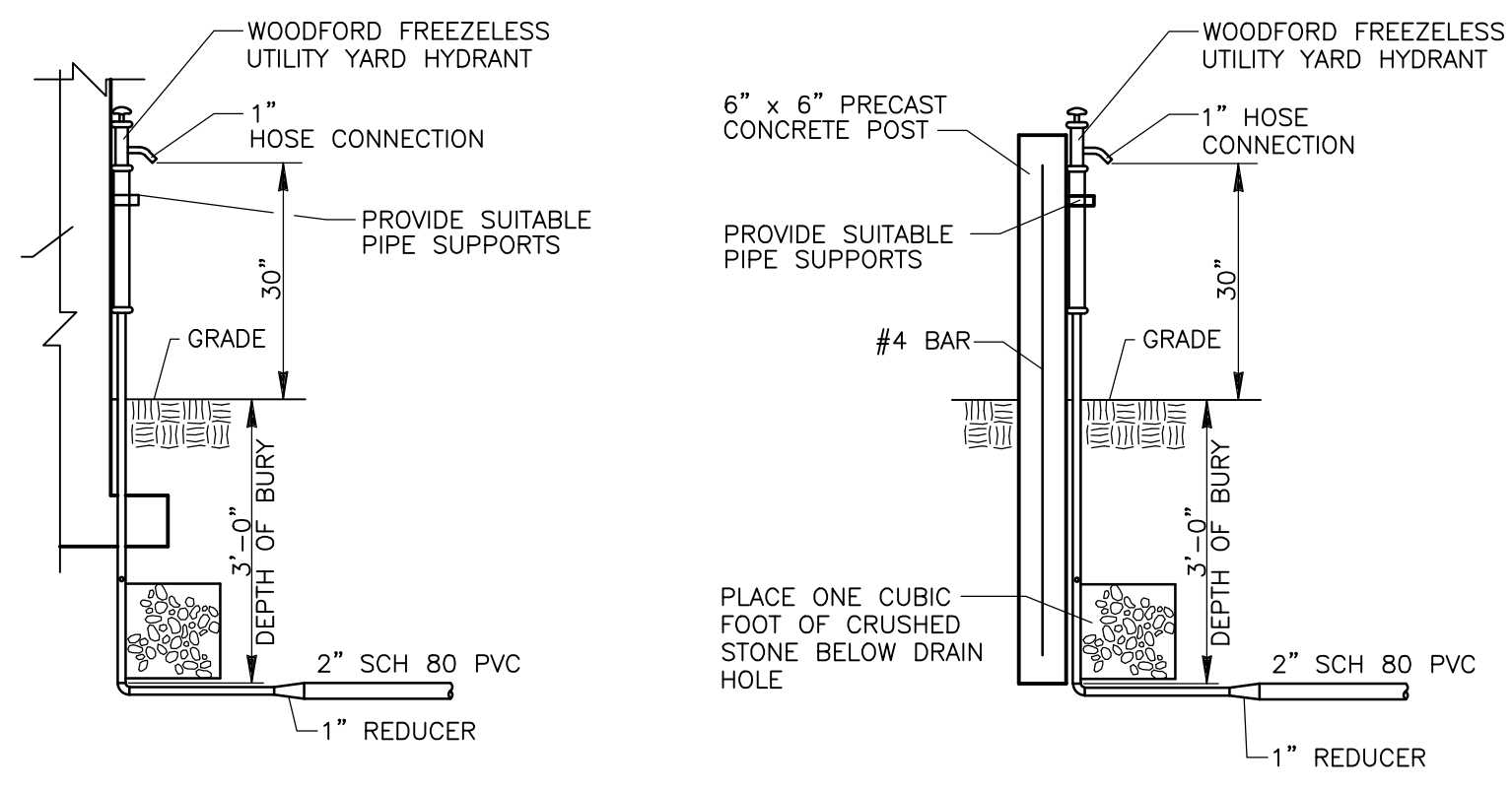
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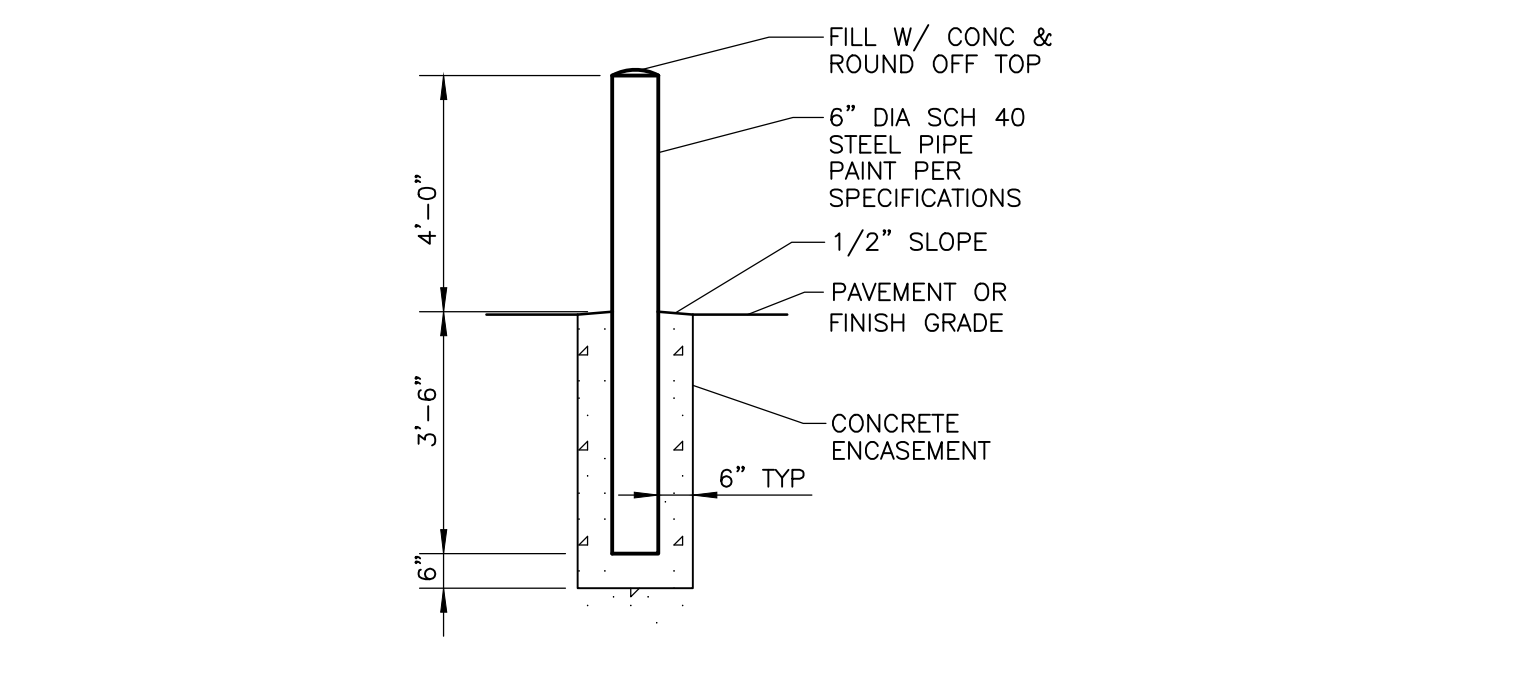
CURB STOP  
DETAIL G  
NTS



CONSTRUCTION JOINT  
DETAIL E  
NTS

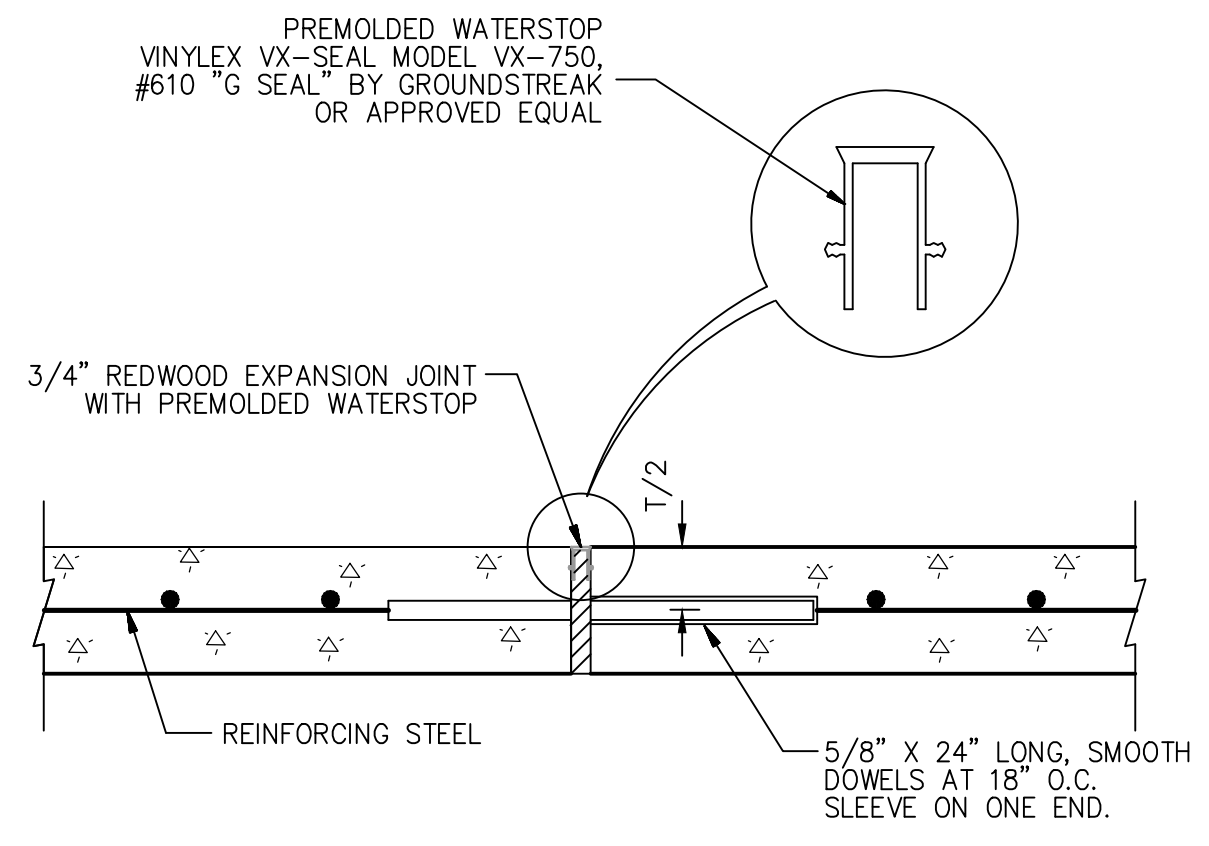


YARD HYDRANT  
DETAIL H  
NTS

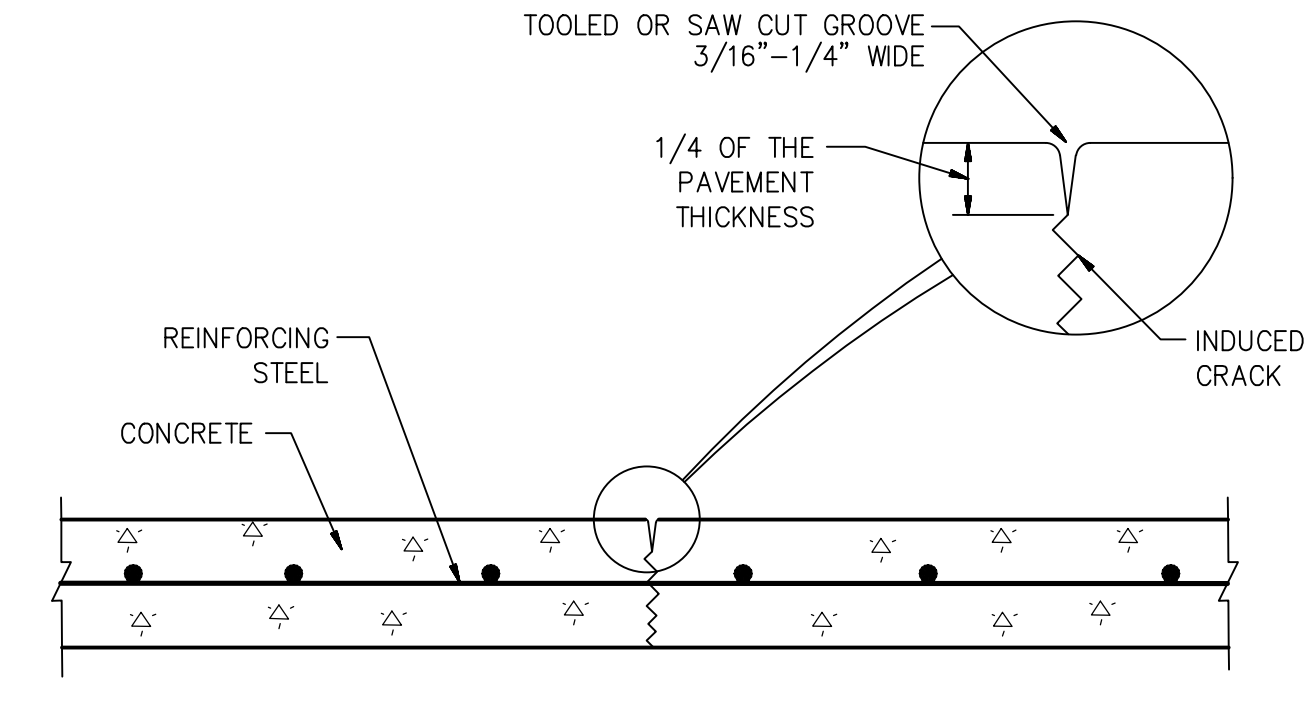


EXTERIOR BOLLARD  
DETAIL F  
NTS

- NOTES:
- TOOLED OR SAW CUT CONTRACTION JOINTS SHALL BE AT REGULAR INTERVALS THROUGHOUT THE PAVEMENT AT EVEN INTERVALS BETWEEN EXPANSION JOINTS AS INDICATED ON THE PLAN. FOR SIDEWALKS LESS THAN 6 FEET WIDE, THE JOINT SPACING SHALL EQUAL THE SIDEWALK WIDTH.
  - JOINTS SHALL BE SPACED SO THAT THE RESULTING PANELS ARE SQUARE. IN NO CASE SHOULD THE LENGTH OF A PANEL EXCEED 1.5 TIMES THE WIDTH.



EXPANSION JOINT  
DETAIL A  
NTS



CONTRACTION JOINT  
DETAIL B  
NTS

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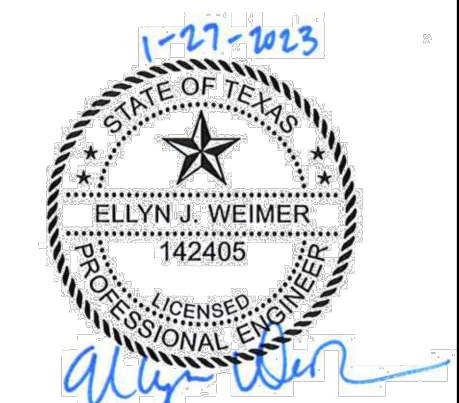
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DRAWN BY:	S. MALPASS
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

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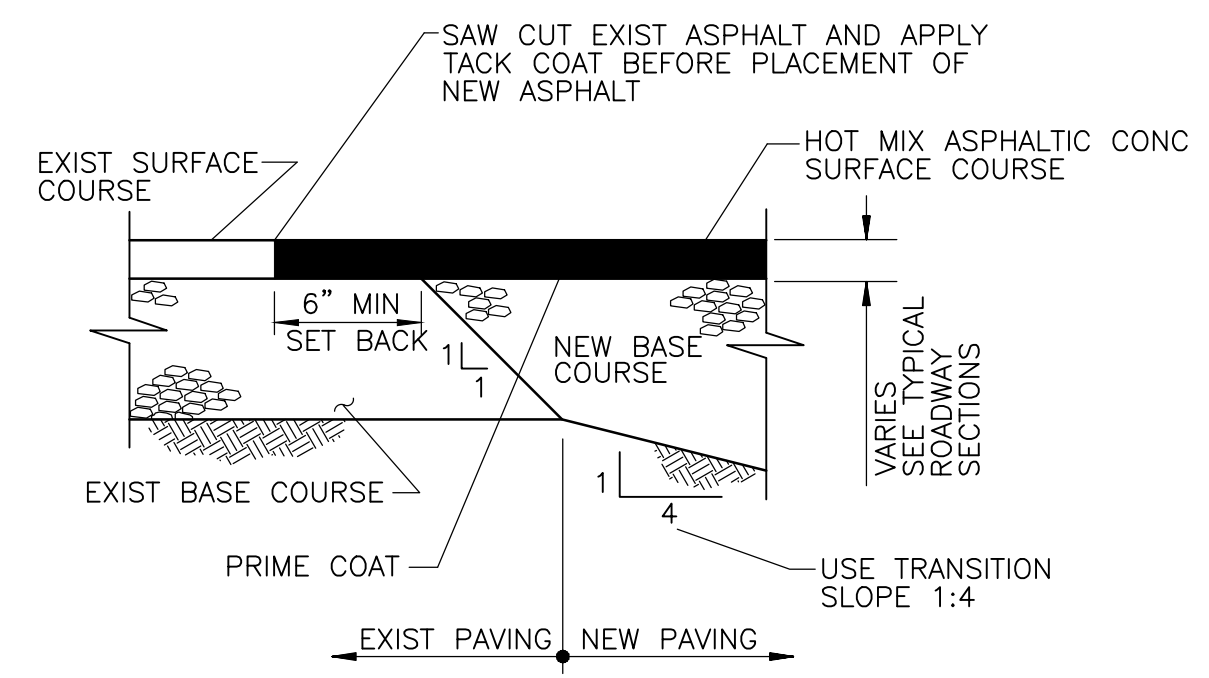
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 SAN GABRIEL WWTP  
 REHABILITATION

CIVIL DETAILS IV

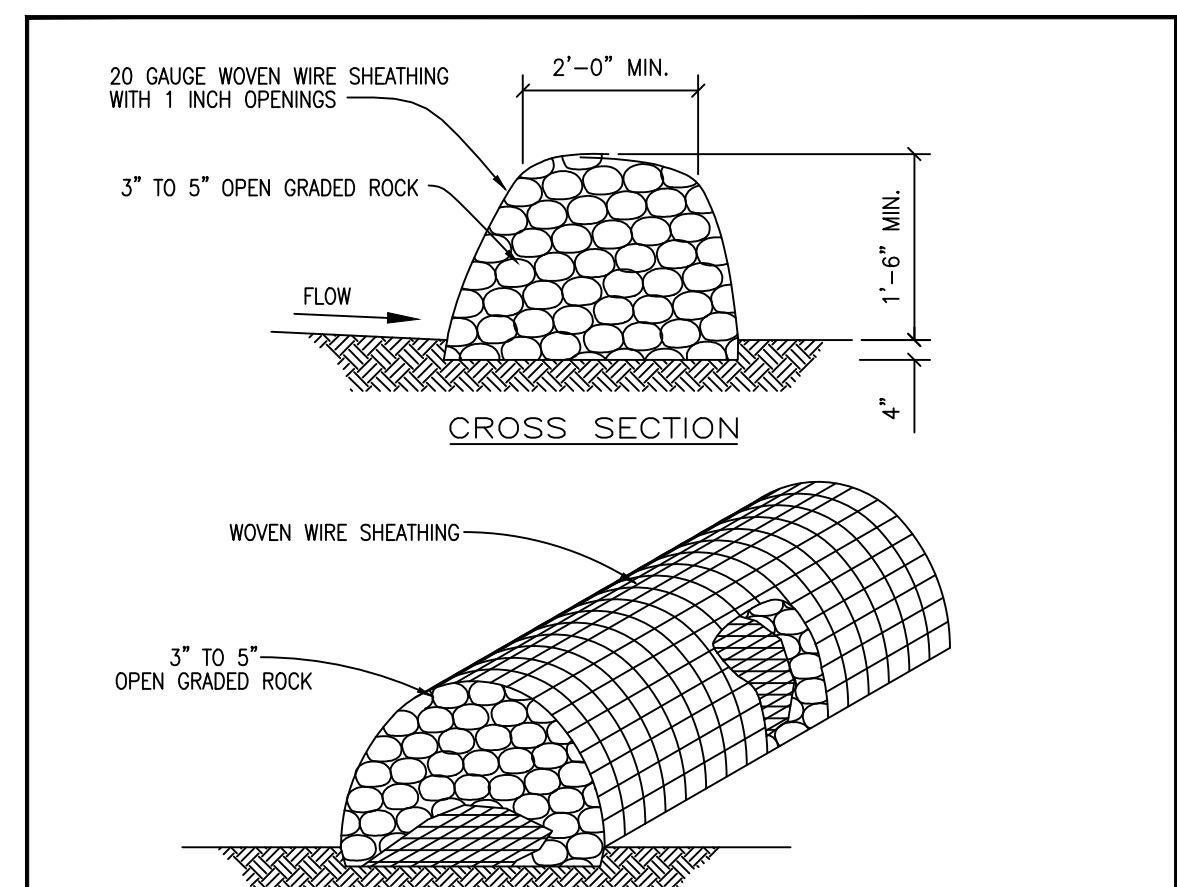
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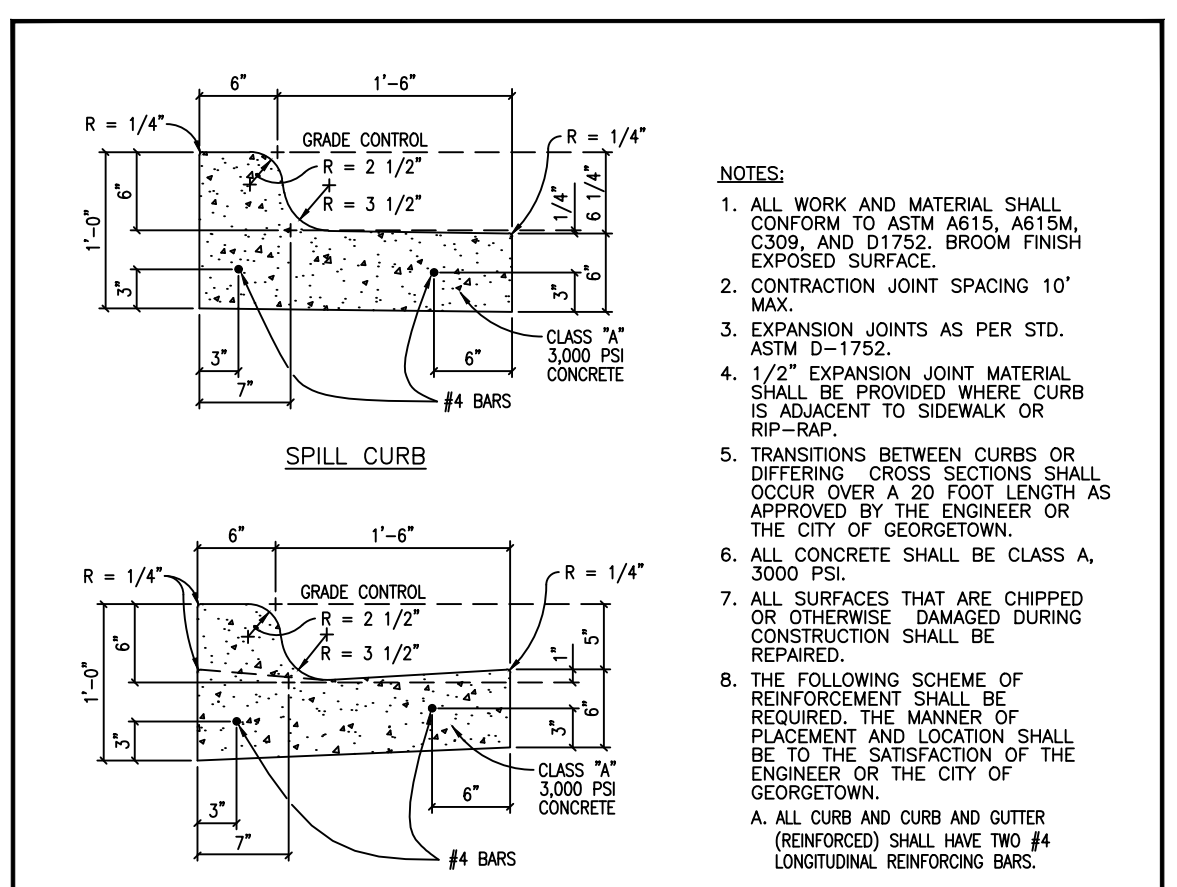
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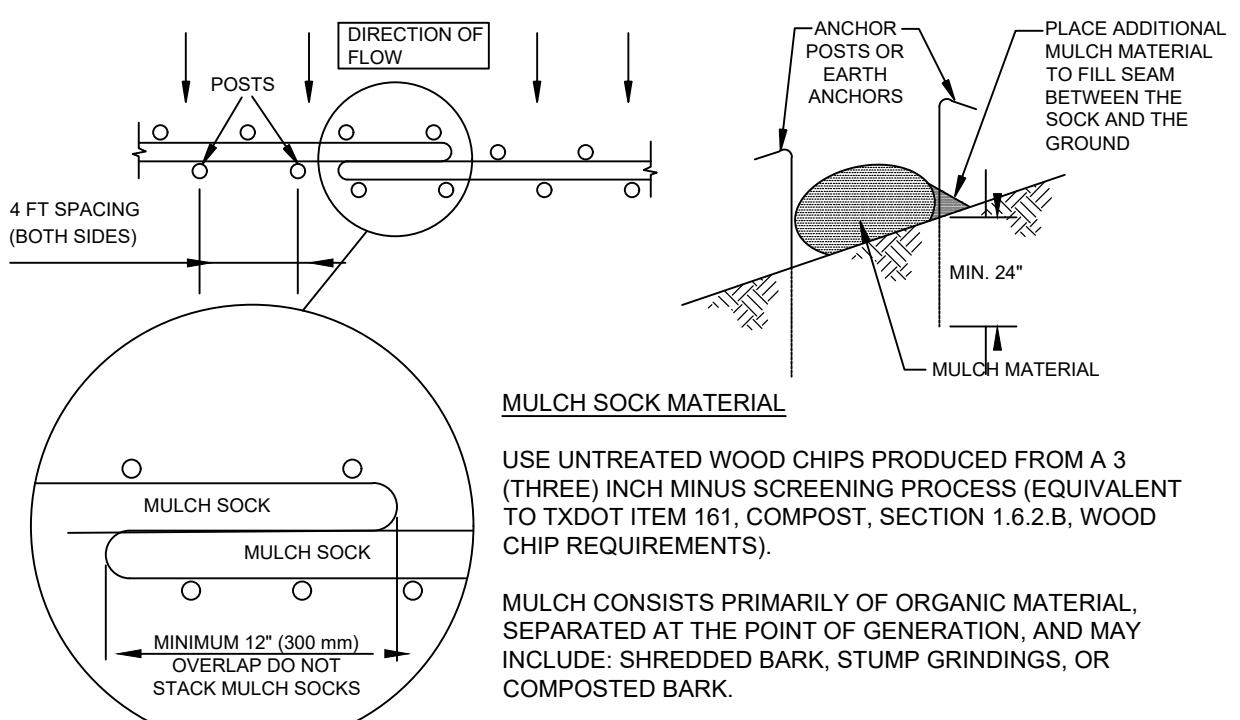
DETAIL A  
NTS



DETAIL B  
NTS



DETAIL C  
NTS



DETAIL D  
NTS

**INSTALLATION:**  
 - LAYOUT THE ROCK BERM FOLLOWING AS CLOSELY AS POSSIBLE TO THE CONTOUR.  
 - CLEAR THE GROUND OF DEBRIS, ROCKS OR PLANTS THAT WILL INTERFERE WITH INSTALLATION.  
 - PLACE WOVEN WIRE FABRIC ON THE GROUND ALONG THE PROPOSED INSTALLATION WITH ENOUGH OVERLAP TO COMPLETELY ENCLOSE THE FINISHED SIZE OF THE BERM.  
 - PLACE THE ROCK ALONG THE CENTER OF THE WIRE TO THE DESIGNATED HEIGHT.  
 - WRAP THE STRUCTURE WITH THE PREVIOUSLY PLACED WIRE MESH SECURE ENOUGH SO THAT WHEN WALKED ACROSS THE STRUCTURE REMAINS ITS SHAPE.  
 - SECURE WITH THE WIRE.  
 - THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROX. 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.  
 - THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

**INSPECTION AND MAINTENANCE GUIDELINES:**  
 - INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.  
 - REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER.  
 - REPAIR ANY LOOSE WIRE SHEATHING.  
 - THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.  
 - THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

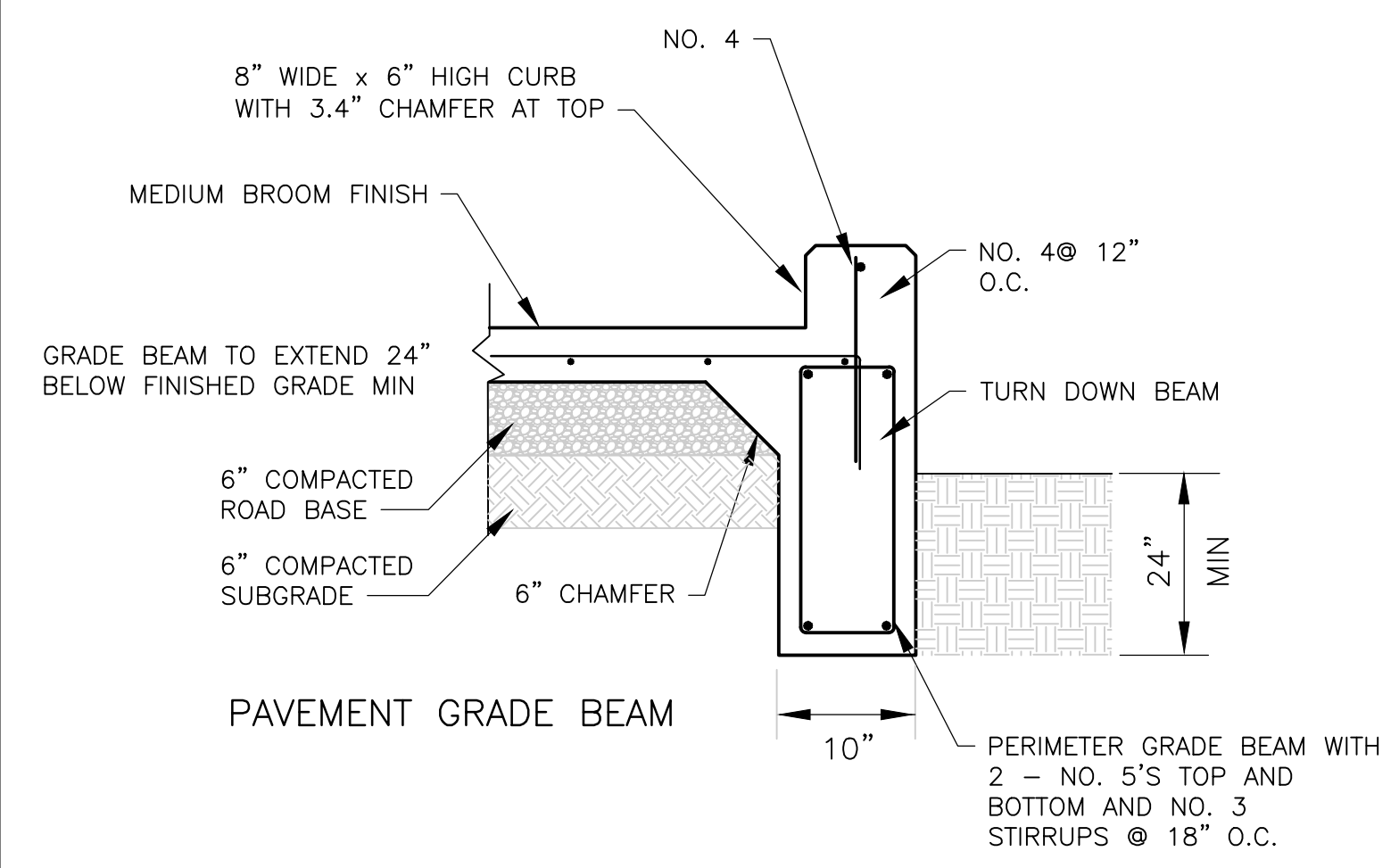
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 CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS  
 ROCK BERM DETAIL  
 ECO3

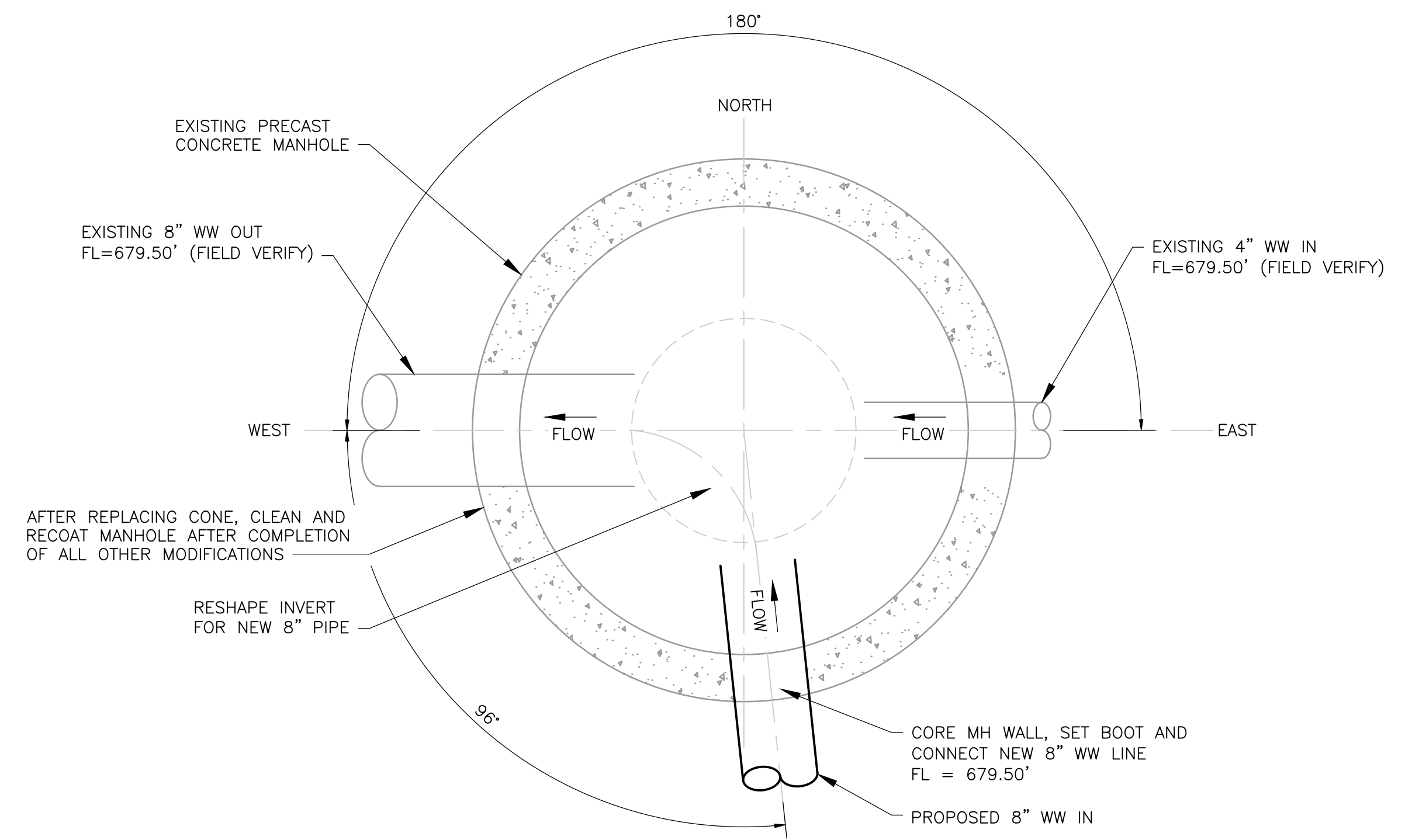
**NOTES:**  
 1. ALL WORK AND MATERIAL SHALL CONFORM TO ASTM A615, ASTM C309, AND D1752. BROOM FINISH EXPOSED SURFACE.  
 2. CONTRACTION JOINT SPACING 10' MAX.  
 3. EXPANSION JOINTS AS PER STD. ASTM D-1752.  
 4. 1/2" EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB IS ADJACENT TO SIDEWALK OR RIP-RAP.  
 5. TRANSITIONS BETWEEN CURBS OR DIFFERING CROSS SECTIONS SHALL OCCUR OVER A 20 FOOT LENGTH AS APPROVED BY THE ENGINEER OR THE CITY OF GEORGETOWN.  
 6. ALL CONCRETE SHALL BE CLASS A, 3000 PSI.  
 7. ALL SURFACES THAT ARE CHIPPED OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED.  
 8. THE FOLLOWING SCHEME OF REINFORCEMENT SHALL BE REQUIRED. THE MANNER OF PLACEMENT AND LOCATION SHALL BE TO THE SATISFACTION OF THE ENGINEER OR THE CITY OF GEORGETOWN.  
 A. ALL CURB AND CURB AND GUTTER (REINFORCED) SHALL HAVE TWO #4 LONGITUDINAL REINFORCING BARS.  
 9. REINFORCING BARS SHALL BE LAPPED A MINIMUM OF 15 INCH.  
 10. REINFORCING BARS SHALL BE SUPPORTED WITH REBAR CHAIRS OR OTHER APPROVED METHODS.  
 11. REBAR SUPPORTS ARE NOT REQUIRED ON MACHINE PLACED CURB PROVIDED THAT REBAR IS PROPERLY GUIDED INTO THE CURB SECTION.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

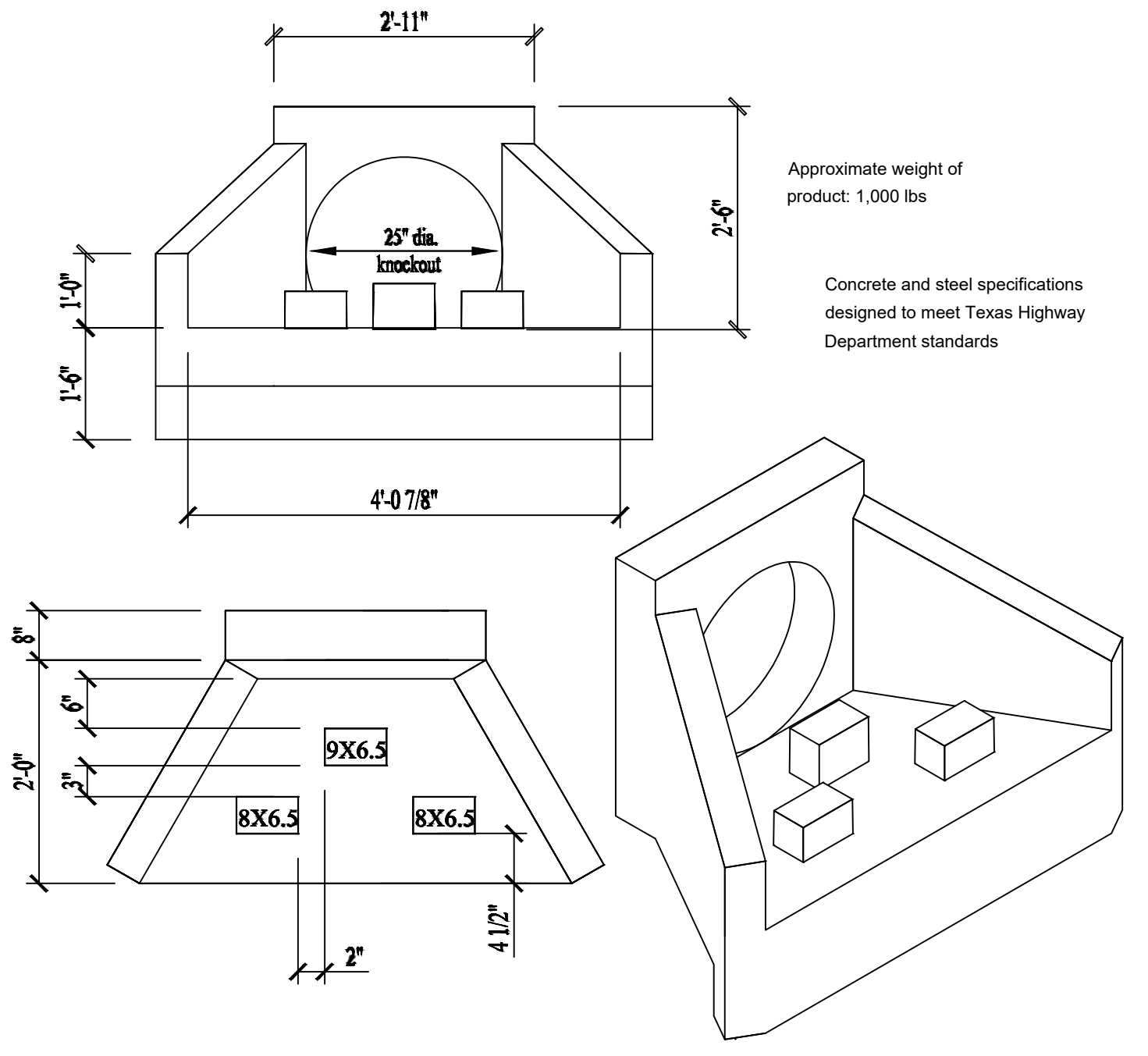
ADOPTED 6/21/2006  
 CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS  
 CURB AND GUTTER DETAILS  
 SD06



DETAIL E  
NTS



DETAIL F  
NTS



DETAIL G  
NTS

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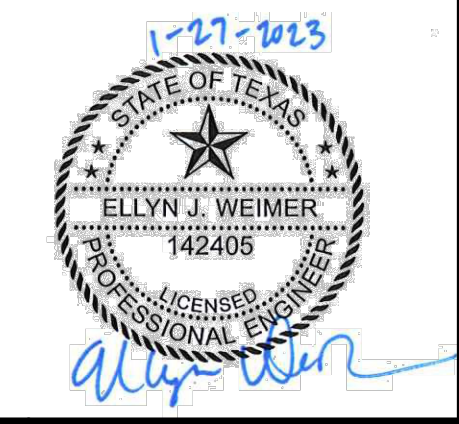
DESIGNED BY: J. MAYER  
 DRAWN BY: S. MALPASS  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
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CITY OF GEORGETOWN, TEXAS  
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CIVIL DETAILS V

PROJECT NO. 2048-264953  
 FILE NAME: CZ05CLD.DWG  
 SHEET NO. CZ-5



**ABBREVIATIONS**

&	AND	GB	GLASS BLOCK	REF	ROOF EXHAUST FAN
<	ANGLE	GRTG	GRATING	REINF	REINFORCE (D, ING)
@	ANCHOR BOLT	GYP	GYP SUM	REQ'D	REQUIRED
AB	ABOVE	GWB	GYP SUM WALL BOARD	REV	REVISED
ABV	ABOVE	HARD	HARDENER	RF	ROOF FAN
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT	HD	HEAVY DUTY	RGF	ROOFING
AFF	ABOVE FINISHED FLOOR	HDWD	HARDWOOD	RGH	ROUGH
AFG	ABOVE FINISHED GRADE	HDWR	HARDWARE	RJ	REVEAL/RUSTICATION JOINT
AL, ALUM	ALUMINUM	HGR	HANGER	RL	RAIN LEADER
AMP	ACOUSTICAL METAL PANELS	HGT	HEIGHT	RLG	RAILING
ANOD	ANODIZE(D)	HM	HOLLOW METAL	RM	ROOM
ASSY	ASSEMBLY	HOR	HORIZONTAL	RO	ROUGH OPENING
BBT	BIOBASED TILE	HP	HIGH POINT	RT	RUBBER TILE
BD	BOARD	HR	HANDRAIL	RWL	RAIN WATER LEADER
BEV	BEVEL(ED)	IN	INCH	S	STEEL S-SHAPE DESIGNATION
BLDG	BUILDING	INST	INSTRUMENTATION	SAT	SUSPENDED ACOUSTICAL TILE
BLK	BLOCK	INSUL	INSULATION	SB	SEAMLESS BASE
BLKG	BLOCKING	JC	JANITOR'S CLOSET	SCHD	SCHEDULE
BRG	BEARING	JT	JOINT	SCRN	SCREEN(ED, JOINT)
BRK	BRICK	JT FLR	JOINT FILLER	SECT	SECTION
BRS	BRASS	L	LINE OF STRUCTURAL ANGLE DESIGNATION	SF	SEAMLESS FLOORING
BRZ	BRONZE	LAB	LABORATORY	SGFT	STRUCTURAL GLAZED FACING TILE
BTM	BOTTOM	LAD	LADDER	SHT	SHEET
C TO C	CENTER TO CENTER	LAM	LAMINATED	SIM	SIMILAR
CAB	CABINET	LAV	LAVATORY	SK	SLOPE
CARP	CARPET	LG	LAMINATED GLASS	SL	SLOPE
CEM	CEMENT	LKR	LOCKER	SLNT	SEALANT
CF	COMPRESSIBLE FILLER	LNTL	LINTEL	SPEC	SPECIFICATION, SPECIFIED
CGFB	CEMENTITIOUS GLASS FIBER BOARD	LP	LOW POINT	SST	STAINLESS STEEL
CH	CONCRETE HARDENER	LT	LIGHT(S)	STD	STANDARD
CHAM	CHAMFER	MAS	MASONRY	STL	STEEL
CHAN	CHANNEL	MATL	MATERIAL	STOR	STORAGE
CHP	CAST IN PLACE	MAX	MAXIMUM	STRU	STRUCTURE(S, URAL)
CJ	CONTROL JOINT	MEMB	MEMBRANE	STWY	STAIRWAY
CL OR C	CENTERLINE	MFR	MANUFACTURER	SUPT	SUPERINTENDENT
CLG	CEILING	MIN	MINIMUM	SUSP	SUSPENDED
CLKG	CAULKING	MISC	MISCELLANEOUS	T	TREAD(S)
CMU	CONCRETE MASONRY UNIT	MO	MASONRY OPENING	TBM	TRAFFIC BEARING MEMBRANE
COL	COLUMN	MR	MOISTURE RESISTANT	T&G	TONGUE AND GROOVE
COMP	COMPRESSIBLE	MRAT	MOISTURE RESISTANT ACOUSTICAL TILE	TEMP	TEMPERATURE
CONC	CONCRETE	MTD	MOUNTED	TEMP	TEMPERED
CONT	CONTINUOUS	MTG	MOUNTING	TEMP	TEMPORARY
CRS	COURSE(S)	MTL	METAL	TER	TERRAZZO
CT	CERAMIC TILE	NIC	NOT IN CONTRACT	TERB	TERRAZZO BASE
DET	DETAIL	NOM	NOMINAL	THK	THICKNESS
DF	DRINKING FOUNTAIN	NTS	NOT TO SCALE	THR	THRESHOLD
DIA	DIAMETER	OC	ON CENTER	TKBD	TACKBOARD
DIAG	DIAGONAL	OH	OVERHANG	TOB	TOP OF BRICK
DM	DIMENSION	OPNG	OPENING	TOP	TOP OF CONCRETE
DISP	DISPENSER	OPP HD	OPPOSITE HAND	TOIL	TOILET
DN	DOWN	ORD	OVERFLOW ROOF DRAIN	TOM	TOP OF MASONRY
DP	DAMP/PROOFING	OSB	ORIENTED STRAND BOARD	TOPG	TOPPING
DR	DRAIN	OV	OVER	TOS	TOP OF STEEL
ELEC	ELECTRICAL	OVHD	OVERHEAD	TS	STRUCTURAL TUBING (STEEL UNLESS NOTED)
ELEV	ELEVATION	PERIM	PERIMETER	TSL	TOP OF SLAB
EQ	EQUAL(LY)	PL	PLATE	TWF	THROUGH WALL FLASHING
EQPT	EQUIPMENT	PLK	PLASTER	TYP	TYPICAL
EWC	ELECTRICAL WATER COOLER	PLK	PLANK	UC	UNDERCUT
EXP	EXPOSED	PLYWD	PLYWOOD	UNL	UNLESS OTHERWISE NOTED
EJ	EXPANSION JOINT	PM	PRESSED METAL	UR	URINAL
EXIST, (E)	EXISTING	PR	PROMENADE ROOF DRAIN	VB	VAPOR BARRIER
FD	FLOOR DRAIN	PRD	PROMENADE ROOF DRAIN	VCT	VINYL COMPOSITION TILE
FE	FIRE EXTINGUISHER	PRCST	PREFABRICATED	VERT	VERTICAL
FF	FACTORY FINISH	PREFAB	PREFABRICATED	VEST	VESTIBULE
FGL	FIBERGLASS	PT	PRESSURE TREATED	VTR	VENT THRU ROOF
FIN	FINISH(ED)	PRMLD	PREMOLDED	W	WITH
FLG	FLASHING	PSF	POUNDS PER SQUARE FOOT	W/	WITH
FL	FLOOR(ING)	PTD	PAINTED	W/A	WHERE APPLICABLE
FLR	FILLER	QT	QUARRY TILE	WITHOUT	WITHOUT
FR	FRAME	QTB	QUARRY TILE BASE	WC	WATER CLOSET
FRP	FIBERGLASS REINFORCED PLASTIC	R	RISER(S)	WD	WOOD
FO	FRAME OPENING	R	RISER(S)	WDW	WINDOW
FV	FIELD VERIFY	R+S	BACKER ROD & SEALANT	WF	WIDE FLANGE
FXD	FIXED	RB	RUBBER ROSE	WPG	WATERPROOFING
GA	GAGE, GAUGE	RD	ROOF DRAIN	WT	STEEL TEE-SHAPE DESIGNATION
GALV	GALVANIZED	RECT	RECEPTACLE	WWF	WELDED WIRE FABRIC
GL	GLASS				

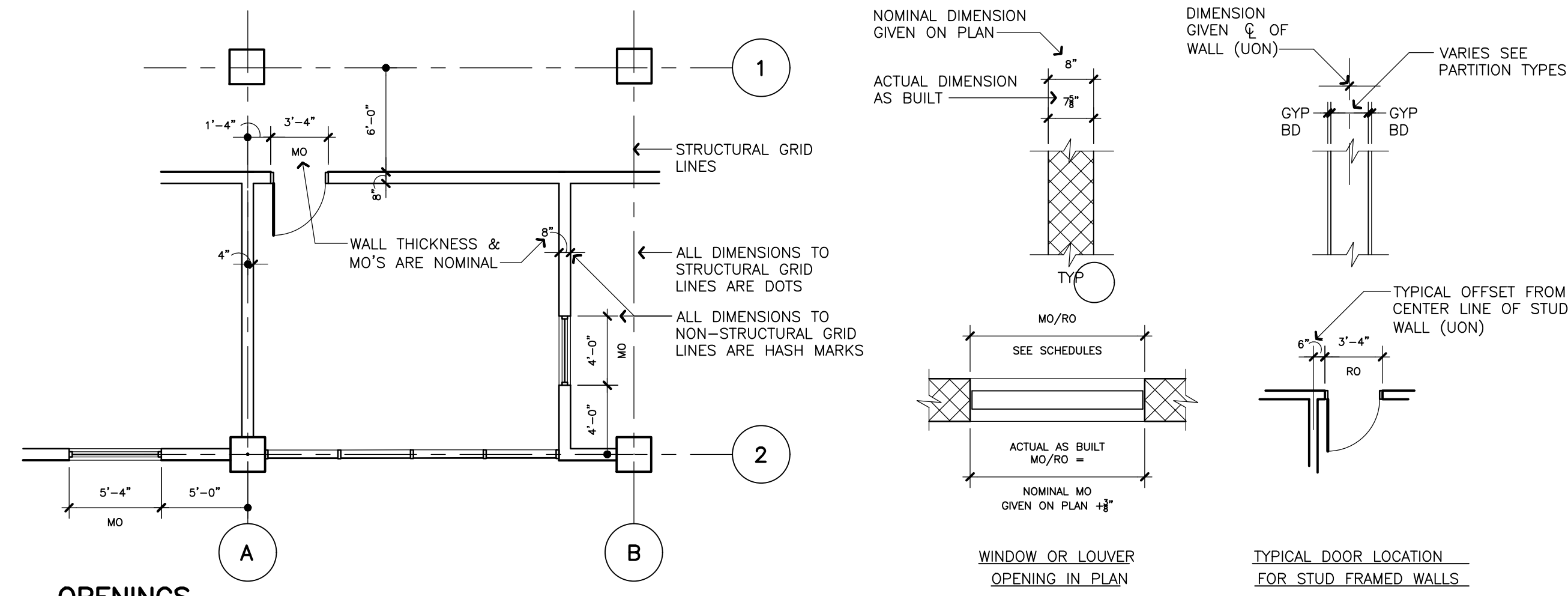
**LINE TYPES** (UNLESS OTHERWISE NOTED)

	CONTINUOUS - NEW CONSTRUCTION
	CONTINUOUS - EXISTING STRUCTURE
	DASHED ON CONSTRUCTION PLANS/SHEETS - HIDDEN ELEMENTS ABOVE, BELOW, OR BEYOND

**MATERIAL SYMBOLS**

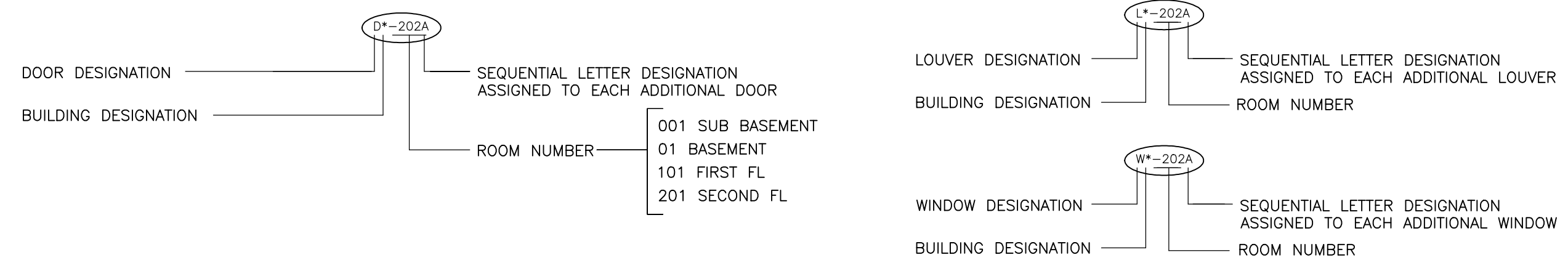
	EARTH, SOIL
	GRAVEL
	BRICK
	CONCRETE BLOCK
	PRECAST CONCRETE
	CONC CAST IN PLACE
	WOOD-BLOCKING
	WOOD-FINISH
	PLYWOOD
	RIGID INSULATION
	BLANKET INSULATION
	STEEL
	ALUMINUM
	GROUT
	CAULK
	GLASS
	STRUCTURAL STEEL
	SHEET METAL, STEEL, GLASS, WATERPROOFING

**DIMENSIONING SYSTEM**



**OPENINGS**

USUALLY LABELED IN PLAN VIEW; HOWEVER, OPENINGS NOT SHOWN IN PLAN ARE LABELED ON ELEVATIONS



**ACCESSORIES & EQUIPMENT**

	EQUIPMENT, LABORATORY CASEWORK, OR ACCESSORY SYMBOL AS NOTED
	TOILET ROOM ACCESSORIES (SEE SPECIFICATION SECTION 10800)

**SYMBOLS**

	COLUMN TAG & CENTER LINE
	ELEVATION TAG
	FIRE EXTINGUISHER
	BUILDING SECTION INDICATOR
	WALL SECTION INDICATOR
	DETAIL INDICATOR

IF SECTION OR DETAIL IS DRAWN ON THE SAME SHEET THAT IT IS TAKEN FROM, THE SHEET NUMBER IS A HYPHEN. IF THE SECTION IS REFERENCED ON MULTIPLE SHEETS, THE SHEET NUMBER SHOWN INDICATES THE FIRST SHEET THE SECTION IS TAKEN FROM.

**GENERAL NOTES**

- SEE "G" SHEETS FOR ADDITIONAL GENERAL NOTES.
- NOT ALL EQUIPMENT IS SHOWN FOR CLARITY. REFER TO THE APPROPRIATE DISCIPLINE SHEETS FOR SPECIFIC EQUIPMENT LAYOUT AND OTHER REQUIREMENTS
- SEE "C" SHEETS FOR SIDEWALK, ROAD PAVING AND FINISH GRADE ELEVATIONS.
- SEE "S" SHEETS FOR SIZE AND LOCATION OF CONCRETE PADS, TRENCHES, VAULTS, SUMPS, ETC
- SEE "S" SHEETS FOR CONCRETE REINFORCEMENT
- DO NOT SCALE FROM THE DRAWINGS
- NOTIFY ARCHITECT IF CONSTRUCTION DOCUMENTS DIFFER FROM ACTUAL FIELD CONDITIONS PRIOR TO FABRICATION OR NEW CONSTRUCTION
- THE EXISTING BUILDING FLOOR PLANS AND DIMENSIONS ARE BASED ON THE RECORD DRAWINGS PROVIDED BY THE OWNER. FIELD VERIFY ALL EXISTING CONDITIONS REQUIRED FOR THE SCOPE OF WORK.
- IN NO WAY DO THE DIMENSIONS SHOWN ON THE PLANS REPRESENT AN EXACT QUANTITY OF MATERIALS. THE BIDDER IS SOLELY RESPONSIBLE FOR THE QUANTITIES IN THIS BID.
- THE DRAWINGS REPRESENT GENERAL LOCATIONS OF IMPROVEMENTS. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL IMPROVEMENTS ON THE SITE PRIOR TO ALTERATION OR TIE-IN. DAMAGE DURING DEMOLITION SHALL BE PROPERLY REPAIRED BY THE CONTRACTOR'S EXPENSE.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.

**ARCHITECTURAL SHEET INDEX**

A-1	ARCHITECTURAL LEGEND, ABBREVIATIONS, SYMBOLS AND NOTES
SG-AI-1	COORDINATED ELECTRICAL HOUSE - LIFE SAFETY PLANS
SG-AH-1	SAN GABRIEL WWTP ARCHITECTURAL ADMINISTRATION AND BLOWER BUILDING DEMOLITION AND MODIFICATION FLOOR PLANS
AZ-1	ARCHITECTURAL DOOR AND WINDOW SCHEDULE AND DETAILS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	FDG	CAT	CONFORMED DRAWINGS

DESIGNED BY:	DEGUZMAN R
DRAWN BY:	POOJA W
SHEET CHK'D BY:	ANANDRAJ
CROSS CHK'D BY:	DEGUZMAN R
APPROVED BY:	THROOP C
DATE:	JANUARY 2023

**CDM Smith**

9430 Research Blvd., Suite 1-200  
Austin, TX 78759  
Tel: (512) 346-1100  
TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS

**SAN GABRIEL WWTP REHABILITATION**

**ARCHITECTURAL LEGENDS, ABBREVIATIONS, SYMBOLS AND NOTES**

PROJECT NO.	2048-264953
FILE NAME:	A001ALSN.DWG
SHEET NO.	<b>A-1</b>



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**BUILDING CODE KEY DETERMINATIONS**

OWNER: CITY OF GEORGETOWN  
 PROJECT NAME: SAN GABRIEL WWTP - REHABILITATION  
 PROJECT NUMBER: 2048-264953  
 BUILDING NAME: SAN GABRIEL WWTP - COORDINATED ELECTRICAL HOUSE I, II & III

CODES REVIEWED: 2015 INTERNATIONAL BUILDING CODE  
 2015 INTERNATIONAL MECHANICAL CODE  
 2015 INTERNATIONAL FIRE CODE WITH LOCAL AMENDMENTS  
 2015 INTERNATIONAL ENERGY CODE  
 CITY OF GEORGETOWN UNIFIED DEVELOPMENT CODE  
 CITY OF GEORGETOWN CODE OF ORDINANCES  
 2012 TEXAS ACCESSIBILITY STANDARD (TAS)  
 2015 INTERNATIONAL EXISTING BUILDING CODE

OCCUPANCY, CONSTRUCTION TYPE, BUILDING LIMITATIONS:

Occupancy: GROUP F-1 (FACTORY INDUSTRIAL)  
 Construction Type: IIB  
 Manual Fire Alarm Required: NOT REQUIRED  
 Sprinkler Required: NOT REQUIRED  
 Max Allowable Sq Footage: 15,500 SF/STORY  
 Square Footage: 315 SF (HOUSE I); 150 SF (HOUSE II); 115 SF (HOUSE III)  
 Height: LESS THAN MAXIMUM ALLOWABLE  
 Max Allowable Height: 55 FT  
 Number of Floors: 1 STORY  
 Handicap Accessible: NO  
 Mezzanine: NO

PER THE TEXAS DEPARTMENT OF LICENSING AND REGISTRATION AND GENERAL EXCEPTION 230.5 OF THE TEXAS ACCESSIBILITY STANDARDS, SPACES FREQUENTED ONLY BY SERVICE PERSONAL FOR MAINTENANCE, REPAIR AND OCCASIONAL MONITORING OF EQUIPMENT SHALL NOT BE SUBJECT TO THE REQUIREMENT OF THE TEXAS ACCESSIBILITY STANDARDS NOR ARE THEY REQUIRED TO BE ON AN ACCESSIBLE ROUTE.

**FIRE RESISTANCE RATINGS:**

Rated Partitions:  
 Corridors: TABLE 1020.1 (OCC. LOAD IS LESS THAN 30) 0 Hour  
 Stairwells: N/A Hour  
 Electrical Room: N/A Hour  
 HVAC: N/A Hour  
 Occupancy Separation: N/A Hour

Opening Protective Fire Resistance Rating:  
 Corridors: N/A Hour  
 Stairwells: N/A Hour  
 Electrical Room: N/A Hour  
 HVAC: N/A Hour  
 Generator Rm: N/A Hour

**MEANS OF EGRESS:**

Occupant Load Factor: 300 GROSS  
 Max Common Path of Egress Allowable: 75  
 Max Exit Access Travel Dist Allowable: 200

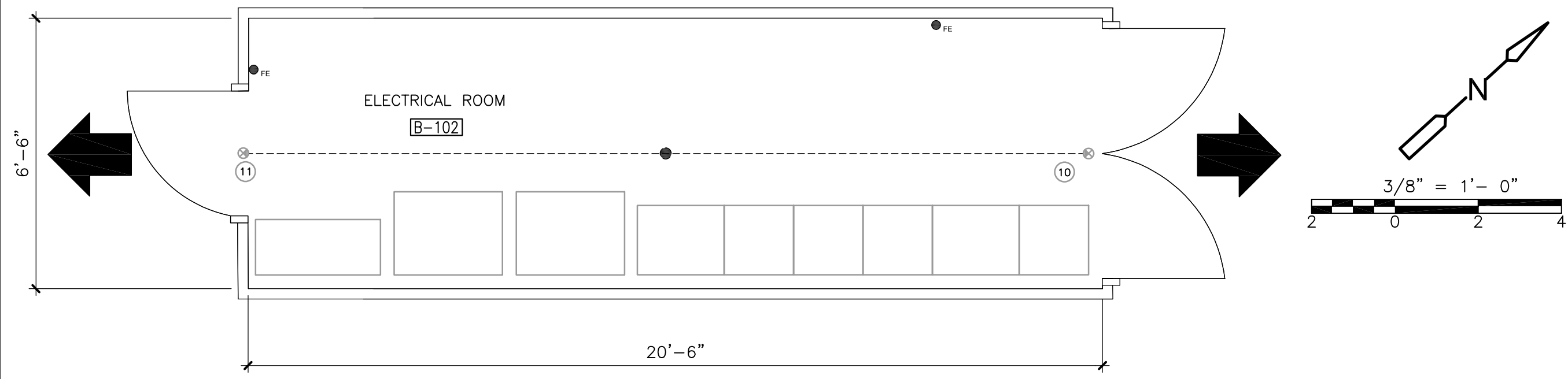
Occupant Load:  
 Total OCC Load  
 HOUSE I = 315/300 = 2  
 HOUSE II = 150/300 = 1  
 HOUSE III = 115/300 = 1

Exit Doors Required: 1  
 Exit Width Required: 1.8 INCHES  
 Stairs: Max/Min Riser Height: N/A  
 Min Clear Width: N/A  
 Open Risers Allowed: N/A

Max Travel Dist Provided: 14 FT  
 Exit Doors Provided: ELECTRICAL ROOM = 2  
 Exit Width Provided: 36 (min)  
 Min Tread Depth: N/A  
 Rated Enclosure Required: N/A

**GENERAL NOTES:**

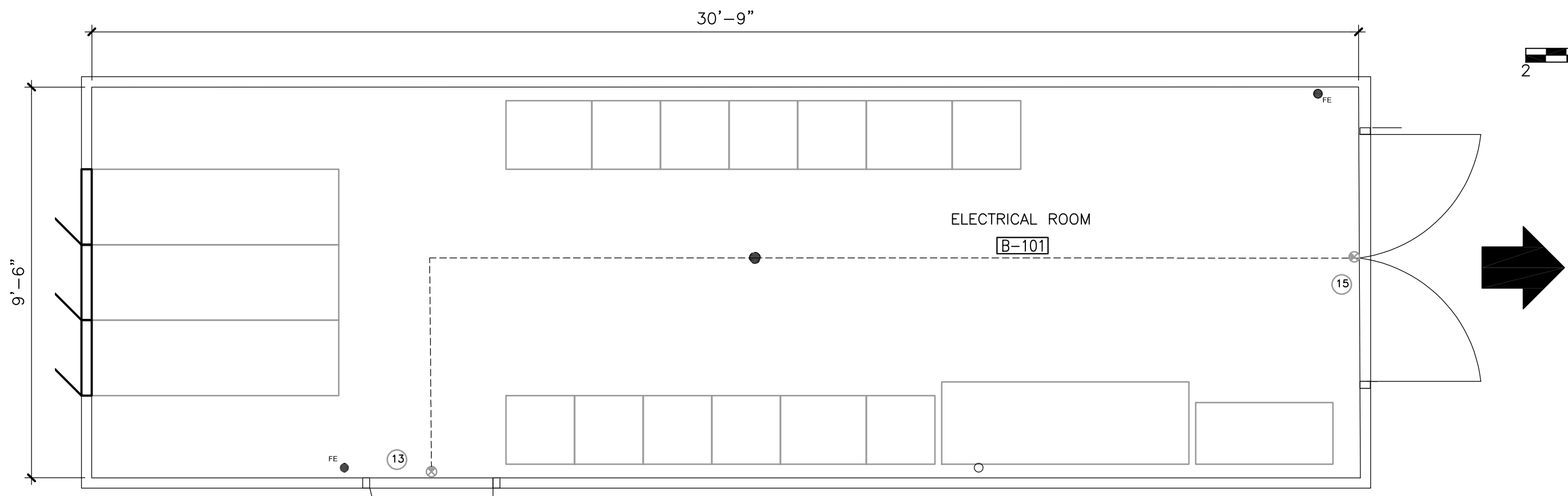
- PRE-FABRICATED ELECTRICAL HOUSES ARE SPECIFIED UNDER SECTION 266100. PROVIDE FACTORY FABRICATED, ALL WEATHERED WALK-IN ENCLOSURE FROM THE SAME MANUFACTURER OF MOTOR CONTROL CENTERS AND SWITCH GEAR.
- COORDINATE E-HOUSES LAYOUT WITH ELECTRICAL DRAWINGS.
- PROVIDE SUPPORT FRAMING FOR PORTABLE FIRE EXTINGUISHER BRACKET.



SAN GABRIEL WWTP - COORDINATED ELECTRICAL HOUSE II - LIFE SAFETY

**PLAN**

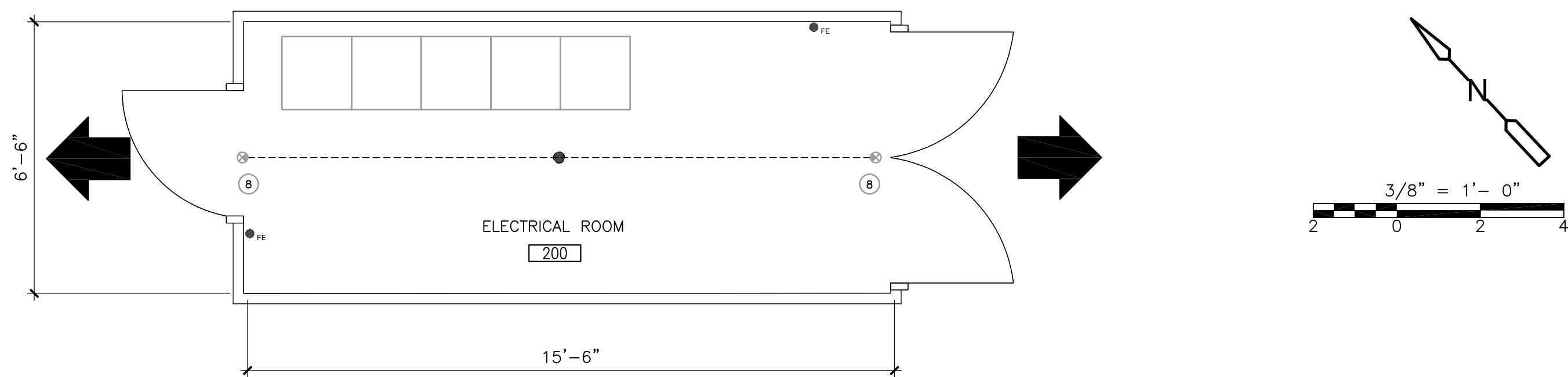
3/8" = 1'-0"



SAN GABRIEL WWTP - COORDINATED ELECTRICAL HOUSE I - LIFE SAFETY

**PLAN**

3/8" = 1'-0"



SAN GABRIEL WWTP - COORDINATED ELECTRICAL HOUSE III - LIFE SAFETY

**PLAN**

3/8" = 1'-0"

**LIFE SAFETY LEGEND**

- EXIT DISCHARGE
- AREA OR SPACE EXIT
- EXIT SIGN
- FIRE EXTINGUISHER
- EGRESS PATH
- TRAVEL DISTANCE (FEET)
- COMMON PATH OF TRAVEL (FEET)



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	FDG	CAT	CONFORMED DRAWINGS

DESIGNED BY: DEGUZMAN R  
 DRAWN BY: POOJA W  
 SHEET CHK'D BY: ANANDARAJ  
 CROSS CHK'D BY: DEGUZMAN R  
 APPROVED BY: THROOP C  
 DATE: JANUARY 2023

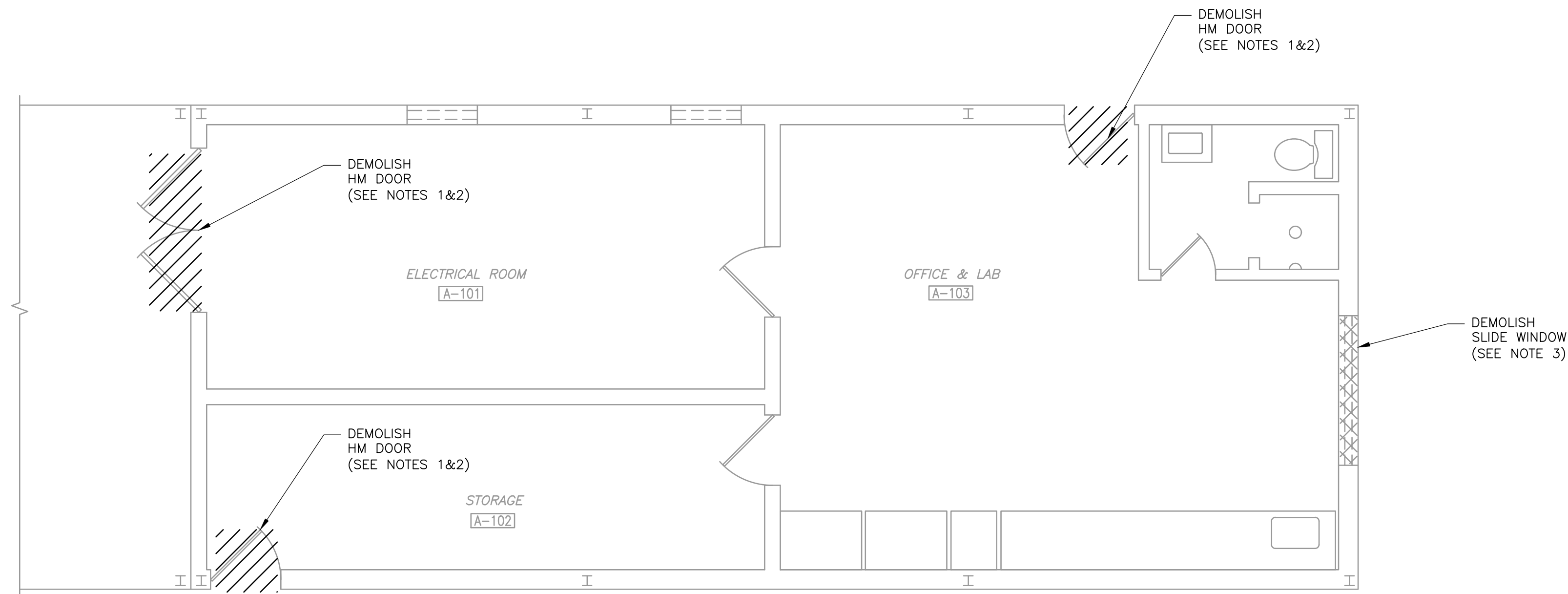


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ARCHITECTURAL  
 COORDINATED ELECTRICAL HOUSES  
 LIFE SAFETY PLANS

PROJECT NO. 2048-264953  
 FILE NAME: A-2  
 SHEET NO. SG-AI-1

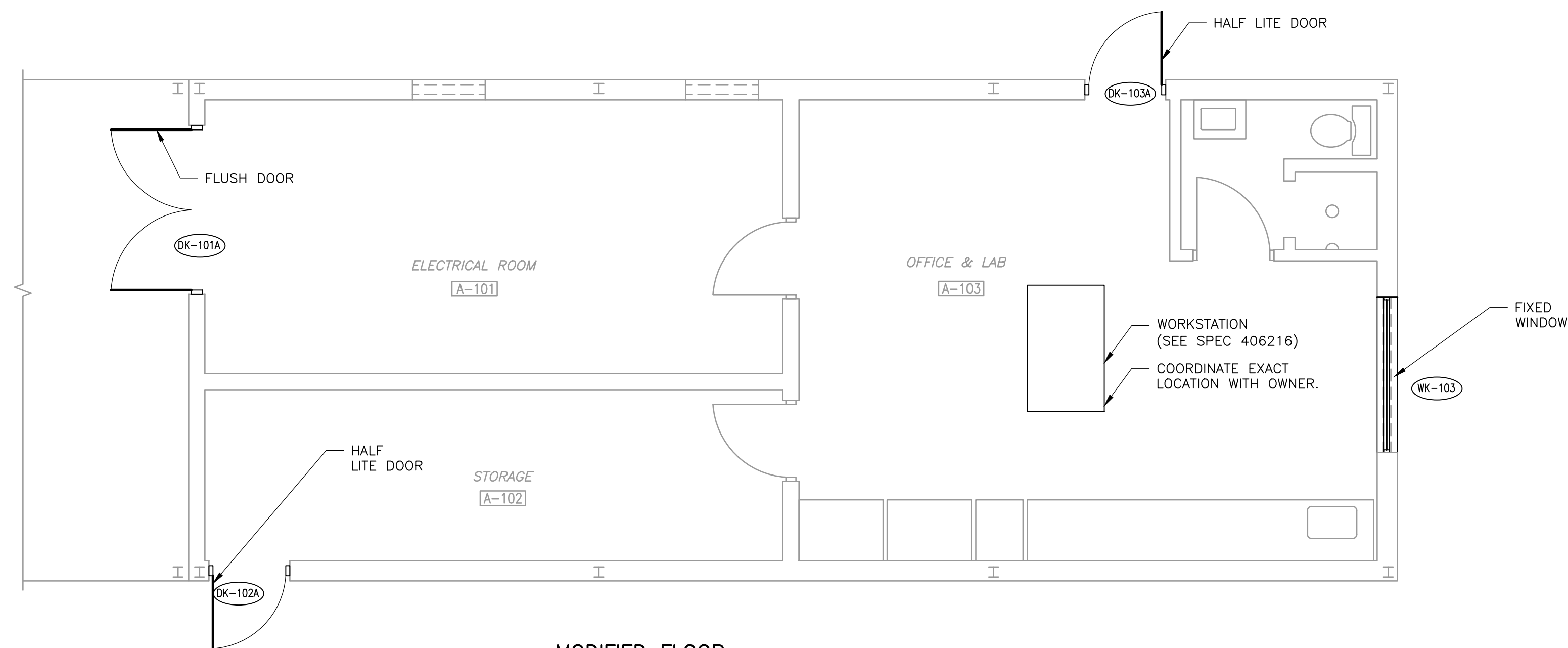
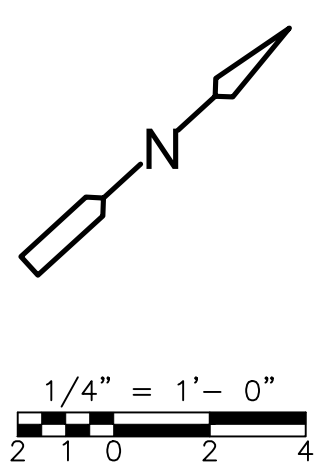
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DEMOLITION FLOOR  
 PLAN  
 1/4" = 1'-0"

GENERAL NOTES:

1. REMOVE AND REPLACE EXISTING DOOR AND FRAME WITH SCHEDULED DOOR AND FRAME. FIELD VERIFY ACTUAL DIMENSION. PROVIDE WEATHER TIGHT GASKETING FOR DOOR AND FRAME.
2. REPLACE EXISTING DOOR THRESHOLD WITH WEATHER TIGHT THRESHOLD. REFER TO DETAIL ON THE SHEET AZ-1.
3. REMOVE AND REPLACE EXISTING SLIDING ALUMINUM WINDOW AND REPLACE WITH FIX ALUMINUM WINDOW. FIELD VERIFY ACTUAL DIMENSION.
4. DO NOT DAMAGE EXISTING WALL AND FLASHING AROUND THE DOOR AND WINDOW OPENINGS THAT ARE TO REMAIN. REPLACE INTERIOR AND EXTERIOR WALL SIDINGS DAMAGED DURING DEMOLITION WITH WALL SIDING OF THE SAME PROFILE, THICKNESS AND FINISH.
5. FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, AND ALL ASPECTS OF THE CONSTRUCTION OUTLINED. BRING ANY DISCREPANCIES IMMEDIATELY TO THE ATTENTION OF THE ENGINEER.
6. PATCH AND REPAIR EXISTING BUILDING SYSTEMS, INCLUDING INSULATION, TO CREATE A WATERTIGHT ENCLOSURE WHERE THE NEW DOORS AND WINDOWS ARE SHOWN.



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



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	FDG	CAT	CONFORMED DRAWINGS

DESIGNED BY: DEGUZMAN R  
 DRAWN BY: POQUA W  
 SHEET CHK'D BY: ANANDRAJ  
 CROSS CHK'D BY: DEGUZMAN R  
 APPROVED BY: THROOP C  
 DATE: JANUARY 2023

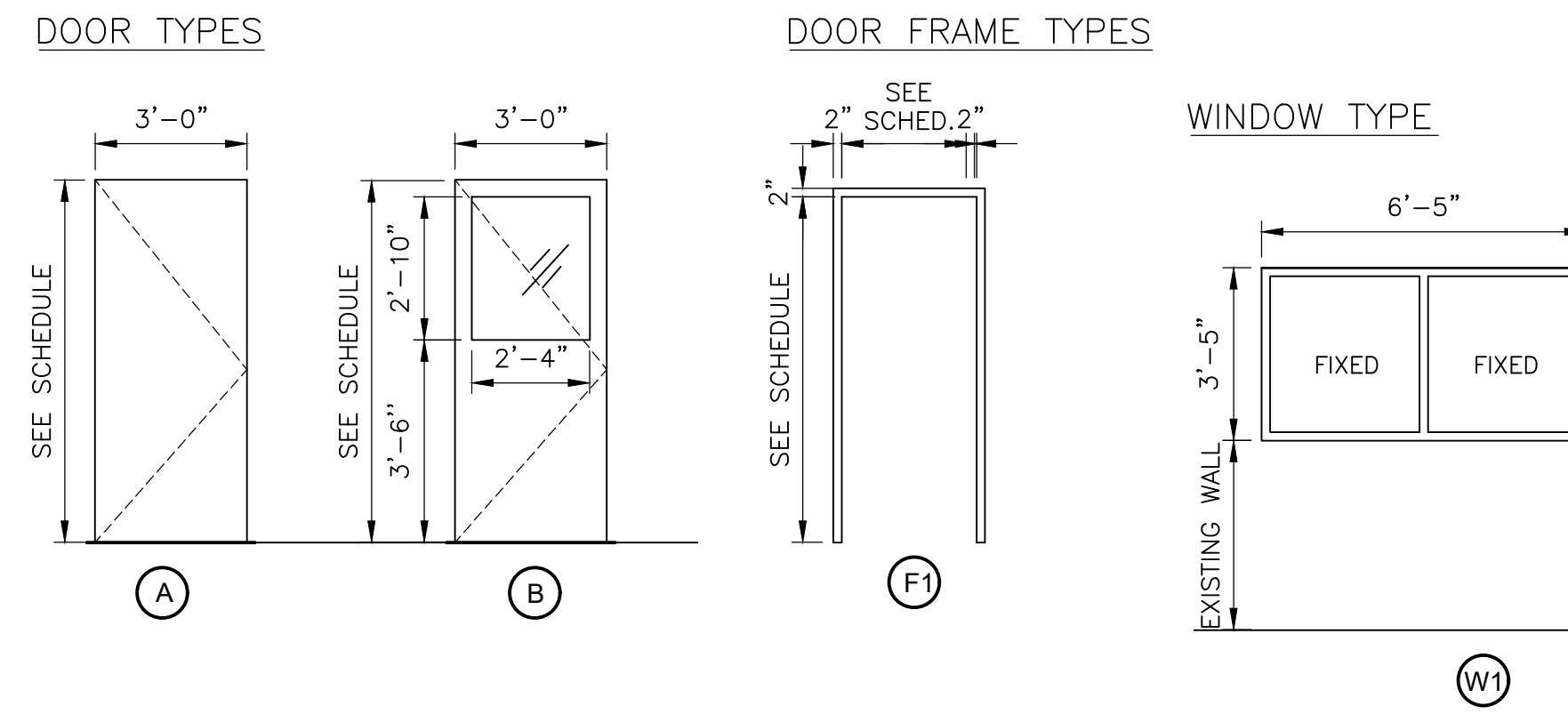


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP ARCHITECTURAL  
 ADMINISTRATION AND BLOWER BUILDING  
 DEMOLITION AND MODIFICATION FLOOR PLANS

PROJECT NO. 2048-264953  
 FILE NAME: SG-AK-1DWG  
 SHEET NO. SG-AH-1

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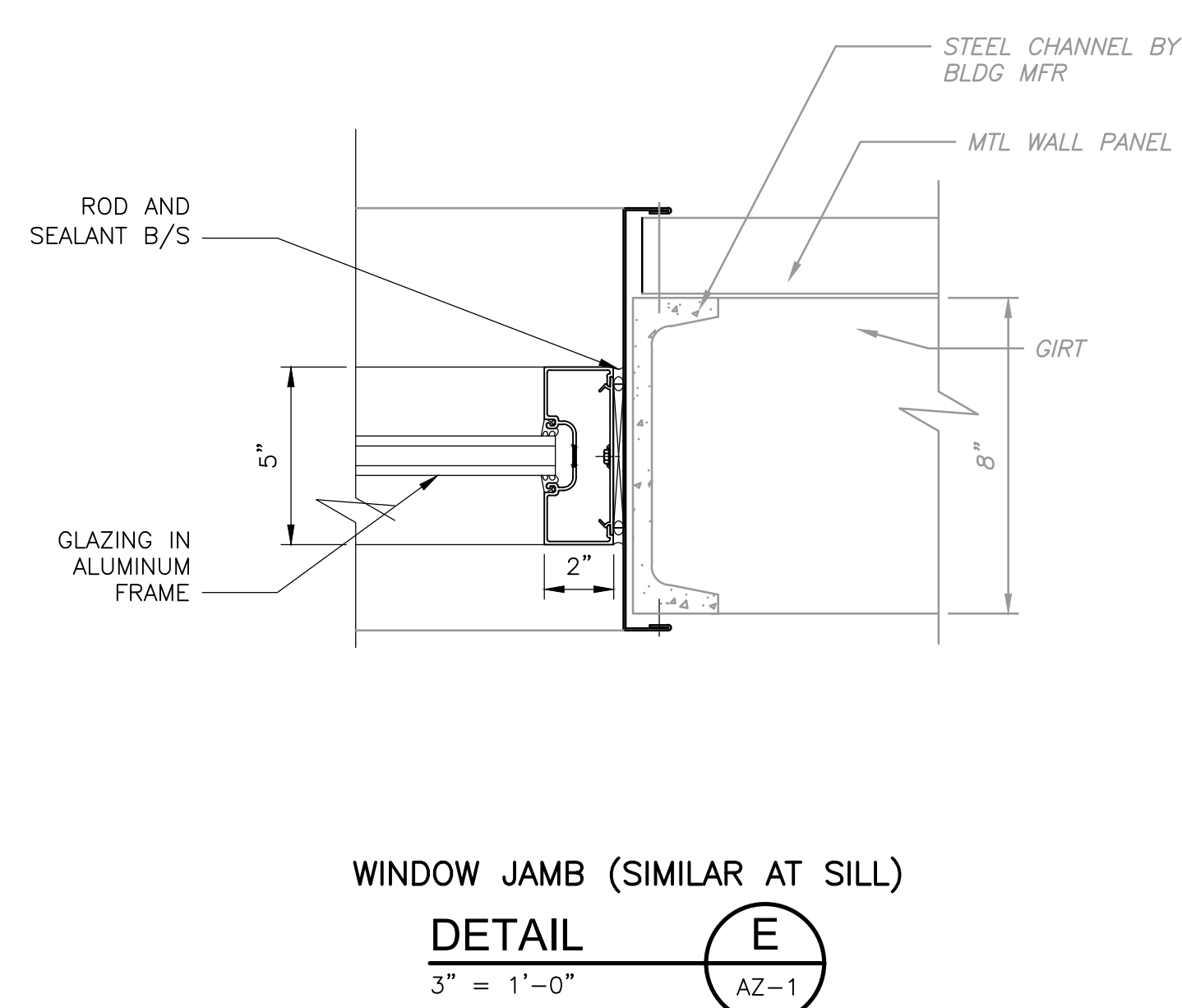
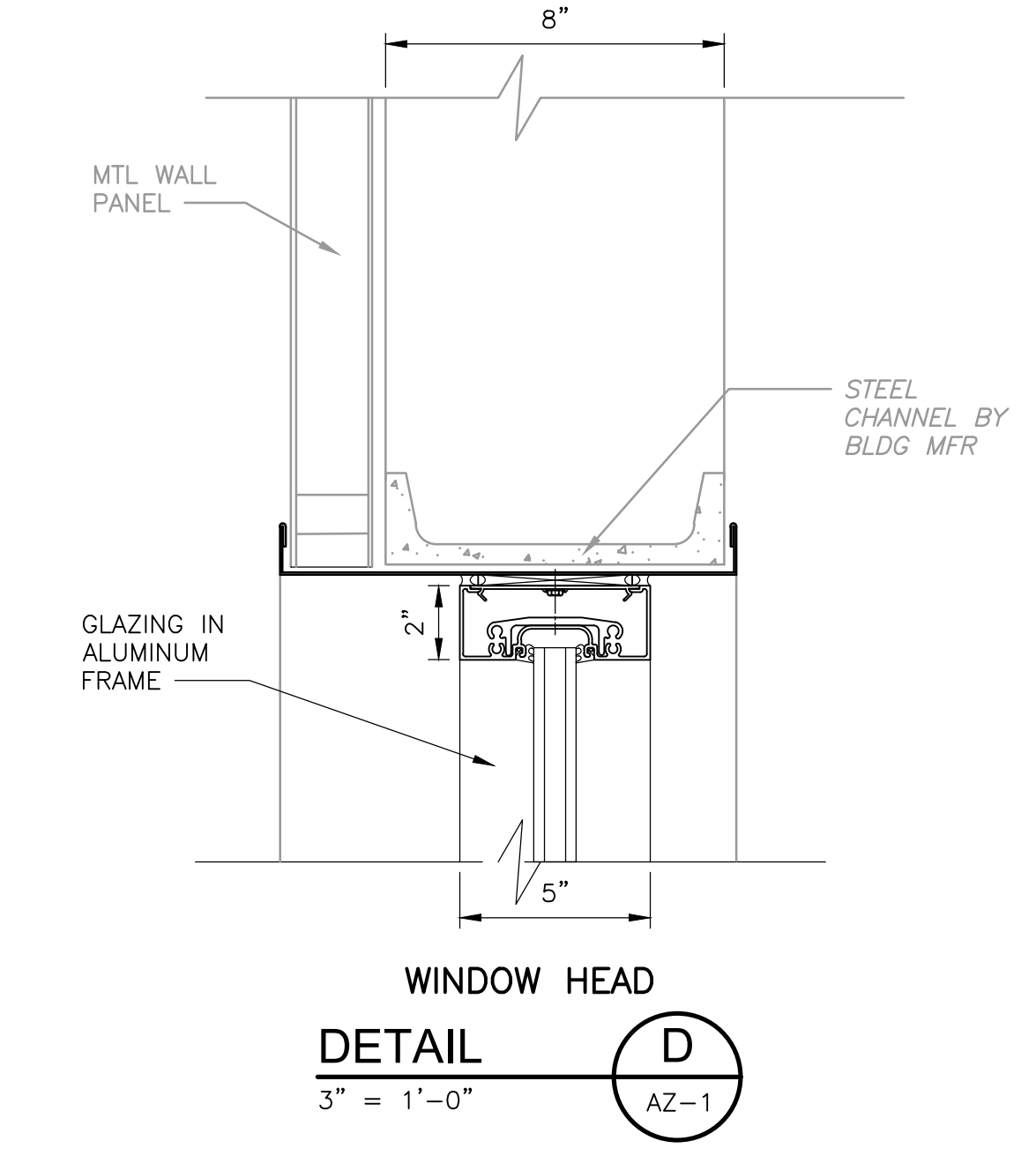
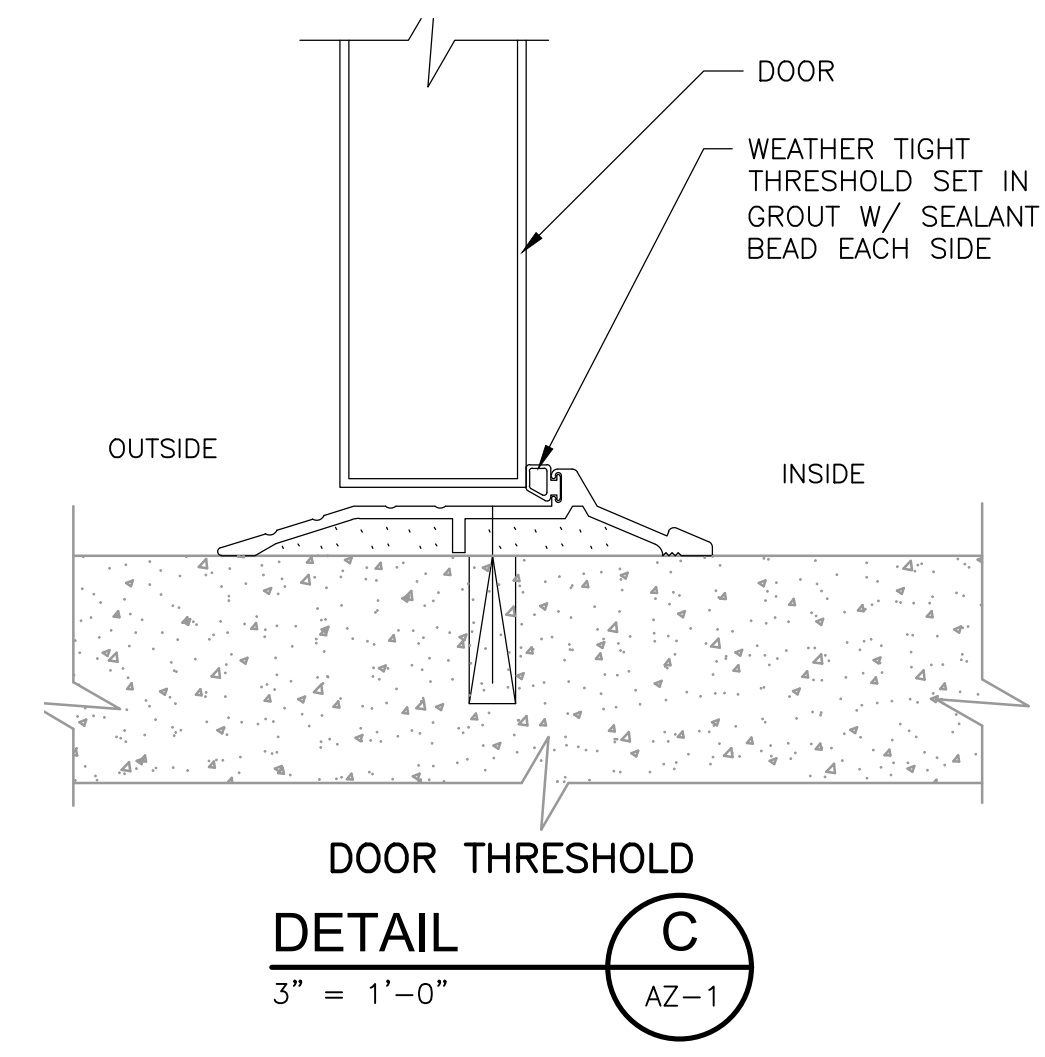
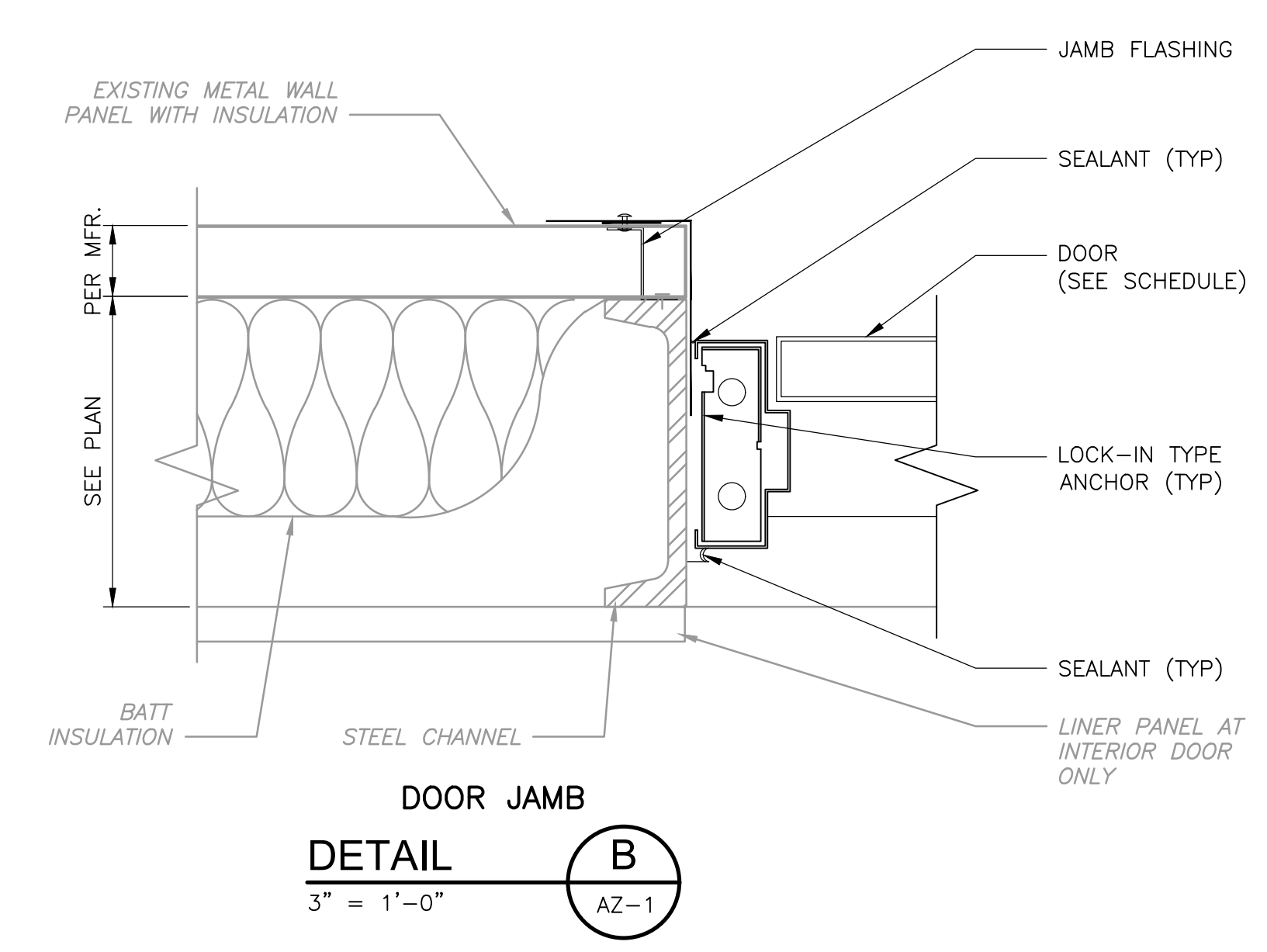
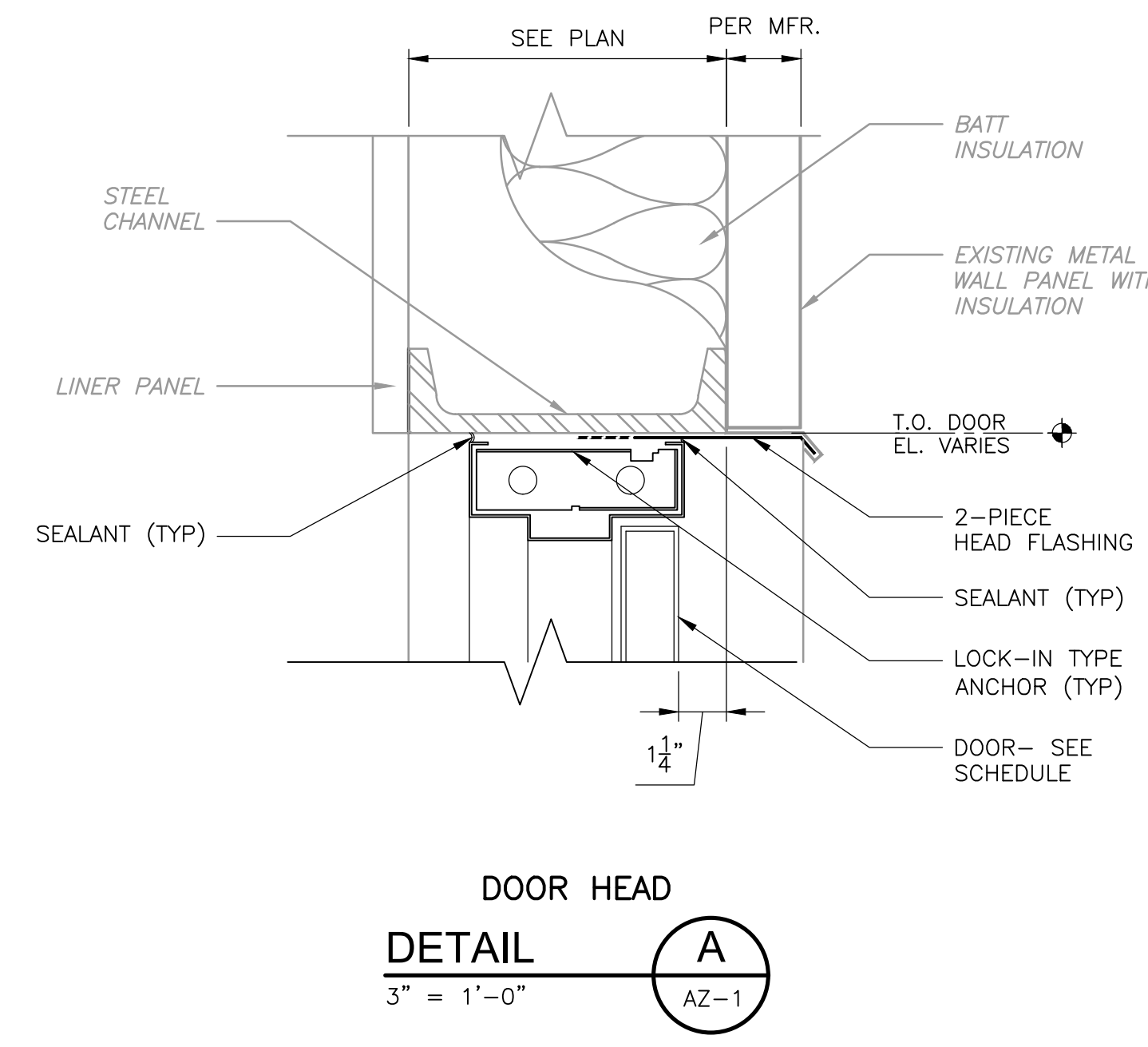


DOOR SCHEDULE														
EXTERIOR DOOR (*)	ROOM NAME	DOOR NUMBER	DOOR SIZE WIDTH X DEPTH	DOORS			FRAMES			DETAILS			HARDWARE	REMARKS
				TYPE	MAT'L	FINISH	TYPE	MAT'L	FINISH	HEAD	JAMB	SILL		
*	ELECTRICAL ROOM	DK-101A	3'-0" x 7'-0" (PR)	A	HM	SPEC	--	HM	SPEC	A/AZ-1	B/AZ-1	C/AZ-1	SET 2.0	
*	STORAGE	DK-102A	3'-0" x 7'-0"	B	HM	SPEC	--	HM	SPEC	A/AZ-1	B/AZ-1	C/AZ-1	SET 1.0	
*	OFFICE & LAB	DK-103A	3'-0" x 7'-0"	B	HM	SPEC	--	HM	SPEC	A/AZ-1	B/AZ-1	C/AZ-1	SET 1.0	

NOTE: REFER TO SHEET SG-AH-1 FOR DOOR LOCATION. FIELD VERIFY ALL EXISTING OPENINGS PRIOR TO FABRICATION.

WINDOW SCHEDULE									
ROOM NAME	WINDOW NUMBER	ROUGH OPENING WIDTH X HEIGHT	TYPE (ELEV.)	FRAMES		DETAILS			NOTES
				MAT'L	FINISH	HEAD	JAMB	SILL	
OFFICE & LAB	WK-103	6'-5" x 3'-5"	W1	ALUM	SPEC	D/AZ-1	E/AZ-1	--	

NOTE: REFER TO SHEET SG-AH-1 FOR WINDOW LOCATION. FIELD VERIFY EXACT ROUGH OPENING SIZES OF WINDOW.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	FDG	CAT	CONFORMED DRAWINGS

DESIGNED BY: DEGUZMAN R  
 DRAWN BY: POOJA W  
 SHEET CHK'D BY: ANANDRAJ  
 CROSS CHK'D BY: DEGUZMAN R  
 APPROVED BY: THROOP C  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ARCHITECTURAL  
 DOOR AND WINDOW  
 SCHEDULE AND DETAILS

PROJECT NO.	2048-264953
FILE NAME:	AZ-1.DWG
SHEET NO.	AZ-1

A. STRUCTURAL GENERAL NOTES

- 1. THESE GENERAL NOTES SHALL APPLY UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS AND DETAILS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, NEW AND/OR EXISTING, AND SHALL COORDINATE ALL STRUCTURAL PLANS AND DETAILS WITH ALL OTHER DRAWINGS BEFORE STARTING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CHECK AND VERIFY ALL SHOP DRAWINGS PRIOR TO SUBMITTING TO THE CONSULTANTS FOR REVIEW.
2. SEE MECHANICAL, ELECTRICAL, AND BUILDING SERVICES DRAWINGS FOR ANCHORS, PIPE SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED IN OR PASS THROUGH THE CONCRETE. IN GENERAL, EMBEDMENTS AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
3. WRITTEN DIMENSIONS SHALL TAKE PLACE PRECEDENCE OVER SCALED SIZES.
4. SEE SHEET S-2 FOR SYMBOLS AND ABBREVIATIONS.
5. SEE SITE PLAN FOR LOCATION OF STRUCTURES.
6. STANDARD DETAILS SHALL BE USED AT ALL APPLICABLE LOCATIONS.
7. PROVIDE GUARDRAIL AT ELEVATED PLATFORMS, STAIRS AND LANDINGS AS PER CODE AND OSHA REQUIREMENTS. GUARDRAIL SHALL COMPLY WITH STANDARD DETAILS AND SPECIFICATIONS.
8. ALL CONTROLLED LOW STRENGTH MATERIAL (CLSM) OR FLOWABLE FILL SHOWN IN STRUCTURAL DRAWINGS SHALL BE NON-EXCAVATABLE FLOWABLE FILL PER SPECIFICATION 31 23 23.33. THE MAXIMUM PLACEMENT LIFT HEIGHT OF CLSM/CONCRETE FILL/FLOWABLE FILL SHALL BE 4'-0" FOR EACH PLACEMENT AND EACH LIFT SHALL BE EQUALLY SPACED APPROXIMATELY.

B. DESIGN CRITERIA

- 1. CODES:
- 2015 INTERNATIONAL BUILDING CODE
- ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
- ACI 530 "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES"
- ACI 350 "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"
- AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION
2. DESIGN LIVE LOADS:
- CONCRETE SLABS IN PROCESS AREAS 200 PSF (UNO)
- GRATING & CHECKERED PLATES MIN 100 PSF AND 300 LB POINT LOAD CTRD
- ELECTRICAL ROOM FLOOR 300 PSF (UNO)
- STAIR & LANDING 100 PSF
- ROOF 20 PSF
3. WIND LOAD
1. RISK CATEGORY: III
2. ULTIMATE WIND SPEED, VULT: 120 MPH
3. NOMINAL WIND SPEED, Vnom: 93 MPH
4. EXPOSURE: C
4. SEISMIC LOAD
1) ABOVE GRADE, FOR WATER BEARING AND NON WATER BEARING STRUCTURES:
a) RISK CATEGORY: III
b) IMPORTANCE FACTOR: 1.25
c) SPECTRAL RESPONSE ACCELERATION SS: 0.062
d) SPECTRAL RESPONSE ACCELERATION S1: 0.035
e) SITE CLASS: C
f) SEISMIC DESIGN CATEGORY: A
g) SPECTRAL RESPONSE COEFFICIENT, SDS: 0.066
h) SPECTRAL RESPONSE COEFFICIENT, SD1: 0.056
i) ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
j) RESPONSE MODIFICATION COEFFICIENT, R: 3.0
k) SEISMIC RESPONSE COEFFICIENT, CS: 0.032
l) SEISMIC BASE SHEAR, Vs: 0.032W

C. CONCRETE

- 1. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE SPECIFICATION, A.C.I. #301 AND BUILDING CODE REQUIREMENTS, A.C.I. #318 AND A.C.I. #350 LATEST EDITIONS.
2. ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I.#315, LATEST EDITION.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:
CONCRETE FILL fc' = 2,500 psi
STRUCTURAL CONCRETE (WALL, SLAB, FOUNDATION) fc' = 4,500 psi
CONTROLLED LOW STRENGTH MATERIAL (CLSM) PER SPEC 31 23 23.33
4. REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60.
5. REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER, UNLESS OTHERWISE NOTED:
CONCRETE CAST AGAINST EARTH (BOTTOM OF SLABS, FOOTINGS, DRILLED PIERS, ETC) - 3 INCHES
CONCRETE SURFACES EXPOSED TO SOIL, WATER, SEWAGE, SLUDGE AND/OR WEATHER (INCLUDING BOTTOM COVER FOR SLABS OVER LIQUID-CONTAINING STRUCTURES) - 2 INCHES
CONCRETE SURFACES NOT EXPOSED TO SOIL, WATER, SEWAGE, SLUDGE AND/OR WEATHER INCLUDING SLABS ( TOP AND BOTTOM COVER), BEAMS, COLUMNS (TIES, SPIRALS, STIRRUPS AND OTHER REINFORCEMENT) - 1 1/2 INCHES
6. ALL ACCESSORIES SHALL BE IN ACCORDANCE WITH THE A.C.I. "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE", A.C.I. #315, LATEST EDITION.
7. MINIMUM TENSION LAP SPLICE LENGTHS AND TENSION DEVELOPMENT LENGTHS FOR GRADE 60 REINFORCING BARS IN WALLS AND SLABS SHALL BE IN ACCORDANCE WITH DETAILS ON SHEET SZ-1, UNLESS OTHERWISE NOTED ON THE DRAWINGS. LAP SPLICES AND DEVELOPMENT LENGTHS FOR WHICH STANDARD DETAILS ARE NOT APPLICABLE SHALL BE AS SHOWN ON THE DRAWINGS OR SHALL BE REFERRED TO THE ENGINEER FOR DETERMINATION OF REQUIRED LENGTH.

- 8. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 3/4" CHAMFER, UNLESS OTHERWISE NOTED.
9. FOR CONCRETE SURFACE FINISHES, SEE SPECIFICATION 03 35 00.
10. PROVIDE ADDITIONAL REINFORCING AT OPENING AND PIPE PENETRATIONS IN ACCORDANCE WITH DETAIL J/SZ-2.
11. ALL CONCRETE CONSTRUCTION JOINTS BETWEEN EXISTING AND NEW CONCRETE SHALL BE ROUGHENED TO 1/4" AMPLITUDE, CLEANED, AND A BONDING AGENT APPLIED.

D. FOUNDATION NOTES

- 1. CONSTRUCTION AREAS SHALL BE STRIPPED OF ALL VEGETATION INCLUDING ROOTS, LOOSE/SOFT TOPSOIL, AND OTHER UNSUITABLE SURFACE MATERIALS, FAT CLAYS.
2. PROVIDE MINIMUM OF 12" THICK STRUCTURAL FILL UNDERNEATH ALL NEW FOUNDATION, AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD EFFORT (ASTM D 698) MAXIMUM DRY DENSITY.
3. FOUNDATION DESIGNS ARE BASED ON THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION AND GEOTECHNICAL ENGINEERING REPORT DEVELOPED BY TERRACON FOR THE CITY OF GEORGETOWN.
4. PROVIDE A MINIMUM OF 24" THICK OR FROM THE FINISHED GRADE TO THE TOP OF SUBBASE (WHEN 24" MIN THICKNESS IS NOT ACHIEVABLE), 3'-0" WIDE MINIMUM OR FULL WIDTH OF EXCAVATION AROUND THE STRUCTURE, IMPERMEABLE FILL (FAT CLAY) LAYER AROUND NEW STRUCTURES TO LIMIT SURFACE WATER INFILTRATION AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD EFFORT (ASTM D698) MAX DRY DENSITY.

E. STRUCTURAL STEEL

- 1. ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM SPECIFICATION A-36 UNLESS OTHERWISE SHOWN OR NOTED. ALL W & WT SHAPES SHALL BE ASTM A992 (Fy=50 ksi).
2. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM SPECIFICATION A-500, GRADE B. ROUND (Fy=42 ksi) SQUARE (Fy=46 ksi)
3. ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
4. ALL STRUCTURAL BOLTS SHALL CONFORM TO ASTM A-325 UNLESS OTHERWISE SHOWN OR NOTED. FURNISH HARDENED WASHERS AT ALL BOLTED CONNECTIONS, INCLUDING ANCHOR BOLTS.
5. ALL BEAMS AND COLUMNS SHALL BE FULL LENGTH WITHOUT SPLICES UNLESS OTHERWISE INDICATED ON PLANS.
6. ALL SHOP AND FIELD WELDS SHALL BE MADE BY WELDERS WHO HAVE BEEN QUALIFIED AND CERTIFIED TO MAKE THE REQUIRED WELDS WITHIN THE PREVIOUS SIX MONTHS IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS A.W.S. D1.1.
7. SHOP DRAWINGS SHALL BE PREPARED FOR ALL STRUCTURAL STEEL AND SUBMITTED FOR REVIEW BY ENGINEER. ENGINEERING DRAWINGS SHALL NOT BE REPRODUCED AND USED AS SHOP DRAWINGS.
8. ALL STRUCTURAL STEEL MEMBERS AND CONNECTION COMPONENTS SHALL BE HOT DIPPED GALVANIZED, (2.3 OZ PER SQFT) AFTER FABRICATION AND SHALL CONFORM TO ASTM A123 (UNO). ALL STEEL BOLTS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.

F. METAL FABRICATIONS

- 1. LADDERS:
A. ALUMINUM, UNLESS OTHERWISE NOTED.
B. CONFORM TO OSHA REQUIREMENTS.
2. STAIRS INCLUDING STRINGERS AND SUPPORTS:
A. ALUMINUM, UNLESS OTHERWISE NOTED.
B. CONFORM TO IBC REQUIREMENTS.
3. HANDRAILS & GUARDRAILS:
A. ALUMINUM, UNLESS OTHERWISE NOTED.
B. CONFORM TO IBC REQUIREMENTS.
C. PROVIDE HANDRAIL AT ENCLOSED SIDES OF STAIRWAYS, AND GUARDRAIL AT OPEN SIDES UNLESS OTHERWISE NOTED.
D. SIDE-MOUNTED GUARDRAIL IS REQUIRED UNO
4. GRATING AND COVER PLATES:
A. GRATING AND COVER PLATES SHALL BE ALUMINUM UNO. SEATS AND SUPPORTS SHALL BE OF THE SAME TYPE MATERIAL AS THE GRATING AND/OR COVER PLATES SUPPORTED THEREON UNLESS OTHERWISE NOTED.
B. UNLESS OTHERWISE NOTED, FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR GRATING, COVER PLATES AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.
C. BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR EQUAL TO BEARING BARS.
D. ALL ANGLE FRAMES FOR GRATING AND COVER PLATES ARE TO BE MITERED AND WELDED AT CORNERS.
E. ALL GRATING SHALL BE SECURELY FASTENED TO SUPPORTS WITH STAINLESS STEEL GRATING CLIPS AND ANCHORS, UNLESS OTHERWISE NOTED.
F. GRATING PANEL LAYOUT SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS.
G. UNLESS OTHERWISE NOTED, GRATING AND COVER PLATES SHALL BE FABRICATED IN SECTIONS WITH MAXIMUM WEIGHT OF 75 LBS PER SECTION.
H. GRATING SIZE SHALL MEET THE FOLLOWING CRITERIA UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWING:
STEEL GRATING SPAN ALUMINUM GRATING SPAN RECTANGULAR BEARING BAR SIZE
≤ 4'-0" ≤ 3'-0" USE 1 1/4"x3/8" MIN
4'-1" TO 6'-0" 3'-1" TO 5'-0" USE 1 3/4"x3/8" MIN
6'-1" TO 8'-0" 5'-1" TO 6'-6" USE 2 1/4"x3/8" MIN
I. FIELD VERIFY GRATING SUPPORT LOCATIONS BEFORE FABRICATING GRATING. PLACE SUPPORTS WITH CARE TO MAINTAIN TOLERANCES SHOWN OR SPECIFIED.
J. ALL COVER PLATES SHALL BE SECURELY FASTENED TO SUPPORTS WITH 3/8" STAINLESS STEEL FLAT-HEAD MACHINE SCREWS AT 2'-0" ON CENTER, UNLESS OTHERWISE NOTED.

G. STRUCTURAL DEMOLITION, MODIFICATION, AND REPAIR

- 1. REFER TO AS-BUILT DRAWINGS AND SHOP DRAWINGS OF THE EXISTING STRUCTURES FOR CONSTRUCTION WORK ASSOCIATED WITH THE EXISTING STRUCTURES. AS BUILT CONDITIONS AND DIMENSIONS RELATED TO THE EXISTING STRUCTURES SHOWN ON PLANS MUST BE FIELD VERIFIED BY CONTRACTOR. ENGINEER SHALL BE NOTIFIED PRIOR TO ANY CONSTRUCTION WORK INCLUDING FABRICATION OF CONSTRUCTION MATERIALS.
2. REFER TO DEMOLITION DRAWINGS FOR STRUCTURES SHOWN TO BE REMOVED AND DISPOSED.
3. ALL DEMOLITION, REMOVAL AND CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITH CONSIDERATION FOR EXISTING FACILITIES STRUCTURES, EQUIPMENT, ETC. ANY DAMAGE WHICH MAY OCCUR BEYOND DESCRIBED DEMOLITION AND CONSTRUCTION SHALL BE REMEDIATED AT CONTRACTOR'S EXPENSE AND OWNER/ENGINEER NOTIFIED.
4. FOR BIDDING PURPOSE, THE CONTRACTOR SHALL ASSUME 50 SF OF TOTAL AREA OF SURFACE SPALLING REPAIR, 100 LF FOR SURFACE CRACKING REPAIR, AND 30 LF FOR EXPOSED REBAR REPLACEMENT. CONTRACTOR SHALL SUBMIT UNIT PRICES IN THE BIDS FOR COST ADJUSTMENT AFTER FINAL QUANTITIES OF REPAIRS HAVE BEEN DETERMINED DURING CONSTRUCTION.
5. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL DEMOLISHED CONCRETE AND OTHER MATERIALS OFF THE CONSTRUCTION SITE PRIOR TO THE NEW CONSTRUCTION.
6. UNLESS OTHERWISE NOTED ON PLANS, CUTTING EXISTING REINFORCING DUE TO DOWELS DRILLING, PIPING, CONDUITS OR OTHER PENETRATION THROUGH EXISTING CONCRETE STRUCTURE IS PROHIBITED. CONTRACTOR SHALL IDENTIFY EXISTING REINFORCING LOCATIONS BY NON-DESTRUCTIVE APPROACHES PRIOR TO DRILLING HOLES OR CUTTING OPENINGS.
7. EXISTING CONCRETE SURFACES THAT WILL COME IN CONTACT WITH NEW CONCRETE SHALL BE ROUGHENED TO 1/4" AMPLITUDE TO WITHIN 1" OF EDGE. BONDING AGENT SHALL BE APPLIED TO THE EXISTING CONCRETE SURFACES PRIOR TO THE NEW CONCRETE PLACEMENT.
8. ALL EXISTING CONSTRUCTION AFFECTED BY REMOVAL OF SUPPORTIVE MEMBERS SHALL BE TEMPORARILY SUPPORTED/SHORTED UNTIL NEW SUPPORTIVE MEMBERS ARE IN PLACE. DESIGN AND PERFORMANCE OF THE TEMPORARY SHORING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
9. SEE SPECIFICATION SECTION 03 01 30 FOR EXPLANATION OF CONCRETE REMOVAL METHODS, CONNECTION METHODS AND MATERIALS USED.
10. THE FOLLOWING CONNECTION METHODS ARE SPECIFIED IN DETAIL IN SPECIFICATION SECTION 03 01 30.

METHOD A - CEMENT SLURRY BOND
METHOD B - ADHESIVE BOND
METHOD C - DRILLED DOWELS OR BOLTS USING DOWELING ADHESIVE
METHOD D - COMBINATION OF METHODS B AND C
METHOD E - DRILLED DOWELS OR BOLTS USING ADHESIVE CAPSULE ANCHORS

H. ADHESIVE ANCHOR SYSTEM

- 1. REINFORCING BARS, DOWELS OR THREADED RODS INDICATED TO BE ADHESIVE ANCHORED OR DOWELED INTO CONCRETE SHALL BE INSTALLED USING HILTI HIT-RE 500 V3 OR AN APPROVED EQUAL.
2. THREADED RODS INDICATED TO BE ANCHORED IN HOLLOW MASONRY SHALL BE INSTALLED USING HILTI HIT HY 270 OR AN APPROVED EQUAL.
3. DEFORMED REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. THREADED RODS SHALL MEET THE REQUIREMENTS OF AISI 316 STAINLESS STEEL. PRIOR TO INSTALLATION, ALL DEFORMED BARS AND THREADED RODS SHALL BE CLEAN, FREE OF OIL, GREASE OR OTHER RESIDUE, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. HOLES SHALL BE DRILLED USING ROTARY HAMMER DRILLS WITH ANSI MATCHED TOLERANCE CARBIDE-TIPPED DRILL BITS. DRILL BIT DIAMETER SHALL MATCH DIAMETER RECOMMENDED BY MANUFACTURER. INSTALLATION OF ALL ADHESIVE ANCHORS SHALL CONFORM TO THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS, THE REQUIREMENTS OF THE RESPECTIVE ICBO REPORT, AND ALL APPLICABLE BUILDING CODES.
5. USE CARE AND CAUTION WHEN INSTALLING ANCHORS TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING STEEL.
6. DRILLED HOLES SHALL BE CLEANED WITH WIRE BRUSH AND COMPRESSED AIR.
7. UNLESS NOTED OTHERWISE ON PLANS, MINIMUM ANCHOR BOLT SIZE SHALL BE 5/8" IN DIAMETER AND MINIMUM EMBEDMENT LENGTH FOR ANCHOR BOLTS SHALL BE 4-1/2".

J. MASONRY NOTES

- 1. MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE MASONRY, f'm = 1500 PSI.
2. HOLLOW, LOAD-BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, NORMAL WEIGHT OPEN END UNITS.
3. MORTAR FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C270, TYPE S, UNLESS OTHERWISE NOTED.
4. GROUT FOR REINFORCED MASONRY SHALL BE NORMAL WEIGHT CONFORMING TO ASTM C476, UNLESS OTHERWISE NOTED. THE MINIMUM COMPRESSIVE STRENGTH OF THE GROUT SHALL BE 2500 PSI AT 28 DAYS.
5. NON WELDABLE REINFORCING STEEL SHALL BE DEFORMED BILLET STEEL CONFORMING TO THE LATEST EDITION OF ASTM A615, GRADE 60.
6. DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS FOR MASONRY ELEMENTS ARE NOMINAL MASONRY DIMENSIONS.
7. ALL HORIZONTAL REINFORCING, EXCEPT IN THE LINTELS, SHALL BE PALCED IN A CMU BOND BEAM BLOCK. PROVIDE GALVANIZED METAL LATH IN THE HORIZONTAL JOINT BELOW THE BLOCK TO RETAIN THE GROUT.
8. VERTICAL REINFORCING SHALL EXTEND TO 2" BELOW THE TOP OF THE CMU WALL.
9. PROVIDE A CONTINUOUS BOND BEAM WITH 2-#5 CONTINUOUS HORIZONTAL BARS AT THE TOP OF ALL WALLS.
10. REINFORCING LAP SPLICE LENGTH = 48 BAR DIAMETERS (24" MINIMUM).
11. PROVIDE HORIZONTAL JOINT REINFORCING AS SPECIFIED.
12. REINFORCING BARS TO EXTEND 12 BAR DIAMETERS BUT NOT LESS THAN 12" BEYOND BEND UNO.

NOTE:
STANDARD DETAILS SHOWN ON SZ SHEETS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.



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Table with 5 columns: REV. NO., DATE, DRWN, CHKD, REMARKS. Row 1: A, 5/25/23, JNE, CFV, CONFORMED DRAWINGS

DESIGNED BY: J. EULL
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DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS
SAN GABRIEL WWTP
REHABILITATION

STRUCTURAL DESIGN CRITERIA
AND GENERAL NOTES
SHEET NO. S-1

PROJECT NO. 2048-264953
FILE NAME: S001NFNT.DWG
SHEET NO. S-1

SYMBOLS

- DECK AND GRATING SPAN DIRECTION.
- WATERSTOP (SEE SPEC FOR TYPE AND MATERIALS)
- ROUGHEN THE CONCRETE SURFACES TO 1/4" AMP, CLEAN & APPLY BONDING AGENT
- INDICATES EQUIPMENT PAD PER DETAIL B ON SHEET SZ-2. COORD SIZE W/EQUIP REQMTS.
- INDICATES HOUSEKEEPING PAD PER DETAIL H ON SHEET SZ-2. COORD SIZE W/EQUIP REQMTS.

	COMPACTED SELECT STRUCTURAL FILL		CONCRETE MASONRY
	UNDISTURBED EARTH		BRICK
	BEDROCK OR LIMESTONE		STEEL
	GRANULAR FILL		ALUMINUM
	SAND		GRATING
	GROUT		CHECKERED PLATE
	CONCRETE		IMPERVIOUS FILL

K. PRE-ENGINEERED METAL BUILDING AND STRUCTURE NOTES (IF THIS PROJECT REQUIRES SUCH BUILDING)

1. THE NEW BUILDINGS SHALL BE A MANUFACTURER'S STANDARD OR CUSTOM DESIGNED PRE-ENGINEERED METAL STRUCTURE OF THE AREAS SHOWN. RIGID FRAMES SHALL BE SPACED AS SHOWN ON THE DRAWINGS. THE CONSTRUCTION DETAILS MAY VARY TO SUIT MANUFACTURER'S STANDARD DESIGN.
2. THE BUILDING SHALL BE DESIGNED AND FABRICATED ACCORDING TO AISI, MBMA AND AISI LATEST SPECIFICATIONS WHICHEVER IS MORE RESTRICTIVE. THE DIMENSIONAL TOLERANCES OUTLINED IN THE AWS CODE UNDER WORKMANSHIP AND THE TOLERANCES APPLICABLE TO ROLL FROM STEEL UNDER THE AISI "STANDARD MILL PRACTICE", SECTION SHALL BE REQUIRED IN THE FABRICATION OF THE STEEL BUILDING FRAMES.
3. PROVIDE SINGLE-SPAN RIGID FRAMES WITH PINNED COLUMN ENDS FOR INTERIOR FRAMES. MULTIPLE-SPAN FRAMES WITH PINNED COLUMN ENDS MAY BE USED FOR END FRAMES. COLUMN ENDS SHALL NOT TRANSFER MOMENTS TO FOUNDATIONS
4. DESIGN, FABRICATION AND CONSTRUCTION SHALL INCLUDE STRUCTURAL STEEL FRAMING, SUPPORTS, BRACING AND ACCESSORIES FOR ROOFTOP HVAC UNITS, EXHAUST SYSTEM, PIPING, PROCESS EQUIPMENT AND OTHER SUCH DEVICES SHOWN ON THE PLANS AND AS SPECIFIED.
5. THE BUILDING FRAME SHALL BE DESIGNED TO LIMIT THE LATERAL DEFLECTION TO H/200 DUE TO ANY DESIGN LOAD COMBINATIONS AT THE BUILDING EAVE, WHERE H IS THE HEIGHT OF THE BUILDING EAVE.
6. LIMIT THE MAXIMUM COMBINED VERTICAL DEFLECTION OF PURLINS AND FRAMES TO L/240 UNDER DESIGN SNOW OR LIVE LOADS, WHERE L IS THE SPAN LENGTH OF THE MEMBER BETWEEN CENTERLINE OF THE SUPPORTS.
7. LIMIT THE MAXIMUM HORIZONTAL DEFLECTION OF GIRTS TO L/240 UNDER DESIGN WIND LOADS, WHERE L IS THE SPAN LENGTH OF THE MEMBER BETWEEN CENTERLINE OF THE SUPPORTS.
8. BUILDING SHALL BE DESIGNED TO INCLUDE LOADS INDUCED BY THE HVAC, MECHANICAL, PROCESS EQUIPMENT, PIPING SPRINKLERS, EXHAUST SYSTEM, AND OTHER SUCH DEVICES SHOWN ON THE PLANS AND AS SPECIFIED. ADDITIONAL GIRTS OR PURLINS SHALL BE DESIGNED AND PLACED IN CONVENIENT LOCATIONS FOR ATTACHMENT OF ALL DEVICES OR EQUIPMENT. CONTRACTOR SHALL PROVIDE BUILDING MANUFACTURER WITH THE EQUIPMENT LOADS AND OTHER INFORMATION THAT IS NEEDED FOR THE BUILDING DESIGN.
9. PROVIDE FRAMING MADE OF STRUCTURAL TUBE SHAPES AROUND OVERHEAD DOORS. COLD-FORM CHANNEL JAMBS ARE NOT ALLOWED. DESIGN THE FRAMING FOR ALL EFFECTS OF WIND AND DEAD LOADS.
10. PROVIDE PURLIN BRACING AT INTERVALS NOT EXCEEDING 1/4 SPAN. PROVIDE ANTIROLL CLIPS AT ALL PURLIN BEARING POINTS.
11. USE RODS OR ANGLES, NOT CABLES, FOR WALL AND ROOF BRACING. PROVIDE BACKUP PLATES (MIN. 6" WIDE X 3/4" THICK) BEHIND ALL BRACE ROD CONNECTIONS TO FRAME WEBS. WELD PLATES TO FRAME FLANGES.
12. UNLESS CROSS BRACING IS USED TO RESIST LATERAL LOADS, LOAD TESTS ON METAL PANEL WALLS AND ROOF MUST BE SUBMITTED WHERE THESE ARE USED AS A DIAPHRAGM.
13. PERMANENT BUILDING BRACING MAY BE INSUFFICIENT DURING ERECTION. DESIGN AND PROVIDE TEMPORARY LATERAL BRACING DURING CONSTRUCTION UNTIL PERMANENT BRACING IS IN PLACE.
14. ANCHOR RODS SHALL BE ASTM F1554, GRADE 36. PROVIDE A MINIMUM OF FOUR (4) ANCHOR RODS FOR EACH COLUMN. ANCHOR ROD SHALL NOT BE LESS THAN 3/4" IN DIAMETER.
15. COLUMN AND BASE PLATE SIZE SHALL ALLOW FOR A MINIMUM ANCHOR BOLT EDGE DISTANCE OF 10" TO ANY VERTICAL EDGE OF CONCRETE. UNLESS OTHERWISE INDICATED ON THE PLANS, THE MINIMUM ANCHOR ROD EMBEDMENT DEPTH IS 2'-0".
16. ANCHOR RODS SHALL BE DESIGNED BY THE BUILDING MANUFACTURER AND FURNISHED BY THE CONTRACTOR. THE ANCHOR BOLT SIZES, LAYOUT AND FOUNDATION REACTIONS SHALL BE SUBMITTED FOR REVIEW.

STRUCTURAL ABBREVIATIONS

STRUCTURAL ABBREVIATIONS		STRUCTURAL ABBREVIATIONS	
AB	ANCHOR BOLT	L	LENGTH OR ANGLE
ADH	ADHESIVE	LL	LIVE LOAD DOUBLE ANGLE
AFF	ABOVE FINISH FLOOR	LLBB	LONG LEG BACK TO BACK
ALUM	ALUMINUM	LLH	LONG LEG HORIZONTAL
ALT	ALTERNATE	LLV	LONG LEG VERTICAL
ANCH	ANCHOR	LONG	LONGITUDINAL
ANOD	ANODIZED	LP	LOW POINT
APPROX	APPROXIMATELY	MAS	MASONRY
ARCH	ARCHITECT(URAL)	MAT	MATERIAL
BLDG	BUILDING	MAX	MAXIMUM
BLKG	BLOCKING	MECH	MECHANICAL
BM	BEAM	MFR	MANUFACTURER
BRG	BEARING	MH	MANHOLE
BOT	BOTTOM	MIN	MINIMUM
BEL	BELOW	MTL	METAL
BTWN	BETWEEN	NO	NUMBER
BIT	BITUMEN	NOM	NOMINAL
BLK	BLOCK	NIC	NOT IN CONTRACT
C/C	CENTER TO CENTER	NTS	NOT TO SCALE
CIP	CAST IRON PIPE OR CAST IN PLACE	OD	OUTSIDE DIAMETER
CONST JT OR		OF	OUTSIDE FACE
CJ	CONSTRUCTION JOINT	OPPO	OPPOSITE HAND
CL	CENTERLINE	OPNG	OPENING
CLR	CLEAR	OPP	OPPOSITE
CLSM	CONTROLLED LOW STRENGTH MATERIAL	PGL	PROFILE GRADE LINE
CMU	CONCRETE MASONRY UNIT	PL	PLATE
COL	COLUMN	PNL	PANEL
CONC	CONCRETE	PSI	POUNDS PER SQUARE INCH
CONN(X)	CONNECTION	PVMT	PAVEMENT
CONST	CONSTRUCTION	R	RADIUS
CONT	CONTINUOUS	RAD	RADIUS
CONTR	CONTRACTOR	RF	ROOF DRAIN
CLJ	CONTROL JOINT	RE	REFER TO
D	DEPTH	REF	REFERENCE
DTL	DETAIL	REINF	REINFORCING (REINFORCED)
DIA/Ø	DIAMETER	REQ'D	REQUIRED
DIAG	DIAGONAL	RET	RETAINING
DN	DOWN	RTNG	RETAINING
DWG	DRAWING	SCHED	SCHEDULE, SCHEDULED
DWL	DOWEL	SEC	SECTION
EA	EACH	SF	SQUARE FEET
EF	EACH FACE	SHT	SHEET
EL	ELEVATION	SIM	SIMILAR
ELEC	ELECTRIC(AL)	SJ	SAWCUT JOINT
ELEV	ELEVATOR/ELEVATION	SPEC(S)	SPECIFICATIONS
EJ OR		SQ	SQUARE
EXP JT	EXPANSION JOINT	SS	STAINLESS STEEL
EQ	EQUAL	STA	STATION
EQUIP	EQUIPMENT	STD	STANDARD
EW	EACH WAY	STIFF	STIFFENER
EXIST	EXISTING	STIR	STIRRUP
EXT	EXTERIOR	STL	STEEL
FD	FLOOR DRAIN	STRUCT	STRUCTURAL
FND	FOUNDATION	SYM	SYMMETRICAL
FF	FINISH FLOOR	T	TREAD OR THICKNESS
FFE	FINISH FLOOR ELEVATION	T&B	TOP AND BOTTOM
FIN	FINISH	TC	TOP OF CURB
FL/FLR	FLOOR	TOB	TOP OF BEAM
FT	FEET	TOJ	TOP OF JOIST
FTG	FOOTING	TOS	TOP OF STEEL
GA	GAUGE	TOW	TOP OF WALL
GALV	GALVANIZED	TRANS	TRANSVERSE
GB	GRADE BEAM	TS	TUBE STEEL
GND	GROUND	TYP	TYPICAL
GR	GRADE	UNO	UNLESS NOTED OTHERWISE
HM	HOLLOW METAL	VERT	VERTICAL
HORIZ	HORIZONTAL	VOL	VOLUME
HP	HIGH POINT	W	WIDTH
HR	HOUR	W/	WITH
HS	HEADED STUDS	WD	WOOD
HSS	HOLLOW STRUCTURAL SECTION	W/O	WITHOUT
HT	HEIGHT	WP	WORKING POINT
ID	INSIDE DIAMETER	WS	WATER STOP
IF	INSIDE FACE	WT	WEIGHT
IN	INCH	WWF	WELDED WIRE FABRIC
INT	INTERIOR	*	FIELD VERIFICATION AND/OR COORDINATION WITH THE PRODUCT MANUFACTURER IS REQUIRED
JT	JOINT		
KCJ	KEYED CONSTRUCTION JOINT		

NOTE:  
STANDARD DETAILS SHOWN ON SZ SHEETS SHALL BE USED AT ALL APPLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.



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DESIGNED BY:	J. EULL
DRAWN BY:	P. ANUSHA
SHEET CHK'D BY:	W. YANG
CROSS CHK'D BY:	J. EULL
APPROVED BY:	C. WONG
DATE:	JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

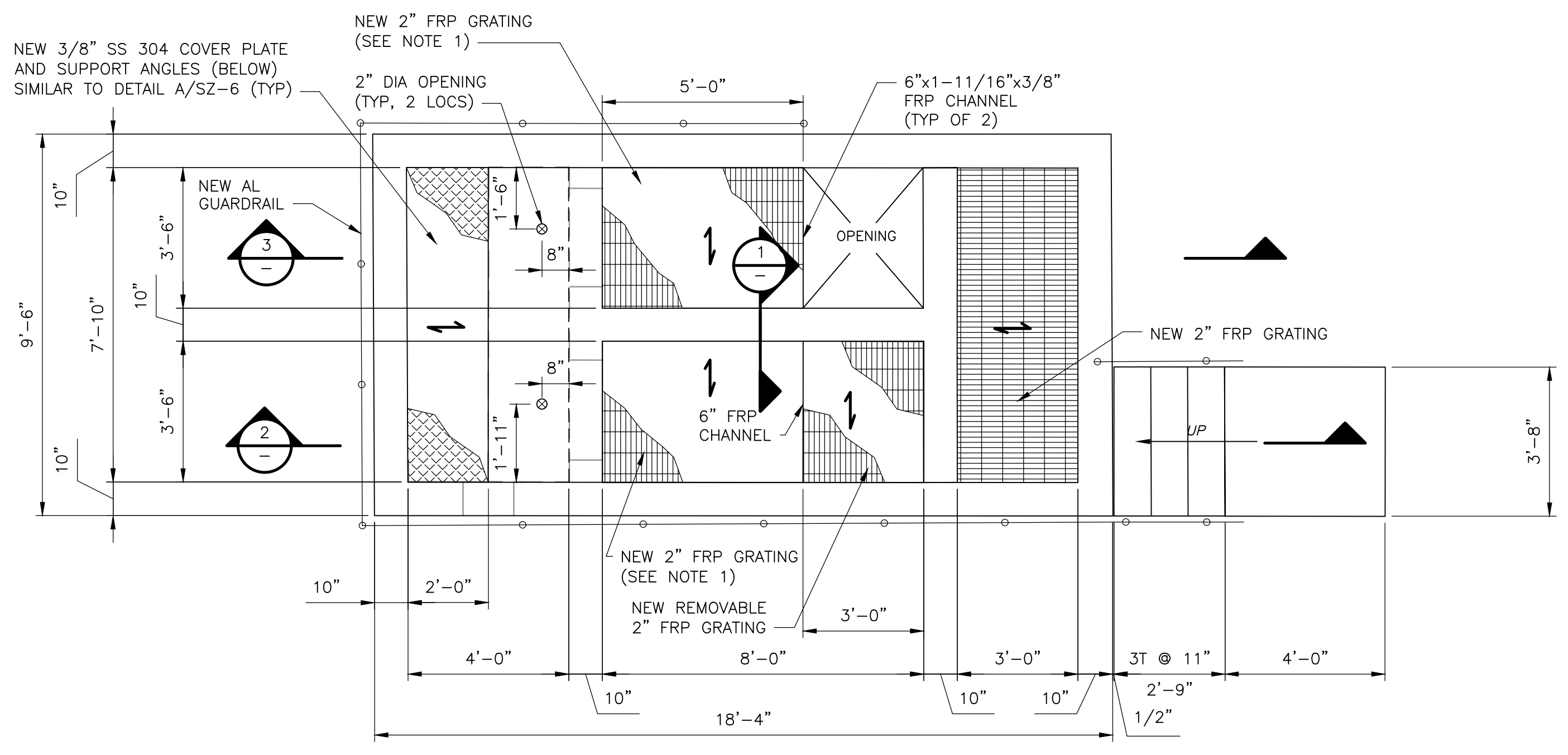
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**STRUCTURAL GENERAL NOTES, SYMBOLS  
 AND ABBREVIATIONS**

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FILE NAME:	S002NFNT.DWG
SHEET NO.	<b>S-2</b>

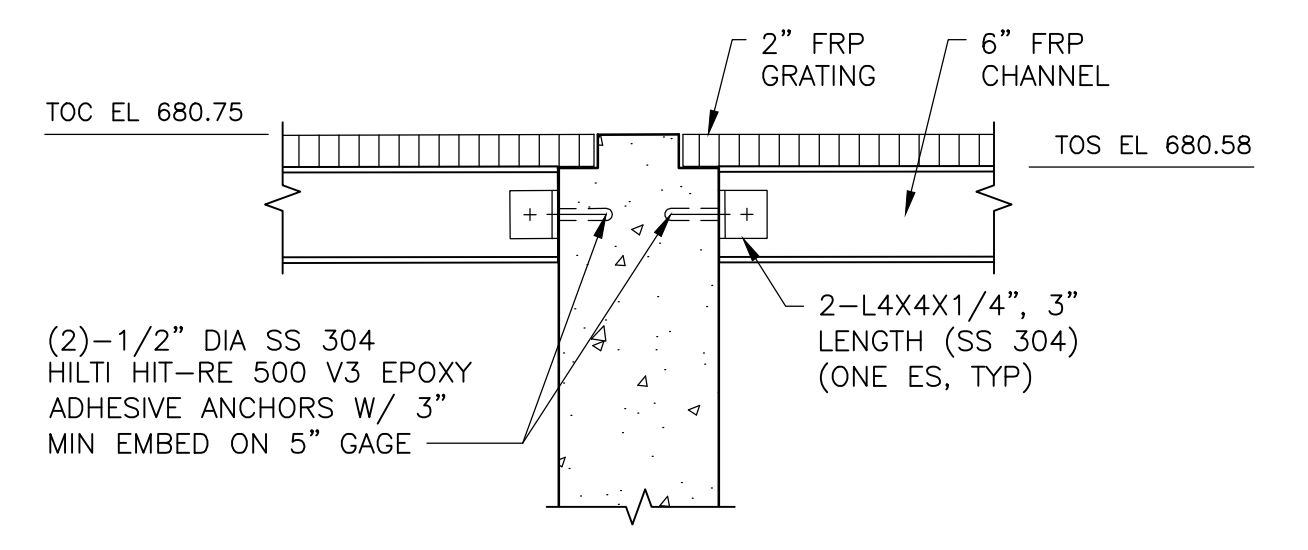
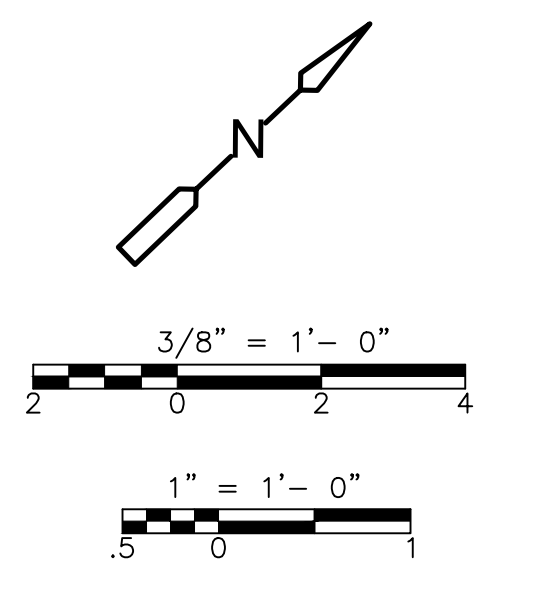


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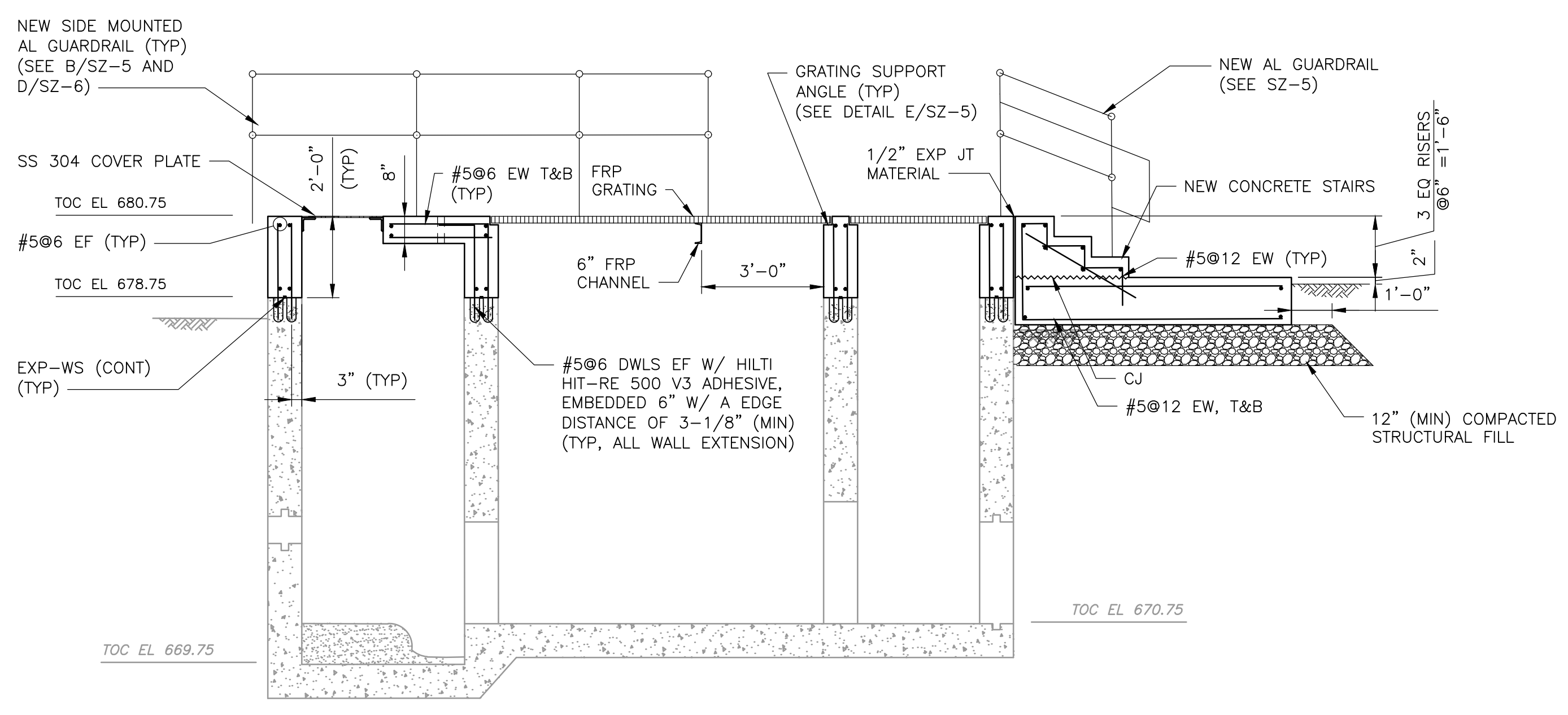


**TOP PLAN**  
 3/8" = 1'-0"

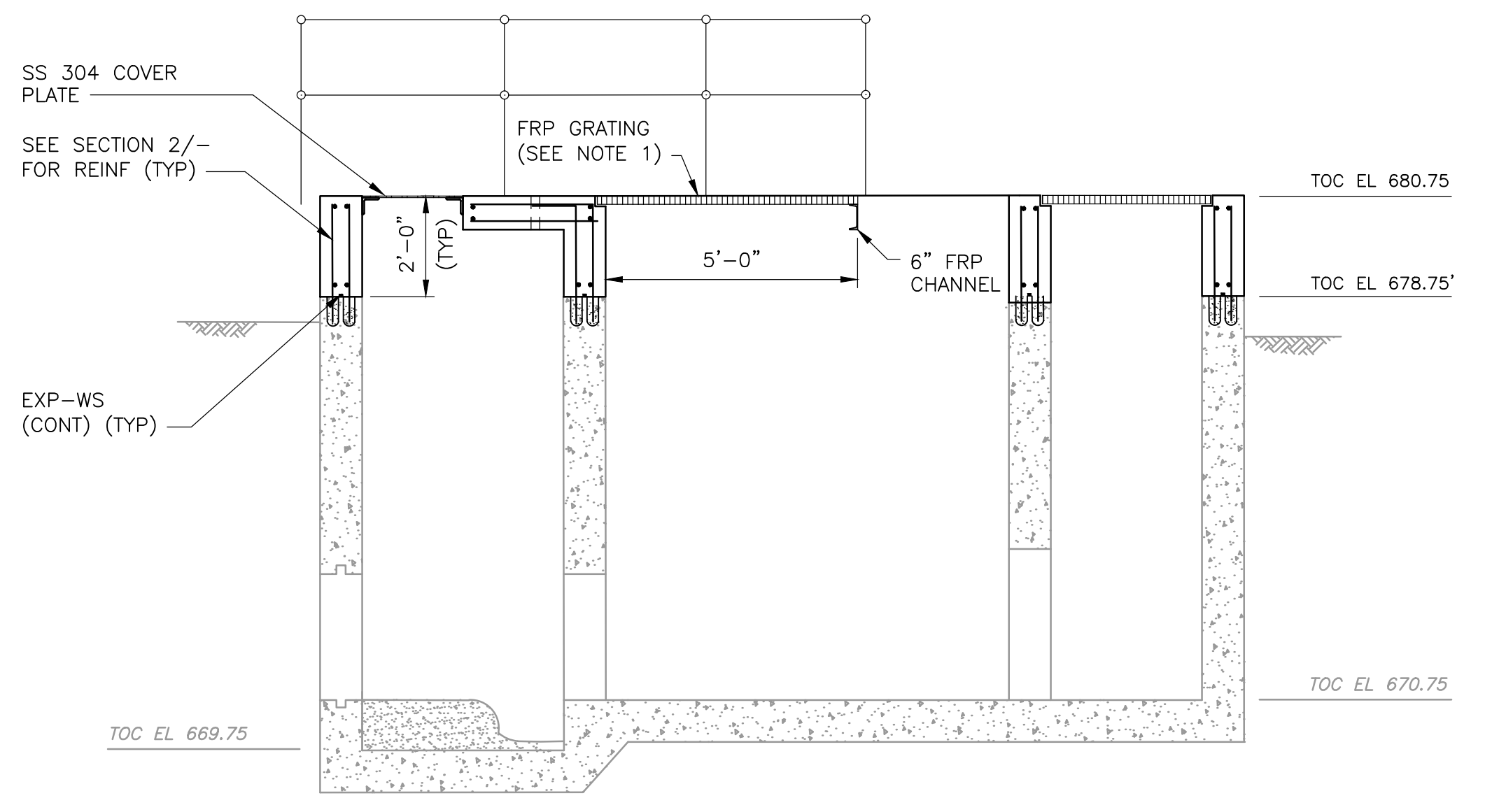
NOTES:  
 1. PROVIDE NEW FRP GRATING IN TWO PIECES TO ALLOW FOR REMOVAL AS REQUIRED FOR ROUTINE MAINTENANCE.



**SECTION 1**  
 1" = 1'-0"



**SECTION 2**  
 3/8" = 1'-0"



**SECTION 3**  
 3/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



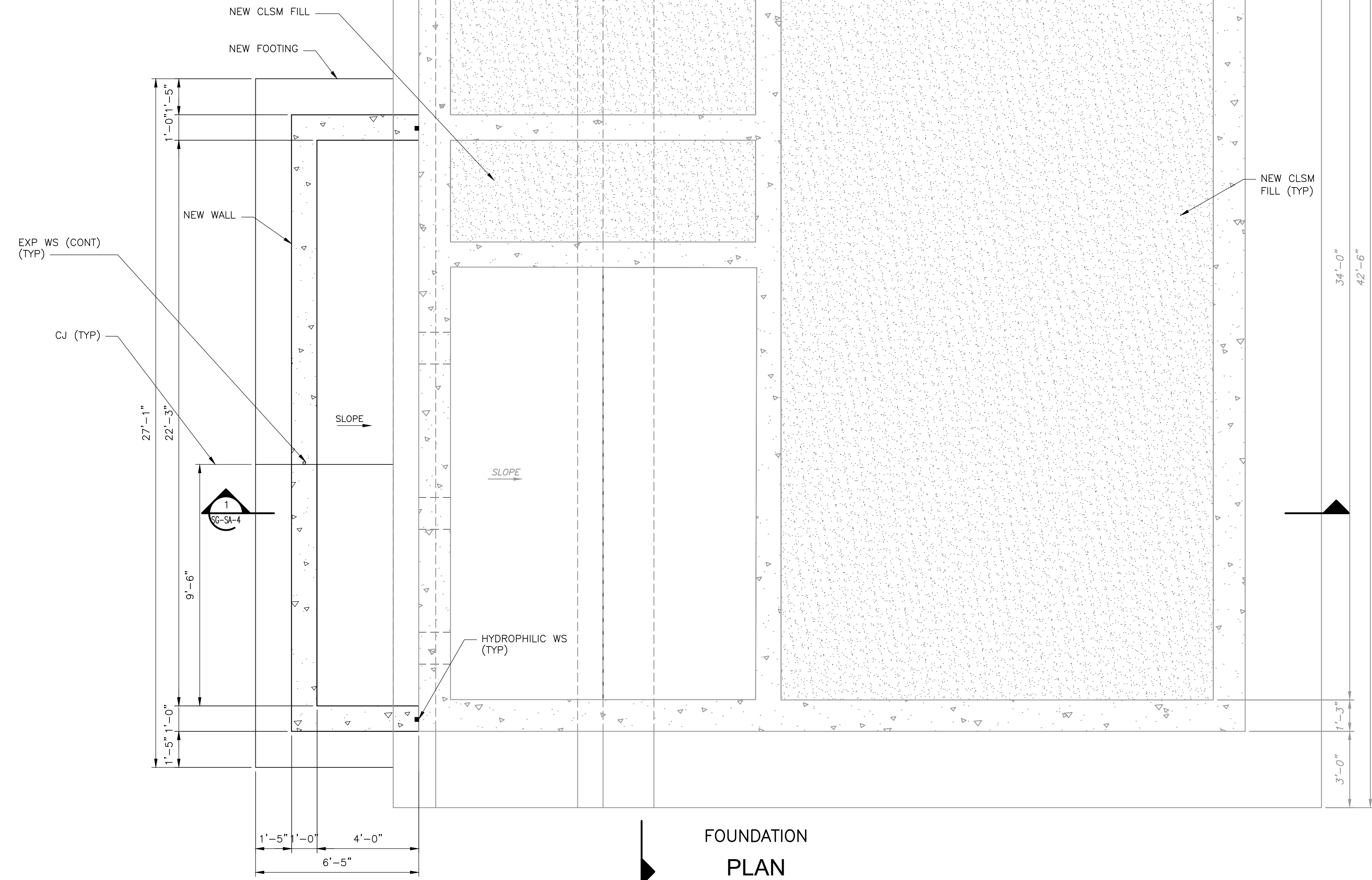
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 COARSE BAR SCREEN IMPROVEMENTS  
 PLAN, SECTIONS AND DETAILS

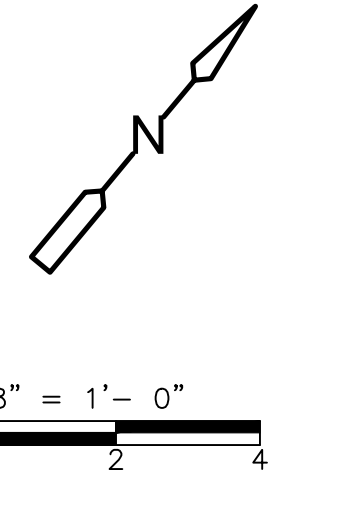
PROJECT NO. 2048-264953  
 FILE NAME: S001BSPL.DWG  
 SHEET NO. SG-SA-1



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FOUNDATION  
 PLAN  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



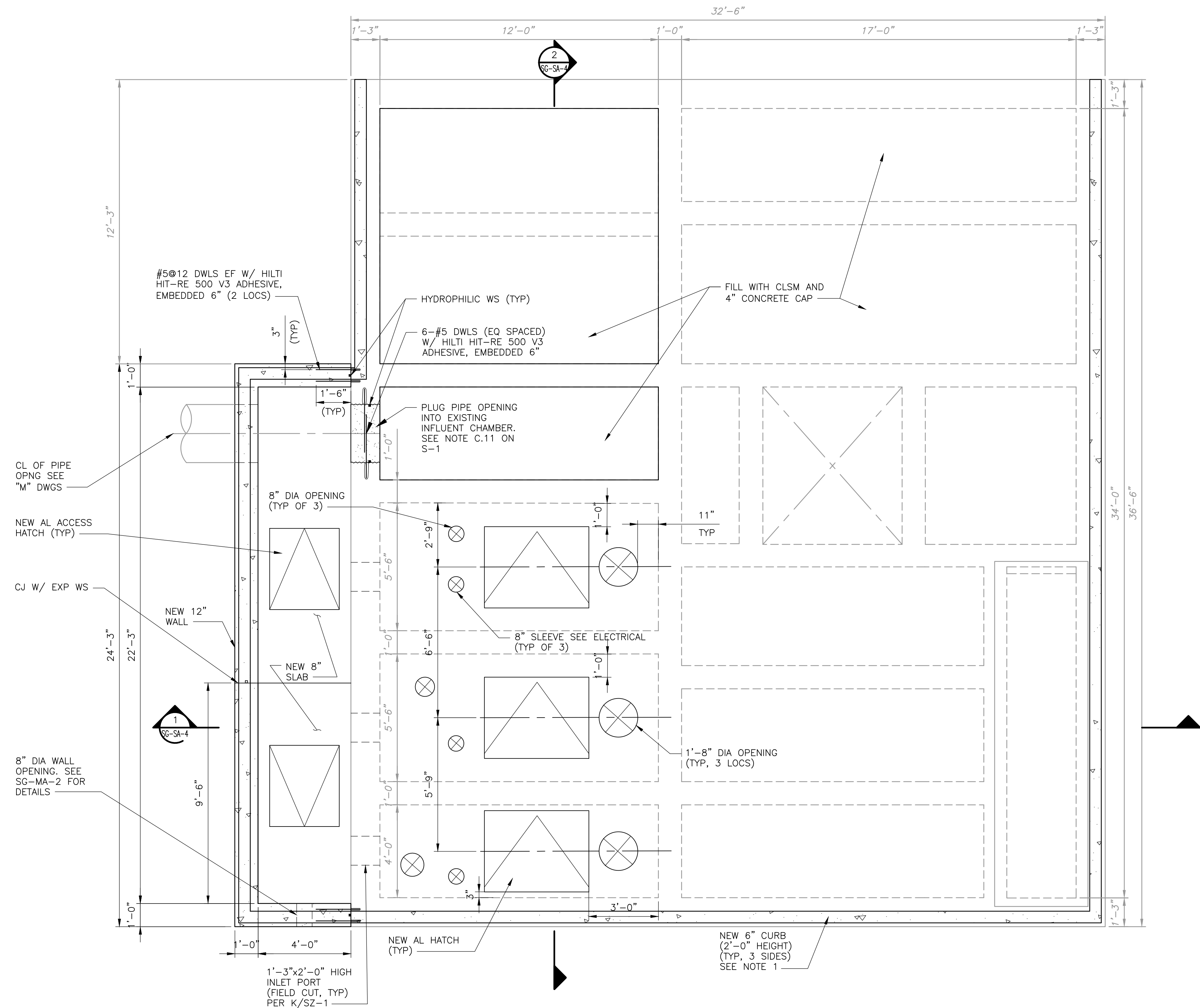
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 INFLUENT LIFT STATION MODIFICATIONS  
 FOUNDATION PLAN

PROJECT NO. 2048-264953  
 FILE NAME: S001LSPL.DWG  
 SHEET NO. SG-SA-2



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**NOTES:**  
 1. LOCATIONS OF CURB CONSTRUCTION JOINTS TO BE LOCATED BY CONTRACTOR. PROVIDE A WATERSTOP AT ALL CONSTRUCTION JOINTS.

**TOP PLAN**  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS
1	5/31/23	JNE	CFW	REVISED FOR ADDENDUM NO. 3

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

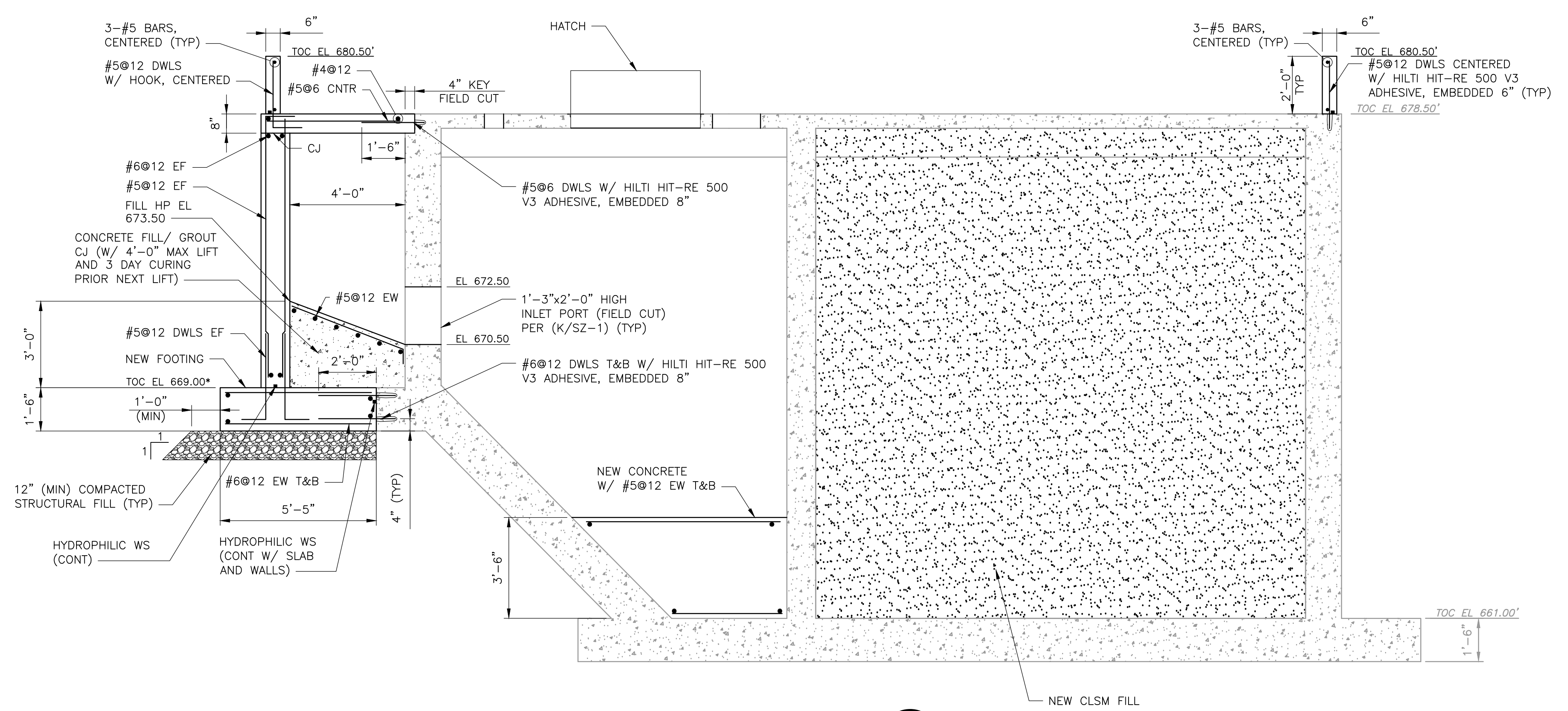


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

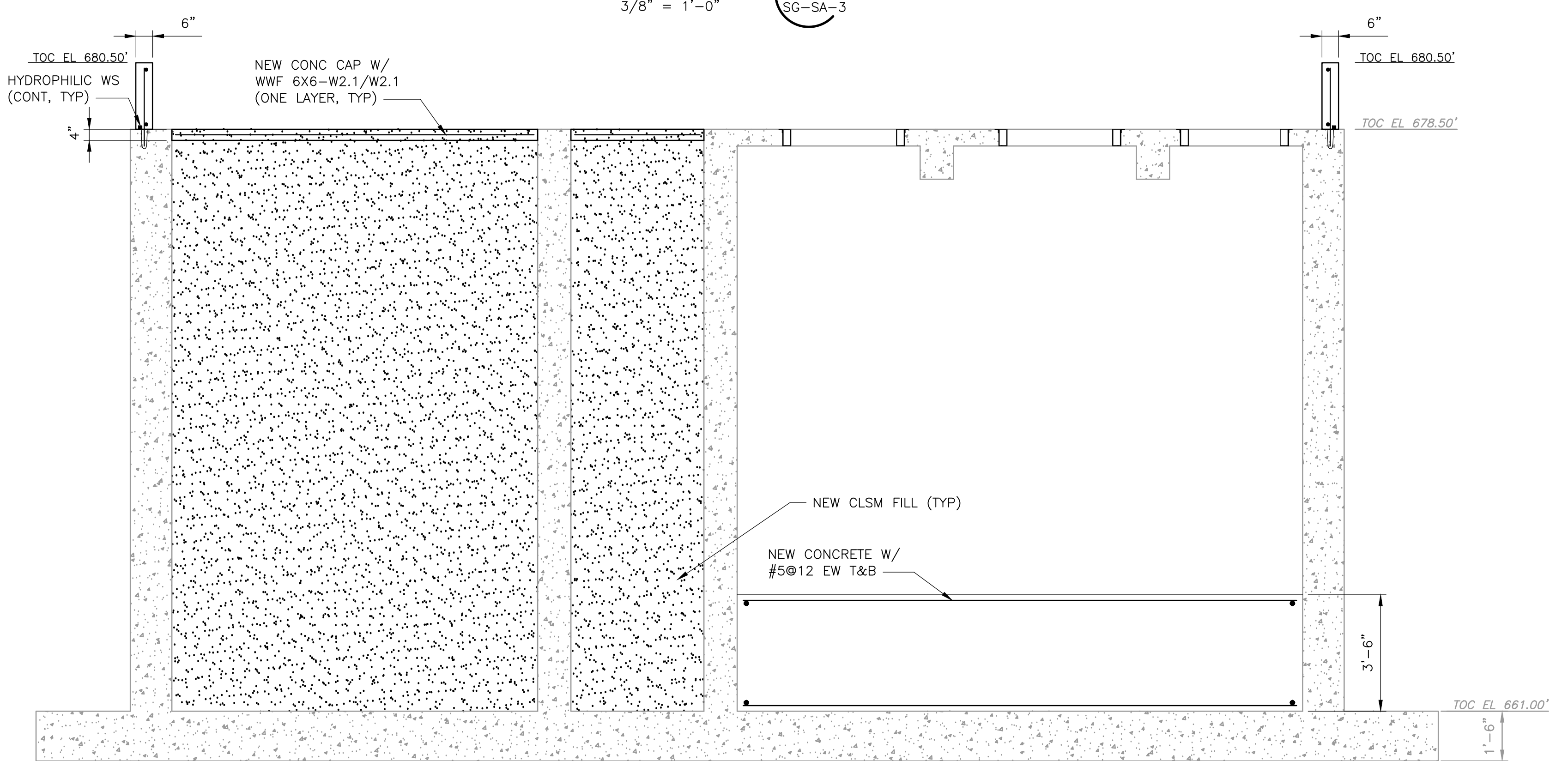
**SAN GABRIEL WWTP  
 INFLUENT LIFT STATION MODIFICATIONS  
 TOP PLAN**

PROJECT NO. 2048-264953  
 FILE NAME: S002LSPL.DWG  
 SHEET NO.  
**SG-SA-3**

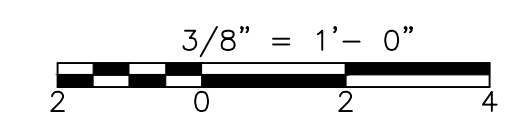
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SECTION 1  
3/8" = 1'-0"  
SG-SA-3



SECTION 2  
3/8" = 1'-0"  
SG-SA-3



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS
1	5/31/23	JNE	CJW	REVISED FOR ADDENDUM NO. 3

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

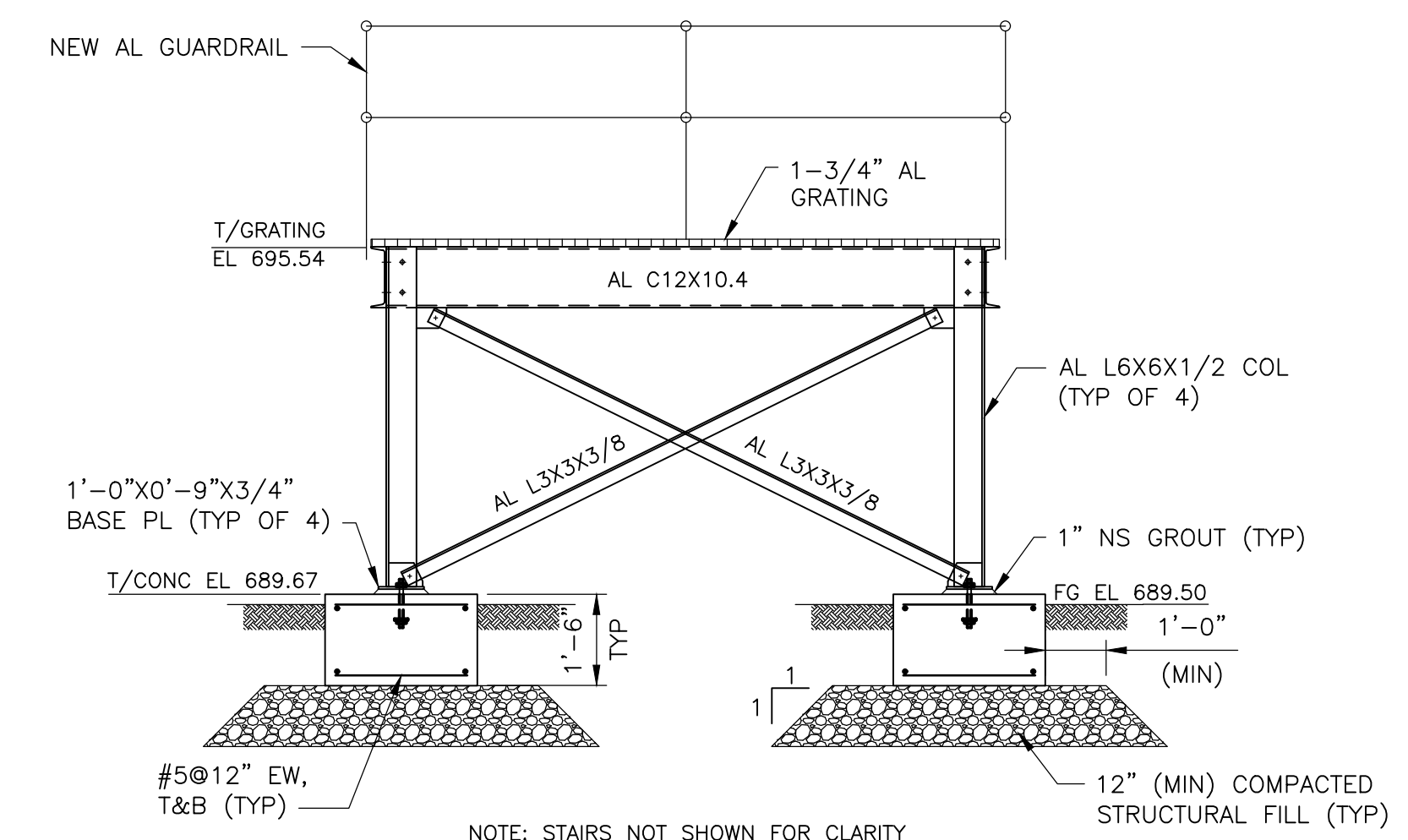
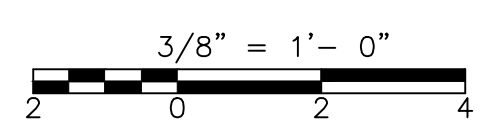
SAN GABRIEL WWTP  
 INFLUENT LIFT STATION MODIFICATIONS  
 SECTIONS

PROJECT NO. 2048-264953  
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 SHEET NO. SG-SA-4

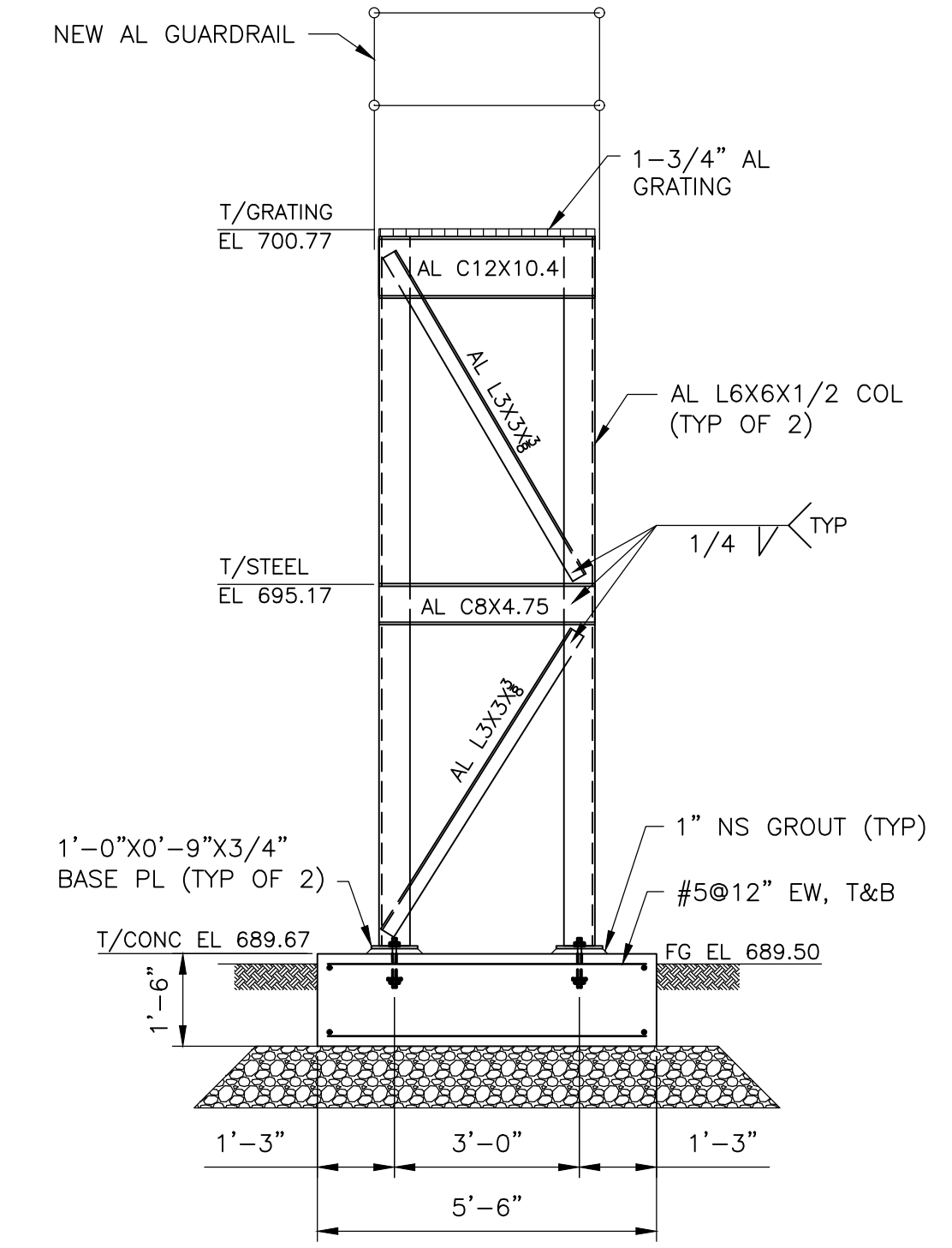


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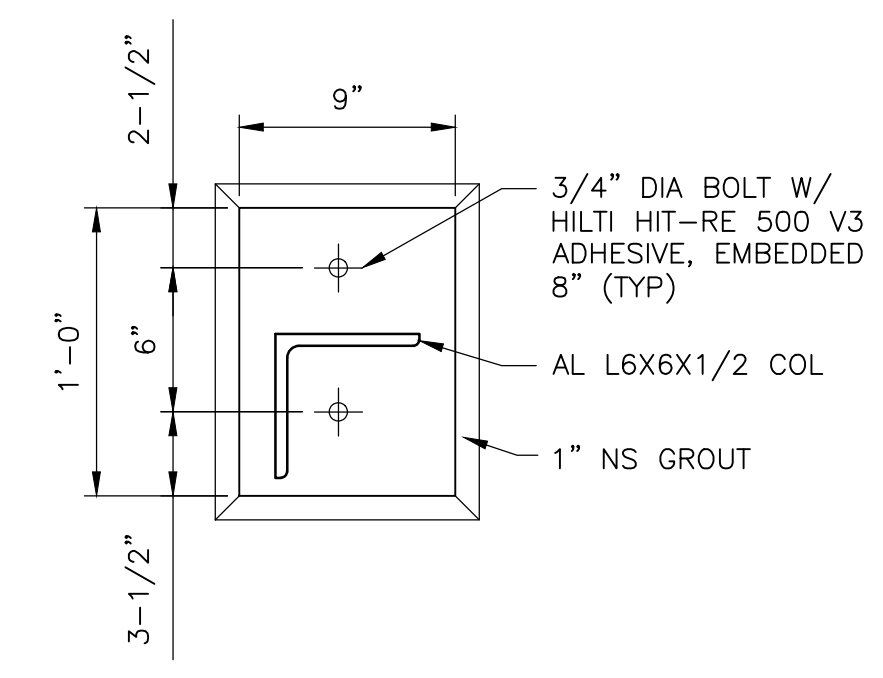
- NOTES:**
- \* INDICATES DIMENSIONS AND / OR INFORMATION TO BE COORDINATED BY THE CONTRACTOR WITH THE MANUFACTURER OF THE APPROVED EQUIPMENT PRIOR TO FABRICATION AND CONSTRUCTION.
  - ▲ INDICATES EQUIPMENT PAD.
  - FOR ALL PIPE PENETRATIONS THROUGH EXISTING WALLS SEE PROCESS MECHANICAL DRAWINGS (SG-MB).



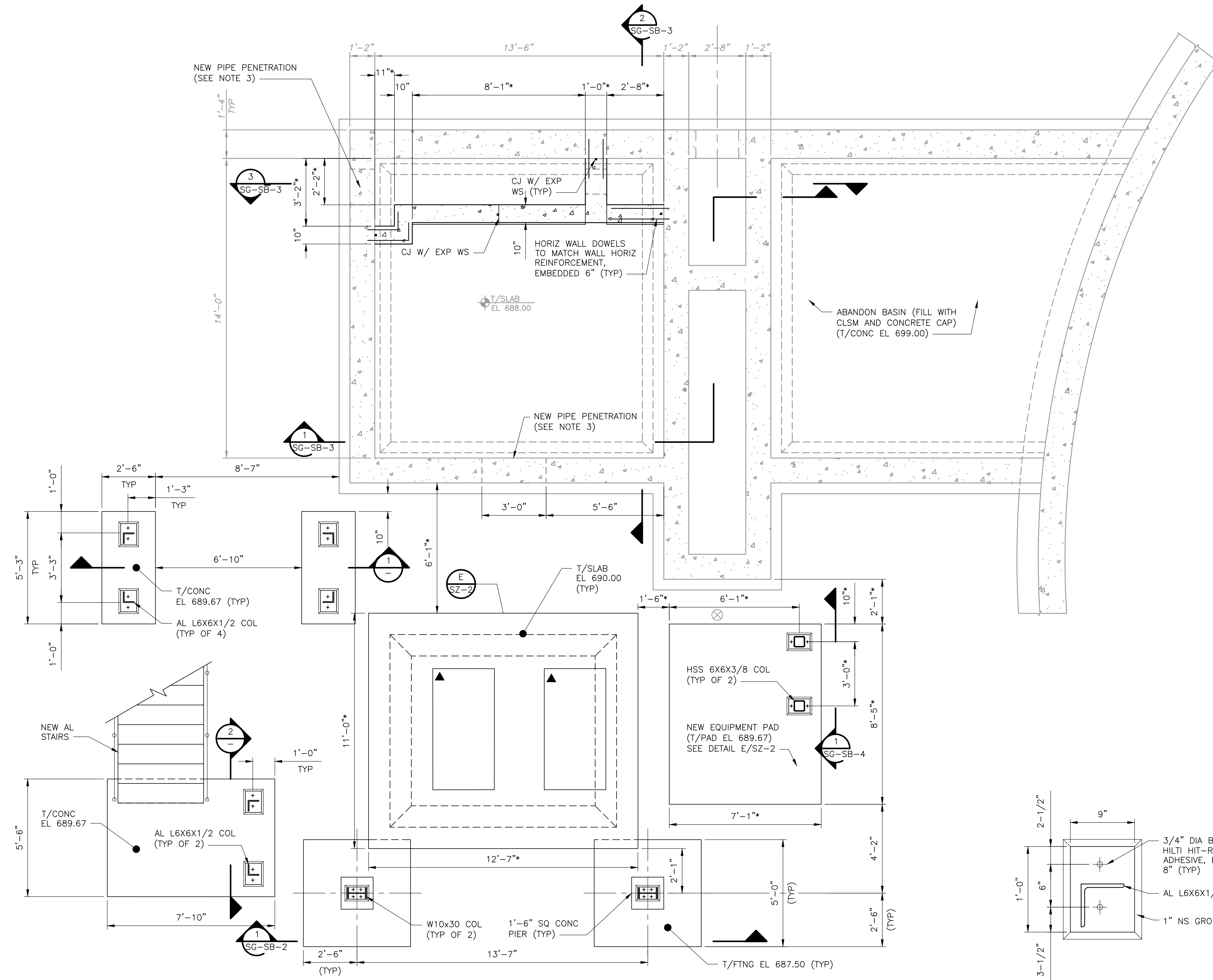
NOTE: STAIRS NOT SHOWN FOR CLARITY  
**SECTION 1**  
 3/8" = 1'-0"



NOTE: STAIRS NOT SHOWN FOR CLARITY  
**SECTION 2**  
 3/8" = 1'-0"



COLUMN BASE PLATE (TYP OF 6)  
**DETAIL A**  
 NTS



NEW CONC FOUNDATION  
**PLAN**  
 3/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

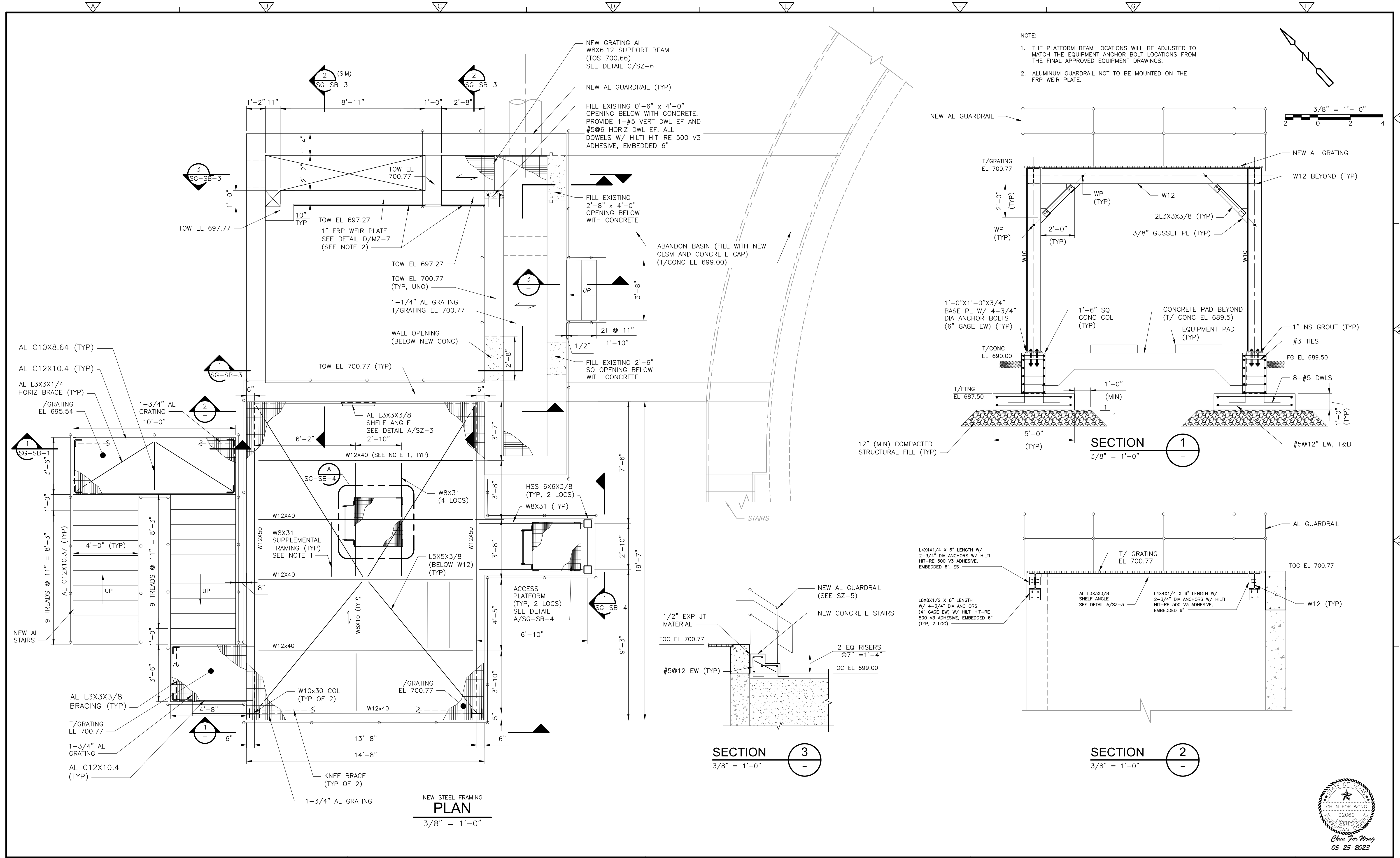
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 GRIT CHAMBER MODIFICATIONS  
 LOWER PLAN**

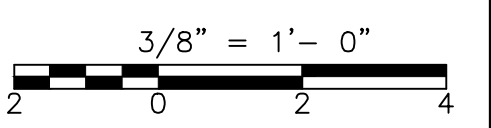
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 FILE NAME: S001GCPL.DWG  
 SHEET NO.  
**SG-SB-1**



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NOTE:  
 1. THE PLATFORM BEAM LOCATIONS WILL BE ADJUSTED TO MATCH THE EQUIPMENT ANCHOR BOLT LOCATIONS FROM THE FINAL APPROVED EQUIPMENT DRAWINGS.  
 2. ALUMINUM GUARDRAIL NOT TO BE MOUNTED ON THE FRP WEIR PLATE.



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	5/31/23	JNE	CFW	REVISED FOR ADDENDUM NO. 3
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

**CDM Smith**  
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CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

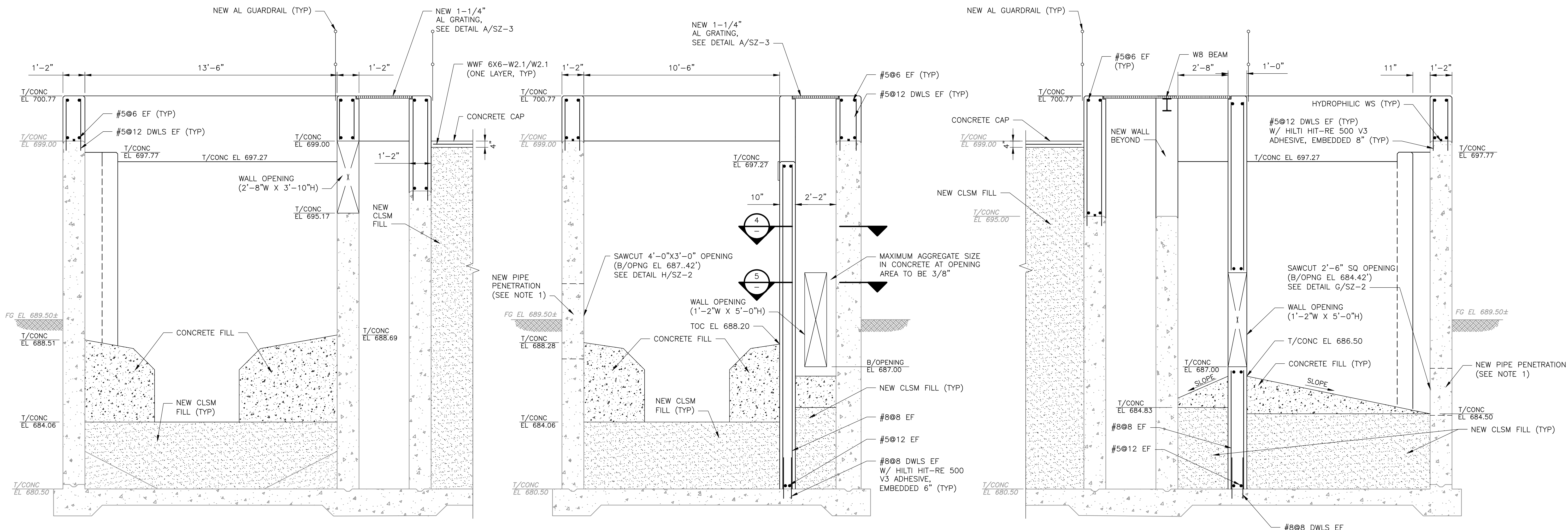
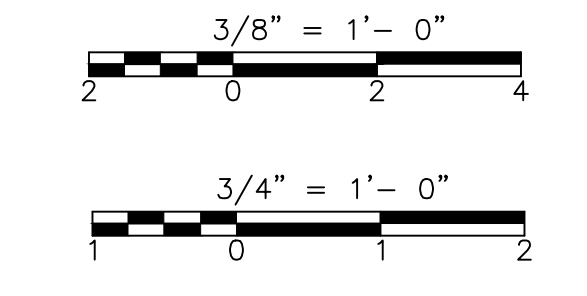
**SAN GABRIEL WWTP  
 GRIT CHAMBER MODIFICATIONS  
 UPPER PLAN AND SECTIONS**

PROJECT NO. 2048-264953  
 FILE NAME: S002GCPL.DWG  
 SHEET NO.  
**SG-SB-2**



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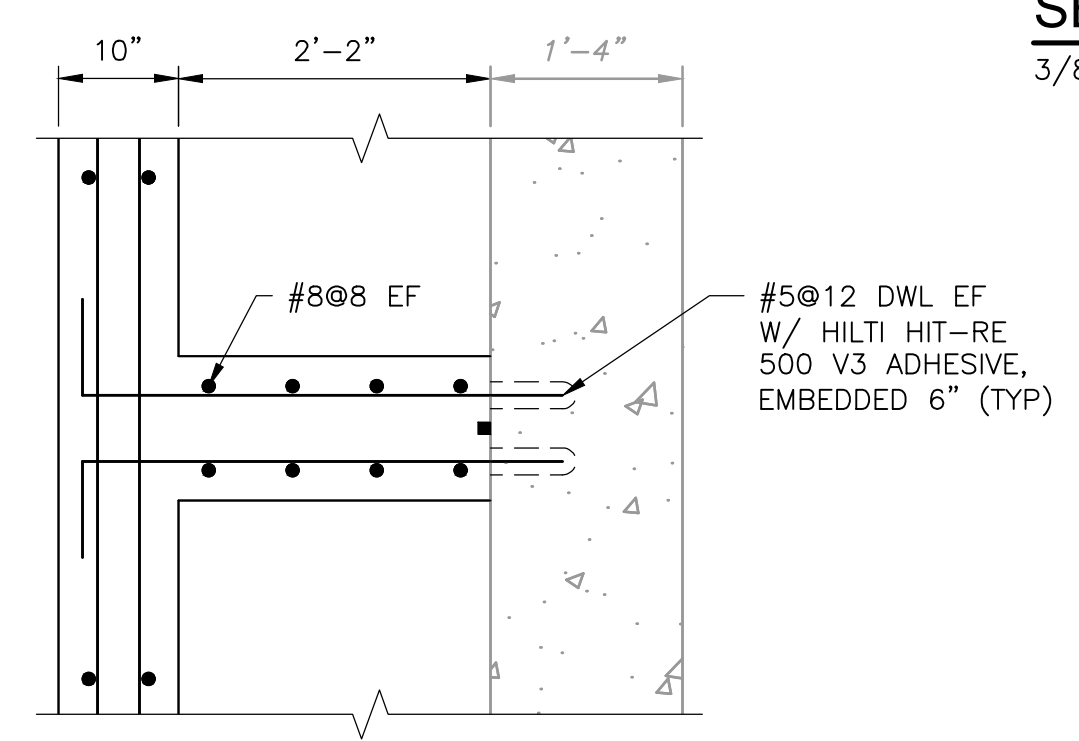
- NOTE:
- FOR ALL PIPE PENETRATIONS THROUGH EXISTING WALLS SEE PROCESS MECHANICAL DRAWINGS (SG-MB).
  - ALL CONCRETE AND CLSM FILL DIMENSIONS AND ELEVATIONS TO BE COORDINATED WITH APPROVED EQUIPMENT MANUFACTURER.



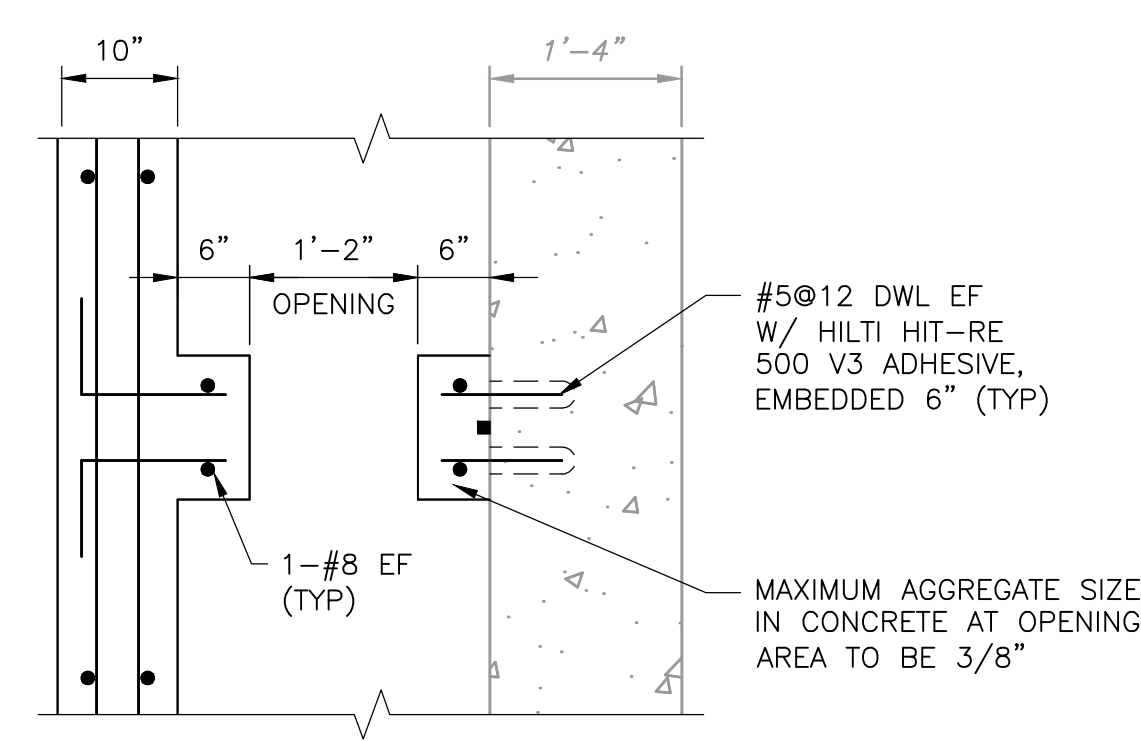
SECTION 1  
3/8" = 1'-0"

SECTION 2  
3/8" = 1'-0"

SECTION 3  
3/8" = 1'-0"



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



SECTION 5  
3/4" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



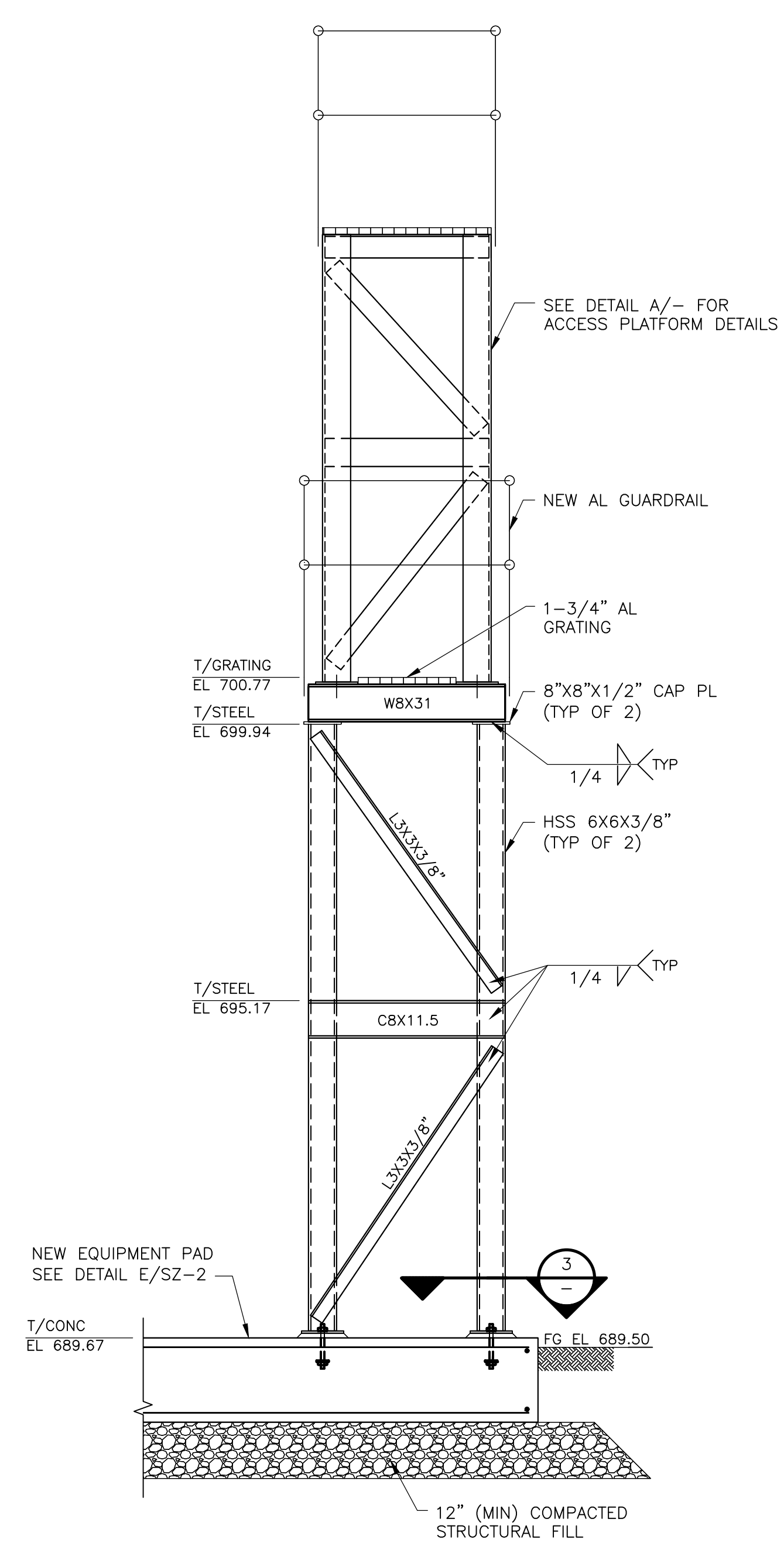
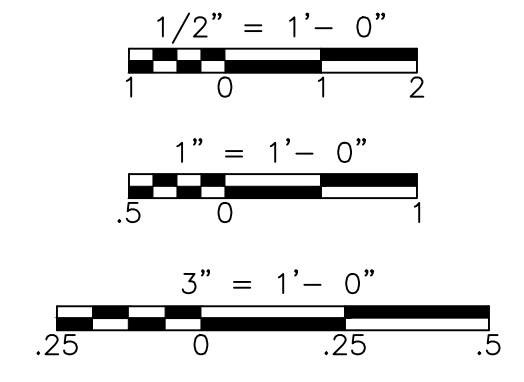
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 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT CHAMBER MODIFICATIONS  
 SECTIONS

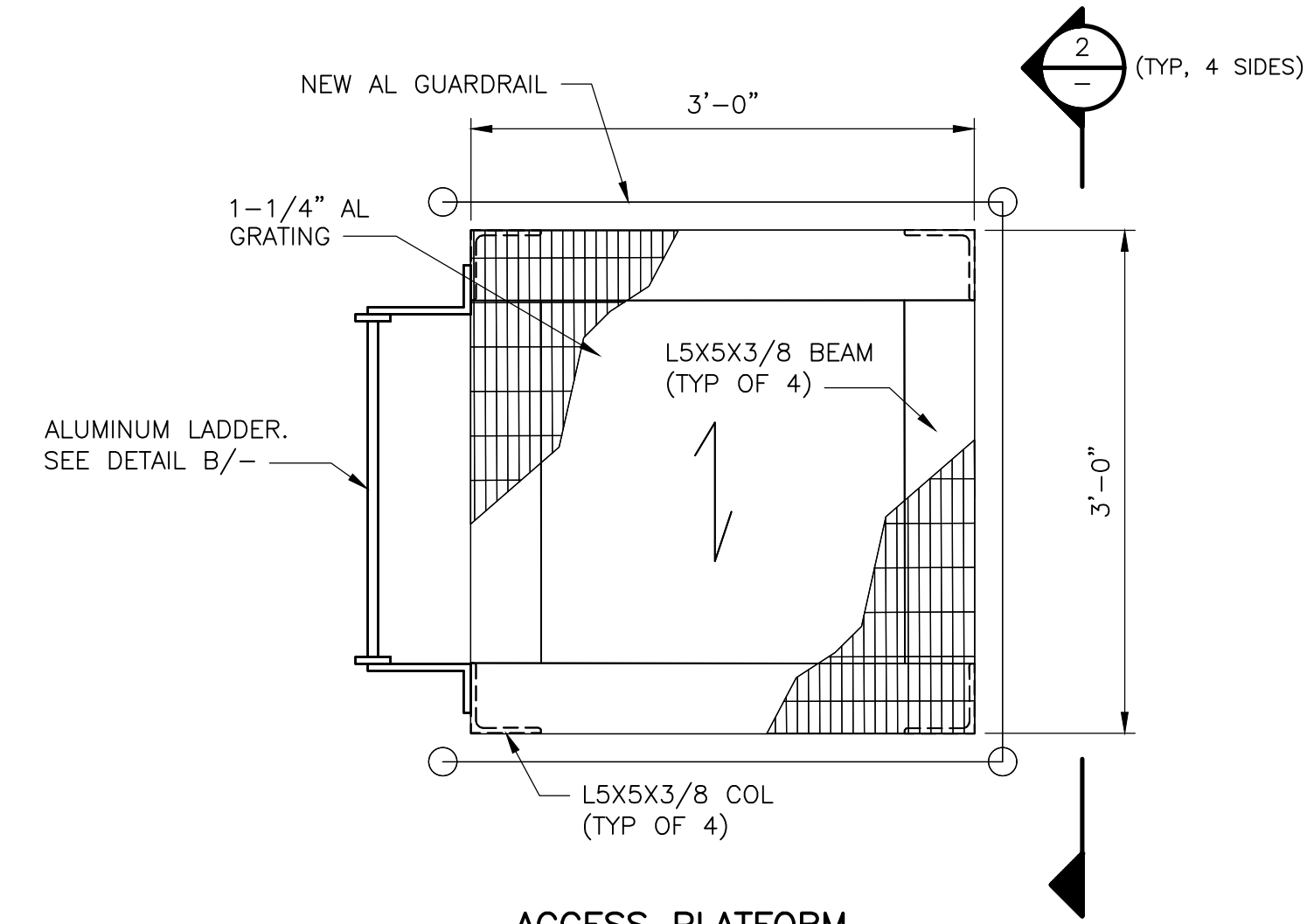
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 FILE NAME: S002GCSC.DWG  
 SHEET NO. SG-SB-3

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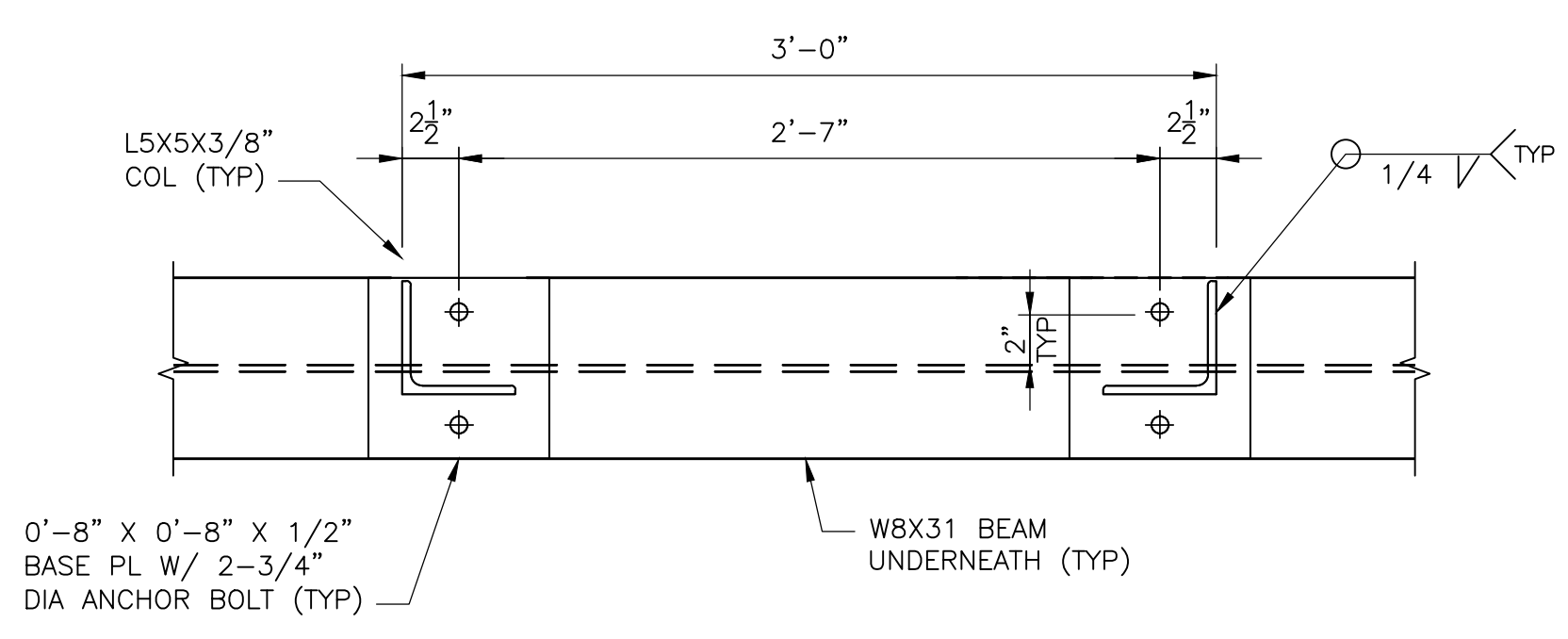
NOTE:  
 1. SEE SHEET SG-SB-2 FOR LOCATION OF ACCESS PLATFORM



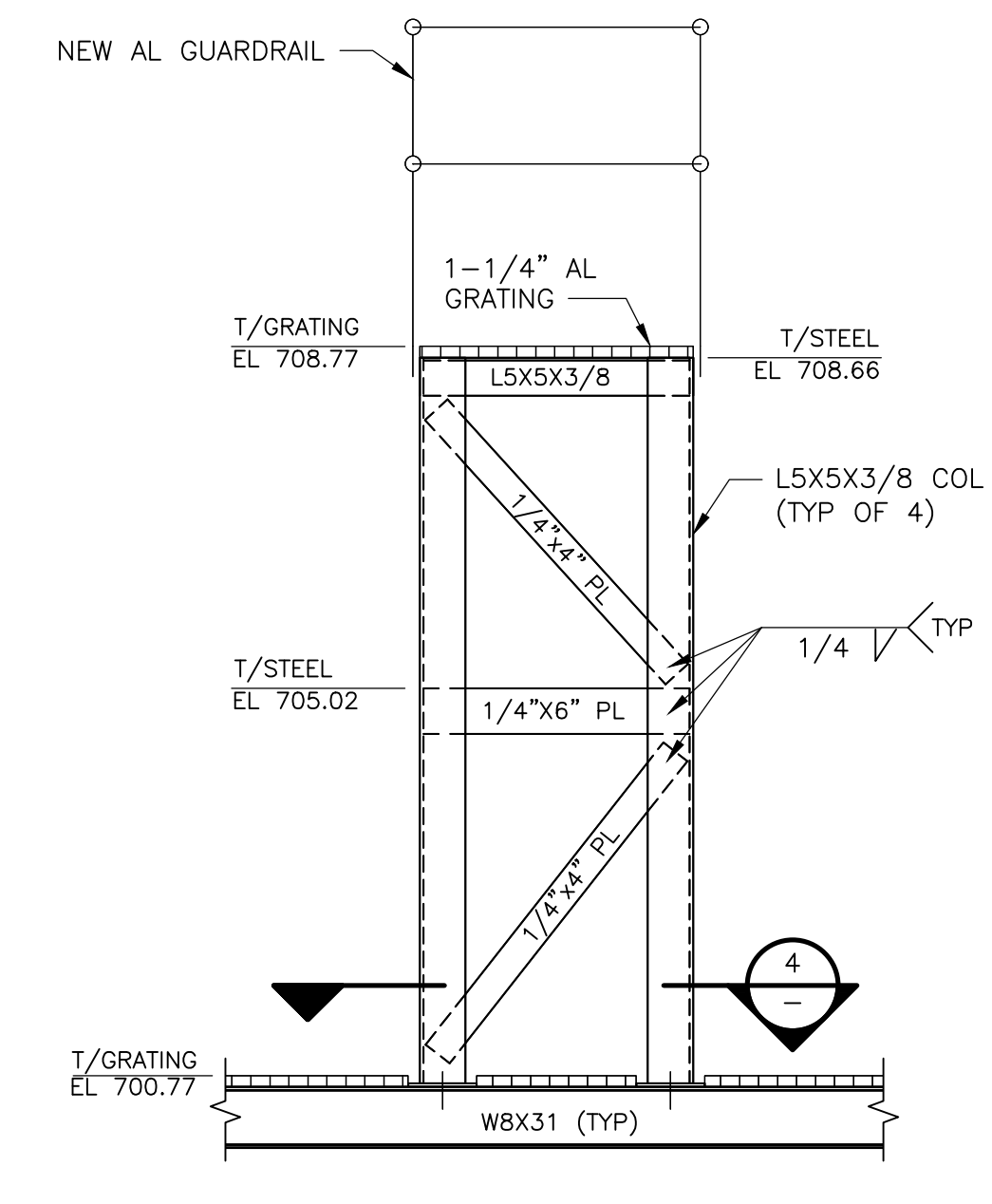
**SECTION 1**  
 1/2" = 1'-0"  
 SG-SB-1



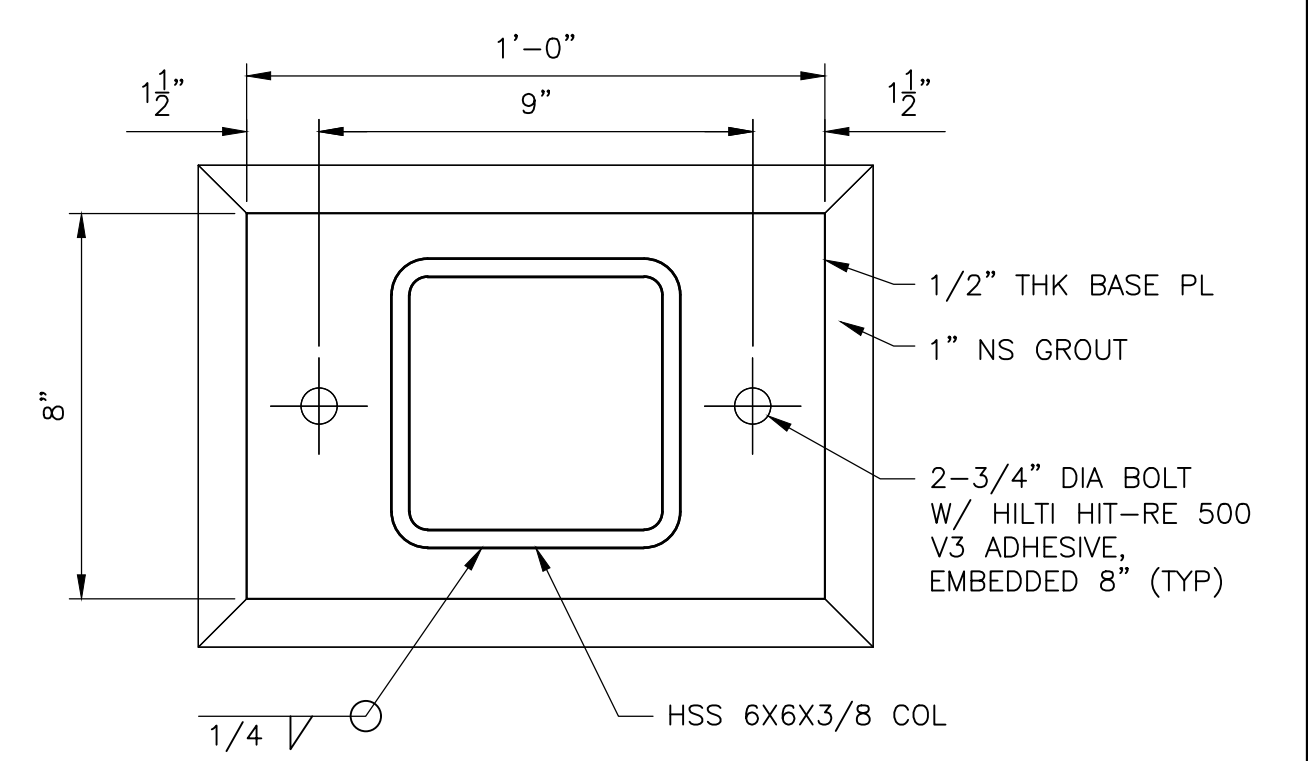
**ACCESS PLATFORM DETAIL A**  
 1" = 1'-0"  
 SG-SB-2



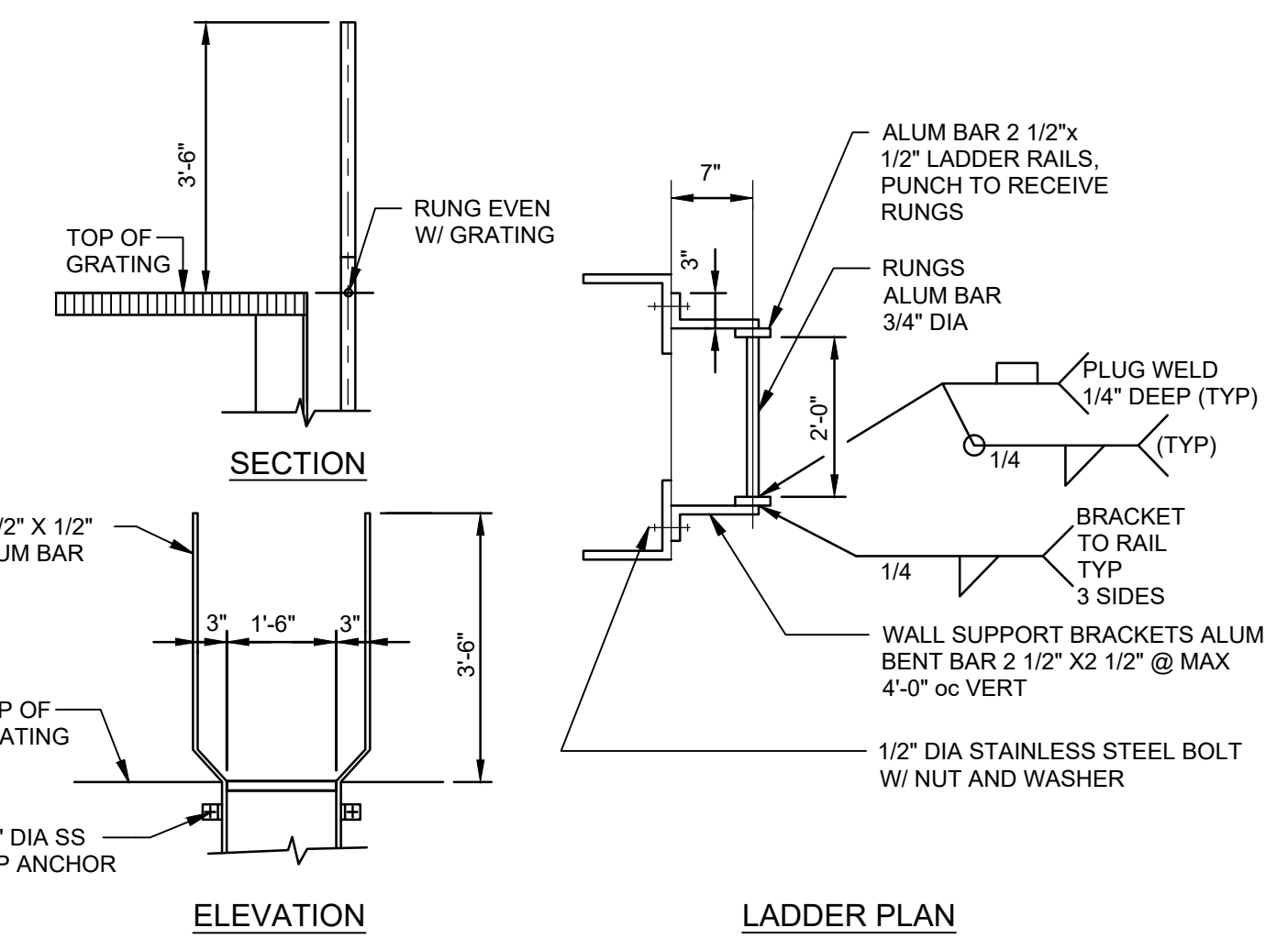
NOTE: GRATING NOT SHOWN FOR CLARITY  
**SECTION 4**  
 3" = 1'-0"



NOTE: ALL WELDS TO BE SHOP WELDED UNO  
**SECTION 2**  
 1/2" = 1'-0"



**SECTION 3**  
 3" = 1'-0"



**ALUMINUM LADDER DETAIL B**  
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

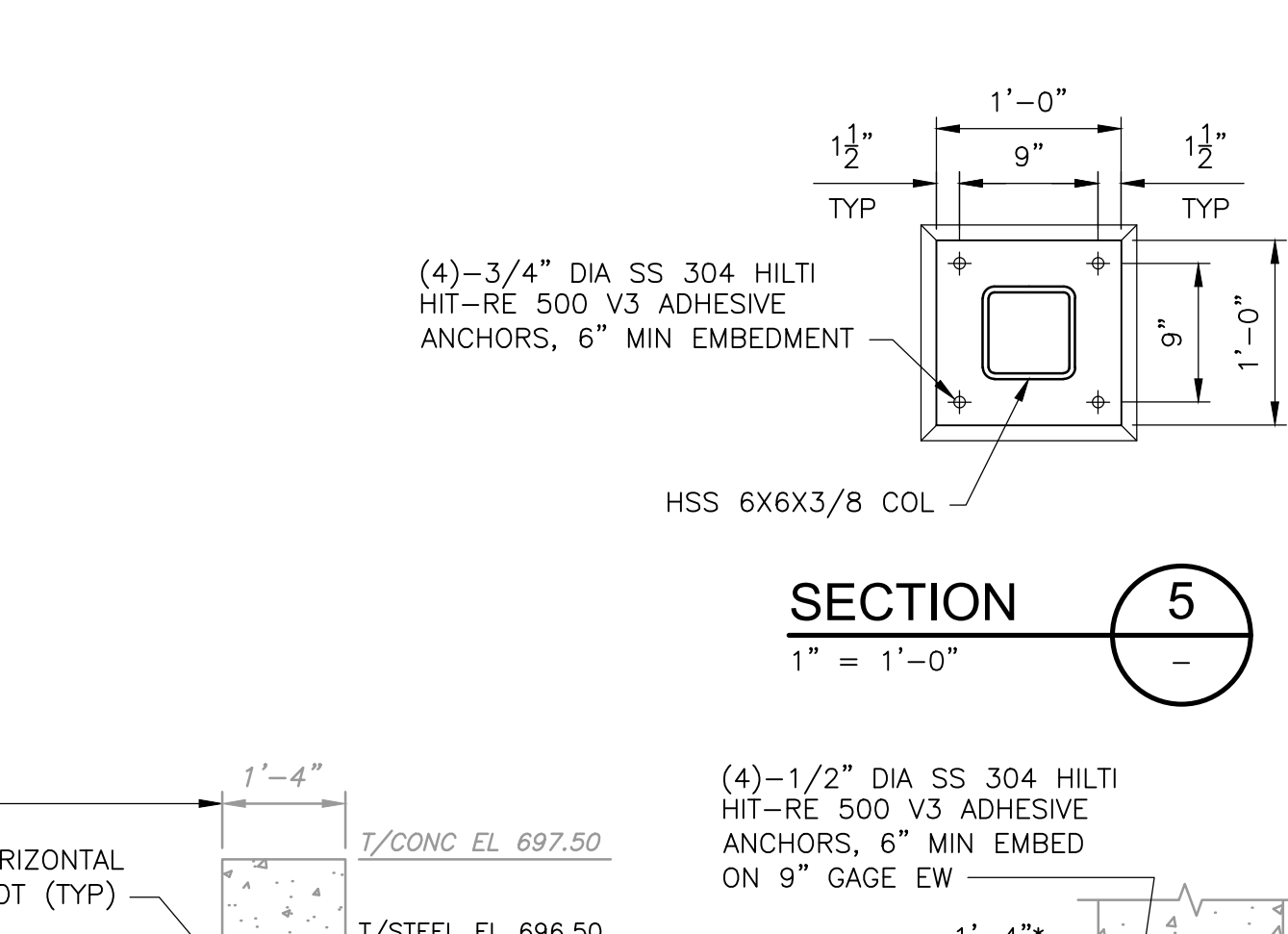
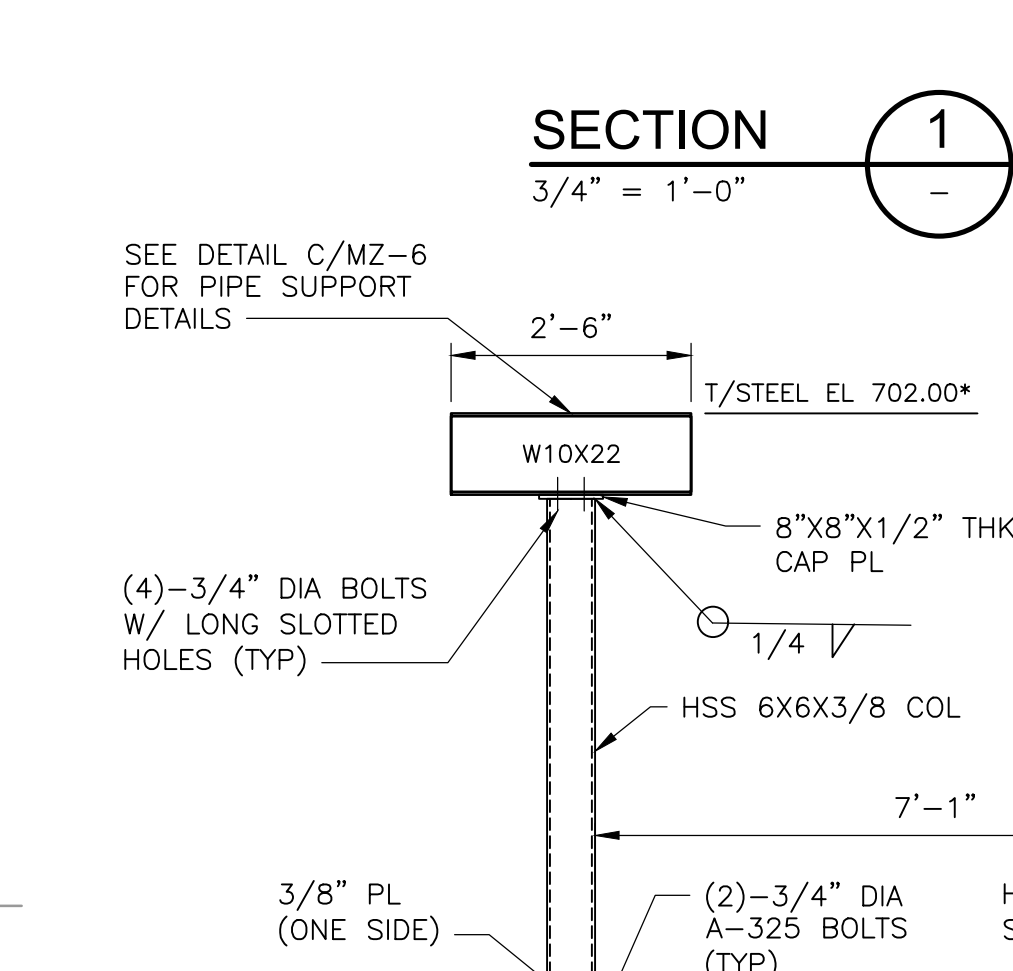
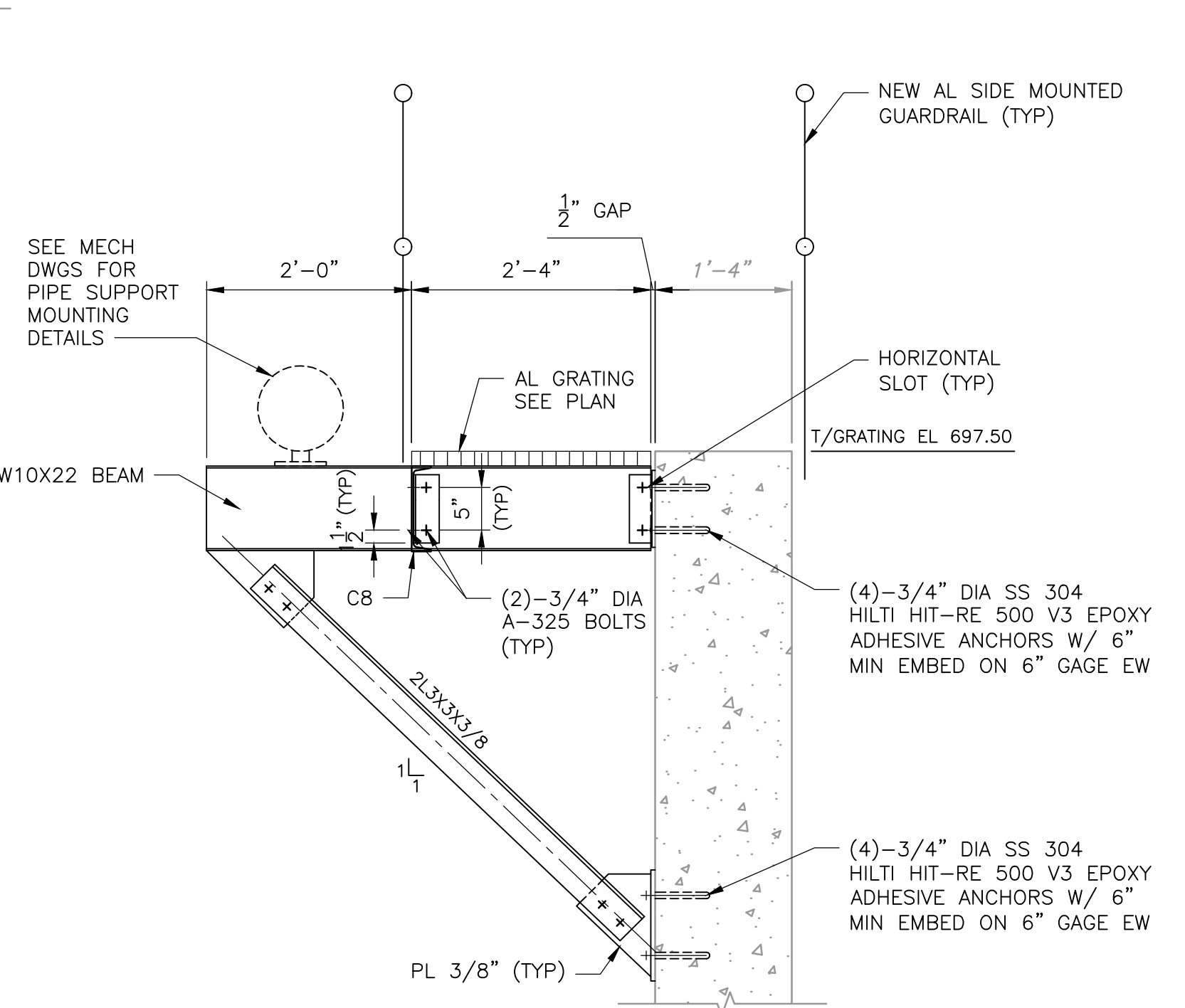
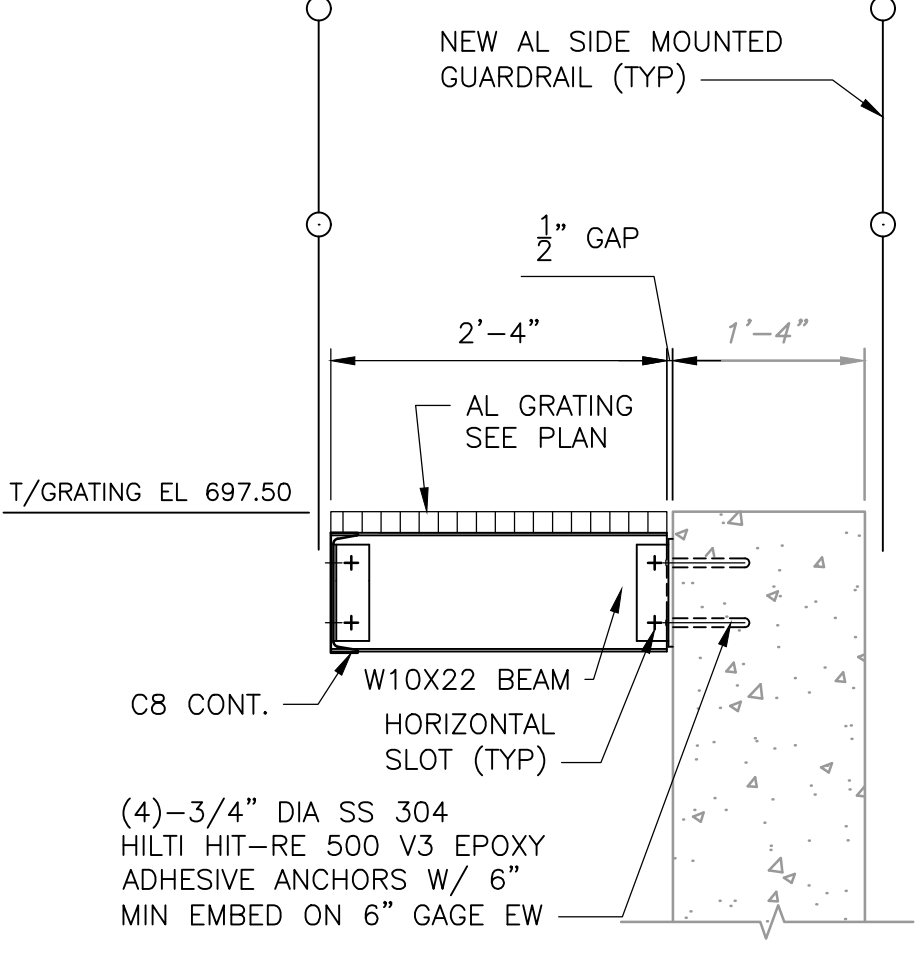
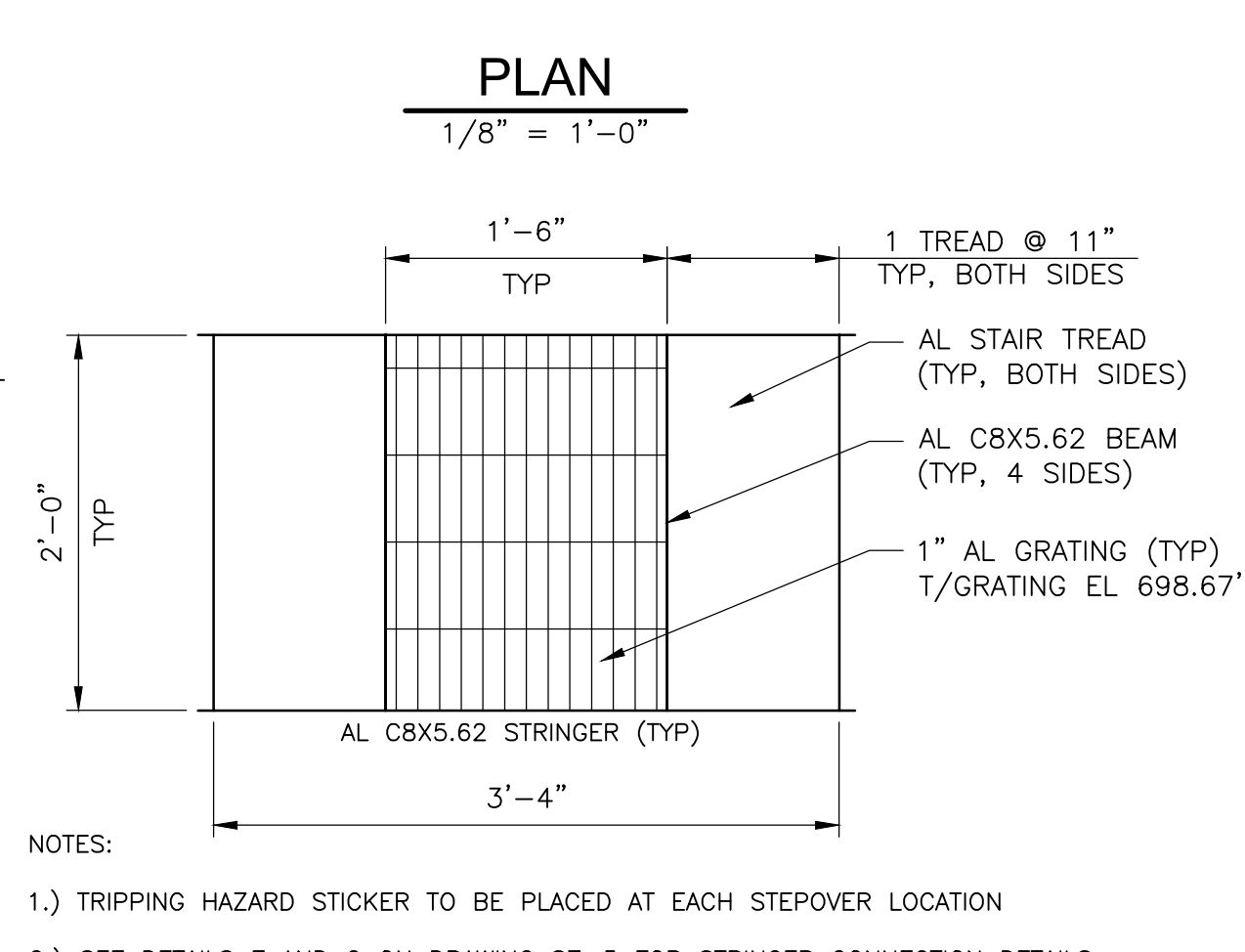
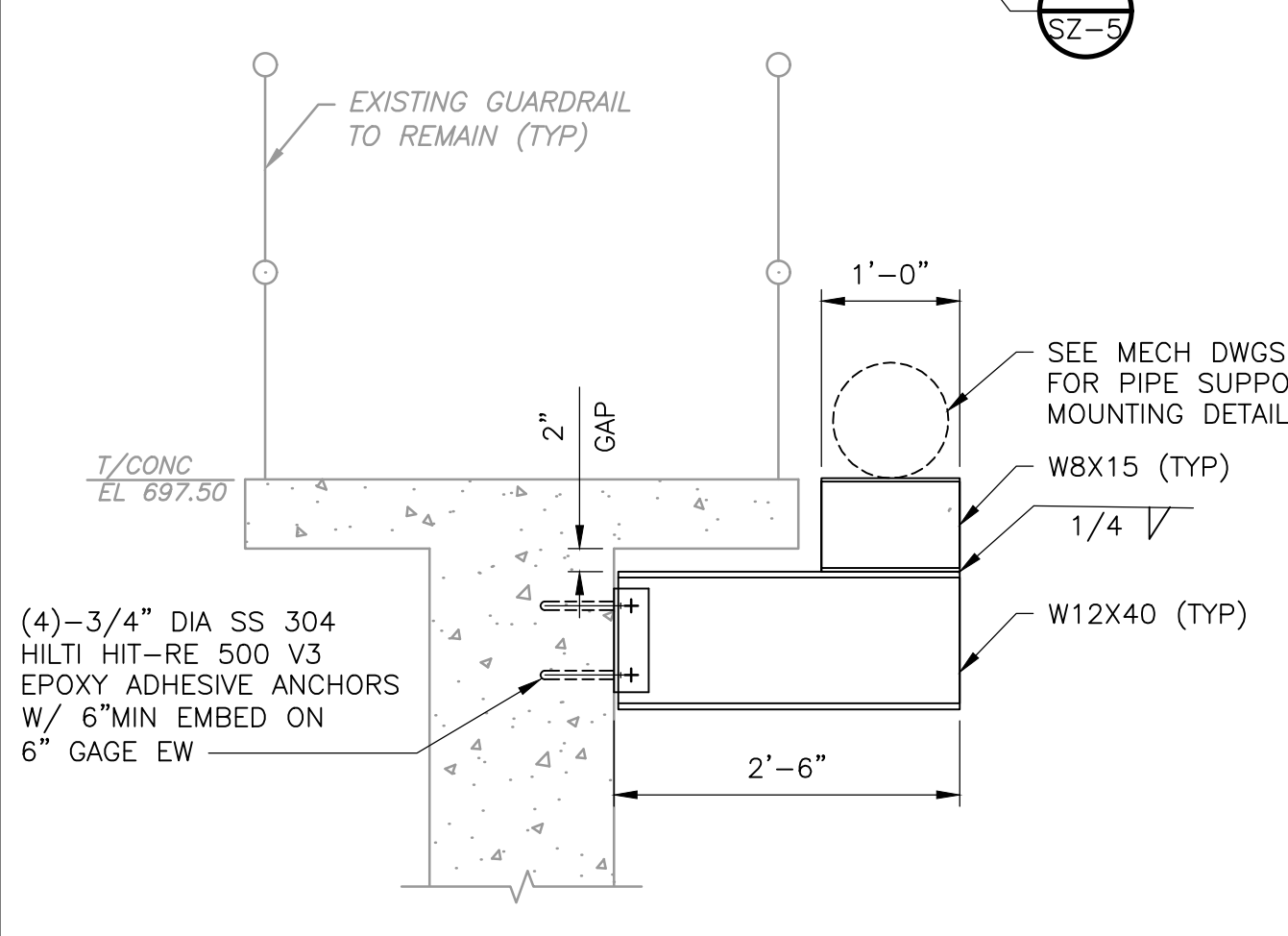
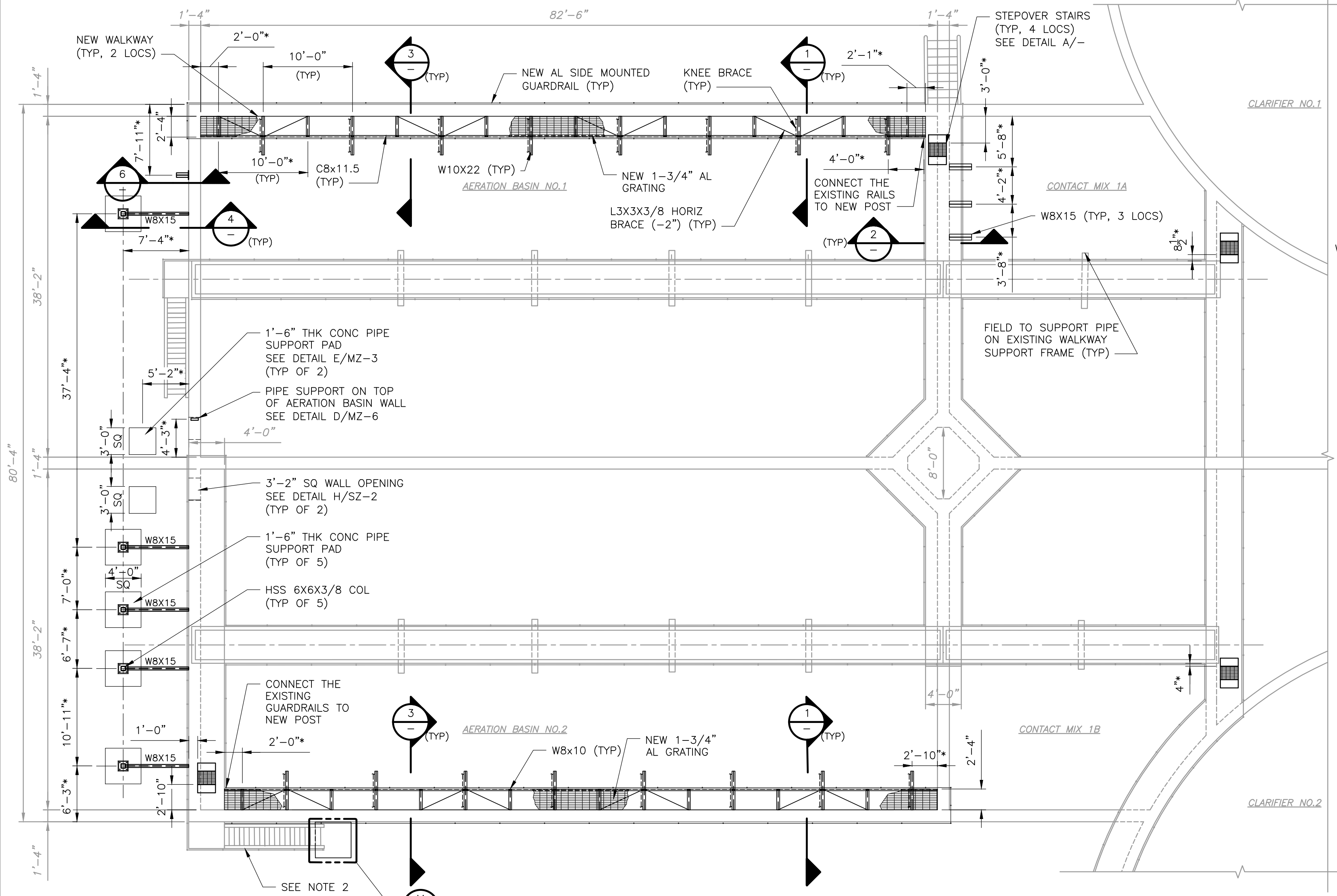
SAN GABRIEL WWTP  
 GRIT CHAMBER PLATFORM  
 DETAILS AND SECTIONS

PROJECT NO. 2048-264953  
 FILE NAME: S003GCSC.DWG  
 SHEET NO. SG-SB-4

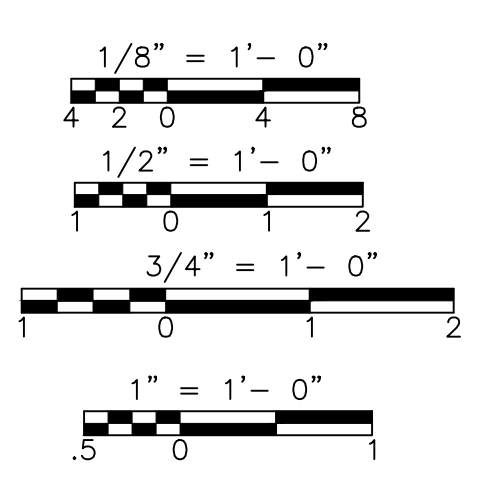




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- NOTES:**
- \* INDICATES DIMENSION OR ELEVATION TO BE COORDINATED WITH THE APPROVED PIPING PLAN.
  - EXISTING STAIRS TO BE REMOVED DURING CONSTRUCTION WHILE NEW PIPE IS PLACED. ONCE PIPE IS IN PLACE, THE EXISTING STAIRS TO BE REINSTALLED AND A NEW CONCRETE LANDING PAD TO BE POURED PER DETAIL M/SZ-5.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS
1	5/20/23	JNE	CFW	REVISED FOR ADDENDUM NO. 3

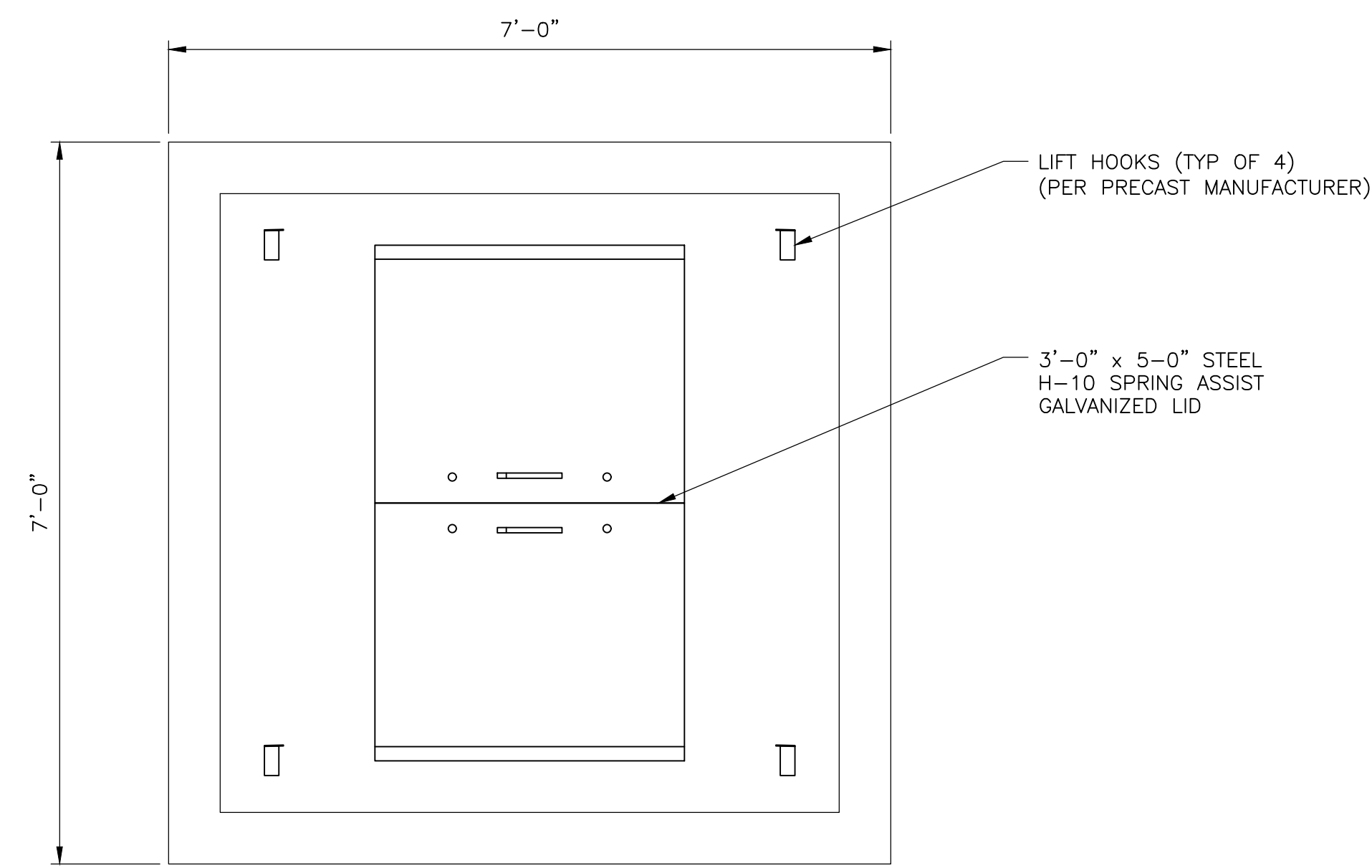
DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

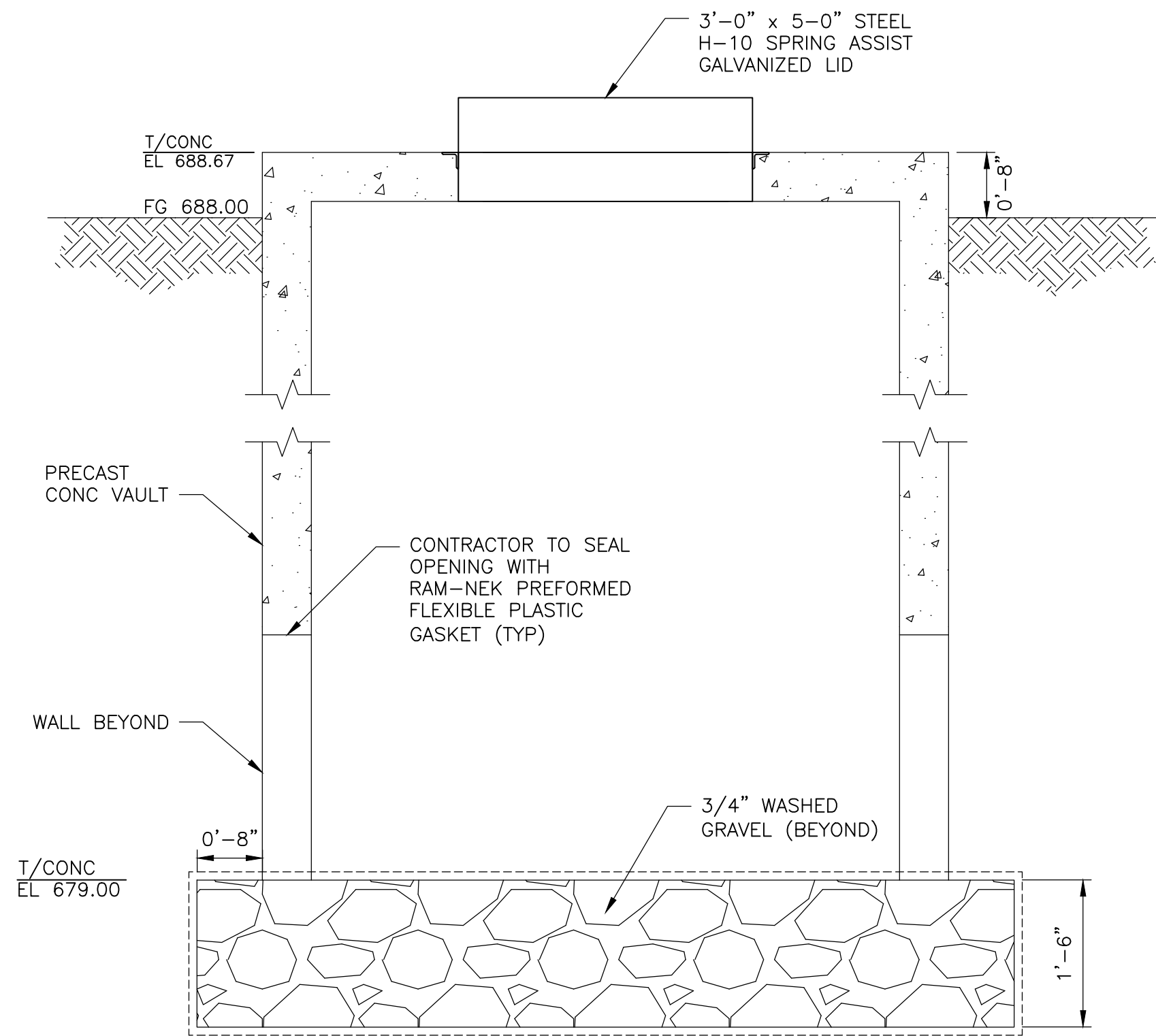
**SAN GABRIEL WWTP  
 AERATION BASIN MODIFICATIONS  
 PLAN AND SECTIONS**

PROJECT NO. 2048-264953  
 FILE NAME: S001SCPL.DWG  
 SHEET NO.  
**SG-SC-1**

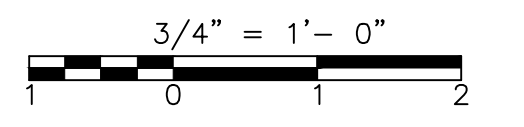
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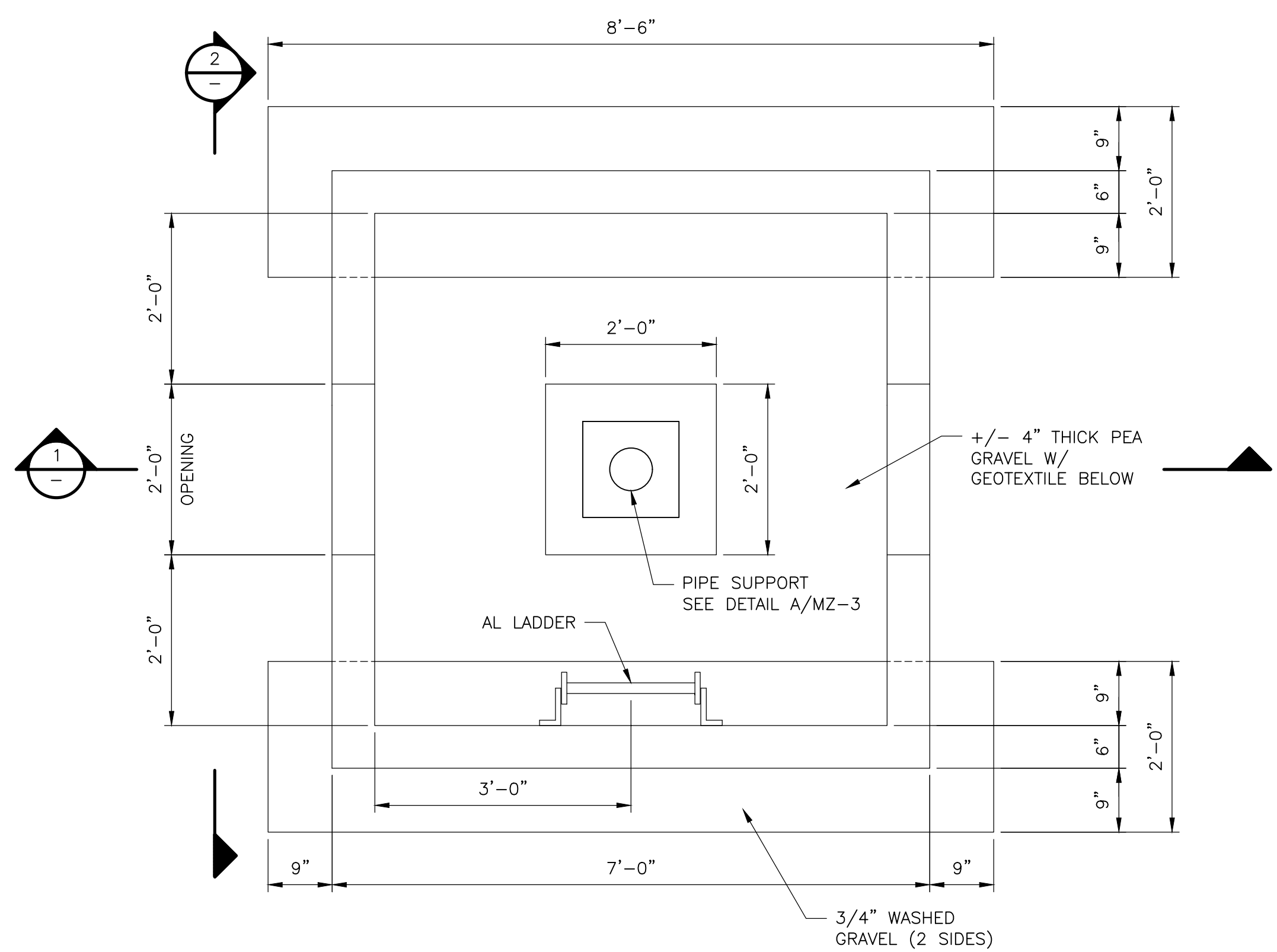
**TOP PLAN**  
3/4" = 1'-0"



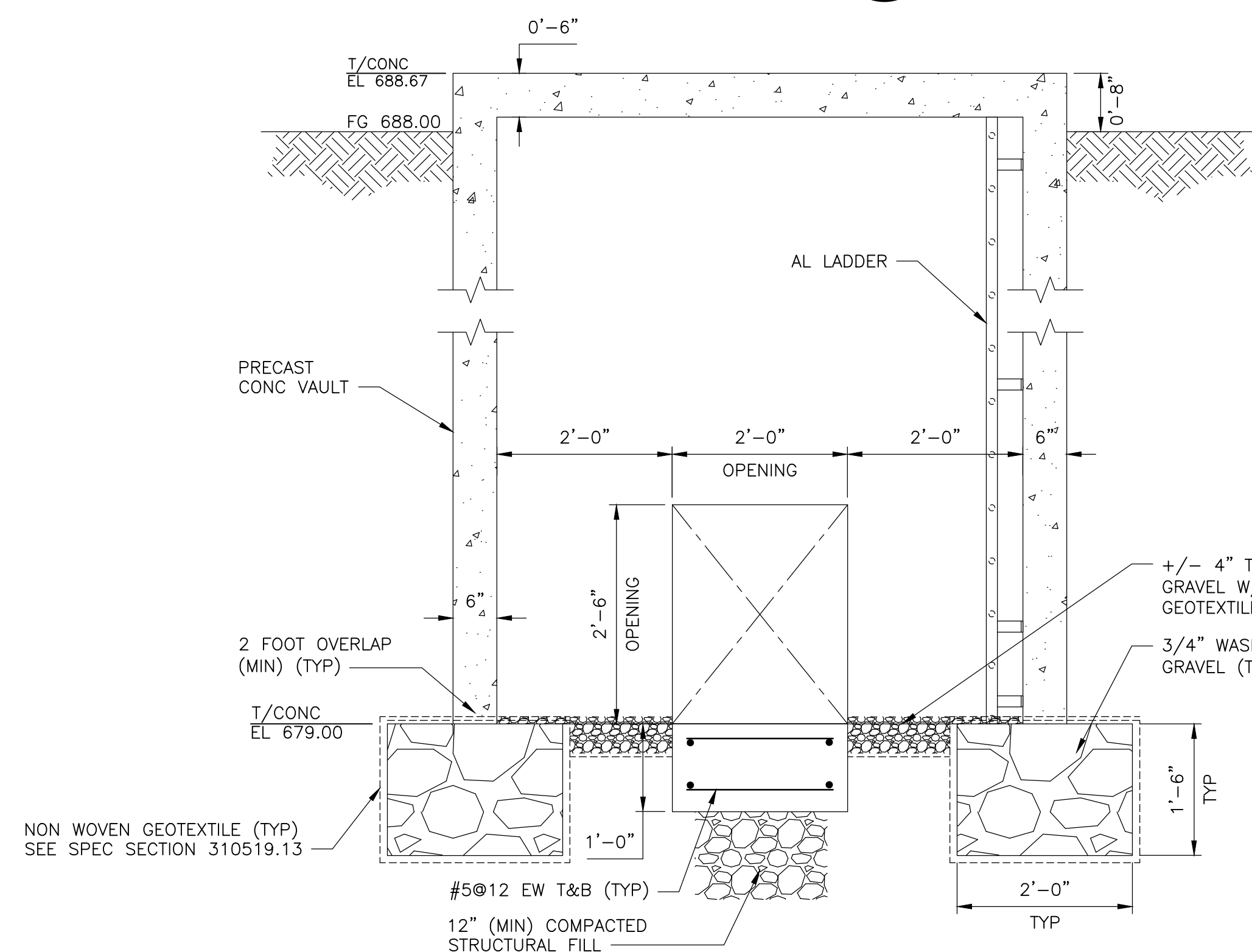
**SECTION 1**  
3/4" = 1'-0"



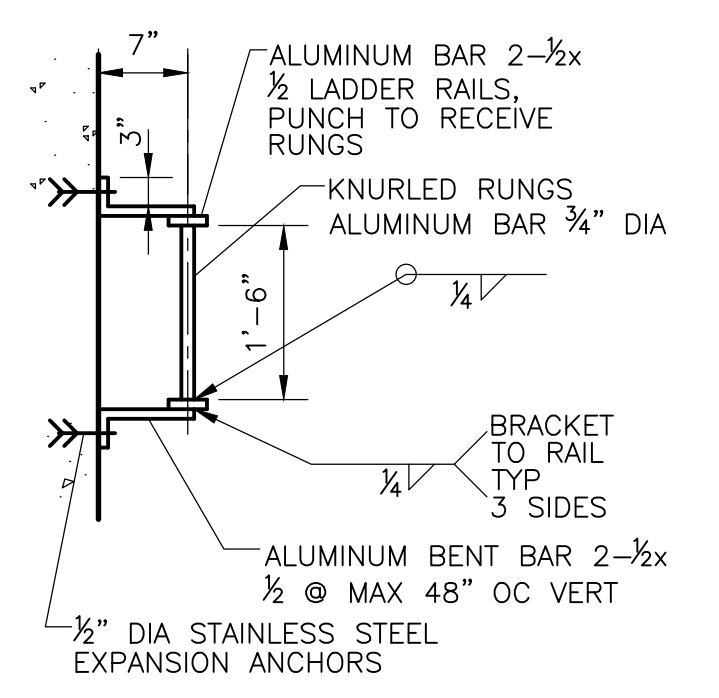
- NOTES:**
1. THE METER VAULTS SHALL BE PRECAST FABRICATION.
  2. CONTRACTOR TO VERIFY GRADE ELEVATION AT BOTH RAS FLOWMETER VAULT NO.1 AND VAULT NO. 2 BEFORE PROCURING PRECAST VAULTS.
  3. A FIXED LADDER INSIDE THE VAULT SHALL BE PROVIDED FOR ACCESS TO THE FLOW METER.
  4. SEE DRAWING SG-MC-5 FOR ADDITIONAL PROCESS MECHANICAL DETAILS.



**BASE PLAN**  
3/4" = 1'-0"



**SECTION 2**  
3/4" = 1'-0"



**LADDER PLAN DETAIL A**  
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS
1	5/20/23	JNE	CFW	REVISED FOR ADDENDUM NO. 3

DESIGNED BY: J. EULL  
 DRAWN BY: M. SIDDIQ  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

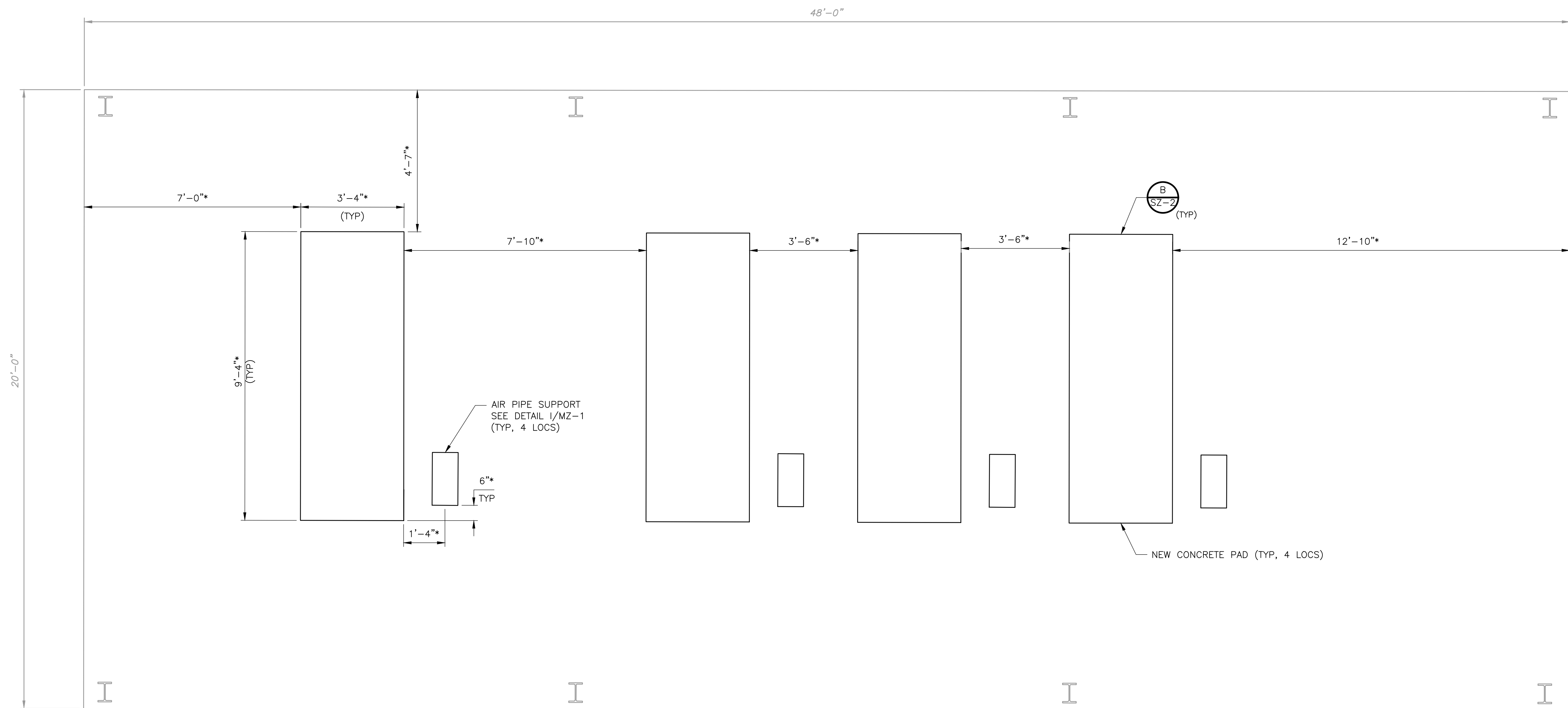
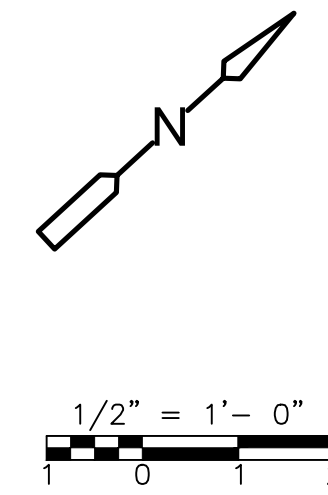
SAN GABRIEL WWTP  
 RAS METER VAULTS PLAN AND SECTION

PROJECT NO. 2048-264953  
 FILE NAME: S001RVPL.DWG  
 SHEET NO. SG-SC-2

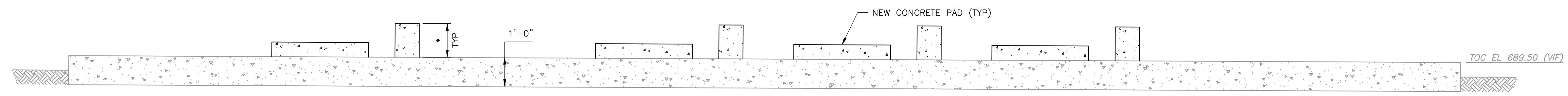


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NOTE:  
 1. \* INDICATES DIMENSION TO BE COORDINATED WITH APPROVED EQUIPMENT MANUFACTURER.



PLAN  
 1/2" = 1'-0"



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



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: K. DEEPAK  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

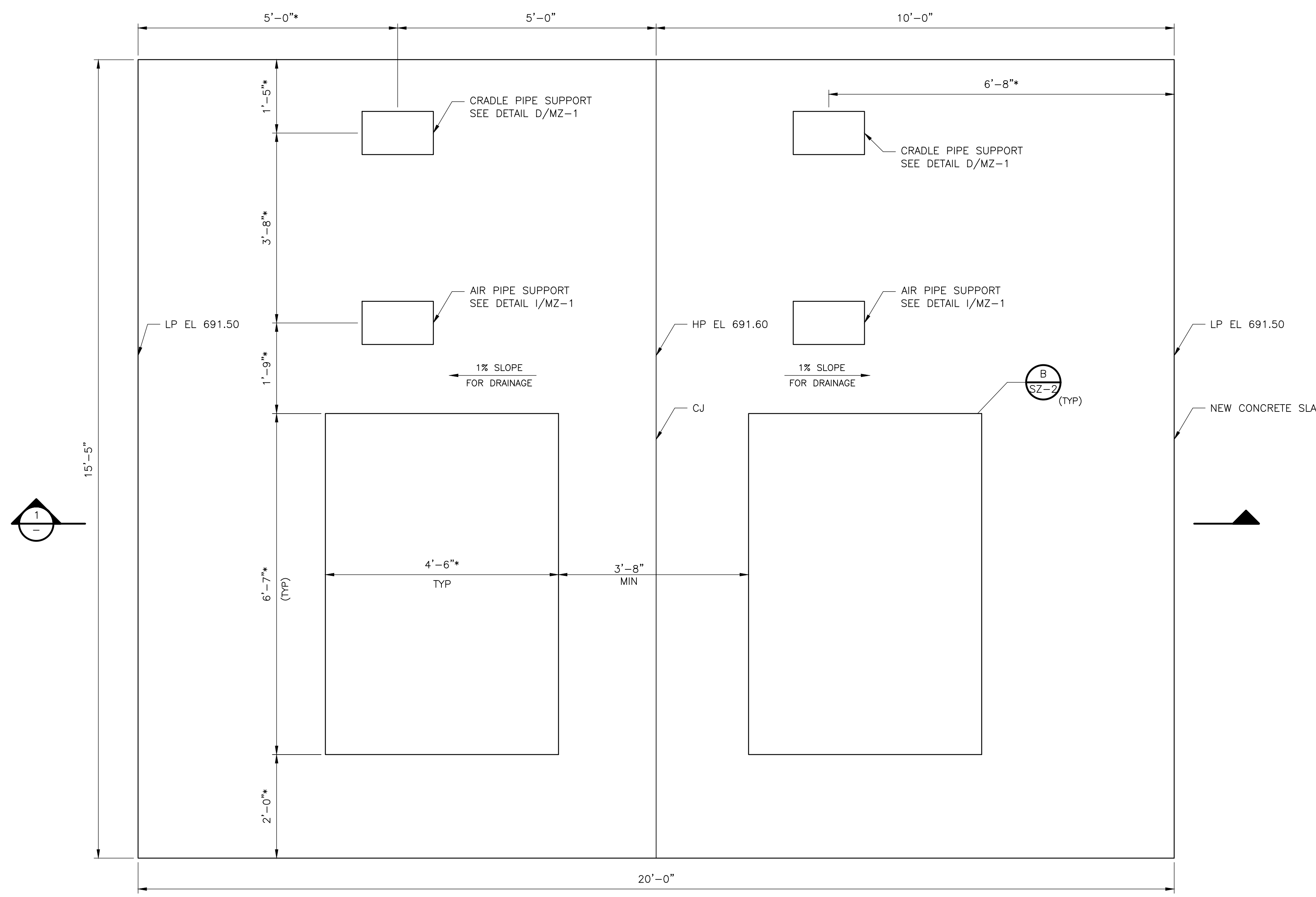


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

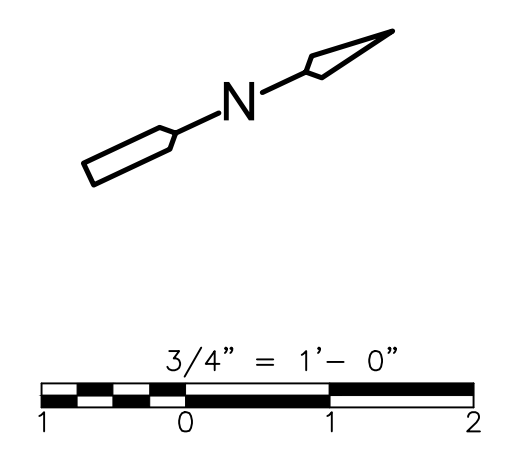
SAN GABRIEL WWTP  
 BLOWER IMPROVEMENTS  
 PLAN AND SECTION

PROJECT NO. 2048-264953  
 FILE NAME: S001BBPL.DWG  
 SHEET NO.  
 SG-SD-1

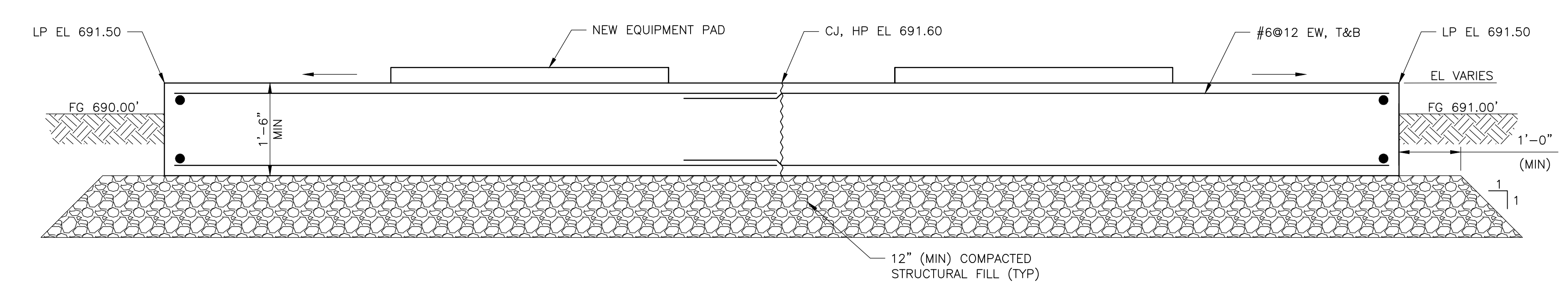
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NOTE:  
 1. \* INDICATES DIMENSION TO BE COORDINATED WITH APPROVED EQUIPMENT MANUFACTURER.



**PLAN**  
 3/4" = 1'-0"



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



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	6/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: K. DEEPAK  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

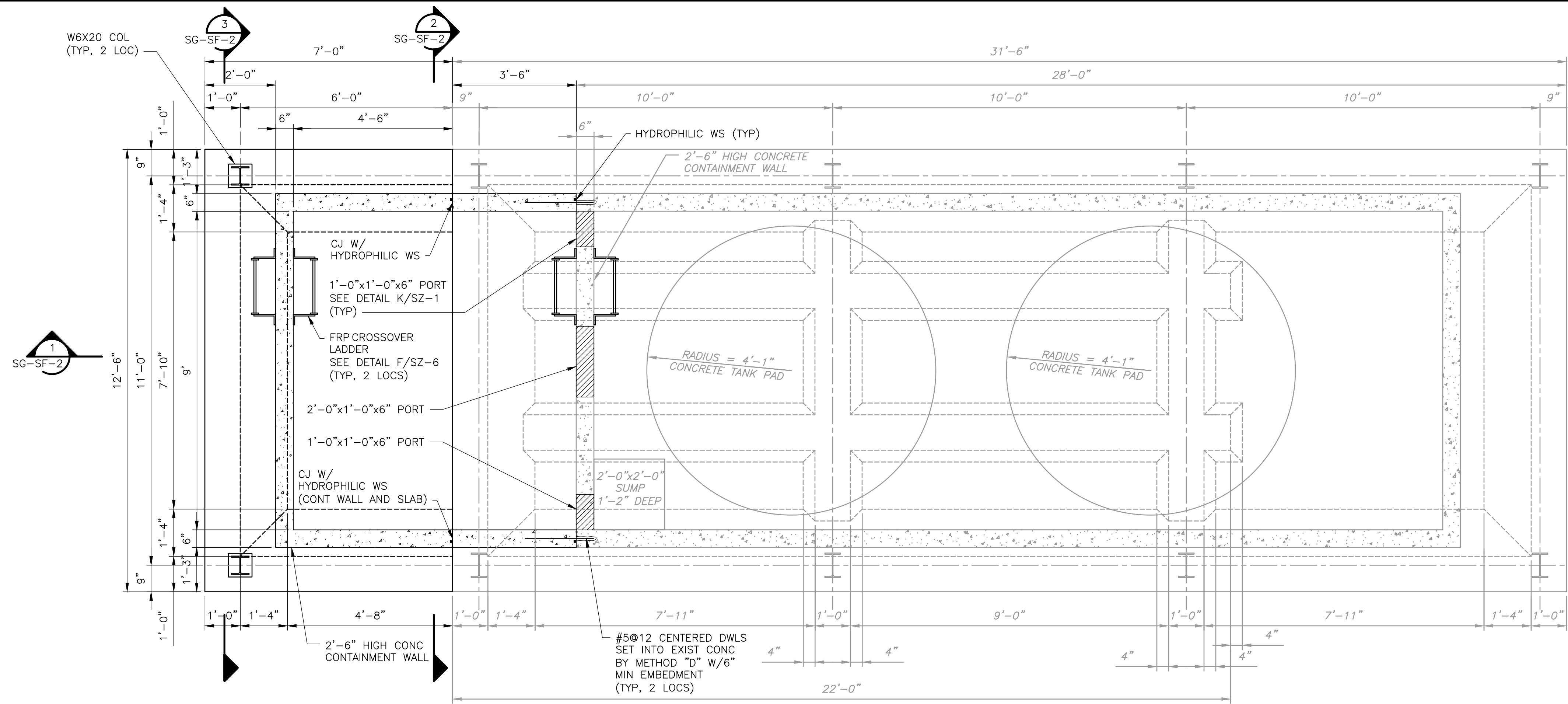


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

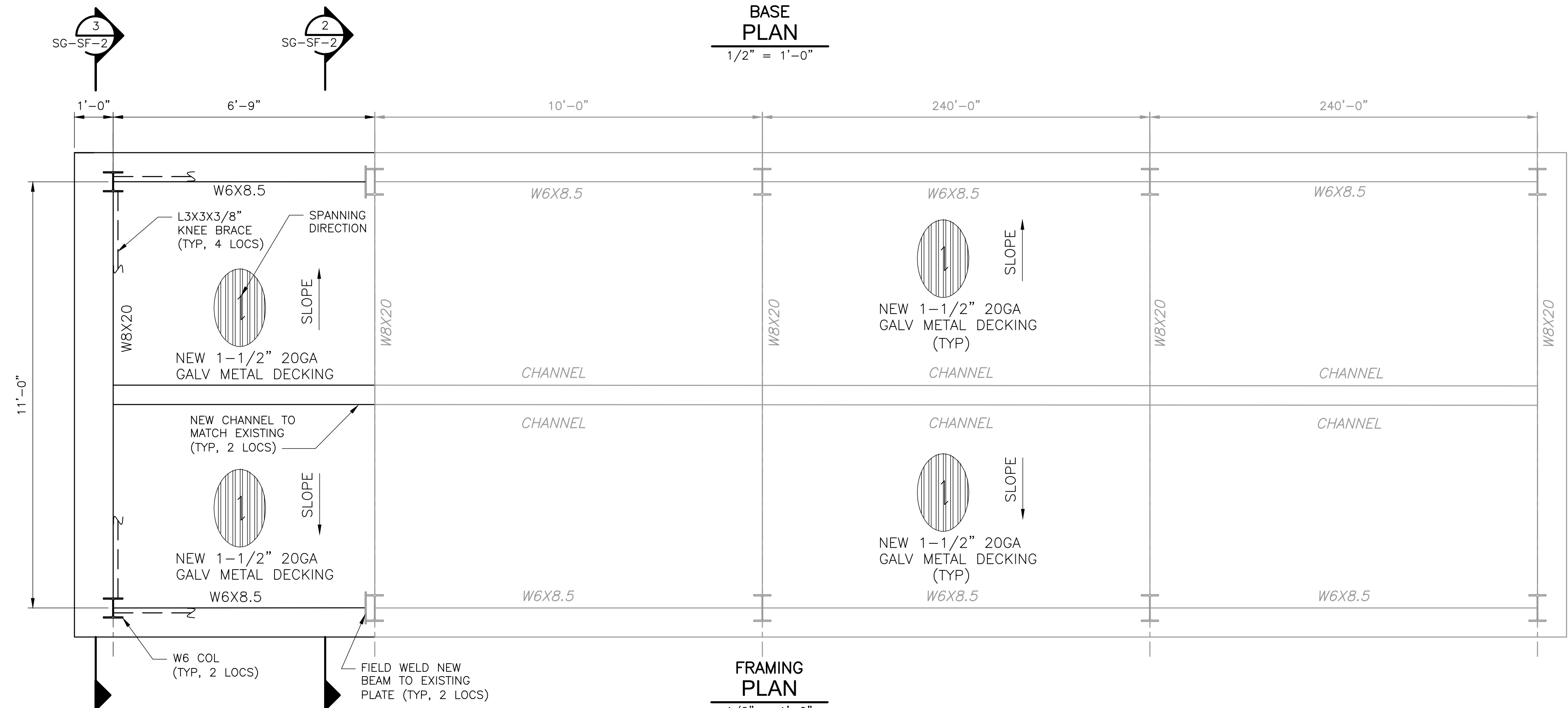
SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING  
 TANK MODIFICATIONS - PLAN AND SECTION

PROJECT NO. 2048-264953  
 FILE NAME: S001SHPL.DWG  
 SHEET NO. SG-SE-1

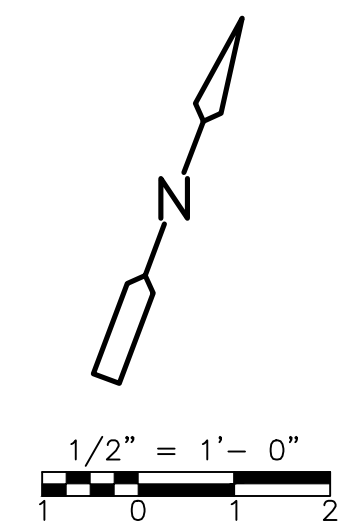
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**BASE PLAN**  
1/2" = 1'-0"



**FRAMING PLAN**  
1/2" = 1'-0"



- NOTE:**
1. SEE NEW ROOF DECK CONNECTION SCHEDULE ON DETAIL B/SG-SF-2.
  2. SEE DETAIL N/SZ-5 FOR ADDITIONAL ROOF DECK CONNECTION INFORMATION.
  3. METAL DECK SHALL CONFORM TO ASTM A653, STRUCTURAL STEEL GRADE 33, G90 ZINC COATING.
  - 4.
  5. METAL DECK SHALL BE 1-1/2" DEPTH, GAGE 20, UNO.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: K. DEEPAK  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



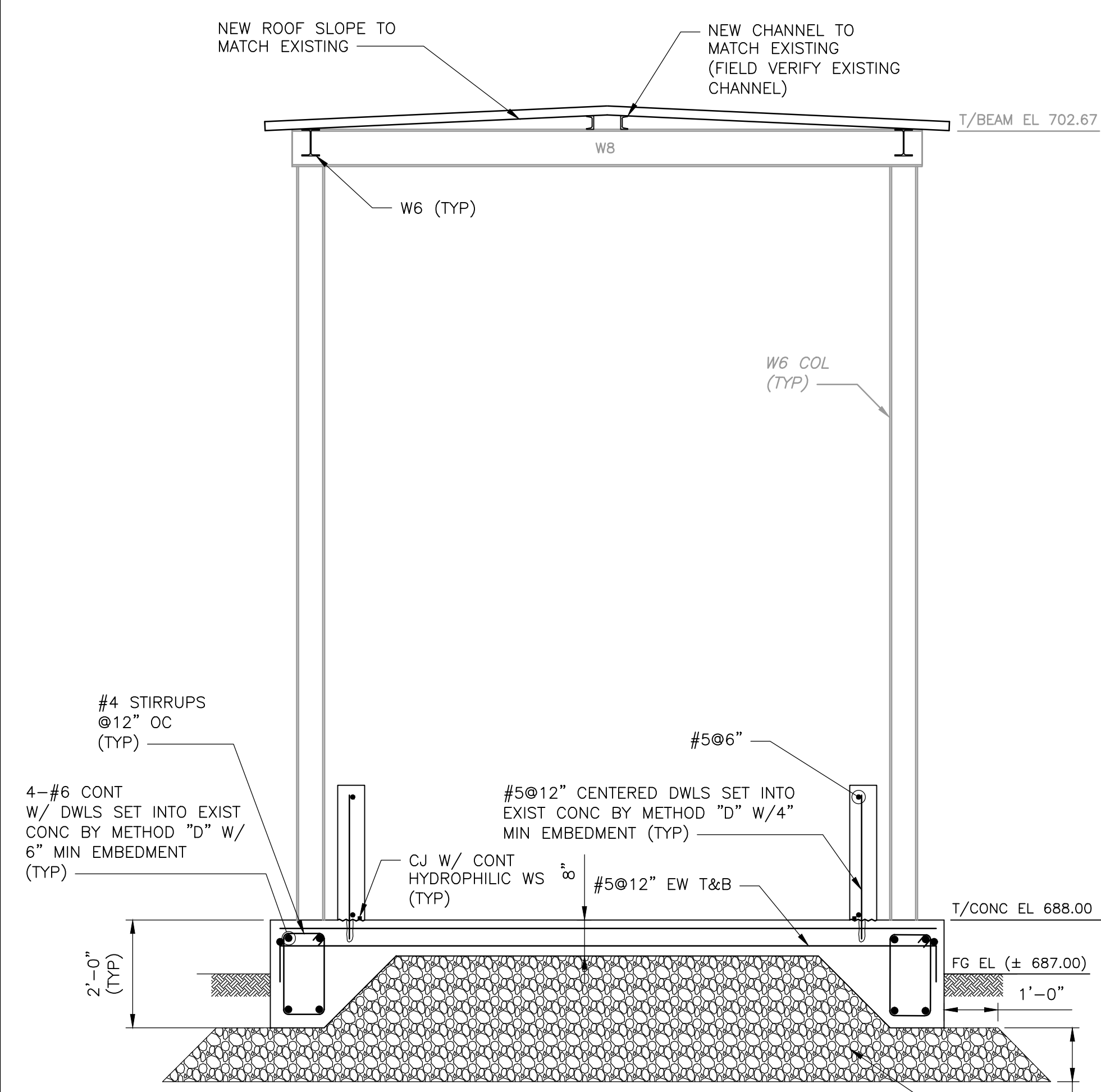
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE  
 AND FEED AREA PLANS**

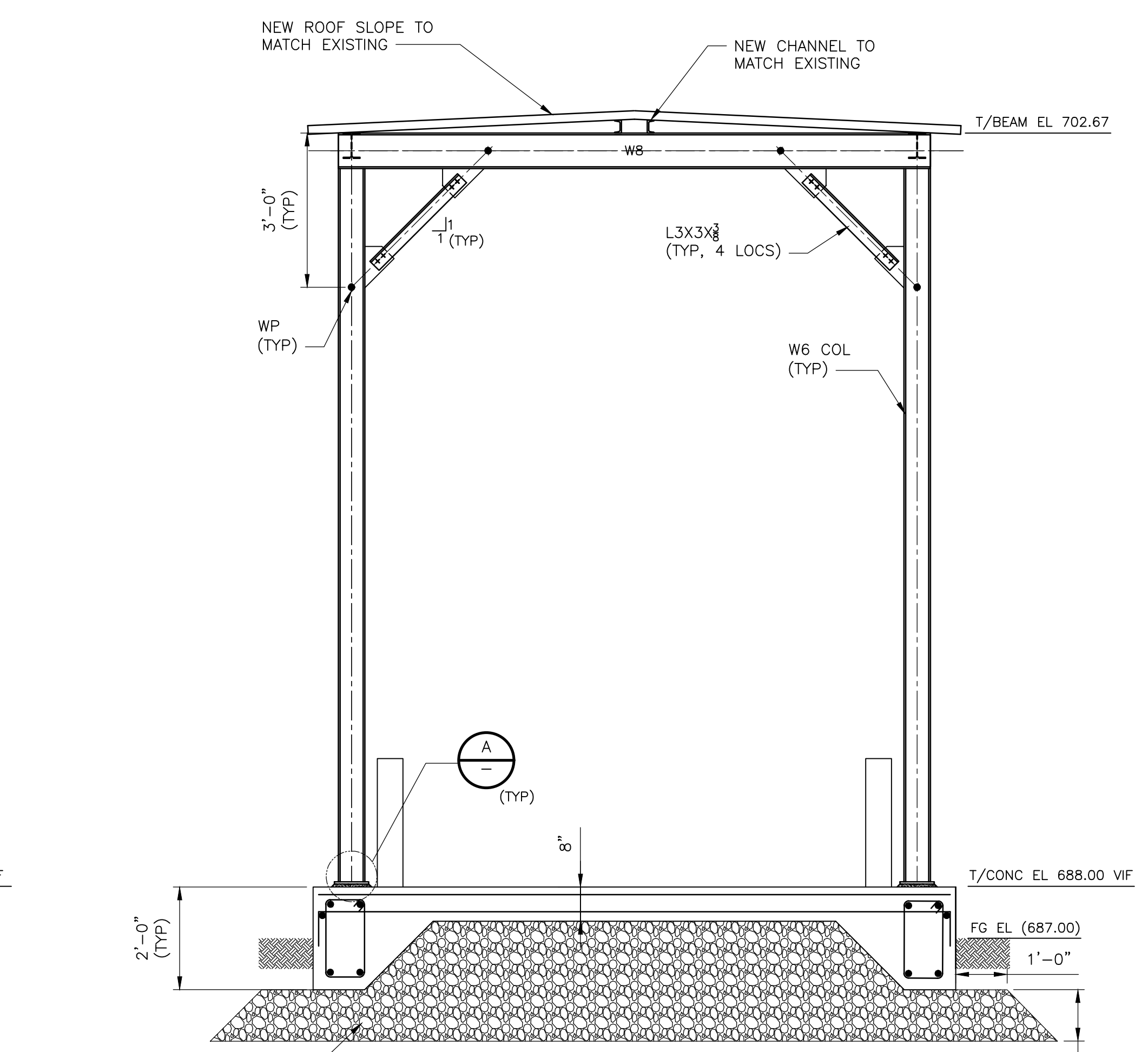
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 SHEET NO.  
**SG-SF-1**



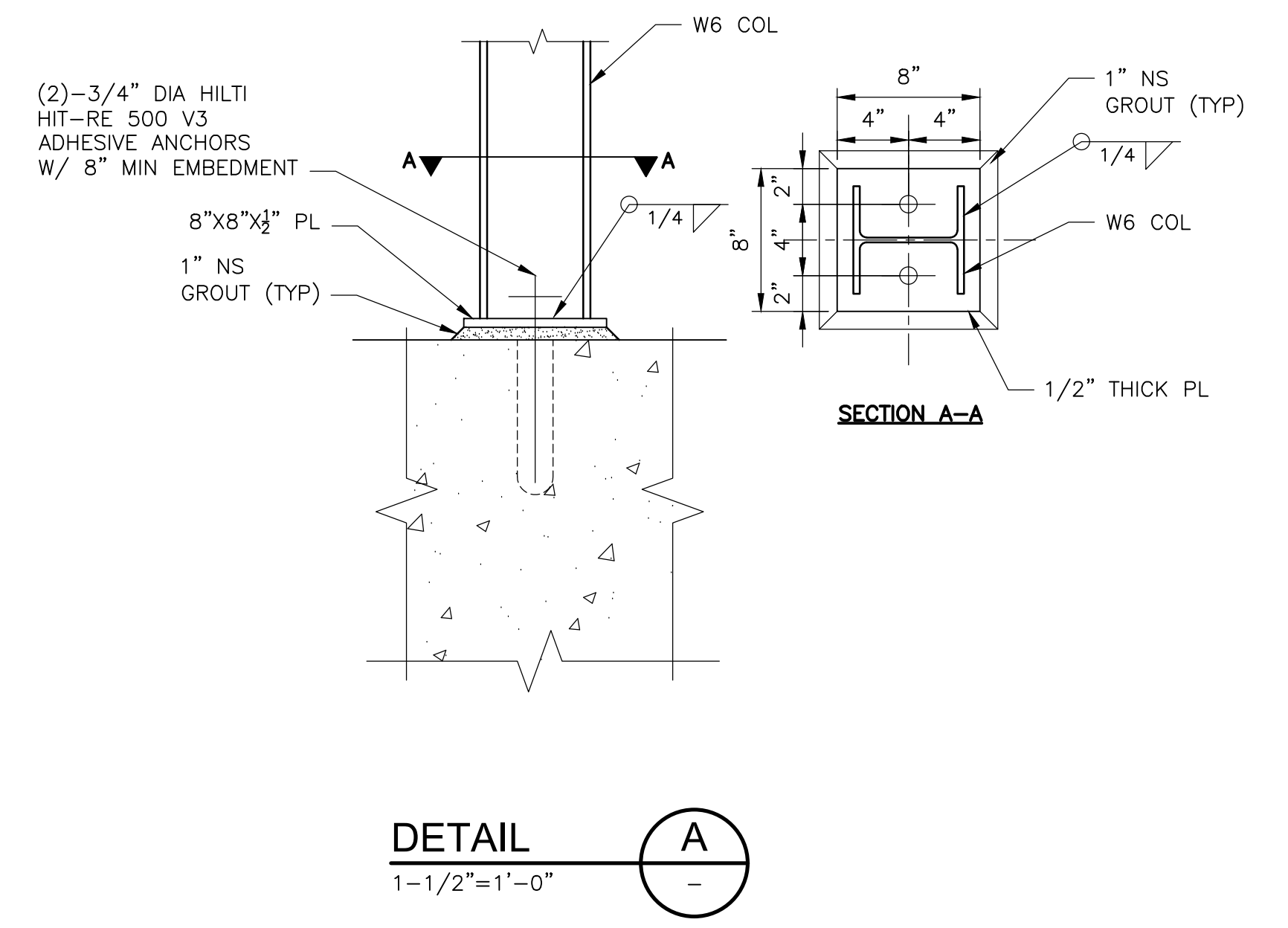
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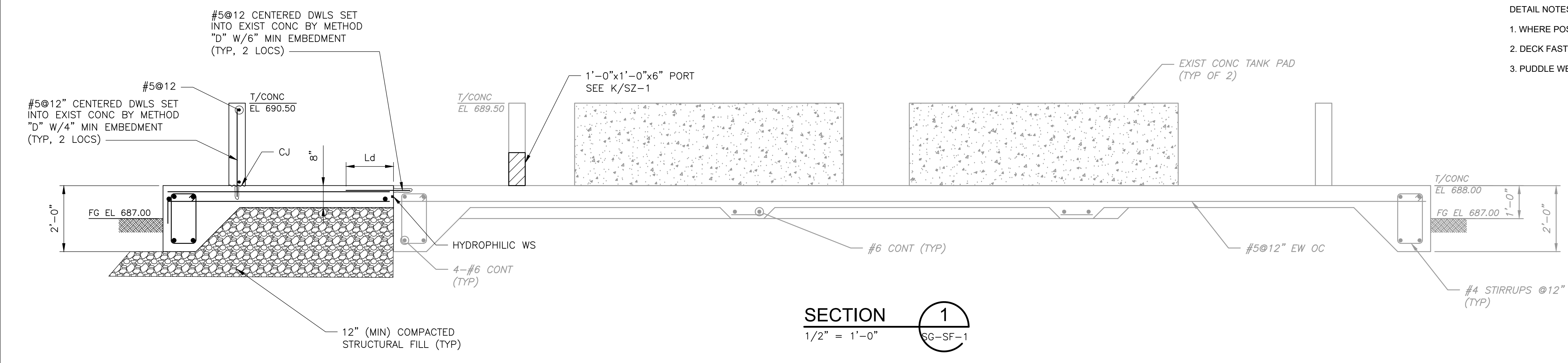
**SECTION 2**  
1/2" = 1'-0"  
SG-SF-1



**SECTION 3**  
1/2" = 1'-0"  
SG-SF-1



**DETAIL A**  
1-1/2" = 1'-0"



**SECTION 1**  
1/2" = 1'-0"  
SG-SF-1

LOCATION	DECK		WELDS AT SUPPORTS PERPENDICULAR TO FLUTES		WELDS AT SUPPORTS PARALLEL TO FLUTES		SIDELAP FASTENERS	
	DEPTH	GAGE	TYPE	LAYOUT	TYPE	LAYOUT	TYPE	LAYOUT
SODIUM BISULFITE STORAGE ROOF	1-1/2" BA	18	PUDDLE WELD	3/4	PUDDLE WELD	18" OC	#12 TEK SCREWS	12" OC

- DETAIL NOTES:
- WHERE POSSIBLE, FABRICATE DECK TO EXTEND CONTINUOUSLY OVER THREE SPANS.
  - DECK FASTENERS SHALL BE AS SHOWN.
  - PUDDLE WELDS SHALL BE 1/2" EFFECTIVE WELD DIAMETER WITH A MINIMUM 1" DIAMETER VISIBLE WELD.

**NEW ROOF DECK CONNECTION SCHEDULE**  
**DETAIL B**  
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: K. DEEPAK  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

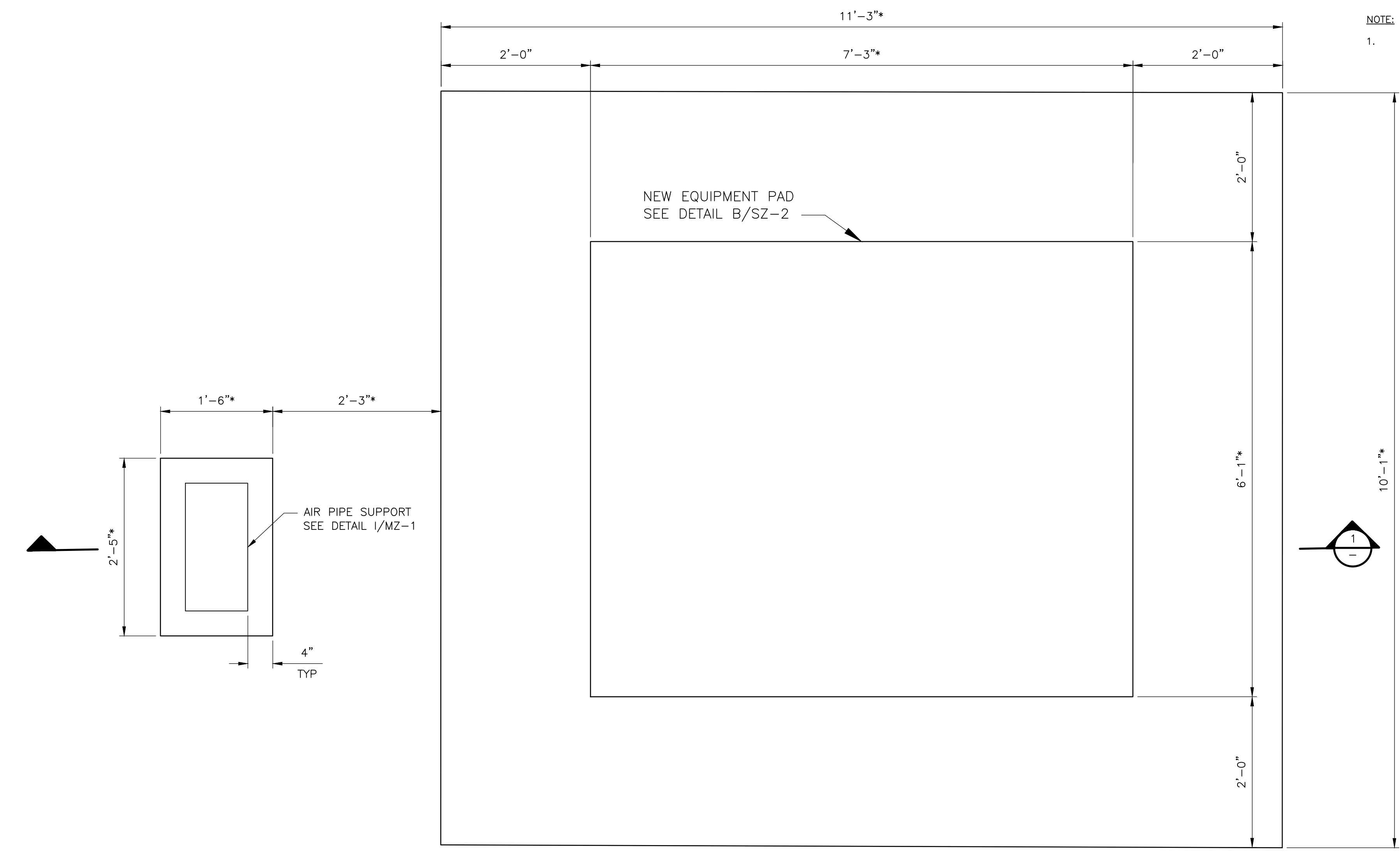
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE  
 AND FEED AREA SECTIONS AND DETAIL**

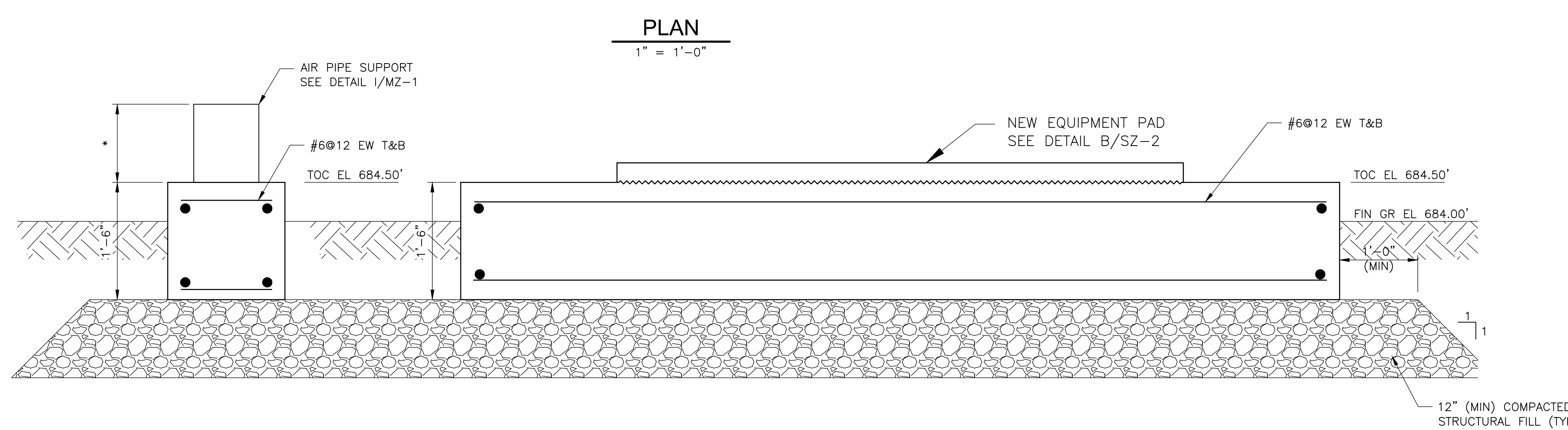
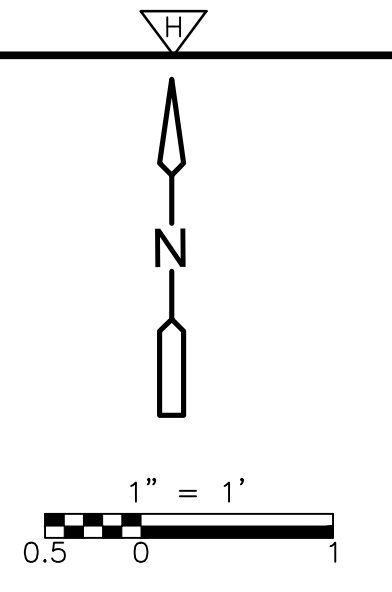
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NOTE:  
 1. \* INDICATES DIMENSION TO BE COORDINATED WITH APPROVED EQUIPMENT MANUFACTURER.



SECTION 1  
 1" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: DEEPAK K  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



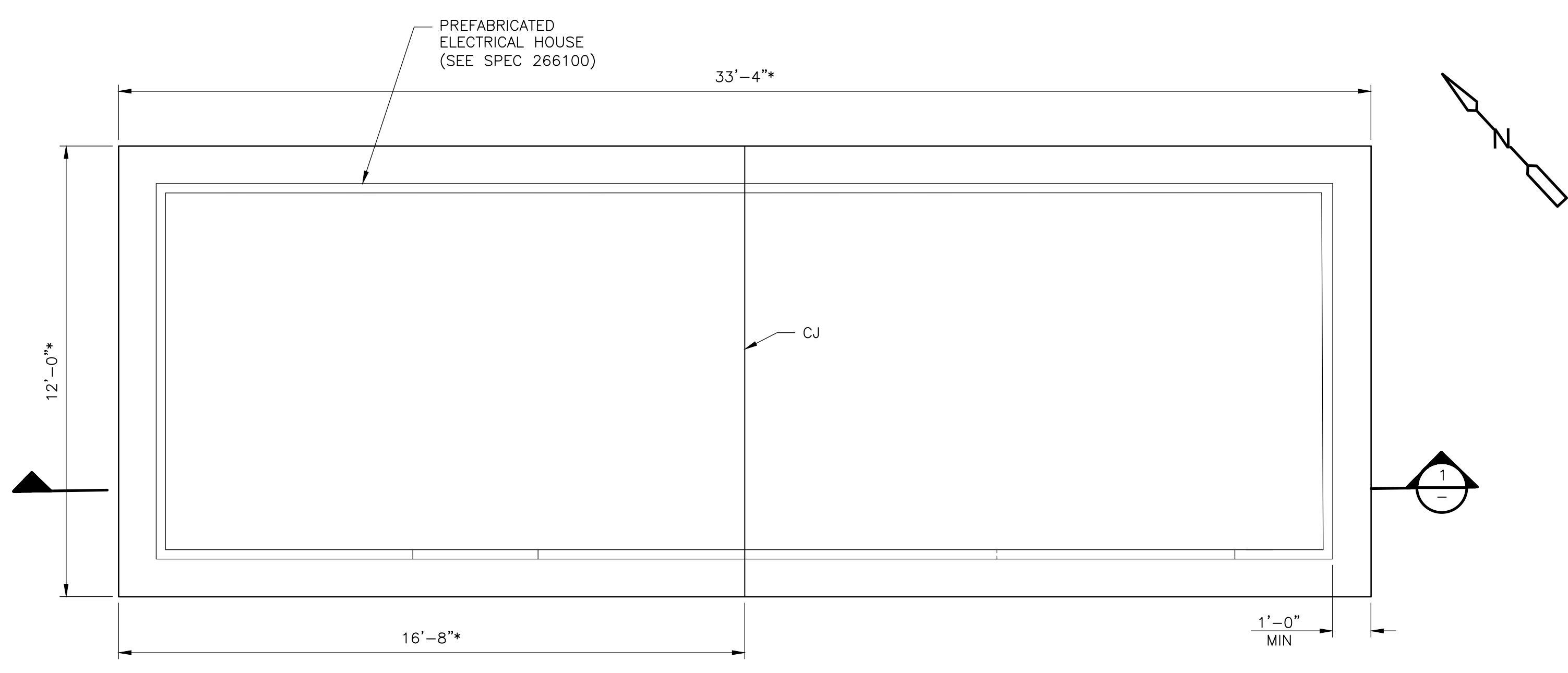
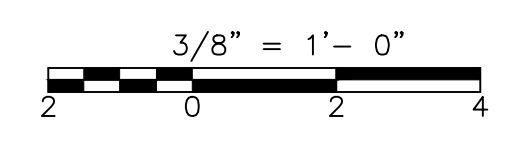
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 WET WEATHER STORAGE  
 MODIFICATIONS PLAN AND SECTION

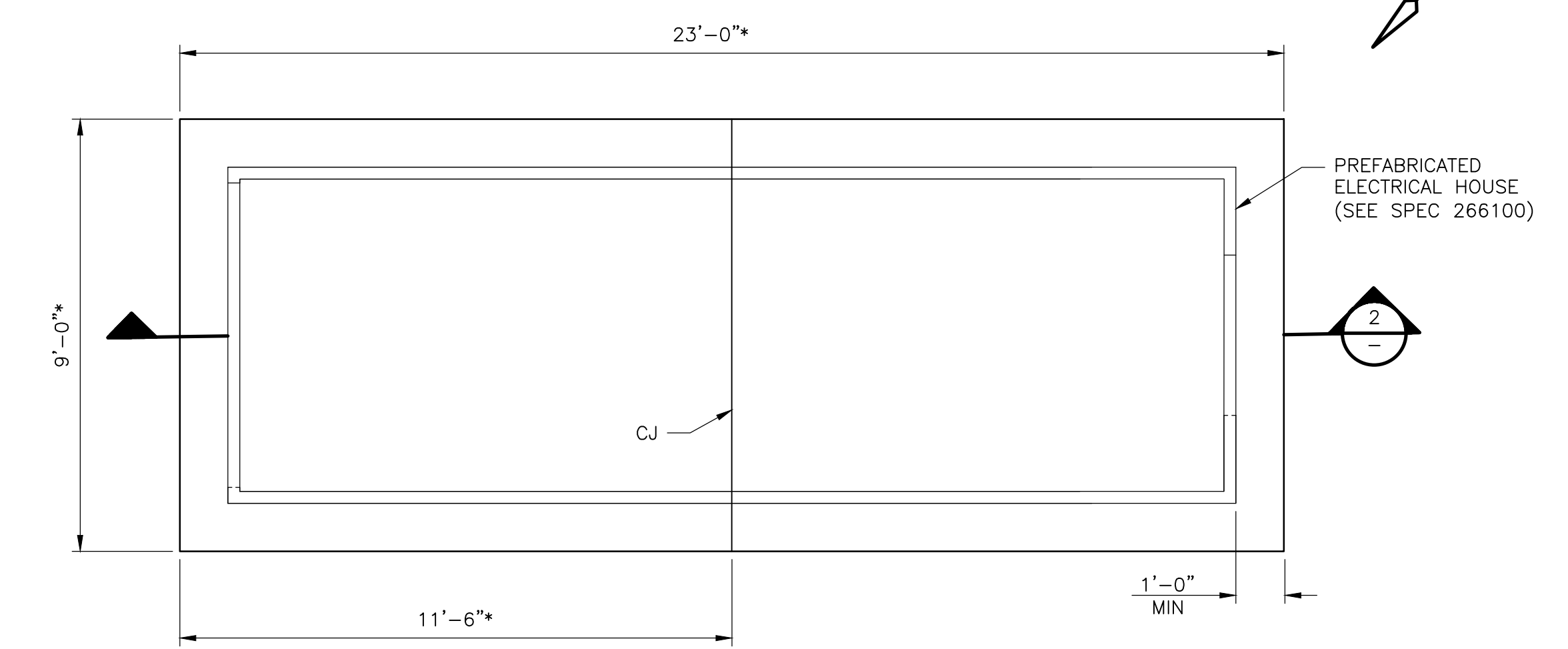
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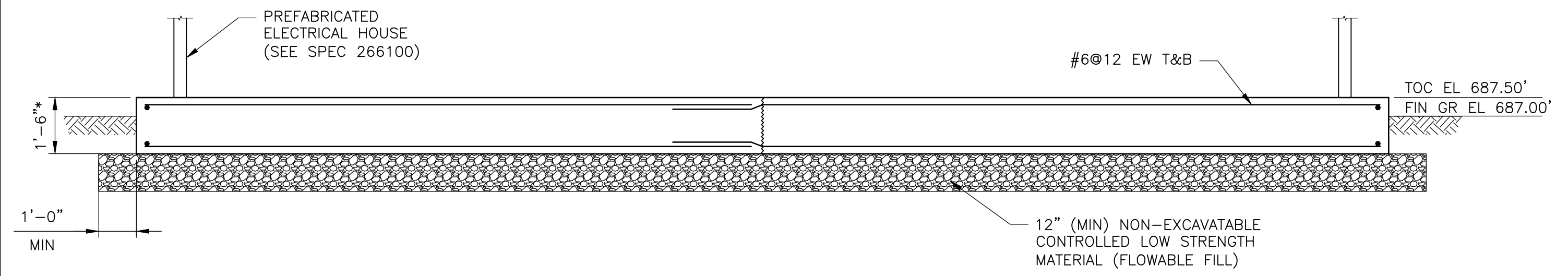
- NOTES:**
- \* INDICATES DIMENSION TO BE COORDINATED WITH APPROVED ENCLOSURE MANUFACTURER.
  - PROVIDE 1'-0" CLEAR DISTANCE BETWEEN THE EXTERIOR FACE OF THE ELECTRICAL HOUSE WALL AND THE EDGE OF THE CONCRETE BASE SLAB.
  - REFERENCE DRAWING SG-E-8 AND SG-E-9 FOR ADDITIONAL INFORMATION.
  - REFERENCE DRAWING SG-AI-1 FOR DOOR OPENINGS.



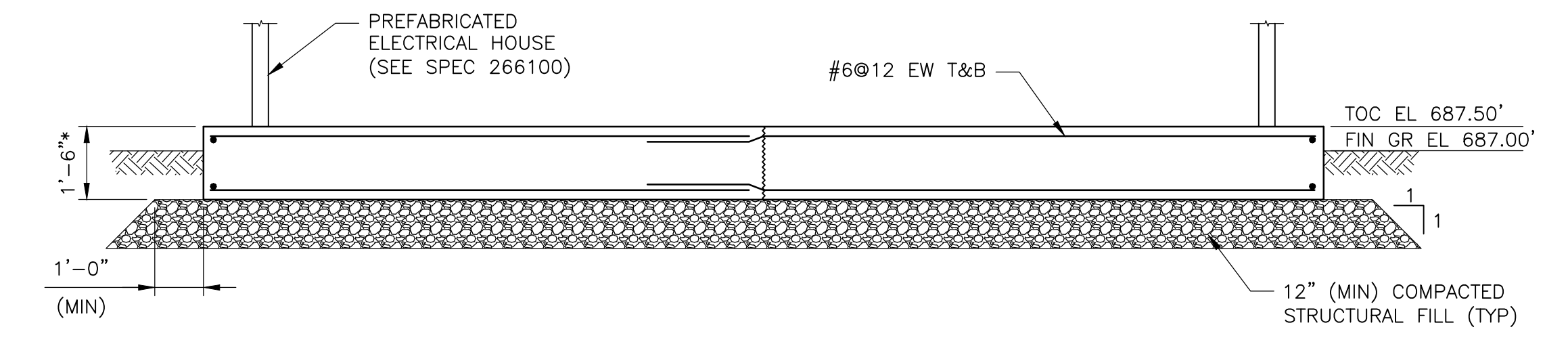
**ELECTRICAL HOUSE I**  
**PLAN**  
 3/8" = 1'-0"



**ELECTRICAL HOUSE II**  
**PLAN**  
 3/8" = 1'-0"



**ELECTRICAL HOUSE I**  
**SECTION 1**  
 3/8" = 1'-0"



**ELECTRICAL HOUSE II**  
**SECTION 2**  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: DEEPAK K  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

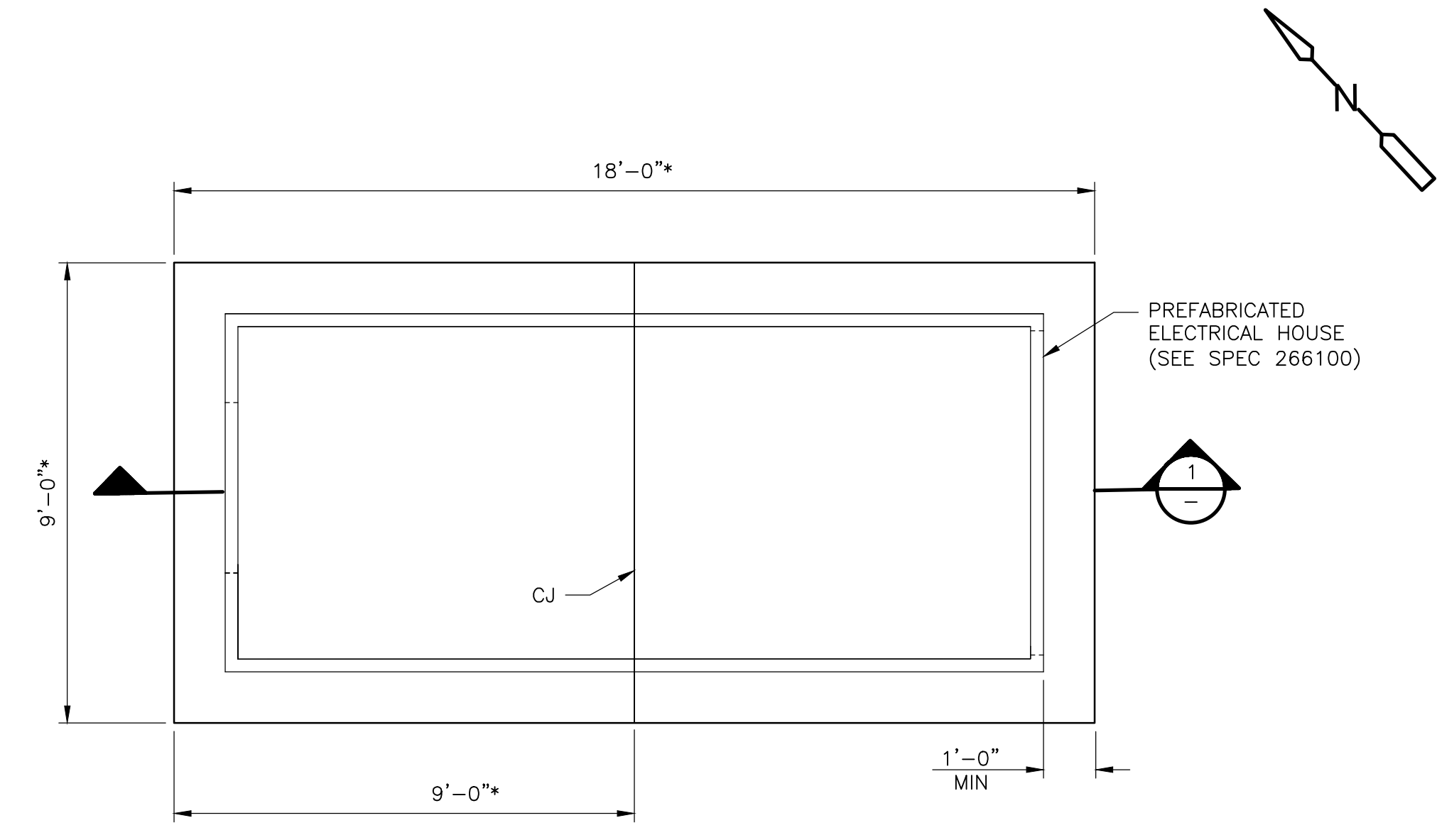
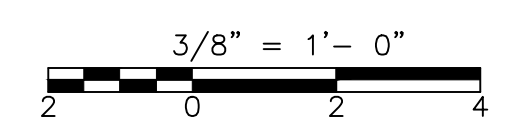
SAN GABRIEL WWTP  
 COORDINATED ELECTRICAL HOUSES I AND II  
 PLAN AND SECTION

PROJECT NO. 2048-264953  
 FILE NAME: S001ELPL.DWG  
 SHEET NO. SG-SI-1

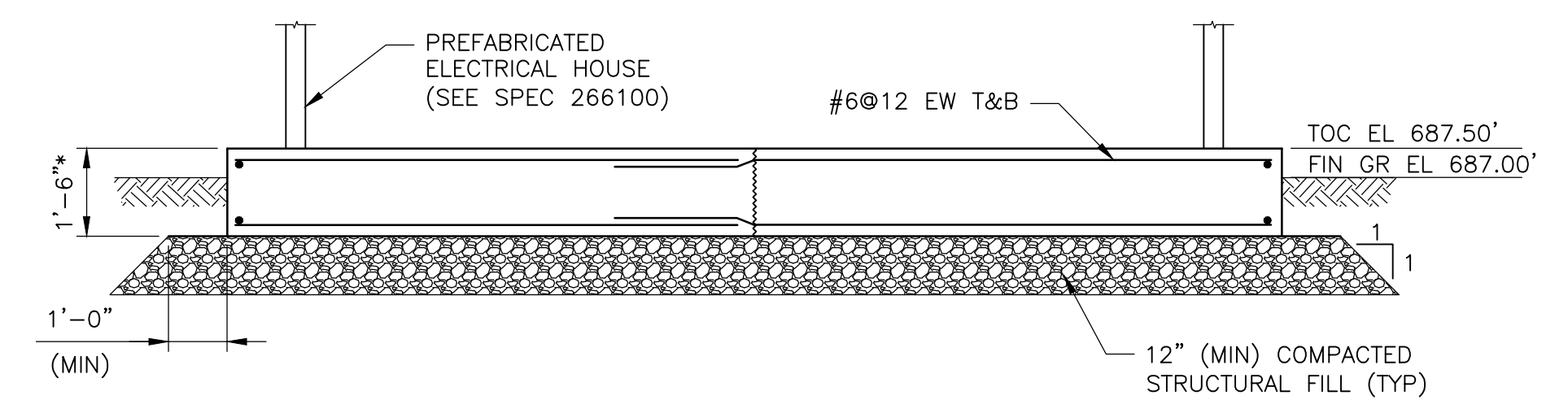


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- NOTES:**
- \* INDICATES DIMENSION TO BE COORDINATED WITH APPROVED ENCLOSURE MANUFACTURER.
  - PROVIDE 1'-0" CLEAR DISTANCE BETWEEN THE EXTERIOR FACE OF THE ELECTRICAL HOUSE WALL AND THE EDGE OF THE CONCRETE BASE SLAB.
  - REFERENCE DRAWING SG-E-10 FOR ADDITIONAL INFORMATION.
  - REFERENCE DRAWING SG-AI-1 FOR DOOR OPENINGS.



**ELECTRICAL HOUSE III**  
**PLAN**  
 3/8" = 1'-0"



**ELECTRICAL HOUSE III**  
**SECTION**  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: DEEPAK K  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**COORDINATED ELECTRICAL HOUSE III**  
**PLAN AND SECTION**

PROJECT NO.	2048-264953
FILE NAME:	S003ELPL.DWG
SHEET NO.	<b>SG-SI-2</b>

**TYPICAL DEVELOPMENT & CLASS B SPLICE LENGTHS (INCHES)**

BAR SIZE	TENSION					COMPRESSION
	90° HOOK		STRAIGHT		ALL	
	ldh	A	TOP BARS	OTHER BARS		
3	6	6	16	16	12	
4	7	8	20	16	15	
5	9	10	25	19	19	
6	10	12	29	23	23	
7	12	14	48	37	26	
8	14	16	61	47	30	
9	15	19	75	58	34	
10	17	22	91	70	37	
11	19	24	109	84	41	

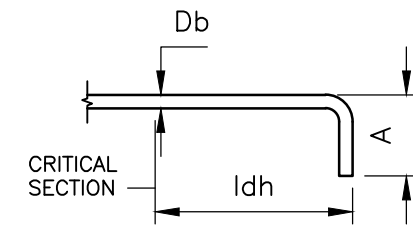
**TYPICAL DEVELOPMENT & CLASS B SPLICE LENGTHS (INCHES)**

BAR SIZE	TENSION					COMPRESSION
	90° HOOK		STRAIGHT		ALL	
	ldh	A	TOP BARS	OTHER BARS		
3	6	6	16	16	12	
4	7	8	20	16	15	
5	9	10	25	19	19	
6	10	12	29	23	23	
7	12	14	43	33	26	
8	14	16	49	37	30	
9	15	19	60	46	34	
10	17	22	74	57	37	
11	19	24	89	68	41	

**NOTES**

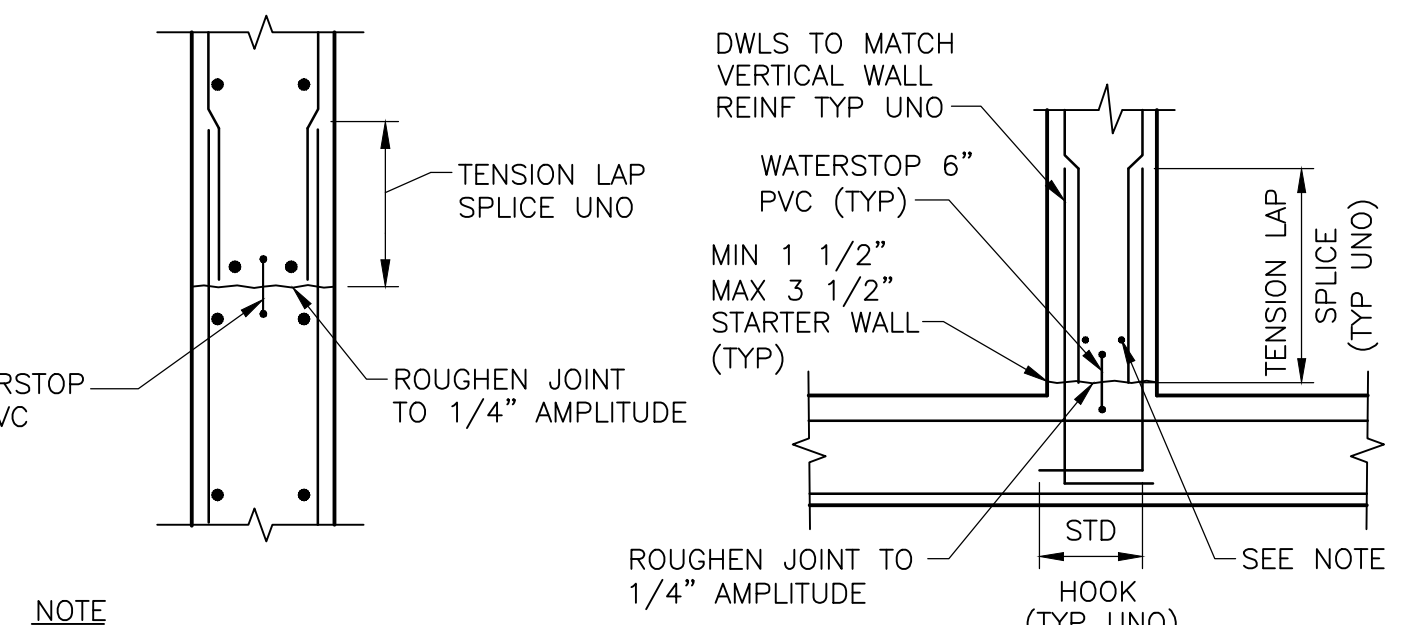
- TOP BARS ARE HOR BARS PLACED SUCH THAT MORE THAN 12" OF CONC IS CAST BELOW THE BAR. HORIZONTAL WALL BARS ARE TOP BARS.
- FOR EPOXY COATED REINFORCING BARS, INCREASE STRAIGHT SPLICE LENGTH BY 50%.
- 90° HOOKS SHALL BE LOCATED WITHIN THE CONFINED CORE OF A COLUMN OR BOUNDARY ELEMENT.
- TABLE IS VALID FOR DESIGNS BASED ON ACI 318-08.
- TABLE IS BASED ON  $f'_c = 4000$  PSI. LAP SPLICE AND DEVELOPMENT LENGTHS SHALL BE ADJUSTED FOR OTHER CONCRETE COMPRESSIVE STRENGTHS AS FOLLOWS:
 

$f'_c$	MULTIPLIER
3000 PSI	1.16
3500 PSI	1.07
4500 PSI	0.94
- FOR COVER AND SPACING GEOMETRY NOT SHOWN ALL HOOKS, SPLICES AND DEVELOPMENT LENGTHS SHALL BE APPROVED IN WRITING BY THE ENGINEER.
- APPLICABLE FOR BAR SPACING  $\geq 6$ -INCH.



**STANDARD HOOK, LAP SPLICE AND DEVELOPMENT LENGTHS**

**DETAIL A**  
NTS



**NOTE**

- DETAIL SHOWN FOR WALLS; SLABS SIMILAR.

**INTERMEDIATE WALL**

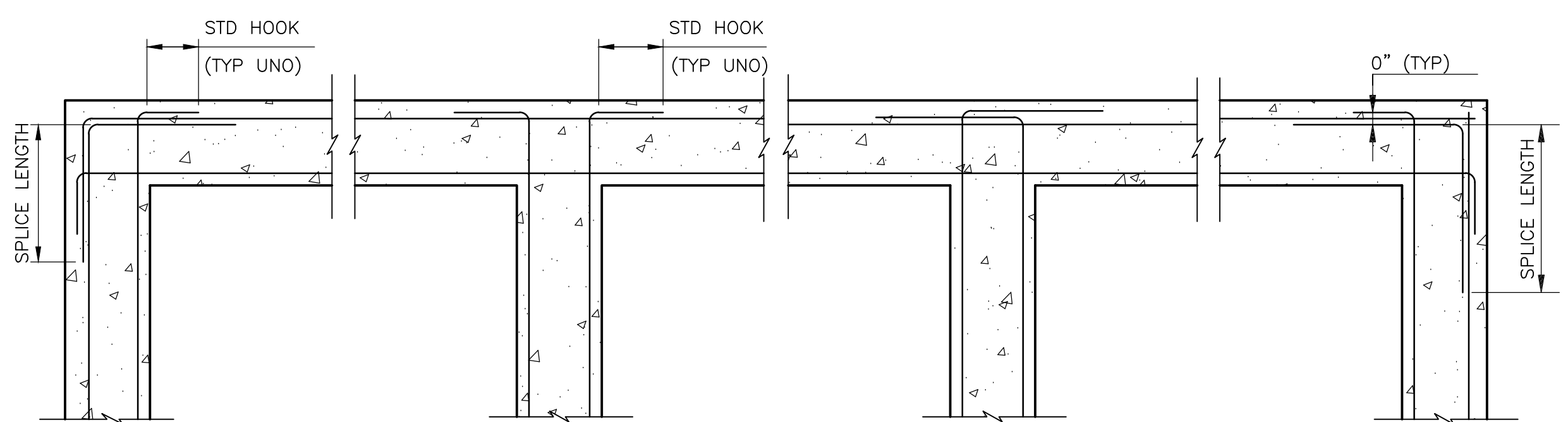
**END WALL**

**NOTES**

- APPLY WATERSTOP WHERE INDICATED ON PLANS OR WHERE WATER TIGHT JOINT IS REQUIRED.
- STARTER WALL MAY BE ELIMINATED AT JOINTS WITHOUT WATERSTOP.
- SEE INTERMEDIATE WALL FOR INFORMATION NOT GIVEN FOR END WALL.
- EXTEND BAR HOOKED ENDS TO BOTTOM OF SLAB OR FAR FACE OF WALL WITH CONCRETE COVER INDICATED ON SHEET S-1.
- WHERE NOT SHOWN ON INDIVIDUAL DRAWINGS, DOUBLE REINFORCEMENT IS REQUIRED FOR ALL LIQUID TIGHT STRUCTURES. PROVIDE ADDITIONAL REINFORCEMENT EF TO 1/4 OF TOTAL WALL HEIGHT (OR 4'-0" MIN). BARS SHALL BE OF SAME SIZE AS HOR REINFORCEMENT AND LOCATED HALFWAY BETWEEN TYPICAL HOR REINFORCEMENT.

**CONSTRUCTION JOINT**

**DETAIL B**  
NTS

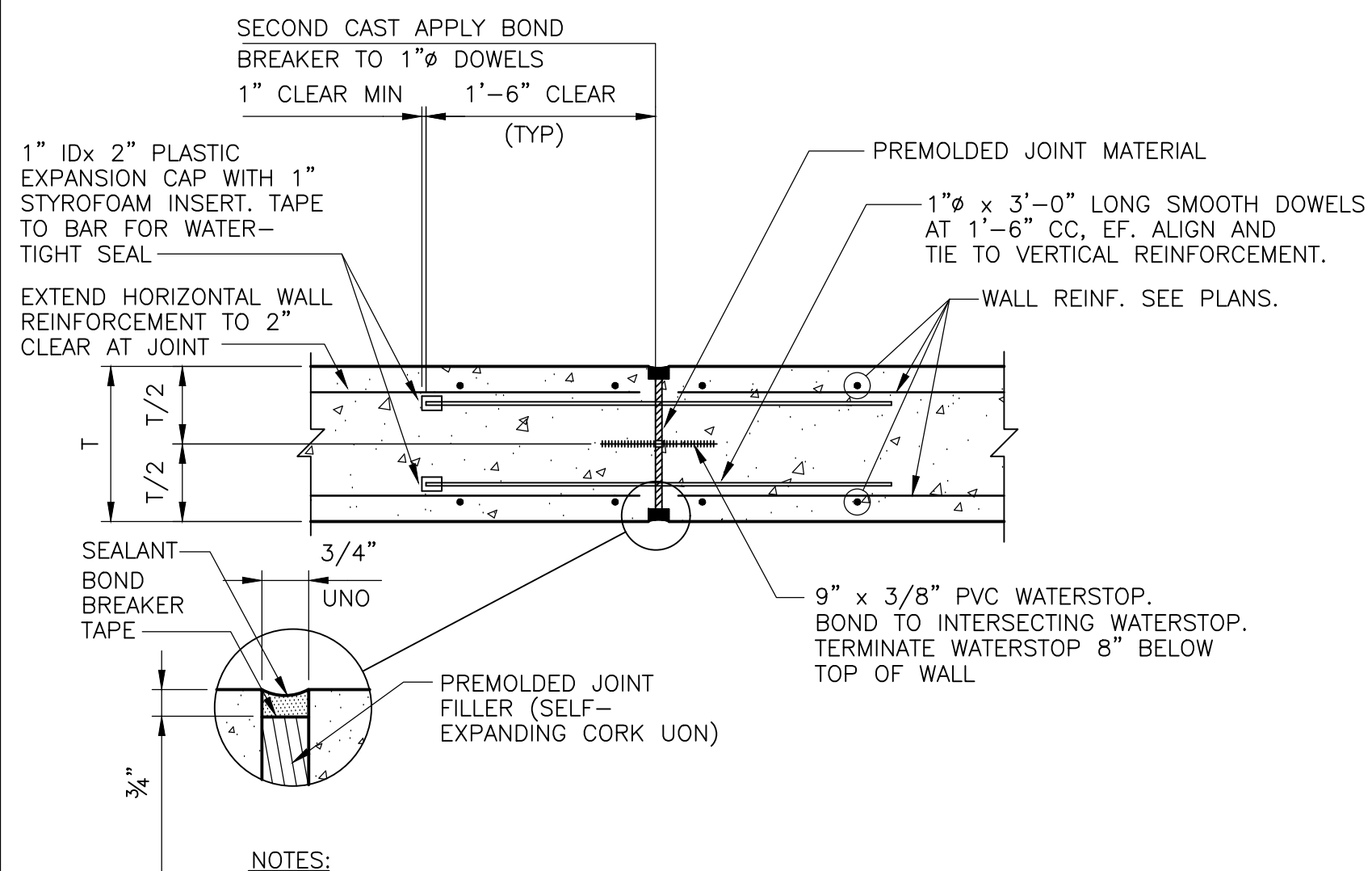


**REINFORCING AT WALL AND CURB CORNERS**

**DETAIL C**  
NTS

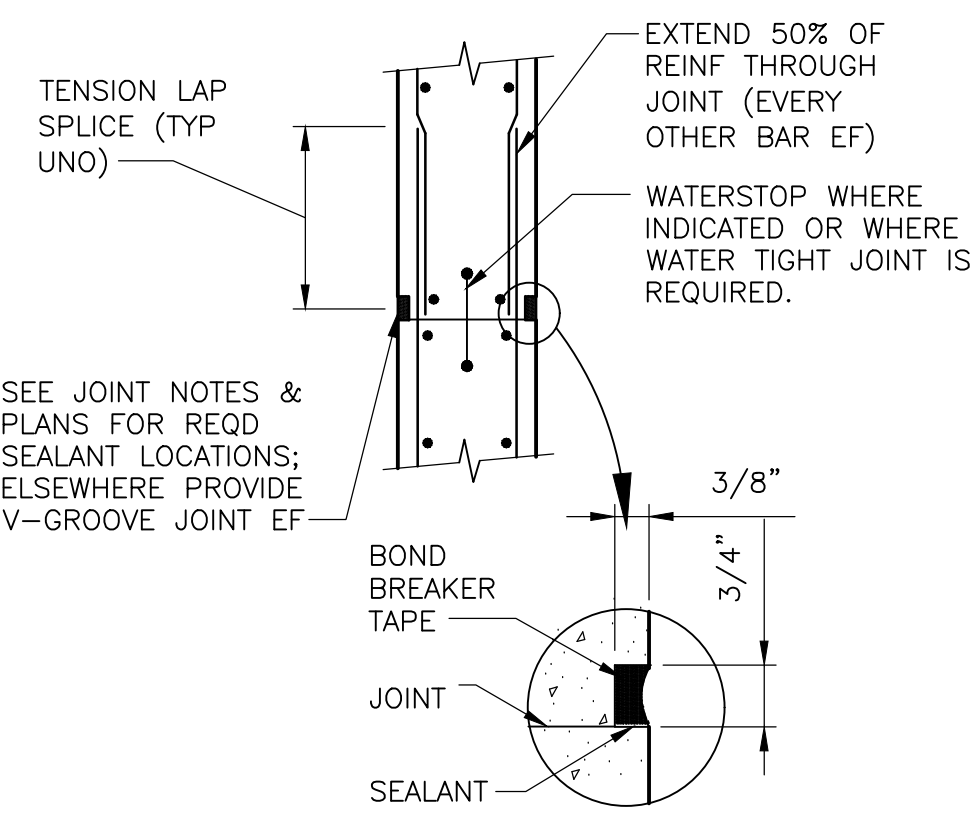
**NOTES:**

- ALL 90 BENDS SHALL BE STANDARD HOOKS PER ACI 315 UNLESS OTHERWISE SPECIFIED.
- EXTEND BAR HOOKED ENDS TO FAR FACE OF WALL WITH CONCRETE COVER INDICATED ON SHEET S-1.
- DETAILS SHOWN ARE FOR WALLS, CONTINUOUS GRADE BEAMS AND BEAMS.
- SEE PLANS FOR ADDITIONAL REINFORCEMENT AT WALL CORNERS AND INTERSECTIONS.



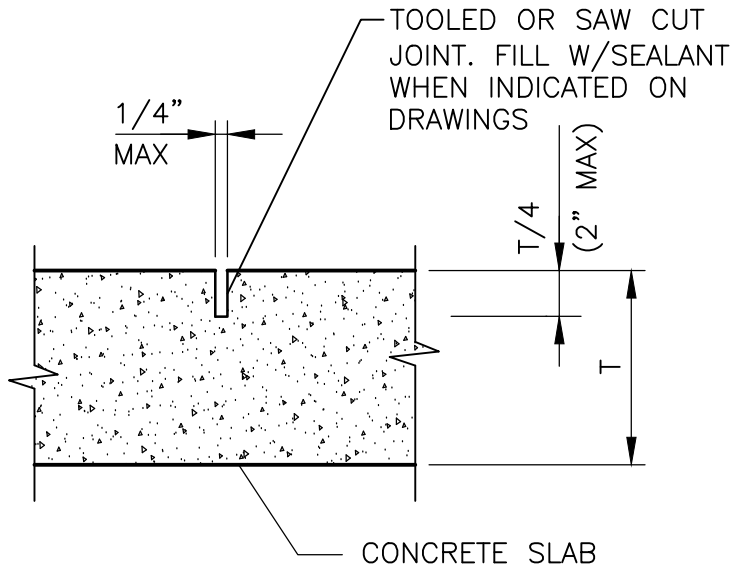
**EXPANSION JOINT**

**DETAIL D**  
NTS



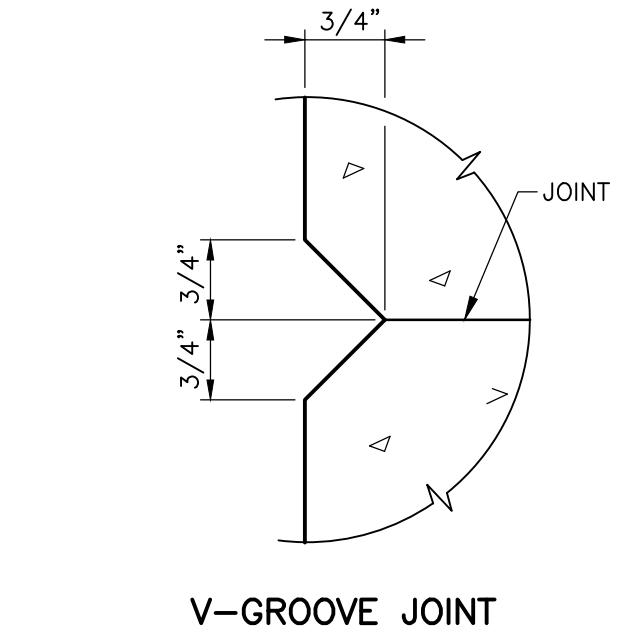
**CONTROL JOINT AND SEALANT**

**DETAIL E**  
NTS



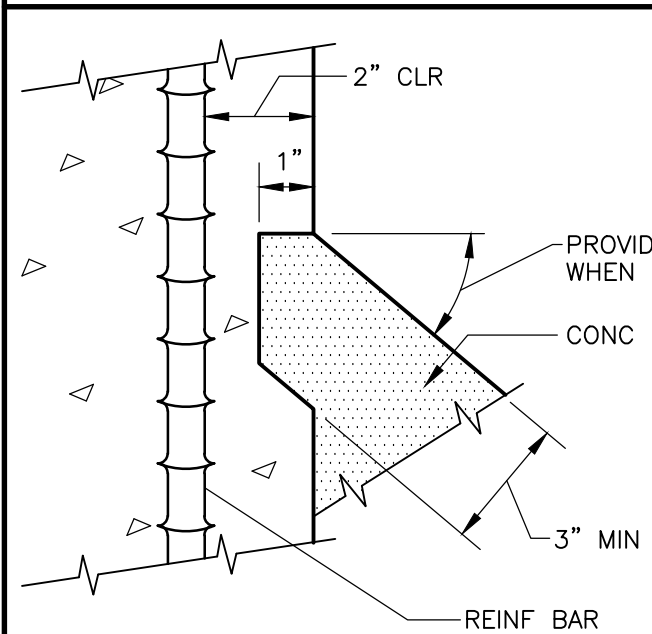
**TOOLED CONTROL JOINT**

**DETAIL F**  
NTS



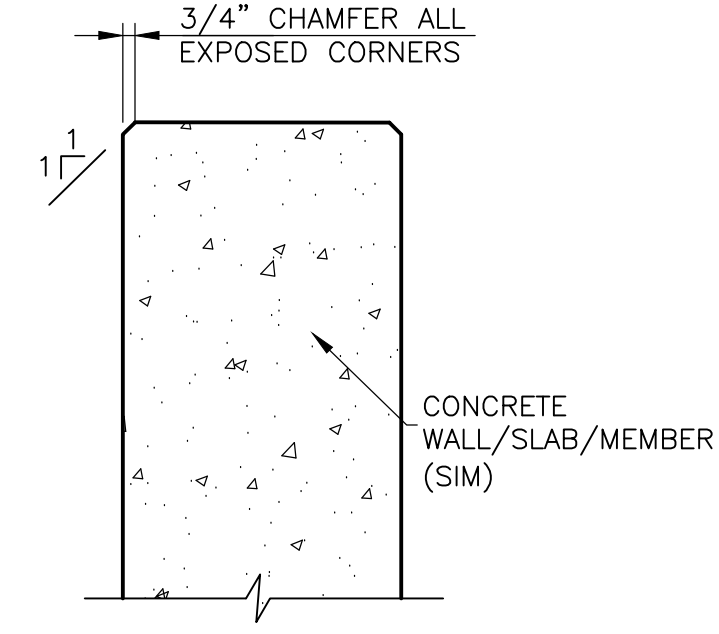
**V-GROOVE JOINT**

**DETAIL G**  
NTS



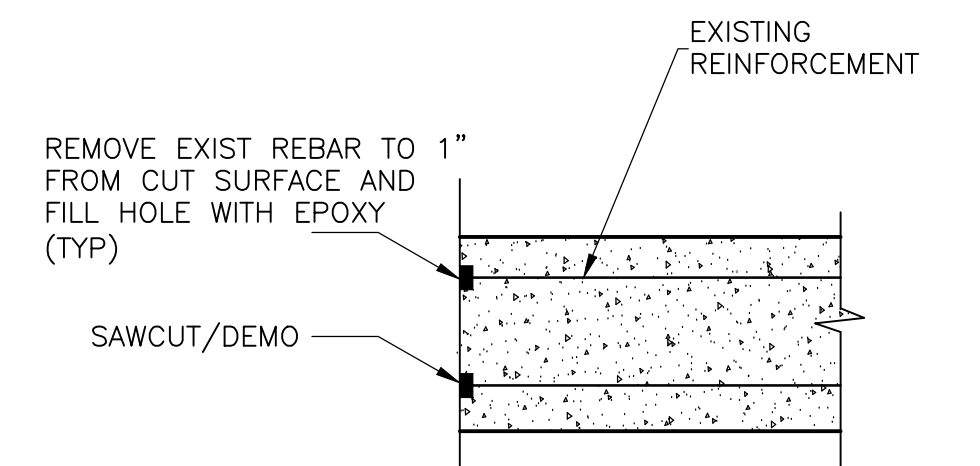
**KEY AT CONCRETE FILL**

**DETAIL H**  
NTS



**CHAMFER**

**DETAIL J**  
NTS



**EXISTING REBAR PROTECTION (SIM)**

**DETAIL K**  
NTS

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DESIGNED BY: J. EULL  
DRAWN BY: P. ANUSHA  
SHEET CHK'D BY: W. YANG  
CROSS CHK'D BY: J. EULL  
APPROVED BY: C. WONG  
DATE: JANUARY 2023

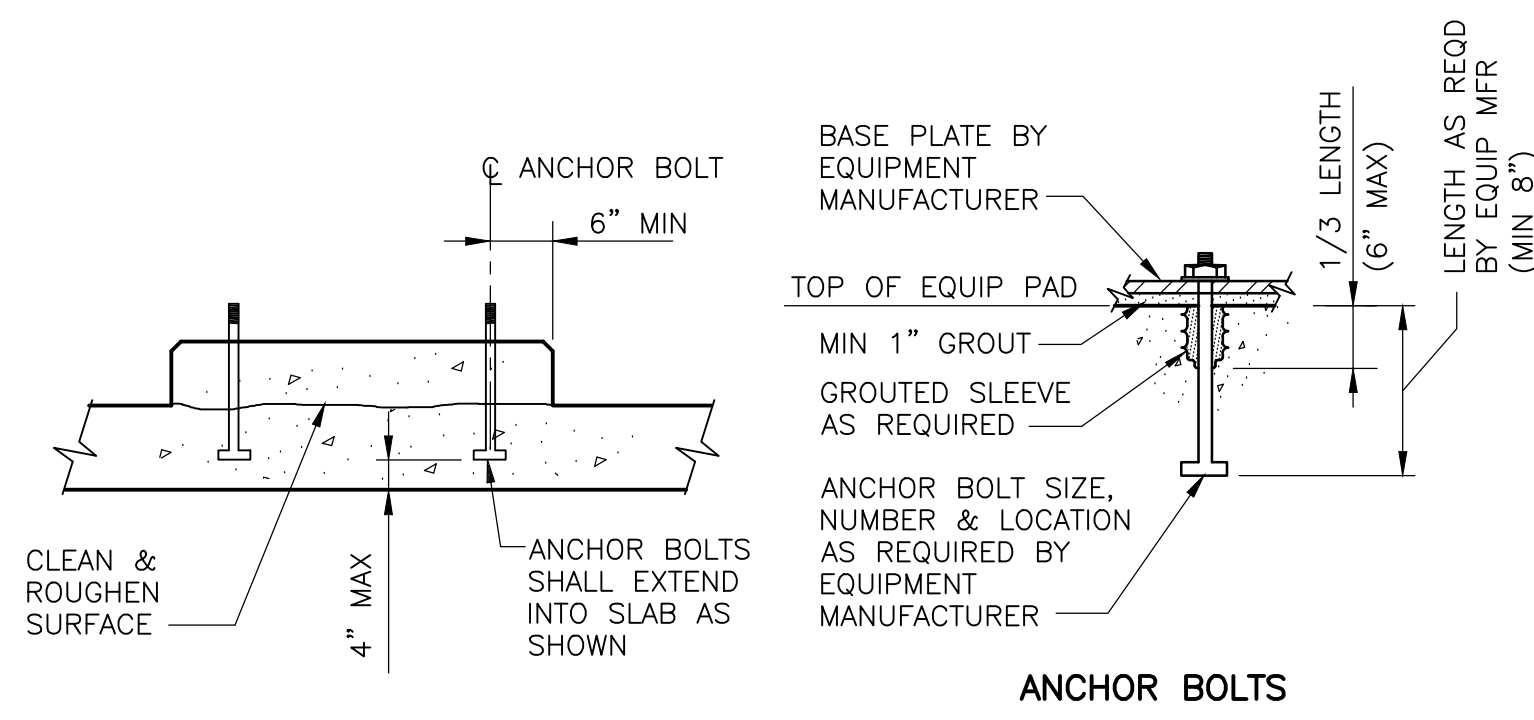


CITY OF GEORGETOWN, TEXAS  
SAN GABRIEL WWTP  
REHABILITATION

**STRUCTURAL STANDARD DETAILS I**

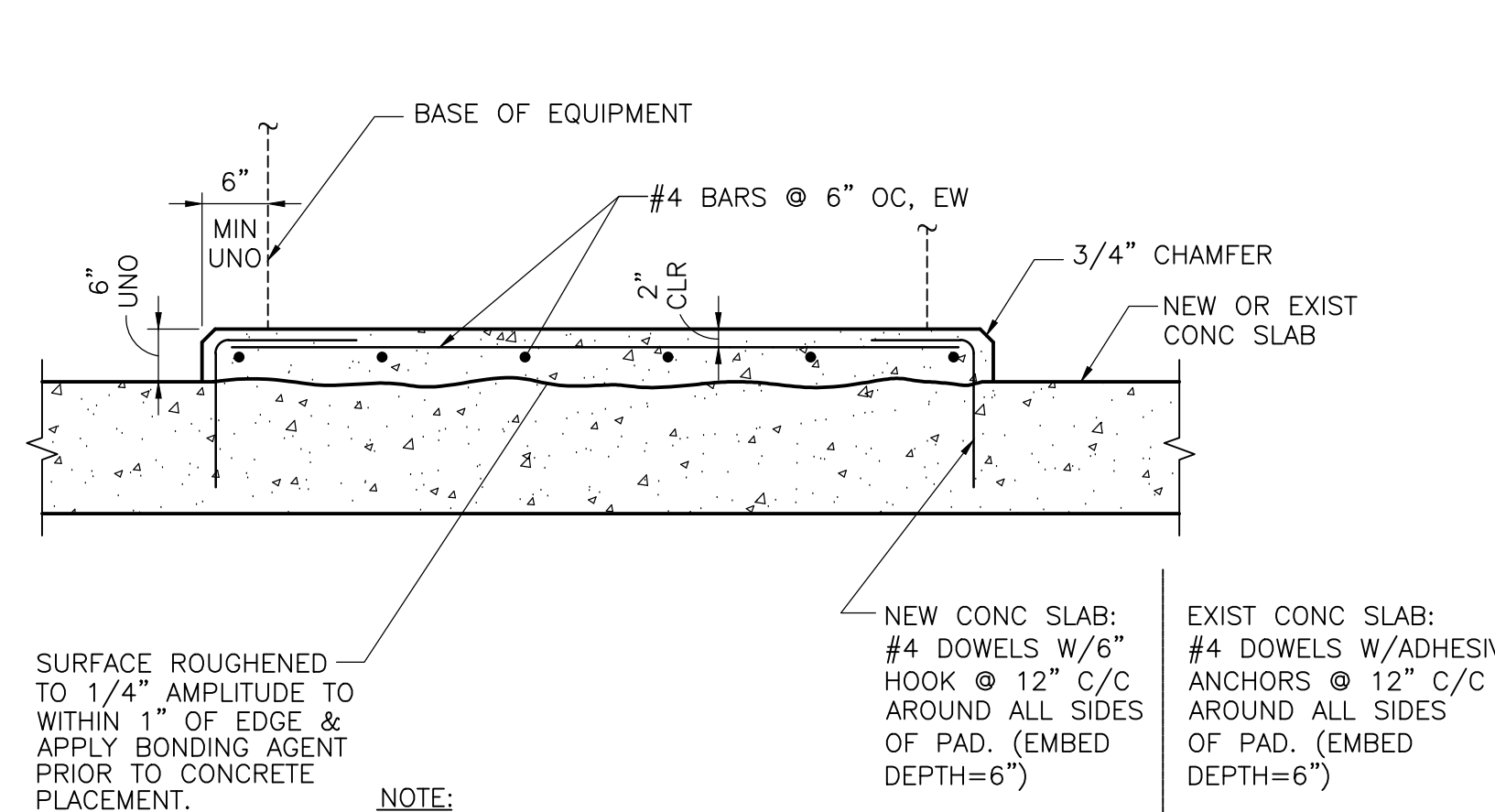
PROJECT NO. 2048-264953  
FILE NAME: S001STD.DWG  
SHEET NO.  
**SZ-1**





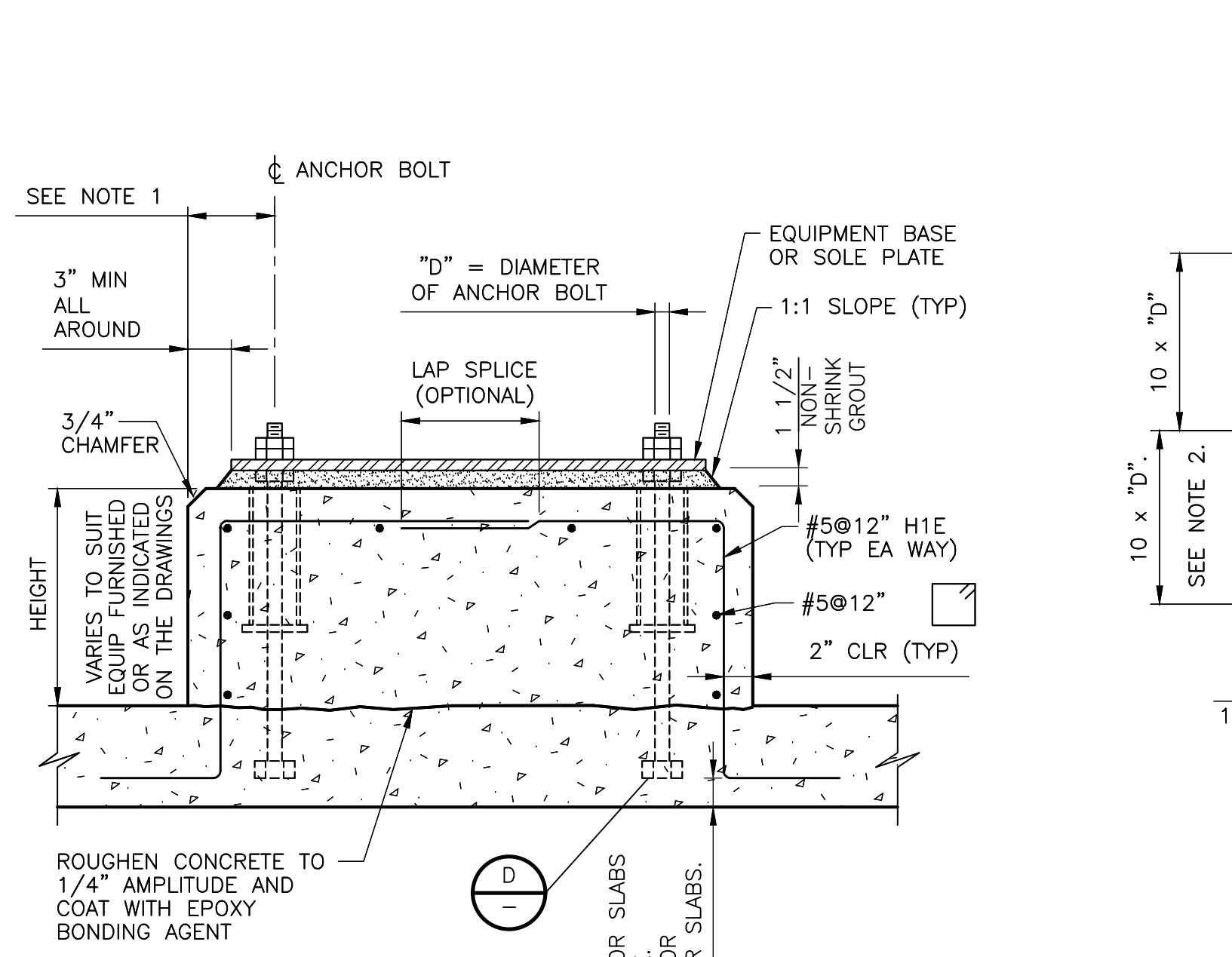
**NOTE:**  
1. DIMENSIONS OF PAD AS REQD TO SUIT EQUIP (4" MIN HEIGHT UNLESS PAD IS CAST INTEGRALLY WITH SLAB)

**EQUIPMENT PAD - ANCHOR BOLTS**  
**DETAIL A**  
NTS



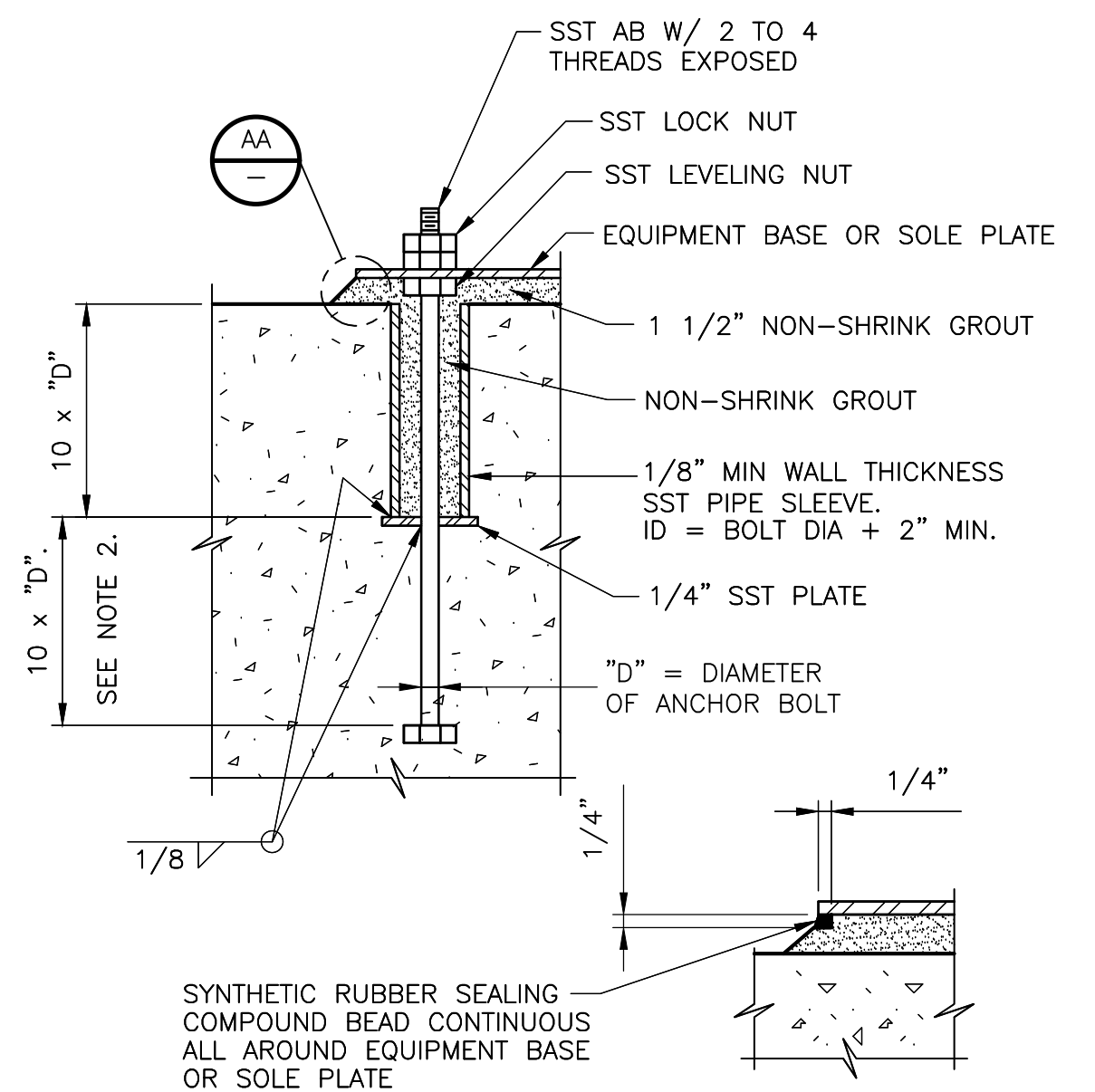
**NOTE:**  
1. COORDINATE PAD DIMENSIONS AND ANCHORAGE WITH THE APPROVED EQUIPMENT MANUFACTURER

**EQUIPMENT PAD - REINFORCING**  
**DETAIL B**  
NTS



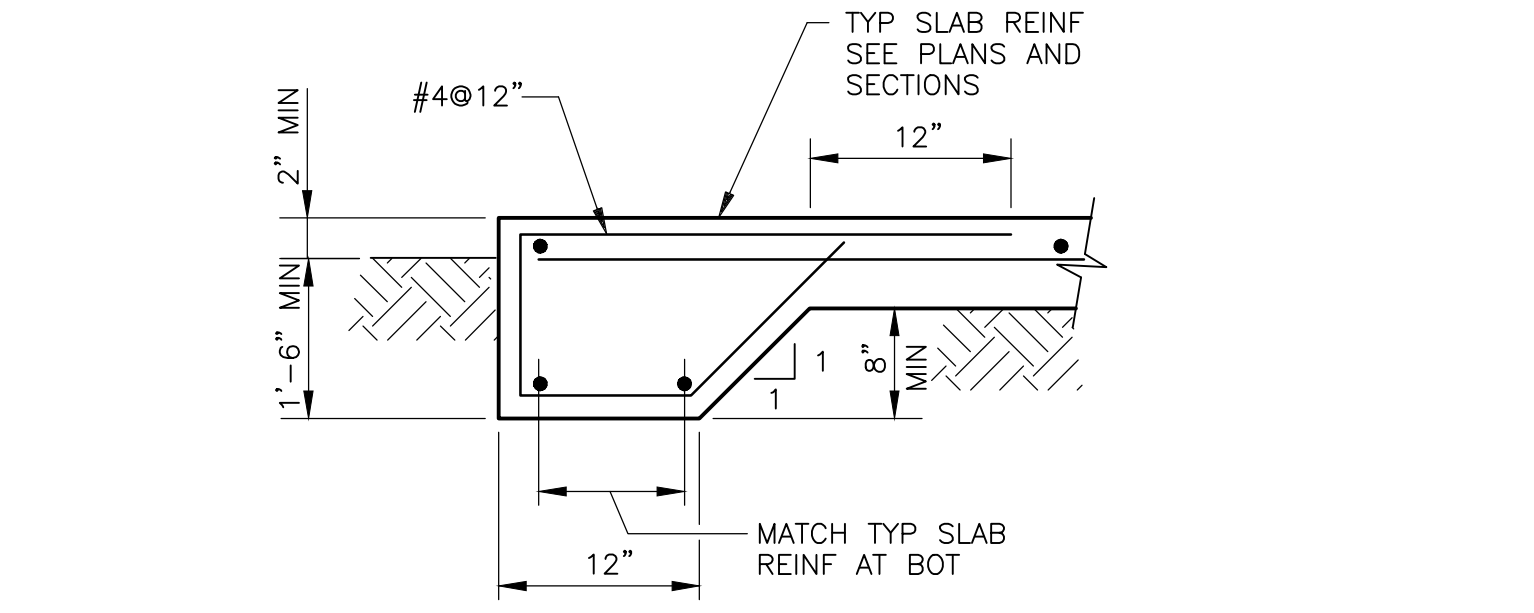
**NOTE:**  
1. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 X "D"

**PUMP SUPPORT**  
**DETAIL C**  
NTS

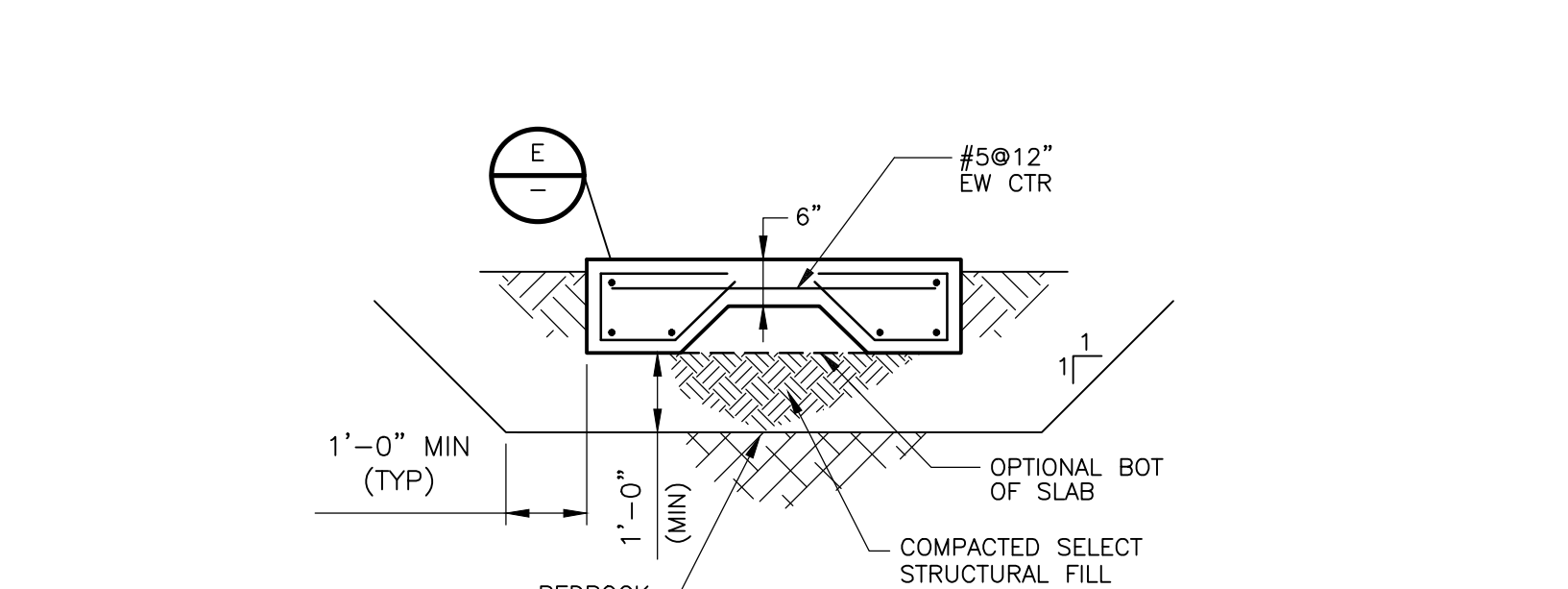


**NOTES:**  
1. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.  
2. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.  
3. PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.

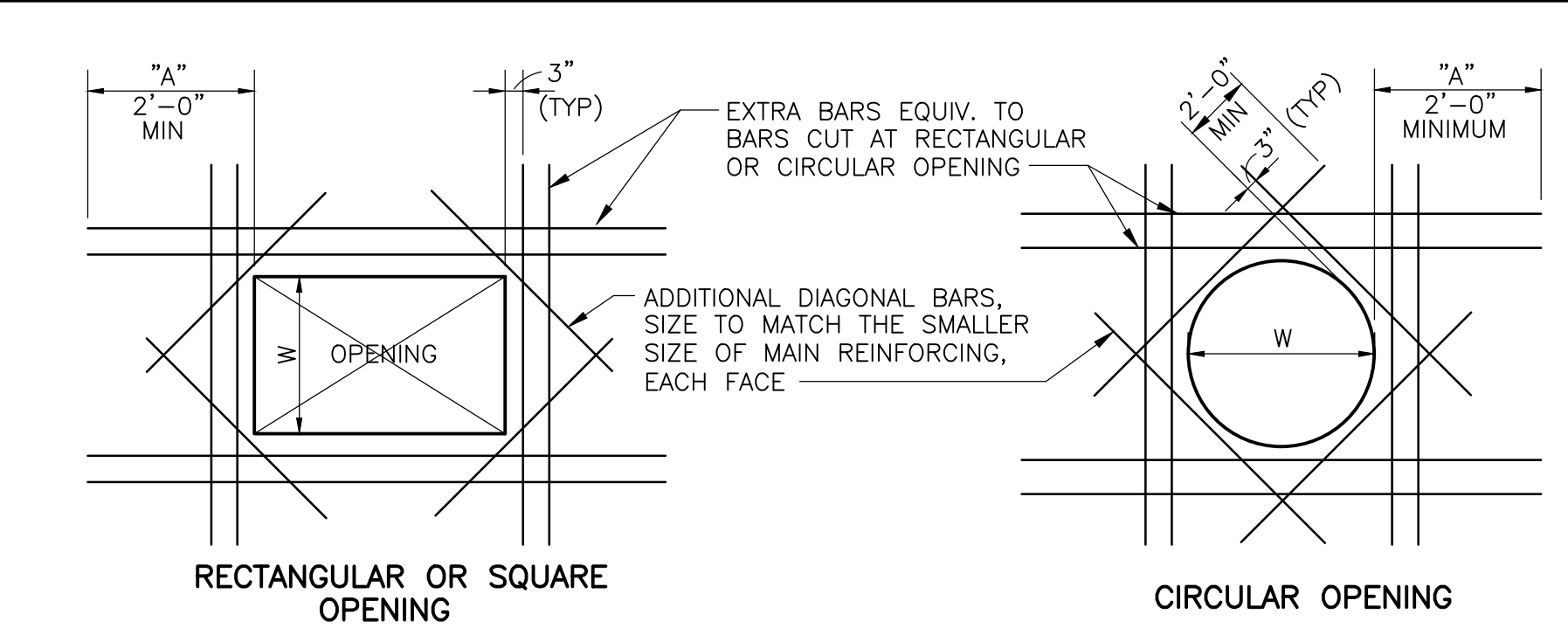
**ANCHOR BOLT**  
**DETAIL D**  
NTS



**THICKENED SLAB EDGE**  
**DETAIL E**  
NTS

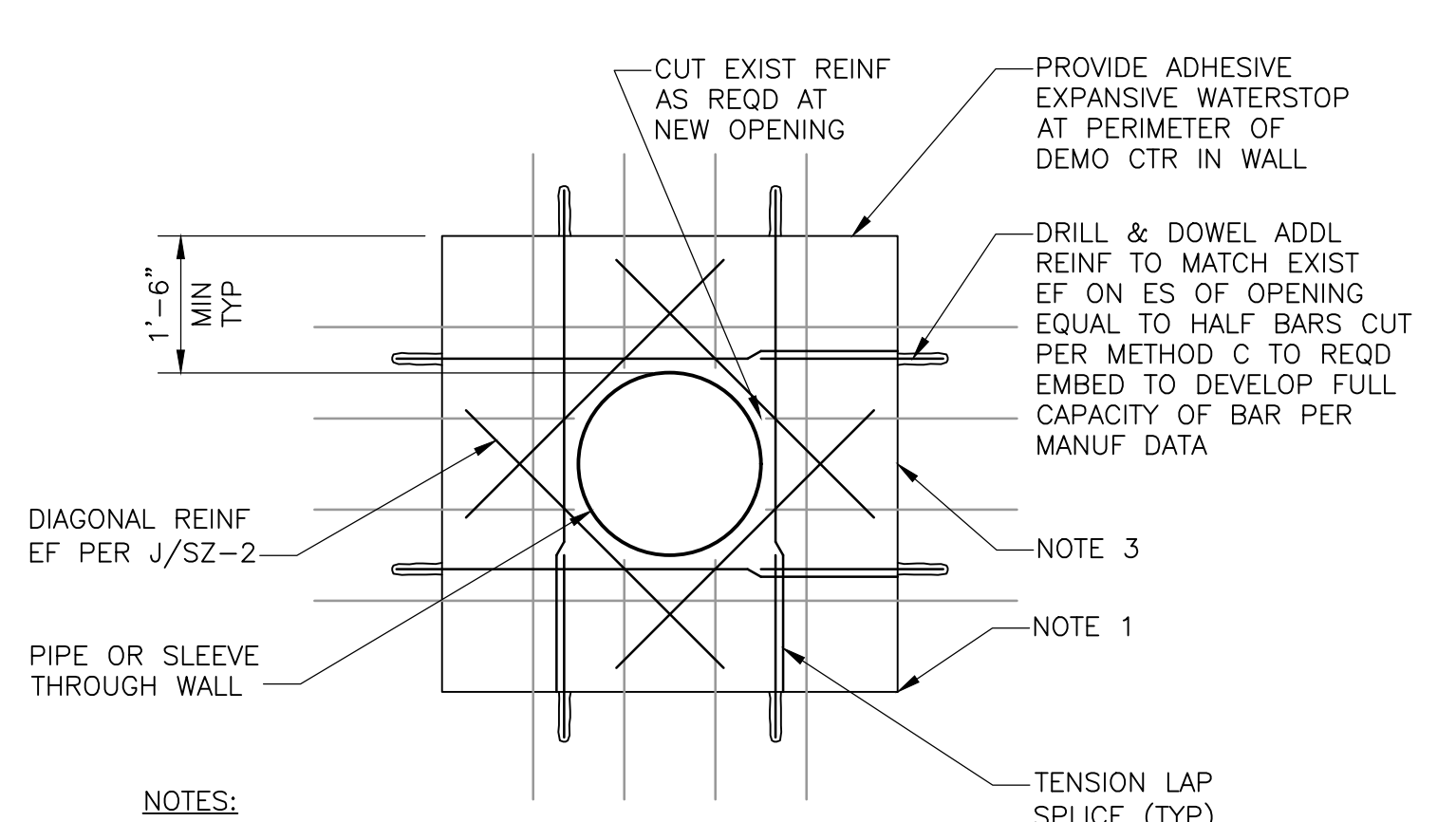


**ACCESS PAD**  
**DETAIL F**  
NTS



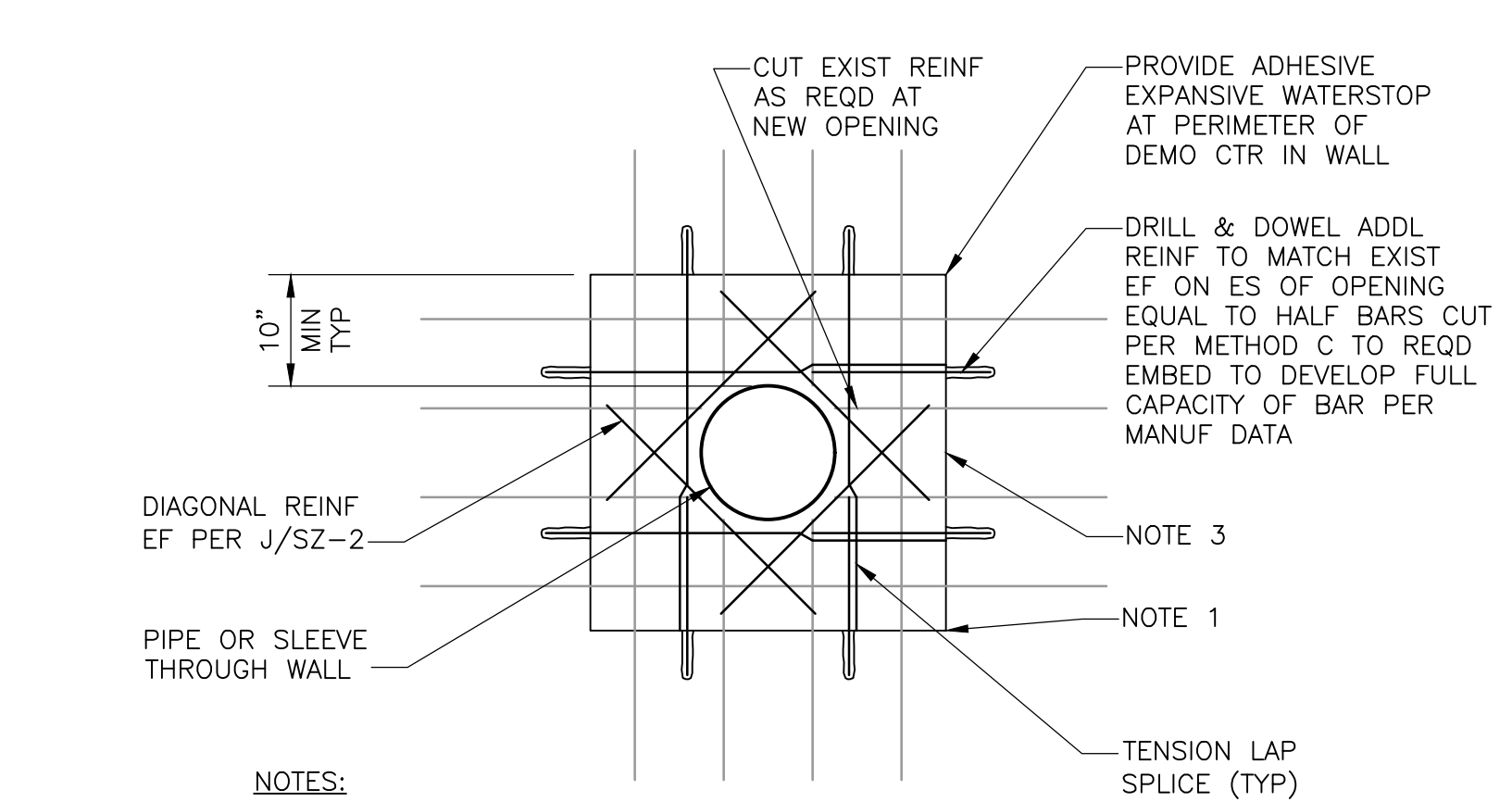
**NOTES:**  
1. DISCONTINUE TYPICAL REINFORCING AT OPENING.  
2. PLACE ADDITIONAL BARS IN SAME ORIENTATION AND POSITION AS BARS CUT BY OPENING. PROVIDE ONE SET OF BARS FOR EACH LAYER OF REINFORCING CUT.  
3. "A" = TOP BAR EMBEDMENT LENGTH (24" MINIMUM). PROVIDE STANDARD HOOK IF FULL EMBEDMENT LENGTH IS NOT POSSIBLE.  
4. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.  
5. SEE MECHANICAL, ELECTRICAL, PLUMBING AND ARCHITECTURAL DRAWINGS FOR SLAB AND WALL OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS.  
6. ADDITIONAL REINFORCING MAY BE OMITTED ONLY WHERE OPENING IS FRAMED BY BEAMS OR WALLS.  
7. ADDITIONAL REINFORCING NOT REQUIRED WHEN SPECIFIED REINFORCING IS NOT CUT.  
8. ALL REINFORCING SPACING SHALL BE GREATER THAN 3" CENTER TO CENTER.

**TYPICAL WALL OR SLAB OPENING ADDITIONAL REINFORCEMENT**  
**DETAIL J**  
NTS



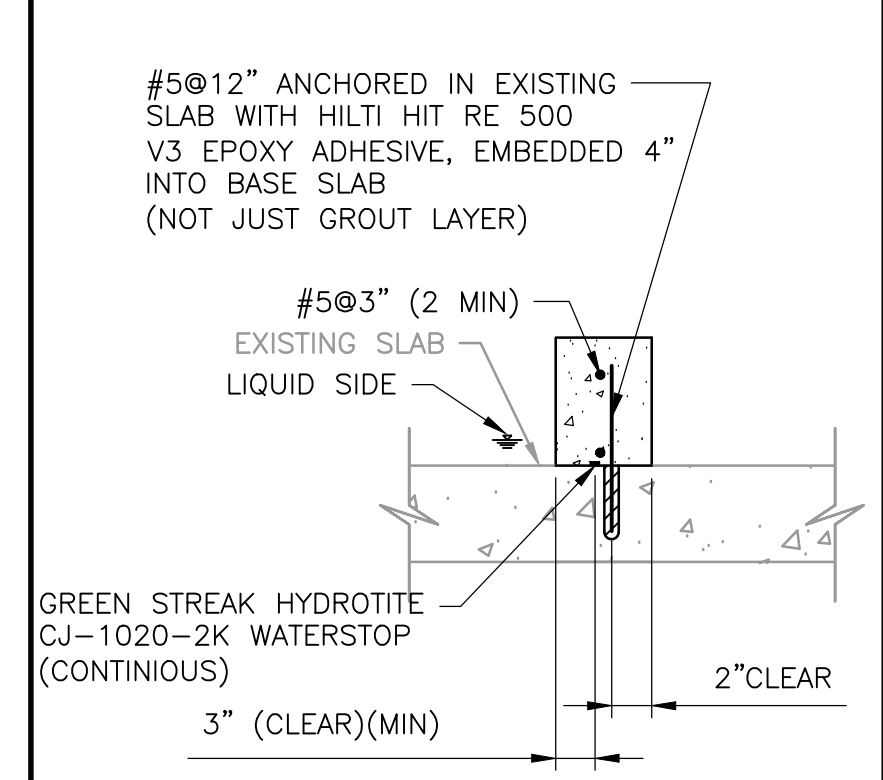
**NOTES:**  
1. DO NOT OVERCUT CORNERS W/ 1" DEEP SAWCUT EF OF WALL.  
2. MAINTAIN ALL EXISTING REINFORCING EXCEPT THAT WHICH INTERSECTS THE NEW OPENING.  
3. ROUGHEN & CLEAN EXISTING SURFACE TO ACCEPT CEMENT SLURRY OR EPOXY ADHESIVE BONDING AGENT AS SPECIFIED IN 030130.71.

**NEW OPENING FOR 18" PIPE OR LARGER**  
**DETAIL G**  
NTS



**NOTES:**  
1. DO NOT OVERCUT CORNERS W/ 1" DEEP SAWCUT EF OF WALL.  
2. MAINTAIN ALL EXISTING REINFORCING EXCEPT THAT WHICH INTERSECTS THE NEW OPENING.  
3. ROUGHEN & CLEAN EXISTING SURFACE TO ACCEPT CEMENT SLURRY OR EPOXY ADHESIVE BONDING AGENT AS SPECIFIED IN 030130.71.

**NEW OPENING FOR 18" PIPE AND SMALLER**  
**DETAIL H**  
NTS



**CURB ON EXISTING SLAB**  
**DETAIL K**  
NTS



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DESIGNED BY:	J. EULL
DRAWN BY:	P. ANUSHA
SHEET CHK'D BY:	W. YANG
CROSS CHK'D BY:	J. EULL
APPROVED BY:	C. WONG
DATE:	JANUARY 2023

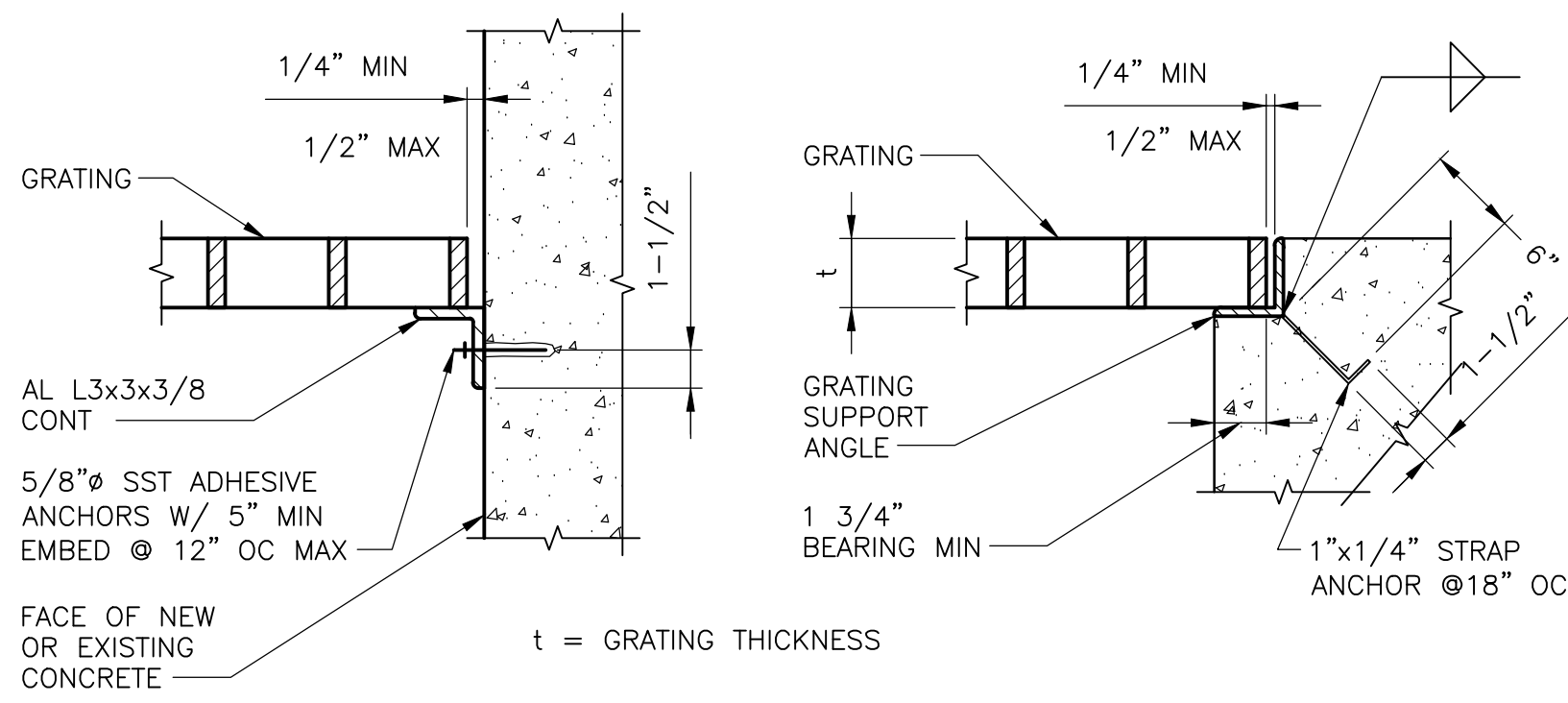
REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

**CDM Smith**  
9430 Research Blvd., Suite 1-200  
Austin, TX 78759  
Tel: (512) 346-1100  
TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
REHABILITATION**

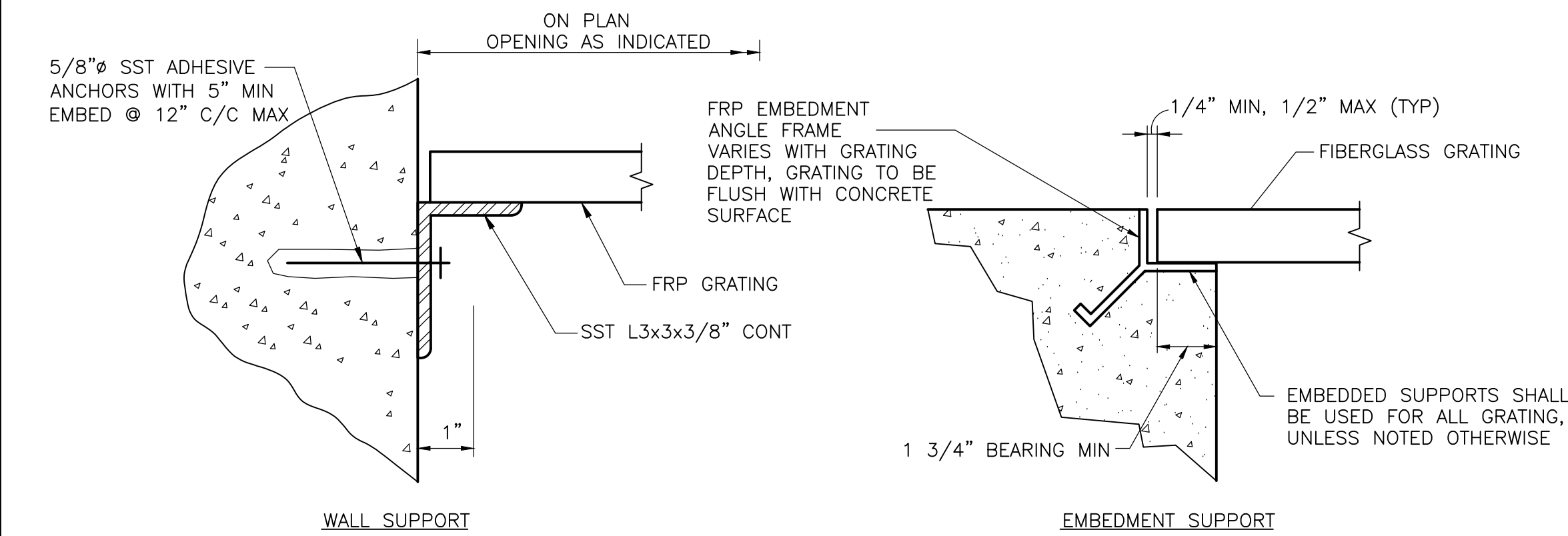
**STRUCTURAL STANDARD DETAILS II**

PROJECT NO.	2048-264953
FILE NAME:	S002STD.DWG
SHEET NO.	SZ-2



ALUMINUM GRATING SUPPORTS

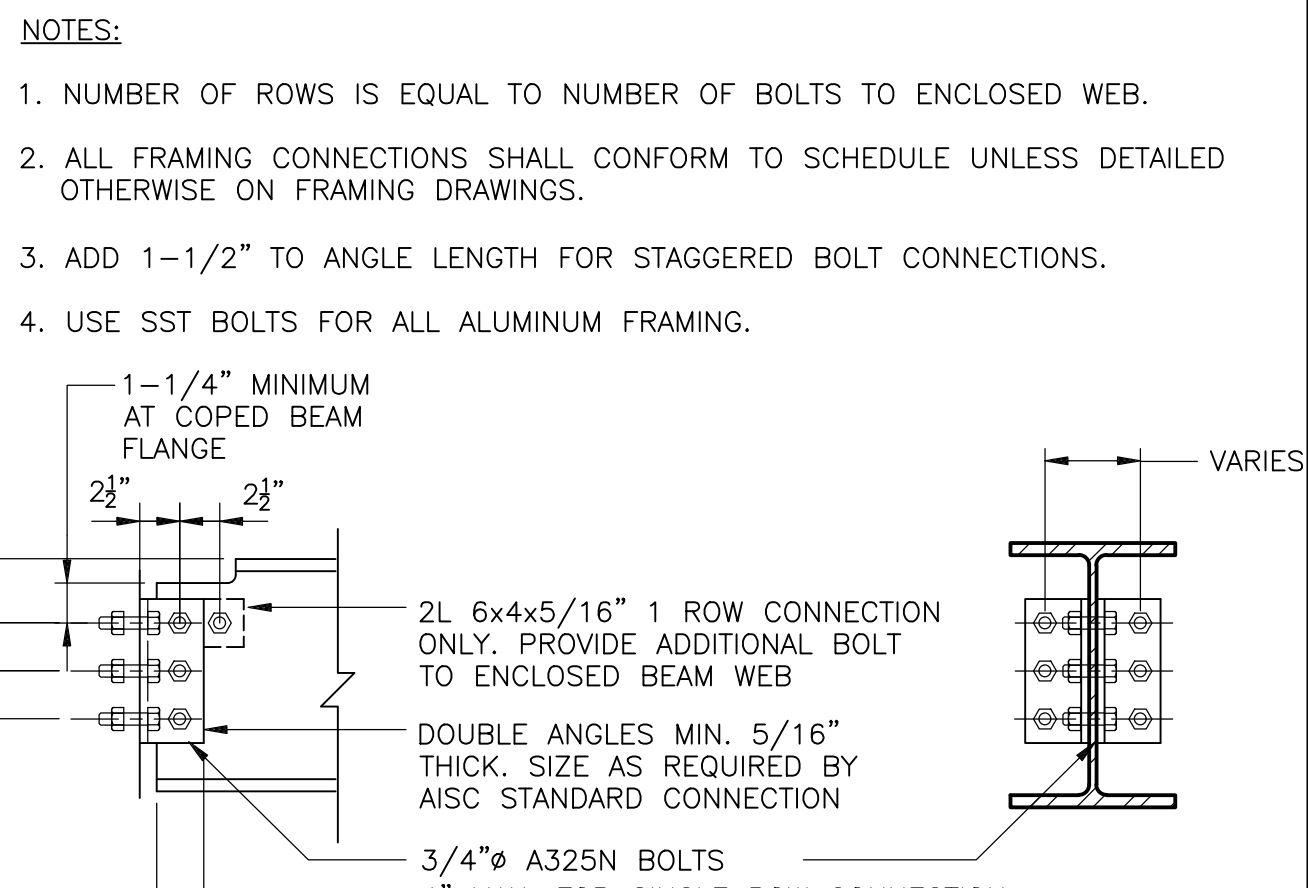
DETAIL A  
NTS



FRP GRATING SUPPORT

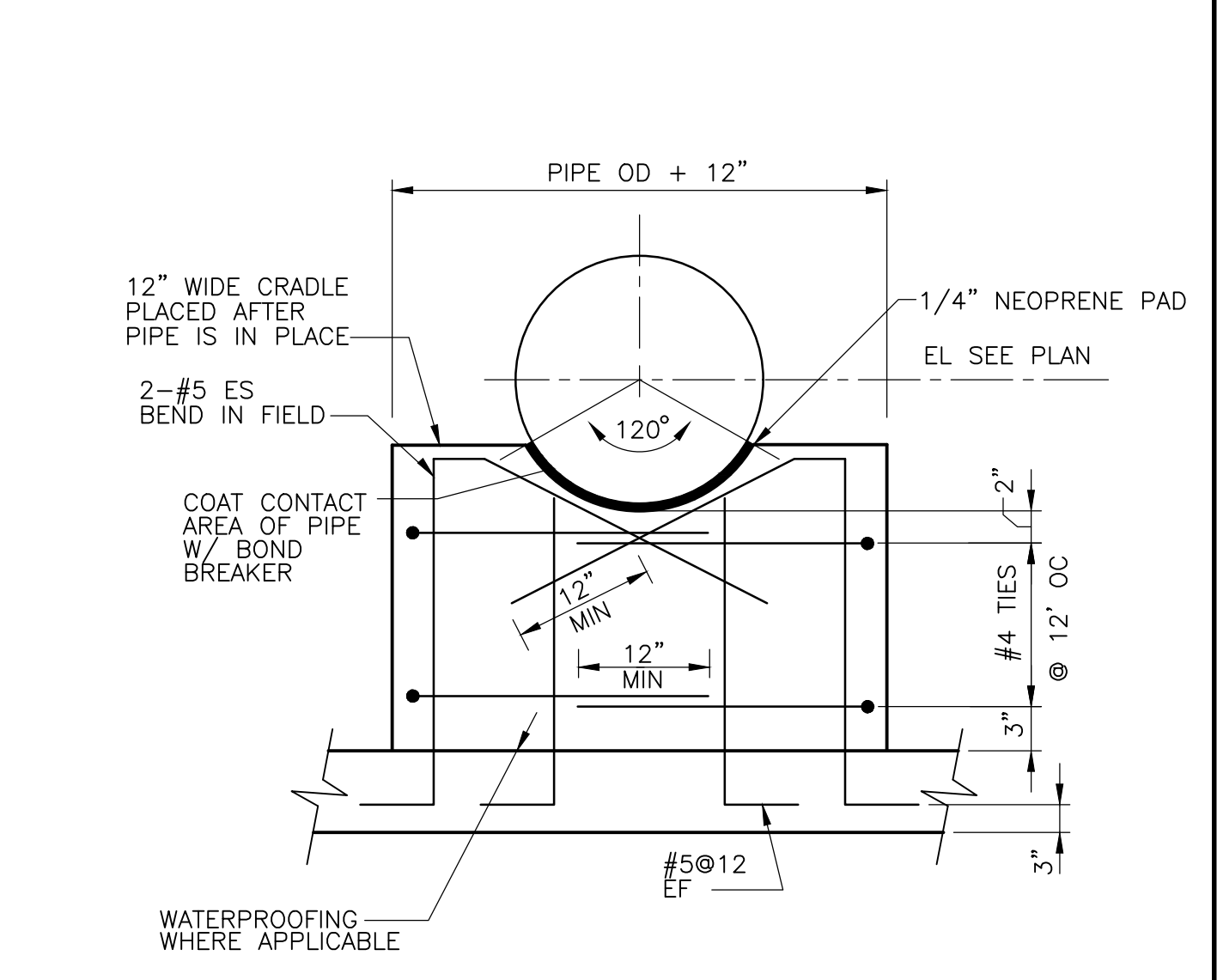
DETAIL B  
NTS

NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS	LENGTH (3) OF ANGLE
36	7	1'-8 1/2"
30-33	6	1'-5 1/2"
24-27	5	1'-2 1/2"
16-21	4	11 1/2"
12-15	3	8 1/2"
8-10	2	5 1/2"
6	1	



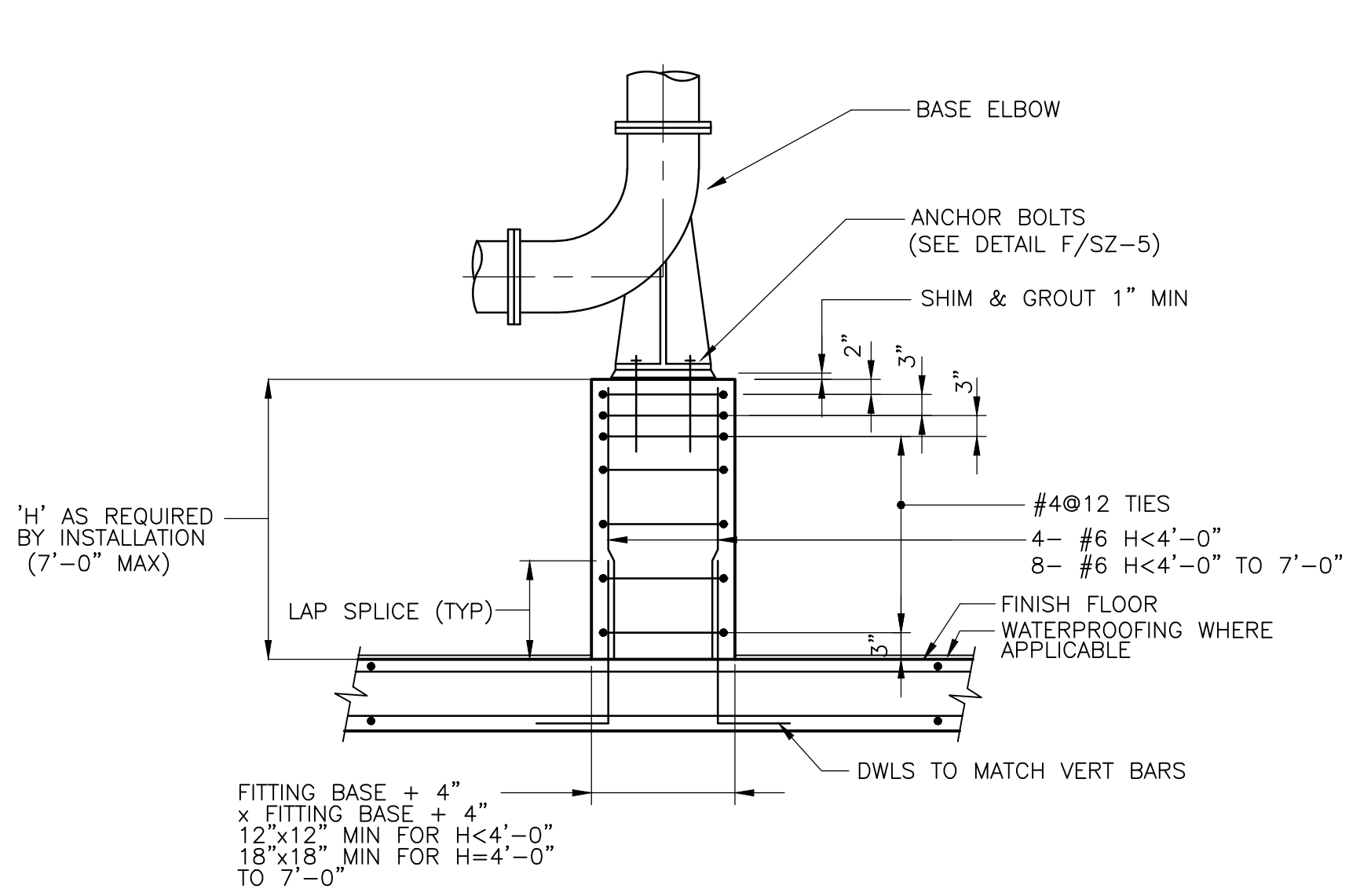
TYPICAL FRAMING CONNECTION

DETAIL C  
NTS



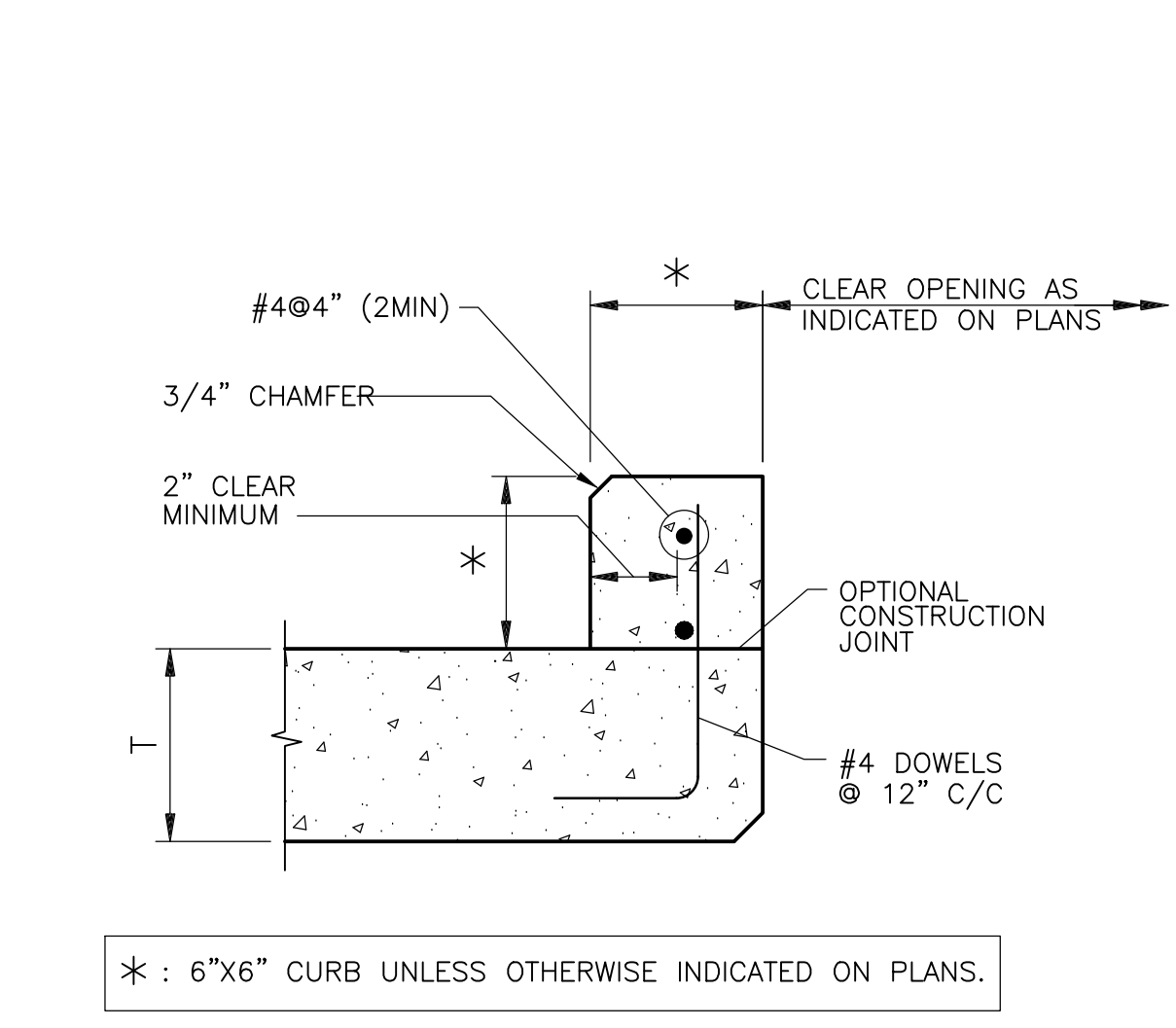
CONCRETE PIPE CRADLE

DETAIL D  
NTS



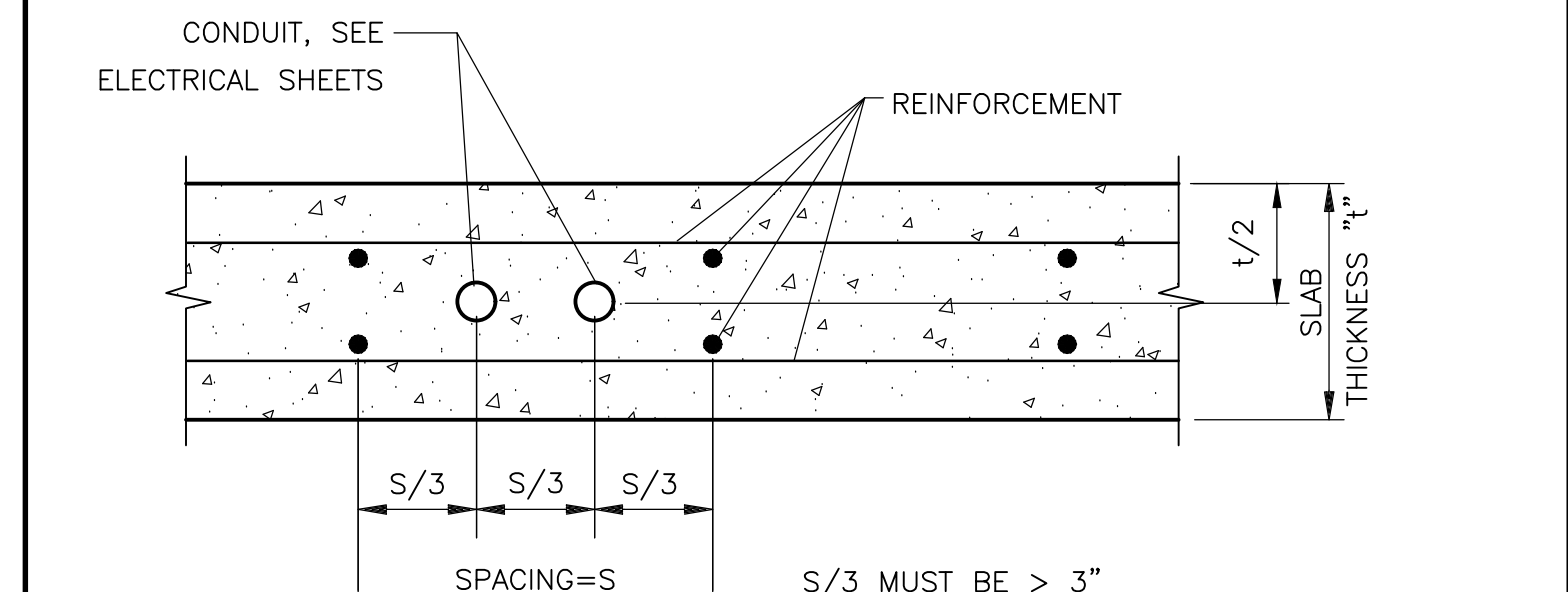
BASE ELBOW SUPPORT

DETAIL E  
NTS



CONCRETE CURB

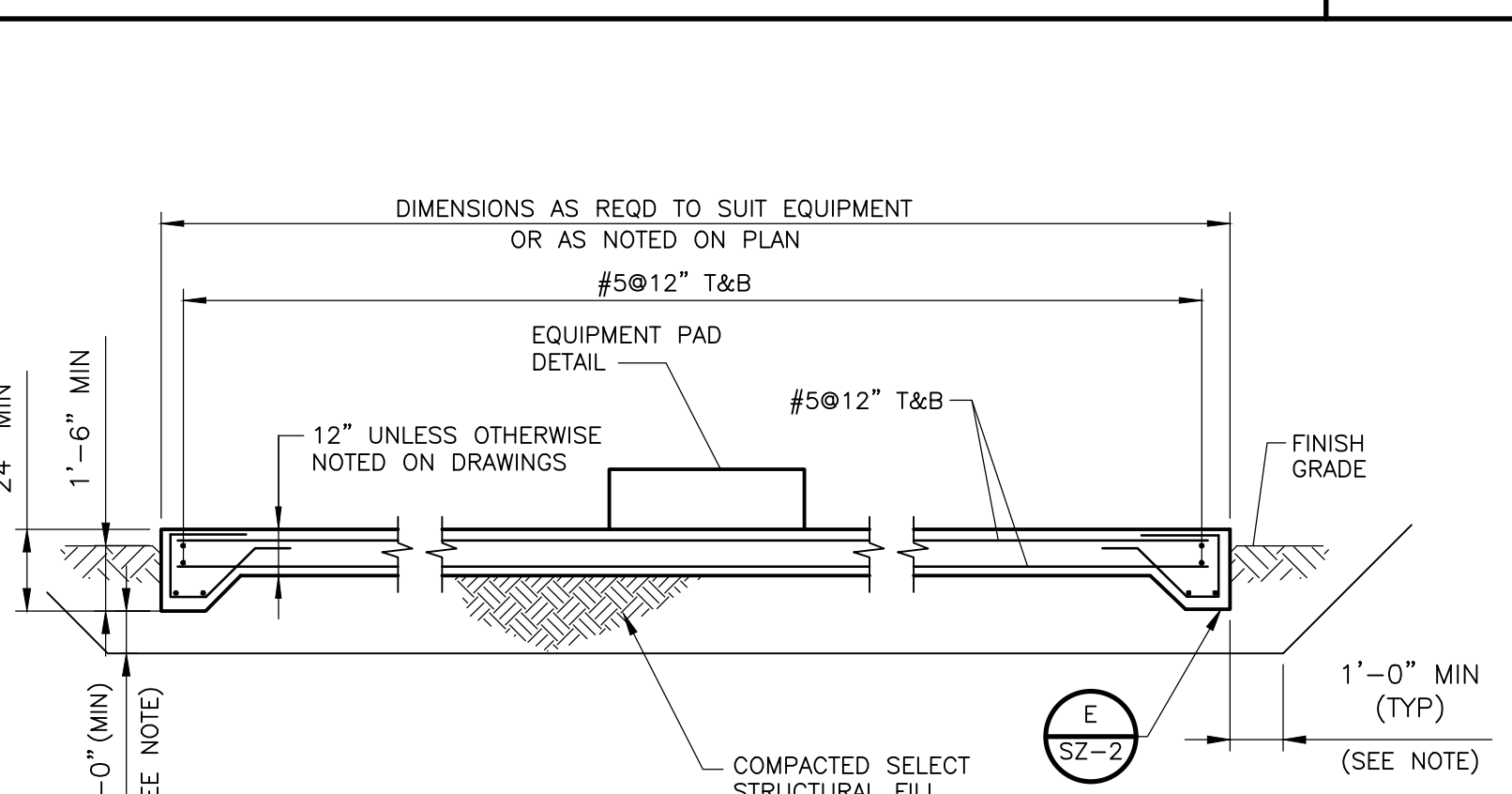
DETAIL F  
NTS



EMBEDDED CONDUITS

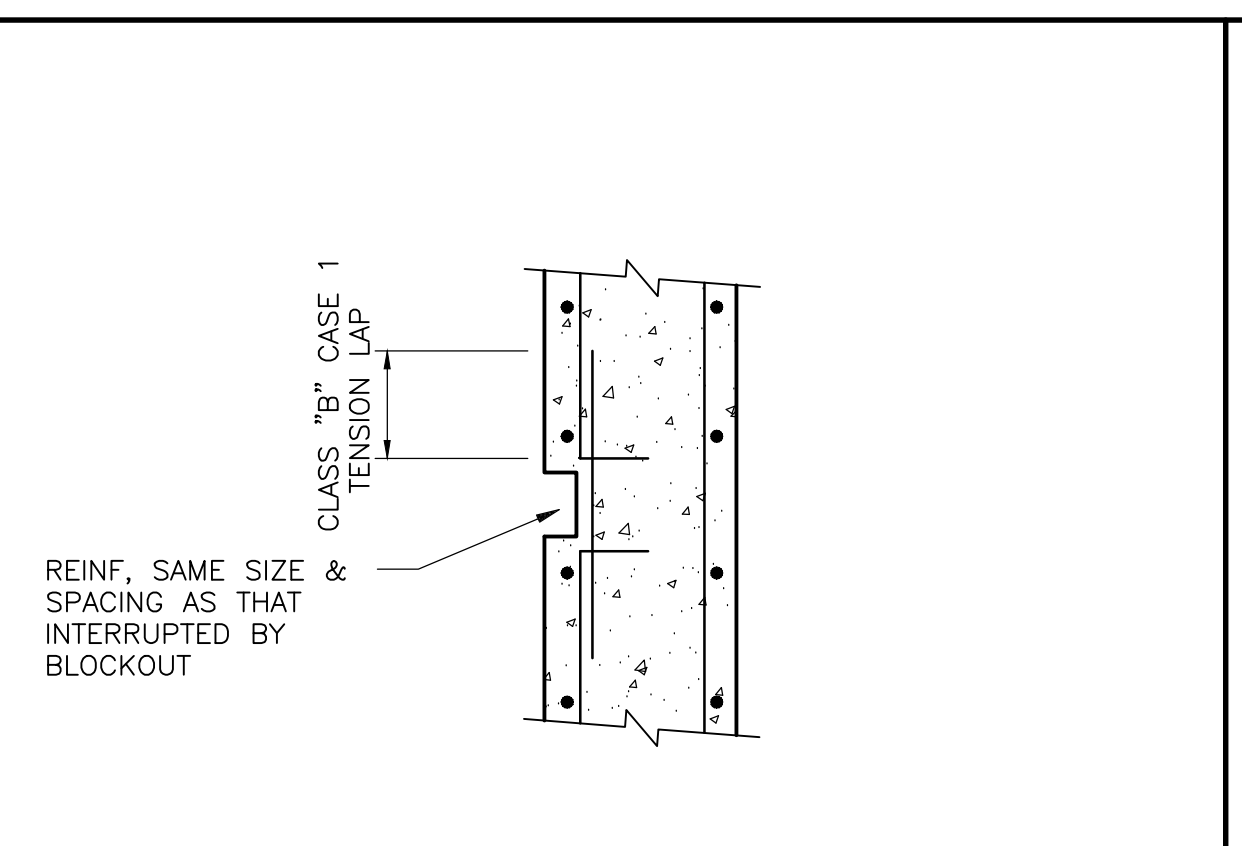
DETAIL G  
NTS

- NOTES:
1. CONDUIT TO BE PLACED IN SLABS SHALL BE EVENLY SPACED BETWEEN REINF.
  2. ALL CONDUITS SHALL BE PLACED PARALLEL OR NORMAL TO REINF.
  3. CONDUITS SHALL NOT PENETRATE VERTICALLY THROUGH BEAMS.
  4. THIS DETAIL IS FOR CONDUIT EMBEDDED IN WALL OR SLAB ONLY. DO NOT EMBED CONDUIT WITHIN COLUMNS OR BEAMS WITHOUT ENGINEER APPROVAL.
  5. ALL CONDUITS SHALL BE PVC OR RIGID METAL COATED WITH PVC.
  6. DO NOT EMBED CONDUIT > 2" DIAMETER WITHOUT ENGINEER APPROVAL.
  7. DO NOT EMBED CONDUIT WITHIN LIQUID CONTAINMENT STRUCTURE WITHOUT ENGINEER APPROVAL. CONTRACTOR SHALL SUBMIT THE PROPOSED CONDUIT ROUTE 3 WEEKS PRIOR TO CONSTRUCTION.
  8. FOR SINGLE ROW EMBEDDED CONDUITS, THE MINIMUM WALL OR SLAB THICKNESS SHALL BE 16"
  9. WHEN CONSTRUCTABILITY ISSUES ARISE. CONTRACTOR SHALL INFORM THE ENGINEER WITH RFI AND THE ISSUE WILL BE REVIEWED ON A CASE BY CASE BASIS.



EQUIPMENT SLAB

DETAIL H  
NTS



GATE BLOCKOUT

DETAIL J  
NTS

XREFS: [CDMS 2234-D, REVW, WONG, SEAL, CDMS 2234, SG] Images: []  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY:	J. EULL
DRAWN BY:	P. ANUSHA
SHEET CHK'D BY:	W. YANG
CROSS CHK'D BY:	J. EULL
APPROVED BY:	C. WONG
DATE:	JANUARY 2023

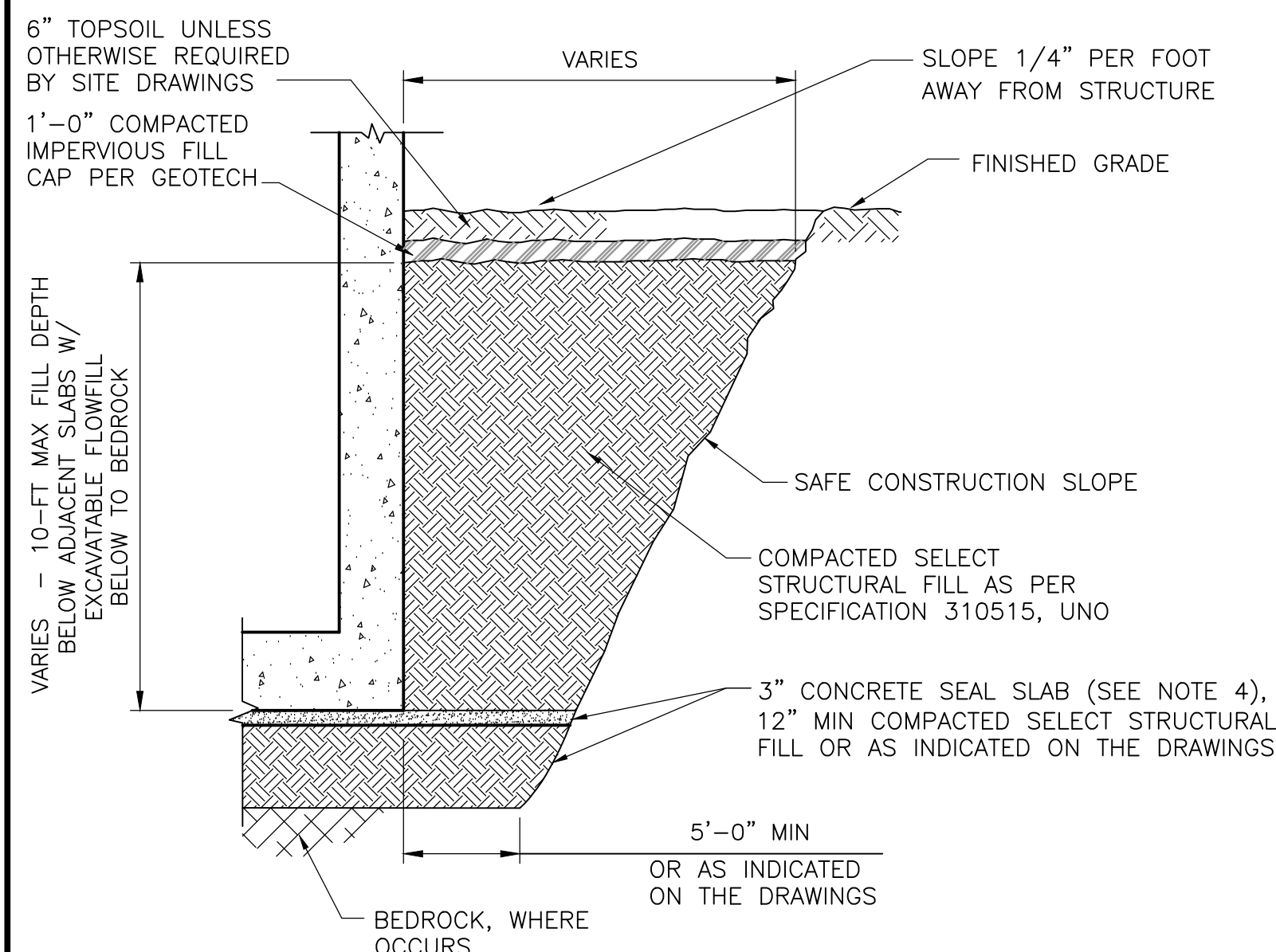


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

STRUCTURAL STANDARD DETAILS III  
 SHEET NO.  
 SZ-3

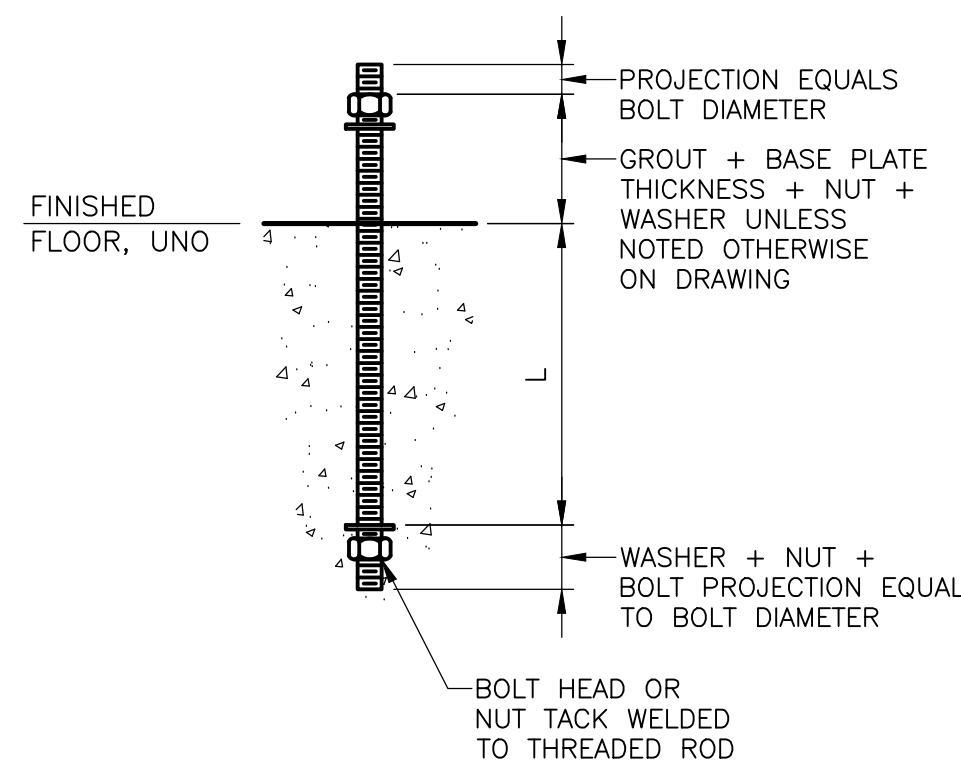
PROJECT NO.	2048-264953
FILE NAME:	S003STD.DWG
SHEET NO.	SZ-3





- NOTES:**
- UNLESS OTHERWISE INDICATED ON THE PLANS, THIS DETAIL IS REPRESENTATIVE OF THE REQUIRED EXCAVATION AND BACKFILL FOR ALL BELOW GRADE STRUCTURES IN THIS CONTRACT.
  - EXCAVATION LINE IS FOR REFERENCE ONLY AND NOT SHOWN TO ANY SCALE OR SLOPE. EXCAVATION SHALL CONFORM TO SPECIFICATIONS AND TRENCH SAFETY REQUIREMENTS.
  - BACKFILL SOILS SHALL BE COMPACTED IN LIFTS AS SPECIFIED.
  - PROVIDE SEAL SLAB WHERE SUBGRADE WILL BE EXPOSED FOR MORE THAN 24 HOURS OR AS NEEDED BY THE CONTRACTOR.

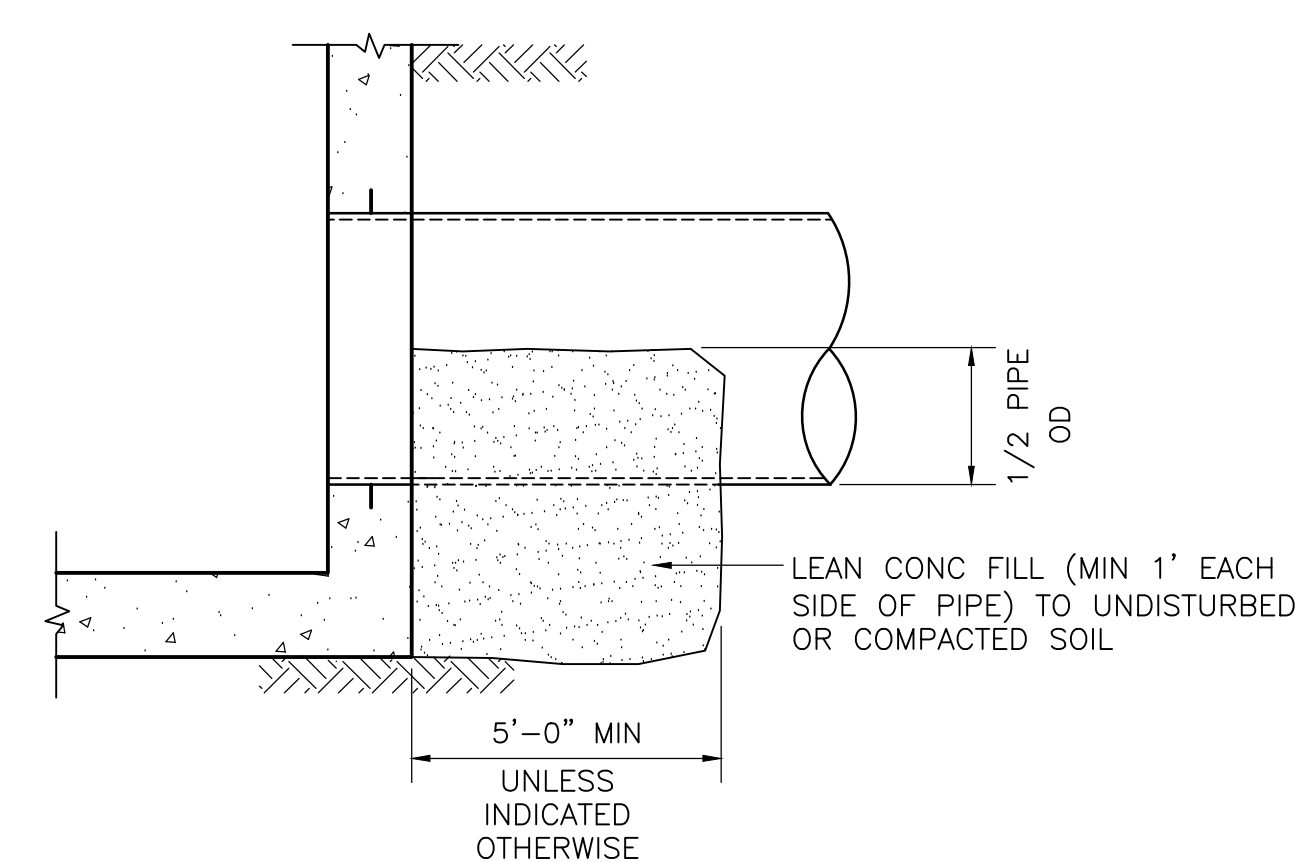
**EXCAVATION AND BACKFILL**  
**DETAIL A**  
NTS



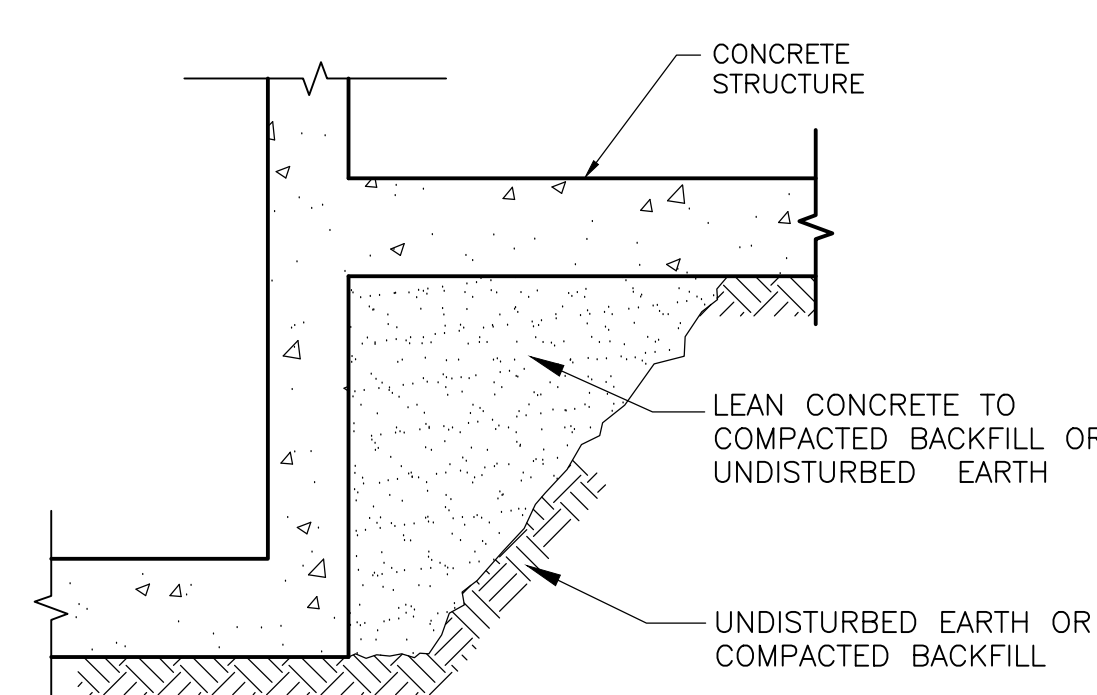
BOLT (DIA)	L (MIN)	L (MIN) IN COLUMNS, PIERS, PEDESTALS OR PILASTERS
1/2"	4"	7"
5/8"	4 1/2"	8 1/2"
3/4"	5"	9"
7/8"	6"	10 1/2"
1"	7"	12"
1 1/8"	8"	13 1/2"
1 1/4"	9"	15"

- NOTES:**
- 1" GROUT UNDER BASE PLATE UNLESS SHOWN OTHERWISE ON DRAWING.
  - BOLT SHALL BE ASTM F1554, GRADE 36.
  - NUT SHALL BE ASTM A563, GRADE A, HEX.
  - WASHER SHALL BE ASTM F436.

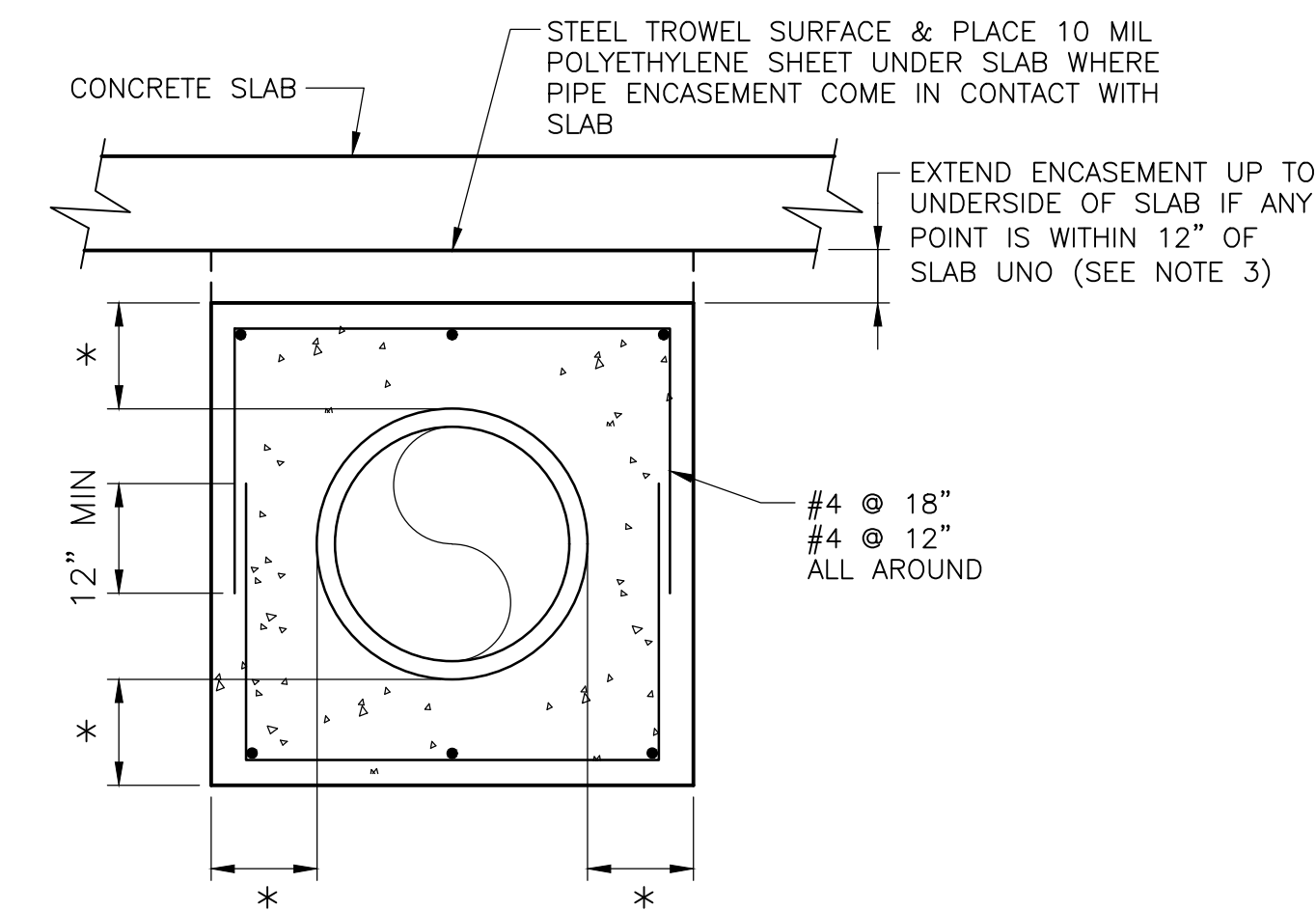
**ANCHOR BOLTS**  
**DETAIL F**  
NTS



**LEAN CONCRETE SUPPORT AT PIPE PENETRATION**  
**DETAIL B**  
NTS

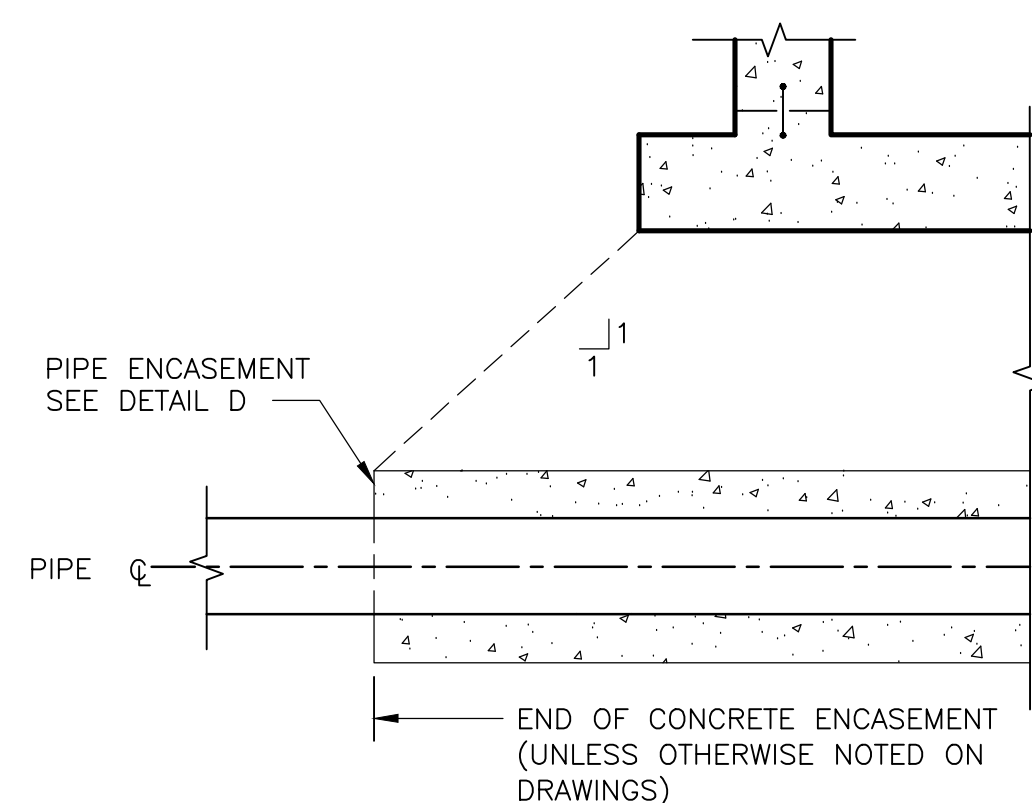


**LEAN CONCRETE FILL AT STEPPED FOUNDATION**  
**DETAIL C**  
NTS

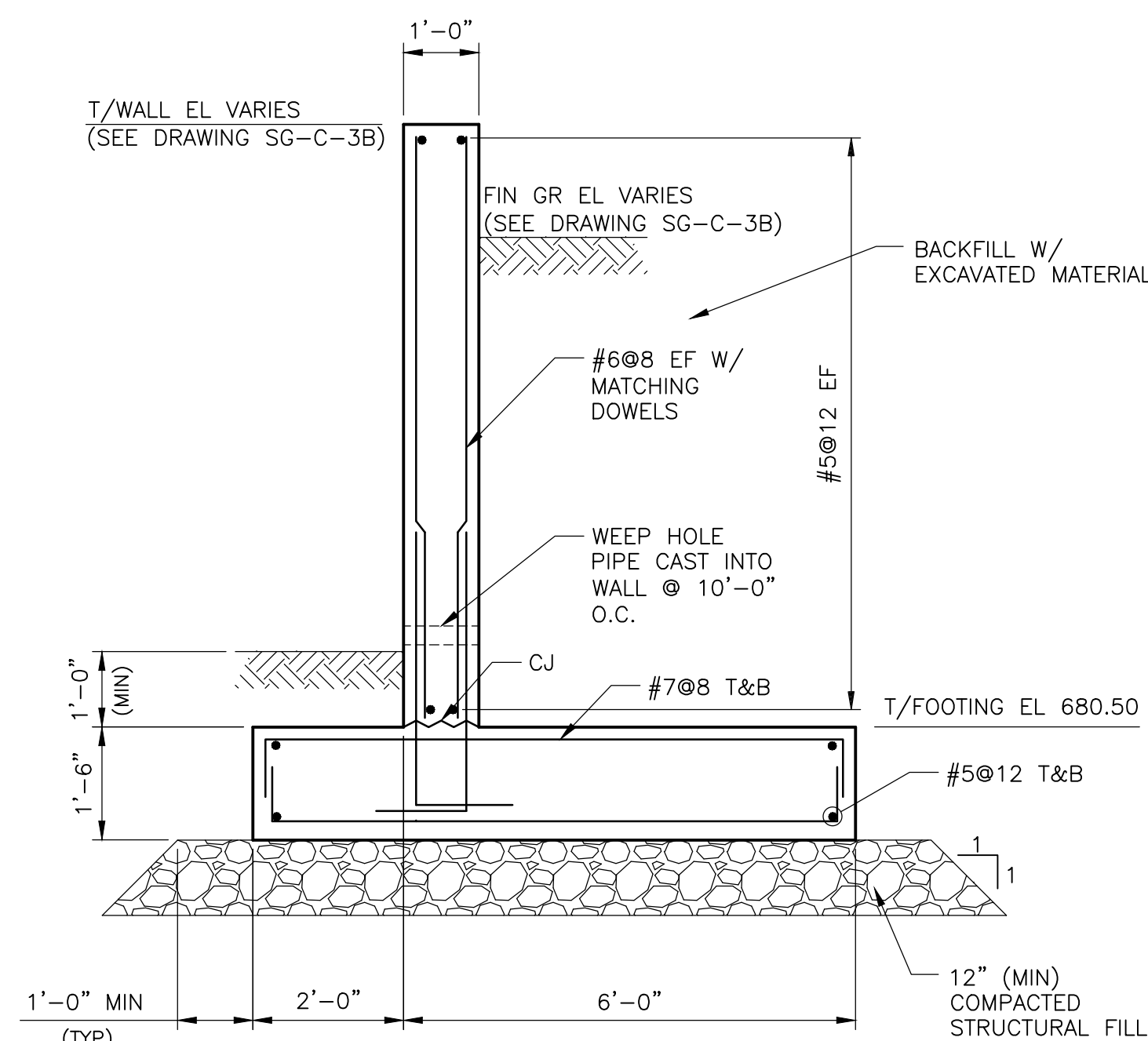


- NOTES:**
- \* = 8" MIN FOR PIPE ≤ 24"Ø, 12" MIN FOR PIPE > 24"Ø.
  - CONCRETE ENCASEMENT SHALL BE TERMINATED AT PIPE JOINTS ONLY.
  - FILL BACK TRENCH W/LEAN CONCRETE OR COMPACTED SELECT STRUCTURAL FILL BELOW STRUCTURE.

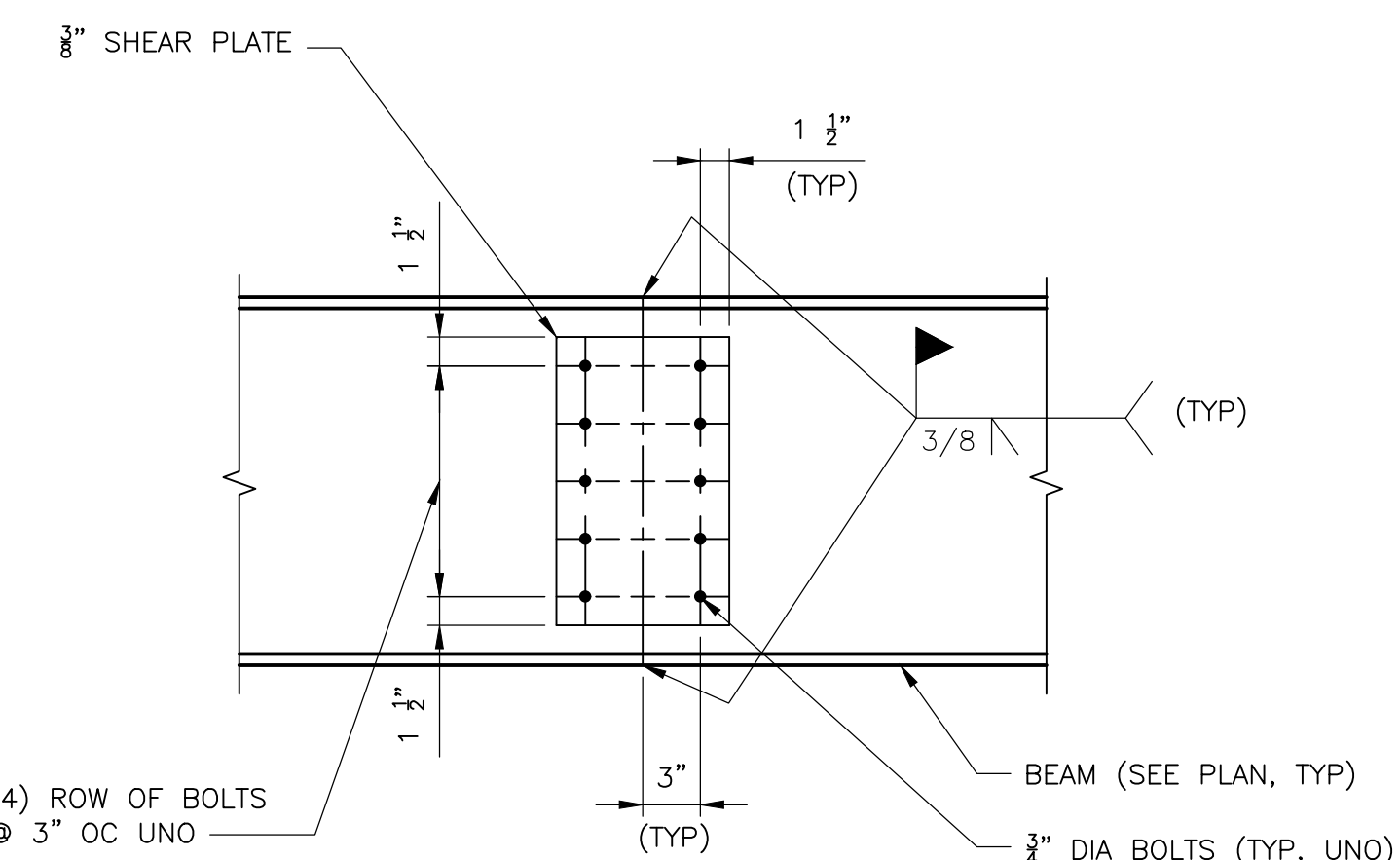
**PIPE ENCASEMENT**  
**DETAIL D**  
NTS



**END OF PIPE ENCASEMENT UNDER STRUCTURES**  
**DETAIL E**  
NTS



**RETAINING WALL**  
**DETAIL G**  
1/2" = 1'-0"  
NOTE: FOR PLAN SEE DRAWING SG-C-3B



**BEAM SPLICE**  
**DETAIL H**  
NTS

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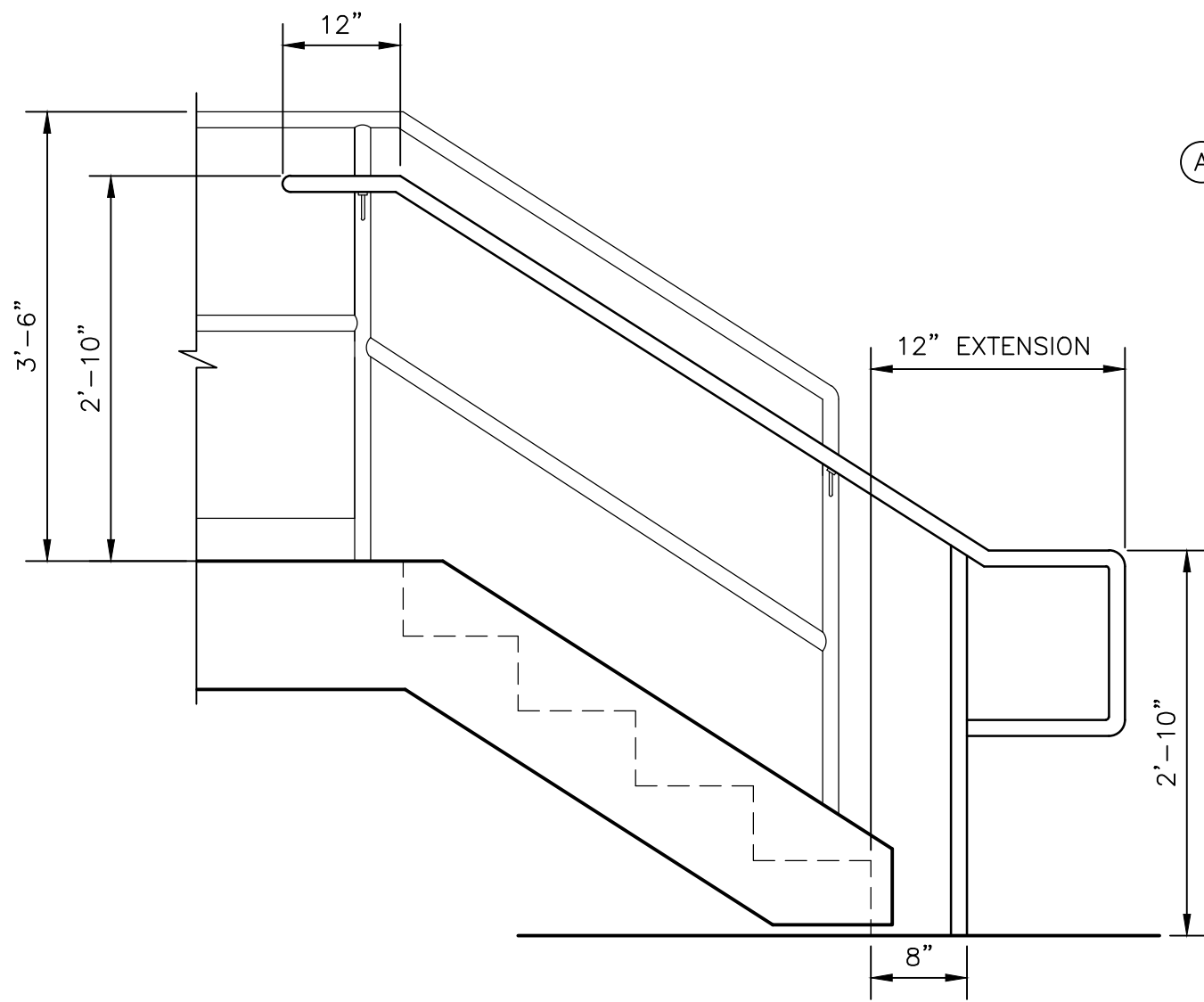
DESIGNED BY: J. EULL  
 DRAWN BY: P. ANUSHA  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

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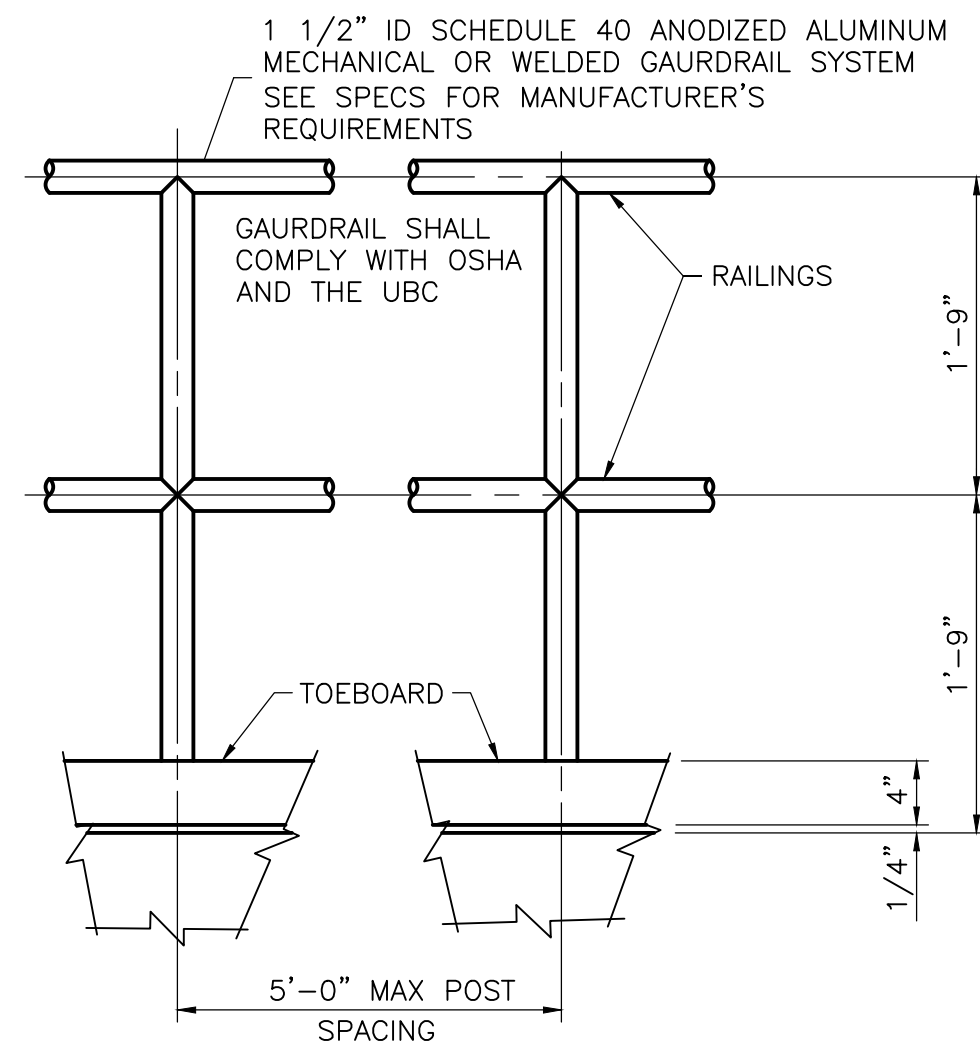
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 SHEET NO. SZ-4

PROJECT NO. 2048-264953  
 FILE NAME: S004STD.DWG

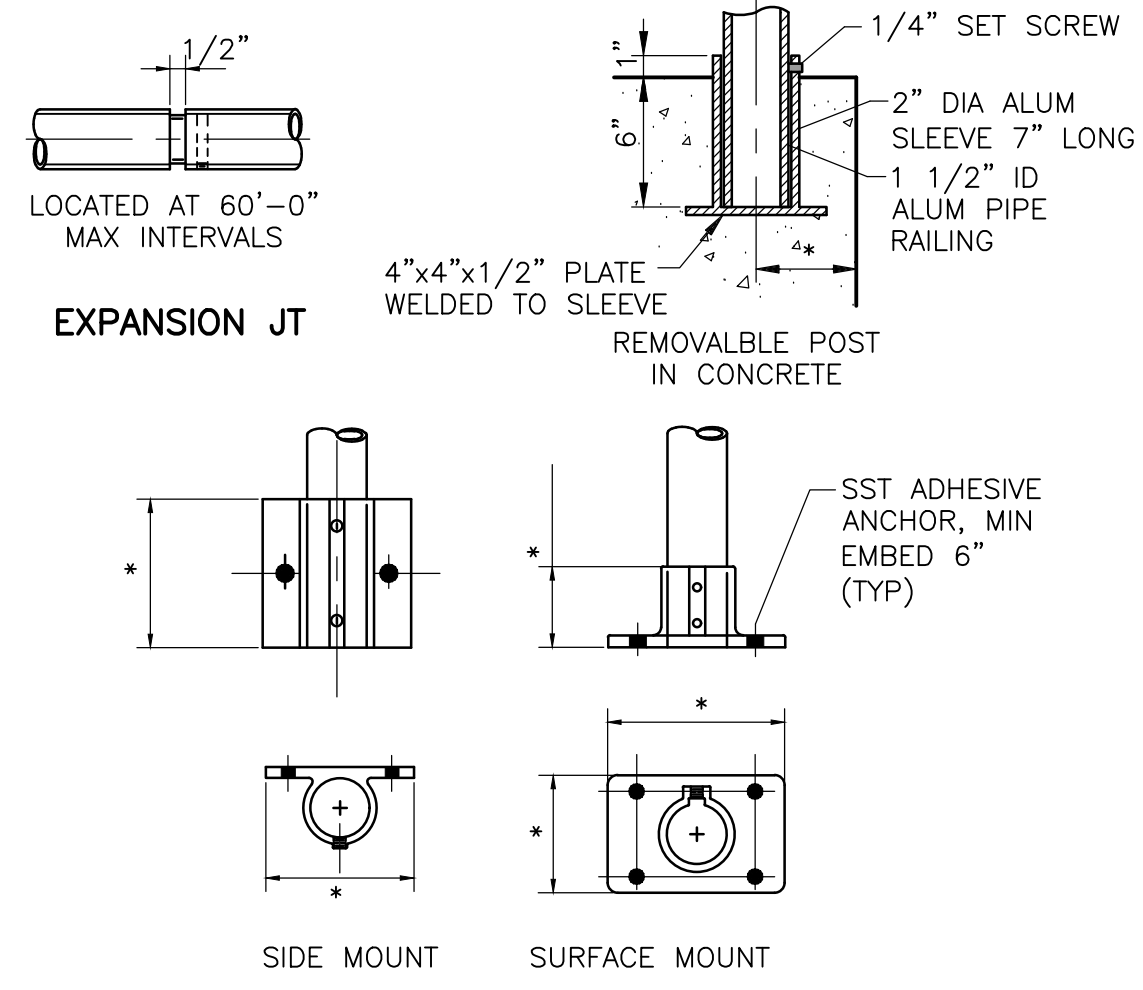


RAILING AT STAIRS  
**DETAIL A**  
 NTS

**ALUMINUM GUARDRAIL AND HANDRAIL SYSTEMS:**  
 GUARDRAILS SHALL BE TWO RAIL, 1.5" DIA SYSTEM AS DESCRIBED BELOW -  
 THE CENTERLINE OF THE INTERMEDIATE PARALLEL RAIL SHALL BE AT THE THE POST MID-POINT BETWEEN TOP RAIL AND KICKPLATE (AT HORIZ SURFACES) AND BETWEEN TOP RAIL AND STRINGER (AT STAIRS/STEPS). HOWEVER, MAXIMUM CLEAR DISTANCE BETWEEN RAILS MEASURED AT RIGHT ANGLES TO RAILS SHALL BE 21".  
 GUARDRAILS AT HORIZONTAL SURFACES (LANDINGS, MEZZANINES, ETC) SHALL BE 42" HIGH AND SHALL BE PROVIDED WITH A 4" KICKPLATE. AT STAIRS/STEPS, PROVIDE STRINGER-MOUNTED GUARDRAIL SYSTEM PARALLEL TO STRINGER SLOPE, 42" HIGH ABOVE LEADING EDGE OF TREAD AND PROVIDE ADDITIONAL INSIDE MOUNTED HANDRAIL(S) MEETING THE REQUIREMENTS FOR HANDRAILS AS DESCRIBED BELOW.  
 HANDRAILS (WALL OR GUARDRAIL MOUNTED) SHALL BE -  
 AT STAIRS/STEPS, PROVIDE 1.5" DIA WALL AND/OR GUARDRAIL MOUNTED (AS APPLICABLE) ALUMINUM HANDRAILS AT BOTH SIDES OF STAIRS/STEPS. HANDRAILS SHALL BE MOUNTED PARALLEL TO STRINGER SLOPE, 36" HIGH ABOVE LEADING EDGE OF TREAD. HANDRAILS SHALL EXTEND 12" BEYOND TOP RISER, AND SHALL EXTEND 24" BEYOND THE BOTTOM RISER. AT THE BOTTOM, HANDRAILS SHALL CONTINUE TO SLOPE FOR A DISTANCE OF THE DEPTH OF ONE TREAD BEYOND THE BOTTOM RISER; THE REMAINDER SHALL BE HORIZONTAL. THE FINGER CLEARANCE BETWEEN HANDRAIL AND THE WALL, GUARD, OR OTHER OBSTRUCTION SHALL BE 1.5".

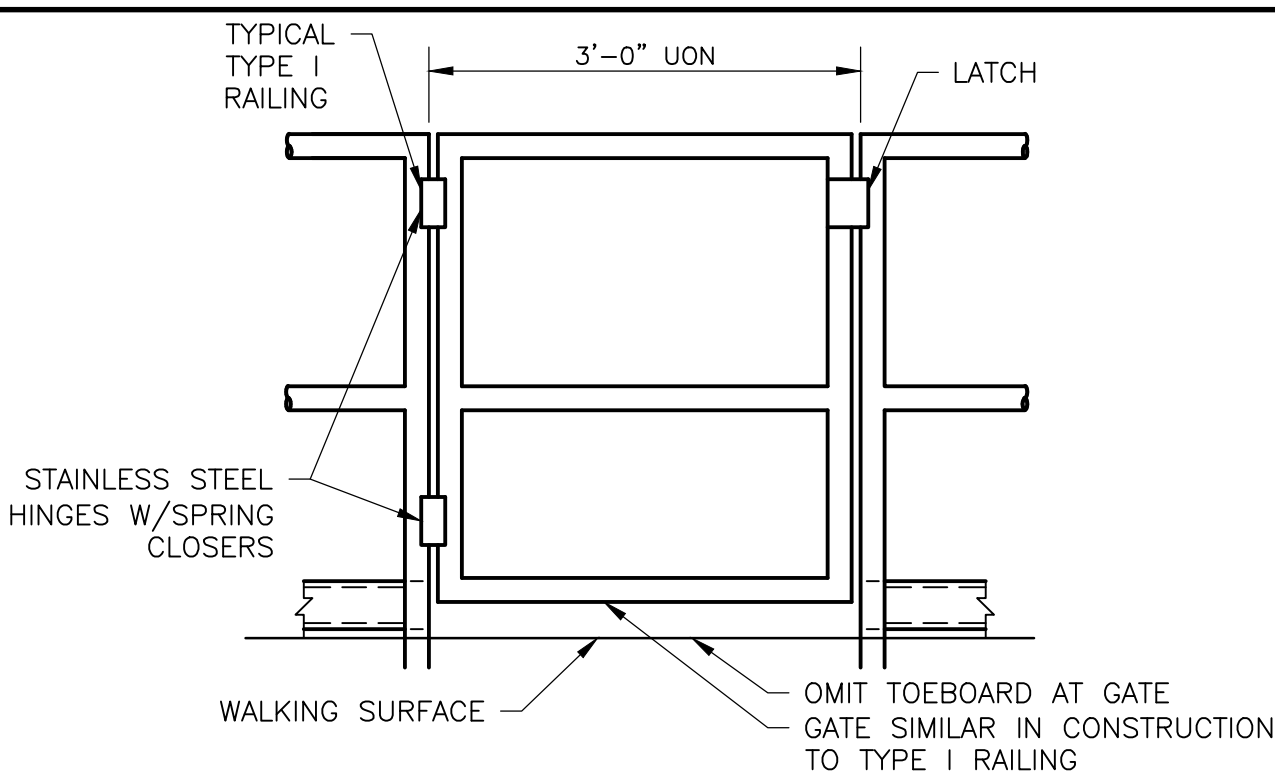


GUARDRAIL  
**DETAIL B**  
 NTS

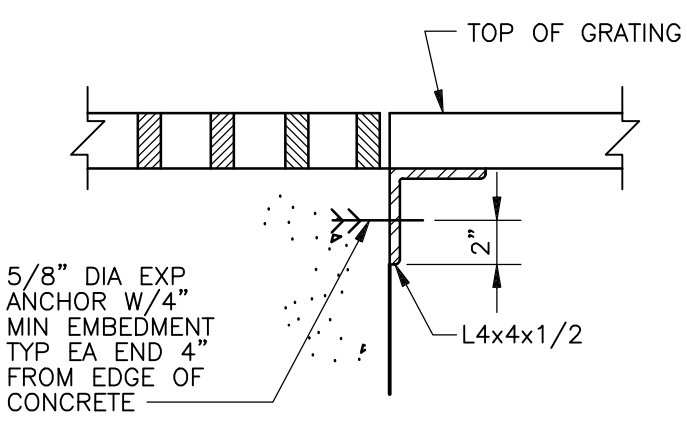


EXPANSION JT  
 MINIMUM CONNECTIONS \*  
 GUARDRAIL CONNECTION  
**DETAIL C**  
 NTS

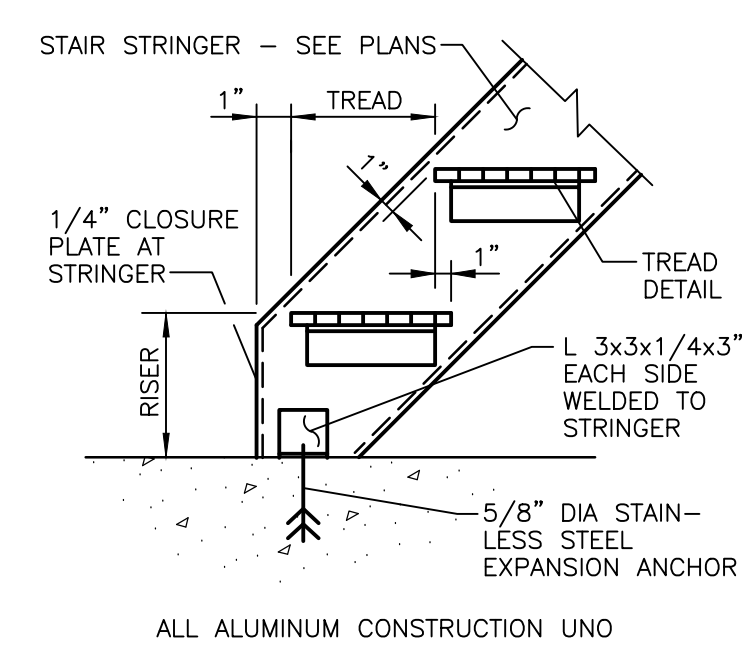
- NOTES:**
- ALUMINUM EMBEDDED IN CONCRETE MUST BE PAINTED WITH ONE SHOP COAT OF HEAVY BITUMASTIC.
  - ALUMINUM SHAPES IN CONTACT WITH CONCRETE MUST BE SEPARATED BY A 1/32" NEOPRENE GASKET OR ANY CASE WHERE TWO DIFFERENT METALS ARE TO BE IN CONTACT. A NEOPRENE GASKET MUST BE PROVIDED. HANDRAILS, GUARDRAILS, POSTS, BRACKETS AND MOUNTINGS
  - SHALL MEET THE UNIFORM BUILDING CODE (U.B.C.) AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) LOADING REQUIREMENTS.
  - TOP OF ALL GUARDRAILS SHOULD BE 42" HIGH ABOVE THE FINISH FLOOR OR WALKWAY. THE CLEAR DISTANCE BETWEEN THE TOP AND INTERMEDIATE RAILS MEASURED AT RIGHT ANGLES TO THE RAILS SHALL NOT EXCEED 21".
  - ALL WALKWAYS SHALL USE GRATING UNLESS CHECKERED PLATE IS SHOWN ELSEWHERE ON THE DRAWINGS.



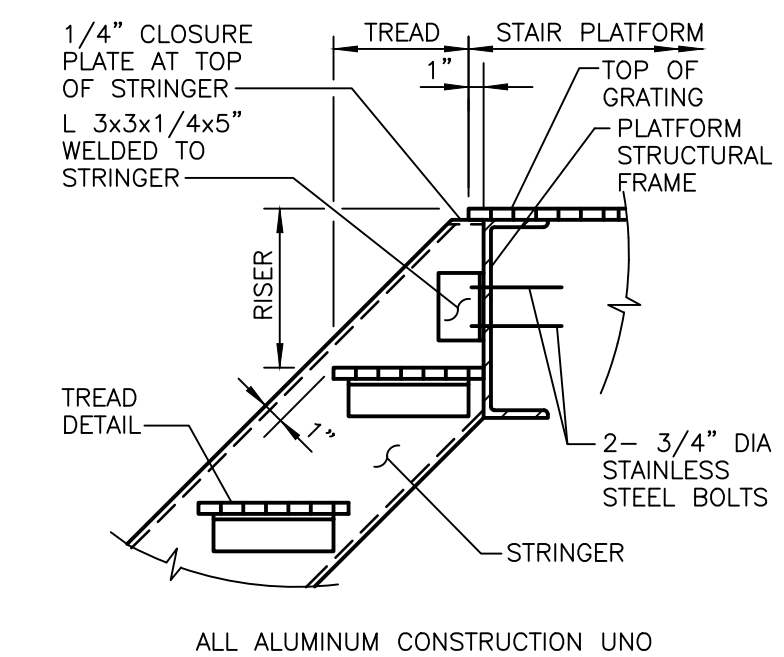
GUARDRAIL GATE  
**DETAIL D**  
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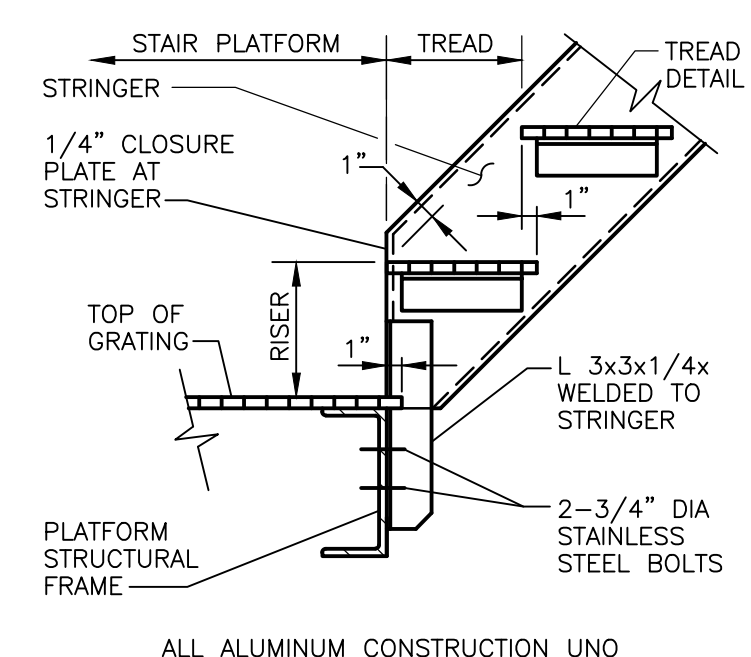
GRATING SUPPORT AT TRENCH INTERSECTIONS  
**DETAIL E**  
 NTS



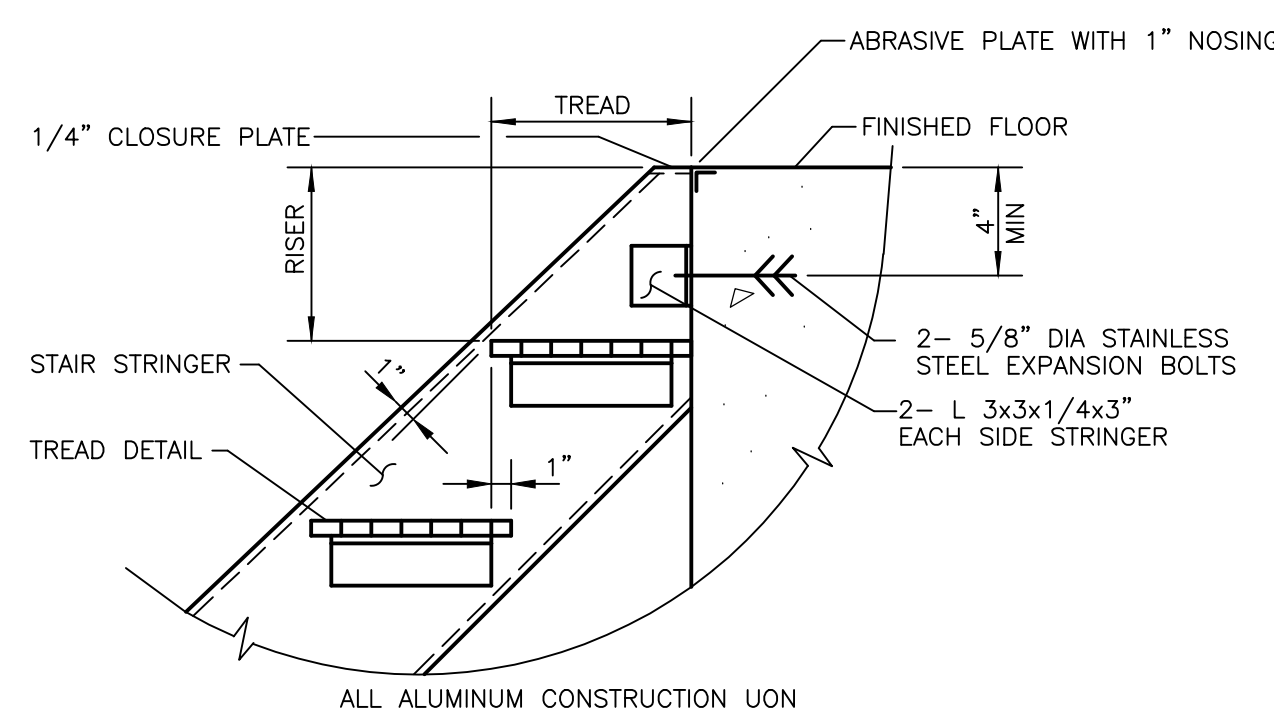
STRINGER CONNECTION AT CONCRETE SLAB (BOTTOM)  
**DETAIL F**  
 NTS



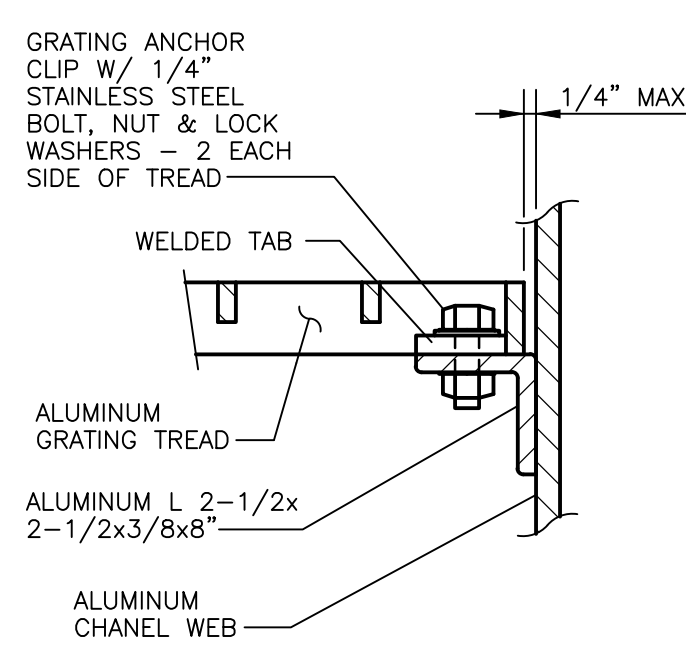
STRINGER CONNECTION AT PLATFORM (TOP)  
**DETAIL G**  
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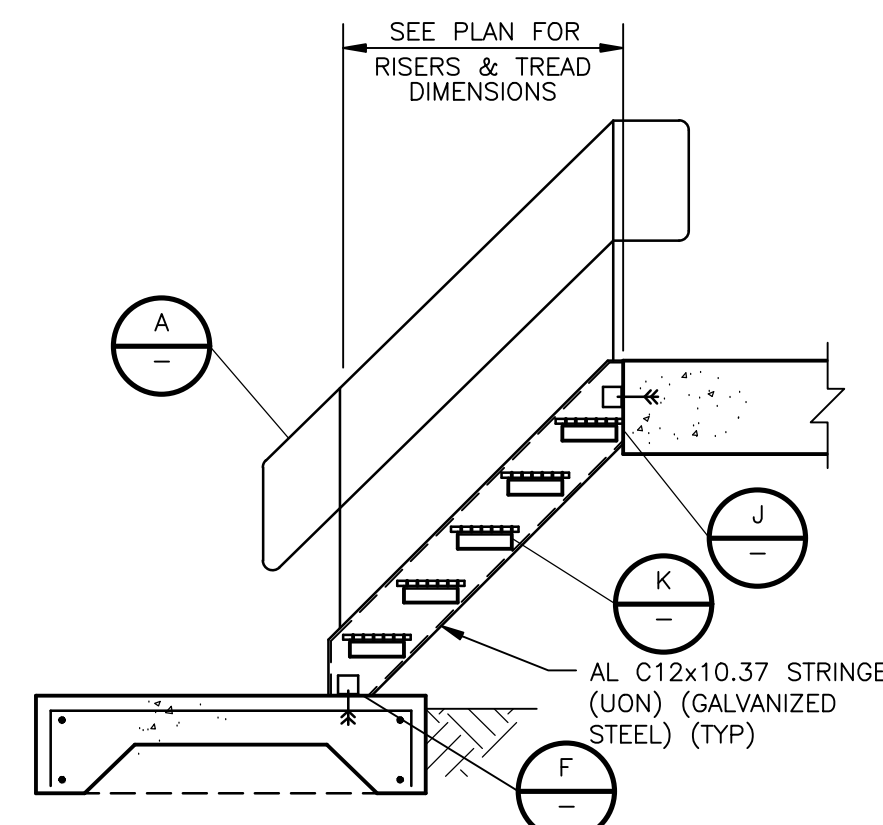
STRINGER CONNECTION AT PLATFORM (BOTTOM)  
**DETAIL H**  
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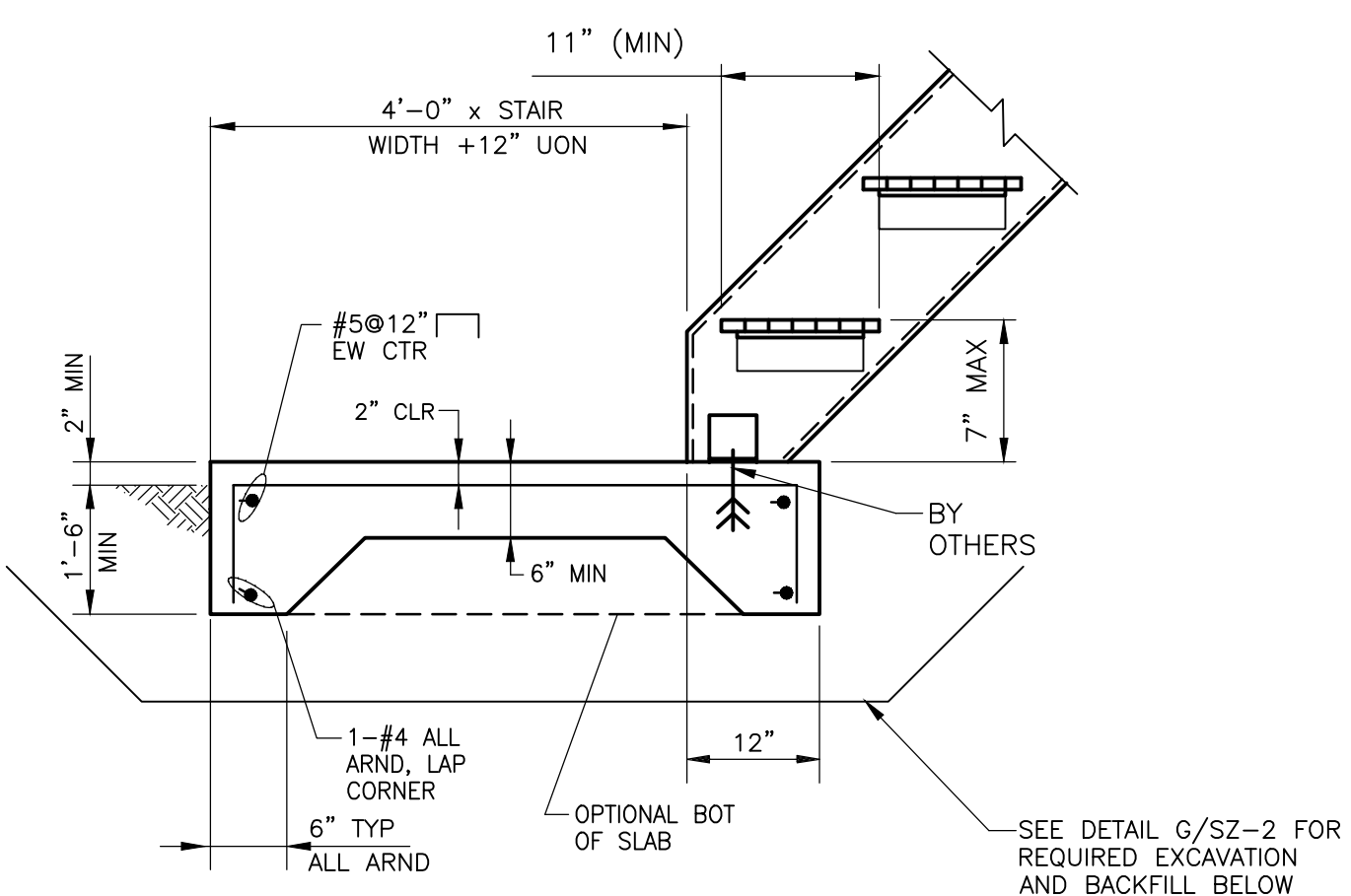
STRINGER CONNECTION AT CONCRETE WALL (TOP)  
**DETAIL J**  
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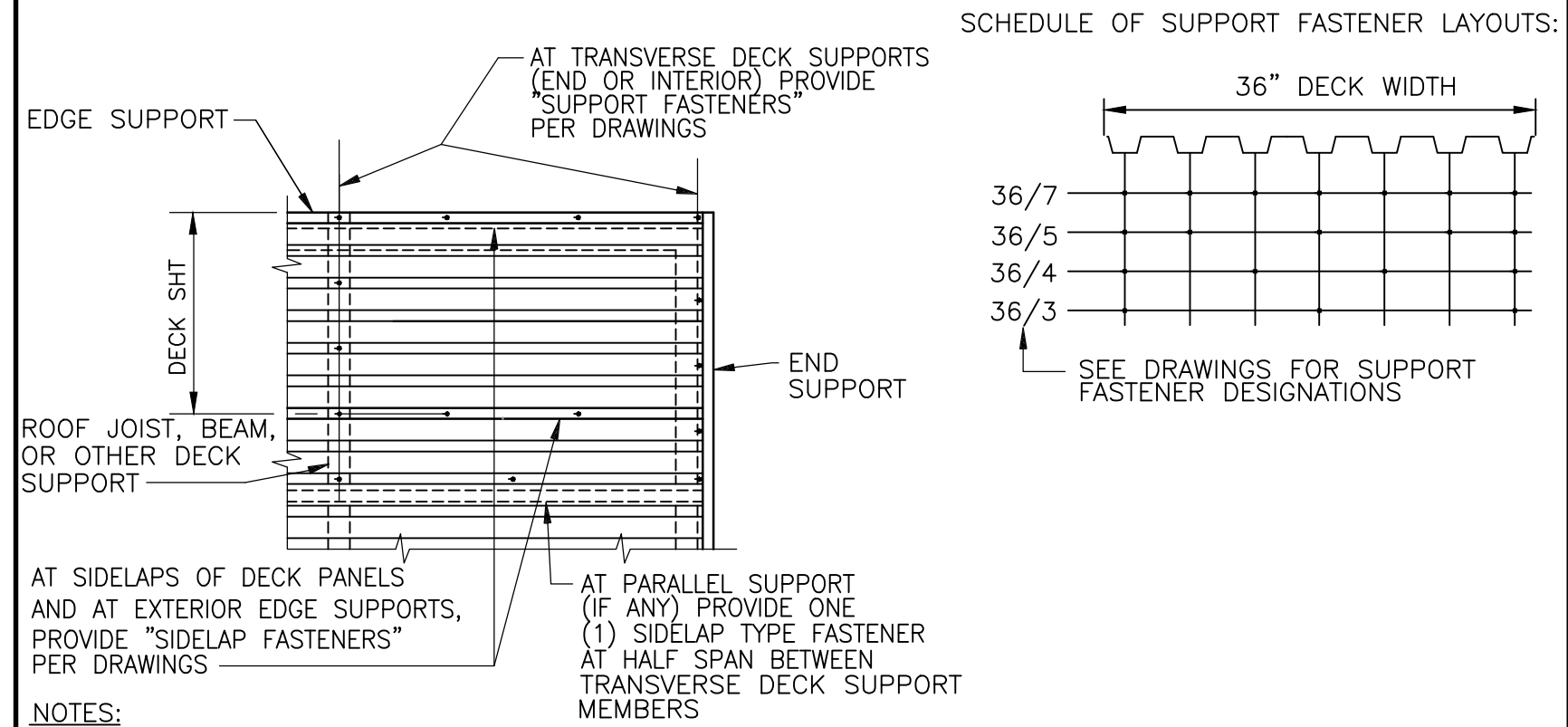
GRATING STAIR TREAD  
**DETAIL K**  
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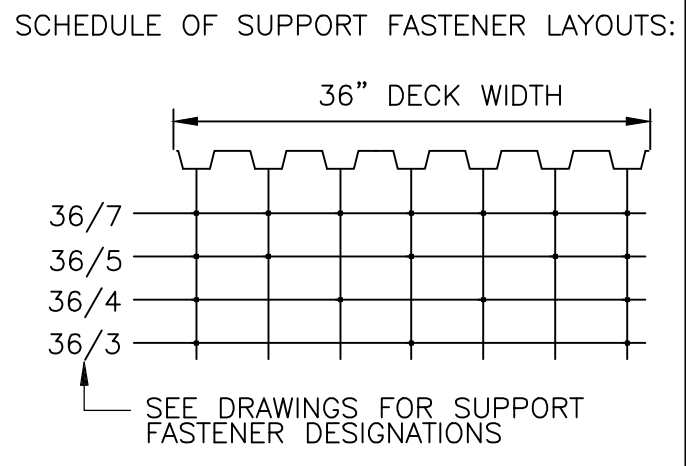
STAIR  
**DETAIL L**  
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STAIR LANDING SLAB  
**DETAIL M**  
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ROOF DECK FASTENING  
**DETAIL N**  
 NTS



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 DRAWN BY: P. ANUSHA  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023

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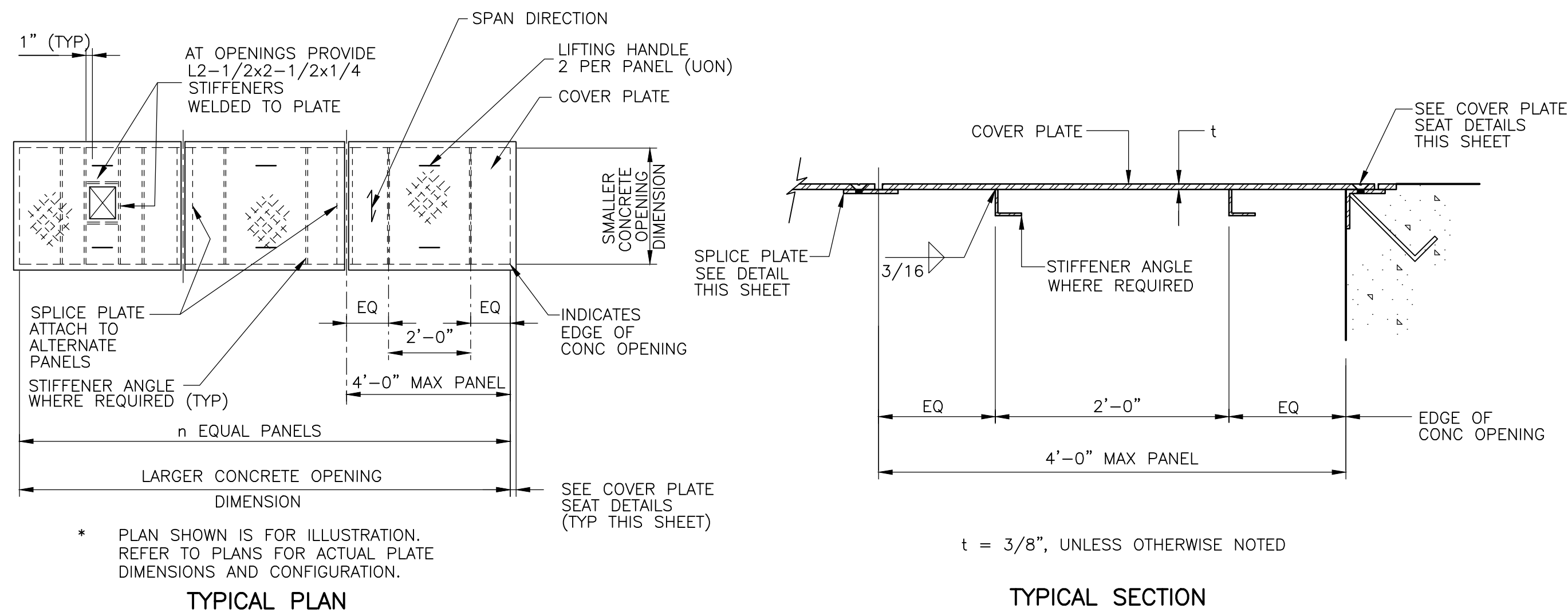
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STRUCTURAL STANDARD DETAILS V

PROJECT NO. 2048-264953  
 FILE NAME: S005STD.DWG  
 SHEET NO. SZ-5

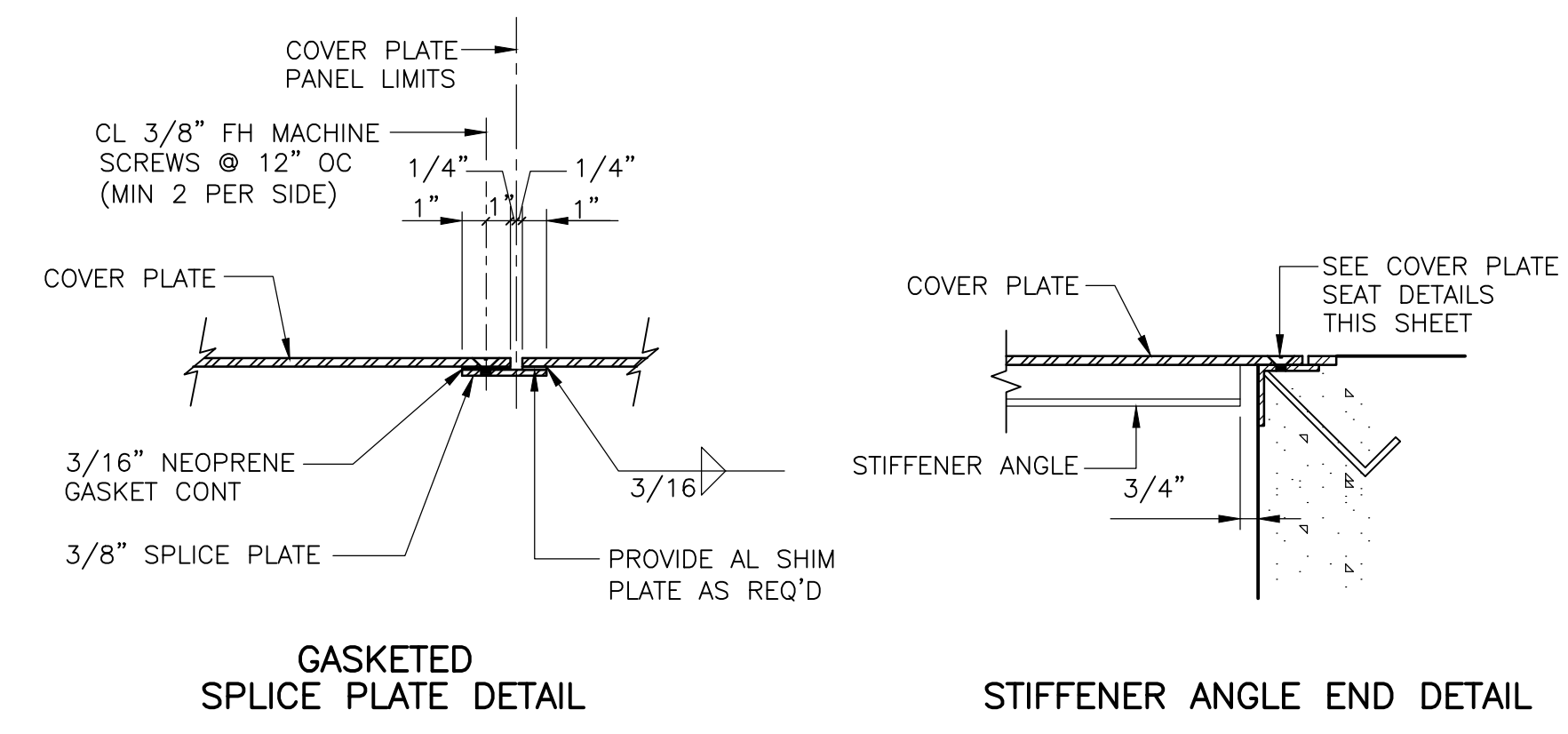
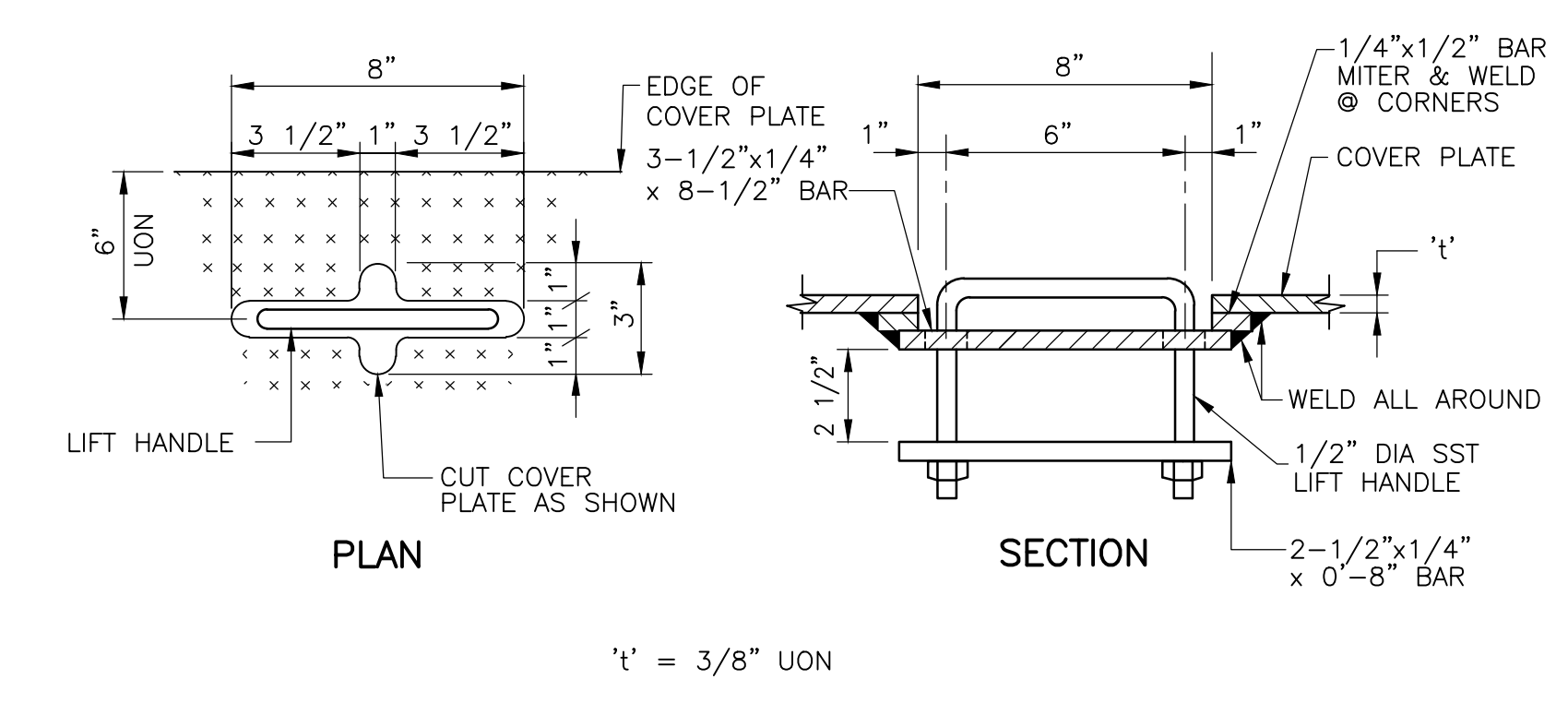


REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS



- NOTES
- COVER PLATES, ANGLE FRAMES, STIFFENERS AND SUPPORTS SHALL BE STAINLESS STEEL TYPE 304.
  - FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR COVER PLATES AND SUPPORTS SHALL BE STAINLESS STEEL TYPE 304.
  - ALL ANGLE FRAMES FOR COVER PLATES ARE TO BE MITERED AND WELDED AT CORNERS.
  - ALL COVER PLATES SHALL BE SECURELY FASTENED TO SUPPORTS WITH 3/8" STAINLESS STEEL FLAT-HEAD MACHINE SCREWS AT 2'-0" ON CENTER, UNLESS OTHERWISE NOTED.
  - PLACE STIFFENERS PARALLEL TO THE SHORTER SPAN BETWEEN SUPPORTS OF THE PLATE OR AS INDICATED ON THE PLANS. PLACE LONG LEG OF STIFFENERS TO PERPENDICULAR TO THE PLATES.
  - UNLESS OTHERWISE NOTED, SPACING BETWEEN STIFFENERS AND BETWEEN EXTERIOR STIFFENER AND SUPPORT OF THE PLATE SHALL NOT EXCEED 2 FT MAXIMUM DISTANCE FROM EDGE OF THE PLATE TO THE VERTICAL LEG OF THE STIFFENER IS 2 INCHES.
  - ALL PLATES SHALL BE PROVIDED IN SECTIONS WITH LIFTING HANDLE AS DETAILED. A MINIMUM OF TWO STIFFENERS SHALL BE PROVIDED IN EACH PLATE SECTION. OPENINGS IN PLATE SHALL BE LOCATED WITHOUT INTERFERING WITH STIFFENERS.
  - SIZE OF THE STIFFENERS SHALL BE PROVIDED AS FOLLOWS:

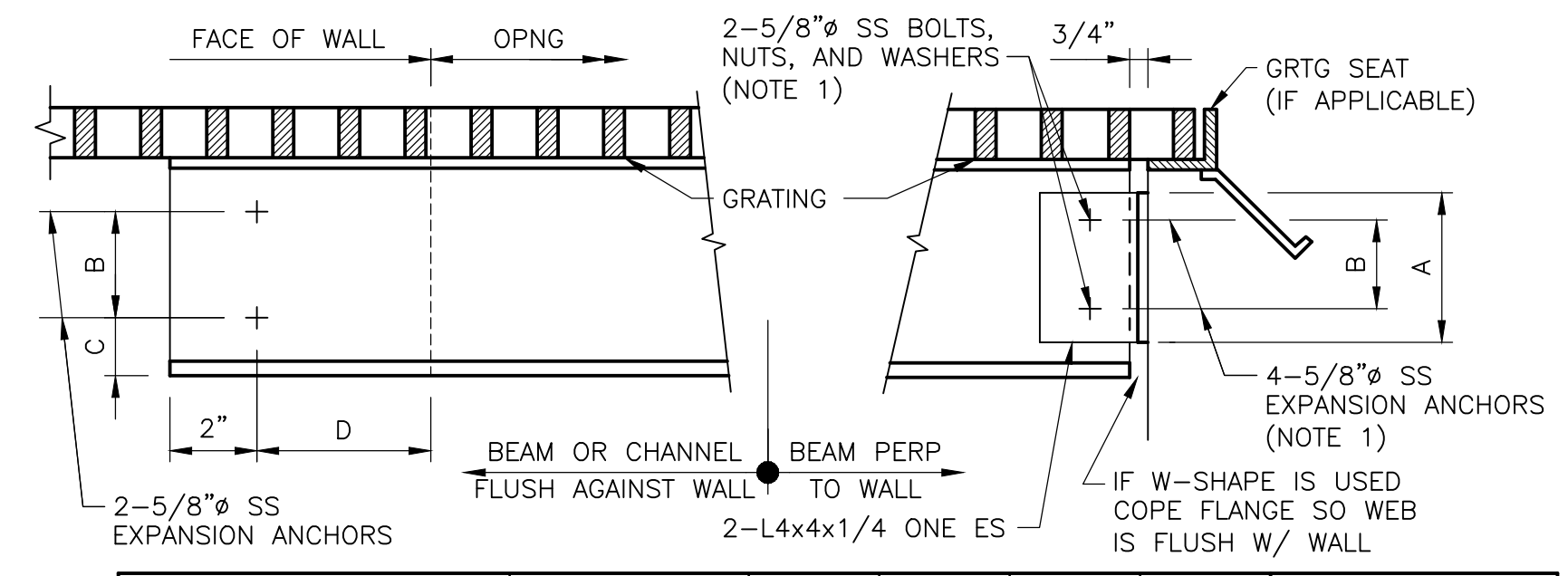
SPAN	STIFFENER SIZE
<=3'-6"	L2½ X 1½ X ¼"
<=4'-6"	L3 X 2 X 3/8"
<=6'-0"	L3½ X 3 X 3/8"



**COVER PLATE DETAILS**

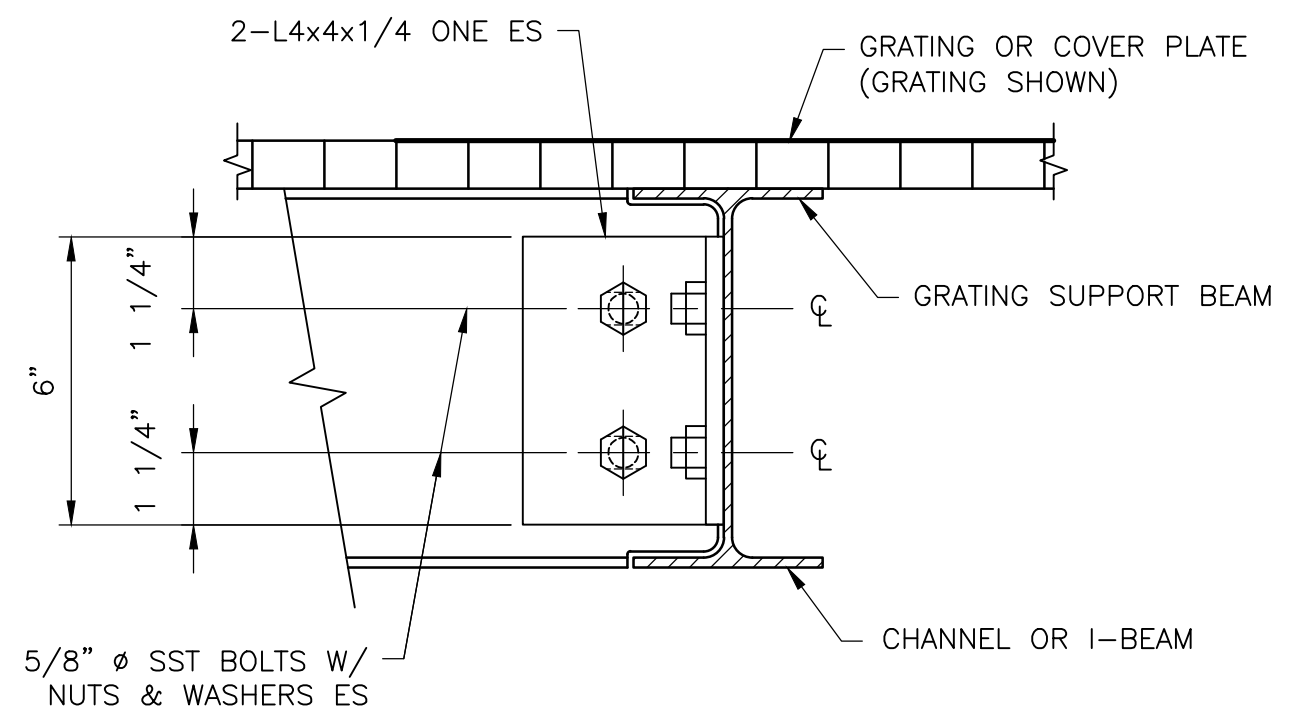
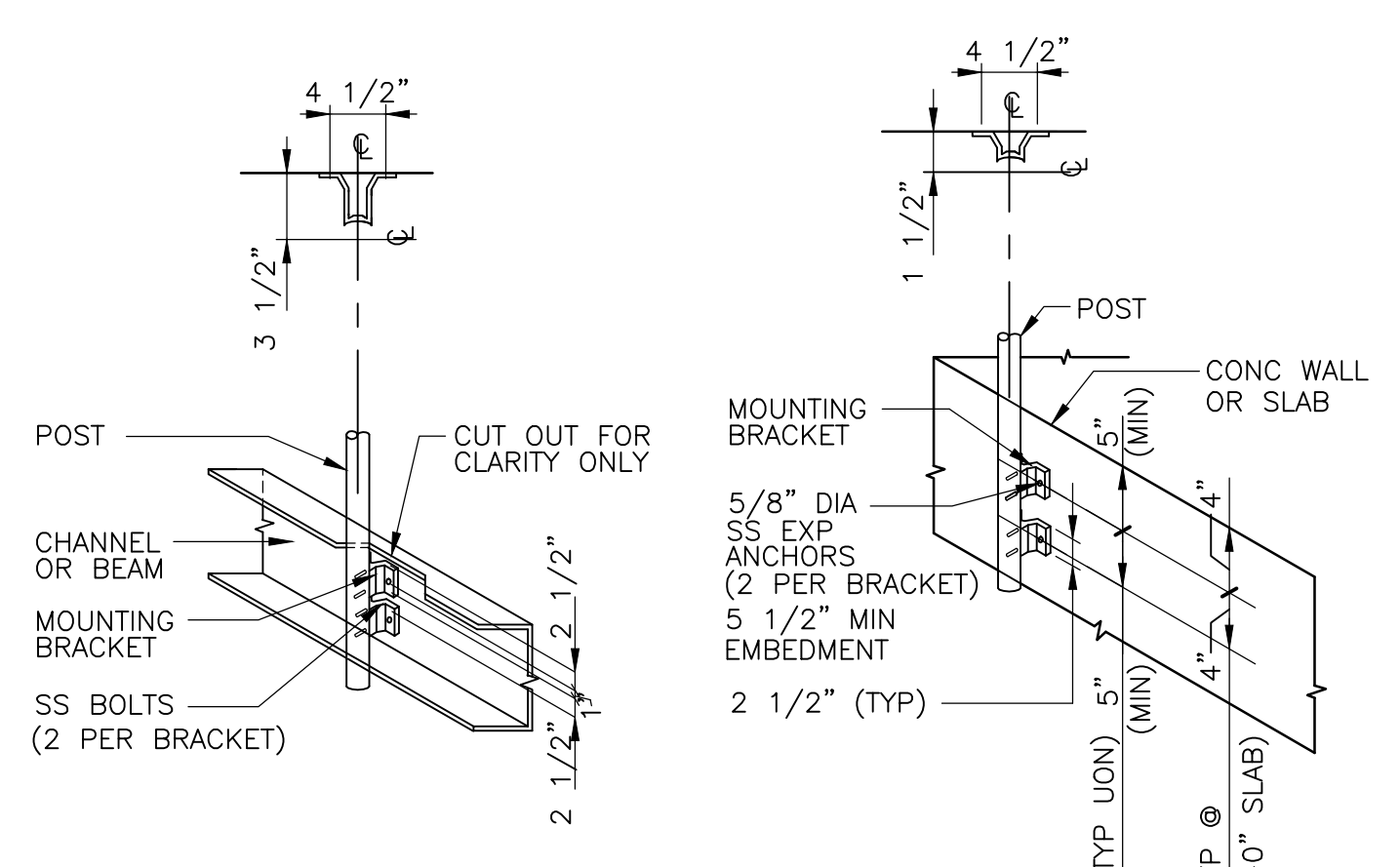
**DETAIL A**

NTS

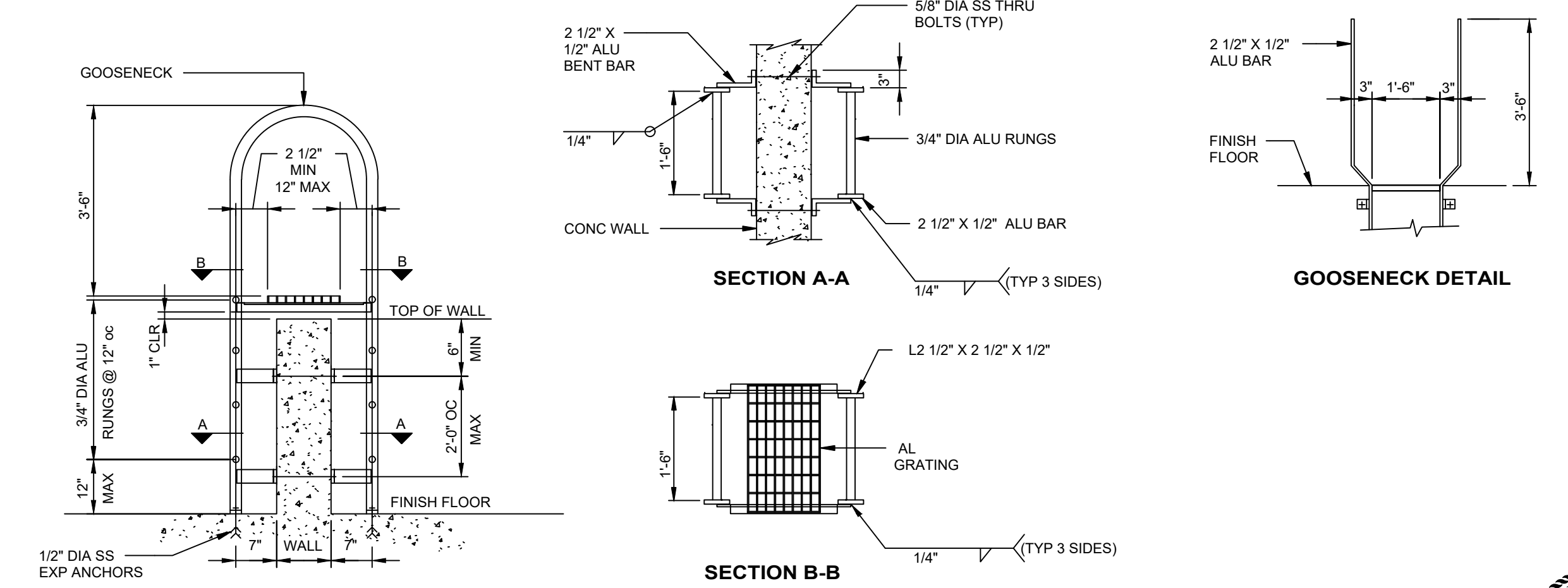


TYPE	BEAM	A	B	C	D	NOTES
AL ASSOC. BEAM	W 8 x 6.12	6"	3 1/2"	-	-	-

- NOTES:
- PROVIDE GALVANIZED STEEL ANCHOR BOLTS AT GALVANIZED STEEL BEAM CONNECTIONS.
  - USE STANDARD MANUFACTURER EMBED FOR ANCHORS, UNO.



- NOTES:
- ALL ALUMINUM CONSTRUCTION UNO.
  - SIMILAR FOR BEAMS FRAMING IN ON EACH SIDE.



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DRAWN BY:	P. ANUSHA
SHEET CHK'D BY:	W. YANG
CROSS CHK'D BY:	J. EULL
APPROVED BY:	C. WONG
DATE:	JANUARY 2023

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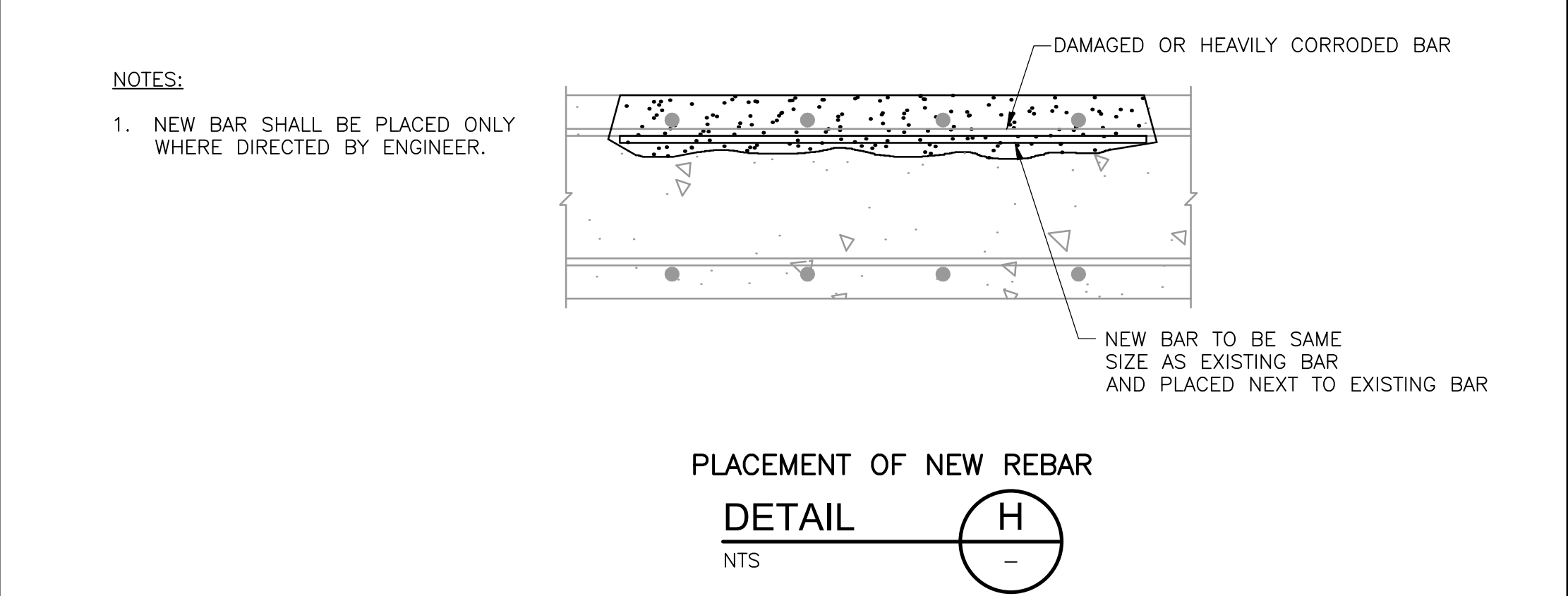
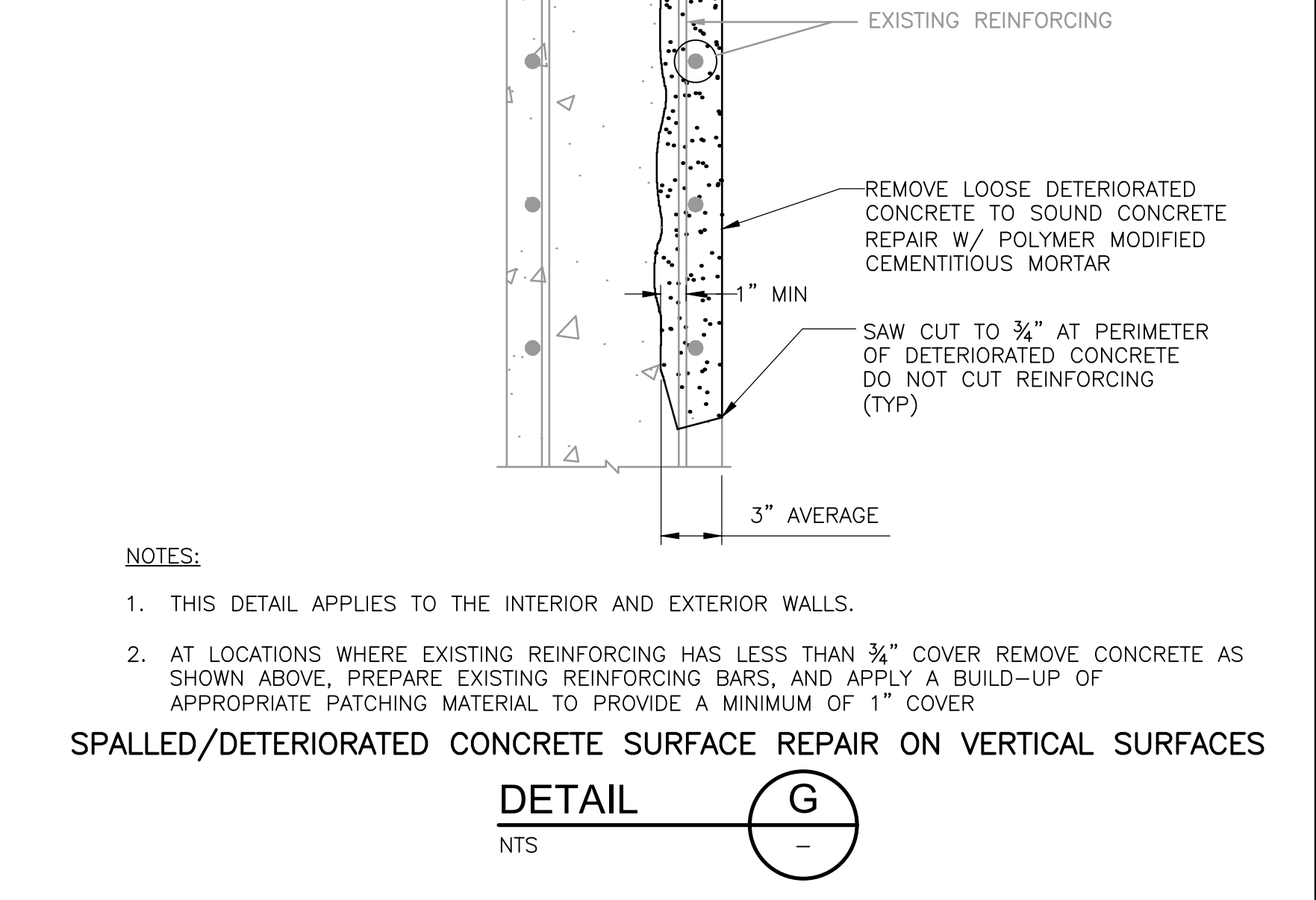
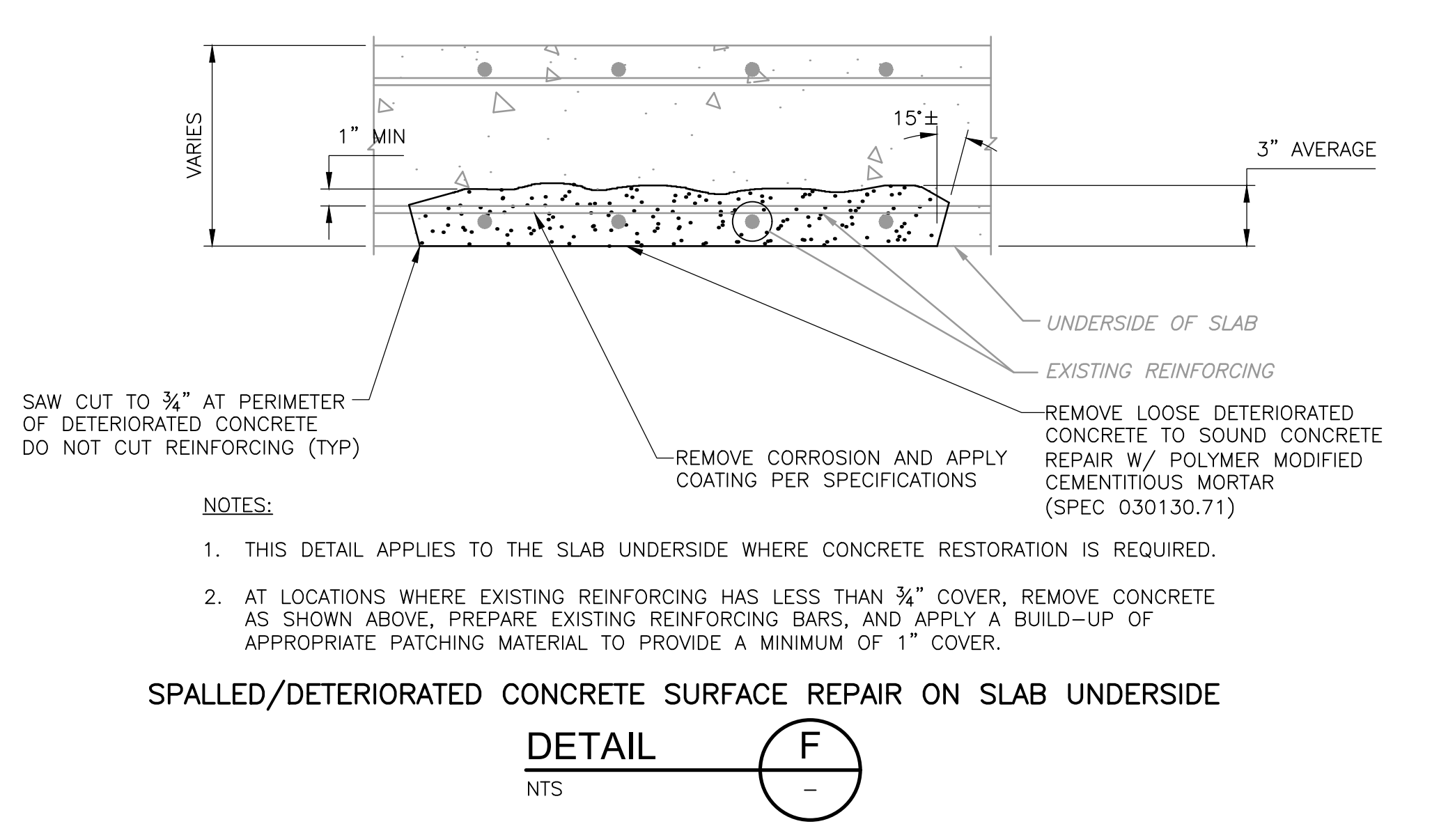
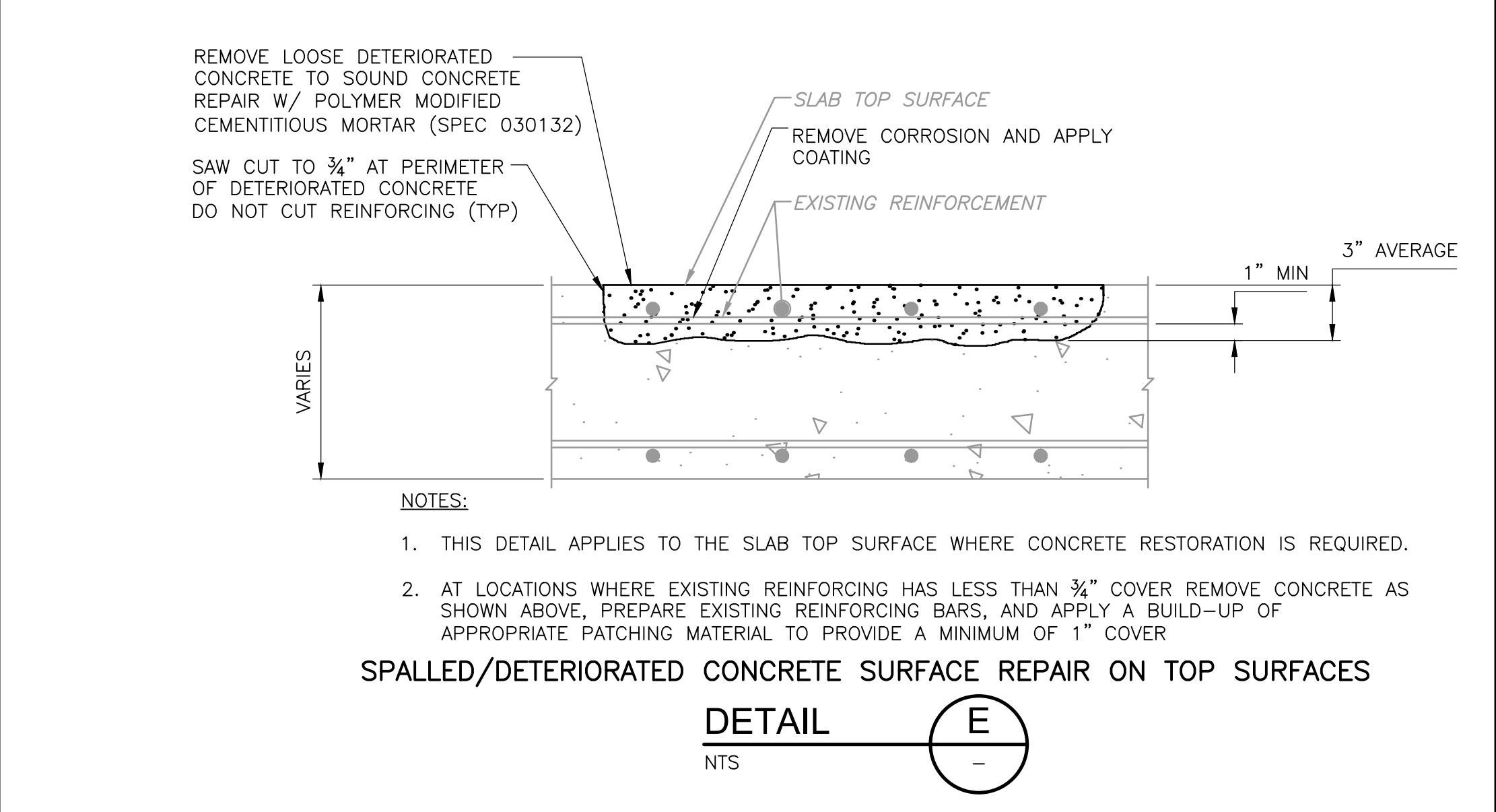
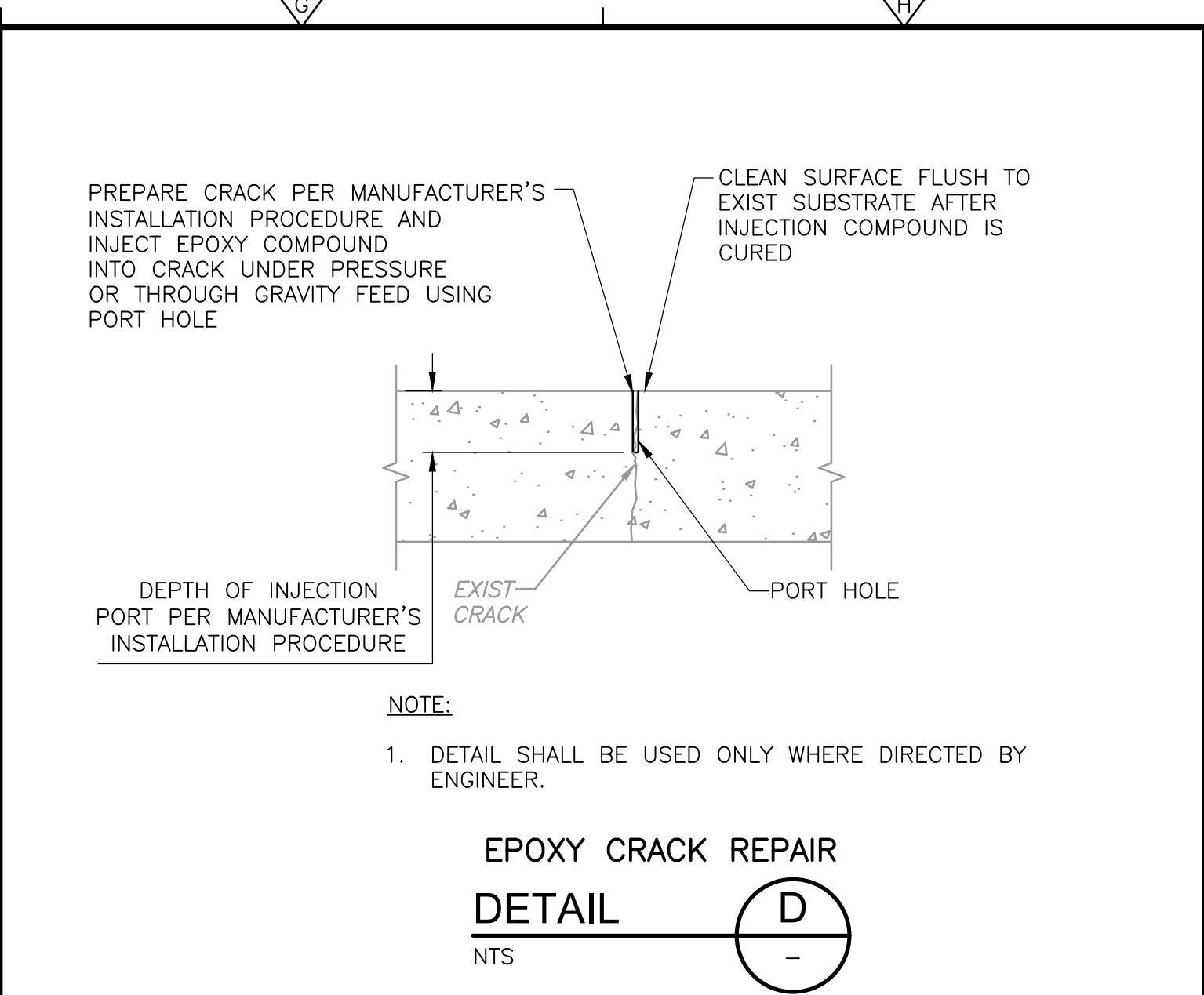
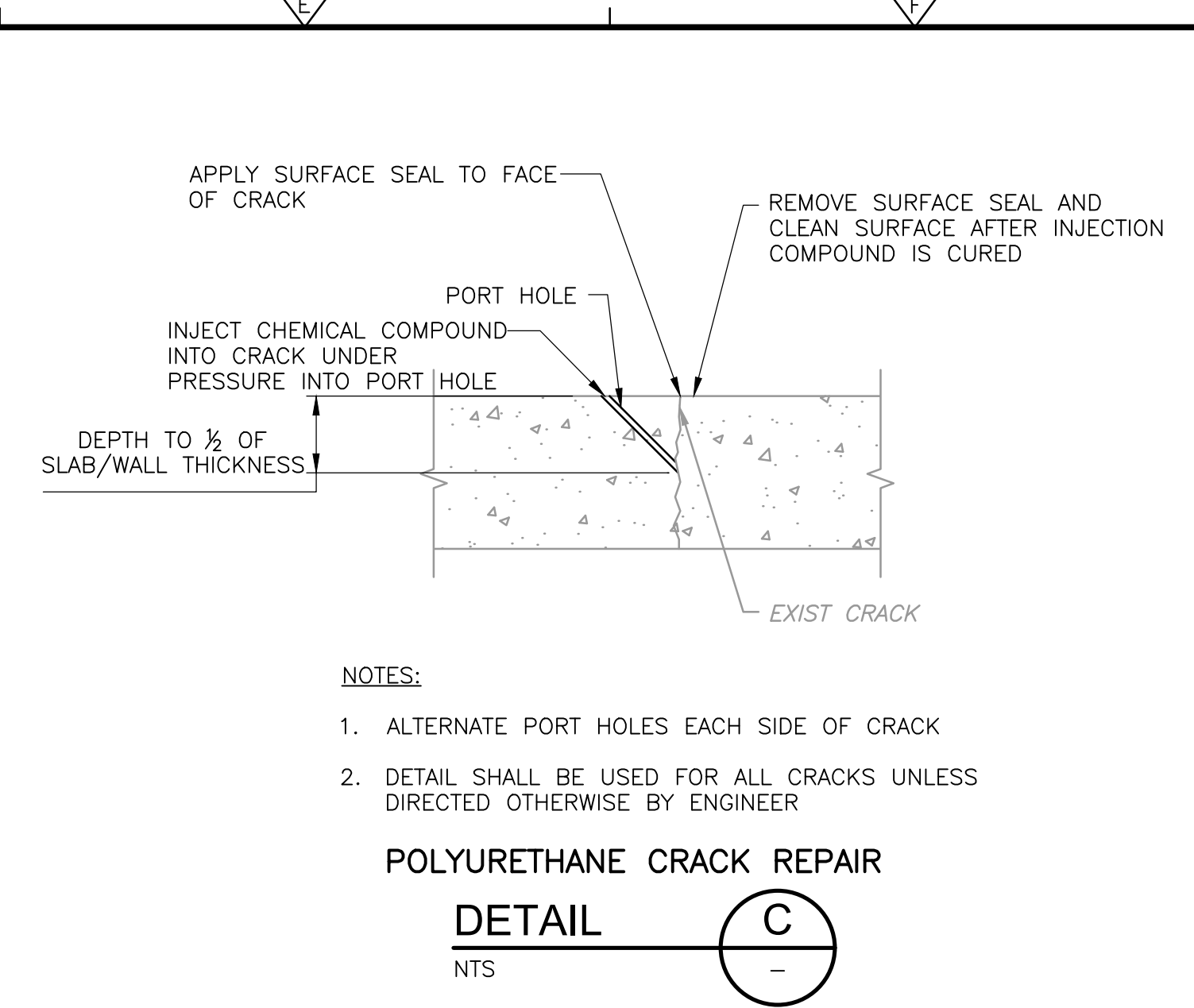
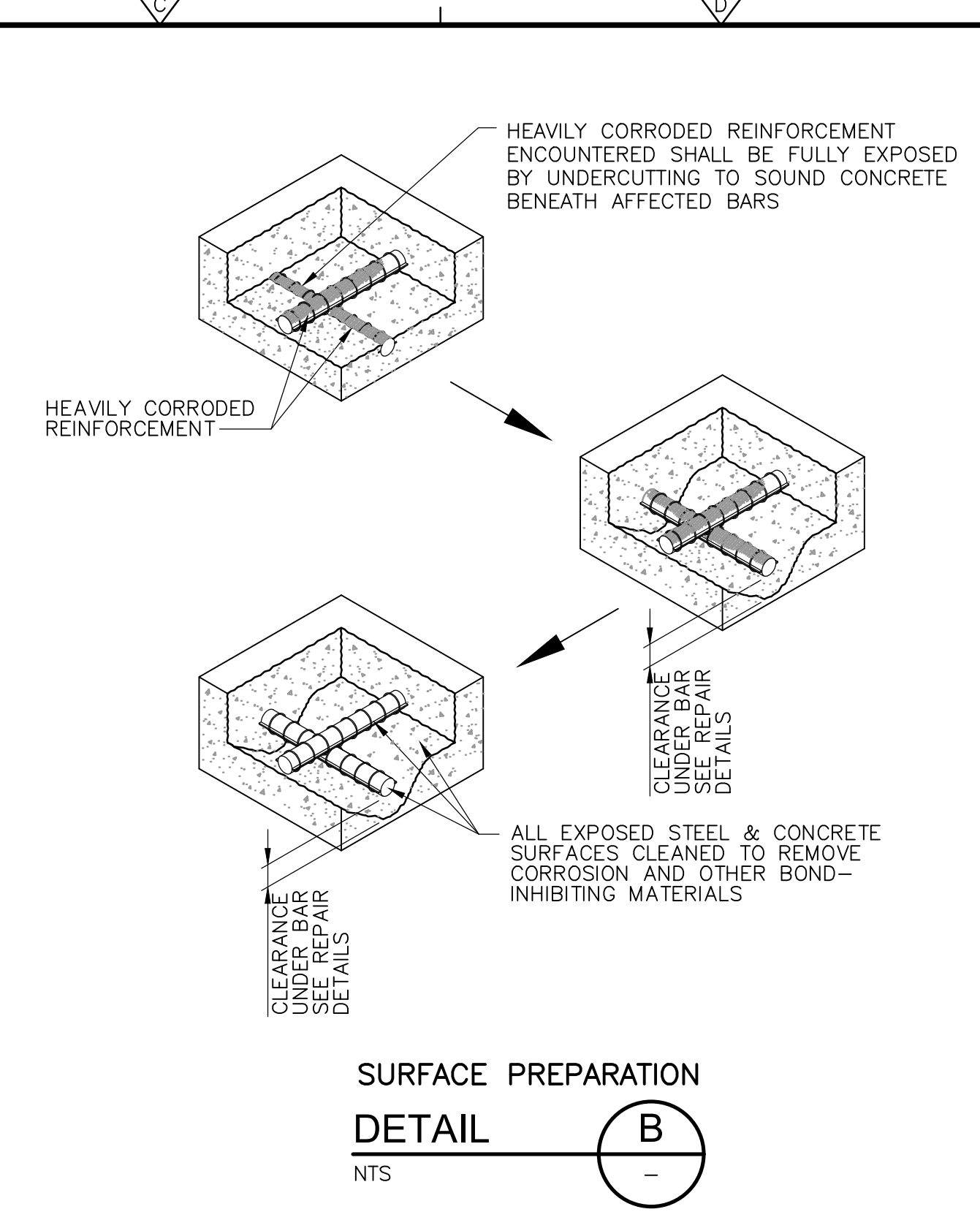
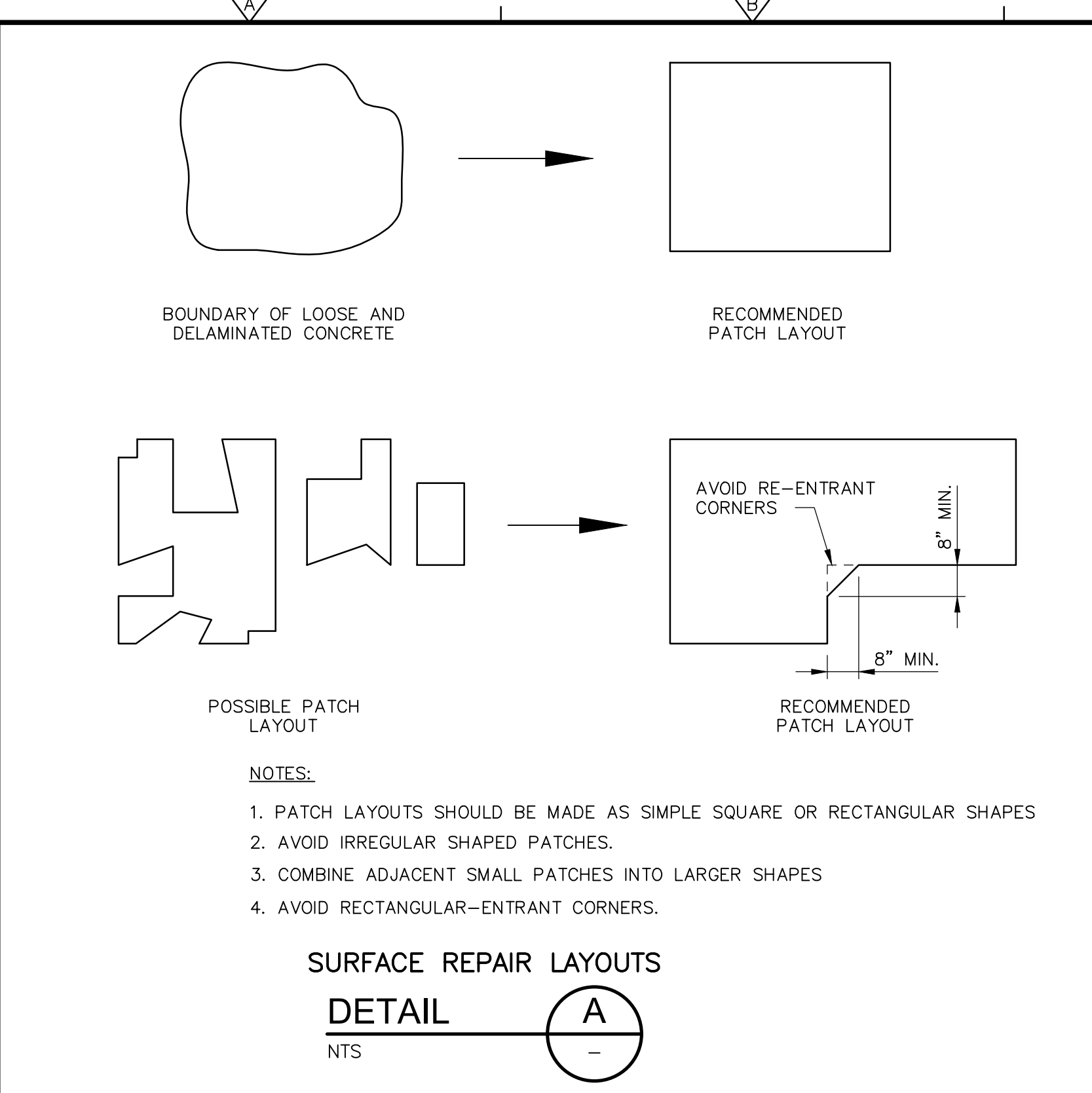
**STRUCTURAL STANDARD DETAILS VI**

SHEET NO. SZ-6

PROJECT NO.	2048-264953
FILE NAME:	S006STD.DWG
SHEET NO.	SZ-6



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**NOTES:**

- FOR BIDDING PURPOSE, THE CONTRACTOR SHALL ASSUME 50 SF OF TOTAL AREA OF SURFACE SPALLING REPAIR, 100 LF FOR SURFACE CRACKING REPAIR, AND 30 LF FOR EXPOSED REBAR REPLACEMENT. CONTRACTOR SHALL SUBMIT UNIT PRICES IN THE BIDS FOR COST ADJUSTMENT AFTER FINAL QUANTITIES OF REPAIRS HAVE BEEN DETERMINED DURING CONSTRUCTION.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JNE	CFW	CONFORMED DRAWINGS

DESIGNED BY: J. EULL  
 DRAWN BY: J. EULL  
 SHEET CHK'D BY: W. YANG  
 CROSS CHK'D BY: J. EULL  
 APPROVED BY: C. WONG  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
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**STRUCTURAL STANDARD  
 CONCRETE REPAIR DETAILS**

PROJECT NO. 2048-264953  
 FILE NAME: S007STD.DWG  
 SHEET NO. SZ-7



**SCHEDULE OF SPECIAL INSPECTIONS AND TESTS**

**NOTES:**

- THIS DRAWING IS PROVIDED TO OUTLINE THE MINIMUM LEVEL OF SPECIAL INSPECTIONS DURING CONSTRUCTION TO ENSURE CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. A STATEMENT OF SPECIAL INSPECTIONS WILL BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL AND SUBMITTED WITH THE BUILDING PERMIT APPLICATION.
- SPECIAL INSPECTIONS WILL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC).
- IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE, THE OWNER WILL PROVIDE AN APPROVED AGENCY OR AGENCIES, INDEPENDENT FROM THE CONTRACTOR AND EMPLOYING QUALIFIED PERSONNEL TO PERFORM SPECIAL INSPECTIONS IDENTIFIED IN THE STATEMENT OF SPECIAL INSPECTIONS. THE APPROVED AGENCY WILL FURNISH INSPECTION REPORTS TO THE DP, RC AND BUILDING OFFICIAL.
- SPECIAL INSPECTIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR QUALITY CONTROL OF THE WORK OR FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. DETECTION, OR FAILURE TO DETECT, DEFECTS IN THE WORK SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO CORRECT ALL DEFECTS IN THE WORK, WHETHER DETECTED OR NOT, AND OF RESPONSIBILITY FOR CONFORMANCE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- REMOVE AND REPLACE, OR REPAIR, DEFECTS IN THE WORK AND WORK NOT IN CONFORMANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL BEAR THE COSTS FOR THE INSPECTION OF ANY REPLACED OR REPAIRED PORTIONS OF THE WORK.
- CONTRACTOR SHALL COOPERATE WITH SPECIAL INSPECTIONS BY PROVIDING SUFFICIENT NOTICE FOR THE SCHEDULING OF PERSONNEL AND BY ALLOWING FREE AND SAFE ACCESS TO THE WORK FOR OBSERVATION, VERIFICATION, SAMPLING AND INSPECTION. PROVIDE AND PERMIT THE USE OF LADDERS, SCAFFOLDING, INCIDENTAL EQUIPMENT, AND SAFETY EQUIPMENT AS MAY BE REQUIRED TO CONDUCT SPECIAL INSPECTIONS. ALL SUCH PROVISIONS FOR FREE AND SAFE ACCESS AND EQUIPMENT SHALL BE SAFE, IN GOOD WORKING CONDITION, AND ERECTED, MAINTAINED, AND HANDLED BY QUALIFIED PERSONNEL.
- SPECIAL INSPECTIONS DO NOT APPLY TO CONTRACTOR'S EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION, OR SITE SAFETY. CONTRACTOR SHALL REMAIN RESPONSIBLE FOR ADEQUACY AND SAFETY OF EQUIPMENT, TEMPORARY STRUCTURES USED FOR CONSTRUCTION, MEANS AND METHODS OF CONSTRUCTION AND SITE SAFETY.
- SCHEDULE OF SPECIAL INSPECTIONS CONTINUED ON SHEET SZ-9.

**TABLE 1 – REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS (IBC, TABLE 1705.6)**

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD	REMARKS
		CONTINUOUS	PERIODIC		
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6		X	CONTRACT DOCUMENTS AND GEOTECHNICAL REPORT	REFER TO THE FOLLOWING TABLES FOR ADDITIONAL RELATED SPECIAL INSPECTIONS
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL			X		
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS			X		
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL		X			
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY			X		

**TABLE 2 – REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (IBC, TABLE 1705.3)**

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	1705.3 1908.4		X	ACI 318: CH 20, 25.2, 25.3, 26.5.1–26.5.3
REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706 b. INSPECT SINGLE PASS FILLET WELDS MAX 5/16" c. INSPECT ALL OTHER WELDS	1705.3		X	AWS D1.4 ACI 318: 26.5.4
INSPECT ANCHORS CAST IN CONCRETE	1705.3		X	ACI 318: 17.8.2
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: a. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a	1705.3	X		ACI 318: 17.8.2.4
			X	ACI 318: 17.8.2
VERIFYING USE OF REQUIRED DESIGN MIX	1705.3 1904.1 1904.2 1908.2 1908.3		X	ACI 318: CH 19, 26.4.3, 26.4.4
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3 1908.10	X		ACI 318: 26.4.5, 26.12 ASTM C172 ASTM C31
INSPECT CONCRETE AND SHORTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1705.3 1908.6 1908.7 1908.8	X		ACI 318: 26.4.5
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3 1908.9		X	ACI 318: 26.4.7–26.4.9
INSPECTION OF PRESTRESSED CONCRETE FOR: a. APPLICATION OF PRESTRESSING FORCES b. GROUTING OF BONDED PRESTRESSING TENDONS	1705.3	X		ACI 318: 26.9.2.1
		X		ACI 318: 26.9.2.3
INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	1705.3		X	ACI 318: 26.8
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS	1705.3		X	ACI 318: 26.10.2
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3		X	ACI 318: 26.10.1(b)

**TABLE 3 – REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL CONSTRUCTION (AISC 360, PER IBC 1705.2)**

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	1705.2		X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
INSPECTION OF HIGH-STRENGTH BOLTING: a. SNUG-TIGHT JOINTS b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION c. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION	1705.2		X	AISC 360, SECTION M2.5
MATERIAL VERIFICATION OF STRUCTURAL STEEL: a. IDENTIFICATION MARKINGS TO CONFORM TO AISC 360 b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS	1705.2		X	AISC 360, SECTION M5.5
MATERIAL VERIFICATION OF WELD FILLER MATERIALS: a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	1705.2		X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
INSPECTION OF WELDING: a. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS b. MULTIPASS FILLET WELDS c. SINGLE-PASS FILLET WELDS >5/16" d. PLUG AND SLOT WELDS e. SINGLE-PASS FILLET WELDS < OR = 5/16"	1705.2 1704.3.1	X		AWS D1.1
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE: a. DETAILS SUCH AS BRACING AND STIFFENING b. MEMBER LOCATIONS c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	1705.2 1704.3.2		X	

XREFS: C:\MSD2008\REV\W\WONG\_SEAL\_CDMS\_2234\_SG\_Images\ Last saved by: EULLJN Time: 1/25/2023 11:54:39 AM p:\cdmsmith-a205-pw\benley\comp\pw\_012048\26495304\_Structural\10 BIM\CADD\ISO8NFNT.dwg © 2022 CDM SMITH ALL RIGHTS RESERVED. REUSE OF DOCUMENTS: THESE DOCUMENTS AND DESIGNS PROVIDED BY PROFESSIONAL SERVICE, INCORPORATED HEREIN, ARE THE PROPERTY OF CDM SMITH AND ARE NOT TO BE USED, IN WHOLE OR PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CDM SMITH.

DESIGNED BY: J. EULL	DATE: 5/25/23	JNE	CFW	CONFORMED DRAWINGS
DRAWN BY: P. ANUSHA	DATE: _____			
SHEET CHK'D BY: W. YANG	DATE: _____			
CROSS CHK'D BY: J. EULL	DATE: _____			
APPROVED BY: C. WONG	DATE: JANUARY 2023			

**CDM Smith**  
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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**STRUCTURAL SPECIAL INSPECTIONS I**  
 SZ-8

PROJECT NO. 2048-264953
FILE NAME: S008NFNT.DWG
SHEET NO. SZ-8



**SCHEDULE OF SPECIAL INSPECTIONS (CONTINUED)**

NOTE:  
1. SEE SHEET SZ-8 FOR NOTES.

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK: a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS	1705.2.2		X	APPLICABLE ASTM MATERIAL STANDARDS
INSPECTION OF WELDING: a. COLD-FORMED STEEL DECK 1) FLOOR AND ROOF DECK WELDS b. REINFORCING STEEL (WHEN WELDING IS SPECIFIED OR APPROVED IN WRITING) 1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706 2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT 3) SHEAR REINFORCEMENT 4) OTHER REINFORCING STEEL	1705.2.2 1705.3.1	X	X	AWS D1.3  AWS D1.4 AND ACI 318: SECTION 3.5.2
COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR GREATER: a. VERIFY TEMPORARY AND PERMANENT RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	1705.2.4		X	

VERIFICATION AND INSPECTION	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
MATERIAL VERIFICATION OF BOLTS, NUTS AND WASHERS a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED	1701.2		X	
MATERIAL VERIFICATION OF ALUMINUM STRUCTURAL MEMBERS: a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFIED MILL TEST REPORTS			X	APPLICABLE ASTM MATERIAL STANDARDS
MATERIAL VERIFICATION OF WELD FILLER MATERIALS: a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED			X	APPLICABLE AWS DOCUMENTS
INSPECTION OF WELDING: a. ALUMINUM STRUCTURES 1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS 2) MULTIPASS FILLET WELDS 3) SINGLE-PASS FILLET WELDS > 5/16" 4) PLUG AND SLOT WELDS 5) SINGLE-PASS FILLET WELDS < OR = 5/16"			X	AWS D1.2
INSPECTION OF FRAME JOINT DETAILS FOR COMPLIANCE: a. DETAILS SUCH AS BRACING AND STIFFENING b. MEMBER LOCATIONS c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION				X

SYSTEM OR MATERIAL	IBC REFERENCE	INSPECTION FREQUENCY		REFERENCE STANDARD
		CONTINUOUS	PERIODIC	
THE STATEMENT OF SPECIAL INSPECTIONS WILL INCLUDE WIND REQUIREMENTS FOR STRUCTURES CONSTRUCTED IN THE FOLLOWING AREAS: a. IN WIND EXPOSURE CATEGORY B, WHERE THE 3-SECOND-GUST BASIC WIND SPEED IS 120 MILES PER HOUR (MPH) (52.8M/S) OR GREATER b. IN WIND EXPOSURE CATEGORY C OR D, WHERE THE 3-SECOND-GUST BASIC WIND SPEED IS 110 MPH (49 M/S) OR GREATER	1705.11		X	CONTRACT DOCUMENTS
ROOF COVERING, ROOF DECK AND FRAMING CONNECTIONS			X	
EXTERIOR WALL COVERING AND WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING			X	

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DESIGNED BY: J. EULL	DRWN: JNE	CHKD: CFW	CONFORMED DRAWINGS
DRAWN BY: P. ANUSHA	DATE: 5/25/23	REMARKS:	
SHEET CHK'D BY: W. YANG			
CROSS CHK'D BY: J. EULL			
APPROVED BY: C. WONG			
DATE: JANUARY 2023			

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CITY OF GEORGETOWN, TEXAS  
  
**SAN GABRIEL WWTP  
REHABILITATION**

STRUCTURAL SPECIAL INSPECTIONS II

PROJECT NO. 2048-264953
FILE NAME: S009NFNT.DWG
SHEET NO. <b>SZ-9</b>



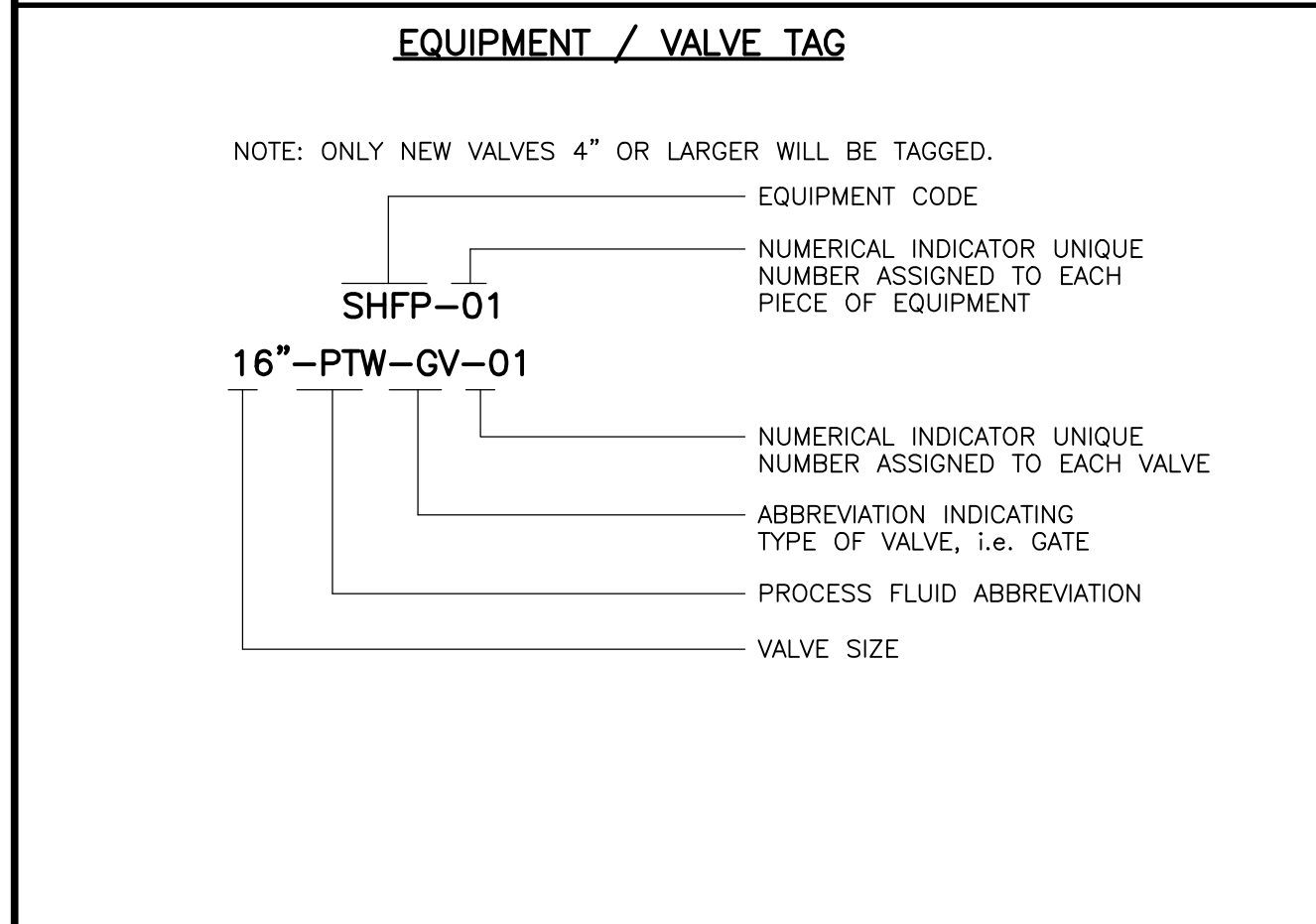
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DOUBLE LINE SYMBOL	SINGLE LINE SYMBOL	FEATURE
		WELDED JOINT
		BLIND FLANGE
		FLANGED JOINT COMPLEX REPRESENTATION.
		MECHANICAL JOINT COMPLEX REPRESENTATION.
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT SIMPLIFIED REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT COMPLEX REPRESENTATION
		PUSH ON JOINT OR CAULKED BELL & SPIGOT JOINT RESTRAINED
		BALL JOINT
		DIRECTION OF FLOW
		PLAIN END x PLAIN END PIPE COUPLING
		PLAIN END x PLAIN END PIPE COUPLING RESTRAINED
		FLANGE x PLAIN END PIPE COUPLING
		FLEXIBLE COUPLING OR EXPANSION JOINT (SLEEVE TYPE)
		FLEXIBLE COUPLING OR EXPANSION JOINT (BELLOWS TYPE)
		COUPLING FOR GROOVED END JOINTS: F FLEXIBLE
		R RIGID
		FLANGE GUARD
		FLANGE FILLER
		UNION
		QUICK CONNECT COUPLING
		HOSE COUPLING

**PIPE AND FITTING SYMBOL NOTES**

1 SIMPLIFIED JOINT SYMBOL IS USED FOR ALL SINGLE LINE PIPING SHOWN ON THE INTERIOR & EXTERIOR PIPING DRAWINGS.

2 UNLESS MODIFIED BY THE GENERAL PROJECT NOTES OR DETAILED ON THE LAYOUT AND SCHEMATIC DRAWINGS PIPE & FITTING JOINT REQUIREMENTS FOR THE VARIOUS PIPE MATERIALS ARE DEFINED IN THE SPECIFICATIONS.



SYMBOL	FEATURE
	CAP OR PLUG
	UNCLASSIFIED, TYPE AS SHOWN ON THE DRAWINGS ADJACENT TO SYMBOL
	FLOW METER
	TELESCOPING VALVE
	VALVE WITH HOSE END (FLUSHING CONNECTION)
	GATE VALVE
	KNIFE GATE VALVE
	GLOBE VALVE
	BALL VALVE
	3-WAY BALL VALVE
	4-WAY BALL VALVE
	CONE VALVE
	NEEDLE VALVE
	PINCH VALVE
	DIAPHRAGM VALVE
	BUTTERFLY VALVE
	BUTTERFLY VALVE DAMPER (AIR PIPING)
	PLUG VALVE
	CHECK VALVE, GENERAL SYMBOL
	BALL CHECK VALVE
	DOUBLE DOOR CHECK VALVE
	ANGLE VALVE
	SOLENOID VALVE
	THREE WAY SOLENOID VALVE
	MOTOR OPERATED VALVE
	FLAP VALVE
	SHEAR GATE
	MUD VALVE
	FLOOR DRAIN
	EQUIPMENT DRAIN
	ECCENTRIC REDUCER OR REDUCING BUSHING
	CONCENTRIC REDUCER OR REDUCING BUSHING
	Y-STRAINER
	YARD HOSE STATION
	CALIBRATION CYLINDER
	AIR RELEASE VALVE
	CLEAN OUT
	DOWN
	UP
	DROP OR RISE
	PRESSURE RELIEF VALVE
	BALL VALVE - CHLORINE SERVICE
	VACUUM REGULATOR
	SELF-CONTAINED PRESSURE REGULATING VALVE
	BACK PRESSURE REGULATION VALVE
	VACUUM RELIEF VALVE

VALVE SYMBOLS (CONTINUED)	
SYMBOL	FEATURE
	SPRING RETURN BALL VALVE
	DIAPHRAGM SEAL STANDARD
	DIAPHRAGM SEAL SPECIAL SERVICE
	DIAPHRAGM CHECK VALVE

GATE SYMBOLS	
PLAN	FEATURE
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	WEIR SLIDE GATE (WSLG)
	STOP PLATE (SP)
	SLUICE GATE (SG)
	SLIDE GATE (SLG)
	WEIR SLIDE GATE (WSLG)

PROCESS PIPE SCHEDULE							
SERVICE ABBREVIATION	LOCATION AND PROCESS AREA	SIZE	SPEC SECTION	PIPE MATERIAL	OPERATING PRESSURE (PSIG)	TEST PRESSURE (PSIG)	MIN/MAX TEMPERATURE (F)
<b>BURIED</b>							
ABI	SG-MB	20"	400519	DUCTILE IRON	10	15	50/77
SBS	SG-MF	1/2"	400531 AND WW2	SCH 80 PVC	125	190	50/77
DR	SG-C	8"	400531 AND WW2	SDR 26 PVC	10	15	50/77
NPW	SG-C	3"	400531 AND WW2	SCH 80 PVC	110	165	50/77
NPW	SG-C	6"	400519	DUCTILE IRON	110	165	50/77
<b>ABOVE - GRADE</b>							
FM	SG-MA	12-18"	400519	DUCTILE IRON	35	50	50/77
ABI	SG-MC	18"-20"	400519	DUCTILE IRON	10	15	50/77
SBS	SG-MF	1/2" - 2"	400531 AND WW2	SCH 80 PVC	125	190	50/77
NPW	SG-MB	1"-1 1/2"	400531 AND WW2	SCH 80 PVC	110	165	50/77
GR	SG-MB	4"	400519	GLASS LINED DUCTILE IRON	10	15	50/77
OVF	SG-MB	8"	400519	DUCTILE IRON	10	15	50/77
LPA	SG-MD	6"-16"	400523	STAINLESS STEEL	10	30	0/330
LPA	SG-ME	8"-10"	400523	STAINLESS STEEL	10	38	0/330
LPA	SG-MG	12"	400523	STAINLESS STEEL	10	38	0/330

PROCESS FLUID ABBREVIATIONS	
ABE	AERATION BASIN EFFLUENT
ABI	AERATION BASIN INFLUENT
BWW	BACKWASH WATER
BYP	BYPASS
CA	COMPRESSED AIR
CEFF	CLARIFIER EFFLUENT
CINF	CLARIFIER INFLUENT
DR	DRAIN
DS	DEWATERED SLUDGE
EFF	EFFLUENT
FLT	FILTRATE WATER
GR	GRIT
IRR	IRRIGATION WATER
INF	INFLUENT
LPA	LOW PRESSURE AIR
NPW	NON-POTABLE WATER
OVF	OVERFLOW
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
SBS	SODIUM BISULFITE
SC	SCUM
SD	STORM DRAIN
SH	SODIUM HYPOCHLORITE
SL	SLUDGE
SR	SLUDGE RETURN
STS	STORM SEWER
VT	VENT
WAS	WASTE ACTIVATED SLUDGE
WW	WASTE WATER
WWEFF	WET WEATHER EFFLUENT

PIPE JOINT LEGEND	
DESIGNATION	PIPE JOINT
BSM	BELL & SPIGOT-MORTAR JOINT
BSO	BELL & SPIGOT-RUBBER O RING
C	COMPRESSION (TUBE FITTINGS)
F	FLANGED
G	GROOVED
P	MECHANICAL JOINT
S	SOLDERED
SW	SOCKET WELDED
T	THREADED
V	SOLVENT CEMENTED
W	BUTT WELDED

PIPE MATERIAL	
CI	CAST IRON
CIS	CAST IRON - SOIL
CM	CORRUGATED METAL
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
CU	COPPER
DI	DUCTILE IRON
EPDM	ETHYLENE PROPYLENE RUBBER
FRP	FIBER REINFORCED PLASTIC
GS	GALVANIZED CARBON STEEL
PCCP	PRESTRESSED CYLINDER
POLYE	POLYETHYLENE
POLYP	POLYPROPYLENE
PVC	POLYVINYL CHLORIDE
RC	REINFORCED CONCRETE
RCC	REINFORCED CONCRETE CYLINDER
SST	STAINLESS STEEL
STL	STEEL

**NOTES**

1 PROCESS PIPE SUPPORTS SHOWN FOR BIDDING PURPOSES. REFER TO SECTION 400507 FOR CONTRACTOR'S DELEGATED DESIGN REQUIREMENTS FOR PIPE SUPPORTS.

2 ALL PIPING INSTALLED BELOW A PROCESS STRUCTURE SHALL BE ENCASED IN ACCORDANCE WITH DETAIL C ON SHEET SZ-2 UNLESS NOTED OTHERWISE.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



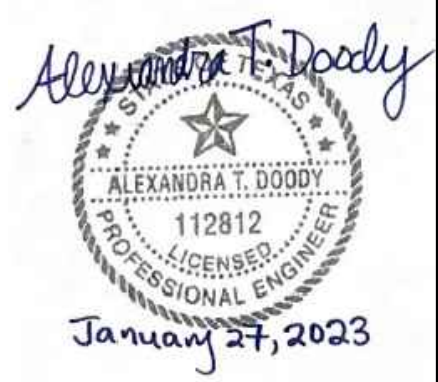
CITY OF GEORGETOWN, TEXAS

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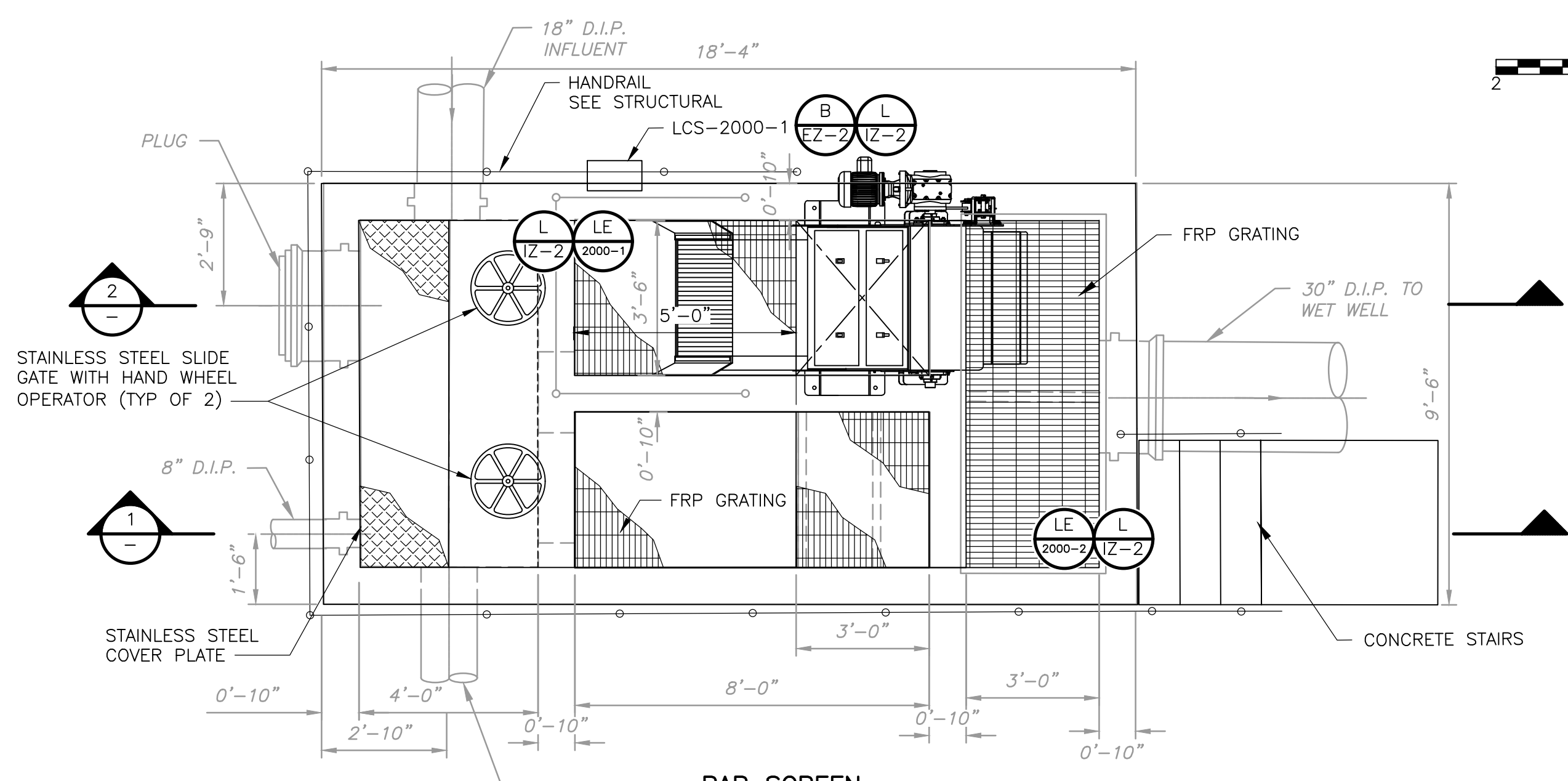
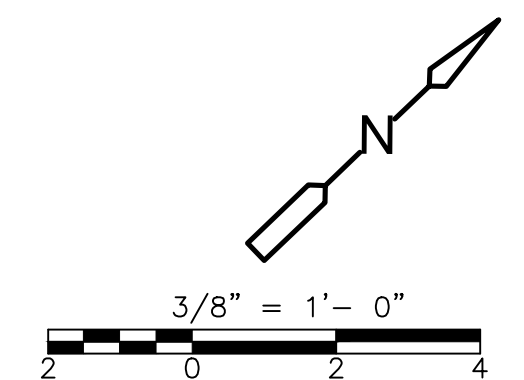
PROCESS MECHANICAL LEGEND

SHEET NO. M-1

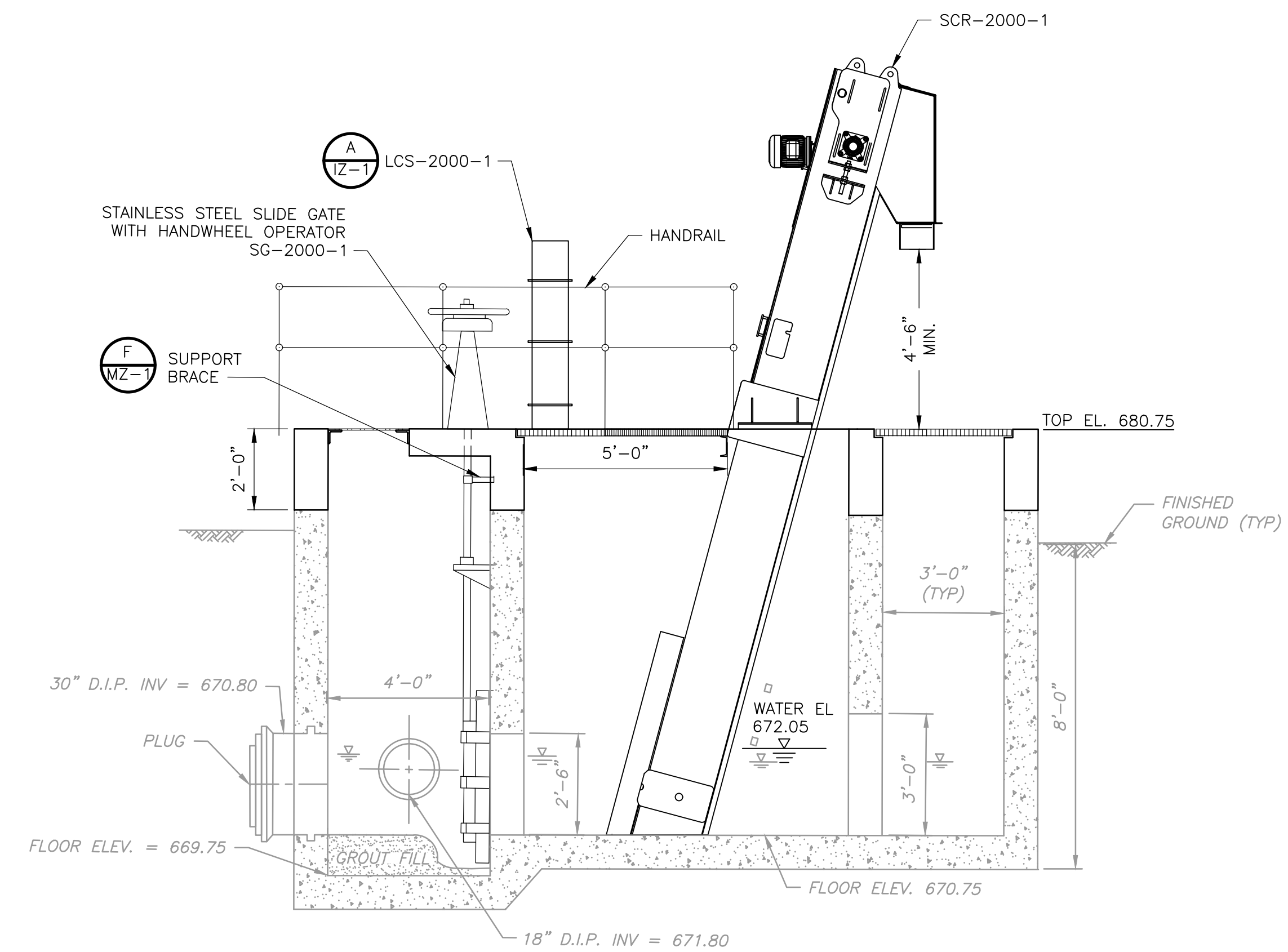
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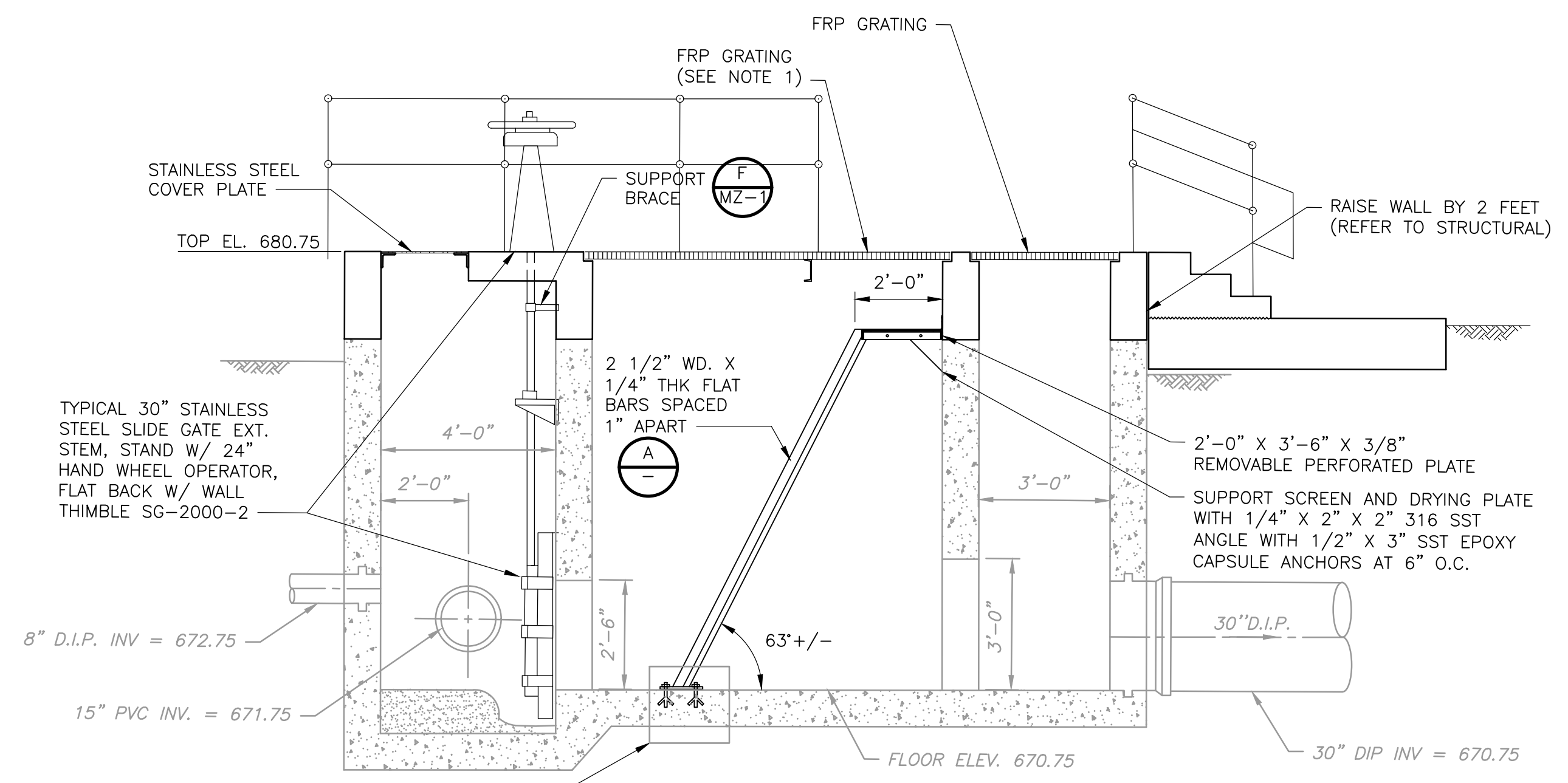
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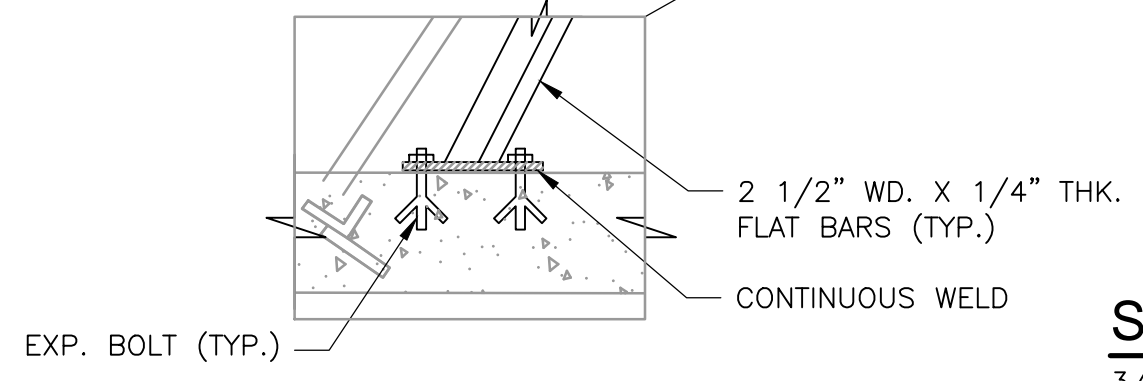
**BAR SCREEN PLAN**  
3/8" = 1'-0"



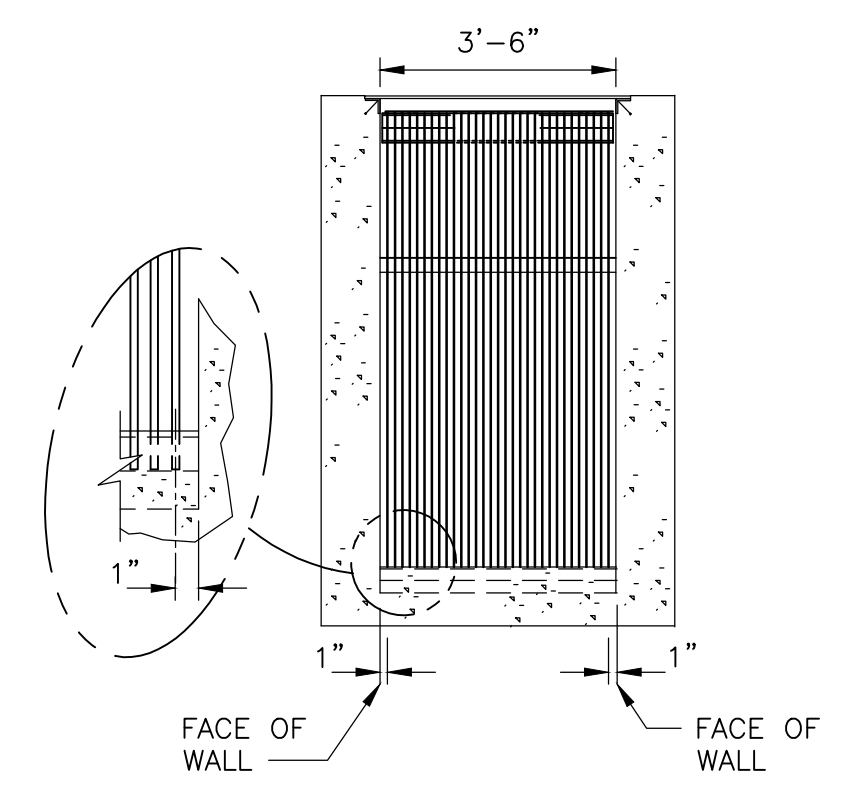
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3/8" = 1'-0"



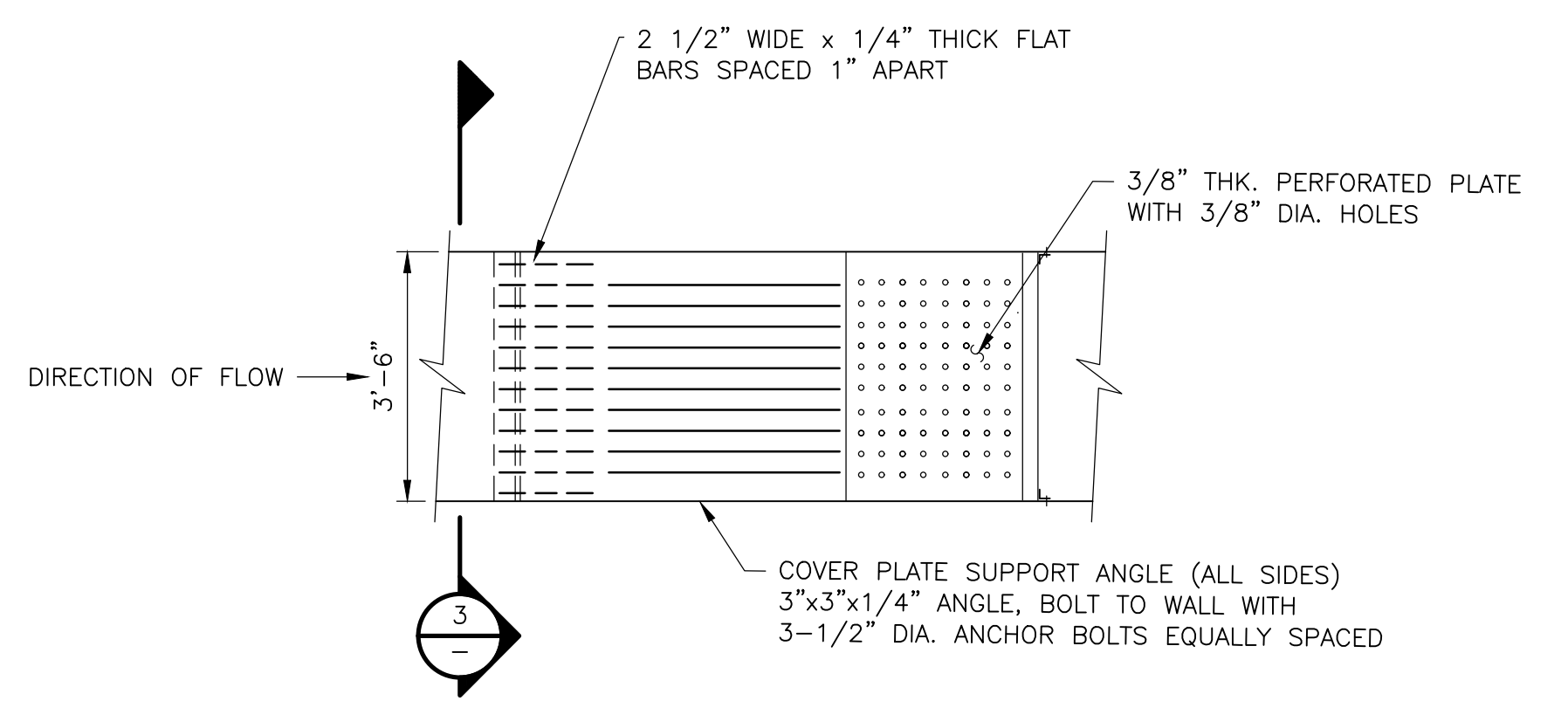
**SECTION 1**  
3/8" = 1'-0"



**DETAIL A**  
NS

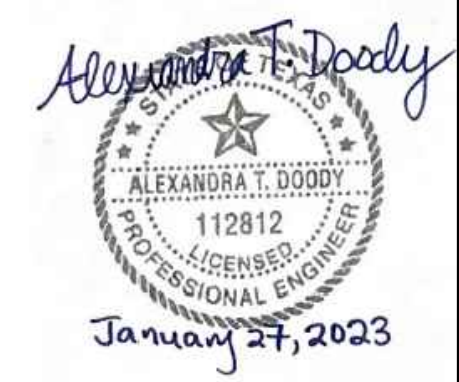


**SECTION 3**  
NS



**PLAN**  
NS

**NOTE:**  
1. FRP GRATING SHALL BE EASILY REMOVABLE FOR SCREEN MAINTENANCE.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

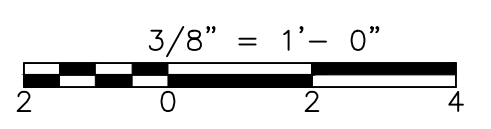
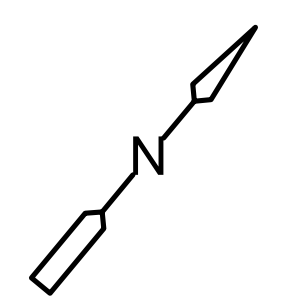


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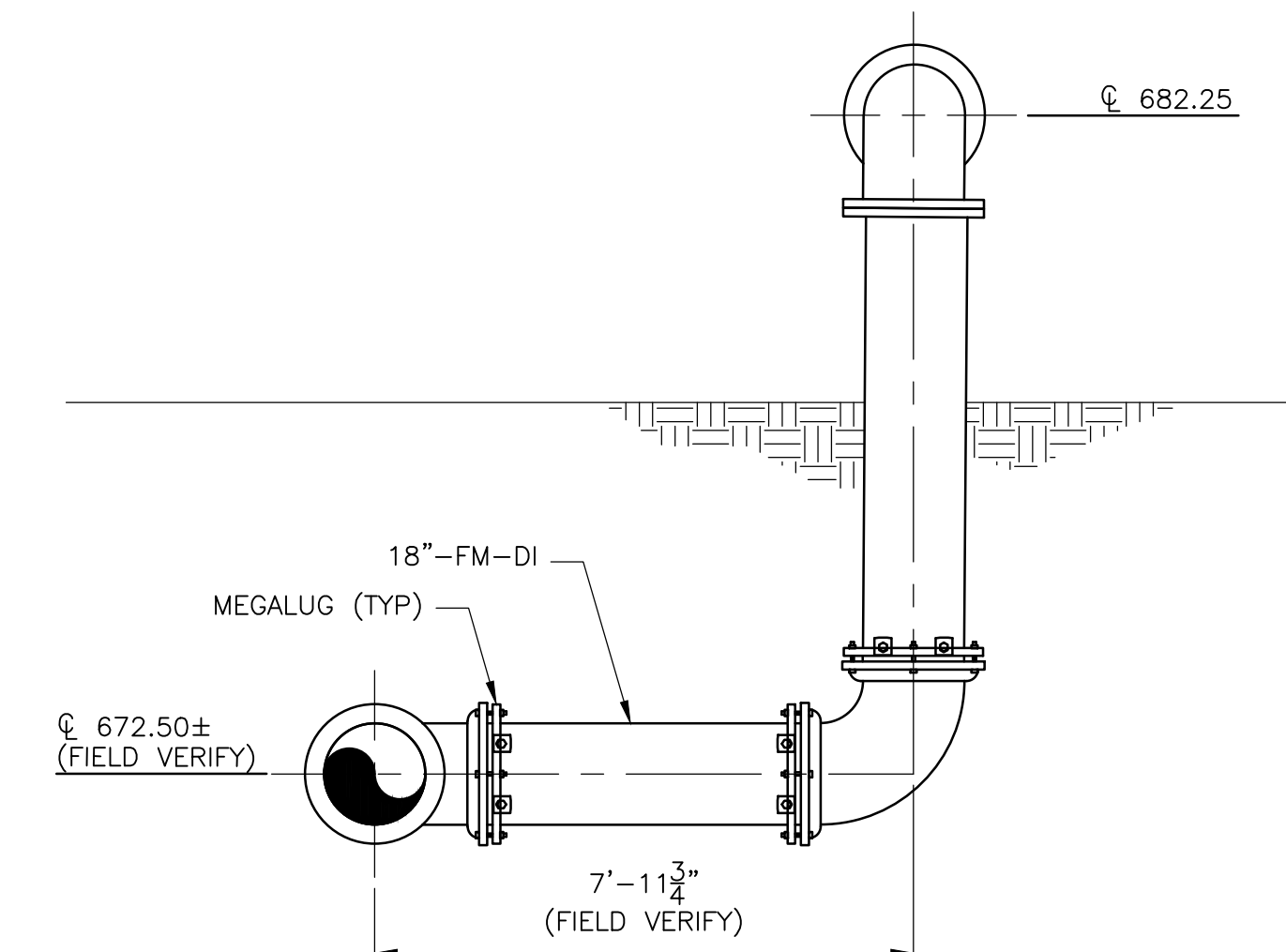
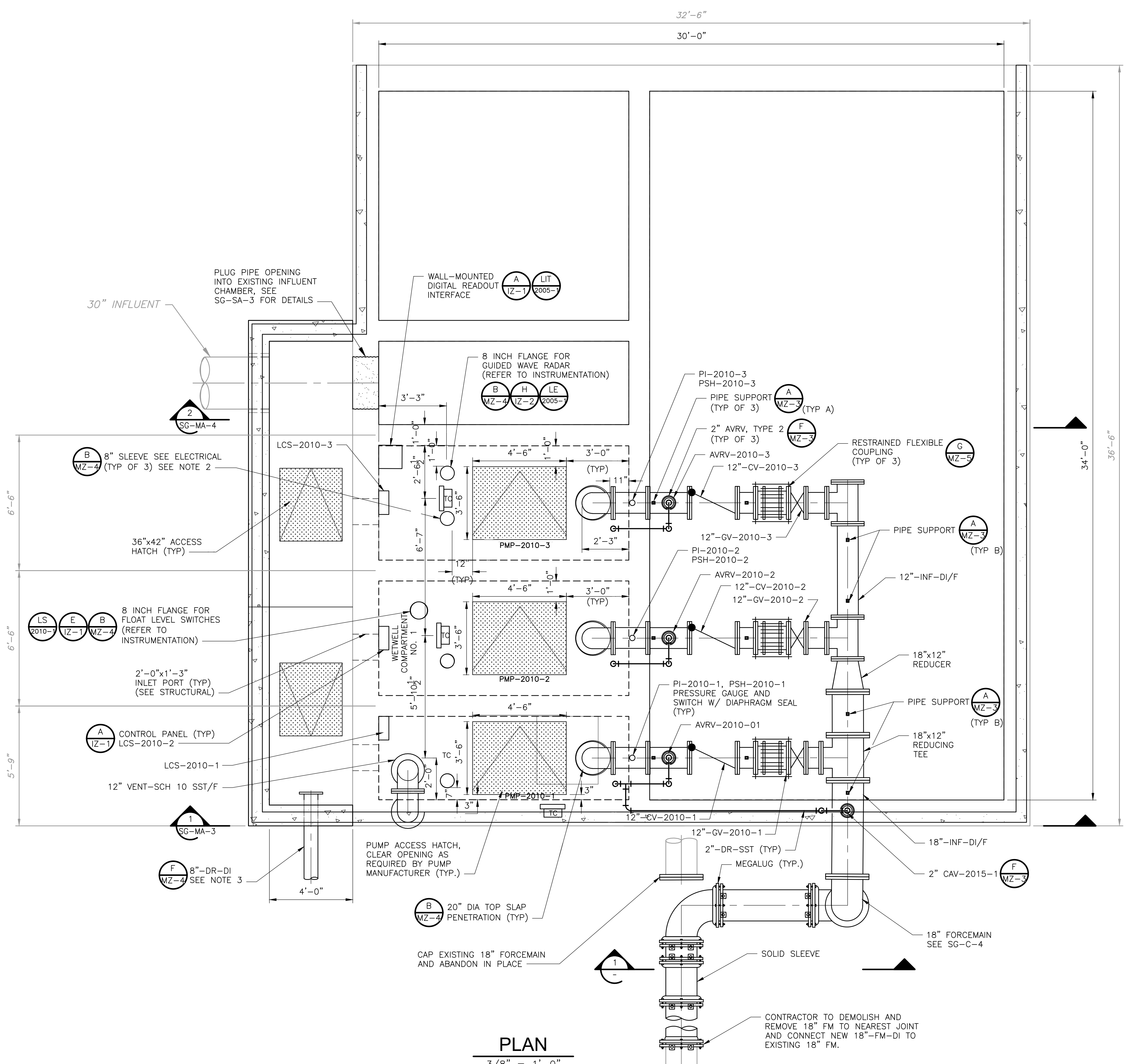
SAN GABRIEL WWTP  
 COARSE BAR SCREEN MODIFICATION  
 PLAN AND SECTIONS

PROJECT NO. 2048-264953  
 FILE NAME: SGMA1.DWG  
 SHEET NO. SG-MA-1

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- NOTES:**
- CONTRACTOR TO COORDINATE ACCESS HATCH WITH HATCH MANUFACTURER REGARDING INSTALLATION IN EXISTING CONCRETE. THE DIMENSION OF THE ACCESS HATCHES AS WELL AS THE LOCATION OF THESE HATCHES MAY VARY BASED ON THE SELECTED PUMP MANUFACTURER. CONTRACTOR SHALL INSTALL THESE HATCHES BASED ON THE PUMP MANUFACTURER'S RECOMMENDATIONS AND MODIFY THE STRUCTURAL DESIGN AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER. COORDINATE HATCH OPENING POSITION WITH OWNER AND PUMP MANUFACTURER. HATCH DIMENSIONS SHOWN ON PLAN VIEW IS THE FULL OUTER EDGE OF HATCH INCLUDING HATCH FRAME.
  - COORDINATE THE LOCATION OF THE PIPE PENETRATIONS PRIOR TO INSTALLATION TO CONFIRM THAT THEY WILL BE ACCESSIBLE AND HAVE SUFFICIENT CLEARANCE FROM THE CABINETS PER NFPA REQUIREMENTS.
  - CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF 8" DR LINE FROM BELT FILTER PRESS PRIOR TO CONSTRUCTION OF INFLUENT CHANNEL. CONTRACTOR IS TO CUT EXISTING 8" LINE TO NEAREST JOINT AND ROUTE NEW 8"-DR-DI TO INFLUENT CHANNEL.
  - CONTRACTOR TO FIELD VERIFY LOCATION OF REBAR AND BEAMS PRIOR TO PLACEMENT OF FLANGED PENETRATION.
  - DISTANCES, DIMENSIONS, AND ELEVATIONS MAY VARY WITH MANUFACTURER. ANY CHANGES BASED ON MANUFACTURER SELECTION SHALL BE APPROVED BY THE ENGINEER AND AT NO COST TO THE OWNER. DIMENSIONS, SIZES, ETC., SHALL BE IN COMPLIANCE WITH THE CURRENT HYDRAULIC INSTITUTE STANDARDS.



**PLAN**  
3/8" = 1'-0"

**SECTION 1**  
3/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

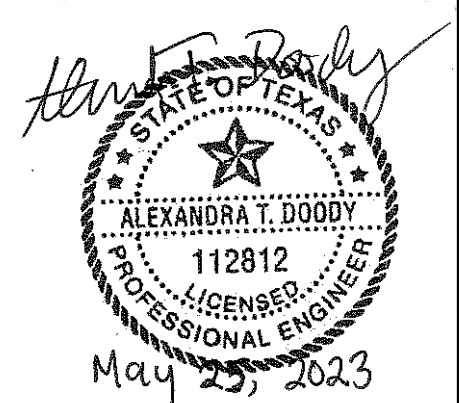
DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

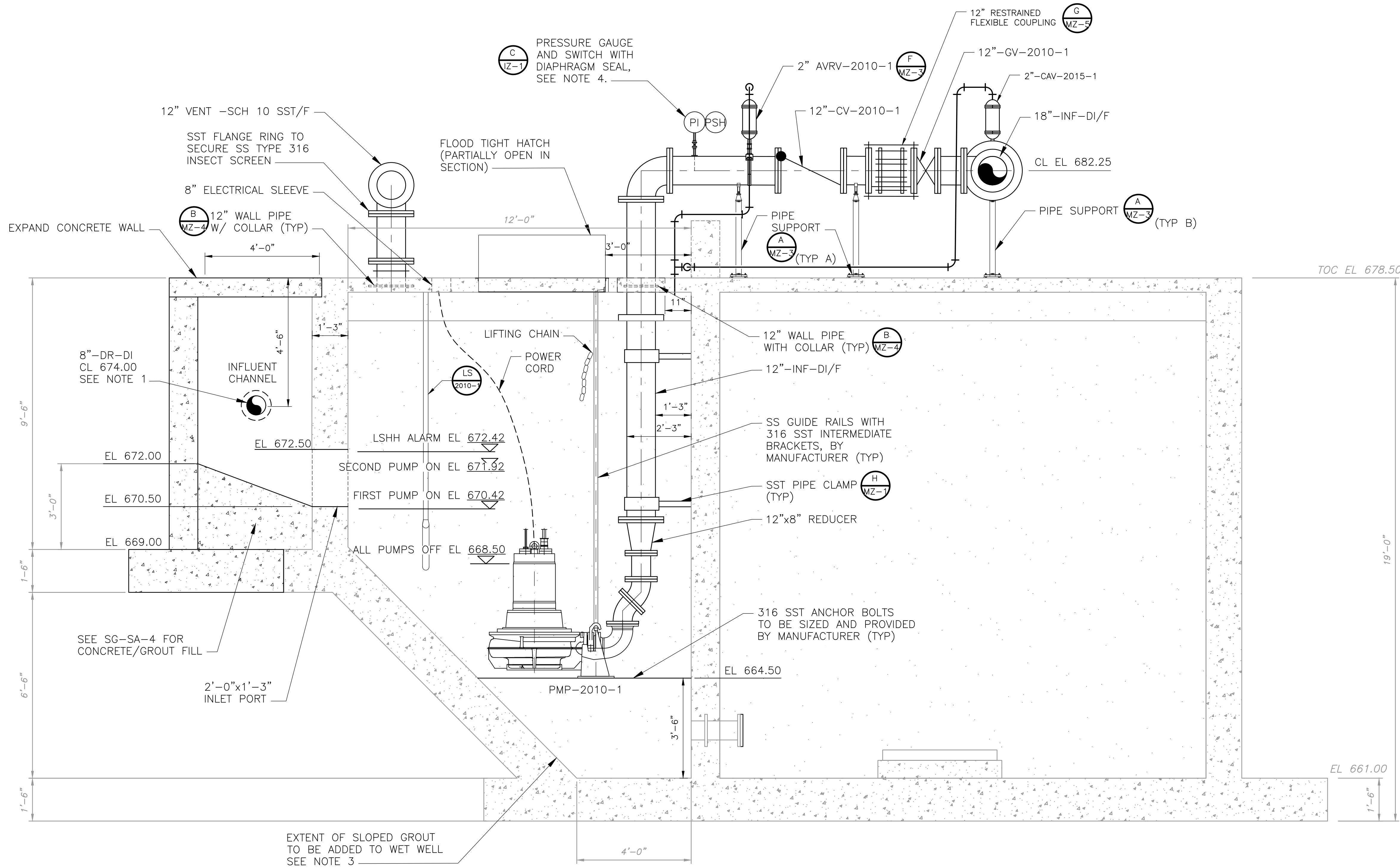
9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 INFLUENT LIFT STATION  
 PLAN**  
 SG-MA-2

PROJECT NO.	2048-264953
FILE NAME:	SGMA2_V2.DWG
SHEET NO.	11
	SG-MA-2





- NOTES:
1. CONTRACTOR TO FIELD VERIFY LOCATION AND DEPTH OF 8" DR LINE FROM BELT FILTER PRESS PRIOR TO CONSTRUCTION OF INFLUENT CHANNEL.
  2. CONFIRM MINIMUM SUBMERGENCE LEVEL OVER THE PUMP WITH PUMP MANUFACTURER.
  3. CONFIRM AND COORDINATE PUMP PAD HEIGHT WITH SELECTED PUMP MANUFACTURER TO ENSURE SATISFACTORY SPACING BETWEEN PUMP AND 45 DEGREE WALL.
  4. MOUNT PRESSURE GAUGES/SWITCHES ON CENTERLINE OF PIPE.

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



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

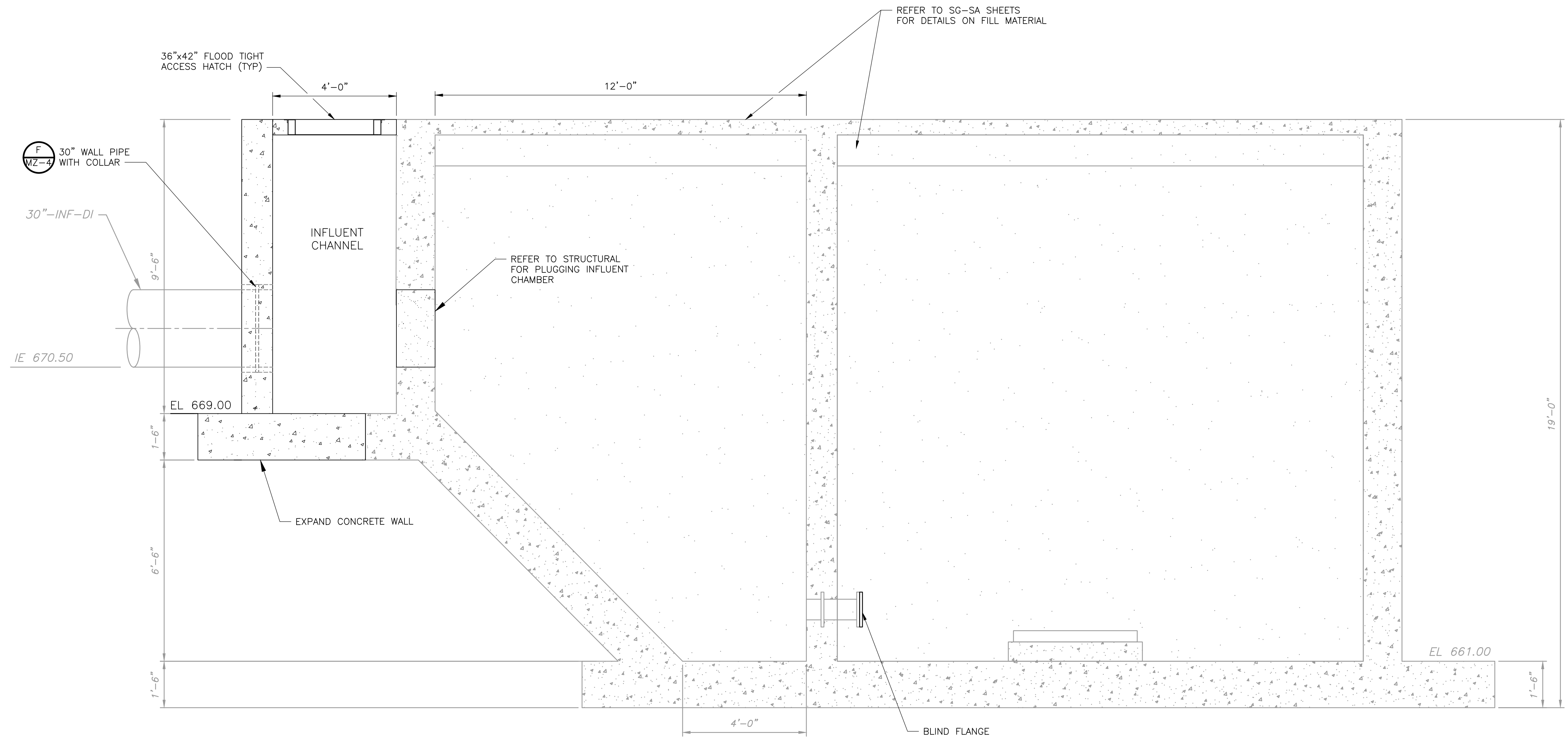


CITY OF GEORGETOWN, TEXAS  
SAN GABRIEL WWTW  
REHABILITATION

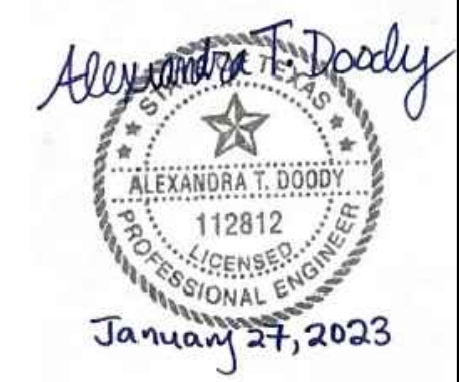
SAN GABRIEL WWTW  
INFLUENT LIFT STATION  
SECTION I  
SG-MA-3

PROJECT NO.	2048-264953
FILE NAME:	SGMA3.DWG
SHEET NO.	SG-MA-3

NOTE:  
 1. REFER TO SPECIFICATION SECTION 312323.33 ON CONTROLLED LOW STRENGTH MATERIAL.



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



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SGMA4.DWG  
 SHEET NO. SG-MA-4  
 SAN GABRIEL WWTP  
 INFLUENT LIFT STATION  
 SECTION II

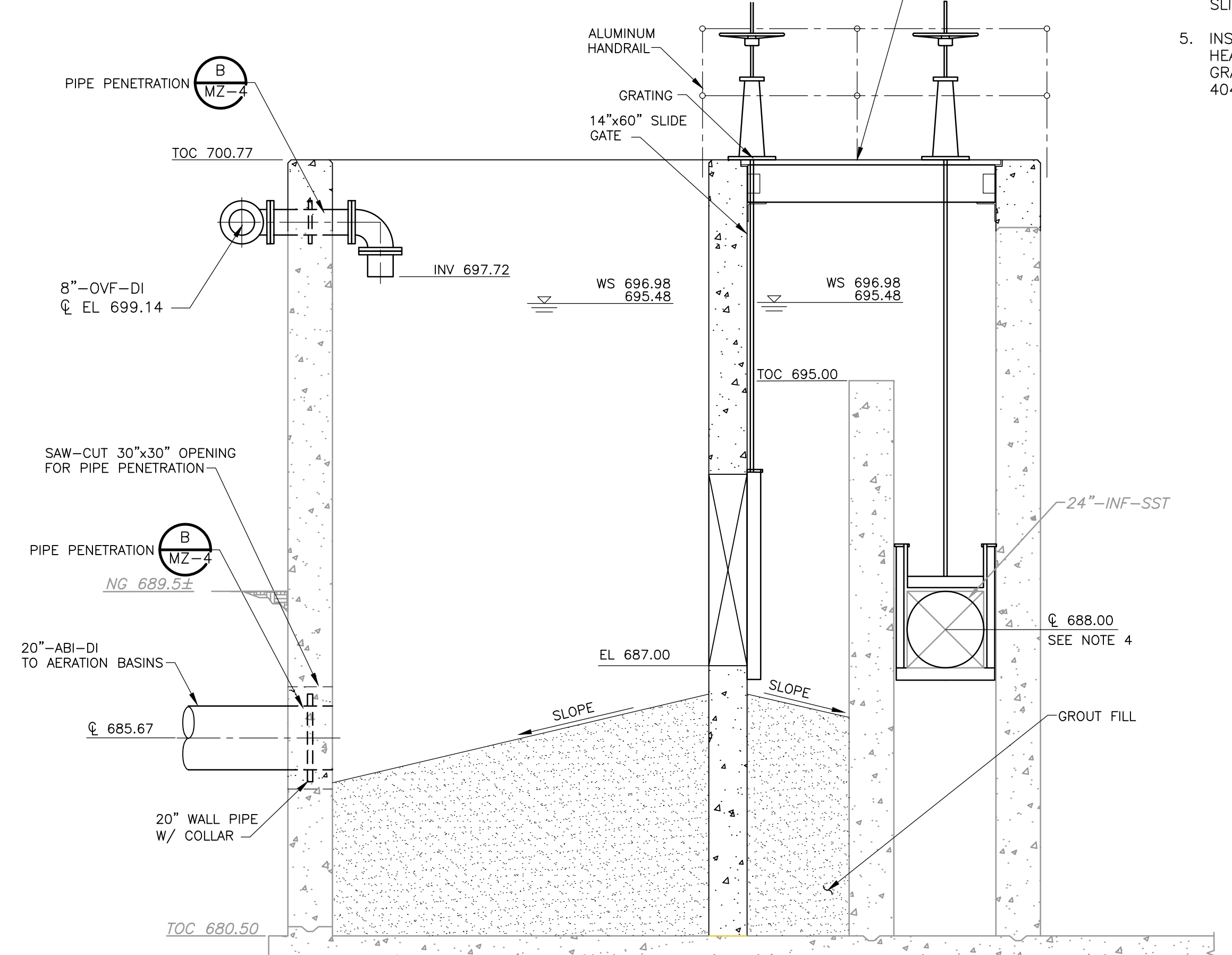
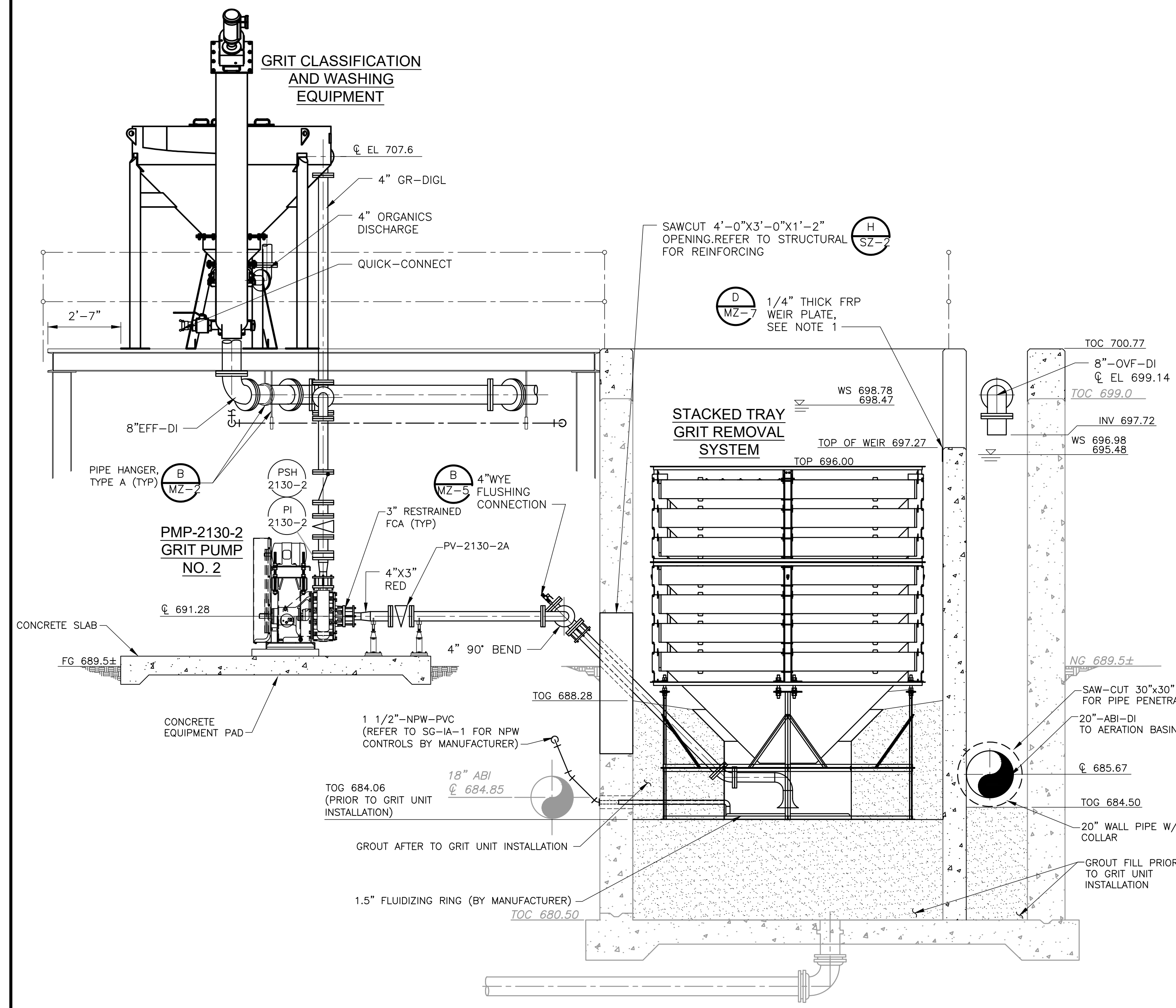






LEGEND: WS EL ● PEAK FLOW TREATMENT UNIT (7.5 MGD)  
 WS EL ○ AVERAGE FLOW (2.5 MGD)

- NOTES:
- WEIR CREST ELEVATION GIVEN IS WITH THE WEIR SET IN THE CENTER MOUNTING HOLES OR SLOTS.
  - WATER SURFACE ELEVATIONS SHOWN IS FOR STEP FEED FLOW WHERE 75% OF THE INFLUENT IS CONVEYED TO THE FRONT END OF THE BASINS AND 25% OF THE INFLUENT IS CONVEYED TO DISTRIBUTION BOX.
  - PIPE LAYOUTS, PIPE CONNECTIONS, DIMENSIONS, DISTANCES, ETC. MAY VARY SLIGHTLY WITH SELECTED MANUFACTURER. ANY CHANGES BASED ON MANUFACTURER SELECTION SHALL BE APPROVED BY THE ENGINEER AND AT NO COST TO THE OWNER.
  - CONTRACTOR TO FIELD VERIFY THE ELEVATION OF THE 24" STEEL INFLUENT LINE TO INLET MIX PRIOR TO PURCHASE OF SLIDE GATE.
  - INSTALL ALUMINUM JACKED INSULATION AND HEAT TRACING ON ALL NPW LINES ABOVE GRADE PER SPECIFICATION 404113.13 AND 404213.



- NOTES:
- DISCHARGE CHUTE, DUMPSTER, CENTER WALL IN 2'-2" EFFLUENT CHANNEL, AND SLIDE GATE NOT SHOWN FOR CLARITY.
  - AUGER MOTOR ACCESS PLATFORM NOT SHOWN FOR CLARITY. SEE SG-SB-4 FOR DETAILS.

SECTION 4  
 3/8" = 1'-0"

SECTION 5  
 3/8" = 1'-0"

3/8" = 1'-0"  
 0 2 4

Alexandra T. Doody  
 ALEXANDRA T. DOODY  
 112812  
 LICENSED PROFESSIONAL ENGINEER  
 January 27, 2023

XREFS: [CDMS\_2234, MES002GR, REVW\_A\_DOODY-SEAL] Images: []  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: B. FLETCHER  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

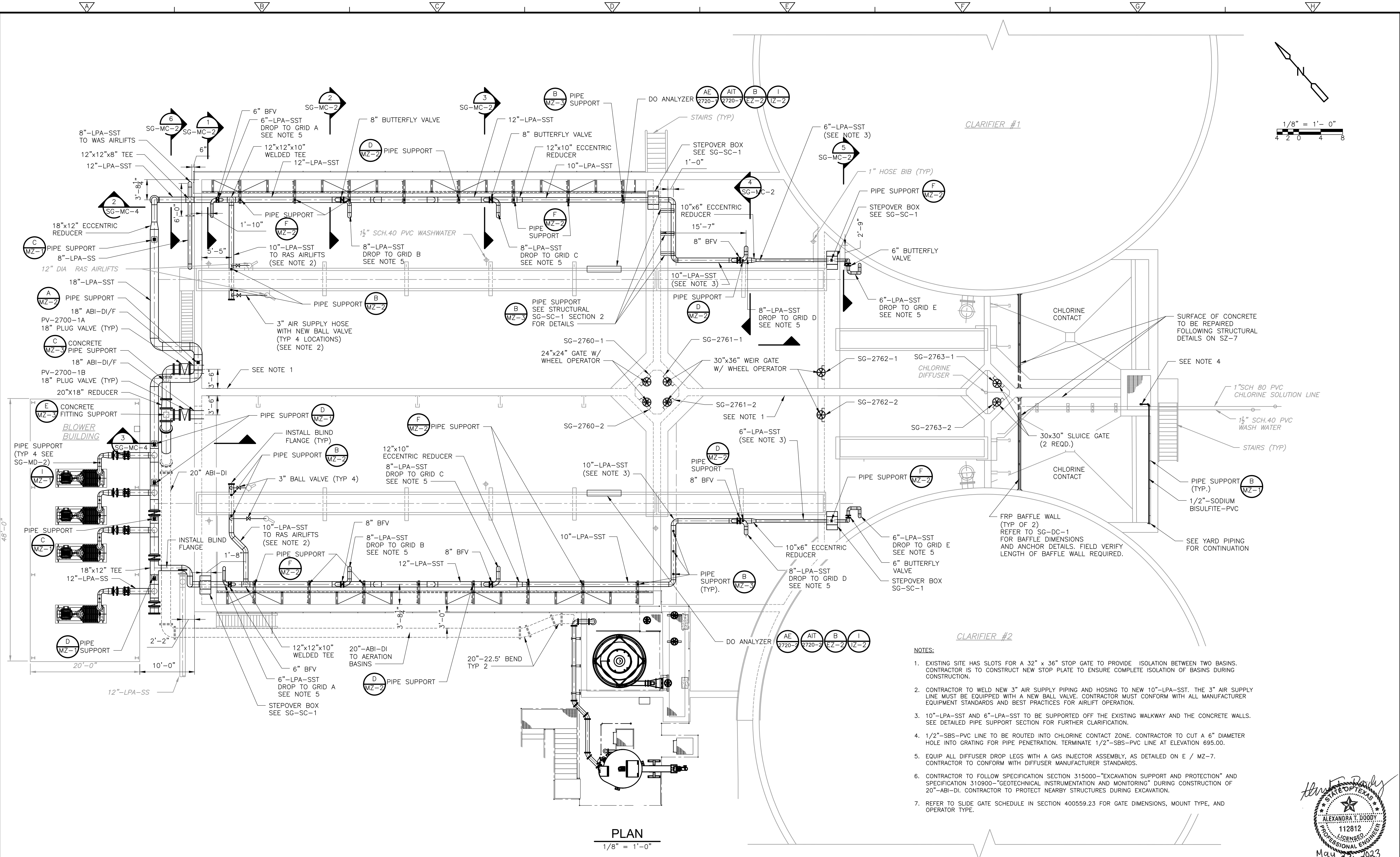


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT CHAMBER IMPROVEMENTS -  
 SECTIONS II  
 SHEET NO.  
 SG-MB-3

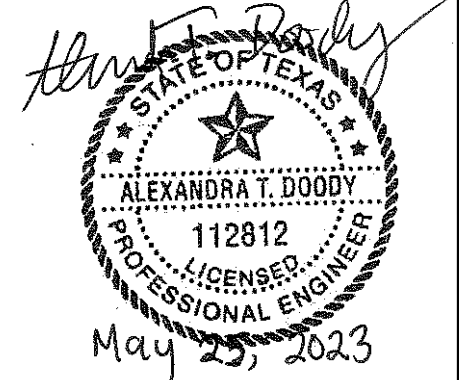
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PLAN  
1/8" = 1'-0"

- NOTES:**
- EXISTING SITE HAS SLOTS FOR A 32" x 36" STOP GATE TO PROVIDE ISOLATION BETWEEN TWO BASINS. CONTRACTOR IS TO CONSTRUCT NEW STOP PLATE TO ENSURE COMPLETE ISOLATION OF BASINS DURING CONSTRUCTION.
  - CONTRACTOR TO WELD NEW 3" AIR SUPPLY PIPING AND HOUSING TO NEW 10"-LPA-SST. THE 3" AIR SUPPLY LINE MUST BE EQUIPPED WITH A NEW BALL VALVE. CONTRACTOR MUST CONFORM WITH ALL MANUFACTURER EQUIPMENT STANDARDS AND BEST PRACTICES FOR AIRLIFT OPERATION.
  - 10"-LPA-SST AND 6"-LPA-SST TO BE SUPPORTED OFF THE EXISTING WALKWAY AND THE CONCRETE WALLS. SEE DETAILED PIPE SUPPORT SECTION FOR FURTHER CLARIFICATION.
  - 1/2"-SBS-PVC LINE TO BE ROUTED INTO CHLORINE CONTACT ZONE. CONTRACTOR TO CUT A 6" DIAMETER HOLE INTO GRATING FOR PIPE PENETRATION. TERMINATE 1/2"-SBS-PVC LINE AT ELEVATION 695.00.
  - EQUIP ALL DIFFUSER DROP LEGS WITH A GAS INJECTOR ASSEMBLY, AS DETAILED ON E / MZ-7. CONTRACTOR TO CONFORM WITH DIFFUSER MANUFACTURER STANDARDS.
  - CONTRACTOR TO FOLLOW SPECIFICATION SECTION 315000-"EXCAVATION SUPPORT AND PROTECTION" AND SPECIFICATION 310900-"GEOTECHNICAL INSTRUMENTATION AND MONITORING" DURING CONSTRUCTION OF 20"-ABI-DI. CONTRACTOR TO PROTECT NEARBY STRUCTURES DURING EXCAVATION.
  - REFER TO SLIDE GATE SCHEDULE IN SECTION 400559.23 FOR GATE DIMENSIONS, MOUNT TYPE, AND OPERATOR TYPE.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
2	4/14/23	RSM	ATD	REVISIONS FOR ADDENDUM NO. 4
1	5/20/23	JAM	ATD	REVISED PER ADDENDUM NO. 3

DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

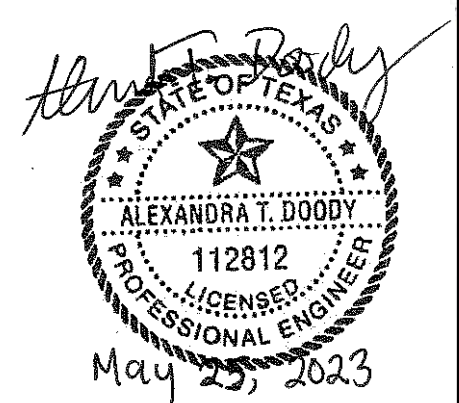
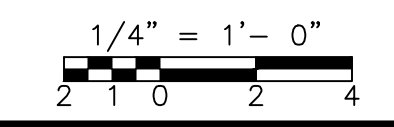
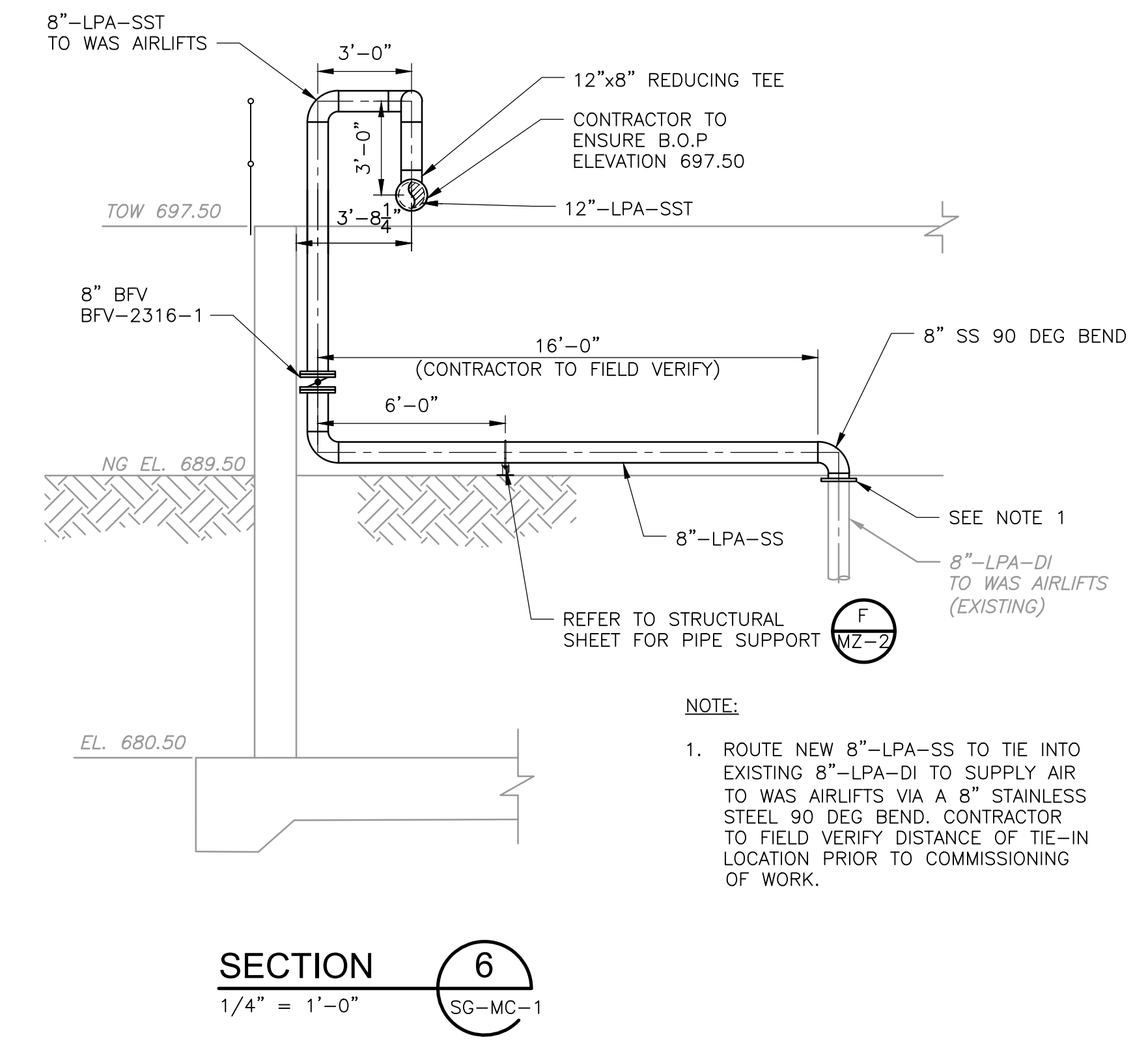
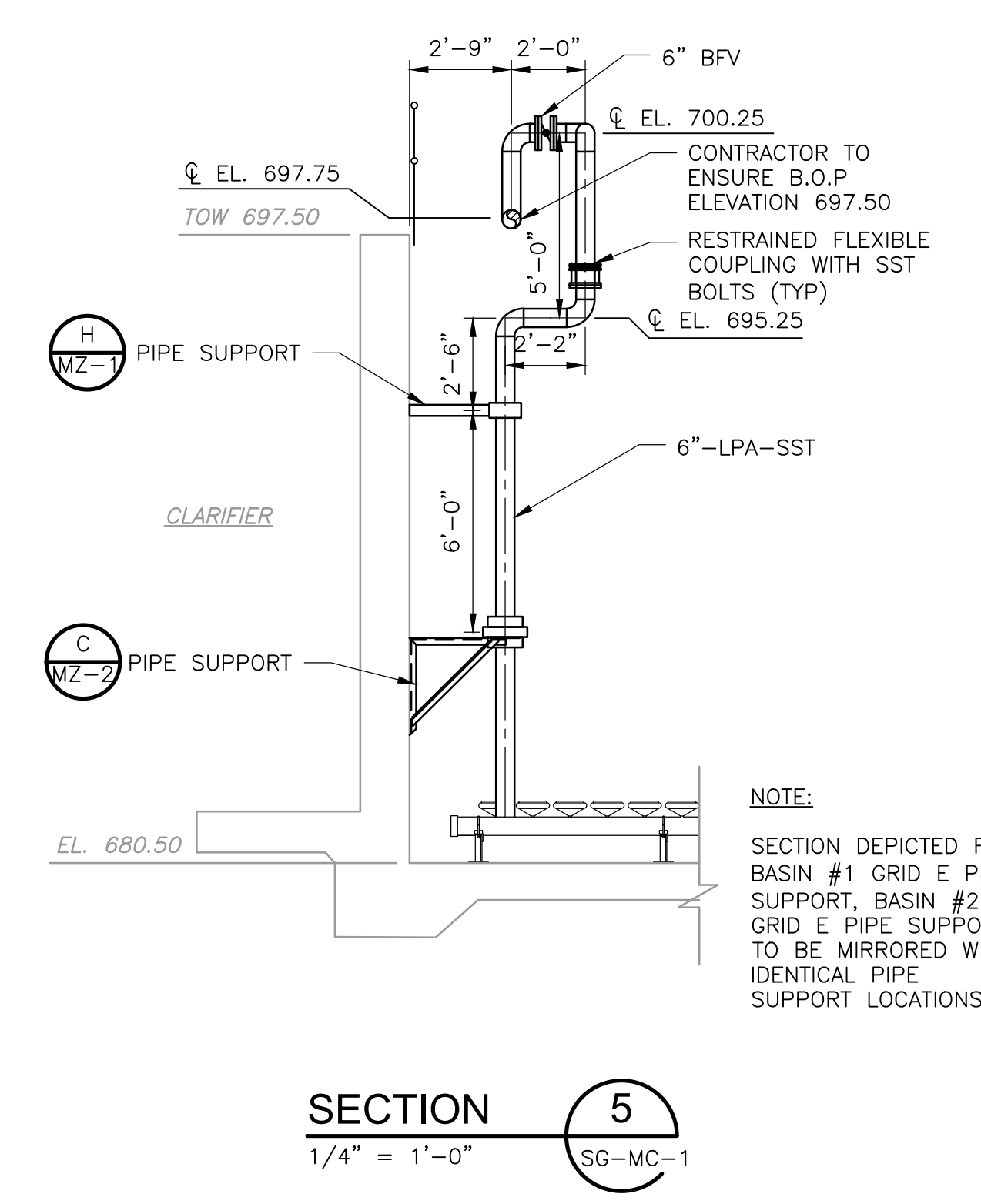
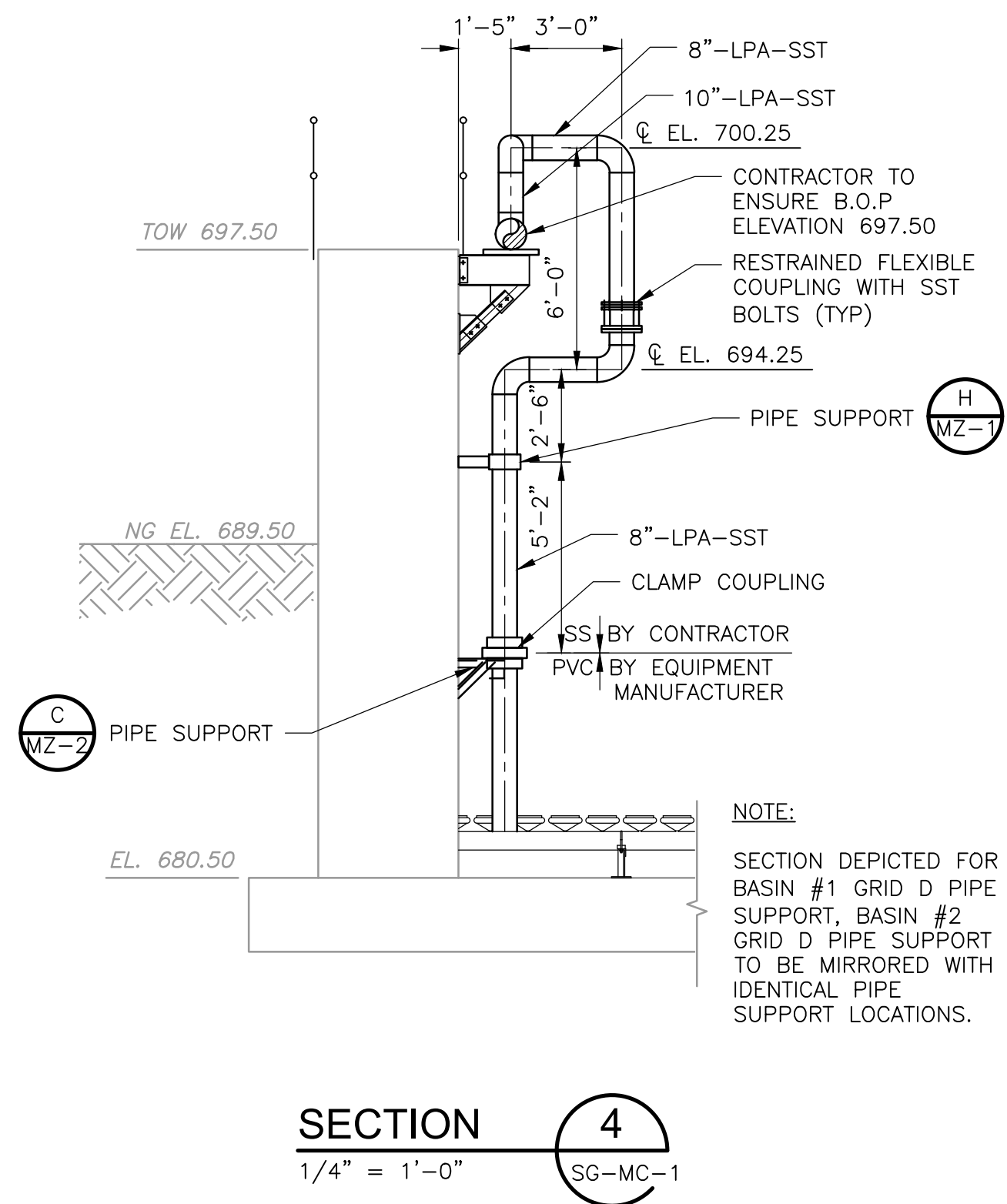
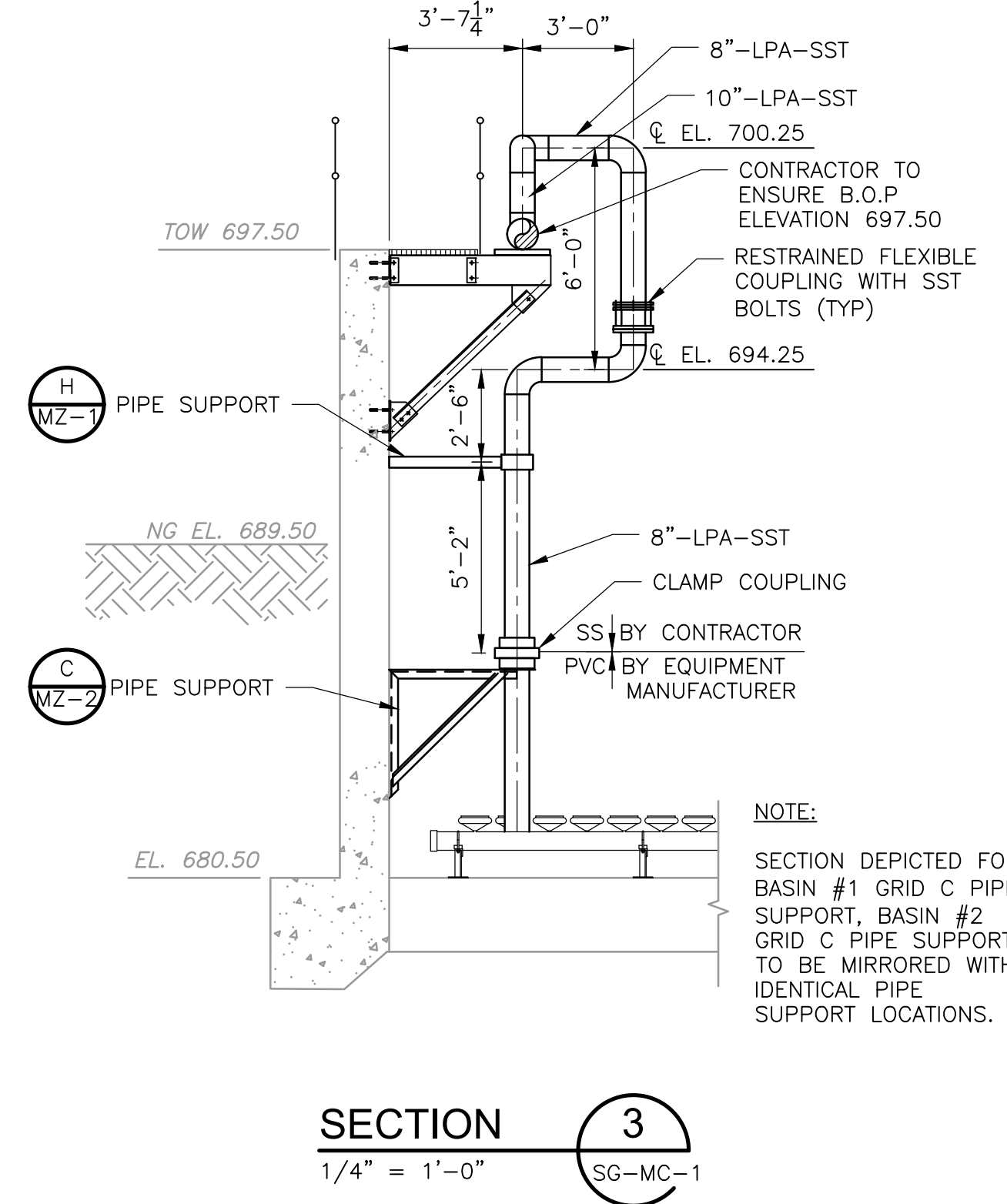
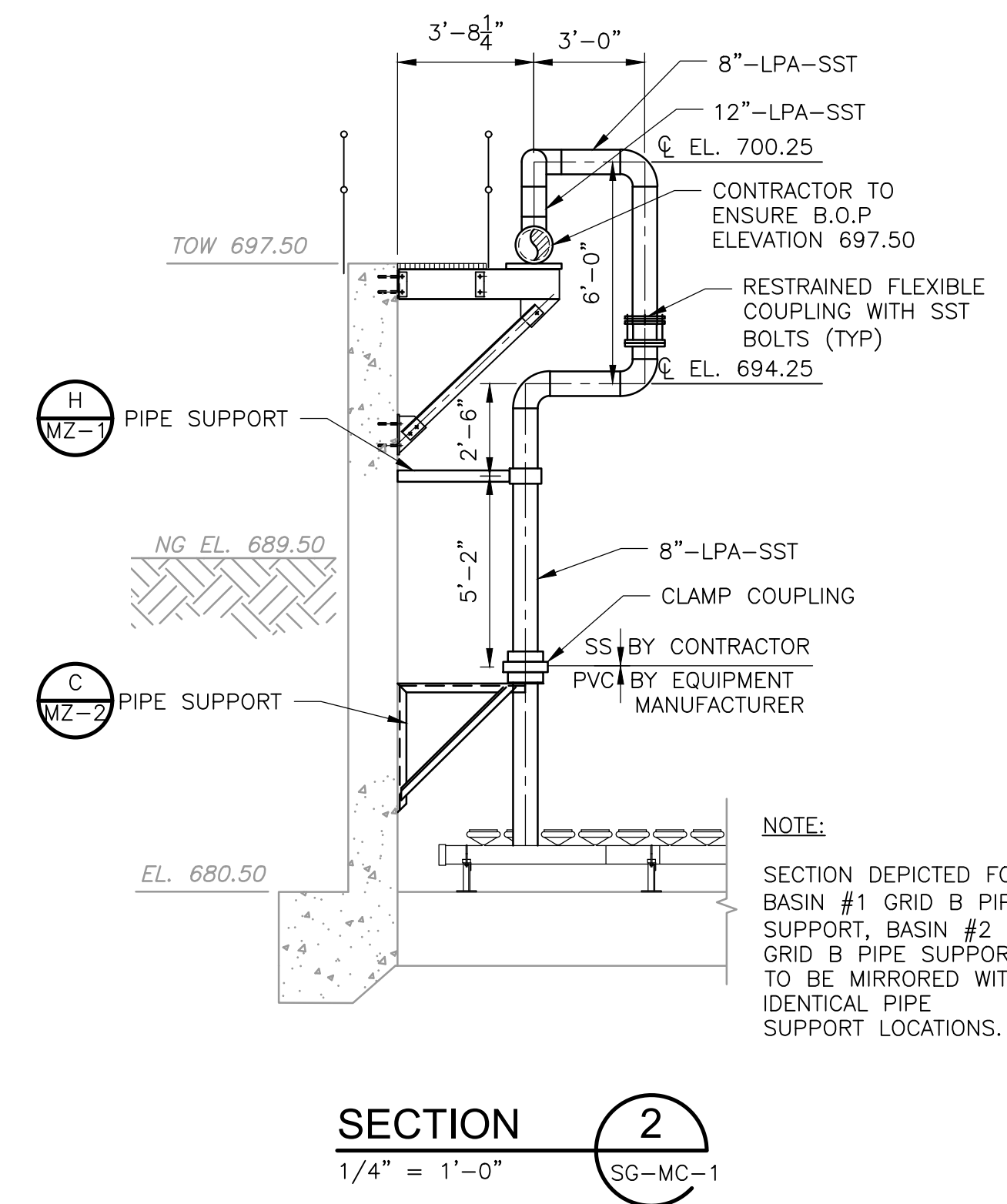
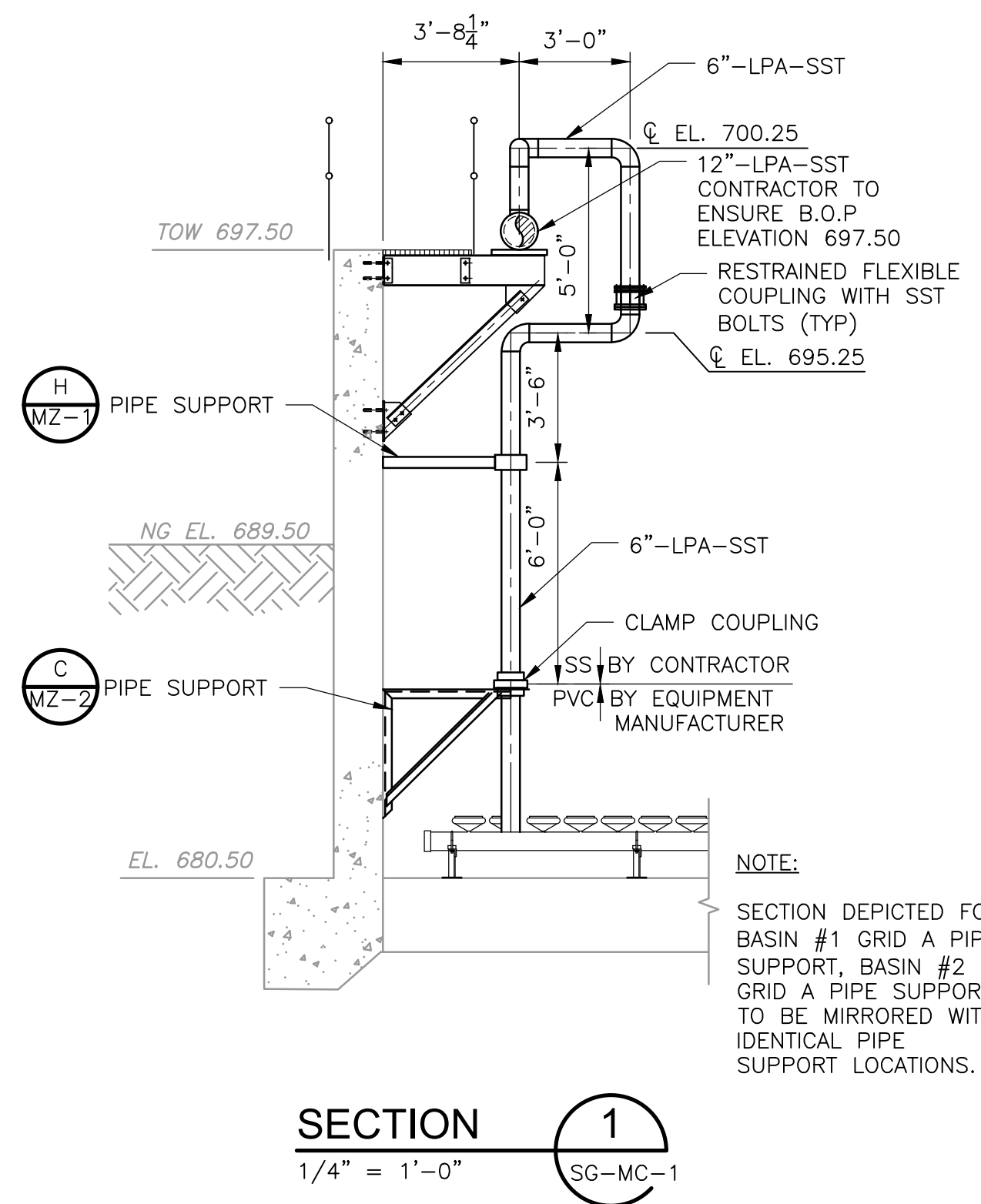


CITY OF GEORGETOWN, TEXAS  
SAN GABRIEL WWTP  
REHABILITATION

SAN GABRIEL WWTP  
PROCESS AREA ENLARGED PLAN  
SG-MC-1

PROJECT NO.	2048-264953
FILE NAME:	SGMC1.DWG
SHEET NO.	SG-MC-1

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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	5/20/23	JAM	ATD	REVISED FOR ADDENDUM NO. 3
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

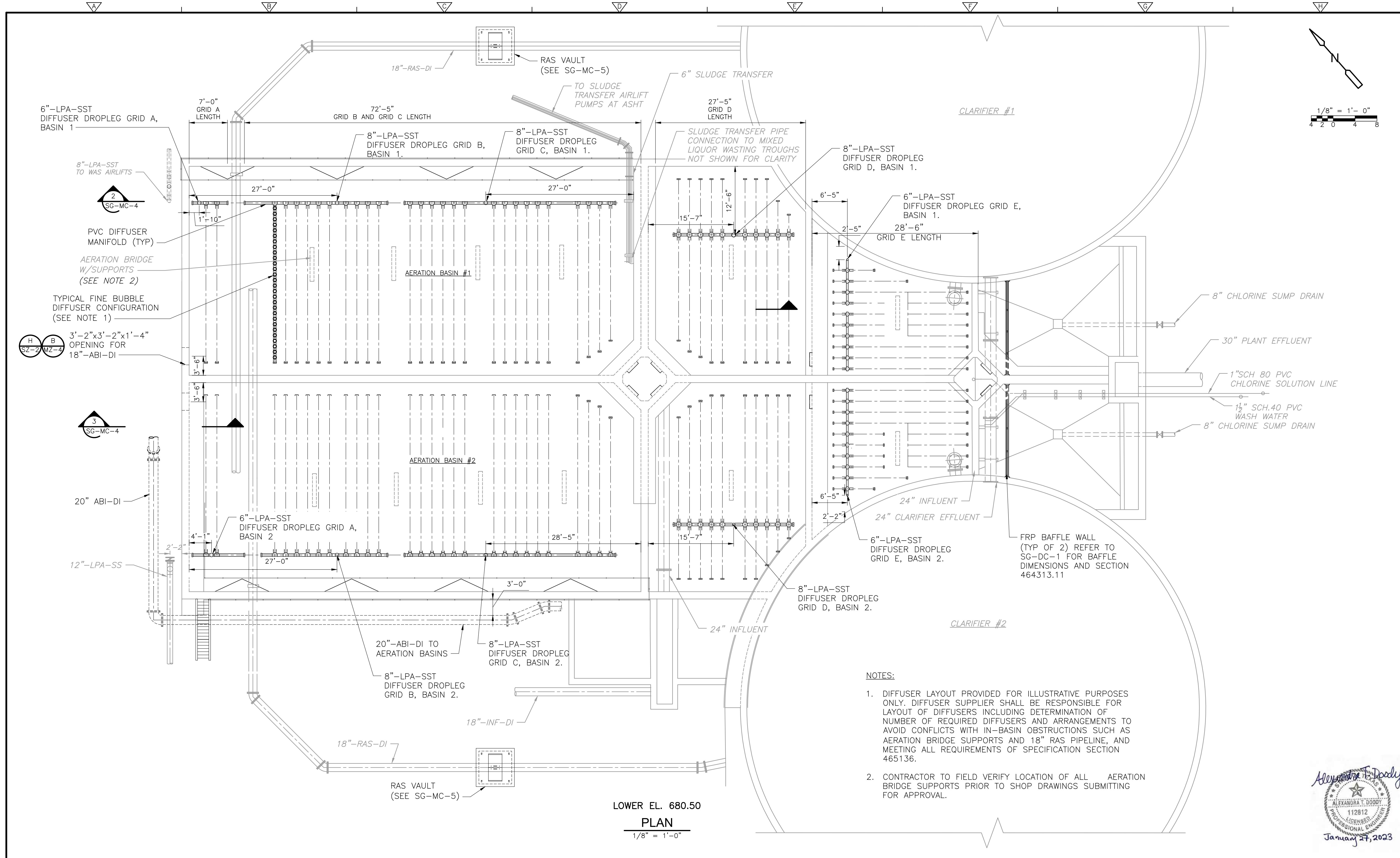


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 ENLARGED PROCESS AREA SECTION I  
 SG-MC-2

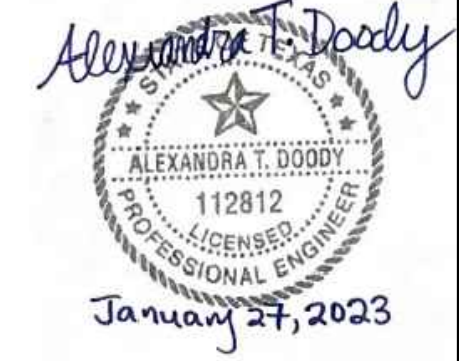
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LOWER EL. 680.50  
**PLAN**  
 1/8" = 1'-0"

- NOTES:**
- DIFFUSER LAYOUT PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. DIFFUSER SUPPLIER SHALL BE RESPONSIBLE FOR LAYOUT OF DIFFUSERS INCLUDING DETERMINATION OF NUMBER OF REQUIRED DIFFUSERS AND ARRANGEMENTS TO AVOID CONFLICTS WITH IN-BASIN OBSTRUCTIONS SUCH AS AERATION BRIDGE SUPPORTS AND 18" RAS PIPELINE, AND MEETING ALL REQUIREMENTS OF SPECIFICATION SECTION 465136.
  - CONTRACTOR TO FIELD VERIFY LOCATION OF ALL AERATION BRIDGE SUPPORTS PRIOR TO SHOP DRAWINGS SUBMITTING FOR APPROVAL.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

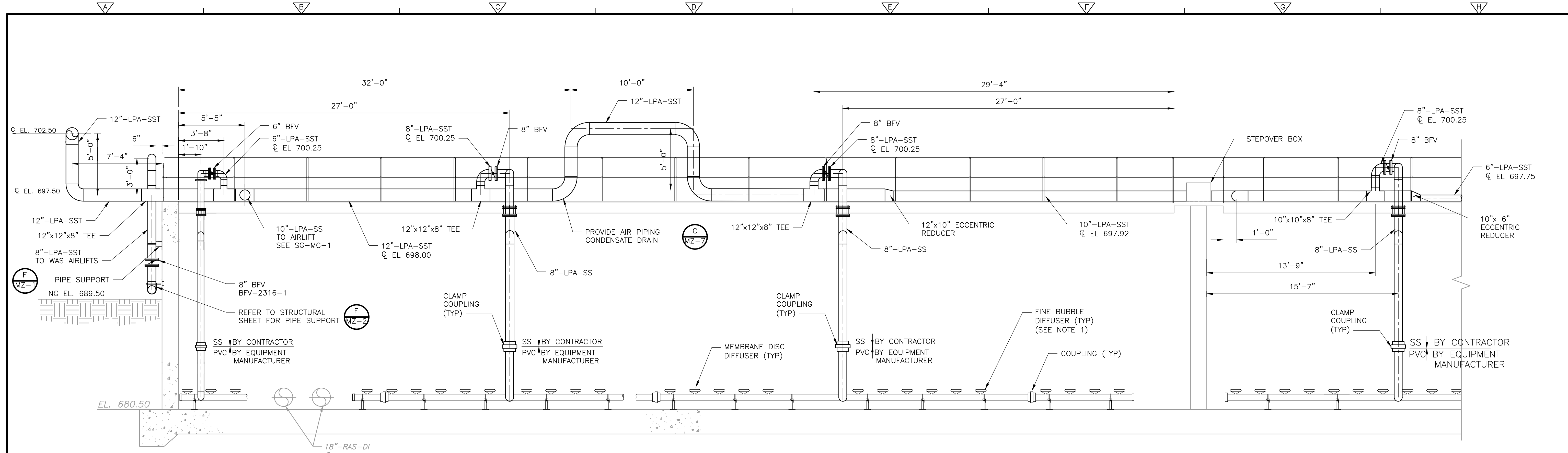
DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 TREATMENT UNIT LOWER PLAN**  
 PROJECT NO. 2048-264953  
 FILE NAME: SGMC3.DWG  
 SHEET NO. **SG-MC-3**

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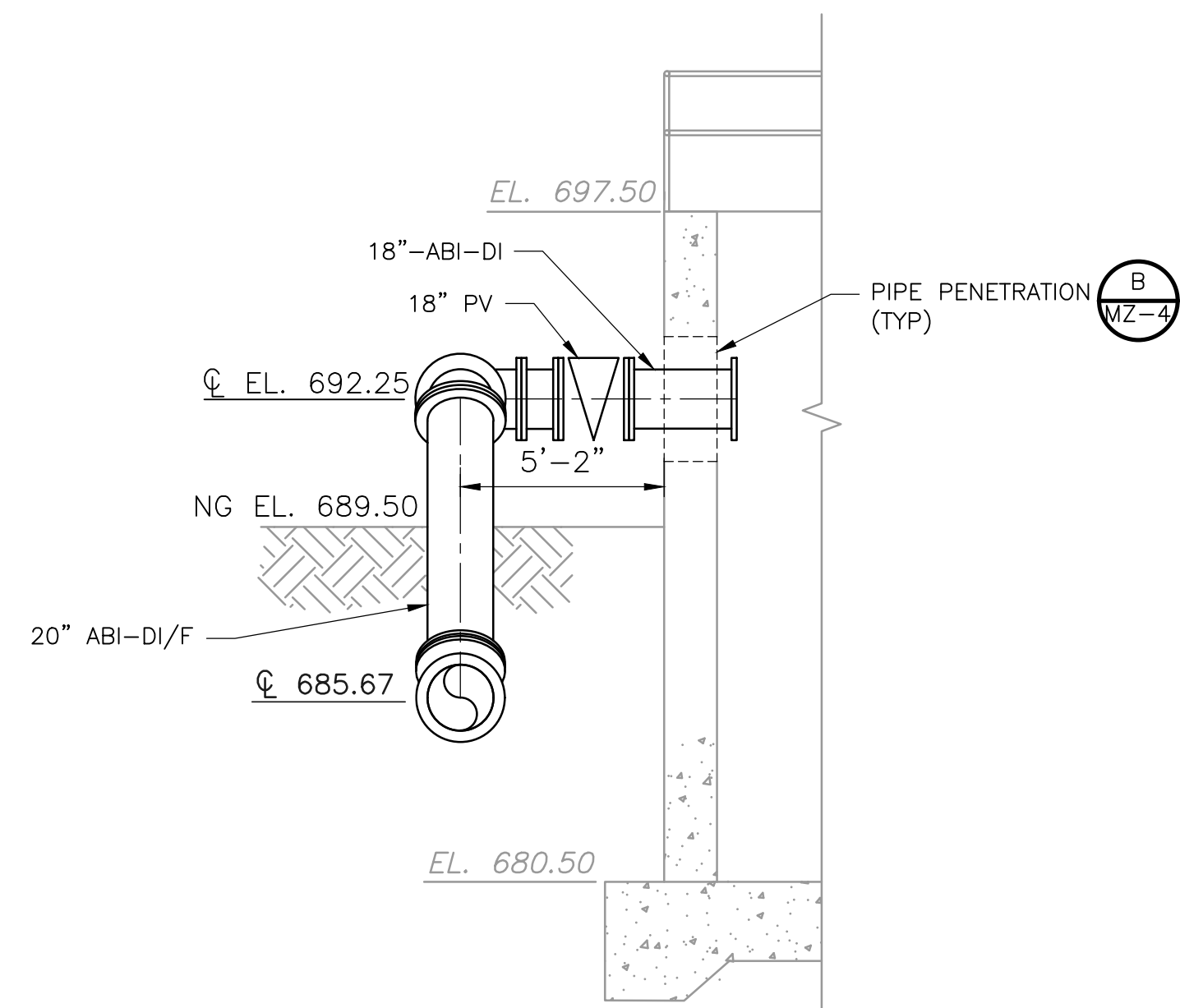


NOTES: SECTION 2 DEPICTS AERATION BASIN 1 TRAIN. CONTRACTOR TO CONSTRUCT AERATION BASIN 2 TRAIN AS A MIRROR TO SECTION VIEW ABOVE.

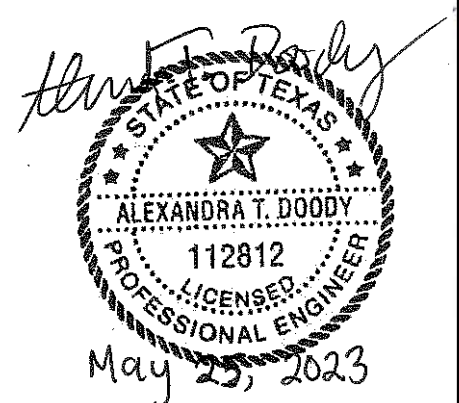
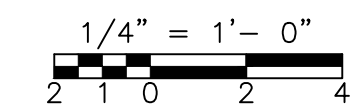
**SECTION 2**  
 1/4" = 1'-0" SG-MC-1 & SG-MC-3

NOTES:

- DIFFUSER LAYOUT PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. DIFFUSER SUPPLIER SHALL BE RESPONSIBLE FOR LAYOUT OF DIFFUSERS INCLUDING DETERMINATION OF NUMBER OF REQUIRED DIFFUSERS AND ARRANGEMENTS TO AVOID CONFLICTS WITH IN-BASIN OBSTRUCTIONS SUCH AS AERATION BRIDGE SUPPORTS AND 18" RAS PIPELINE, AND MEETING ALL REQUIREMENTS OF SPECIFICATION SECTION 465136.
- CONTRACTOR TO FIELD VERIFY LOCATION OF ALL AERATION BRIDGE SUPPORTS PRIOR TO DIFFUSER INSTALLATION.



**SECTION 3**  
 1/4" = 1'-0" SG-MC-1 & SG-MC-3



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	5/20/23	JAM	ATD	REVISED FOR ADDENDUM NO. 3

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJ  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

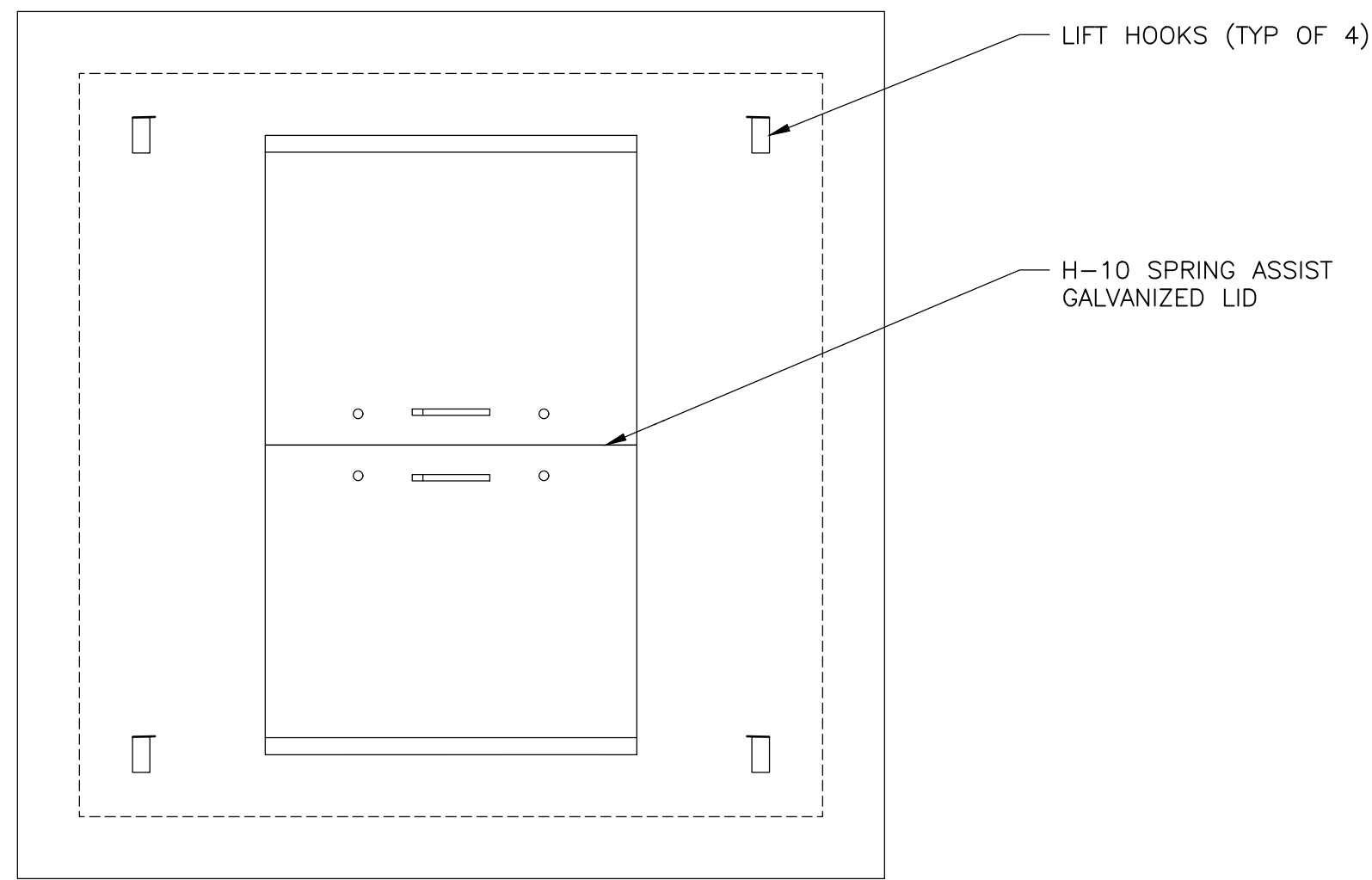


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

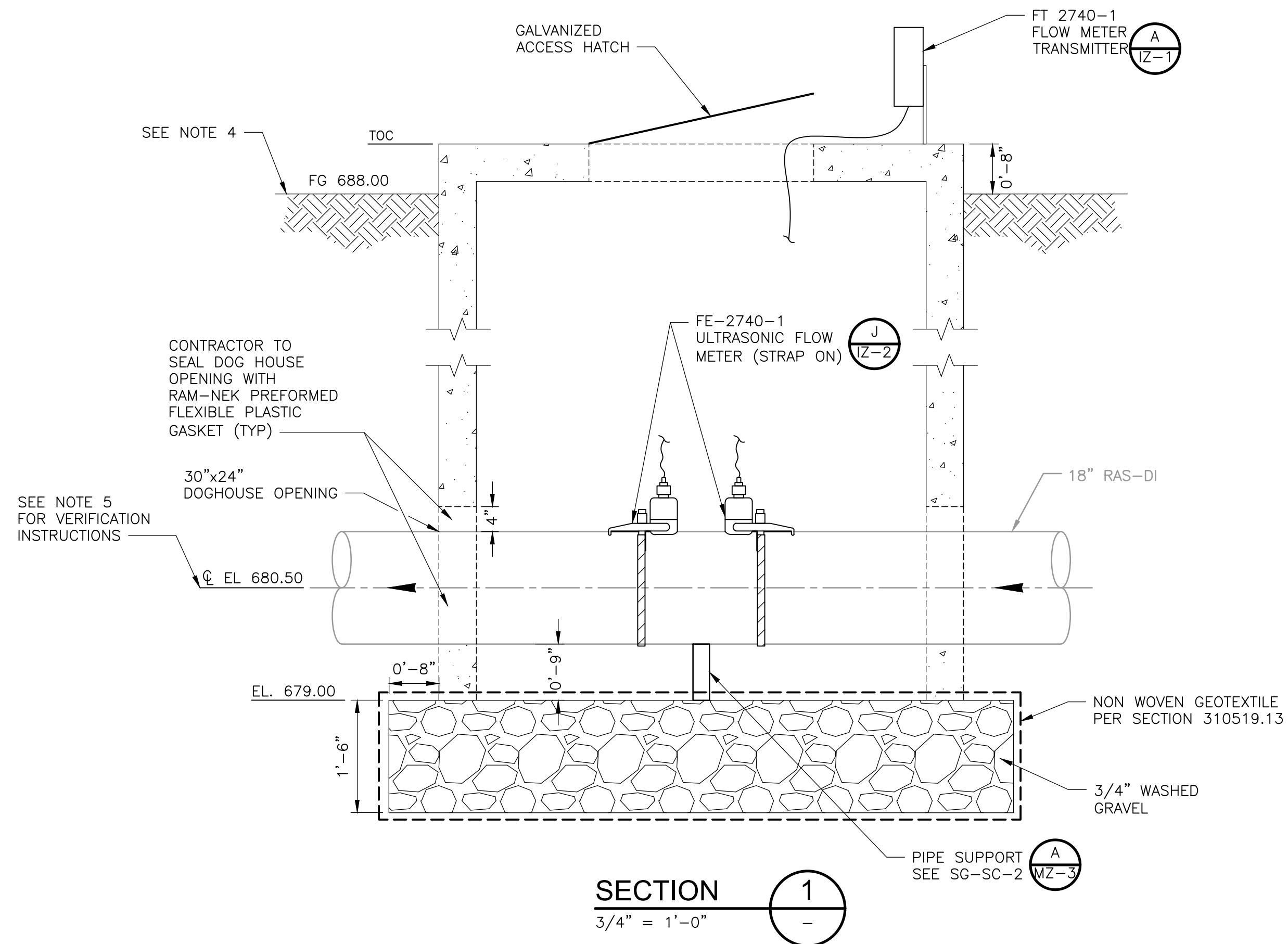
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**SG-MC-4**

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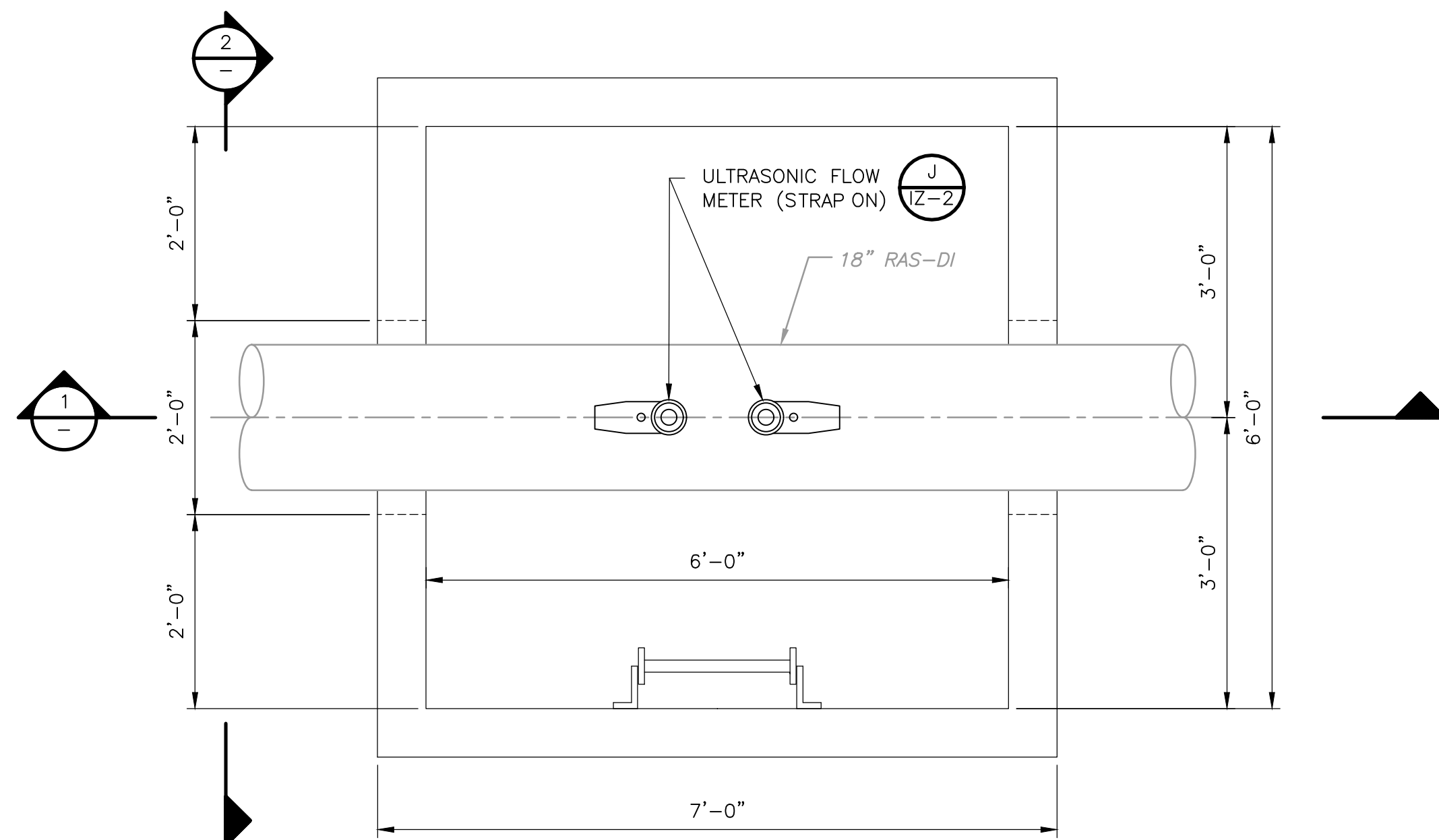
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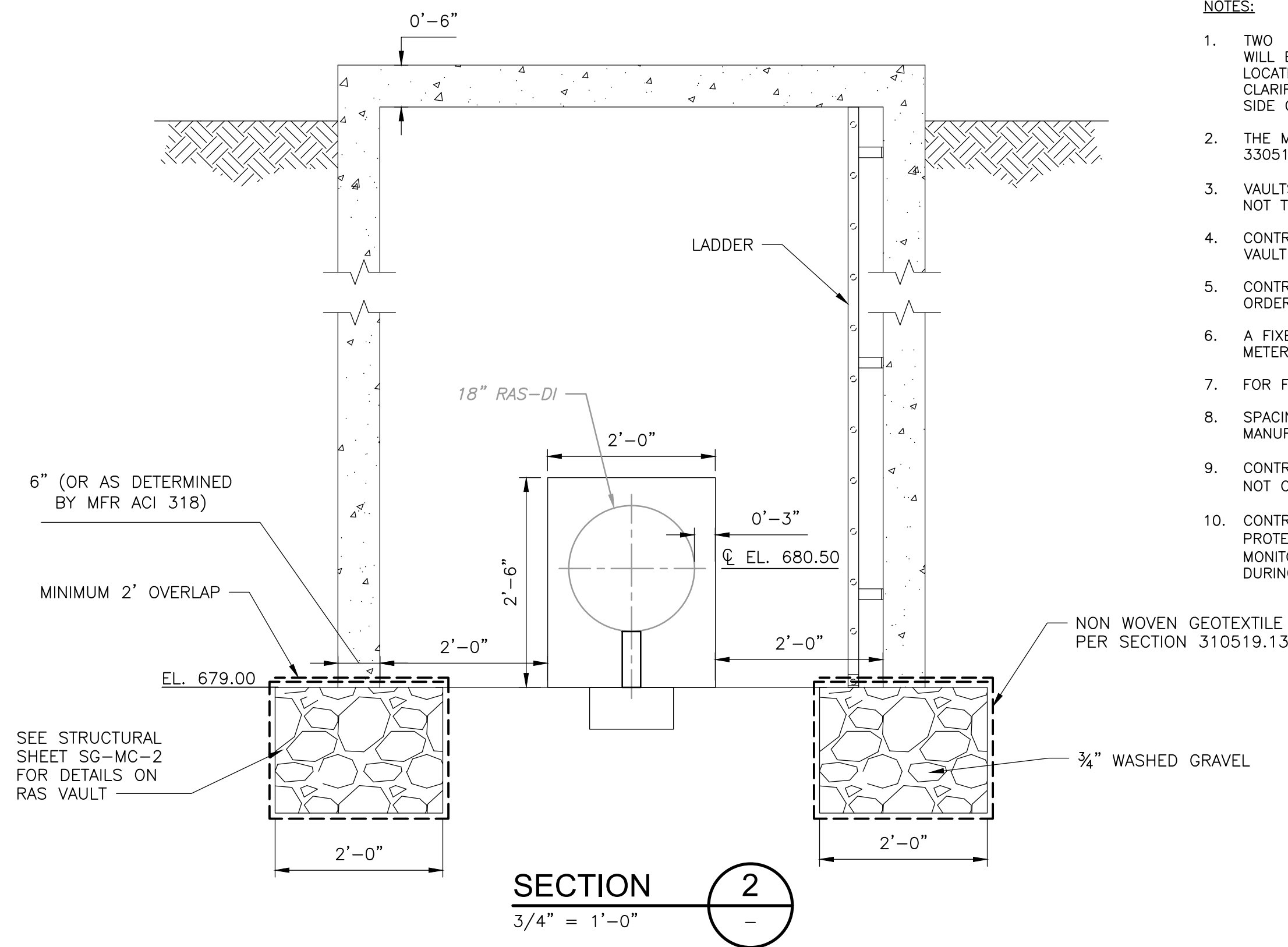
TOP VIEW  
PLAN  
3/4" = 1'-0"



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



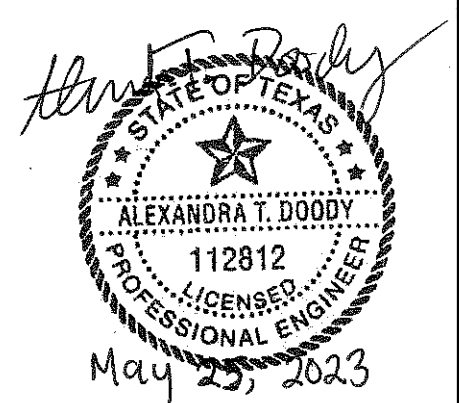
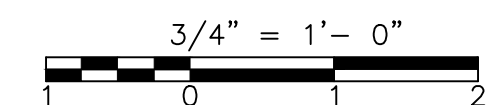
PLAN  
3/4" = 1'-0"



SECTION 2  
3/4" = 1'-0"

NOTES:

- TWO FLOW METERS SHALL BE INSTALLED ON THE 18" RAS LINES. THE FLOW METERS WILL BE LOCATED INSIDE PRECAST VAULTS. ONE FLOW METER VAULT WILL BE LOCATED ON THE NORTH SIDE OF THE TREATMENT UNITS ON THE RAS LINE FROM CLARIFIER NO. 1. THE SECOND FLOW METER VAULT WILL BE LOCATED ON THE SOUTH SIDE OF THE TREATMENT UNITS ON THE RAS LINE FROM CLARIFIER NO. 2.
- THE METER VAULTS SHALL BE PRECAST FABRICATION PER REQUIREMENTS OF SECTION 330517.
- VAULTS SHALL HAVE A "DOG HOUSE" DESIGN, SUCH THAT THE 18" RAS LINES ARE NOT TO BE CUT.
- CONTRACTOR TO VERIFY GRADE ELEVATION AT BOTH RAS FLOWMETER VAULT NO.1 AND VAULT NO. 2 BEFORE PROCURING PRECAST VAULTS.
- CONTRACTOR TO VERIFY INVERT DEPTH OF NORTH AND SOUTH RAS LINES BEFORE ORDERING PRECAST VAULTS.
- A FIXED LADDER INSIDE THE VAULT SHALL BE PROVIDED FOR ACCESS TO THE FLOW METER.
- FOR FLOW METER INSTALLATION DETAILS REFER TO SECTION 407113.
- SPACING BETWEEN TRANSDUCERS WILL BE DETERMINED BY FLOW METER MANUFACTURER.
- CONTRACTOR TO POTHOLE 18"-RAS-DI TO FIELD VERIFY THE PRECAST VAULT WILL NOT CONFLICT WITH NEARBY UTILITY LINES.
- CONTRACTOR TO FOLLOW SPECIFICATION SECTION 315000-"EXCAVATION SUPPORT AND PROTECTION" AND SPECIFICATION 310900-"GEOTECHNICAL INSTRUMENTATION AND MONITORING" DURING CONSTRUCTION CONTRACTOR TO PROTECT NEARBY STRUCTURES DURING EXCAVATION.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	JAM	ATD	REVISION FOR ADDENDUM NO. 3

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJL  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

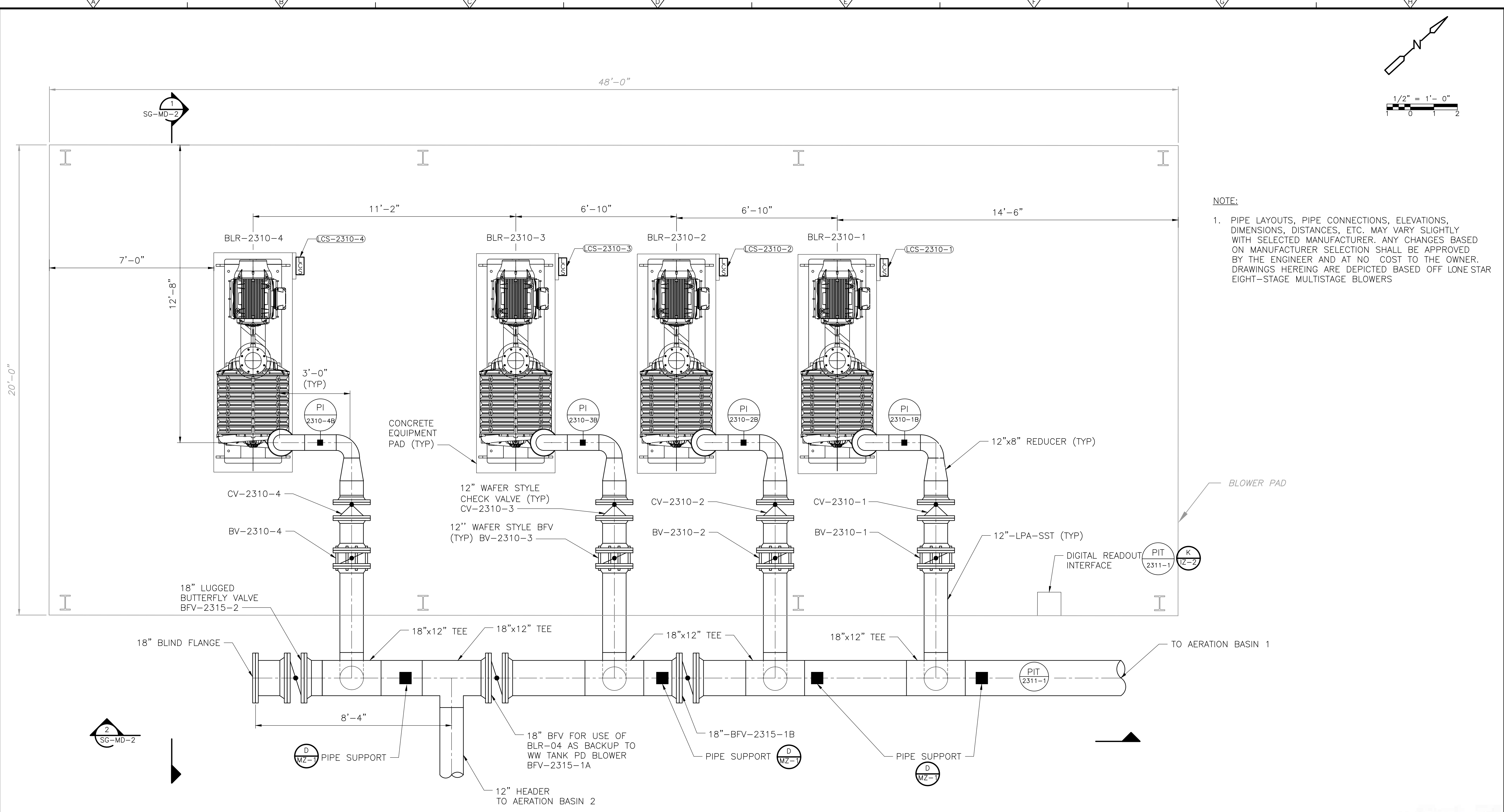


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 RAS METER VAULTS PLAN AND SECTION  
 SHEET NO. SG-MC-5

PROJECT NO. 2048-264953  
 FILE NAME: SGMC5.DWG  
 SHEET NO. SG-MC-5

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**NOTE:**

- PIPE LAYOUTS, PIPE CONNECTIONS, ELEVATIONS, DIMENSIONS, DISTANCES, ETC. MAY VARY SLIGHTLY WITH SELECTED MANUFACTURER. ANY CHANGES BASED ON MANUFACTURER SELECTION SHALL BE APPROVED BY THE ENGINEER AND AT NO COST TO THE OWNER. DRAWINGS HEREIN ARE DEPICTED BASED OFF LONE STAR EIGHT-STAGE MULTISTAGE BLOWERS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

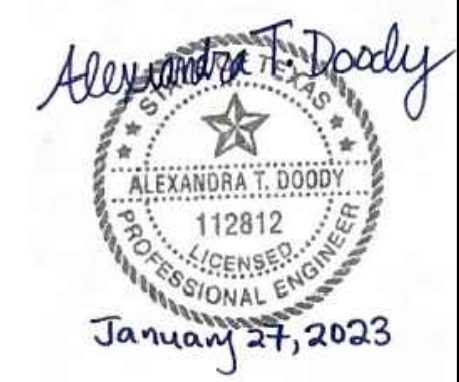
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 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

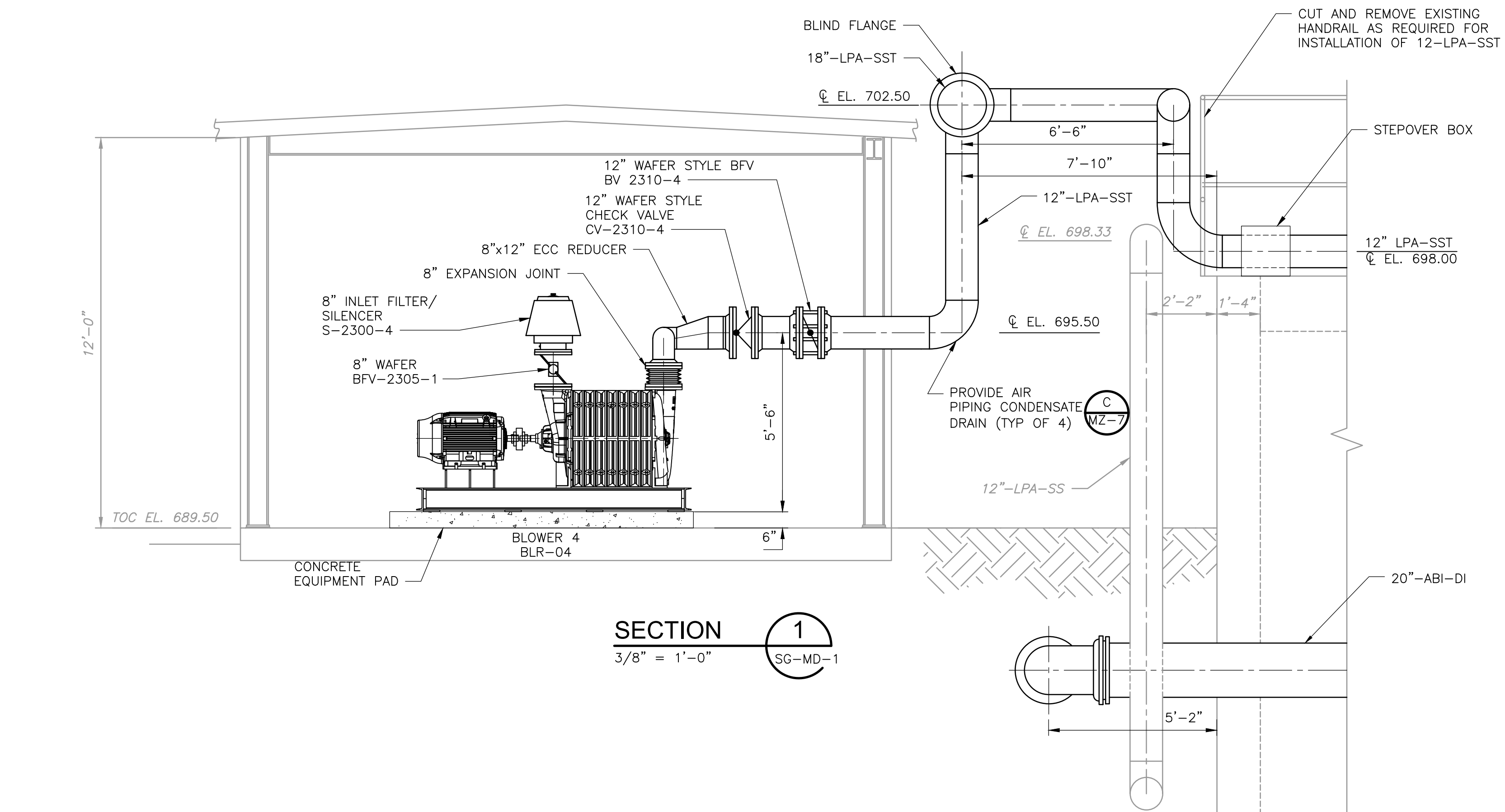
**SAN GABRIEL WWTP  
 BLOWER AREA PLAN**  
 SG-MD-1

PROJECT NO. 2048-264953  
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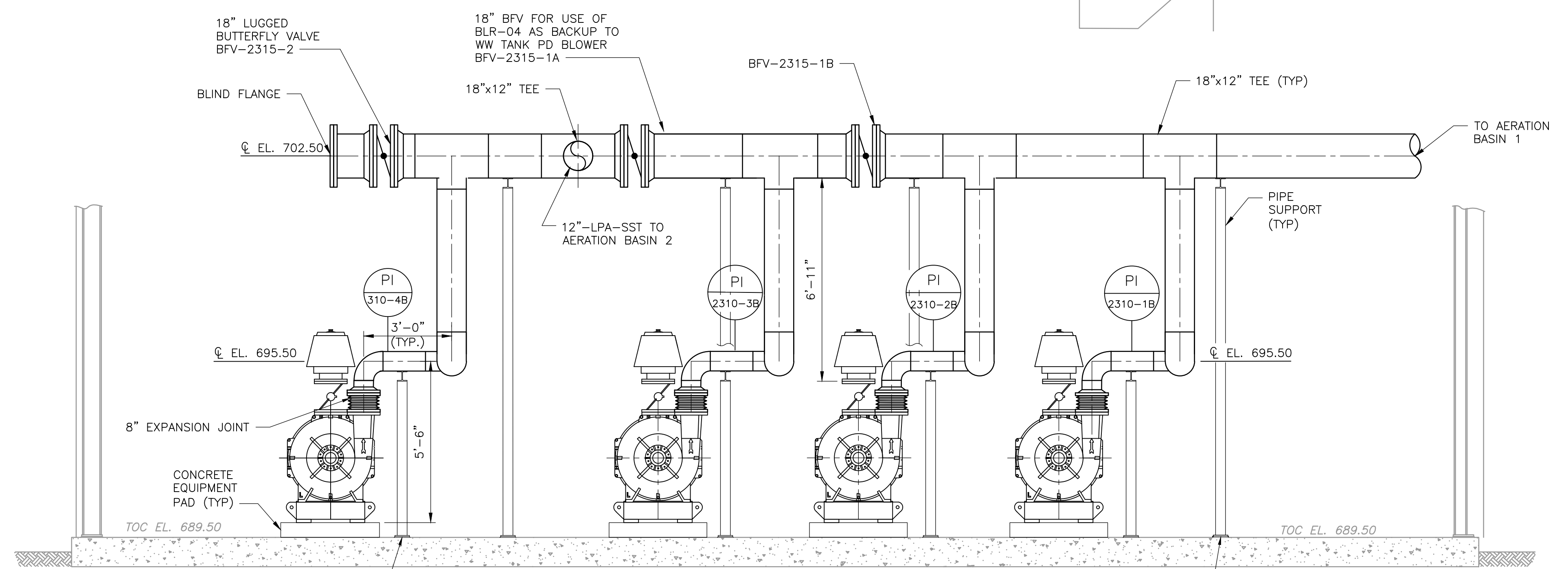




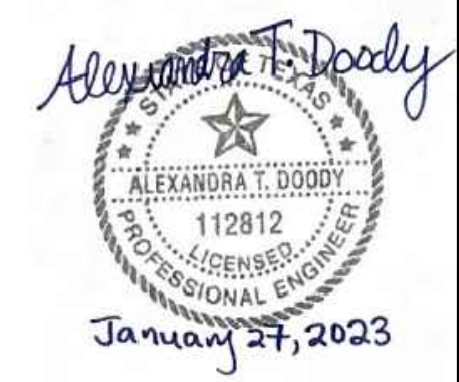
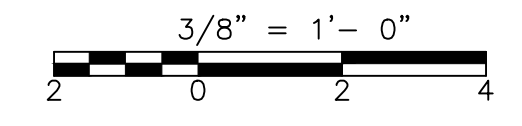
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**SECTION 1**  
3/8" = 1'-0"  
SG-MD-1



**SECTION 2**  
3/8" = 1'-0"  
SG-MD-1



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SGMD2.DWG  
 SHEET NO. SG-MD-2

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REPLACE BALL VALVE AND SOLENOID VALVE ON AIR LINE TO WAS AIRLIFTS. SEE SG-DE-1 FOR DETAILS. (TYP. OF BOTH AIRLIFTS)

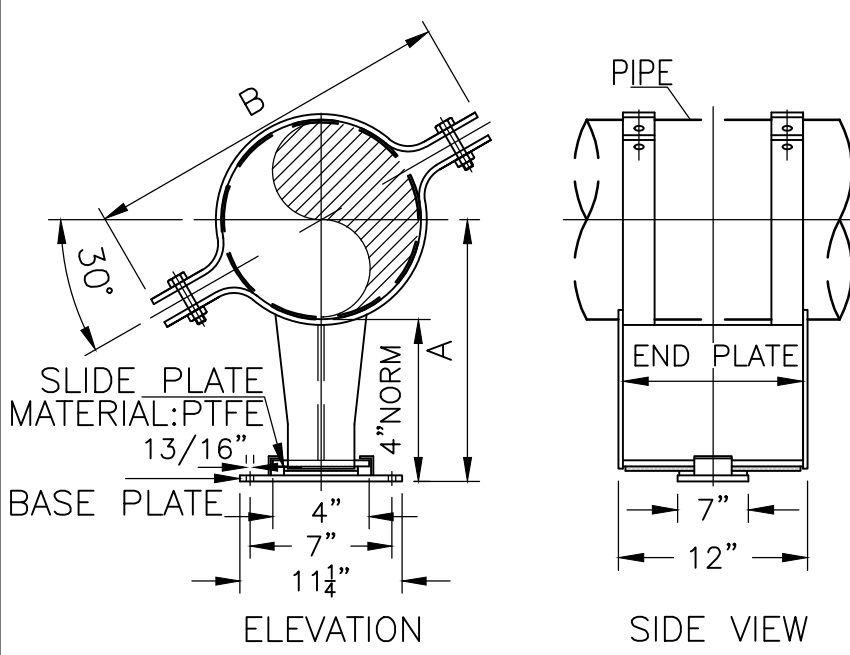
2"-6" SLUDGE TRANSFER AIRLIFTS

6" DIP SLUDGE TRANSFER FROM BLOWER

8" SLUDGE LINE TO DRYING BEDS FROM REAERATION

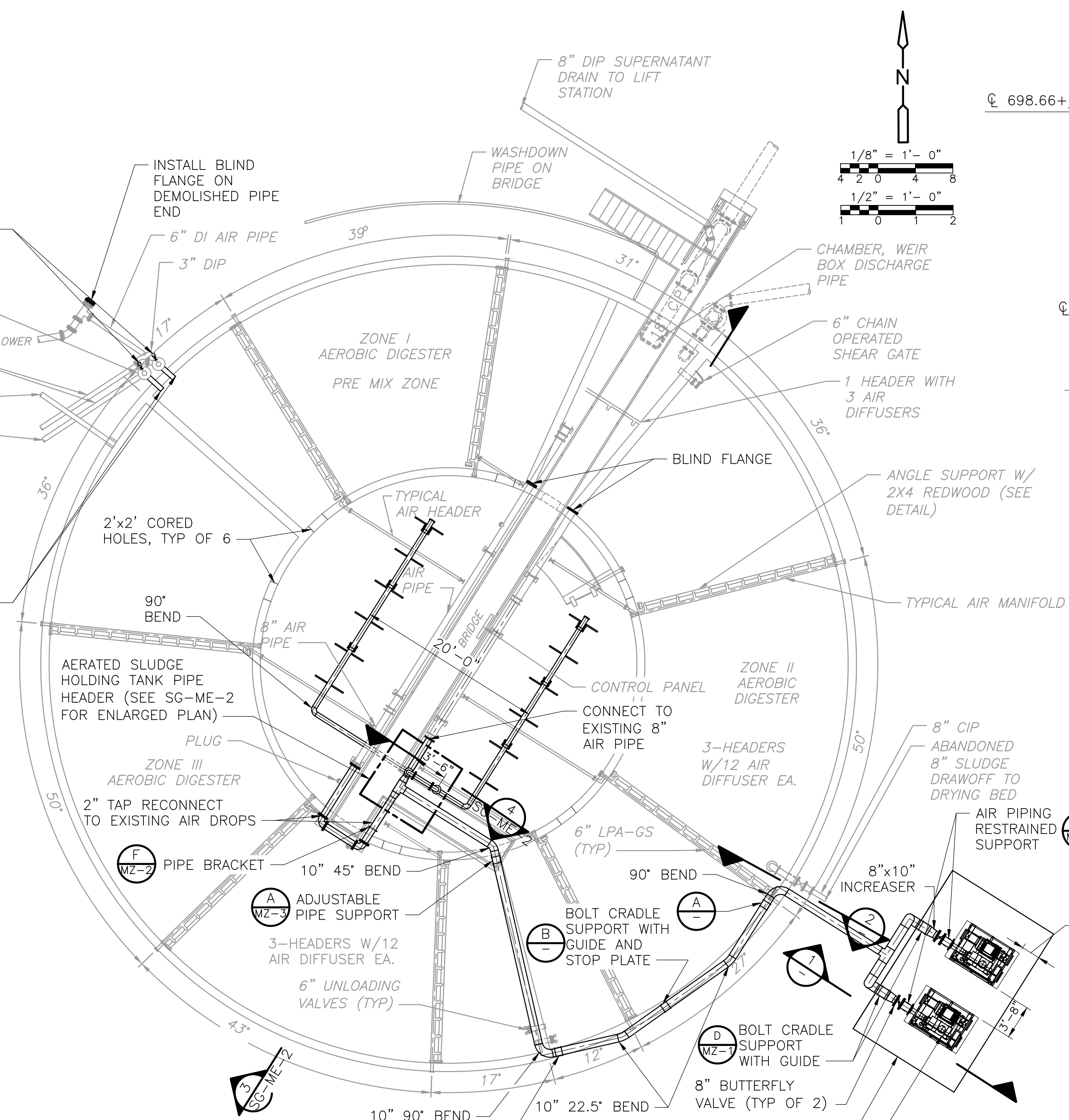
REPLACE 6"-WAS-DI AS NECESSARY TO CONNECT TO EXISTING FLANGE. SEE SG-DE-1 FOR DETAILS. (TYP. OF BOTH AIRLIFTS)

- NOTES:**
1. ALL DIMENSIONS ARE IN INCHES.
  2. THE BASE PLATE CAN BE BOLTED TO SECONDARY SUPPORT.
  3. SUPPORT SHALL BE FIG 1000 BY PIPING TECHNOLOGY & PRODUCTS, INC OR ENGINEER APPROVED EQUAL.
  4. SUPPORT SHALL BE STAINLESS STEEL UNLESS SPECIFICALLY NOTED ELSEWHERE.

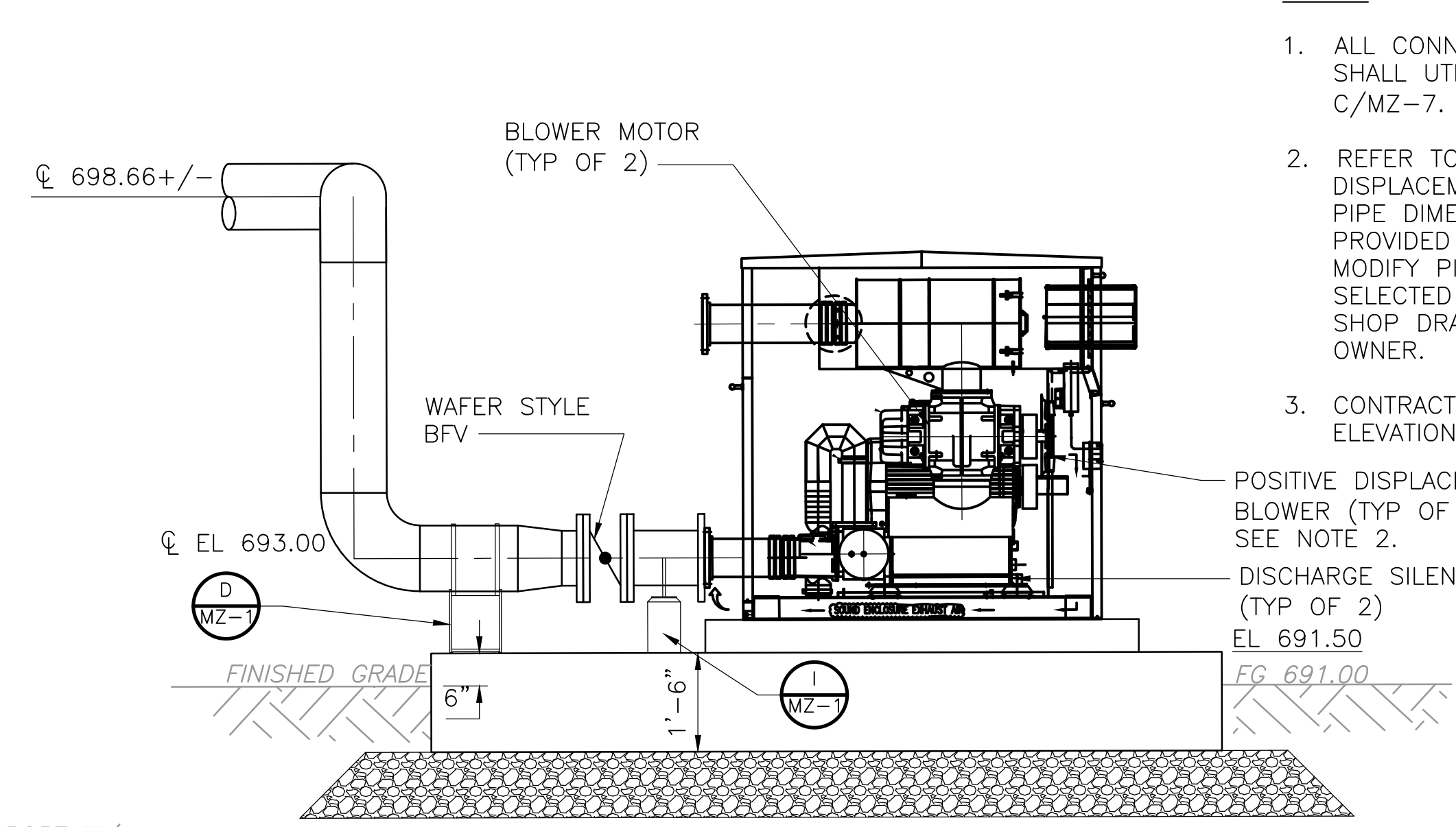


**BOLT CRADLE SUPPORT WITH GUIDE & SLIDE PLATE**

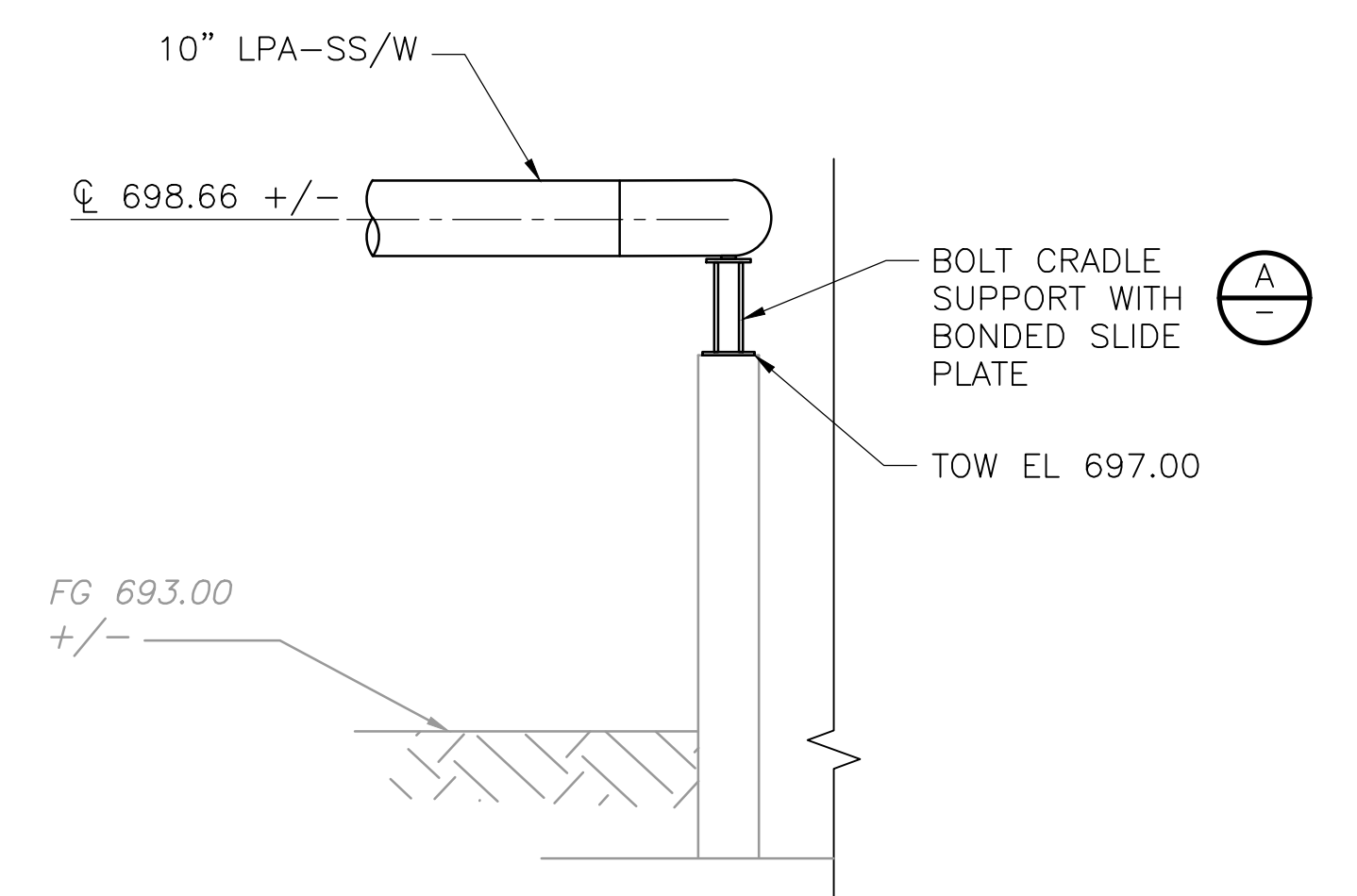
**DETAIL B**  
NTS



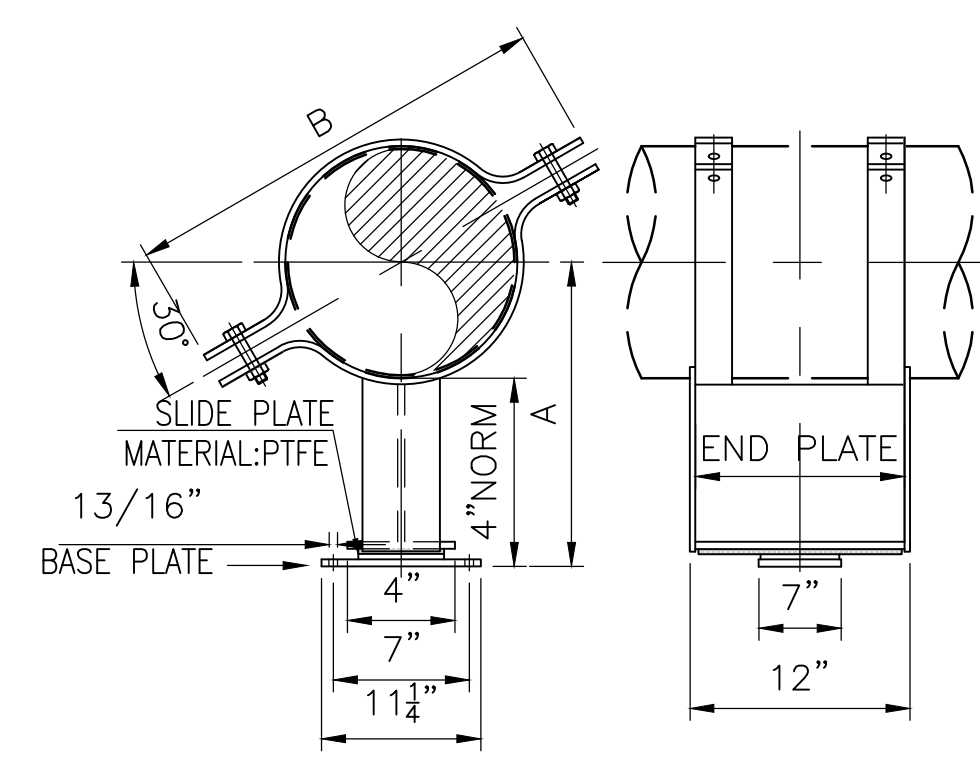
**PLAN**  
1/8" = 1'-0"



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



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



**BOLT CRADLE SUPPORT WITH BONDED SLIDE PLATE**

**DETAIL A**  
NTS

- NOTES:**
1. ALL DIMENSIONS ARE IN INCHES.
  2. THE BASE PLATE CAN BE BOLTED TO SECONDARY SUPPORT.
  3. SUPPORT SHALL BE FIG 1000 BY PIPING TECHNOLOGY & PRODUCTS, INC OR ENGINEER APPROVED EQUAL.
  4. SUPPORT SHALL BE STAINLESS STEEL UNLESS SPECIFICALLY NOTED ELSEWHERE.

- NOTES:**
1. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL UTILIZE ISOLATION KITS PER DETAIL C/MZ-7.
  2. REFER TO SECTION 431133 FOR THE POSITIVE DISPLACEMENT BLOWER SYSTEM. BLOWER AND PIPE DIMENSIONS ARE BASED ON LAYOUTS PROVIDED BY AERZEN. CONTRACTOR SHALL MODIFY PIPING AS REQUIRED BASED ON SELECTED MANUFACTURER AND FINAL APPROVED SHOP DRAWINGS AT NO ADDITIONAL COST TO OWNER.
  3. CONTRACTOR TO FIELD VERIFY CENTERLINE ELEVATION OF TIE-IN TO EXISTING PIPING

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	JAM	ATD	REVISION FOR ADDENDUM NO. 3

DESIGNED BY: A. KOWALKOWSKI  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

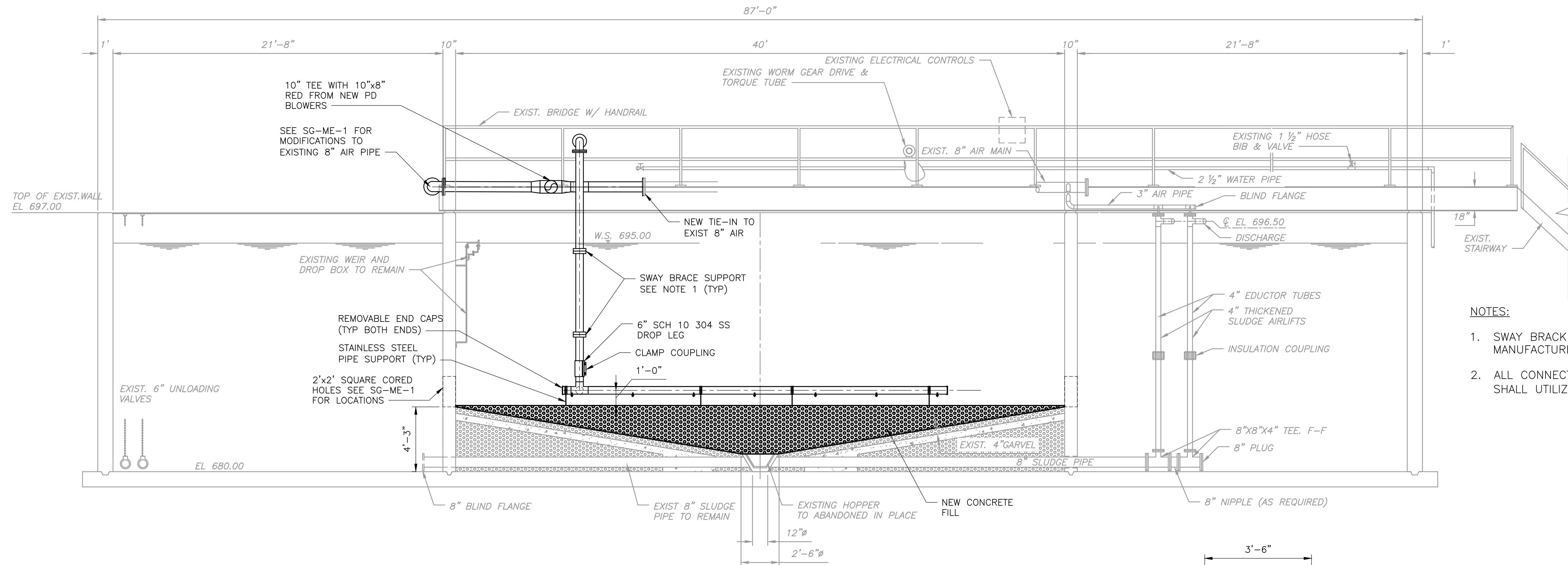
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING  
 TANK MODIFICATIONS - PLAN**

SHEET NO.  
**SG-ME-1**

PROJECT NO. 2048-264953  
 FILE NAME: SGME1.DWG

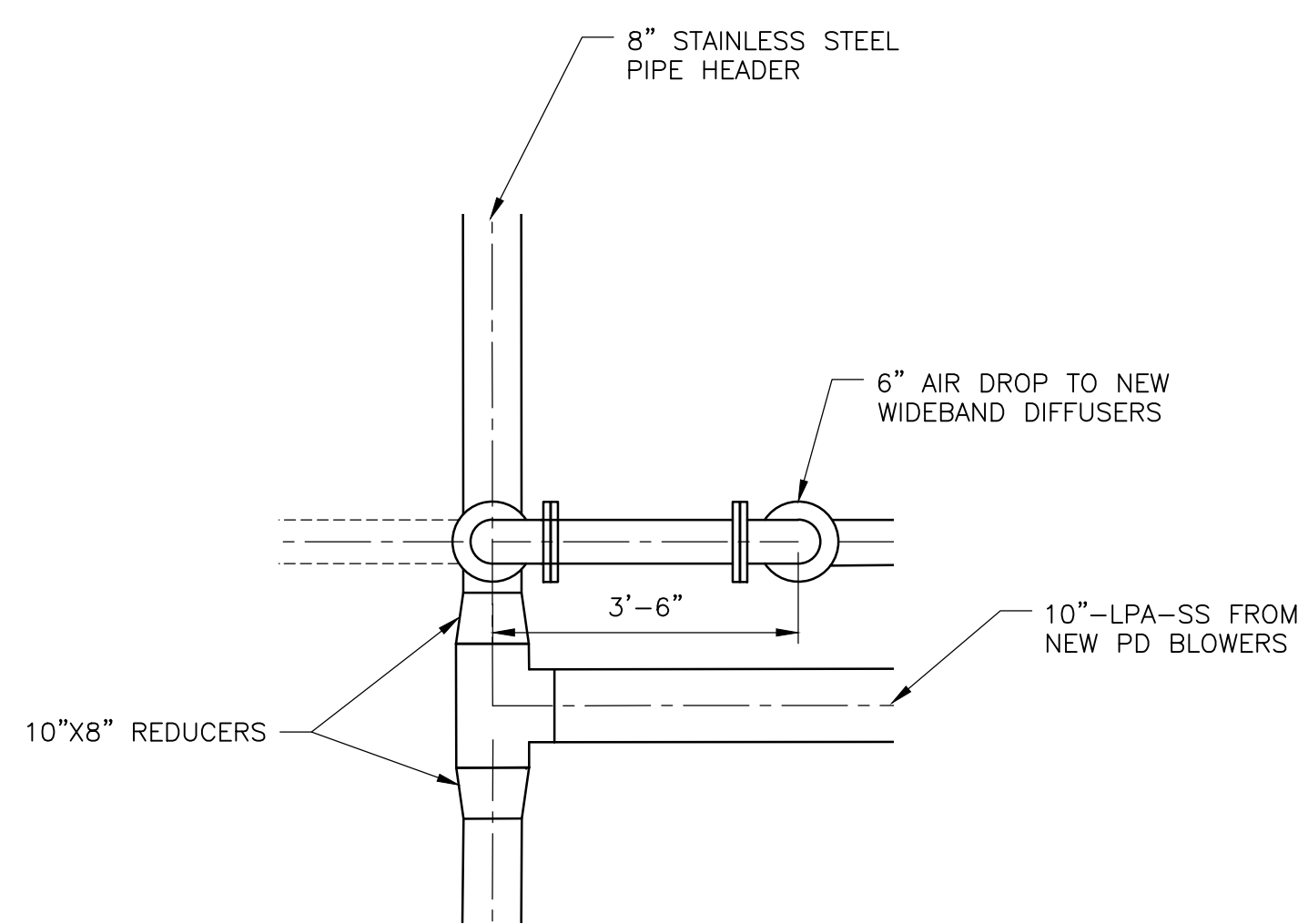
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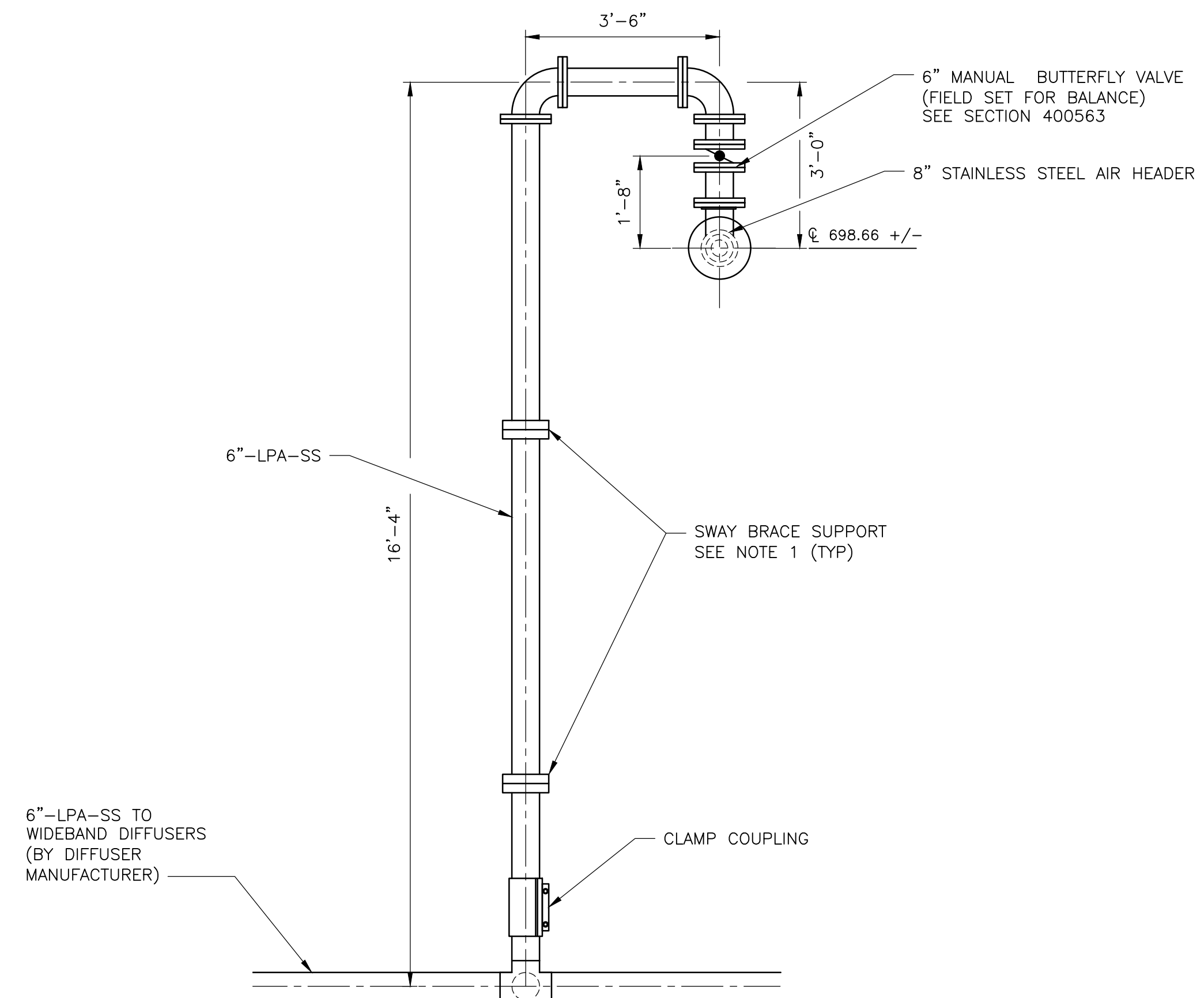
1/4" = 1'-0"  
 4 2 0 4 8

- NOTES:**
1. SWAY BRACKETS TO BE DESIGNED BY DIFFUSER MANUFACTURER.
  2. ALL CONNECTIONS BETWEEN DISSIMILIAR METALS SHALL UTILIZE ISOLATION KITS PER DETAIL C/MZ-7.

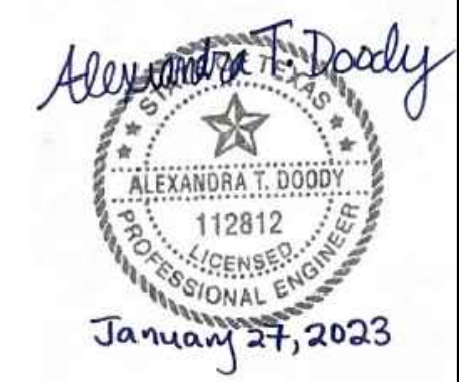
**SECTION 3**  
 1/4" = 1'-0" SG-ME-1



**AERATED SLUDGE HOLDING TANK PIPE HEADER**  
 PLAN  
 1/2" = 1'-0"



**SECTION 4**  
 1/2" = 1'-0" SG-ME-1



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: A. KOWALKOWSKI  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

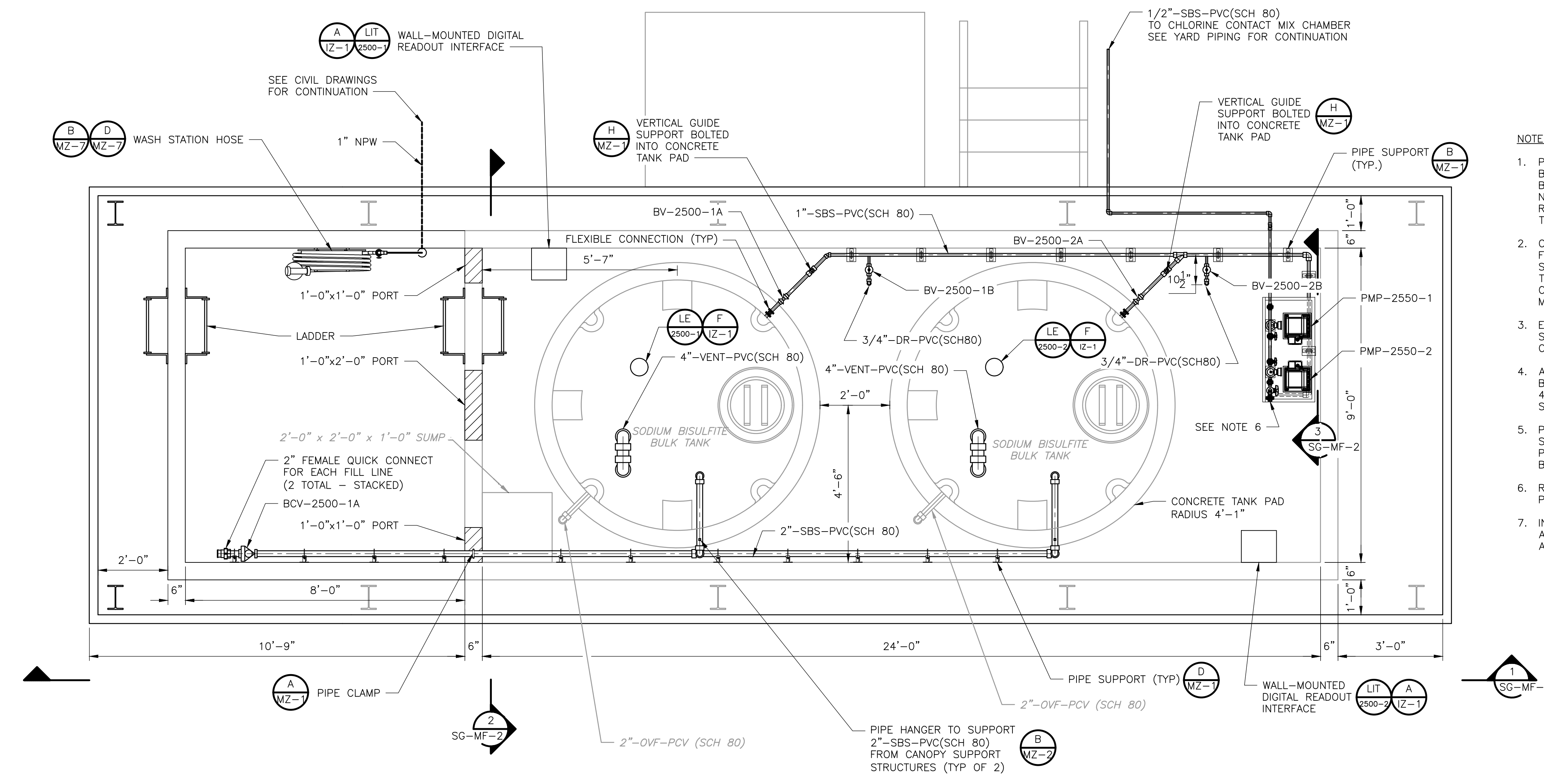
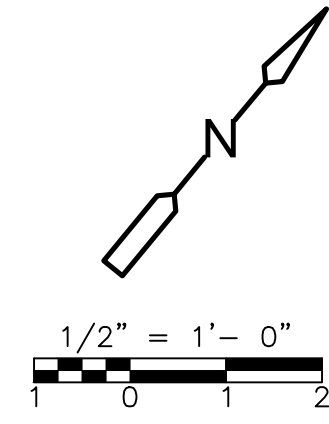
**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING  
 TANK MODIFICATIONS - SECTION  
 SG-ME-2

PROJECT NO.	2048-264953
FILE NAME:	SGME2.DWG
SHEET NO.	SG-ME-2

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- NOTES:**
1. PROVIDE CERTIFICATION THAT ALL OF THE MATERIALS BEING PROVIDED ARE COMPATIBLE WITH THE CHEMICAL BEING CONVEYED. IF THE INSTALLED MATERIAL IS FOUND NOT TO BE CHEMICALLY COMPATIBLE, CONTRACTOR SHALL REPLACE WITH THE CORRECT MATERIAL AT NO COST TO THE OWNER.
  2. CHEMICAL PIPING IS NOT ALWAYS SHOWN IN ITS ENTIRETY. FIELD RUN IN CONJUNCTION WITH SCHEMATICS, PLANS AND SECTIONS. SIZES OF PIPES AND GENERAL METHOD OF RUNNING THEM ARE SHOWN, BUT IT IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING NOR EVERY STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED.
  3. EQUIPMENT ARRANGEMENTS AND LOCATIONS, PIPING DIMENSION, SIZES AND LOCATIONS SHALL BE CONFIRMED BY THE CONTRACTOR AFTER FINAL SELECTION OF THE EQUIPMENT.
  4. ALL EXPOSED ABOVE GROUND SODIUM BISULFITE PIPING MUST BE INSULATED AND HEAT TRACED, PER SPECIFICATIONS 404113.13 AND 404213. ALL BURIED SODIUM BISULFITE PIPING SHALL BE DOUBLE-CONTAINED.
  5. PIPE SUPPORTS ARE SHOWN FOR EXAMPLE PURPOSES ONLY. SPACING AND TYPE TO BE DETERMINED BY THE CONTRACTOR. PIPE SUPPORTS WITHIN THE CHEMICAL CONTAINMENT AREA SHALL BE STAINLESS STEEL.
  6. REVIEW P&ID SG-IF-2 FOR DETAILED DESIGN OF VENDOR PROVIDED PERISTALTIC PUMP SKID.
  7. INSTALL ALUMINUM JACKETED INSULATION AND HEAT TRACING ON ALL NPW LINES ABOVE GRADE PER SPECIFICATIONS 404113.13 AND 404213.

**PLAN**  
1/2" = 1'-0"

Alexandra T. Doody  
 112812  
 LICENSED PROFESSIONAL ENGINEER  
 January 27, 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

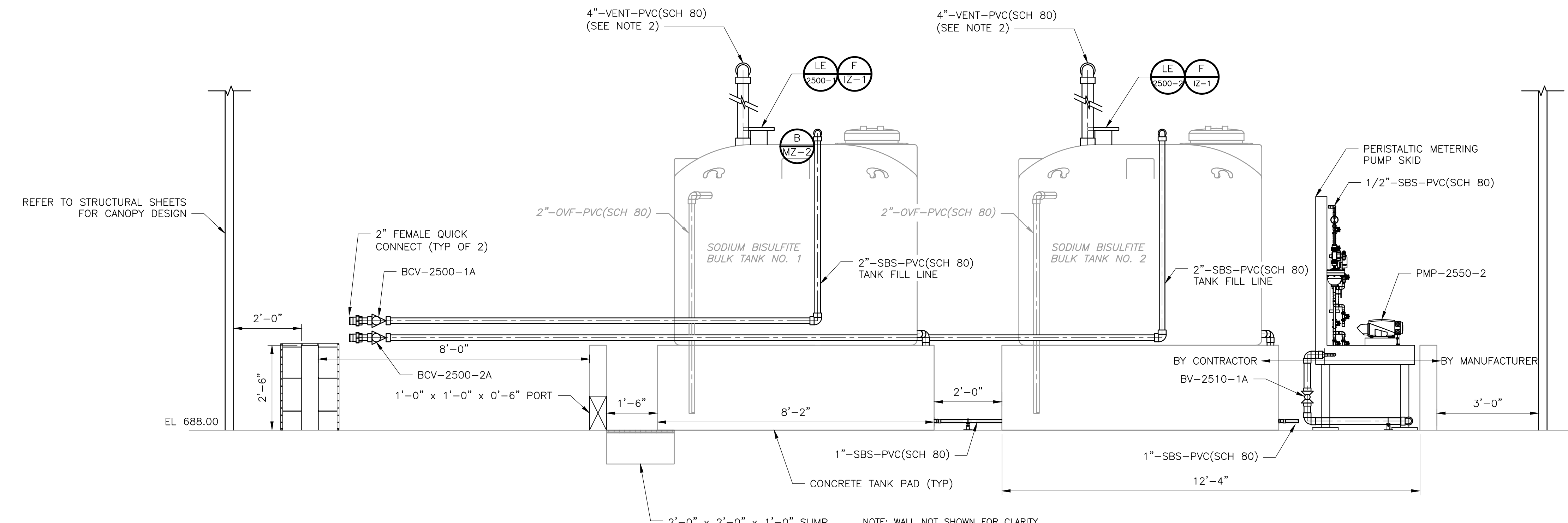


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

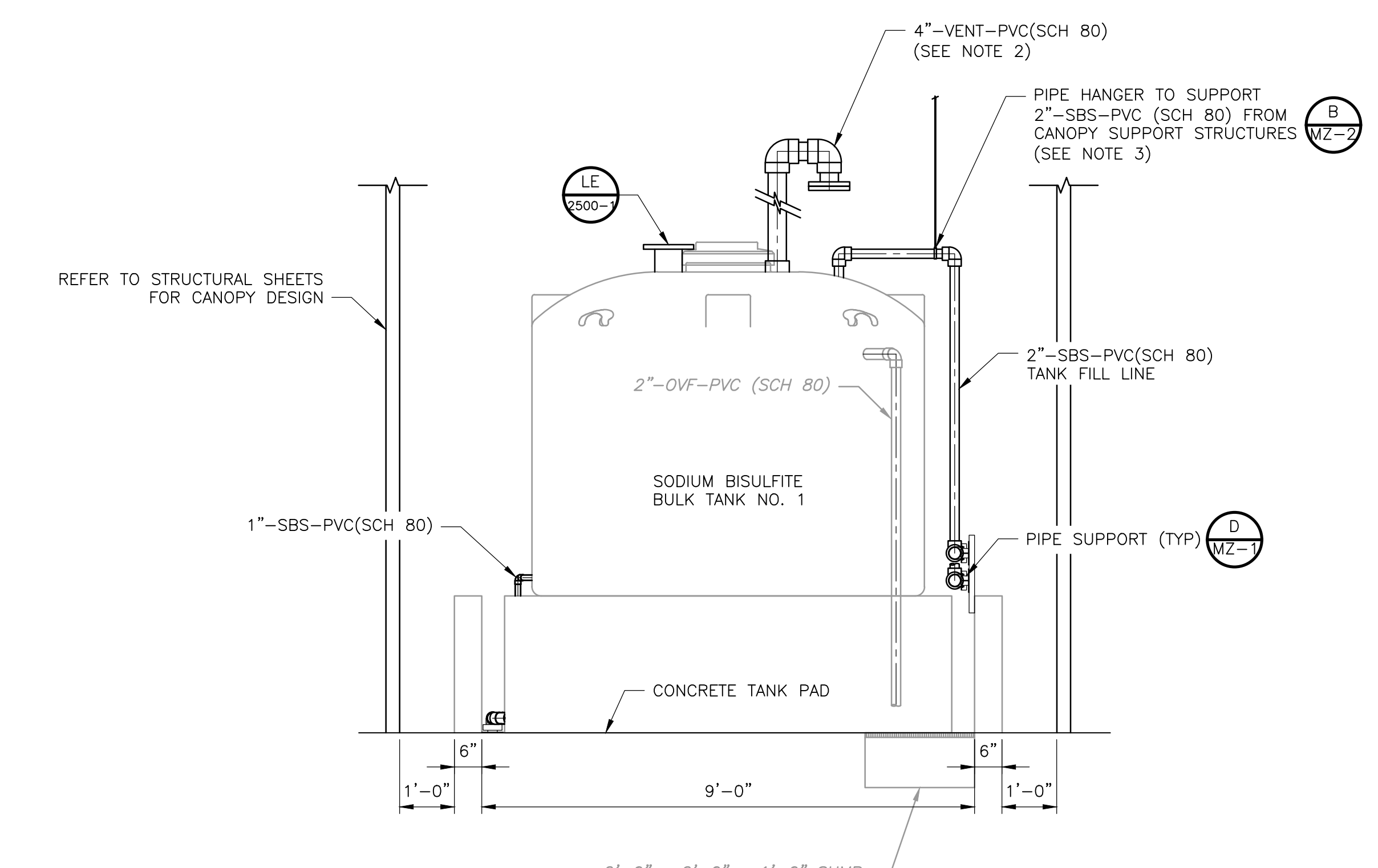
**SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE  
 AND FEED AREA - PLAN**

PROJECT NO. 2048-264953  
 FILE NAME: SGMF1.DWG  
 SHEET NO.  
**SG-MF-1**

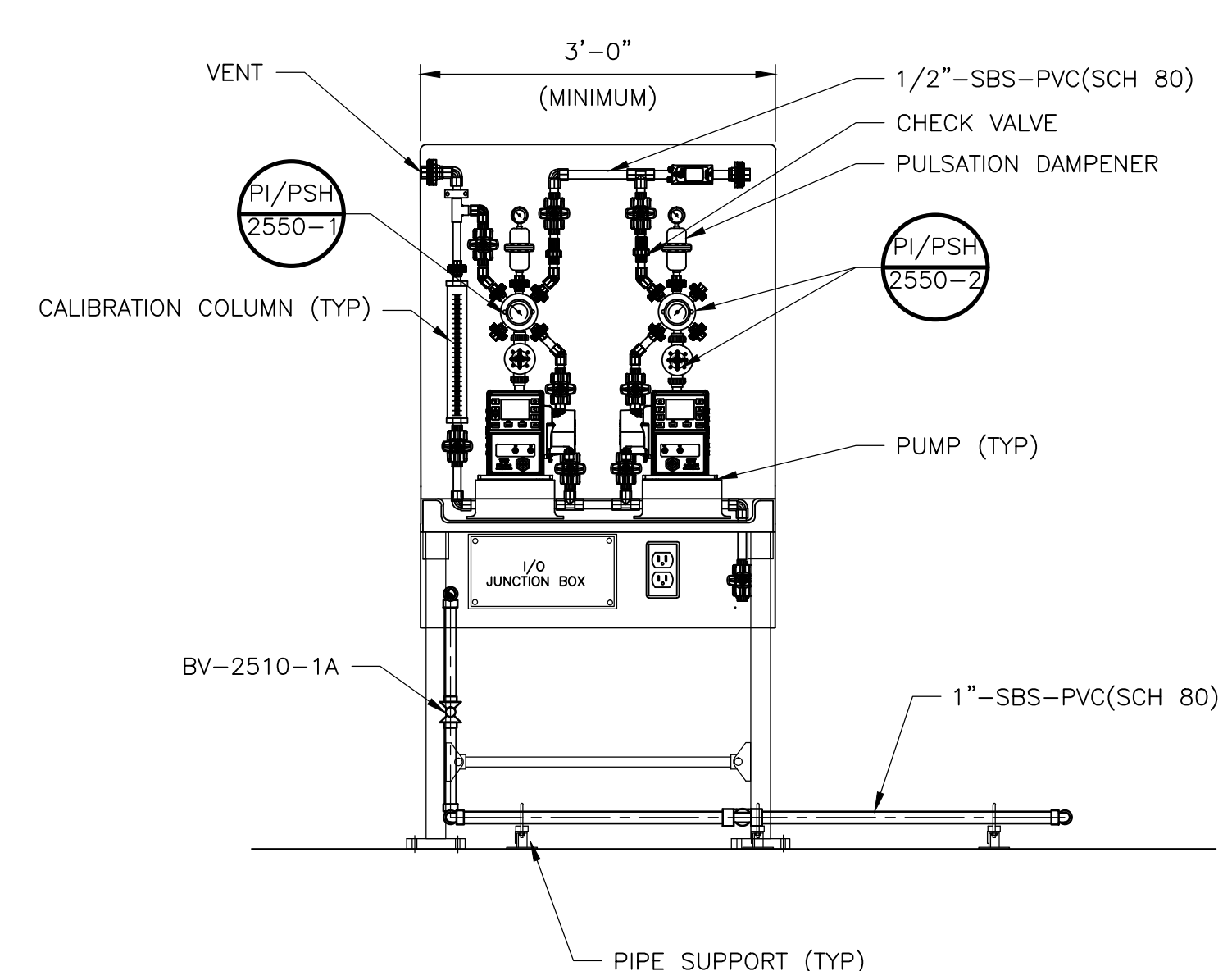
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**SECTION 1**  
1/2" = 1'-0"

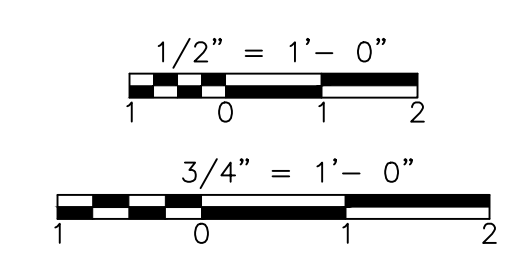


**SECTION 2**  
1/2" = 1'-0"



**SECTION 3**  
NTS

- NOTES:**
- METERING PUMP SKID SHALL BE DESIGNED AND CONSTRUCTED BY PUMP SUPPLIER. CHEMICAL SKID INSTRUMENTATION, SMALL DIAMETER VALVES, AND APPURTENANCE NOT SHOWN FOR CLARITY. SEE P&IDS AND SPECIFICATION SECTION 463344 FOR ADDITIONAL DETAIL.
  - VENT TO EXTEND A MINIMUM 24" ABOVE ROOF LINE. COVER OUTLET WITH #24 MESH PVC SCREEN.
  - CONTRACTOR TO INSTALL A PIPE HANGER AS CLOSE TO THE 90 BEND AS POSSIBLE ON THE 2" - SBS FILL LINE. TYPICAL FOR BOTH TANKS.
  - THE BOTTOM OF THE SODIUM BISULFITE PUMP SKID MUST BE MOUNTED AT A MINIMUM DISTANCE OF 2'-6" ABOVE THE FINISHED FLOOR ELEVATION.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS
1	4/4/23	JAM	ATD	REVISION FOR ADDENDUM NO. 3

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

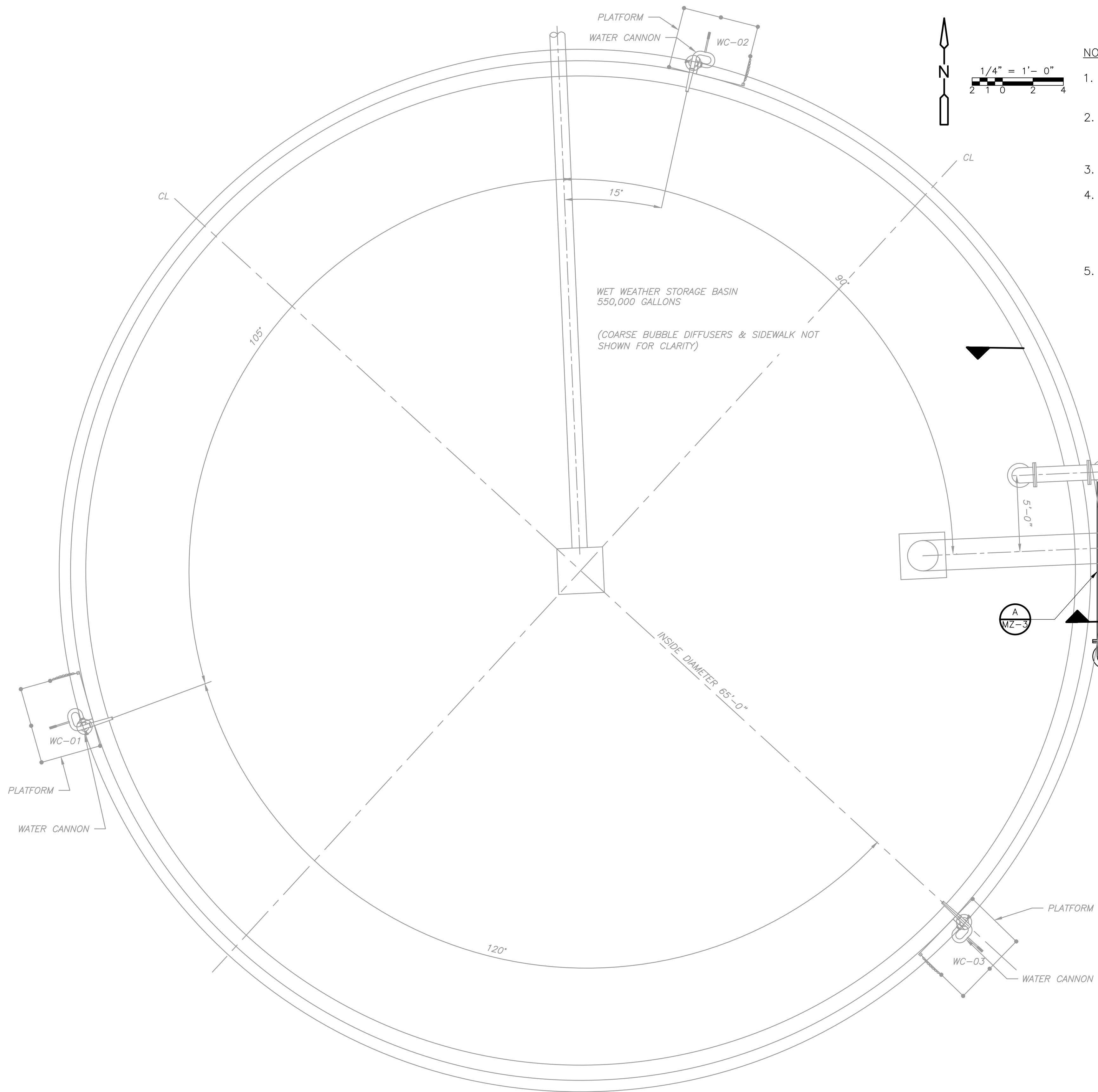


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

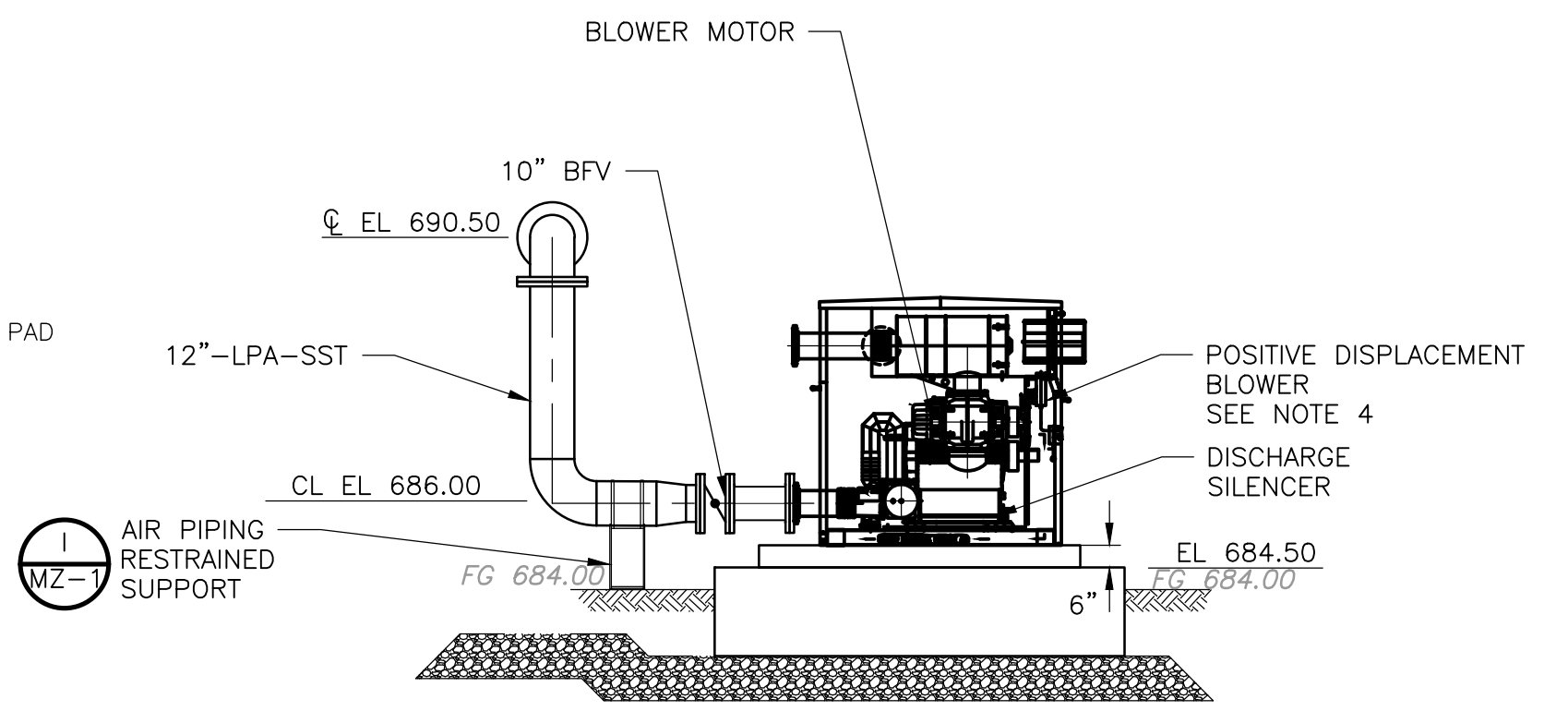
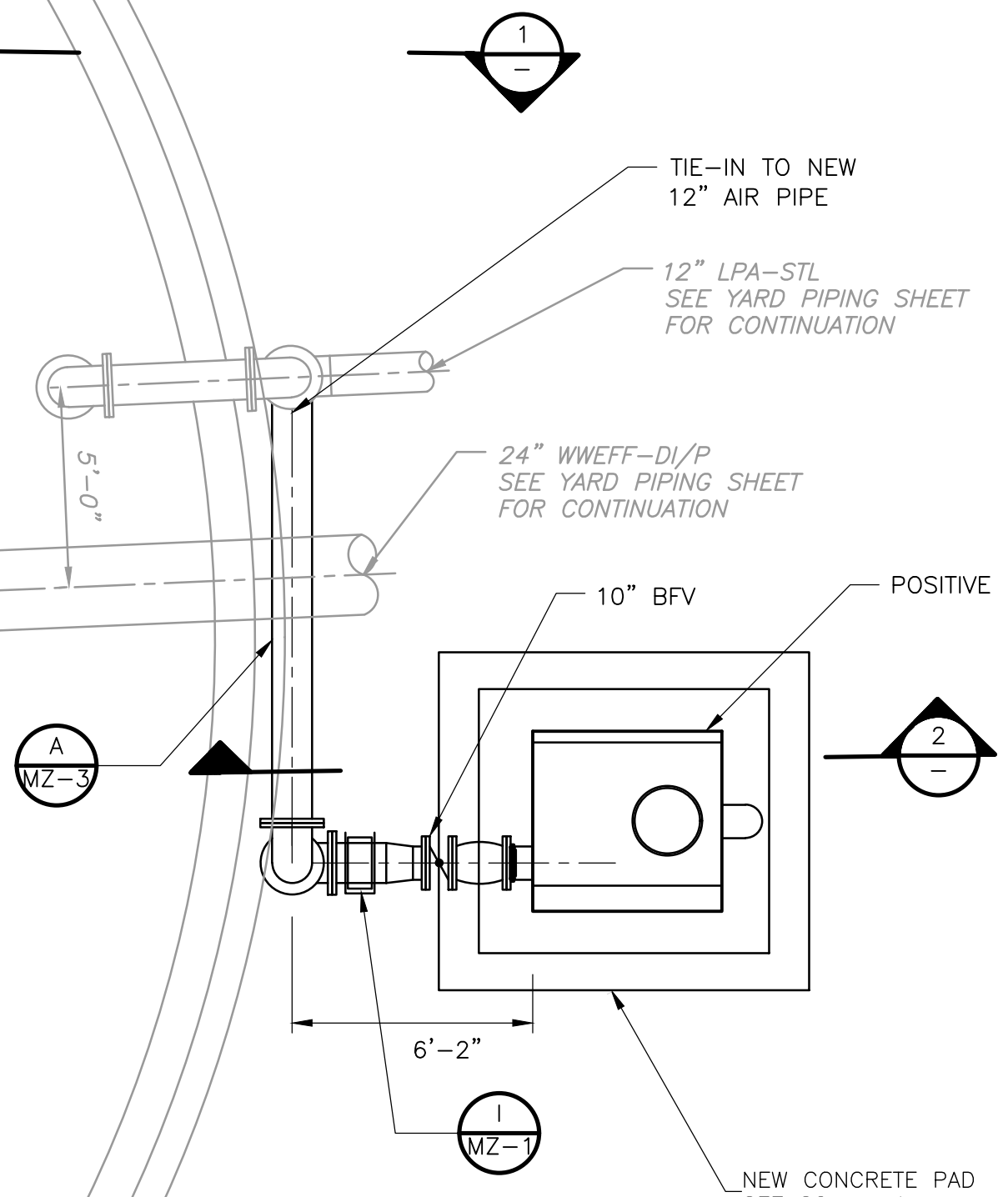
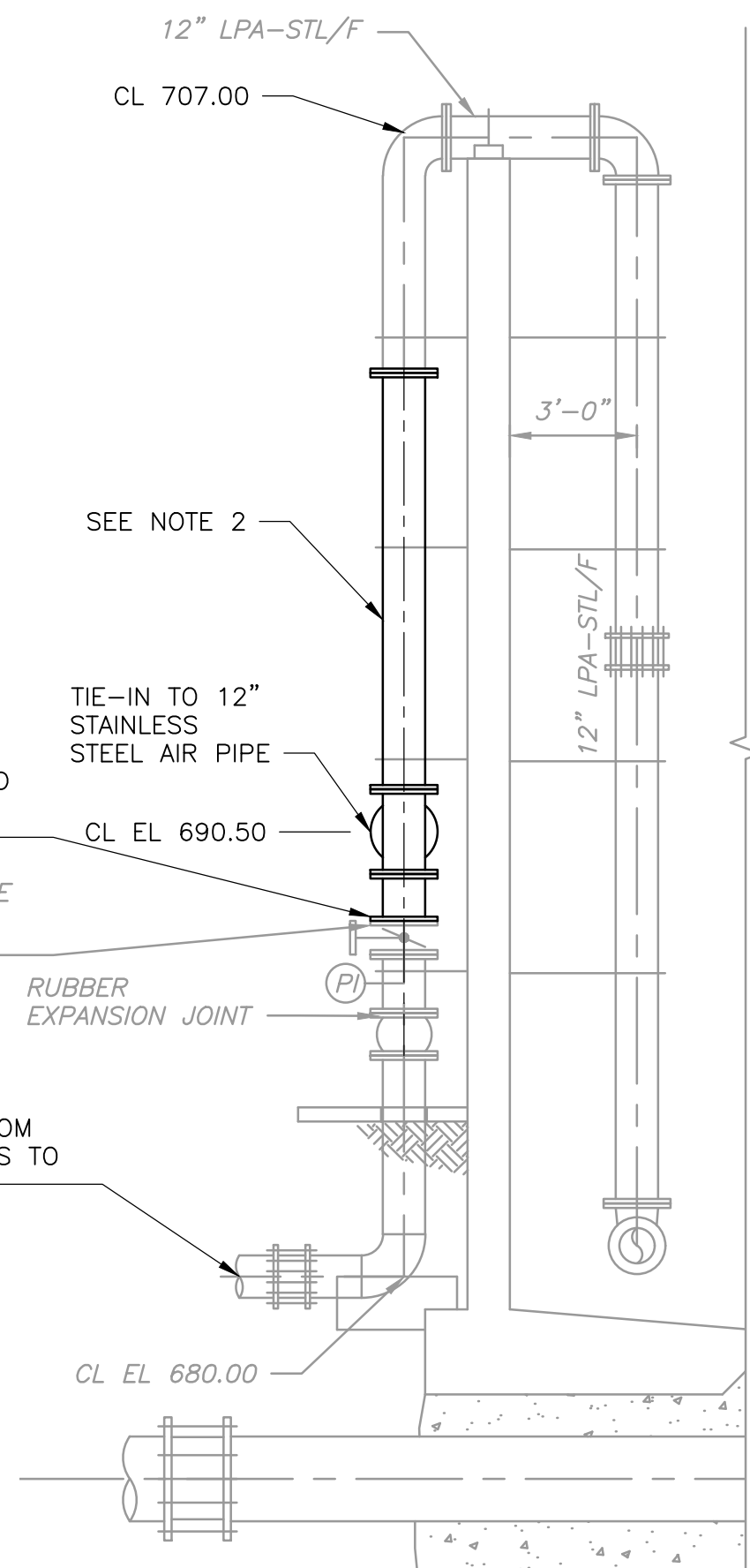
SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE  
 AND FEED AREA - SECTION  
 SG-MF-2

PROJECT NO. 2048-264953  
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 SHEET NO.  
 112812  
 PROFESSIONAL ENGINEER  
 May 25, 2023

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- NOTES:**
1. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL UTILIZE ISOLATION KITS PER DETAIL C/MZ-7.
  2. CONTRACTOR IS RESPONSIBLE FOR PROCURING SIZE AND CHEMICALLY COMPATIBLE CLAMPS (GALVANIC CORROSION) FOR ALL EXISTING PIPE SUPPORTS TO BE MAINTAINED.
  3. SEE SHEET SG-C-2 FOR WET WEATHER STORAGE BASIN LOCATION.
  4. REFER TO SECTION 431133 FOR THE POSITIVE DISPLACEMENT BLOWER SYSTEM. BLOWER AND PIPE DIMENSIONS ARE BASED ON LAYOUTS PROVIDED BY AERZEN. CONTRACTOR SHALL MODIFY PIPING AS REQUIRED BASED ON SELECTED MANUFACTURER AND FINAL APPROVED SHOP DRAWINGS AT NO ADDITIONAL COST TO OWNER.
  5. CONTRACTOR TO FIELD VERIFY CENTERLINE ELEVATION OF TIE-IN TO EXISTING PIPING



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

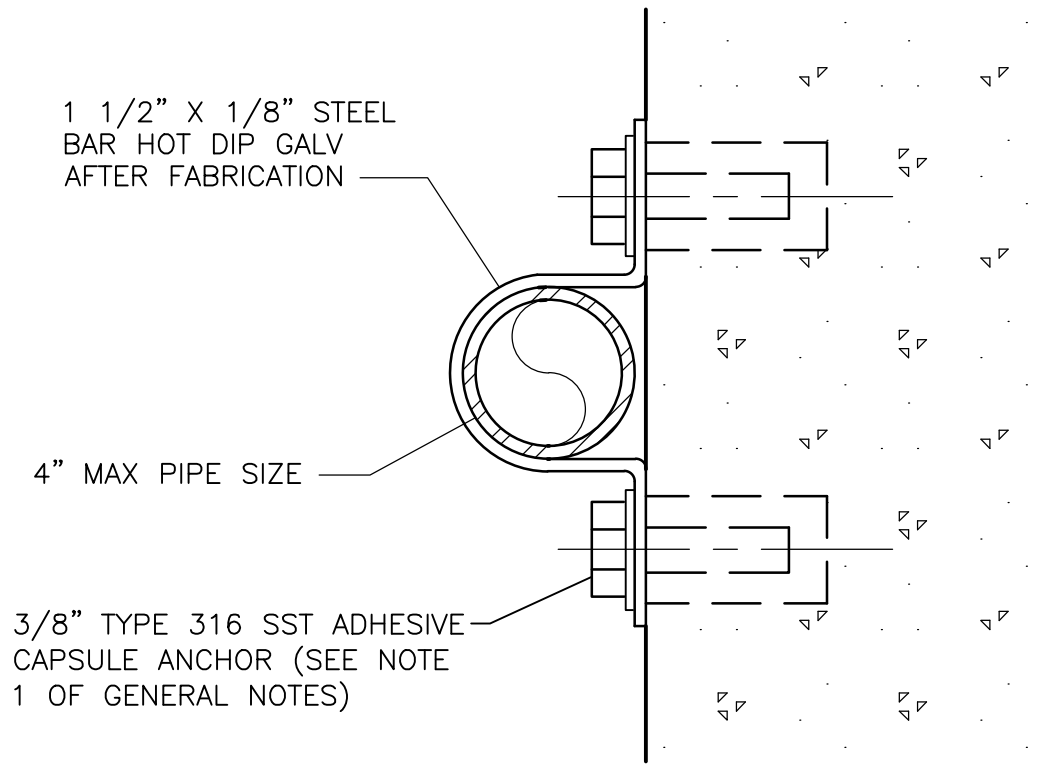
DESIGNED BY: A. KOWALKOWSKI  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

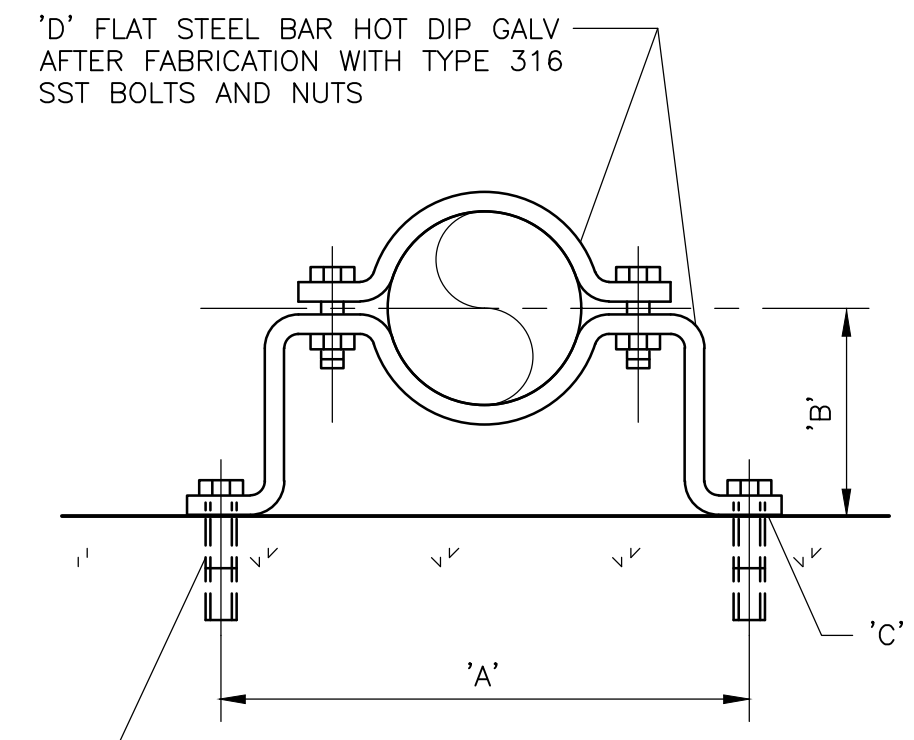
**SAN GABRIEL WWTP  
 WET WEATHER STORAGE  
 MODIFICATIONS PLAN**

PROJECT NO. 2048-264953  
 FILE NAME: SGMG1.DWG  
 SHEET NO.  
**SG-MG-1**



- NOTES:**
- WHERE SUBMERGED OR LOCATED ABOVE WATER, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
  - WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE SST SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.
  - REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

PIPE CLAMP FOR INDIVIDUAL PIPES  
**DETAIL A**  
NTS



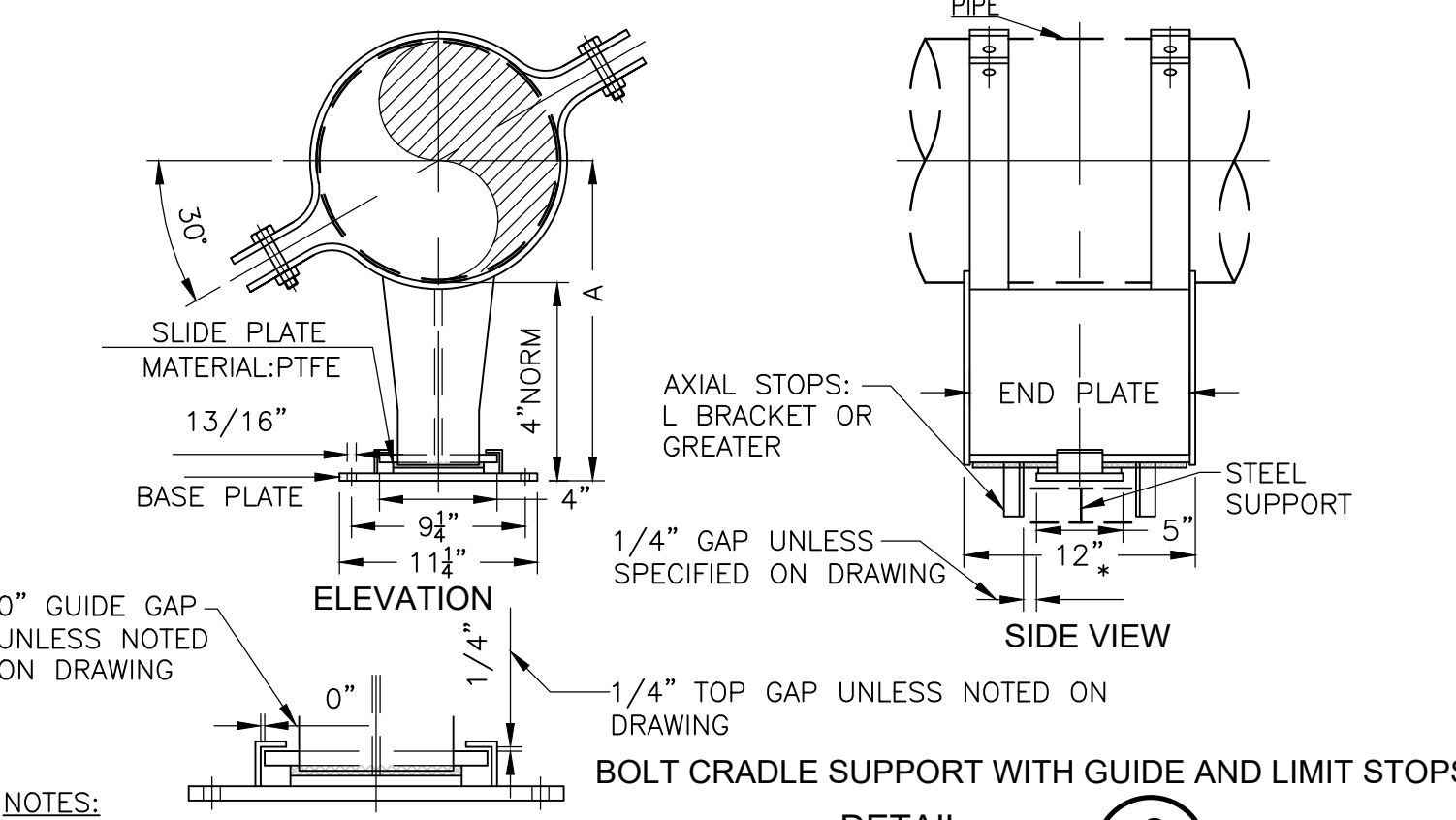
PIPE CLAMP FOR INDIVIDUAL PIPES  
**DETAIL B**  
NTS

DIMENSIONS IN INCHES

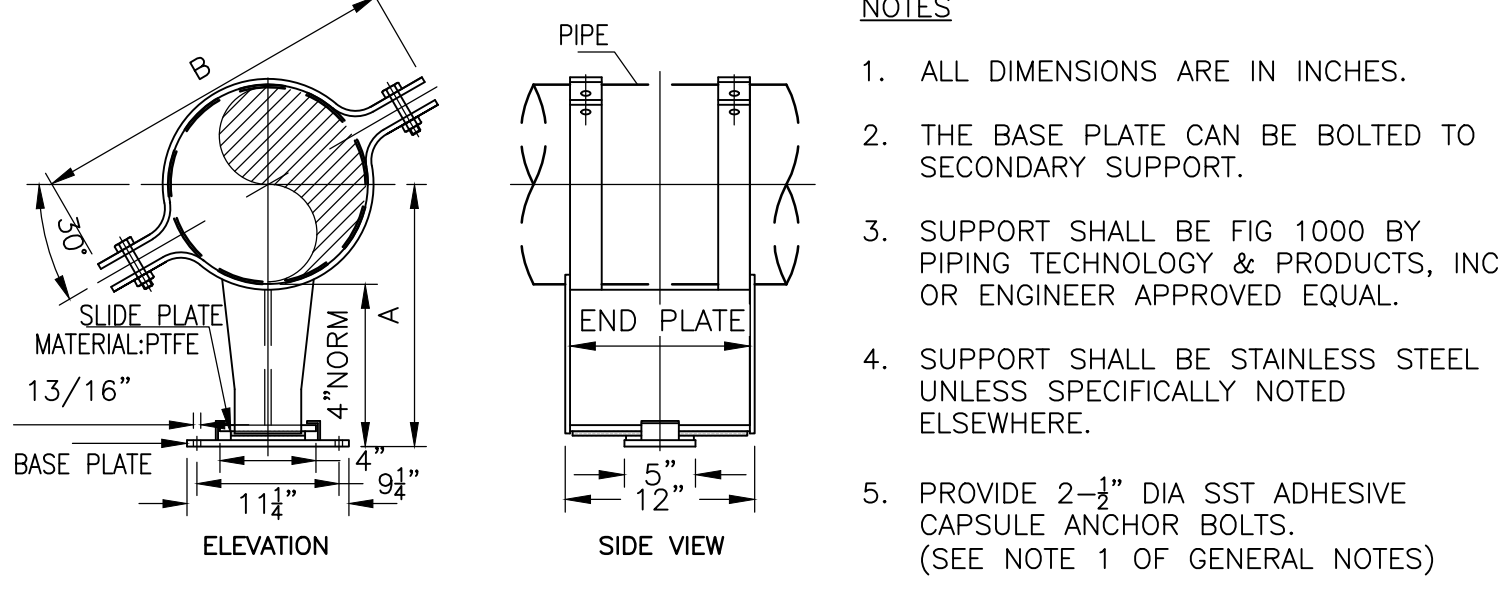
PIPE DIA	'A'	'B' SEE NOTE 3 BELOW	'C' HOLE DIA	'D' FLAT BAR SIZE	LOAD RATING LBS*
3/4	5 15/16	2 1/2	7/16	3/16 X 1 1/4	300
1	6 1/4	2 5/8	7/16	3/16 X 1 1/4	300
1 1/4	6 11/16	2-3/4	7/16	3/16 X 1 1/4	300
1 1/2	6 15/16	3	7/16	3/16 X 1 1/4	300
2	8 5/16	3 3/16	7/16	1/4 X 1 1/4	500
2 1/2	8 7/8	3 7/16	7/16	1/4 X 1 1/4	500
3	9 1/8	3 3/4	7/16	1/4 X 1 1/4	500
3 1/2	10 1/16	4	7/16	1/4 X 1 1/4	500
4	10 9/16	4 1/4	9/16	1/4 X 1 1/2	600
5	11 3/4	4 3/4	9/16	1/4 X 1 1/2	600
6	14 3/8	5 5/16	9/16	3/8 X 1 1/2	850
8	16 5/8	6 5/16	9/16	3/8 X 1 1/2	850

\* SAFETY FACTOR OF 5

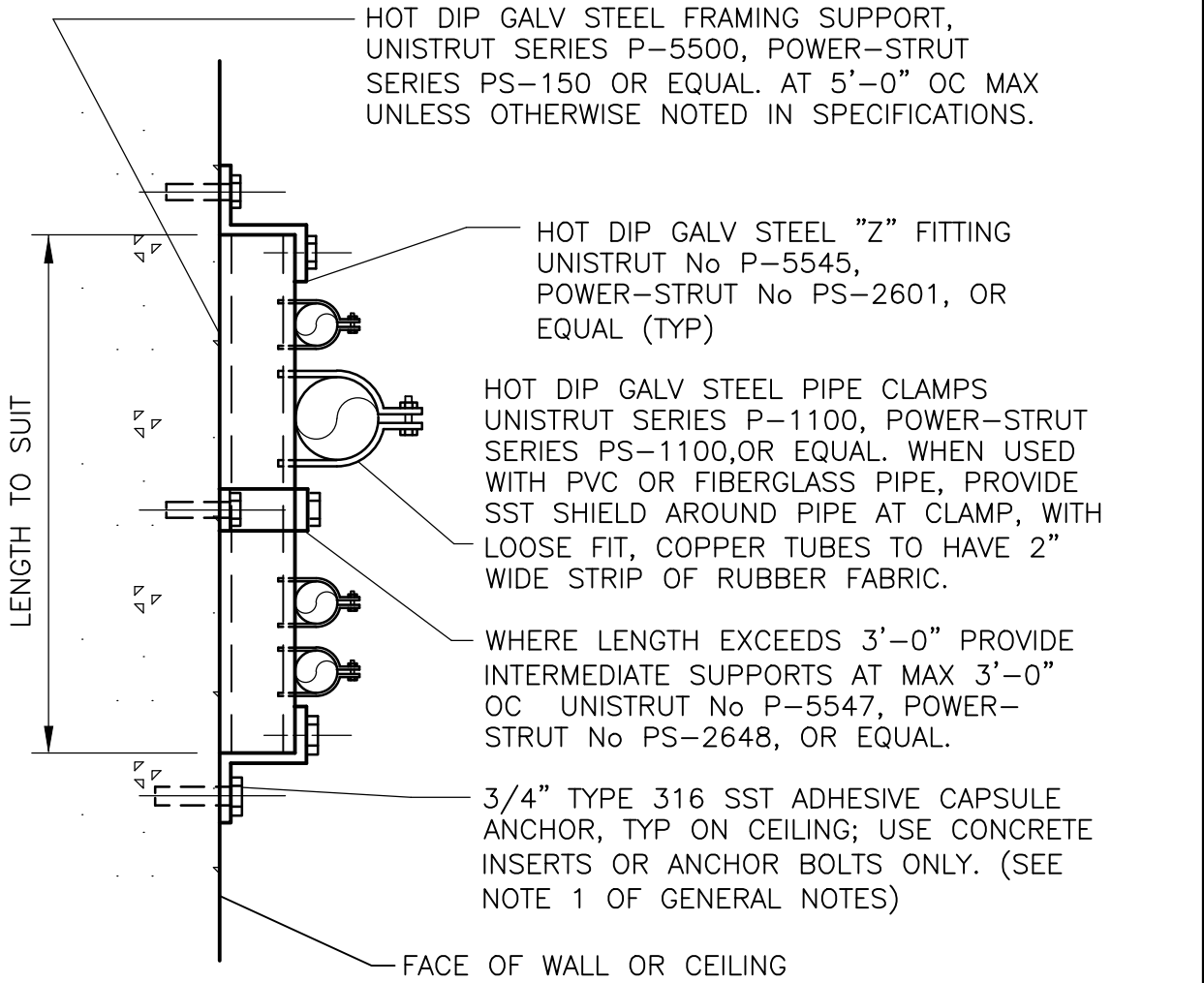
- NOTES:**
- HOT DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED ABOVE WATER, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 SST.
  - WHEN USED WITH PVC OR FIBERGLASS PIPE PROVIDE SST SHIELD AROUND PIPE AT CLAMP, WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC.
  - FOR FLANGED PIPING INCREASE 'B' DIMENSION AS REQUIRED. 'B' DIMENSION SHALL INCREASE AS SHOWN ON DRAWINGS.
  - REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.



BOLT CRADLE SUPPORT WITH GUIDE AND LIMIT STOPS  
**DETAIL C**  
NO SCALE



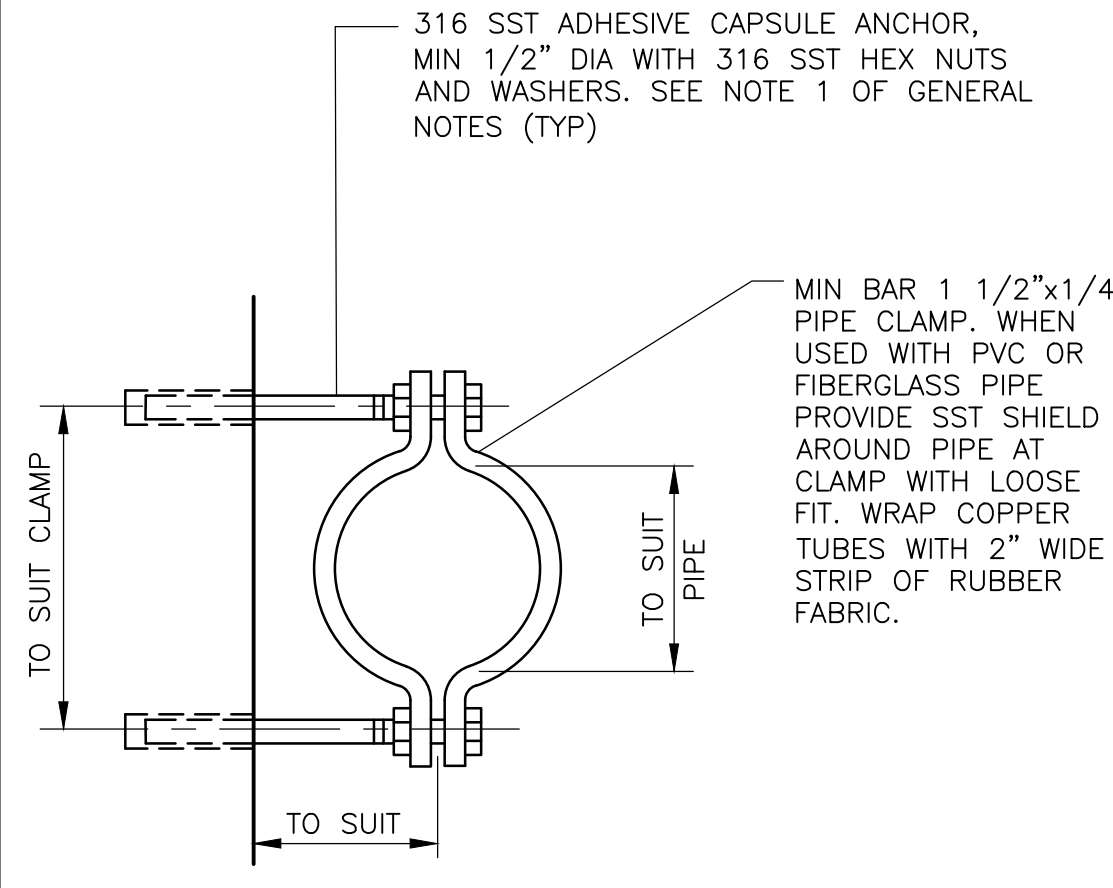
BOLT CRADLE SUPPORT WITH GUIDE & SLIDE PLATE  
**DETAIL D**  
NTS



- NOTES:**
- WHERE SUBMERGED OR LOCATED ABOVE WATER, FRAMING SUPPORT, Z FITTINGS, INTERMEDIATE SUPPORTS, BOLTS, WASHERS AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
  - WHERE LOCATED ON CHEMICAL TANK OR EQUIPMENT PADS, FRAMING SUPPORTS, INTERMEDIATE SUPPORTS, PIPE CLAMPS, AND Z FITTINGS SHALL BE REINFORCED POLYESTER; AND BOLTS AND WASHERS SHALL BE TYPE 316 SST. PIPE SHIELDS SHALL BE COMPATIBLE WITH PROCESS FLUID.

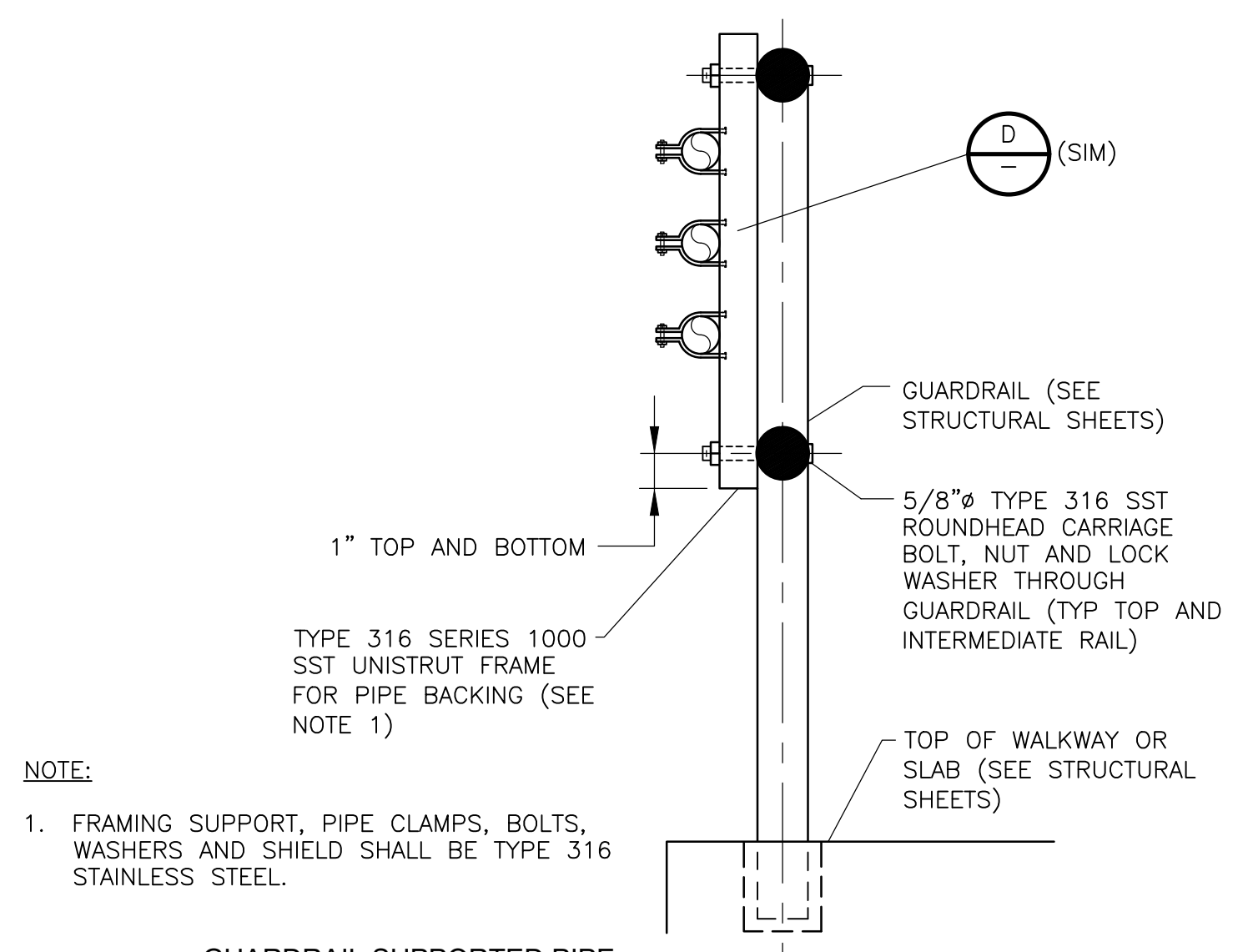
FLUSH MOUNTED PIPE SUPPORT  
**DETAIL E**  
NTS

- GENERAL NOTES:** (TYPICAL FOR ALL STANDARD MECHANICAL DETAIL SHEETS)
- STAINLESS STEEL ADHESIVE CAPSULE ANCHORS SHALL BE A TWO-PART STUD AND CAPSULE RESIN ANCHORING SYSTEM. CAPSULES SHALL BE SELF-CONTAINED. SEALED GLASS UNITS CONTAINING PREMEASURED AMOUNTS OF RESIN, AGGREGATES, AND HARDENER. STUD ASSEMBLIES SHALL BE ALL-THREAD ANCHOR ROD WITH NUT AND WASHER. INSTALL ANCHOR IN FULL COMPLIANCE WITH THE MANUFACTURERS' RECOMMENDATIONS. ANCHORS SHALL BE HILTI "HVU2 ADHESIVE ANCHOR" OR EQUAL. PROVIDE MINIMUM EMBEDMENT OF 10 BOLT DIAMETERS IN CONC., UNLESS NOTED OTHERWISE.
  - ALL PIPE FRAMING SUPPORTS, PIPE CLAMPS, INTERMEDIATE SUPPORTS, POST SUPPORTS, Z FITTINGS, PIPE SHIELDS, ETC FOR CHEMICAL FEED SYSTEMS LOCATED ON OR ADJACENT TO CHEMICAL EQUIPMENT PADS OR LOCATED IN CHEMICAL PIPE TRENCHES, SUMPS, OR SECONDARY CONTAINMENT STRUCTURES SHALL BE CONSTRUCTED OF MATERIALS THAT ARE COMPATIBLE WITH PROCESS FLUID.
  - CONTRACTOR SHALL REPAIR ALL HOT DIP GALV HANGER ROD AND FRAMING SUPPORT FIELD CUTS USING GALVANIZING REPAIR STICKS AS MANUFACTURED BY LOWDEN METALS, LTD. OR EQUAL.

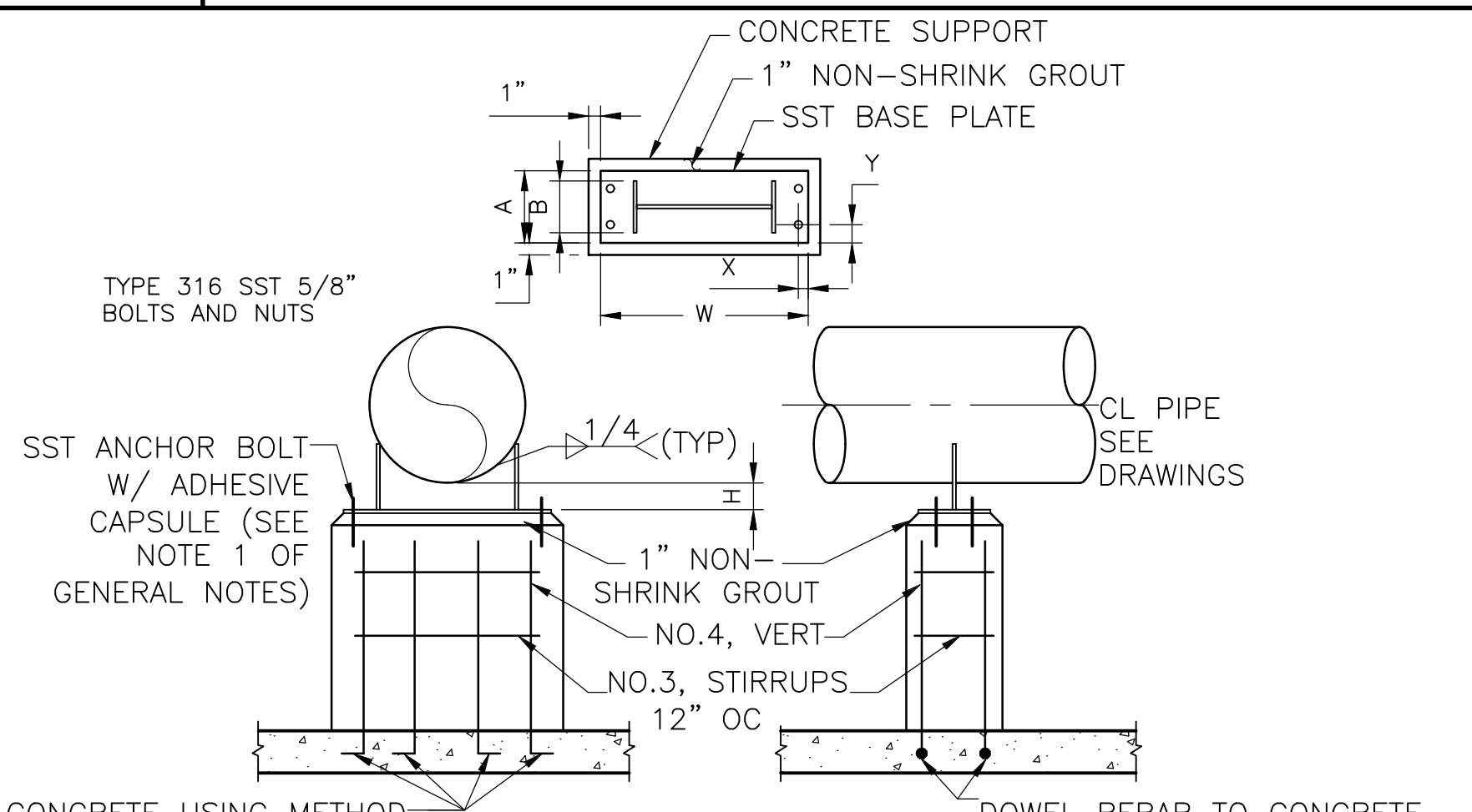


- NOTES:**
- GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED ABOVE WATER, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP FOR INDIVIDUAL PIPES  
**DETAIL F**  
NTS



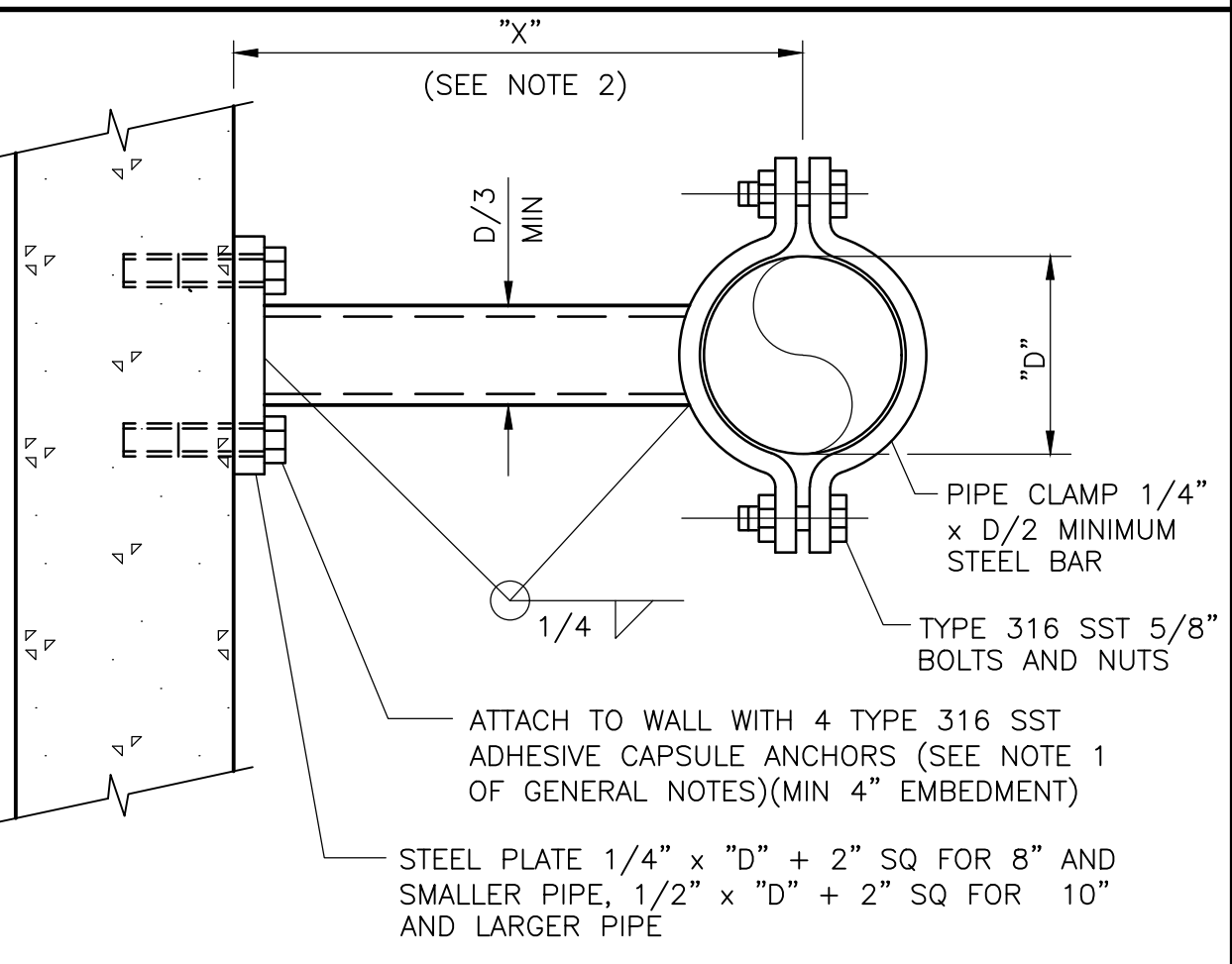
GUARDRAIL SUPPORTED PIPE  
**DETAIL G**  
NTS



AIR PIPING RESTRAINED SUPPORT  
**DETAIL I**  
NTS

- DOWEL REBAR TO CONCRETE USING METHOD "C" SEE SPECIFICATION SECTION 03300
- CONTRACTOR TO VERIFY ELEVATIONS BEFORE PRODUCTION
- SUPPORTS SHALL BE TYPE 304 SST

NOMINAL PIPE SIZE	30"	24"	18"	12"	10"	8"	6"
TYPE OF PIPE	SST	SST	SST	SST	SST	SST	SST
ACTUAL PIPE OD	30"	24"	18"	12.75"	10.750"	8.625"	6.625"
SUPPORT MATERIAL THICKNESS (ALL)	0.375"	0.375"	0.375"	0.375"	0.375"	0.375"	0.375"
SUPPORT MATERIAL	STL	STL	STL	STL	STL	STL	STL
DMIENSION (X)	1.50"	1.50"	1.50"	1.50"	1.50"	1.50"	1.50"
DIMENSION (Y)	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"	2.25"
DIMENSION (W)	30.00"	24.00"	22.50"	18.50"	16.25"	14.50"	11.25"
DIMENSION (A)	8"	8"	8"	8"	8"	8"	8"
DIMENSION (B)	6"	6"	6"	6"	6"	6"	6"
DIMENSION (H)	3"	3"	3"	3"	3"	3"	3"
ANCHOR BOLT HOLE DIA	1"	1"	1"	1"	1"	1"	1"
ANCHOR BOLT SIZE	0.50"	0.50"	0.50"	0.50"	0.50"	0.50"	0.50"



VERTICAL PIPE SWAY BRACE  
**DETAIL H**  
NTS

- NOTES:**
- SWAY BRACE SHALL NOT SUPPORT VERTICAL LOADS.
  - FOR USE WHEN "X" IS GREATER THAN 12". FOR "X" 12" OR LESS, USE DETAIL F ON THIS SHEET OR AS OTHERWISE NOTED.
  - SWAY BRACES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION. WHERE SUBMERGED OR LOCATED ABOVE WATER, PIPE SWAY BRACE ASSEMBLY SHALL BE TYPE 316 STAINLESS STEEL.
  - REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

Alexandra T. Doodly  
Professional Engineer  
12812  
January 27, 2023

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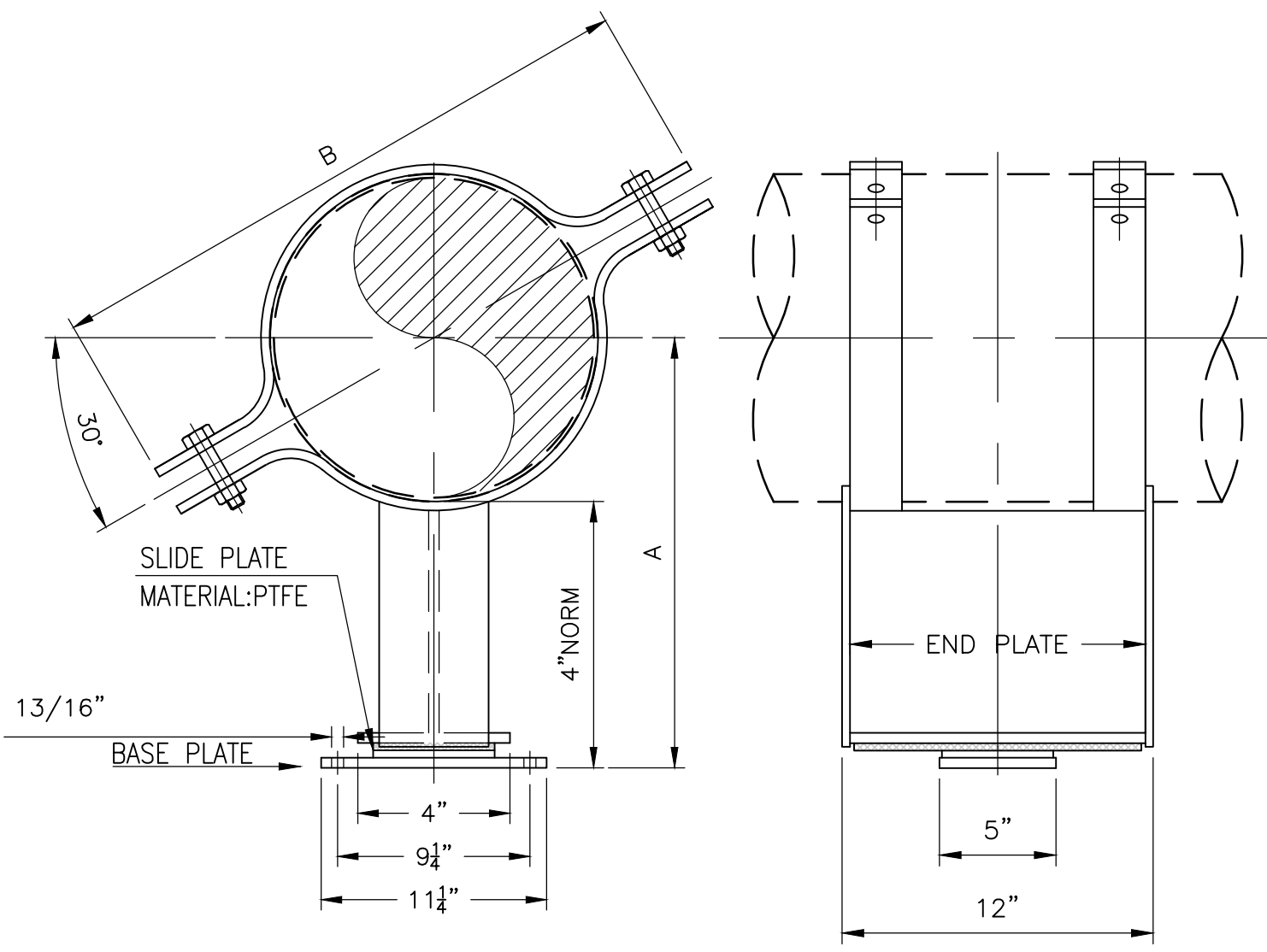
REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

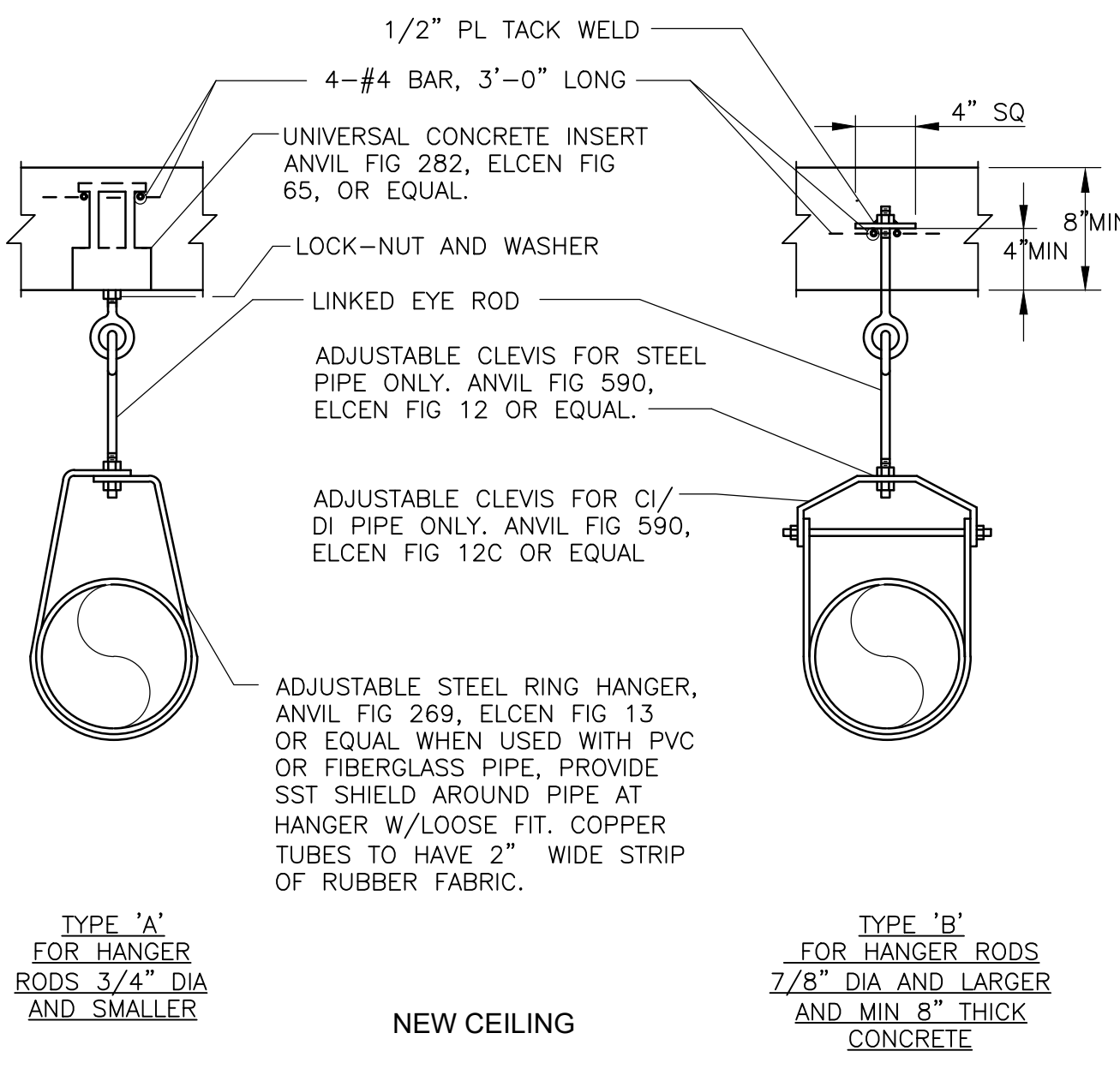
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

STANDARD MECHANICAL DETAILS I  
 PROJECT NO. 2048-264953  
 FILE NAME: MZ-1-SG.DWG  
 SHEET NO. MZ-1



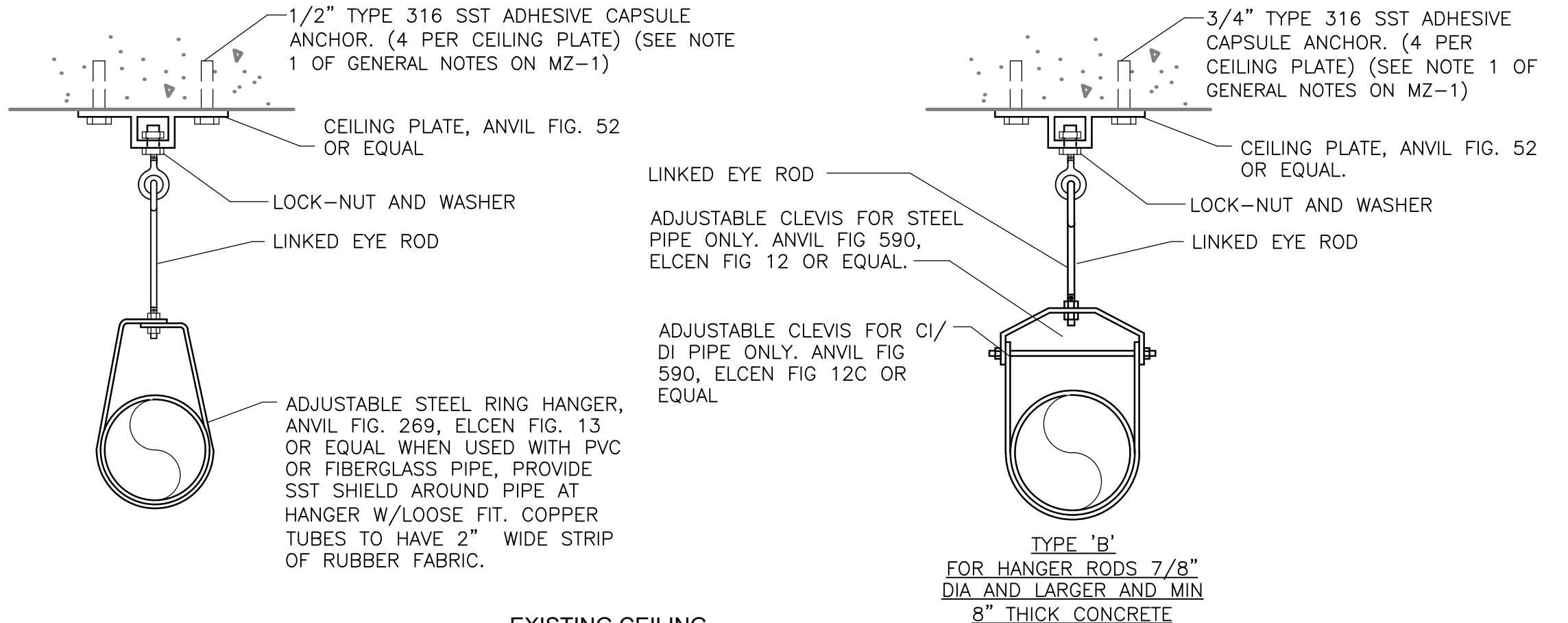
- NOTES**
1. ALL DIMENSIONS ARE IN INCHES.
  2. THE BASE PLATE CAN BE BOLTED TO SECONDARY SUPPORT.
  3. SUPPORT SHALL BE FIG 1000 BY PIPING TECHNOLOGY & PRODUCTS, INC OR ENGINEER APPROVED EQUAL.
  4. SUPPORT SHALL BE STAINLESS STEEL UNLESS SPECIFICALLY NOTED ELSEWHERE.
  5. PROVIDE 2-1/2" DIA SST ADHESIVE CAPSULE ANCHOR BOLTS (SEE NOTE 1 OF GENERAL NOTES)

**BOLT CRADLE SUPPORT WITH BONDED SLIDE PLATE**  
**DETAIL A**  
 NTS



- NOTES**
1. WHERE LOCATED ABOVE WATER, PIPE SUPPORT SYSTEMS SHALL BE TYPE 316 STAINLESS STEEL MATERIALS OF CONSTRUCTION.
  2. REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.
  3. FOR CONNECTION OF PIPE HANGER TO STRUCTURAL STEEL MEMBER, USE BEAM CLAMP. SEE DETAIL G ON DRAWING MZ-2.

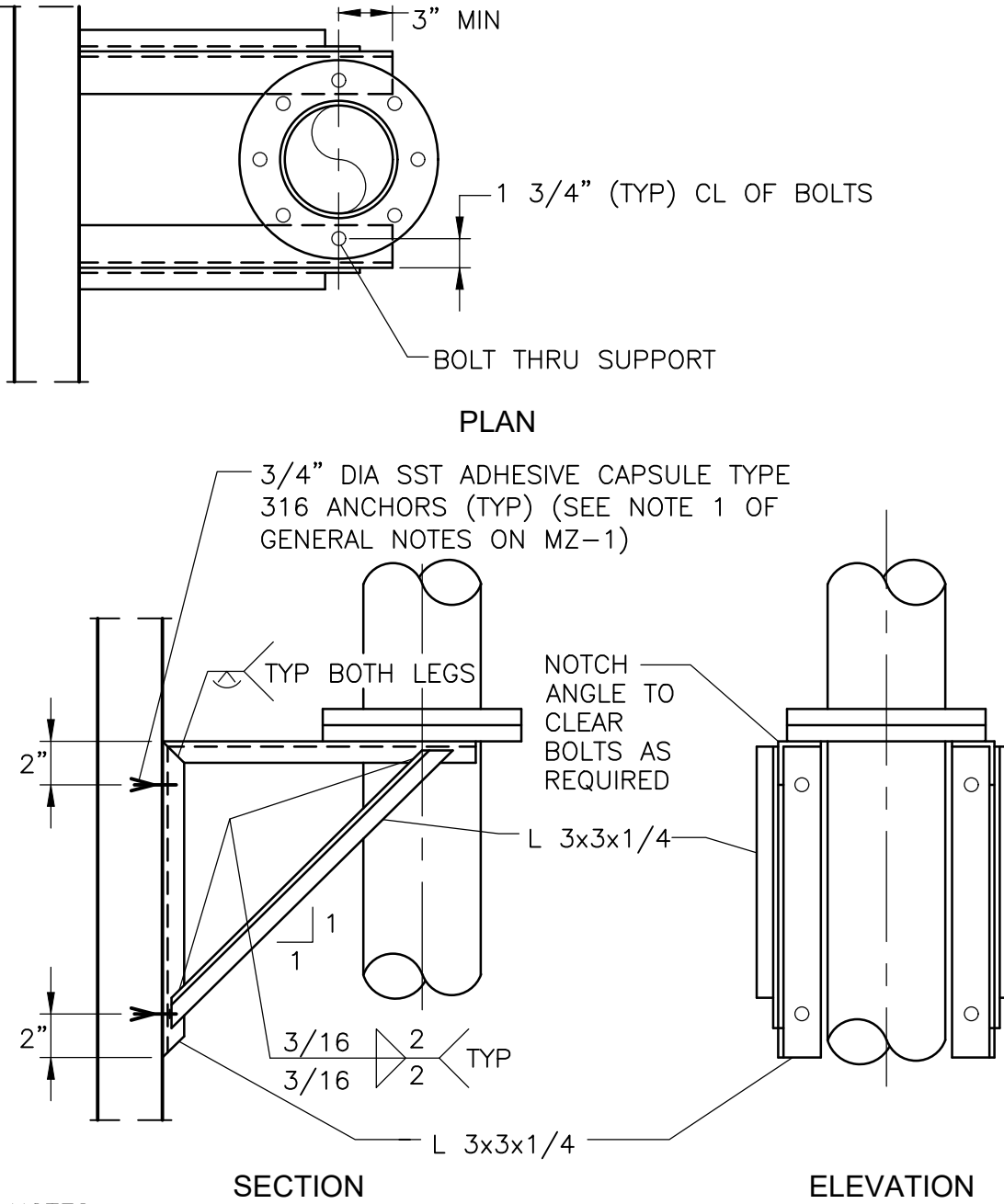
**NEW CEILING**  
**DETAIL B**  
 NTS



**EXISTING CEILING**

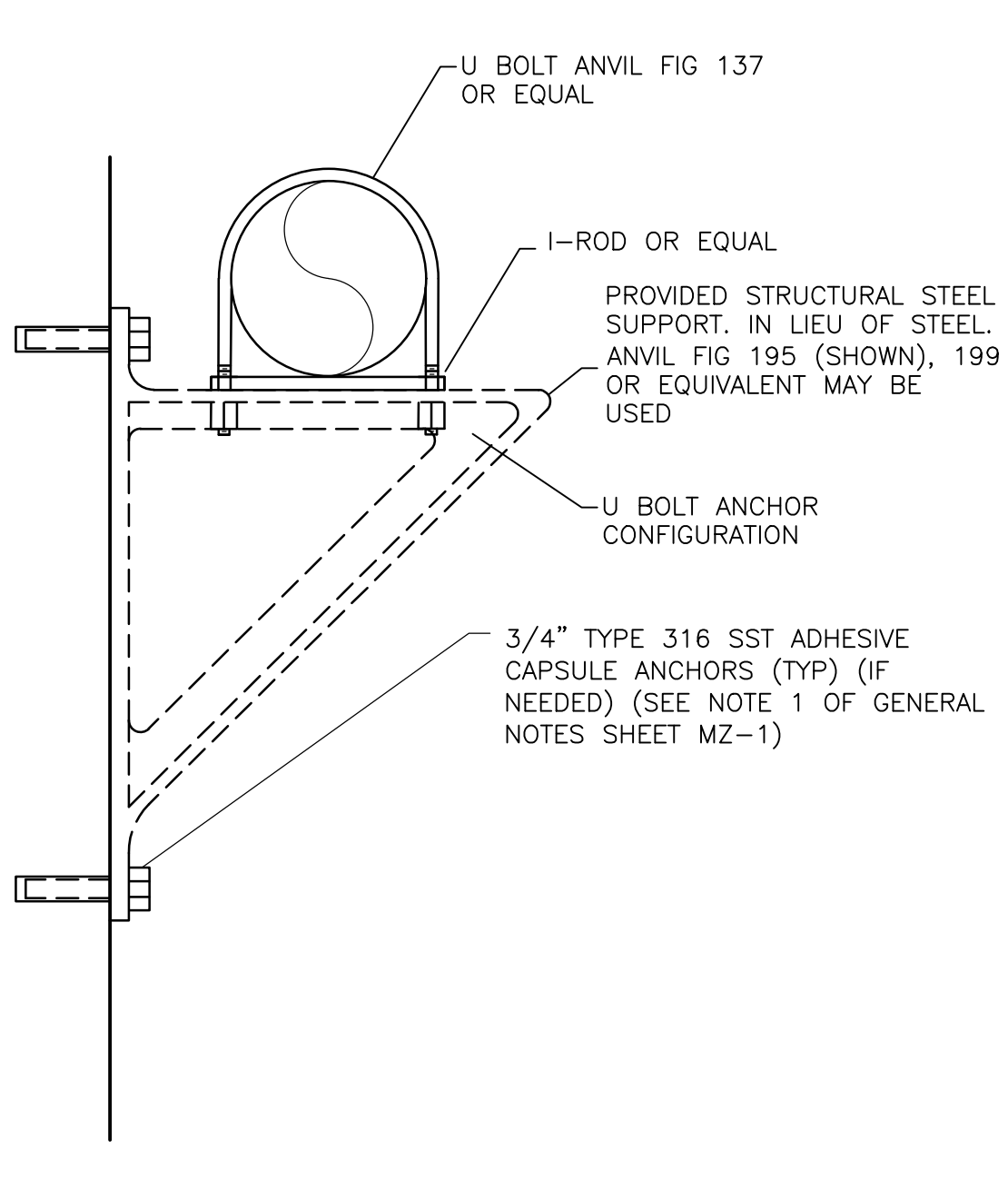
PIPE DIA (INCHES)	ROD DIA (INCHES)	WEIGHT LIMIT (LBS)	
		TYPE 'A'	TYPE 'B'
1 AND SMALLER	3/8	610	----
1 1/4 TO 2	3/8	610	----
2 1/2 TO 3 1/2	1/2	1130	----
4 TO 5	5/8	1430	----
6	3/4	1430	3800
8,10,12	7/8	----	3800
14,16,18	1	----	3800

NOTE: ALL PARTS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.



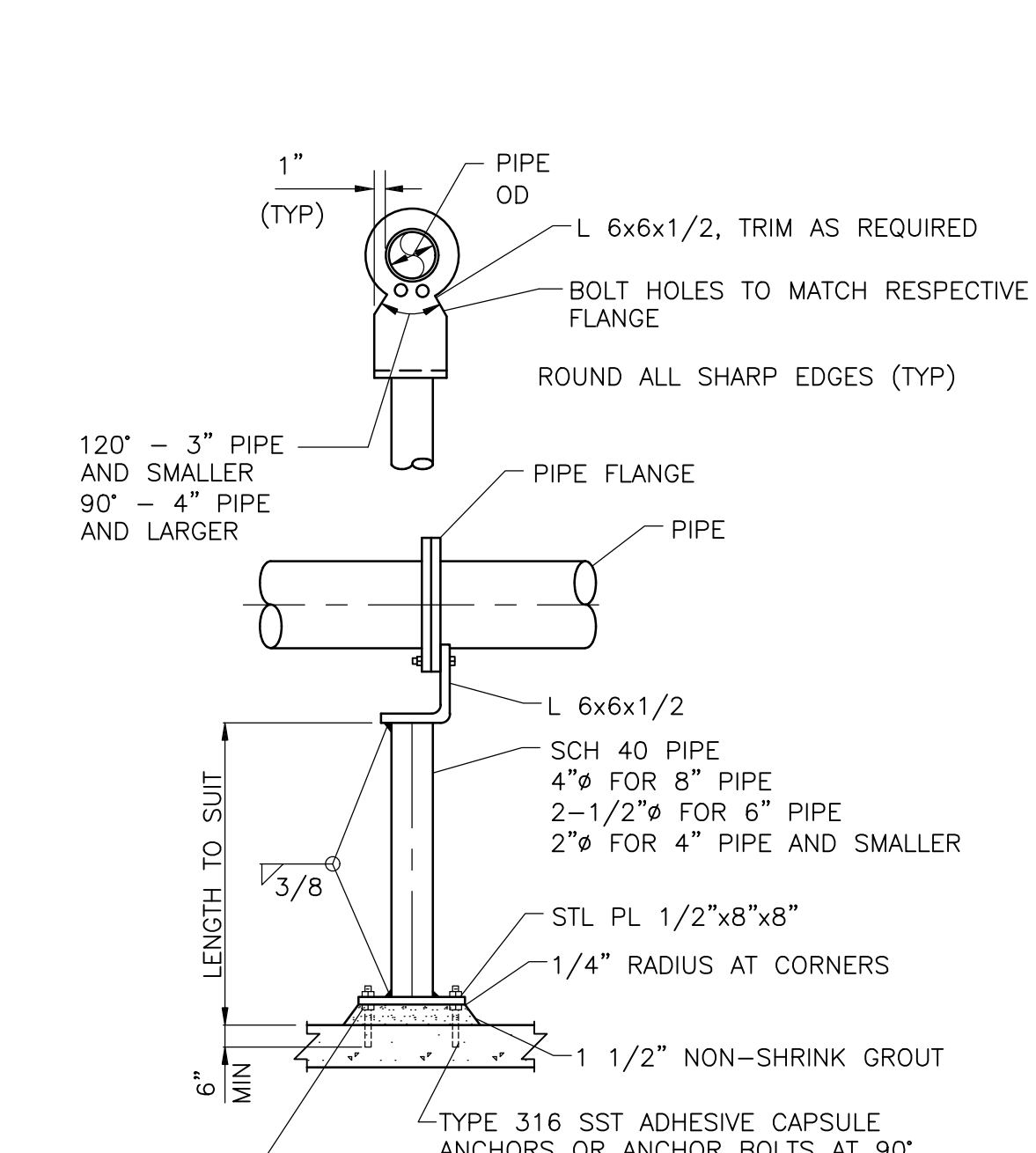
- NOTES**
1. FOR 4" AND LARGER PIPE.
  2. SUPPORT SHALL BE 316 SST. WHERE SUBMERGED OR LOCATED OVER WATER, PIPE BRACKET ASSEMBLY AND BOLTS SHALL BE TYPE 316 SST.
  3. MAXIMUM VERTICAL LOAD EQUALS 900 POUNDS.
  4. FOR PIPE WITH JOINT TYPE OTHER THAN FLANGED, WELD SINGLE SLIP-ON TYPE FLANGE TO PIPE AT LOCATION OF EACH SUPPORT.
  5. PIPE BRACKET ASSEMBLY AND BOLTS SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING.

**PIPE SUPPORT**  
**DETAIL C**  
 NTS



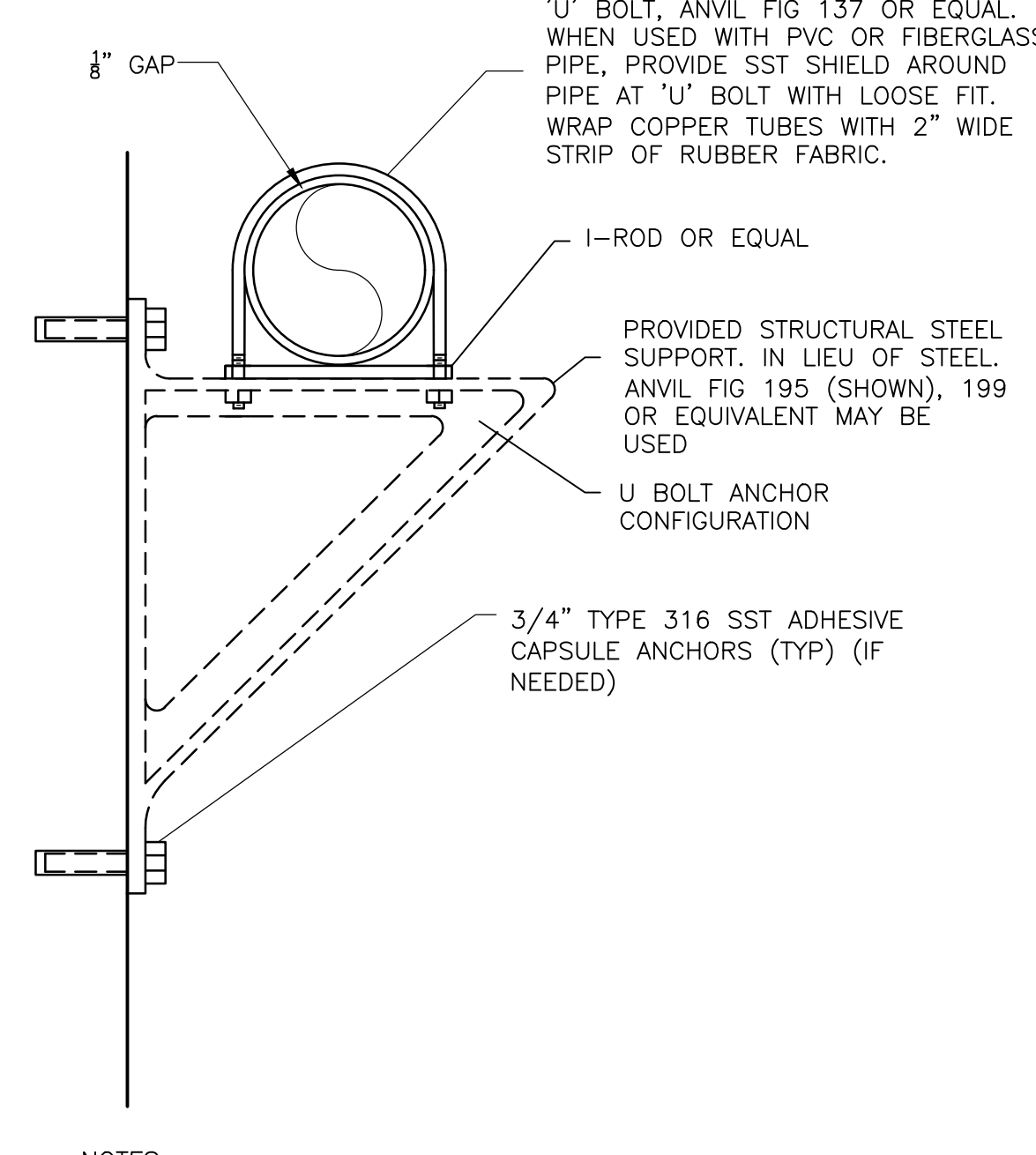
- NOTES**
1. HOT DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED OVER WATER, SST SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS SHALL BE TYPE 316 SST.
  2. ALL SHIELDS, BRACKETS, BOLTS, AND HARDWARE SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING, OR WHERE SUBMERGED OR LOCATED ON OR ABOVE HYDRAULIC STRUCTURE.
  3. REFER TO GENERAL NOTES ON SHEET G-4 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**PIPE SUPPORT**  
**DETAIL D**  
 NTS



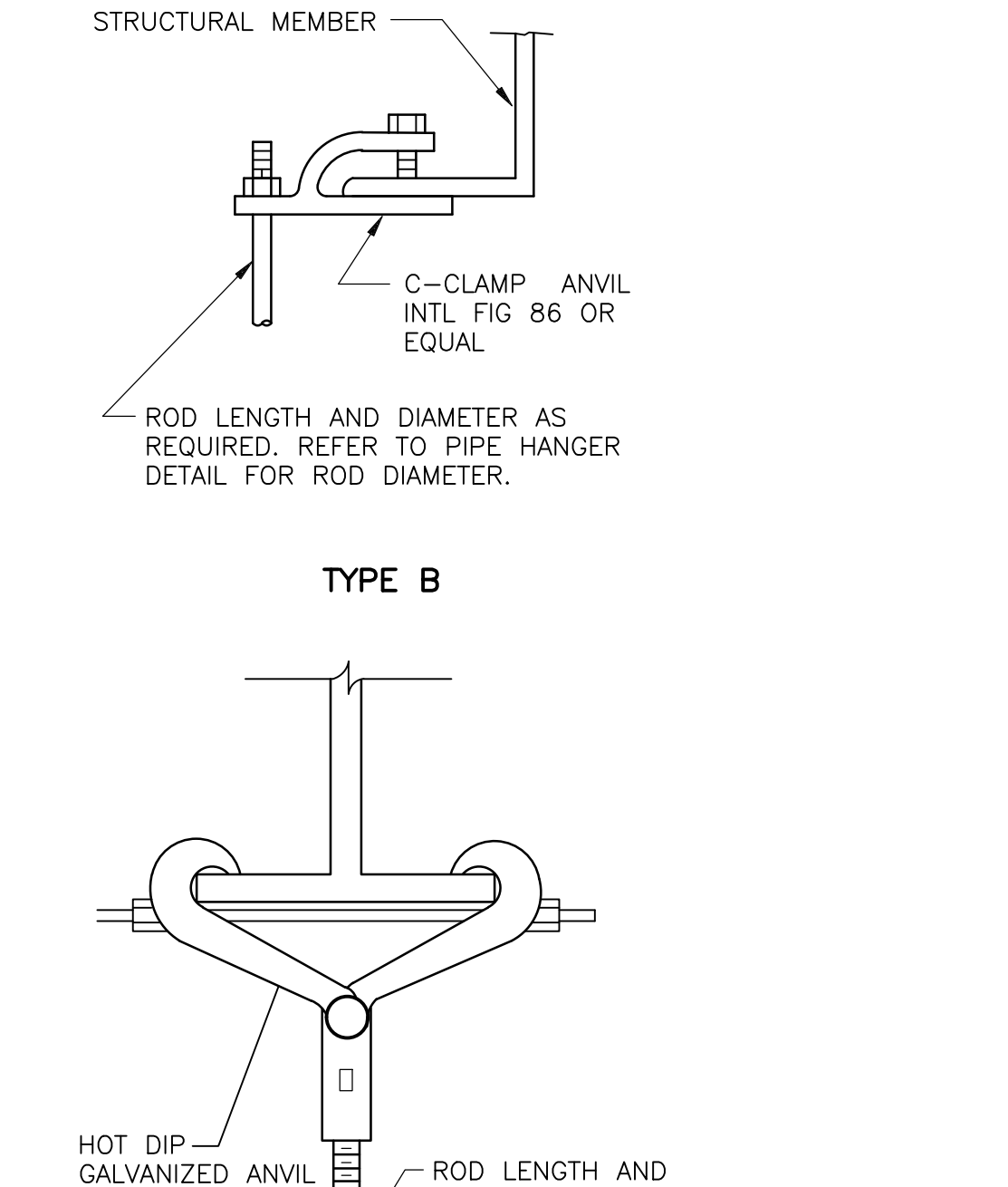
- NOTES**
1. PROVIDE FIELD PAINTING IN ACCORDANCE WITH 09902 FOR INTERIOR APPLICATIONS AND HOT DIP ALL MATERIALS AFTER FABRICATION FOR EXTERIOR APPLICATIONS.
  2. REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**PIPE FLANGE SUPPORT**  
**DETAIL E**  
 NTS



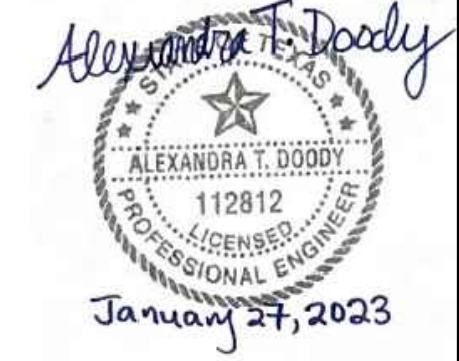
- NOTES**
1. HOT DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED OVER WATER, SST SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS SHALL BE TYPE 316 SST.
  2. ALL SHIELDS, BRACKETS, BOLTS, AND HARDWARE SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING, OR WHERE SUBMERGED OR LOCATED ON OR ABOVE HYDRAULIC STRUCTURE.
  3. REFER TO GENERAL NOTES ON SHEET G-4 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**PIPE BRACKET**  
**DETAIL F**  
 NTS



- NOTES**
1. HOT DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED OVER WATER, SST SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS SHALL BE TYPE 316 SST.
  2. ALL SHIELDS, BRACKETS, BOLTS, AND HARDWARE SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING, OR WHERE SUBMERGED OR LOCATED ON OR ABOVE HYDRAULIC STRUCTURE.
  3. REFER TO GENERAL NOTES ON SHEET G-4 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**BEAM CLAMP**  
**DETAIL G**  
 NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY:	J. MAYER
DRAWN BY:	S. RAJI
SHEET CHK'D BY:	A. DOODY
CROSS CHK'D BY:	A. WOELKE
APPROVED BY:	A. DOODY
DATE:	JANUARY 2023

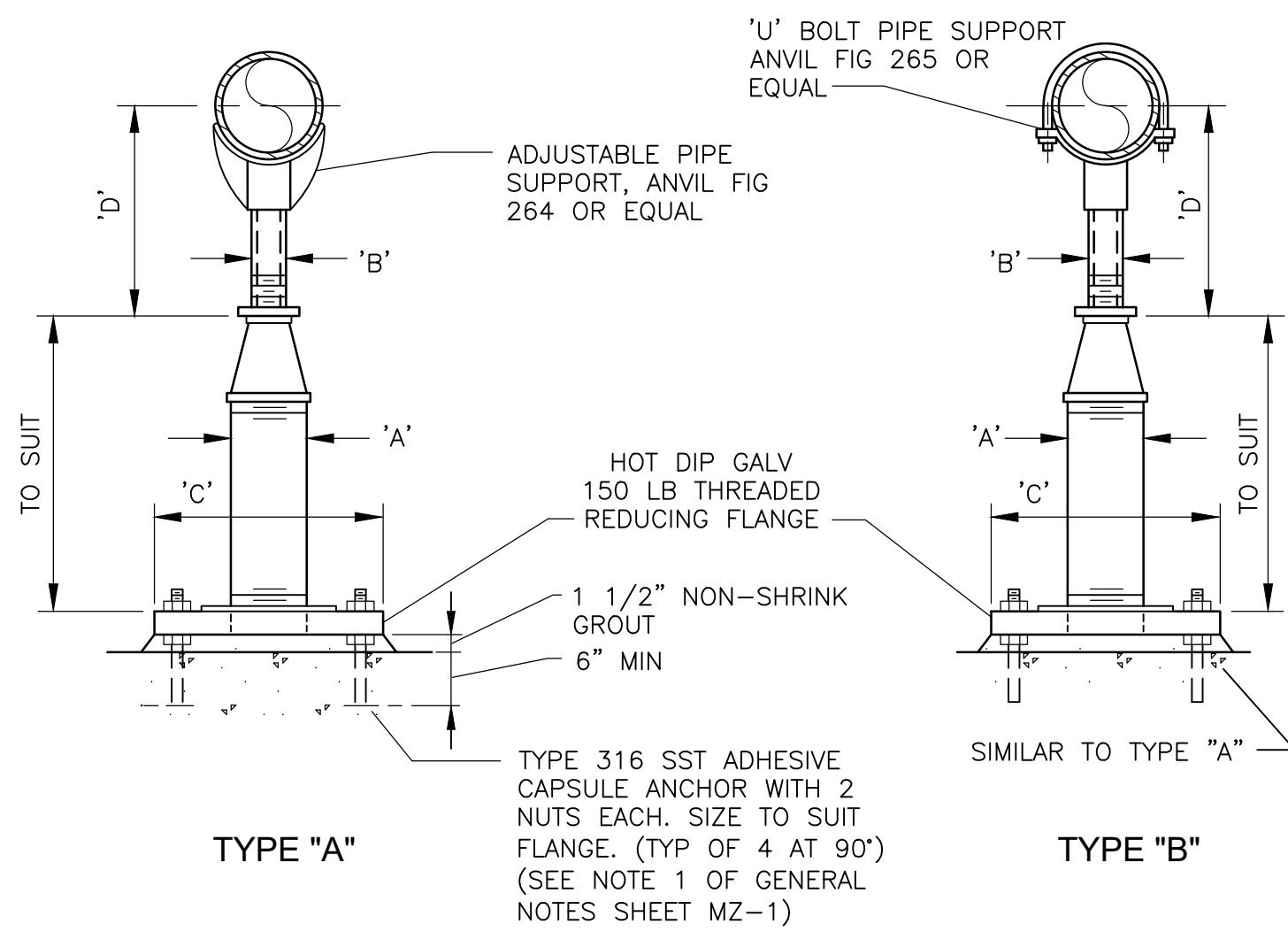


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

STANDARD MECHANICAL DETAILS II  
 MZ-2

PROJECT NO.	2048-264953
FILE NAME:	MZ-2-SG.DWG
SHEET NO.	MZ-2



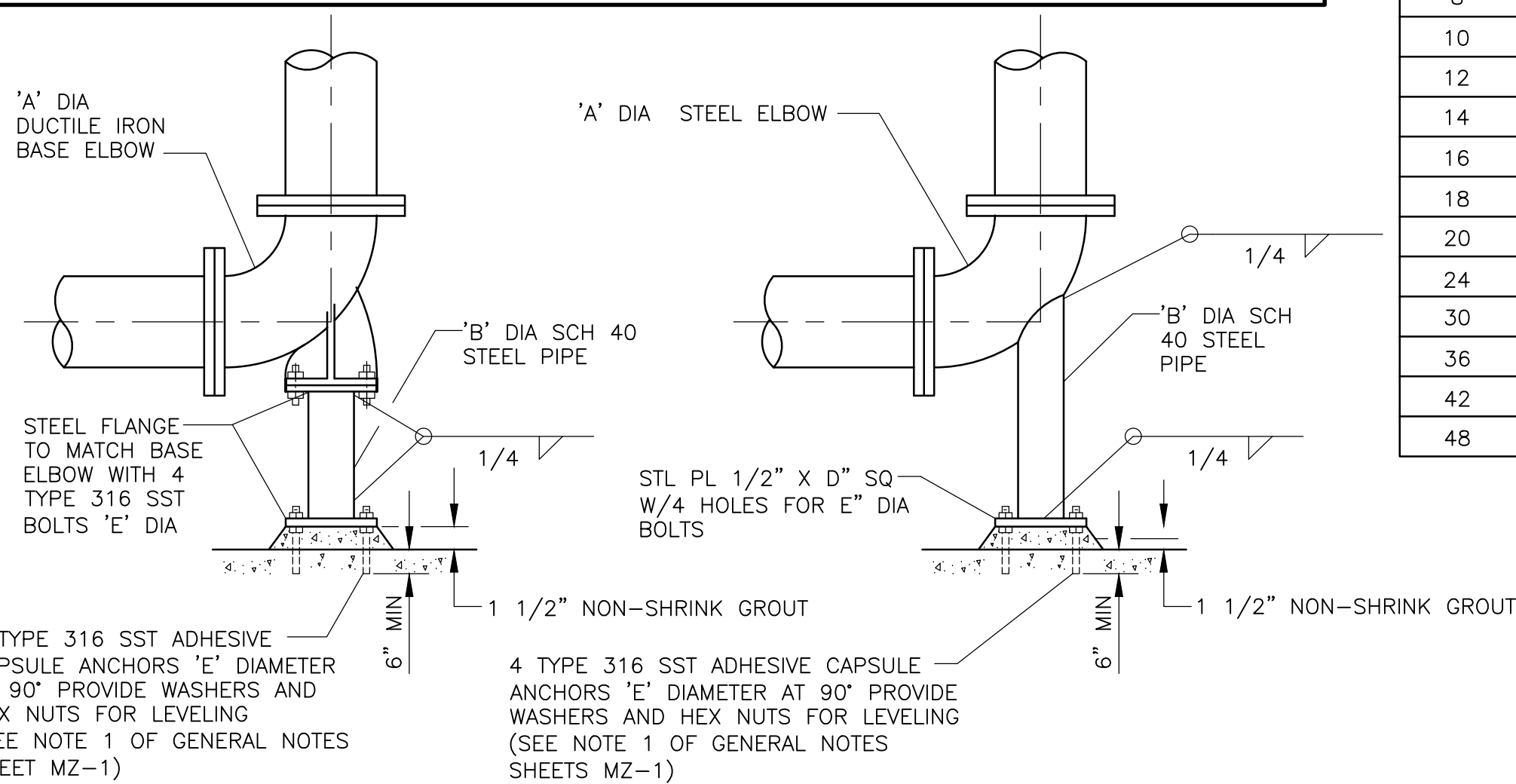


**NOTES:**

1. UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES, A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER.
2. PROVIDE FIELD PAINTING IN ACCORDANCE WITH 09902 FOR INTERIOR APPLICATIONS AND HOT DIP GALV ALL MATERIALS AFTER FABRICATION FOR EXTERIOR APPLICATIONS.
3. PROVIDE CONCRETE BASE BENEATH PIPE SUPPORT WHERE SHOWN IN DRAWINGS. CONCRETE BASE SUPPORT SHALL BE DIMENSION 'C' PLUS 4" SQ
4. REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

ADJUSTABLE PIPE SUPPORT APPROX. DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D MIN	D MAX
2 1/2	2 1/2	1 1/2	9	8	11 1/2
3	2 1/2	1 1/2	9	8 1/4	11 3/4
3 1/2	2 1/2	1 1/2	9	8 1/2	12
4	3	2 1/2	9	10 1/4	14
6	3	2 1/2	9	11 5/8	15 1/4
8	3	2 1/2	9	13 5/8	16 1/2
10	3	2 1/2	9	14 5/8	18 1/4
12	3	2 1/2	9	15 5/8	19 3/4
14	4	3	11	18 7/8	20 3/4
16	4	3	11	19 7/8	22 1/4
18	6	3 1/2	13 1/2	21 1/4	24
20	6	3 1/2	13 1/2	23 1/4	25 1/2
24	6	4	13 1/2	26 1/2	28 1/4
30	6	4	13 1/2	29 5/8	31 1/2
32	6	4	13 1/2	30 5/8	32 3/4
36	6	4	13 1/2	32 5/8	34 3/4

**ADJUSTABLE PIPE SUPPORT  
DETAIL A**  
NTS



4 TYPE 316 SST ADHESIVE CAPSULE ANCHORS 'E' DIAMETER AT 90° PROVIDE WASHERS AND HEX NUTS FOR LEVELING (SEE NOTE 1 OF GENERAL NOTES SHEET MZ-1)

4 TYPE 316 SST ADHESIVE CAPSULE ANCHORS 'E' DIAMETER AT 90° PROVIDE WASHERS AND HEX NUTS FOR LEVELING (SEE NOTE 1 OF GENERAL NOTES SHEETS MZ-1)

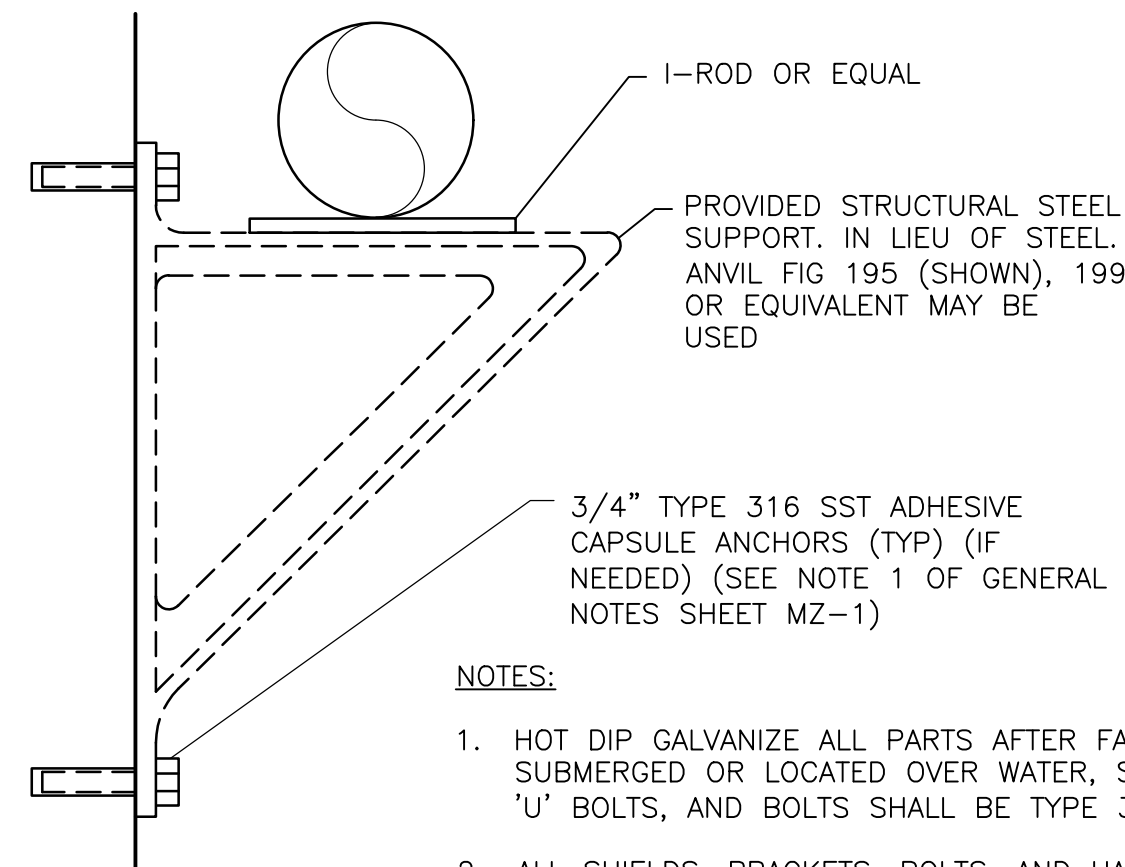
**NOTES:**

1. PROVIDE FIELD PAINTING IN ACCORDANCE WITH 09902.
2. REFER TO GENERAL NOTES ON SHEET MZ-1 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**PIPE ELBOW SUPPORT  
DETAIL D**  
NTS

ELBOW 'A' DIA	DIMENSIONS IN INCHES			
	'B' DIA	'C' THICK	'D' SQ	'E' DIA
4	2	3/8	6	5/8
6	2 1/2	3/8	7	5/8
8	4	1/2	9	5/8
10	4	1/2	9	5/8
12	6	1/2	11	3/4
14	6	1/2	11	3/4
16	6	1/2	11	3/4
18	8	1/2	13 1/2	3/4
20	8	1/2	13 1/2	3/4
24	8	1/2	13 1/2	3/4
30	10	3/4	16	7/8
36	12	3/4	19	7/8
42	16	3/4	23 1/2	1
48	18	3/4	25	1 1/8

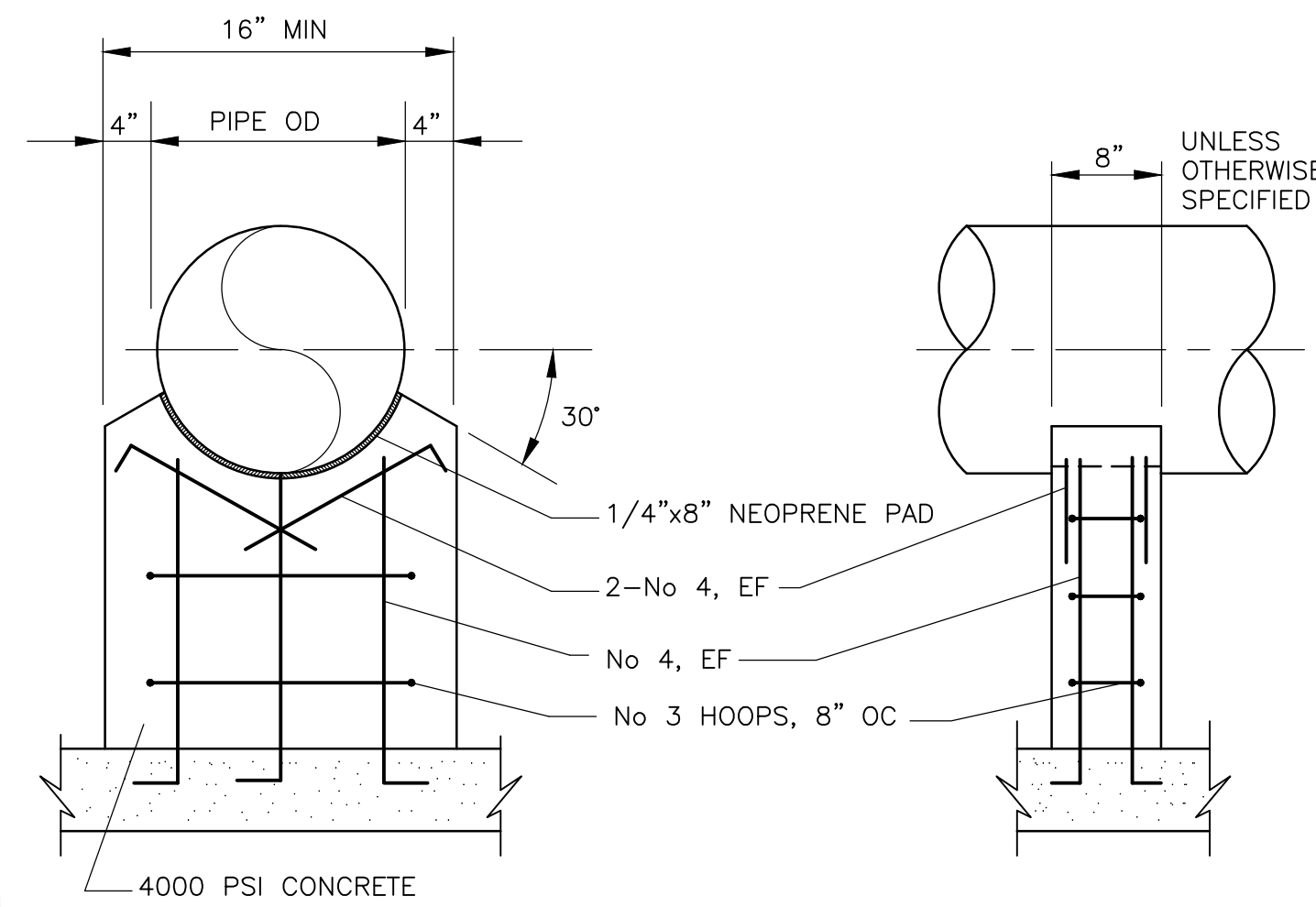
**STEEL ELBOW**



**NOTES:**

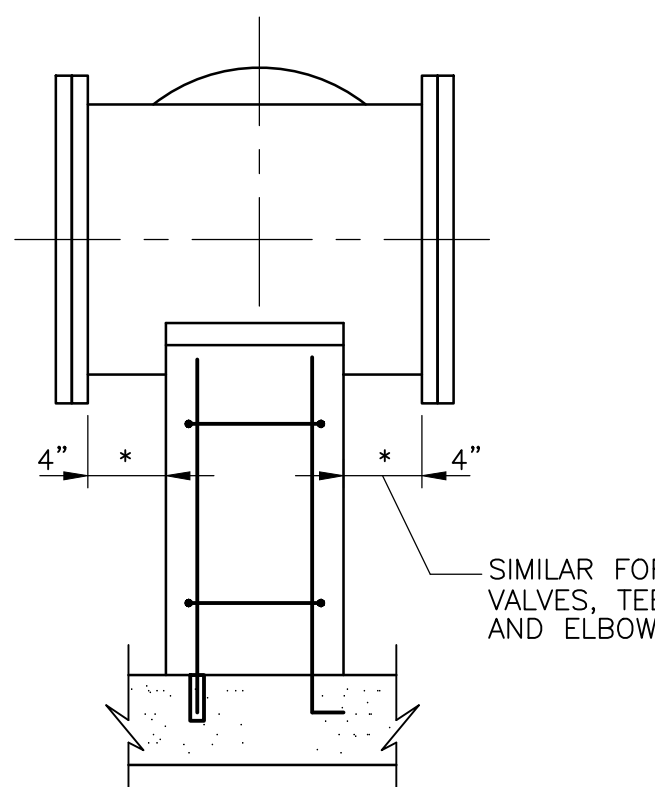
1. HOT DIP GALVANIZE ALL PARTS AFTER FABRICATION. WHERE SUBMERGED OR LOCATED OVER WATER, SST SHIELDS, BRACKETS, 'U' BOLTS, AND BOLTS SHALL BE TYPE 316 SST.
2. ALL SHIELDS, BRACKETS, BOLTS, AND HARDWARE SHALL BE TYPE 316 SST WHEN USED FOR SUPPORT OF SST PIPING, OR WHERE SUBMERGED OR LOCATED ON OR ABOVE HYDRAULIC STRUCTURE.
3. REFER TO GENERAL NOTES ON SHEET G-4 AND SECTION 400507 FOR SPECIAL PIPE SUPPORT REQUIREMENTS.

**PIPE BRACKET  
DETAIL B**  
NTS

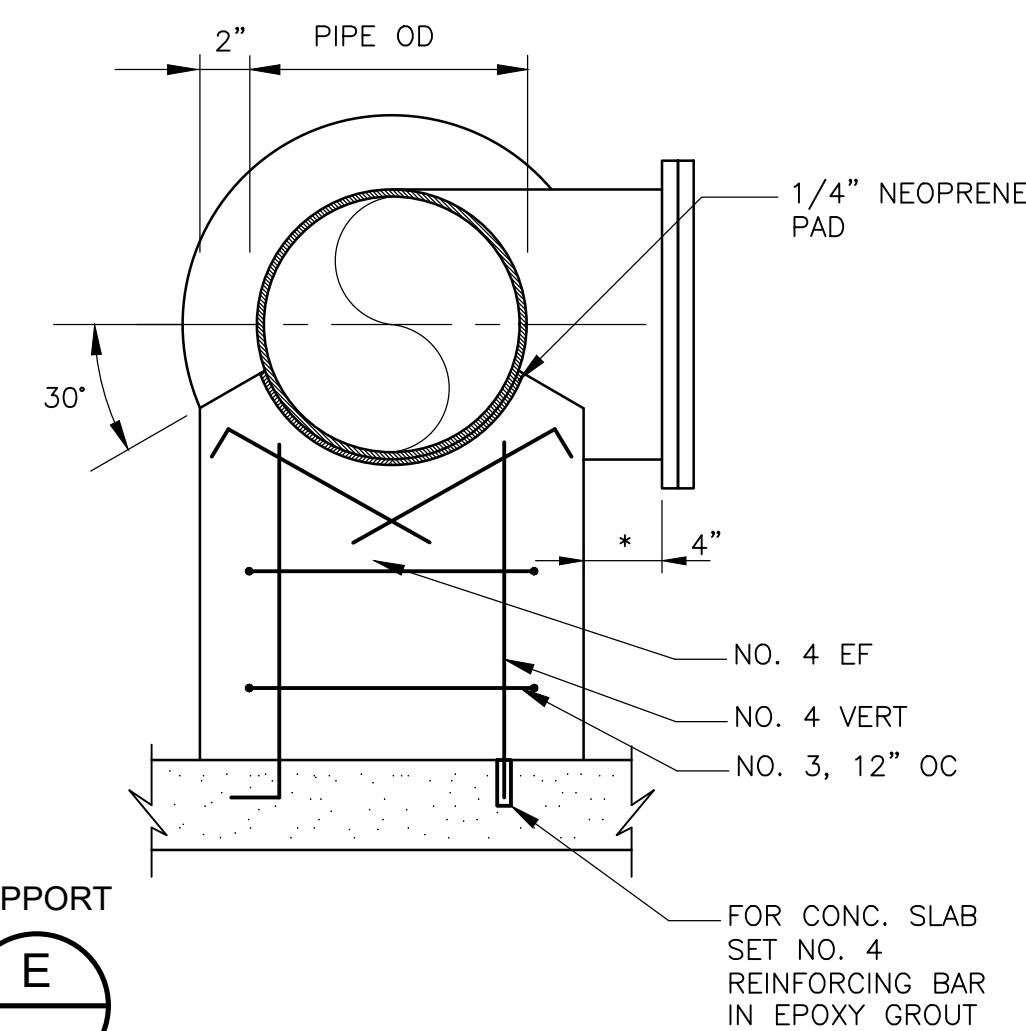


**CONCRETE PIPE SUPPORT  
DETAIL C**  
NTS

\* INCREASE 4" CLEARANCE AS REQUIRED IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION.

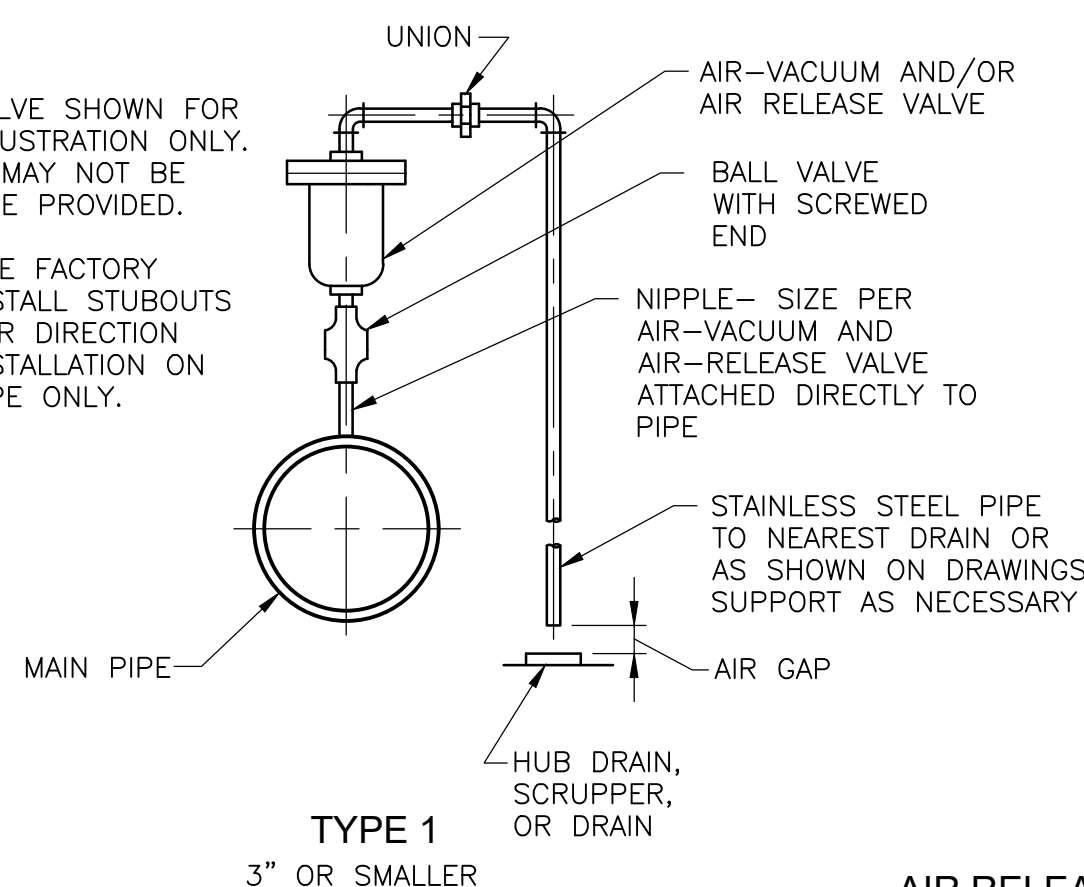


**CONCRETE FITTING SUPPORT  
DETAIL E**  
NTS



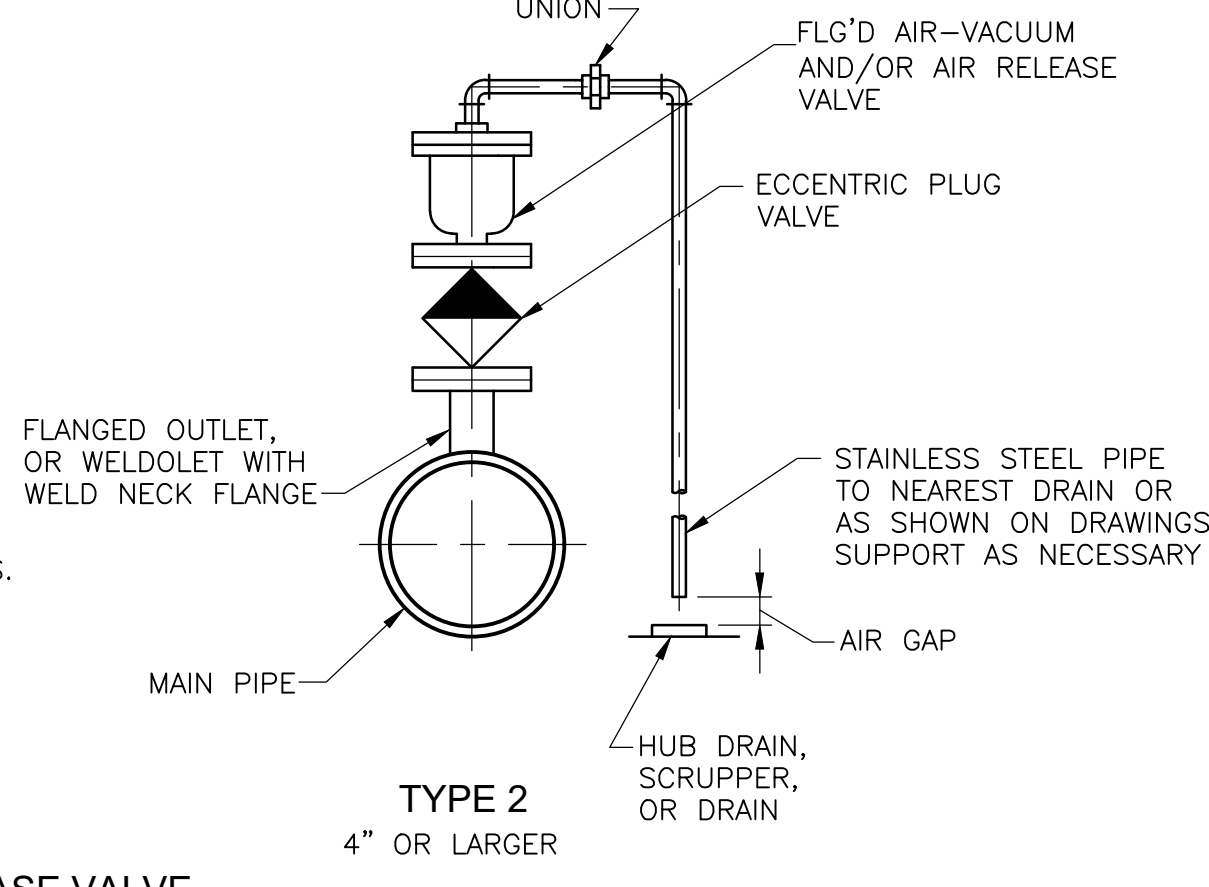
**NOTES:**

1. VALVE SHOWN FOR ILLUSTRATION ONLY. IT MAY NOT BE ONE PROVIDED.
2. USE FACTORY INSTALL STUBOUTS FOR DIRECTION INSTALLATION ON PIPE ONLY.

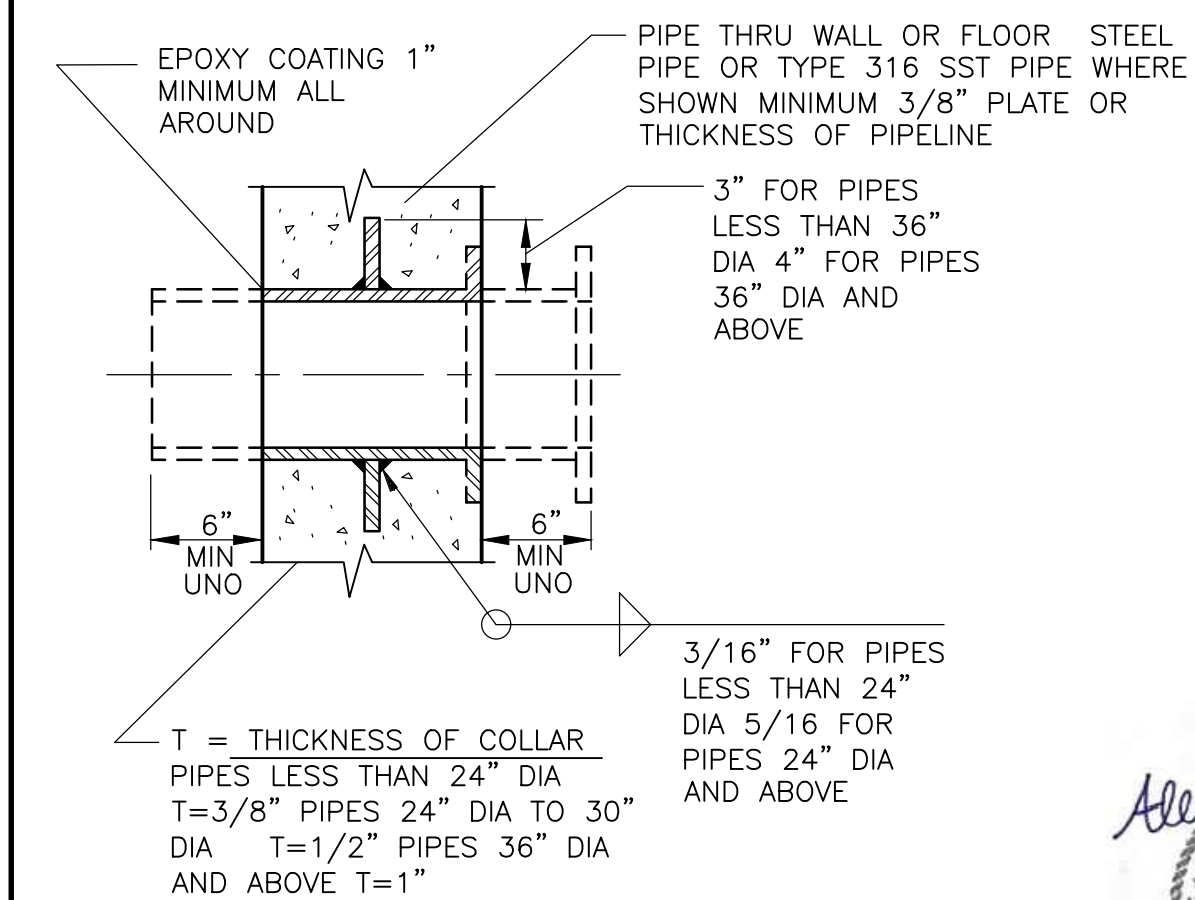


**TYPE 1  
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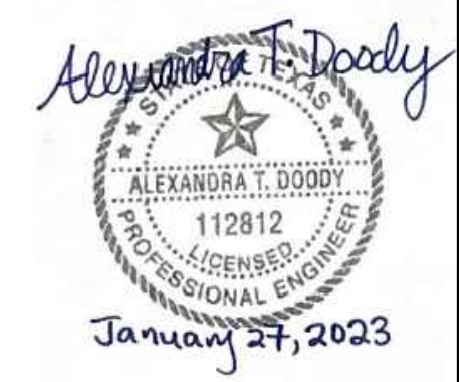
**AIR RELEASE VALVE  
DETAIL F**  
NTS



**TYPE 2  
4" OR LARGER**



**STEEL FLANGE x PLAIN END WALL PIPE  
DETAIL G**  
NTS



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A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

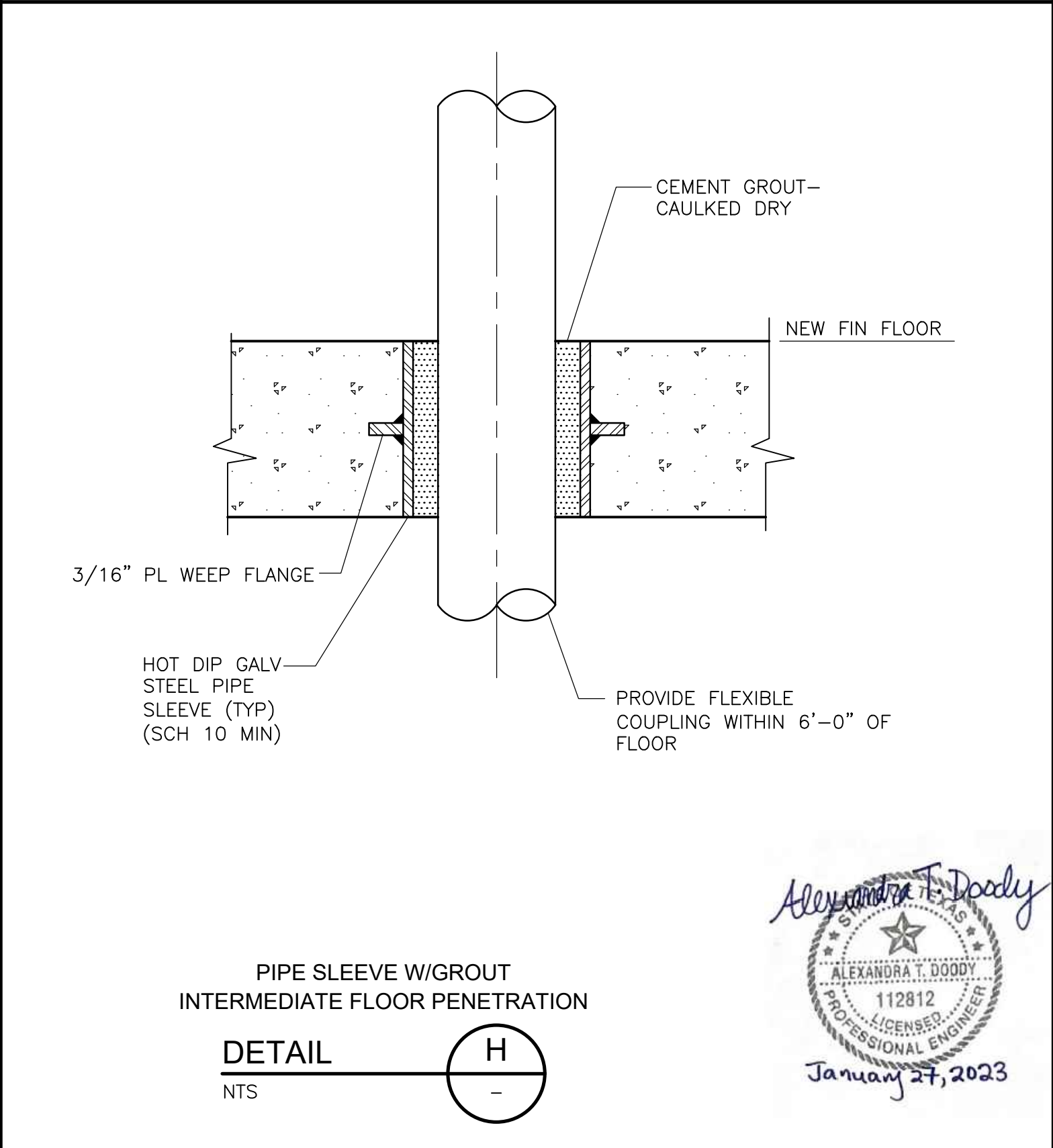
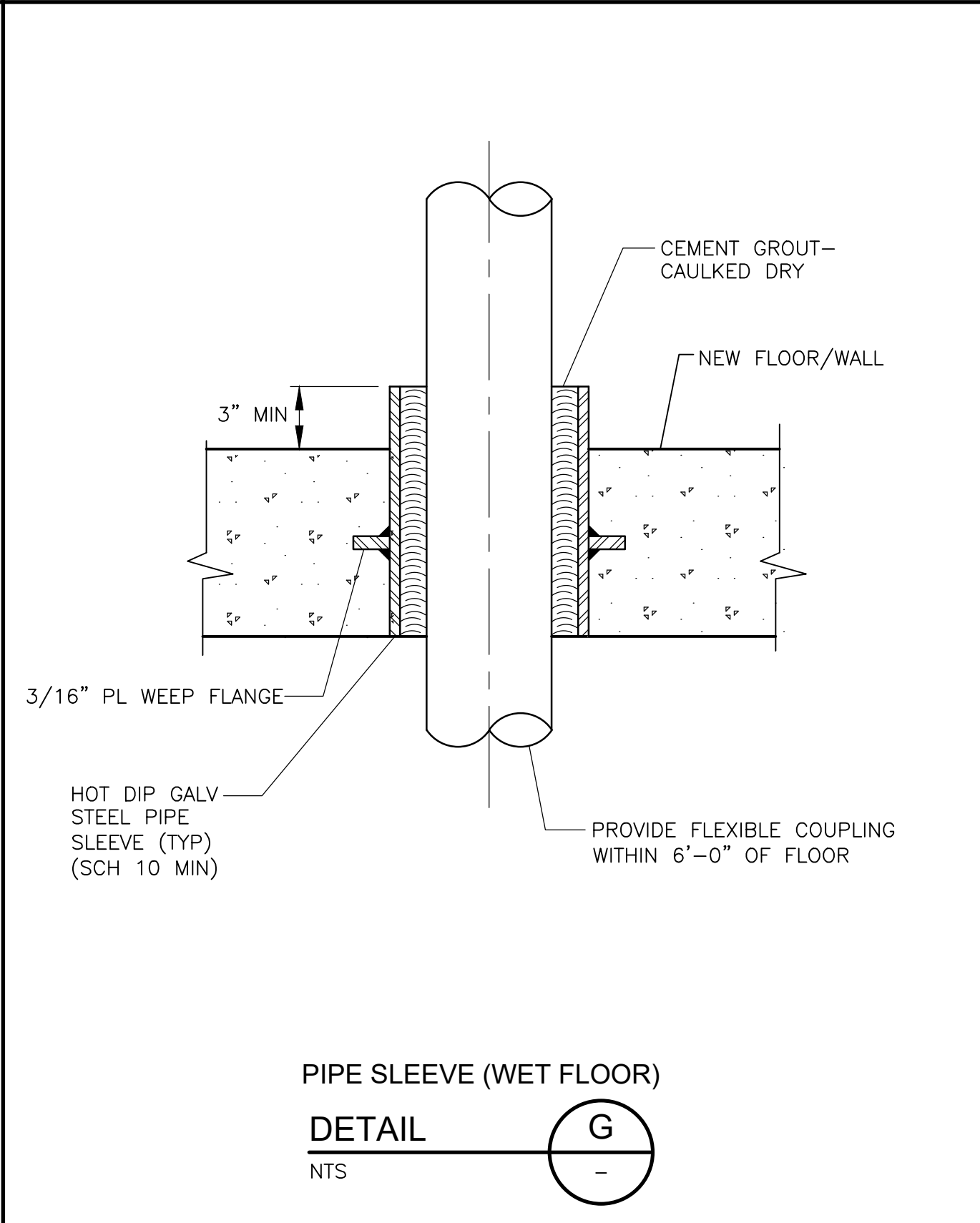
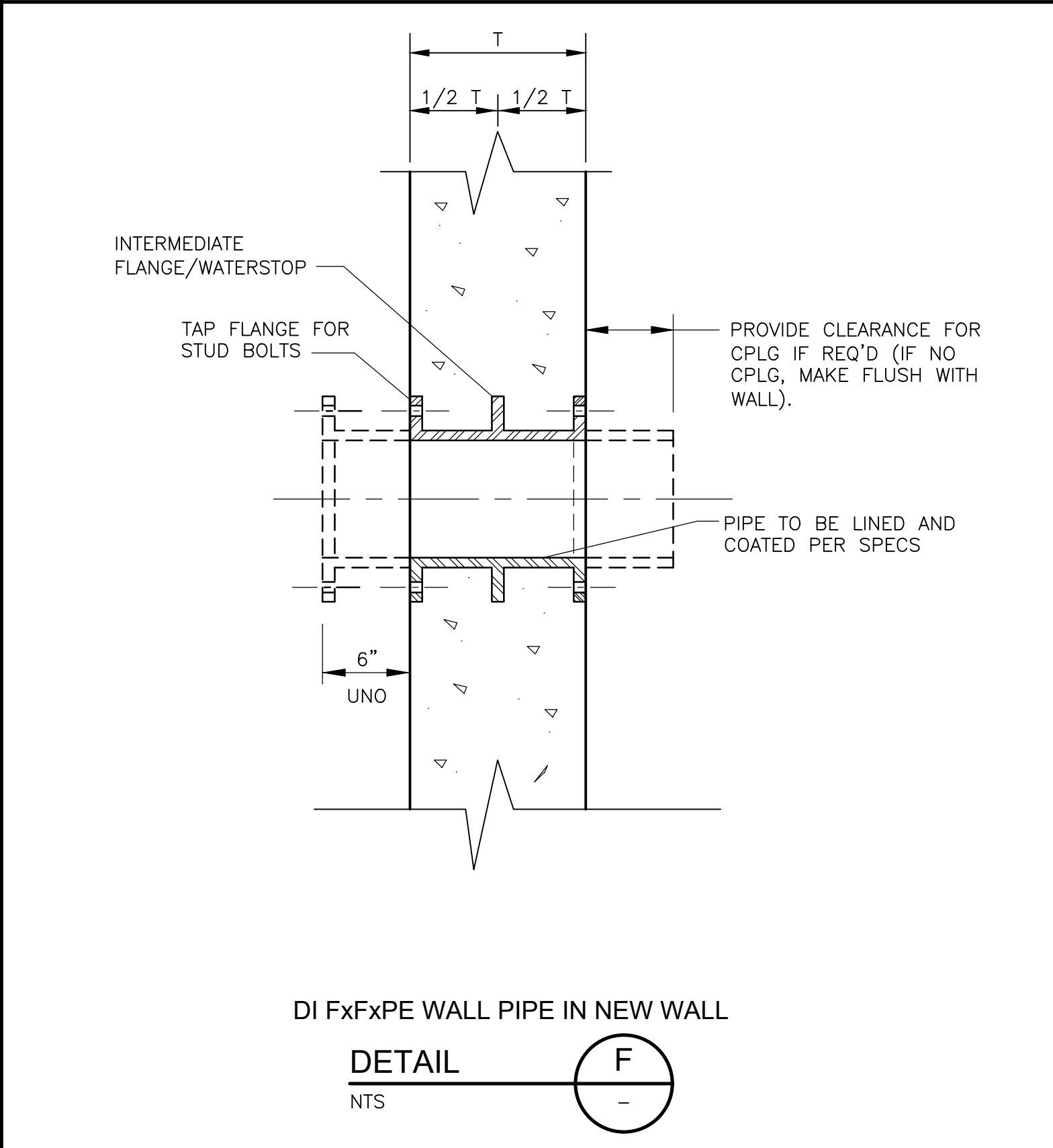
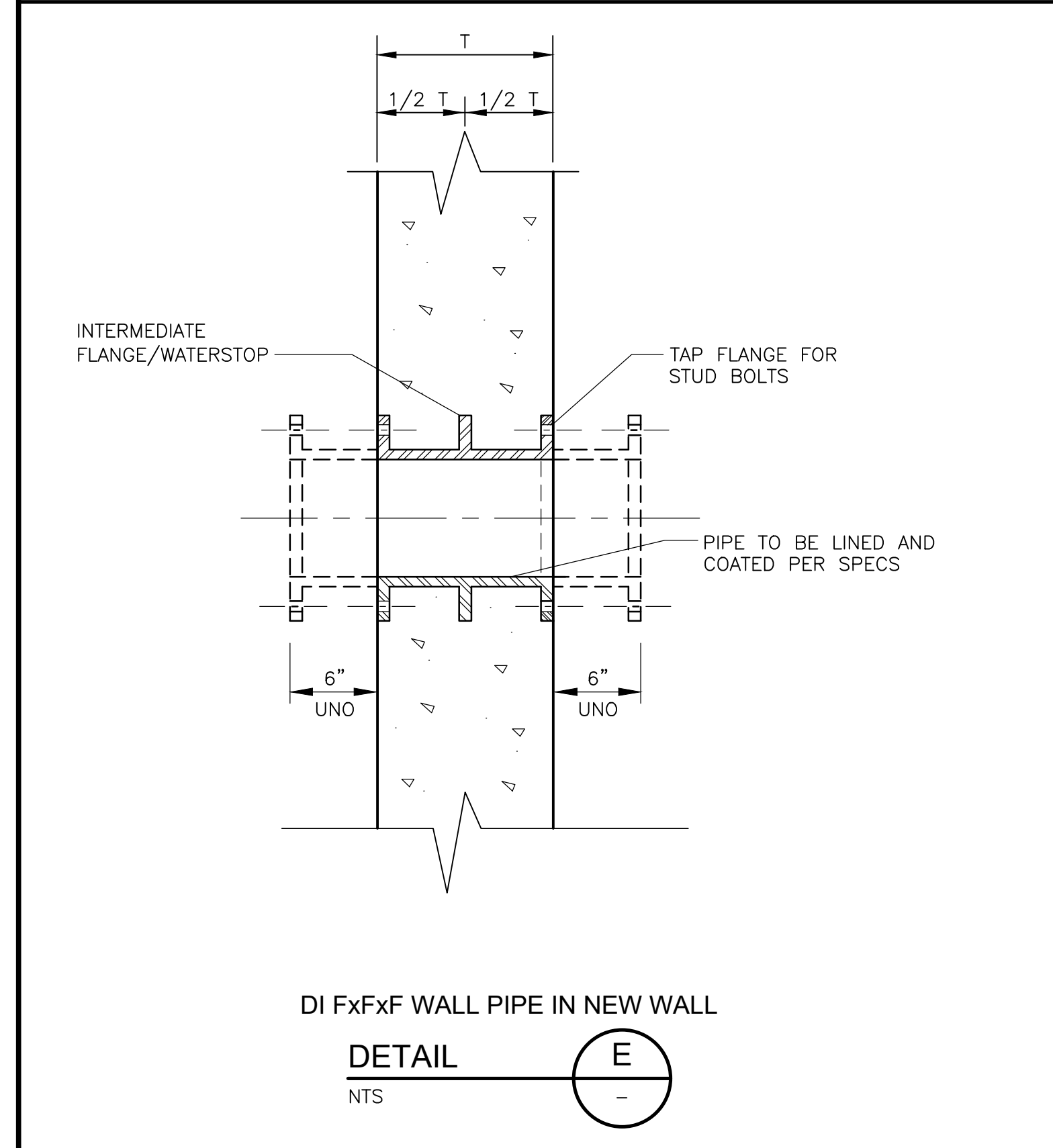
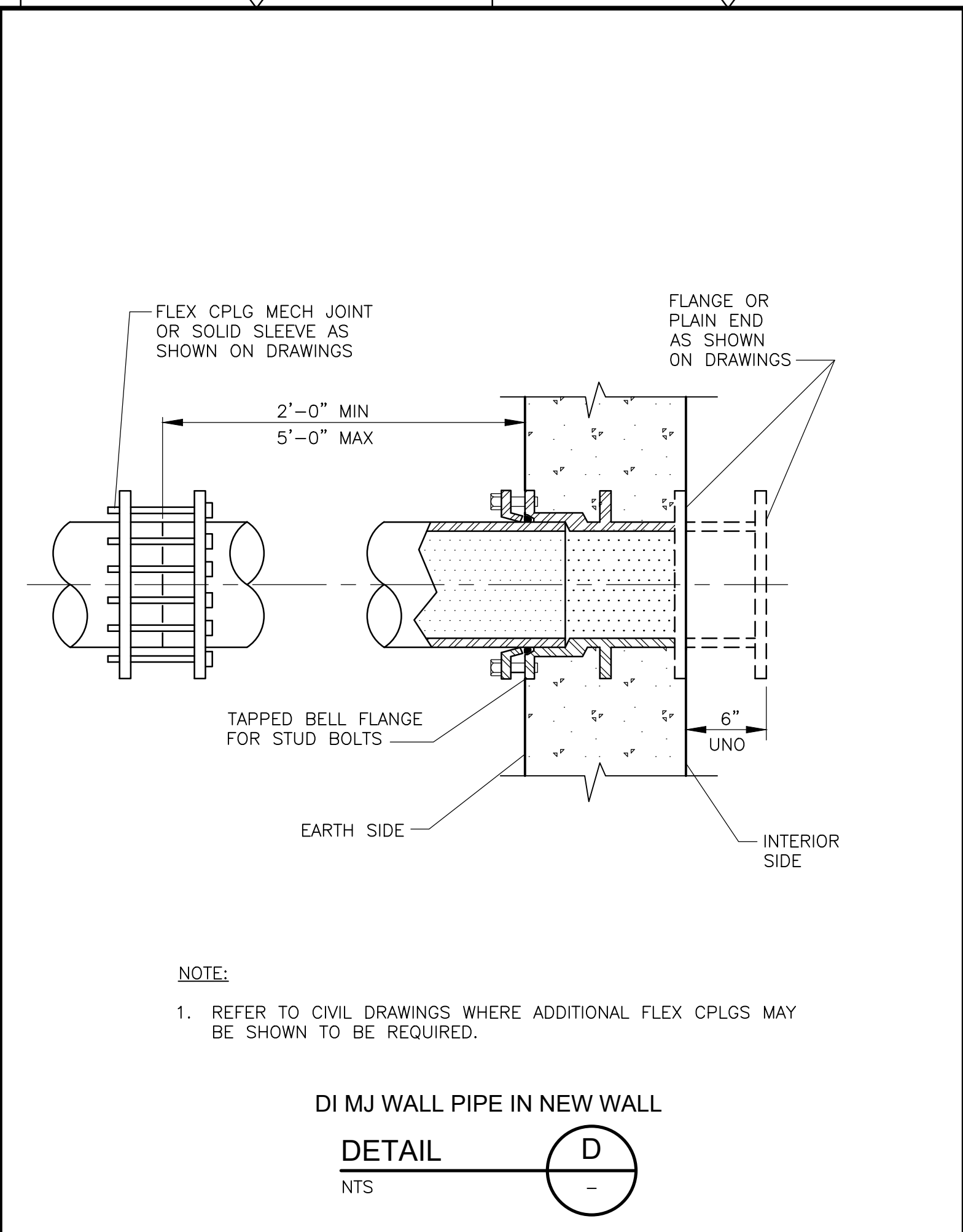
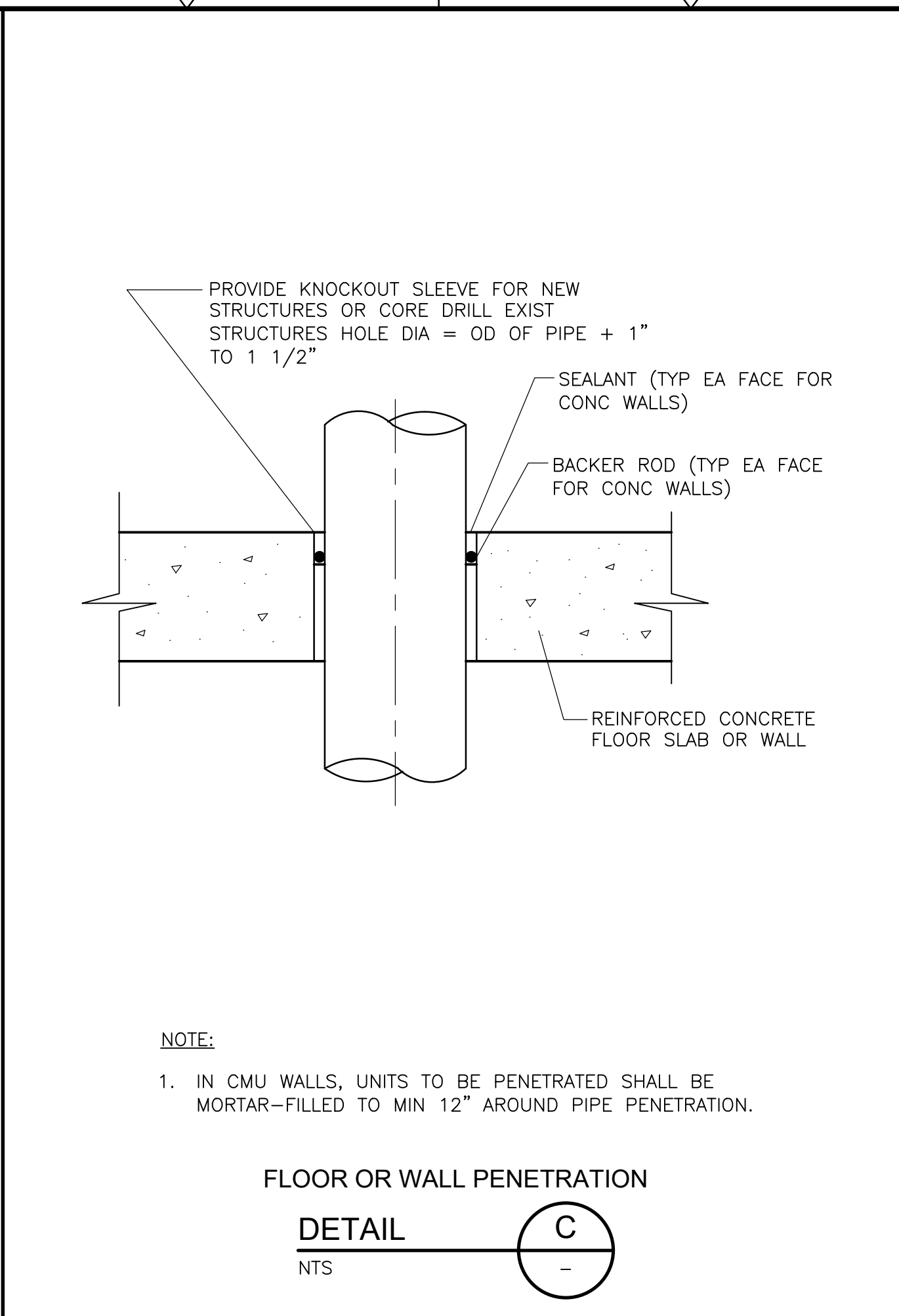
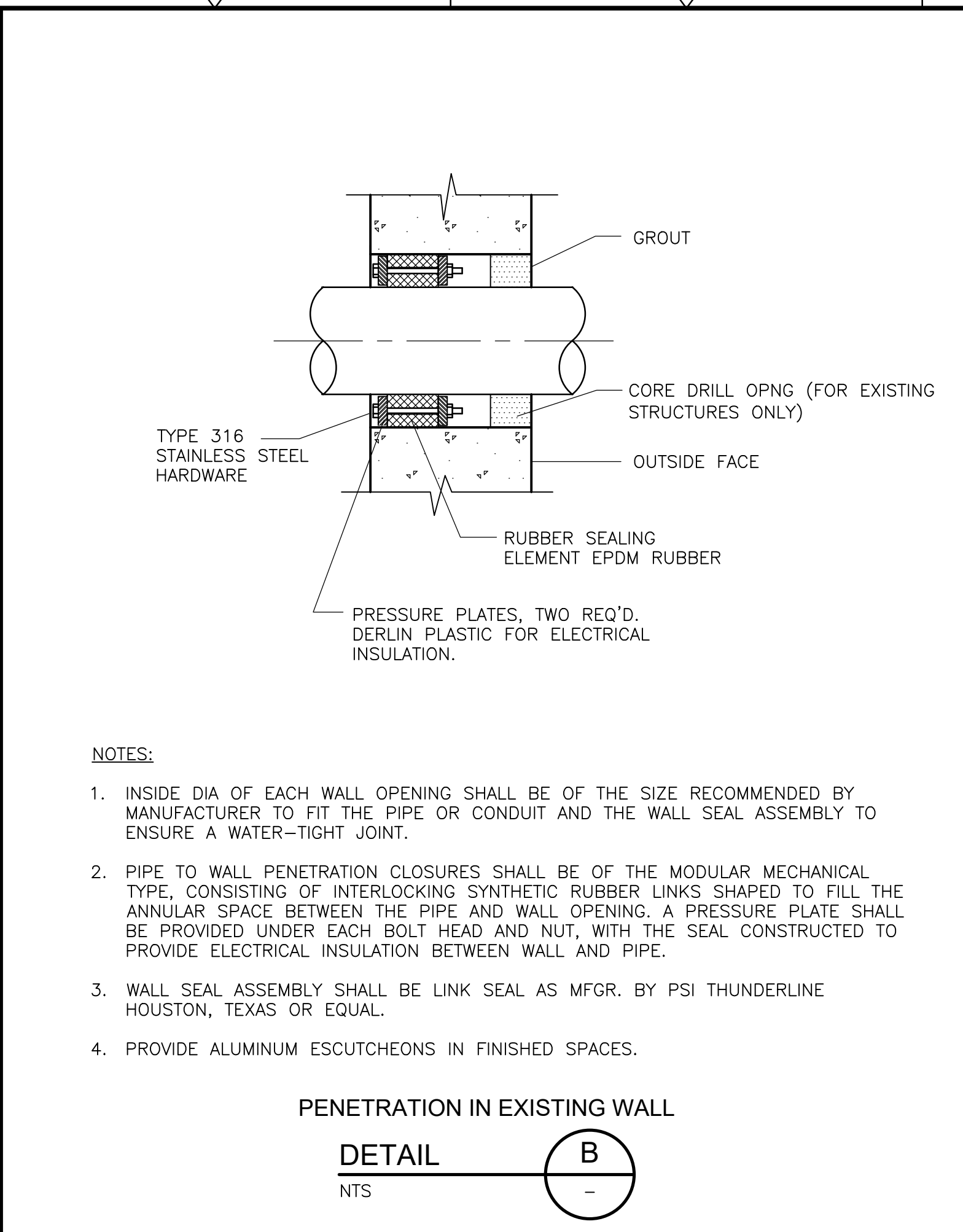
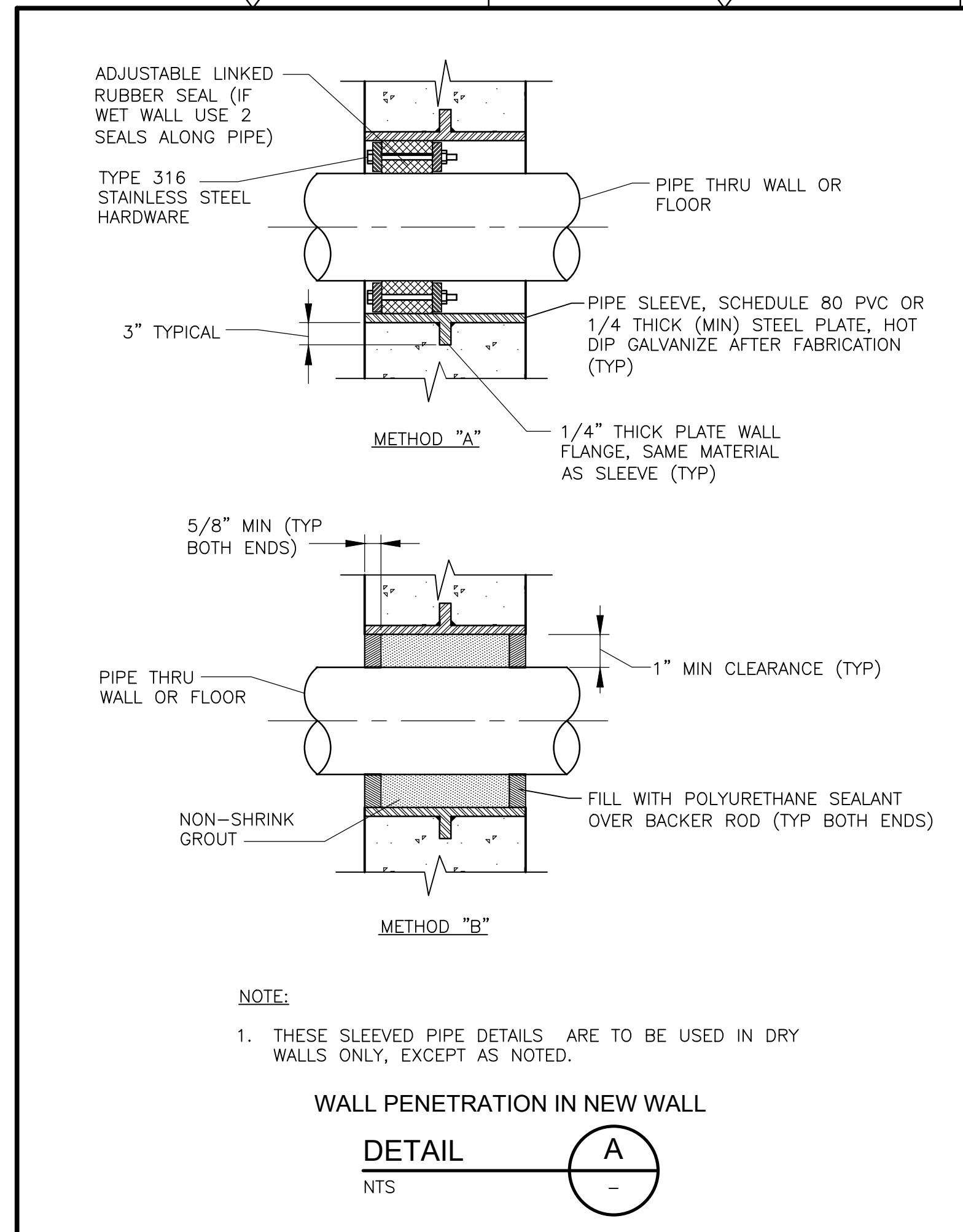
**CDM Smith**  
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 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**STANDARD MECHANICAL DETAILS III**

PROJECT NO.	2048-264953
FILE NAME:	MZ-3-SG.DWG
SHEET NO.	<b>MZ-3</b>

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

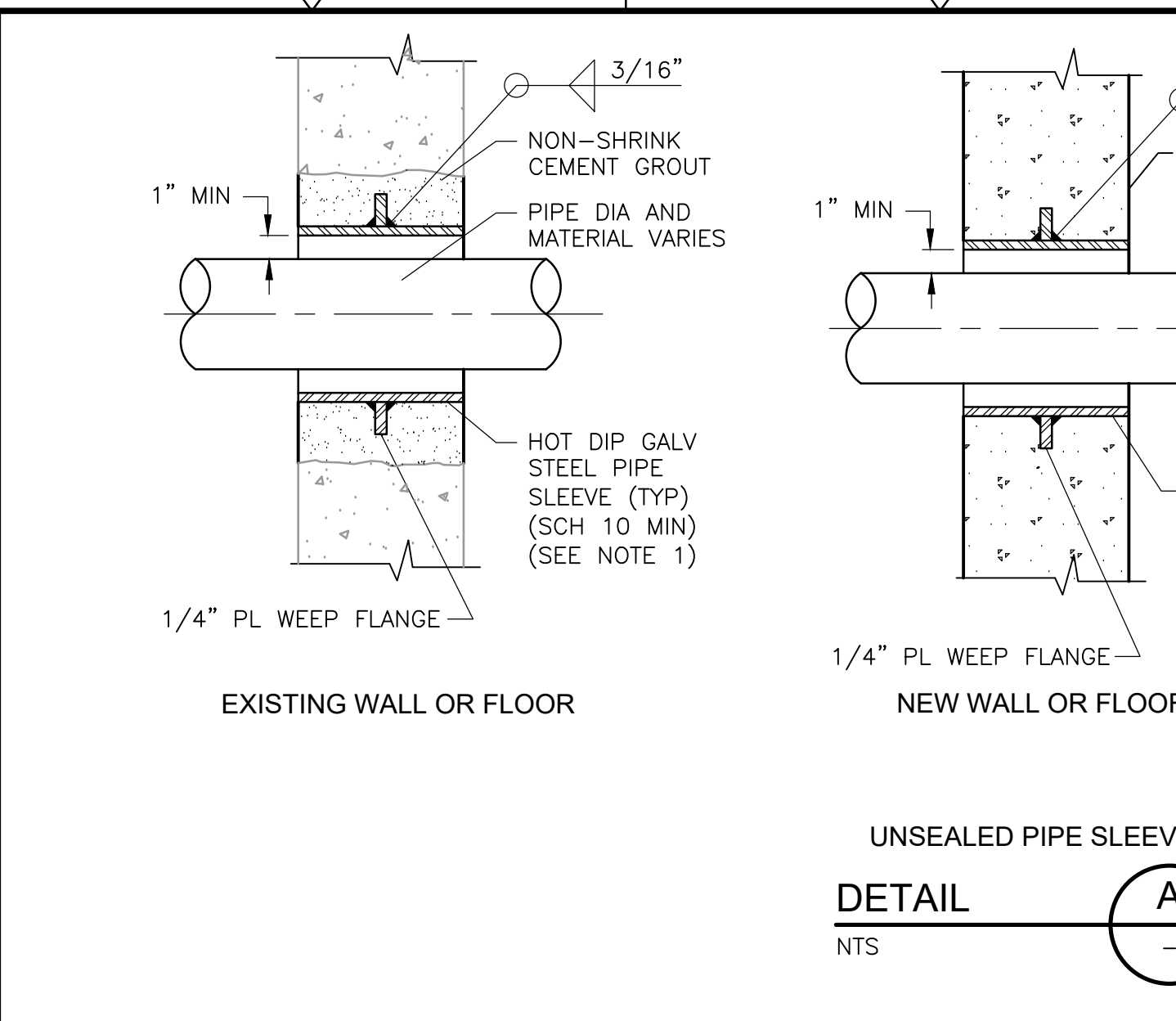


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**STANDARD MECHANICAL DETAILS IV**

PROJECT NO. 2048-264953
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SHEET NO. <b>MZ-4</b>

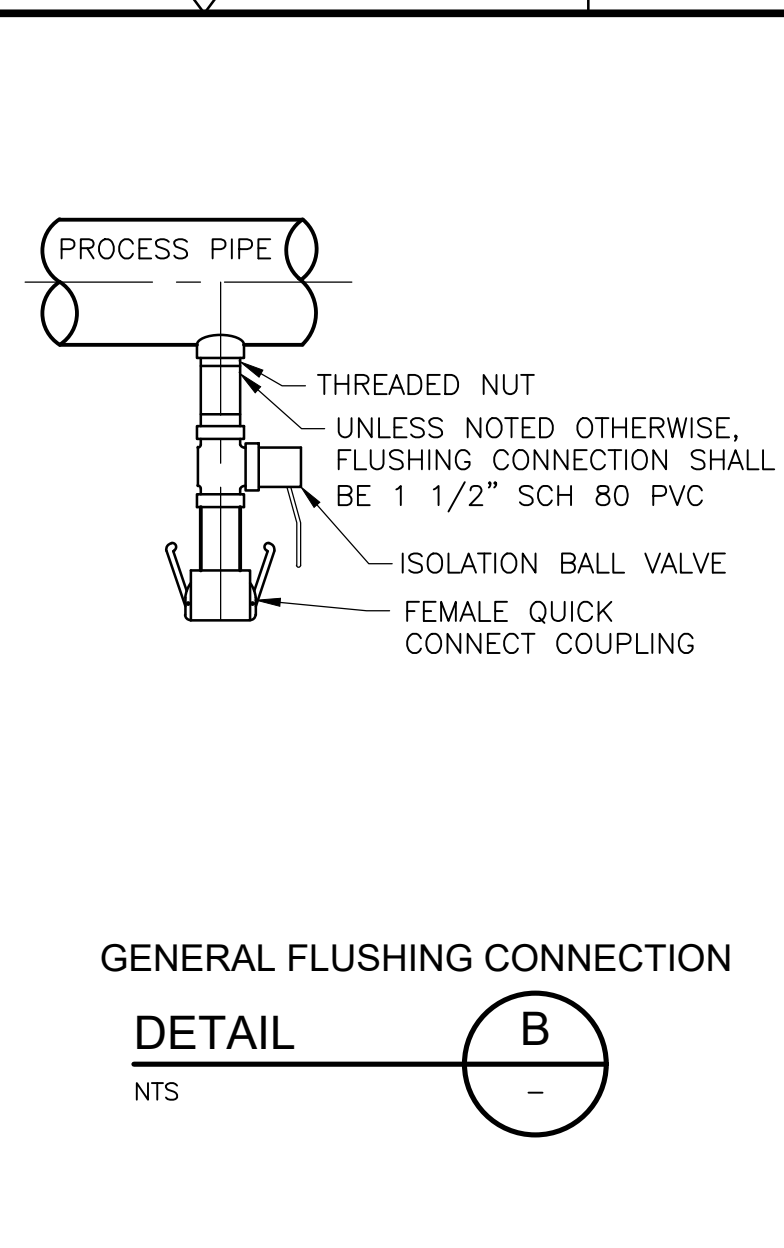
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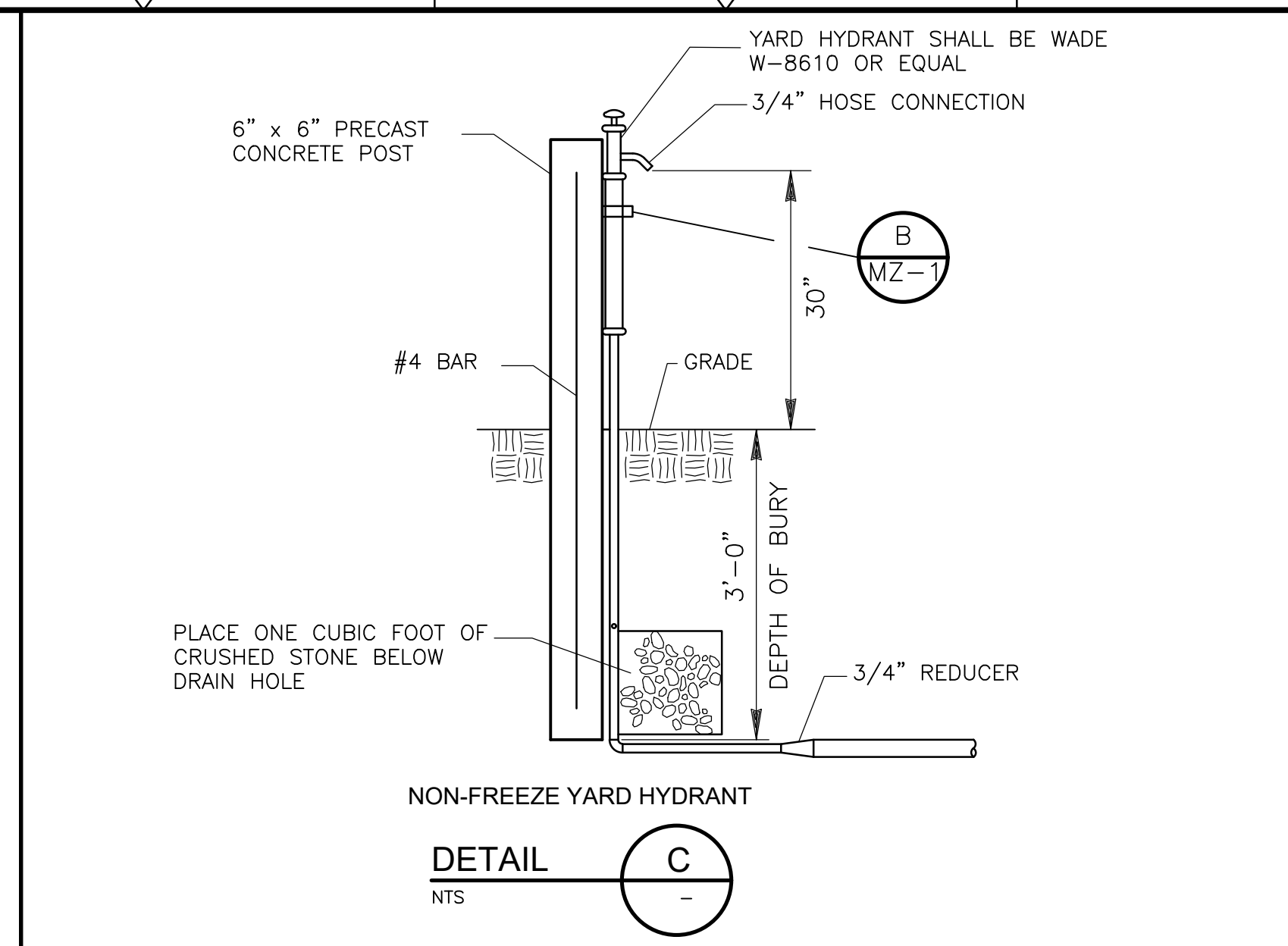
UNSEALED PIPE SLEEVE  
**DETAIL A**  
 NTS

**NOTES:**

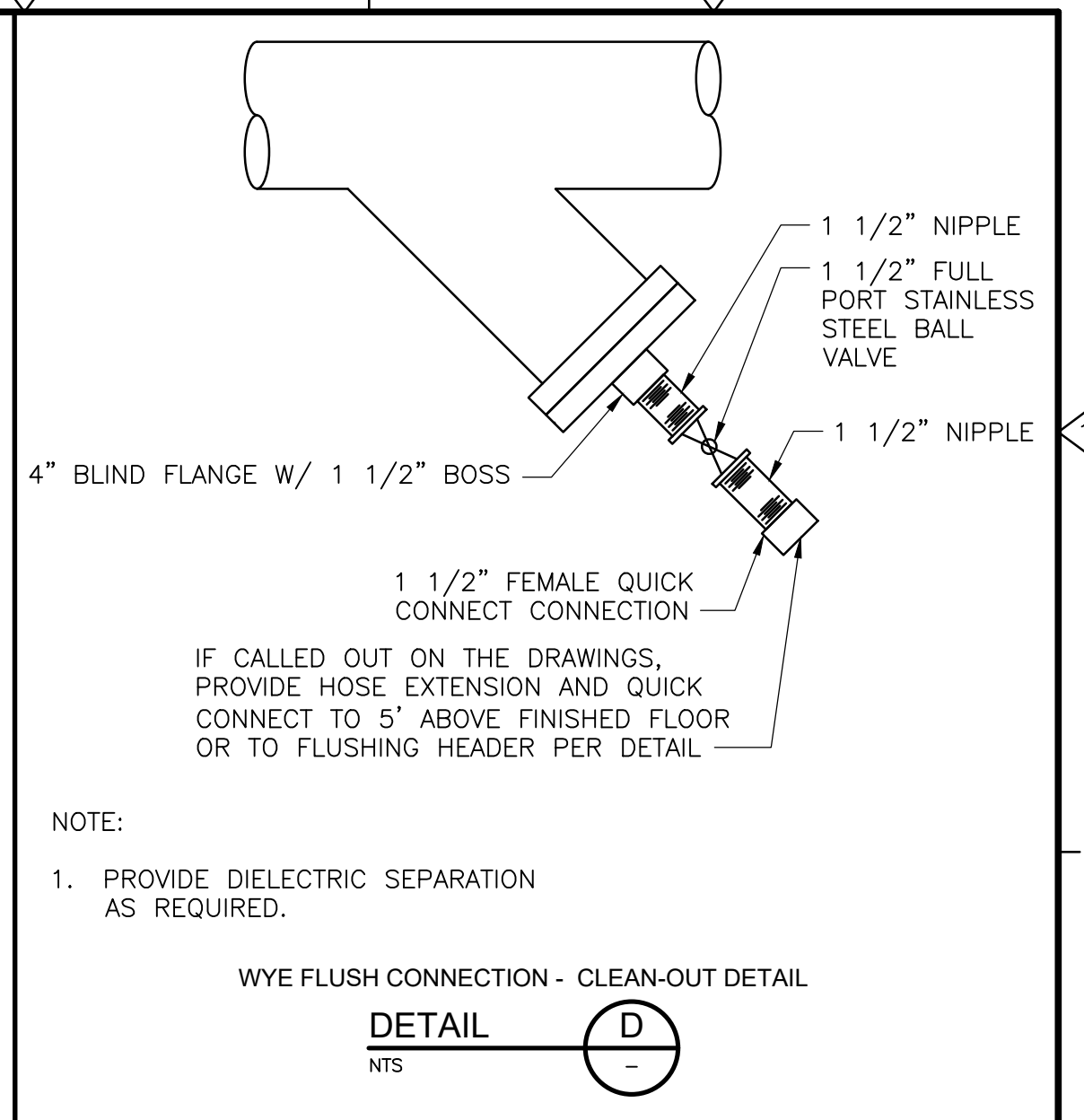
- CORE DRILL EXIST STRUCTURES AS FOR NEW PIPE.
- IN CMU WALLS, PIPE SLEEVES SHALL BE MORTAR FILLED TO MIN 12" AROUND PENETRATION.



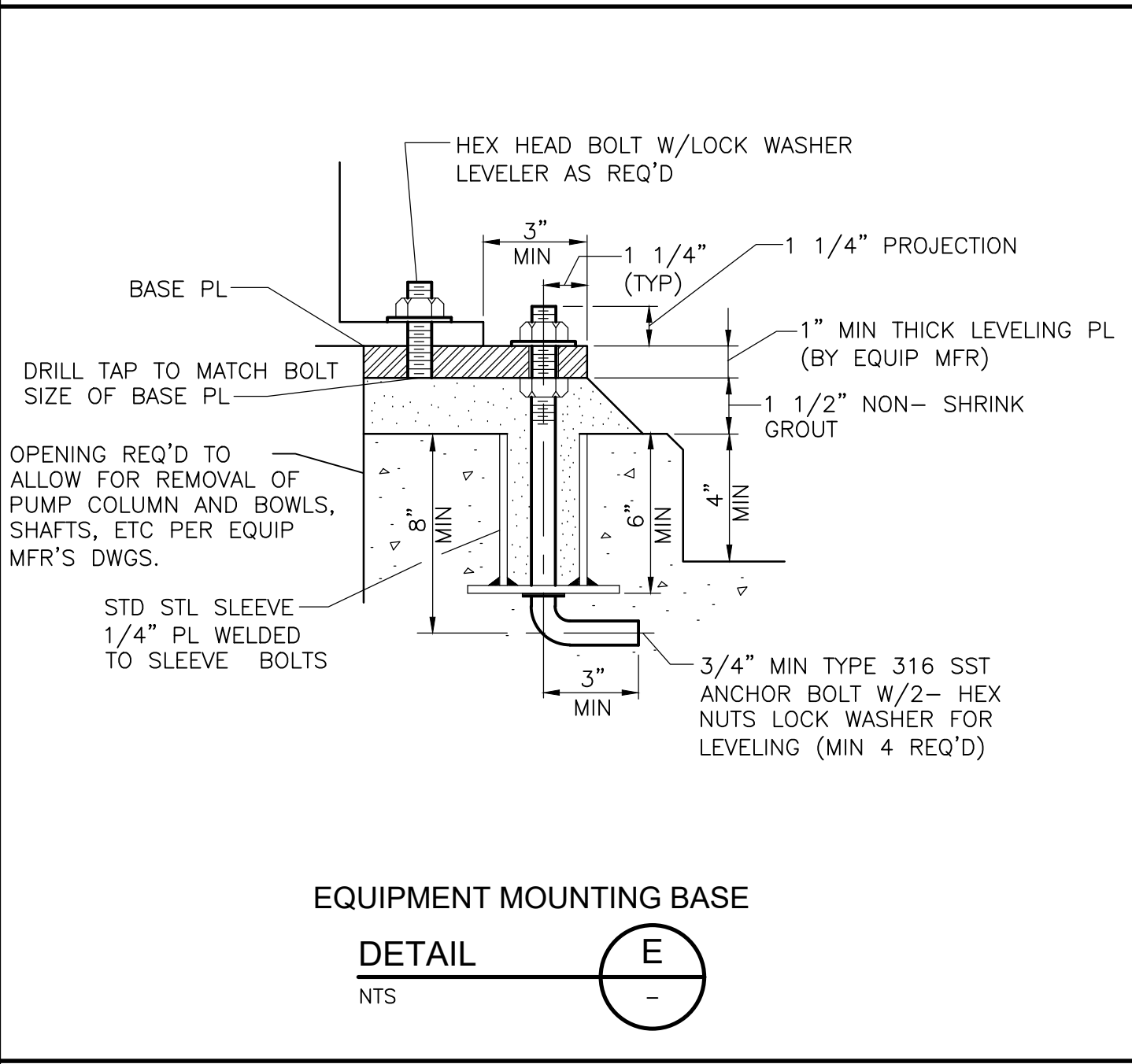
GENERAL FLUSHING CONNECTION  
**DETAIL B**  
 NTS



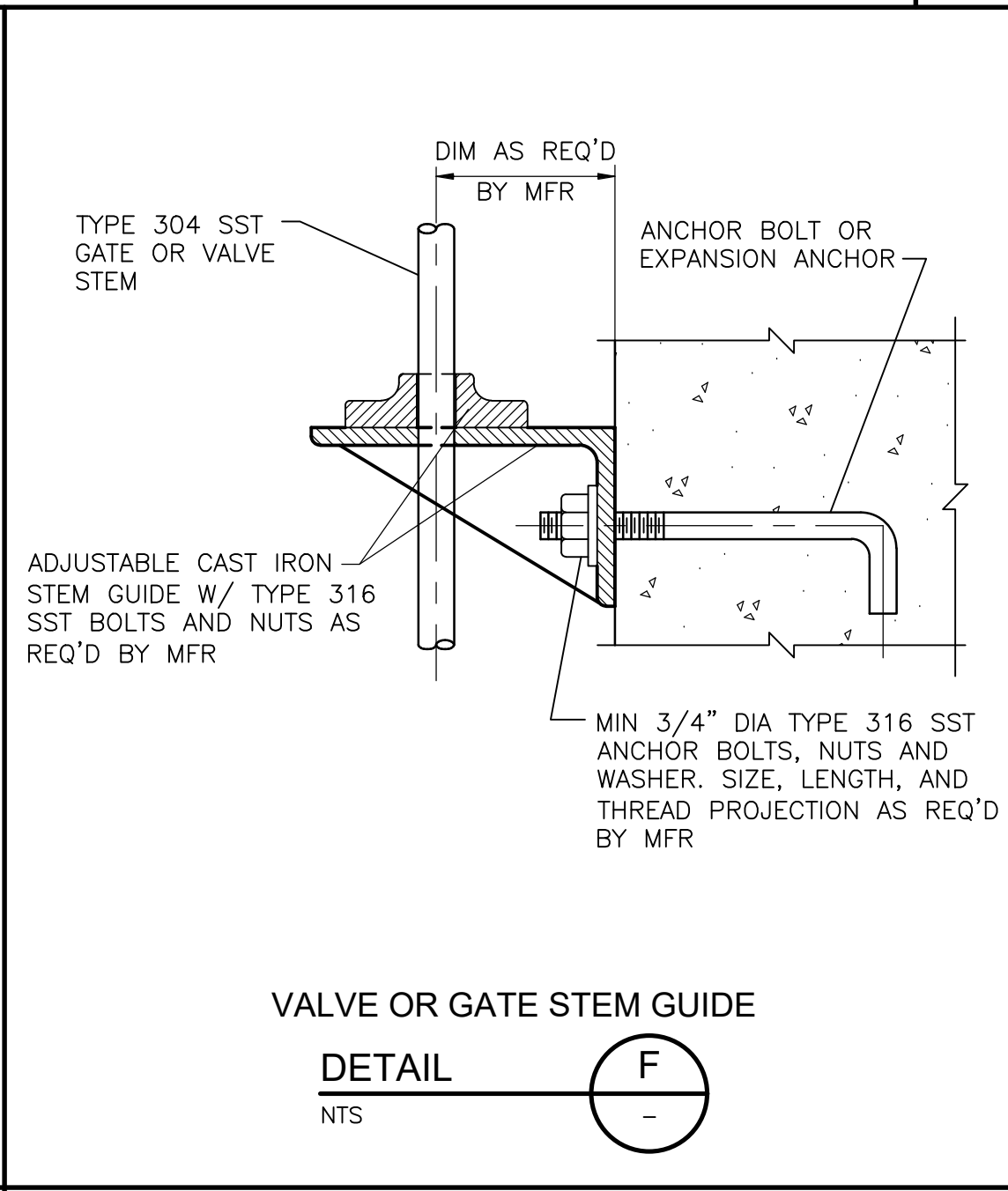
NON-FREEZE YARD HYDRANT  
**DETAIL C**  
 NTS



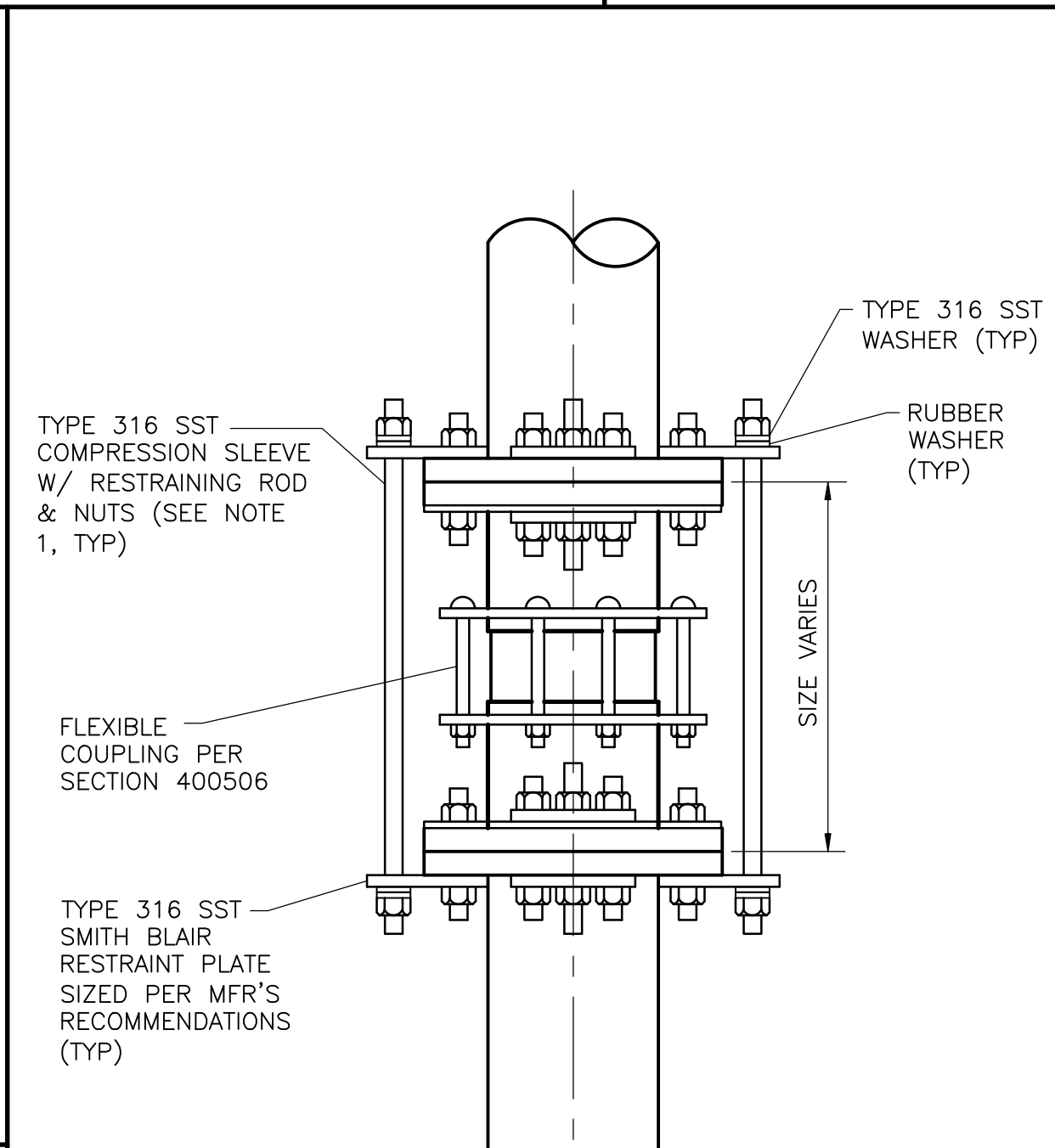
WYE FLUSH CONNECTION - CLEAN-OUT DETAIL  
**DETAIL D**  
 NTS



EQUIPMENT MOUNTING BASE  
**DETAIL E**  
 NTS



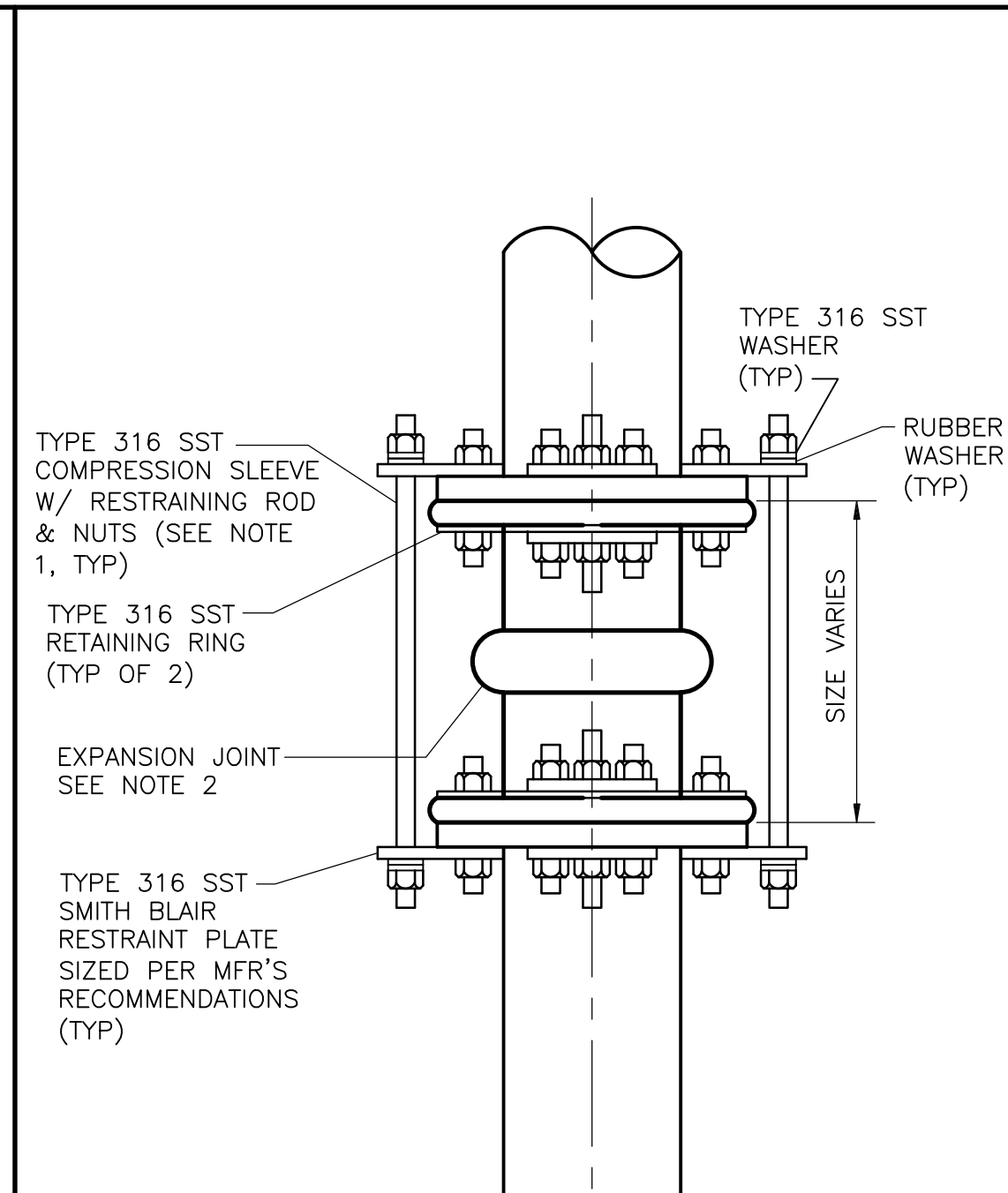
VALVE OR GATE STEM GUIDE  
**DETAIL F**  
 NTS



SEE MECHANICAL SHEETS FOR PIPE SIZE, LOCATION, & CONTINUATION (TYP)

- NOTES:**
- SIZE AND NUMBER OF RESTRAINING RODS SHALL BE DETERMINED BASED ON AWWA MANUAL M-11.
  - PROVIDE THRUST HARNESS FOR ALL FLEXIBLE SLEEVES/COUPPLINGS, FLANGE COUPLING ADAPTORS, ETC, EXCEPT AS NOTED IN NOTE 3 BELOW.
  - FLEXIBLE SLEEVES/COUPPLINGS SHOWN TO BE INSTALLED ON YARD PIPING AT 4"± FROM STRUCTURES TO ACCOMMODATE DIFFERENTIAL SETTLING DO REQUIRE HARNESSES.
  - BOLTS SHALL BE IN CONFORMANCE WITH THE CONDITION OF INSTALLATION PER THE SPECIFICATIONS.

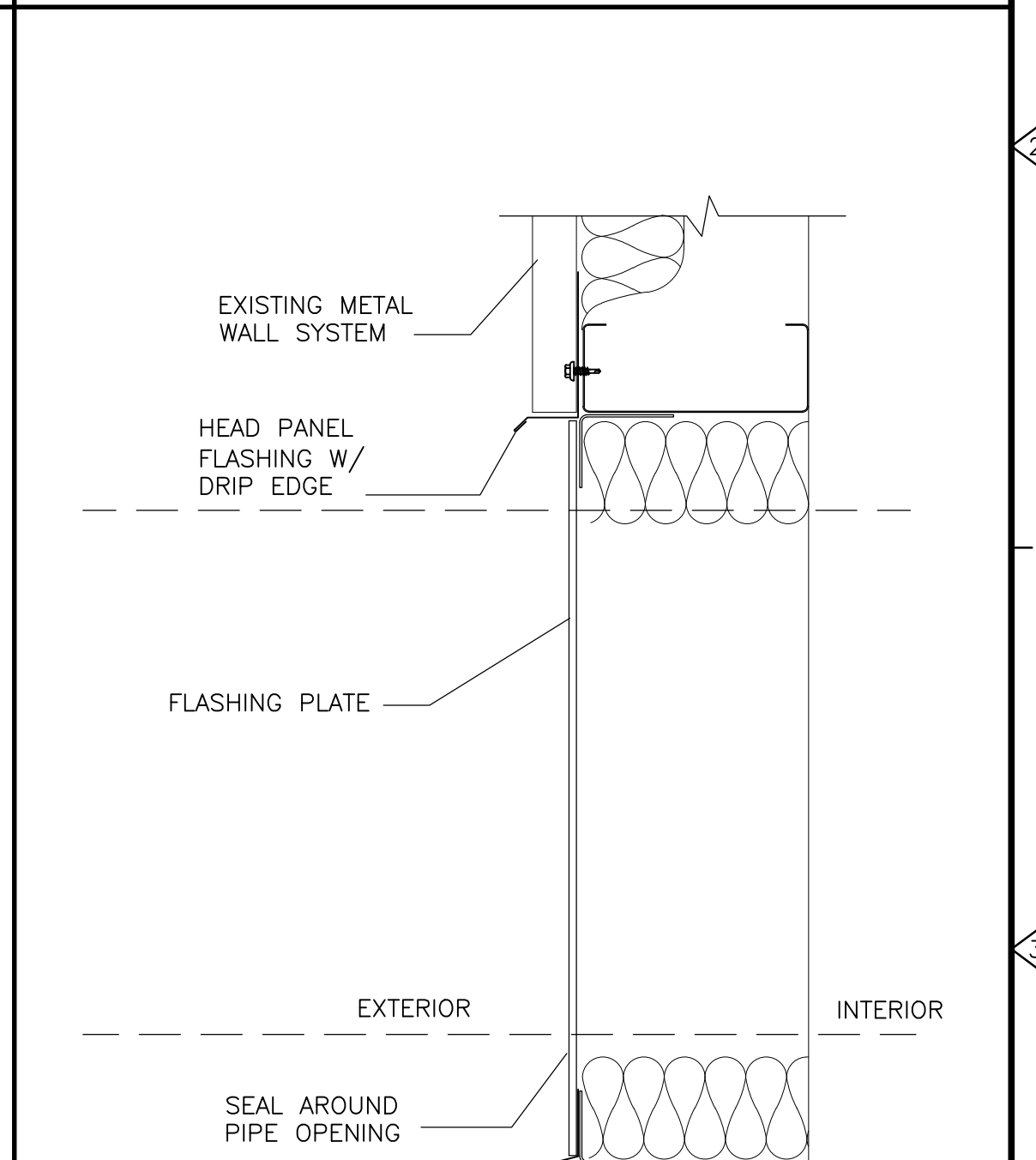
THRUST HARNESS FOR FLEXIBLE COUPLING  
**DETAIL G**  
 NTS



SEE MECHANICAL SHEETS FOR PIPE SIZE, LOCATION, & CONTINUATION (TYP)

- NOTES:**
- SIZE AND NUMBER OF RESTRAINING RODS SHALL BE DETERMINED BASED ON AWWA MANUAL M-11.
  - EXPANSION JOINT SHALL BE AS SPECIFIED IN SECTION 400506. SEE MECHANICAL SHEETS FOR SIZE AND LOCATION.
  - BOLTS SHALL BE IN CONFORMANCE WITH THE CONDITION OF INSTALLATION PER THE SPECIFICATIONS.

RESTRAINED EXPANSION JOINT (BELLOW TYPE)  
**DETAIL H**  
 NTS



**NOTE:**  
 PIPES PENETRATING THE EXTERIOR WALLS TO BE SEALED AND WEATHER TIGHT.

PIPE WALL PENETRATION  
**DETAIL I**  
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023

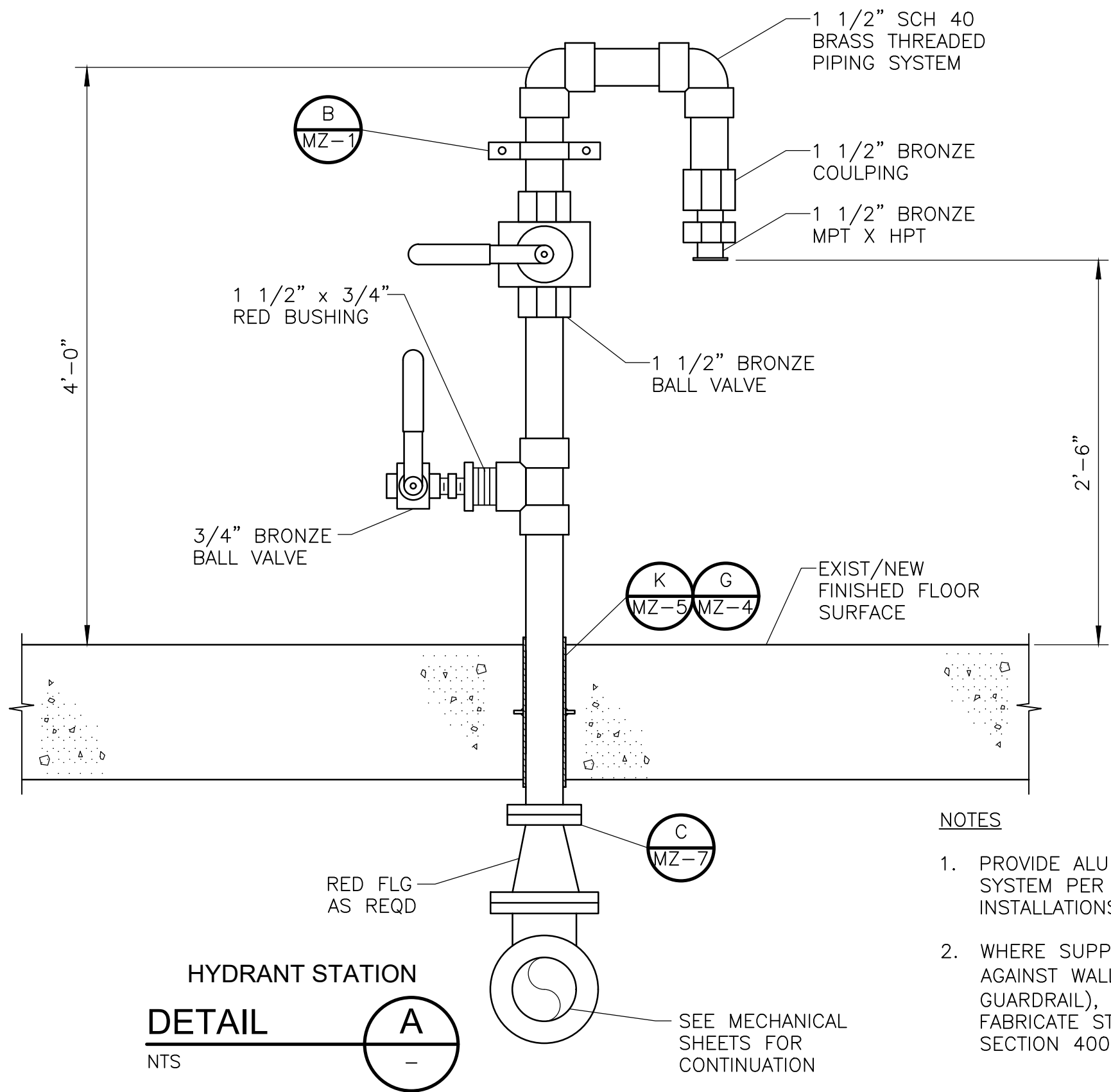
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CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**STANDARD MECHANICAL DETAILS V**

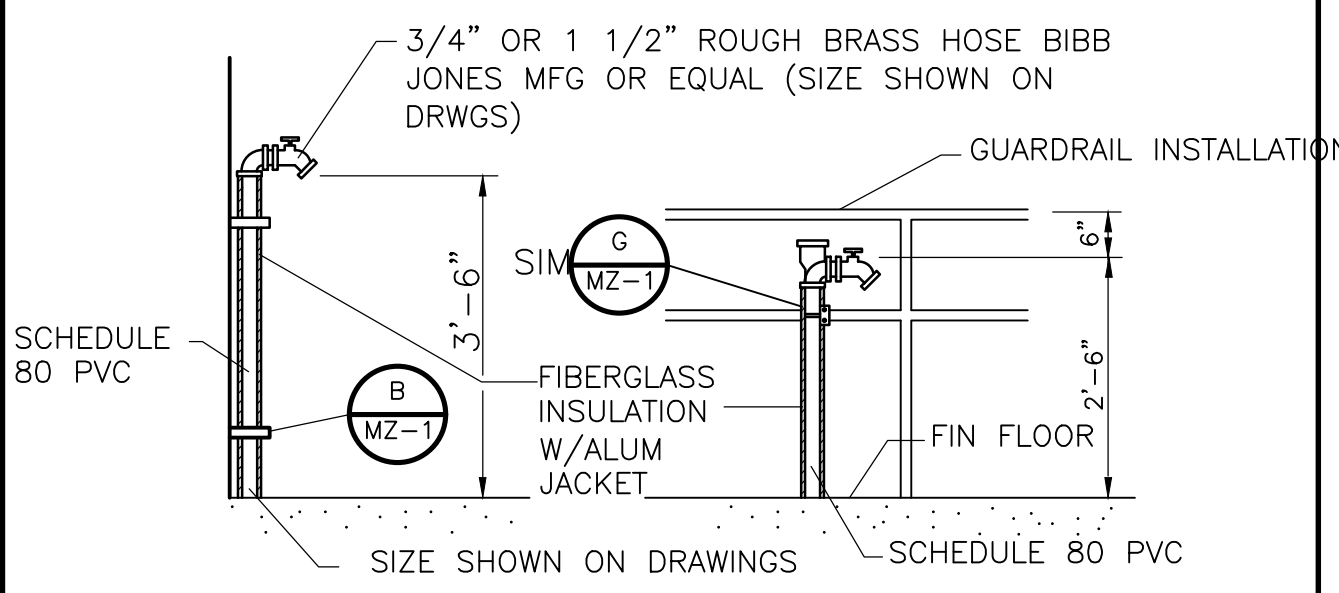
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FILE NAME: MZ-5-SG.DWG
SHEET NO. <b>MZ-5</b>

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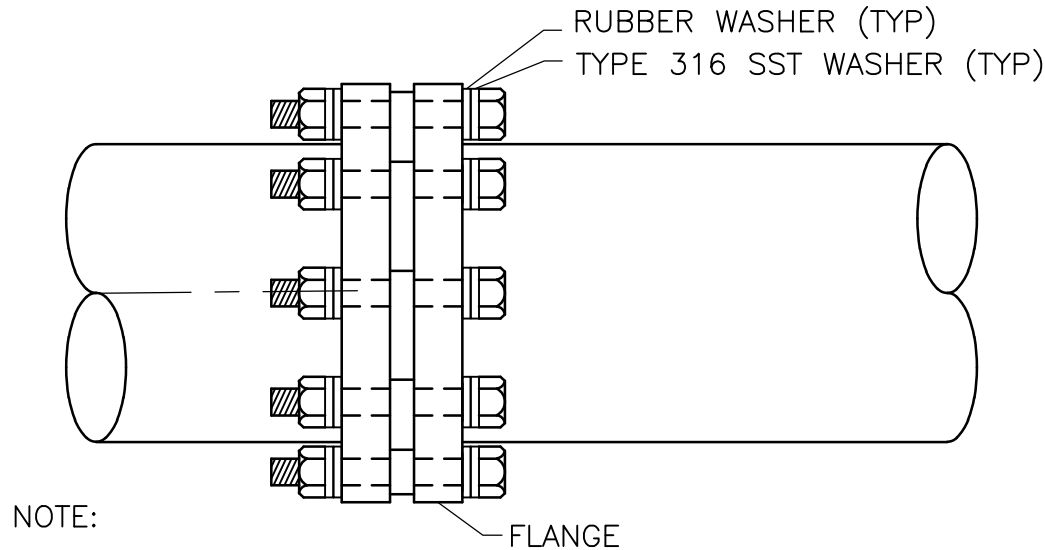
**HYDRANT STATION**  
**DETAIL A**  
 NTS

- NOTES:**
1. PROVIDE ALUMINUM JACKETED INSULATION SYSTEM PER DIVISION 15 FOR EXTERIOR INSTALLATIONS.
  2. WHERE SUPPORTING HYDRANT STATION AGAINST WALL IS NOT PRACTICAL (E.G., GUARDRAIL), CONTRACTOR SHALL FABRICATE STEEL PIPE SUPPORT PER SECTION 400507.



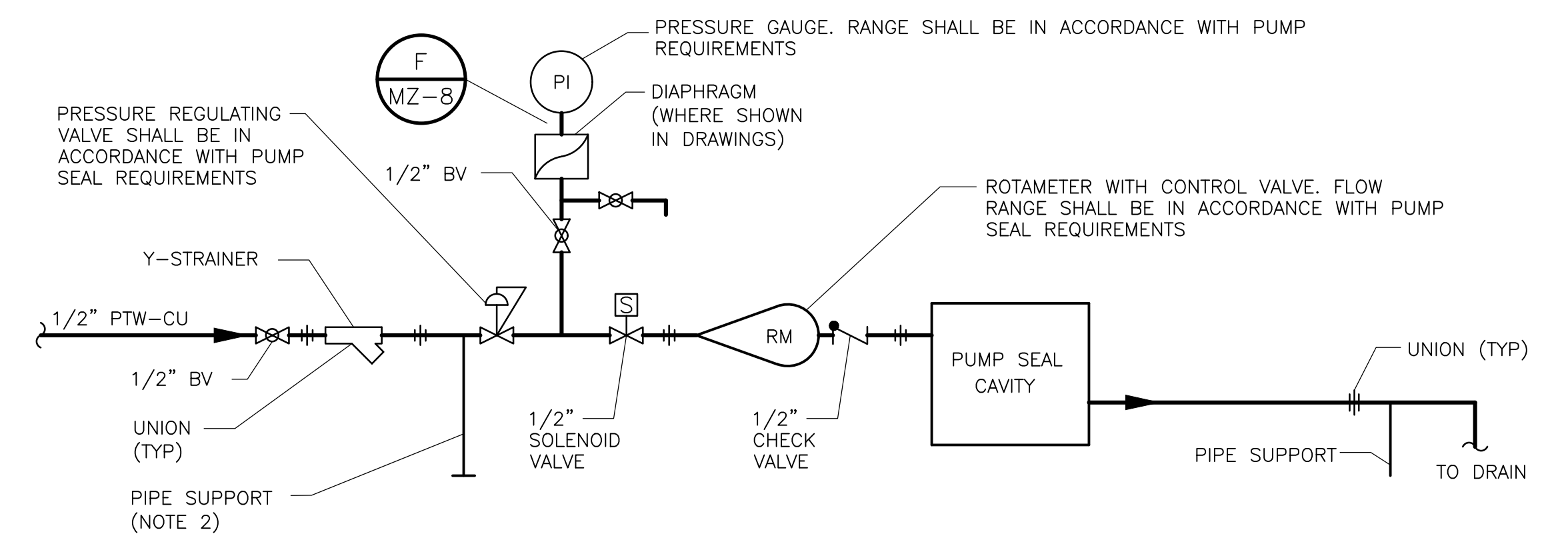
**HOSE BIBB**  
**DETAIL B**  
 NTS

- NOTES:**
1. ALL HOSE BIBBS TO BE CONTROLLED BY INDIVIDUAL SHUT-OFF VALVES (BALL OR PLUG VALVES)
  2. FOR SIZE AND LOCATION SEE DRAWINGS.



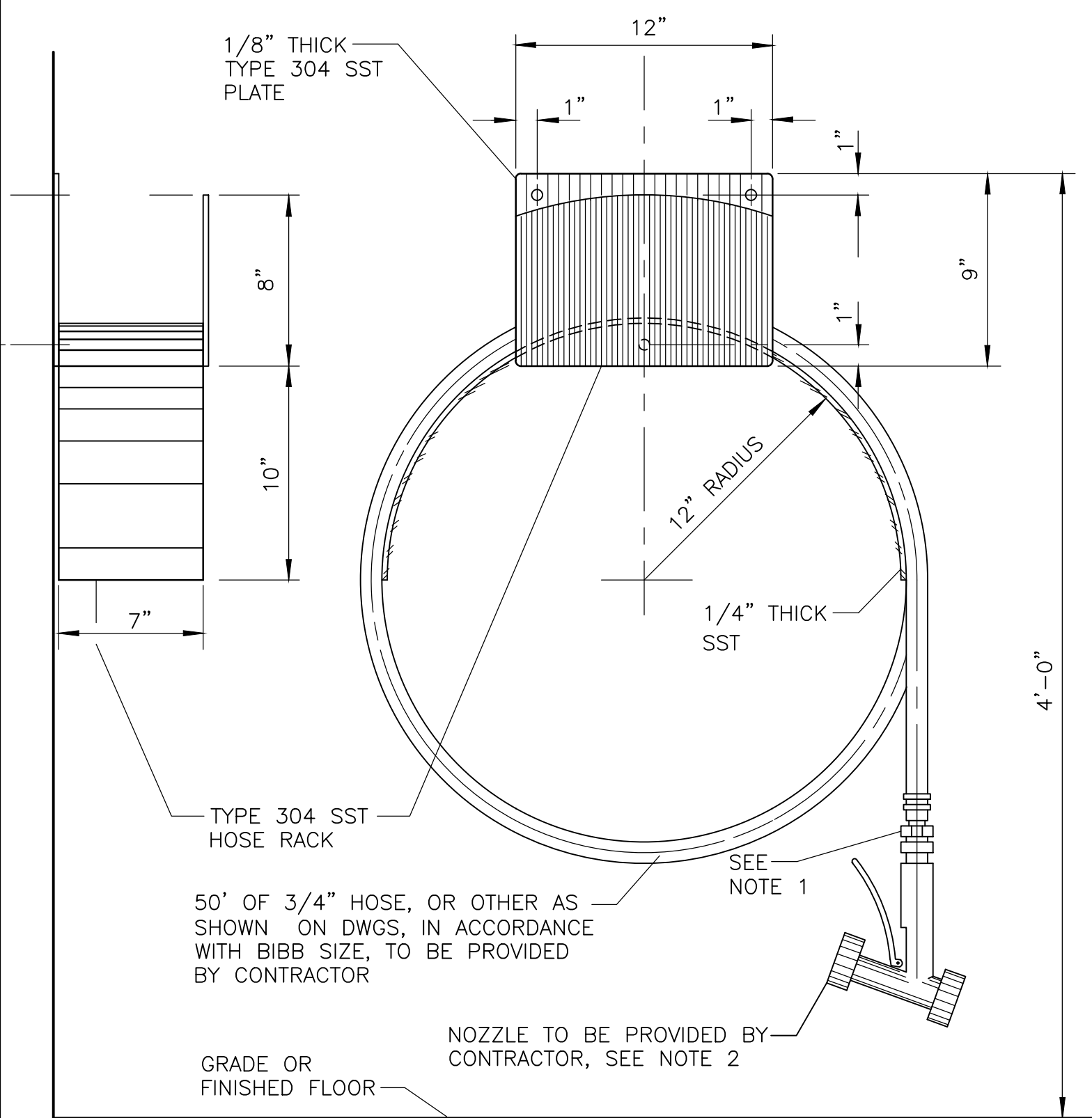
**NOTE:**  
 1. ALL NUTS, BOLTS, AND WASHERS SHALL BE TYPE 316 SST MATERIALS.

**INSULATING FLANGE ASSEMBLY**  
**DETAIL C**  
 NTS



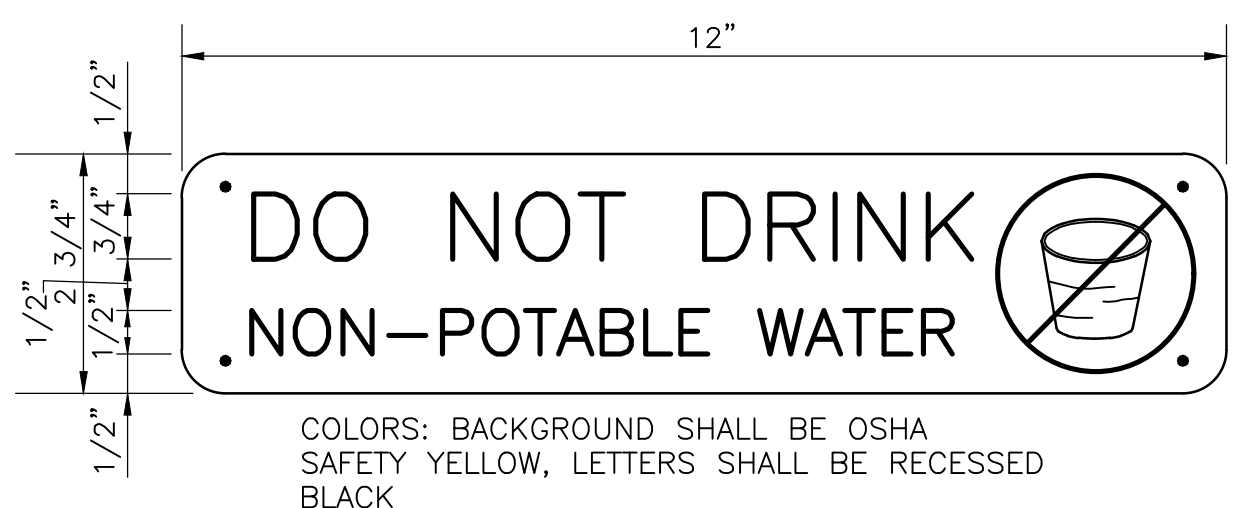
- NOTES:**
1. SOLENOID VALVE MAY BE RELOCATED DOWNSTREAM OF PUMP SEAL CAVITY IF REQUIRED BY PUMP MANUFACTURER.
  2. PROVIDE PIPE SUPPORTS PER SECTION 400507.

**SEAL WATER**  
**DETAIL F**  
 NTS



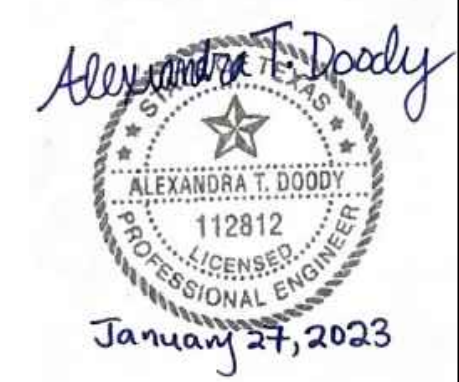
**WASH HOSE STATION**  
**DETAIL D**  
 NTS

- NOTES:**
1. PROVIDE 3/4 inch, OR OTHER AS SHOWN ON DWGS, MALE QUICK DISCONNECT ADAPTER AND REDUCING BUSHING (IF REQUIRED) FOR FLUSHING CONNECTION TIE-IN ON CHEMICAL FEED EQUIPMENT AND OTHER. QUICK DISCONNECT ADAPTER SHALL BE PVDF MATERIALS AS MANUFACTURED BY THE DYMAX GROUP, PLEASANTON, CA, OR EQUAL.
  2. CONTRACTOR SHALL PROVIDE ELKHART BRASS No 6ZF47 FIRE HOSE NOZZLES AND DIXON THERMOPLASTIC No FNB150NST 1.5 inch NOZZLES. CONTRACTOR SHALL VERIFY AND COORDINATE THE THREAD TYPE ON THE NOZZLES AND ON THE QUICK CONNECTS. EACH NOZZLE SHALL BE PROVIDED WITH A FEMALE QUICK CONNECT THAT CAN BE THREADED INTO THE NOZZLE.
  3. HOSE SHALL HAVE A MINIMUM WORKING PRESSURE OF 100 PSI AND BE CONSTRUCTED OF ULTRA VIOLET RESISTANT RUBBER HOSE. ONE END OF HOSE SHALL BE PROVIDED WITH A MALE QUICK DISCONNECT AND THE OTHER END SHALL BE PROVIDED WITH A FEMALE QUICK DISCONNECT. CONTRACTOR SHALL PROVIDE ONE (1) MADE UP HOSE INCLUDING NOZZLE AND QUICK DISCONNECTS AND RECEIVE WRITTEN APPROVAL BY THE OWNER PRIOR TO ORDERING THE REMAINING HOSES.
  4. SUBMIT HOSE RACKS, NOZZLES AND HOSES IN ACCORDANCE WITH SECTION 013300 FOR OWNER/ENGINEER APPROVAL.



**NON-POTABLE WATER SIGN**  
**DETAIL E**  
 NTS

- NOTES:**
1. FURNISH AND INSTALL THE ABOVE SIGN ABOVE ALL NEW NON-POTABLE AND PLANT WATER HOSE BIBB AND HYDRANT STATIONS WHETHER SHOWN ON DRAWINGS OR NOT. ATTACH THE SIGN TO THE STRUCTURE, GUARDRAIL OR POST WITH STAINLESS STEEL HARDWARE AND MOUNTING BRACKET.
  2. FURNISH ONE SIGN AND RECEIVE APPROVAL FROM OWNER PRIOR TO ORDERING REMAINDER OF SIGNS.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JAM	ATD	CONFORMED DRAWINGS

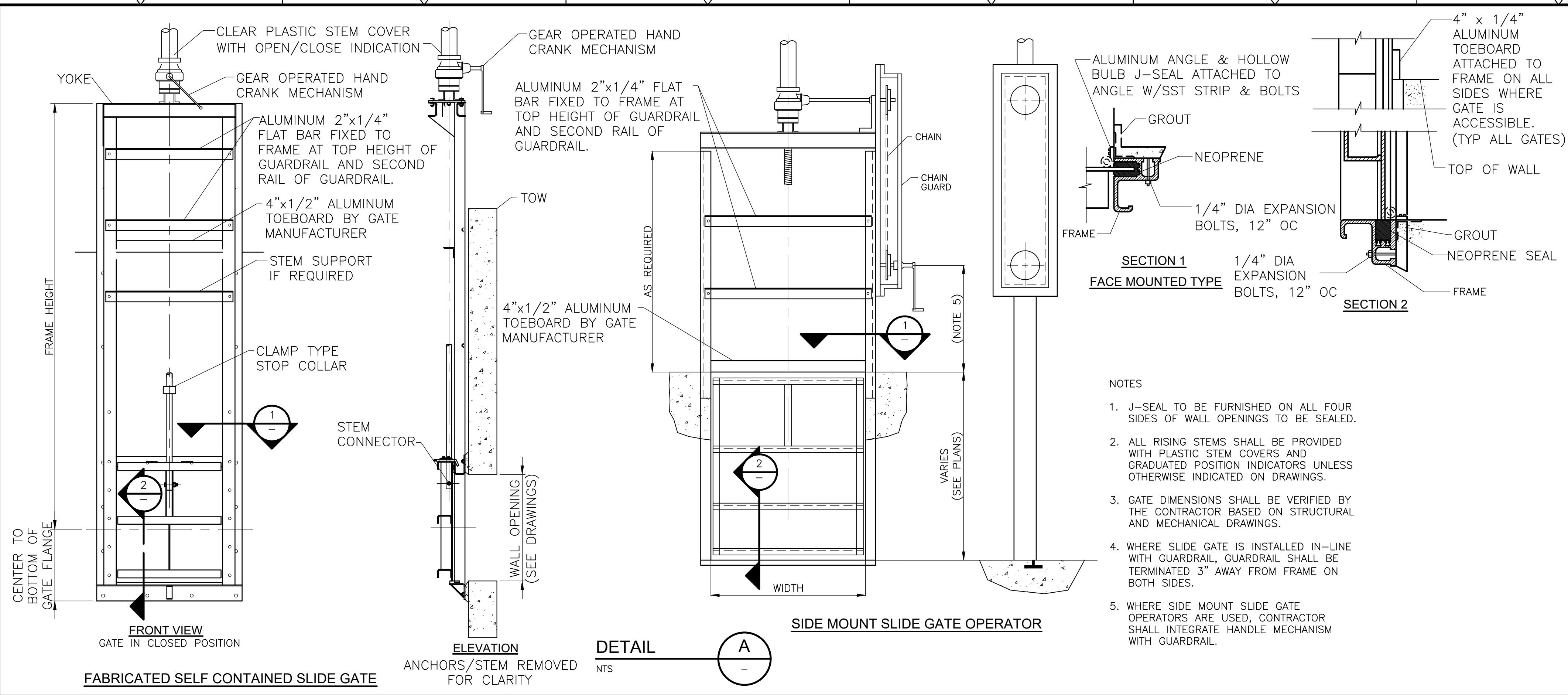
DESIGNED BY: J. MAYER  
 DRAWN BY: S. RAJI  
 SHEET CHK'D BY: A. DOODY  
 CROSS CHK'D BY: A. WOELKE  
 APPROVED BY: A. DOODY  
 DATE: JANUARY 2023



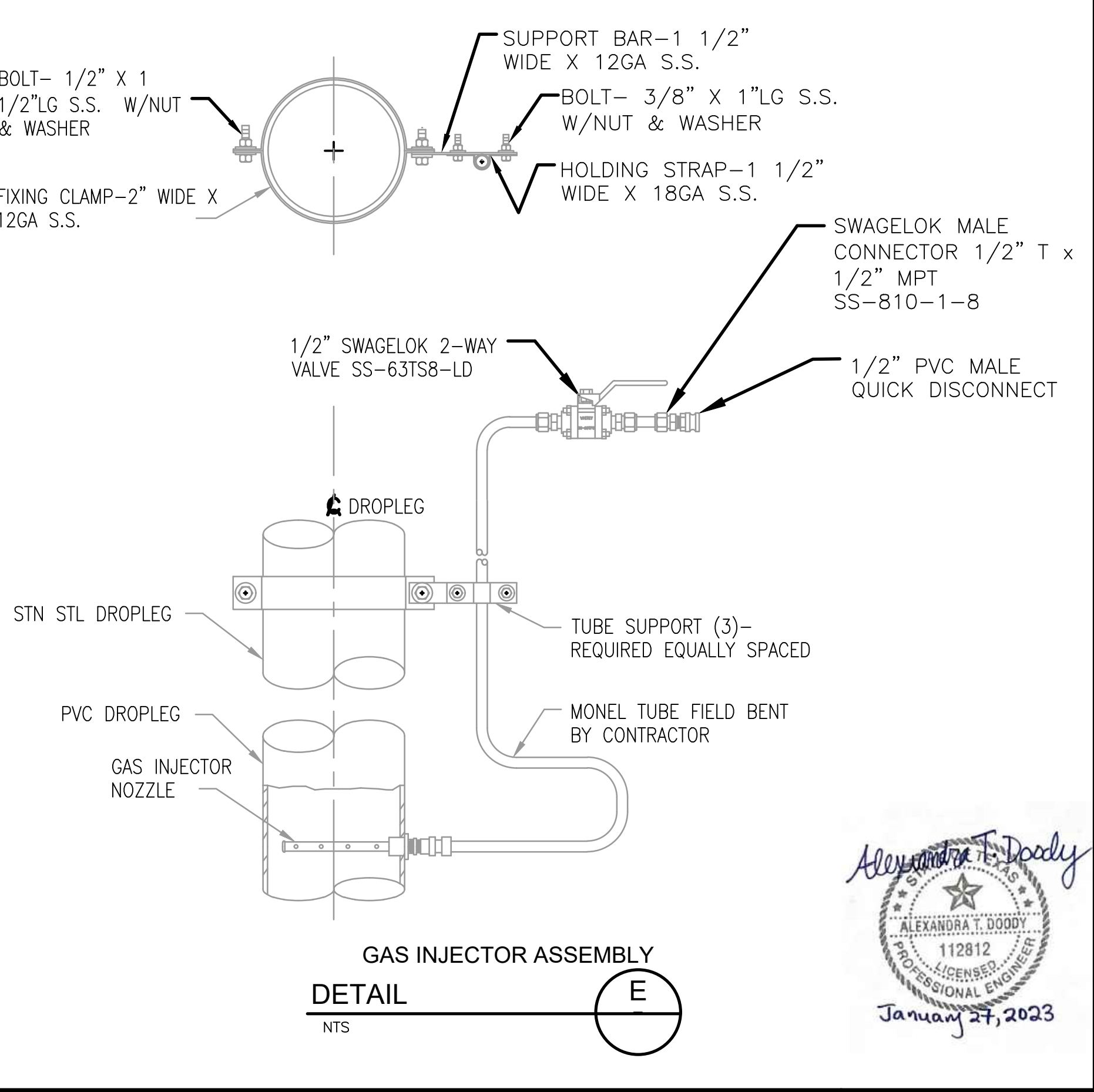
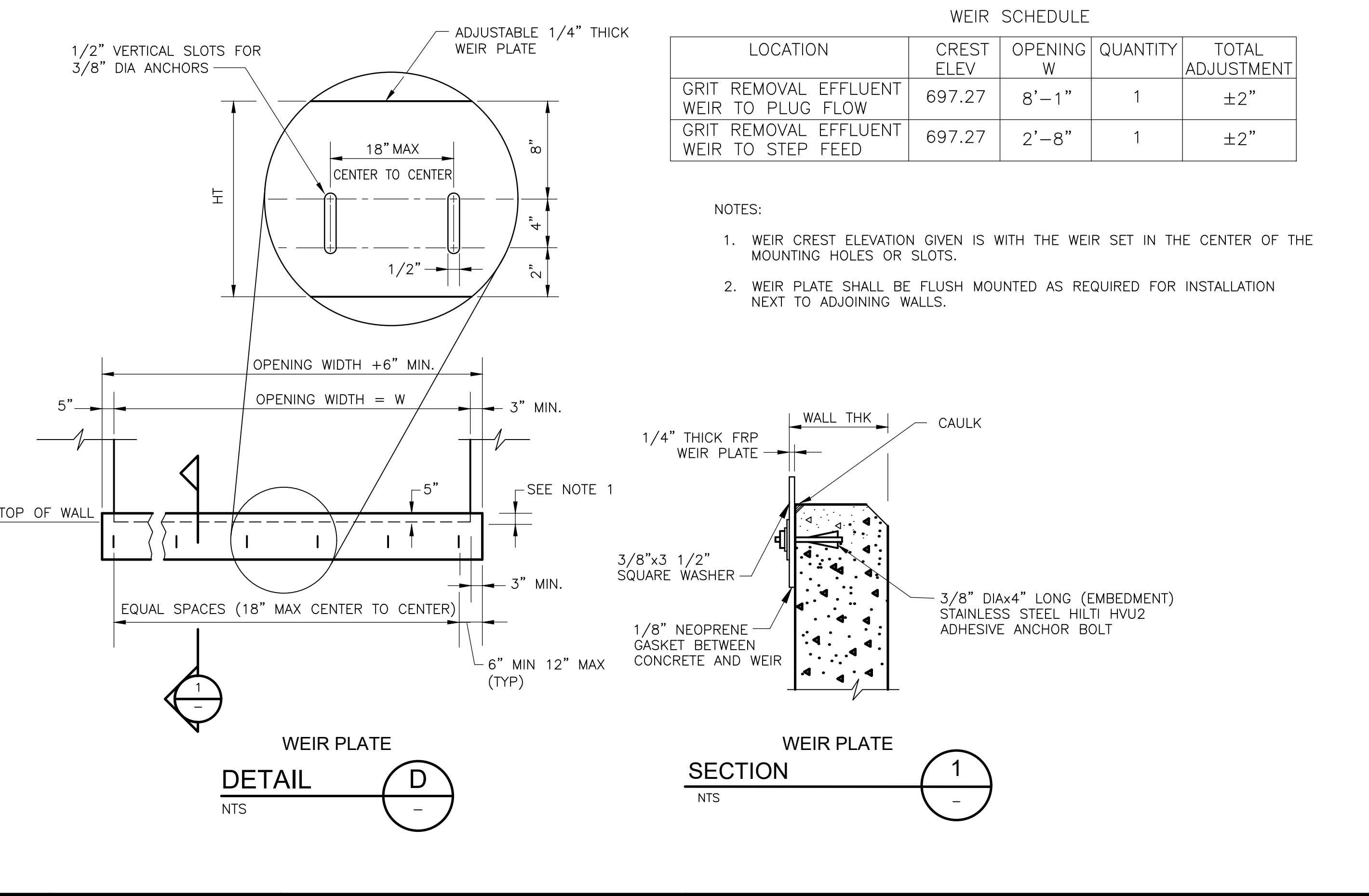
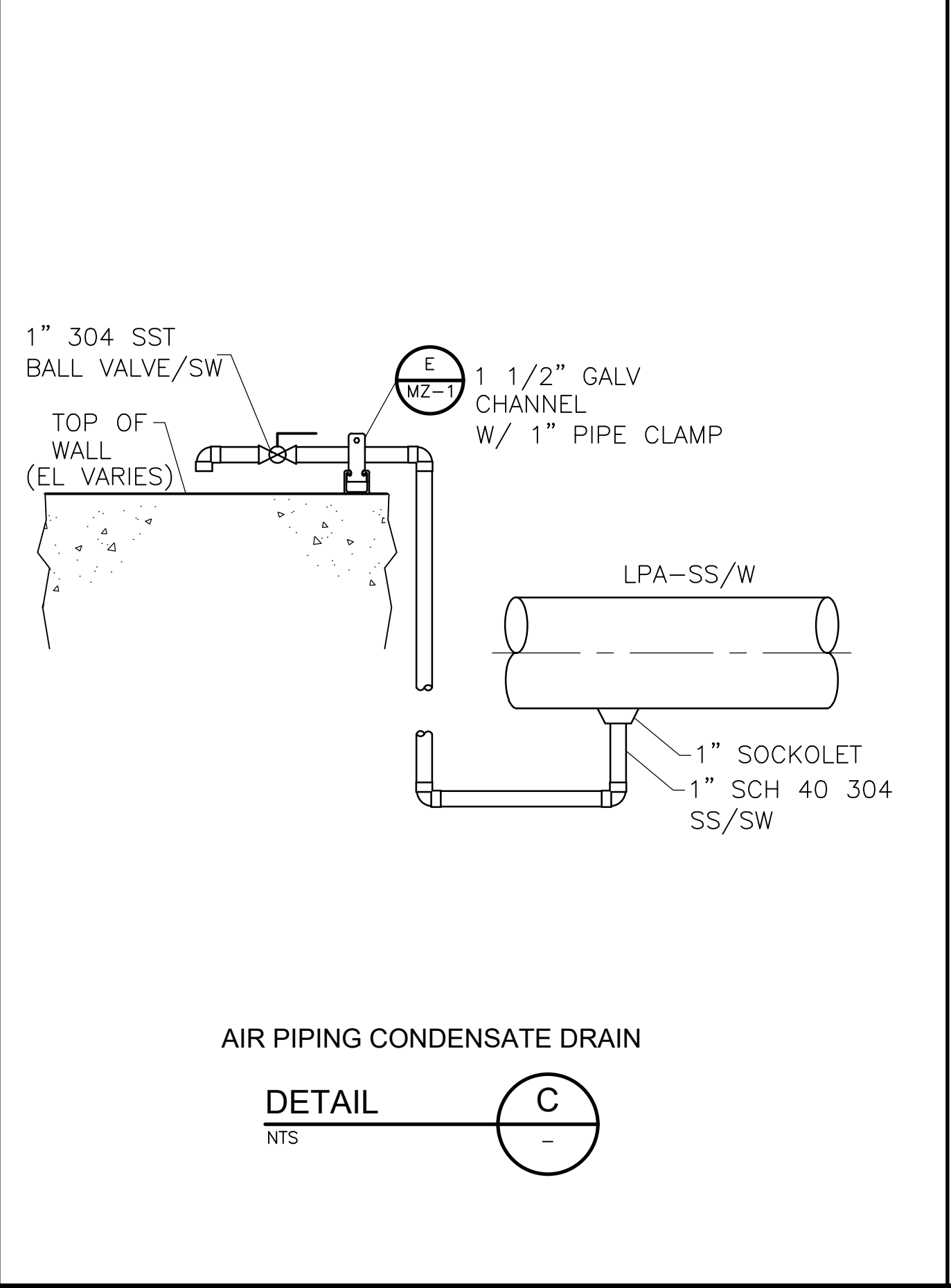
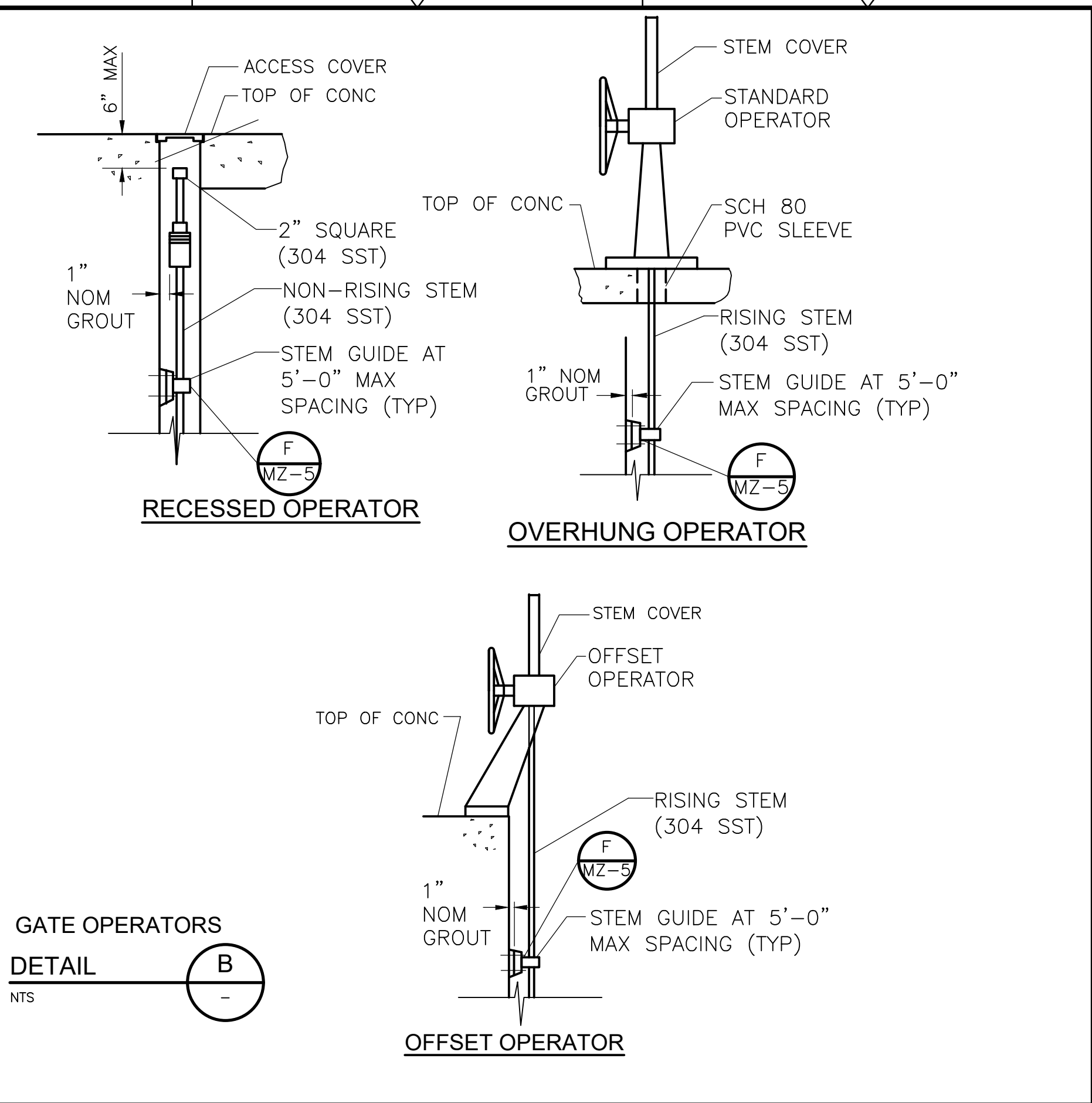
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 SAN GABRIEL WWTP  
 REHABILITATION

STANDARD MECHANICAL DETAILS VI  
 MZ-6

PROJECT NO. 2048-264953  
 FILE NAME: MZ-6-SG.DWG  
 SHEET NO. MZ-6



- NOTES
1. J-SEAL TO BE FURNISHED ON ALL FOUR SIDES OF WALL OPENINGS TO BE SEALED.
  2. ALL RISING STEMS SHALL BE PROVIDED WITH PLASTIC STEM COVERS AND GRADUATED POSITION INDICATORS UNLESS OTHERWISE INDICATED ON DRAWINGS.
  3. GATE DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON STRUCTURAL AND MECHANICAL DRAWINGS.
  4. WHERE SLIDE GATE IS INSTALLED IN-LINE WITH GUARDRAIL, GUARDRAIL SHALL BE TERMINATED 3" AWAY FROM FRAME ON BOTH SIDES.
  5. WHERE SIDE MOUNT SLIDE GATE OPERATORS ARE USED, CONTRACTOR SHALL INTEGRATE HANDLE MECHANISM WITH GUARDRAIL.



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 Austin, TX 78759  
 Tel: (512) 346-1100  
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

STANDARD MECHANICAL DETAILS VII  
 PROJECT NO. 2048-264953  
 FILE NAME: MZ-7-SG.DWG  
 SHEET NO. MZ-7

# GENERAL ABBREVIATIONS

<b>A</b>	ACC ACU AFF AG AHU ALT AP AD ATC AUTO AUX AVG AV	AIR COOLED CONDENSER AIR CONDITIONER UNIT (W/DX OR CHILL. WATER COILS) ABOVE FINISHED FLOOR ABOVE GRADE AIR HANDLING UNIT ALUMINUM ALTITUDE ACCESS PANEL ACCESS DOOR AUTOMATIC TEMPERATURE CONTROL AUTOMATIC AUXILIARY AVERAGE AUTOMATIC AIR RELEASE VENT	<b>M</b>	M MBH MATL MAX MCA MCC MD MECH MFR MIN MISC MOCP MTD	MOTOR THOUSAND BTU PER HOUR MATERIAL MAXIMUM MINIMUM CIRCUIT AMPACITY MOTOR CONTROL CENTER MOTORIZED DAMPER MECHANICAL MANUFACTURER MINIMUM MISCELLANEOUS MAXIMUM OVERCURRENT PROTECTION MOUNTED
<b>B</b>	B TO B BHP BI BOT BTU BBD BBH	BACK TO BACK BRAKE HORSEPOWER BACKWARD INCLINE BOTTOM BRITISH THERMAL UNIT BACK DRAFT SELF ACTING DAMPER BASE BOARD HEATER	<b>N</b>	NC NG NO NOM NPT NTS	NORMALLY CLOSED NATURAL GAS NORMALLY OPEN NOMINAL AMERICAN NATIONAL TAPER PIPE THREAD NOT TO SCALE
<b>C</b>	C TO C CCW CENT CFM CGP CHIL CL CLG CLR COL CTR CW	CENTER TO CENTER COUNTER CLOCKWISE CENTRIFUGAL CUBIC FEET PER MINUTE CHILLED WATER GLYCOL PUMP CHILLER (WATER OR AIR COOLED) CENTER LINE CEILING CLEAR COLUMN CENTER VALVE FLOW COEFFICIENT CLOCKWISE	<b>O</b>	OA OAT OC OD OPP	OUTSIDE AIR OUTSIDE AIR TEMPERATURE ON CENTER OUTSIDE DIAMETER OPPOSITE
<b>D</b>	D DB DIA DISCH DN DWG DX	TO DRAIN (NEAREST) DOOR GRILLE DRY BULB DIAMETER DISCHARGE DOWN DRAWING DIRECT EXPANSION COIL	<b>P</b>	PSI PSIA PSIG	POUNDS PER SQUARE IN PSI ABSOLUTE PSI GAUGE
<b>E</b>	EAT EUH EA EAF EER ENT ELEC ELEV EMERG ESP EXH EXP	ENTERING AIR TEMPERATURE ELECTRIC UNIT HEATER EACH EXHAUST AIR FAN ENERGY EFFICIENCY RATIO ENTERING ELECTRICAL ELEVATION EMERGENCY EXTERNAL STATIC PRESSURE EXHAUST EXPANSION/COMPRESSION TANK	<b>R</b>	RA RAF REG RH RPM RED RL RS	RETURN AIR RETURN AIR FAN REGISTER RELATIVE HUMIDITY REVOLUTIONS PER MINUTE REDUCER REFRIGERANT LIQUID REFRIGERANT SUCTION
<b>F</b>	F FBV FC FD FG FLR FLG FOB FOT FPM FD FS FTR	FARENHEIT FLOW BALANCE & SHUTOFF VALVE FORWARD CURVE FIRE DAMPER FLOOR GRILLE FLOOR FLANGE FLAT ON BOTTOM FLAT ON TOP FEET PER MINUTE FIRE DAMPER FLOW SENSOR FIN-TUBE RADIATION	<b>S</b>	SA SCH SEER SEER SP SPEC SS	SUPPLY AIR SCHEDULE SEASONAL ENERGY EFFICIENCY RATIO SUPPLY FAN STATIC PRESSURE SPECIFICATION STAINLESS STEEL
<b>G</b>	GPM	GALLONS PER MINUTE	<b>T</b>	TAF TD TEMP TOS TXV TYP	TRANSFER AIR FAN TEMPERATURE DIFFERENCE TEMPERATURE TOP OF STEEL THERMAL EXPANSION VALVE TYPICAL
<b>H</b>	H-O-A HG HP H&V HVAC HZ	HAND-OFF-AUTO HOT GAS HORSEPOWER HEATING AND VENTILATING HEATING, VENTILATING AND AIR CONDITIONING HERTZ	<b>U</b>	U UH UL	HEAT TRANSFER COEFFICIENT UNIT HEATER UNDERWRITERS LABORATORY
<b>I</b>	ID IEER INS INSTR	INSIDE DIAMETER INTEGRATED ENERGY EFFICIENCY RATIO INSULATE, INSULATION INSTRUMENT(ACTION)	<b>V</b>	V VAV VEL	VOLTS VARIABLE AIR VOLUME VELOCITY
<b>K</b>	KW	KILOWATT	<b>W</b>	W/ W/O WG	WITH WITHOUT WET BULB WALL GRILLE
<b>L</b>	LAT LCP LWT LVG	LEAVING AIR TEMPERATURE LOCAL CONTROL PANEL LEAVING WATER TEMPERATURE LEAVING			

# SYMBOLS VALVES

	UNCLASSIFIED. TYPE AS SHOWN ON THE DRAWINGS ADJACENT TO SYMBOL
	FLOW METER
	GATE VALVE
	GLOBE VALVE
	NEEDLE VALVE
	BALL VALVE
	3-WAY BALL VALVE
	CONE VALVE
	PINCH VALVE
	DIAPHRAGM VALVE
	FLOW BALANCING AND SHUTOFF VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	3-WAY PLUG VALVE
	4-WAY PLUG VALVE
	CHECK VALVE, GENERAL SYMBOL
	BALL CHECK VALVE
	DOUBLE DOOR CHECK VALVE
	SOLENOID VALVE
	3-WAY SOLENOID VALVE
	ANGLE VALVE
	PRESSURE CONTROL VALVE (SELF CONTAINED)
	PRESSURE CONTROL VALVE (ACTIVATED BY STEAM PRESSURE)
	DIFFERENTIAL PRESSURE REDUCING REGULATOR WITH INTERNAL AND EXTERNAL PRESSURE TAPS
	2-WAY CONTROL VALVE
	3-WAY MIXING VALVE
	3-WAY MIXING VALVE
	AUTOMATIC AIR RELEASE VENT
	GATE VALVE (NC) WITH HOSE CONNECTOR

# SYMBOLS PIPE FITTINGS

	CAP
	BOTTOM CONNECTION
	TOP CONNECTION
	ELBOW UP
	ELBOW DOWN
	REDUCER-CONCENTRIC
	REDUCER-ECCENTRIC STRAIGHT INVERT
	REDUCER-ECCENTRIC STRAIGHT CROWN
	TEE
	TEE UP
	TEE DOWN
	UNION-SCREWED
	UNION-FLANGED
	ALIGNMENT GUIDE
	ANCHOR
	HUMIDISTAT
	PRESSURE GAGE AND COCK
	STRAINER
	THERMOMETER
	PRESS. DIFF. W/ INDICATOR LIGHT & REMOTE ALARM @ ATC
	THERMOSTAT
	THERMOSTAT HIGH LIMIT
	THERMOSTAT LOW LIMIT
	TEMPERATURE SENSOR
	HUMIDITY SENSOR
	SMOKE DETECTOR
	FLOW SWITCH
	HIGH TEMPERATURE SWITCH
	TO SPACE
	FROM SPACE
	1" UC 100 CFM UNDERCUT DOOR
	20X12 LD OR DG 200 CFM LOUVER DOOR OR DOOR GRILLE

# PIPE MATERIAL CODES

CU	COPPER
FRP	FIBER REINFORCED PLASTIC
GS	GALVANIZED STEEL
PVC	POLYVINYL CHLORIDE
STL	BLACK STEEL

# FLOW STREAM CODE

D	DRAIN
RS	REFRIGERANT SUPPLY
RL	REFRIGERANT LIQUID
RG	REFRIGERANT-HOT GAS
	REFRIGERANT LIQUID

# SYMBOLS DUCTWORK

	MANUAL VOLUME DAMPER
	FIRE DAMPER ▲ -1.5(1-1/2HR RATED)
	MOTOR OPERATED DAMPER
	BACK DRAFT DAMPER
	DIRECTION OF FLOW
	DUCT SIZE- FIRST NUMBER IS SIDE SHOWN
	DUCT SECTION, POSITIVE PRESS. FIRST NUMBER IS TOP
	DUCT SECTION, NEGATIVE PRESS. FIRST NUMBER IS TOP
	ELEVATION CHANGE (R) RISE, (D) DROP
	ACCESS DOOR
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT
	DUCT LINING
	TRANSITION
	TURNING VANES
	SIDE MOUNTED DEVICE
	BOTTOM MOUNTED DEVICE

# GENERAL NOTES:

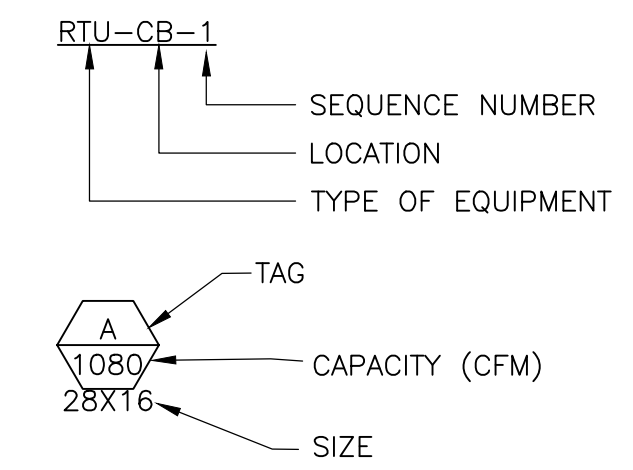
- HVAC EQUIPMENT DIMENSIONS, LOCATIONS, DUCTWORK AND PIPING SYSTEM LAYOUTS ARE BASED ON EQUIPMENT SELECTED BY THE ENGINEER. IF THE CONTRACTOR PROPOSES TO FURNISH EQUIPMENT THAT REQUIRES AN ARRANGEMENT OR SPACE DIFFERING FROM THAT INDICATED ON THE DRAWINGS OR SPECIFIED, THE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL, DETAILED ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, INSTRUMENTATION, HVAC AND ELECTRICAL DRAWINGS AND EQUIPMENT LISTS SHOWING ALL NECESSARY CHANGES AND EMBODYING ALL FEATURES OF THE EQUIPMENT HE PROPOSES TO FURNISH. THIS INFORMATION SHALL INCLUDE BUT NOT BE LIMITED TO PLANS, SECTIONS, DETAILS, AND SCHEMATICS OF ALL APPURTENANCES REQUIRE SUCH CHANGES IF APPROVED BY THE ENGINEER SHALL BE AT NO EXTRA COST TO THE OWNER. THE CONTRACTOR SHALL ASSUME THE COST OF AND THE RESPONSIBILITY FOR SATISFACTORILY ACCOMPLISHING ALL THE NECESSARY CHANGES CORRESPONDING TO THE DIMENSIONS AND CHARACTERISTICS OF THE EQUIPMENT SUBMITTED AND APPROVED BY THE ENGINEER. REFER TO SPECIFICATIONS FOR FURTHER DETAILS.
- SIZES OF EQUIPMENT PADS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT FURNISHED. ALL FLOOR MOUNTED EQUIPMENT SHALL BE SET ON CONCRETE PADS CONFORMING TO DETAILS SHOWN ON THE STRUCTURAL DRAWINGS.
- DIELECTRIC COUPLINGS, FLANGES OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF COPPER PIPE TO OTHER TYPES OF METALLIC PIPING.
- HVAC PIPING AND DUCTWORK DRAWINGS DO NOT SHOW ALL DRAINS, VENTS, OFFSETS AND FITTINGS etc. REQUIRED FOR THE COMPLETE SYSTEM. SMALL PIPING IS SHOWN APPROXIMATELY TO SCALE BUT NOT EVERY FITTING AND OFFSET IS SHOWN. SOME VALVES AND APPURTENANCES MAY BE OMITTED FOR THE SAKE OF CLARITY. THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL HVAC SYSTEMS SHOWN ON THE DRAWINGS AND DETAILS, AND/OR AS DEFINED IN THE SPECIFICATIONS TO PROVIDE THE COMPLETE SYSTEM.
- UNLESS OTHERWISE SHOWN ON THE DRAWING ALL FLOOR SLAB AND WALL PENETRATIONS SHALL BE AS SHOWN ON THE WALL PENETRATION DETAILS. ABOVE GROUND EXTERIOR WALL AND ROOF PENETRATIONS SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY SUBSTITUTE ALTERNATE METHODS PROVIDING THEY MEET INTENDED DESIGN REQUIREMENTS.
- NOT ALL AND ONLY CERTAIN TYPES OF SUPPORTS ARE SHOWN ON THE HVAC DRAWINGS. UNLESS OTHERWISE DETAILED ON THE DRAWINGS ALL PIPE AND DUCT SUPPORTS SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AS SPECIFIED AND TO THE APPROVAL OF THE ENGINEER.

NOTE: THIS IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS. NOT ALL ITEMS SHOWN HERE APPEAR ON THE CONTRACT DRAWINGS.

# REGISTERS GRILLES AND DIFFUSERS

EAG	EXHAUST GRILLE
EAR	EXHAUST REGISTER
RAG	RETURN GRILLE
RAR	RETURN REGISTER
SAD	SUPPLY DIFFUSER
SAG	SUPPLY GRILLE
SAR	SUPPLY REGISTER
TAG	TRANSFER GRILLE
WAG	WALL GRILLE

# TYPICAL TAG



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DESIGNED BY:	S. SALEEM
DRAWN BY:	G. NITHIYAN
SHEET CHK'D BY:	G. MAMMEN
CROSS CHK'D BY:	S. BURDETT
APPROVED BY:	G. MAMMEN
DATE:	JANUARY 2023

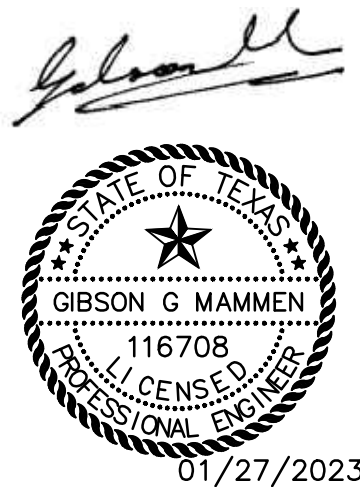
**CDM Smith**

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

# HVAC LEGEND, SYMBOLS, AND ABBREVIATIONS

PROJECT NO.	2048-264953
FILE NAME:	H001DSGN.DWG
SHEET NO.	H-1

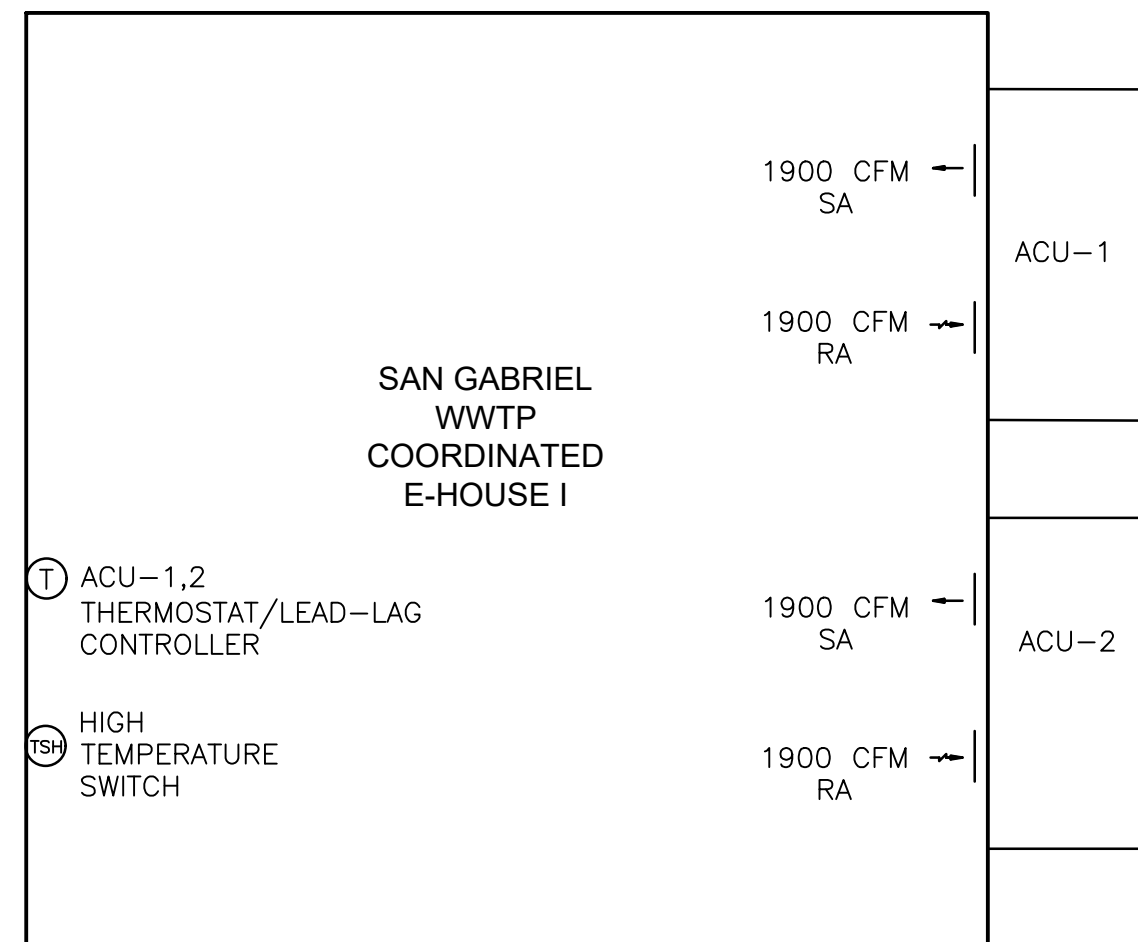


**AIR CONDITIONING UNIT SCHEDULE**

TAG NO.	LOCATION	AREA SERVED	SUPPLY FAN							COOLING SECTION					ELECTRIC HEAT ELECTRIC HEAT CAPACITY (KW)	FILTERS		UNIT CHARACTERISTICS		ELECTRICAL MCA/MOCP	MANUFACTURER AND MODEL	NOTES	
			TOTAL CFM	TYPE	OUTSIDE AIR MIN. (CFM)	EXT. SP. IN. WG.	FAN (QTY)	MIN. HP	MOTOR RPM	VOLTS/PH/HZ	EAT DB/WB *F	LAT DB/WB *F	TOTAL CLG CAP (MBH)	SEN CAP (MBH)		FLUID	TYPE	FILTER LEVEL	WEIGHT (LBS)				INSTALLTION
ACU-1	SAN GABRIEL WWTP	E-HOUSE I	1900	DIRECT	0	0.25	1	3/4	1500	460/3/60	85/72	54.8/53.0	71.4	48.5	R410A	9	2" PLEATED	MERV 8	650	WALL MOUNTED	18/25	BARD W72AC-C-05	1 THRU 12
ACU-2	SAN GABRIEL WWTP	E-HOUSE I	1900	DIRECT	0	0.25	1	3/4	1500	460/3/60	85/72	54.8/53.0	71.4	48.5	R410A	9	2" PLEATED	MERV 8	650	WALL MOUNTED	18/25	BARD W72AC-C-05	1 THRU 12
ACU-3	SAN GABRIEL WWTP	E-HOUSE II	1900	DIRECT	0	0.25	1	3/4	1500	460/3/60	85/72	54.8/53.0	71.4	48.5	R410A	9	2" PLEATED	MERV 8	650	WALL MOUNTED	18/25	BARD W72AC-C-05	1 THRU 12
ACU-4	SAN GABRIEL WWTP	E-HOUSE II	1900	DIRECT	0	0.25	1	3/4	1500	460/3/60	85/72	54.8/53.0	71.4	48.5	R410A	9	2" PLEATED	MERV 8	650	WALL MOUNTED	18/25	BARD W72AC-C-05	1 THRU 12
ACU-5	SAN GABRIEL WWTP	E-HOUSE III	800	DIRECT	0	0.25	1	1/3	1500	460/3/60	85/72	54.8/53.0	24.2	16.7	R410A	6	2" PLEATED	MERV 8	347	WALL MOUNTED	12/15	BARD W24AB-C-05	1 THRU 12
ACU-6	SAN GABRIEL WWTP	E-HOUSE III	800	DIRECT	0	0.25	1	1/3	1500	460/3/60	85/72	54.8/53.0	24.2	16.7	R410A	6	2" PLEATED	MERV 8	347	WALL MOUNTED	12/15	BARD W24AB-C-05	1 THRU 12

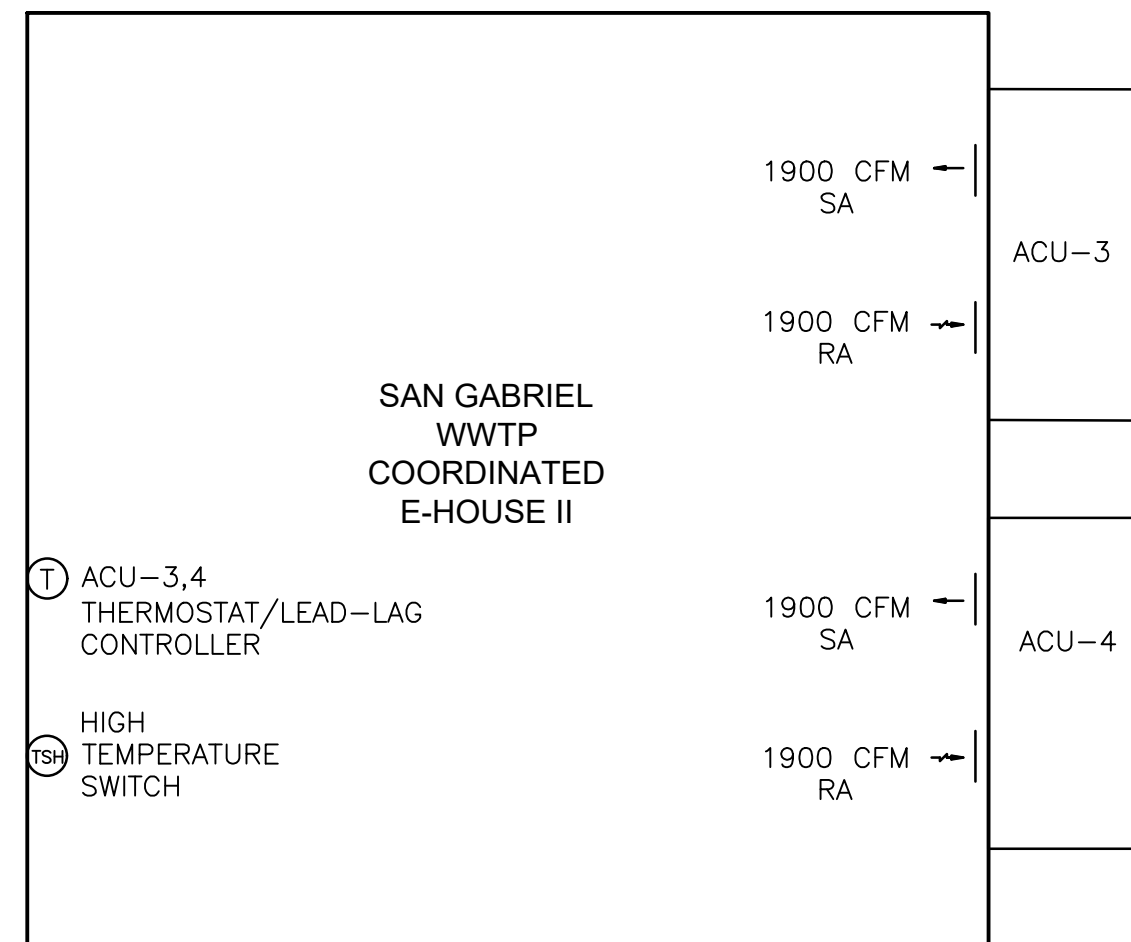
**NOTES:**

1. A ONE-PIECE WALL-MOUNTED, FACTORY PRE CHARGED, PRE WIRED, TESTED AND READY-TO-OPERATE AIR HANDLING UNIT.
2. PROVIDE HACR-RATED BREAKER.
3. PROVIDE WITH MOUNTING BRACKETS.
4. EVAPORATOR AND CONDENSER COIL SHALL BE PHENOLIC COATED AND CABINET SHALL BE EPOXY COATED.
5. PROVIDE 100% ECONOMIZER OR FACTORY INSTALLED LOW AMBIENT CONTROL DOWN TO 0° F.
6. UNIT SHALL BE UL, ETL OR CSA LISTED.
7. PROVIDE WITH ALUMINUM SUPPLY AND RETURN GRILLES.
8. PROVIDE WITH WALL MOUNTED AUTOMATIC CHANGEOVER THERMOSTAT/LEAD-LAG CONTROLLER (BRAD MC 4001-A OR EQUAL).
9. PROVIDE SINGLE STAGE SCROLL COMPRESSOR WITH HIGH REFRIGERANT PRESSURE CUTOUT.
10. LIQUID LINE FILTER DRIER.
11. OUTSIDE AIR BLANKOFF PLATE.
12. SCHEDULE IS INCOMPLETE WITHOUT SPECIFICATION SECTION 238113.13.



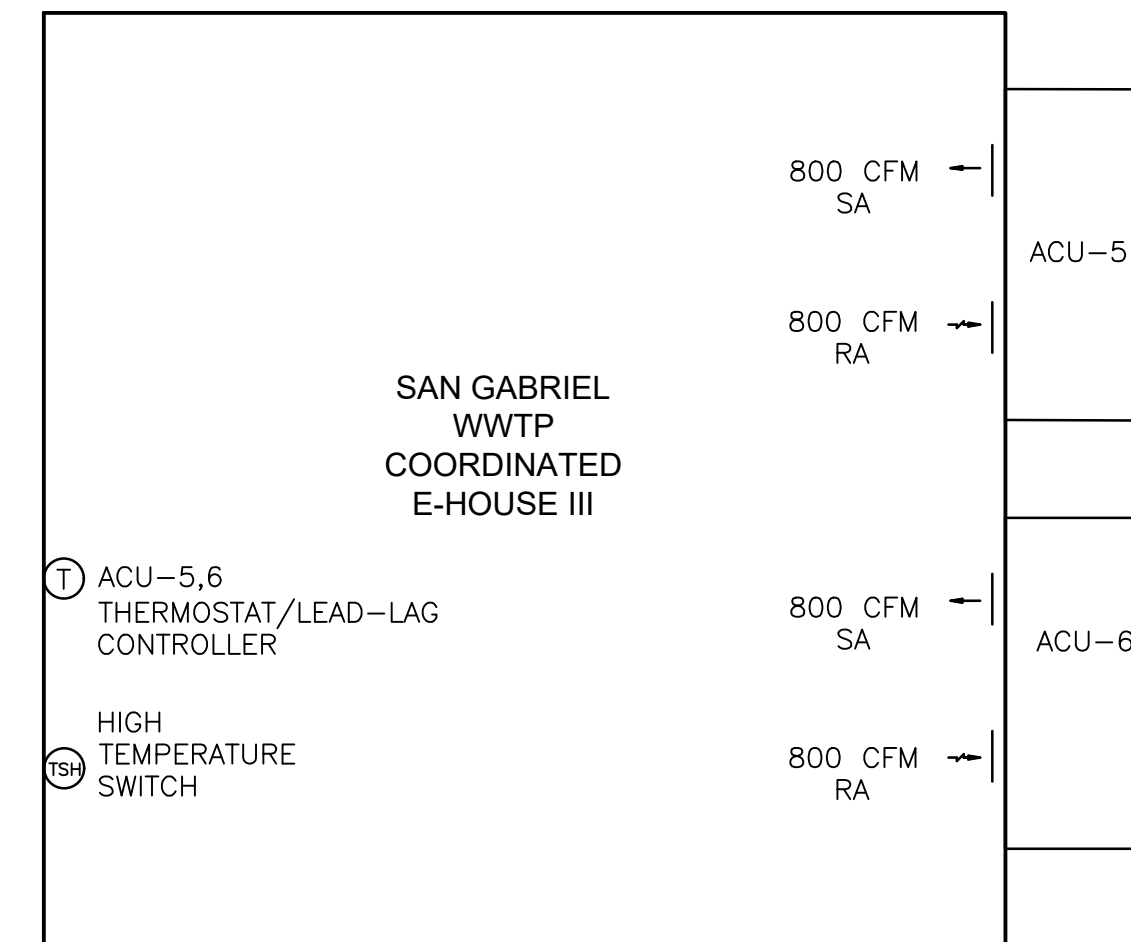
**ACU CONTROL SEQUENCE:**

1. AIR CONDITIONING UNIT ACU-1 AND ACU-2 SHALL BE CONTROLLED BY ROOM THERMOSTAT/CONTROLLER AND SHALL PROVIDE COOLING AND HEATING. ROOM THERMOSTAT/CONTROLLER SHALL PROVIDE LEAD/LAG CONTROL AND LEAD-LAG ALTERNATION AUTOMATICALLY.
2. EACH UNIT IS SIZED TO HANDLE 100% OF THE COOLING AND HEATING LOAD. THE LEAD UNIT WILL FUNCTION AS DUTY AND LAG UNIT WILL FUNCTION AS STAND-BY.
3. COOLING TEMPERATURE SETPOINT SHALL BE 85°F. WHEN TEMPERATURE RISES 2°F ABOVE SETPOINT, UNIT SHALL ENERGIZE. WHEN TEMPERATURE DROPS 2°F BELOW SETPOINT, UNIT SHALL DE-ENERGIZE.
4. HEATING TEMPERATURE SETPOINT SHALL BE 55°F. WHEN TEMPERATURE DROPS 2°F BELOW SETPOINT, UNIT SHALL ENERGIZE. WHEN TEMPERATURE RISES 2°F ABOVE SETPOINT, UNIT SHALL DE-ENERGIZE.
5. HIGH TEMPERATURE SWITCH (TSH) SHALL BE PROVIDED AND CONNECTED TO SCADA. A HIGH TEMPERATURE ALARM WILL BE SENT TO SCADA WHEN THE HIGH TEMPERATURE SWITCH DETECTS A TEMPERATURE OF 100°F OR HIGHER.



**ACU CONTROL SEQUENCE:**

1. AIR CONDITIONING UNIT ACU-3 AND ACU-4 SHALL BE CONTROLLED BY ROOM THERMOSTAT/CONTROLLER AND SHALL PROVIDE COOLING AND HEATING. ROOM THERMOSTAT/CONTROLLER SHALL PROVIDE LEAD/LAG CONTROL AND LEAD-LAG ALTERNATION AUTOMATICALLY.
2. EACH UNIT IS SIZED TO HANDLE 100% OF THE COOLING AND HEATING LOAD. THE LEAD UNIT WILL FUNCTION AS DUTY AND LAG UNIT WILL FUNCTION AS STAND-BY.
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**ACU CONTROL SEQUENCE:**

1. AIR CONDITIONING UNIT ACU-5 AND ACU-6 SHALL BE CONTROLLED BY ROOM THERMOSTAT/CONTROLLER AND SHALL PROVIDE COOLING AND HEATING. ROOM THERMOSTAT/CONTROLLER SHALL PROVIDE LEAD/LAG CONTROL AND LEAD-LAG ALTERNATION AUTOMATICALLY.
2. EACH UNIT IS SIZED TO HANDLE 100% OF THE COOLING AND HEATING LOAD. THE LEAD UNIT WILL FUNCTION AS DUTY AND LAG UNIT WILL FUNCTION AS STAND-BY.
3. COOLING TEMPERATURE SETPOINT SHALL BE 85°F. WHEN TEMPERATURE RISES 2°F ABOVE SETPOINT, UNIT SHALL ENERGIZE. WHEN TEMPERATURE DROPS 2°F BELOW SETPOINT, UNIT SHALL DE-ENERGIZE.
4. HEATING TEMPERATURE SETPOINT SHALL BE 55°F. WHEN TEMPERATURE DROPS 2°F BELOW SETPOINT, UNIT SHALL ENERGIZE. WHEN TEMPERATURE RISES 2°F ABOVE SETPOINT, UNIT SHALL DE-ENERGIZE.
5. HIGH TEMPERATURE SWITCH (TSH) SHALL BE PROVIDED AND CONNECTED TO SCADA. A HIGH TEMPERATURE ALARM WILL BE SENT TO SCADA WHEN THE HIGH TEMPERATURE SWITCH DETECTS A TEMPERATURE OF 100°F OR HIGHER.

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SS	SB	CONFORMED DRAWINGS

DESIGNED BY: S. SALEEM  
 DRAWN BY: G. NITHIYAN  
 SHEET CHK'D BY: G. MAMMEN  
 CROSS CHK'D BY: S. BURDETT  
 APPROVED BY: G. MAMMEN  
 DATE: JANUARY 2023

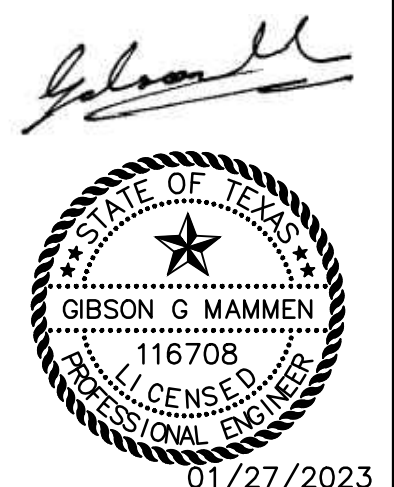


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

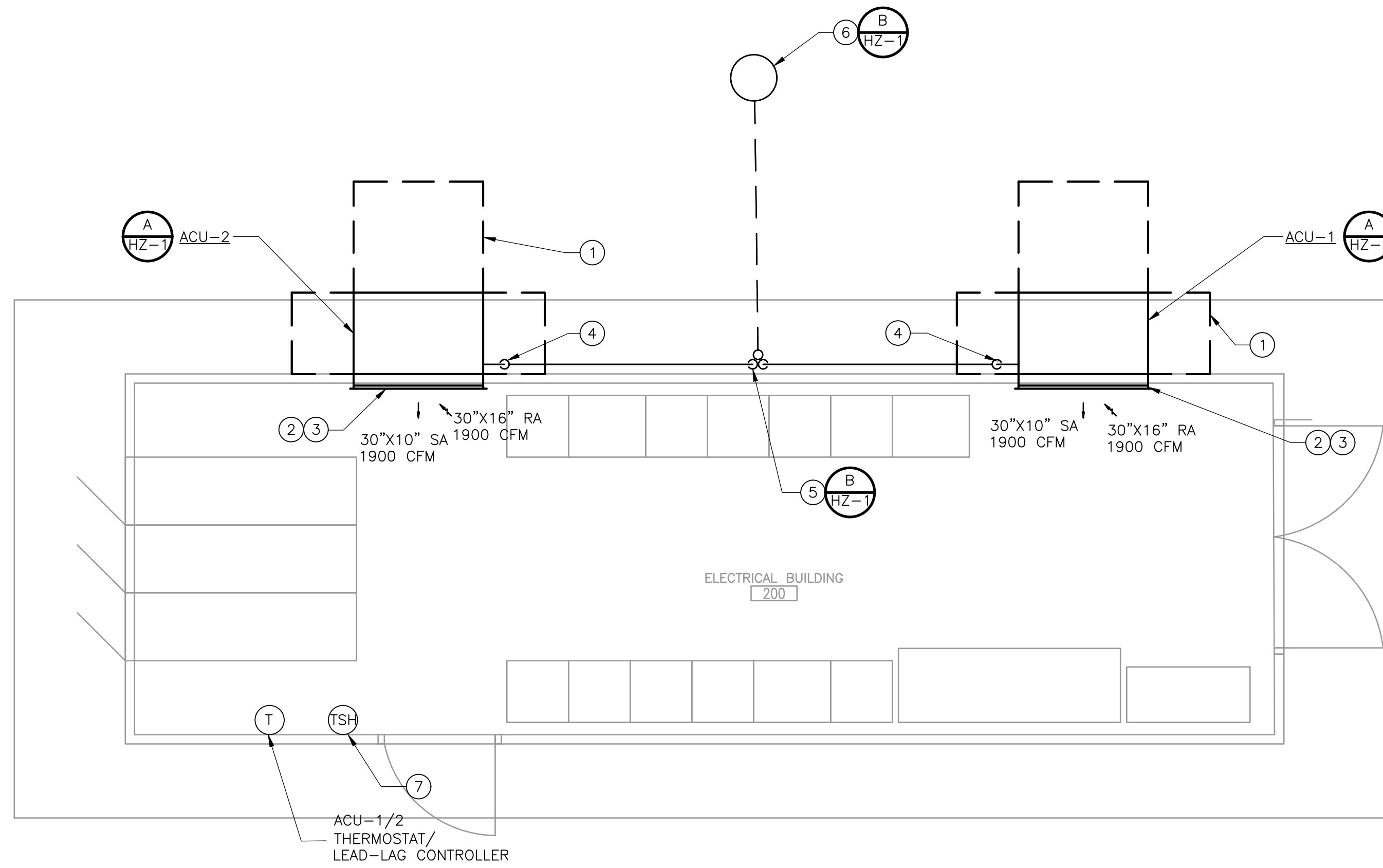
**HVAC SCHEDULE AND  
 CONTROLS SCHEMATICS**

SHEET NO.  
**H-2**

PROJECT NO. 2048-264953  
 FILE NAME: H002DSDM.DWG  
 SHEET NO.  
**H-2**



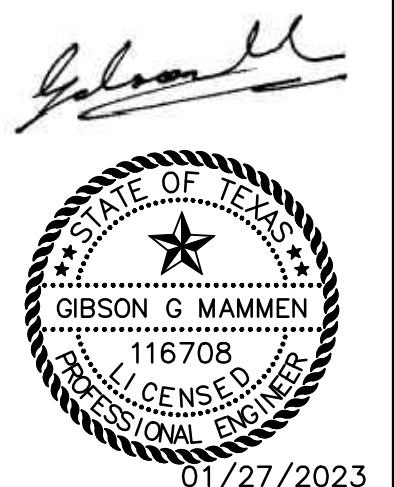
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**KEY NOTES:**

- ① EQUIPMENT SERVICE CLEARANCE REQUIREMENT. DO NOT BLOCK.
- ② 30"x10" SUPPLY AIR DUCT THROUGH WALL. BOTTOM OF THE DUCT AT 8'-4" AFF.
- ③ 30"x16" RETURN AIR DUCT THROUGH WALL. BOTTOM OF THE DUCT AT 4'-4" AFF.
- ④ PROVIDE 1" PVC DRAIN PIPING DISCHARGES TO PIPE HUB.
- ⑤ PROVIDE 2" PVC PIPE HUB AT THIS LOCATION AS PER REFERENCED DETAIL. PROVIDE PENETRATION THROUGH CONCRETE PAVEMENT.
- ⑥ PROVIDE DRY WELL AT THIS LOCATION. CONTRACTOR SHALL FIELD VERIFY AREA TO AVOID CONFLICT WITH EXISTING BURIED NPW LINE AND DRAIN LINE.
- ⑦ HIGH TEMPERATURE SWITCH (TSH-2000-1). REFER TO INSTRUMENTATION DRAWINGS.

COORDINATED E-HOUSE I POWER  
**PLAN**  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SS	SB	CONFORMED DRAWINGS

DESIGNED BY: S. SALEEM  
 DRAWN BY: G. NITHIYAN  
 SHEET CHK'D BY: G. MAMMEN  
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 APPROVED BY: G. MAMMEN  
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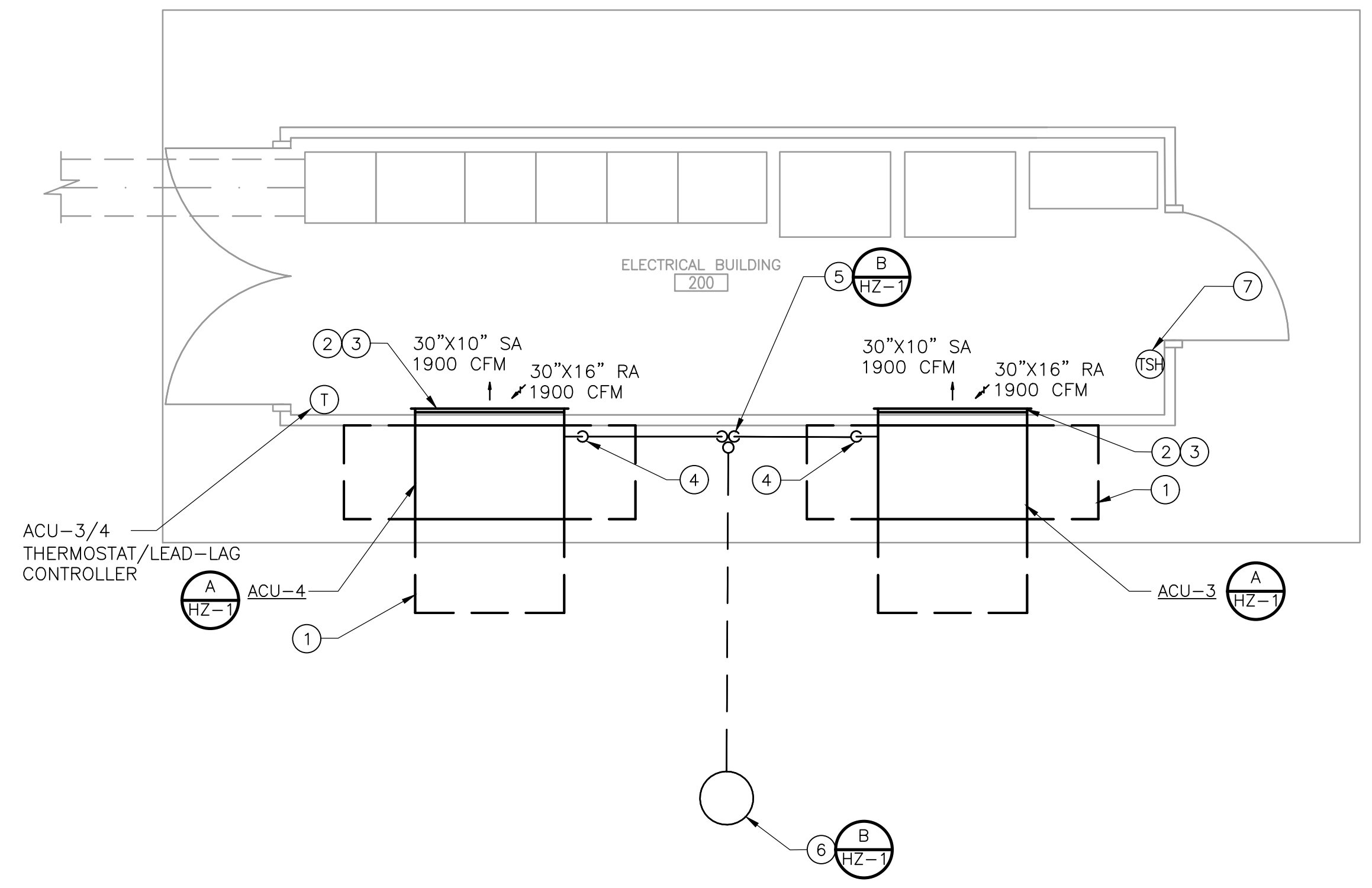
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 COORDINATED E-HOUSE I  
 HVAC PLAN

PROJECT NO.	2048-264953
FILE NAME:	H001CEPL.DWG
SHEET NO.	SG-HI-1



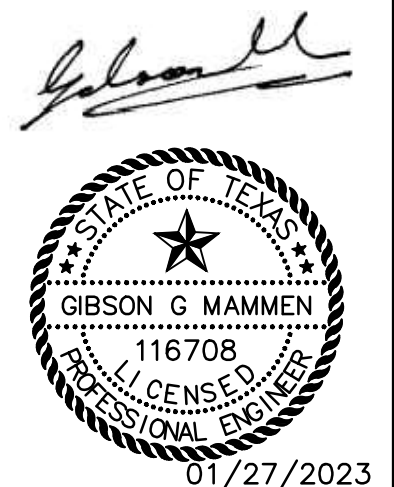
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- ⑤ PROVIDE 2" PVC PIPE HUB AT THIS LOCATION AS PER REFERENCED DETAIL. PROVIDE PENETRATION THROUGH CONCRETE PAVEMENT.
- ⑥ PROVIDE DRY WELL AT THIS LOCATION. CONTRACTOR SHALL FIELD VERIFY AREA TO AVOID CONFLICT WITH EXISTING BURIED NPW LINE AND DRAIN LINE.
- ⑦ HIGH TEMPERATURE SWITCH (TSH-2000-2). REFER TO INSTRUMENTATION DRAWINGS.

**COORDINATED E-HOUSE II POWER**  
**PLAN**  
 3/8" = 1'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SS	SB	CONFORMED DRAWINGS

DESIGNED BY: S. SALEEM  
 DRAWN BY: G. NITHIYAN  
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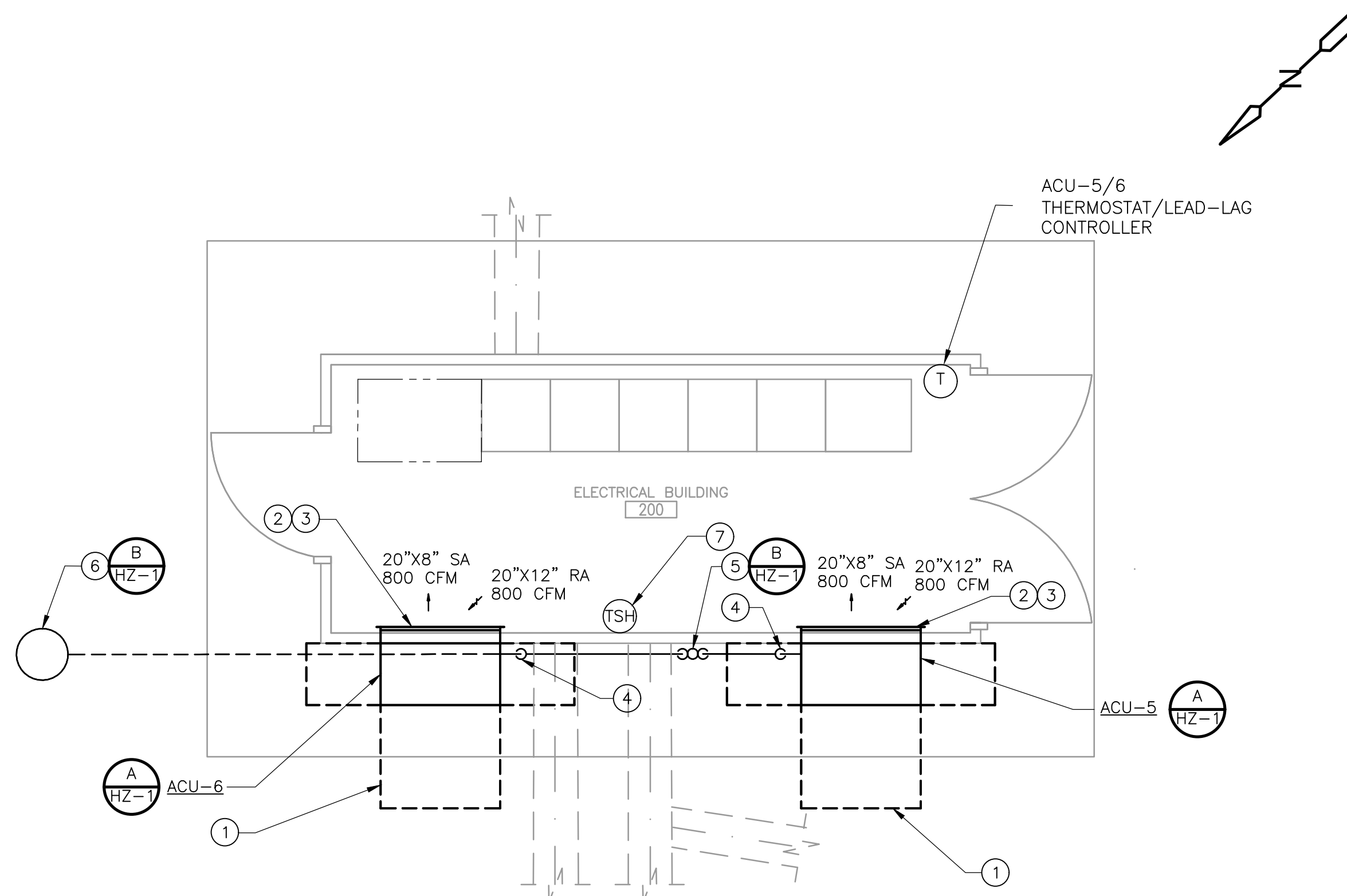


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**COORDINATED E-HOUSE II**  
**HVAC PLAN**

PROJECT NO.	2048-264953
FILE NAME:	H002CEPL.DWG
SHEET NO.	SG-HI-2

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**COORDINATED E-HOUSE III POWER PLAN**  
 3/8" = 1'-0"

- KEY NOTES:**
- ① EQUIPMENT SERVICE CLEARANCE REQUIREMENT. DO NOT BLOCK.
  - ② 20"X8" SUPPLY AIR DUCT THROUGH WALL. BOTTOM OF THE DUCT AT 7'-0" AFF.
  - ③ 20"X12" RETURN AIR DUCT THROUGH WALL. BOTTOM OF THE DUCT AT 4'-3" AFF.
  - ④ PROVIDE 1" PVC DRAIN PIPING DISCHARGES TO PIPE HUB.
  - ⑤ PROVIDE 2" PVC PIPE HUB AT THIS LOCATION AS PER REFERENCED DETAIL. PROVIDE PENETRATION THROUGH CONCRETE PAVEMENT.
  - ⑥ PROVIDE DRY WELL AT THIS LOCATION. CONTRACTOR SHALL FIELD VERIFY AREA TO AVOID CONFLICT WITH EXISTING BURIED NPW LINE AND DRAIN LINE.
  - ⑦ HIGH TEMPERATURE SWITCH (TSH-2000-3). REFER TO INSTRUMENTATION DRAWINGS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SS	SB	CONFORMED DRAWINGS

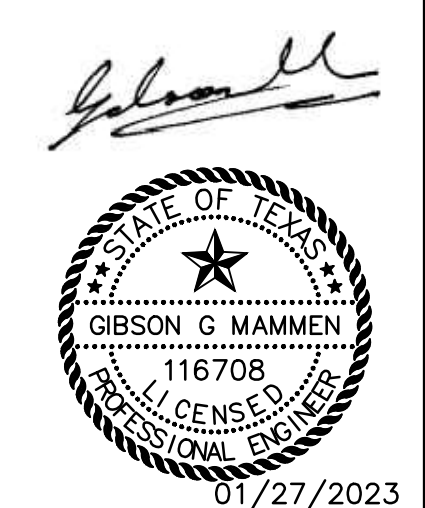
DESIGNED BY: S. SALEEM  
 DRAWN BY: G. NITHIYAN  
 SHEET CHK'D BY: G. MAMMEN  
 CROSS CHK'D BY: S. BURDETT  
 APPROVED BY: G. MAMMEN  
 DATE: JANUARY 2023

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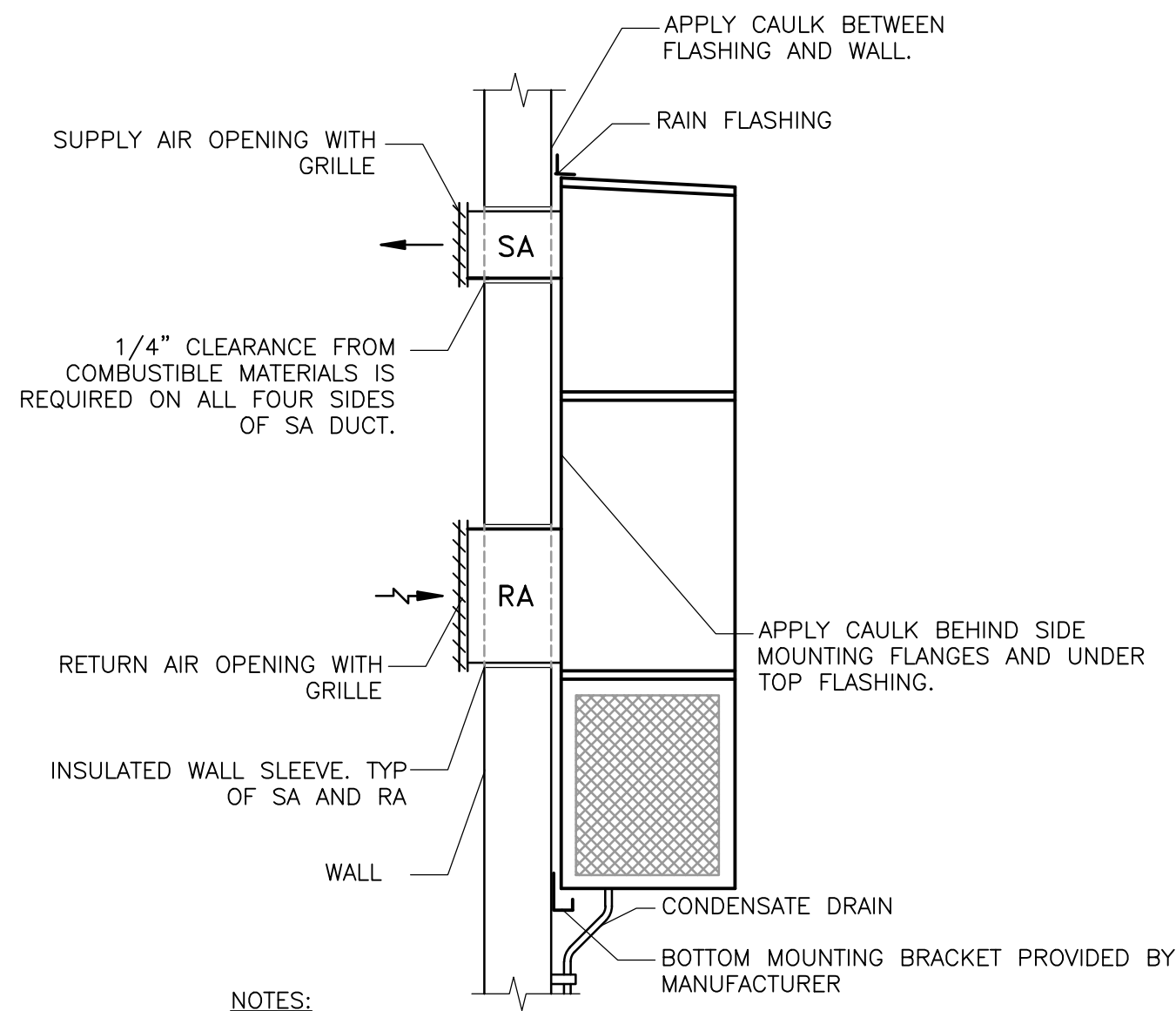
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP  
 COORDINATED E-HOUSE III  
 HVAC PLAN**

PROJECT NO.	2048-264953
FILE NAME:	H003CEPL.DWG
SHEET NO.	SG-HI-3

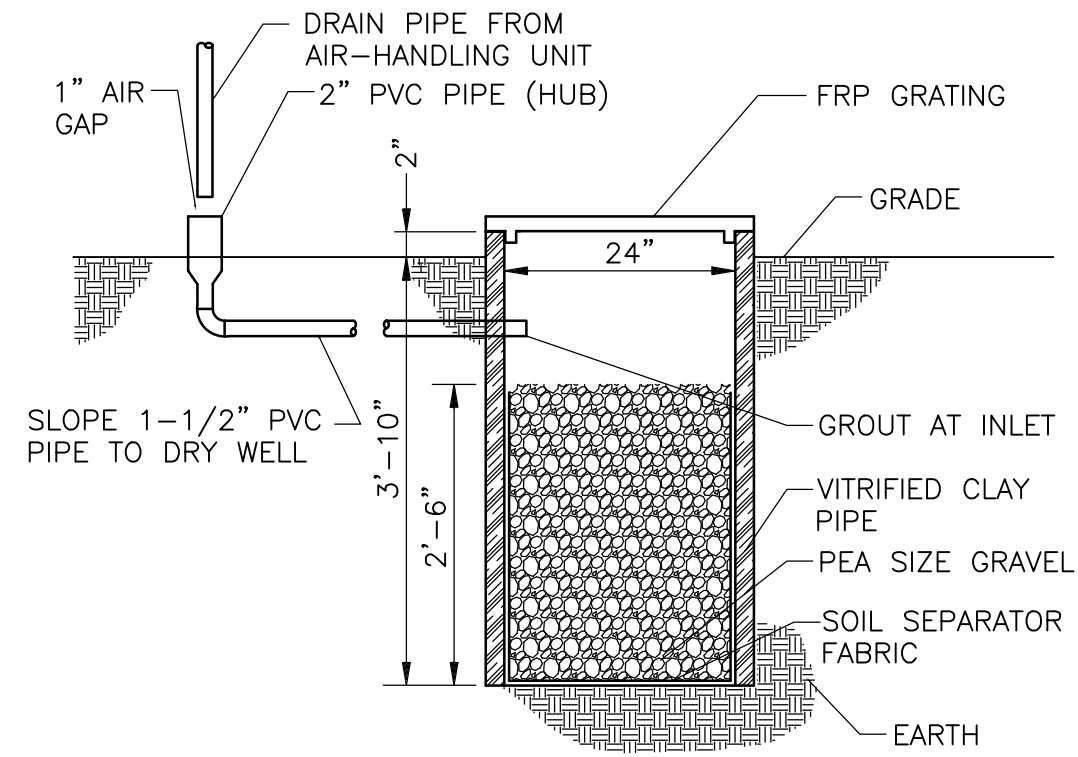


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NOTES:  
 1. COORDINATE WALL OPENING SIZES WITH ACTUAL SIZES REQUIRED BY THE UNITS FURNISHED.

WALL MOUNTED  
 AIR CONDITIONING UNIT  
 DETAIL A  
 NTS



DRY WELL  
 DETAIL B  
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SS	SB	CONFORMED DRAWINGS

DESIGNED BY: S. SALEEM  
 DRAWN BY: P. MANI  
 SHEET CHK'D BY: G. MAMMEN  
 CROSS CHK'D BY: S. BURDETT  
 APPROVED BY: G. MAMMEN  
 DATE: JANUARY 2023

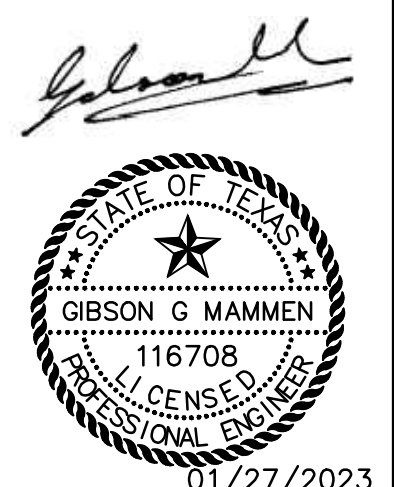
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

HVAC  
 DETAILS

SHEET NO.  
 HZ-1

PROJECT NO. 2048-264953  
 FILE NAME: H009DSL.DWG



ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
		MEDIUM VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER CS=CONTROL SWITCH
	CB	LOW VOLTAGE AIR OR MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED.
		COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC MOTOR STARTER, FULL VOLTAGE NON-REVERSING UNLESS OTHERWISE NOTED: * FVR - FULL VOLTAGE REVERSING * RVNR - REDUCED VOLTAGE NON-REVERSING RVAT - REDUCED VOLTAGE AUTOTRANSFORMER RVSS - REDUCED VOLTAGE SOLID STATE 2S1W - TWO SPEED, ONE WINDING 2S2W - TWO SPEED, TWO WINDING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
		NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE * AMPERE RATING NOTED IF OTHER THAN 30A (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	F	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE. * AMPERE RATING AND FUSE SIZE AS NOTED * AMPERE RATING NOTED IF OTHER THAN 30A FUSE RATING (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
	P 2	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD HEATER, 1 POLE UNLESS OTHERWISE NOTED "P" INDICATES WITH PILOT LIGHT "2" INDICATES TWO POLE (DIAGRAMMATICALLY SHOWN, CONTRACTOR SHALL FIELD LOCATE)
		DRAWOUT TYPE EQUIPMENT OR DEVICE
		MEDIUM VOLTAGE CABLE TERMINATION
		MEDIUM VOLTAGE AIR INTERRUPTER SWITCH
		MEDIUM VOLTAGE FUSED AIR INTERRUPTER SWITCH * FUSE RATING
		FAULT INTERRUPTER
		MEDIUM VOLTAGE FUSED MOTOR CONTROLLER
	T	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED, UNLESS OTHERWISE NOTED ON THE SINGLE LINE DIAGRAMS. ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 4. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING
		CURRENT TRANSFORMER * QUANTITY A = PRIMARY AMPERES ■ = POLARITY
		POTENTIAL TRANSFORMER * QUANTITY V = PRIMARY VOLTAGE
	G	GENERATOR, RATINGS AND CONNECTIONS AS NOTED
		AUTOMATIC OR MANUAL TRANSFER SWITCH NO.1 (ATS-1), (MTS-1) "N" INDICATES NORMAL OR PREFERRED SOURCE "S" INDICATES STANDBY OR ALTERNATE SOURCE 100A INDICATES CONTINUOUS CURRENT RATING
		VARIABLE SPEED DRIVE CONTROLLER * D.C. = D.C. DRIVE CONTROLLER SCR = SILICON CONTROLLED RECTIFIER VFD = VARIABLE FREQUENCY DRIVE
	E	UNIT HEATER - ELECTRIC HEATING COIL AND FAN # - RATING
	U	UNIT HEATER - GAS FIRED, STEAM OR WATER HEATING COIL AND FAN
	M	MOTOR, NUMERAL INDICATES HORSEPOWER
		VOLTMETER WITH SWITCH, 3 PHASE
		AMMETER WITH SWITCH, 3 PHASE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
		METER * WM - WATTMETER WHM - WATTHOUR METER WHDM - WATTHOUR DEMAND METER WHDR - WATTHOUR DEMAND RECORDER PF - POWER FACTOR METER DMU - DIGITAL METERING UNIT
		TRANSDUCER AX - CURRENT TRANSDUCER WX - WATT TRANSDUCER WHX - WATTHOUR TRANSDUCER
		RELAY, NO. AS INDICATED 25 - SYNCHRONISM CHECK RELAY 27 - UNDERVOLTAGE RELAY 32 - DIRECTIONAL POWER RELAY 38 - BEARING PROTECTIVE DEVICE 40 - LOSS OF EXCITATION RELAY 42 - RUNNING CONTACTOR/PILOT RELAY 46 - REVERSE PHASE/PHASE BALANCE/CURRENT RELAY 47 - PHASE SEQUENCE VOLTAGE RELAY 49 - MACHINE OR TRANSFORMER THERMAL RELAY 50/51 - INSTANTANEOUS/TIME OVERCURRENT RELAY 50C - INSTANTANEOUS GROUND 51 - TIME OVERCURRENT RELAY 51C - TIME OVERCURRENT RELAY, GROUNDING RESISTOR TYPE 51N - TIME OVERCURRENT RELAY, RESIDUAL TYPE 51V - TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT 51X - AUXILIARY RELAY (TRIPS CB AND ALARMS) 59 - OVERVOLTAGE RELAY 60 - NEGATIVE SEQUENCE VOLTAGE RELAY 62 - TIME DELAY RELAY 63 - OVERPRESSURE RELAY 64 - GENERATOR FIELD GROUND RELAY 67 - AC DIRECTIONAL OVERCURRENT RELAY 74 - ALARM LATCHING RELAY 83 - AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY 86 - LOCKING-OUT RELAY 87 - DIFFERENTIAL PROTECTIVE RELAY B - SUFFIX INDICATES "BUS" G - SUFFIX INDICATES "GENERATOR" GF - GROUND FAULT ST - SHUNT TRIP T - SUFFIX INDICATES "TRANSFORMER" X - SUFFIX INDICATES "AUXILIARY"
		SPECIAL CAPACITOR * SC - SURGE CAPACITOR PF - POWER FACTOR CORRECTION CAPACITOR
		TUNED POWER FACTOR CORRECTION CAPACITOR
		PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY CLOSED
		PUSHBUTTON, MOMENTARY CONTACT, SPRING RETURN, NORMALLY OPEN
	ES	EMERGENCY STOP PUSHBUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)
	PBL	START-STOP PUSHBUTTON CONTROL STATION (MOMENTARY CONTACT) WITH LOCKOUT DEVICE ON STOP
	PBM	START-STOP PUSHBUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP
	S/S	OFF/ON SELECTOR SWITCH
	LR	LOCAL/REMOTE SELECTOR SWITCH
		3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT 0-OPEN X-CLOSED POSITION TOP CONTACT MIDDLE CONTACT BOTTOM CONTACT A X O O B O X O C O O X NAMEPLATE (A/B/C) HOA - HAND/OFF/AUTO HOR - HAND/OFF/REMOTE LOR - LOCAL/OFF/REMOTE RSL - RAISE/STOP/LOWER TOA - TEST/OFF/AUTO
	GD/VF	GAS DETECTOR / VENTILATION FAILURE ALARM # INDICATES TYPE OF UNIT 1=MASTER, 2=REMOTE
		MOTOR STARTER COIL, NUMBER AS INDICATED TO DENOTE INTERLOCKING ONLY
		CONTROL RELAY COIL, NUMBER AS INDICATED

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
		PILOT LIGHT, COLOR AS NOTED * R - RED G - GREEN B - BLUE W - WHITE A - AMBER
		PILOT LIGHT, PUSH-TO-TEST TYPE, COLOR AS NOTED ABOVE.
		TIME DELAY RELAY RANGE AS NOTED SETPOINT AS NOTED # NUMBER AS INDICATED * TDE - TIME DELAY AFTER ENERGIZATION ON DELAY TDD - TIME DELAY AFTER DE-ENERGIZATION OFF DELAY
		NOTC - NORMALLY OPEN, TIMED CLOSING WHEN ENERGIZED
		NCTO - NORMALLY CLOSED, TIMED OPENING WHEN ENERGIZED
		NOTO - NORMALLY OPEN, TIMED OPENING WHEN DE-ENERGIZED
		NCTC - NORMALLY CLOSED, TIMED CLOSING WHEN DE-ENERGIZED
	LS or #	FIELD INSTRUMENT, TAG NO. AS INDICATED * INDICATES INSTRUMENT TYPE DEFINED ON LOOP SHEETS OR P & ID ## INDICATES LOOP NO.
	LS or #	LIQUID LEVEL (FLOAT) SWITCH NORMALLY OPEN, CLOSING ON RISING LEVEL
		NORMALLY CLOSED, OPENS ON RISING LEVEL
	PS or #	PRESSURE OR VACUUM SWITCH NORMALLY OPEN, CLOSING ON RISING PRESSURE
		NORMALLY CLOSED, OPENS ON RISING PRESSURE
		NORMALLY CLOSED, OPENS ON DROPPING PRESSURE
	TS or T or #	TEMPERATURE SWITCH OR THERMOSTAT NORMALLY OPEN, CLOSING ON RISING TEMPERATURE
		NORMALLY OPEN, CLOSING ON DROPPING TEMPERATURE
		NORMALLY CLOSED, OPENS ON RISING TEMPERATURE
		NORMALLY CLOSED, OPENS ON DROPPING TEMPERATURE
	FS or #	FLOW SWITCH (AIR, WATER, ETC.) NORMALLY OPEN, CLOSING ON INCREASED FLOW
		NORMALLY CLOSED, OPENS ON INCREASED FLOW
	ZS or #	POSITION (LIMIT) SWITCH NORMALLY OPEN
		NORMALLY OPEN - HELD CLOSED
		NORMALLY CLOSED
		NORMALLY CLOSED - HELD OPEN
	WS or #	TORQUE SWITCH NORMALLY OPEN, CLOSING ON HIGH TORQUE
		NORMALLY CLOSED, OPENS ON HIGH TORQUE
		UTILIZED IN CONJUNCTION WITH OTHER CONTROL SCHEMATIC SYMBOLS TO DEPICT THE PHYSICAL LOCATION OF THE DEVICE # REPRESENTS LOCATION SEE LOCATION LEGEND ON DRAWING
		CONDUCTORS OR CONDUITS CROSSING PATHS BUT NOT CONNECTED
		CONDUCTORS ELECTRICALLY CONNECTED
	S	SOLENOID VALVE

ONE LINE OR CONTROL DIAGRAM	PLAN	DESCRIPTION
		LIGHTNING ARRESTER
		GROUND OR GROUND ROD
		FUSE, AMPERE RATING AS NOTED
	HTR	STRIP HEATER OR HEATING ELEMENT
		INDUCTOR
	TG	TACHOMETER GENERATOR
		CONTACT, NORMALLY OPEN (NO)
		CONTACT, NORMALLY CLOSED (NC)
		OVERLOAD RELAY HEATER
		* KEY INTERLOCK E = ELECTRICAL INTERLOCK
		TERMINAL OR TEST BLOCK
		RESISTANCE TEMPERATURE DETECTOR
		VIBRATION DETECTOR
	DM	DAMPER MOTOR
	ETM	ELAPSED TIME METER
		MOTOR OPERATED VALVE OR GATE
		INDICATES LIMITS OF ELECTRICAL EQUIPMENT OR WIRING ENCLOSURE

**NOTES:**

- IN GENERAL CONDUIT ROUTING FOR EQUIPMENT AND DEVICES IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS WHICH SHALL INCLUDE CONDUITS SHOWN ON ONE-LINE AND RISER DIAGRAMS AND HOME-RUNS SHOWN ON PLAN DRAWINGS. REFER TO SPECIFICATIONS FOR MATERIALS AND INSTALLATION REQUIREMENTS.
- THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUITS REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.
- SWITCHGEAR AND MOTOR CONTROL CENTER COMPARTMENT DESIGNATIONS AS INDICATED BELOW:  
BLANK: NOT INTENDED FOR USE. PLATE ONLY  
SPACE: EQUIPPED WITH REQUIRED BUS AND HARDWARE FOR THE FUTURE ADDITION OF BREAKERS AND/OR STARTERS WITHIN THE SIZE AND RANGE SHOWN  
SPARE: CONTAINS A COMPLETELY INSTALLED BREAKER AND/OR STARTER OF SIZE AND TYPE INDICATED FOR FUTURE USE.
- INTERPRETATION OF ELECTRICAL DRAWINGS:  
CIRCUIT IDENTIFICATION, ROUTING, AND SIZES OF CONDUITS AND WIRES ARE SHOWN ON THE FOLLOWING DRAWINGS:  
A. ONE LINE POWER DIAGRAMS: POWER, CONTROL AND SIGNAL WIRING REQUIREMENTS FOR ELECTRICAL DISTRIBUTION EQUIPMENT AND UTILIZATION EQUIPMENT POWERED FROM SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND MAJOR POWER DISTRIBUTION PANELBOARDS ARE TYPICALLY SHOWN ON THE ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE AND QUANTITY FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT, AND SIZE OF THE GROUNDING ELECTRODE CONDUCTORS.  
B. INSTRUMENTATION AND CONTROL RISER DIAGRAMS: POWER, CONTROL, SIGNAL AND DATA HIGHWAY WIRING REQUIREMENTS FOR INSTRUMENTS AND CONTROL DEVICES CONTROLLED/MONITORED FROM INSTRUMENTATION AND CONTROL PANELS SUCH AS RTUS, PLCs, TERMINAL CABINETS, AND REMOTE I/O PANELS ARE TYPICALLY SHOWN ON THE INSTRUMENTATION AND CONTROL ONE LINE DIAGRAMS. THE PARAMETERS IDENTIFIED ON THE ONE LINE DIAGRAMS ARE: CIRCUIT IDENTIFICATION, CIRCUIT ORIGIN AND DESTINATION, CONDUIT SIZE, WIRE SIZE, QUANTITY AND TYPE FOR COMPLETE CIRCUIT LENGTH, AND AUXILIARY DEVICES ASSOCIATED WITH THE CONTROL/PROTECTION OF THE POWERED EQUIPMENT.  
C. FLOOR PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS LOCATED WITHIN STRUCTURES, FLOOR PLANS SHOW THE LOCATION OF ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, UTILIZATION EQUIPMENT, INSTRUMENTS, ANCILLARY EQUIPMENT AND DEVICES AND THE ANTICIPATED PENETRATION LOCATIONS WHERE CONDUITS EXIT/ENTER THE STRUCTURE. HOMERUNS MAY ALSO BE SHOWN FROM MISCELLANEOUS EQUIPMENT NOT SHOWN ON A ONE LINE OR RISER DIAGRAM.  
D. SITE PLANS: FOR DETERMINING THE LENGTH OF CIRCUITS EXTERIOR TO STRUCTURES AND TO IDENTIFY THE SPECIFIC REQUIREMENTS OF THE UNDERGROUND CONDUITS OR DUCT BANKS, SITE PLANS SHOW THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS WITH SECTIONS INDICATING THE CONDUIT SIZE, ARRANGEMENT AND CIRCUIT ROUTING.  
E. NOTE THAT CONDUIT SIZE WITHIN THE STRUCTURE IS INDICATED ON ONE-LINE DIAGRAM AND UNDERGROUND SIZE IS INDICATED ON DUCT BANK SECTIONS.

**GENERAL NOTE**  
THIS IS A STANDARD LEGEND. SOME SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

**EXISTING, NEW OR FUTURE CONDITION DESIGNATION**

EXISTING WORK      NEW WORK      FUTURE EXPANSION

COMPARTMENT DESIGNATION (SEE MCC FRONT ELEVATION)

MCC1-1: (2) 3" C., 3#3/0, 1#2G  
MCC1-1A: 3/4" C., 7#14, 1#14G  
MCC1-1B: 3/4" C., 3#14, 1#14G

INDICATES CONDUIT IS ALL OR PARTIALLY LOCATED UNDERGROUND. CONDUIT SIZE SHOWN INDICATES THE SIZE WITHIN STRUCTURE. UNDERGROUND CONDUIT SIZE IS SHOWN ON DUCT BANK SECTIONS.

MCC1-1: (2) 3" C., 3#3/0, 1#2G DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR, FROM NEMA SIZE 6 STARTER IN MCC-1 TO 250HP MOTOR LOAD.  
MCC1-1A: 3/4" C., 7#14, 1#14G DENOTES ONE 3/4-INCH CONDUIT CONTAINING SEVEN NO. 14 AWG GROUND CONDUCTORS AND 1 NO. 14 AWG GROUND CONDUCTOR.  
MCC1-1 AND MCC1-1A: DENOTES CONDUIT IDENTIFICATION (ID) (TYPICAL)

**NOTES:**

- PROTECTIVE/CONTROL DEVICE AS SHOWN.
- CONTROL/AUXILIARY DEVICES AT OR NEAR EQUIPMENT. EQUIPMENT SHALL BE INSTALLED AND WIRED AS REQUIRED BY EQUIPMENT FURNISHED AND/OR CONTROL DIAGRAM.

**TYPICAL ONE LINE DIAGRAM SHOWING POWER AND CONTROL TO EQUIPMENT**

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 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEENZ  
 DATE: JANUARY 2023

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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ELECTRICAL LEGEND I

PROJECT NO. 2048-264953  
 FILE NAME: E001NFLG.DWG  
 SHEET NO. E-1



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**SCOPE OF WORK:**

1. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL, COMPLETE, AND MAKE OPERATIONAL, ELECTRICAL IMPROVEMENTS SUCH AS BUT NOT LIMITED TO REPLACING THE EXISTING SWITCHBOARD AND MOTOR CONTROL CENTER(S) (MCC) WITH NEW SWITCHGEAR AND MCCS WHILE MAINTAINING OPERATIONS AT THE SAN GABRIEL WWTP.
2. PROVIDE POWER SYSTEM STUDIES IN ACCORDANCE WITH SPECIFICATION 260573.

**GENERAL NOTES:**

1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
2. COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
3. MAINTAIN EXISTING PROCESS OPERATIONS. POWER INTERRUPTIONS TO ELECTRICAL EQUIPMENT SHALL BE AT OWNER'S CONVENIENCE WITH 72 HOURS MINIMUM NOTICE. EACH INTERRUPTION SHALL HAVE PRIOR WRITTEN APPROVAL.
4. FIELD VERIFY EXISTING UNDERGROUND ELECTRICAL CONDUIT, CONCRETE DUCT BANKS, MANHOLES, PULL BOXES, ETC. AND MECHANICAL PIPING. CONTRACTOR SHALL INCLUDE IN BID COSTS ASSOCIATED WITH RELOCATION OR REMOVAL OF UNDERGROUND EQUIPMENT AS REQUIRED BY THIS CONTRACT. USE DUE CARE IN CONGESTED AREAS TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES.
5. CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES, OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY; SUBSTANDARD WORK WILL BE REJECTED.
6. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR EXACT LOCATION OF EQUIPMENT. EXCEPT WHERE DIMENSIONS ARE SHOWN, LOCATIONS OF EQUIPMENT, FIXTURES, OUTLETS, AND SIMILAR DEVICES ARE APPROXIMATE.
7. WORK SHALL COMPLY WITH NEC AND LOCAL CODES.
8. DO NOT SPLICE CONDUCTORS EXCEPT AS NOTED.
9. POWER AND CONTROL CONDUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR WIRE SIZED PER TABLE 250.122 OF THE NEC (UON).
10. COORDINATE SEQUENCE OF CONSTRUCTION WITH CIVIL, MECHANICAL, AND STRUCTURAL DISCIPLINES. PROVIDE TEMPORARY POWER AND CONTROL CIRCUITS AS REQUIRED TO MAINTAIN FACILITY OPERATION. VERIFY EXISTING UTILITIES IN AREA OF CONSTRUCTION. REFER TO CIVIL DRAWINGS FOR ADDITIONAL UNDERGROUND INFORMATION.
11. REPAIR, IN ACCORDANCE WITH SPECIFICATIONS, SIDEWALKS, WALLS, ROADWAYS, ETC. DISTURBED BY CONSTRUCTION ACTIVITIES WHETHER OR NOT SHOWN FOR REPAIR/REPAVING ON CIVIL DRAWINGS.
12. CONCEAL CONDUITS TO GREATEST EXTENT PRACTICABLE. CONDUITS RUN AT EXISTING STRUCTURES SHALL BE RUN EXPOSED.
13. WHERE LOCAL DISCONNECTS AND CONTROL PANELS ARE SHOWN ON PLAN VIEWS, LOCATIONS ARE APPROXIMATE. ADJUST LOCATION AS REQUIRED TO COMPLY WITH NEC ARTICLE 110 FOR WORKING CLEARANCES.
14. DO NOT INSTALL MAJOR CONDUIT RUNS THROUGH AREAS DESIGNATED FOR FUTURE STRUCTURES.

**SUBMITTALS:**

1. SUBMIT SHOP DRAWINGS FOR EQUIPMENT, MATERIALS AND OTHER ITEMS FURNISHED UNDER DIVISION 26.
2. SUBMIT CONDUIT SHOP DRAWINGS FOR YARD ELECTRICAL, WITHIN AND UNDER ROADS, BUILDINGS AND STRUCTURES PRIOR TO COMMENCING WORK. DO NOT POUR CONCRETE UNTIL ENGINEER HAS APPROVED THE ASSOCIATED SHOP DRAWING.
3. SUBMIT POWER SYSTEM STUDY IN ACCORDANCE WITH SECTION 26 05 73.
4. SUBMIT OPERATION AND MAINTENANCE MANUALS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
5. SUBMIT STARTUP/COMMISSIONING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
6. SUBMIT TESTING AND SERVICE REPORTS FOR EQUIPMENT AND MATERIALS FURNISHED UNDER DIVISION 26.
7. SUBMIT TRAINING PLANS FOR EQUIPMENT FURNISHED UNDER DIVISION 26.
8. SUBMIT RECORD DOCUMENTATION TO ACCURATELY SHOW COMPLETED INSTALLATION. INCLUDE MODIFICATIONS TO CONTRACT DOCUMENTS (ONE LINE POWER DIAGRAMS, EQUIPMENT ELEVATIONS, PANEL SCHEDULES, ELEMENTARY CONTROL DIAGRAMS, RISER DIAGRAMS, PLANS, CONDUIT AND DUCTBANK ROUTING, ETC) ALONG WITH ADDITIONAL DRAWINGS OR SKETCHES CREATED TO CONVEY COMPLETED INSTALLATION.

**INTERPRETATION OF CONTRACT DOCUMENTS:**

1. IF DURING PERFORMANCE OF WORK, THERE IS A CONFLICT, ERROR, OR DISCREPANCY BETWEEN OR AMONG CONTRACT DOCUMENTS AND LAWS AND REGULATIONS, PROVIDE THE HIGHER PERFORMANCE STANDARD UNLESS OTHERWISE DIRECTED BY ENGINEER.
2. PRIORITY OF DOCUMENTS: FIGURED DIMENSIONS GOVERN OVER SCALED DIMENSIONS, DETAILED DRAWINGS GOVERN OVER GENERAL DRAWINGS, LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS, CHANGE ORDER DRAWINGS SUPERCEDE ORIGINAL CONTRACT DRAWINGS, AND CONTRACT DRAWINGS GOVERN SHOP DRAWINGS.
3. IN GENERAL, DRAWINGS DO NOT SHOW CONDUIT ROUTING. PLAN AND ROUTE CONDUITS IN COMPLIANCE WITH SPECIFICATIONS AND DRAWING DETAILS. COORDINATE INSTALLATION WITH OTHER TRADES AND ACTUAL SUPPLIED EQUIPMENT.
4. DUCTBANK ROUTING SHOWN ON ELECTRICAL SITE PLANS IS DIAGRAMMATIC IN NATURE AND MAY NOT INCLUDE INTERFERENCES THAT MAY BE PRESENT.
5. SEE ADDITIONAL NOTES ON ELECTRICAL LEGEND II SHEET E-2.

**ENCLOSURE TYPES:**

PROVIDE THE FOLLOWING NEMA TYPE ELECTRICAL ENCLOSURES, UNLESS OTHERWISE NOTED:

1. NEMA 1 IN DRY, NON-PROCESS INDOOR LOCATIONS.
2. NEMA 12 IN "DUST" LOCATIONS SHOWN ON THE DRAWINGS.
3. NEMA 4X IN OUTDOOR LOCATIONS, ROOMS BELOW GRADE INCLUDING BASEMENTS AND BURIED VAULTS AND "DAMP" OR "WET" LOCATIONS SHOWN ON THE DRAWINGS.
4. NEMA 4X IN "CORROSIVE" LOCATIONS SHOWN ON THE DRAWINGS.
5. NEMA 7 AND LISTED FOR THE SPECIFIC NEC HAZARDOUS AREA CLASSIFICATION AS SHOWN ON THE DRAWINGS.

**NEC CLASSIFIED HAZARDOUS AREAS:**

1. THIS PROJECT INCLUDES NEC CLASSIFIED HAZARDOUS AREAS. THE FOLLOWING NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS APPLY: NFPA 820-2020.
2. REFER TO SHEET SG-G-5 FOR ADDITIONAL INFORMATION ON CLASSIFICATION BOUNDARIES.
3. EQUIPMENT, MATERIALS, AND INSTALLATION SHALL COMPLY WITH NEC ARTICLES 500, 501, 502, AND 503.

**MATERIALS AND EQUIPMENT:**

1. PROVIDE NEW MATERIALS AND EQUIPMENT UNLESS SPECIFICALLY NOTED OTHERWISE.
2. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE LISTED BY UNDERWRITER'S LABORATORIES, INC., AND SHALL BEAR APPROPRIATE UL LISTING MARK OR CLASSIFICATION MARKING. EQUIPMENT, MATERIALS, ETC. UTILIZED NOT BEARING A UL CERTIFICATION SHALL BE FIELD OR FACTORY UL CERTIFIED PRIOR TO EQUIPMENT ACCEPTANCE AND USE.
3. PROVIDE MAJOR ELECTRICAL EQUIPMENT BY A SINGLE MANUFACTURER: I.E. UNIT SUBSTATIONS, SWITCHGEAR, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, PANELBOARDS, ETC.

**EQUIPMENT SIZE, HANDLING AND STORAGE:**

1. COORDINATE WITH EQUIPMENT MANUFACTURER SHIPPING SPLITS TO PERMIT SAFE HANDLING AND PASSAGE OF EQUIPMENT TO FINAL INSTALLATION LOCATION.
2. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR UPRIGHT EQUIPMENT ORIENTATION DURING TRANSPORTATION.
3. PROTECT EQUIPMENT FROM MECHANICAL INJURY, OR EXPOSURE TO MOISTURE, CHEMICALS, OR CORROSIVE GASES. DO NOT STORE ELECTRICAL EQUIPMENT OUTDOORS.
4. PROVIDE AND ENERGIZE TEMPORARY SPACE HEATERS IF REQUIRED TO CONTROL MOISTURE DURING STORAGE.

**CUTTING AND PATCHING:**

1. CUT AND PATCH IN A WORKMANLIKE MANNER AS REQUIRED TO INSTALL ELECTRICAL WORK.
2. CUTTING OF STRUCTURAL MEMBERS SUCH AS JOISTS, BEAMS, GIRDERS OR COLUMNS IS PROHIBITED.
3. PATCH SURFACES TO RESTORE TO ORIGINAL INTEGRITY (WATERPROOF OR FIREPROOF AS REQUIRED) AND APPEARANCE.

**SERVICE AND METERING:**

1. THE POWER COMPANY SERVING THIS PROJECT IS GEORGETOWN UTILITY SERVICES (GUS). SERVICE AT THE SAN GABRIEL WASTE WATER TREATMENT PLANT WILL BE OBTAINED AT 480V, 3PHASE, 4WIRE, 60HZ FROM PAD MOUNTED TRANSFORMER FURNISHED BY GUS. COMPLY WITH POWER COMPANY STANDARDS.
2. COORDINATE THE ELECTRICAL SERVICE REQUIREMENTS WITH POWER COMPANY AND MEET WITH THE ELECTRICAL DIVISION REPRESENTATIVE BEFORE CONSTRUCTION STARTS.
3. PAY FOR FEES AND CHARGES AS REQUIRED FOR TEMPORARY/CONSTRUCTION POWER FOR CONTRACTOR'S USE.
4. PAY FEES AND CHARGES FOR PERMANENT SERVICE VIA BID ALLOWANCE AND SUBMIT POWER COMPANY INVOICES TO OWNER FOR SUBSTANTIATION.
5. POWER COMPANY WORK:
  - FURNISH AND INSTALL RISER POLE AND POLE LINES.
  - FURNISH AND INSTALL PRIMARY UNDERGROUND CONDUCTORS.
  - FURNISH AND INSTALL PAD MOUNTED TRANSFORMER.
  - TERMINATE PRIMARY UNDERGROUND CONDUCTORS AT RISER POLE.
  - TERMINATE PRIMARY UNDERGROUND CONDUCTORS AT PAD MOUNTED TRANSFORMER.
  - FURNISH AND INSTALL METERING CURRENT TRANSFORMERS (CT'S), POTENTIAL TRANSFORMERS (PT'S), METER(S) AND METER WIRING.
  - TERMINATE SECONDARY UNDERGROUND CONDUCTORS AT PAD MOUNTED TRANSFORMER.
  - REMOVAL OF EXISTING 1000 KVA AND 300 KVA UTILITY PAD MOUNTED TRANSFORMERS.
6. CONTRACTOR WORK:
  - ARRANGEMENTS WITH POWER COMPANY TO OBTAIN SERVICES, PAY POWER COMPANY FEES, AND PROVIDE LABOR AND MATERIALS REQUIRED FOR ELECTRICAL SERVICE.
  - FURNISH AND INSTALL PRIMARY UNDERGROUND CONDUITS FROM UTILITY RISER POLE TO PAD MOUNTED TRANSFORMER.
  - FURNISH AND INSTALL PAD MOUNTED TRANSFORMER AND GROUNDING PER POWER COMPANY REQUIREMENTS.
  - MANDREL TEST ALL NEW UNDERGROUND CONDUITS. COORDINATE WITH POWER COMPANY FOR A REPRESENTATIVE TO BE PRESENT TO WITNESS THE MANDREL TEST.
  - COORDINATE WITH POWER COMPANY TO HAVE A REPRESENTATIVE INSPECT WORK PRIOR TO COMPLETION.
  - COORDINATE WITH POWER COMPANY FOR REMOVAL OF EXISTING UTILITY PAD MOUNTED TRANSFORMER.

**CLEANING:**

1. REMOVE ALL RUBBISH AND DEBRIS FROM INSIDE AND AROUND ELECTRICAL EQUIPMENT AND ENCLOSURES.
2. REMOVE DIRT, DUST OR CONCRETE SPATTER FROM INTERIOR AND EXTERIOR OF EQUIPMENT USING BRUSHES, VACUUM CLEANER OR CLEAN LINT-FREE RAGS. DO NOT USE COMPRESSED AIR.

**DELEGATED DESIGN / PROFESSIONAL ENGINEERING SERVICES:**

1. WHEN ENGINEERING SERVICES ARE SPECIFIED TO BE PROVIDED BY CONTRACTOR, CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER TO PERFORM THE SERVICES. ENGINEER SHALL BE LICENSED AT THE TIME SERVICES ARE PERFORMED AND LICENSED IN THE STATE IN WHICH PROJECT IS LOCATED. IF THE STATE ISSUES DISCIPLINE SPECIFIC LICENSES, ENGINEER SHALL BE LICENSED IN THE APPLICABLE DISCIPLINE. ENGINEER SHALL BE EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED.
2. ENGINEERING WORK SHALL BE DONE ACCORDING TO THE APPLICABLE REGULATIONS FOR PROFESSIONAL ENGINEERS TO INCLUDE SIGNING, SEALING AND DATING DOCUMENTS.

**DEMOLITION AND DISPOSITION OF EQUIPMENT:**

1. DRAWING PLANS SHOWING REMOVAL OF MAJOR MECHANICAL AND ELECTRICAL EQUIPMENT IS NOT INTENDED TO SHOW ALL COMPONENTS TO BE DEMOLISHED. NOT ALL PIPING, CONDUITS, DUCTS, EQUIPMENT, ANCILLARY DEVICES, ETC. ARE SHOWN. THE CONTRACTOR IS TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
2. UNLESS OTHERWISE SPECIFICALLY NOTED, REMOVE UNUSED EXPOSED CONDUIT AND SUPPORT SYSTEMS BACK TO SOURCE AND/OR POINT OF CONCEALMENT INCLUDING ABOVE ACCESSIBLE CEILING FINISHES. WIRING SHALL BE REMOVED BACK TO SOURCE.
3. CUT FLUSH WITH SLAB, CEILING, OR WALL ABANDONED CONCEALED CONDUIT. SUITABLY PLUG CONDUITS.
4. REPAIR AND RESTORE ADJACENT CONSTRUCTION AND FINISHES AFTER DEMOLITION IS COMPLETE.
5. MATERIAL AND EQUIPMENT INDICATED FOR REMOVAL OR DEMOLITION IS TO BECOME CONTRACTOR'S PROPERTY UPON REMOVAL, UNLESS NOTED OTHERWISE. REMOVED MATERIAL TO BE PROPERLY HANDLED AND DISPOSED.
6. LIMIT FULL OR PARTIAL SHUTDOWNS TO THE CONSTRAINTS SPECIFIED UNDER SECTION CIP3 FOR MAINTENANCE OF PLANT OPERATIONS AND SEQUENCE OF CONSTRUCTION. WHEN REQUIRED BY THE OWNER, THE CONTRACTOR SHALL RESTORE POWER AND OPERATIONS DURING ANY SHUTDOWN.
7. THERE SHALL BE NO SHUTDOWNS PERFORMED UNTIL ALL ELECTRICAL EQUIPMENT IS APPROVED AND HAS BEEN DELIVERED TO THE PLANT SITE AND INSTALLED TO THE GREATEST EXTENT POSSIBLE.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	VM	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

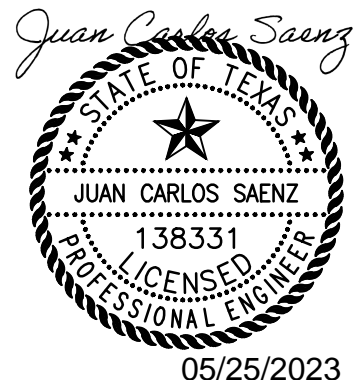
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
  
**SAN GABRIEL WWTP  
REHABILITATION**

**ELECTRICAL NOTES**  
  
 SHEET NO.  
**E-3**

PROJECT NO. 2048-264953  
 FILE NAME: E003NFNT.DWG  
 SHEET NO.  
**E-3**



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LIGHTING FIXTURE SCHEDULE							
TYPE	LAMPS	MOUNTING	DESCRIPTION	VOLTAGE	MINIMUM LUMEN OUTPUT	MAXIMUM WATTAGE	MANUFACTURER
AL1	LED	PENDANT	4 FOOT LINEAR LED STRIP FIXTURE WITH UL LISTED FOR DAMP LOCATION, 4000K, 80 CRI	120V	6996	46	EATON METALUX 4ILED-LD5-7-WUNV-L840-CD1 OR EQUAL
AL1E	LED	PENDANT	4 FOOT LINEAR LED STRIP FIXTURE WITH UL LISTED FOR DAMP LOCATION, 4000K, 80 CRI AND EMERGENCY BATTERY PACK	120V	6996	46	EATON METALUX 4ILED-LD5-7-WUNV-L840-EL7W-CD1 OR EQUAL
CL1	LED	PENDANT	INDUSTRIAL HIGH BAY LIGHTING, SEALED DIE CAST HOUSING, 80 CRI, 4000K, L80 HOURS = 170,000 @ 25 DEGREES CELSIUS, WET LOCATION LISTED, RATED FOR CORROSIVE ENVIRONMENT, AND INTEGRATED OCCUPANCY AND DAYLIGHT SENSOR.	120V	16326	74	EATON METALUX BMK-15-MCL-UNV-L840-CD1-SVPD3-U OR EQUAL
WL1	LED	WALL	LED ARCHITECTURAL WALL SCONCE, DIE CAST ALUMINUM BACK PLATE, TYPE 3 DISTRIBUTION, BRONZE FINISH WITH INTEGRAL PHOTOCELL AND OCCUPANCY SENORS, WET LOCATION UL LISTED. (PROVIDE ONE SCP REMOTE CONTROL)	120V	1556	15	HUBELL LIGHTING LNC2-9L-4K-3-U-DBT-PCU OR EQUAL
WLE1	LED	WALL	LED ARCHITECTURAL WALL SCONCE, DIE CAST ALUMINUM BACK PLATE, TYPE 3 DISTRIBUTION, BRONZE FINISH WITH INTEGRAL PHOTOCELL AND OCCUPANCY SENORS, WET LOCATION UL LISTED, WITH BATTERY BACK UP. (PROVIDE ONE SCP REMOTE CONTROL)	120V	1556	15	HUBELL LIGHTING LNC2-9L-4K-3-U-DBT-PCU-E OR EQUAL
E1	LED	UNIVERSAL	EXIT SIGN SINGLE FACE SELF POWERED WITH RED LETTERS, WHITE FINISH, MAINTENANCE FREE SEALED NICKEL-CADMIUM BATTERY WITH 90 MINUTES OF EMERGENCY POWER, SELF DIAGNOSTICS	120V		1.3	LITHONIA LE S 1 R EL N SD OR EQUAL

**LIGHTING FIXTURE  
SCHEDULE**  
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	6/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: V. MANJU  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
  
**SAN GABRIEL WWTP  
REHABILITATION**

**ELECTRICAL  
LIGHTING FIXTURE SCHEDULE**

PROJECT NO. 2048-264953  
 FILE NAME: E004LFSC.DWG  
 SHEET NO.  
**E-4**

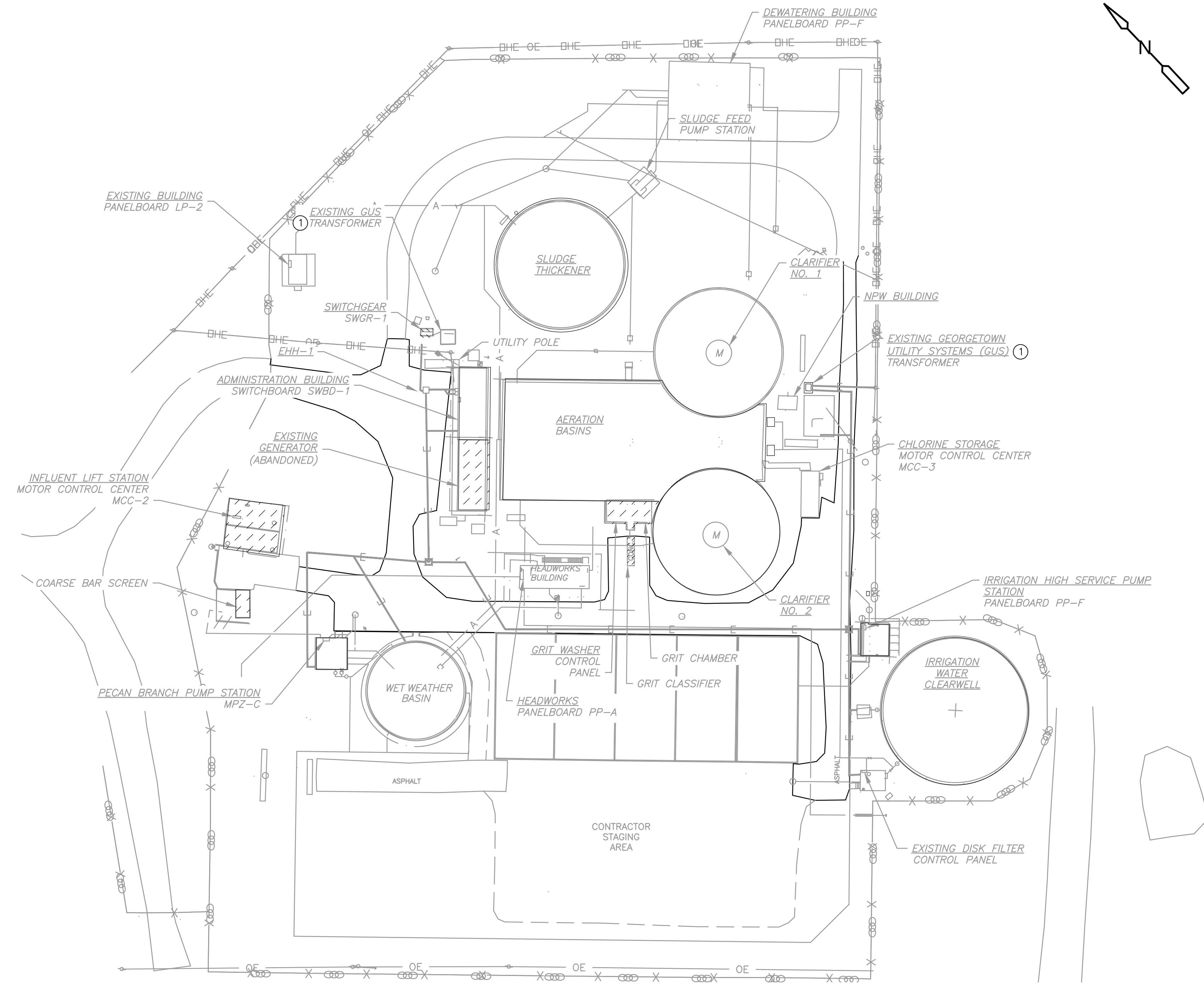


**LEGEND:**  
 // // // // // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**KEY NOTES:**  
 ① COORDINATE WITH GEORGETOWN UTILITY SYSTEMS (GUS) FOR REMOVAL OF THE EXISTING TRANSFORMER.

**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER UNDOCUMENTED CHANGES MAY EXIST. PROVIDE THE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. IN ALL AREAS INVOLVING DEMOLITION, ALL EQUIPMENT, UNUSED CONDUIT, PULLBOXES, AND SUPPORT MATERIAL MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED. THE AREAS SHALL BE CLEANED OF DEMOLITION DEBRIS.
3. THE OWNER RETAINS THE RIGHT TO KEEP ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRES REMOVED FROM THE EXISTING INSTALLATION. MOVE EQUIPMENT TO DESIGNATED STORAGE LOCATION ON-SITE. CONTRACTOR IS RESPONSIBLE FOR OFFSITE DISPOSAL OF UNWANTED MATERIAL.



**SAN GABRIEL ELECTRICAL DEMOLITION SITE PLAN**

1" = 40'  
 20 0 40

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJUJ  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP OVERALL SITE ELECTRICAL DEMOLITION PLAN**  
 SHEET NO. **SG-D-100**



PROJECT NO. 2048-264953  
 FILE NAME: SGD1STPL.DWG  
 SHEET NO. **SG-D-100**

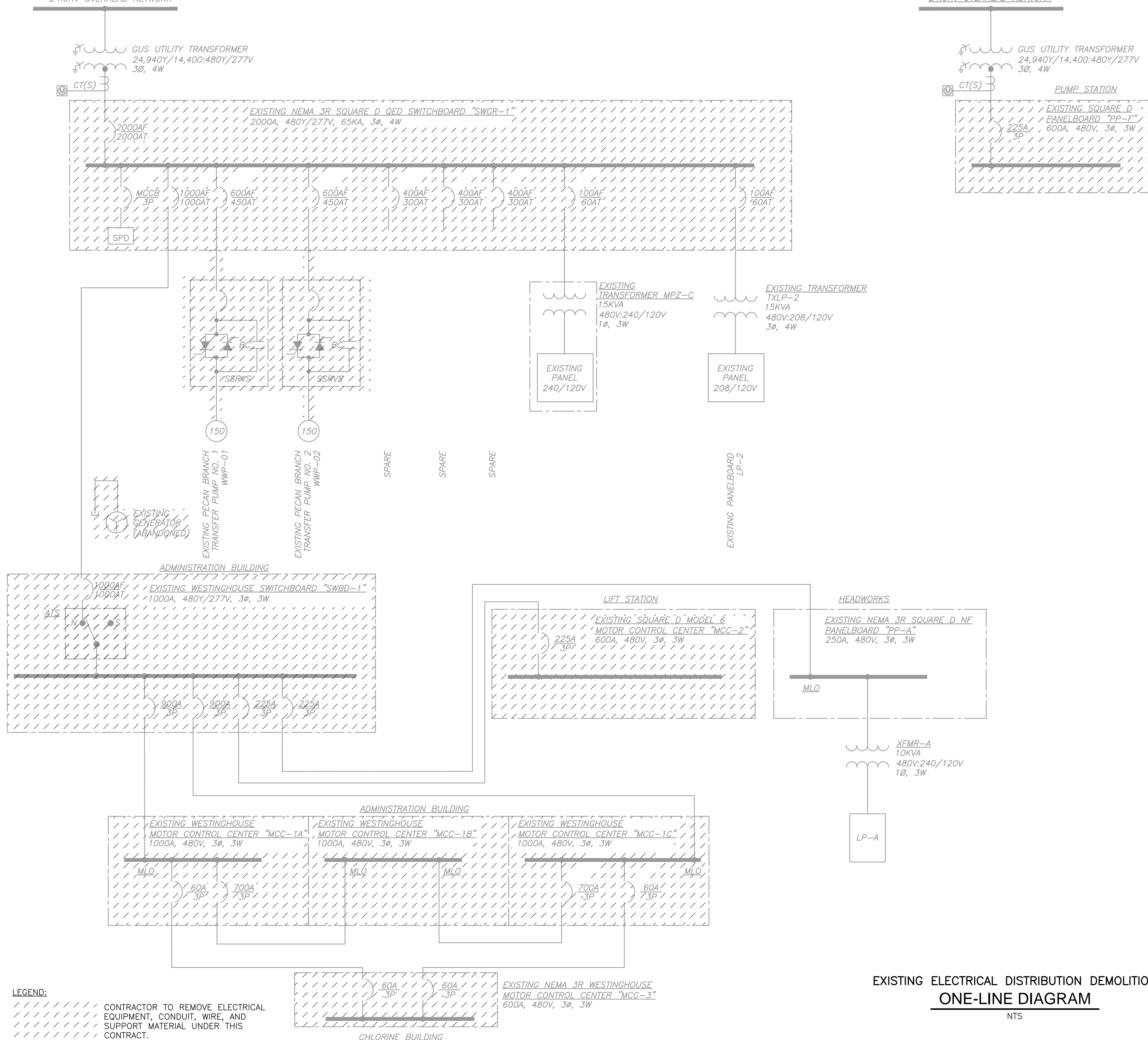


TO GEORGETOWN UTILITY SERVICES  
24.9KV OVERHEAD NETWORK

TO GEORGETOWN UTILITY SERVICES  
24.9KV OVERHEAD NETWORK

**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWINGS REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER, UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION.
2. EQUIPMENT CONNECTIONS AT THE PLANT REQUIRE TEMPORARY OR PARTIAL SHUTDOWNS. THE CONTRACTOR SHALL MAKE EVERY EFFORT NECESSARY TO MINIMIZE THE SHUTDOWN TIME AND COORDINATE WITH THE OWNER PRIOR TO ATTEMPTING ANY SUCH POWER INTERRUPTIONS. FULL OR PARTIAL SHUTDOWNS SHALL BE LIMITED TO THE CONSTRAINTS SPECIFIED UNDER SECTION CIP3. WHEN REQUIRED BY THE OWNER, THE CONTRACTOR SHALL RESTORE POWER AND OPERATIONS DURING ANY SHUTDOWN.
3. THE OWNER SHALL BE NOTIFIED 7 CALENDER DAYS IN ADVANCE OF WORK REQUIRING POWER INTERRUPTIONS. ALL POWER SHUTDOWNS AND SWITCHOVERS SHALL BE REQUESTED IN WRITING TO THE OWNER FOR APPROVAL. MANDATORY SHUTDOWN MEETINGS BETWEEN THE CONTRACTOR AND OWNER SHALL BE HELD TO REVIEW EACH OUTAGE REQUEST PRIOR TO APPROVAL OF ANY OUTAGE.
4. DURING SHUTDOWNS, SWITCHOVERS, TESTING, START-UP, ETC. THE CONTRACTOR SHALL HAVE THE MANPOWER, EQUIPMENT AND MANUFACTURER'S REPRESENTATIVES REQUIRED TO MAKE ANY NECESSARY ADJUSTMENTS, REPAIRS, RESTORATION OF POWER, TRAINING, ETC. IN ORDER TO KEEP THE PLANT OPERATIONAL.
5. THERE SHALL BE NO SHUTDOWNS PERFORMED UNTIL ALL ELECTRICAL EQUIPMENT IS APPROVED AND HAS BEEN DELIVERED TO THE PLANT SITE AND INSTALLED TO THE GREATEST EXTENT POSSIBLE.
6. THE OWNER RETAINS THE RIGHT TO KEEP ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRES REMOVED FROM THE EXISTING INSTALLATION. MOVE EQUIPMENT TO DESIGNATED STORAGE LOCATION ONSITE. CONTRACTOR IS RESPONSIBLE FOR OFFSITE DISPOSAL OF UNWANTED MATERIAL.
7. IN ALL AREAS INVOLVED DEMOLITION, ALL EQUIPMENT, UNUSED WIRING, UNUSED CONDUIT, PULLBOXES, AND SUPPORT MATERIAL MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED. THE AREAS SHALL BE CLEANED OF DEMOLITION DEBRIS.



EXISTING ELECTRICAL DISTRIBUTION DEMOLITION  
**ONE-LINE DIAGRAM**  
NTS

**LEGEND:**  
 [Hatched Area] CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

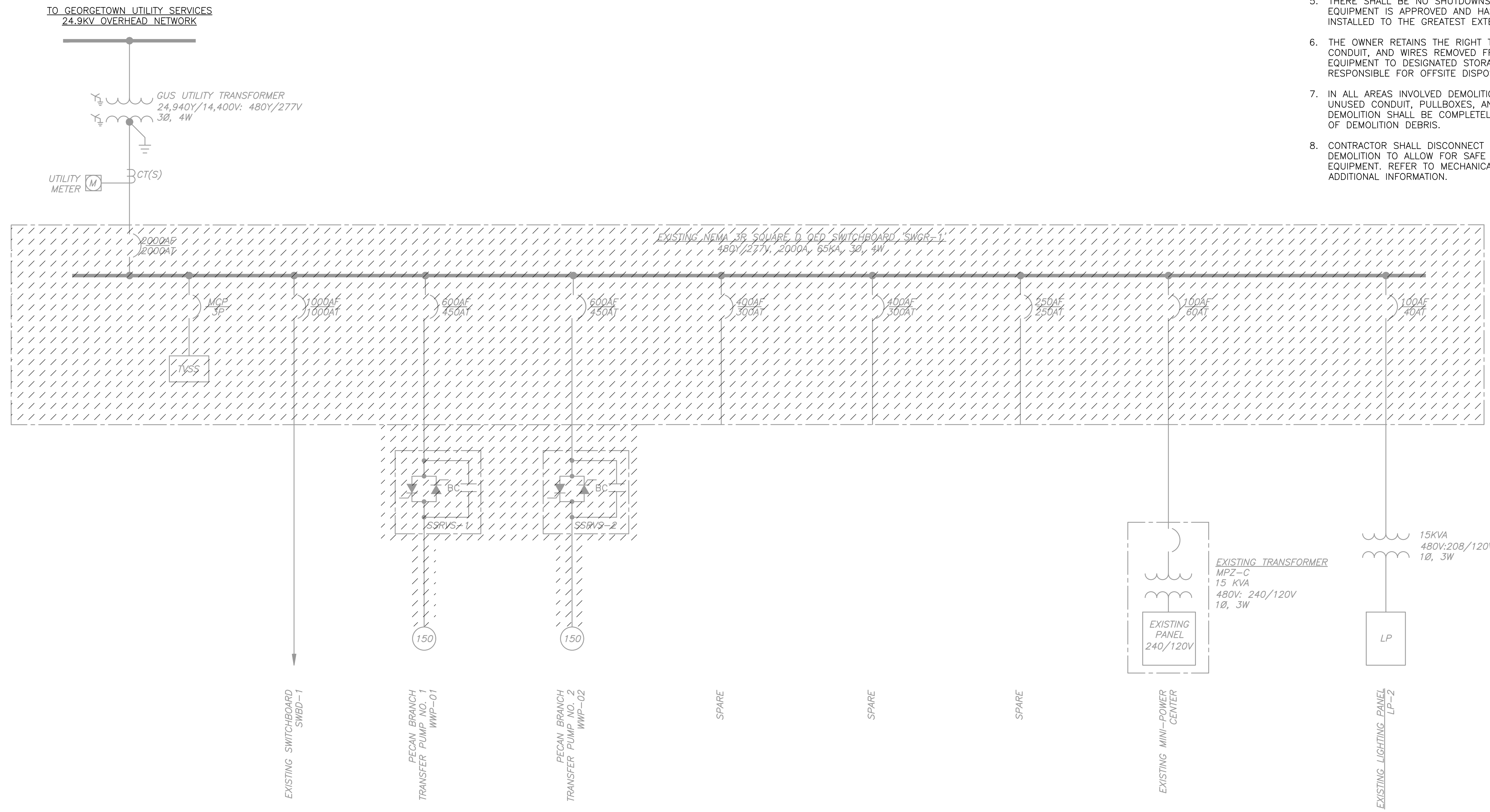
**SAN GABRIEL WWTP  
 EXISTING ELECTRICAL DISTRIBUTION  
 DEMOLITION ONE-LINE DIAGRAM**

PROJECT NO.	2048-264953
FILE NAME:	SGD2NFOL.DWG
SHEET NO.	<b>SG-D-200</b>

**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

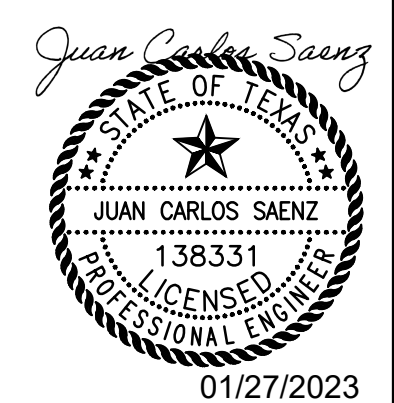
**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWINGS REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER, UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION.
2. EQUIPMENT CONNECTIONS AT THE PLANT REQUIRE TEMPORARY OR PARTIAL SHUTDOWNS. THE CONTRACTOR SHALL MAKE EVERY EFFORT NECESSARY TO MINIMIZE THE SHUTDOWN TIME AND COORDINATE WITH THE OWNER PRIOR TO ATTEMPTING ANY SUCH POWER INTERRUPTIONS. FULL OR PARTIAL SHUTDOWNS SHALL BE LIMITED TO THE CONSTRAINTS SPECIFIED UNDER SECTION CIP3. WHEN REQUIRED BY THE OWNER, THE CONTRACTOR SHALL RESTORE POWER AND OPERATIONS DURING ANY SHUTDOWN.
3. THE OWNER SHALL BE NOTIFIED 7 CALENDER DAYS IN ADVANCE OF WORK REQUIRING POWER INTERRUPTIONS. ALL POWER SHUTDOWNS AND SWITCHOVERS SHALL BE REQUESTED IN WRITING TO THE OWNER FOR APPROVAL. MANDATORY SHUTDOWN MEETINGS BETWEEN THE CONTRACTOR AND OWNER SHALL BE HELD TO REVIEW EACH OUTAGE REQUEST PRIOR TO APPROVAL OF ANY OUTAGE.
4. DURING SHUTDOWNS, SWITCHOVERS, TESTING, START-UP, ETC. THE CONTRACTOR SHALL HAVE THE MANPOWER, EQUIPMENT AND MANUFACTURER'S REPRESENTATIVES REQUIRED TO MAKE ANY NECESSARY ADJUSTMENTS, REPAIRS, RESTORATION OF POWER, TRAINING, ETC. IN ORDER TO KEEP THE PLANT OPERATIONAL.
5. THERE SHALL BE NO SHUTDOWNS PERFORMED UNTIL ALL ELECTRICAL EQUIPMENT IS APPROVED AND HAS BEEN DELIVERED TO THE PLANT SITE AND INSTALLED TO THE GREATEST EXTENT POSSIBLE.
6. THE OWNER RETAINS THE RIGHT TO KEEP ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRES REMOVED FROM THE EXISTING INSTALLATION. MOVE EQUIPMENT TO DESIGNATED STORAGE LOCATION ONSITE. CONTRACTOR IS RESPONSIBLE FOR OFFSITE DISPOSAL OF UNWANTED MATERIAL.
7. IN ALL AREAS INVOLVED DEMOLITION, ALL EQUIPMENT, UNUSED WIRING, UNUSED CONDUIT, PULLBOXES, AND SUPPORT MATERIAL MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED. THE AREAS SHALL BE CLEANED OF DEMOLITION DEBRIS.
8. CONTRACTOR SHALL DISCONNECT ELECTRICAL CIRCUITS IDENTIFIED FOR DEMOLITION TO ALLOW FOR SAFE AND COMPLETE REMOVAL OF DESIGNATED EQUIPMENT. REFER TO MECHANICAL DEMO PLANS AND DEMO ONE-LINES FOR ADDITIONAL INFORMATION.



**SAN GABRIEL EXISTING SWITCHGEAR SWGR-1 DEMOLITION ONE-LINE DIAGRAM**

NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

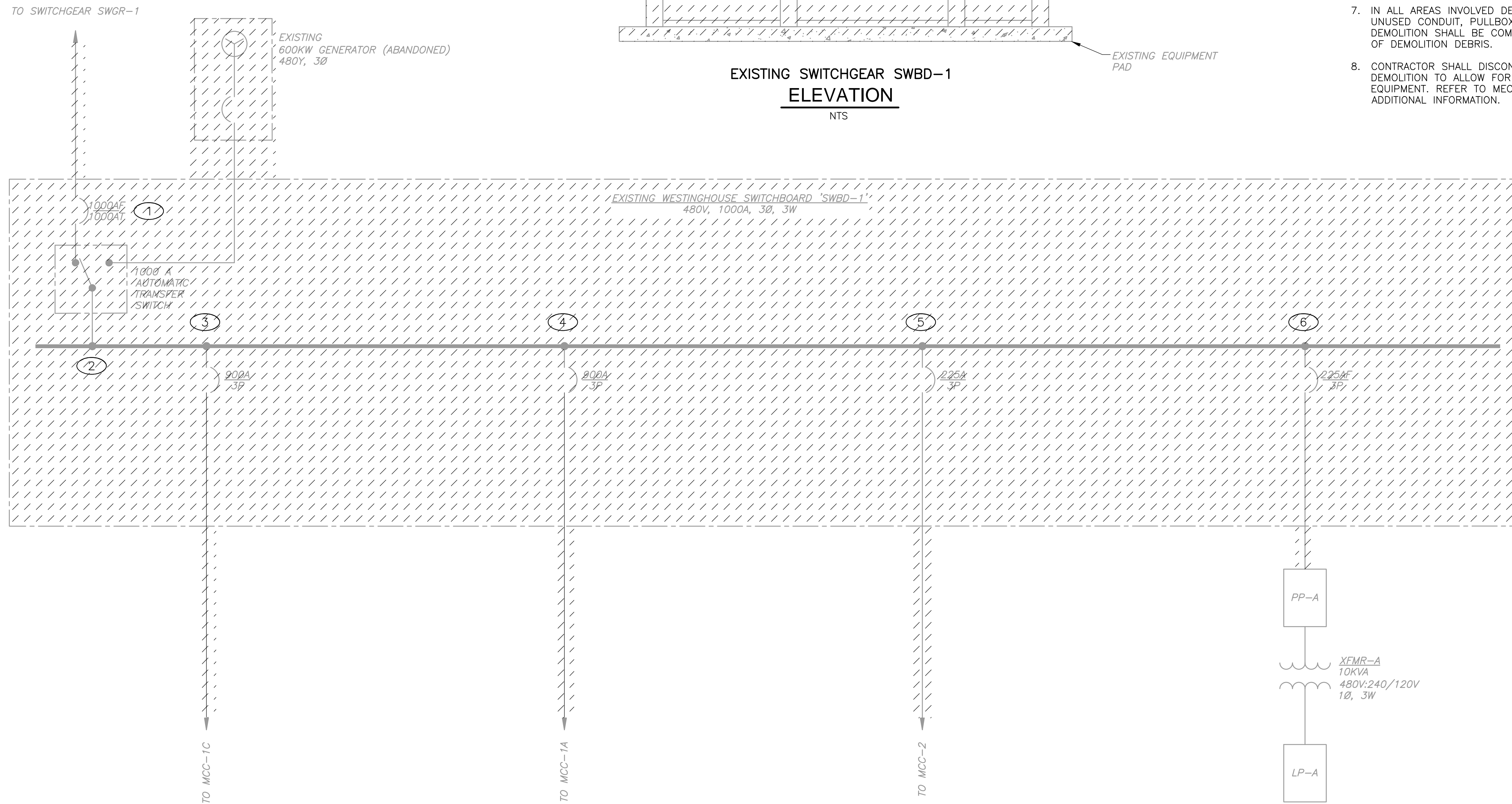
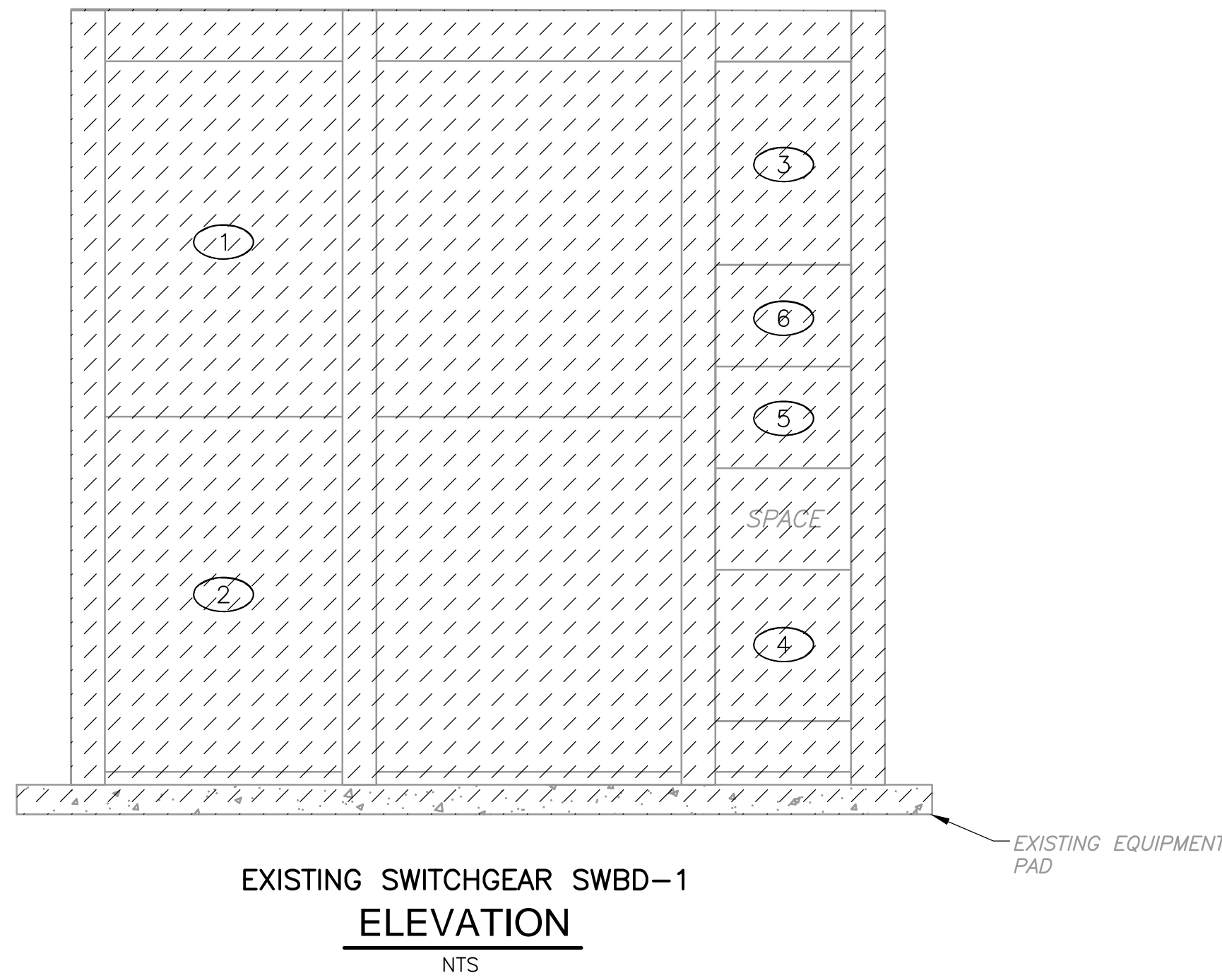
**SAN GABRIEL WWTP EXISTING SWITCHGEAR SWGR-1 DEMOLITION ONE-LINE DIAGRAM**

PROJECT NO.	2048-264953
FILE NAME:	SGD3NFOL.DWG
SHEET NO.	<b>SG-D-300</b>

**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWINGS REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER, UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION.
2. EQUIPMENT CONNECTIONS AT THE PLANT REQUIRE TEMPORARY OR PARTIAL SHUTDOWNS. THE CONTRACTOR SHALL MAKE EVERY EFFORT NECESSARY TO MINIMIZE THE SHUTDOWN TIME AND COORDINATE WITH THE OWNER PRIOR TO ATTEMPTING ANY SUCH POWER INTERRUPTIONS. FULL OR PARTIAL SHUTDOWNS SHALL BE LIMITED TO THE CONSTRAINTS SPECIFIED UNDER SECTION CIP3. WHEN REQUIRED BY THE OWNER, THE CONTRACTOR SHALL RESTORE POWER AND OPERATIONS DURING ANY SHUTDOWN.
3. THE OWNER SHALL BE NOTIFIED 7 CALENDER DAYS IN ADVANCE OF WORK REQUIRING POWER INTERRUPTIONS. ALL POWER SHUTDOWNS AND SWITCHOVERS SHALL BE REQUESTED IN WRITING TO THE OWNER FOR APPROVAL. MANDATORY SHUTDOWN MEETINGS BETWEEN THE CONTRACTOR AND OWNER SHALL BE HELD TO REVIEW EACH OUTAGE REQUEST PRIOR TO APPROVAL OF ANY OUTAGE.
4. DURING SHUTDOWNS, SWITCHOVERS, TESTING, START-UP, ETC. THE CONTRACTOR SHALL HAVE THE MANPOWER, EQUIPMENT AND MANUFACTURER'S REPRESENTATIVES REQUIRED TO MAKE ANY NECESSARY ADJUSTMENTS, REPAIRS, RESTORATION OF POWER, TRAINING, ETC. IN ORDER TO KEEP THE PLANT OPERATIONAL.
5. THERE SHALL BE NO SHUTDOWNS PERFORMED UNTIL ALL ELECTRICAL EQUIPMENT IS APPROVED AND HAS BEEN DELIVERED TO THE PLANT SITE AND INSTALLED TO THE GREATEST EXTENT POSSIBLE.
6. THE OWNER RETAINS THE RIGHT TO KEEP ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRES REMOVED FROM THE EXISTING INSTALLATION. MOVE EQUIPMENT TO DESIGNATED STORAGE LOCATION ONSITE. CONTRACTOR IS RESPONSIBLE FOR OFFSITE DISPOSAL OF UNWANTED MATERIAL.
7. IN ALL AREAS INVOLVED DEMOLITION, ALL EQUIPMENT, UNUSED WIRING, UNUSED CONDUIT, PULLBOXES, AND SUPPORT MATERIAL MARKED FOR DEMOLITION SHALL BE COMPLETELY REMOVED. THE AREAS SHALL BE CLEANED OF DEMOLITION DEBRIS.
8. CONTRACTOR SHALL DISCONNECT ELECTRICAL CIRCUITS IDENTIFIED FOR DEMOLITION TO ALLOW FOR SAFE AND COMPLETE REMOVAL OF DESIGNATED EQUIPMENT. REFER TO MECHANICAL DEMO PLANS AND DEMO ONE-LINES FOR ADDITIONAL INFORMATION.



**SAN GABRIEL EXISTING SWITCHGEAR SWBD-1 DEMOLITION ONE-LINE DIAGRAM**  
 NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

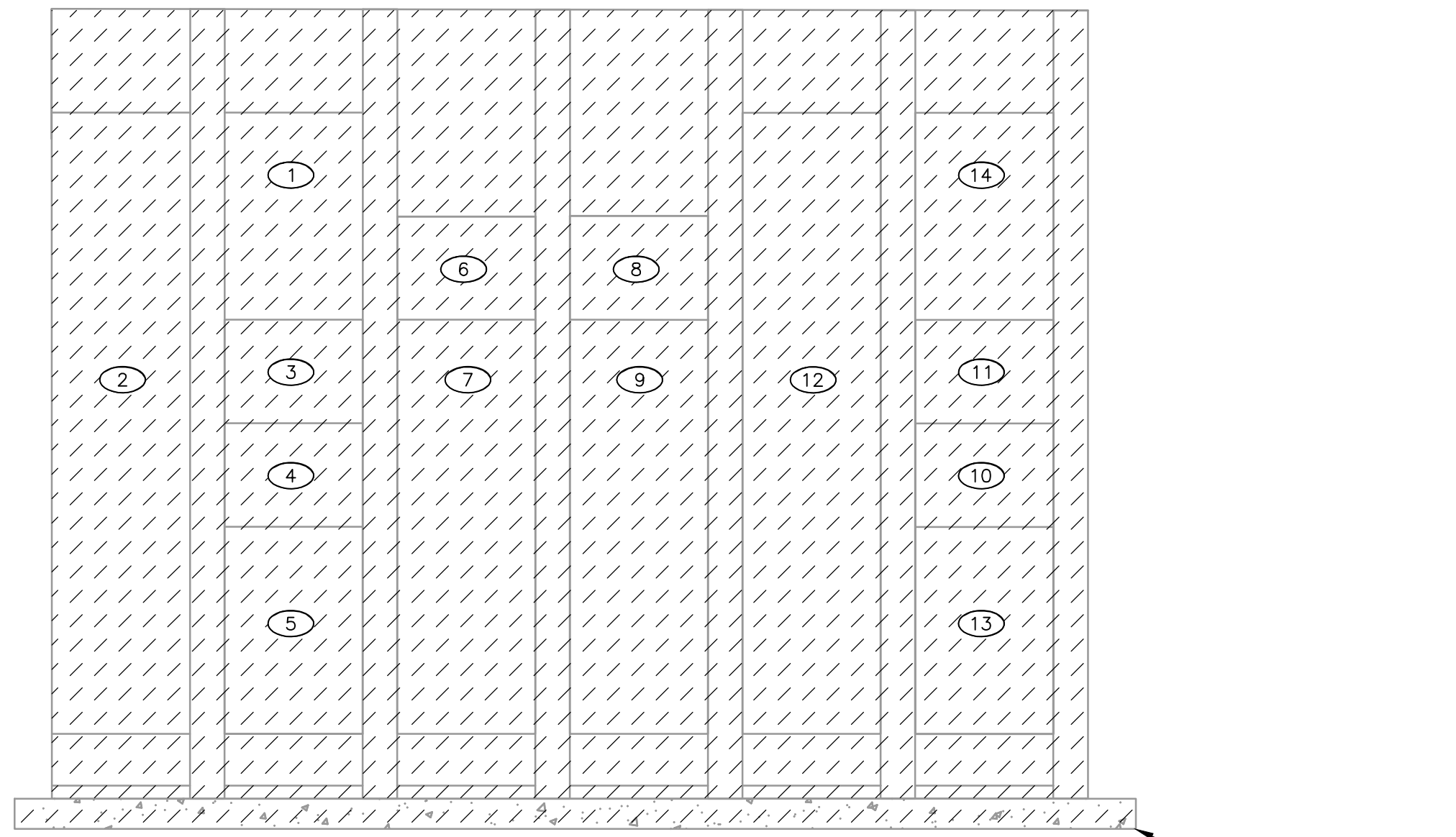
**SAN GABRIEL WWTP EXISTING SWITCHBOARD SWBD-1 DEMOLITION ONE-LINE DIAGRAM**

PROJECT NO. 2048-264953  
 FILE NAME: SGD4NFOL.DWG  
 SHEET NO. **SG-D-400**

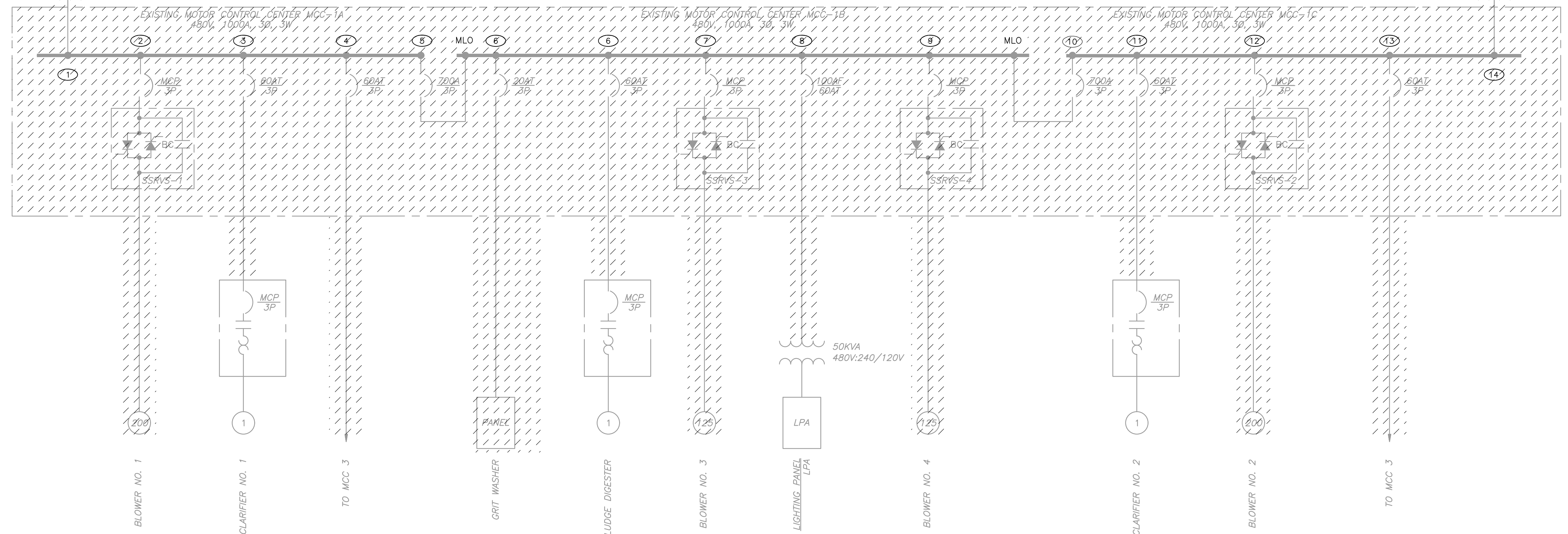
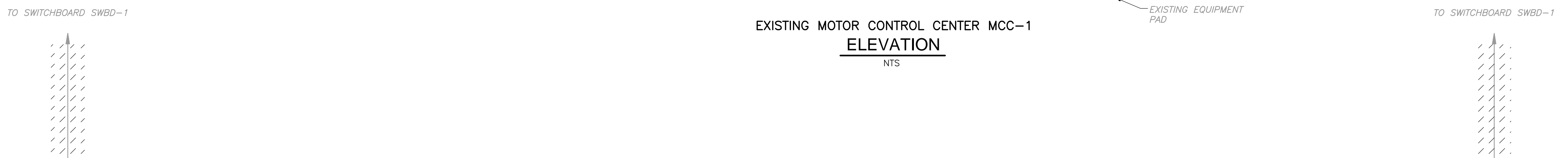
**LEGEND:**  
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3. THE OWNER SHALL BE NOTIFIED 7 CALENDER DAYS IN ADVANCE OF WORK REQUIRING POWER INTERRUPTIONS. ALL POWER SHUTDOWNS AND SWITCHOVERS SHALL BE REQUESTED IN WRITING TO THE OWNER FOR APPROVAL. MANDATORY SHUTDOWN MEETINGS BETWEEN THE CONTRACTOR AND OWNER SHALL BE HELD TO REVIEW EACH OUTAGE REQUEST PRIOR TO APPROVAL OF ANY OUTAGE.
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5. THERE SHALL BE NO SHUTDOWNS PERFORMED UNTIL ALL ELECTRICAL EQUIPMENT IS APPROVED AND HAS BEEN DELIVERED TO THE PLANT SITE AND INSTALLED TO THE GREATEST EXTENT POSSIBLE.
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EXISTING MOTOR CONTROL CENTER MCC-1  
**ELEVATION**  
 NTS



SAN GABRIEL EXISTING MOTOR CONTROL CENTER MCC-1 DEMOLITION  
**ONE-LINE DIAGRAM**  
 NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

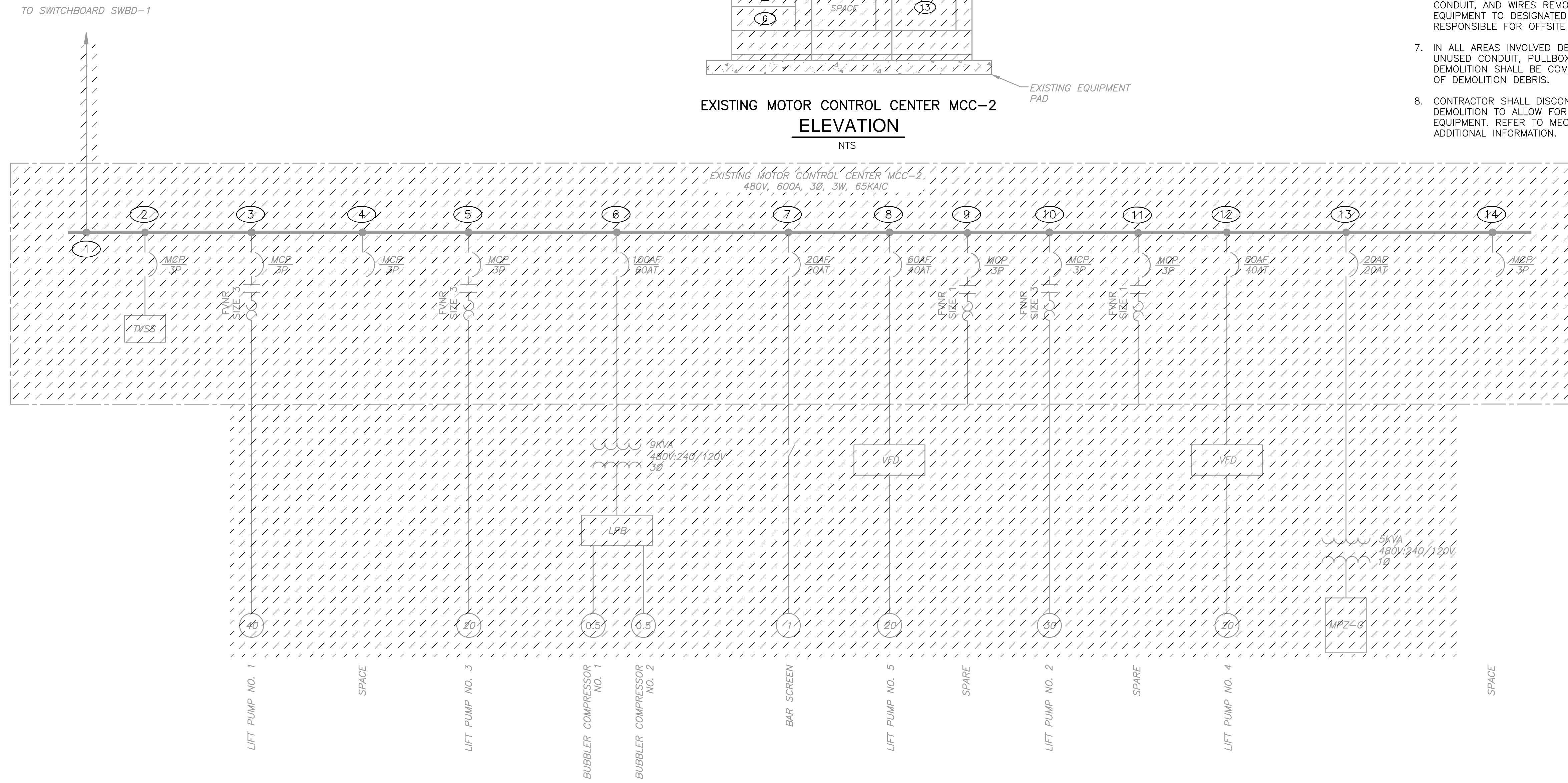
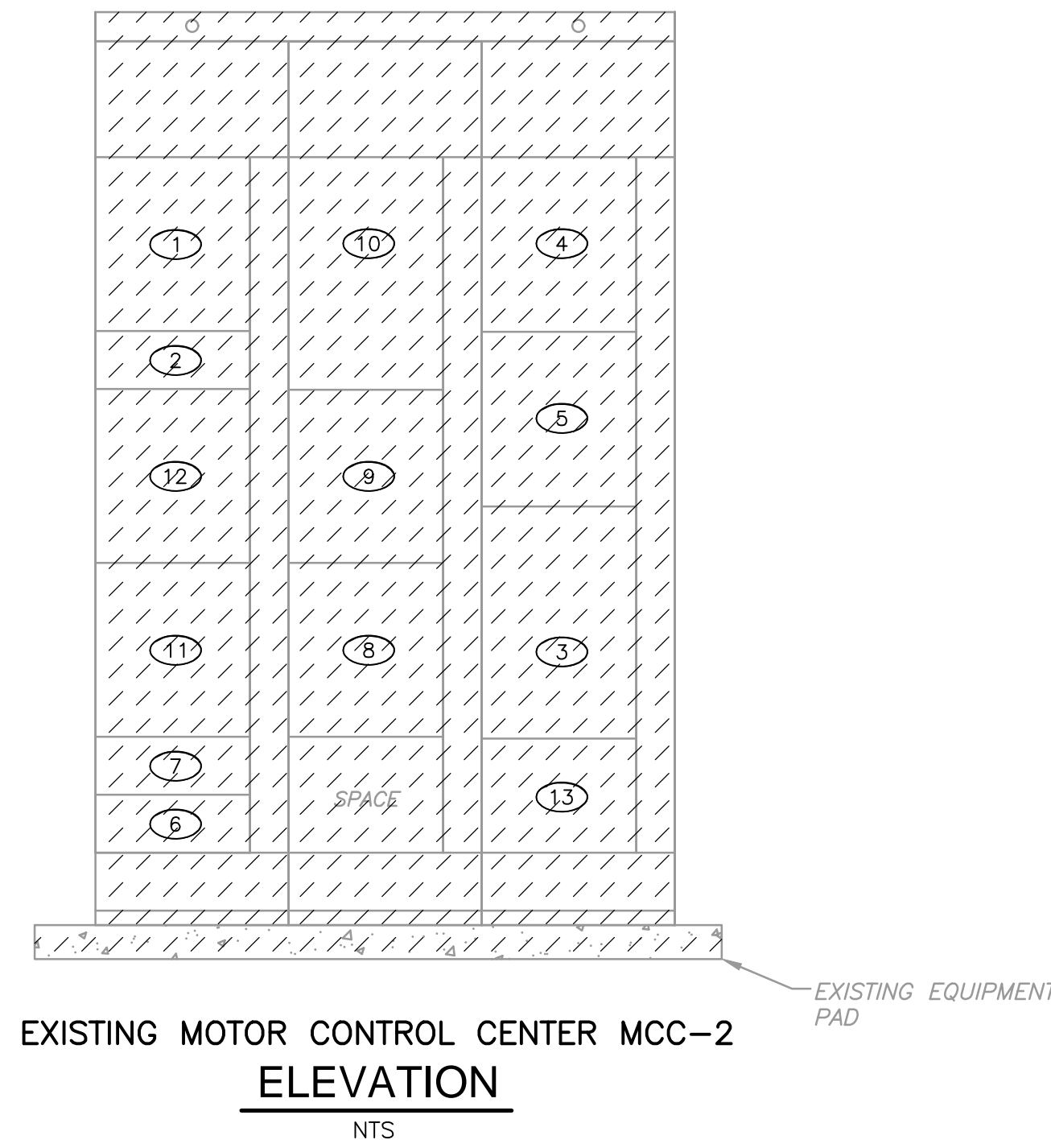
**SAN GABRIEL WWTP  
 EXISTING MOTOR CONTROL CENTER MCC-1  
 DEMOLITION ONE-LINE DIAGRAM**

PROJECT NO.	2048-264953
FILE NAME:	SGD5NFOL.DWG
SHEET NO.	<b>SG-D-500</b>

**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**GENERAL ELECTRICAL NOTES:**

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**SAN GABRIEL EXISTING MOTOR CONTROL CENTER MCC-2 DEMOLITION ONE-LINE DIAGRAM**  
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP EXISTING MOTOR CONTROL CENTER MCC-2 DEMOLITION ONE-LINE DIAGRAM**

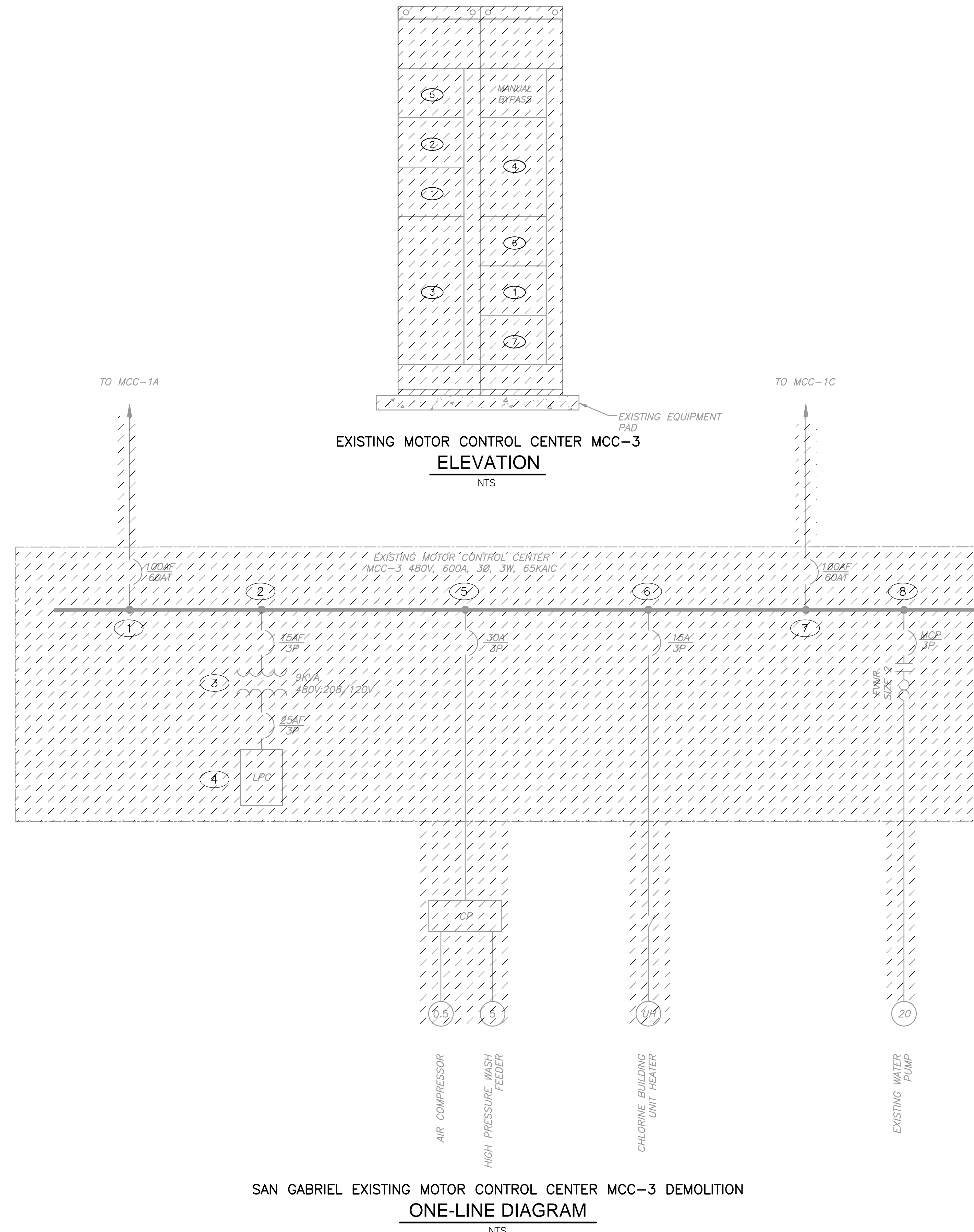


PROJECT NO. 2048-264953  
 FILE NAME: SGD6NFOL.DWG  
 SHEET NO. **SG-D-600**

**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWINGS REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. HOWEVER, UNDOCUMENTED CHANGES MAY EXIST THAT MAY REQUIRE FIELD INVESTIGATION.
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**SAN GABRIEL EXISTING MOTOR CONTROL CENTER MCC-3 DEMOLITION ONE-LINE DIAGRAM**  
 NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP EXISTING MOTOR CONTROL CENTER MCC-3 DEMOLITION ONE-LINE DIAGRAM**

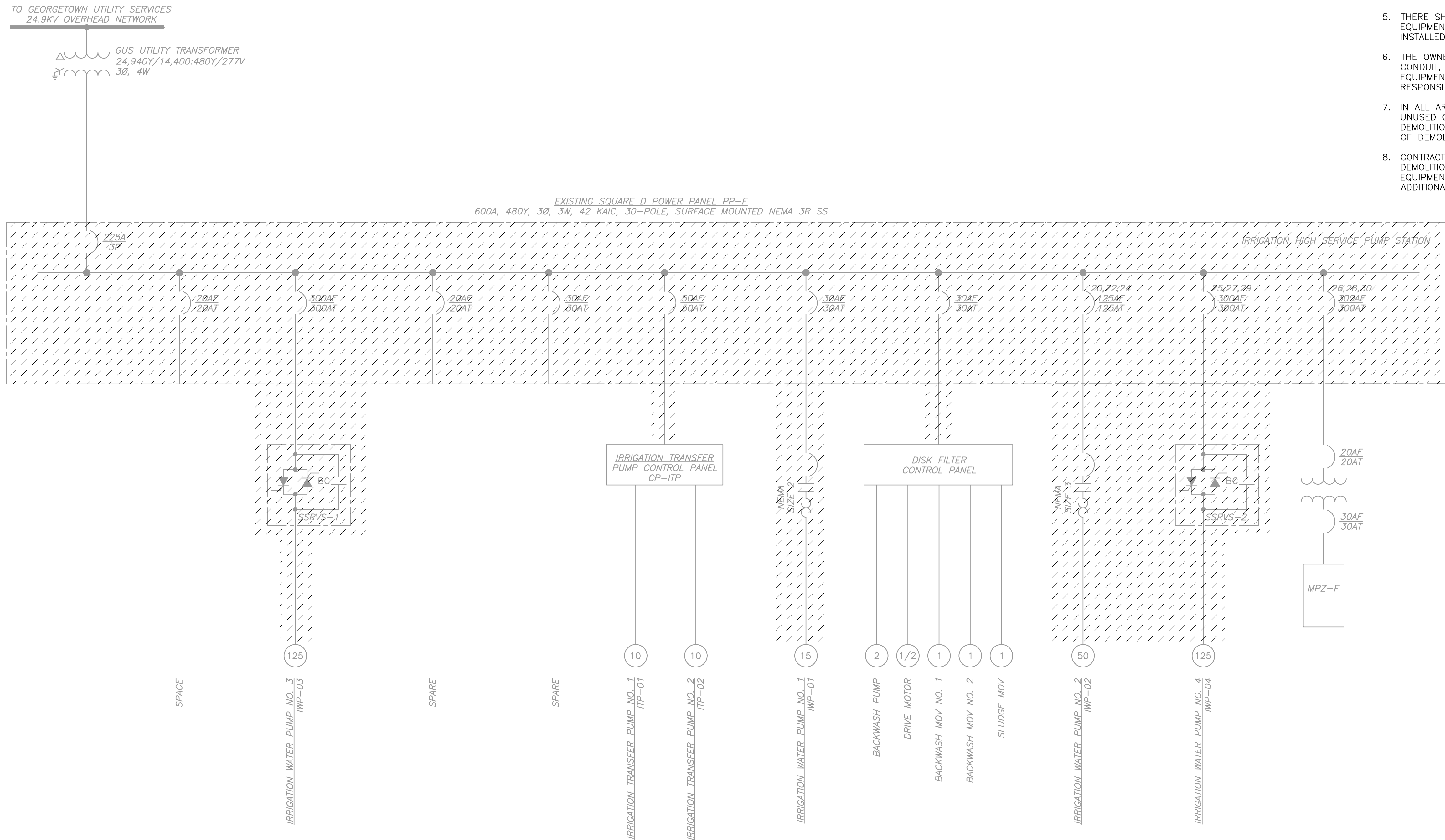


PROJECT NO. 2048-264953  
 FILE NAME: SGD7NFOL.DWG  
 SHEET NO. **SG-D-700**

**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**GENERAL ELECTRICAL NOTES:**

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SAN GABRIEL EXISTING POWER PANEL PP-F DEMOLITION ONE-LINE DIAGRAM

NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 EXISTING POWER PANEL PP-F  
 DEMOLITION ONE-LINE DIAGRAM

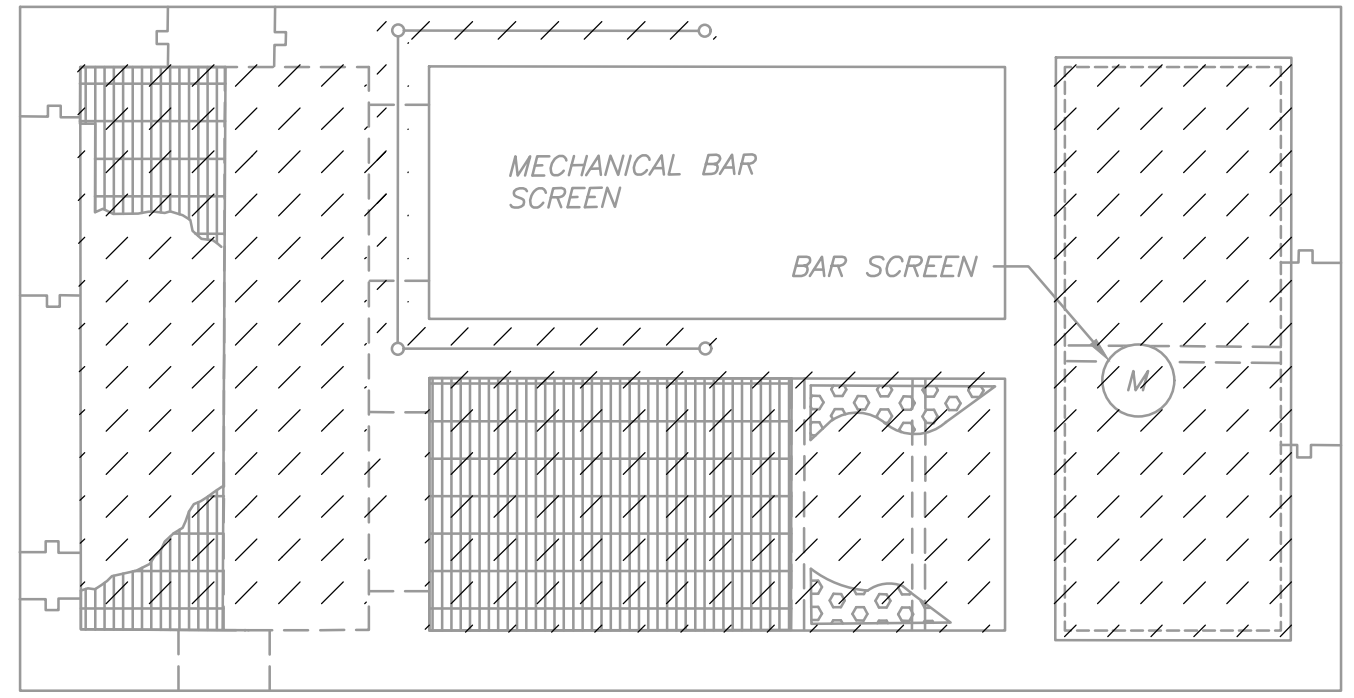
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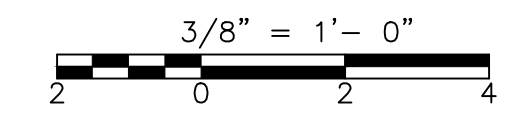
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EXISTING BAR SCREEN ELECTRICAL DEMOLITION PLAN



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 EXISTING COARSE BAR SCREEN  
 ELECTRICAL DEMOLITION PLAN

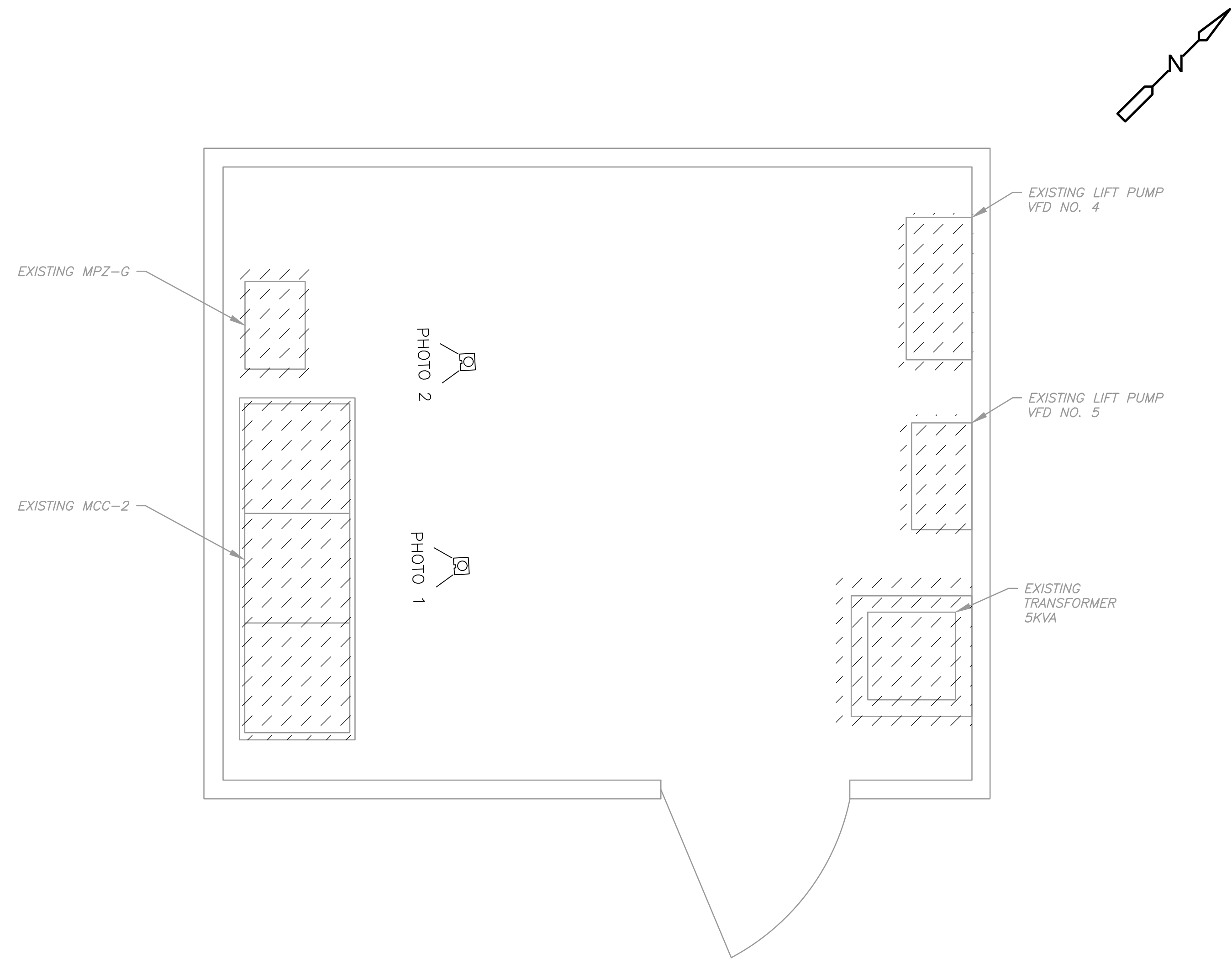
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 FILE NAME: SGDA1LSPL.DWG  
 SHEET NO. SG-DA-100



**LEGEND:**  
 // // // // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

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**SAN GABRIEL EXISTING INFLUENT LIFT STATION ELECTRICAL BUILDING DEMOLITION PLAN**

3/4" = 1'-0"  
 1 0 1 2



**EXISTING MCC-2 DEMOLITION PHOTO**  
 NTS



**MPZ-G DEMOLITION PHOTO**  
 NTS



01/27/2023

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SHEET CHK'D BY:	M. CZACH
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APPROVED BY:	J. SAENZ
DATE:	JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

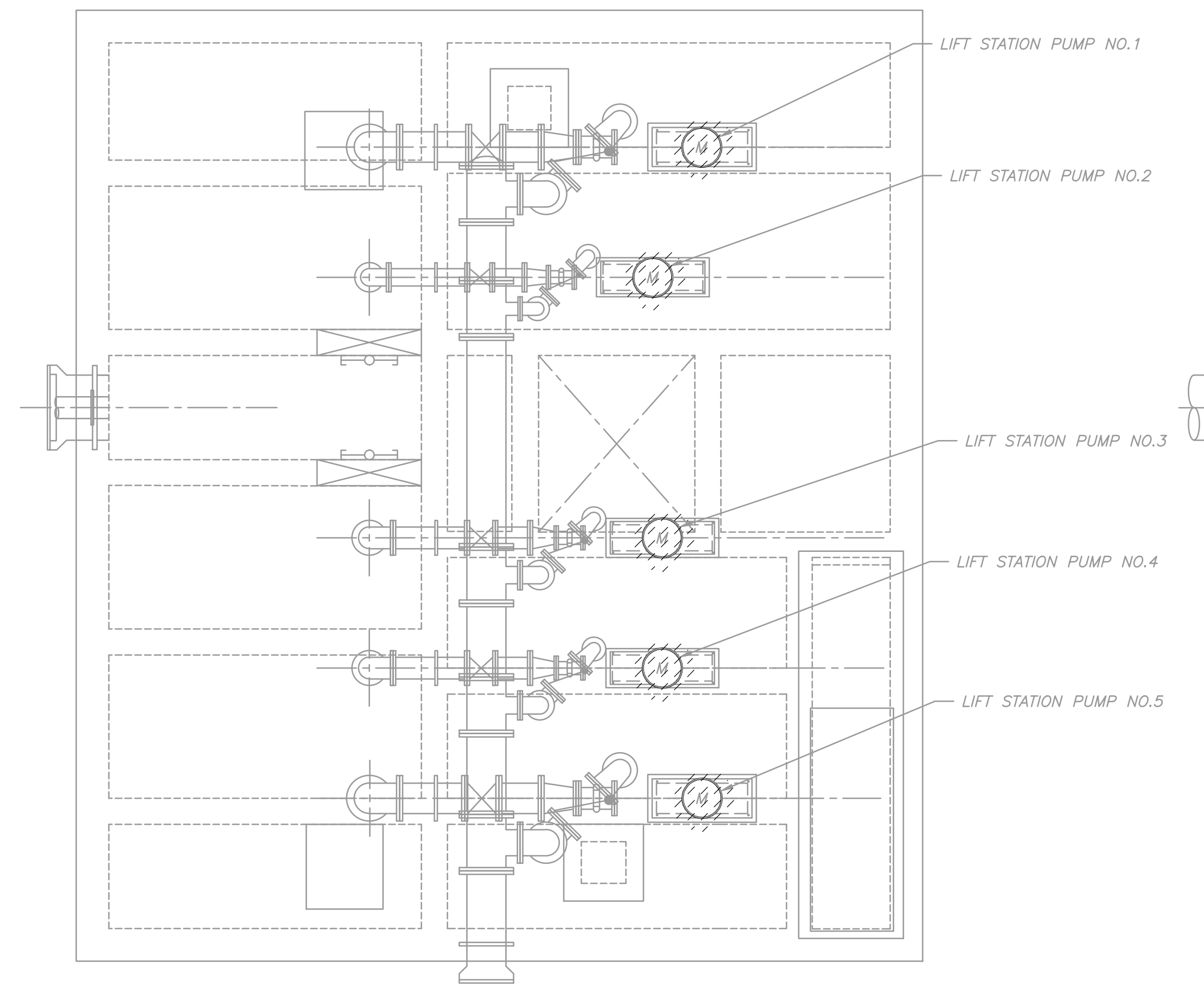
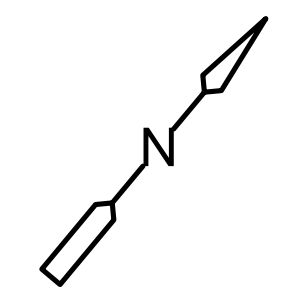
**SAN GABRIEL WWTP EXISTING INFLUENT LIFT STATION ELECTRICAL BUILDING DEMOLITION PLAN**

PROJECT NO.	2048-264953
FILE NAME:	SGDA2LSPL.DWG
SHEET NO.	<b>SG-DA-200</b>

**LEGEND:**  
 // // // // // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

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2. CONTRACTOR SHALL DISCONNECT ELECTRICAL CIRCUITS IDENTIFIED FOR DEMOLITION TO ALLOW FOR SAFE AND COMPLETE REMOVAL OF DESIGNATED EQUIPMENT. REFER TO MECHANICAL DEMO PLANS AND DEMO ONE-LINES FOR ADDITIONAL INFORMATION.



EXISTING INFLUENT LIFT STATION ELECTRICAL DEMOLITION LOWER PLAN

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

PUMPS DEMOLITION PHOTO  
 NTS

INFLUENT LIFT STATION DEMOLITION PHOTO  
 NTS

XREFS: [CDMS\_2234; JCS-INTERMRV STAMP\_MEP001LS] Images: [SG\_IL PUMPS DEMO\_SG\_LIFT STATION]  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 EXISTING INFLUENT LIFT STATION  
 ELECTRICAL DEMOLITION PLAN



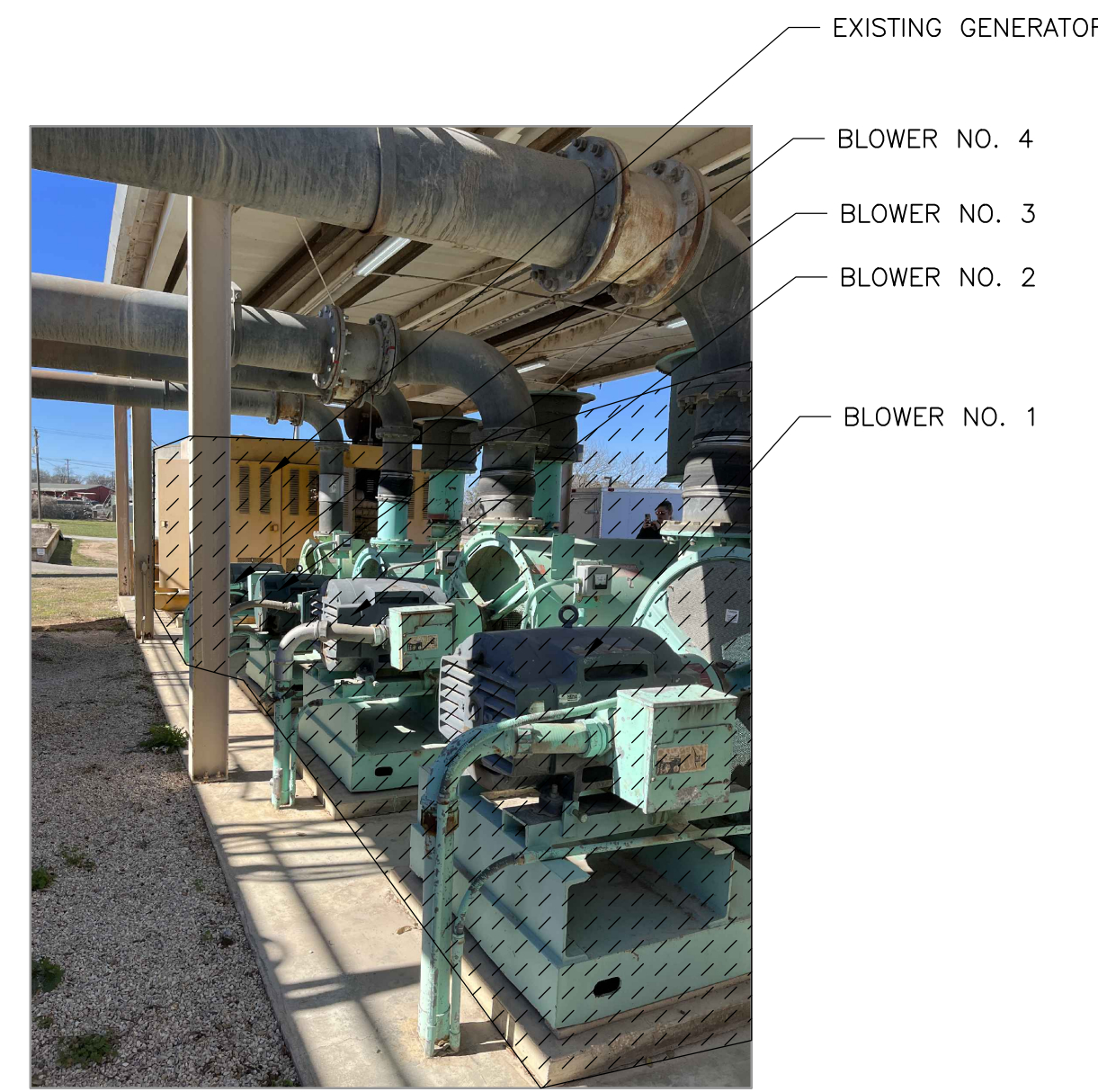
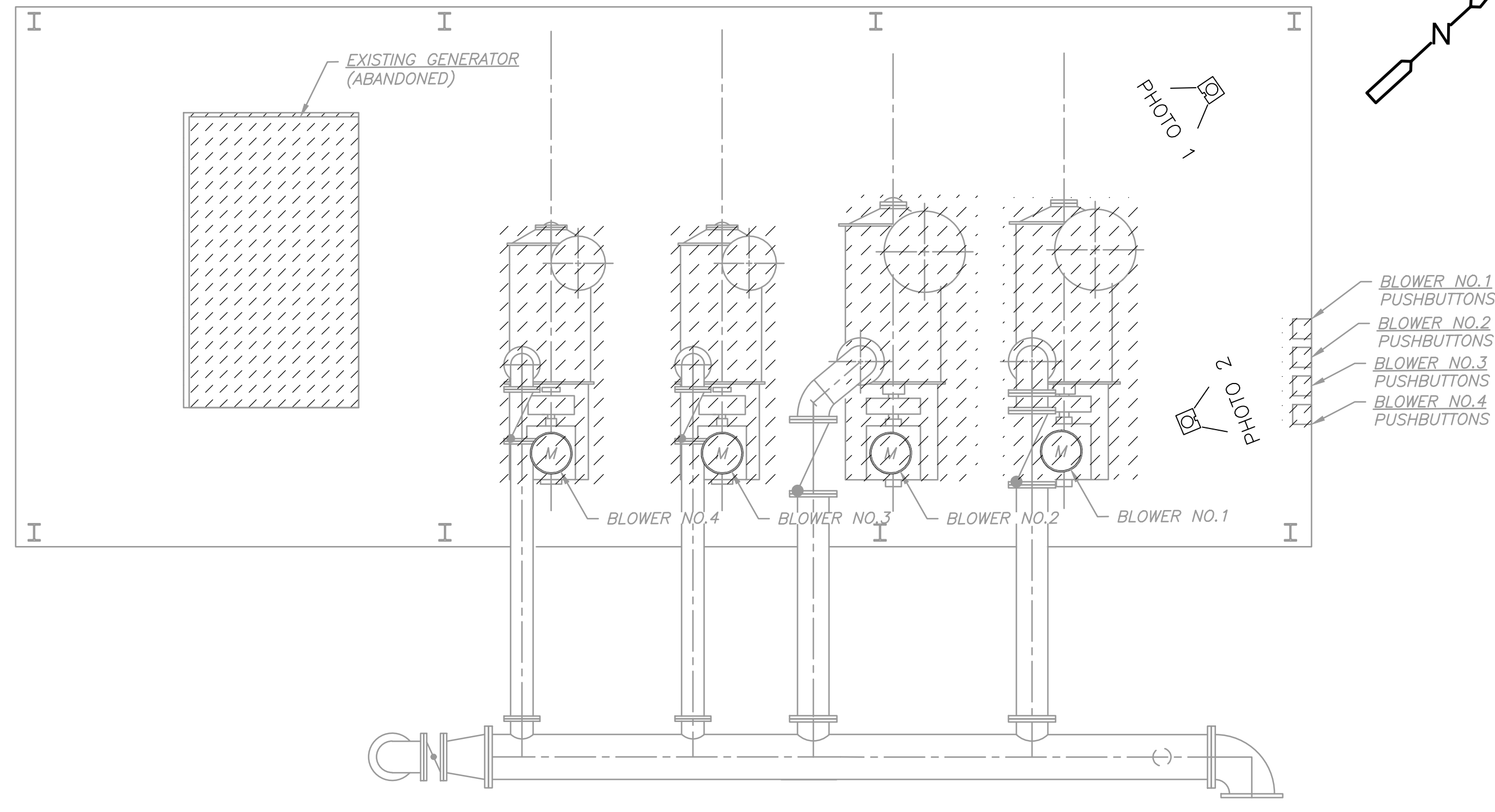
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 FILE NAME: SGDA3LSPL.DWG  
 SHEET NO. SG-DA-300



**LEGEND:**  
 // // // // // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. UNDOCUMENTED CHANGES MAY EXIST. PROVIDE THE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. CONTRACTOR SHALL DISCONNECT ELECTRICAL CIRCUITS IDENTIFIED FOR DEMOLITION TO ALLOW FOR SAFE AND COMPLETE REMOVAL OF DESIGNATED EQUIPMENT. REFER TO MECHANICAL DEMO PLANS AND DEMO ONE-LINES FOR ADDITIONAL INFORMATION.



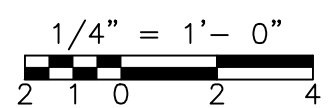
GENERATOR AND BLOWERS DEMOLITION  
**PHOTO 1**  
 NTS



BLOWERS PUSHBUTTON DEMOLITION  
**PHOTO 2**  
 NTS

EXISTING BLOWER AREA ELECTRICAL DEMOLITION

**PLAN**



XREFS: [CDMS\_2234\_MEP004BP\_JCS-INTERMRY STAMP] Images: [SG BLOWER PUSHBUTTONS DEMO\_IMC\_0774\_SG-BLOWER AND GEN DEMO\_IMC\_0773]  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 EXISTING BLOWER AREA  
 ELECTRICAL DEMOLITION PLAN

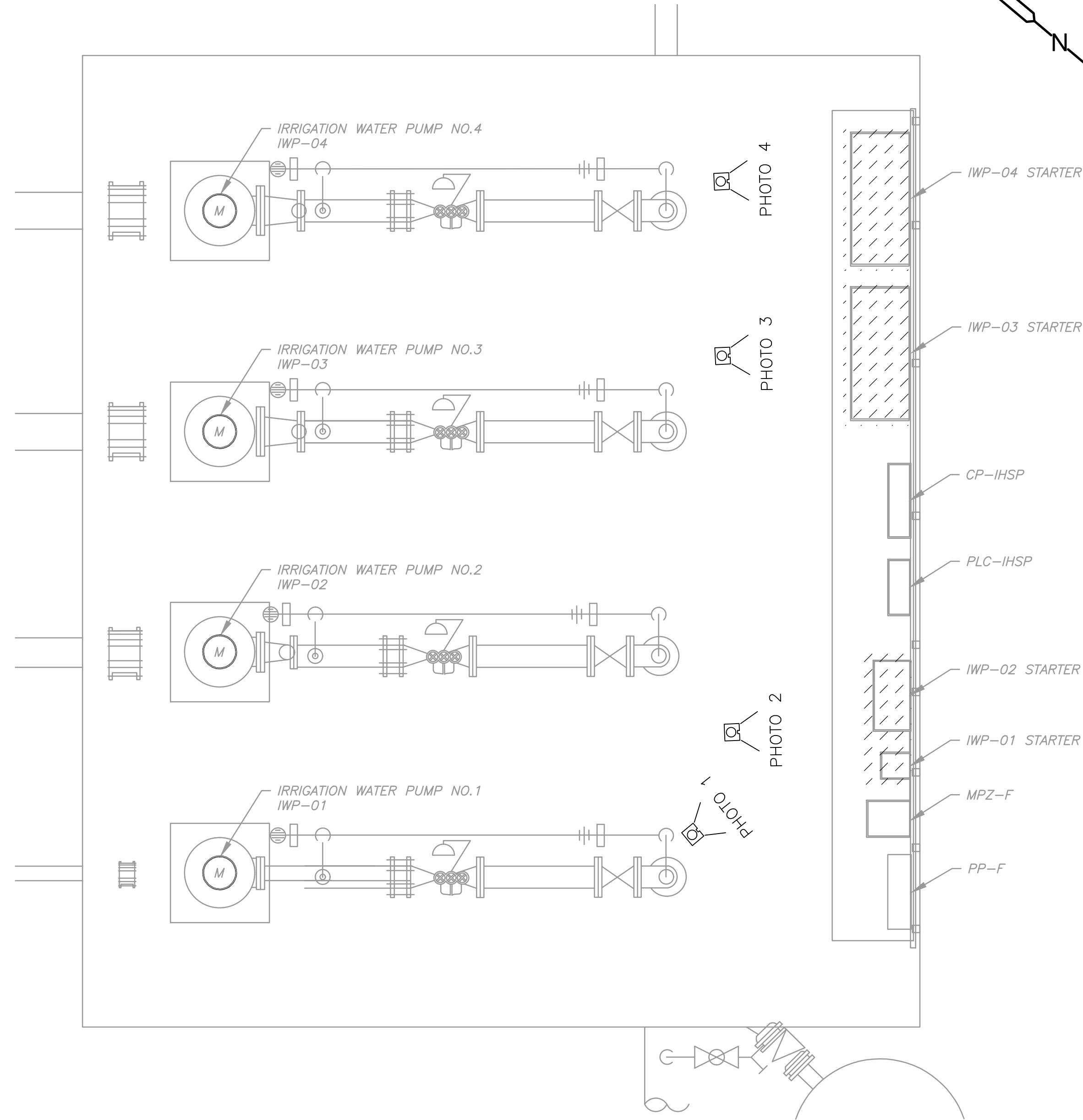
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 FILE NAME: SGDD1BBPL.DWG  
 SHEET NO.  
**SG-DD-100**



**LEGEND:**  
 // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

EXISTING IWP-01 STARTER  
 EXISTING IWP-02 STARTER  
 EXISTING IWP-03 STARTER  
 EXISTING IWP-04 STARTER

- GENERAL ELECTRICAL NOTES:**
1. DEMOLISH EQUIPMENT AND ASSOCIATED CONTROL CIRCUITS.
  2. CONTRACTOR SHALL COORDINATE DEMOLITION OF ELECTRICAL CONDUIT, WIRE AND DEVICES WITH PROCESS/MECHANICAL DEMOLITION AND SCHEDULE. THE DRAWINGS ARE INTENDED TO CONVEY THE GENERAL SCOPE OF DEMOLITION WORK. NOT ALL ITEMS TO BE DEMOLISHED ARE SHOWN.



**EXISTING IRRIGATION HIGH SERVICE PUMP STATION ELECTRICAL DEMOLITION PLAN**

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



**DEMOLITION PHOTO 1**  
 NTS



**IWP-01, 02 STARTERS DEMOLITION PHOTO 2**  
 NTS



**IWP-04 STARTER DEMOLITION PHOTO 4**  
 NTS



**IWP-03 STARTER DEMOLITION PHOTO 3**  
 NTS

XREFS: [CDMS\_2234, JCS-INTERMRV STAMP] Images: [SC\_IPW\_03 STARTER\_IMC\_0992, SG\_IRRIGATION AREA EQUIPMENTS\_IMC\_0985, SG\_IPW\_1\_2 STARTERS,, SG\_IPW4 STARTER\_IMC\_0993]  
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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEENZ  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 EXISTING IRRIGATION HIGH SERVICE  
 PUMP STATION ELECTRICAL DEMOLITION PLAN

PROJECT NO. 2048-264953  
 FILE NAME: SGDH2PSPL.DWG  
 SHEET NO. SG-DG-100

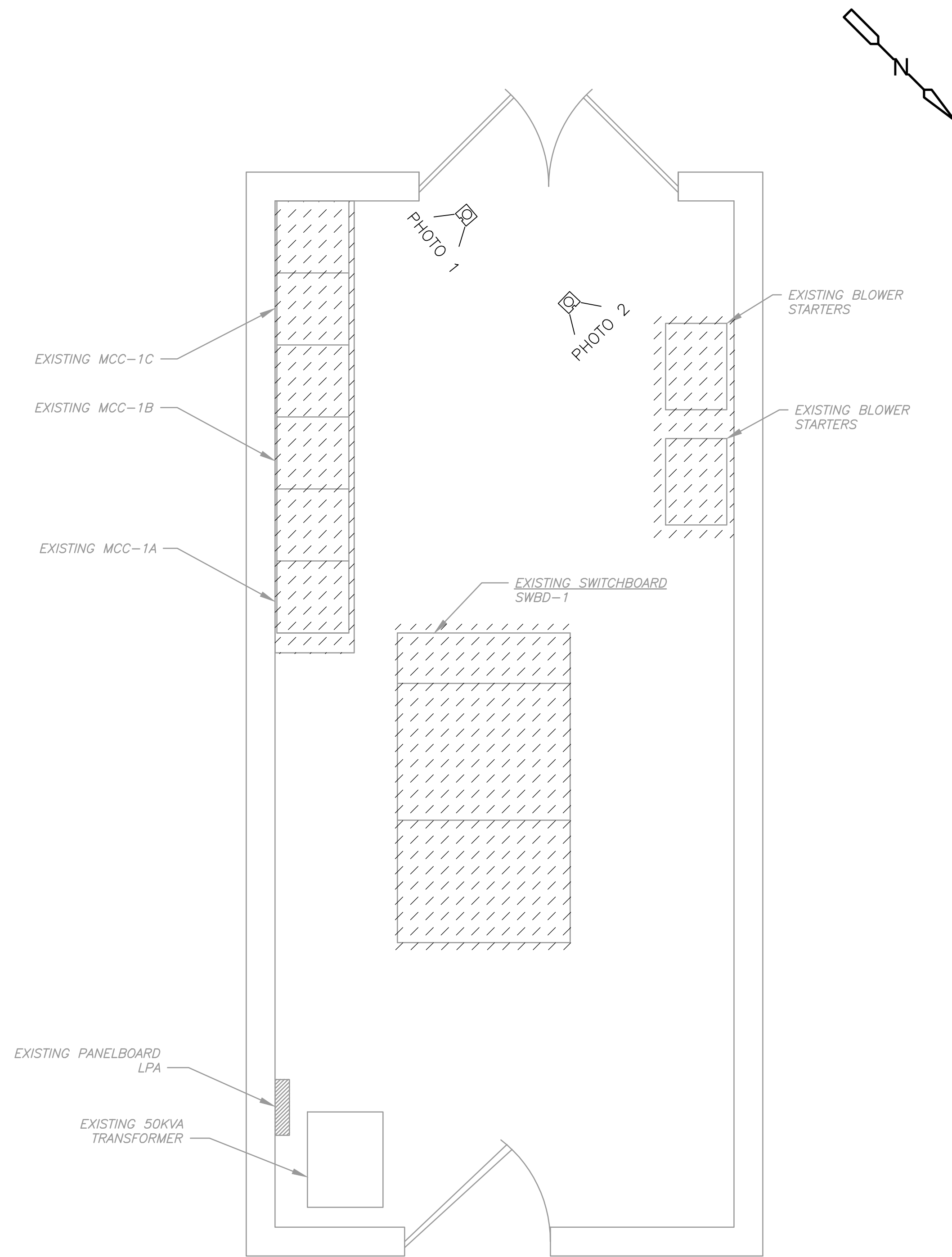




**LEGEND:**  
 // // // // // CONTRACTOR TO REMOVE ELECTRICAL EQUIPMENT, CONDUIT, WIRE, AND SUPPORT MATERIAL UNDER THIS CONTRACT.

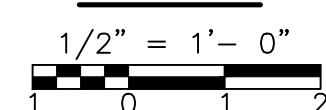
**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. UNDOCUMENTED CHANGES MAY EXIST. PROVIDE THE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. CONTRACTOR SHALL DISCONNECT ELECTRICAL CIRCUITS IDENTIFIED FOR DEMOLITION TO ALLOW FOR SAFE AND COMPLETE REMOVAL OF DESIGNATED EQUIPMENT. REFER TO MECHANICAL DEMO PLANS AND DEMO ONE-LINES FOR ADDITIONAL INFORMATION.



EXISTING BUILDING ELECTRICAL DEMOLITION

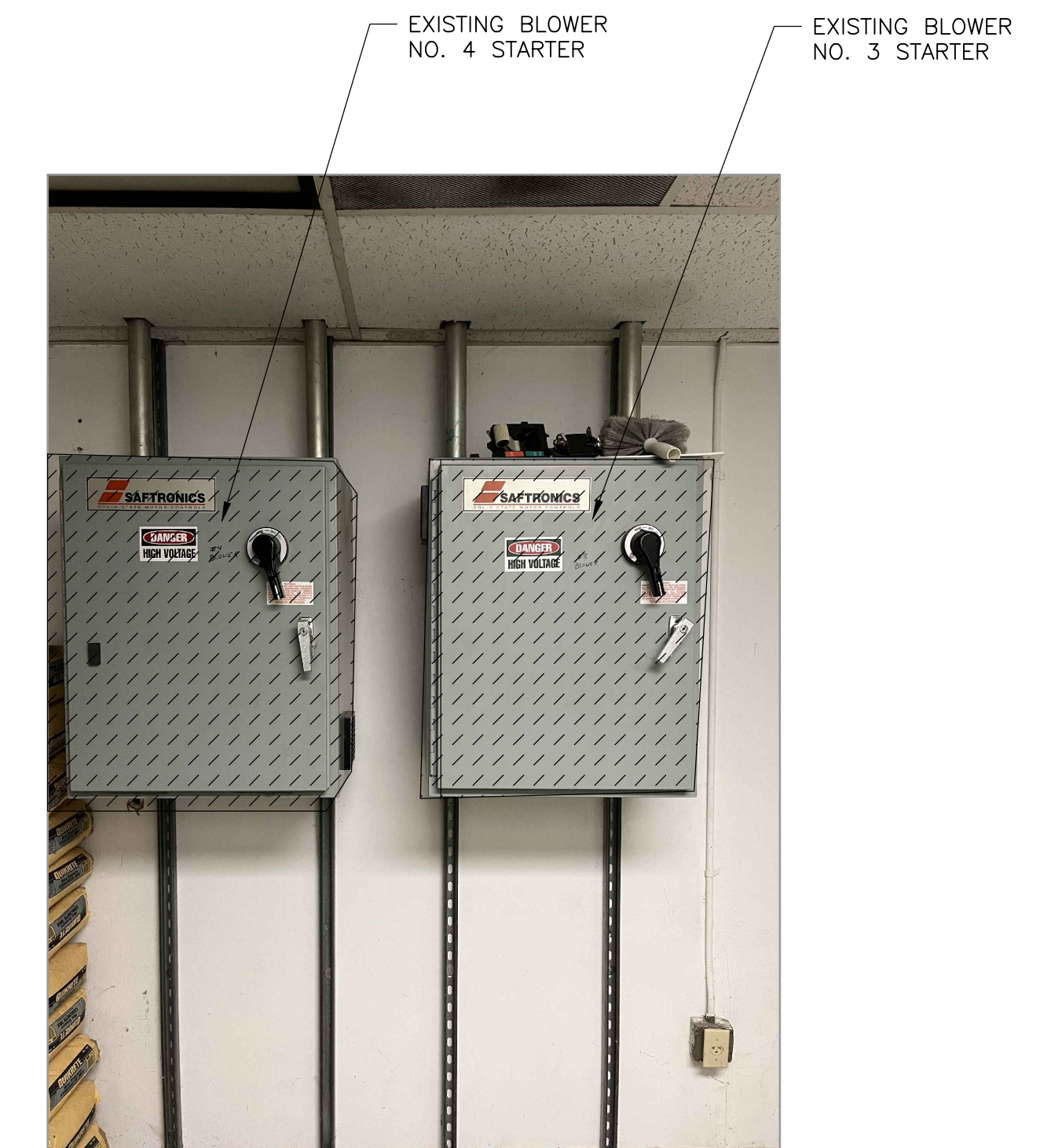
**PLAN**



MCC-1A, 1B AND 1C DEMOLITION

**PHOTO 1**

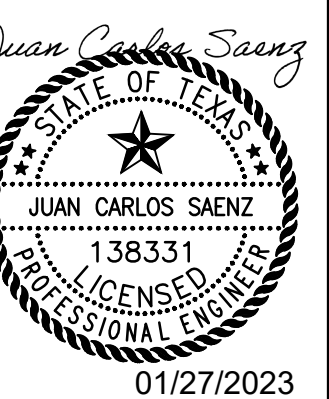
NTS



EXISTING BLOWER STARTER DEMOLITION

**PHOTO 2**

NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: C. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

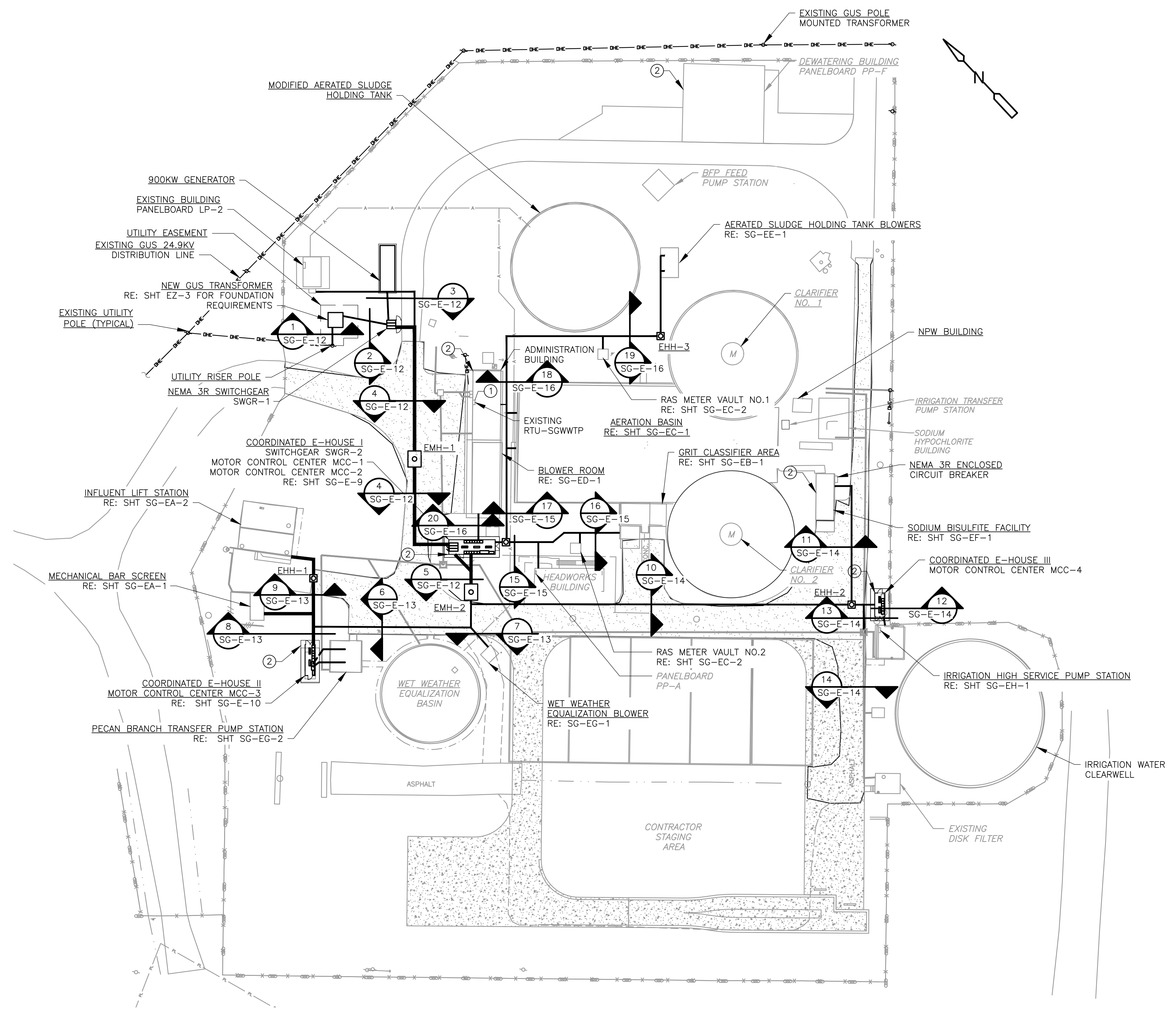
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

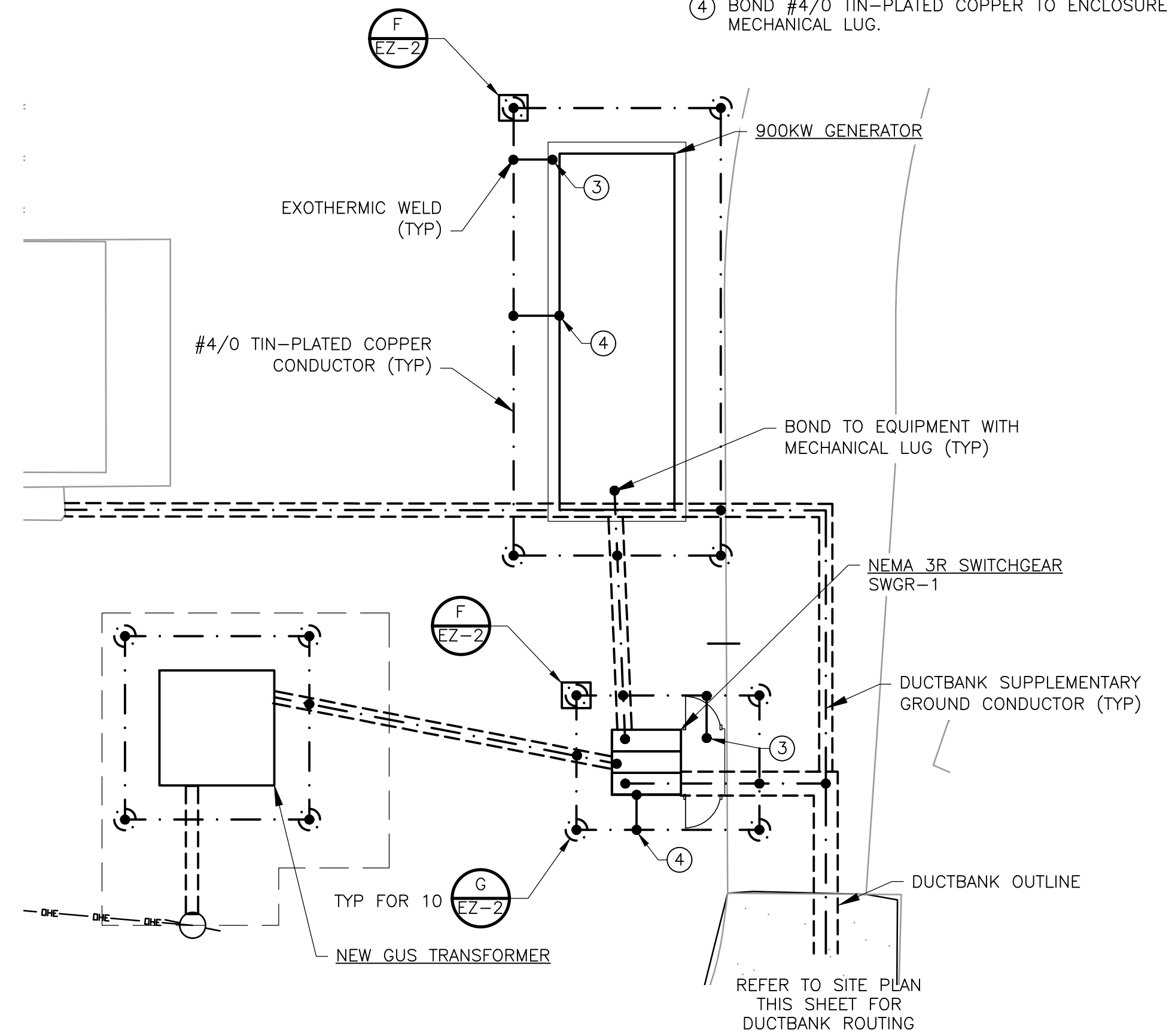
SAN GABRIEL WWTP  
 EXISTING BUILDING  
 ELECTRICAL DEMOLITION PLAN

PROJECT NO.	2048-264953
FILE NAME:	SGDH1CHPL.DWG
SHEET NO.	SG-DH-100

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**SAN GABRIEL PROPOSED ELECTRICAL SITE PLAN**  
 1" = 40'  
 20 0 40



**GENERATOR AND SWITCHGEAR GROUNDING PLAN**  
 NTS

**GENERAL ELECTRICAL NOTES:**

1. ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS, FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
2. COORDINATE WORK WITH OTHER TRADES AND THE OWNER.
3. FIELD VERIFY EXISTING UNDERGROUND ELECTRICAL CONDUIT, CONCRETE DUCT BANKS, MANHOLES, PULL BOXES, ETC. AND MECHANICAL PIPING. CONTRACTOR SHALL INCLUDE IN BID COSTS ASSOCIATED WITH RELOCATION OR REMOVAL OF UNDERGROUND EQUIPMENT AS REQUIRED BY THIS CONTRACT. USE DUE CARE IN CONGESTED AREAS TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES.
4. REPAIR, IN ACCORDANCE WITH SPECIFICATIONS, SIDEWALKS, WALLS, ROADWAYS, ETC. DISTURBED BY CONSTRUCTION ACTIVITIES WHETHER OR NOT SHOWN FOR REPAIR/REPAVING ON CIVIL DRAWINGS.
5. CONCEL CONDUITS TO GREATEST EXTENT PRACTICABLE. CONDUITS RUN AT EXISTING STRUCTURES SHALL BE RUN EXPOSED.
6. COORDINATE ROUTING OF PROPOSED DUCTBANKS WITH PROCESS PIPING. REFER TO CIVIL AND MECHANICAL SHEETS FOR PROCESS PIPING NEAR PROPOSED DUCTBANKS.
7. LOCATION OF GROUNDING LOOP SHALL BE AT A MINIMUM OF 30" FROM ANY FOUNDATION WALLS AND COLUMNS. GROUNDING LOOP SHALL BE BURIED 30" BELOW GRADE LEVEL.

**KEY NOTES:**

- ① APPROXIMATE LOCATION OF EXISTING SAN GABRIEL RTU-SGWTP. FIELD VERIFY EXACT LOCATION.
- ② PROVIDE A LIGHTNING PROTECTION SYSTEM FOR THE STRUCTURE IN ACCORDANCE WITH NFPA 780.
- ③ BOND #4/0 TIN-PLATED COPPER TO STRUCTURAL STEEL.
- ④ BOND #4/0 TIN-PLATED COPPER TO ENCLOSURE WITH MECHANICAL LUG.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	VM	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

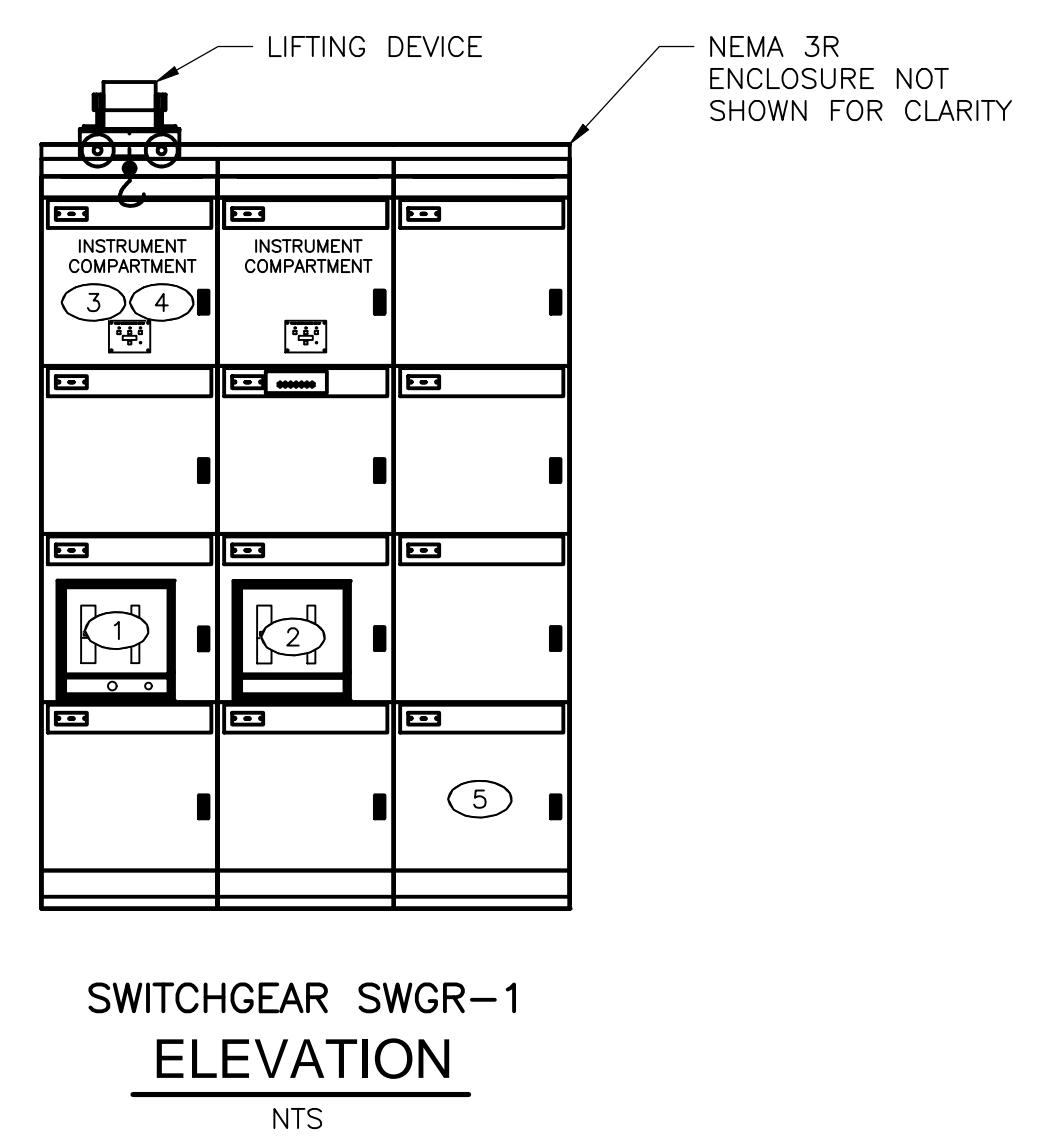
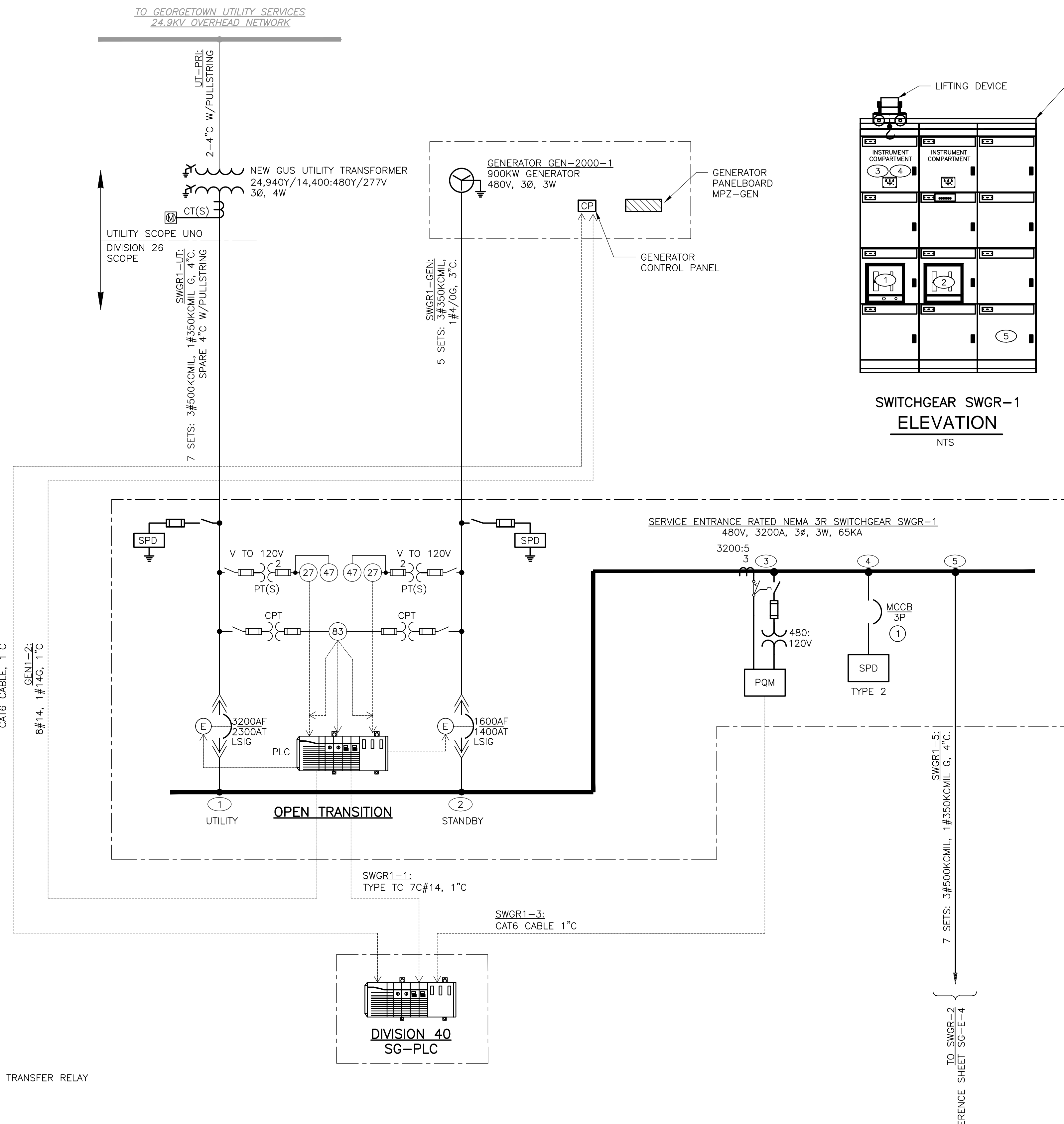
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 OVERALL SITE  
 ELECTRICAL NEW WORK PLAN**

PROJECT NO. 2048-264953  
 FILE NAME: SGE1STPL.DWG  
 SHEET NO.  
**SG-E-1**



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**SWITCHGEAR SWGR-1  
ONE-LINE DIAGRAM**  
NTS

**GENERAL ELECTRICAL NOTES:**

- ELECTRICAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL LAYOUT OF WORK TO BE INSTALLED UNDER THIS CONTRACT WITHOUT ATTEMPTING TO SHOW ALL DETAILS. FURNISH LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DOCUMENTS.
- CONTRACTOR'S WORK SHALL INCLUDE COMPLETE TESTING OF EQUIPMENT AND WIRING INCLUDING MAKING MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.

**KEY NOTES:**

- MOLDED CASE CIRCUIT BREAKER (MCCB) FOR TYPE 2 SURGE PROTECTION DEVICE (SPD) SIZED BY SWITCHGEAR MANUFACTURER.
- SEPARATELY DERIVED SYSTEM SHALL BE BONDED TO THE NEAREST GROUNDING ELECTRODE PER NEC.

NO.	EQUIPMENT TAG	EQUIPMENT SERVED	LOAD SIZE	STARTER TYPE
1	GENERAL POWER	BUILDING MISC. LOADS	200 KVA	N/A
2	MISC. MOTORS	PROCESS MOTORS	10 HP	FVNR
3	SCR-2000-1	BAR SCREEN	2 HP	VFD
4	PMP-2010-1	INFLUENT PUMP NO.1	50 HP	FVNR
5	PMP-2010-2	INFLUENT PUMP NO.2	50 HP	FVNR
6	PMP-2130-1	GRIT PUMP NO.1	10 HP	FVNR
7	BLR-2310-1	AERATION BLOWER NO.1	150 HP	SSRVS
8	BLR-2310-2	AERATION BLOWER NO.2	150 HP	SSRVS
9	-	CLARIFIER NO.1	1 HP	FVNR
10	-	CLARIFIER NO.2	1 HP	FVNR
11	BLR-2401-1	SLUDGE HOLDING TANK BLOWER NO.1	150 HP	SSRVS
12	ITP-01	IRRIGATION TRANSFER PUMP NO.1	10 HP	FVNR
13	IWP-02	IRRIGATION WATER PUMP NO.2	50 HP	FVNR

**GENERATOR LOAD LIST**  
NTS

**ANSI STANDARD DEVICE DESIGNATION:**  
 27-UNDERVOLTAGE RELAY  
 47-PHASE-SEQUENCE RELAY  
 83-AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY

**LEGEND:**  
 ..... COMMUNICATIONS OR CONTROL  
 (E) ELECTRICALLY OPERATED CIRCUIT BREAKER

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SMK	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

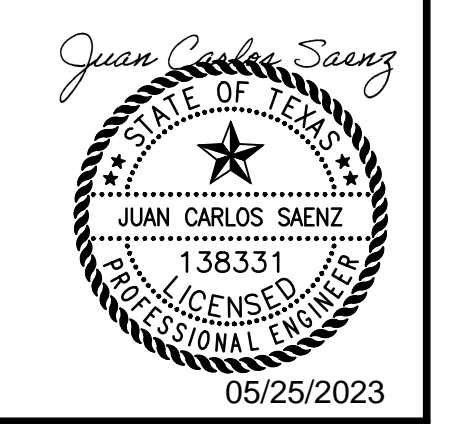
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

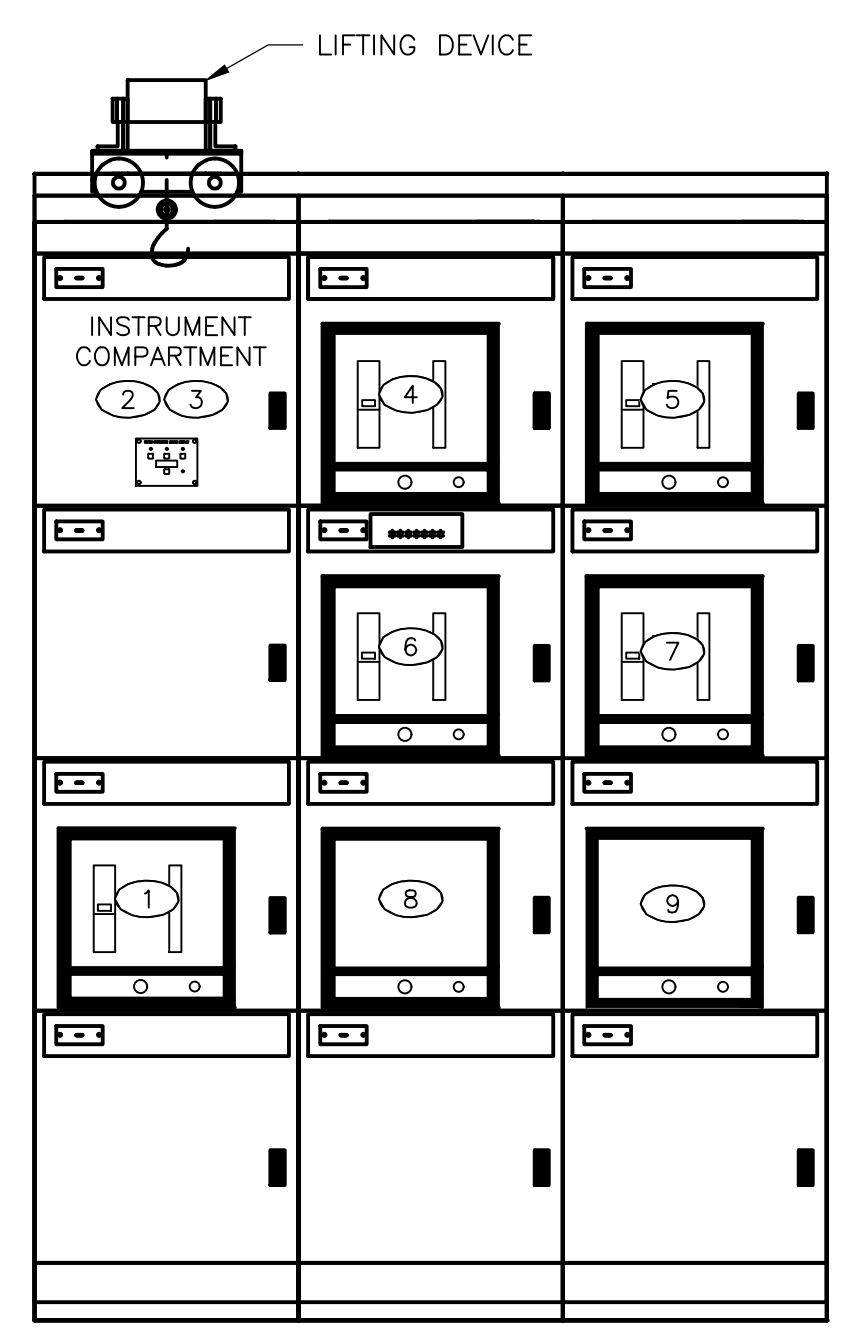
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
REHABILITATION**

**SAN GABRIEL WWTP  
SWITCHGEAR SWGR-1  
ONE-LINE DIAGRAM**

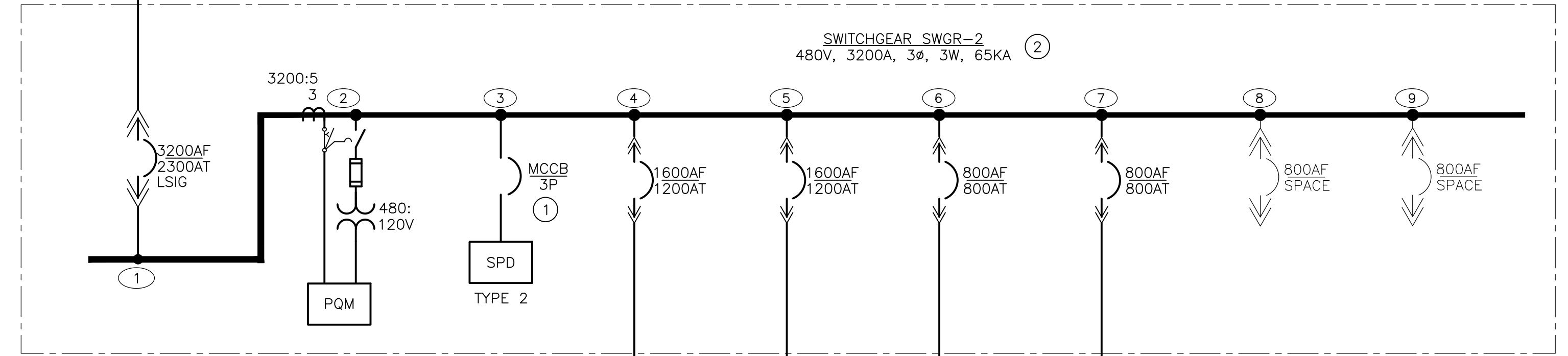
PROJECT NO. 2048-264953  
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 SHEET NO.  
**SG-E-2**



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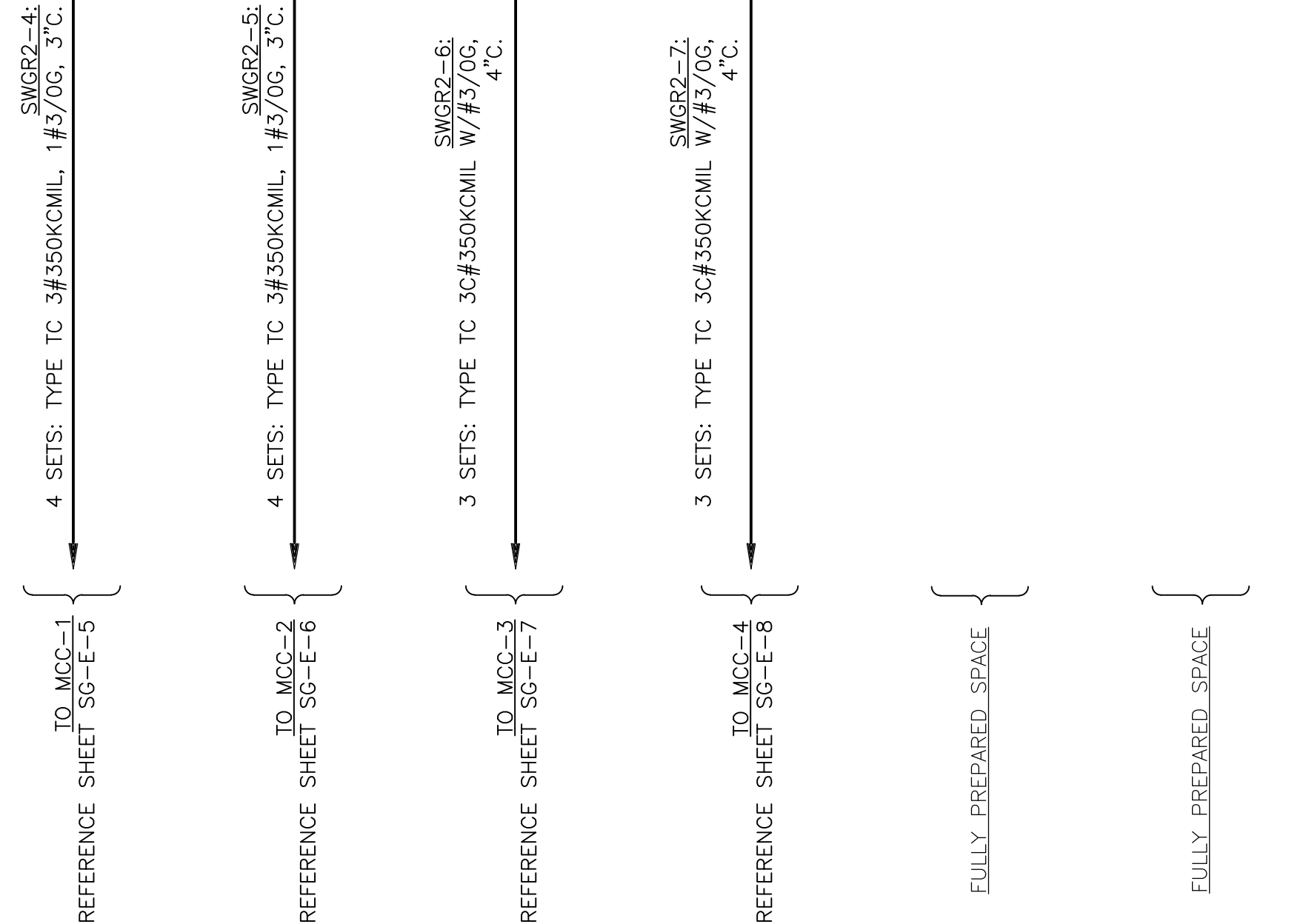


**SWITCHGEAR SWGR-2**  
**ELEVATION**  
 NTS



**SWITCHGEAR SWGR-2**  
**ONE-LINE DIAGRAM**  
 NTS

- KEY NOTES:**
- ① MOLDED CASE CIRCUIT BREAKER (MCCB) FOR TYPE 2 SURGE PROTECTION DEVICE (SPD) SIZED BY SWITCHGEAR MANUFACTURER.
  - ② PROVIDE AND INSTALL PHASE AND GROUND FAULT ZONE SELECTIVE INTERLOCK (ZSI) SYSTEM FOR ALL MAIN AND FEEDER CIRCUIT BREAKERS.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**SWITCHGEAR SWGR-2**  
**ONE-LINE DIAGRAM**



PROJECT NO. 2048-264953  
 FILE NAME: SGE03NFOL.DWG  
 SHEET NO.  
**SG-E-3**

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

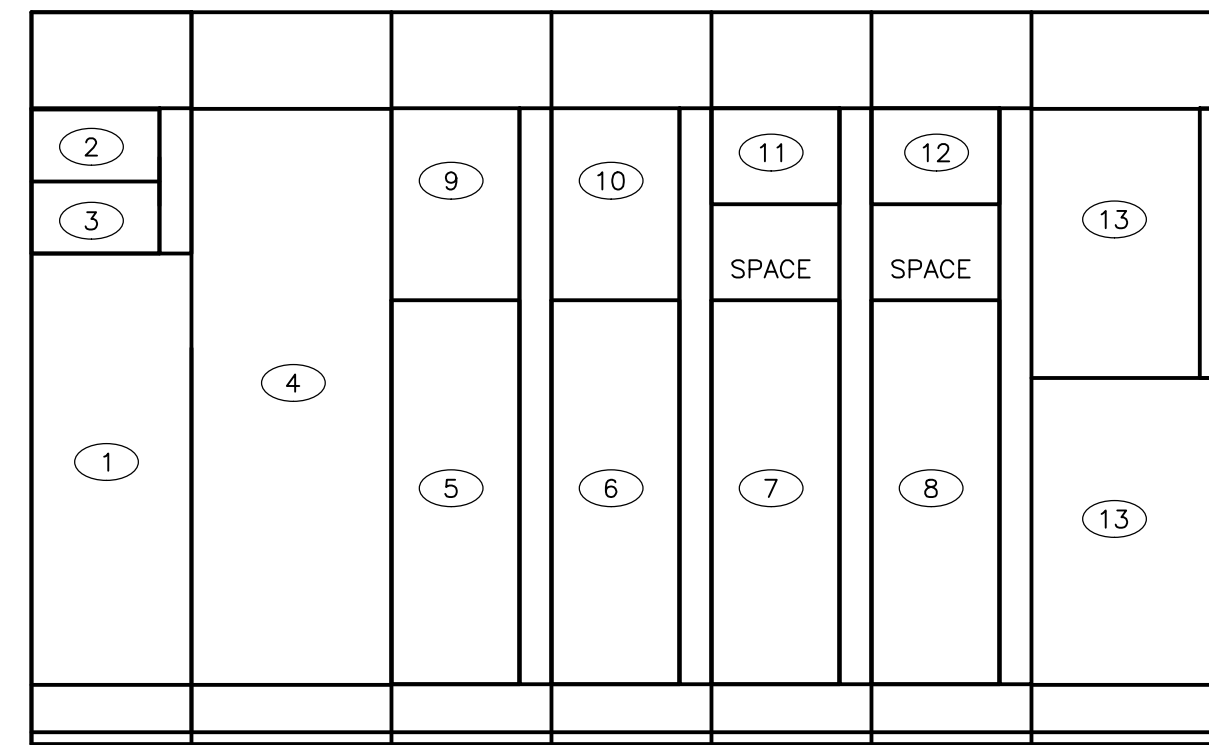
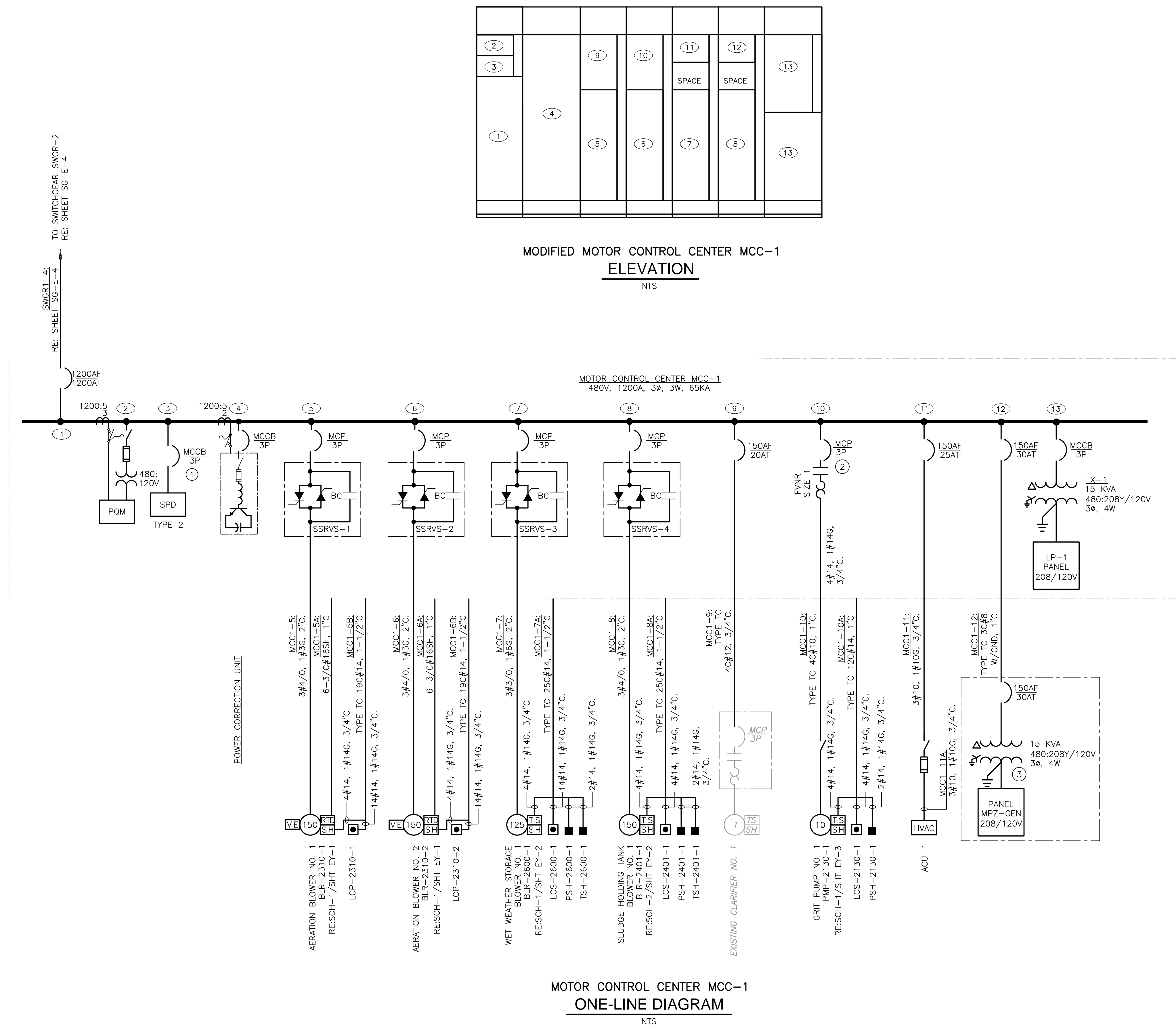
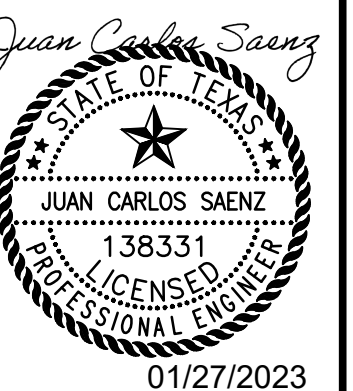
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

**CDM Smith**  
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 Austin, TX 78758  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

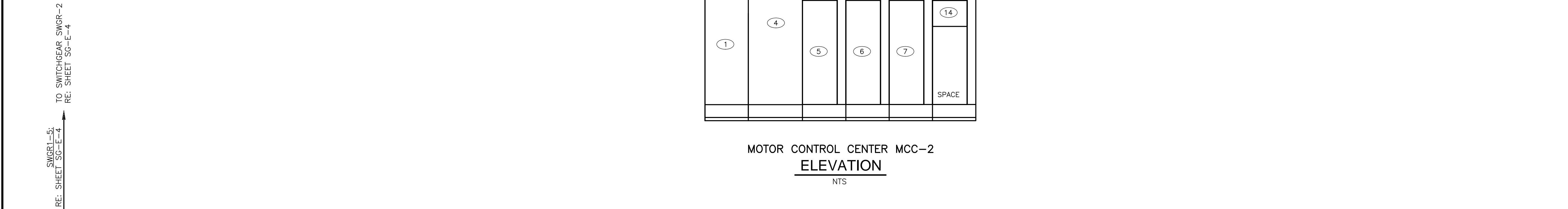
SAN GABRIEL WWTP  
 NEW MOTOR CONTROL CENTER MCC-1  
 ONE-LINE DIAGRAM

PROJECT NO. 2048-264953  
 FILE NAME: SGE04NFOL.DWG  
 SHEET NO.  
**SG-E-4**



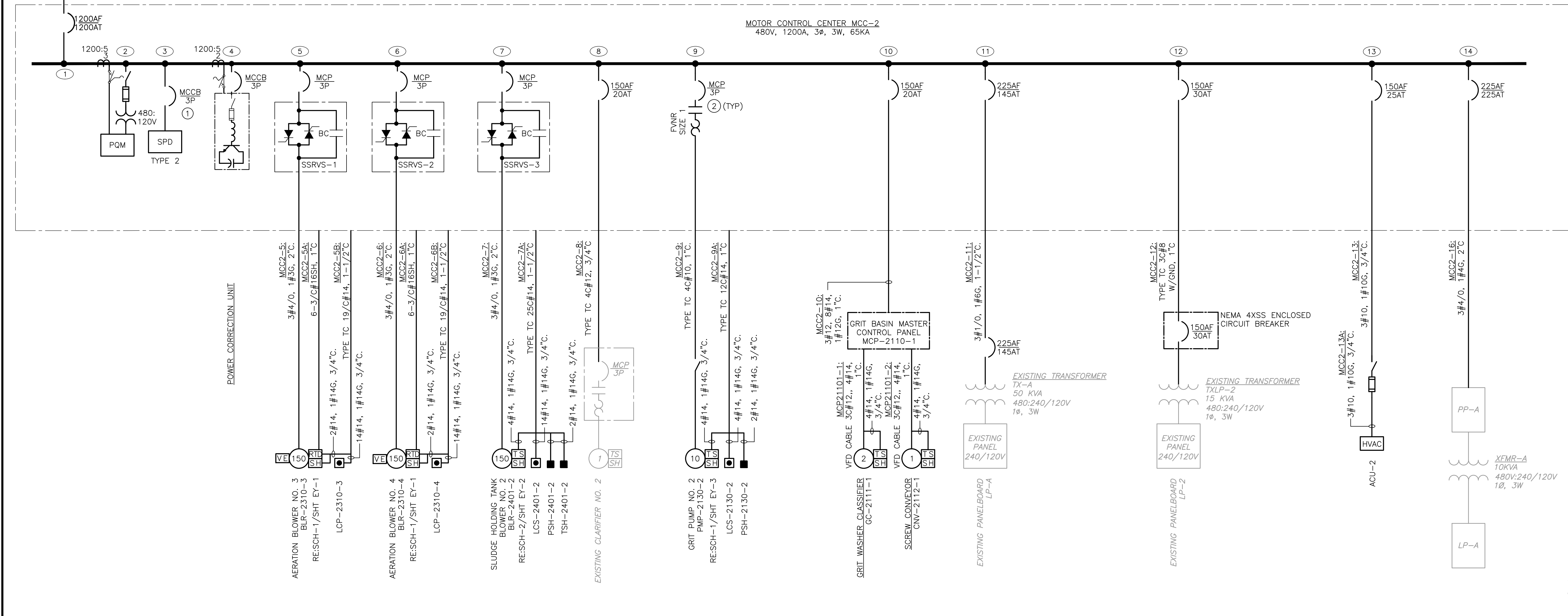
- KEY NOTES:**
- MOLDED CASE CIRCUIT BREAKER (MCCB) FOR TYPE 2 SURGE PROTECTION DEVICE (SPD) SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.
  - MOTOR CIRCUIT PROTECTOR (MCP) AND MCCB, FUSE SHALL BE SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.
  - SEPARATELY DERIVED SYSTEM SHALL BE BONDED TO THE NEAREST GROUNDING ELECTRODE PER NEC.

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MOTOR CONTROL CENTER MCC-2  
 ELEVATION  
 NTS

- KEY NOTES:**
- MOLDED CASE CIRCUIT BREAKER (MCCB) FOR TYPE 2 SURGE PROTECTION DEVICE (SPD) SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.
  - MOTOR CONTROL PROTECTOR (MCP) AND MCCB SHALL BE SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.



MOTOR CONTROL CENTER MCC-2  
 ONE-LINE DIAGRAM  
 NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



9430 Research Blvd., Suite 1-200  
 Austin, TX 78758  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

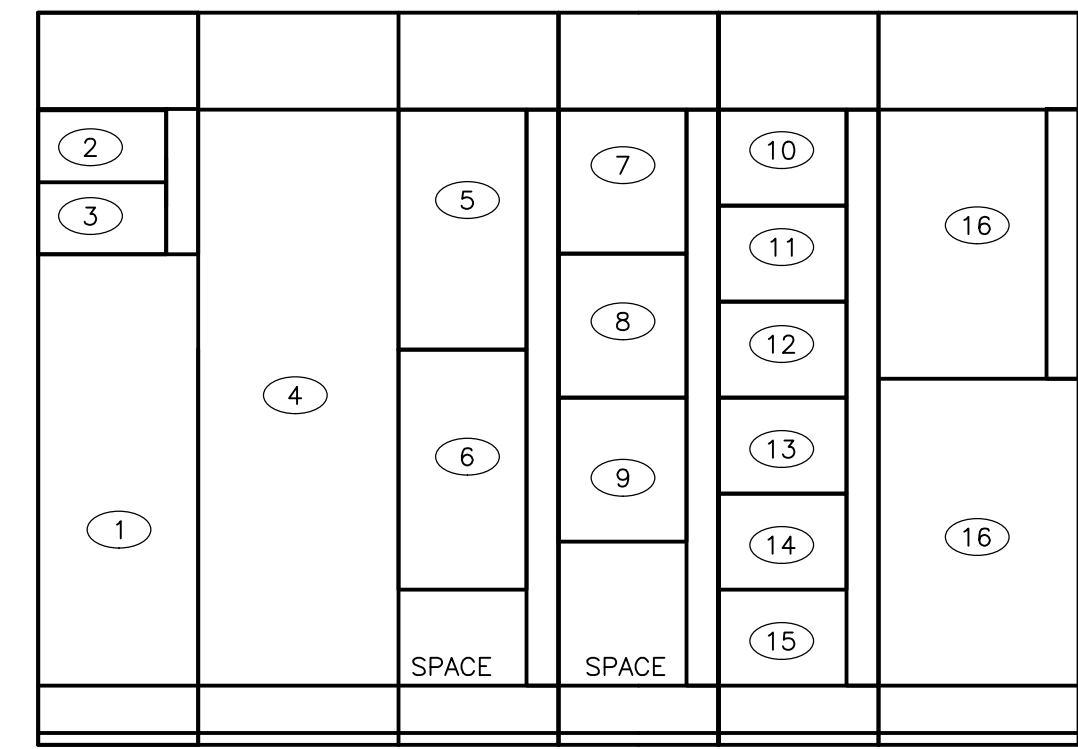
SAN GABRIEL WWTP  
 NEW MOTOR CONTROL CENTER MCC-2  
 ONE-LINE DIAGRAM

PROJECT NO. 2048-264953  
 FILE NAME: SGE05NFOL.DWG  
 SHEET NO.  
 SG-E-5



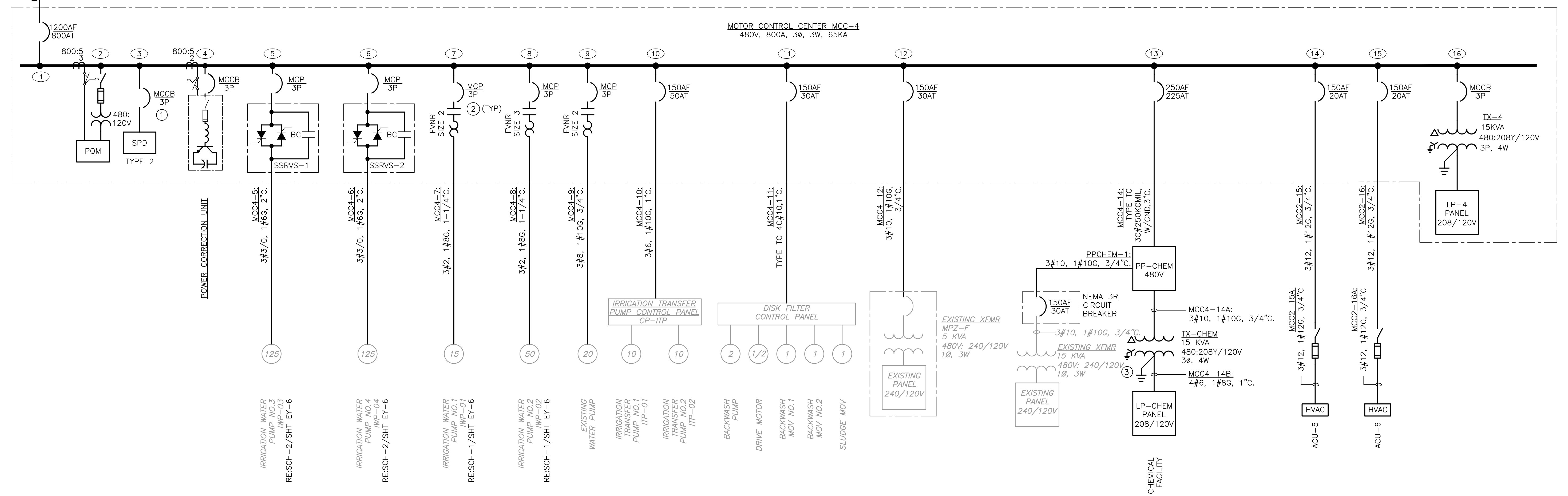


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MOTOR CONTROL CENTER MCC-4  
ELEVATION  
NTS

- KEY NOTES:**
- MOLDED CASE CIRCUIT BREAKER (MCCB) FOR TYPE 2 SURGE PROTECTION DEVICE (SPD) SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.
  - MOTOR CIRCUIT PROTECTOR (MCP) AND MCCB SHALL BE SIZED BY MOTOR CONTROL CENTER (MCC) MANUFACTURER.
  - SEPARATELY DERIVED SYSTEM SHALL BE BONDED TO THE NEAREST GROUNDING ELECTRODE PER NEC.



MOTOR CONTROL CENTER MCC-4  
ONE-LINE DIAGRAM  
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

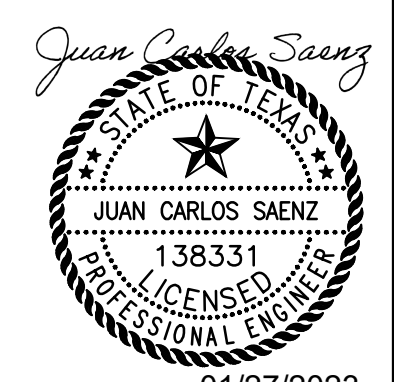
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



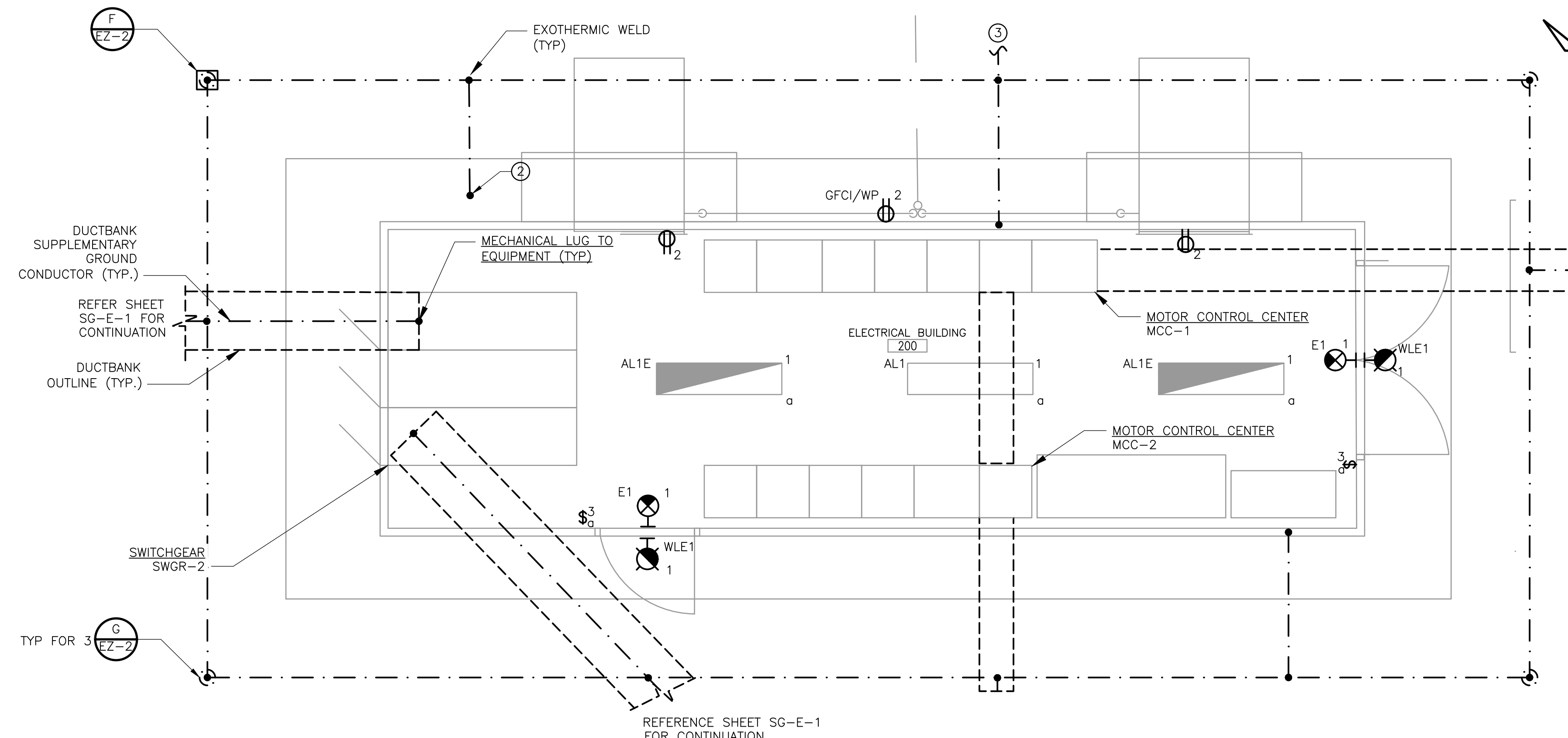
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 NEW MOTOR CONTROL CENTER MCC-4  
 ONE-LINE DIAGRAM

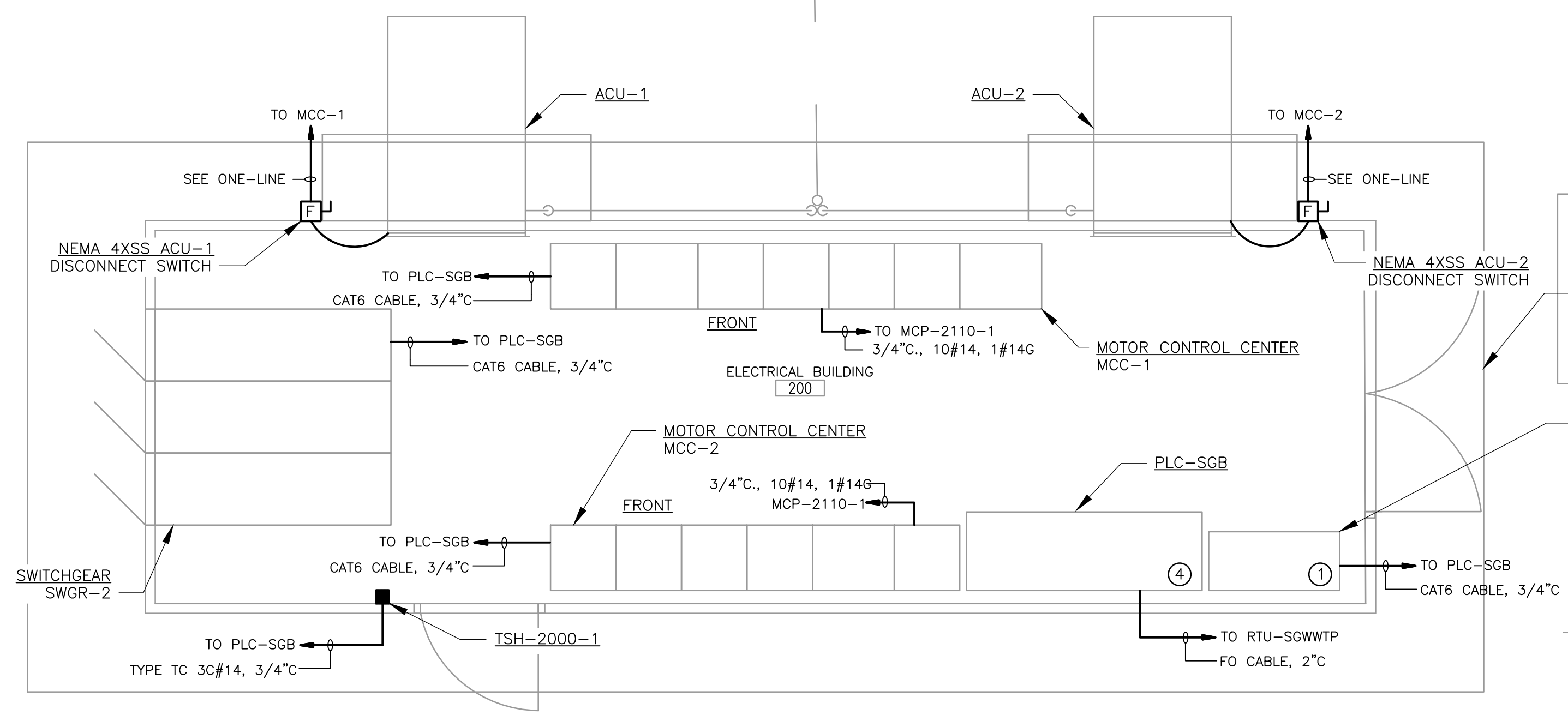
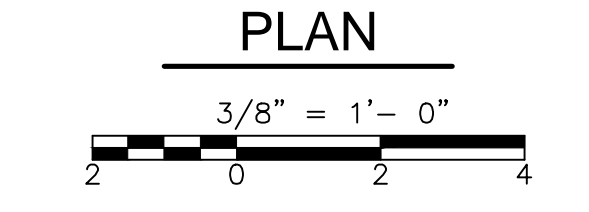
PROJECT NO. 2048-264953  
 FILE NAME: SGE07NFOL.DWG  
 SHEET NO. SG-E-7



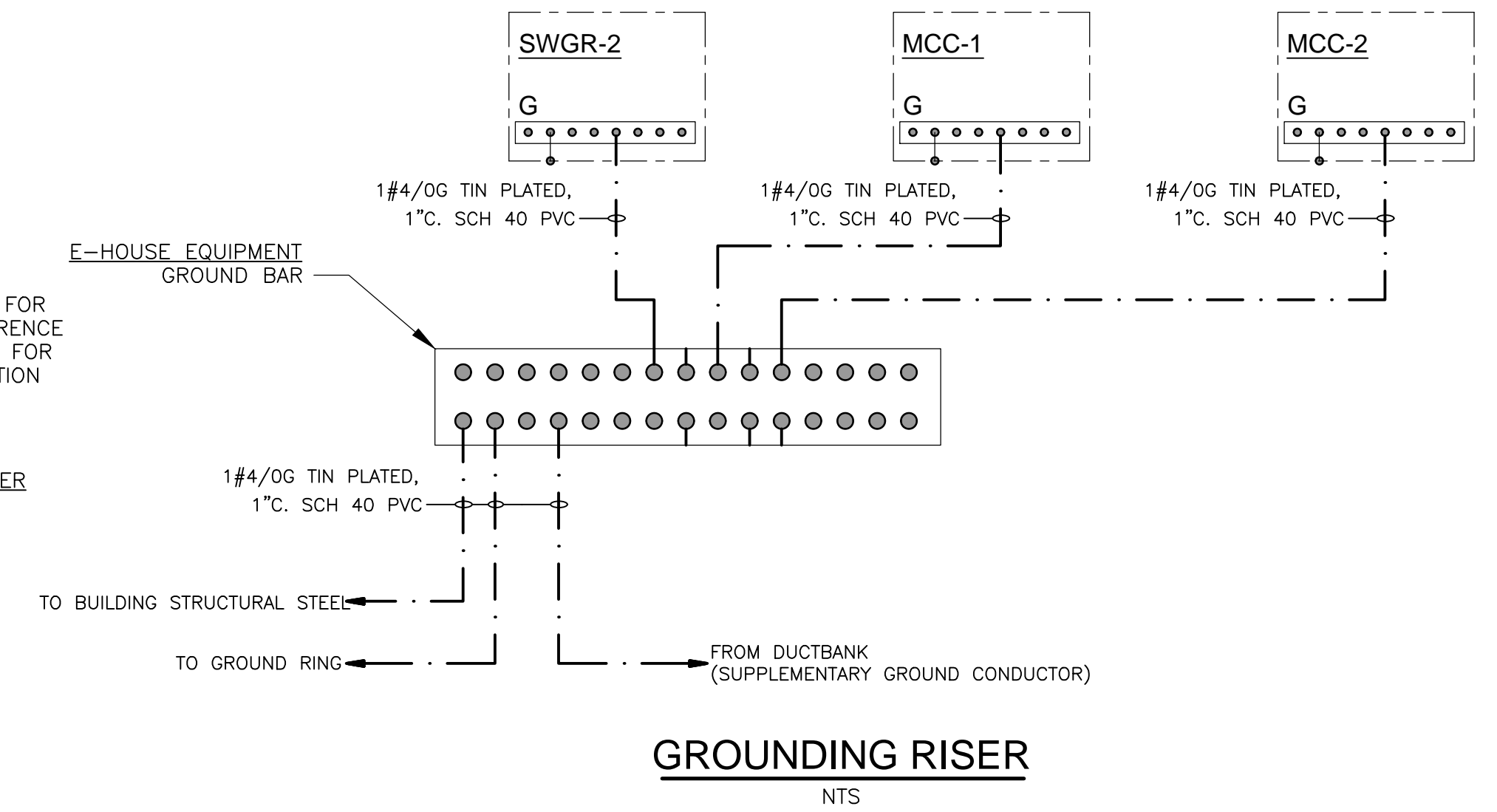
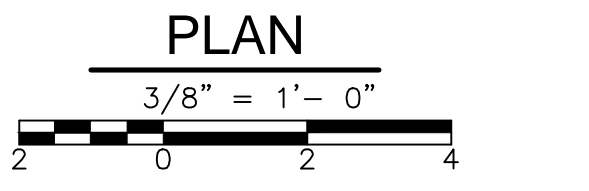
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COORDINATED E-HOUSE I LIGHTING, RECEPTACLE AND GROUNDING



COORDINATED E-HOUSE I POWER



GROUNDING RISER  
NTS

**GENERAL ELECTRICAL NOTES:**

1. REFER SHEETS SG-E-3 TO SG-E-5 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET E-4 LIGHTING FIXTURE SCHEDULE.
3. REFER TO SHEET SG-E-10 FOR PANELBOARD SCHEDULE.
4. PENDANT MOUNT TYPE 'AL1' AND TYPE 'AL1E' LIGHTING FIXTURE AT 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
5. WALL MOUNT LIGHT FIXTURE TYPE 'WLE1' AT 8'-0" A.F.F. UNLESS OTHERWISE NOTED.
6. MOUNT EXIT SIGN ABOVE THE DOOR UNLESS OTHERWISE NOTED.
7. EXIT SIGNS SHALL BE WIRED TO THE NORMAL LIGHTING CIRCUIT OF THE ROOM IT SERVES AND TO THE LINE SIDE OF THE LIGHTING SWITCH.
8. LOCATION OF GROUND LOOP SHALL BE AT A MINIMUM 30" FROM ANY FOUNDATION WALLS AND COLUMNS. GROUNDING LOOP SHALL BE BURIED 30" BELOW GRADE LEVEL.

**KEY NOTES:**

- ① PROVIDED BY DIVISION 46.
- ② BOND #4/0 BARE COPPER TO STRUCTURAL STEEL.
- ③ BOND TO LIGHTNING PROTECTING DOWN LEADS WITH #4/0 BARE COPPER CONDUCTOR UNLESS REQUIRED OTHERWISE BY THE LIGHTNING PROTECTION SYSTEM DESIGNER.
- ④ PROVIDED BY DIVISION 40.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

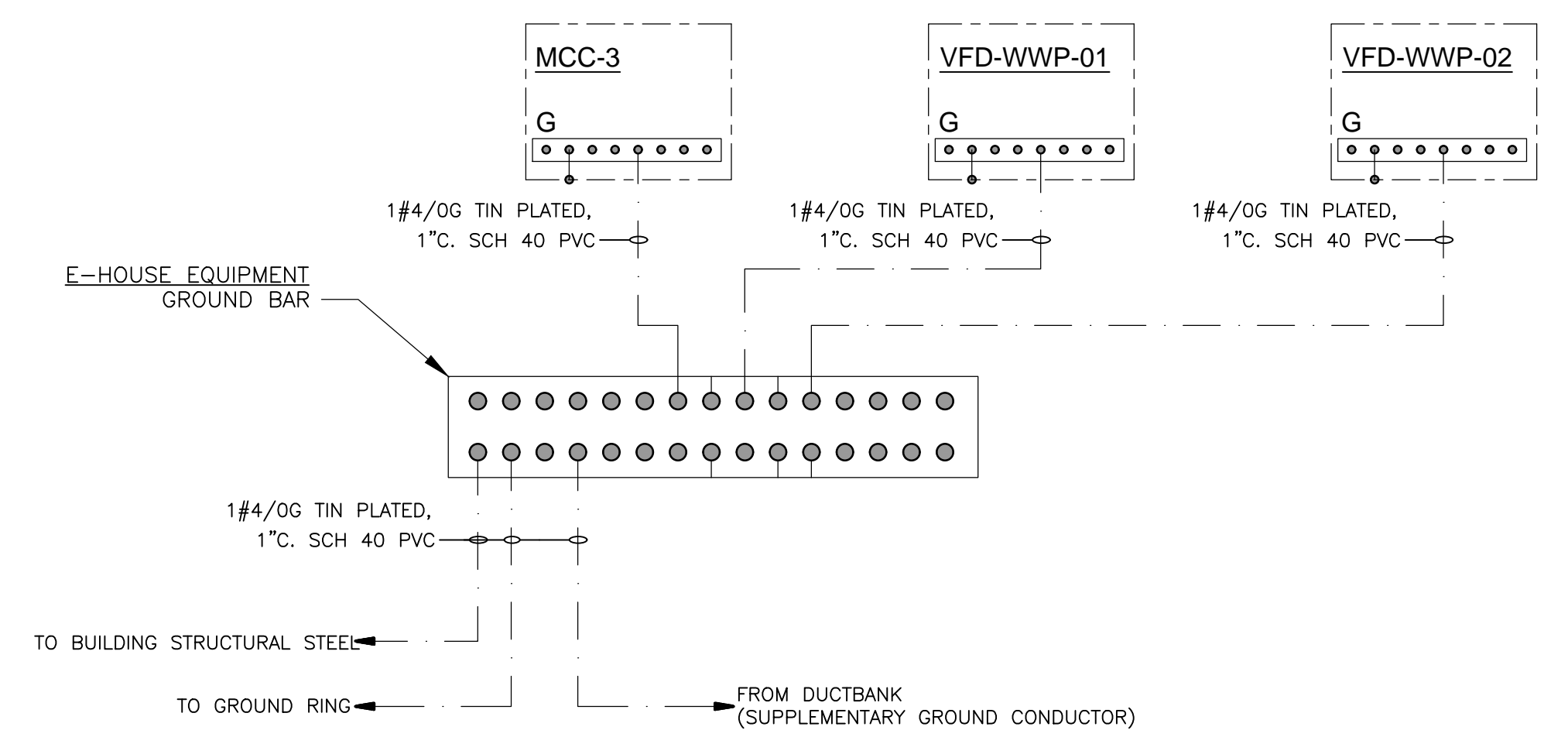
9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SGE08EPL.DWG  
 SHEET NO. SG-E-8

SAN GABRIEL WWTP  
 COORINATED E-HOUSE I  
 PLAN

XREFS: [CDMS\_2234, CDEM0100, CEP201ST, CWP201PL, JCS-INTERIMRV STAMP, EWP002TPL, EWP004PW] Images: [ ]  
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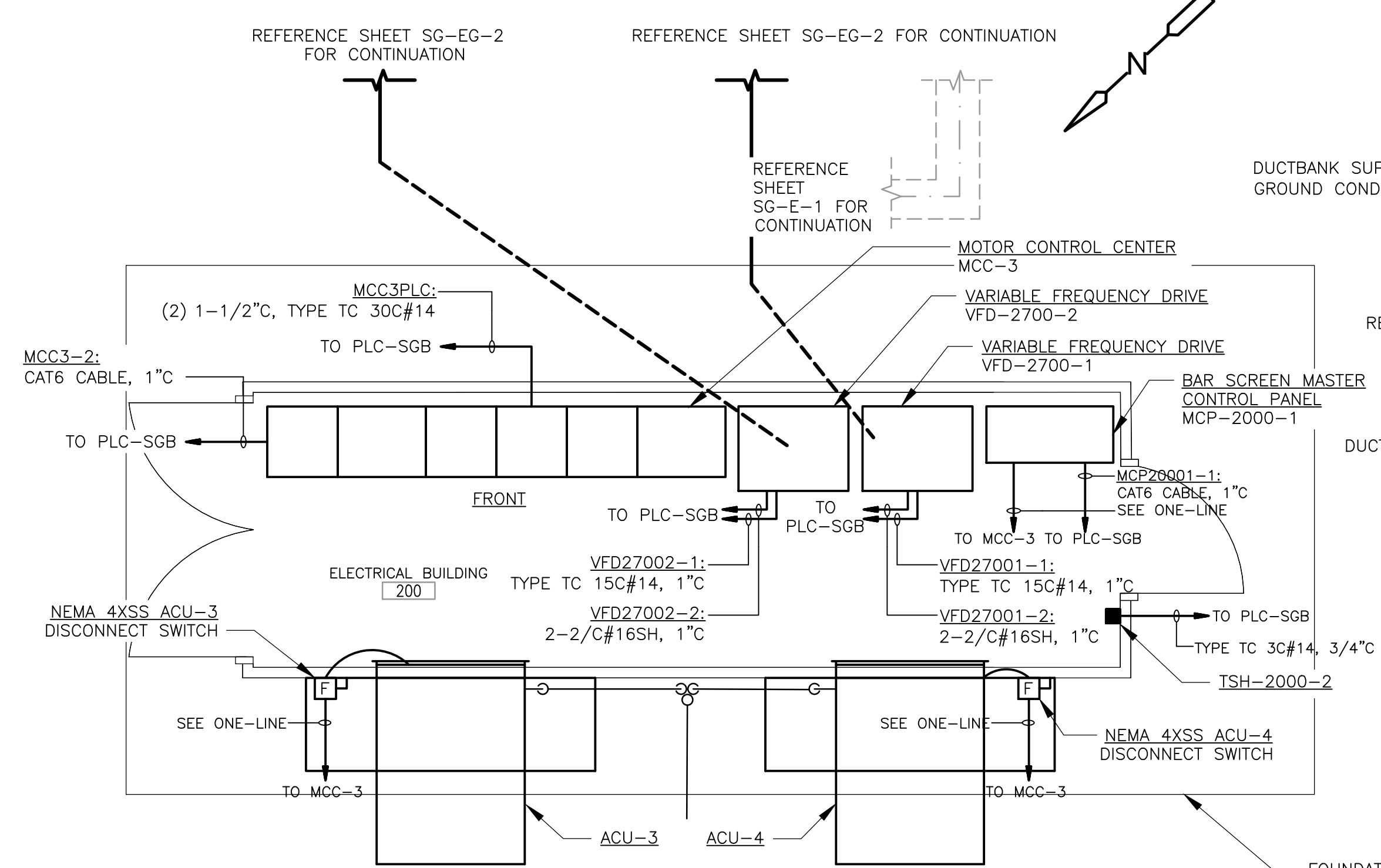
**GROUNDING RISER**  
NTS

**GENERAL ELECTRICAL NOTES:**

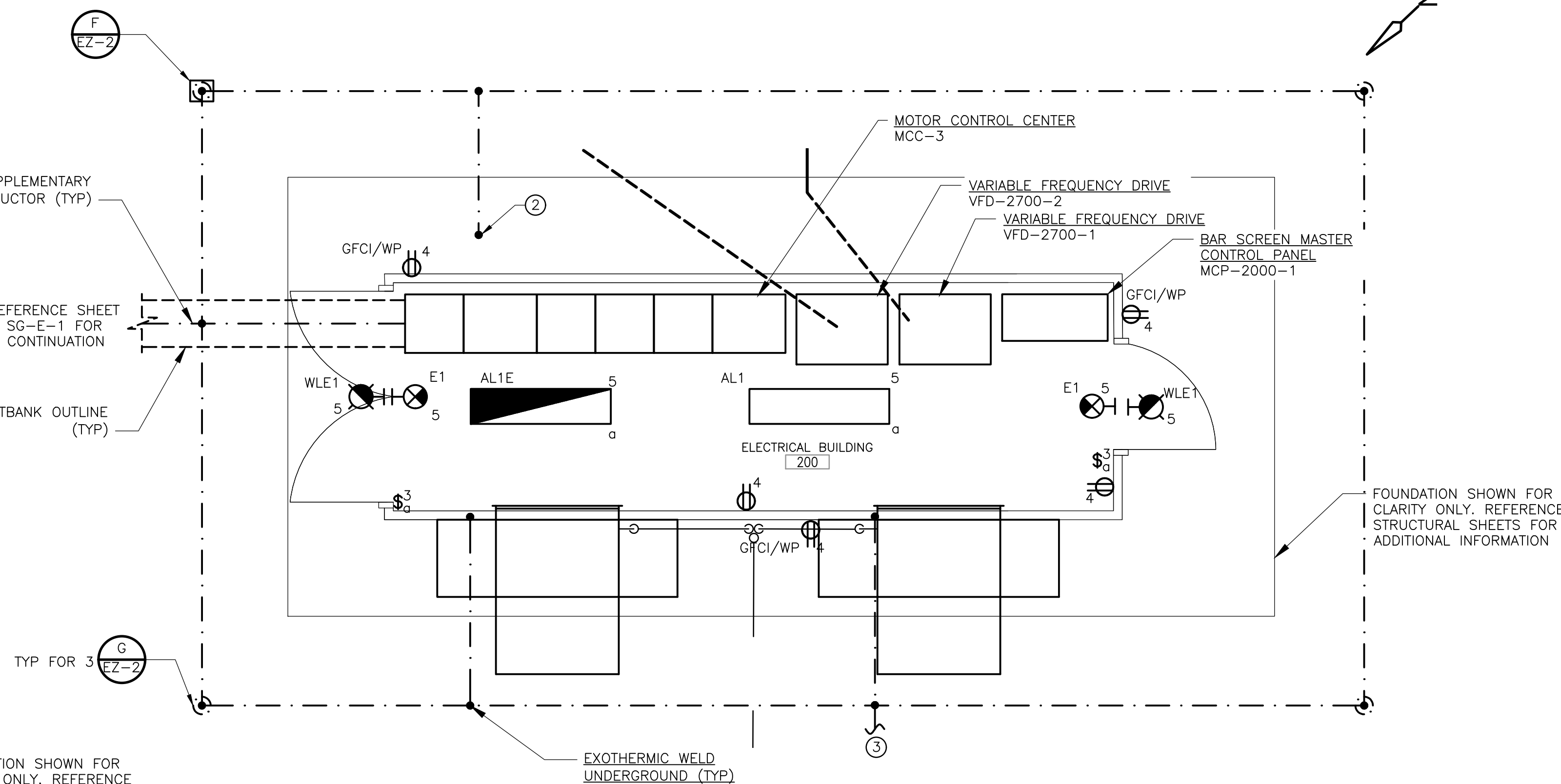
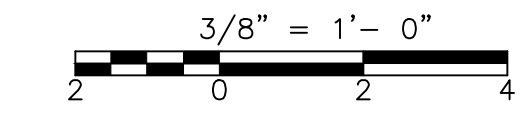
1. REFER SHEETS SG-E-3 TO SG-E-5 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET E-4 LIGHTING FIXTURE SCHEDULE.
3. REFER TO SHEET SG-E-10 FOR PANELBOARD SCHEDULE.
4. PENDANT MOUNT TYPE 'AL1' AND TYPE 'AL1E' LIGHTING FIXTURE AT 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
5. WALL MOUNT LIGHT FIXTURE TYPE 'WL1E' AT 8'-0" A.F.F UNLESS OTHERWISE NOTED.
6. MOUNT EXIT SIGN ABOVE THE DOOR UNLESS OTHERWISE NOTED.
7. EXIT SIGNS SHALL BE WIRED TO THE NORMAL LIGHTING CIRCUIT OF THE ROOM IT SERVES AND TO THE LINE SIDE OF THE LIGHTING SWITCH.
8. LOCATION OF GROUND LOOP SHALL BE AT A MINIMUM OF 30" FROM ANY FOUNDATION WALLS AND COLUMNS. GROUNDING LOOP SHALL BE BURIED 30" BELOW GRADE LEVEL.

**KEY NOTES:**

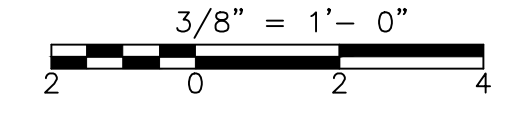
- ① PROVIDED BY DIVISION 46.
- ② BOND #4/0 BARE COPPER TO STRUCTURAL STEEL.
- ③ BOND TO LIGHTNING PROTECTING DOWN LEADS WITH #4/0 BARE COPPER CONDUCTOR UNLESS REQUIRED OTHERWISE BY THE LIGHTNING PROTECTION SYSTEM DESIGNER.



**COORDINATED E-HOUSE II POWER PLAN**



**COORDINATED E-HOUSE II LIGHTING AND GROUNDING PLAN**



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



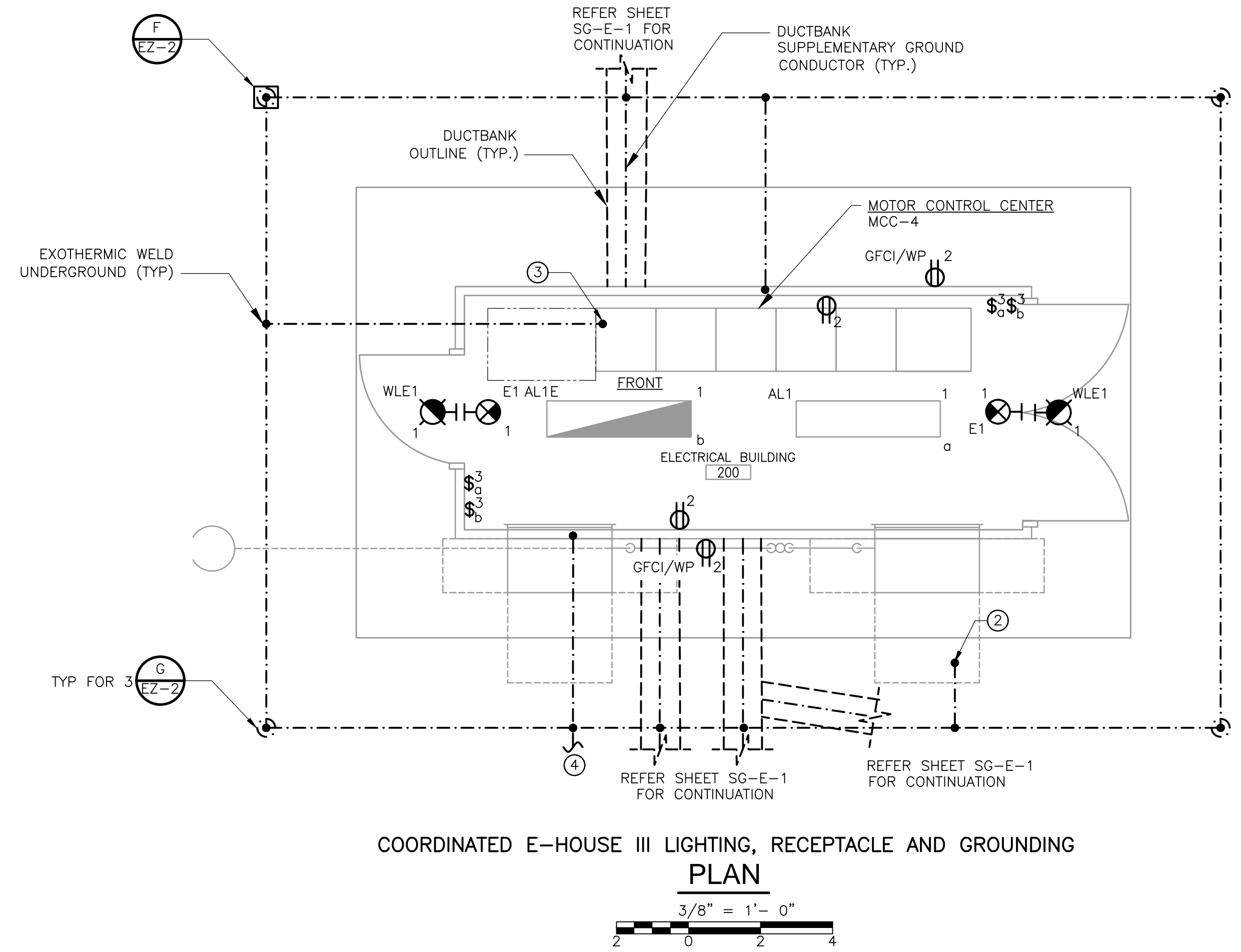
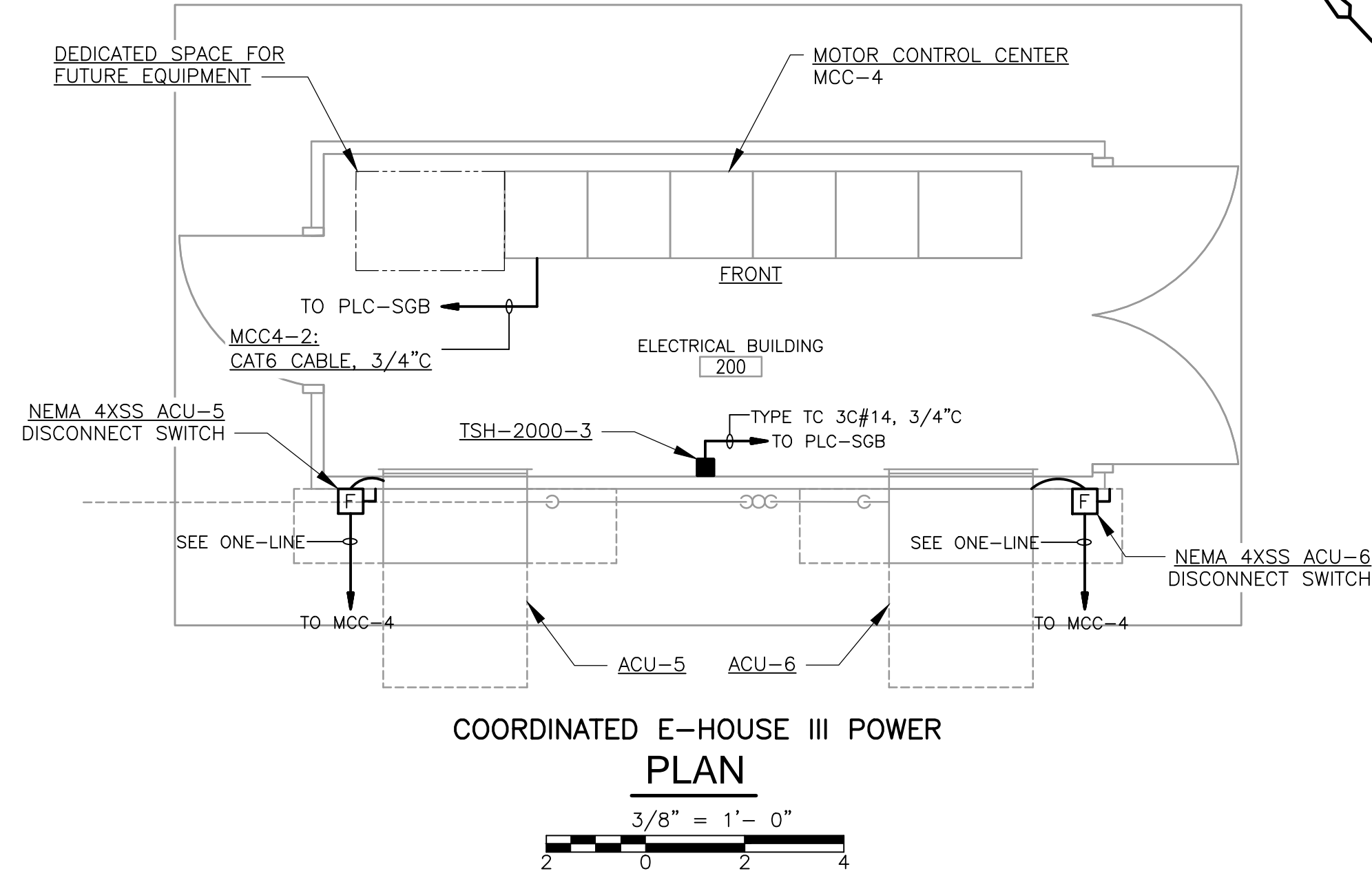
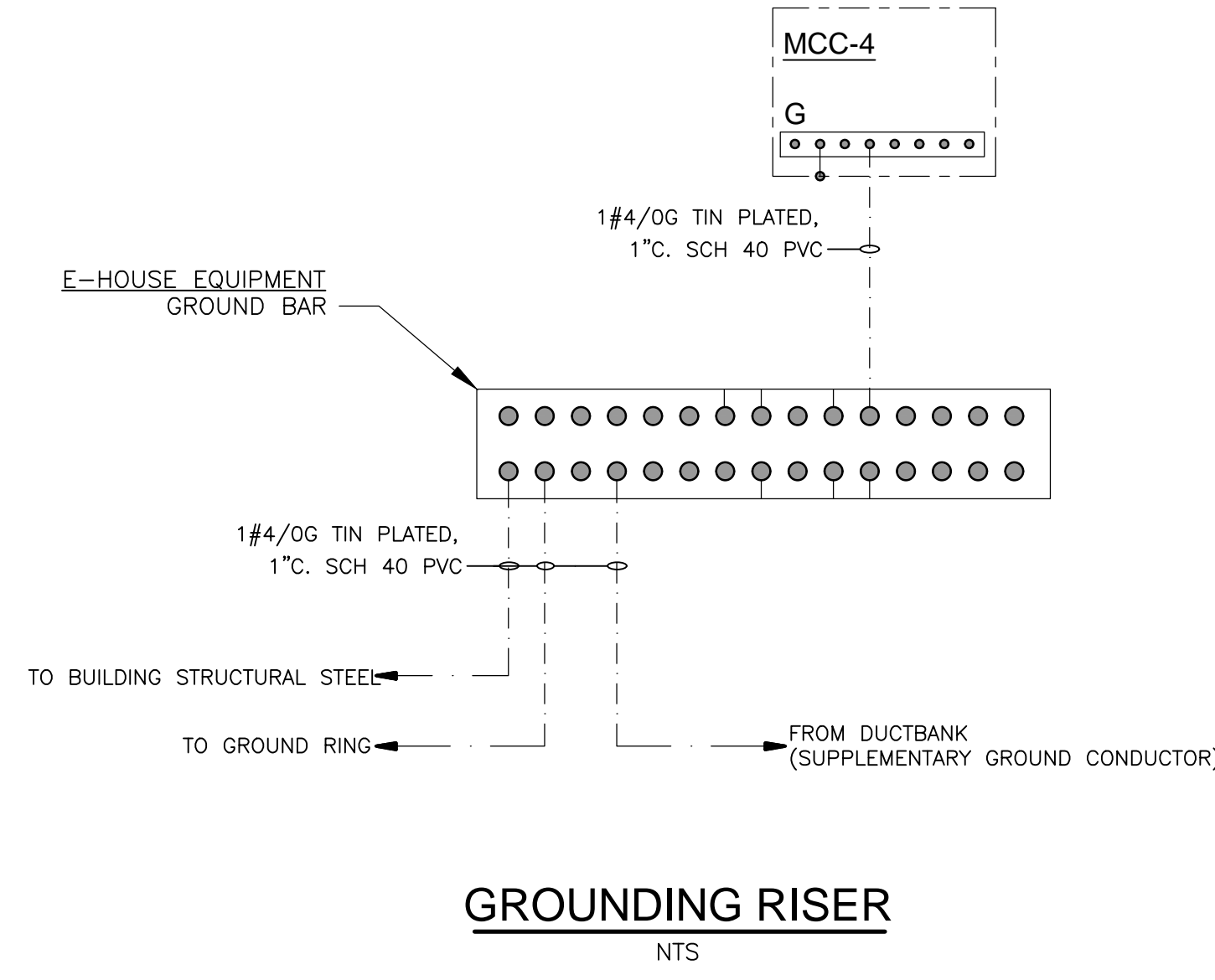
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 COORDINATED E-HOUSE II  
 PLAN  
 SHEET NO. SG-E-9

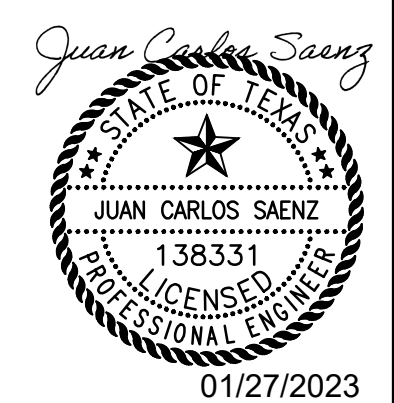
PROJECT NO. 2048-264953  
 FILE NAME: SGE09EPL.DWG  
 SHEET NO. SG-E-9



XREFS: [CDMS\_2234, JCS-INTERMRV STAMP, CEP201ST, CWP201PL, EWP002TPL, EWP004FW] Images: []  
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- GENERAL ELECTRICAL NOTES:**
- REFER SHEETS SG-E-3 TO SG-E-5 FOR ONE-LINE DIAGRAMS.
  - REFER TO SHEET E-4 LIGHTING FIXTURE SCHEDULE.
  - REFER TO SHEET SG-E-10 FOR PANELBOARD SCHEDULE.
  - PENDANT MOUNT TYPE 'AL1' AND TYPE 'AL1E' LIGHTING FIXTURE AT 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
  - WALL MOUNT LIGHT FIXTURE TYPE 'WLE1' AT 8'-0" A.F.F. UNLESS OTHERWISE NOTED.
  - MOUNT EXIT SIGN ABOVE THE DOOR UNLESS OTHERWISE NOTED.
  - EXIT SIGNS SHALL BE WIRED TO THE NORMAL LIGHTING CIRCUIT OF THE ROOM IT SERVES AND TO THE LINE SIDE OF THE LIGHTING SWITCH.
  - LOCATION OF GROUND LOOP SHALL BE AT A MINIMUM OF 30" FROM ANY FOUNDATION WALLS AND COLUMNS. GROUNDING LOOP SHALL BE BURIED 30" BELOW GRADE LEVEL.
- KEY NOTES:**
- PROVIDED BY DIVISION 46.
  - BOND #4/0 BARE COPPER TO STRUCTURAL STEEL.
  - BOND #4/0 COPPER TO GROUND BUS AND EQUIPMENT ENCLOSURE.
  - BOND TO LIGHTNING PROTECTING DOWN LEADS WITH #4/0 BARE COPPER CONDUCTOR UNLESS REQUIRED OTHERWISE BY THE LIGHTNING PROTECTION SYSTEM DESIGNER.



DESIGNED BY: J. SAENZ				<p>4930 Research Blvd., Suite 1-200 Austin, TX 78759 Tel: (512) 346-1100 TBPE Firm Registration No. F-3043</p>	CITY OF GEORGETOWN, TEXAS	SAN GABRIEL WWTP REHABILITATION	SAN GABRIEL WWTP COORDINATED E-HOUSE III PLAN	PROJECT NO. 2048-264953
DRAWN BY: N. MONTGOMERY								FILE NAME: SGE10EPL.DWG
SHEET CHK'D BY: M. CZACH								SHEET NO.
CROSS CHK'D BY: G. PRABHU								SG-E-10
APPROVED BY: J. SAENZ								
REV. NO.	DATE	DRWN	CHKD	CONFORMED DRAWINGS	REMARKS			
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS				

250 AMP MAIN BREAKER 250 AMP BUS RATING 30 POLES 480/120 VOLTS 3 PHASE 3 WIRE 60 Hz.	PANELBOARD PP-CHEM 65 KA SHORT CIRCUIT RATING INTERNAL SPD: YES					LOCATION: SODIUM BISULFITE FACILITY ENCLOSURE RATING: NEMA 4X, MOUNTING: SURFACE							
CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES
1	TRANSFORMER TX-CHEM	5.00	5.00	5.00	30 /3	6	2	ELECTRIC WATER HEATER EWH-1	3.60	3.60	3.60	20 /3	5
3							4						
5							6						
7	EXISTING TRANSFORMER (15KVA) VIA NEMA 3R CIRCUIT BREAKER	5.00	5.00	5.00	30 /3	6	8	SPACE					
9							10						
11							12						
13	SPACE				/3		14	SPACE					
15							16						
17							18						
19							20	SPACE					
21							22						
23							24						
25							26	SPACE					
27							28						
29							30	SPACE					
TOTAL PHASE KVA THIS SIDE		10.00	10.00	10.00			TOTAL PHASE KVA THIS SIDE		3.60	3.60	3.60		
							TOTAL KVA PER PHASE		13.60	13.60	13.60		
							TOTAL THREE PHASE KVA		40.80				

- |   |   |
|---|---|
| NOTES:  | NOTES CONT:   |
| 1. PROVIDE LOCKING HARDWARE   | 2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER        |
| 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE) | 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP) |
| 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                           | 6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#10G                 |
| 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G                           | 8. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                 |
| 9. BRANCH CIRCUIT WIRING: 3"C, 3#350KCMIL & 1#3G                        | 10. BRANCH CIRCUIT WIRING: 1"C, 3#8 & 1#10G                   |
| 11. BRANCH CIRCUIT WIRING: 1-1/2"C, 3#2 & 1#6G                          | 12.   |

**PANELBOARD PP-CHEM  
SCHEDULE**

NTS

60 AMP MAIN BREAKER 100 AMP BUS RATING 24 POLES 208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.	PANELBOARD LP-1 10 KA SHORT CIRCUIT RATING INTERNAL SPD: YES					LOCATION: EHOUSE I ENCLOSURE RATING: MOUNTING: SURFACE							
CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES
1	LIGHTING - EHOUSE	0.22			20 /1	7	2	RECEPT. - EHOUSE	0.90			20 /1	7
3	SG-PLC		1.50		25 /1	9	4	LCP-2310-1		0.50		30 /1	9
5	LCP-2310-3			0.50	30 /1	9	6	LCP-2310-2			0.50	30 /1	9
7	LCP-2310-4	0.50			30 /1	9	8	FT-2740-1	0.10			20 /1	7
9	FT-2740-2		0.10		20 /1	7	10	AIT-2720-1		0.10		20 /1	7
11	BV-2129-1A				20 /1	7	12	FIT-2110-1			0.10	20 /1	7
13	1-1/2" NPW HEAT TRACE-1	0.30			20 /1	3,7	14	MCP-2110-1	1.00			20 /1	7
15	1-1/2" NPW HEAT TRACE-2		0.30		20 /1	3,7	16	LCP-2401-1		0.50		30 /1	9
17	LCP-2600-1			0.50	30 /1	9	18	LCP-2401-2			0.50	30 /1	9
19	SPARE				20 /1		20	SPACE				/1	
21	SPARE				20 /1		22	SPACE				/1	
23	SPARE				20 /1		24	SPACE				/1	
TOTAL PHASE KVA THIS SIDE		1.02	1.90	1.00			TOTAL PHASE KVA THIS SIDE		2.00	1.10	1.10		
							TOTAL KVA PER PHASE		3.02	3.00	2.10		
							TOTAL THREE PHASE KVA		8.12				

- |   |   |
|---|---|
| NOTES:  | NOTES CONT:   |
| 1. PROVIDE LOCKING HARDWARE   | 2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER        |
| 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE) | 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP) |
| 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                           | 6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#10G                 |
| 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G                           | 8. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                 |
| 9. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G                           | 10.   |
| 11.   | 12.   |

**PANELBOARD LP-1  
SCHEDULE**

NTS

60 AMP MAIN BREAKER 100 AMP BUS RATING 24 POLES 208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.	PANELBOARD LP-4 10 KA SHORT CIRCUIT RATING INTERNAL SPD: YES					LOCATION: E-HOUSE III ENCLOSURE RATING: MOUNTING: SURFACE							
CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES
1	LIGHTING	0.14			20 /1	7	2	RECEPTACLES	0.54			20 /1	7
3	SPARE				20 /1		4	SPARE				20 /1	
5	SPARE				20 /1		6	SPARE				20 /1	
7	SPARE				20 /1		8	SPARE				20 /1	
9	SPARE				20 /1		10	SPARE				20 /1	
11	SPARE				20 /1		12	SPARE				20 /1	
13	SPARE				20 /1		14	SPARE				20 /1	
15	SPARE				20 /1		16	SPARE				20 /1	
17	SPARE				20 /1		18	SPACE				20 /1	
19	SPARE				20 /1		20	SPACE				20 /1	
21	SPARE				20 /1		22	SPACE				20 /1	
23	SPARE				20 /1		24	SPACE				20 /1	
TOTAL PHASE KVA THIS SIDE		0.14	0.00	0.00			TOTAL PHASE KVA THIS SIDE		0.54	0.00	0.00		
							TOTAL KVA PER PHASE		0.68	0.00	0.00		
							TOTAL THREE PHASE KVA		0.68				

- |   |   |
|---|---|
| NOTES:  | NOTES CONT:   |
| 1. PROVIDE LOCKING HARDWARE   | 2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER        |
| 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE) | 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP) |
| 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                           | 6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#10G                 |
| 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G                           | 8. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                 |
| 9.  | 10.   |
| 11.   | 12.   |

**PANELBOARD LP-4  
SCHEDULE**

NTS

150 AMP MAIN BREAKER 150 AMP BUS RATING 30 POLES 208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.	PANELBOARD LP-CHEM 10 KA SHORT CIRCUIT RATING INTERNAL SPD: YES					LOCATION: SODIUM BISULFITE FACILITY ENCLOSURE RATING: NEMA 4X, MOUNTING: SURFACE							
CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES
1	LIGHTING - SODIUM BISULFITE AREA	0.56			20 /1	7	2	RECEPT. - SODIUM BISULFITE AREA	0.72			20 /1	7
3	RECEPT. - SUMP PUMP		0.50		25 /1	7	4	EXISTING FILL STATION		0.50		20 /1	7
5	HOT BOX				20 /1	6	6	FILL-2500-1			0.50	20 /1	6
7	LIT-2500-1	0.10			20 /1	7	8	HEAT TRACE-1 2" SBS	0.35			20 /1	3,7
9	LIT-2500-2		0.10		20 /1	7	10	HEAT TRACE-2 2" SBS		0.35		20 /1	3,7
11	SODIUM BISULFITE FEED PUMP NO.1 PMP-2550-1				20 /1	7	12	HEAT TRACE-1 1/2" SBS			0.35	20 /1	3,7
13	SODIUM BISULFITE FEED PUMP NO.2 PMP-2550-2				20 /1	7	14	HEAT TRACE-2 1/2" SBS	0.35			20 /1	3,7
15	SPARE				20 /1		16	SPARE				20 /1	
17	SPARE				20 /1		18	SPARE				20 /1	
19	SPARE				20 /1		20	SPARE				20 /1	
21	SPARE				20 /1		22	SPARE				20 /1	
23	SPARE				20 /1		24	SPARE				/1	
25	SPARE				20 /1		26	SPARE				/1	
27	SPARE				20 /1		28	SPARE				/1	
29	SPARE				20 /1		30	SPACE				/1	
TOTAL PHASE KVA THIS SIDE		0.66	0.60	0.08			TOTAL PHASE KVA THIS SIDE		1.42	0.85	0.85		
							TOTAL KVA PER PHASE		2.08	1.45	0.93		
							TOTAL THREE PHASE KVA		4.46				

- |   |   |
|---|---|
| NOTES:  | NOTES CONT:   |
| 1. PROVIDE LOCKING HARDWARE   | 2. 15 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER       |
| 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE) | 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP) |
| 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                           | 6. BRANCH CIRCUIT WIRING: 3/4"C, 2#10 & 1#10G                 |
| 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#12G                           | 8. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                 |
| 9. BRANCH CIRCUIT WIRING: 3"C, 3#350KCMIL & 1#3G                        | 10. BRANCH CIRCUIT WIRING: 1"C, 3#8 & 1#10G                   |
| 11. BRANCH CIRCUIT WIRING: 1-1/2"C, 3#2 & 1#6G                          | 12.   |

**PANELBOARD LP-CHEM  
SCHEDULE**

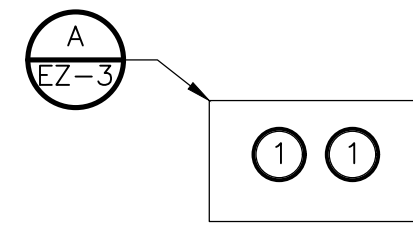
NTS

60 AMP MAIN BREAKER 100 AMP BUS RATING 24 POLES 208/120 VOLTS 3 PHASE 4 WIRE 60 Hz.	PANELBOARD LP-3 10 KA SHORT CIRCUIT RATING INTERNAL SPD: YES					LOCATION: E-HOUSE II ENCLOSURE RATING: MOUNTING: SURFACE							
CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES	CIRCUIT NO.	DESCRIPTION	PHASE A	PHASE B	PHASE C	BREAKER AMPS/POLES	NOTES
1	LDIT-2000-1	0.50			20 /1	5	2	LI-2005-1	0.50			20 /1	5
3	LRP-2010-1		0.50		20 /1	5	4	RECEPTACLES		0.90		20 /1	7
5	LIGHTING			0.14	20 /1	7	6	LIFT STATION RECEPT.			0.18	20 /1	7
7	SPARE				20 /1		8	SPARE				20 /1	
9	SPARE				20 /1		10	SPARE				20 /1	
11	SPARE				20 /1		12	SPARE				20 /1	
13	SPARE				20 /1		14	SPARE				20 /1	
15	SPARE				20 /1		16	SPARE				20 /1	
17	SPARE				20 /1		18	SPACE				20 /1	
19	SPARE				20 /1		20	SPACE				20 /1	
21	SPARE				20 /1		22	SPACE				20 /1	
23	SPARE				20 /1		24	SPACE				20 /1	
TOTAL PHASE KVA THIS SIDE		0.50	0.50	0.14			TOTAL PHASE KVA THIS SIDE		0.50	0.90	0.18		
							TOTAL KVA PER PHASE		1.00	1.40	0.32		
							TOTAL THREE PHASE KVA		2.72				

- |   |   |
|---|---|
| NOTES:  | NOTES CONT:   |
| 1. PROVIDE LOCKING HARDWARE   | 2. 5 ma GROUND FAULT INTERRUPTER (GFI) CIRCUIT BREAKER        |
| 3. 30 ma GFI CIRCUIT BREAKER FOR EQUIPMENT PROTECTION ONLY (HEAT TRACE) | 4. PROVIDE LOCKING HARDWARE & PAINT BREAKER HANDLE RED (FACP) |
| 5. BRANCH CIRCUIT WIRING: 3/4"C, 3#12 & 1#12G                           | 6. BRANCH CIRCUIT WIRING: 3/4"C, 3#10 & 1#10G                 |
| 7. BRANCH CIRCUIT WIRING: 3/4"C, 2#12 & 1#                              |   |

**GENERAL ELECTRICAL NOTES:**

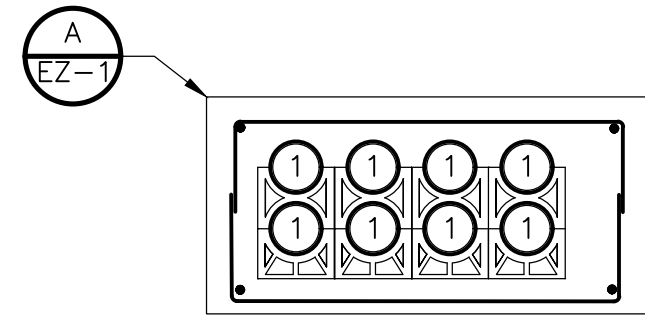
1. CONCRETE REINFORCED DUCTBANKS SHALL BE EXTENDED UNDERNEATH STRUCTURES OR ELECTRICAL EQUIPMENT AND ARE NOT SHOWN FOR CLARITY BUT THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.
2. PROVIDE PULLSTRING FOR SPARE CONDUITS.
3. DETAILS SHOWN ON THIS SHEET ARE FOR DIAGRAMMATICAL PURPOSES AND SHOW INTENT. DUCTBANK SECTIONS DO NOT NECESSARILY REFLECT ACTUAL CONDUIT PLACEMENT.



DUCTBANK  
SECTION 1  
NTS E-4

TABLE FOR SECTION 1		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	UT-PRI/ 4"C. W/PULLSTRING	FROM UTILITY RISER POLE TO UTILITY TRANSFORMER

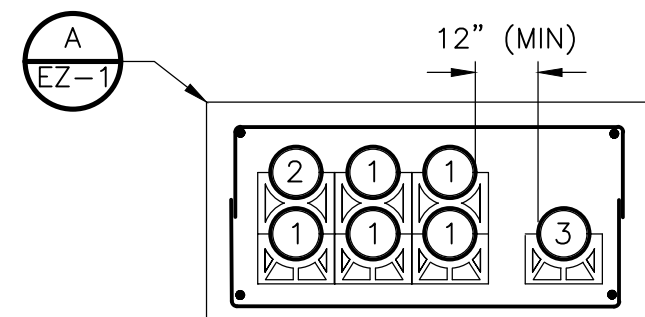
UTILITY PRIMARY DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION 2  
NTS E-4

TABLE FOR SECTION 2		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	SWGR1-UT/ 4"C.	FROM UTILITY TRANSFORMER TO SWITCHGEAR SWGR-1

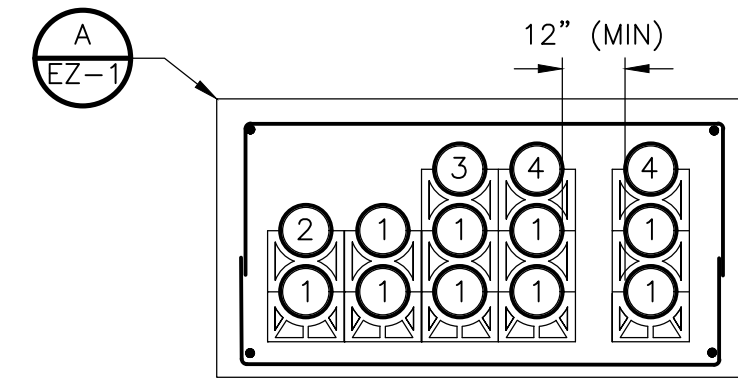
CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION 3  
NTS E-4

TABLE FOR SECTION 3		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	SWGR1-GEN/ 3"C.	FROM GENERATOR GEN-2000-1 TO SWITCHGEAR SWGR-1
2	SPARE 3"C W/PULLSTRING	FROM GENERATOR GEN-2000-1 TO SWITCHGEAR SWGR-1
3	GEN1-2/ 1"C.	FROM GENERATOR GEN-2000-1 TO SWITCHGEAR SWGR-1

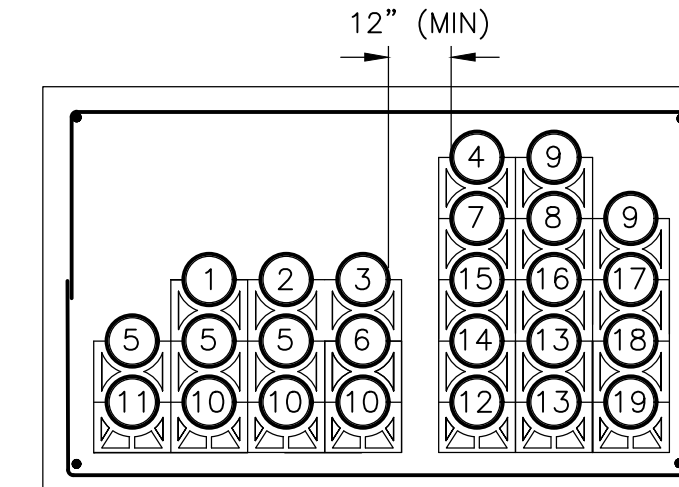
CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION 4  
NTS E-4

TABLE FOR SECTION 4		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	SWGR1-5/ 4"C.	FROM SWITCHGEAR SWGR-1 TO SWITCHGEAR-2
2	SPARE 4"C W/PULLSTRING	FROM SWITCHGEAR SWGR-1 TO SWITCHGEAR-2
3	MCC1-12/ 1"C	FROM MOTOR CONTROL CENTER MCC-1 TO GENERATOR PANELBOARD MPZ-GEN
4	MCC2-12/1"C	FROM MOTOR CONTROL CENTER MCC-2 TO EXISTING PANELBOARD LP-2 TRANSFORMER
5	SWGR1-1/1"C	FROM SWITCHGEAR SWGR-1 TO PLC-SGB
6	SWGR1-3/1"C	FROM SWITCHGEAR SWGR-1 TO PLC-SGB
7	GEN1-1/1"C	FROM GENERATOR GEN-2000-1 TO PLC-SGB

CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION 5  
NTS E-4

TABLE FOR SECTION 5		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC1-7/ 2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 BLR-2600-1
2	MCC1-7A/ 1-1/2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 BLR-2600-1
3	LP1-17/ 1"C.	FROM PANELBOARD LP-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 LCP-2600-1
4	LCS26001-1/ 1"C.	FROM SG-PLC TO LCS-2600-1
5	SWGR2-7/ 4"C.	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-4
6	SPARE 4"C. W/PULLSTRING	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-4
7	PMP2550-1/ 2"C.	FROM SG-PLC TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
8	PMP2550-2/ 2"C	FROM SG-PLC TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
9	SPARE 2"C W/PULLSTRING	FROM SG-PLC TO COORDINATED E-HOUSE III
10	SWGR2-6/ 4"C	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
11	SPARE 4"C W/PULLSTRING	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
12	MCC3-2/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
13	MCC3PLC/ 1-1/2"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
14	MCP20001-1/ 1"C	FROM PLC-SGB TO BAR SCREEN MASTER CONTROL PANEL MCP-2000-1
15	VFD27001-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
16	VFD27001-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
17	VFD27002-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
18	VFD27002-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
19	SPARE/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3

CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS

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REV. NO.	DATE	DRWN	CHKD	CONFORMED DRAWINGS	REMARKS
A	5/25/23	JCS	JCS		

DESIGNED BY: S. KAMAL	<p>9430 Research Blvd., Suite 1-200 Austin, TX 78759 Tel: (512) 346-1100 TBPE Firm Registration No. F-3043</p>
DRAWN BY: S. KAMAL	
SHEET CHK'D BY: M. CZACH	
CROSS CHK'D BY: G. PRABHU	
APPROVED BY: J. SAEENZ	
DATE: JANUARY 2023	

CITY OF GEORGETOWN, TEXAS  
SAN GABRIEL WWTP  
REHABILITATION

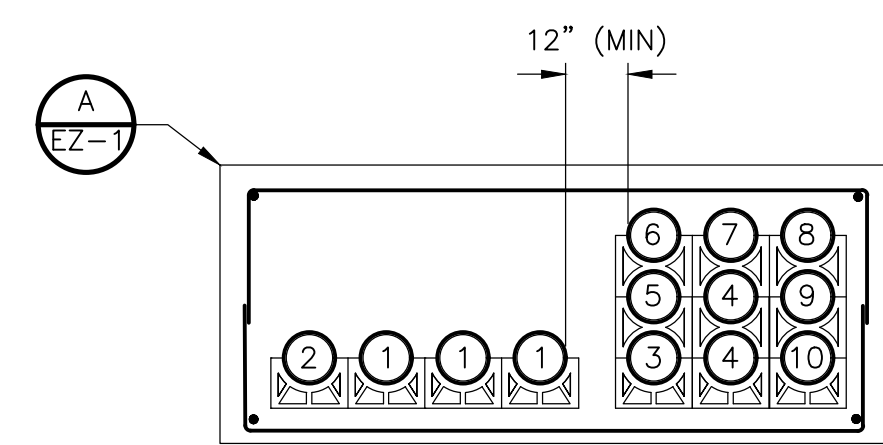
SAN GABRIEL WWTP  
ELECTRICAL DUCTBANK SCHEDULE I

PROJECT NO. 2048-264953
FILE NAME: SGE12DTSC.DWG
SHEET NO. SG-E-12

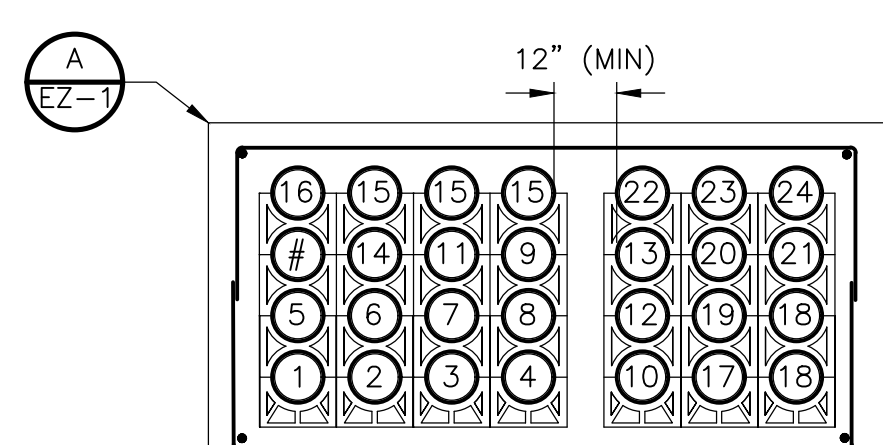


**GENERAL ELECTRICAL NOTES:**

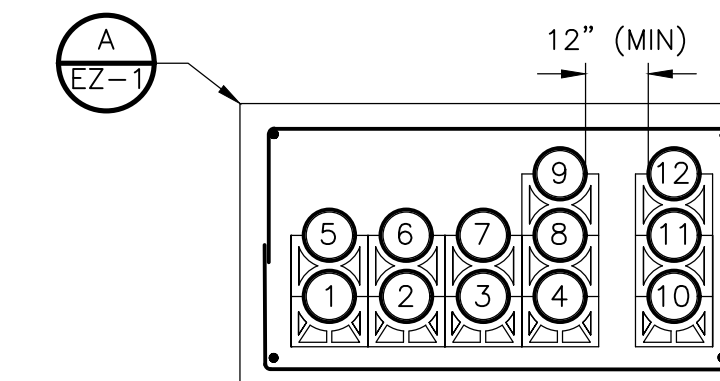
1. CONCRETE REINFORCED DUCTBANKS SHALL BE EXTENDED UNDERNEATH STRUCTURES OR ELECTRICAL EQUIPMENT AND ARE NOT SHOWN FOR CLARITY BUT THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.
2. PROVIDE PULLSTRING FOR SPARE CONDUITS.
3. DETAILS SHOWN ON THIS SHEET ARE FOR DIAGRAMMATICAL PURPOSES AND SHOW INTENT. DUCTBANK SECTIONS DO NOT NECESSARILY REFLECT ACTUAL CONDUIT PLACEMENT.



DUCTBANK  
**SECTION 6**  
NTS E-4



DUCTBANK  
**SECTION 8**  
NTS E-4



DUCTBANK  
**SECTION 9**  
NTS E-4

TABLE FOR SECTION 6		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	SWGR2-6/ 4"C	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
2	SPARE 4"C W/PULLSTRING	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
3	MCC3-2/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
4	MCC3PLC/ 1-1/2"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
5	MCP20001-1/ 1"C	FROM PLC-SGB TO BAR SCREEN MASTER CONTROL PANEL MCP-2000-1
6	VFD27001-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
7	VFD27001-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
8	VFD27002-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
9	VFD27002-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
10	SPARE/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3

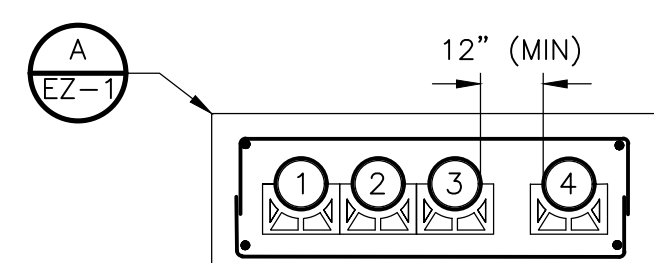
CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 8		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC3-7/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.1 PMP-2010-1
2	MCC3-7A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.1 PMP-2010-1
3	MCC3-8/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.2 PMP-2010-2
4	MCC3-8A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.2 PMP-2010-2
5	MCC3-9/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.3 PMP-2010-3
6	MCC3-9A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.3 PMP-2010-3
7	LP3-2/ 1"C	FROM PANELBOARD LP-3 TO LI-2005-1
8	LP3-3/ 1"C	FROM PANELBOARD LP-3 TO LEVEL RELAY PANEL LRP-2010-1
9	LP3-6/ 1"C	FROM PANELBOARD LP-3 TO LIFT STATION RECEPTACLE
10	TCIP1-1/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO TERMINATION CABINET TC-IP1
11	MCC3-10A/ 1"C	FROM BAR SCREEN MASTER CONTROL PANEL MCP-2000-1 TO BAR SCREEN SCR-2000-1
12	MCC3-10B/ 1-1/4"C	FROM BAR SCREEN MASTER CONTROL PANEL MCP-2000-1 TO LCS-2000-1
13	LDIT2000-1/ 1"C	FROM BAR SCREEN MASTER CONTROL PANEL MCP-2000-1 TO LDIT-2000-1
14	LP3-1/ 1"C	FROM PANELBOARD LP-3 TO LDIT-2000-1
15	SWGR2-6/ 4"C	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
16	SPARE 4"C W/PULLSTRING	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-3
17	MCC3-2/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
18	MCC3PLC/ 1-1/2"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3
19	MCP20001-1/ 1"C	FROM PLC-SGB TO BAR SCREEN MASTER CONTROL PANEL MCP-2000-1
20	VFD27001-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
21	VFD27001-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-1
22	VFD27002-1/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
23	VFD27002-2/ 1"C	FROM PLC-SGB TO VARIABLE FREQUENCY DRIVE VFD-2700-2
24	SPARE/ 1"C	FROM PLC-SGB TO MOTOR CONTROL CENTER MCC-3

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 9		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC3-7/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.1 PMP-2010-1
2	MCC3-7A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.1 PMP-2010-1
3	MCC3-8/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.2 PMP-2010-2
4	MCC3-8A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.2 PMP-2010-2
5	MCC3-9/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.3 PMP-2010-3
6	MCC3-9A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-3 TO INFLUENT PUMP NO.3 PMP-2010-3
7	LP3-2/ 1"C	FROM PANELBOARD LP-3 TO LI-2005-1
8	LP3-3/ 1"C	FROM PANELBOARD LP-3 TO LEVEL RELAY PANEL LRP-2010-1
9	LP3-6/ 1"C	FROM PANELBOARD LP-3 TO LIFT STATION RECEPTACLE
10	TCIP1-1/ 1-1/4"C	FROM MOTOR CONTROL CENTER MCC-3 TO TERMINATION CABINET TC-IP1
11	TCIP1-2/ 1"C	FROM PLC-SGB TO TERMINATION CABINET TC-IP1
12	TCIP1-3/ 1"C	FROM PLC-SGB TO TERMINATION CABINET TC-IP1

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS



DUCTBANK  
**SECTION 7**  
NTS E-4

TABLE FOR SECTION 7		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC1-7/ 2"C	FROM MOTOR CONTROL CENTER MCC-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 BLR-2600-1
2	MCC1-7A/ 1-1/2"C	FROM MOTOR CONTROL CENTER MCC-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 BLR-2600-1
3	LP1-17/ 1"C	FROM PANELBOARD LP-1 TO WET WEATHER STORAGE TANK BLOWER NO.1 LCP-2600-1
4	LCS26001-1/ 1"C	FROM PLC-SGB TO LCS-2600-1

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

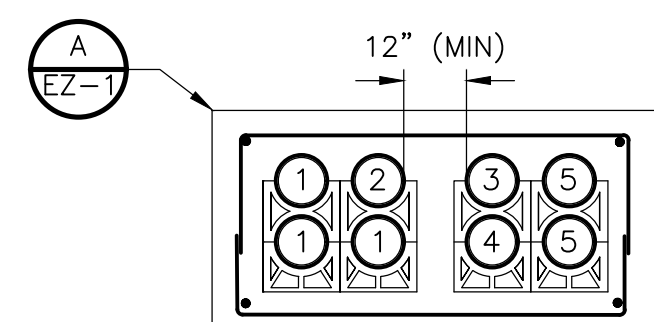
SAN GABRIEL WWTP  
 ELECTRICAL DUCTBANK SCHEDULE II  
 SHEET NO. SG-E-13

PROJECT NO. 2048-264953  
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 SHEET NO. SG-E-13



**GENERAL ELECTRICAL NOTES:**

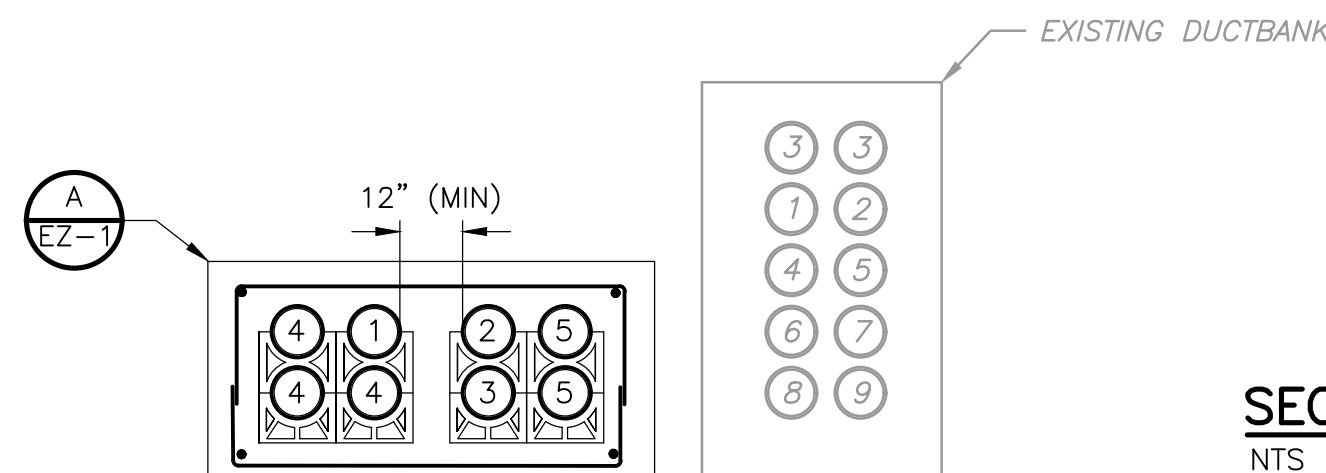
1. CONCRETE REINFORCED DUCTBANKS SHALL BE EXTENDED UNDERNEATH STRUCTURES OR ELECTRICAL EQUIPMENT AND ARE NOT SHOWN FOR CLARITY BUT THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.
2. PROVIDE PULLSTRING FOR SPARE CONDUITS.
3. DETAILS SHOWN ON THIS SHEET ARE FOR DIAGRAMMATICAL PURPOSES AND SHOW INTENT. DUCTBANK SECTIONS DO NOT NECESSARILY REFLECT ACTUAL CONDUIT PLACEMENT.



DUCTBANK  
SECTION **10**  
NTS E-4

TABLE FOR SECTION 10		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	SWGR2-7/ 4"C.	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-4
2	SPARE 4"C. W/PULLSTRING	FROM SWITCHGEAR SWGR-2 TO MOTOR CONTROL CENTER MCC-4
3	PMP2550-1/ 2"C.	FROM PLC-SGB TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
4	PMP2550-2/ 2"C	FROM PLC-SGB TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
5	SPARE 2"C W/PULLSTRING	FROM PLC-SGB TO COORDINATED E-HOUSE III

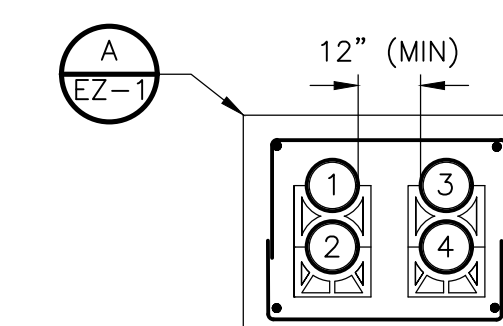
CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION **11**  
NTS E-4

TABLE FOR SECTION 11		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC4-14/ 3"C.	FROM MOTOR CONTROL CENTER MCC-4 TO PANELBOARD PP-CHEM
2	PMP2550-1/ 2"C.	FROM PLC-SGB TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
3	PMP2550-2/ 2"C	FROM PLC-SGB TO SODIUM BISULFITE FEED PUMP NO. 1 AND NO.2
4	SPARE 2"C.	FROM MOTOR CONTROL CENTER MCC-4 TO SODIUM BISULFITE STORAGE AREA
5	SPARE 2"C.	FROM COORDINATED E-HOUSE III TO SODIUM BISULFITE STORAGE AREA

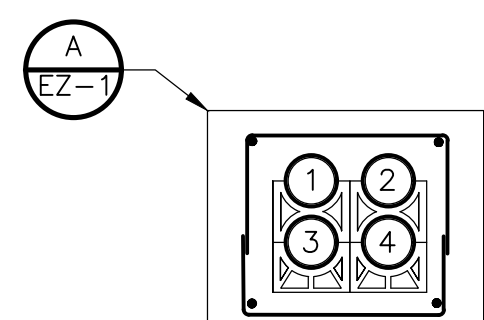
CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION **13**  
NTS E-4

TABLE FOR SECTION 13		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC4-10/ 1"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION TRANSFER PUMP CONTROL PANEL CP-ITP
2	MCC4-11/ 1"C.	FROM MOTOR CONTROL CENTER MCC-4 TO DISK FILTER CONTROL PANEL
3	MCC4-12/ 1"C.	FROM MOTOR CONTROL CENTER MCC-4 TO MPZ-F
4	CPHSP-1/ 1-1/4"C.	FROM MOTOR CONTROL CENTER MCC-4 TO CP-IHSP
5	CPHSP-2/ 1-1/4"C.	FROM MOTOR CONTROL CENTER MCC-4 TO CP-IHSP

CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS



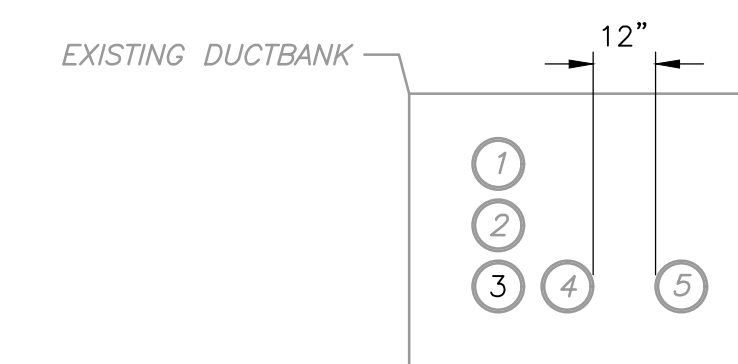
DUCTBANK  
SECTION **12**  
NTS E-4

TABLE FOR SECTION 12		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC4-5/ 2"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION WATER PUMP NO.3 IWP-03
2	MCC4-6/ 2"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION WATER PUMP NO.4 IWP-04
3	MCC4-7/ 1-1/4"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION WATER PUMP NO.1 IWP-01
4	MCC4-8/ 1-1/4"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION WATER PUMP NO.2 IWP-02

CONCRETE ENCASED DUCTBANK  
SCHEDULE  
NTS

TABLE FOR SECTION 11		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	C-401-02	SEE RECORD DRAWINGS
2	MCC4-10/ EXISTING 1"C.	FROM MOTOR CONTROL CENTER MCC-4 TO IRRIGATION TRANSFER PUMP CONTROL PANEL CP-ITP
3	SPARE/ EXISTING 2-1/2"C.	-
4	MPZF-3	SEE RECORD DRAWINGS
5	PLCIH-10C	SEE RECORD DRAWINGS
6	EXISTING 4"C	SEE RECORD DRAWINGS
7	C-403-04	SEE RECORD DRAWINGS
8	EXISTING 2"C	SEE RECORD DRAWINGS
9	EXISTING 2"C	SEE RECORD DRAWINGS

EXISTING DUCTBANK  
SCHEDULE  
NTS



DUCTBANK  
SECTION **14**  
NTS E-4

TABLE FOR SECTION 14		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MPZF-6	SEE RECORD DRAWINGS
2	MPZF-8	SEE RECORD DRAWINGS
3	MCC4-11/ EXISTING 1"C.	FROM MOTOR CONTROL CENTER MCC-4 TO DISK FILTER CONTROL PANEL
4	SPARE/ 1"C.	SEE RECORD DRAWINGS
5	FO-600	SEE RECORD DRAWINGS

EXISTING DUCTBANK  
SCHEDULE  
NTS



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

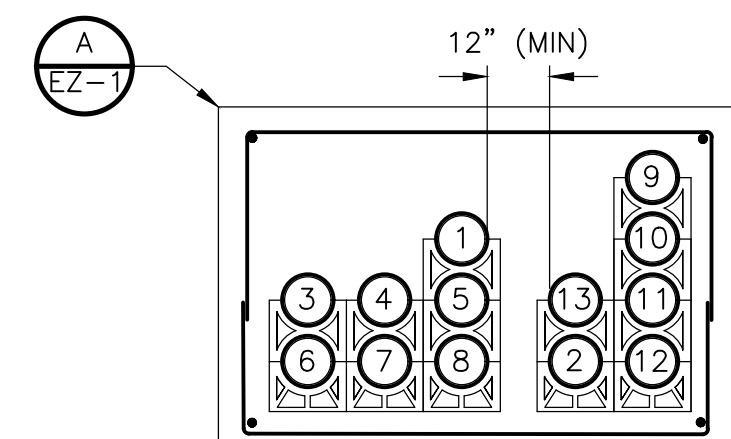
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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

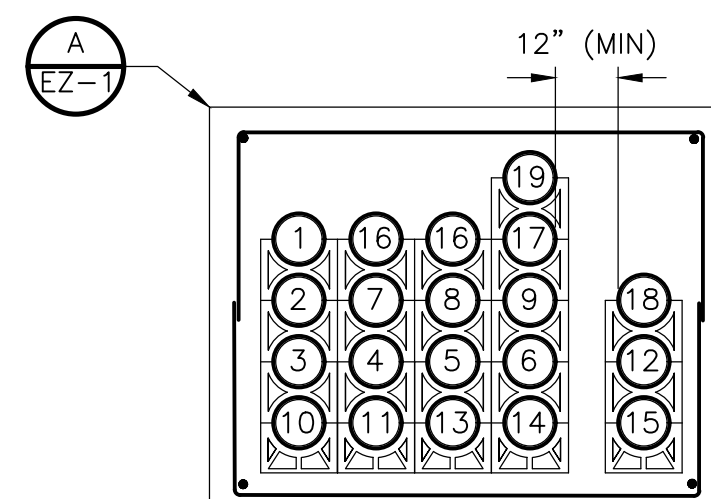
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 FILE NAME: SGE14DTSC.DWG  
 SHEET NO.  
**SG-E-14**

**GENERAL ELECTRICAL NOTES:**

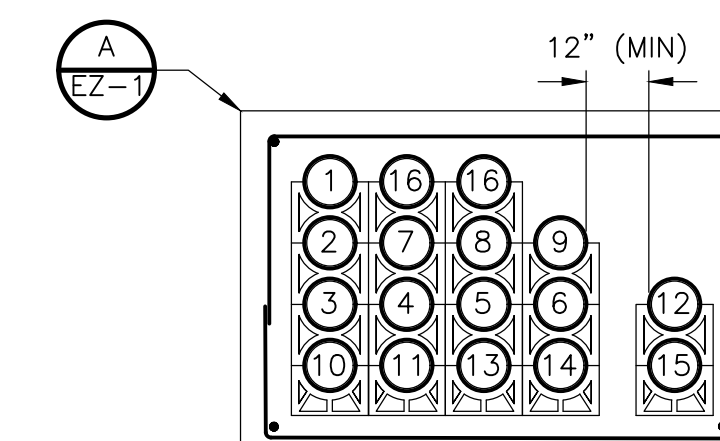
1. CONCRETE REINFORCED DUCTBANKS SHALL BE EXTENDED UNDERNEATH STRUCTURES OR ELECTRICAL EQUIPMENT AND ARE NOT SHOWN FOR CLARITY BUT THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.
2. PROVIDE PULLSTRING FOR SPARE CONDUITS.
3. DETAILS SHOWN ON THIS SHEET ARE FOR DIAGRAMMATICAL PURPOSES AND SHOW INTENT. DUCTBANK SECTIONS DO NOT NECESSARILY REFLECT ACTUAL CONDUIT PLACEMENT.



DUCTBANK  
**SECTION 17**  
NTS E-4



DUCTBANK  
**SECTION 15**  
NTS E-4



DUCTBANK  
**SECTION 16**  
NTS E-4

TABLE FOR SECTION 17		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	LP1-8/ 1"C.	FROM PANELBOARD LP-1 TO RAS FLOWMETER VAULT NO.1 FIT-2740-1
2	FIT27401-1/ 1"C.	FROM PLC-SGB TO RAS FLOWMETER VAULT NO.1 FIT-2740-1
3	MCC1-8/ 2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
4	MCC1-8A/ 1-1/2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
5	LP1-16/ 1"C.	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-1
6	MCC2-7/ 2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
7	MCC2-7A/ 1-1/2"C.	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
8	LP1-18/ 1"C.	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-2
9	BV2750-1/ 1"C.	FROM PLC-SGB TO BV-2750-1/-2
10	AIT2720-1/ 1"C.	FROM PLC-SGB TO AIT-2720-1
11	BV2750-2/ 1"C.	FROM PLC-SGB TO BV-2750-3/-4
12	AIT2720-2/ 1"C.	FROM PLC-SGB TO AIT-2720-2
13	PIT2311-1/ 1"C.	FROM PLC-SGB TO PIT-2311-1

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 15		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC1-9/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO EXISTING CLARIFIER NO.1
2	MCC2-8/ 1"C.	FROM MOTOR CONTROL CENTER MCC-2 TO EXISTING CLARIFIER NO.2
3	MCC1-10/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.1 PMP-2130-1
4	MCC1-10A/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.1 PMP-2130-1
5	MCC2-9/ 1"C.	FROM MOTOR CONTROL CENTER MCC-2 TO GRIT PUMP NO.2 PMP-2130-2
6	MCC2-9A/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.2 PMP-2130-2
7	LP1-11/ 1"C.	FROM PANELBOARD LP-1 TO MOTORIZED VALVE BV-2131-1
8	BV2129-1B/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO MOTORIZED VALVE BV-2131-1
9	LP1-13/ 1"C.	FROM PANELBOARD LP-1 TO 1-1/2" NPW HEAT TRACE-1 THERMOSTAT
10	MCP21101-1/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO GRIT WASHER CLASSIFIER GC-2111-1
11	MCP21101-2/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO SCREW CONVEYOR CNV-2112-1
12	LCS2110-1/ 2"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO LOCAL CONTROL STATION LCS-2110-1
13	LP1-15/ 1"C.	FROM PANELBOARD LP-1 TO 1-1/2" NPW HEAT TRACE-2 THERMOSTAT
14	TCGC-1/ 3"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO TERMINATION CABINET TC-GC
15	TCGC-2/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO TERMINATION CABINET TC-GC
16	SPARE/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO GRIT CLASSIFIER AREA
17	LP1-9/ 1"C.	FROM PANELBOARD LP-1 TO RAS FLOWMETER VAULT NO.2 FIT-2740-2
18	FIT27402-1/ 1"C.	FROM PLC-SGB TO RAS FLOWMETER VAULT NO.2 FIT-2740-2
19	MCC2-16/ 2"C.	FROM MOTOR CONTROL CENTER MCC-2 TO EXISTING PANELBOARD PP-A

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 16		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC1-9/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO EXISTING CLARIFIER NO.1
2	MCC2-8/ 1"C.	FROM MOTOR CONTROL CENTER MCC-2 TO EXISTING CLARIFIER NO.2
3	MCC1-10/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.1 PMP-2130-1
4	MCC1-10A/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.1 PMP-2130-1
5	MCC2-9/ 1"C.	FROM MOTOR CONTROL CENTER MCC-2 TO GRIT PUMP NO.2 PMP-2130-2
6	MCC2-9A/ 1"C.	FROM MOTOR CONTROL CENTER MCC-1 TO GRIT PUMP NO.2 PMP-2130-2
7	LP1-11/ 1"C.	FROM PANELBOARD LP-1 TO MOTORIZED VALVE BV-2131-1
8	BV2129-1B/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO MOTORIZED VALVE BV-2131-1
9	LP1-13/ 1"C.	FROM PANELBOARD LP-1 TO 1-1/2" NPW HEAT TRACE-1 THERMOSTAT
10	MCP21101-1/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO GRIT WASHER CLASSIFIER GC-2111-1
11	MCP21101-2/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO SCREW CONVEYOR CNV-2112-1
12	LCS2110-1/ 2"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO LOCAL CONTROL STATION LCS-2110-1
13	LP1-15/ 1"C.	FROM PANELBOARD LP-1 TO 1-1/2" NPW HEAT TRACE-2 THERMOSTAT
14	TCGC-1/ 3"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO TERMINATION CABINET TC-GC
15	TCGC-2/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO TERMINATION CABINET TC-GC
16	SPARE/ 1"C.	FROM GRIT BASIN MASTER CONTROL PANEL MCP-2110-1 TO GRIT CLASSIFIER AREA

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



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 Tel: (512) 346-1100  
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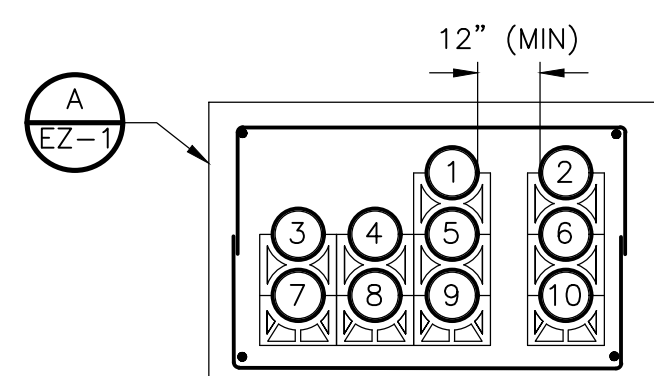
SAN GABRIEL WWTP  
 ELECTRICAL DUCTBANK SCHEDULE IV

PROJECT NO.	2048-264953
FILE NAME:	SGE15NFSC.DWG
SHEET NO.	SG-E-15

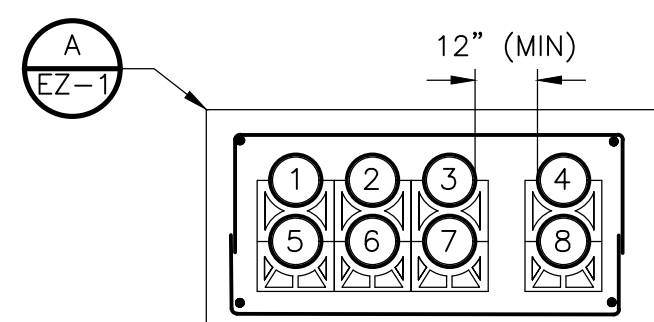


**GENERAL ELECTRICAL NOTES:**

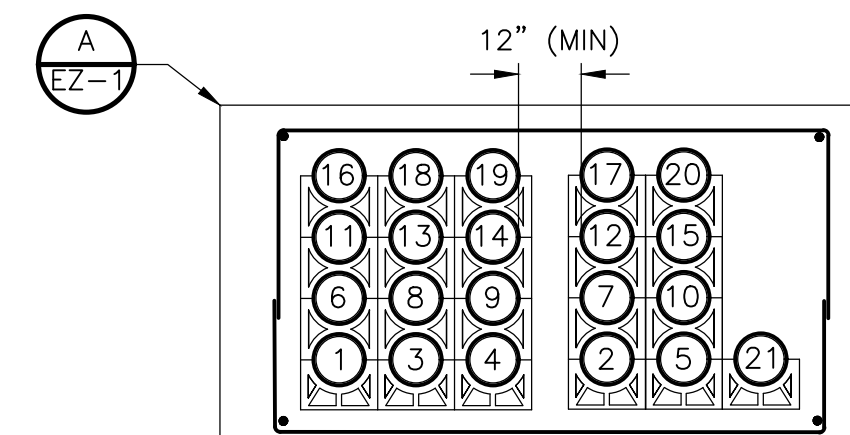
1. CONCRETE REINFORCED DUCTBANKS SHALL BE EXTENDED UNDERNEATH STRUCTURES OR ELECTRICAL EQUIPMENT AND ARE NOT SHOWN FOR CLARITY BUT THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.
2. PROVIDE PULLSTRING FOR SPARE CONDUITS.
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DUCTBANK  
**SECTION 18**  
NTS E-4



DUCTBANK  
**SECTION 19**  
NTS E-4



DUCTBANK  
**SECTION 20**  
NTS E-4

TABLE FOR SECTION 18		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	LP1-8/ 1".	FROM PANELBOARD LP-1 TO RAS FLOWMETER VAULT NO.1 FIT-2740-1
2	FIT27401-1/ 1".	FROM PLC-SGB TO RAS FLOWMETER VAULT NO.1 FIT-2740-1
3	MCC1-8/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
4	MCC1-8A/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
5	LP1-16/ 1".	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-1
6	LCS24011-1/ 1".	FROM RTU-SGWTP TO LCS-2401-1
7	MCC2-7/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
8	MCC2-7A/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
9	LP1-18/ 1".	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-2
10	LCS24012-1/ 1".	FROM RTU-SGWTP TO LCS-2401-2

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 19		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC1-8/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
2	MCC1-8A/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-1
3	LP1-16/ 1".	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-1
4	LCS24011-1/ 1".	FROM RTU-SGWTP TO LCS-2401-1
5	MCC2-7/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
6	MCC2-7A/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO SLUDGE HOLDING TANK BLOWER NO.1 BLR-2401-2
7	LP1-18/ 1".	FROM PANELBOARD LP-1 TO SLUDGE HOLDING TANK BLOWER NO.1 LCP-2401-2
8	LCS24012-1/ 1".	FROM RTU-SGWTP TO LCS-2401-2

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

TABLE FOR SECTION 17		
CONDUIT NO.	CONDUIT TAG/ SIZE	DESCRIPTION
1	MCC2-6/ 2".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.4 BLR-2310-4
2	MCC2-6A/ 1".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.4 BLR-2310-4
3	MCC2-6B/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.4 LCP-2310-4
4	LP1-7/ 1".	FROM PANELBOARD LP-1 TO AERATION BLOWER NO.4 LCP-2310-4
5	LCP23104-1/ 1".	FROM PLC-SGB TO AERATION BLOWER NO.4 LCP-2310-4
6	MCC2-5/ 2".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.3 BLR-2310-3
7	MCC2-5A/ 1".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.3 BLR-2310-3
8	MCC2-5B/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-2 TO AERATION BLOWER NO.3 LCP-2310-3
9	LP1-5/ 1".	FROM PANELBOARD LP-1 TO AERATION BLOWER NO.3 LCP-2310-3
10	LCP23103-1/ 1".	FROM PLC-SGB TO AERATION BLOWER NO.3 LCP-2310-3
11	MCC1-6/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.2 BLR-2310-2
12	MCC1-6A/ 1".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.2 BLR-2310-2
13	MCC1-6B/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.2 LCP-2310-2
14	LP1-6/ 1".	FROM PANELBOARD LP-1 TO AERATION BLOWER NO.2 LCP-2310-2
15	LCP23102-1/ 1".	FROM PLC-SGB TO AERATION BLOWER NO.3 LCP-2310-2
16	MCC1-5/ 2".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.1 BLR-2310-1
17	MCC1-5A/ 1".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.1 BLR-2310-1
18	MCC1-5B/ 1-1/2".	FROM MOTOR CONTROL CENTER MCC-1 TO AERATION BLOWER NO.1 LCP-2310-1
19	LP1-4/ 1".	FROM PANELBOARD LP-1 TO AERATION BLOWER NO.1 LCP-2310-1
20	LCP23101-1/ 1".	FROM PLC-SGB TO AERATION BLOWER NO.1 LCP-2310-1
21	PLCSGB-1/ 2".	FROM PLC-SGB TO RTU-SGWTP

CONCRETE ENCASED DUCTBANK  
**SCHEDULE**  
NTS

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: S. KAMAL	<p>9430 Research Blvd., Suite 1-200 Austin, TX 78759 Tel: (512) 346-1100 TBPE Firm Registration No. F-3043</p>
DRAWN BY: S. KAMAL	
SHEET CHK'D BY: M. CZACH	
CROSS CHK'D BY: G. PRABHU	
APPROVED BY: J. SAENZ	
DATE: JANUARY 2023	

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
REHABILITATION**

**SAN GABRIEL WWTP  
ELECTRICAL DUCTBANK SCHEDULE V**

PROJECT NO. 2048-264953
FILE NAME: SGE16NFSC.DWG
SHEET NO. <b>SG-E-16</b>

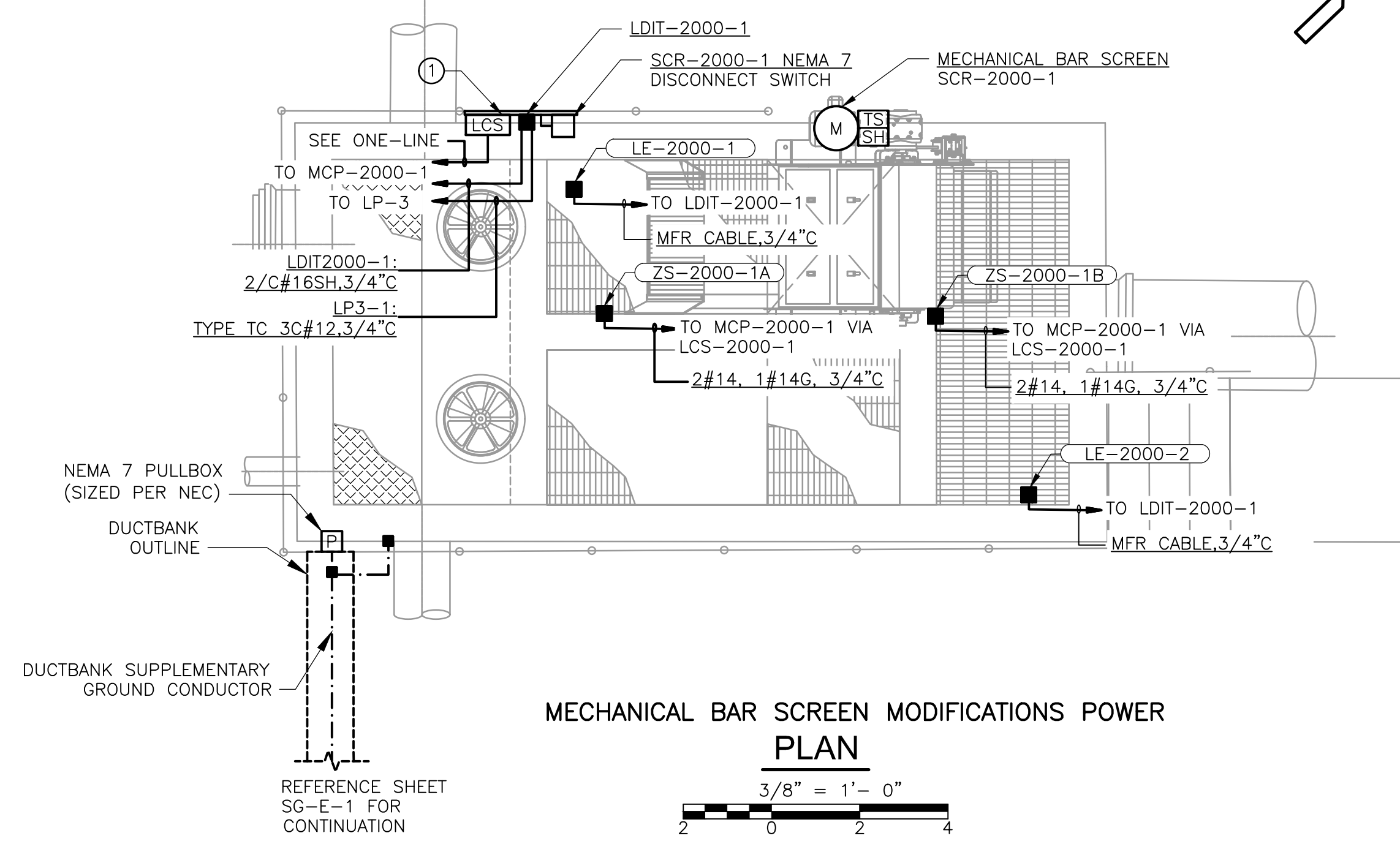


**GENERAL ELECTRICAL NOTES:**

1. THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. UNDOCUMENTED CHANGES MAY EXIST. PROVIDE THE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.
2. CONDUIT SEALS ARE NOT ILLUSTRATED. PROVIDE CONDUIT SEAL-OFF(S) AS REQUIRED BY NEC CHAPTER 5 SPECIAL OCCUPANCIES.

**KEY NOTES:**

- ① PROVIDED BY DIVISION 46 THIS CONTRACT.



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DESIGNED BY:	J. SAENZ
DRAWN BY:	V. MANJU
SHEET CHK'D BY:	M. CZACH
CROSS CHK'D BY:	G. PRABHU
APPROVED BY:	J. SAENZ
DATE:	JANUARY 2023

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

**CDM Smith**

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

**SAN GABRIEL WWTP  
 COARSE BAR SCREEN  
 POWER PLAN**

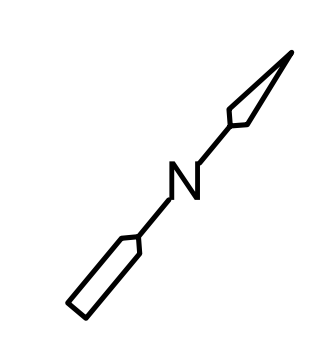
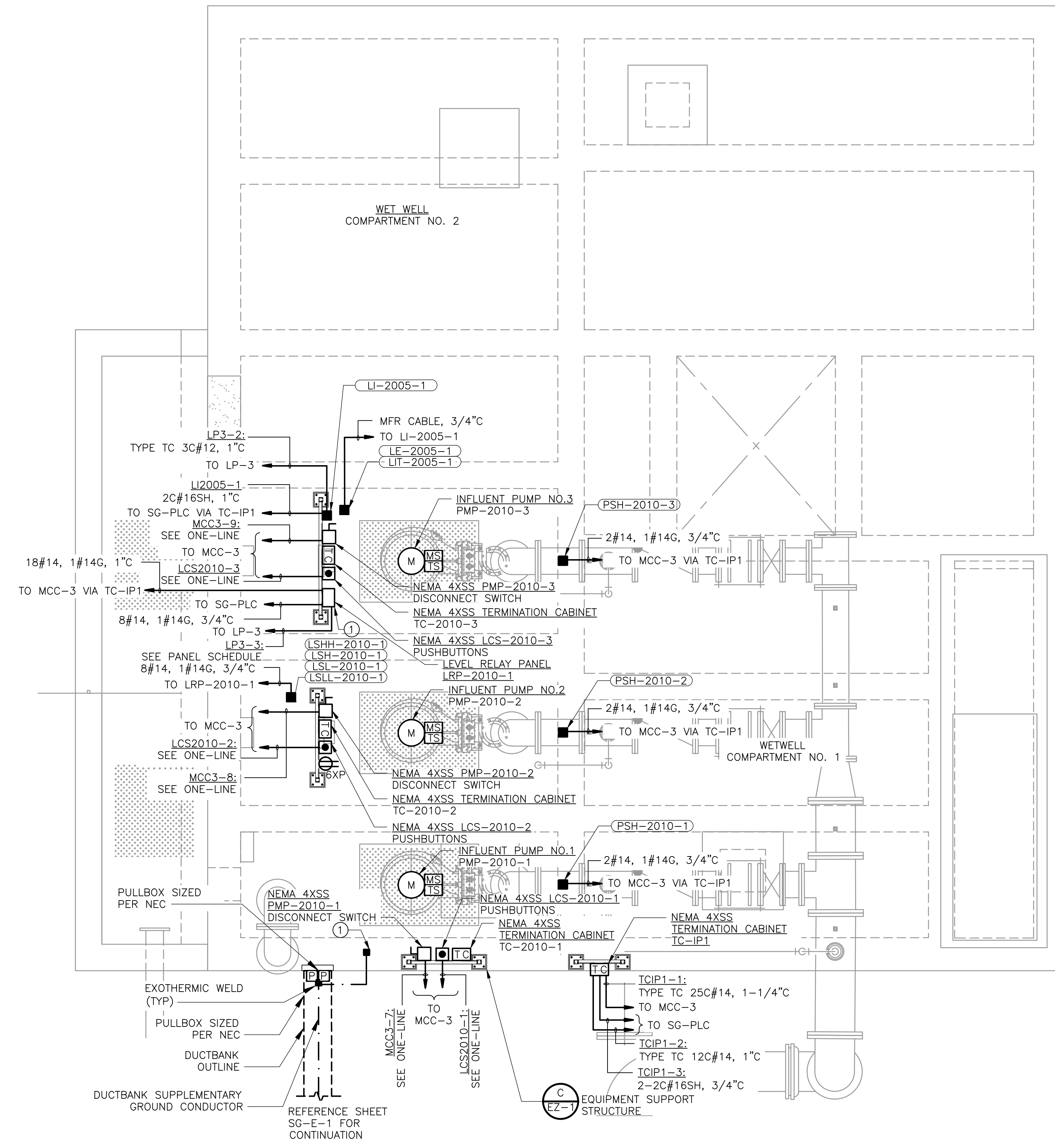
PROJECT NO.	2048-264953
FILE NAME:	SGEA1LSPL.DWG
SHEET NO.	SG-EA-1



01/27/2023



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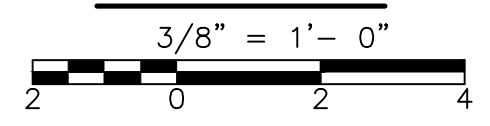
**GENERAL ELECTRICAL NOTES:**

1. REFER TO SHEET SG-E-6 FOR ONE-LINE DIAGRAM.
2. REFER TO SHEET SG-E-11 FOR PANELBOARD SCHEDULE.
3. ALL EXTERIOR FASTENERS, UNISTRUT AND ASSOCIATED MOUNTING MATERIAL SHALL BE 316 STAINLESS STEEL.
4. CONDUIT SEALS ARE NOT ILLUSTRATED. PROVIDE CONDUIT SEAL-OFF(S) AS REQUIRED BY NEC CHAPTER 5 SPECIAL OCCUPANCIES.

**KEY NOTES:**

- ① BOND #4/0 BARE COPPER CONDUCTOR TO STRUCTURAL STEEL.
- ② BOND #4/0 BARE COPPER CONDUCTOR TO EQUIPMENT RACKS.
- ③ PRIOR TO INSTALLATION OF THE CONDUIT IN THE TOP SLAB, THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE DIAMETER AND BEND RADIUS OF THE MANUFACTURER PROVIDED CABLE BASED ON THE CONTRACTOR'S SELECTED PUMP SUPPLIER TO CONFIRM THE CONDUIT SIZE AND CONDUIT BEND RADIUS. CONTRACTOR TO SUBMIT THE PROPOSED DESIGN BASED ON THEIR COORDINATION EFFORT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- ④ PROVIDED BY DIVISION 40 THIS CONTRACT.

**INFLUENT LIFT STATION POWER AND CONTROL PLAN**



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 INFLUENT LIFT STATION  
 POWER PLAN**  
 SHEET NO. **SG-EA-2**



PROJECT NO. 2048-264953  
 FILE NAME: SGEA2LSPL.DWG  
 SHEET NO. **SG-EA-2**

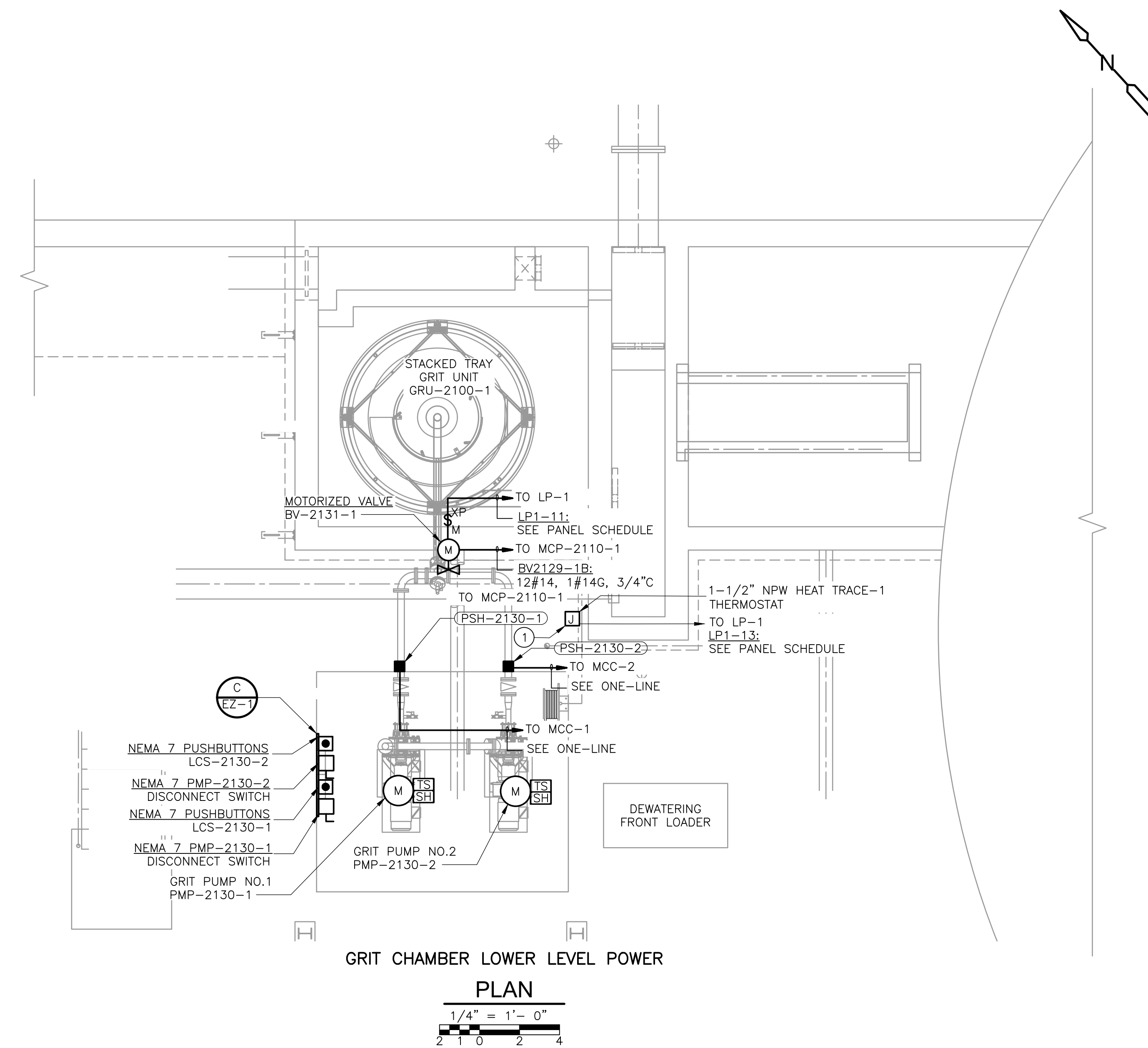
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**GENERAL ELECTRICAL NOTES:**

1. REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET SG-E-11 FOR PANELBOARD SCHEDULE.
3. CONDUIT SEAL-OFF(S) ARE NOT ILLUSTRATED. PROVIDED SEAL-OFF(S) AS REQUIRED BY NEC CHAPTER 5-SPECIAL OCCUPANCIES.

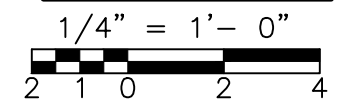
**KEY NOTES:**

- ① DPROVIDED BY DIVISION 40. COORDINATE WITH HEAT TRACE MANUFACTURER AND FIELD LOCATE TO BEST SUIT FIELD CONDITIONS.



GRIT CHAMBER LOWER LEVEL POWER

**PLAN**



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SMK	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 3

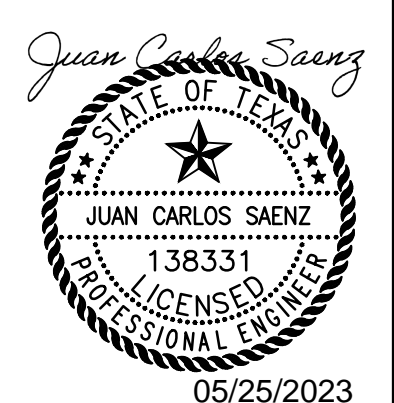
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT CHAMBER LOWER LEVEL  
 POWER PLAN

PROJECT NO. 2048-264953  
 FILE NAME: SGEB1GRPL.DWG  
 SHEET NO.  
**SG-EB-1**

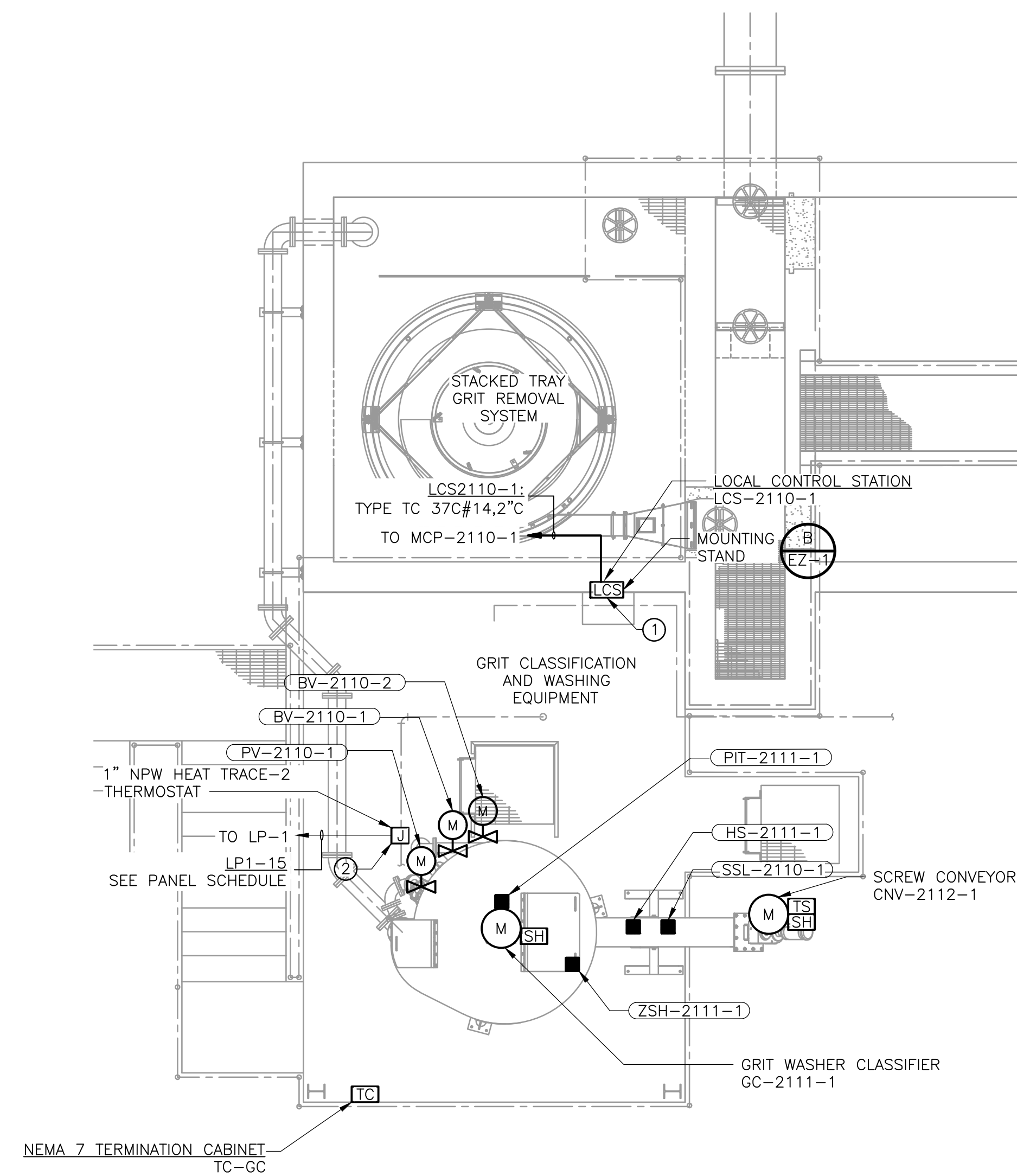


**GENERAL ELECTRICAL NOTES:**

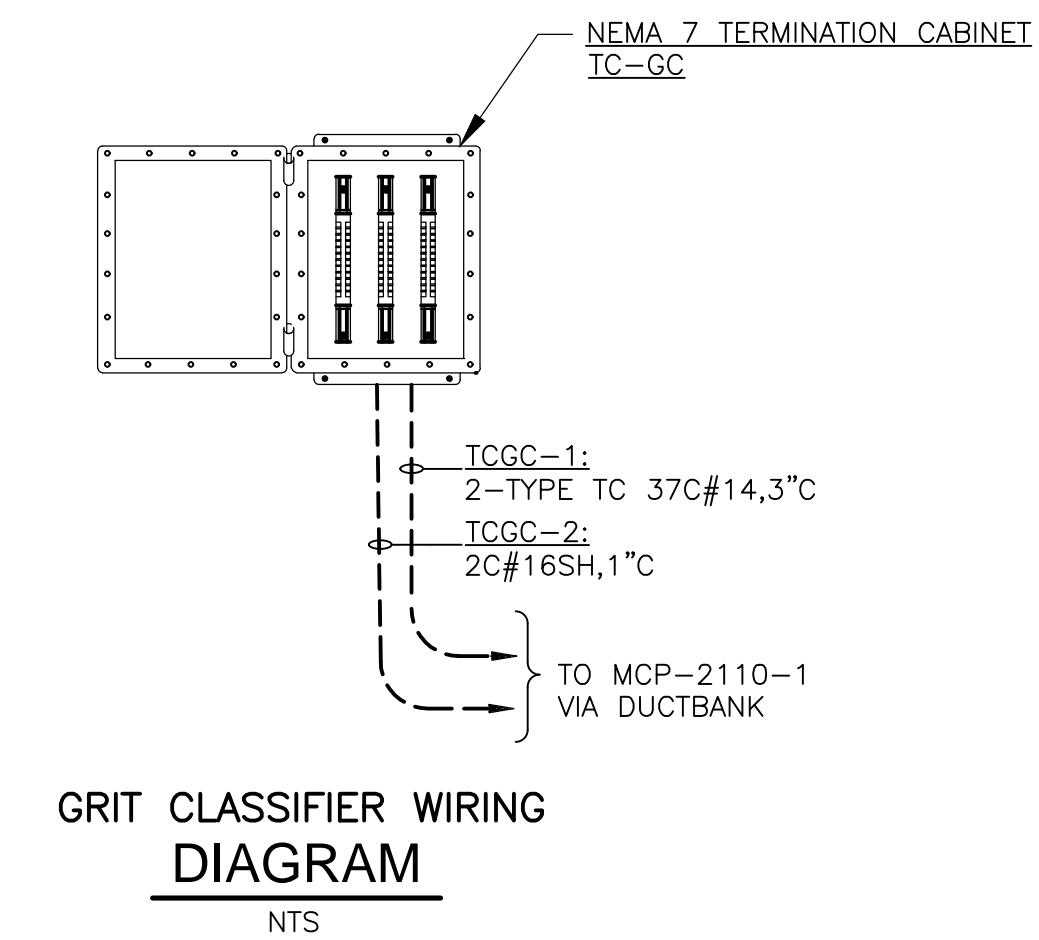
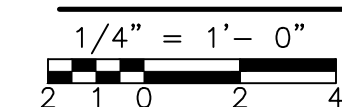
- REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAMS.
- REFER TO SHEET SG-E-11 FOR PANELBOARD SCHEDULE.
- CONDUIT SEAL-OFF(S) ARE NOT ILLUSTRATED. PROVIDED SEAL-OFF(S) AS REQUIRED BY NEC CHAPTER 5-SPECIAL OCCUPANCIES.

**KEY NOTES:**

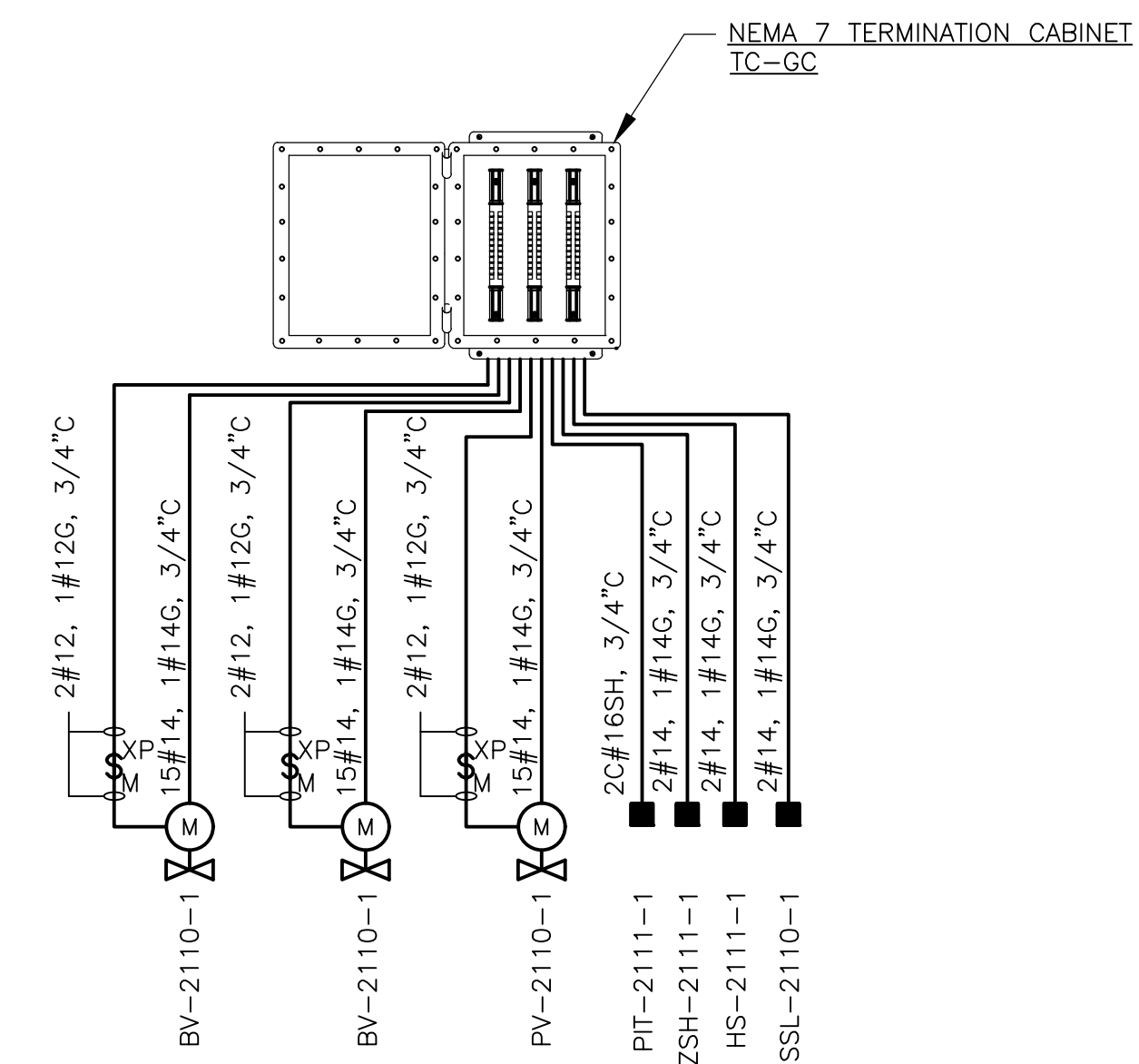
- PROVIDED BY DIVISION 40 THIS CONTRACT.FIELD INSTALL TO BEST SUIT FIELD CONDITIONS.
- PROVIDED BY DIVISION 40. COORDINATE WITH HEAT TRACE MANUFACTURER AND FIELD LOCATE TO BEST SUIT FIELD CONDITIONS.



**GRIT CHAMBER UPPER LEVEL POWER PLAN**



**GRIT CLASSIFIER WIRING DIAGRAM**  
NTS



**GRIT CLASSIFIER WIRING DIAGRAM**  
NTS



01/27/2023

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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

PROJECT NO. 2048-264953  
 FILE NAME: SGEB2GRPL.DWG  
 SHEET NO.  
**SG-EB-2**

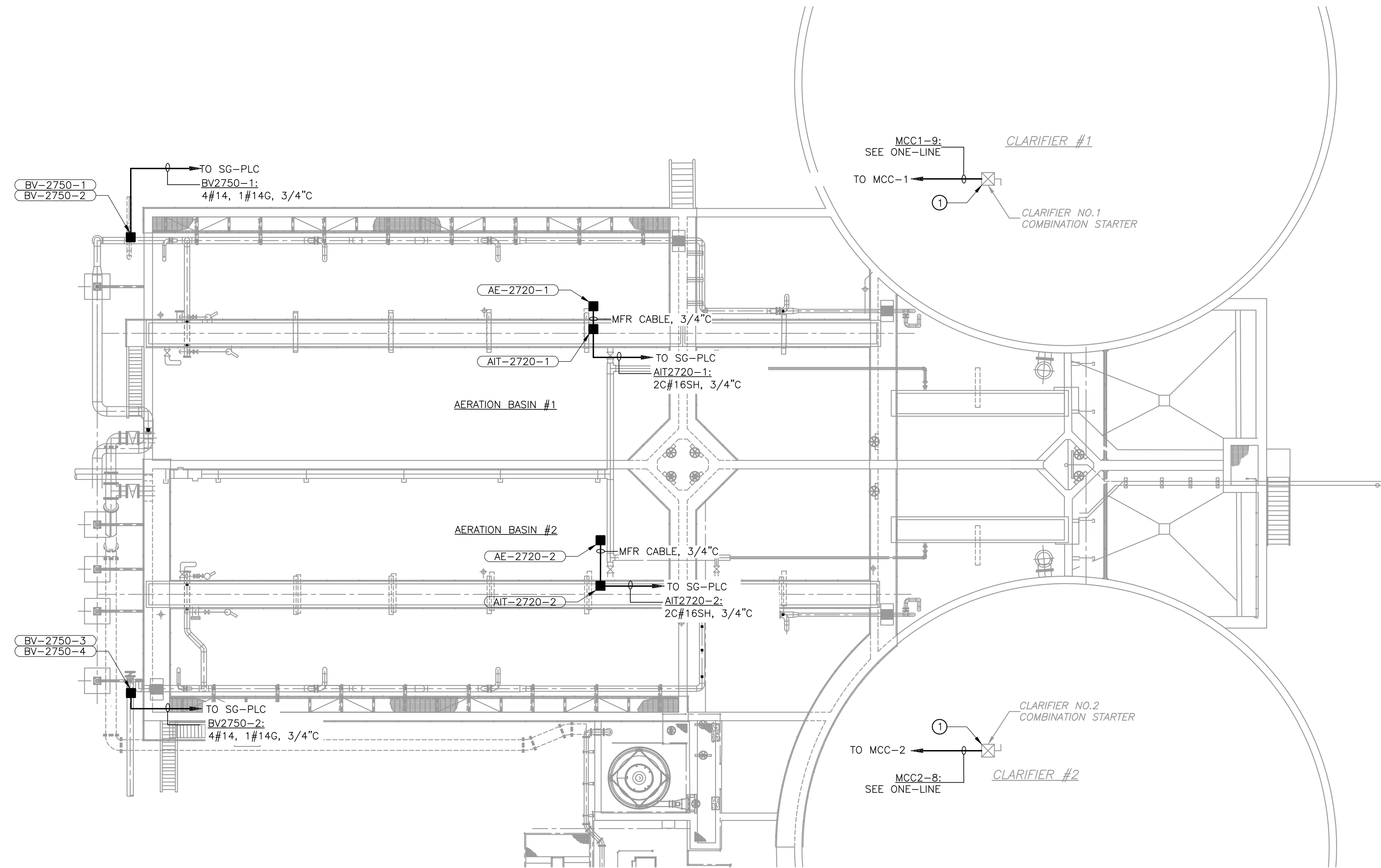
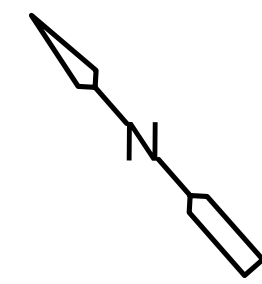
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 FILE NAME: SGEB2GRPL.DWG  
 SHEET NO.  
**SG-EB-2**

**GENERAL ELECTRICAL NOTES:**

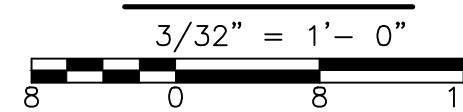
1. REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAM.

**KEY NOTES:**

① APPROXIMATE LOCATION OF EXISTING COMBINATION STARTER. FIELD VERIFY EXACT LOCATION.



**AERATION BASIN POWER PLAN**



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

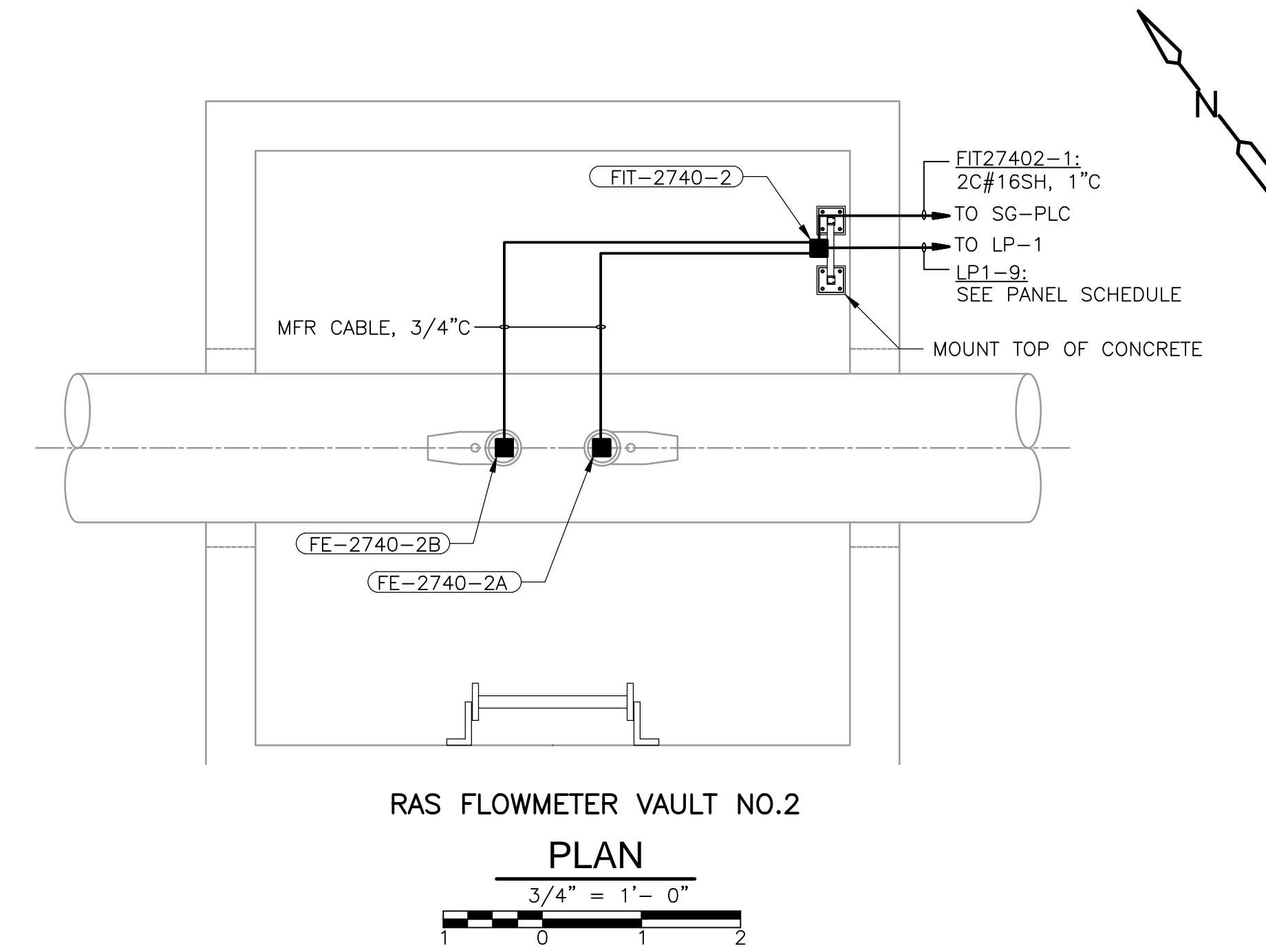
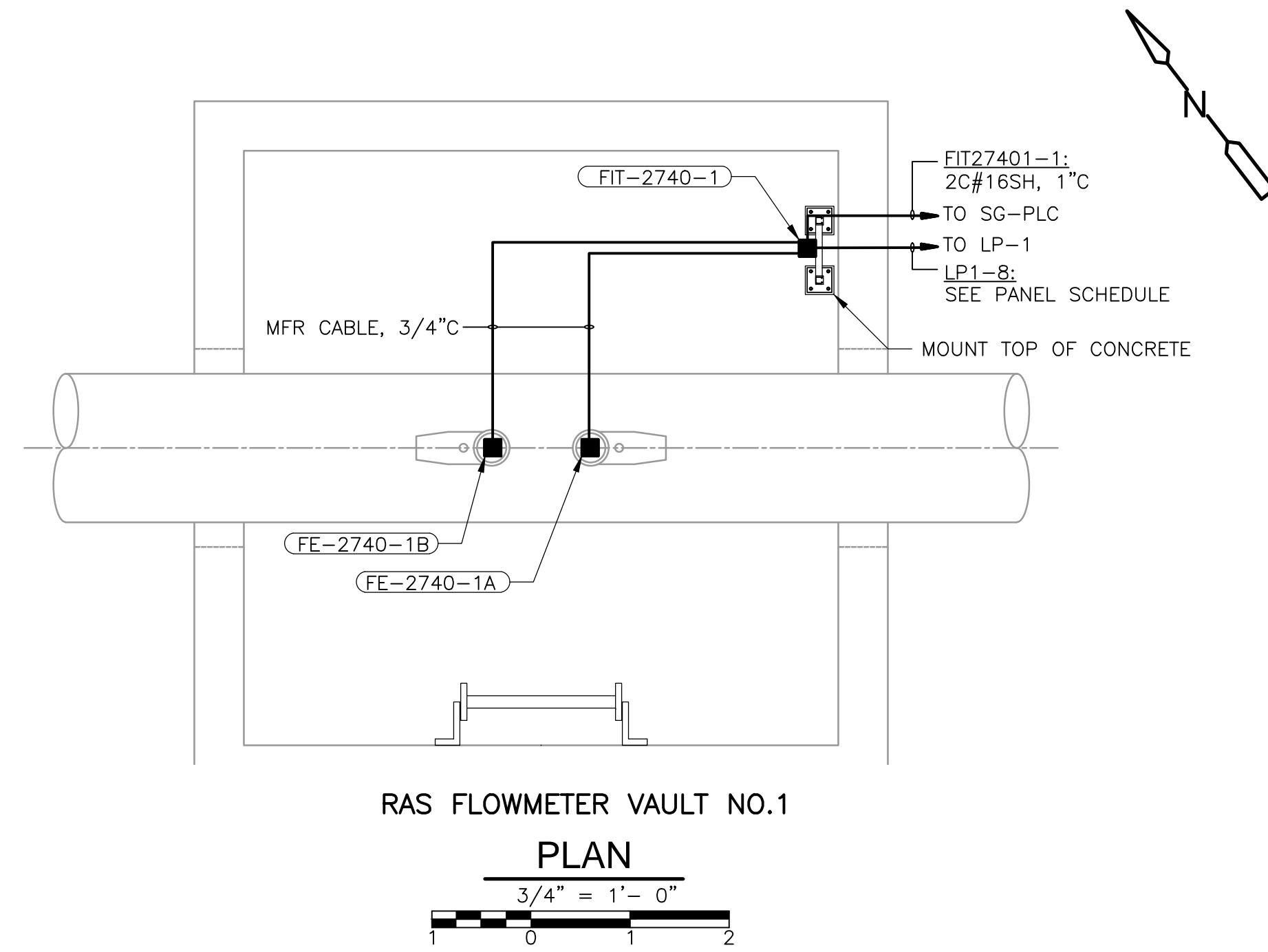
**SAN GABRIEL WWTP AERATION BASIN POWER PLAN**  
 SHEET NO. **SG-EC-1**

PROJECT NO. 2048-264953  
 FILE NAME: SGEC1BBPL.DWG  
 SHEET NO. **SG-EC-1**



**GENERAL ELECTRICAL NOTES:**

1. REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET SG-E-11 FOR PANELBOARD SCHEDULE.
3. CONDUIT SEAL-OFF(S) ARE NOT ILLUSTRATED. PROVIDED SEAL-OFF(S) AS REQUIRED BY NEC CHAPTER 5-SPECIAL OCCUPANCIES.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: K. DINEESH  
 DRAWN BY: K. DINEESH  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

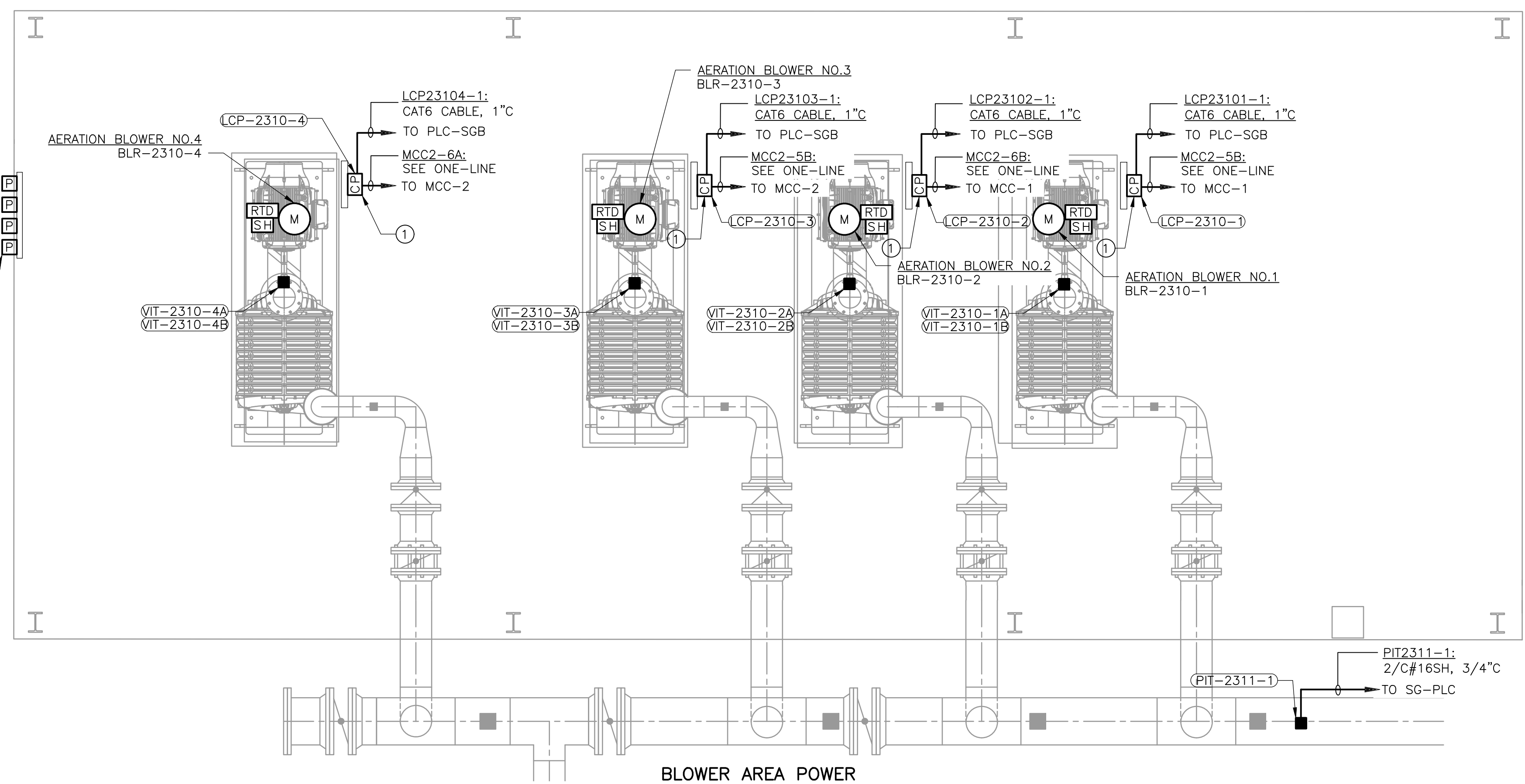
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**RAS METER VAULTS**  
**ELECTRICAL PLAN**

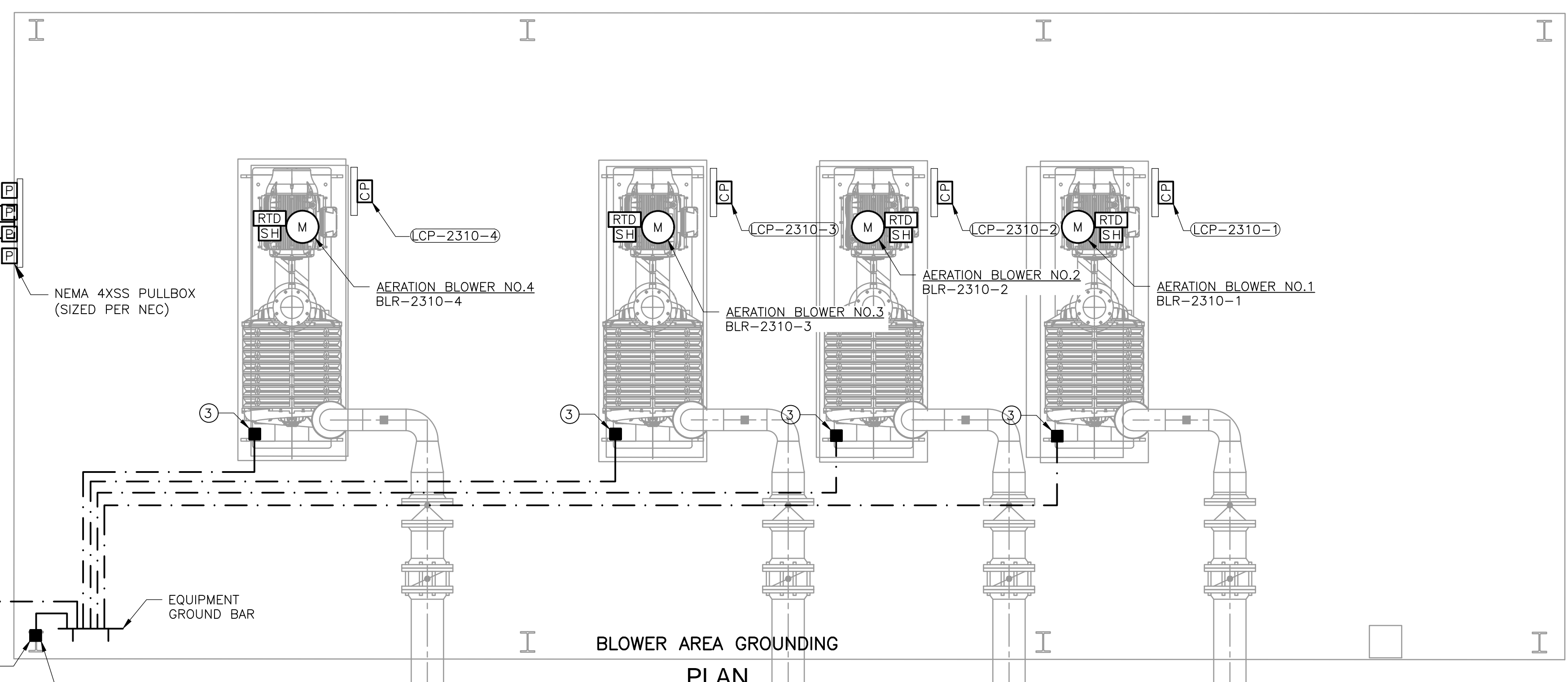
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 FILE NAME: SGEC2MVPL.DWG  
 SHEET NO.  
**SG-EC-2**



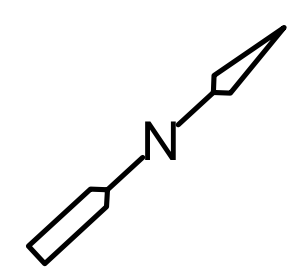
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**BLOWER AREA POWER PLAN**  
 3/8" = 1'-0"  
 2 0 2 4



**BLOWER AREA GROUNDING PLAN**  
 3/8" = 1'-0"  
 2 0 2 4

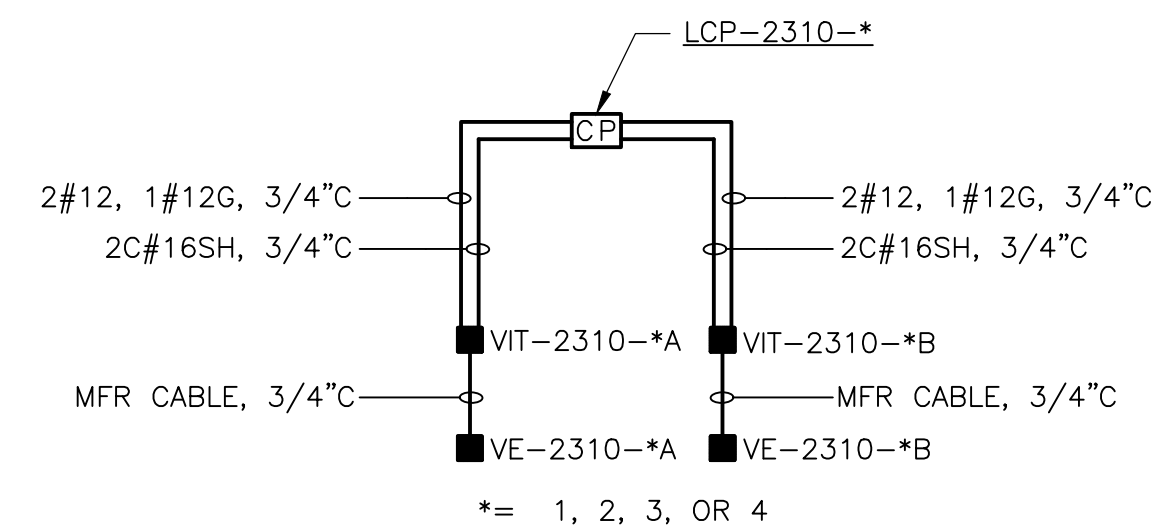


**GENERAL ELECTRICAL NOTES:**

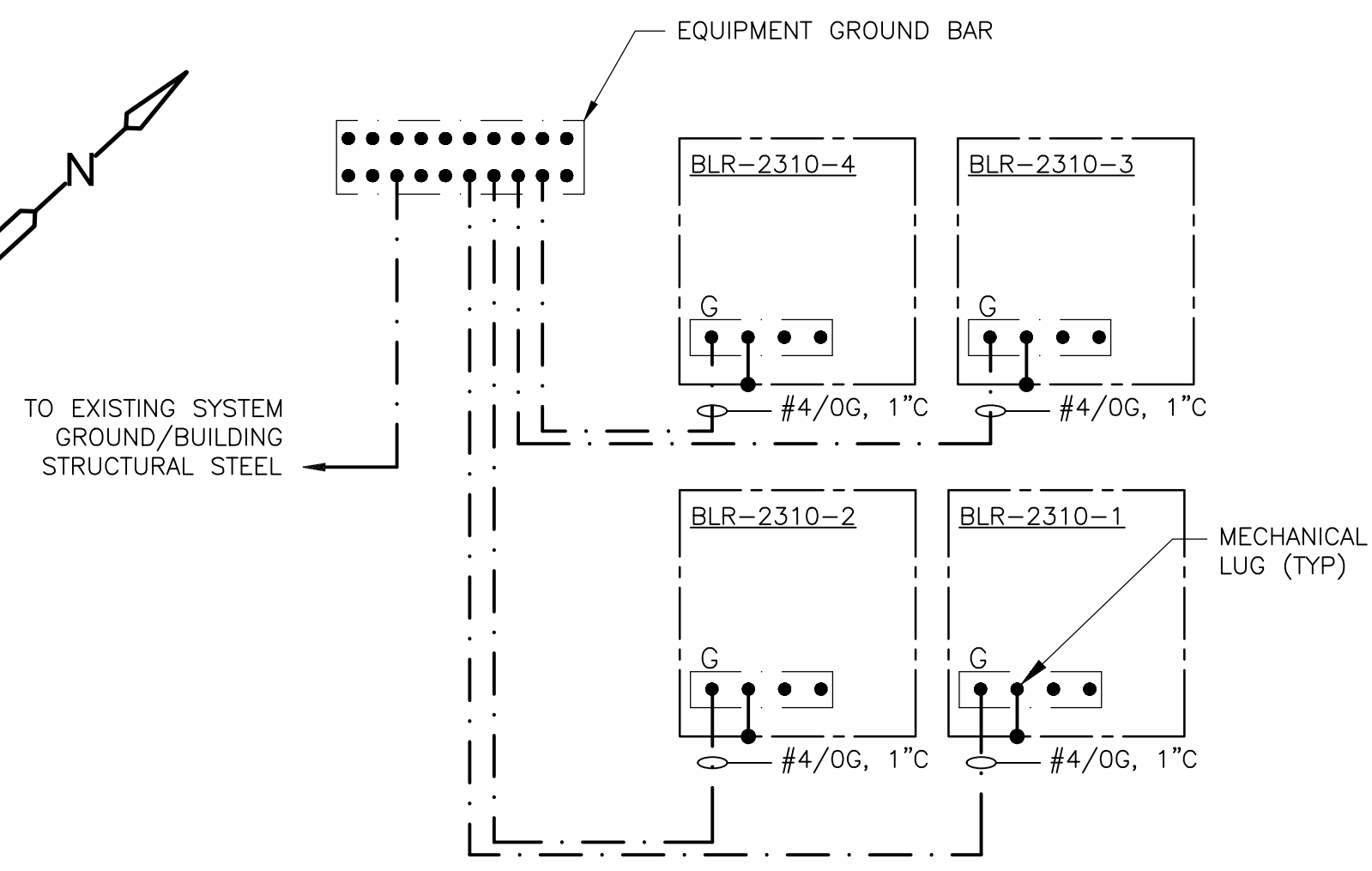
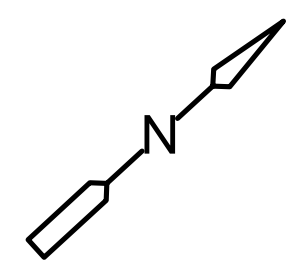
- REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAM.
- CONDUIT PENETRATIONS THROUGH EXISTING STRUCTURE ARE NOT SHOWN BUT SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

**KEY NOTES:**

- PROVIDED BY DIVISION 43 THIS CONTRACT.
- BOND #4/0 BARE COPPER CONDUCTOR TO STRUCTURAL STEEL.
- EQUIPMENT GROUND BUS OR PADS. BOND GROUND CONDUCTOR TO EQUIPMENT STRUCTURE. COORDINATE LOCATIONS WITH SYSTEM SUPPLIER (TYP).



**AERATION BLOWER SKID WIRING DIAGRAM**  
 TYP FOR 4



**GROUNDING RISER**  
 NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

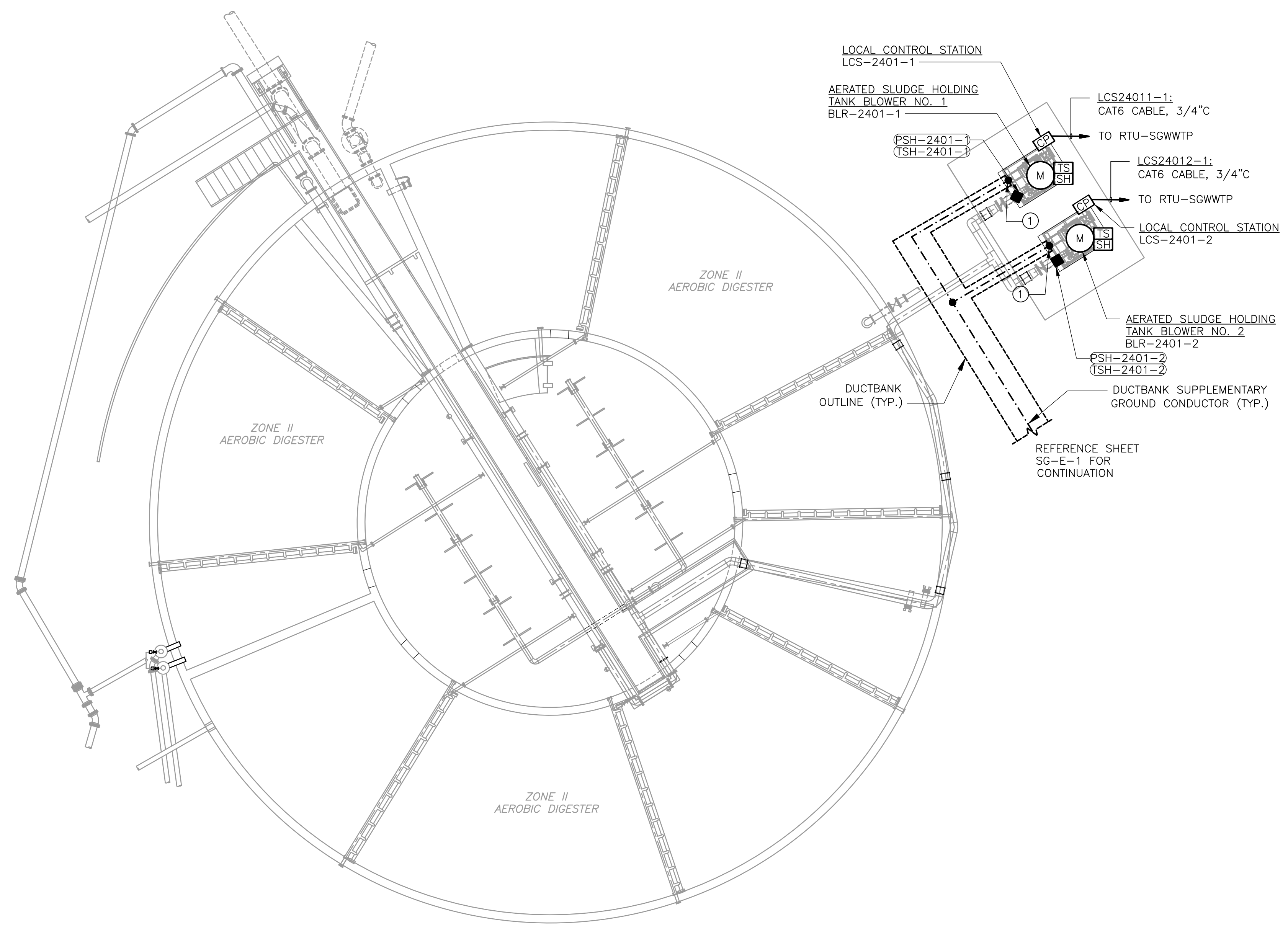


CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP REHABILITATION**

**SAN GABRIEL WWTP BLOWER AREA POWER PLAN**

PROJECT NO. 2048-264953  
 FILE NAME: SGED1BBPL.DWG  
 SHEET NO. **SG-ED-1**

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**GENERAL ELECTRICAL NOTE:**

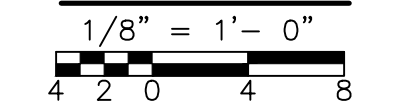
1. REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAM.

**KEY NOTE:**

① EQUIPMENT GROUND BUS OR PADS; BOND GROUND CONDUCTOR TO EQUIPMENT STRUCTURE. COORDINATE LOCATIONS WITH SYSTEM SUPPLIER (TYP).

**AERATED SLUDGE HOLDING TANK PD BLOWER**

**PLAN**



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SMK	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



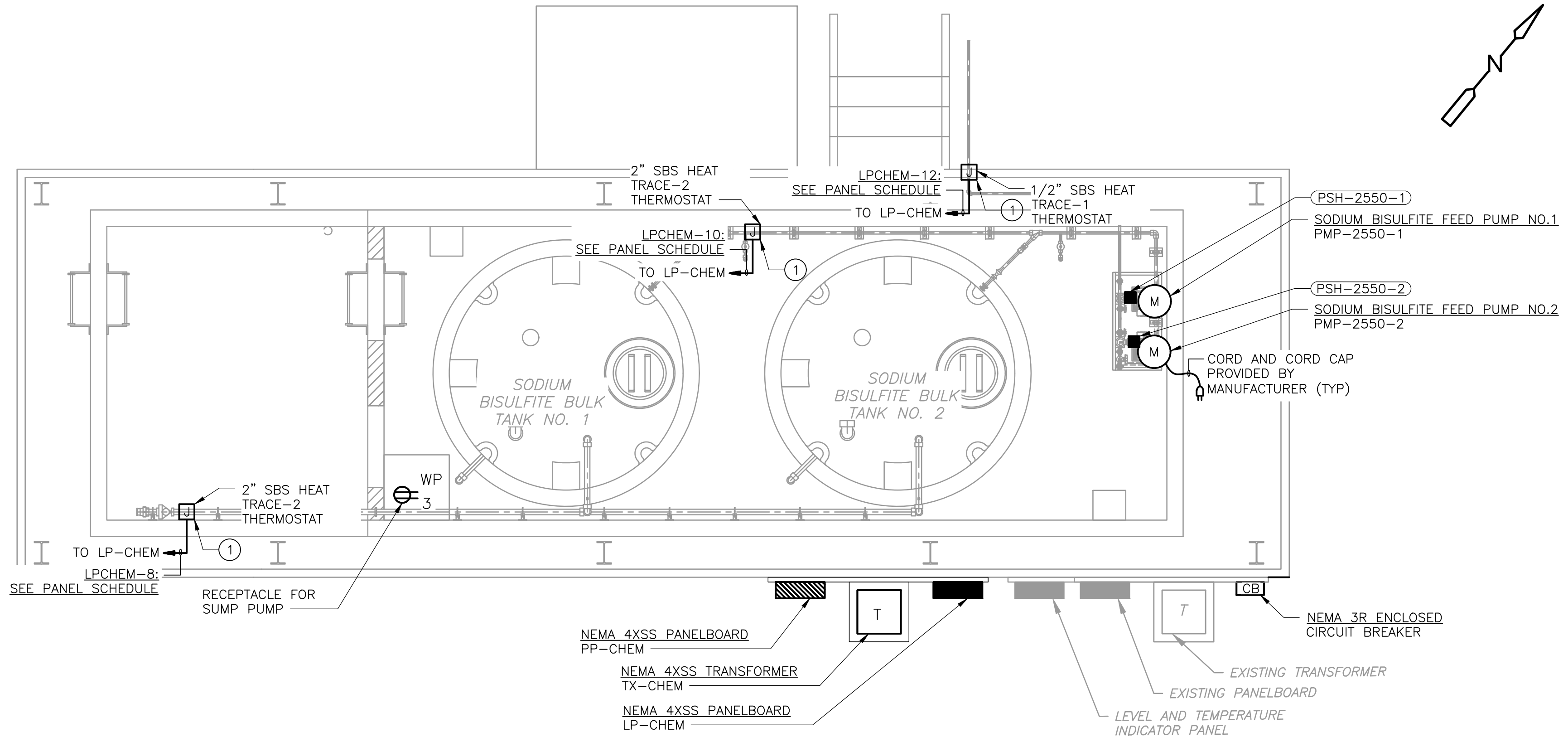
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING TANK  
 PD BLOWER PLAN**

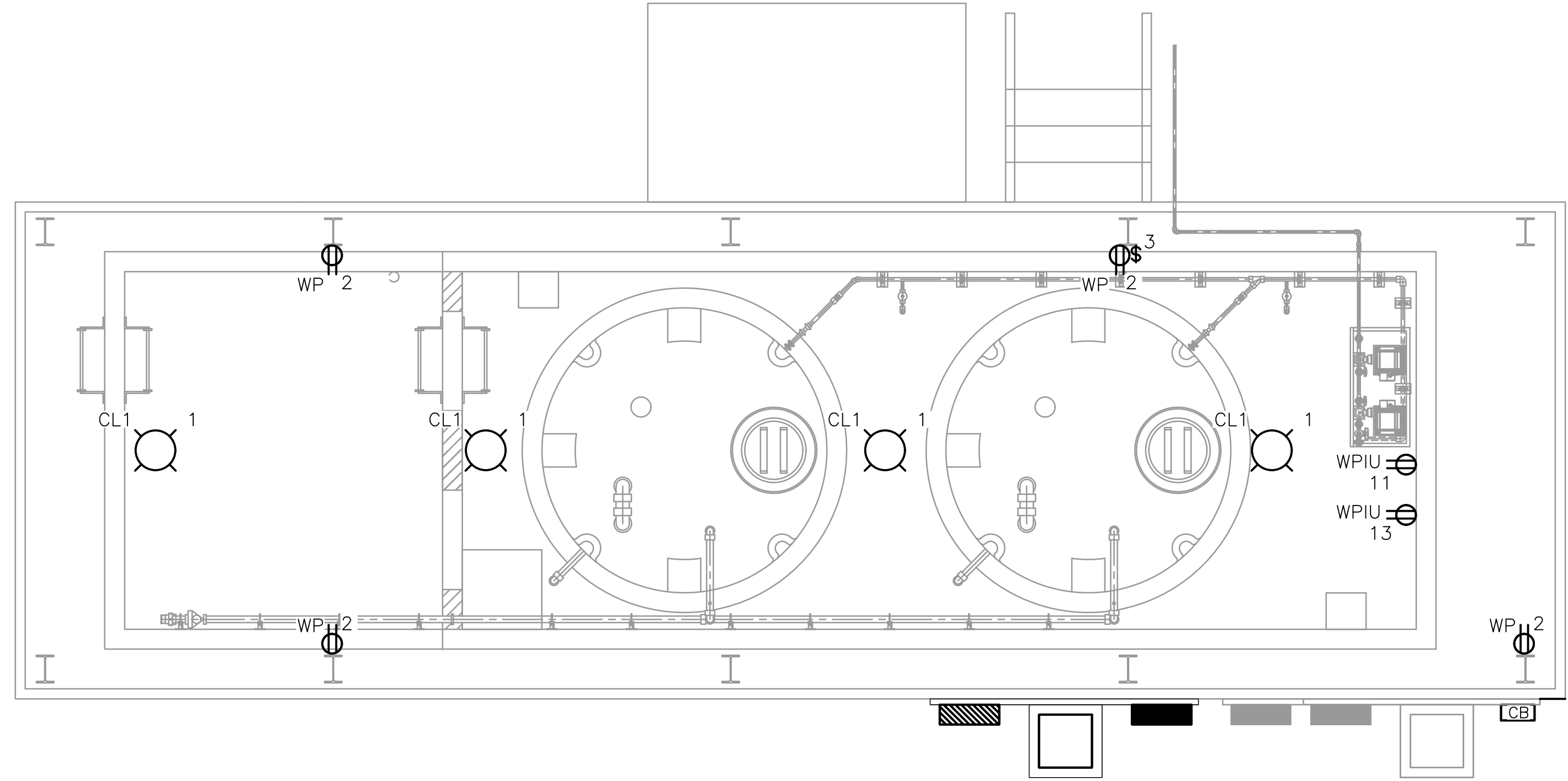
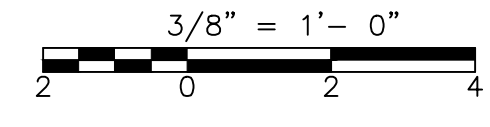
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 FILE NAME: SGEE1PL.DWG  
 SHEET NO.  
**SG-EE-1**



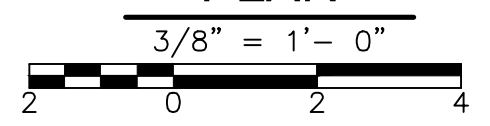
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SODIUM BISULFITE STORAGE AND FEED AREA POWER AND CONTROL PLAN



SODIUM BISULFITE STORAGE AND FEED AREA LIGHTING PLAN

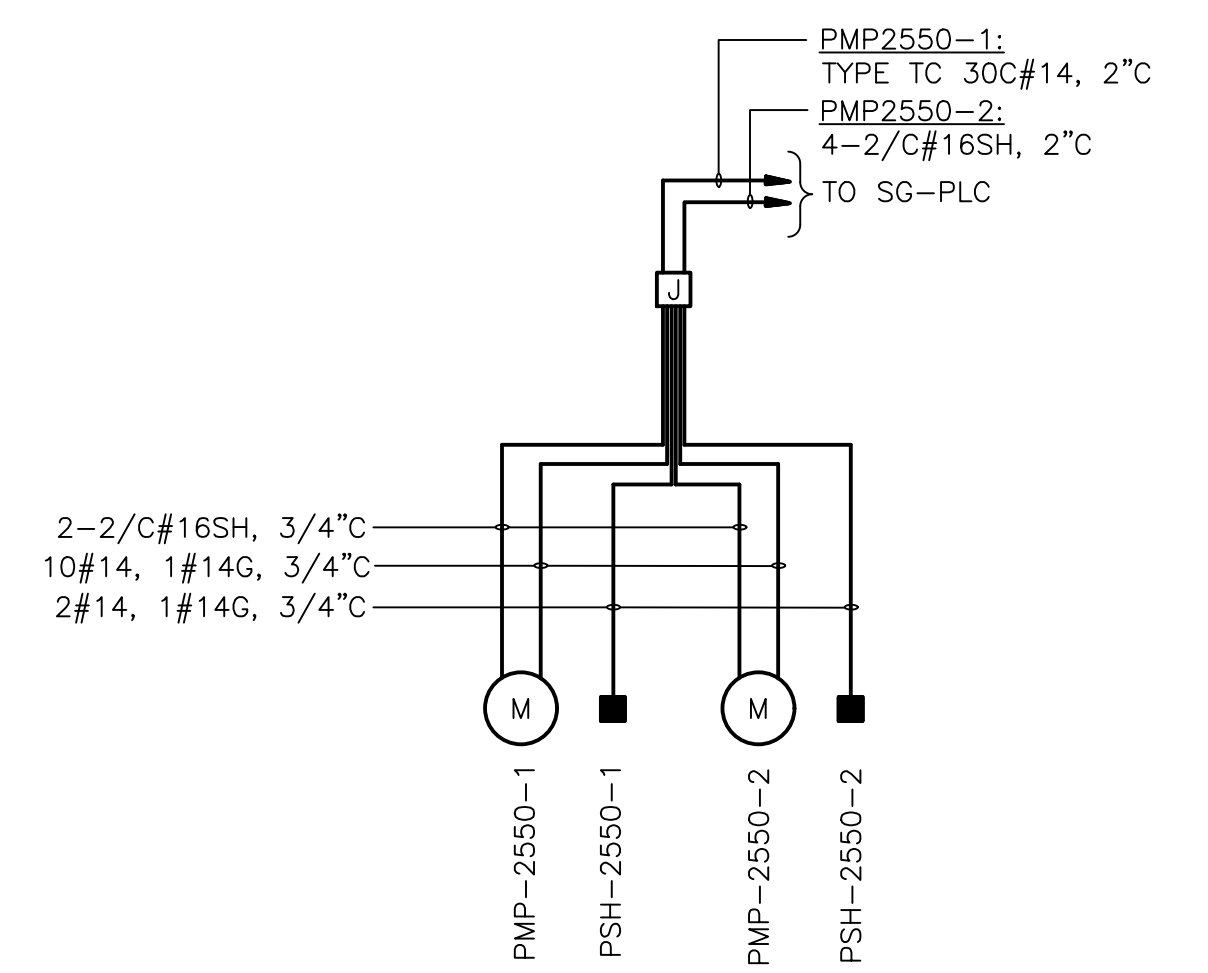


**GENERAL ELECTRICAL NOTES:**

1. CONDUITS SHALL NOT BE ROUTED ON FLOOR SURFACES OF CHEMICAL CONTAINMENT AREAS. CONDUITS SHALL NOT STUB-UP THROUGH CHEMICAL CONTAINMENT AREA SLABS. GROUP CONDUITS ON AN ELEVATED COMMON STRUT STRUCTURE. WELDING OF STRUT STRUCTURE SHALL NOT BE ACCEPTABLE.
2. REFER TO SHEET E-10 FOR LIGHTING FIXTURE SCHEDULE AND PANELBOARD SCHEDULE.
3. REFER TO SHEET SG-E-11 FOR PANELBOARD SCHEDULE.
4. ALL LIGHTING FIXTURES AND RECEPTACLES SHALL BE WIRED BACK TO PANELBOARD LP-CHEM UNLESS OTHERWISE NOTED.

**KEY NOTES:**

- 1 PROVIDED BY DIVISION 40. COORDINATE WITH HEAT TRACE MANUFACTURER AND FIELD LOCATE TO BEST SUIT FIELD CONDITIONS.



SODIUM BISULFITE FEED PUMP WIRING

DIAGRAM 1  
NTS

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

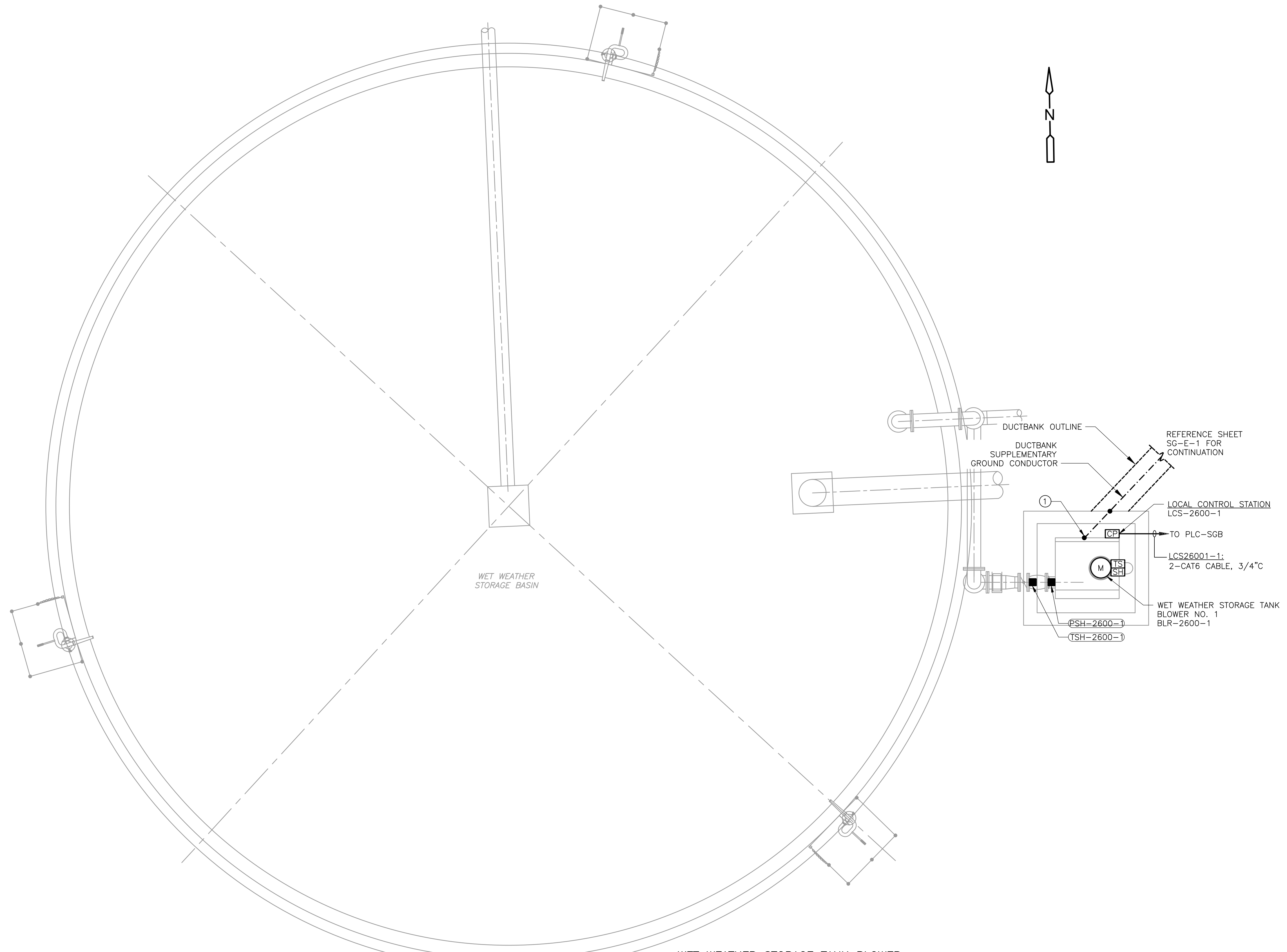
SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE AND FEED AREA  
 POWER AND LIGHTING PLAN

PROJECT NO. 2048-264953  
 FILE NAME: SGEF1PRPL.DWG  
 SHEET NO.  
**SG-EF-1**





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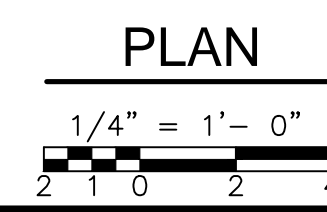
**GENERAL ELECTRICAL NOTE:**

1. REFER TO SHEET SG-E-4 AND SG-E-5 FOR ONE-LINE DIAGRAM.

**KEY NOTE:**

① EQUIPMENT GROUND BUS OR PADS; BOND GROUND CONDUCTOR TO EQUIPMENT STRUCTURE. COORDINATE LOCATIONS WITH SYSTEM SUPPLIER (TYP).

WET WEATHER STORAGE TANK BLOWER PLAN



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SMK	JCS	CONFORMED DRAWINGS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SGEG1PL.DWG  
 SHEET NO.  
**SG-EG-1**

PROJECT NO. 2048-264953  
 FILE NAME: SGEG1PL.DWG  
 SHEET NO.  
**SG-EG-1**

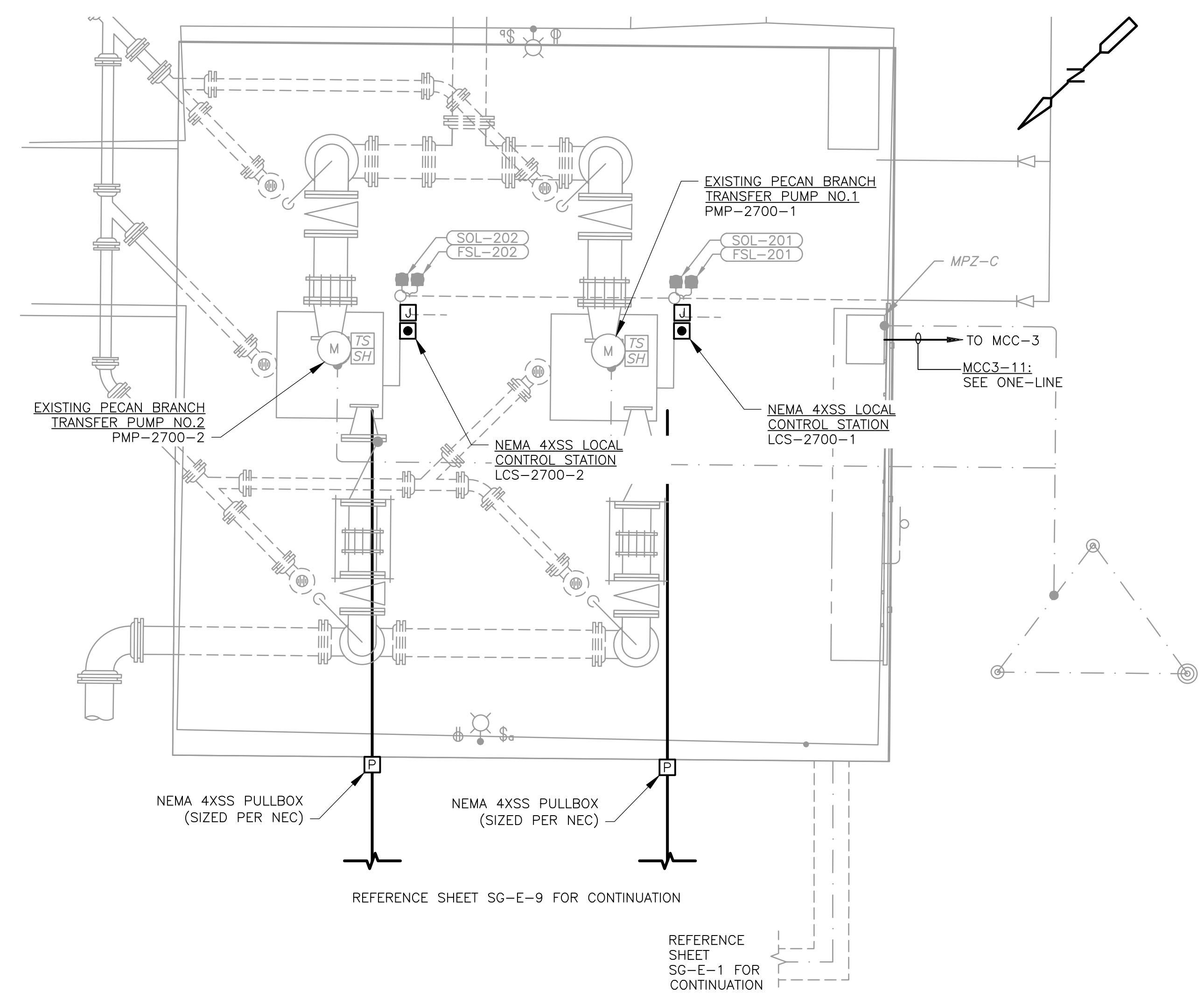
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**GENERAL ELECTRICAL NOTES:**

1. REFER SHEETS SG-E-3 TO SG-E-5 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET E-4 LIGHTING FIXTURE SCHEDULE.
3. REFER TO SHEET SG-E-10 FOR PANELBOARD SCHEDULE.
4. PENDANT MOUNT TYPE 'AL1' AND TYPE 'AL1E' LIGHTING FIXTURE AT 9'-0" A.F.F. UNLESS OTHERWISE NOTED.
5. WALL MOUNT LIGHT FIXTURE TYPE 'WL1E' AT 8'-0" A.F.F UNLESS OTHERWISE NOTED.
6. MOUNT EXIT SIGN ABOVE THE DOOR UNLESS OTHERWISE NOTED.
7. EXIT SIGNS SHALL BE WIRED TO THE NORMAL LIGHTING CIRCUIT OF THE ROOM IT SERVES AND TO THE LINE SIDE OF THE LIGHTING SWITCH.
8. LOCATION OF GROUND LOOP SHALL BE AT A MINIMUM OF 30" FROM ANY FOUNDATION WALLS AND COLUMNS. GROUNDING LOOP SHALL BE BURIED 30" BELOW GRADE LEVEL.

**KEY NOTES:**

- ① PROVIDED BY DIVISION 46.
- ② BOND #4/0 BARE COPPER TO STRUCTURAL STEEL.
- ③ BOND TO LIGHTNING PROTECTING DOWN LEADS WITH #4/0 BARE COPPER CONDUCTOR UNLESS REQUIRED OTHERWISE BY THE LIGHTNING PROTECTION SYSTEM DESIGNER.



PECAN BRANCH TRANSFER PUMP STATION POWER PLAN

3/8" = 1'-0"  
 2 0 2 4



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



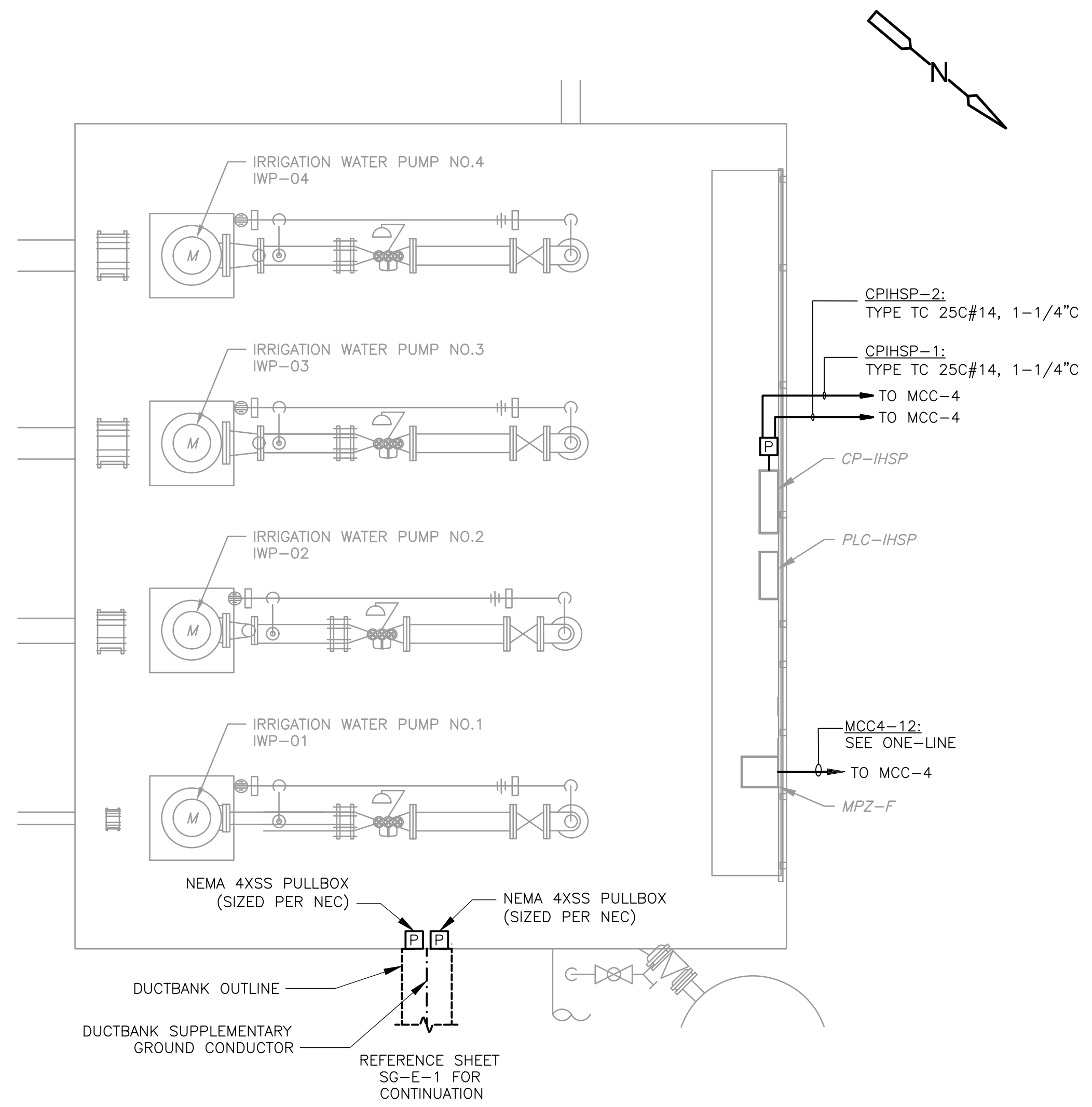
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 PECAN BRANCH TRANSFER PUMP STATION  
 PLAN

PROJECT NO. 2048-264953  
 FILE NAME: SGEG02PSPL.DWG  
 SHEET NO.  
 SG-EG-2

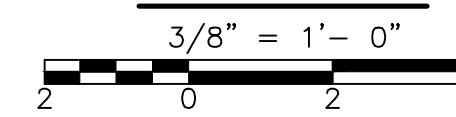
**GENERAL ELECTRICAL NOTES:**

1. REFER TO SHEET SG-E-7 FOR ONE-LINE DIAGRAMS.
2. REFER TO SHEET SG-E-1 FOR SITE PLAN.



**IRRIGATION HIGH SERVICE PUMP STATION MODIFICATION**

**PLAN**



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 IRRIGATION HIGH SERVICE  
 PUMP STATION POWER PLAN

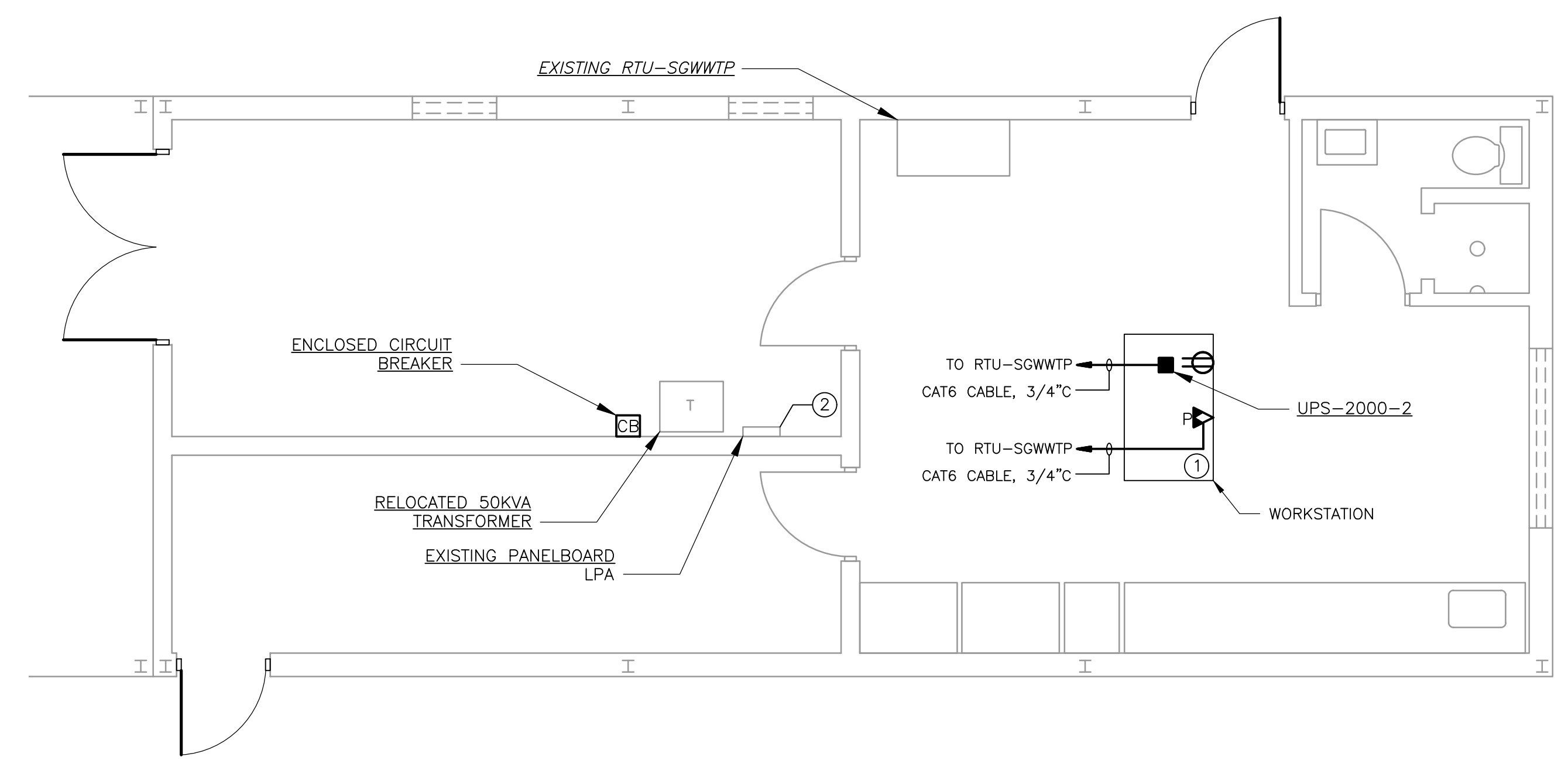
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 FILE NAME: SGEH1PSPL.DWG  
 SHEET NO.  
**SG-EG-3**



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- GENERAL ELECTRICAL NOTES:**
- REFER TO SHEET SG-E-1 FOR SITE PLAN.
  - THIS DRAWING REPRESENTS THE LATEST DOCUMENTED INFORMATION AVAILABLE ON THE EXISTING SYSTEM. UNDOCUMENTED CHANGES MAY EXIST. PROVIDE THE NECESSARY CHANGES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM ACCORDING TO THE INTENT OF THIS AND ALL DRAWINGS.

- KEY NOTES:**
- COORDINATE EXACT LOCATION OF WORKSTATION WITH THE OWNER.
  - PROVIDE LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO INSTALL NEW 120V, 1 PHASE, 20A CIRCUIT BREAKER IN EXISTING PANELBOARD FOR NEW UPS-2000-2. ALL NEW COMPONENTS SHALL MEET OR EXCEED SHORT CIRCUIT RATING OF THE EXISTING PANELBOARD. THE OVERALL SHORT CIRCUIT RATING OF THE EXISTING PANELBOARD SHALL BE MAINTAINED.



**ADMINISTRATION AND BLOWER MODIFICATION POWER PLAN**  
**PLAN**  
 3/8" = 1' - 0"

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEZ  
 DATE: JANUARY 2023



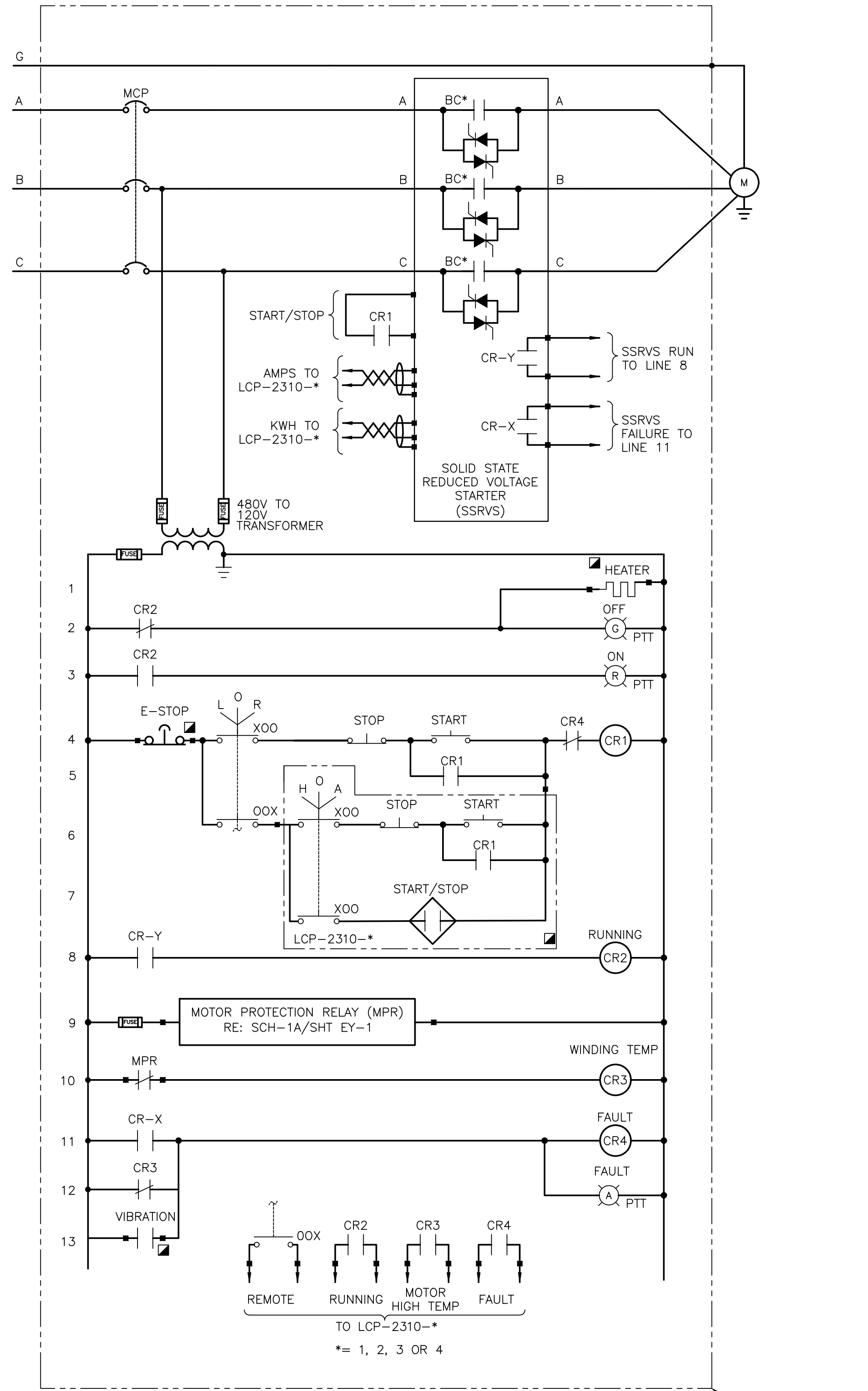
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**ADMINISTRATION AND BLOWER BUILDING**  
**MODIFICATION POWER PLAN**

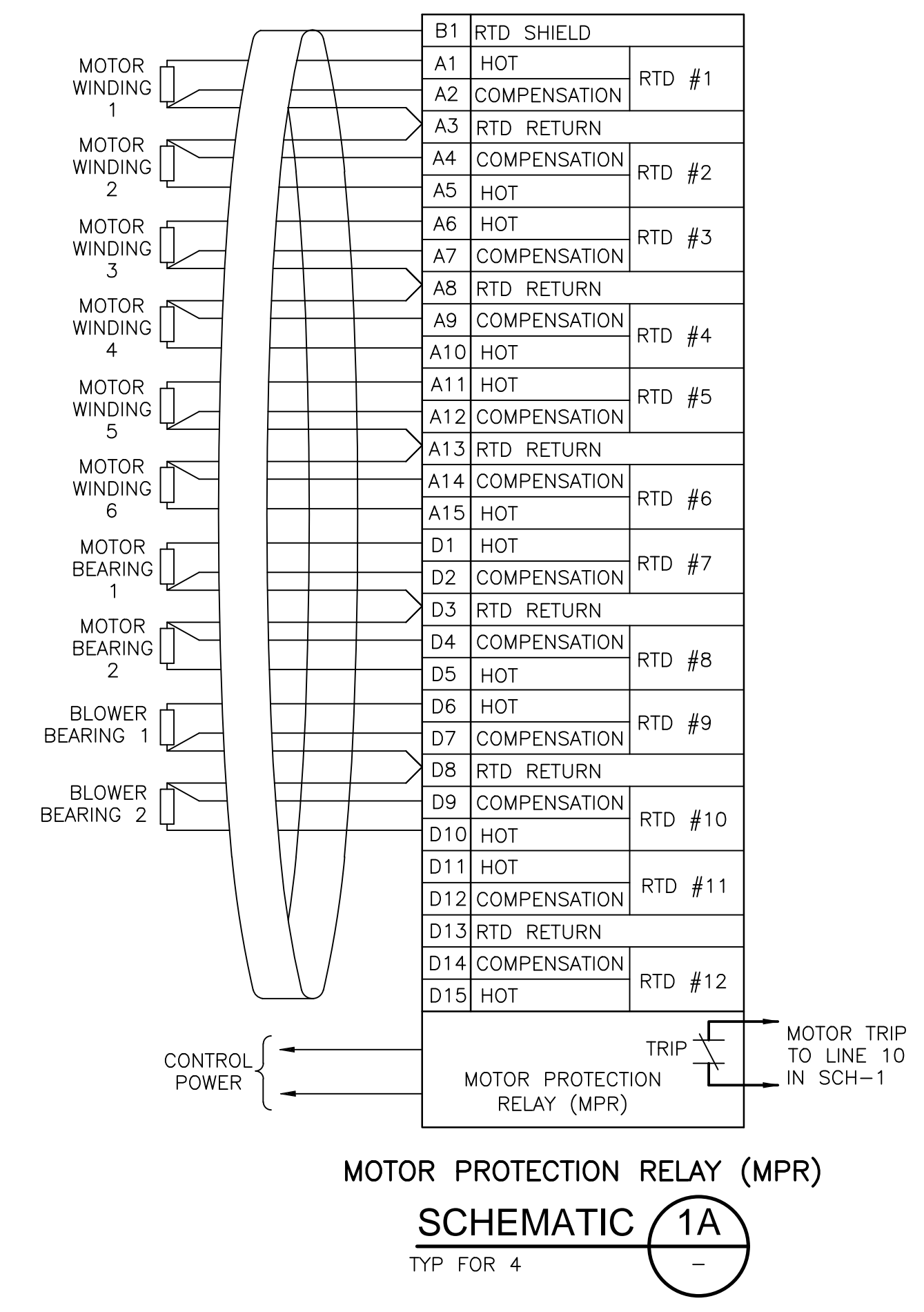
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**SG-EJ-1**



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BLR-2310-1, BLR-2310-2,  
 BLR-2310-3 AND BLR-2310-4  
**AERATION BLOWERS**  
**SCHEMATIC 1**  
 TYP FOR 4



- GENERAL ELECTRICAL NOTES:**
1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
  2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
  3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

- SCHEMATIC LEGEND**
- EXTERNAL DEVICE TERMINAL CONNECTIONS
  - ▣ DEVICE LOCATED IN FIELD
  - ▲ DEVICE LOCATED IN FIELD LCS
  - ON (R) PUSH-TO-TEST LED PILOT LIGHT
  - PTT



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

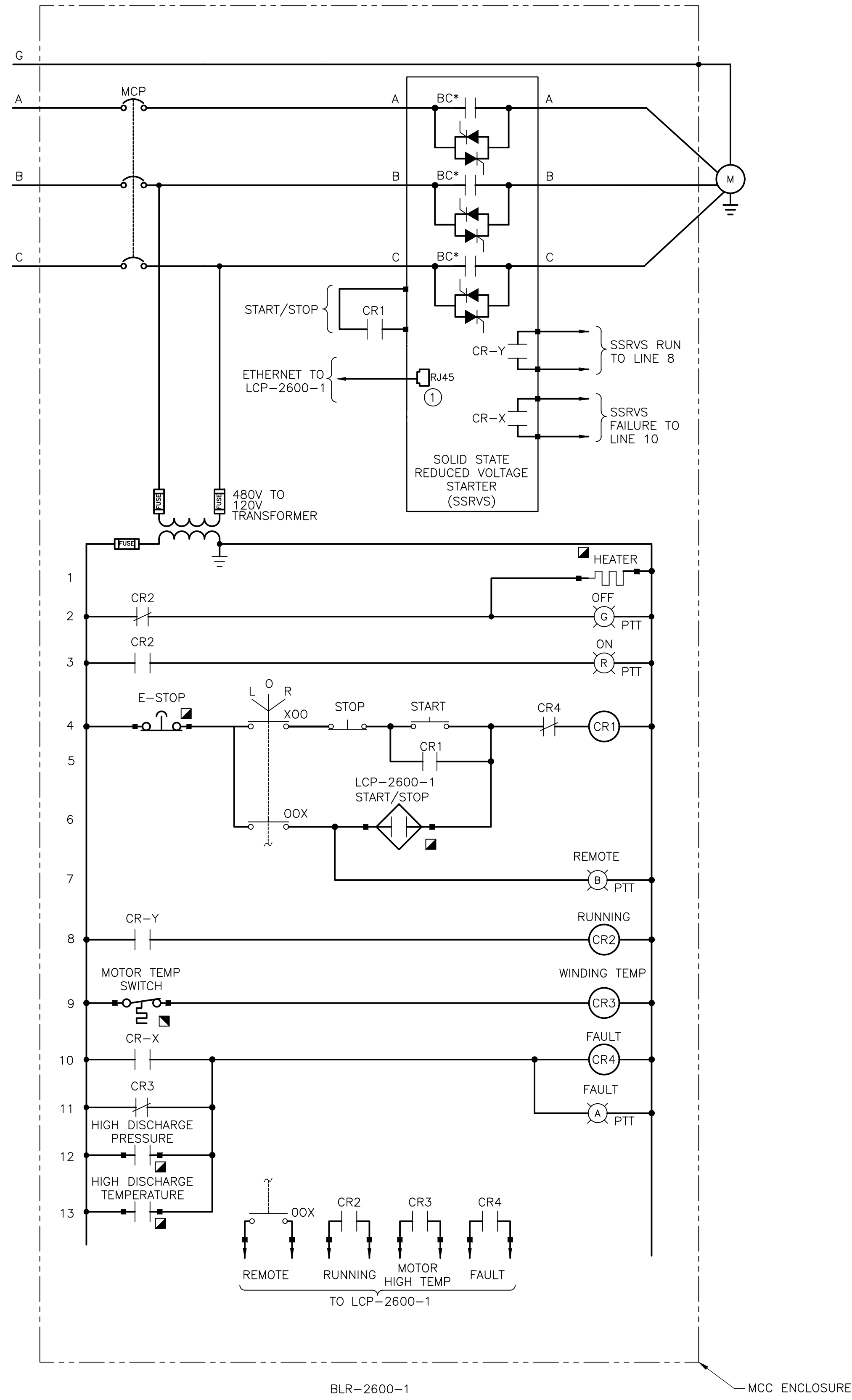
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



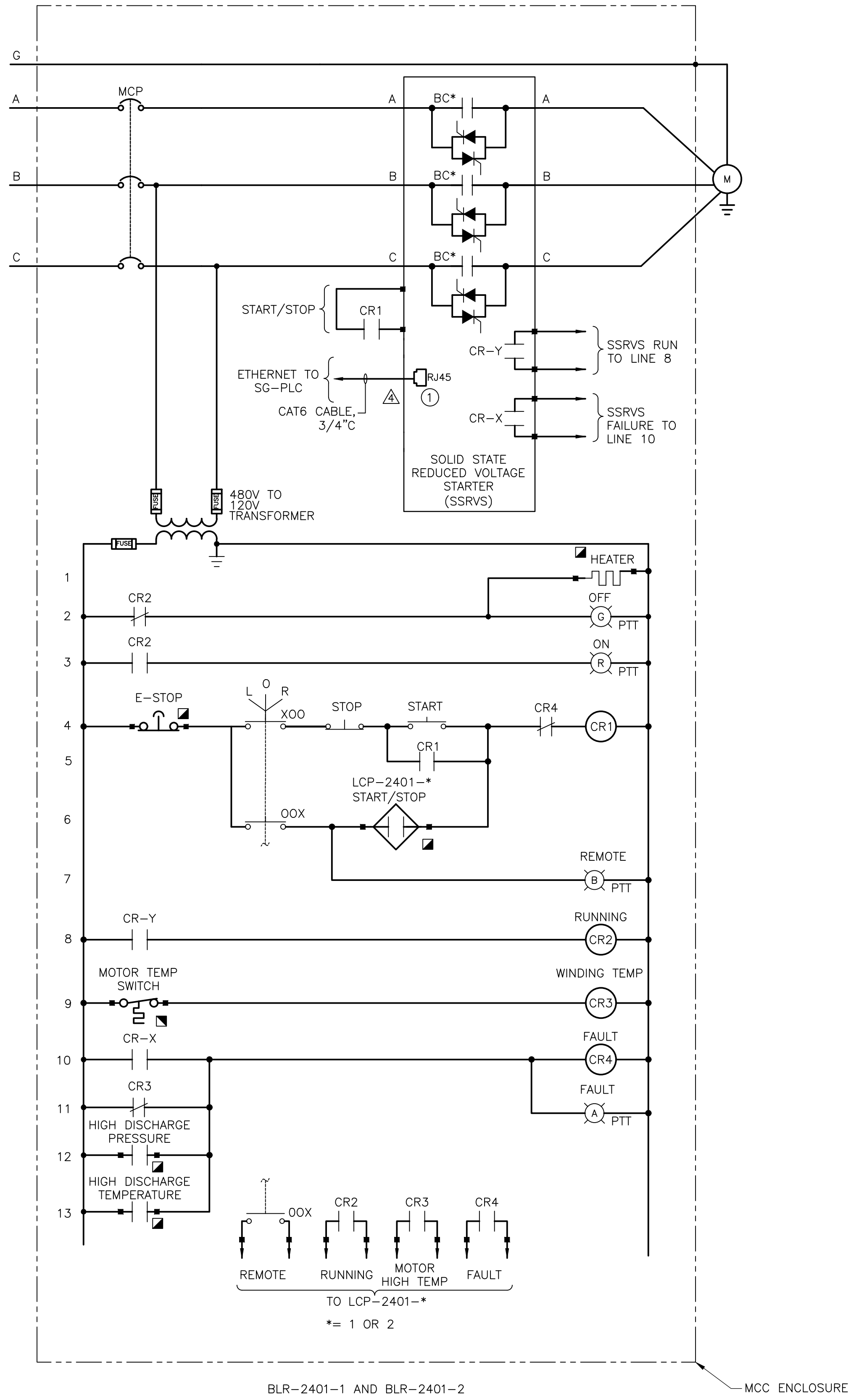
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

PROJECT NO. 2048-264953  
 FILE NAME: EY-1.DWG  
**SAN GABRIEL WWTP  
 ELECTRICAL SCHEMATIC I**  
 SHEET NO. **EY-1**

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BLR-2600-1  
**WET WEATHER STORAGE TANK BLOWER**  
**SCHEMATIC 1**  
 TYP FOR 1



BLR-2401-1 AND BLR-2401-2  
**AERATED SLUDGE HOLDING TANK BLOWER**  
**SCHEMATIC 2**  
 TYP FOR 2

**GENERAL ELECTRICAL NOTES:**

1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

**SCHEMATIC LEGEND**

- EXTERNAL DEVICE TERMINAL CONNECTIONS
- ▣ DEVICE LOCATED IN FIELD
- ▲ DEVICE LOCATED IN FIELD LCS
- ON (PUSH-TO-TEST LED PILOT LIGHT)
- (R) PTT

**KEY NOTES:**

- ① PROVIDED ETHERNET COMMUNICATION MODULE.



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	04/13/23	JCS	JCS	REVISION FOR ADDENDUM NO. 4

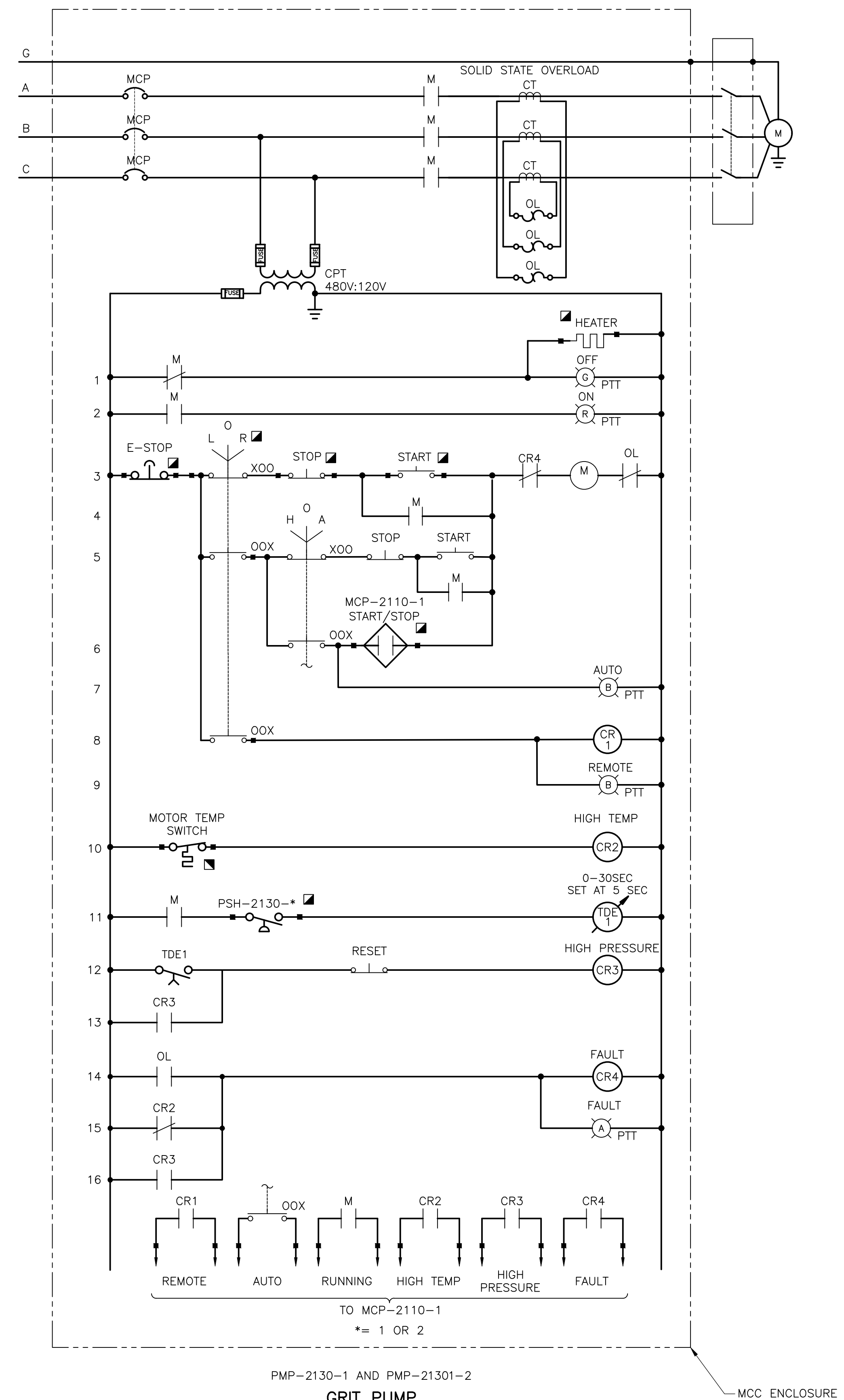
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



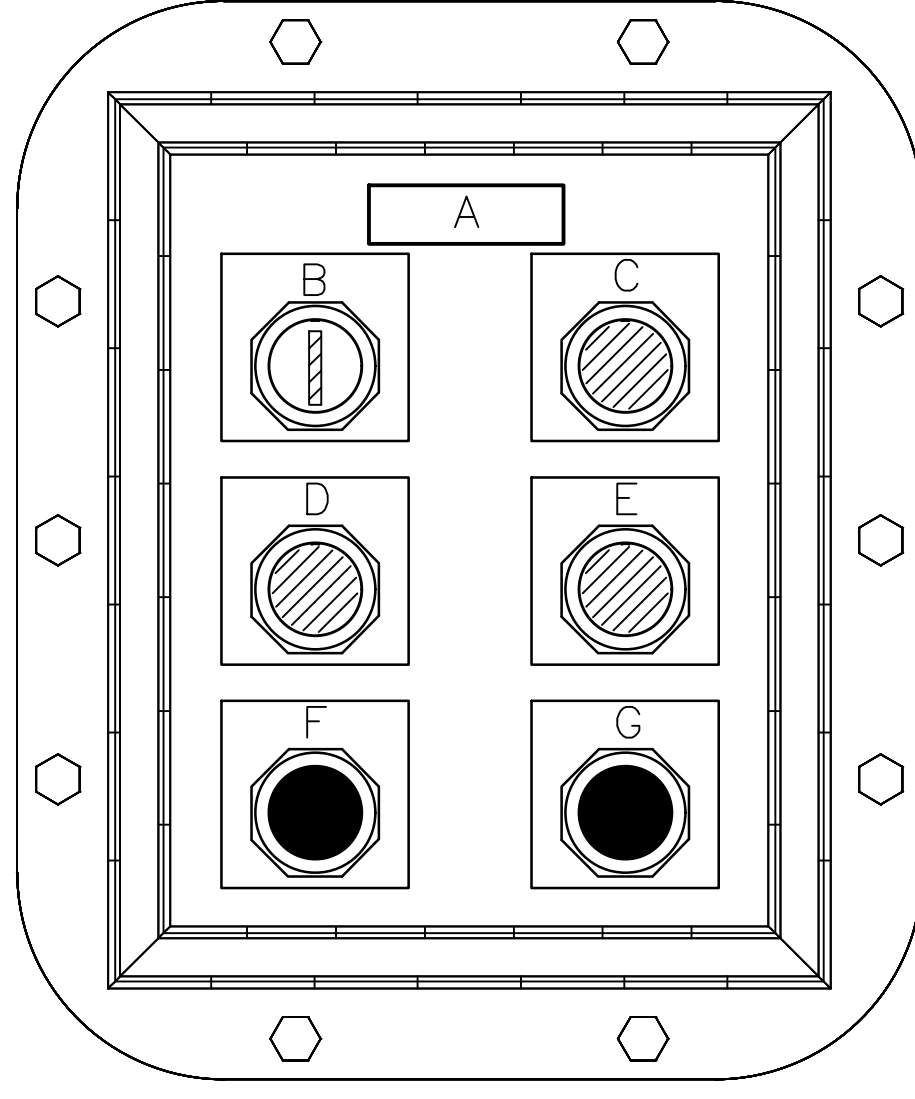
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

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PMP-2130-1 AND PMP-21301-2  
**GRIT PUMP**  
**SCHEMATIC 1**  
 TYP FOR 2



ITEM	TAG DESCRIPTION	MODEL #
A	"EQUIPMENT TAG"	SEE TABLE BELOW
B	LOR	AKRON OR APPROVED EQUAL XP3SSD SERIES
C	E-STOP	AKRON OR APPROVED EQUAL XPBSEG2C
D	START	AKRON OR APPROVED EQUAL XPBSE2C
E	STOP	AKRON OR APPROVED EQUAL XPBSE2C
F	RUNNING	AKRON OR APPROVED EQUAL XPLSB120R
G	FAULT	AKRON OR APPROVED EQUAL XPLSB120A

PUSHBUTTON DESIGNATION	EQUIPMENT TAG	EQUIPMENT SERVED	REFERENCE SHEET
LCS-2130-1	PMP-2130-1	GRIT PUMP NO.1	SG-EB-1
LCS-2130-2	PMP-2130-2	GRIT PUMP NO.2	SG-EB-1

**NEMA 7 PUSHBUTTON STATION**  
 NTS

- GENERAL ELECTRICAL NOTES:**
1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
  2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
  3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

- SCHEMATIC LEGEND**
- EXTERNAL DEVICE TERMINAL CONNECTIONS
  - ▣ DEVICE LOCATED IN FIELD
  - ▲ DEVICE LOCATED IN FIELD LCS
  - ON (R) PUSH-TO-TEST LED PILOT LIGHT
  - PTT

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

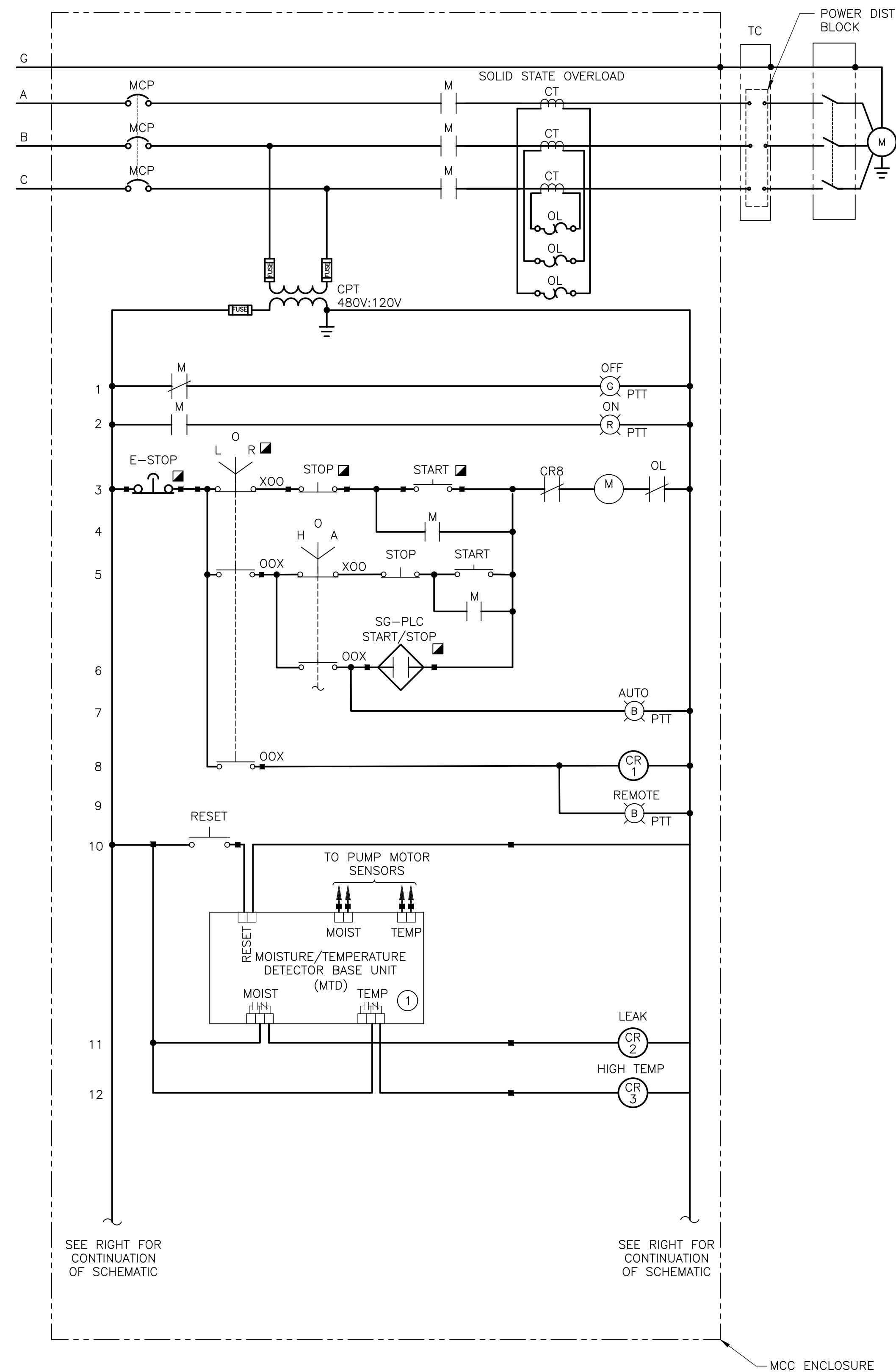
DESIGNED BY: J. SAENZ  
 DRAWN BY: V. MANJU  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

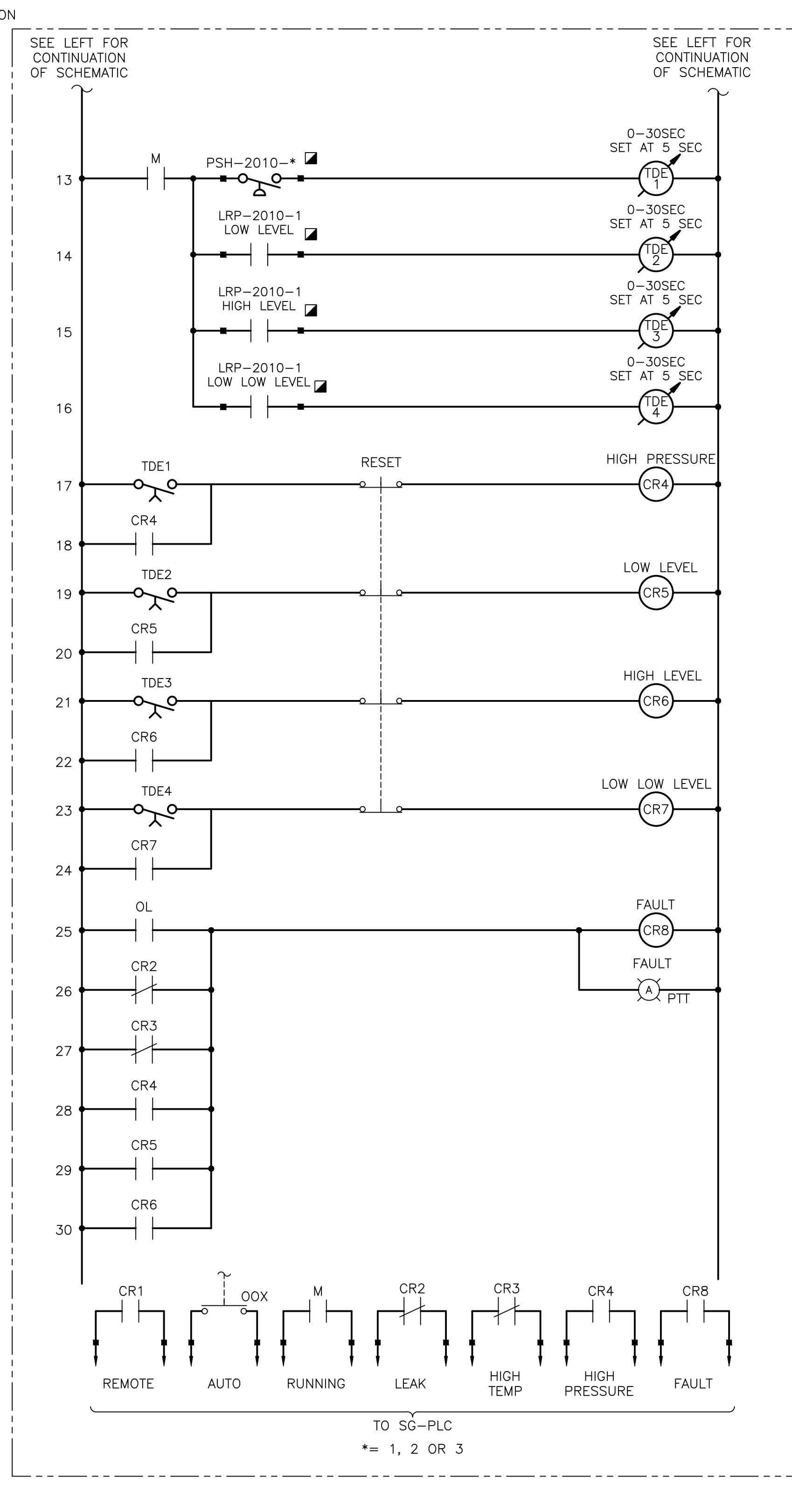
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

PROJECT NO. 2048-264953  
 FILE NAME: EY-3.DWG  
**SAN GABRIEL WWTP  
 ELECTRICAL SCHEMATIC III**  
 SHEET NO.  
**EY-3**

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PMP-2010-1, PMP-2010-2 AND PMP-2010-3  
**INFLUENT PUMP**  
**SCHEMATIC 1**  
 TYP FOR 3



PMP-2010-1, PMP-2010-2 AND PMP-2010-3  
**INFLUENT PUMP (CONT.)**  
**SCHEMATIC 1**  
 TYP FOR 3

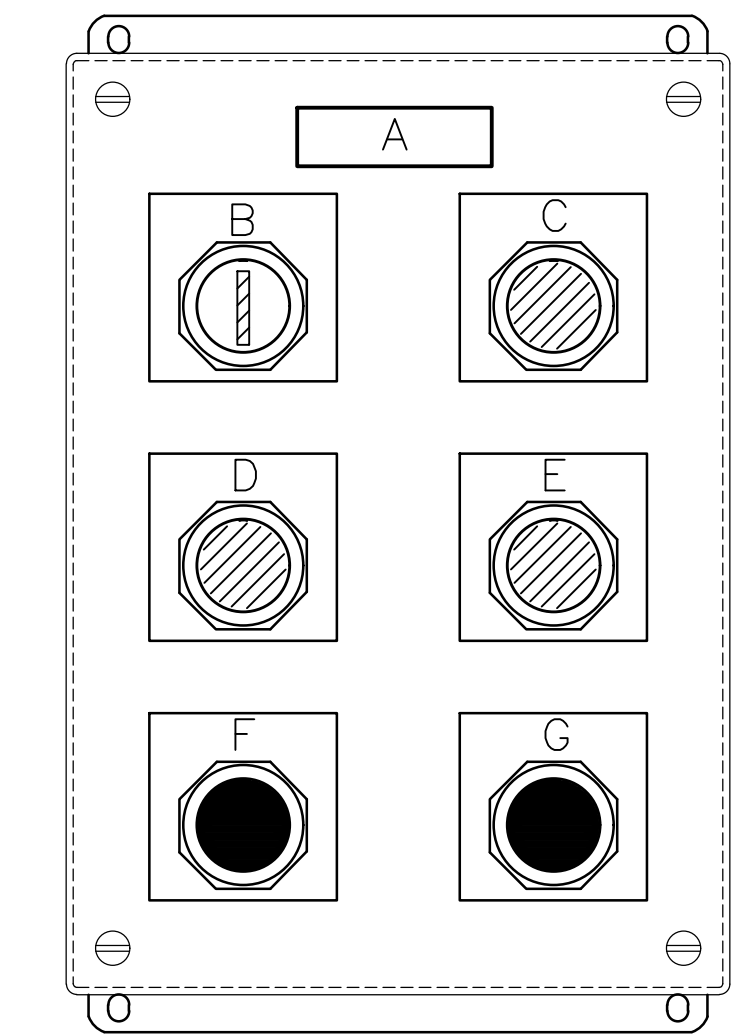
**KEY NOTES:**

- 1 PROVIDE SPACE WITHIN MOTOR CONTROL CENTER FOR SUBMERSIBLE PUMP PROTECTION UNIT PROVIDED BY DIVISION 43 AND INSTALLED BY DIVISION 26. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, AND INCIDENTALS REQUIRED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM AT NO ADDITIONAL COST.

**GENERAL ELECTRICAL NOTES:**

1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

- SCHEMATIC LEGEND**
- EXTERNAL DEVICE TERMINAL CONNECTIONS
  - ▣ DEVICE LOCATED IN FIELD
  - ▲ DEVICE LOCATED IN FIELD LCS
  - ON (PUSH-TO-TEST) LED PILOT LIGHT
  - PTT



ITEM	TAG DESCRIPTION	MODEL #
A	"EQUIPMENT TAG"	SEE TABLE BELOW
B	LOR	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
C	E-STOP	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
D	START	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
E	STOP	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
F	RUNNING	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
G	FAULT	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES

PUSHBUTTON DESIGNATION	EQUIPMENT TAG	EQUIPMENT SERVED	REFERENCE SHEET
LCS-2130-1	PMP-2130-1	GRIT PUMP NO.1	SG-EB-1
LCS-2130-2	PMP-2130-2	GRIT PUMP NO.2	SG-EB-1

**NEMA 4XSS PUSHBUTTON STATION**  
 NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

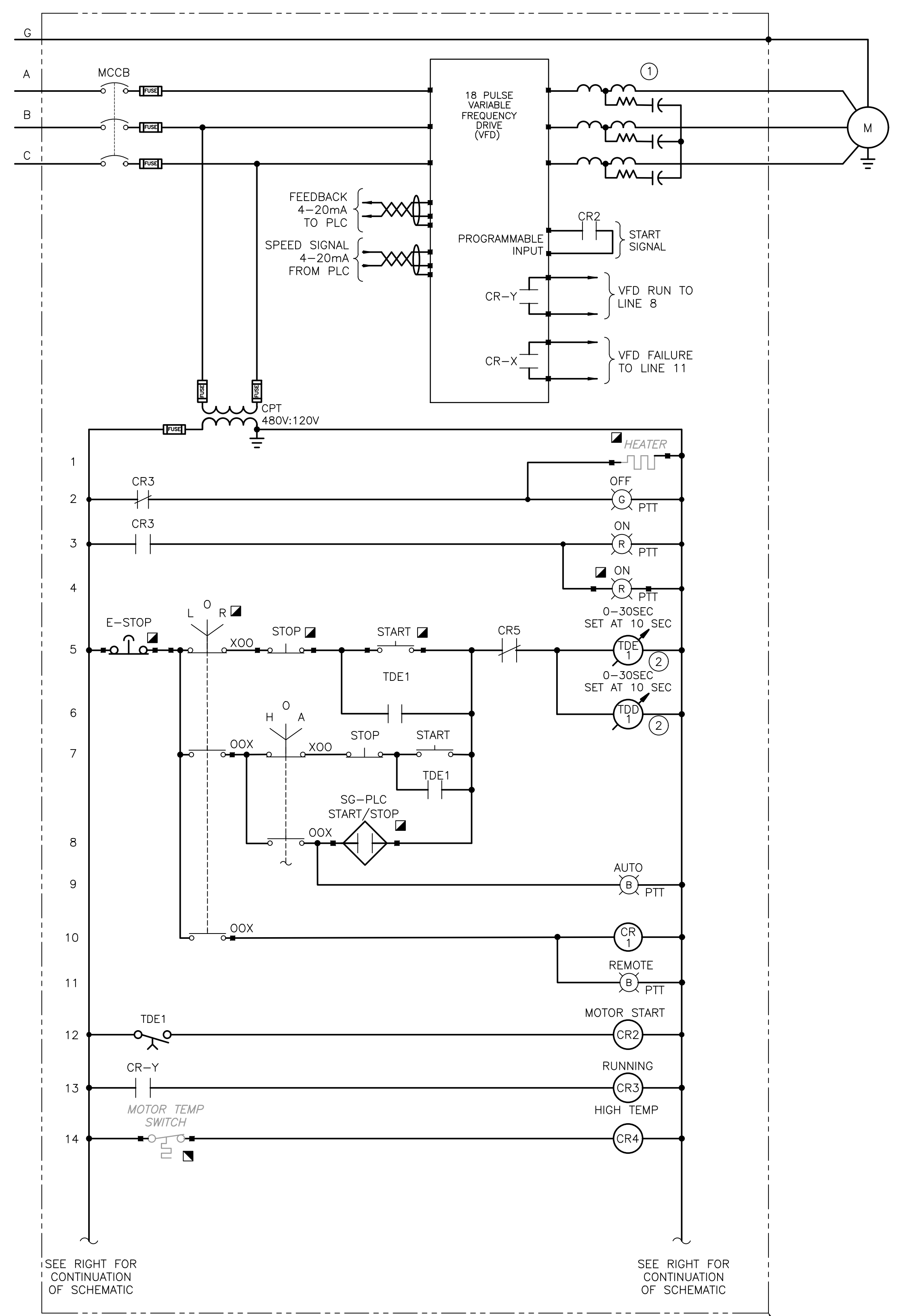
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**ELECTRICAL SCHEMATIC IV**

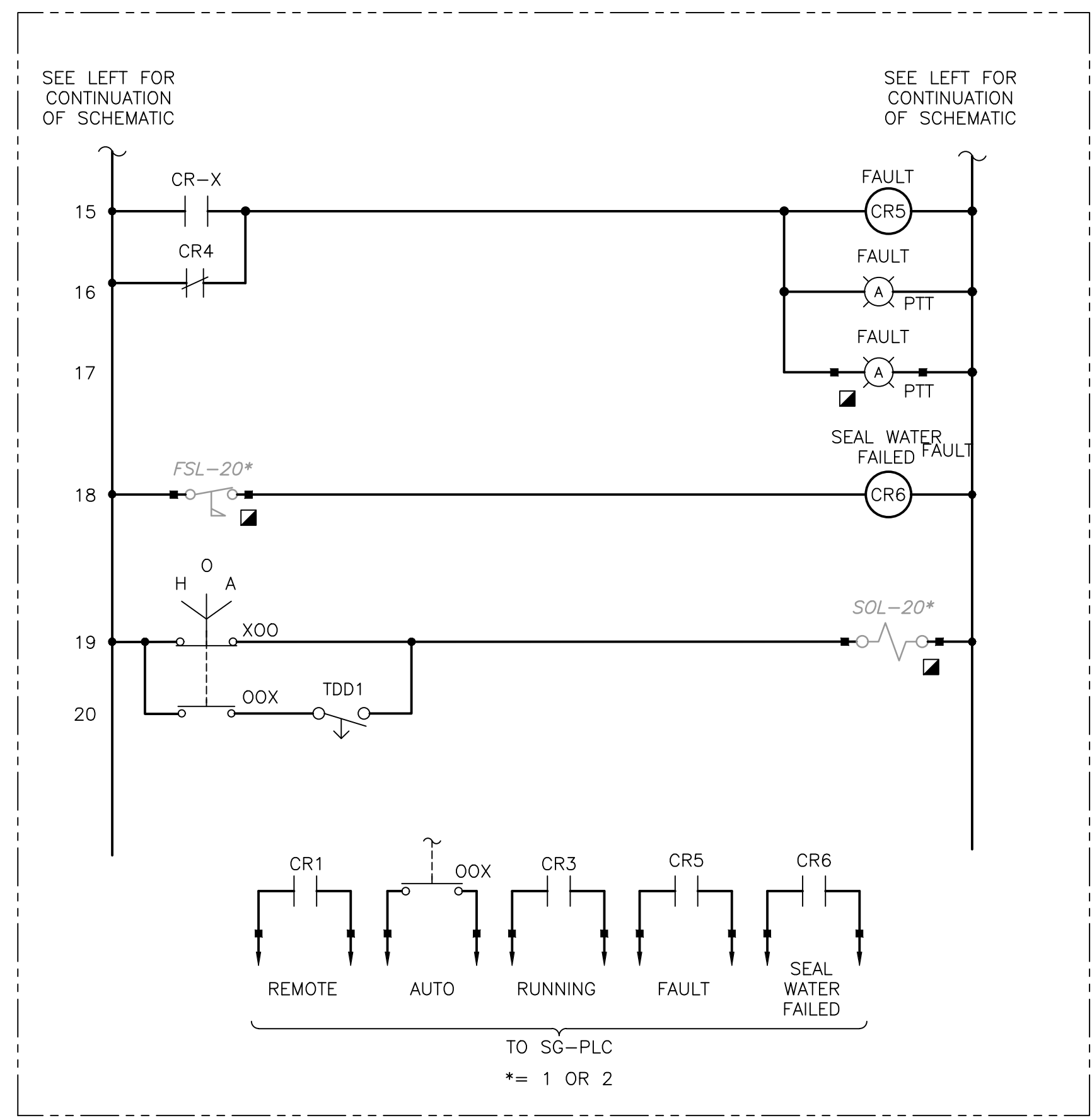
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PMP-2700-1 AND PMP-2700-2  
**PECAN BRANCH TRANSFER PUMP**  
**SCHMATIC 1**  
 TYP FOR 2



PMP-2700-1 AND PMP-2700-2  
**PECAN BRANCH TRANSFER PUMP (CONT.)**  
**SCHMATIC 1**  
 TYP FOR 2

**KEY NOTES:**

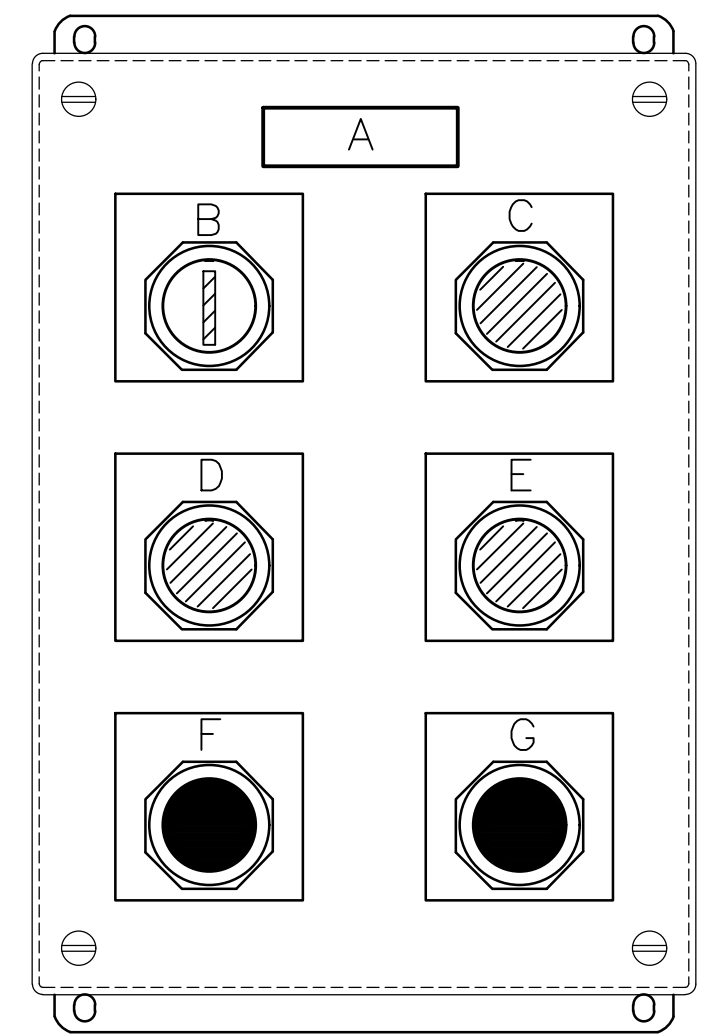
- 1 PROVIDE SINE WAVE OUTPUT FILTER.
- 2 FIELD VERIFY EXISTING CONTROL PANEL 'CP-PBTP' TIME DELAY SETTINGS AND ADJUST TIME DELAY TO MATCH.

**GENERAL ELECTRICAL NOTES:**

1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

**SCHEMATIC LEGEND**

- EXTERNAL DEVICE TERMINAL CONNECTIONS
- ▣ DEVICE LOCATED IN FIELD
- ▲ DEVICE LOCATED IN FIELD LCS
- ON (R) PUSH-TO-TEST LED PILOT LIGHT PTT



ITEM	TAG DESCRIPTION	MODEL #
A	"EQUIPMENT TAG"	SEE TABLE BELOW
B	LOR	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
C	E-STOP	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
D	START	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
E	STOP	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
F	RUNNING	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES
G	FAULT	ALLEN BRADLEY OR APPROVED EQUAL 800H SERIES

PUSHBUTTON DESIGNATION	EQUIPMENT TAG	EQUIPMENT SERVED	REFERENCE SHEET
LCS-2700-1	PMP-2700-1	PECAN BRANCH TRANSFER PUMP NO.1	SG-EG-2
LCS-2700-2	PMP-2700-2	PECAN BRANCH TRANSFER PUMP NO.2	SG-EG-2

**NEMA 4XSS PUSHBUTTON STATION**  
 NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

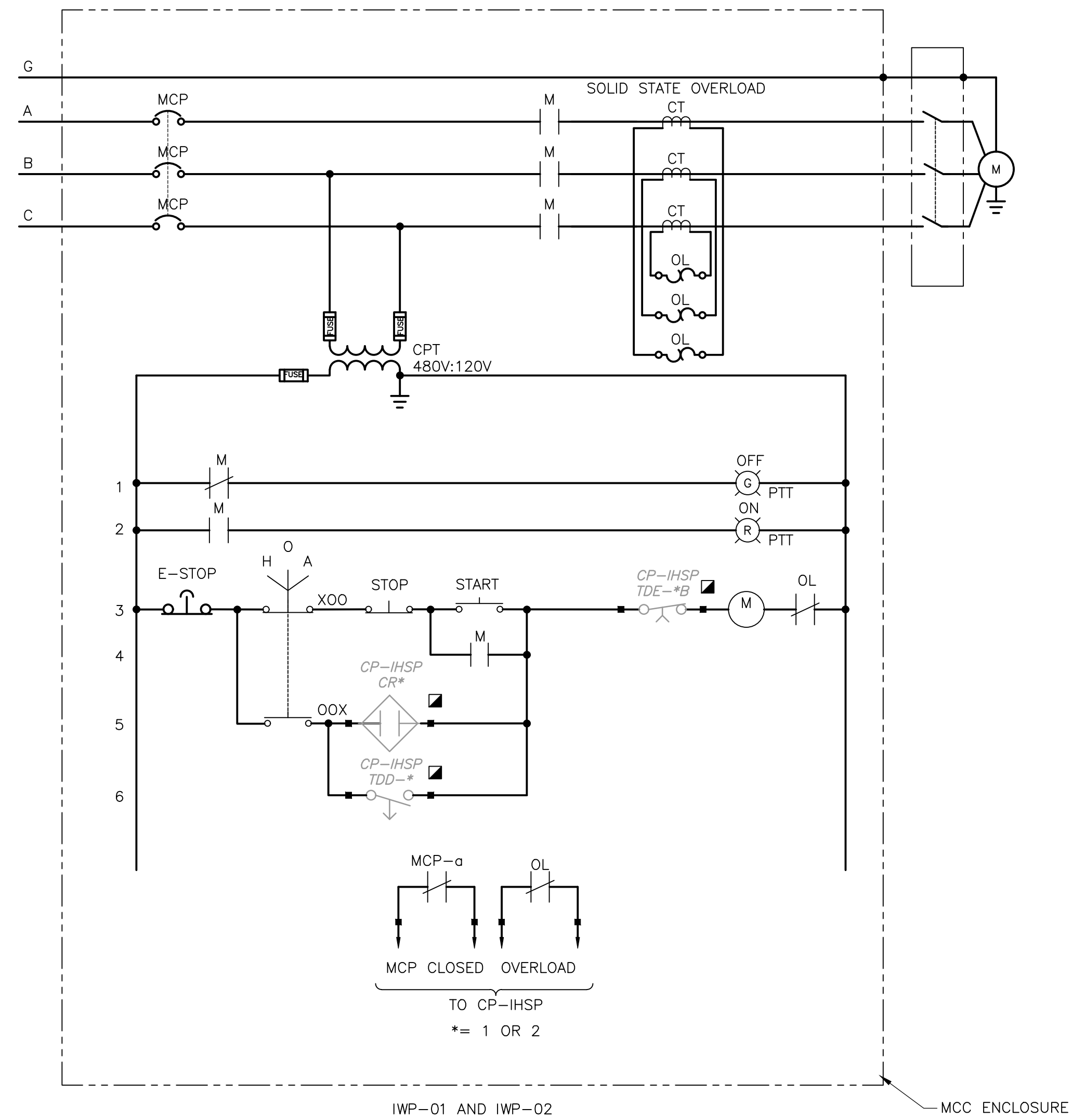
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAEZ  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

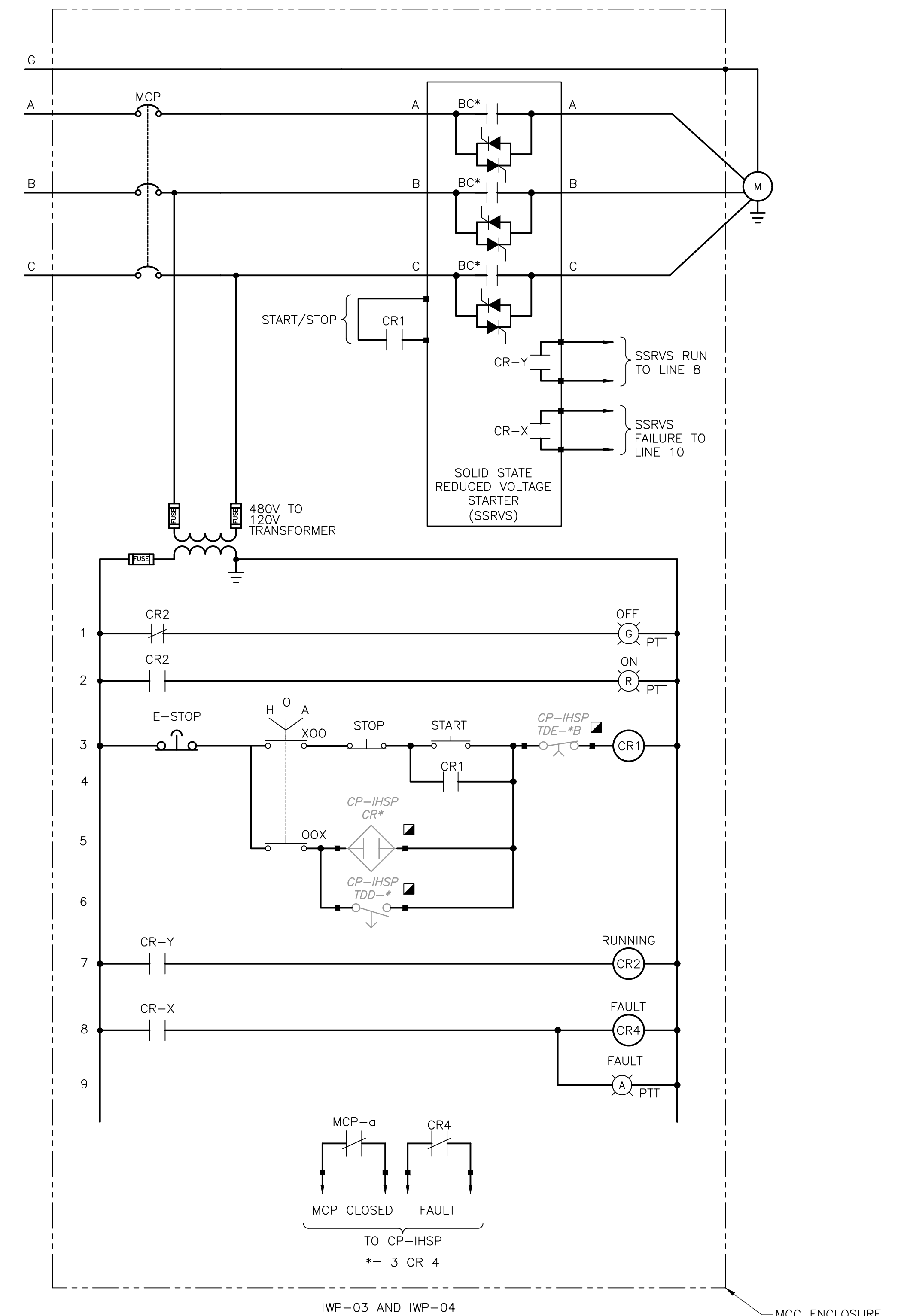
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

PROJECT NO. 2048-264953  
 FILE NAME: EY-5.DWG  
**SAN GABRIEL WWTP  
 ELECTRICAL SCHEMATIC V**  
 SHEET NO. **EY-5**

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IWP-01 AND IWP-02  
**IRRIGATION WATER PUMP**  
**SCHEMATIC 1**  
 TYP FOR 2



IWP-03 AND IWP-04  
**IRRIGATION WATER PUMP**  
**SCHEMATIC 2**  
 TYP FOR 2

**GENERAL ELECTRICAL NOTES:**

1. THE CONTROL DIAGRAMS, ALONG WITH ANY WRITTEN OPERATIONAL DESCRIPTIONS IN THE SPECIFICATIONS AND/OR LOOP DIAGRAMS, SHOW THE INTENDED FUNCTIONS OF THE SYSTEMS AND CIRCUITS.
2. ALL MOTOR STARTER CONTROL TRANSFORMERS SHALL BE A MINIMUM OF 100VA AND, IF NECESSARY, BE INCREASED IN SIZE SO AS TO PROVIDE SUFFICIENT VOLT-AMPERE CAPACITY FOR OPERATING ALL ELECTRICAL DEVICES ASSOCIATED WITH THE CONTROL OF THE MOTOR. THIS SHALL INCLUDE STARTER COIL, RELAYS, TIMERS, MOTOR HEATERS, INDICATING LIGHTS, ETC.
3. REFERENCE PLANS FOR CONDUIT AND WIRE REQUIREMENTS.

- SCHEMATIC LEGEND**
- EXTERNAL DEVICE TERMINAL CONNECTIONS
  - ▣ DEVICE LOCATED IN FIELD
  - ▲ DEVICE LOCATED IN FIELD LCS
  - (ON) PUSH-TO-TEST LED PILOT LIGHT
  - (R) PTT

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

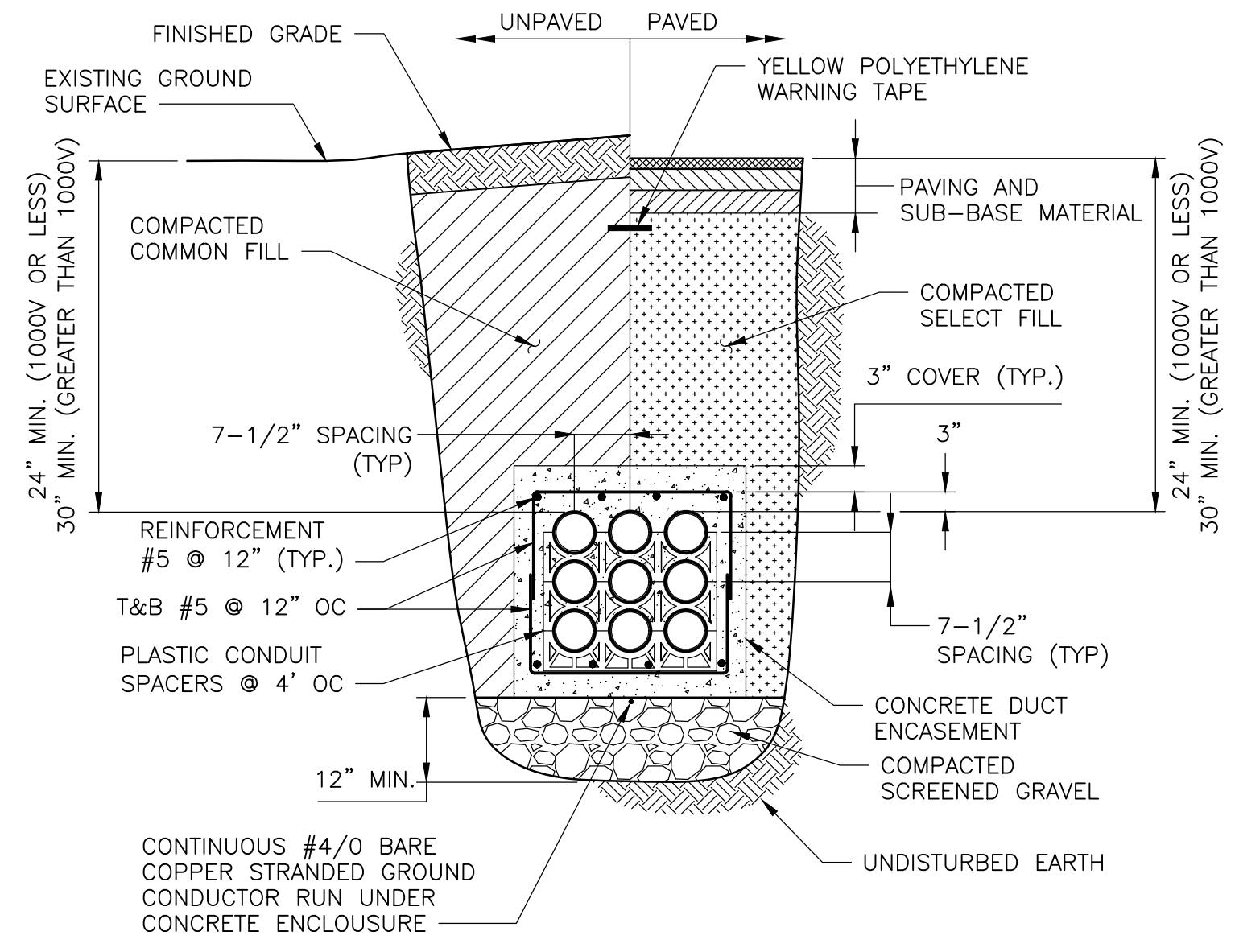
DESIGNED BY: S. KAMAL  
 DRAWN BY: S. KAMAL  
 SHEET CHK'D BY: M. CZACH  
 CROSS CHK'D BY: G. PRABHU  
 APPROVED BY: J. SAENZ  
 DATE: JANUARY 2023



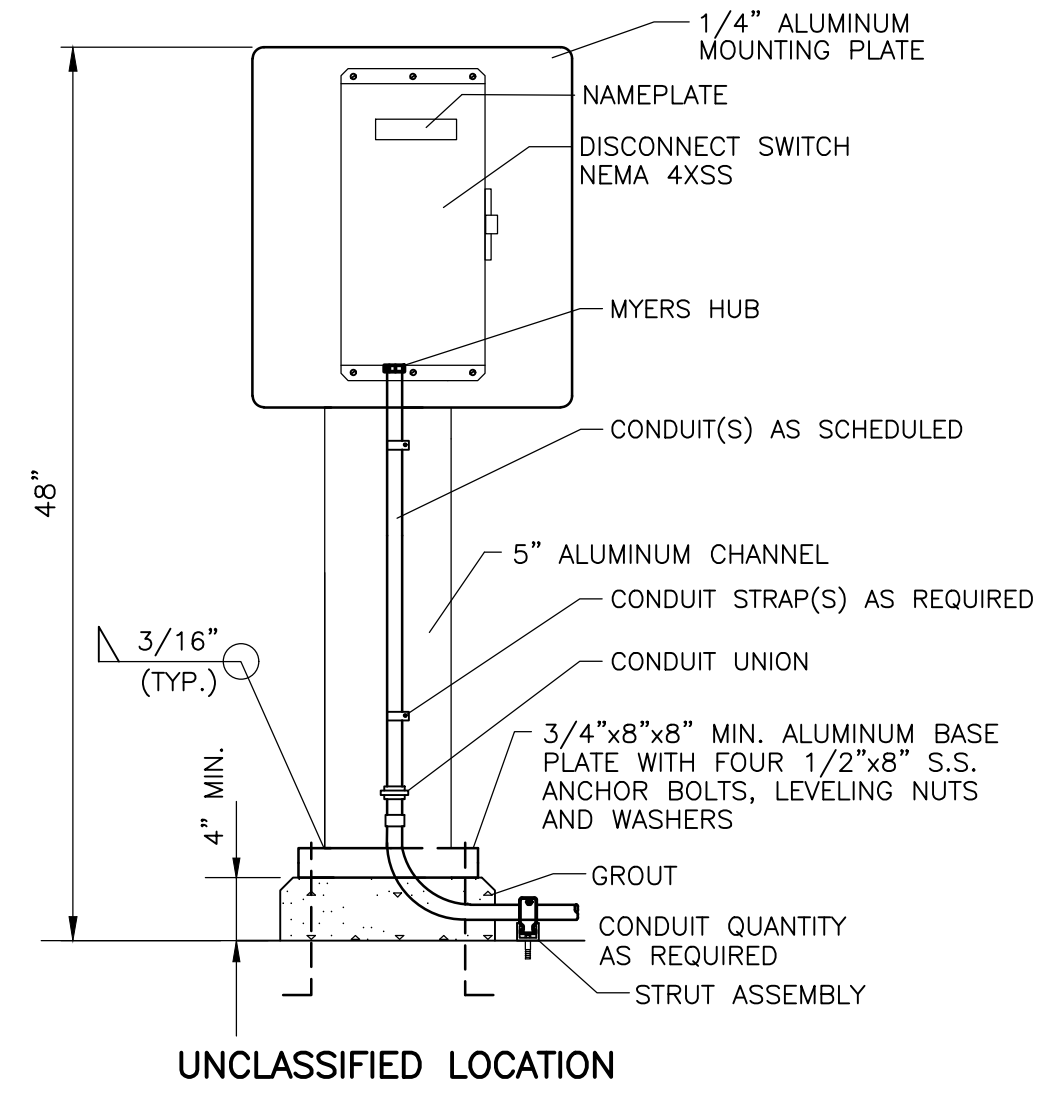
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP**  
**REHABILITATION**

**SAN GABRIEL WWTP**  
**ELECTRICAL SCHEMATIC VI**  
 PROJECT NO. 2048-264953  
 FILE NAME: EY-6.DWG  
 SHEET NO. **EY-6**  
 01/27/2023



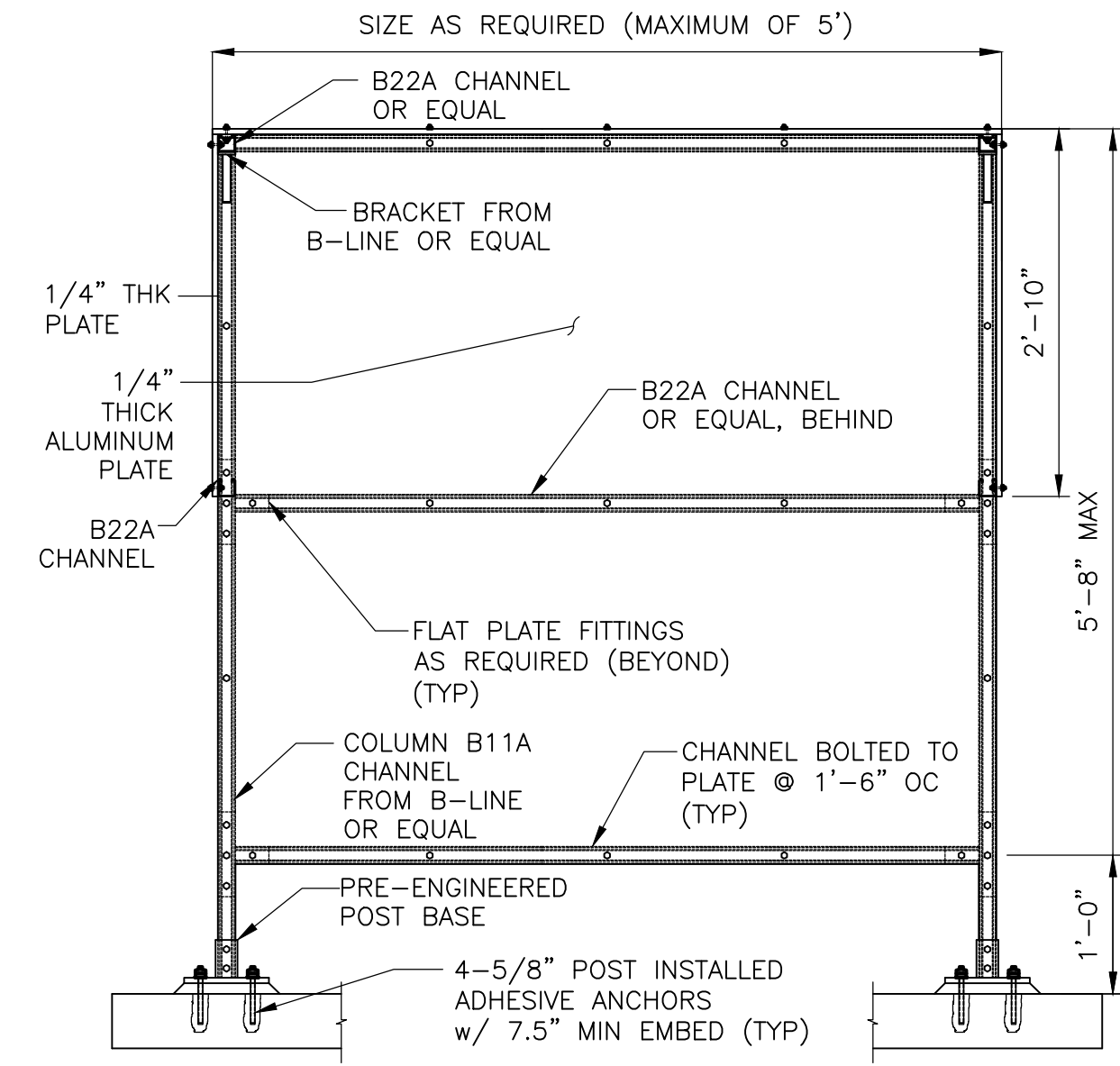


**UNDERGROUND POWER DUCT BANK**  
**DETAIL A**  
 NTS



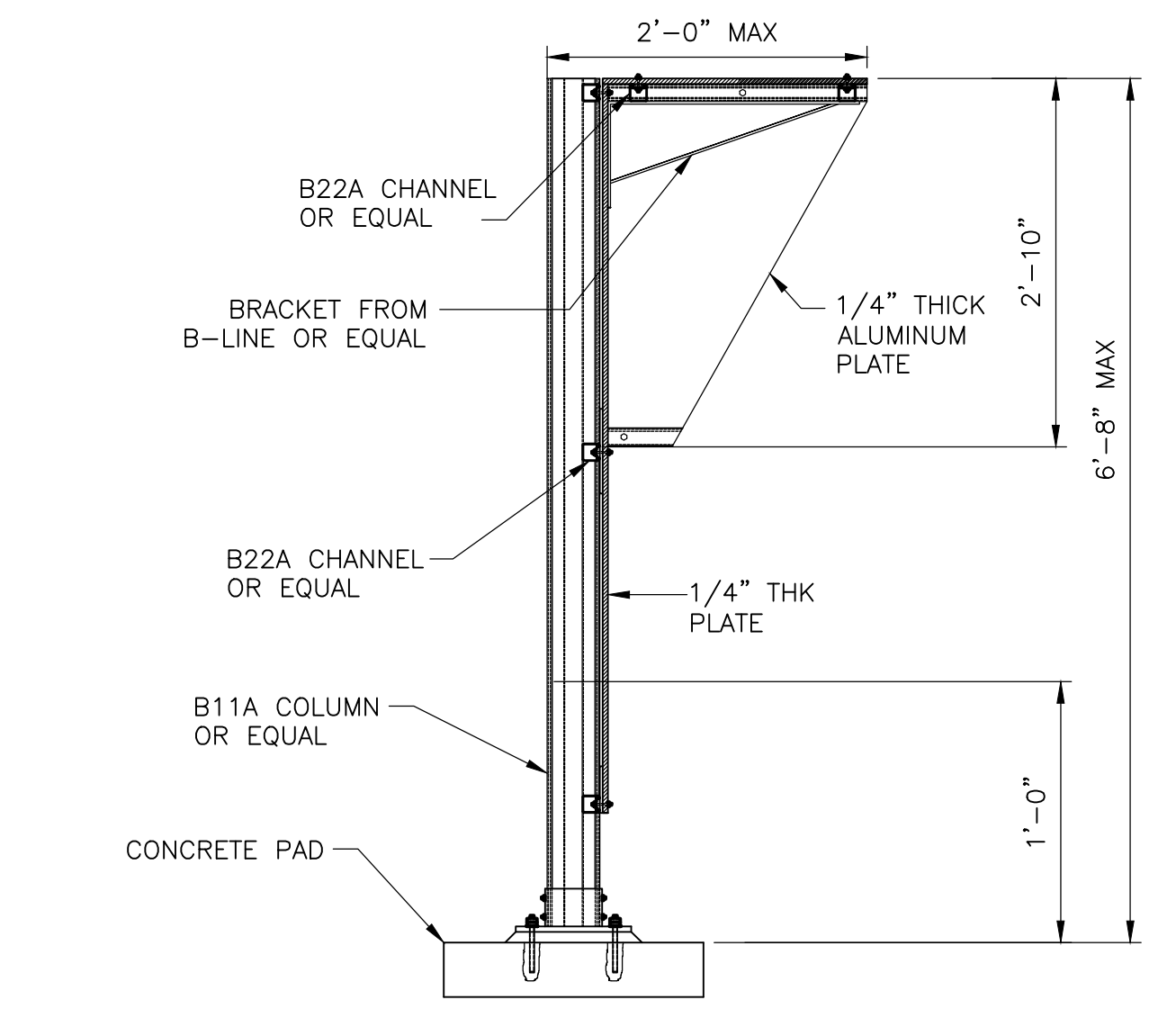
**UNCLASSIFIED LOCATION**  
**DETAIL B**  
 NTS

NOTES:  
 1. PROVIDE DISCONNECT WITH AUXILIARY CONTACT.  
 2. PUSHBUTTONS AS REQUIRED.  
 3. CONTRACTOR TO DESIGN MOUNTING STAND. MINIMUM DIMENSIONS ARE SHOWN.  
 4. SUBMITTALS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.

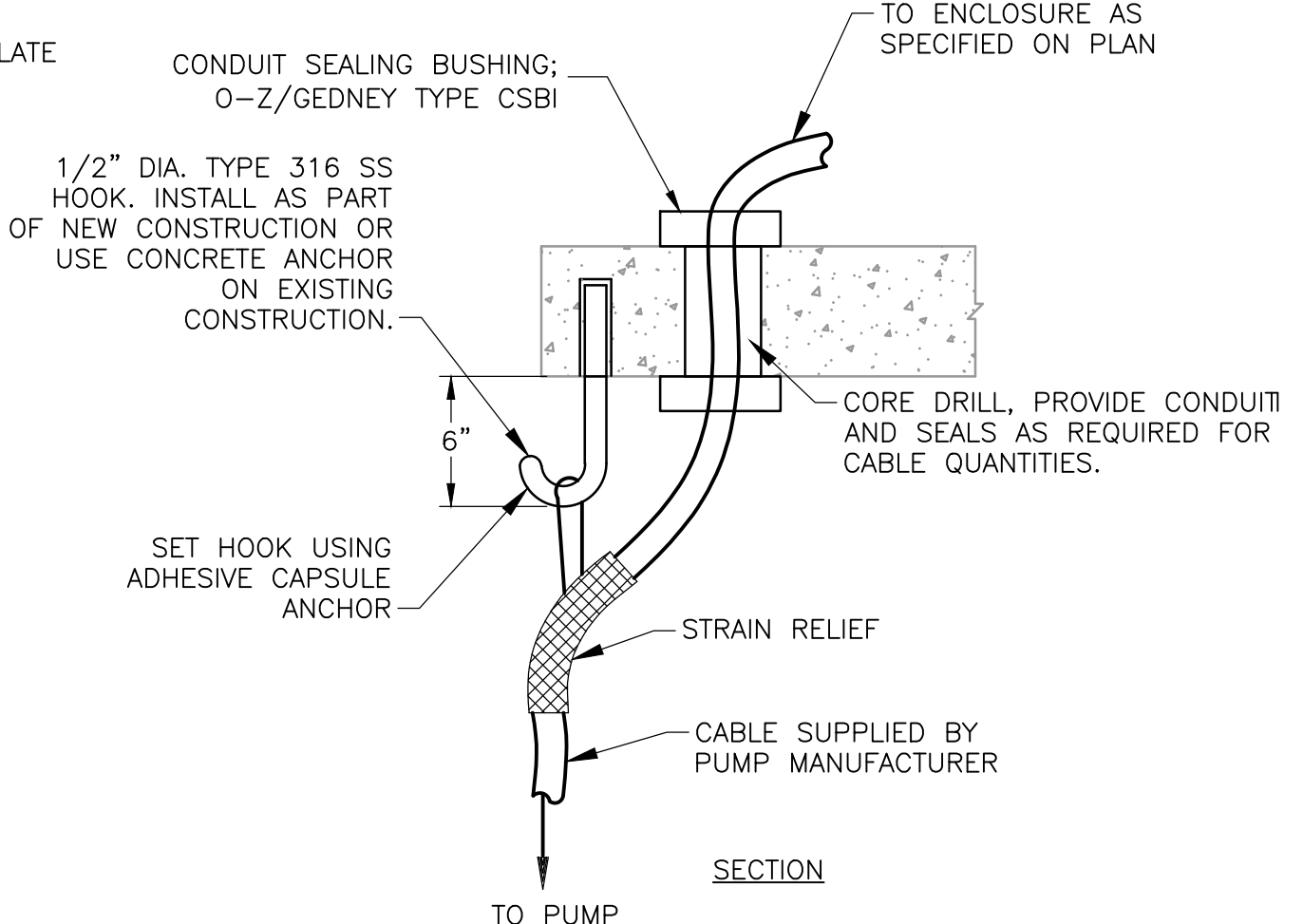
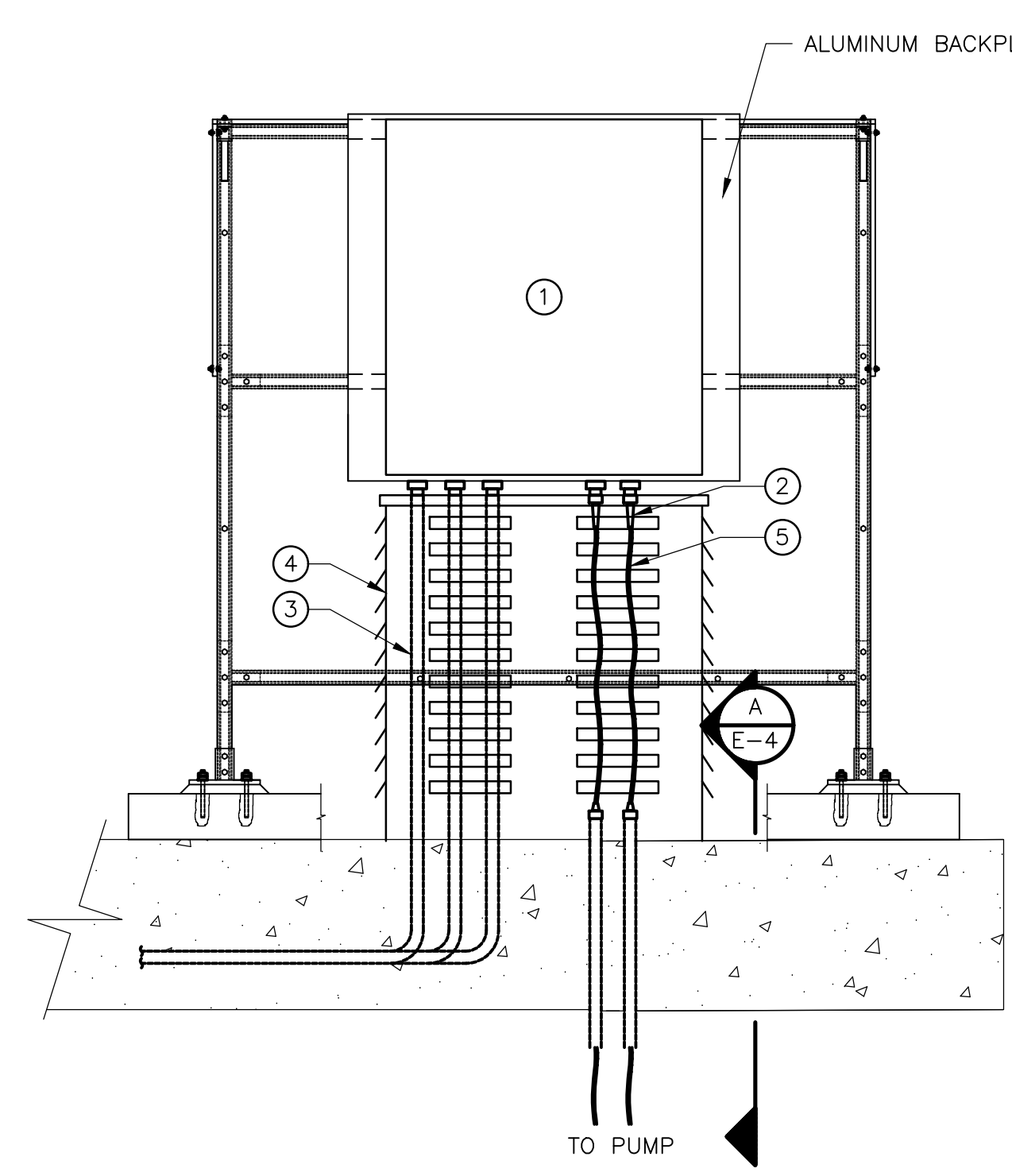


**EQUIPMENT SUPPORT STRUCTURE**  
**DETAIL C**  
 NTS

NOTES:  
 1. ALL MEMBERS SHALL BE ALUMINUM.  
 2. PROVIDE STRUCTURAL CALCULATION FOR EQUIPMENT SUPPORT STRUCTURE DESIGNED BY CONTRACTOR.

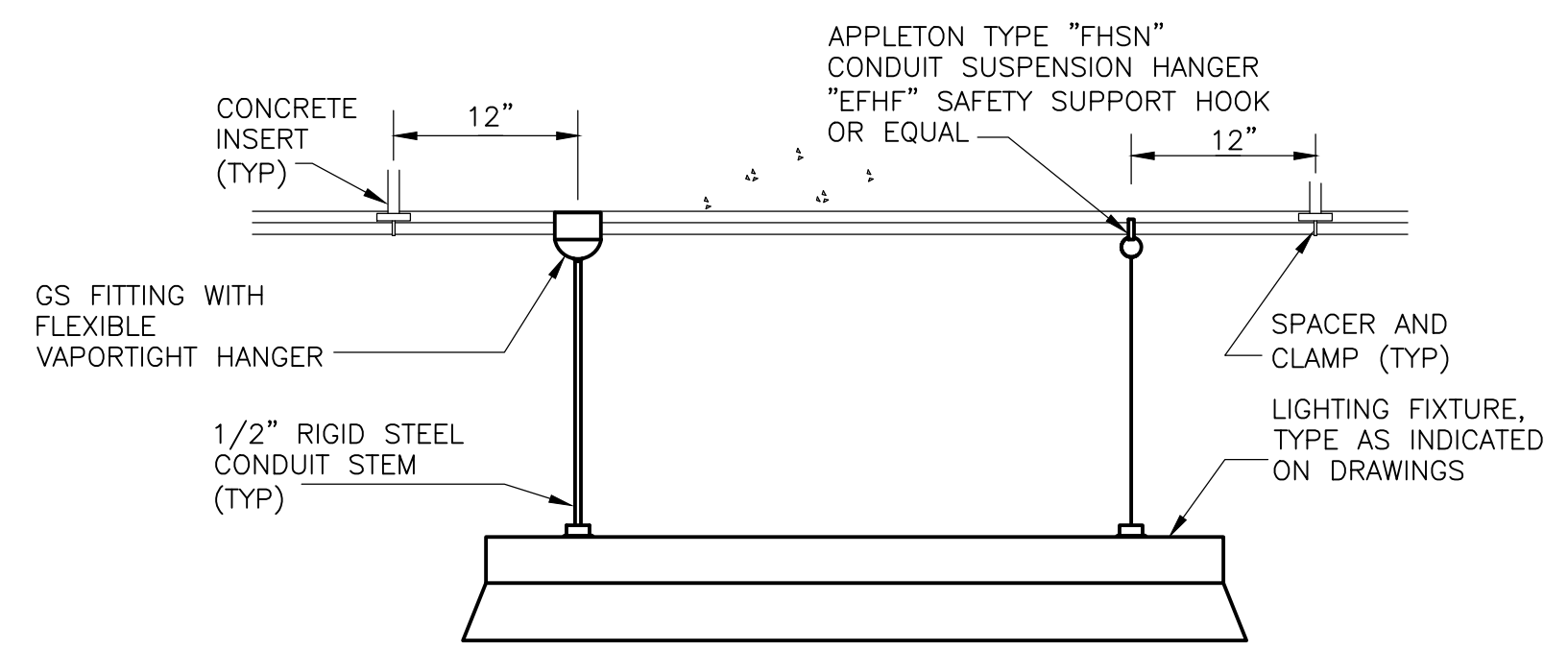


**EQUIPMENT SUPPORT STRUCTURE**  
**DETAIL C**  
 NTS



**KEY NOTES:**  
 ① NEMA 4X STAINLESS STEEL TERMINAL BOX. SIZE TERMINAL BOX PER NEC AS REQUIRED.  
 ② INSTALL CORD SEALING STRAI-RELIEF CABLE CONNECTOR.  
 ③ NO FITTING SHALL BE INSTALLED FROM CONDUIT SEAL TO TERMINAL BOX. NO FITTINGS SHALL BE INSTALLED FROM THE CONDUIT SEAL TO THE SLAB.  
 ④ FLOOR MOUNTED, VENTILATED NEMA 3R-SS BOX. PROVIDE WITH CONTINUOUS HINGED FRONT. BOX SHALL HAVE AN OPEN BOTTTOM.  
 ⑤ CABLE SUPPLIED BY PUMP MANUFACTURER.

**SUBMERSIBLE CABLE APPLICATION**  
**DETAIL D**  
 NTS



**PENDENT MOUNTED LIGHTING FIXTURE**  
**DETAIL E**  
 N.T.S.

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A	5/25/23	JCS	JCS	CONFORMED DRAWINGS

DESIGNED BY:	V. MANJU
DRAWN BY:	V. MANJU
SHEET CHK'D BY:	M. CZACH
CROSS CHK'D BY:	G. PRABHU
APPROVED BY:	J. SAENZ
DATE:	JANUARY 2023

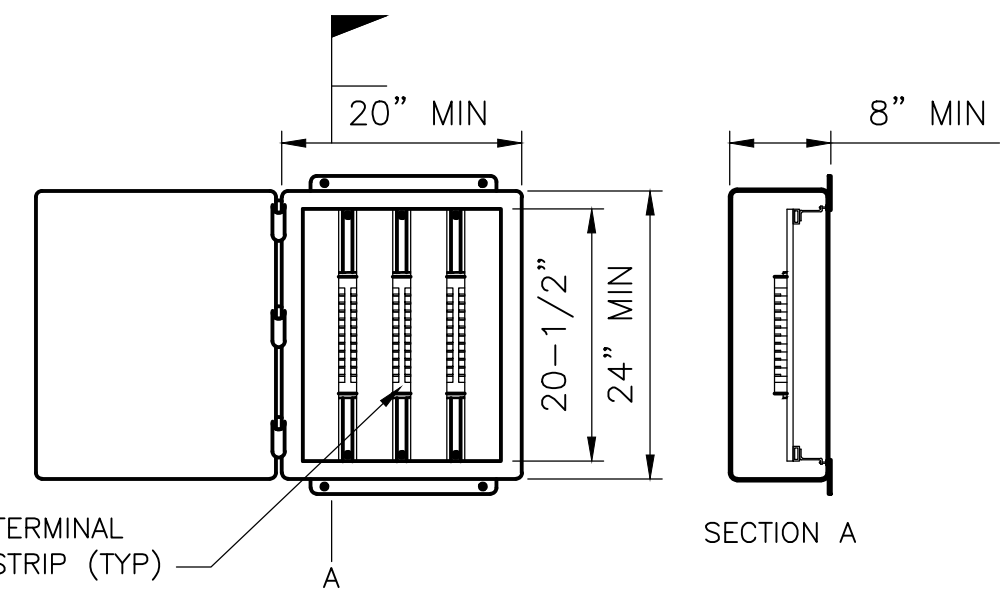
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 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ELECTRICAL STANDARD DETAILS I  
 EZ-1

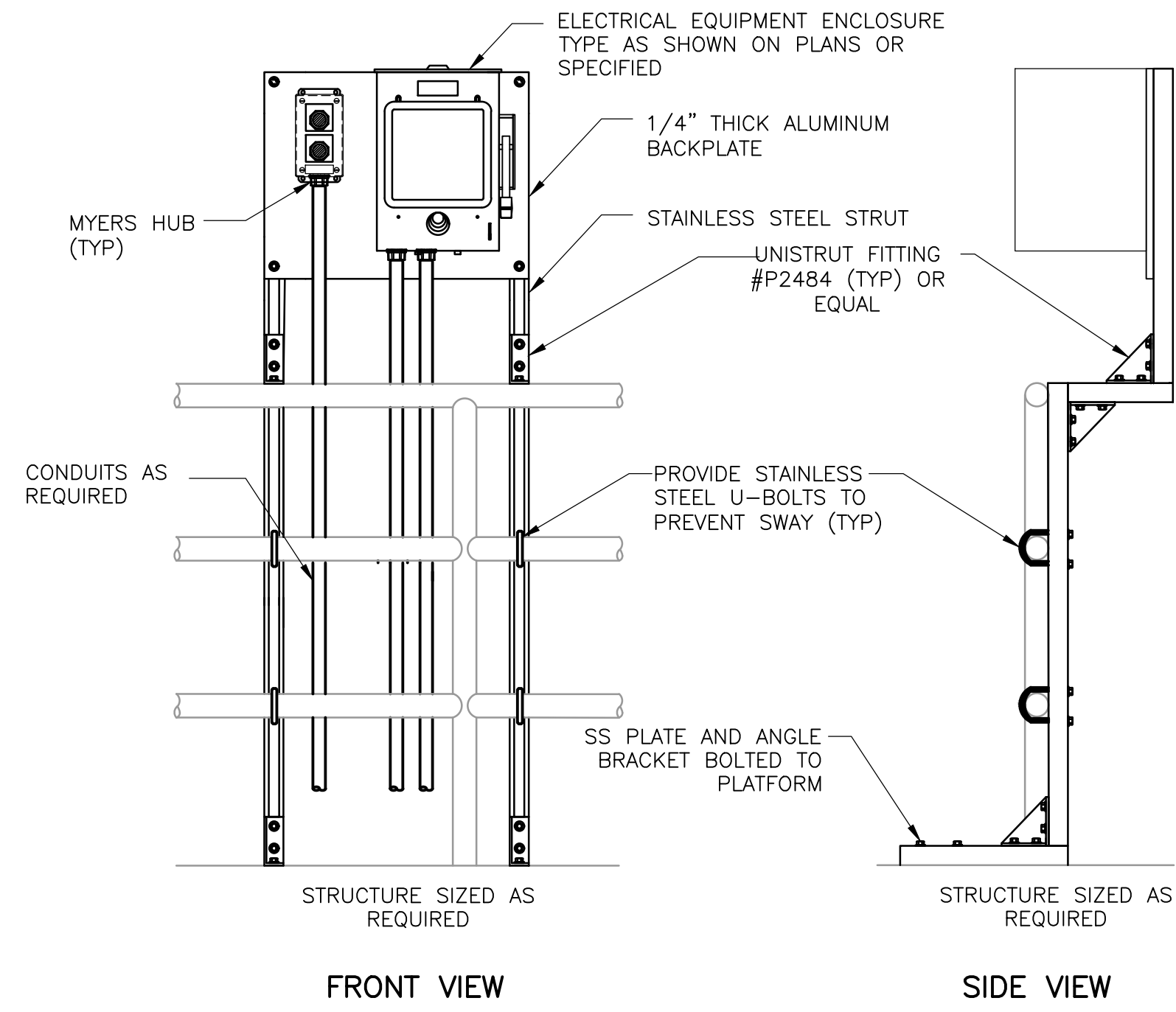
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SHEET NO.	EZ-1



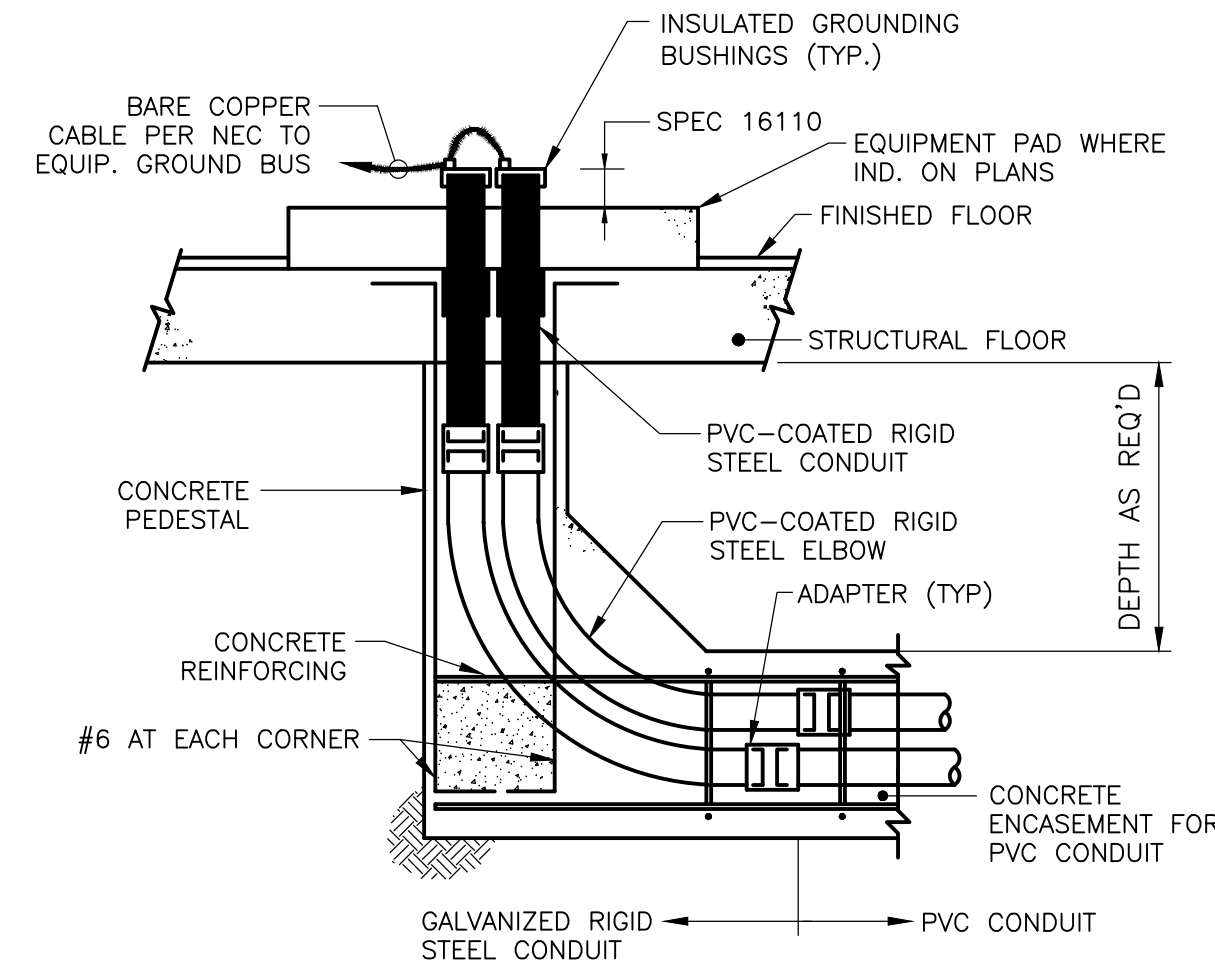


- NOTES:**
1. PROVIDE AND INSTALL NEMA 4XSS ENCLOSURE UNLESS NOTED OTHERWISE (UNO).
  2. PROVIDE AND INSTALL ENOUGH TERMINALS TO SUPPORT DEVICES SHOWN ON CORRESPONDING SHEETS. PROVIDE SPARE TERMINALS PER DIV 16 SPECIFICATIONS.
  3. UNIQUELY LABEL AND TERMINATE ALL CONDUCTORS.
  4. DIMENSIONS GIVEN ARE MINIMUM. SIZE ENCLOSURE PER NEC WHERE APPLICABLE.

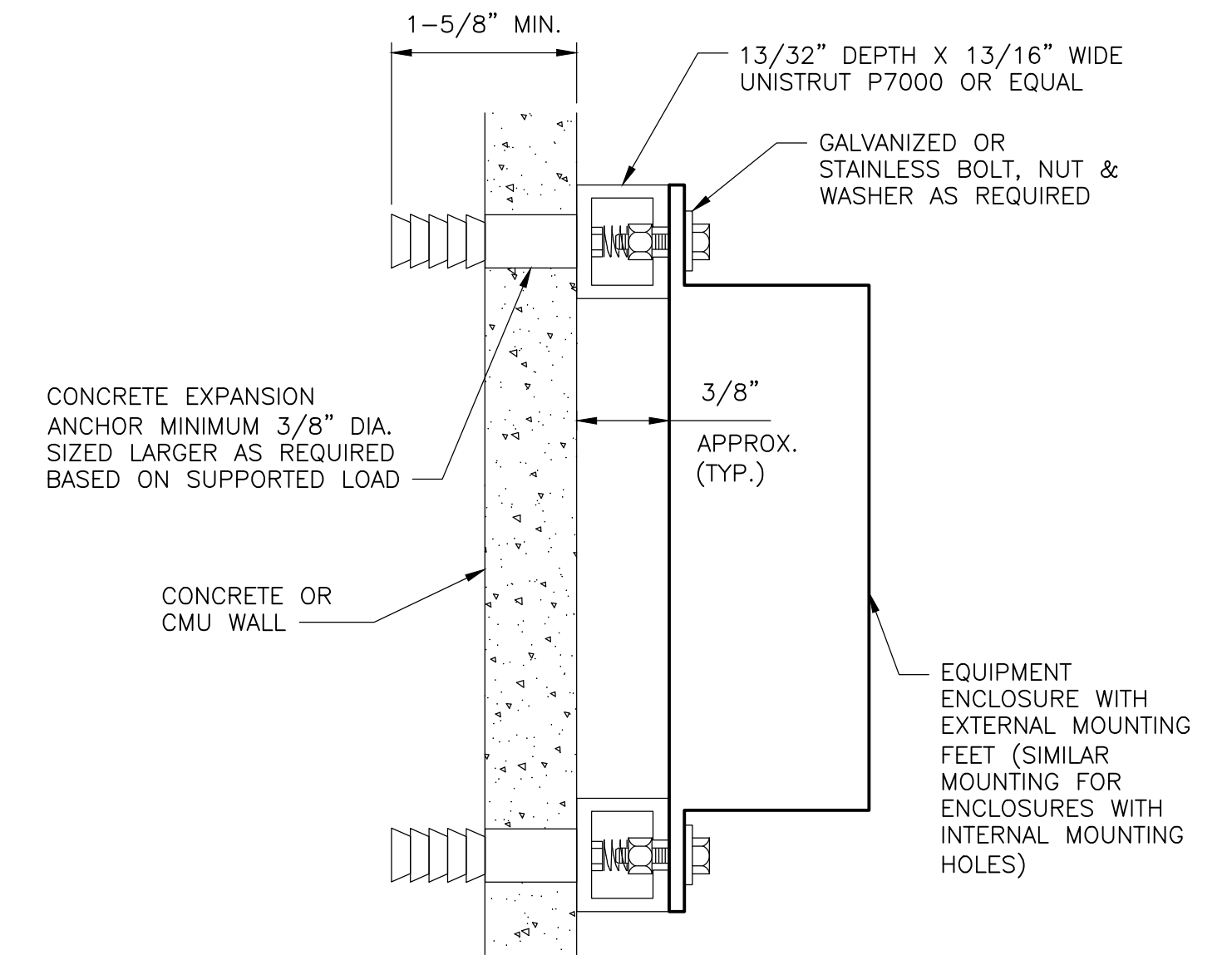
TERMINAL CABINET  
DETAIL  
NTS (A)



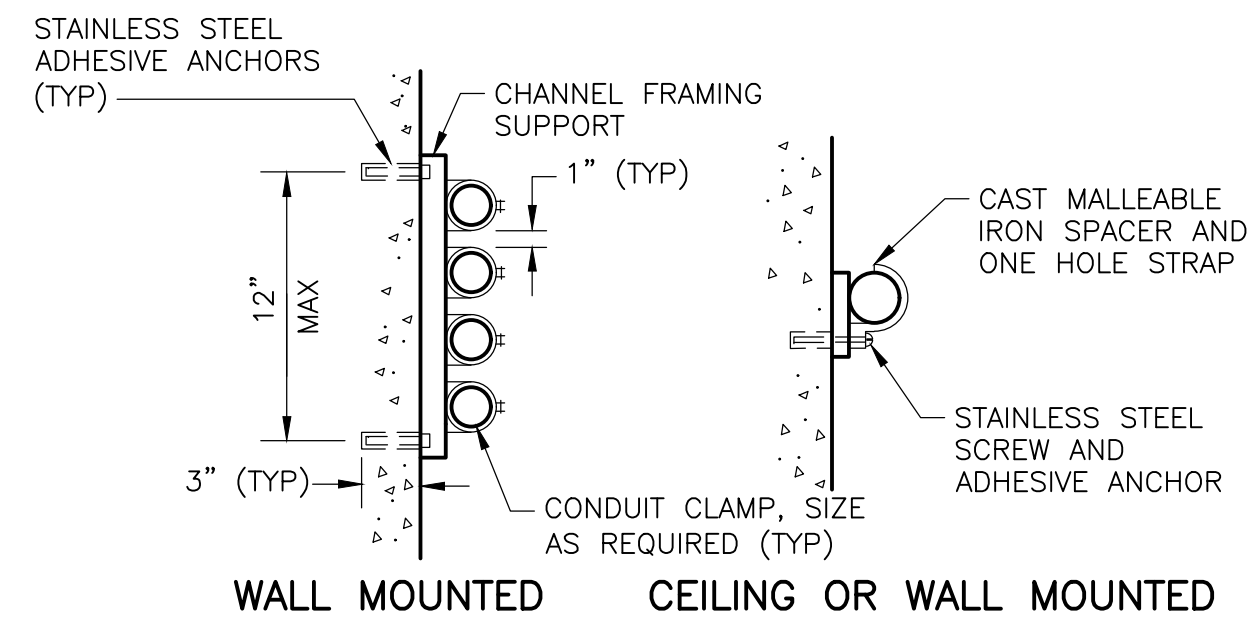
HANDRAIL MOUNTED DEVICE INSTALLATION  
DETAIL  
NTS (B)



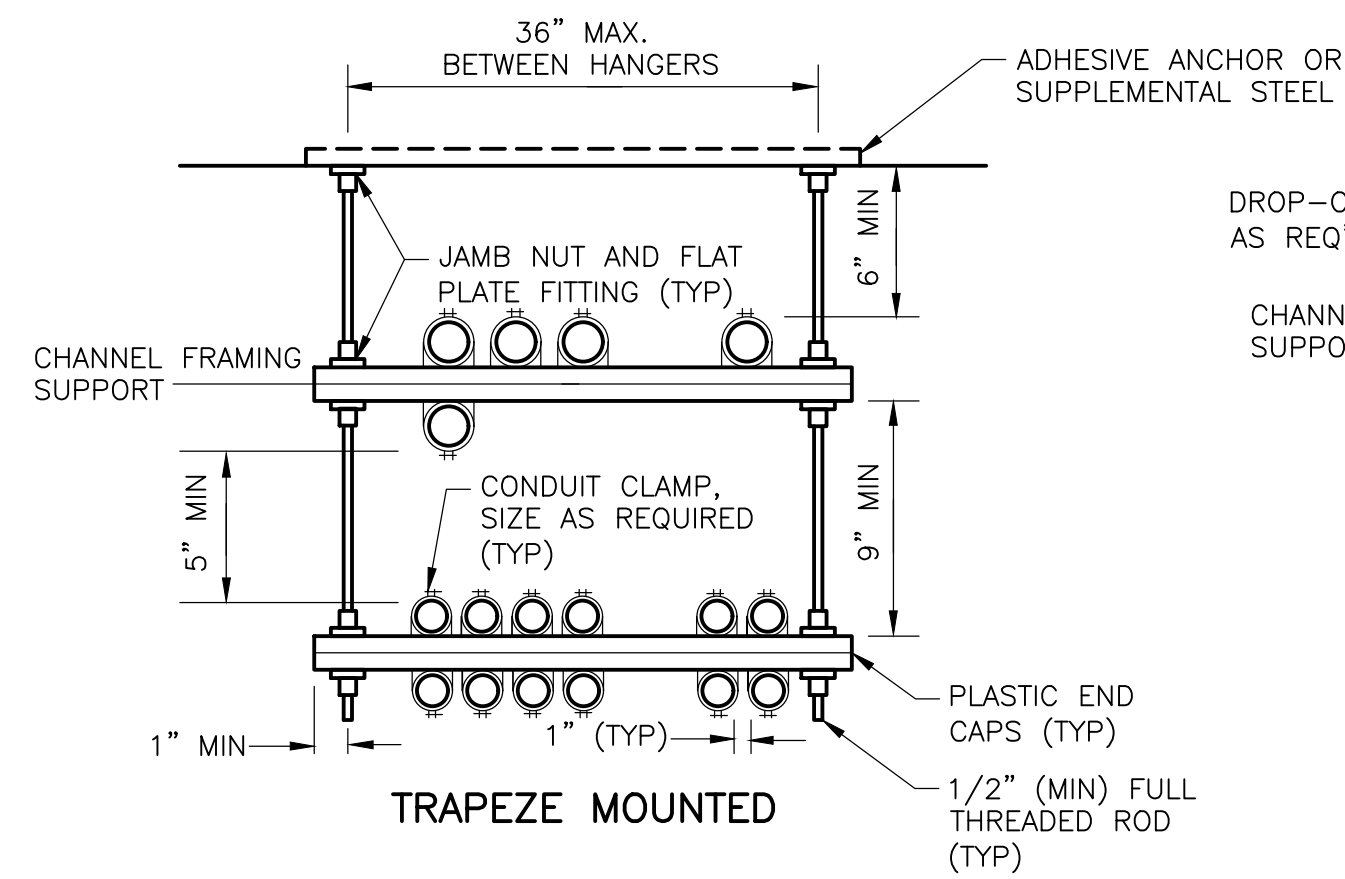
RISER FROM NON-METALLIC DUCT  
DETAIL  
NTS (C)



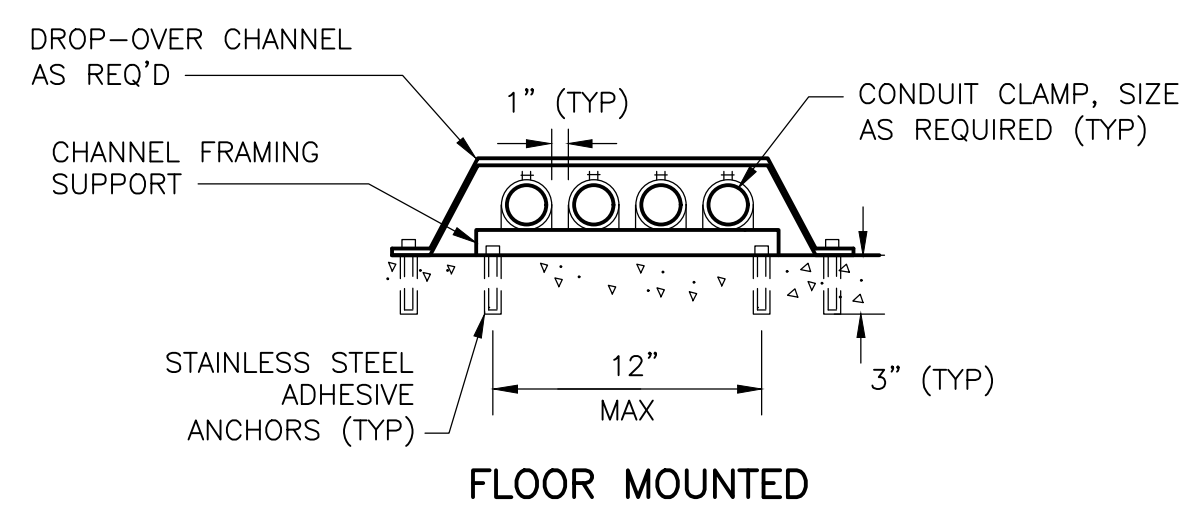
EQUIPMENT ENCLOSURE MOUNTED ON CONCRETE WALL  
DETAIL  
NTS (D)



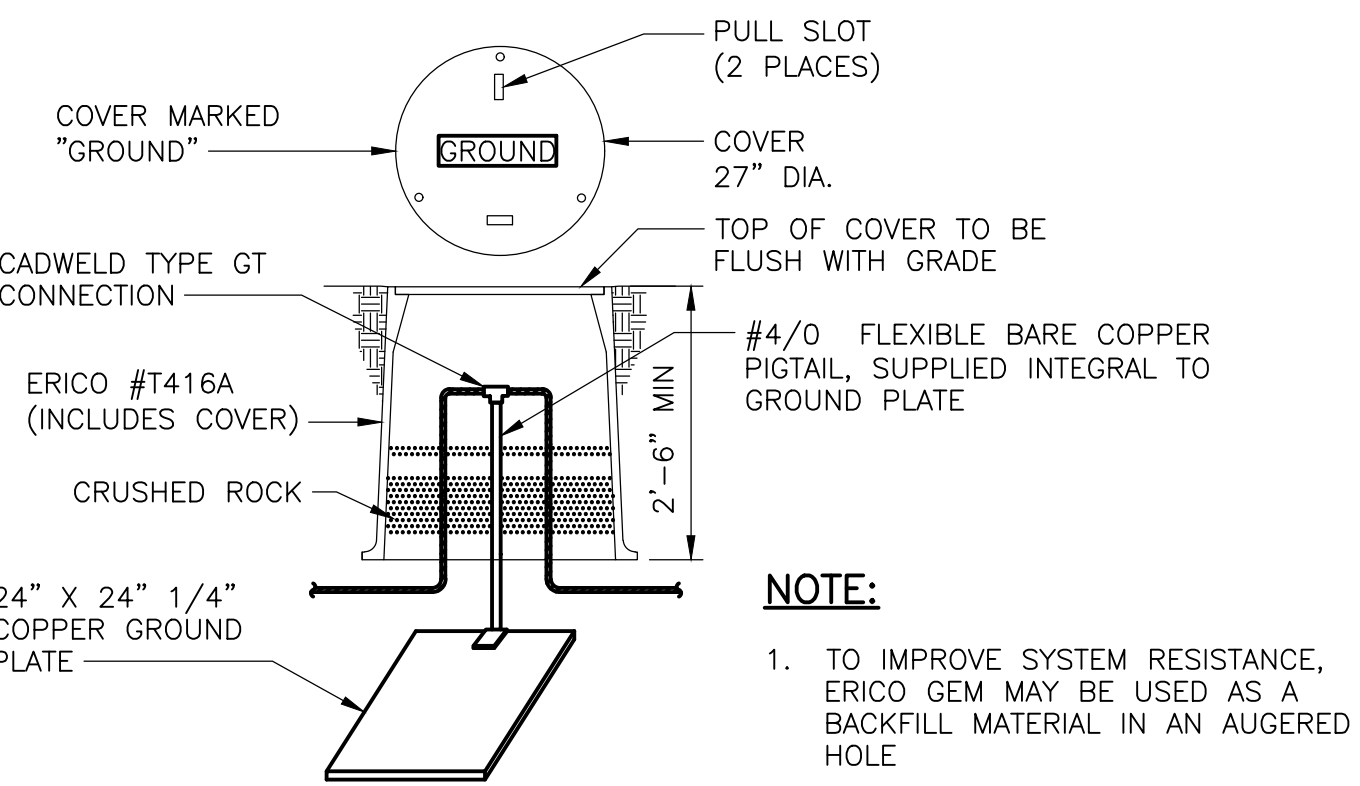
WALL MOUNTED  
CEILING OR WALL MOUNTED



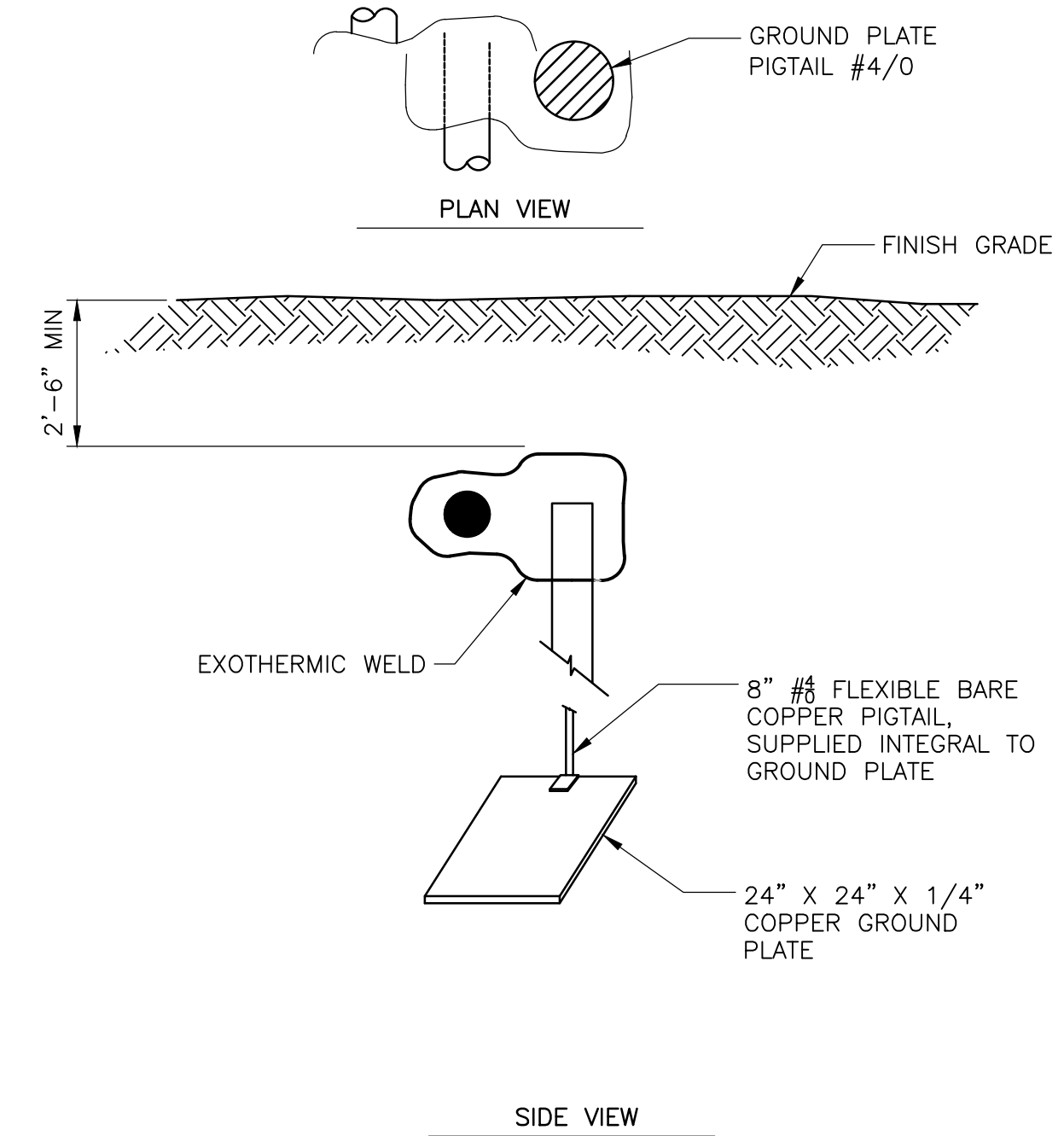
TRAPEZE MOUNTED  
CONDUIT MOUNTING  
DETAIL  
NTS (E)



FLOOR MOUNTED



GROUND PLATE TEST WELL  
DETAIL  
NTS (F)



GROUND GRID CONNECTION TO GROUND ROD  
DETAIL  
NTS (G)

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DRAWN BY:	V. MANJU
SHEET CHK'D BY:	M. CZACH
CROSS CHK'D BY:	G. PRABHU
APPROVED BY:	J. SAENZ
DATE:	JANUARY 2023

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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

ELECTRICAL STANDARD DETAILS II

PROJECT NO.	2048-264953
FILE NAME:	EZ02NFDT.DWG
SHEET NO.	EZ-2



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**NOTES:**

- All electric primary conduit shall be installed below all other utilities and private underground lines whenever possible. All electric secondary conduit shall be installed under water lines whenever possible. Any exception to this specification must have written approval from the City.
- Electric primary conduit shall be installed with a minimum of 2' vertical and 2' horizontal clearance from water mains, wastewater, storm water, and private underground lines. Any exception to this specification must have written approval from the City.
- Electric primary conduit shall be installed with a minimum of 2' vertical and 2' horizontal clearance from natural gas lines. Any exception to this specification must have written approval from the City.
- Electric primary conduit shall be installed with a minimum of 1' vertical clearance from communications lines. Any exception to this specification must have written approval from the City.
- Electric primary conduit when installed above water mains and pressurized wastewater lines, with 2' of vertical clearance or greater, shall be capped with 6" of concrete when crossing these lines. The concrete cap shall be installed 4" above electric conduit(s), 5" each side of the outside diameter of the water main or pressurized wastewater lines.
- Electric primary conduit when installed below water mains and pressurized wastewater lines with 2' vertical clearance or greater, does not require a concrete cap when crossing these lines.
- Electric primary conduit installed with less than 2' of vertical and 2' of horizontal clearance from water mains, pressurized wastewater and private underground lines, shall be encased in 6" of concrete. Concrete encasement to be installed around the conduit until a minimum of 2' of vertical and 2' of horizontal clearance has been met. Concrete encasements will begin 5' before and end 5' from the end where conduit is installed less than 2' vertical and 2' horizontal from the above lines. This must have City approval before installation of conduit.
- All concrete shall have red dye or coloring added to the top surface of the concrete.
- Conduit shall be electrical grade, gray schedule #40 PVC conduit. Conduit shall meet the NEC and ASTM standards for installation of underground electrical conduit.
- All conduit installations shall be owned by the City and shall be inspected by the City before backfill of trench.
- Where conduit terminates in a pad, install bell end on each conduit.
- Where multiple rows of conduit are required, duct spacers are to be installed every 5" with 3" of separation between conduits and trench wall. Then sand backfill is to be installed around conduit.
- Primary conduit shall have 12" of sand bedding prior to placing 6" wide "CAUTION" tape. Final backfilling can then be placed.
- 2000 lbs Mink Tape with sequential footage markings, or equivalent, shall be run through all conduit and fed off on both ends of conduit.
- All conduit for future use shall be either stubbed up and capped, or dead-ended underground with a cap and an electric marker.
- Secondary service conduit to be stubbed out 5' outside of the utility easement into prospective lots. End of conduit to be staked with a piece of PVC conduit 30" above ground line.
- Long sweep elbows shall be used at all bends in Primary conduit runs. 2" and 3" conduit shall require a minimum bend radius of 36". 4" conduit shall require a minimum bend radius of 48". 6" conduit shall require a minimum bend radius of 60".
- Use galvanized steel conduit elbows on all 90 degree bends.
- Water services and taps shall be placed above electric conduit with a minimum separation of 12". Water services and taps may be placed below electric conduit only with City written approval.
- Where electric conduit crosses areas of vehicular traffic (subject to but not limited to roadways, driveways, parking lots, etc.), the trench shall be backfilled with 3/4" washed gravel and then backfilled with flowable backfill in accordance with City specifications. All trenches outside of roadways shall be backfilled and compacted to 95% standard density in accordance with City specifications. Any exception to this rule must have written approval from the city.
- Where electric conduit crosses roadways, the minimum depth of cover is 30" from the top of proposed finished roadway elevation.
- Use 24" sweeping elbows on all Secondary conduit runs.

The Architect/Engineer assumes responsibility for appropriate use of this standard.

References:	Specification letter codes
GUM2 Conduit Specifications	GUR2-R or S (see)
GUR3 3/4" washed gravel or approved equal	Example: GUR3-R (42" x 12") is a trench in rock at 42" deep x 12" wide
	ADOPTED 01-06-2022

3-PHASE TRANSFORMER SIZE (kVA)	DIMENSIONS IN INCHES							REINFORCING BARS				NUMBER OF SECONDARY SERVICE CONDUITS	
	A	B	C	D	E	F	G	MK1	MK2	MK3	MK4		
75, 112.5, 150, 225, 300, 500	84	84	52	18	6	17	18	9.84	4.84	4.84	7.84	7.84	6
750, 1000	120	120	36	24	8	30	18	11.84	4.84	4.84	7.84	7.84	12
1500, 2000, 2500	120	120	36	24	12	30	24	10.84	4.84	4.84	7.84	7.84	16

**LEGEND**

- (M) MAIN CONDUIT
- (S) SERVICE CONDUIT

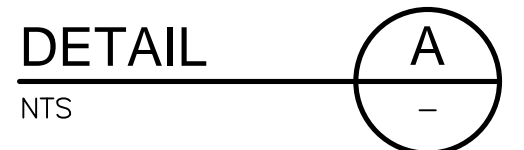
**Notes:**

- Concrete testing, 4000 lbs. per sq. inch, 3% ± 1.5% entrained air, 3/4" maximum size aggregate.
- Reinforcing steel, ASTM-A615 grade 60, place approximately 6" to 5" on-center each way and securely tied together.
- Minimum concrete cover over reinforcing steel 2", unless noted otherwise.
- Wood float finish, leaving no depressions.
- Fill conduit window with 5" of select base backfill and 1" of concrete.
- Ground Rods are to be bonded together.
- Use flowable fill for backfill, not native soil, under pad.
- Number of secondary service conduits shown in table above shall be installed. Spare conduits not installed to meter shall be stubbed up and capped five feet outside of pad.
- Ground rods shall extend 6" above the concrete pad.
- Sub primary conduits out 10' from the edge of pad in the direction of feed.
- Clearance requirements for all COG pad-mounted equipment and pull-boxes are as follows: Ten feet at the doors, and five feet on all other sides (Note: Pad-mounted equipment is classified as, but not limited to, transformers, junction boxes, and switchgear).
- See Manhole, Pad, and Pull Box grounding detail specification for additional grounding information.

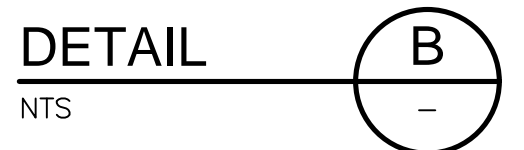
**Notes:**

- Install guard post where protection from damage due to vehicular traffic is needed.
- Distance between posts should not exceed 4 feet. Add additional where necessary to meet this condition.
- Increase height to 48" and depth to 36" in truck loading areas, and increase size to 6" galvanized pipe.
- Verify location of post in front of transformer to allow for door opening. Bollard needs to be removable. Install sleeves in concrete to allow for this standard.

ELECTRIC CONDUIT INSTALLATION



THREE-PHASE CONCRETE PAD (PAD-MOUNTED TRANSFORMER) INSTALLATION



4" GALVANIZED STEEL PROTECTION BOLLARD



DESIGNED BY:	V. MANJU
DRAWN BY:	T. AMOGHA
SHEET CHK'D BY:	M. CZACH
CROSS CHK'D BY:	G. PRABHU
APPROVED BY:	J. SAENZ
DATE:	JANUARY 2023

**CDM Smith**

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CITY OF GEORGETOWN, TEXAS  
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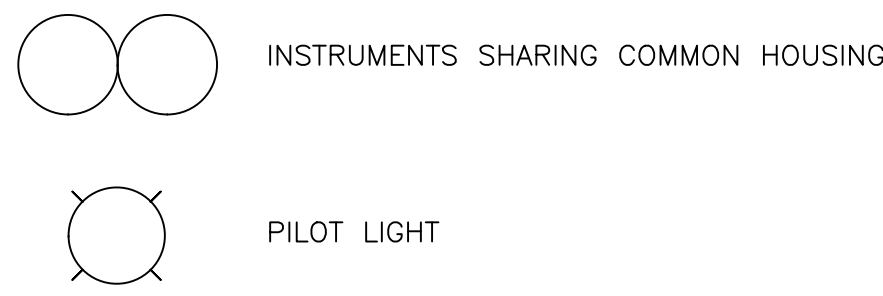
ELECTRICAL STANDARD DETAILS III  
 SHEET NO. EZ-3

PROJECT NO. 2048-264953  
 FILE NAME: EZ03NFDT.DWG  
 SHEET NO. EZ-3



**GENERAL INSTRUMENT OR FUNCTION SYMBOLS**

SHARED DISPLAY/ SHARED CONTROL				
PRIMARY CHOICE	SECONDARY CHOICE	COMPUTER SOFTWARE	DISCRETE	LOCATION AND ACCESSIBILITY
				FIELD MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
				PRIMARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
				PRIMARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE
				SECONDARY CONTROL PANEL MOUNTED AND NORMALLY OPERATOR ACCESSIBLE
				SECONDARY CONTROL PANEL MOUNTED AND NOT NORMALLY OPERATOR ACCESSIBLE

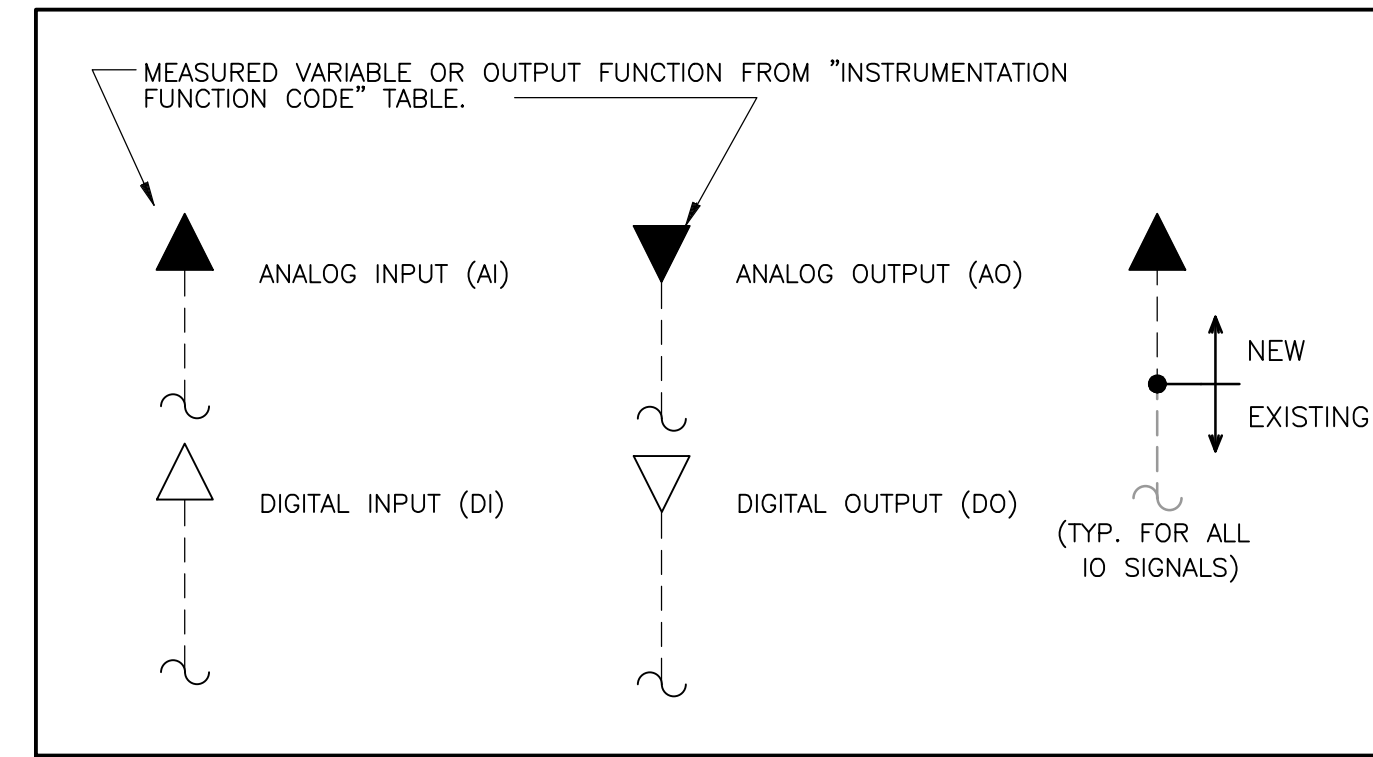


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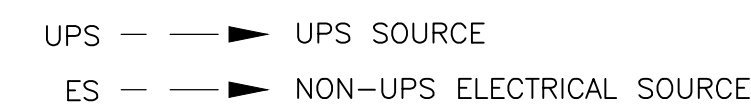
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MEASURED/INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A ANALYSIS		ALARM		
B BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C USER'S CHOICE			CONTROL	CLOSED
D USER'S CHOICE	DIFFERENCE, DIFFERENTIAL			DEVIATION
E VOLTAGE		SENSOR, PRIMARY ELEMENT		
F FLOW, FLOW RATE	RATIO			
G USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE		
H HAND				HIGH
I CURRENT		INDICATE		
J POWER		SCAN		
K TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L LEVEL		LIGHT		LOW
M MOISTURE		MOMENTARY		MIDDLE, INTERMEDIATE
N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P PRESSURE		POINT (TEST CONNECTION)		
Q QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R RADIATION		RECORD		RUN
S SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T TEMPERATURE			TRANSMIT	
U MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V VIBRATION, MECHANICAL, ANALYSIS			VALVE, DAMPER, LOUVER	
W WEIGHT, FORCE		WELL, PROBE		
X UNCLASSIFIED (1)	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED (1)	UNCLASSIFIED (1)	UNCLASSIFIED (1)
Y EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENT SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED, FINAL CONTROL ELEMENT	

TABLE NOTES:  
(1) WHEN USED SYMBOL OR SIGNAL LINE IS ANNOTATED.

**I/O SIGNALS**



**ELECTRICAL / AIR SOURCES**



**GENERAL NOTES**

- THIS LEGEND APPLIES TO P&IDS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
- IN GENERAL THIS LEGEND SHEET AND THE P&IDS ARE BASED ON THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) STANDARDS FOR PRACTICES FOR INSTRUMENTATION. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMMODATE PROJECT REQUIREMENTS.
- SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE P&IDS.
- SEE ELECTRICAL AND MECHANICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS.
- LIGHTER WEIGHT LINES, SHOWN AS \_\_\_\_\_, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE EXISTING. WEIGHTED LINES, SHOWN AS \_\_\_\_\_ OR HEAVIER \_\_\_\_\_, INDICATE EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE NEW. DASHED WEIGHTED LINES, SHOWN AS \_\_\_\_\_, INDICATED EQUIPMENT, INSTRUMENTS OR PIPING THAT ARE GROUPED AS A PACKAGE.

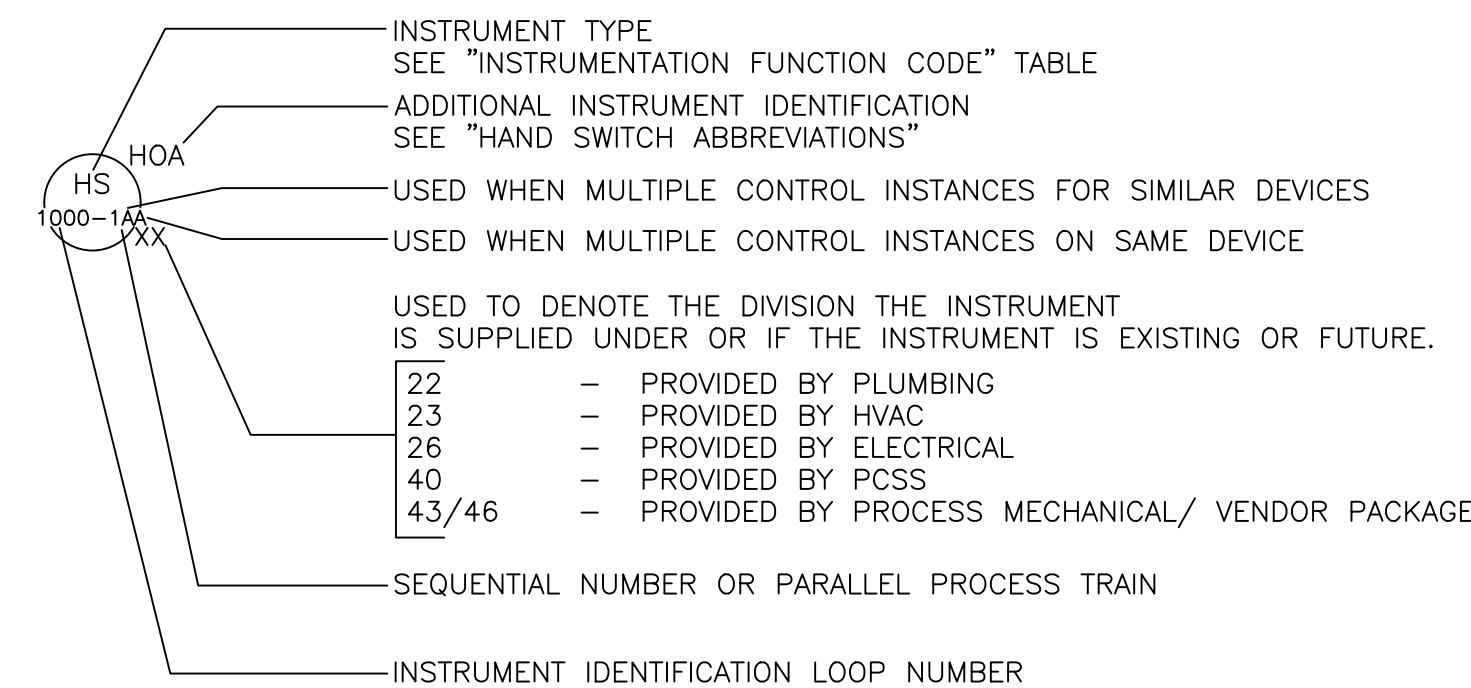
**PIPE SERVICE IDENTIFICATION**

FOR PIPE SERVICE IDENTIFICATION REFER GENERAL SHEETS.

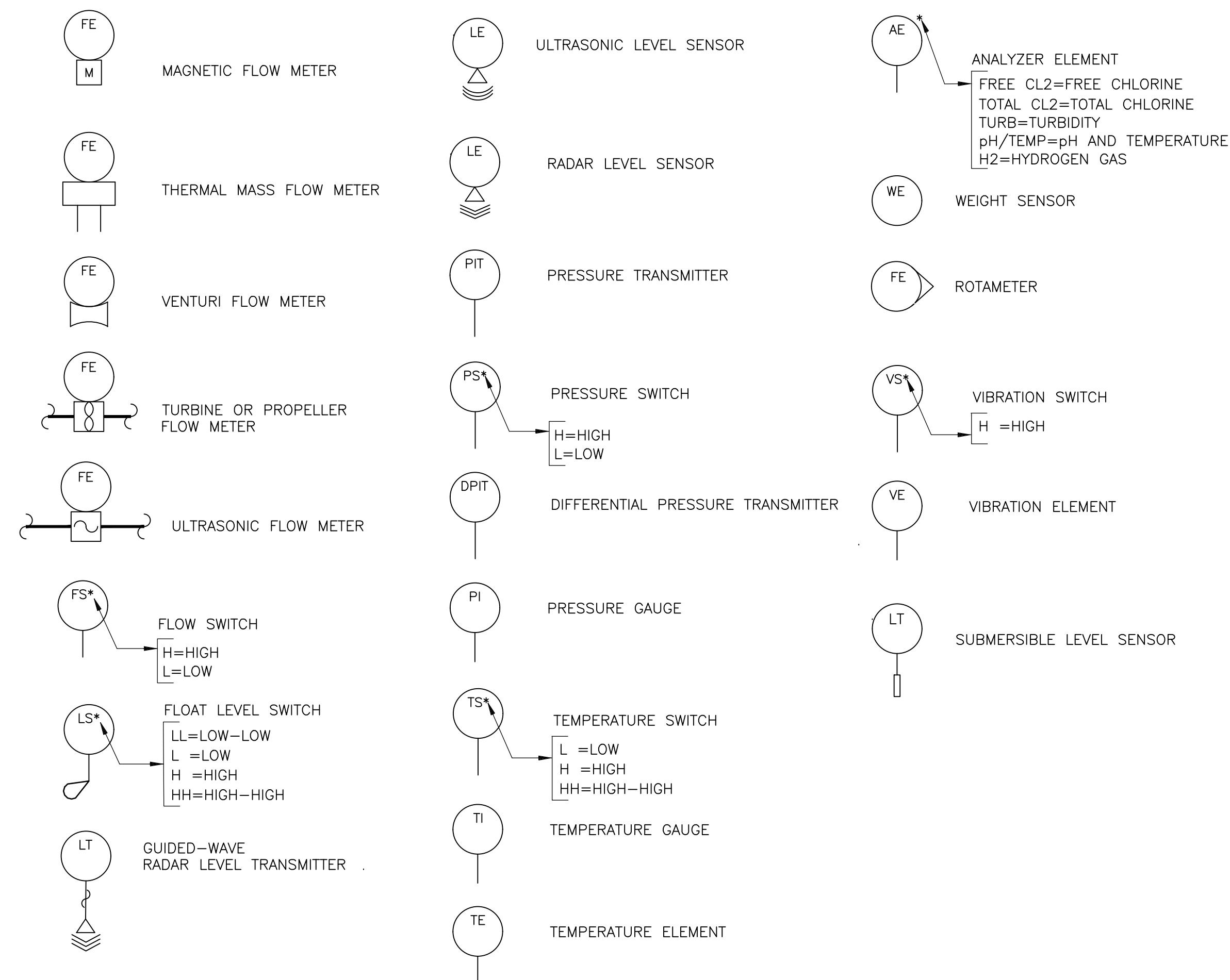
**PIPE SPECIFICATION IDENTIFICATION**

FOR PIPE SPECIFICATION IDENTIFICATION REFER GENERAL SHEETS.

**TYPICAL TAG NUMBERS & DESIGNATION**



**PRIMARY ELEMENTS**



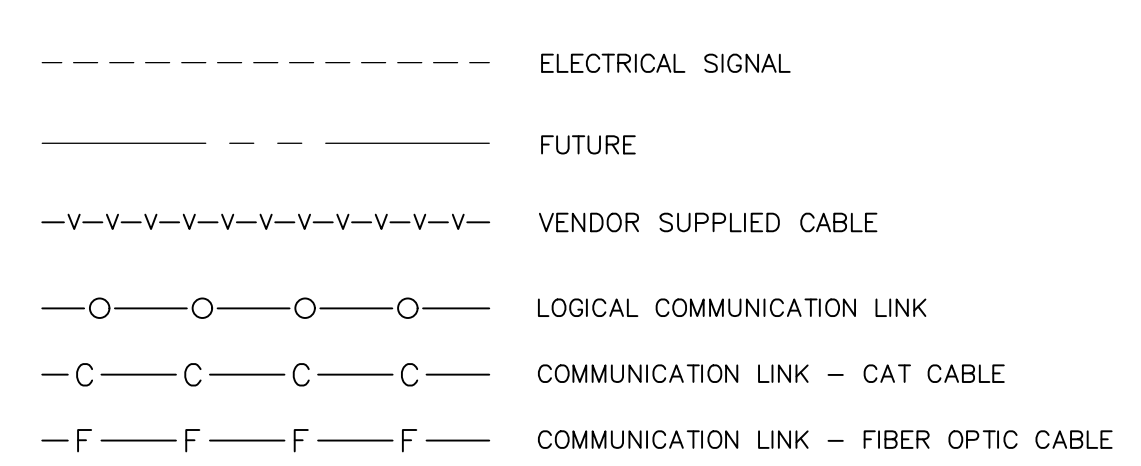
**GENERAL ABBREVIATIONS**

- AI ANALOG INPUT
- AO ANALOG OUTPUT
- DI DIGITAL INPUT
- DO DIGITAL OUTPUT
- ELEC ELECTRICAL BUILDING
- ETM ELAPSED TIME METER
- FOC FIBER OPTIC CABLE
- FOPP FIBER OPTIC PATCH PANEL
- FRW FIREWALL
- HIM HUMAN INTERFACE MODULE
- HMI HUMAN MACHINE INTERFACE
- LCP LOCAL CONTROL PANEL
- LCS LOCAL CONTROL STATION
- MC MEDIA CONVERTER
- MCC MOTOR CONTROL CENTER
- MES MANAGED ETHERNET SWITCH
- MM MULTIMODE
- MPR MOTOR PROTECTION RELAY
- NC NORMALLY CLOSED
- NO NORMALLY OPEN
- OIT OPERATOR INTERFACE TERMINAL
- PLC PROGRAMMABLE LOGIC CONTROLLER
- PRN PRINTER
- PS POWER SUPPLY
- RIO REMOTE INPUT/OUTPUT
- SECEQR SECURITY EQUIPMENT RACK
- SM SINGLE MODE
- SPD SURGE PROTECTION DEVICE
- SRV SERVER
- SRVCAB SERVER CABINET
- UPS UNINTERRUPTIBLE POWER SUPPLY
- VFD VARIABLE FREQUENCY DRIVE
- WAP WIRELESS ACCESS POINT
- WS WORKSTATION

**HAND SWITCH ABBREVIATIONS**

- E-STOP = EMERGENCY STOP
- HOA = HAND/OFF/AUTO
- LOR = LOCAL/OFF/REMOTE
- LR = LOCAL/REMOTE
- OC = OPEN/CLOSE
- OSA = OPEN/STOP/AUTO
- OSC = OPEN/STOP/CLOSE
- SS = START/STOP
- SRTC = SPRING RETURN TO CENTER

**INSTRUMENT LINE SYMBOLS**



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REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

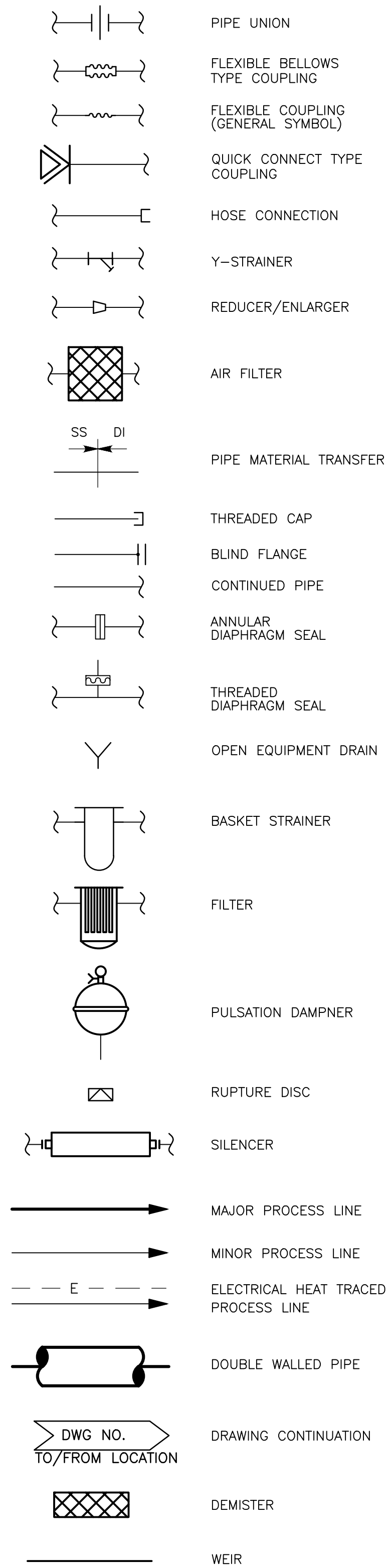
**INSTRUMENTATION LEGEND I**

PROJECT NO.	2048-264953
FILE NAME:	I-1.DWG
SHEET NO.	I-1

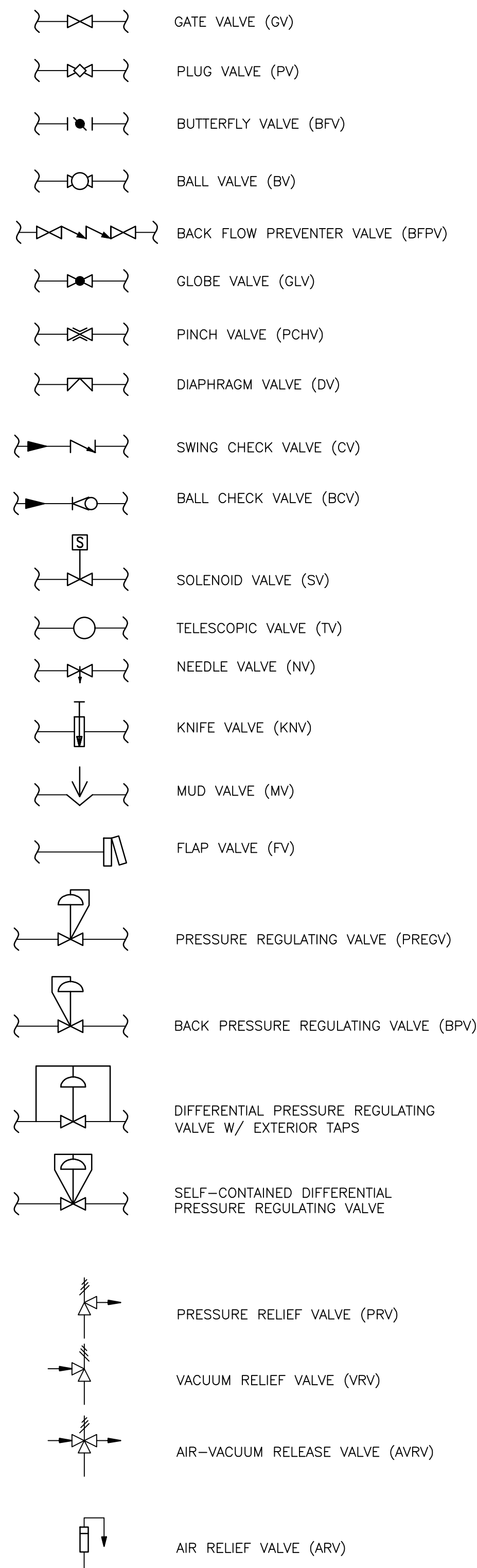


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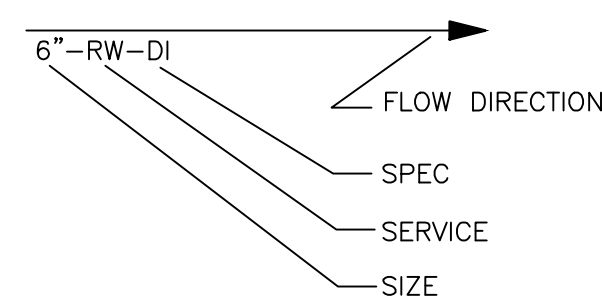
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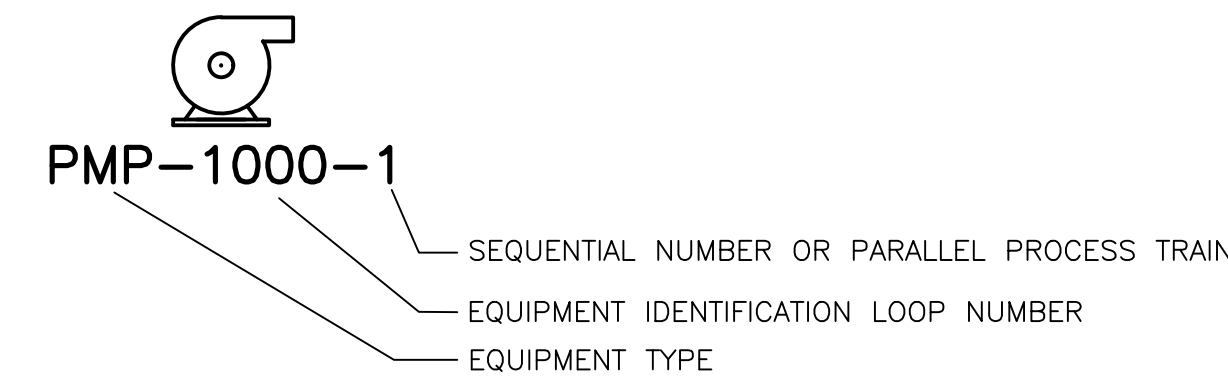
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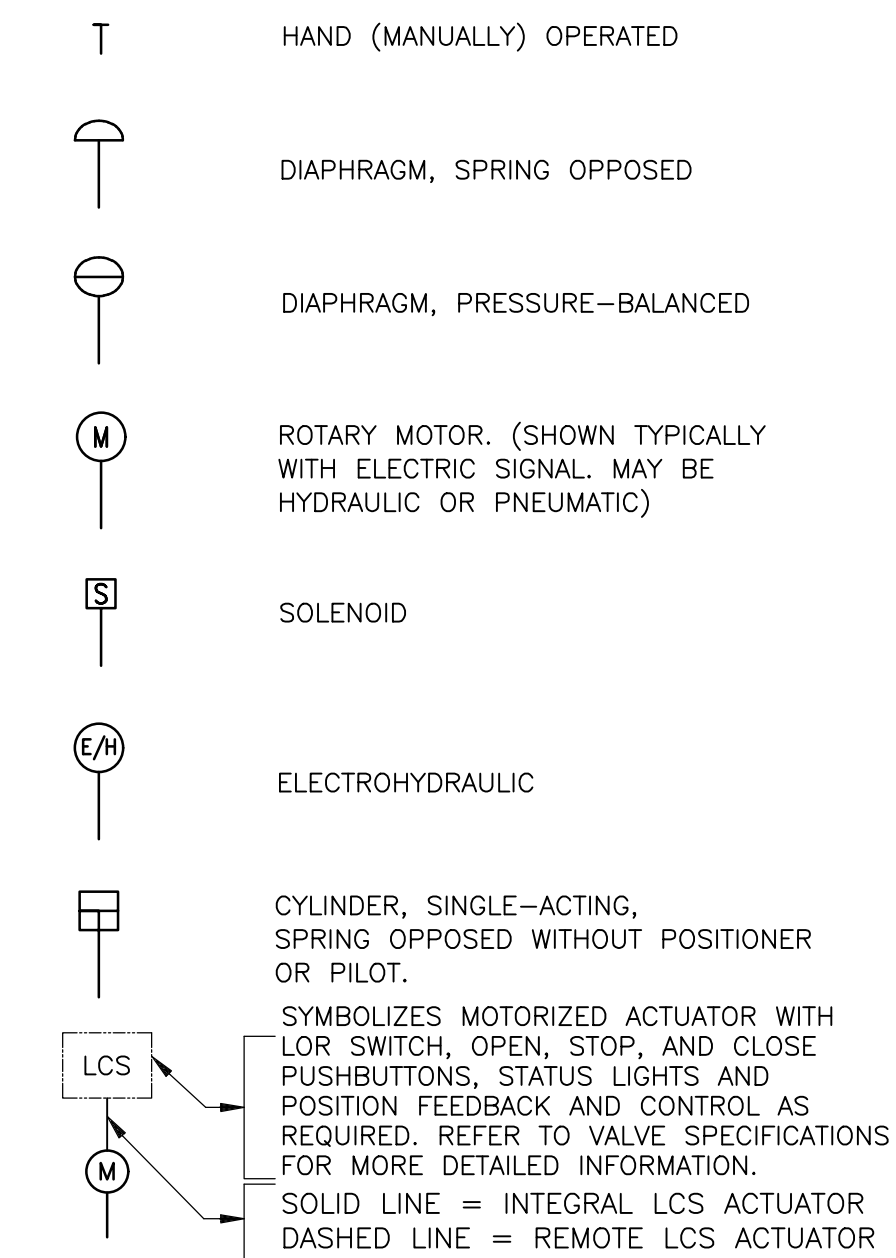
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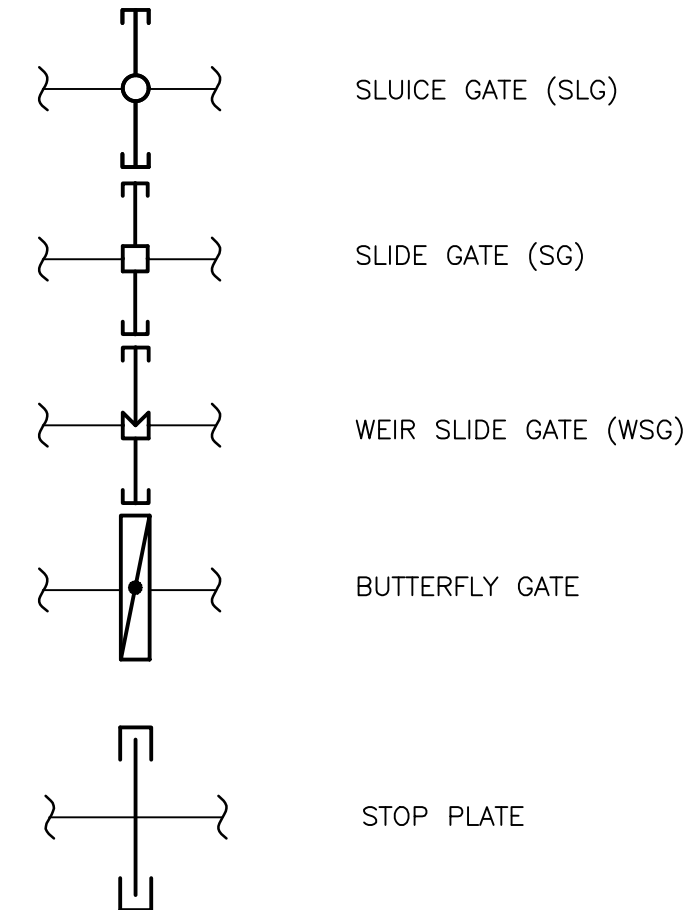
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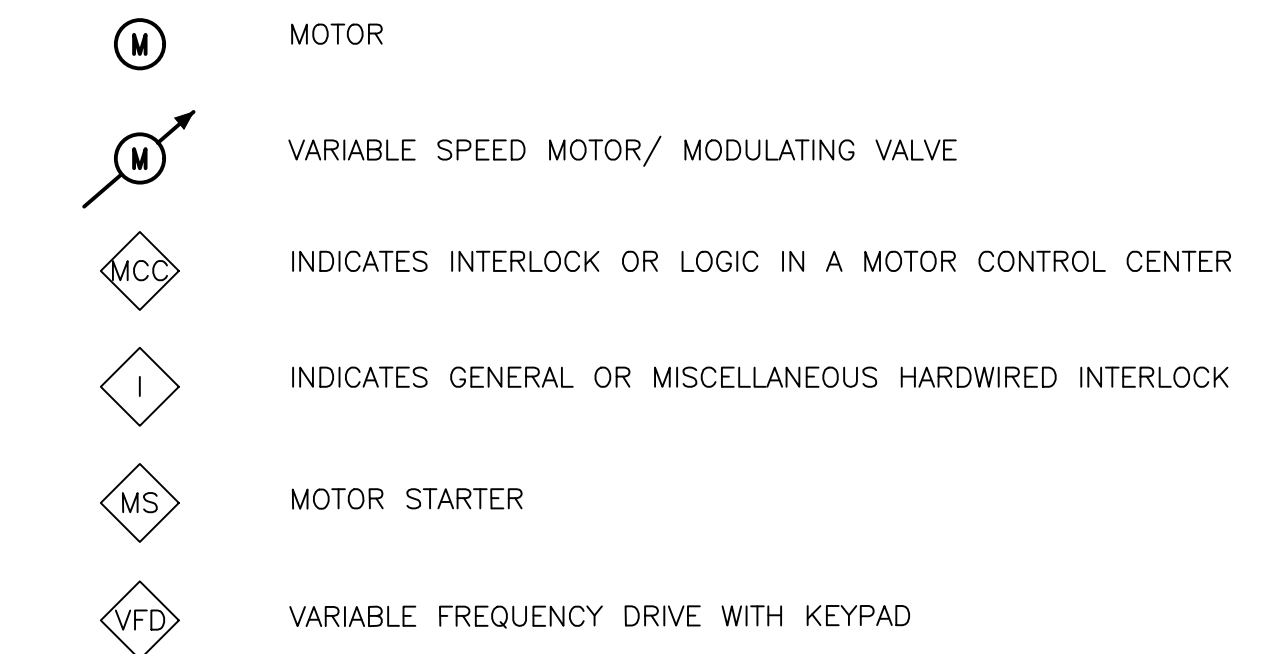
### VALVE ACTUATORS



### GATE SYMBOLS

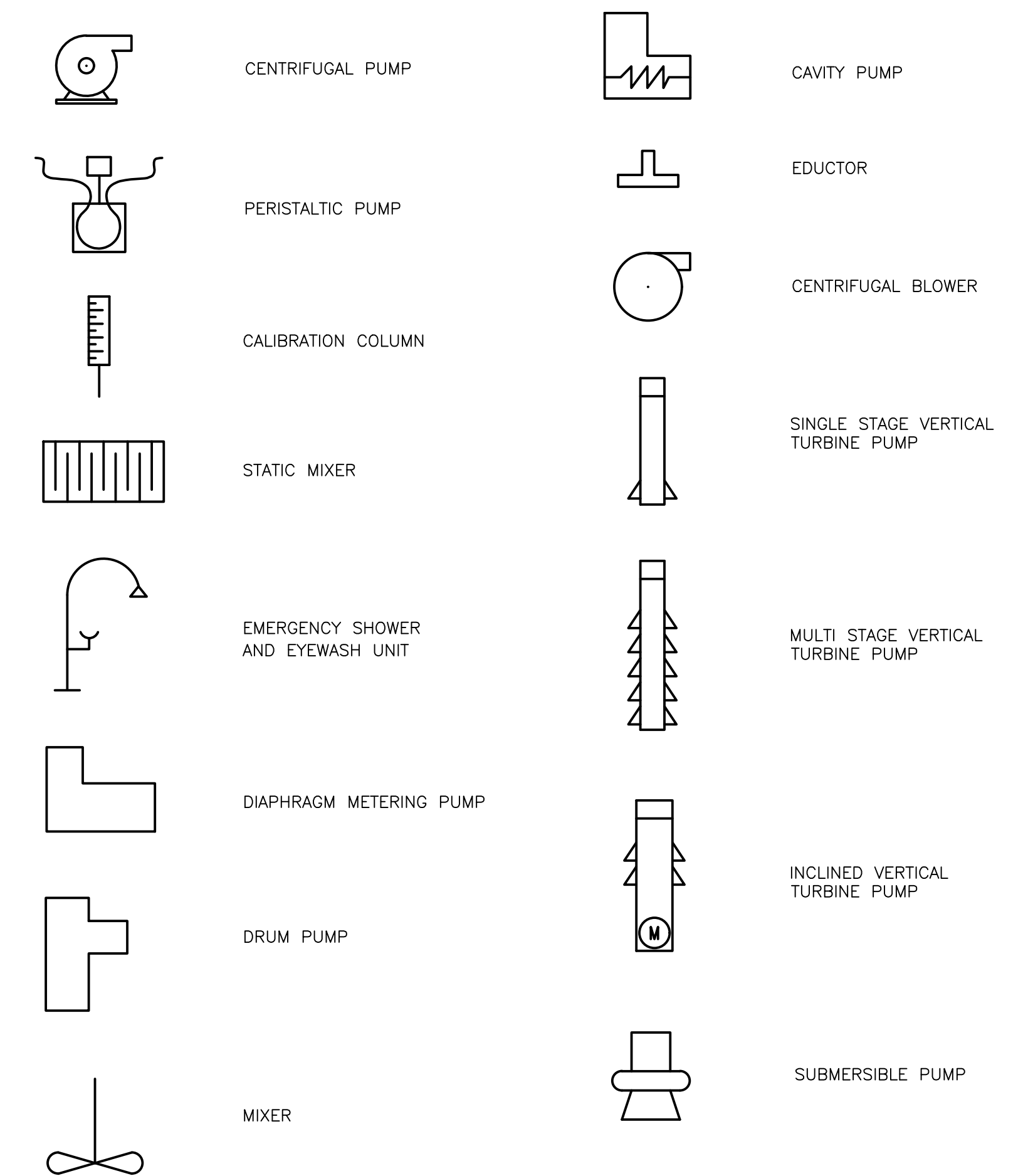


### MISCELLANEOUS SYMBOLS



### PROCESS EQUIPMENT SYMBOLS

PARTIAL LIST  
ADDITIONAL SYMBOLS MAY BE  
SHOWN ON THE FLOW DIAGRAMS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY:	M. CLARK
DRAWN BY:	A. MAXWELL
SHEET CHK'D BY:	S. RAJESH
CROSS CHK'D BY:	A. DOODY
APPROVED BY:	M. CLARK
DATE:	JANUARY 2023



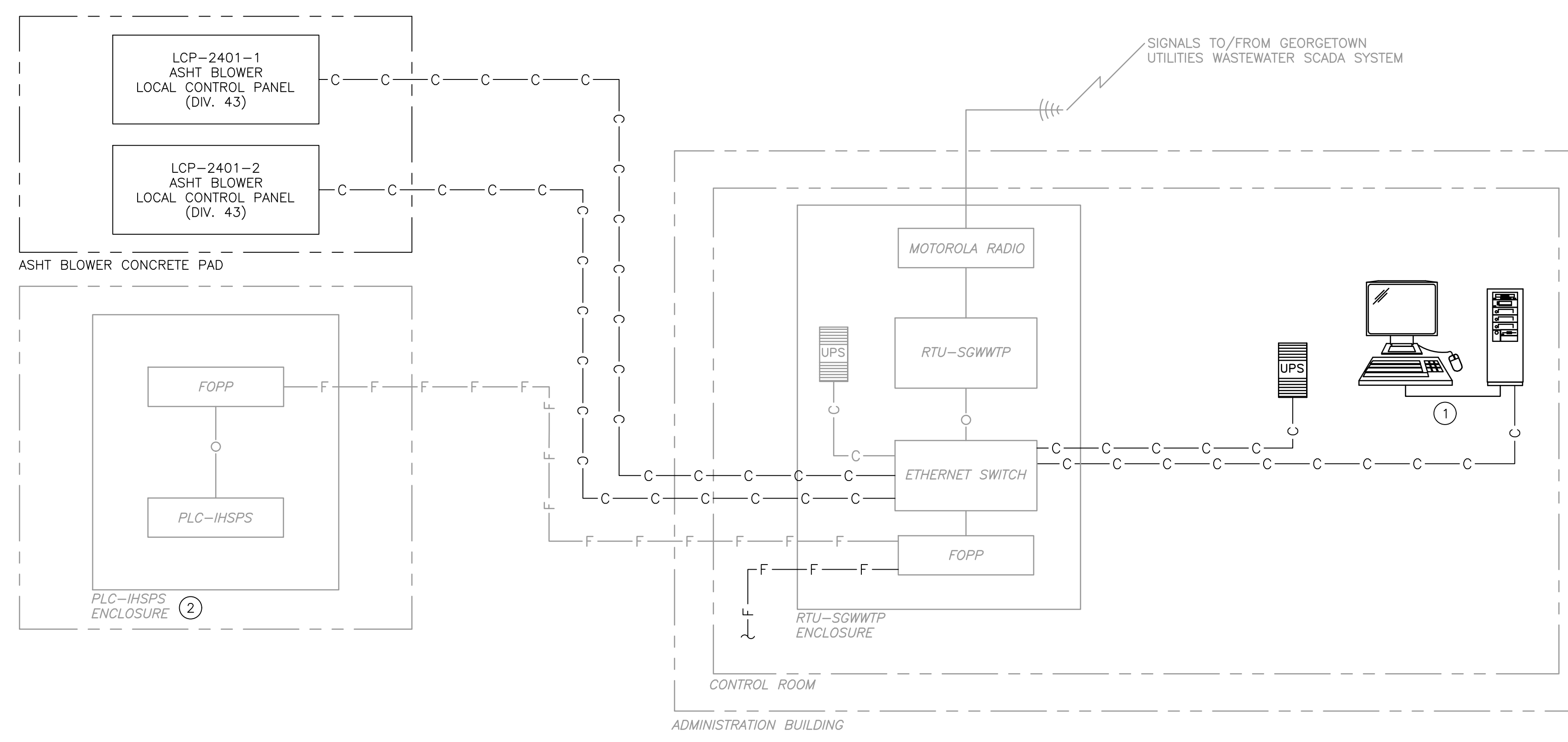
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**INSTRUMENTATION LEGEND II**  
 SHEET NO. **I-2**

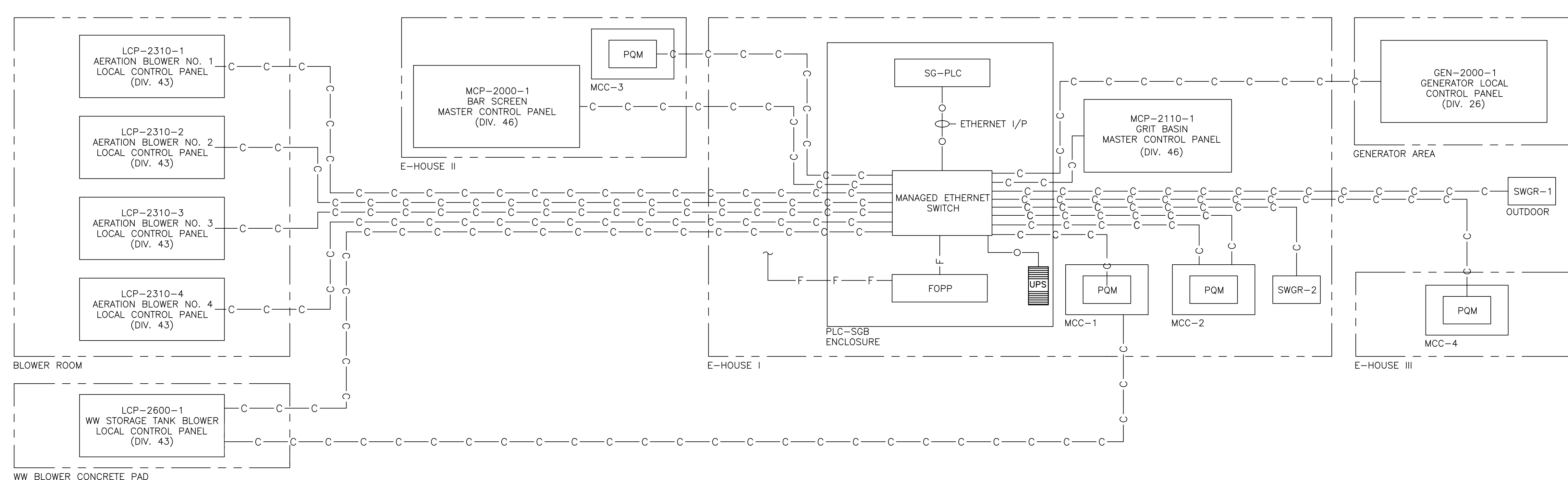
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FILE NAME:	I-2.DWG
SHEET NO.	I-2



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- NOTES:
- ① THE PCSS SHALL PROVIDE LICENSES TO INTEGRATE SAN GABRIEL WASTEWATER TREATMENT PLANT WITH CITY WIDE SCADA SYSTEM.
  - ② THE PCSS SHALL HAVE SCOPE IN THE EXISTING PLC-IHSPS TO MODIFY THE PLC CODE THAT IS CAPABLE TO RUN THE EXISTING IRRIGATION TRANSFER PUMPS TOGETHER AUTOMATICALLY BASED ON THE CLEARWELL LEVEL. REFER TO THE SHEET SG-IH-1 AND CONTROL DESCRIPTION FOR DETAILED CONTROLS.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS
1	4/17/23	SSB	MC	REVISION FOR ADDENDUM NO. 4

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

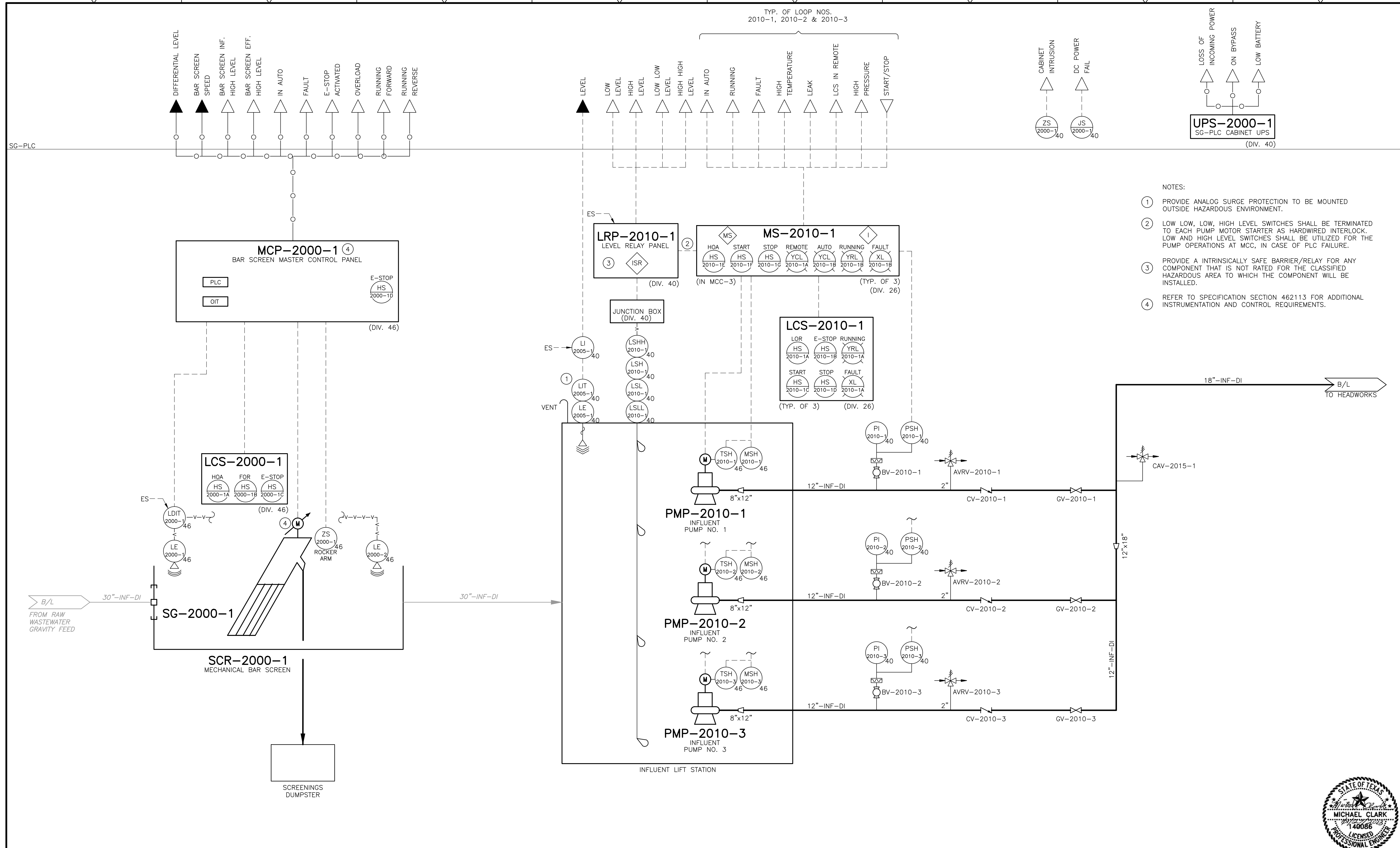


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

PROJECT NO. 2048-264953  
 FILE NAME: SG-I-1.DWG  
 SHEET NO. SG-I-1  
 SAN GABRIEL WWTP  
 CONTROL SYSTEM ARCHITECTURE



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- NOTES:
- 1 PROVIDE ANALOG SURGE PROTECTION TO BE MOUNTED OUTSIDE HAZARDOUS ENVIRONMENT.
  - 2 LOW LOW, LOW, HIGH LEVEL SWITCHES SHALL BE TERMINATED TO EACH PUMP MOTOR STARTER AS HARDWIRED INTERLOCK. LOW AND HIGH LEVEL SWITCHES SHALL BE UTILIZED FOR THE PUMP OPERATIONS AT MCC, IN CASE OF PLC FAILURE.
  - 3 PROVIDE A INTRINSICALLY SAFE BARRIER/RELAY FOR ANY COMPONENT THAT IS NOT RATED FOR THE CLASSIFIED HAZARDOUS AREA TO WHICH THE COMPONENT WILL BE INSTALLED.
  - 4 REFER TO SPECIFICATION SECTION 462113 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: B. SRISYLESH  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023



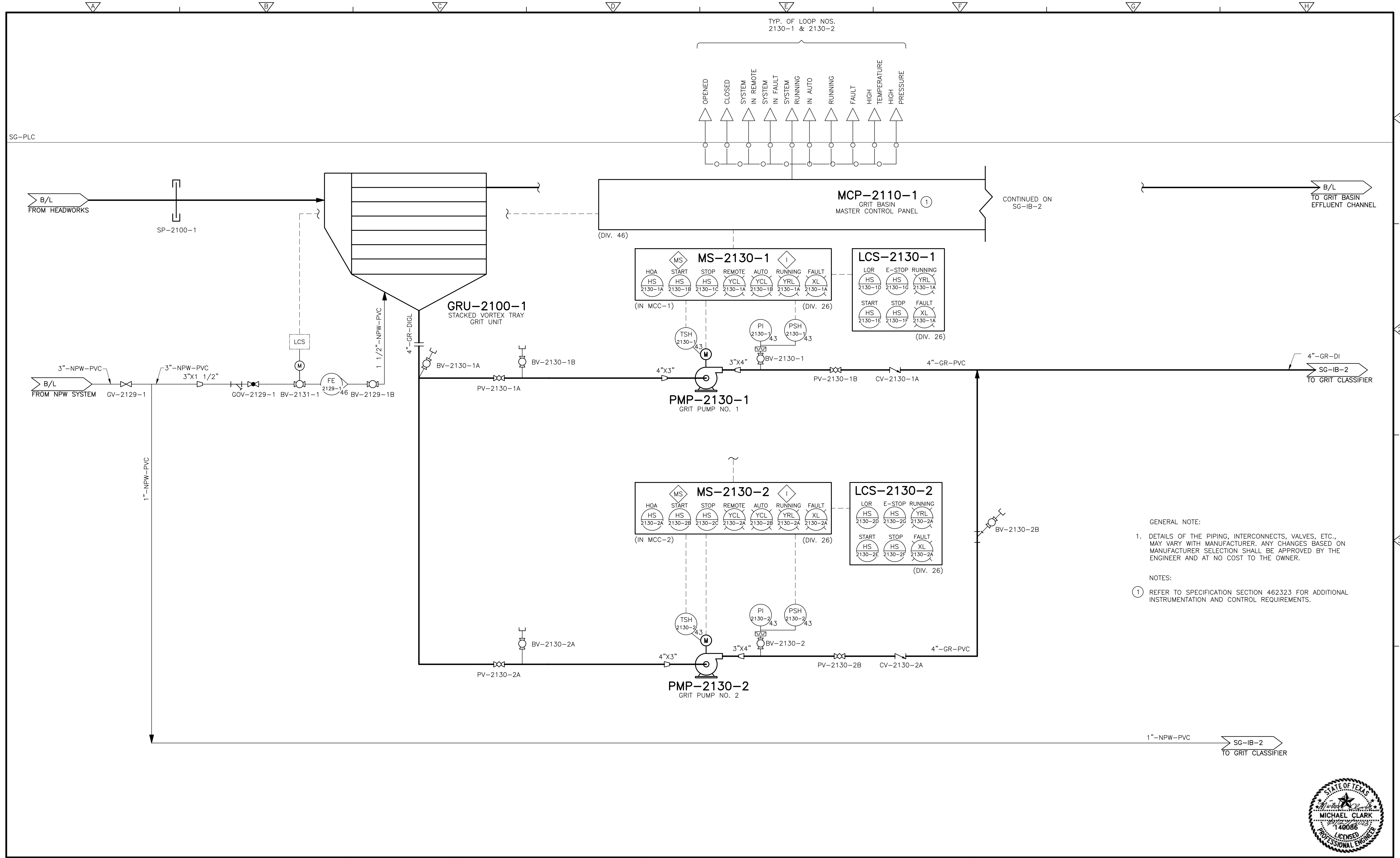
CITY OF GEORGETOWN, TEXAS  
**SAN GABRIEL WWTP  
 REHABILITATION**

**SAN GABRIEL WWTP  
 BAR SCREEN AND INFLUENT LIFT STATION P&ID**

PROJECT NO. 2048-264953  
 FILE NAME: SG-IA-1.DWG  
 SHEET NO.  
**SG-IA-1**



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GENERAL NOTE:  
 1. DETAILS OF THE PIPING, INTERCONNECTS, VALVES, ETC., MAY VARY WITH MANUFACTURER. ANY CHANGES BASED ON MANUFACTURER SELECTION SHALL BE APPROVED BY THE ENGINEER AND AT NO COST TO THE OWNER.

NOTES:  
 ① REFER TO SPECIFICATION SECTION 462323 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: B. SRISYLESH  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

**CDM Smith**  
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 Austin, TX 78759  
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 TBPE Firm Registration No. F-3043

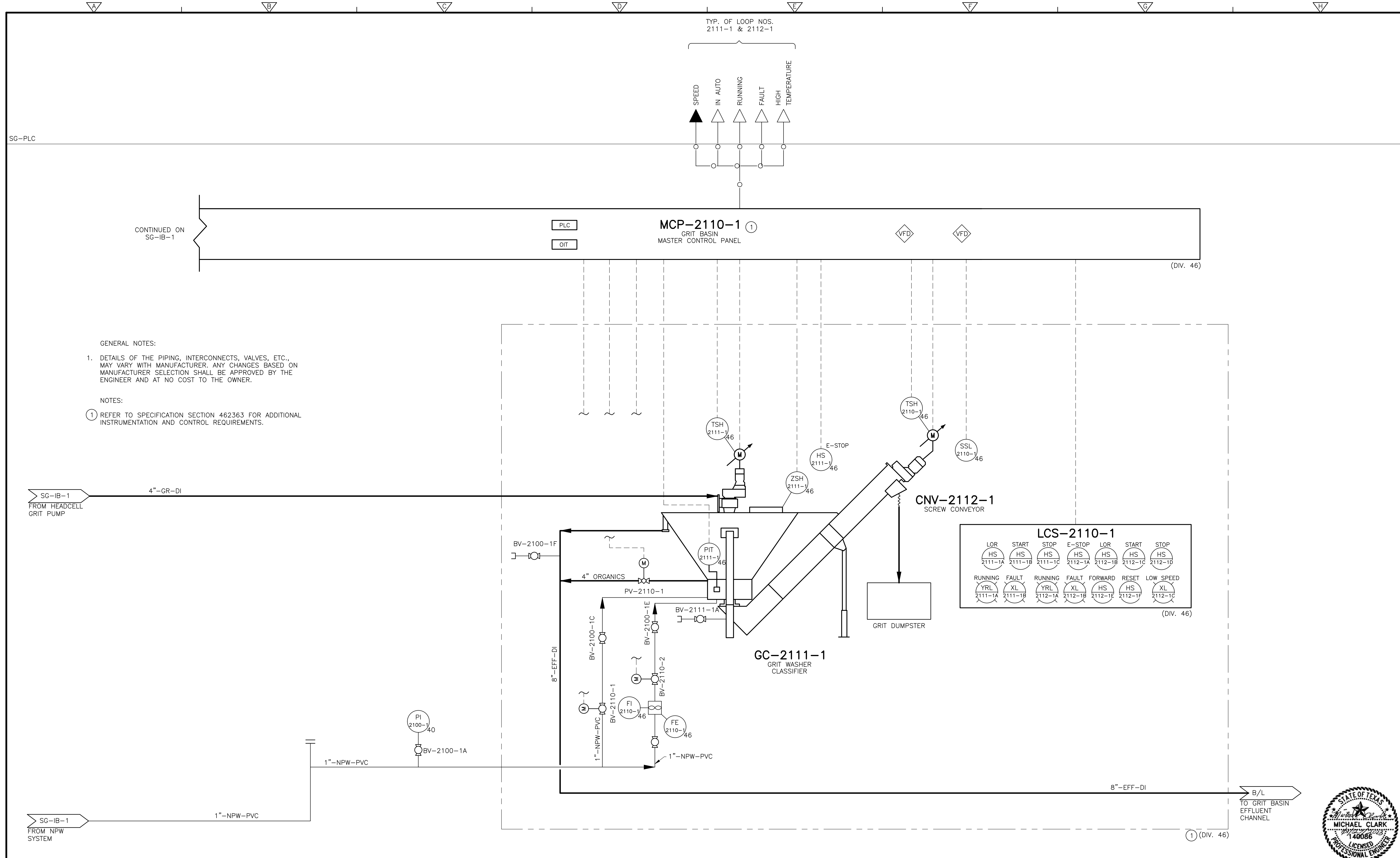
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT REMOVAL P&ID  
 SHEET NO.  
**SG-IB-1**

PROJECT NO. 2048-264953  
 FILE NAME: SG-IB-1.DWG  
 SHEET NO.  
**SG-IB-1**

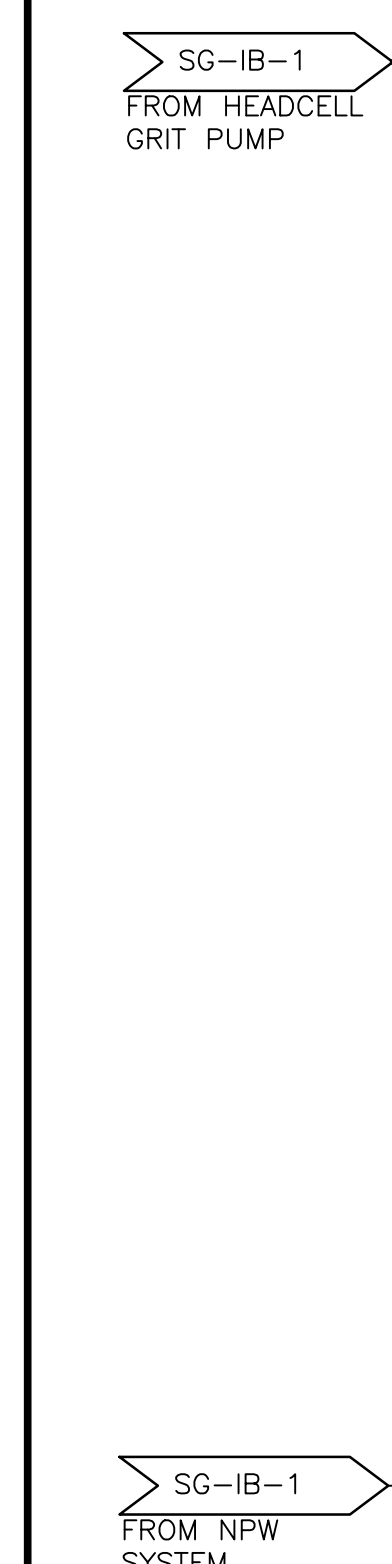
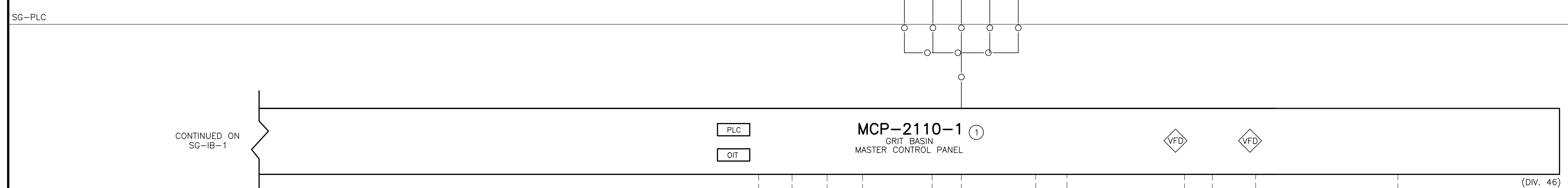
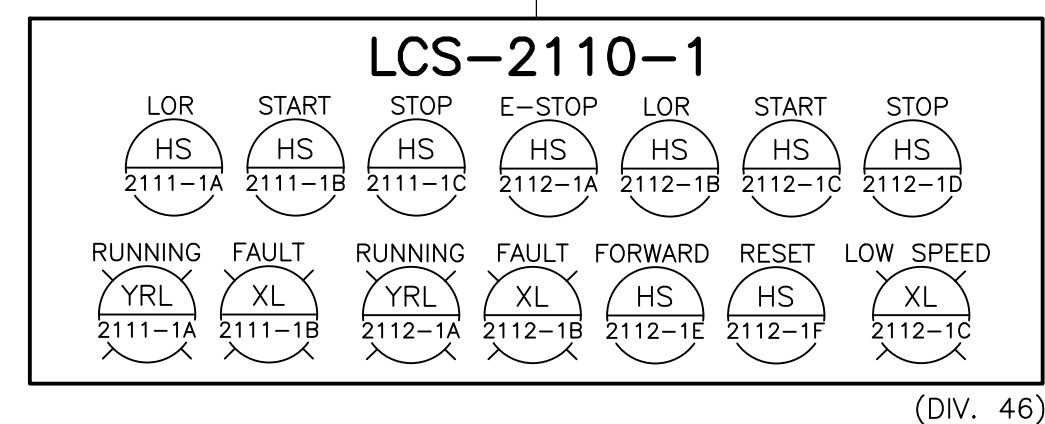


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GENERAL NOTES:  
 1. DETAILS OF THE PIPING, INTERCONNECTS, VALVES, ETC., MAY VARY WITH MANUFACTURER. ANY CHANGES BASED ON MANUFACTURER SELECTION SHALL BE APPROVED BY THE ENGINEER AND AT NO COST TO THE OWNER.

NOTES:  
 ① REFER TO SPECIFICATION SECTION 462363 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: B. SRISYLESH  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023



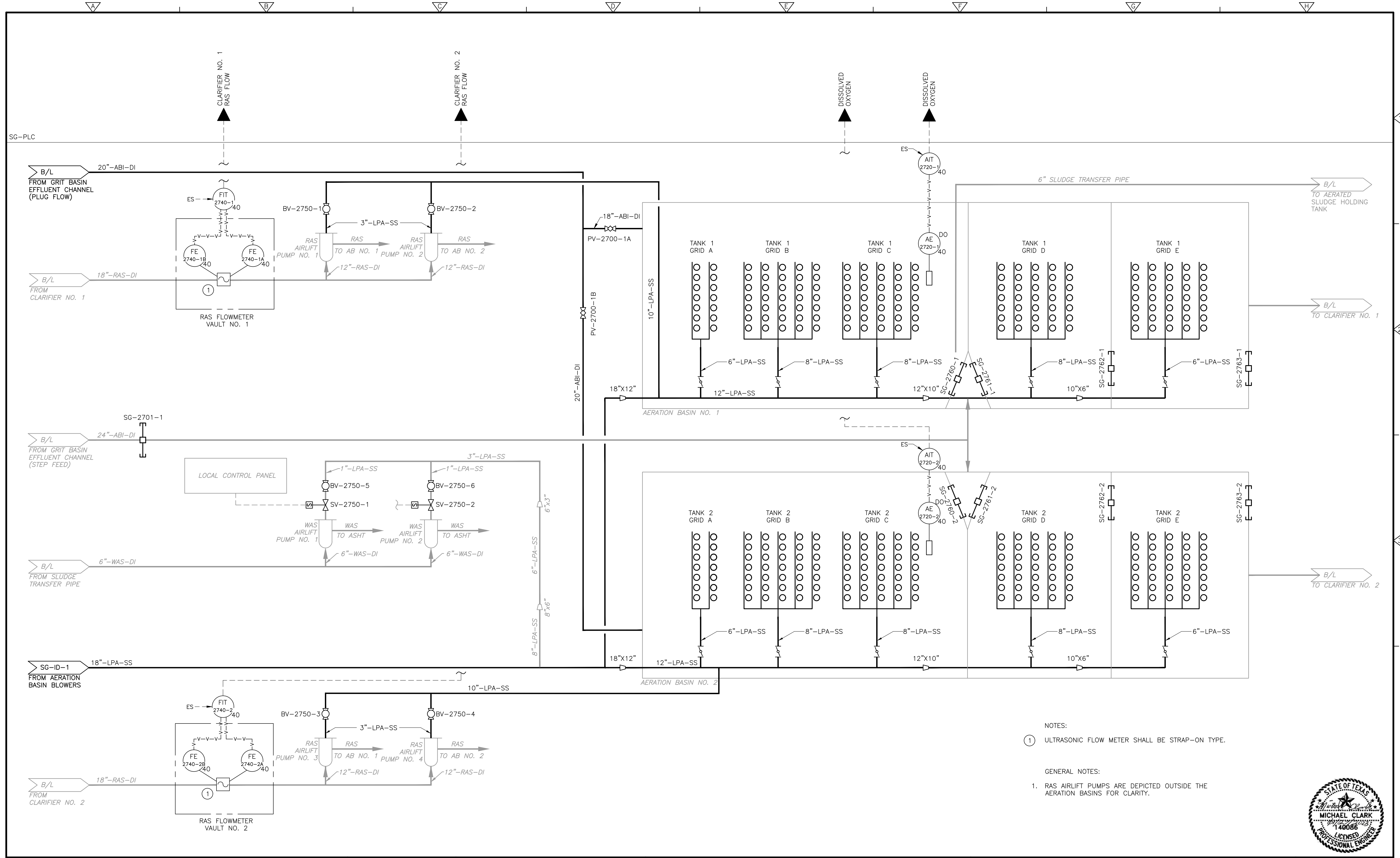
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 GRIT CLASSIFIER P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IB-2.DWG  
 SHEET NO. SG-IB-2



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- NOTES:
- ① ULTRASONIC FLOW METER SHALL BE STRAP-ON TYPE.
- GENERAL NOTES:
- 1. RAS AIRLIFT PUMPS ARE DEPICTED OUTSIDE THE AERATION BASINS FOR CLARITY.



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

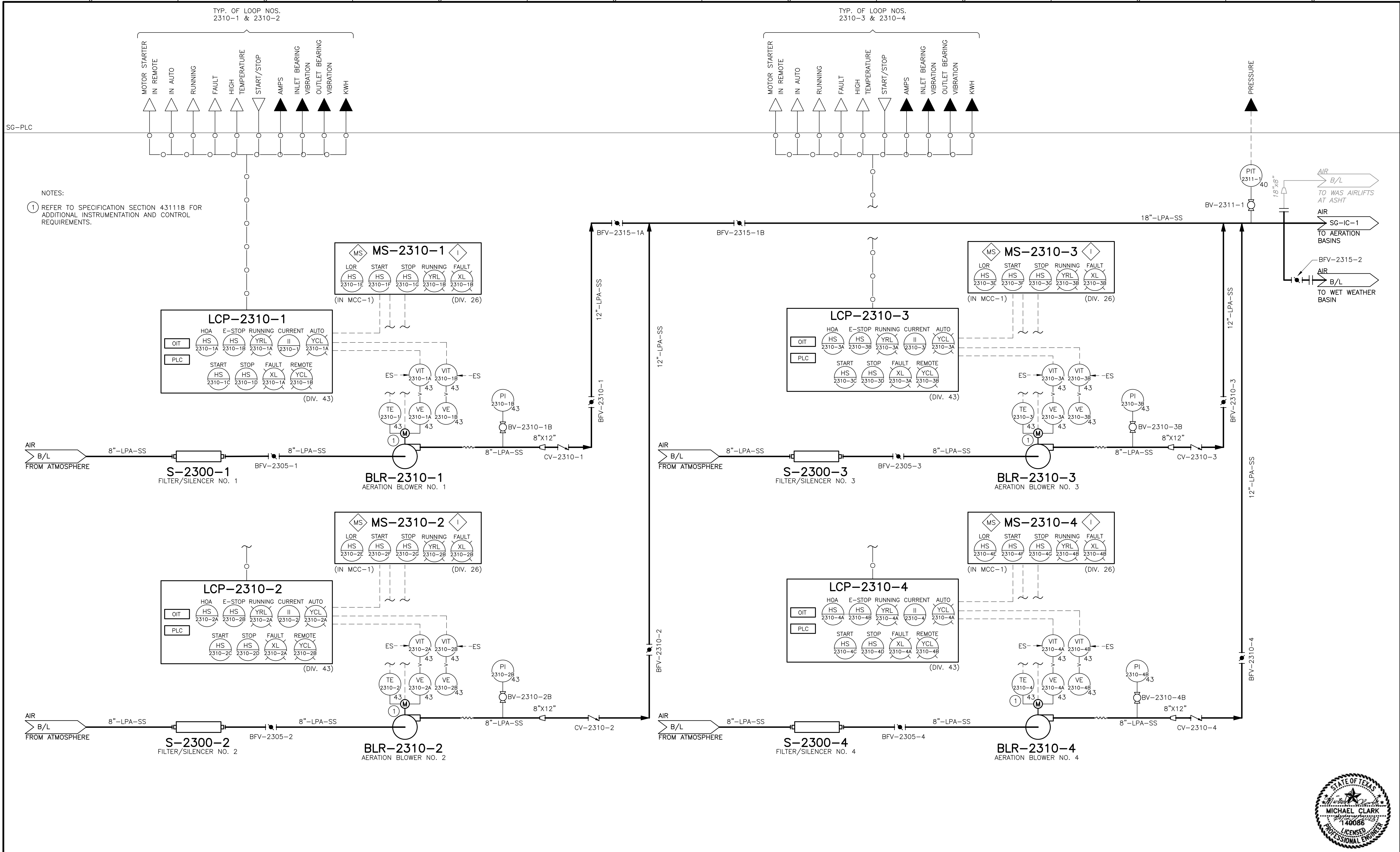


CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 TREATMENT UNIT AND RETURN  
 ACTIVATED SLUDGE P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IC-1.DWG  
 SHEET NO.  
 SG-IC-1

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NOTES:  
 1 REFER TO SPECIFICATION SECTION 431118 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

**CDM Smith**  
 9430 Research Blvd., Suite 1-200  
 Austin, TX 78759  
 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

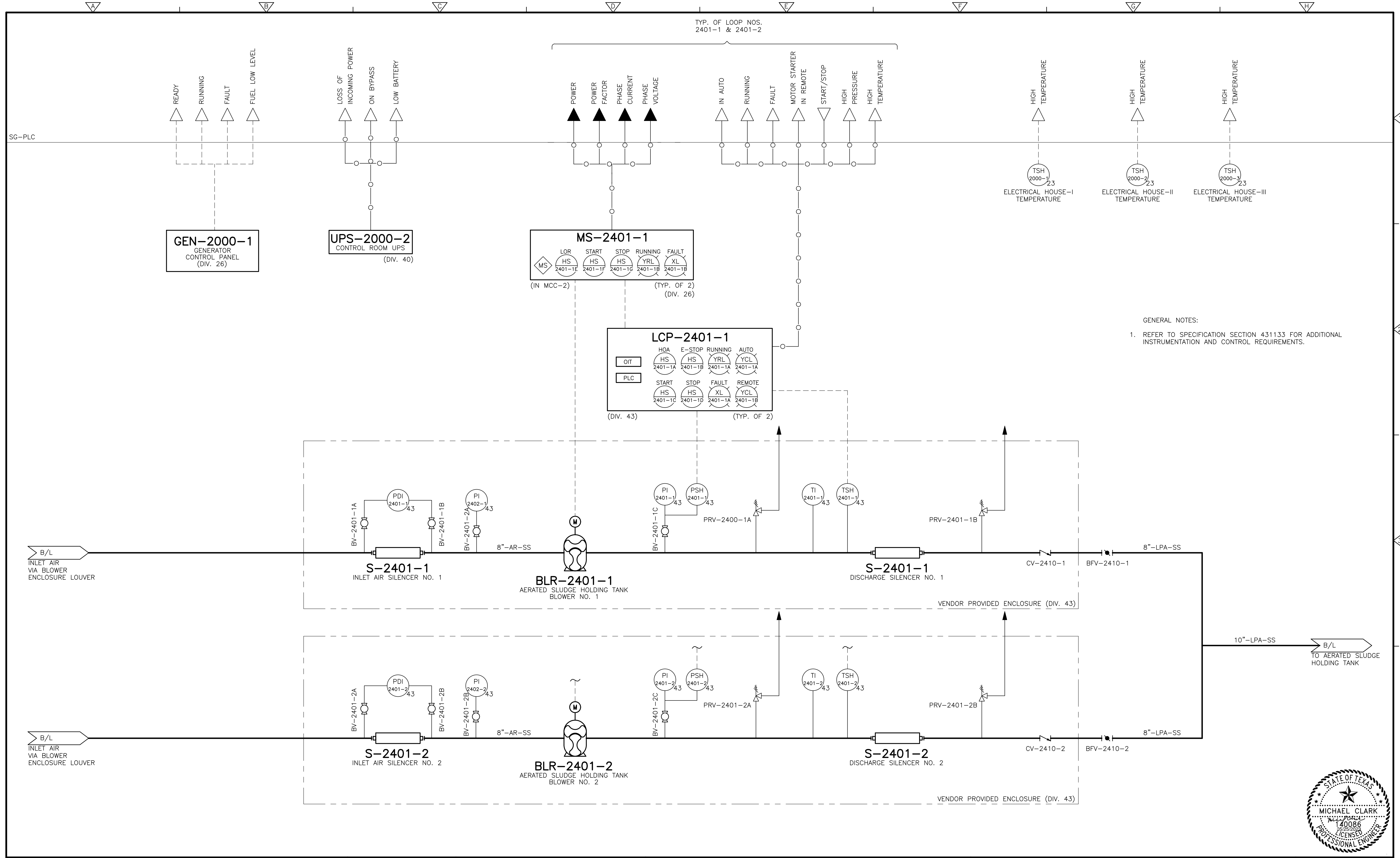
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 AERATION BLOWER SYSTEM P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-ID-1.DWG  
 SHEET NO.  
**SG-ID-1**



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GENERAL NOTES:  
 1. REFER TO SPECIFICATION SECTION 431133 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	4/7/23	SS	MC	REVISION FOR ADDENDUM NO. 3
2	4/17/23	SSB	MC	REVISION FOR ADDENDUM NO. 4
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: B. SRISYLESH  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

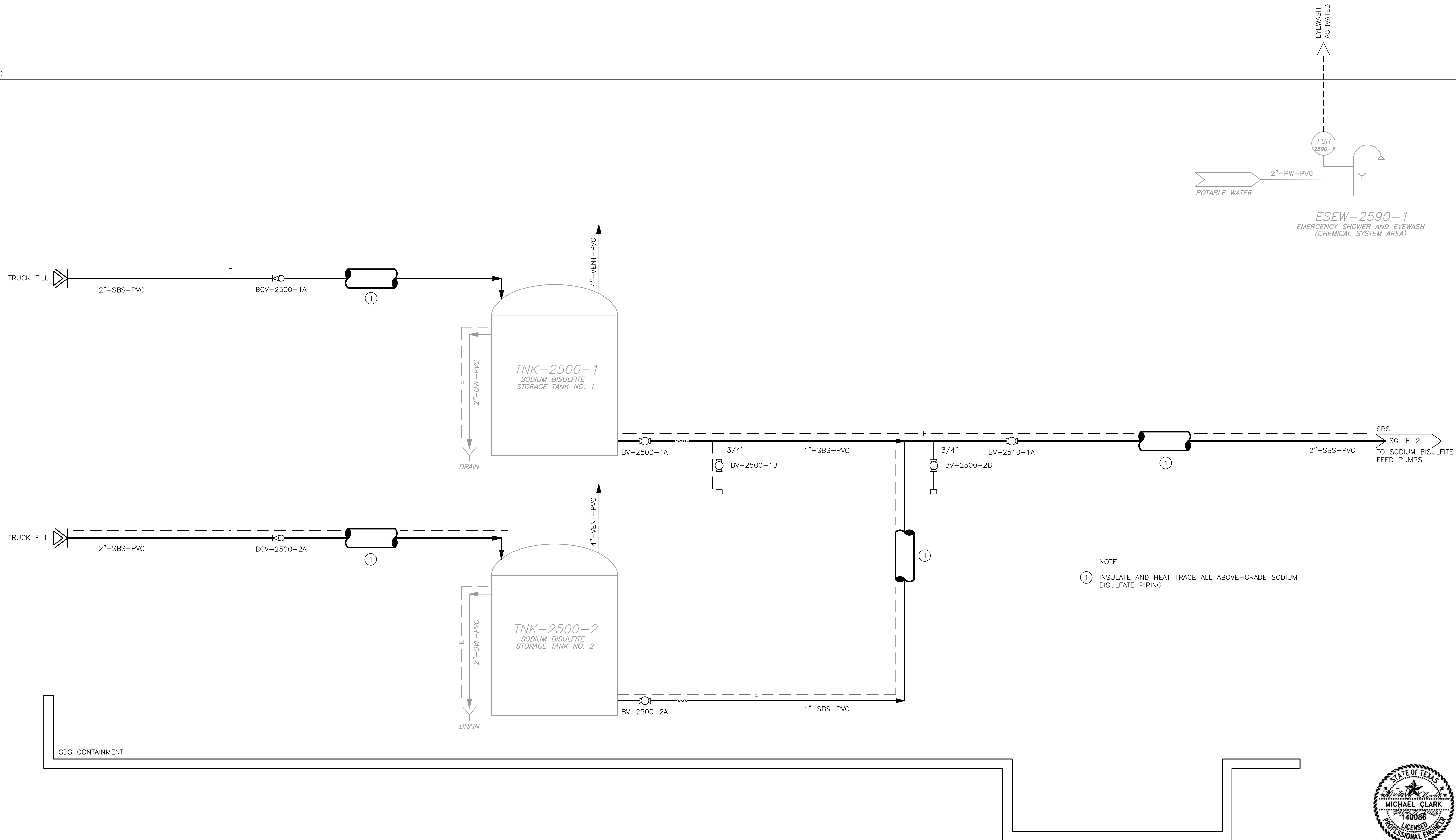
SAN GABRIEL WWTP  
 AERATED SLUDGE HOLDING TANK  
 BLOWER AND MISCELLANEOUS P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IE-1.DWG  
 SHEET NO.  
**SG-IE-1**



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SG-PLC



NOTE:  
 ① INSULATE AND HEAT TRACE ALL ABOVE-GRADE SODIUM BISULFITE PIPING.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023



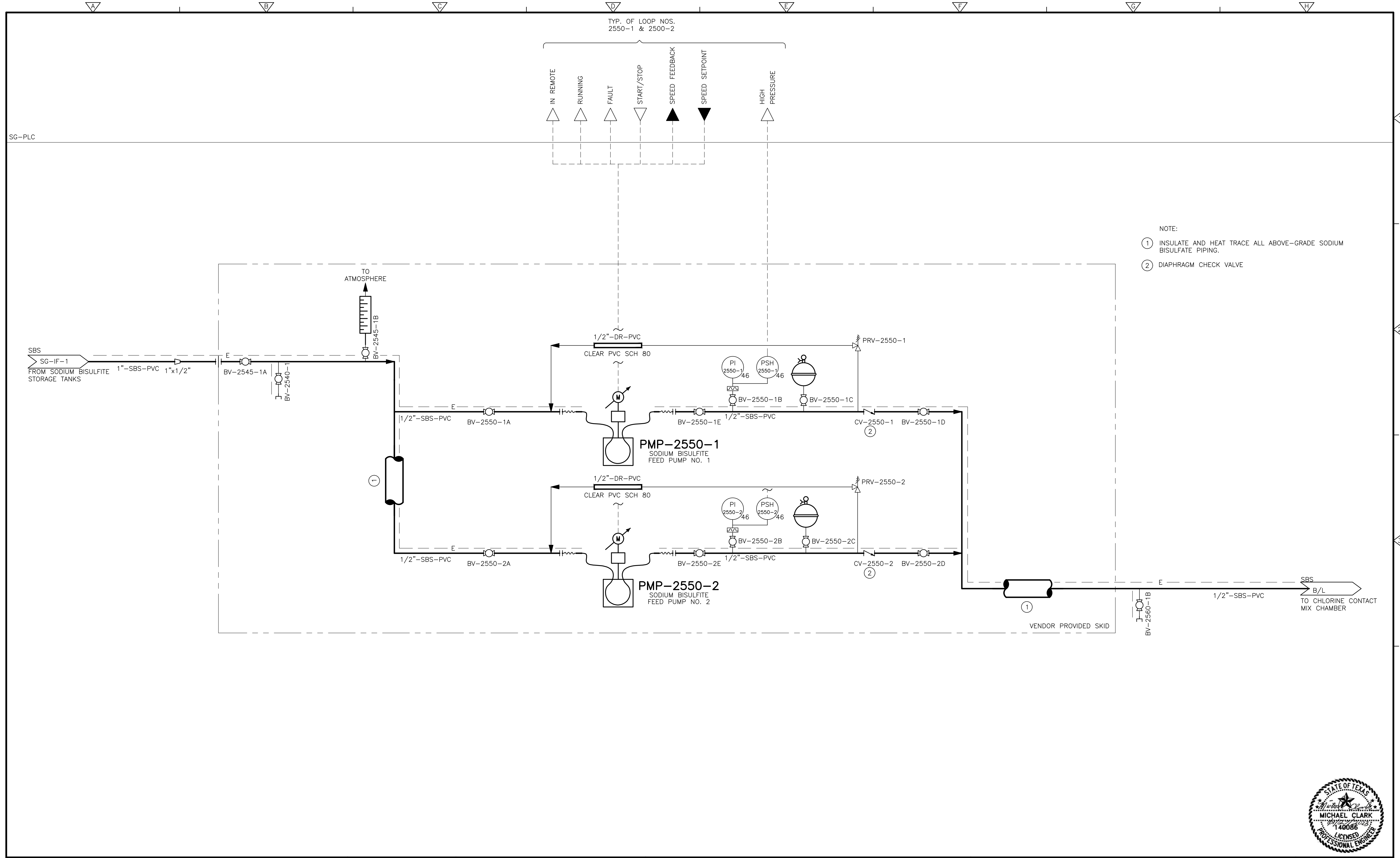
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 SODIUM BISULFITE STORAGE SYSTEM P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IF-1.DWG  
 SHEET NO.  
 SG-IF-1

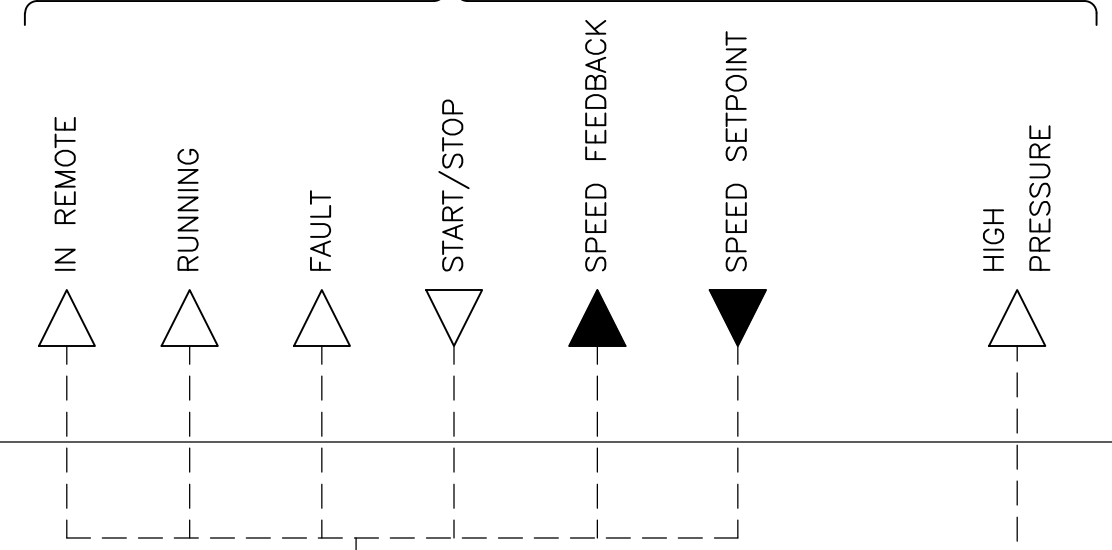


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SG-PLC

TYP. OF LOOP NOS.  
2550-1 & 2500-2



- NOTE:
- ① INSULATE AND HEAT TRACE ALL ABOVE-GRADE SODIUM BISULFATE PIPING.
  - ② DIAPHRAGM CHECK VALVE

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023



CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

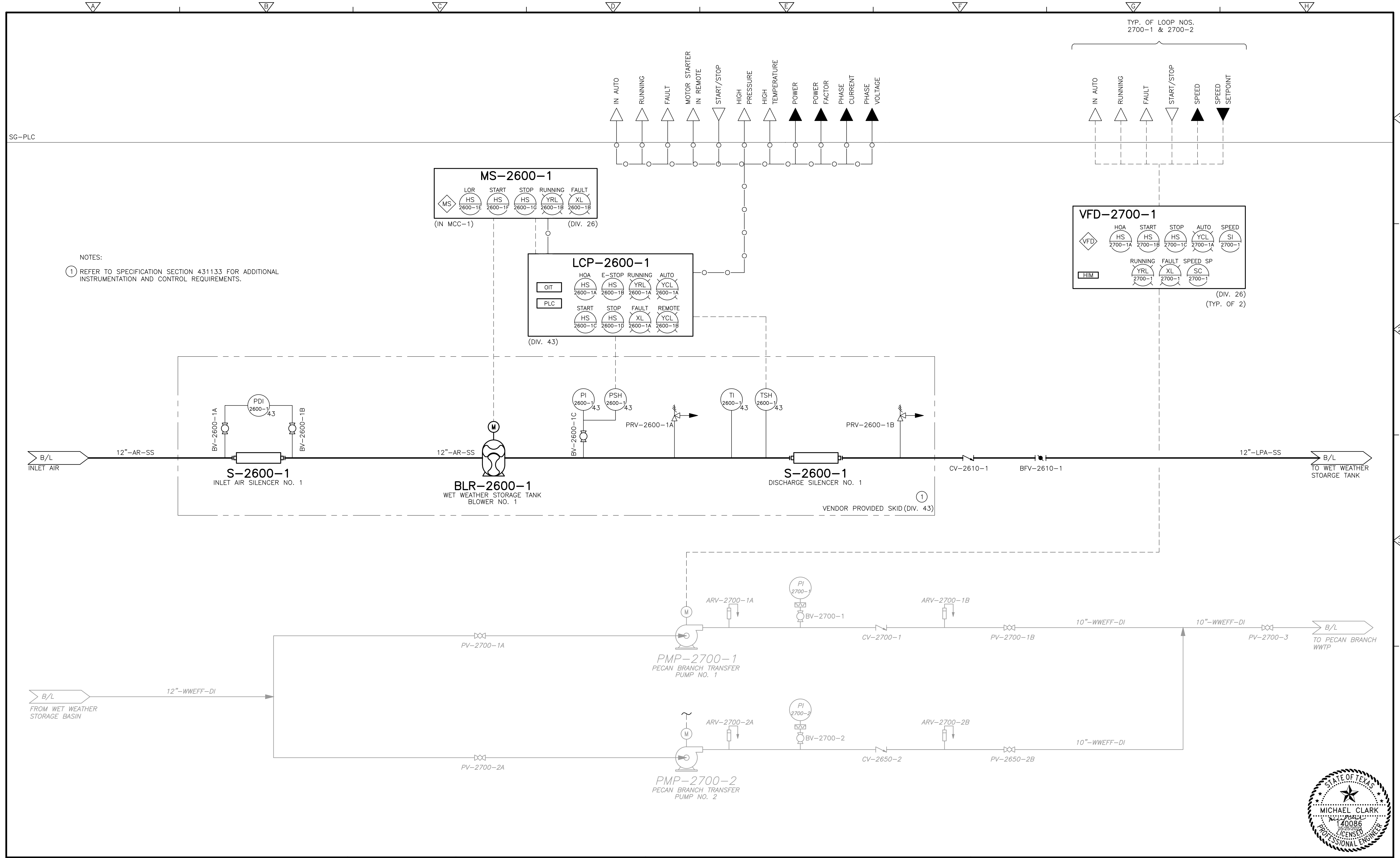
SAN GABRIEL WWTP  
 SODIUM BISULFITE FEED SYSTEM P&ID

PROJECT NO. 2048-264953  
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NOTES:  
 ① REFER TO SPECIFICATION SECTION 431133 FOR ADDITIONAL INSTRUMENTATION AND CONTROL REQUIREMENTS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	4/7/23	SS	MC	REVISION FOR ADDENDUM NO. 3
2	4/17/23	SSB	MC	REVISION FOR ADDENDUM NO. 4
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
 DRAWN BY: B. SRISYLESH  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

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 Tel: (512) 346-1100  
 TBPE Firm Registration No. F-3043

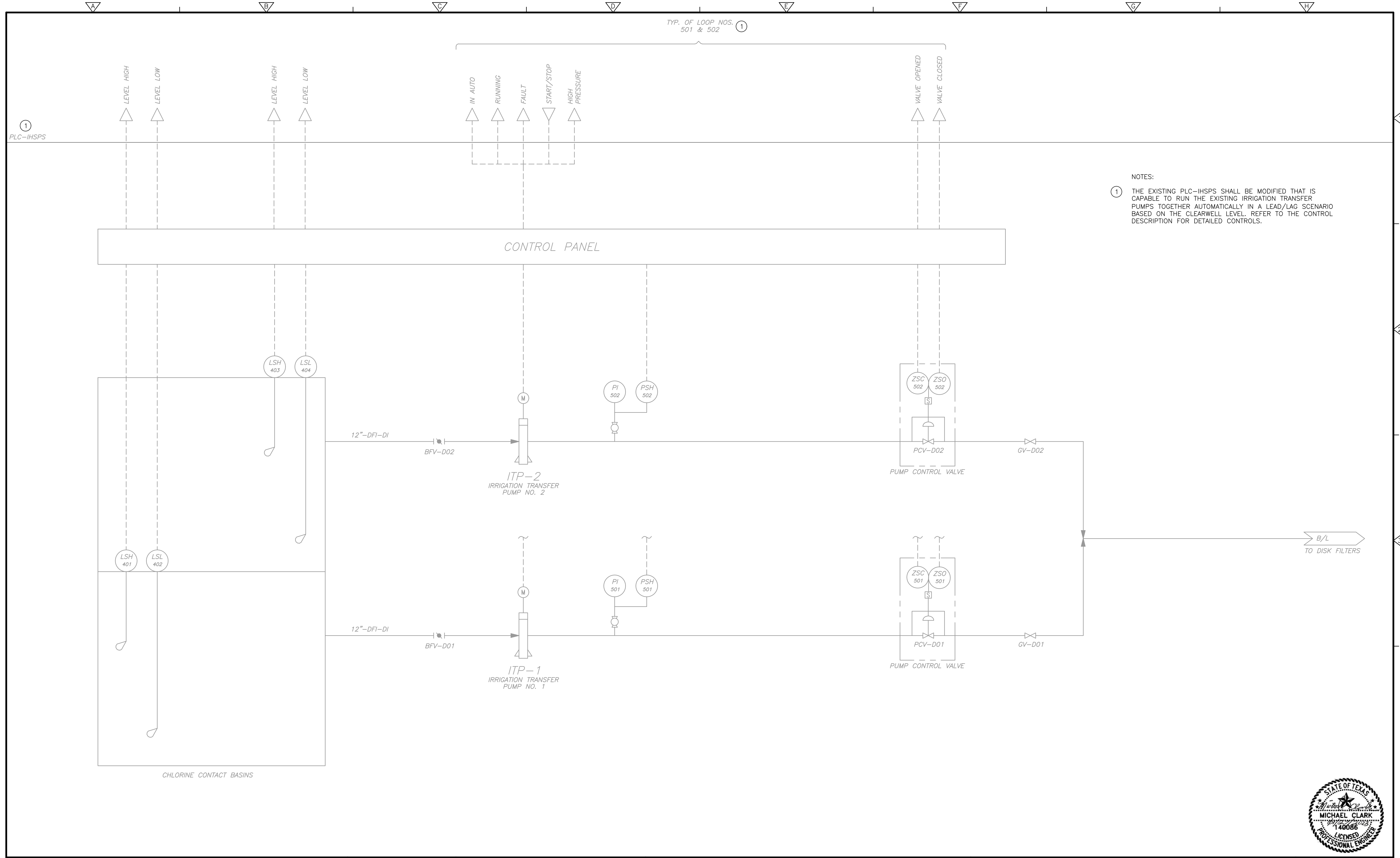
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

SAN GABRIEL WWTP  
 WW BLOWER AND PECAN BRANCH  
 TRANSFER PUMP STATION P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IG-1.DWG  
 SHEET NO.  
**SG-IG-1**



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TYP. OF LOOP NOS. 501 & 502 ①

① PLC-IHSPS

NOTES:  
 ① THE EXISTING PLC-IHSPS SHALL BE MODIFIED THAT IS CAPABLE TO RUN THE EXISTING IRRIGATION TRANSFER PUMPS TOGETHER AUTOMATICALLY IN A LEAD/LAG SCENARIO BASED ON THE CLEARWELL LEVEL. REFER TO THE CONTROL DESCRIPTION FOR DETAILED CONTROLS.

REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

DESIGNED BY: M. CLARK  
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 CROSS CHK'D BY: A. DOODY  
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 DATE: JANUARY 2023



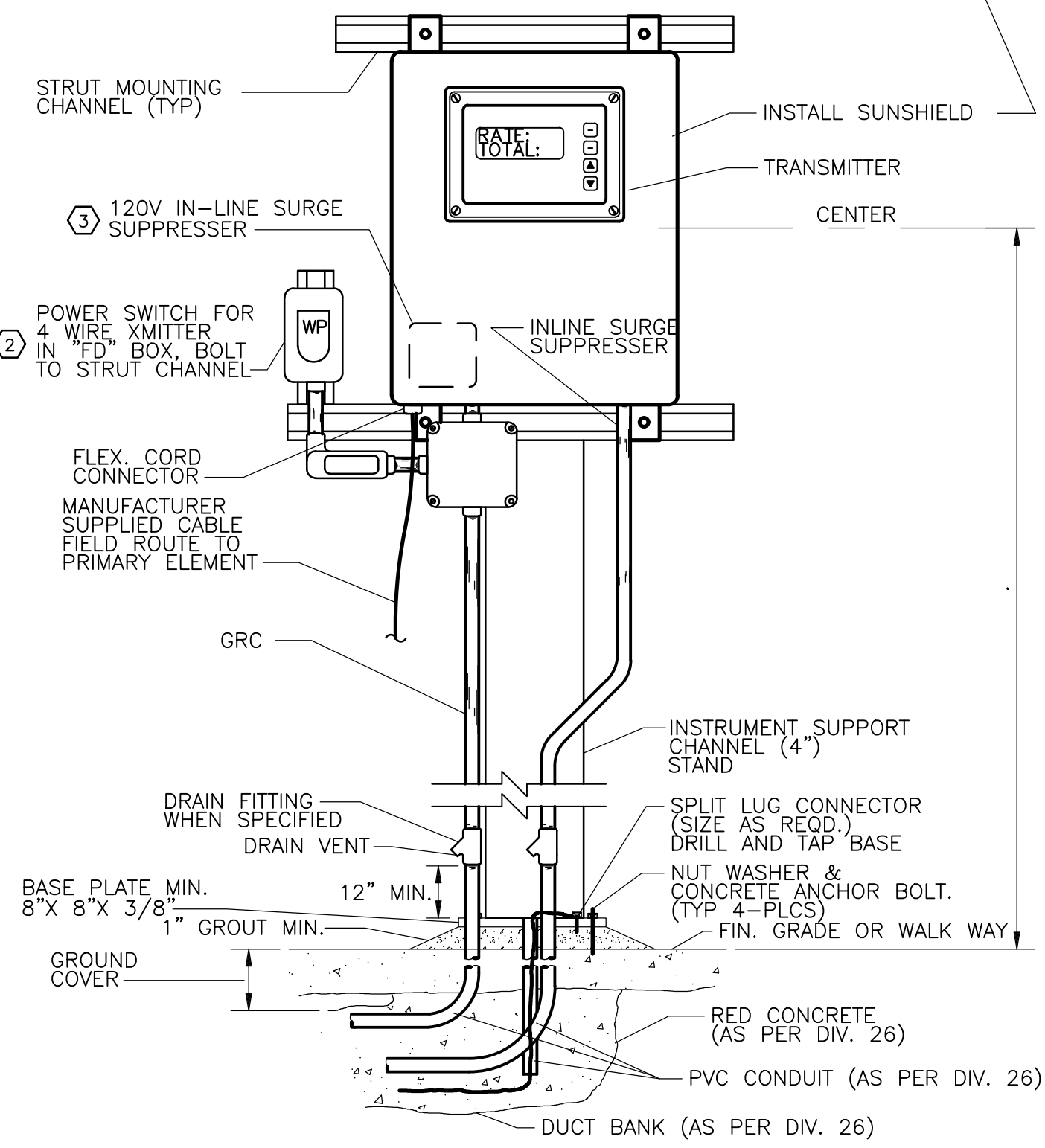
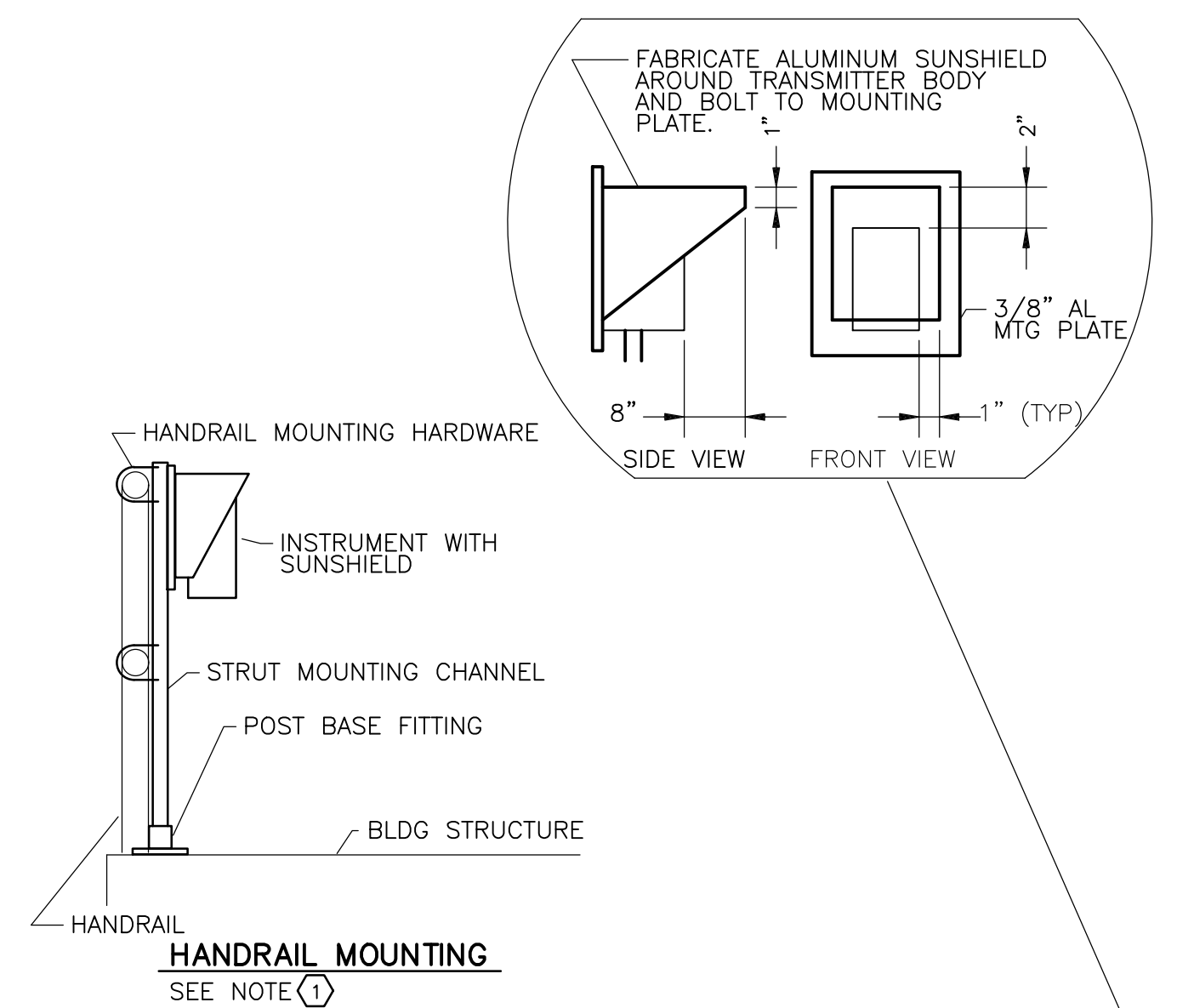
CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTW  
 REHABILITATION

SAN GABRIEL WWTW  
 IRRIGATION TRANSFER  
 PUMP STATION P&ID

PROJECT NO. 2048-264953  
 FILE NAME: SG-IG-2.DWG  
 SHEET NO. SG-IG-2

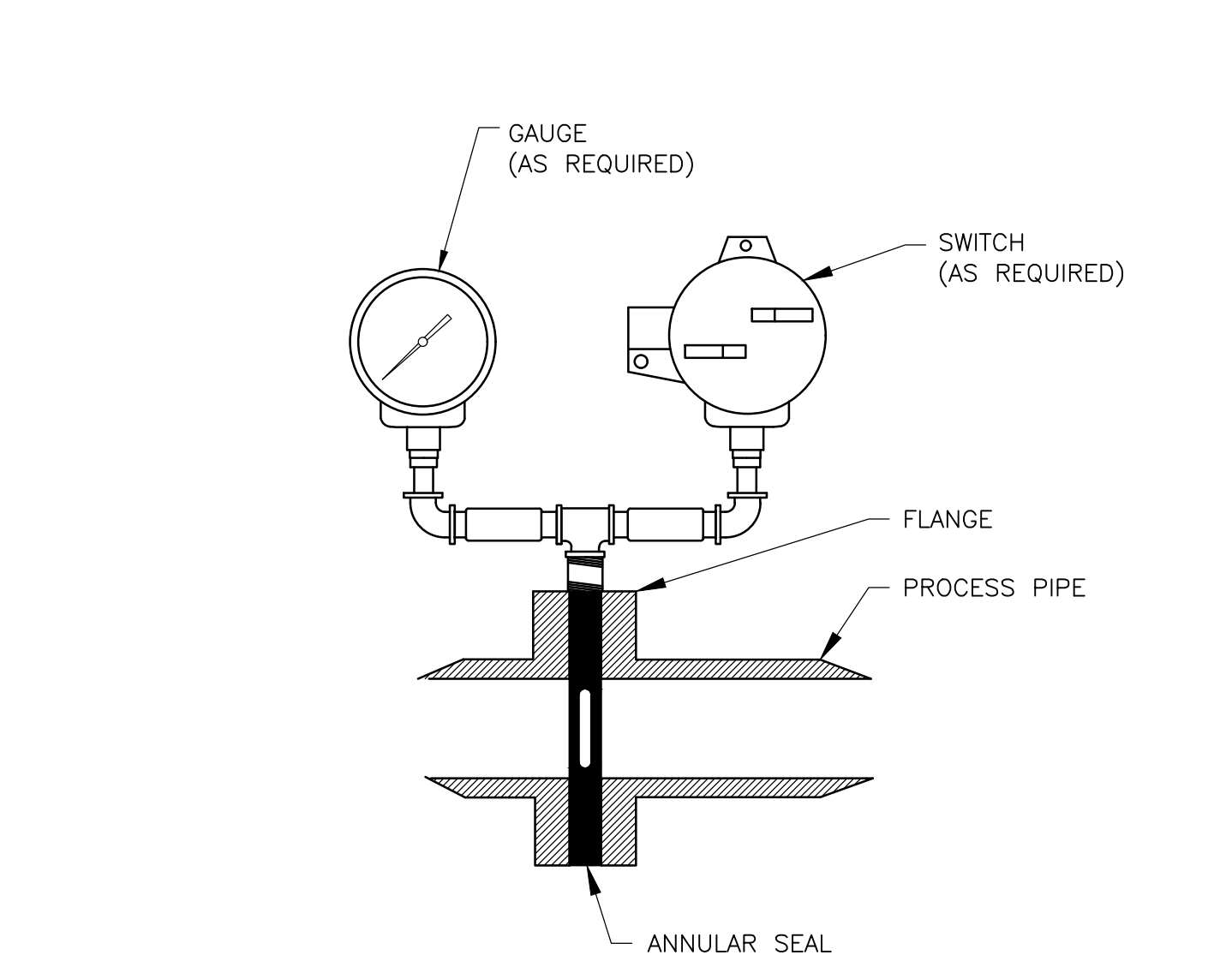


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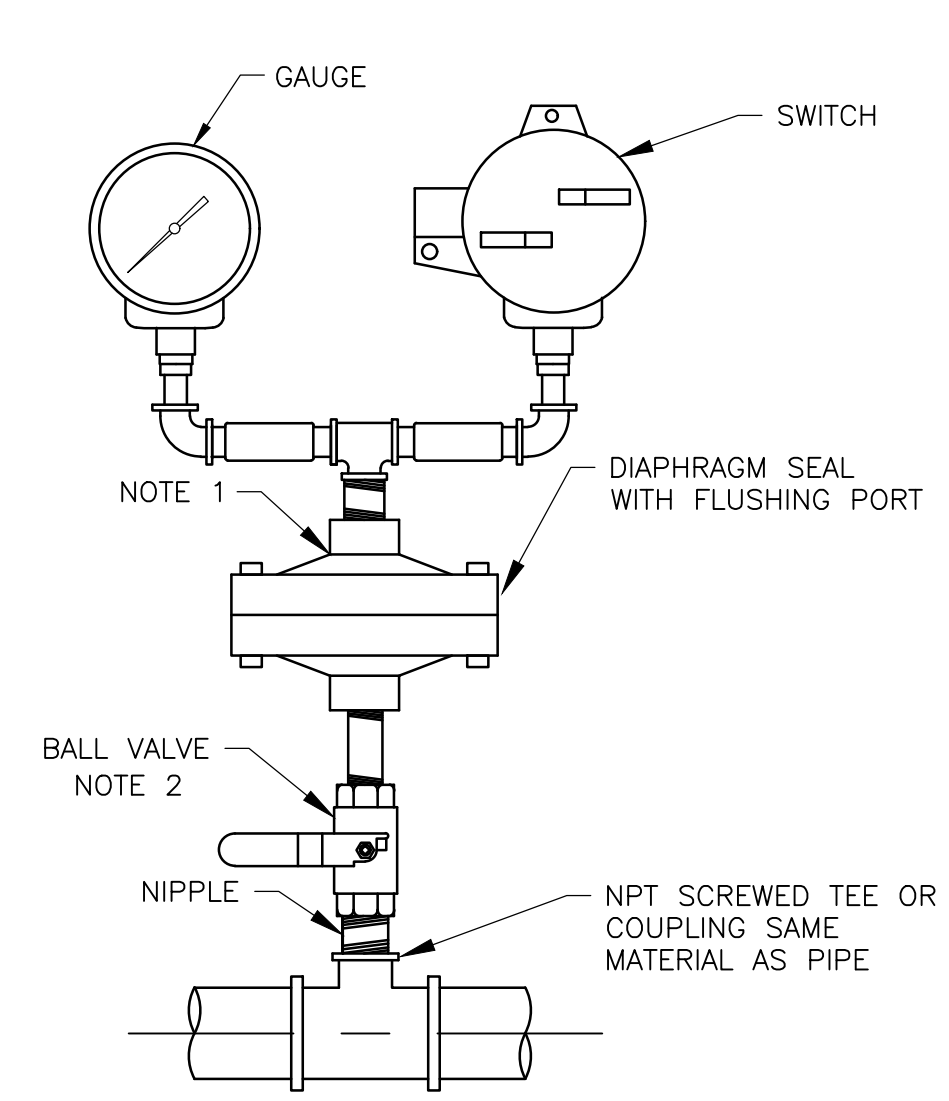
- NOTES:
- THIS DETAIL IS APPLICABLE FOR HANDRAIL MOUNTING. CONTRACTOR TO MODIFY INSTALLATION AS REQUIRED BY SITE CONDITIONS.
  - SWITCH REQUIRED WHEN UNIT IS REMOTE MOUNTED, OUT OF SIGHT OF CONTROLLING CIRCUIT BREAKER.
  - DIN RAIL MOUNTED SILICON DIODE TYPE SUPPRESSOR FOR REMOTE UNITS MOUNTED OUTSIDE ONLY.

TYPICAL INSTRUMENT INSTALLATION  
**DETAIL A**  
 NTS



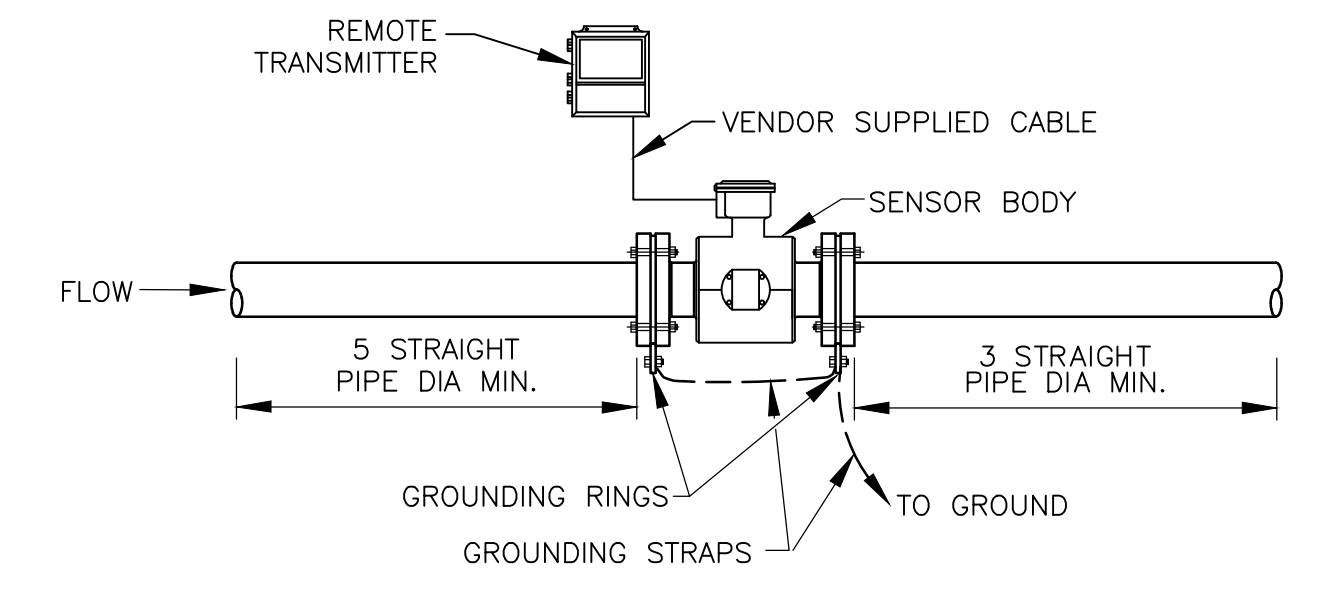
- NOTES:
- FOR PROPER OPERATION, EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL.

PRESSURE GAUGE AND SWITCH (ANNULAR SEAL)  
**DETAIL B**  
 NTS



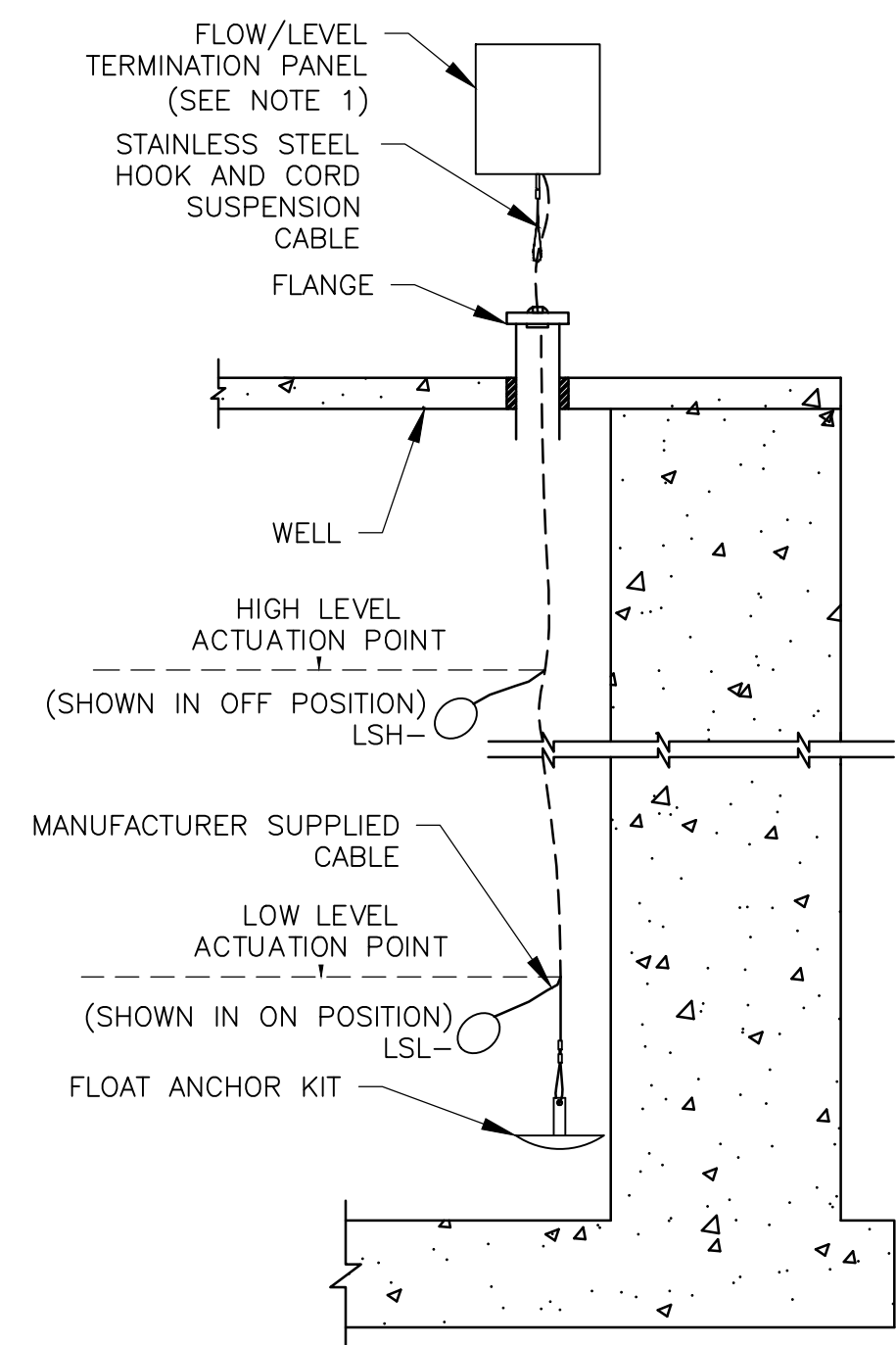
- NOTES:
- FOR PROPER OPERATION, EVACUATE SECTION BETWEEN DIAPHRAGM AND PRESSURE DEVICE OF AIR AND SEAL WITH OIL.

PRESSURE GAUGE AND SWITCH (WITH DIAPHRAGM SEAL)  
**DETAIL C**  
 NTS



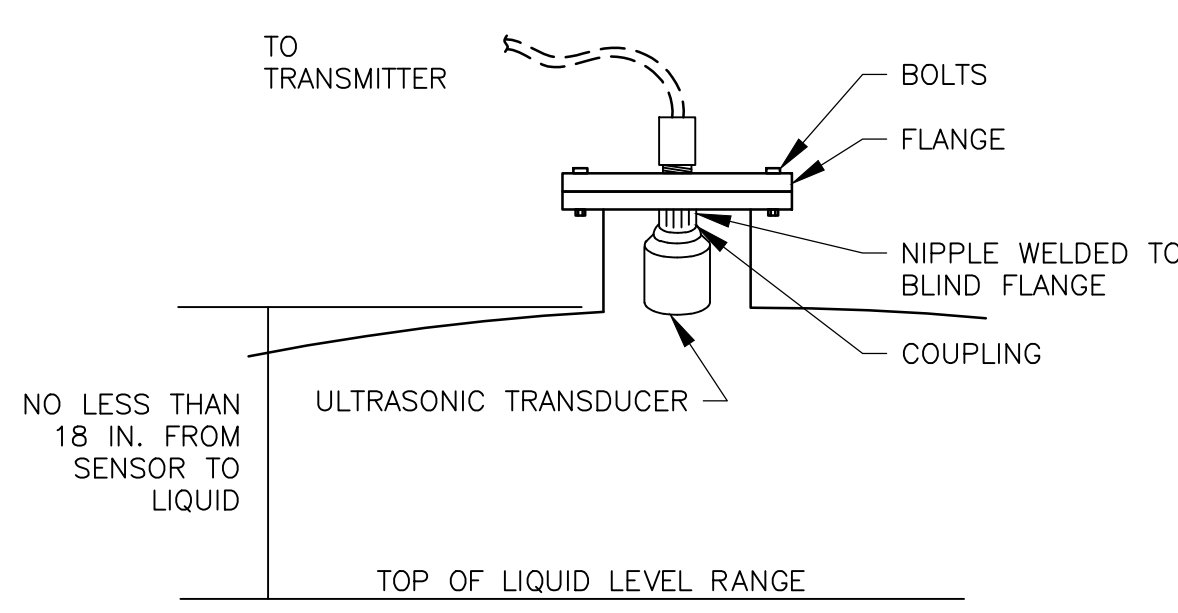
- NOTES:
- PROVIDE GROUNDING RING(S) AS RECOMMENDED BY MANUFACTURER.
  - PROVIDE SENSOR LINING TO PREVENT BUILDUP ON METER.

MAGNETIC FLOW METER  
**DETAIL D**  
 NTS



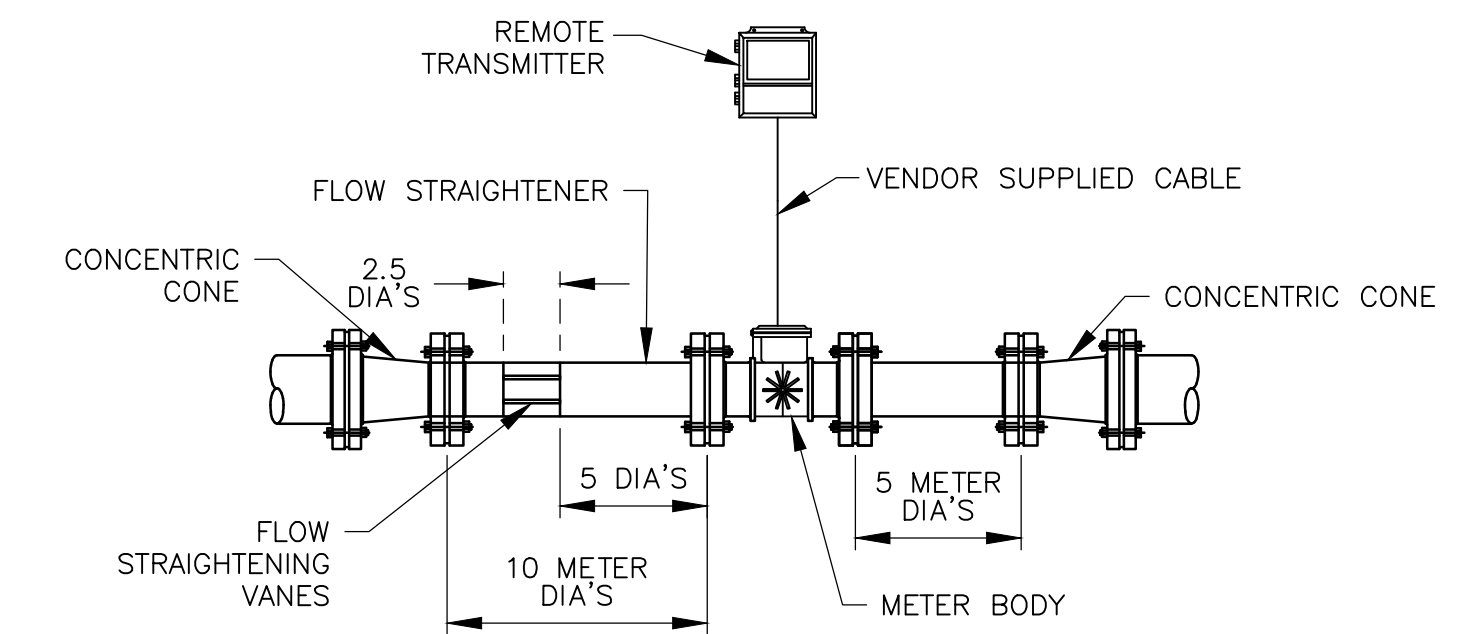
- NOTES:
- PROVIDE 15" X 15" MINIMUM SIZED FLOAT TERMINATION PANEL. PROVIDE J-HOOK INSIDE PANEL TO COIL EXTRA CABLE. PROVIDE TERMINATION BLOCKS. ALL CABLES AND WIRES SHALL BE LABELED.

FLOAT SWITCH (CABLE SUSPENSION)  
**DETAIL E**  
 NTS



- NOTES:
- PROVIDE TEMPERATURE COMPENSATION FOR SENSOR PER MANUFACTURER RECOMMENDATIONS.
  - PROVIDE AN AIR PURGE OR HEATER TO PREVENT CONDENSATION.

ULTRASONIC LEVEL (ON TANK)  
**DETAIL F**  
 NTS



PROPELLER FLOW TRANSMITTER  
**DETAIL G**  
 NTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
A	5/25/23	SSB	MC	CONFORMED DRAWINGS

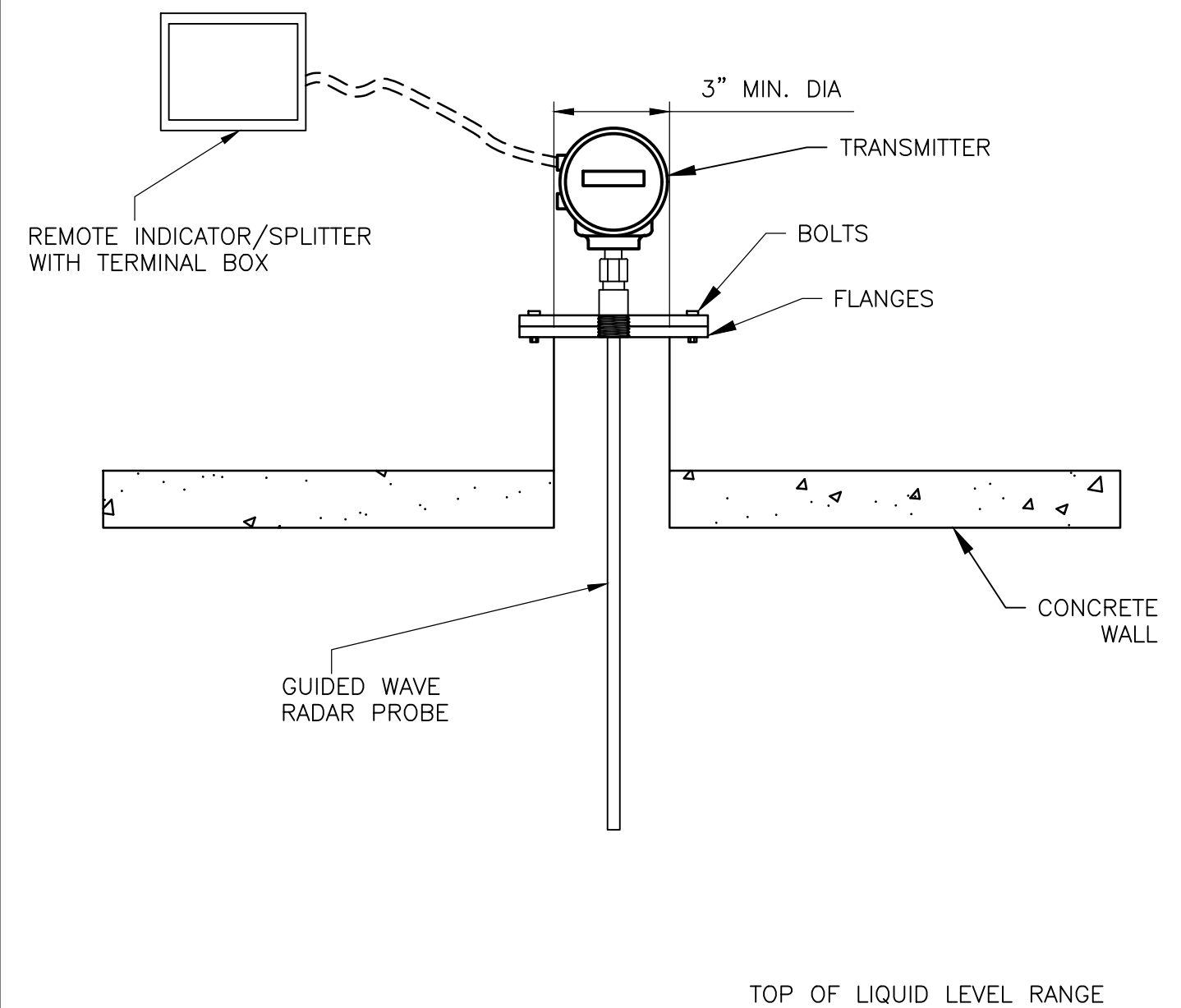
DESIGNED BY: M. CLARK  
 DRAWN BY: A. MAXWELL  
 SHEET CHK'D BY: S. RAJESH  
 CROSS CHK'D BY: A. DOODY  
 APPROVED BY: M. CLARK  
 DATE: JANUARY 2023

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 TBPE Firm Registration No. F-3043

CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

INSTRUMENTATION INSTALLATION DETAILS I  
 IZ-1

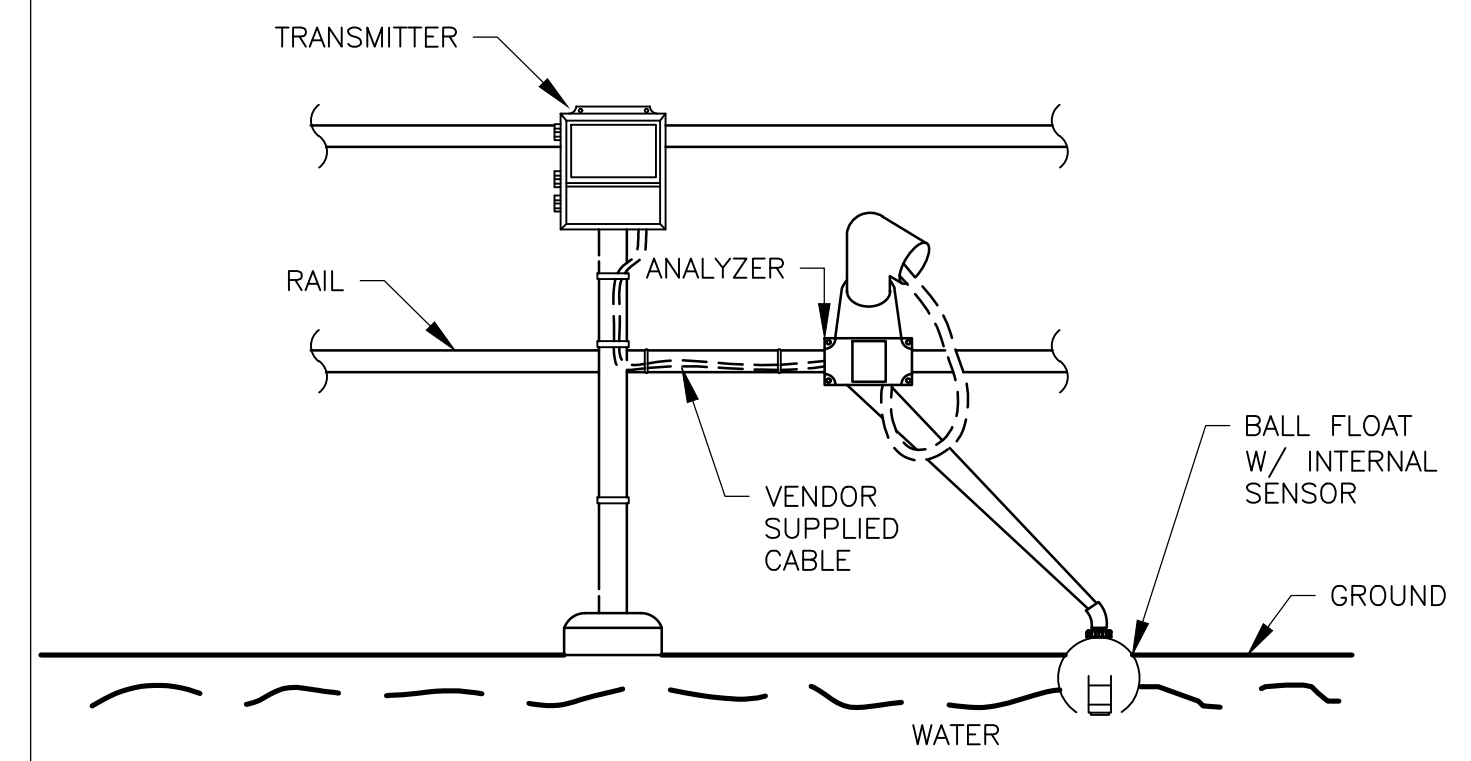
PROJECT NO.	2048-264953
FILE NAME:	IZ-1.DWG
SHEET NO.	IZ-1



- NOTES**
1. REFER PROCESS MECHANICAL SHEET, FOR PROPER FLANGE SIZE.
  2. MAINTAIN ALL DISTANCES PER MANUFACTURER RECOMMENDATIONS.

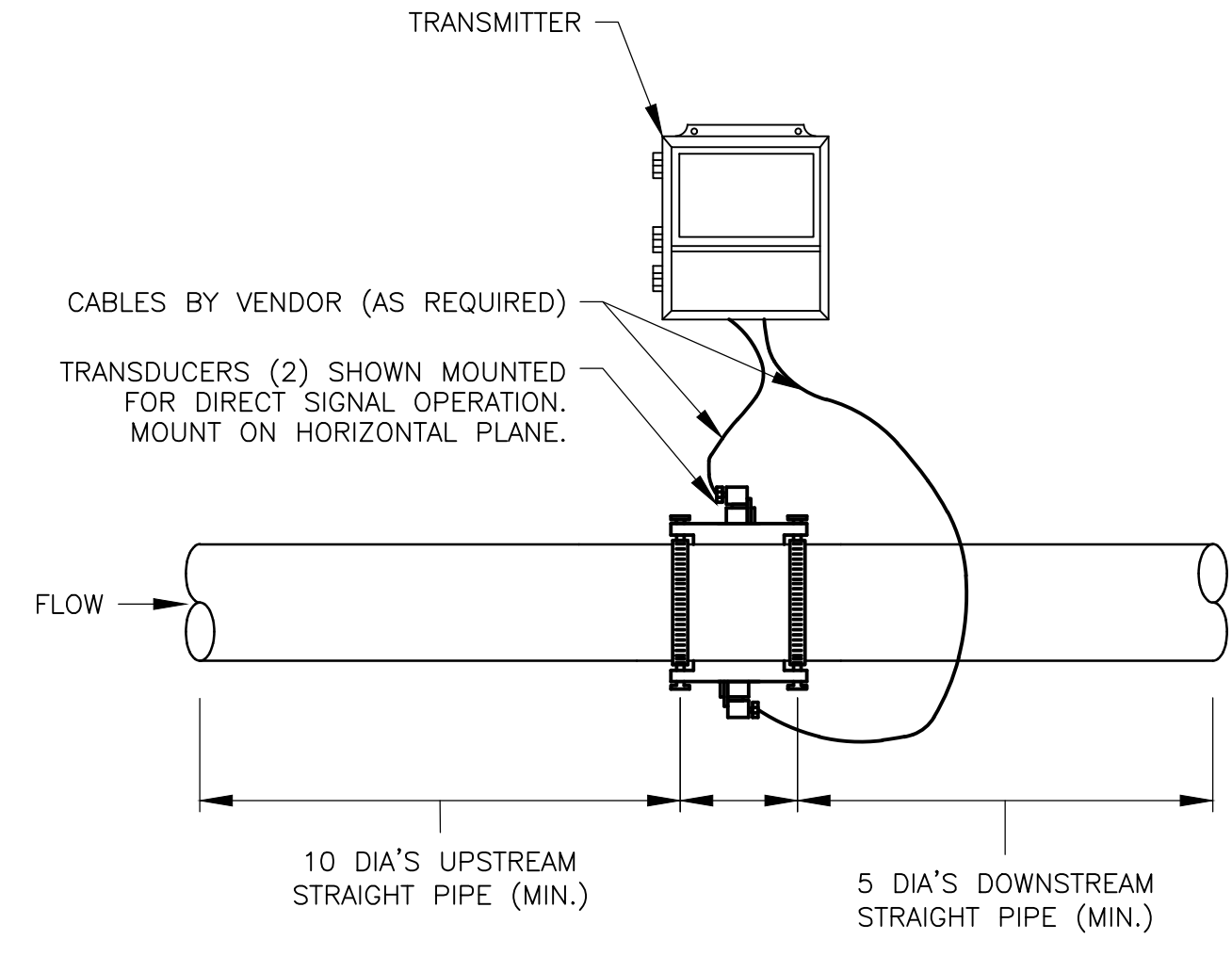
GUIDED WAVE RADAR LEVEL WITH REMOTE INDICATION  
(INFLUENT WELL)

**DETAIL H**  
NTS



DISSOLVED OXYGEN  
(FLOATING BALL)

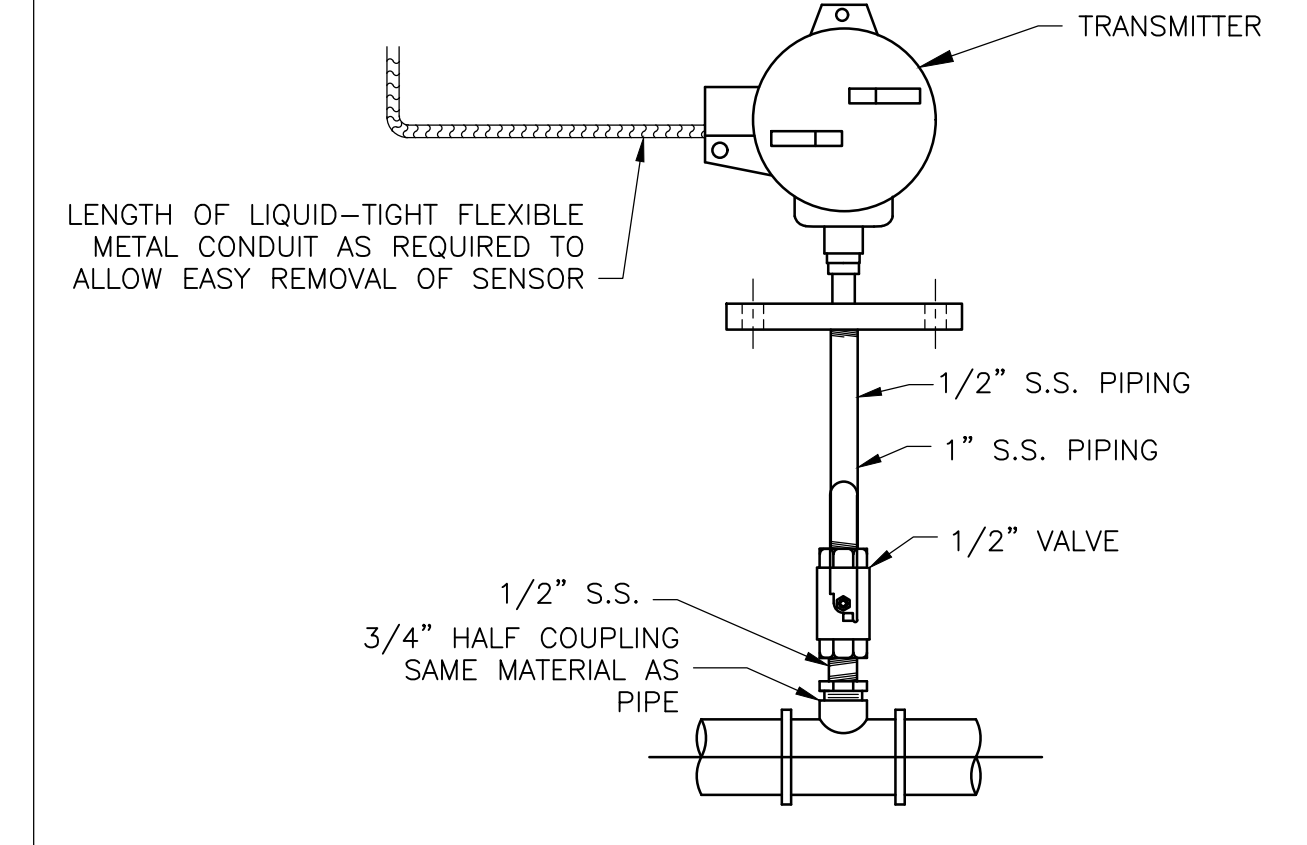
**DETAIL I**  
NTS



- NOTES:**
1. NUMBER OF TRANSDUCERS ARE BASED ON THE MANUFACTURER.

DOPPLER FLOW METER  
(STRAP-ON)

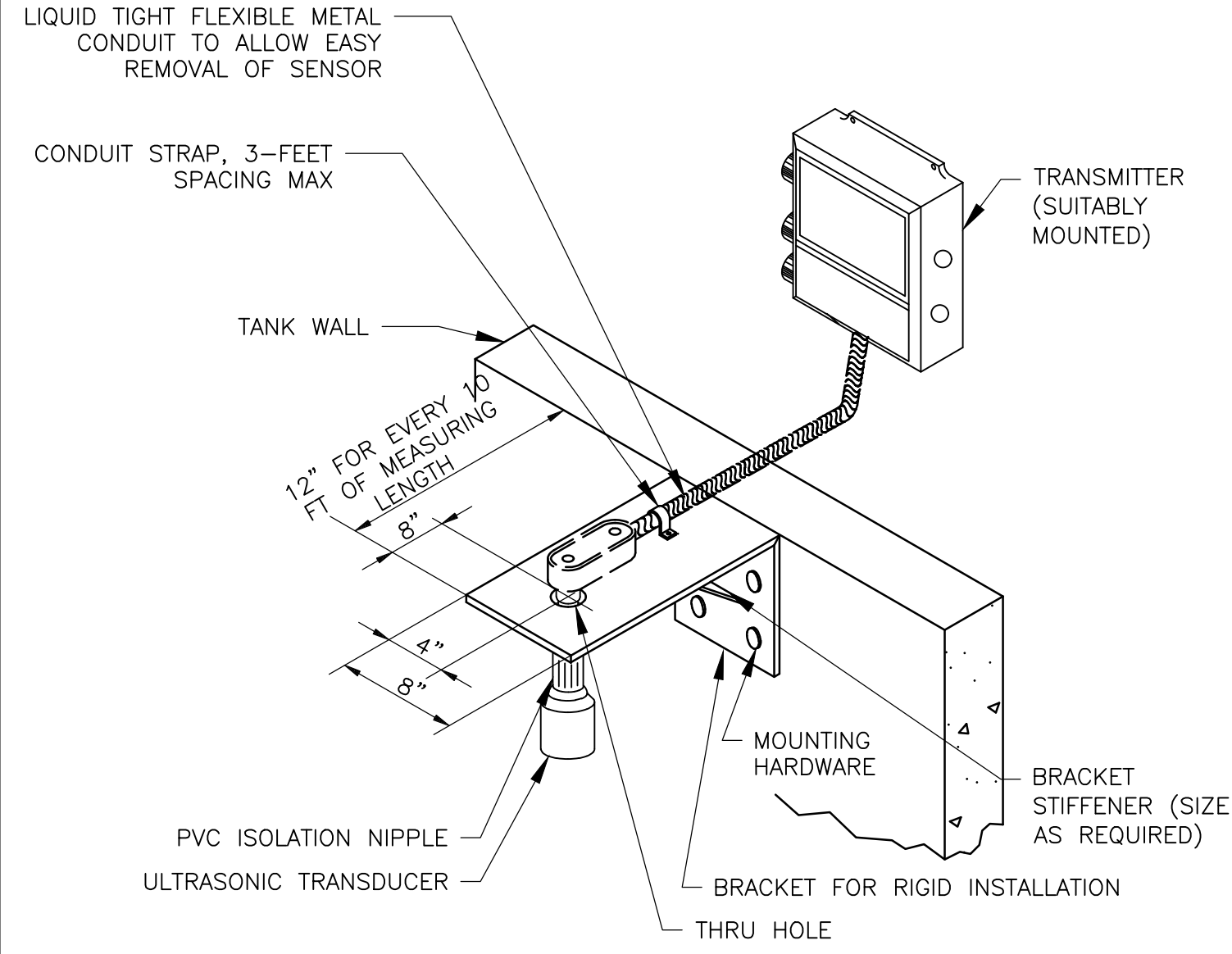
**DETAIL J**  
NTS



- GENERAL NOTE:**
1. THIS IS THE STANDARD DETAIL, ALL PIPING AND VALVES SHALL BE COMPATIBLE TO PROCESS FLUID.

PRESSURE TRANSMITTER

**DETAIL K**  
NTS



- NOTES:**
1. PROVIDE AND INSTALL TEMPERATURE COMPENSATION FOR SENSOR PER MANUFACTURER RECOMMENDATIONS.

ULTRASONIC LEVEL  
(OPEN CHANNEL/WALL MOUNT)

**DETAIL L**  
NTS

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A	5/25/23	SSB	MC	CONFORMED DRAWINGS

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CITY OF GEORGETOWN, TEXAS  
 SAN GABRIEL WWTP  
 REHABILITATION

INSTRUMENTATION INSTALLATION DETAILS II  
 SHEET NO. IZ-2

PROJECT NO. 2048-264953  
 FILE NAME: IZ-2.DWG  
 SHEET NO. IZ-2