Attachment B: Construction Drawings

Out of date – To be replaced with updated lead-lag GAC drawings in final OMMP

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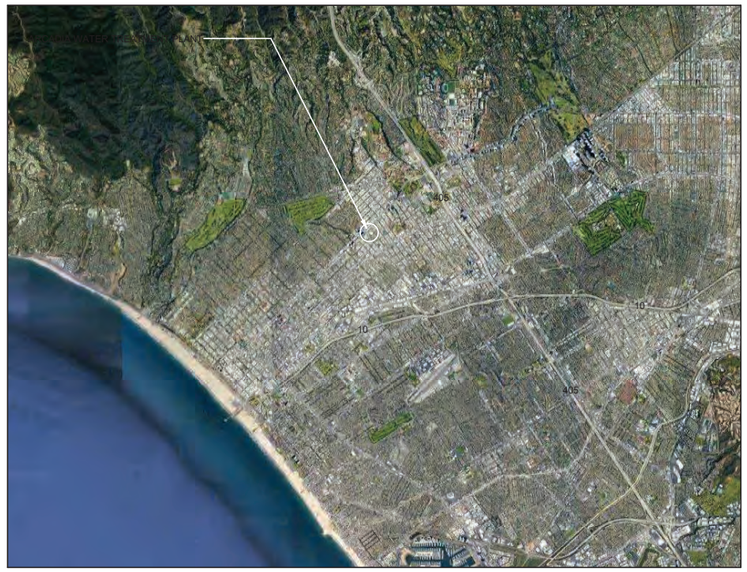
DWG. NO.: G-01-0001 | SHEET 1 OF 303

CITY OF SANTA MONICA, CA

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION FINAL 100% DESIGN DRAWINGS

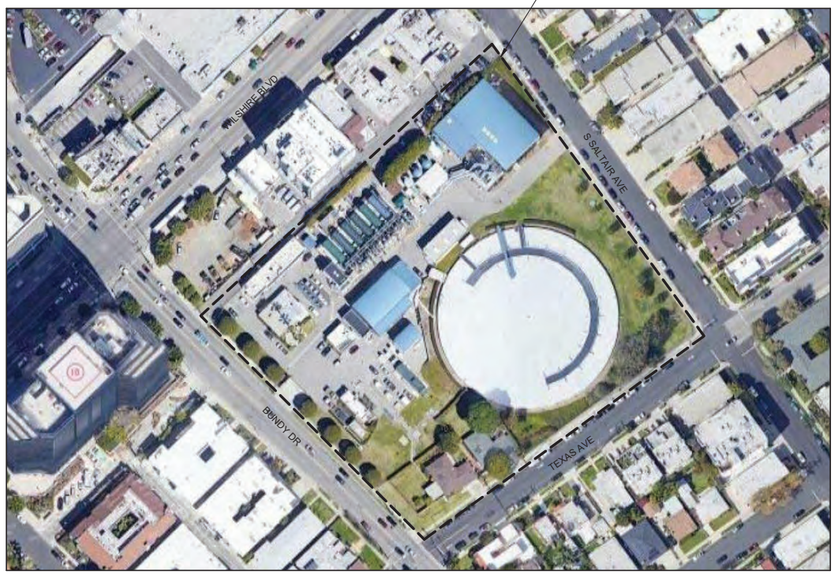
DECEMBER 23, 2021



VICINITY MAP

PROJECT SCOPE OF WORK:

THESE REFERENCE PLANS (COLLECTIVELY, "PLANS") SHALL CONFORM TO THE REQUIREMENTS OF THE PROJECT CRITERIA, COMPLY WITH THE REQUIREMENTS OUTLINED IN THIS EXHIBIT, AND ADDRESS THE ACTIVITIES AND GUARANTEED PLANT PERFORMANCE PARAMETERS FOR THE PROJECT AND ALL EQUIPMENT REQUIRED TO ACHIEVE THE PROJECT CRITERIA. FOR PURPOSES HEREIN, "PROJECT CRITERIA" MEANS: 1) RESTORE THE OLYMPIC SUB-BASIN BY PUMPING AND TREATING THE CONTAMINATED GROUNDWATER THROUGH A NEW ADVANCED WATER TREATMENT FACILITY (APPROXIMATELY 2,000 GALLONS PER MINUTE OF TREATMENT CAPACITY), 2) INCREASE THE TREATMENT EFFICIENCY AT THE ARCADIA WATER TREATMENT PLANT TO 90 PERCENT OR GREATER AND REDUCE WASTE DISCHARGE, 3) CONTINUE TO PROVIDE CITY CUSTOMERS WITH A HIGH-QUALITY AND SAFE DRINKING WATER SUPPLY, AND 4) MAXIMIZE LOCAL WATER SUPPLIES TO REDUCE RELIANCE ON IMPORTED WATER SUPPLIES.



SITE MAP

12/22/2021

BIM 360://154390 - Arcadia Water Treatment Plant Expansion/154390-MASTER-SITEV19.rvt

TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

COVER SHEET

PROJECT AND SHEET TITLE

DESIGNED BY : KBK
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 G-01-0001
SHT 1 OF 303 SHTS

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE	30%	60%	FINAL
GENERAL					
1	G-01-0001	COVER SHEET			X
2	G-01-0002	DRAWING INDEX	X	X	X
3	G-01-0003	ABBREVIATIONS	X	X	X
4	G-01-0004	GENERAL LEGEND AND SYMBOLS	X	X	X
5	G-01-0005	DESIGN CRITERIA - 1	X	X	X
6	G-01-0006	DESIGN CRITERIA - 2	X	X	X
7	G-01-8001	PROCESS FLOW DIAGRAM	X	X	X
8	G-01-8002	PROCESS MASS BALANCE - INITIAL	X	X	X
9	G-01-8003	PROCESS MASS BALANCE - ULTIMATE			X
10	G-01-8004	WASTE AND BRINE HYDRAULIC PROFILES		X	X
11	G-01-8005	GENERAL HYDRAULIC PROFILE	X	X	X
CIVIL					
12	C-01-0001	CIVIL NOTES	X	X	X
13	C-01-1001	SITE AND HORIZONTAL CONTROL PLAN	X	X	X
14	C-01-1002	GRADING AND PAVING PLAN	X	X	X
15	C-01-1005	YARD PIPING PLAN - 1	X	X	X
16	C-01-1006	YARD PIPING PLAN - 2	X	X	X
17	C-01-1007	YARD PIPING PLAN - 3	X	X	X
18	C-01-1008	YARD PIPING PLAN - 4	X	X	X
19	C-01-3001	YARD PIPING PROFILES - 1	X	X	X
20	C-01-3002	YARD PIPING PROFILES - 2		X	X
21	C-01-3003	YARD PIPING PROFILES - 3		X	X
22	C-01-3004	YARD PIPING PROFILES - 4		X	X
23	C-01-3005	YARD PIPING PROFILES - 5			X
24	C-01-5001	MISC CIVIL DETAILS - 1		X	X
25	C-01-5002	MISC CIVIL DETAILS - 2		X	X
26	C-01-5003	MISC CIVIL DETAILS - 3		X	X
27	C-01-5004	MISC CIVIL DETAILS - 4		X	X
28	C-01-5005	MISC CIVIL DETAILS - 5			X
DEMOLITION					
29	Z-01-1001	SITE DEMOLITION PLAN	X	X	X
30	Z-01-1002	YARD PIPING DEMOLITION PLAN - 1	X	X	X
31	Z-01-1003	YARD PIPING DEMOLITION PLAN - 2	X	X	X
32	Z-02-1001	PRESSURE FILTERS AND LP RO FEED PUMPS DEMOLITION PLAN	X	X	X
33	Z-02-1002	CARTRIDGE FILTER DEMOLITION PLAN, SECTION AND DETAILS	X	X	X
34	Z-02-5001	PRESSURE FILTERS AND LP RO FEED PUMPS DEMOLITION DETAILS	X	X	X
35	Z-03-1001	MAINTENANCE BUILDING DEMOLITION PLAN AND PHOTOS	X	X	X
36	Z-06-1001	RO BUILDING/SYSTEM DEMOLITION PLAN	X	X	X
37	Z-06-1002	CIP SYSTEM DEMOLITION PLAN			X
38	Z-06-3001	RO BUILDING/SYSTEM DEMOLITION SECTIONS		X	X
39	Z-06-3002	CIP SYSTEM DEMOLITION SECTION - 1			X
40	Z-06-3003	CIP SYSTEM DEMOLITION SECTION - 2			X
41	Z-06-3004	CIP SYSTEM DEMOLITION SECTIONS - 3			X
42	Z-06-5001	RO BUILDING/SYSTEM DEMOLITION PHOTOS		X	X
43	Z-06-5002	RO BUILDING/SYSTEM DEMOLITION DETAILS		X	X
44	Z-07-1001	DECARBONATORS DEMOLITION PLAN	X	X	X
45	Z-07-5001	DECARBONATORS DEMOLITION PHOTOS			X
46	Z-08-1001	CHEMICAL STORAGE AREA DEMOLITION PLAN	X	X	X
47	Z-08-3001	CHEMICAL STORAGE AREA DEMOLITION PHOTOS	X	X	X
48	Z-09-1001	WASHWATER SYSTEM DEMOLITION PLAN AND SECTION	X	X	X
49	Z-09-3001	WASHWATER SYSTEM DEMOLITION SECTION - 1	X	X	X
50	Z-09-3002	WASHWATER SYSTEM DEMOLITION SECTION - 2	X	X	X
51	Z-10-1001	CHLORINATION BUILDING DEMOLITION PLAN AND PHOTOS	X	X	X
52	Z-11-1001	FLUORIDE BUILDING DEMOLITION PLAN			X
53	Z-11-3001	FLUORIDE BUILDING DEMOLITION SECTIONS			X
54	Z-11-5001	FLUORIDE BUILDING DEMOLITION PHOTOS			X
ARCHITECTURAL					
55	A-01-0001	ABBREVIATIONS, SYMBOLS, LEGENDS AND GENERAL NOTES	X	X	X
56	A-01-5001	WINDOW LOUVER AND DOOR DETAILS		X	X
57	A-01-6001	DOOR WINDOW AND ROOM FINISH SCHEDULES AND TYPES		X	X
58	A-03-0001	UV/AOP CODE ANALYSIS AND COMPLIANCE PLANS			X
59	A-03-1001	UV/AOP FLOOR PLAN AND ROOF PLAN	X	X	X
60	A-03-2001	UV/AOP ELEVATIONS, SECTION AND DETAILS	X	X	X
61	A-03-5001	UV/AOP DETAILS			X
62	A-03-7001	UV/AOP 3D VIEWS	X	X	X
63	A-06-0001	RO BUILDING CODE ANALYSIS AND COMPLIANCE PLAN	X	X	X
64	A-06-1001	RO BUILDING FLOOR PLAN AND ROOF PLAN	X	X	X
65	A-06-2001	RO BUILDING ELEVATIONS	X	X	X
66	A-06-3001	RO BUILDING SECTIONS		X	X
67	A-06-5001	RO BUILDING DETAILS			X
68	A-08-1001	CHEMICAL STORAGE AREA PLAN		X	X
69	A-08-3001	CHEMICAL STORAGE AREA SECTIONS AND DETAILS			X
STRUCTURAL					
70	S-01-0001	GENERAL NOTES - 1	X	X	X
71	S-01-0002	GENERAL NOTES - 2		X	X
72	S-01-0003	GENERAL NOTES - 3		X	X
73	S-01-0004	GENERAL NOTES - 4		X	X
74	S-01-5001	DETAILS - 1		X	X
75	S-01-5002	DETAILS - 2		X	X
76	S-01-5003	DETAILS - 3		X	X
77	S-01-5004	DETAILS - 4		X	X
78	S-01-5005	DETAILS - 5		X	X
79	S-01-5006	DETAILS - 6		X	X
80	S-01-5007	DETAILS - 7		X	X
81	S-02-5001	PRESSURE FILTERS AND LP RO FEED PUMPS DETAILS		X	X

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE	30%	60%	FINAL
82	S-03-1001	UV/AOP FOUNDATION PLAN - 1	X	X	X
83	S-03-1002	UV/AOP FOUNDATION PLAN - 2	X	X	X
84	S-03-3001	UV/AOP SECTIONS - 1	X	X	X
85	S-03-3002	UV/AOP SECTIONS - 2	X	X	X
86	S-04-1001	GAC FOUNDATION PLAN		X	X
87	S-04-3001	GAC SECTIONS		X	X
88	S-06-1001	RO BUILDING FOUNDATION PLAN	X	X	X
89	S-06-1002	RO BUILDING ELECTRICAL ROOM SLAB PLAN		X	X
90	S-06-1003	BRINE TANK PAD PLAN AND SECTION	X	X	X
91	S-06-3001	RO BUILDING SECTIONS	X	X	X
92	S-06-3002	RO BUILDING SECTIONS		X	X
93	S-07-1001	DECARBONATORS FOUNDATION PLAN	X	X	X
94	S-07-1002	DECARBONATORS OPERATING FLOOR PLAN	X	X	X
95	S-07-3001	DECARBONATORS SECTIONS	X	X	X
96	S-08-1001	CHEMICAL STORAGE AREA FOUNDATION PLAN	X	X	X
97	S-08-3001	CHEMICAL STORAGE AREA SECTIONS - 1	X	X	X
98	S-08-3002	CHEMICAL STORAGE AREA SECTIONS - 2			X
99	S-10-1001	BOOSTER PUMP STATION STRUCTURAL PLAN			X
100	S-10-3001	BOOSTER PUMP STATION STRUCTURAL SECTIONS			X
PROCESS MECHANICAL					
101	D-01-0001	STANDARD TYPICAL DETAILS - 1		X	X
102	D-01-0002	STANDARD TYPICAL DETAILS - 2		X	X
103	D-01-0003	STANDARD TYPICAL DETAILS - 3		X	X
104	D-01-0004	STANDARD TYPICAL DETAILS - 4		X	X
105	D-01-0005	STANDARD TYPICAL DETAILS - 5		X	X
106	D-01-0006	STANDARD TYPICAL DETAILS - 6		X	X
107	D-01-0007	STANDARD TYPICAL DETAILS - 7		X	X
108	D-01-0008	STANDARD TYPICAL DETAILS - 8		X	X
109	D-01-0009	STANDARD TYPICAL DETAILS - 9		X	X
110	D-01-0010	STANDARD TYPICAL DETAILS - 10		X	X
111	D-01-0011	STANDARD TYPICAL DETAILS - 11		X	X
112	D-01-6001	PIPE MATERIAL SCHEDULE - 1	X	X	X
113	D-01-6002	PIPE MATERIAL SCHEDULE - 2		X	X
114	D-01-6003	PIPE MATERIAL SCHEDULE - 3		X	X
115	D-01-6004	PIPE MATERIAL SCHEDULE - 4		X	X
116	D-01-6005	VALVE SCHEDULE	X	X	X
117	D-02-1001	OVERALL PRESSURE FILTERS, LP RO FEED PUMPS, AND CARTRIDGE FILTERS PLAN	X	X	X
118	D-02-1002	PRESSURE FILTER PIPING MODIFICATION PLAN	X	X	X
119	D-02-1003	LP RO FEED PUMP AND PIPING MODIFICATION PLAN	X	X	X
120	D-02-1004	CARTRIDGE FILTER PLAN	X	X	X
121	D-02-3001	PRESSURE FILTER PIPING MODIFICATION SECTIONS	X	X	X
122	D-02-3002	LP RO FEED PUMP AND PIPING MODIFICATION SECTIONS	X	X	X
123	D-02-3003	CARTRIDGE FILTER SECTIONS	X	X	X
124	D-02-5001	ANALYZER PANEL DETAILS			X
125	D-03-1001	UV/AOP PLAN	X	X	X
126	D-03-1002	HYDROGEN PEROXIDE STORAGE AND FEED PLAN	X	X	X
127	D-03-3001	UV/AOP SECTIONS	X	X	X
128	D-03-3002	HYDROGEN PEROXIDE STORAGE AND FEED SECTIONS	X	X	X
129	D-03-6001	UV/AOP AND HYDROGEN PEROXIDE DETAILS		X	X
130	D-04-1001	OVERALL GAC PLAN			X
131	D-04-1002	GAC PARTIAL PLAN - 1	X	X	X
132	D-04-1003	GAC PARTIAL PLAN - 2			X
133	D-04-3001	GAC SECTIONS - 1	X	X	X
134	D-04-3002	GAC SECTIONS - 2	X	X	X
135	D-04-3003	GAC SECTIONS - 3			X
136	D-06-1001	RO BUILDING OVERALL PLAN	X	X	X
137	D-06-1002	BRINE PUMP STATION PLAN	X	X	X
138	D-06-3001	RO BUILDING SECTIONS - 1	X	X	X
139	D-06-3002	RO BUILDING SECTIONS - 2	X	X	X
140	D-06-3004	BRINE PUMP STATION SECTIONS	X	X	X
141	D-06-4001	RO CIP AND FLUSH SYSTEM ENLARGED PLAN			X
142	D-07-1001	DECARBONATORS PLAN	X	X	X
143	D-07-1002	VGAC PLAN	X	X	X
144	D-07-3001	DECARBONATORS SECTIONS AND DETAILS - 1	X	X	X
145	D-07-3002	DECARBONATORS SECTIONS AND DETAILS - 2		X	X
146	D-07-3003	VGAC SECTIONS AND DETAILS	X	X	X
147	D-08-1001	CHEMICAL STORAGE AREA OVERALL PLAN	X	X	X
148	D-08-3001	CHEMICAL AREA SECTIONS - 1		X	X
149	D-08-3002	CHEMICAL AREA SECTIONS - 2		X	X
150	D-08-4001	CHEMICAL STORAGE AREA ENLARGED PLAN - 1	X	X	X
151	D-08-4002	CHEMICAL STORAGE AREA ENLARGED PLAN - 2	X	X	X
152	D-08-5003	CHEMICAL AREA DETAILS - 1		X	X
153	D-08-5004	CHEMICAL AREA DETAILS - 2		X	X
154	D-09-1001	EQUALIZATION TANK PLAN AND SECTION	X	X	X
155	D-10-1001	BOOSTER PUMP STATION PLAN			X
156	D-10-3001	BOOSTER PUMP STATION SECTIONS			X
157	D-10-3002	BOOSTER PUMP STATION DETAILS			X
158	D-11-1001	FLUORIDE BUILDING PLAN			X
159	D-11-3001	FLUORIDE BUILDING SECTIONS			X
160	R-06-1001	MODIFICATIONS TO EXISTING RO TRAINS TOP VIEW			X
161	R-06-3001	MODIFICATIONS TO EXISTING RO TRAINS FRONT VIEW			X
162	R-06-3002	MODIFICATIONS TO EXISTING RO TRAINS RIGHT VIEW			X
163	R-06-3003	MODIFICATIONS TO EXISTING RO TRAINS LEFT VIEW			X
164	R-06-7001	MODIFICATIONS TO EXISTING RO TRAINS FRONT ISOMETRIC VIEW			X
165	R-06-7002	MODIFICATIONS TO EXISTING RO TRAINS BACK ISOMETRIC VIEW			X

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE	30%	60%	FINAL
MECHANICAL					
166	M-06-0001	RO BUILDING HVAC GENERAL NOTES, ABBREVIATIONS, LEGENDS, & SYMBOLS		X	X
167	M-06-1001	RO BUILDING HVAC PLAN		X	X
168	M-06-5001	RO BUILDING HVAC DETAILS	X	X	X
169	M-06-6001	RO BUILDING HVAC SCHEDULES AND AIR FLOW SCHEMATIC		X	X
ELECTRICAL					
170	E-01-0001	LEGEND AND SYMBOLS - 1	X	X	X
171	E-01-0002	LEGEND AND SYMBOLS - 2	X	X	X
172	E-01-0003	ABBREVIATIONS AND GENERAL NOTES	X	X	X
173	E-01-1001	ELECTRICAL OVERALL SITE PLAN	X	X	X
174	E-01-2001	EQUIPMENT ELEVATION - 1		X	X
175	E-01-2002	EQUIPMENT ELEVATION - 2		X	X
176	E-01-3001	DUCTBANK SECTIONS		X	X
177	E-01-4001	ELECTRICAL SITE PLAN - 1	X	X	X
178	E-01-4002	ELECTRICAL SITE PLAN - 2	X	X	X
179	E-01-4003	ELECTRICAL SITE PLAN - 3	X	X	X
180	E-01-5001	STANDARD DETAILS - 1		X	X
181	E-01-5002	STANDARD DETAILS - 2		X	X
182	E-01-5003	STANDARD DETAILS - 3		X	X
183	E-01-5004	STANDARD DETAILS - 4		X	X
184	E-01-5005	STANDARD DETAILS - 5		X	X
185	E-01-6001	SINGLE LINE DIAGRAM - 1	X	X	X
186	E-01-6002	SINGLE LINE DIAGRAM - 2	X	X	X
187	E-01-6003	SINGLE LINE DIAGRAM - 3	X	X	X
188	E-01-6004	SINGLE LINE DIAGRAM - 4	X	X	X
189	E-01-6005	SINGLE LINE DIAGRAM - 5		X	X
190	E-01-6006	CONTROL SINGLE LINE DIAGRAM - 1	X	X	X
191	E-01-6007	CONTROL SINGLE LINE DIAGRAM - 2	X	X	X
192	E-01-6008	CONTROL SINGLE LINE DIAGRAM - 3	X	X	X
193	E-01-6009	CONTROL SINGLE LINE DIAGRAM - 4	X	X	X
194	E-01-6010	CONTROL SINGLE LINE DIAGRAM - 5	X	X	X
195	E-01-6011	CONTROL SINGLE LINE DIAGRAM - 6	X	X	X
196	E-01-6012	CONTROL SINGLE LINE DIAGRAM - 7	X	X	X
197	E-01-6013	CONTROL SINGLE LINE DIAGRAM - 8	X	X	X
198	E-01-8014	CONTROL SINGLE LINE DIAGRAM - 9		X	X
199	E-01-6015	CONTROL SINGLE LINE DIAGRAM - 10		X	X
200	E-01-6016	LIGHTING FIXTURES SCHEDULE		X	X
201	E-01-6018	PANELBOARD SCHEDULE - 1		X	X
202	E-01-6019	PANELBOARD SCHEDULE - 2		X	X
203	E-01-6021	CONTROL SCHEMATIC DIAGRAM - 1			X
204	E-01-6022	CONTROL SCHEMATIC DIAGRAM - 2			X
205	E-01-6023	CONTROL SCHEMATIC DIAGRAM - 3			X
206	E-02-1001	PRESSURE FILTER POWER PLAN	X	X	X
207	E-02-1002	PRESSURE FILTER CONTROL AND SIGNAL PLAN		X	X
208	E-03-1001	UV/AOP POWER PLAN	X	X	X
209	E-03-1002	UV/AOP POWER PLAN ISOMETRIC			X
210	E-03-1003	UV/AOP CONTROL AND SIGNAL PLAN		X	X
211	E-03-1004	UV/AOP LIGHTING, RECEPT AND GROUNDING PLAN		X	X
212	E-03-1005	HYDROGEN PEROXIDE STORAGE POWER AND CONTROL PLAN	X	X	X
213	E-03-1006	HYDROGEN PEROXIDE STORAGE LIGHTING, RECEPT AND GROUNDING PLAN		X	X
214	E-04-1001	GAC POWER PLAN - 1	X	X	X
215	E-04-1002	GAC POWER PLAN - 2			X
216	E-04-1003	GAC CONTROL AND SIGNAL PLAN - 1		X	X
217	E-04-1004	GAC CONTROL AND SIGNAL PLAN - 2			X
218	E-04-1005	GAC LIGHTING, RECEPT AND GROUNDING PLAN - 1		X	X
219	E-04-1006	GAC LIGHTING, RECEPT AND GROUNDING PLAN - 2			X
220	E-06-1001	RO BUILDING POWER PLAN	X	X	X
221	E-06-1002	RO BUILDING CONTROL AND SIGNAL PLAN		X	X
222	E-06-1003	RO BUILDING LIGHTING, RECEPT AND GROUNDING PLAN		X	X
223	E-06-1004	BRINE PUMP STATION POWER PLAN	X	X	X
224	E-06-1005	BRINE PUMP STATION CONTROL AND SIGNAL PLAN		X	X
225	E-06-1006	BRINE PUMP STATION LIGHTING, RECEPT, AND GROUNDING PLAN		X	X
226	E-06-4001	EXISTING RO ENLARGED PLAN - 1		X	X
227	E-07-1001	DECARBONATORS POWER PLAN	X	X	X
228	E-07-1002	DECARBONATORS CONTROL AND SIGNAL PLAN		X	X
229	E-07-1003	DECARBONATORS LIGHTING, RECEPT AND GROUNDING PLAN		X	X
230	E-08-1004	CHEMICAL STORAGE AREA POWER PLAN	X	X	X
231	E-08-1005	CHEMICAL STORAGE AREA CONTROL AND SIGNAL PLAN		X	X
232	E-08-1006	CHEMICAL STORAGE AREA LIGHTING, RECEPT AND GROUNDING PLAN		X	X
233	E-09-1001	EQUALIZATION TANK POWER AND CONTROL PLAN			X
234	E-10-1001	BOOSTER PUMP STATION POWER PLAN			X
235	E-10-1002	BOOSTER PUMP STATION CONTROL AND SIGNAL PLAN			X
236	E-10-1003	BOOSTER PUMP STATION LIGHTING, RECEPT AND GROUNDING			X
237	E-10-6001	BOOSTER PUMP STATION SINGLE LINE DIAGRAM			X
238	E-10-6002	BOOSTER PUMP STATION CONTROL SCHEMATIC DIAGRAM			X
239	E-11-4001	FLUORIDE BUILDING ELECTRICAL PLAN			X
240	E-11-6001	FLUORIDE BUILDING PANEL SCHEDULES			X
241	R-01-5001	ELECTRICAL DRAWING REFERENCE - 1			X
242	R-01-5002	ELECTRICAL DRAWING REFERENCE - 2			X
243	R-01-5003	ELECTRICAL DRAWING REFERENCE - 3			X

DRAWING INDEX

SHEET NO.	DRAWING NO.	TITLE	30%	60%	FINAL
INSTRUMENTATION					
244	I-01-0001	INSTRUMENTATION LEGEND - 1	X	X	X
245	I-01-0002	INSTRUMENTATION LEGEND - 2	X	X	X
246	I-01-0003	INSTRUMENTATION ABBREVIATIONS		X	X
247	I-01-5001	INSTRUMENTATION DETAILS - 1			X
248	I-01-5002	INSTRUMENTATION DETAILS - 2			X
249	I-01-5003	INSTRUMENTATION DETAILS - 3			X
250	I-01-5004	INSTRUMENTATION DETAILS - 4			X
251	I-01-5005	PLC/RIO PANEL LAYOUT		X	X
252	I-01-5006	PLC-7 PANEL INTERIOR LAYOUT		X	X
253	I-01-6001	CONTROL SYSTEM BLOCK DIAGRAM		X	X
254	I-02-8001	P&ID LP RO FEED PUMPS PVE-1401	X	X	X
255	I-03-8001	P&ID UV/AOP - HYDROGEN PEROXIDE INJECTION SYSTEM	X	X	X
256	I-03-8002	P&ID UV REACTOR	X	X	X
257	I-03-8003	P&ID HYDROGEN PEROXIDE TANKS AND METERING PUMPS	X	X	X
258	I-04-8001	P&ID GAC TRAIN 1	X	X	X
259	I-04-8002	P&ID GAC TRAIN 2		X	X
260	I-04-8003	P&ID GAC TRAIN 3 (FUTURE)			X
261	I-04-8004	P&ID GAC TRAIN 4 (FUTURE)			X
262	I-06-8002	P&ID BRINE PUMP STATION	X	X	X
263	I-06-8003	P&ID AIR COMPRESSOR SYSTEM			X
264	I-06-8004	P&ID CLEAN IN PLACE SYSTEM			X
265	I-06-8005	P&ID RO FLUSH SYSTEM			X
266	I-08-8008	OLYMPIC GREENSAND FILTER SODIUM HYPOCHLORITE FEED PUMPS 3 OF 4	X	X	X
267	I-08-8009	OLYMPIC GREENSAND FILTER SODIUM HYPOCHLORITE FEED PUMPS 4 OF 4	X	X	X
268	I-08-8010	GAC EFFLUENT LIQUID AMMONIUM SULFATE FEED PUMPS 2 OF 3	X	X	X
269	I-08-8011	GAC EFFLUENT LIQUID AMMONIUM SULFATE FEED PUMPS 3 OF 3	X	X	X
270	I-08-8012	P&ID SULFURIC ACID FEED SYSTEM 3 OF 3	X	X	X
271	I-10-8001	P&ID BOOSTER PUMP STATION		X	X
272	PIA00703	P&ID RAW WATER MIXING	X	X	X
273	PIA00708	P&ID PRESSURE FILTER 4	X	X	X
274	PIA00709	P&ID PRESSURE FILTER 5	X	X	X
275	PIA00710	P&ID PRESSURE FILTER 6	X	X	X
276	PIA00711	P&ID RO FEED TANK AND LP RO FEED PUMPS	X	X	X
277	PIA00712	P&ID CARTRIDGE FILTERS	X	X	X
278	PIA00713	P&ID REVERSE OSMOSIS UNIT 1	X	X	X
279	PIA00714	P&ID REVERSE OSMOSIS UNIT 2	X	X	X
280	PIA00715	P&ID REVERSE OSMOSIS UNIT 3	X	X	X
281	PIA00716	P&ID REVERSE OSMOSIS UNIT 4	X	X	X
282	PIA00719	P&ID WASHWATER RECOVERY SYSTEM	X	X	X
283	PIA00720	P&ID BACKWASH SUPPLY SYSTEM	X	X	X
284	PIA00721	P&ID DECARBONATORS POST-TREATMENT	X	X	X
285	PIA00721A	P&ID BED ABSORBERS	X	X	X
286	PIA00722	P&ID SODIUM HYPOCHLORITE STORAGE	X	X	X
287	PIA00724	P&ID SODIUM HYPOCHLORITE FEED 1 OF 4	X	X	X
288	PIA00725	P&ID SODIUM HYPOCHLORITE FEED 2 OF 4	X	X	X
289	PIA00728	P&ID AMMONIUM SULFATE STORAGE	X	X	X
290	PIA00729	P&ID AMMONIUM SULFATE FEED SYSTEM 1 OF 3	X	X	X
291	PIA00730	P&ID ANTISCALANT STORAGE SYSTEM	X	X	X
292	PIA00731	P&ID ANTISCALANT FEED SYSTEM	X	X	X
293	PIA00733	P&ID SODIUM HYDROXIDE FEED SYSTEM	X	X	X
294	PIA00735	P&ID SULFURIC ACID STORAGE SYSTEM	X	X	X
295	PIA00736	P&ID SULFURIC ACID FEED SYSTEM 1 OF 3	X	X	X
296	PIA00737	P&ID SULFURIC ACID FEED SYSTEM 2 OF 3	X	X	X
297	PIA00743	P&ID HYDROFLUORSILICIC ACID STORAGE SYSTEM		X	X
298	PIA00744	P&ID HYDROFLUORSILICIC ACID FEED SYSTEM		X	X
299	PIA00745	P&ID RESERVOIR OVERFLOW, DRAIN, SAMPLE PUMP	X	X	X
300	R-06-0001	P&ID REFERENCE DRAWING 1	X	X	X
301	R-06-0002	P&ID REFERENCE DRAWING 2			X
302	R-06-0003	P&ID REFERENCE DRAWING 3			X
303	R-06-0004	P&ID REFERENCE DRAWING 4			X

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZACHER
No. 65698
CIVIL
STATE OF CALIFORNIA

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

DRAWING INDEX

DESIGNED BY : KBK
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078
G-01-0002
SHT 2 OF 303 SHTS

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

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PROCESS SERVICE ABBREVIATIONS

NS04	AMMONIUM SULFATE
AS	ANTISCALANT
BW	BACKWASH
BWW	BACKWASH WASTE
WW	BACKWASH RECOVERY
C02	CARBON DIOXIDE
DET	CAUSTIC DETERGENT
CA	CITRIC ACID
CIP	CLEAN IN PLACE
CIPR	CLEAN IN PLACE RETURN
CIPS	CLEAN IN PLACE SOLUTION
CIPW	CLEAN IN PLACE WASTE
DC	DECARBONATION
DRN	DRAIN
FWS	FLUSH WATER SYSTEM
GAC	GRANULATED ACTIVATED CARBON
VGAC	GAC AIR SCRUBBERS
HF	HYDROFLUOSILICIC ACID (FLUORIDE)
H2O2	HYDROGEN PEROXIDE
IA	INSTRUMENT AIR
OF	OVERFLOW
PACL	POLYALUMINUM CHLORIDE
PF	PRESSURE FILTERS
RO	REVERSE OSMOSIS
ROB	RO BYPASS
ROF	RO FEED
ROP	RO PERMEATE
ROR	RO REJECT
SAMP	SAMPLE
SS	SANITARY SEWER
NHS	SODIUM BISULFITE
NAOH	SODIUM HYDROXIDE
NOCL	SODIUM HYPOCHLORITE
NAF	SODIUM FLUORIDE
SW	STORM WATER
HSO4	SULFURIC ACID
OXW	UV FEED (D/S PEROXIDE INJECTION)
UVE	UV EFFLUENT
FLT	WATER - FILTERED
FS	WATER - FINISHED
FW	WATER - FIRE
IRW	WATER - IRRIGATION
NPW	WATER - NON-POTABLE
PW	WATER - POTABLE
RW1	WATER - RAW
RC	REACT (VIRGIN) CARBON
SA	SYSTEM AIR
SC	SPENT CARBON SLURRY
V	VENT

PIPING TYPE ABBREVIATIONS

A20	ALLOY 20
CI	CAST IRON
CIP	CAST IRON PIPE
CIS	CAST IRON SOIL PIPE
CMLS	CEMENT LINED STEEL
CMP	CORRUGATED METAL PIPE
CPVC-1	CHLORINATED POLYVINYL CHLORIDE (MATERIAL CLASSIFICATION CPVC-1)
CRP-1	CARPENTER 20-CB3 (MATERIAL CLASSIFICATION CRP-1)
CS-2	CARBON STEEL (MATERIAL CLASSIFICATION CS-2)
CS-3	CARBON STEEL (MATERIAL CLASSIFICATION CS-3)
CU	COPPER PIPE
CUK	COPPER PIPE - TYPE K
CUL	COPPER PIPE - TYPE L
DCP	DOUBLE CONTAINED PIPE
DIP	DUCTILE IRON PIPE
DIGL	GLASS LINED DUCTILE IRON
ELS	EPOXY LINED STEEL
FRP	FIBER REINFORCED PLASTIC
FRPE	FIBER REINFORCED PLASTIC FOR (EXHAUST AIR SERVICE)
HDPE	HIGH DENSITY POLYETHYLENE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	POLYETHYLENE
PFA-1	TEFLON TUBING (MATERIAL CLASSIFICATION PFA-1)
PP	POLYPROPYLENE
PVC-2	POLYVINYL CHLORIDE (MATERIAL CLASSIFICATION PVC-2)
PVC-4	POLYVINYL CHLORIDE (MATERIAL CLASSIFICATION PVC-4)
PVDF	POLYVINYLIDENE FLUORIDE
RCP	REINFORCED CONCRETE PIPE
SS-1	STAINLESS STEEL (MATERIAL CLASSIFICATION SS-1)
SS-5	STAINLESS STEEL (MATERIAL CLASSIFICATION SS-5)
SS-7	STAINLESS STEEL (MATERIAL CLASSIFICATION SS-7)
STL	STEEL
VCP	VITRIFIED CLAY PIPE
SST	STAINLESS STEEL TUBING

EQUIPMENT ABBREVIATIONS

ACC	AIR CONDITION COIL
ACU	AIR CONDITION UNIT
AD	AIR DRYER
AF	AIR FILTER
AHC	AIR HANDLING UNIT W/COIL
AHU	AIR HANDLING UNIT
APU	AIR PURIFICATION UNIT
AR	AIR RECEIVER
ARV	AUTOMATIC AIR RELEASE VALVE
AS	AIR SEPARATOR
ASC	ADJUSTABLE SPEED CONTROL
ASD	ADJUSTABLE SPEED DRIVE
AST	AIR STRIPPER
B	BLOWER
BFP	BACKFLOW PREVENTER
BL	BLOWER, POSITIVE DISPLACEMENT
BLC	BLOWER, CENTRIFUGAL
BLR	BOILER
BNR	BURNER
CCLM	CALIBRATION COLUMN
CCT	CHLORINE CONTACT TANK
CDR	CONDENSER
CHF	CHEMICAL FEEDER
CHR	CHILLER
CMB	COMPRESSOR, BASE MOUNTED
CMP	COMPRESSOR
CMR	COMPRESSOR, ROTARY SCREW
COL	COLLECTOR
CP	COMPRESSOR
CPB	CHEMICAL PIPE BANK
CR	CRANE
CRG	CRANE, GANTRY
CRJ	CRANE, JIB
CRP	CRANE, PORTABLE GANTRY
CRT	CRANE, TRAVELING BRIDGE
CU	CONDENSING UNIT
CV	CONTROL VALVE
CW	CLEARWELL
CYL	CYLINDER
DIS	DISTRIBUTOR
DLC	DOUBLE-LEAF CHECK VALVE
DPR	DAMPER
DS	DISCONNECT SWITCH
DU	DRIVE UNIT
DWT	TANK, DOUBLE WALL
E	ENGINE
EB	ENGINE BLOWER MODULE
ED	EQUIPMENT DRAIN
EDU	EDUCTOR
EEW	EMERGENCY EYE WASH
EF	EXHAUST FAN
EPR	EVAPORATOR
ES	EMERGENCY SHOWER
ESE	EMERGENCY SHOWER & EYEWASH
F	FAN
FAN	FAN SUPPLY OR EXHAUST
FAR	FLAME ARRESTER
FCT	FERRIC CHLORIDE TANK
FD	FLOOR DRAIN
FE	FLOW METER
FLC	FILTER, CARTRIDGE TYPE
FLT	FILTER, UNDERDRAINS AND MEDIA
FP	FLUME, PARSHALL
FPU	FLUID POWER UNIT
FS	FLOW SPLITTER
FUR	FURNACE
GEN	GENERATOR
H	HOIST
HOP	HYDRAULIC OPERATOR
HPU	HYDRAULIC POWER UNIT
HSC	HOIST, CHAIN
HSE	HOIST, WIRE ROPE
HTR	HEATER
HTT	HEAT TRACE TAPE
HV	HAND OPERATED VALVE
HYDF	HYDRANT, FIRE
HYDW	HYDRANT, WALL
INJ	INJECTOR, CHEMICAL
IQ	INJECTION QUILL
LCP	LOCAL CONTROL PANEL
LVR	LOUVER
M	MOTOR
MME	MISC. MECHANICAL
MOP	MOTOR OPERATOR
MSP	MOTOR STARTER PANEL
MX	MIXER
MXI	MIXER, IN-LINE
MXPG	MIXER, PUGMILL
MXR	MIXER, RAPID
MXS	MIXER, STATIC
ORD	OVERFLOW ROOF DRAIN
P	PUMP
PAD	PUMP, AIR DIAPHRAGM
PCL	PUMP, CENTRIFUGAL
PD	PULSATION DAMPENER
PDM	PUMP, DIAPHRAGM METERING
PHE	PUMP, HORIZONTAL END SUCTION
PLC	PROGRAMMABLE LOGIC
POP	PNEUMATIC OPERATOR
PPS	PUMP, PERISTALTIC
PSC	PUMP, HORIZONTAL SPLIT CASE
PSM	PUMP, SUBMERSIBLE
PSP	PUMP, SUMP
PSS	PUMP, SUBMERSIBLE SUMP
PTV	VALVE, PILOT
PVE	PUMP, VERTICAL END SUCTION
PVL	PRESSURE VESSEL
PVW	PUMP, VERTICAL WET PIT
RAD	RADIATOR
REC	RECEIVER
RM	ROTAMETER
RSV	RESERVOIR
SAMP	SAMPLER
SCU	SCRUBBER
SF	SUPPLY FAN
SG	SIGHTGLASS
SGT	SIGHT GLASS - TALL
SIL	SILENCER
SMP	SAMPLER
SRCH	SURGE CHAMBER
STDP	STANDPIPE
STN	STRAINER
STP	SEDIMENT TRAP
SUB	SUBSTATION
SWBD	SWITCHBOARD
T, TNK	TANK, GENERAL OR UNSPECIFIED
TB	TURBIDIMETER
TBN	TURBINE
TCF	TANK, FRP CHEMICAL STORAGE
TCN	TANK, AMMONIA STORAGE
TCP	TANK, PE CHEMICAL STORAGE
TCS	TANK, STEEL CHEMICAL STORAGE
TCV	TEMPERATURE CONTROL VALVE
TM	TIMER
TOT	TOTES
TRP	TRAP
TRS	TRANSFER SWITCH
TSA	TANK, ABOVE GROUND STORAGE
UH	UNIT HEATER
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VALVE, GENERAL OR UNSPECIFIED
VAG	VALVE, ANGLE
VBF	VALVE, AWWA BUTTERFLY

EQUIPMENT ABBREVIATIONS

VBI	VALVE, INDUSTRIAL BUTTERFLY
VBL	VALVE, AWWA BALL
VBM	VALVE, BALL MISCELLANEOUS
VBP	VALVE, V-PORT BALL
VCK	VALVE, CHECK
VCN	VALVE, CONE
VDG	VALVE, DIAPHRAGM OPERATED OPEN OR CLOSE
VE	VESSEL
VEN	VENTILATOR
VG	VALVE, GATE
VGD	VALVE, DOUBLE DISC GATE
VGL	VALVE, GLOBE
VGR	VALVE, RESILIENT SEATED GATE
VKG	VALVE, KNIFE GATE
VP	VACUUM PUMP, PROCESS VALVE
VPC	VALVE, PRESSURE REGULATING
VPG	VALVE, PLUG
VPL	VALVE, ECCENTRIC PLUG
VPN	VALVE, PINCH
VPR	VALVE, PRESSURE REDUCING
VR	VALVE, AIR RELEASE
VRAV	VALVE, AIR-VACUUM
VRG	VACUUM REGULATOR
VS	VALVE, SAFETY
VSL	VALVE, SOLENOID
VSLV	VALVE, SLEEVE
VSP	VALVE, PRESSURE RELIEF
VSPV	VALVE, PRESSURE/VACUUM RELIEF
VSV	VALVE, VACUUM RELIEF
VTS	VALVE, THERMAL SHUTOFF
VTW	VALVE, THREE WAY
VVB	VALVE, VACUUM BREAKER
WCC	WATER CONTROL CABINET
WH	WATER HEATER
WHR	WASHER
WSR	WATER SOFTENER UNIT
XFMR	TRANSFORMER

GENERAL ABBREVIATIONS

A	AMPERE OR AERATOR
ABAND	ABANDONED
ADJ	ADJUSTABLE
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ALM	ALARM
ALT	ALTERNATE
AMD	AIR MONITORING DEVICE
ANC	ANCHOR
APPROX	APPROXIMATE(LY)
AR	ALARM RELAY
AS	AIR SUPPLY
ASPH	ASPHALT
ASSOC	ASSOCIATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
ATM	ATMOSPHERE
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
BC	BOTTOM OF CURB
BF	BLIND FLANGE
BFPV	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BL	BASE LINE
BLDG	BUILDING
BM	BEAM, BENCHMARK
BO	BLOW-OFF
BOT	BOTTOM
BRG	BEARING
BTU	BRITISH THERMAL UNIT
C	CELSIUS OR COIL
CAB	CABINET
CATV	CABLE TELEVISION
CAP	CAPACITY
CB	CATCH BASIN
CC	COOLING COIL
C-C	CENTER TO CENTER
CD	CEILING DIFFUSER
CE	CONSTRUCTION EASEMENT
CED	CEILING EXHAUST DIFFUSER
CER	CEILING EXHAUST REGISTER
CF	CUBIC FOOT, CARTRIDGE FILTER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFR	CHEMICAL FEEDER
CFS	CUBIC FEET PER SECOND
CHR	CHILLER
CI	CAST IRON
CIR	CIRCLE
CIRC	CIRCUMFERENCE
CJ	CONSTRUCTION JOINT
CKPL	CHECKER PLATE
CL	CENTERLINE, CLASS, OR CHLORINE
CML	CEMENT MORTAR LINING
CMU	CONCRETE MASONRY UNIT
CMWD	CALLEGUAS MUNICIPAL WATER DISTRICT
CNTL	CONTROL
CO	CLEANOUT
COL	COLUMN
COMB	COMBINED
CONC	CONCRETE
COND	CONDUCTIVITY, CONDENSATE
CONN	CONNECTION
CONT	CONTINUED(OUS)
CPB	CHEMICAL PIPE BANK
CPLG	COUPLING
CPRSN	COMPRESSION
CPVC	CHLORINATED POLYVINYL CHLORIDE
CREJ	CORRUGATED RUBBER EXPANSION JOINT
CRN	CRANE
CT	CURRENT TRANSFORMER
CTG	COATING
CTR	CENTER
CULV	CULVERT
CWA	CONCRETE WASHOUT AREA
DB	DUCT BANK
DC	DIRECT CURRENT
DECARB	DECARBONATOR
DEMO	DEMOLITION / DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DI	DUCTILE IRON / DROP INLET
DIA	DIAMETER
DIAG	DIAGRAM / DIAGONAL
DIFF	DIFFERENTIAL
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DM	DAMPER MOTOR
DSI	DIAPHRAGM SEAL
DWG	DRAWING
DWY	DRIVEWAY
EAT	ENTERING AIR TEMPERATURE
ECC	ECCENTRIC
ECF	EQUIPMENT CONNECTION FITTING
EE	EACH END
EEW	EMERGENCY EYE WASH
EFF	EFFLUENT
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMH	ELECTRICAL MANHOLE
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT, ELECTRIC/PNEUMATIC CONVERTER
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EXISTING SURFACE, ELECTRICAL SERVICE
EVC	END OF VERTICAL CURVE
ESMT	EASMENT
EST	ESTIMATE / ESTIMATED
ETWU	ESTIMATED TOTAL WATER USE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FAHRENHEIT, FACE, FUSE(D), FAN
FAB	FABRICATE(D)(TION)
FAI	FRESH AIR INTAKE
FAP	FIRE ALARM PANEL
FBE	FUSION BONDED EPOXY
FB	FLAT BAR, FLOOR BEAM
FBK	FEEDER BREAKER
FC	FAIL CLOSED
FCO	FLOOR CLEANOUT
FCR	FINE CRUSHED ROCK
FD	FIRE DAMPER
FF	FAR FACE
F-F	FACE TO FACE
FG	FINISHED GRADE
FIN	FINISHED
FIT	FLOW INDICATING TRANSMITTER
FL	FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE(D)
FMH	FLEXIBLE METAL HOSE
FO	FAIL OPEN
FPC	FLEXIBLE PIPE COUPLING
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FINISHED SURFACE
FSD	FLAT SIDE DOWN
FSU	FLAT SIDE UP
FTG	FOOTING
FTGS	FITTINGS
FTP	FLAME TRAP
FURN	FURNISHED
FUT	FUTURE
GALV	GALVANIZED
GB	GRADE BREAK
GC	GRANITE CURB
GE	GROOVED END
GDR	GRINDER
GFI	GROUND FAULT INTERRUPTER
GM	GAS METER
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GRT	GROUT OR GRATE
GRTG	GRATING
GSKT	GASKET
GSP	GALVANIZED STEEL PLATE
HC	HEADED CURB
HD	HEAVY DUTY
HGL	HYDRAULIC GRADE LINE
HGR	HANGER
HMA	HOT MIX ASPHALT
HMI	HUMAN MACHINE INTERFACE
HOR	HORIZONTAL
HP	HIGH PRESSURE, HIGH POINT, HORSEPOWER
HR	HANDRAIL, HEAT RESERVOIR, HOUR
HSC	HYDRAULIC SYSTEM CENTER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
INF	INFLUENT
INSUL	INSULATE(D)(ION)
INSTR	INSTRUMENTATION
INT	INTERIOR
INTER	INTERMEDIATE
INV	INVERT
JB	JUNCTION BOX
JT FLR	JOINT FILLER
KW	KILOWATT
KO	KNOCK OUT
L	LENGTH
LAM	LAMINATED
LAT	LEAVING AIR TEMPERATURE, LATERAL
LB	POUND
LF	LINEAR FEET
LOC	LOCATION
LOS	LOCKOUT STOP
LP	LOW PRESSURE, LIGHTING PANEL, LIGHT POLE, LOW POINT
LS	LIMIT SWITCH, LIFT STATION
L/S	LANDSCAPE STRIP
LTG	LIGHTING
MAN	MANUAL(LY)
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MAWA	MAXIMUM APPLIED WATER ALLOWANCE
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURE(R)
MG/L	MILLIGRAMS PER LITER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MILLILITER
MON	MONUMENT
MPV	FOUR WAY VALVE
MUX	MULTIPLEXER
MW	MONITORING WELL
N	NEUTRAL, NORTH
N/A	NOT APPLICABLE
NAVD	NATIONAL AMERICAN VERTICAL DATUM
NC	NORMALLY CLOSED
NE	NORTHEAST
NEC	NATIONAL ELECTRICAL CODE
NEG	NEGATIVE
NEUT	NEUTRAL
NG	NATURAL GAS
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPSH	NET POSITIVE SUCTION HEAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NV	NEEDLE VALVE
NW	NORTHWEST
OA	OUTSIDE AIR, OVERALL
OAI	OUTSIDE AIR INTAKE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE, OVERFLOW
OH	OVERHEAD
OHP	OVERHEAD POWER
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
ORP	OXIDATION REDUCTION POTENTIAL
OXW	OXYGENATED WATER
P	POLYETHYLENE ENCASEMENT
P&ID	PROCESS AND INSTRUMENTATION DIAGRAM
PAR	PARALLEL
PCC	PLANT CONTROL CENTER
PDC	POWER DISTRIBUTION CENTER
PE	PNEUMATIC/ELECTRICAL CONVERTER, PLAIN END
PF	POWER FACTOR, PRESSURIZED FLOW
PG	PRESSURE GAGE
PGV	PROFESSIONAL GRADE VALVE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE, PIPELINE, PLATE
PLD	PROFESSIONAL LANDSCAPE DRIPLINE
PLYWD	PLYWOOD
PNL	PANEL, PANELBOARD
POC	POINT OF CURVE, POINT OF CONNECTION
POI	POINT OF INTERSECTION
POL	POLYMER
POT	POINT OF TANGENCY
PP	POWER POLE
PRES	PRESSURE
PROP	PROPOSED
PRS	PRESSURE REDUCING STATION
PRVB	PRESSURE RELIEF/VACUUM BREAKER
PS	PUMP STATION
PSA	PRESSURE SWING ABSORPTION
PSF	POUNDS PER SQUARE FOOT
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PVMT	PAVEMENT
Q	FLOW RATE
QC	QUICK CONNECTOR
QTY	QUANTITY
R	RADIUS, RISER
R/W	RIGHT OF WAY
RA	RETURN AIR
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RDWY	ROADWAY
RE	RIM ELEVATION
RECP	RECEPTACLE
RED	REDUCE(R)
REF	REFERENCE
REINF	REINFORCE, REINFORCING
REQ'D	REQUIRED
REV	REVISION
RO	REVERSE OSMOSIS
RP	REFERENCE POINT
RPM	REVOLUTIONS PER MINUTE
R/W	RIGHT OF WAY
SA	SUPPLY AIR
SAM	SAMPLE
SAN	SANITARY
SB	SOIL BORING
SCC	SYSTEM CONTROL CENTER
SCD	SCUPPER DRAIN
SCH	SCHEDULE
SE	SOUTHEAST
SEC	SECTION
SHT	SHEET
SIM	SIMILAR
SLV	SOLVENT WELD
SMP	SALINITY MANAGEMENT PIPELINE
SOC	SOCKET
SPEC	SPECIFICATION
SSK	SERVICE SINK
ST	STEAM TRAP, STREET
STA	STATION
STD	STANDARD OR STANDARD WEIGHT
STL	STEEL
STRUC	STRUCTURE, STRUCTURAL
SUB	SUBSTATION
SW	SOUTHWEST, SIDEWALK, SOCKET WELD
SWGR	SWITCHGEAR
SWK	SIDEWALK
SYM	SYMMETRICAL
TB	TERMINAL BOX
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPRARY, TEMPERATURE
TFR	TRANSFORMER
TG	TOP OF GUTTER
TNK	TANK
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOW	TOP OF WALL
TP	TRAP PRIMER
TS	TEMPERATURE SWITCH
TST	THERMOSTAT
TYP	TYPICAL
UB	UTILITY BOX
UG	UNDERGROUND
US	UTILITY STATION
UV	ULTRAVIOLET
VAC	VACUUM, VOLT ALTERNATING CURRENT
VAR	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VENDOR CONTROL PANEL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WELD
W.C.	WATER COLUMN
WCO	WALL CLEANOUT\
WM	WATER METER
W/W	WITHOUT
WB	WET BULB
WL	WATER LEVEL
WT	WATER TABLE
XP	EXPLOSION PROOF
YCO	YARD CLEANOUT
YR	YEAR
ZS	POSITION SWITCH

CONTROL STATION AND DEVICE FUNCTION ABBREVIATIONS

MLH	MOISTURE (IL)
M/A LS	MAN/AUTO LOADING STATION
N	NORTH
OCA	OPEN/CLOSE/AUTO (SEL SW)
OCP	PURGE VALVE OP/CL/PC (SEL SW)
OL	OVERLOAD (IL)
OP	OPEN (PB)
ORP	OXIDATION REDUCTION POTENTIAL
OSC/LP	OPEN/STOP/CLOSE WITH LOCAL/REMOTE SELECT
PA	PAUSE (PB)
PAL	LOW PRESSURE (IL)
PB	PUSH BUTTON
pH	pH
PROC	PROCESS CAMERA
RDY	READY (IL)
RESCL2	RESIDUAL CHLORINE
REV	REVERSE (IL)
RNG	RUNNING (IL)
ROF	REVERSE/OFF/FORWARD (SEL SW)
RST	RESET (PB)
S	SOUTH
SC	SPEED CONTROL RHEOSTAT
SEC	SECURITY CAMERA
SI	SPEED INDICATOR
SP	STOP (PB)
ST	START (PB)
STF	START FORWARD (PB)
STR	START REVERSE (PB)
TI	TEMPERATURE INDICATOR
TOP	TEST/CLOSE/PC (SEL SW)
TEMP	TEMPERATURE
T/S	TEST/NORMAL/SILENCE (SEL SW)
TBL	TROUBLE (IL)
TLH	TEMPERATURE (IL)
UVI	UV INTENSITY
UVT	UV TRANSMITTANCE
WS	WATERSTOP
WSH	HIGH TORQUE (IL)

GENERAL NOTES

GENERAL NOTES:

1. ALL ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT
2. ABBREVIATIONS FOR THE ENTIRE PROJECT EXCEPT ELECTRICAL AND INSTRUMENTATION & CONTROLS ARE PROVIDED IN THESE GENERAL SHEETS.

CONTROL STATION AND DEVICE FUNCTION ABBREVIATIONS

* PART OF VENDOR PACKAGE

ACK	ACKNOWLEDGE
AM	AUTO/MAN SELECTOR SWITCH (SEL SW)
BS	BLOWER SURGE (IL)
CL	CLOSE PUSH BUTTON (PB) OR CHLORINE
CMAT	COMPUTER/MANUAL/AUTOR/TRACKING (CONTROL STATION)
COMB	COMBUSTIBLE GAS
COND	CONDUCTIVITY
CP	CONTROL POWER INDICATING LIGHT (IL)
CTRL	CONTROLLER (PLC/DCS)
DEC	DECREASE PB
DO	DISSOLVED OXYGEN
ESP	EMERGENCY STOP (PB)
FI	FLOW INDICATOR
FWD	FORWARD (IL)
F/R	FORWARD/REVERSE
F/S	FAST/SLOW
HLK	CMC TYPE SWITCH/INDICATING LIGHT
HLOA	HIGH/LOW/OFF/AUTO
HOA	HAND/OFF/AUTO (SEL SW)
HOAL	HAND/OFF/AUTO/LOCAL (SEL SW)
HOR	HAND/OFF/REMOTE (SEL SW)
IL	INDICATING LIGHT
INC	INCREASE (PB)
JOA	JOG/OFF/AUTO (SEL SW)
LL	LEAD/LAG
LOR	LOCAL/OFF/REMOTE (PB)
LOS	LOCKOUT STOP
L/R	LOCAL/REMOTE (SEL SW)

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACKES No. 65698 CIVIL STATE OF CALIFORNIA 12/22/2021

BIM 360://154390 - Arcadia Water Treatment Plant Expansion/154390-MASTER-SITEV19.rvt
12/23/2021 9:06:13 AM
TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell; WA↓SH

CITY CLIENTS
REVIEWED BY: DATE: _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY: DATE: _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE:
DATE: _____, 20XX
SUBMITTED BY:
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME:
SP-FILE NO.: SP2602
APPROVED BY: DATE: _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
ABBREVIATIONS

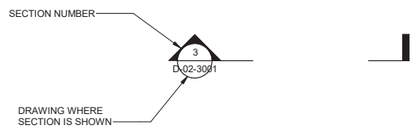
DESIGNED BY: KBK
DRAWN BY: JC
CHECKED BY: AZ
CONSULTANT JOB/SHEET NO.: 154390
DRAWING NO.: 7078
G-01-0003
SHT 3 OF 303 SHTS

CROSS REFERENCING SYSTEM

1. PLAN TITLES:

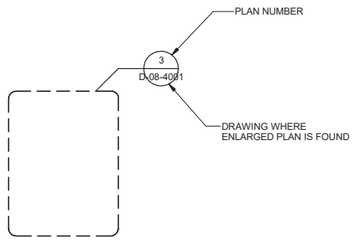
PLAN TITLE
SCALE: 1/8" = 1'-0"

2. SECTION CUTS:



3. ENLARGED PLAN CALLOUT:

A. BY CALLOUT:



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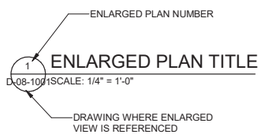
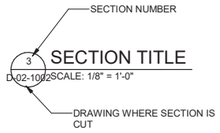
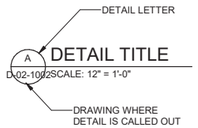


5. SECTIONS TITLES:

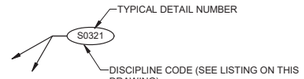


6. DETAIL TITLES:



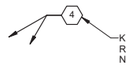
CROSS REFERENCING SYSTEM (CONTINUED)

7. STANDARD REFERENCE:

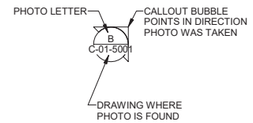


8. STANDARD DETAIL TITLES:

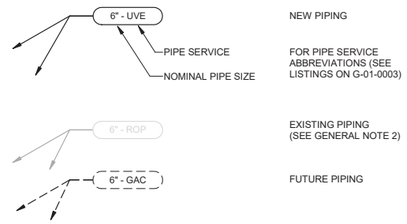
9. KEYNOTES:



10. PHOTOS:



PIPING IDENTIFICATION SYSTEM



MISCELLANEOUS

MATCH LINE
SEE DRAWING NO X-XX-XXXX

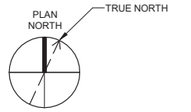
NEW/PROPOSED LINEWORK

EXISTING LINEWORK

WATER SURFACE

REVISION TAG

REVISION CLOUD



NORTH ARROW

LOCATION
EL. XXXX.XX

ELEVATION CALL OUT IN
SECTION

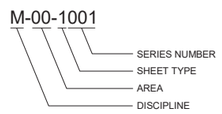
℄ EL. XXXX.XX

PIPE CENTERLINE ELEVATION CALL
OUT IN SECTION

INV EL. XXXX.XX

INVERT ELEVATION CALL
OUT IN SECTION

DRAWING NUMBERING SYSTEM

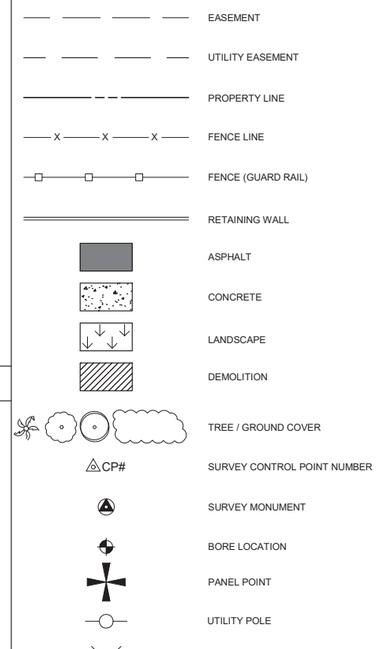


AREA
01 GENERAL/SITE
02 PRESSURE FILTERS, CONTACT BASIN, BACKWASH SUPPLY, RO FEED TANKS, CARTRIDGE FILTERS
03 UV AOP
04 GAC
05 NOT USED
06 RO/ ELECTRICAL BUILDING, BRINE TANK/PUMPS AND CIP
07 DECARBONATORS AND VGAC SYSTEM
08 CHEMICAL STORAGE AND FEED AREA
09 WASHWATER RECOVERY
10 RESERVOIR AND BOOSTER PUMP STATION
11 FLUORIDE STORAGE AND FEED AREA

DISCIPLINES
G: GENERAL
C: CIVIL
Z: DEMOLITION
L: LANDSCAPE
A: ARCHITECTURAL
S: STRUCTURAL
D: PROCESS
P: PLUMBING
M: MECHANICAL/HVAC
E: ELECTRICAL
I: INSTRUMENTATION
R: REFERENCE DRAWINGS

SHEET TYPE
0 GENERAL
1 PLANS
2 ELEVATIONS
3 SECTIONS
4 ENLARGED PLANS
5 DETAILS
6 SCHEDULES AND DIAGRAMS
7 3D REPRESENTATION

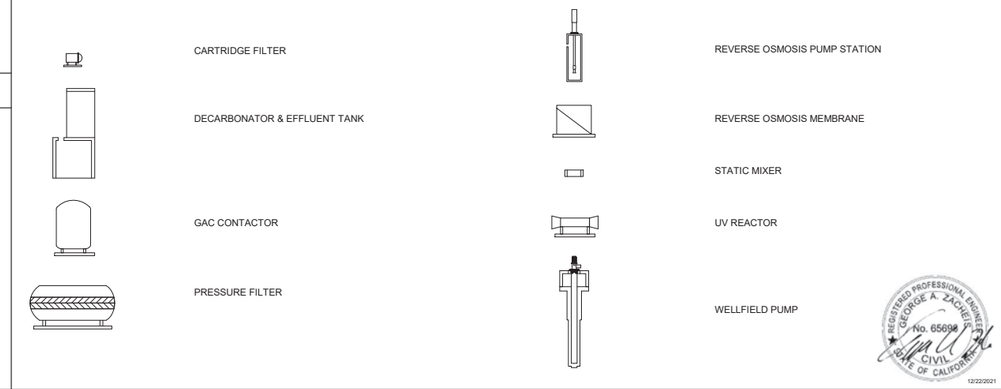
SITE AND SURVEY CONTROL SYMBOLS



GENERAL NOTES

1. EXISTING PIPING IS DESIGNATED BY SERVICE RATHER THAN MATERIAL TYPE. MATERIAL TYPES, IF KNOWN, APPEAR OUTSIDE THE PIPING CALLOUT BUBBLE, AND MAY NOT BE THE SAME MATERIAL TYPES SPECIFIED FOR NEW PIPING.
2. SEE ADDITIONAL GENERAL NOTES THROUGHOUT DRAWING SET.

HYDRAULIC PROFILE PROCESS MECHANICAL SYMBOLS



REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZACHES
No. 65698
CIVIL
STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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CONSULTANT: Brown AND Caldwell / WALSH

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PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

GENERAL LEGEND AND SYMBOLS

DESIGNED BY : KBK
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078
G-01-0004
SHT 4 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

12/23/2021 9:06:13 AM

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GREENSAND FILTERS				
DESCRIPTION	UNITS	EXISTING	DESIGN - OLYMPIC	DESIGN - CHARNOCK/ARCADIA
TYPE OF FILTERS	-	PRESSURE		
NUMBER OF FILTERS	NO.	6 (5 DUTY, 1 STANDBY)	2 (1 DUTY, 1 STANDBY)	4 (3 DUTY, 1 STANDBY)
CELLS PER FILTER	NO.	2	2	2
DESIGN FEED FLOW	MGD	10.9	2.9	10.2
FILTER AREA PER CELL	FT2	227	227	227
RECOVERY	%	99.5%	99.4%	99.3%
LOADING RATE, ALL CELLS IN SERVICE	GPM/FT2	2.8	2.2	3.9
LOADING RATE, 1 CELL OUT OF SERVICE	GPM/FT2	3.0	2.9	4.5
LOADING RATE, 2 CELLS OUT OF SERVICE	GPM/FT2	3.3	4.4	5.2

GREENSAND FILTER BACKWASH SYSTEM				
DESCRIPTION	UNITS	EXISTING	DESIGN - OLYMPIC	DESIGN - CHARNOCK/ARCADIA
BACKWASH FREQUENCY PER CELL	HOURS	318	293	165
BACKWASH RATE	GPM/FT2	11	11	11
BACKWASH DURATION	MIN	38	15	15
BACKWASH HOLDING TANK TYPE	-	CAST IN PLACE REINFORCED CONCRETE		
NUMBER OF TANKS	NO.	1 (1 DUTY, NO STANDBY)		
USEABLE VOLUME	GAL	73,700		
NUMBER OF PUMPS	NO.	2 (1 DUTY, 1 STANDBY)		
RATED CAPACITY, EACH	GPM	3,450		
RATED HEAD	FT	45		
MOTOR SIZE	HP	75		
DRIVE	TYPE	VFD		
NUMBER OF BLOWERS	NO.	2 (1 DUTY, 1 STANDBY)		
MOTOR SIZE	HP	25		
RATED CAPACITY, EACH	SCFM	675		
WASHWATER EQUALIZATION TANK TYPE	-	CAST IN PLACE REINFORCED CONCRETE		
NUMBER OF TANKS	NO.	1 (1 DUTY, NO STANDBY)		
VOLUME	GAL	58,000		
NUMBER OF PUMPS	NO.	2 (1 DUTY, 1 STANDBY)		
RATED CAPACITY, EACH	GPM	650		
RATED HEAD	FT	42		
MOTOR SIZE	HP	10		
DRIVE	TYPE	VFD		
NUMBER OF MIXERS	NO.	2 (2 DUTY, NO STANDBY)		
MOTOR SIZE	HP	8		

UV-AOP			
DESCRIPTION	UNITS	DESIGN - OLYMPIC	TREATMENT CONTINGENCY
LAMP TYPE	-	LPHO	
OXIDANT TYPE	-	HYDROGEN PEROXIDE	
DESIGN FEED FLOW (MINIMUM - MAXIMUM)	GPM	1,000 - 2,000	
NUMBER OF TRAINS	-	2 (1 DUTY, 1 STANDBY)	
NUMBER OF REACTORS PER TRAIN	-	1	
DESIGN LOG REMOVAL 1,4 DIOXANE	-	2.4	2.6
DESIGN LOG REMOVAL PCE	-	2.3	2.5
DESIGN LOG REMOVAL TCE	-	2.2	2.4
UV TRANSMITTANCE	%	96	96
HYDROGEN PEROXIDE DOSE	MG/L AS H2O2	40.0	40.0
LAMPS PER TRAIN	-	264	288
UV INTENSITY SENSORS PER TRAIN	-	11	12
TOTAL CONNECTED LOAD	KW	596	647
REACTOR POWER TURNDOWN	%	30 - 100	
LAMP POWER	W	1,000	
GUARANTEED LAMP LIFE	HR	15,000	
MAXIMUM OPERATING PRESSURE	PSI	87	
MAXIMUM HEADLOSS ACROSS REACTOR TRAIN AT DESIGN FLOW	IN OF WC	3.0	

GAC CONTACTORS				
DESCRIPTION	UNITS	DESIGN - OLYMPIC	TREATMENT CONTINGENCY 1	TREATMENT CONTINGENCY 2
TYPE OF CONTACTORS	-	CYLINDRICAL, PRESSURE		
CONTACTOR ORIENTATION	-	VERTICAL		
CONTACTOR MEDIA	-	GRANULAR ACTIVATED CARBON		
MEDIA EFFECTIVE SIZE	MM	0.55 - 1.1		
VESSEL DIAMETER	FT	12		
DESIGN FEED FLOW	MGD	2.9		
RECOVERY	%	99.9%		99.8%
NUMBER OF TRAINS	NO.	4 (3 DUTY, 1 STANDBY)		
NUMBER OF CONTACTORS PER TRAIN	NO.	1		2
CONTACTOR OPERATION	-	ALL CONTACTORS IN PARALLEL		CONTACTORS WITHIN EACH TRAIN OPERATED AS LEAD/LAG
EBCT, ALL TRAINS IN SERVICE	MIN	7	20	41
EBCT, DUTY TRAINS IN SERVICE	MIN	5	15	31
GAC MEDIA WEIGHT PER CONTACTOR	LB	13,800	40,000	
GAC MEDIA DEPTH	FT	4.1	12.0	
CONTACTOR LOADING RATE, DUTY TRAINS IN SERVICE	GPM/FT2	5.9		
CONTACTOR LOADING RATE, ALL TRAINS IN SERVICE	GPM/FT2	4.4		

GAC BACKWASH SYSTEM				
DESCRIPTION	UNITS	DESIGN - OLYMPIC	TREATMENT CONTINGENCY 1	TREATMENT CONTINGENCY 2
MAXIMUM BACKWASH RATE, 75°F	GPM/SF	9.7		
MAXIMUM BACKWASH DURATION, 75°F	MIN	42.0		
MAXIMUM BACKWASH FREQUENCY	NO./MONTH	1		
BUMP RATE	GPM/SF	5.0		
BUMP DURATION	MIN	15.0		
MAXIMUM BUMP FREQUENCY	NO./MONTH	6		12
BACKWASH/BUMP PUMPS	-	EXISTING, SHARED WITH GREENSAND FILTER SYSTEM		

RO FEED TANK			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
TYPE	-	CAST IN PLACE REINFORCED CONCRETE	
NUMBER OF TANKS	NO.	1 (1 DUTY, NO STANDBY)	
USEABLE VOLUME	GAL	154,100	
HYDRAULIC RETENTION TIME	-	21 MIN AT 7507 GPM	17 MIN AT 9089 GPM

LOW PRESSURE RO FEED PUMPS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
TOTAL NUMBER OF PUMPS	NO.	3 (2 DUTY, 1 STANDBY)	4 (3 DUTY, 1 STANDBY)
MOTOR SIZE	HP	125	3 AT 125, 1 AT 150
RATED CAPACITY, EACH	GPM	3,500	3,500
RATED HEAD	FT	100	103
DRIVE	TYPE	VFD	VFD

CARTRIDGE FILTERS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF VESSELS	NO.	4 (3 DUTY, 1 STANDBY)	5 (4 DUTY, 1 STANDBY)
FLOW PER VESSEL	GPM	1979	1746
CARTRIDGE FILTER MATERIAL	-	POLYPROPYLENE	
VESSEL ORIENTATION	-	HORIZONTAL	
MAXIMUM PRESSURE DROP - DIRTY FILTER	PSI	15	15
CARTRIDGE FILTERS PER VESSEL	NO.	176	176
CARTRIDGE FILTER RATING	MICRON	5	5
CARTRIDGE FILTER LENGTH	INCHES	40	40
CARTRIDGE FILTER ELEMENT DIAMETER	INCHES	2.5	2.5
CARTRIDGE FILTER NOMINAL FLOW RATE PER 10-INCH EQUIVALENT	GPM	2.8	2.5

RO FEED PUMPS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF PUMPS	NO.	4 (3 DUTY, 1 STANDBY)	4 (3 DUTY, 1 STANDBY)
MOTOR SIZE	HP	250	250
RATED CAPACITY, EACH	GPM	1,900	1,900
RATED HEAD	FT	360	360
DRIVE	TYPE	VFD	VFD

RO INTERSTAGE PUMPS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
STAGE 1-2 BOOSTER PUMP			
NUMBER OF PUMPS PER SKID	NO.	1	1
MOTOR SIZE	HP	30	40
FLOW PER PUMP	GPM	943	762
RATED HEAD	FT	67	67
DRIVE	TYPE	VFD	VFD
STAGE 2-3 BOOSTER PUMP			
NUMBER OF PUMPS PER SKID	NO.	-	1
MOTOR SIZE	HP	-	20
FLOW PER PUMP	GPM	-	313
RATED HEAD	FT	-	92
DRIVE	TYPE	-	VFD

RO TRAINS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
RO FEED TANK INFLOW	GPM	7,507	9,089
RO BYPASS FLOW	GPM	1,570	2,086
FEED FLOW PER TRAIN	GPM	1650 - 1900	1650 - 1900
PERMEATE FLOW PER TRAIN	GPM	1353 - 1577	1353 - 1710
RO CONCENTRATE FLOW PER TRAIN	GPM	281 - 342	297 - 190
DESIGN SYSTEM RECOVERY	%	82 - 83	82 - 90
MEMBRANE MATERIAL	-	COMPOSITE POLYAMIDE	
MEMBRANE TYPE	-	HIGH REJECTION, LOW FOULING	
MEMBRANE AREA PER ELEMENT	SF	440	440
NO. OF TRAINS (DUTY & STANDBY)	NO.	4 (3 DUTY, 1 STANDBY)	4 (4 DUTY, 0 STANDBY)
NO. OF STAGES PER TRAIN	NO.	3	3
PRESSURE VESSEL CONFIGURATION	NO.	39:19:9	43:21:9
PRESSURE VESSEL DIAMETER	IN	8	8
HEIGHT OF RO TRAINS	NO. OF VESSELS	7	7
ELEMENTS PER PRESSURE VESSEL	NO.	6	6
MAXIMUM AVERAGE FLUX	GFD	12.8	11.7

RO FLUSH SYSTEM			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF FLUSH TANKS	NO.	1 (1 DUTY, NO STANDBY)	1 (1 DUTY, NO STANDBY)
FLUSH TANK VOLUME	GAL	4,800	18,500
NUMBER OF FLUSH PUMPS	NO.	2 (1 DUTY, 1 STANDBY)	2 (1 DUTY, 1 STANDBY)
RATED CAPACITY, EACH	GPM	2,100	600
RATED HEAD	FT	140	140
MOTOR SIZE	HP	100	40
DRIVE	TYPE	VFD	VFD

RO CIP SYSTEM			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
CIP AND NEUTRALIZATION TANKS			
NO. OF CIP TANKS	NO.	2 (1 DUTY, 1 STANDBY)	1 (1 DUTY, NO STANDBY)
CIP TANK VOLUME, EACH	GAL	4,600	6,600
NO. OF HEATERS PER CIP TANK	NO.	1	1
CIP TANK HEATER POWER, EACH	KW	160	200
NO. OF CIP PUMPS	NO.	2 (1 DUTY, 1 STANDBY)	2 (1 DUTY, 1 STANDBY)
RATED CAPACITY, EACH	GPM	2,100	1,085
RATED HEAD	FT	140	197
MOTOR SIZE	HP	100	100
DRIVE	TYPE	VFD	VFD
NO. OF NEUTRALIZATION TANKS	NO.	1 (1 DUTY, NO STANDBY)	NONE (NEUTRALIZE IN CIP TANK)
NEUTRALIZATION TANK VOLUME	GAL	6,100	-

RO CIP SYSTEM (CONTINUED)			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
CIP CARTRIDGE FILTER			
NUMBER OF VESSELS	NO.	-	1 (1 DUTY, NO STANDBY)
FLOW PER VESSEL	GPM	-	1,085
CARTRIDGE FILTER MATERIAL	-	-	POLYPROPYLENE
VESSEL ORIENTATION	-	-	HORIZONTAL
MAXIMUM PRESSURE DROP - DIRTY FILTER	PSI	-	15
CARTRIDGE FILTERS PER VESSEL (40-INCH FILTERS)	NO.	-	86
CARTRIDGE FILTER RATING	MICRON	-	5
CARTRIDGE FILTER LENGTH	INCHES	-	40
CARTRIDGE FILTER ELEMENT DIAMETER	INCHES	-	2.5
CARTRIDGE FILTER NOMINAL FLOW RATE PER 10-INCH EQUIVALENT	GPM	-	3.2
VOLUMETRIC SCREW FEEDER WITH MIXING TANK			
NO. OF MIXING TANKS	NO.	-	1 (1 DUTY, NO STANDBY)
MIXING TANK VOLUME	GAL	-	75
NO. OF TRANSFER PUMPS	NO.	-	1 (1 DUTY, NO STANDBY)
RATED CAPACITY	GPM	-	15
RATED HEAD	FT	-	25
MOTOR SIZE	HP	-	0.75
DRIVE	TYPE	-	CONSTANT SPEED
NO. OF HOPPERS	NO.	-	1 (1 DUTY, NO STANDBY)
RATED CAPACITY	CF	-	3.6
ACCURACY	%	-	1% OF VOLUME

BRINE PUMP STATION			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
TYPE	-	-	FRP
NUMBER OF TANKS	NO.	-	1 (1 DUTY, NO STANDBY)
USEABLE VOLUME	GAL	-	5,287
HYDRAULIC RESIDENCE TIME	-	-	4.2 MIN AT 1257 GPM TO 8.4 MIN AT 628 GPM
NUMBER OF PUMPS	NO.	-	3 (2 DUTY, 1 STANDBY)
RATED CAPACITY, EACH	GPM	-	600
RATED HEAD	FT	-	254
MOTOR SIZE	HP	-	100
DRIVE	TYPE	-	VFD

DECARBONATOR			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF TOWERS	NO.	2 (2 DUTY, NO STANDBY)	3 (3 DUTY, NO STANDBY)
FLOW PER TOWER	GPM	3,200	2,800
DIAMETER PER TOWER	FT	11	11
NUMBER OF BLOWERS	NO.	2 (2 DUTY, NO STANDBY)	3 (3 DUTY, NO STANDBY)
BLOWER CAPACITY, EACH	SCFM	9,000	9,000
MOTOR SIZE	HP	40	40
FILL MEDIA	-	2" TRIPACK	2" TRIPACK
MEDIA DEPTH	FT	5	5
LIQUID LOADING RATE	GPM/SF	34.2	29.4
GAS LOADING RATE	CFM/GPM	2.8	3.2
AIR:WATER RATIO	-	20.7	24.1

FLASH MIX PUMPS			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF PUMPS	NO.	-	2 (1 DUTY, 1 STANDBY)
RATED CAPACITY, EACH	GPM	-	196
RATED HEAD	FT	-	23
MOTOR SIZE	HP	-	3
DRIVE	TYPE	-	CONSTANT SPEED

VGAC			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
MEDIA TYPE	-	COAL	
MEDIA EFFECTIVE SIZE	MM	4	
NUMBER OF CONTACTORS	NO.	3	
VESSEL DIAMETER	FT	12	
NUMBER OF GAC MEDIA BEDS PER CONTACTOR	NO.	2	
GAC MEDIA DEPTH PER BED	FT	3	
GAC MEDIA VOLUME PER CONTACTOR	FT3	679	
AIRFLOW FROM RESERVOIRS	SCFM	12,000	0
AIRFLOW FROM DECARBONATORS	SCFM	18,000	27,000
TOTAL AIRFLOW	SCFM	30,000	27,000
NUMBER OF HEATERS PER CONTACTOR	NO.	1	1
TOTAL NUMBER OF HEATERS	NO.	3	3

RESERVOIR			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
TYPE	-	CAST IN PLACE REINFORCED CONCRETE	
NUMBER OF TANKS	NO.	1 (1 DUTY, NO STANDBY)	
USABLE VOLUME	GAL	2,340,000	
HYDRAULIC RESIDENCE TIME	HRS	6.0 HRS AT 6,497 GPM	4.7 HRS AT 8,371 GPM

BOOSTER PUMP STATION			
DESCRIPTION	UNITS	EXISTING	DESIGN (ULTIMATE FLOW)
NUMBER OF PUMPS	NO.	-	4 (3 DUTY, 1 STANDBY)
RATED CAPACITY, EACH	GPM	-	1,200
RATED HEAD	FT	-	290
MOTOR SIZE	HP	-	125
DRIVE	TYPE	-	VFD
SURGE TANK TYPE	-	-	HYDROPNEUMATIC BLADDER-TYPE, VERTICAL
NUMBER OF TANKS	NO.	-	1
TANK DIAMETER	FT	-	8
SURGE TANK VOLUME	GAL	-	2,500
RATED DESIGN PRESSURE	PSIG	-	215

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZACHER
No. 65698
CIVIL
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
DESIGN CRITERIA – 1

DESIGNED BY : AZ
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 G-01-0005
SHT 5 OF 303 SHTS

TITLE OF PROJECT :
DWG. NO. :
SHEET OF
C:\BCPW\D0408669\G-01-0005.DWG 12/23/2021 6:24 AM

ANTISCALANT W AVISTA VITEC 4,000 OR AWC A-119 (100%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	1
TOTAL STORAGE CAPACITY	GAL	2,200
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	98
DAYS OF STORAGE @ MAX DOSE	DAYS	54
RO FEED		
MIN DOSE	MG/L	0.4
AVERAGE DOSE	MG/L	2.8
MAX DOSE	MG/L	5.0
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.03
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	1.7
MAXIMUM INJECTION PRESSURE	PSI	50

AMMONIUM SULFATE (40%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	1
TOTAL STORAGE CAPACITY	GAL	6,800
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	77
DAYS OF STORAGE @ MAX DOSE	DAYS	42
RO FEED (GREENSAND FILTRATE NON-OLYMPIC)		
MIN DOSE	MG/L AS (NH4)2SO4	0.8
AVERAGE DOSE	MG/L AS (NH4)2SO4	1.6
MAX DOSE	MG/L AS (NH4)2SO4	3.9
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.1
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	3.4
MAXIMUM INJECTION PRESSURE	PSI	10
GAC EFFLUENT		
MIN DOSE	MG/L AS (NH4)2SO4	0.8
AVERAGE DOSE	MG/L AS (NH4)2SO4	2.4
MAX DOSE	MG/L AS (NH4)2SO4	3.9
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.1
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	1.0
MAXIMUM INJECTION PRESSURE	PSI	20
TREATED WATER		
MIN DOSE	MG/L AS (NH4)2SO4	0.9
AVERAGE DOSE	MG/L AS (NH4)2SO4	1.7
MAX DOSE	MG/L AS (NH4)2SO4	2.4
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.2
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	2.4
MAXIMUM INJECTION PRESSURE	PSI	10

CAUSTIC SODA (50% DELIVERED - DILUTED TO 25% ONSITE)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	2
TOTAL STORAGE CAPACITY	GAL	13,500
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	69
DAYS OF STORAGE @ MAX DOSE	DAYS	50
TREATED WATER		
MIN DOSE	MG/L	5.0
AVERAGE DOSE	MG/L	12.5
MAX DOSE	MG/L	17.0
NUMBER OF METERING PUMPS	-	3 (2 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	1.6
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	26.7
MAXIMUM INJECTION PRESSURE	PSI	10

SODIUM HYPOCHLORITE (12.5%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	2
TOTAL STORAGE CAPACITY	GAL	11,200
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	12
DAYS OF STORAGE @ MAX DOSE	DAYS	7
RAW WATER MIXING		
MIN DOSE	MG/L AS NAOCL	1.0
AVERAGE DOSE	MG/L AS NAOCL	4.2
MAX DOSE	MG/L AS NAOCL	5.2
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 SHARED STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.5
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	17.1
MAXIMUM INJECTION PRESSURE	PSI	40
CONTACT TANK FOR FILTER FEED PUMPS		
MIN DOSE	MG/L AS NAOCL	1.0
AVERAGE DOSE	MG/L AS NAOCL	2.1
MAX DOSE	MG/L AS NAOCL	5.2
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 SHARED STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.5
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	17.1
MAXIMUM INJECTION PRESSURE	PSI	40
OLYMPIC WELLS - UPSTREAM OF GREENSAND FILTERS		
MIN DOSE	MG/L AS NAOCL	1.0
AVERAGE DOSE	MG/L AS NAOCL	4.2
MAX DOSE	MG/L AS NAOCL	5.2
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.5
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	4.8
MAXIMUM INJECTION PRESSURE	PSI	60
OLYMPIC WELLS - DOWNSTREAM OF GAC CONTACTORS/DOWNSTREAM CHARNOCK GREENSAND		
MIN DOSE	MG/L AS NAOCL	1.0
AVERAGE DOSE	MG/L AS NAOCL	3.1
MAX DOSE	MG/L AS NAOCL	5.2
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.5
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	4.8
MAXIMUM INJECTION PRESSURE	PSI	20
TREATED WATER		
MIN DOSE	MG/L AS NAOCL	2.1
AVERAGE DOSE	MG/L AS NAOCL	3.8
MAX DOSE	MG/L AS NAOCL	5.2
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	1.6
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	20.1
MAXIMUM INJECTION PRESSURE	PSI	10

SULFURIC ACID (93%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	2
TOTAL STORAGE CAPACITY	GAL	17,800
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	21
DAYS OF STORAGE @ MAX DOSE	DAYS	15
UV FEED		
MIN DOSE	MG/L	50.0
AVERAGE DOSE	MG/L	70.0
MAX DOSE	MG/L	90.0
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	1.4
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	7.6
MAXIMUM INJECTION PRESSURE	PSI	50
RO FEED		
MIN DOSE	MG/L	20.0
AVERAGE DOSE	MG/L	145.0
MAX DOSE	MG/L	205.0
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 SHARED STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	1.2
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	50.2
MAXIMUM INJECTION PRESSURE	PSI	40
RO CIP (PH ADJUSTMENT)		
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 SHARED STANDBY)
MAX PUMPING CAPACITY REQUIRED	GPH	50.6
MAXIMUM INJECTION PRESSURE	PSI	40

HYDROGEN PEROXIDE (50%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF TANKS	-	1
TOTAL STORAGE CAPACITY	GAL	4,800
DAYS OF STORAGE @ AVERAGE DOSE	DAYS	25
DAYS OF STORAGE @ MAX DOSE	DAYS	25
UV AOP		
AVERAGE DOSE	MG/L	40.0
MAX DOSE	MG/L	40.0
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	1.5
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	8.0
MAXIMUM INJECTION PRESSURE	PSI	50

HYDROFLUOROSILICIC ACID (23%)		
DESCRIPTION	UNITS	DESIGN (ULTIMATE FLOW)
NUMBER OF BULK TANKS	-	1
NUMBER OF DAY TANKS	-	1
TOTAL BULK STORAGE CAPACITY	GAL	750
TOTAL DAY TANK STORAGE CAPACITY	GAL	50
DAYS OF BULK STORAGE @ AVERAGE DOSE	DAYS	20
DAYS OF BULK STORAGE @ MAX DOSE	DAYS	12
FINISHED WATER		
MIN DOSE	MG/L AS H2SIF6	0.6
AVERAGE DOSE	MG/L AS H2SIF6	0.9
MAX DOSE	MG/L AS H2SIF6	1.5
NUMBER OF METERING PUMPS	-	2 (1 DUTY, 1 STANDBY)
MINIMUM PUMPING CAPACITY REQUIRED	GPH	0.2
MAXIMUM PUMPING CAPACITY REQUIRED	GPH	2.7
MAXIMUM INJECTION PRESSURE	PSI	20

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZADRIEL
No. 65698
CIVIL
STATE OF CALIFORNIA
12/22/2021

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

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City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

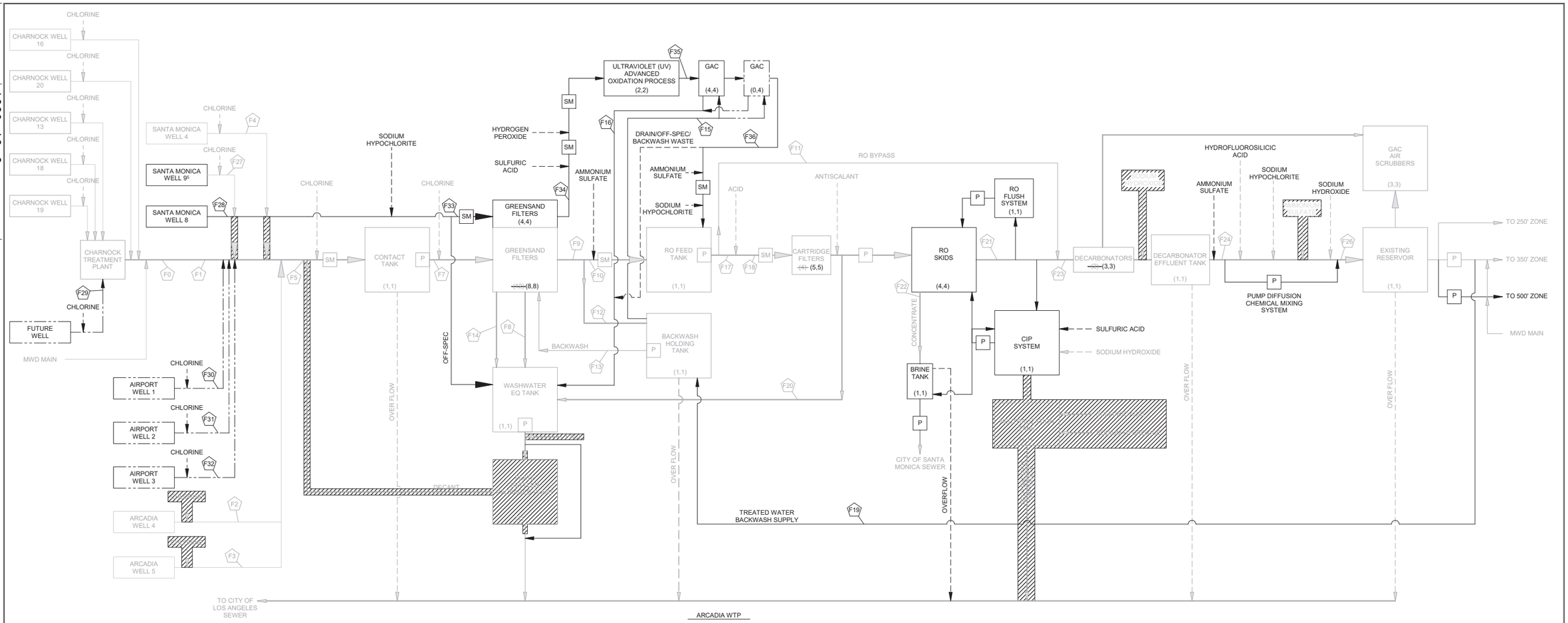
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

DESIGN CRITERIA – 2

PROJECT AND SHEET TITLE

DESIGNED BY : AZ
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
G-01-0006
SHT 6 OF 303 SHTS



Flow # :		F0	F1	F2	F3	F4	F5	F6	F7	F8[1]		F9[7]	F10	F11[4]	F12[8]	F13	F14		F15[2]	F16[2]	F17	F18	F19[6]	F20	F21[3]	F22[3]	F23	F24	F25	F26	F27	F28	F29	F30	F31	F32	F33	F34[7]	F35	F36[7]
		Charnock Wells	Charknock Wellhead Treatment Effluent	Arcadia Well #4	Arcadia Well #5	Santa Monica Well #4	Inlet Vault Influent	NOT USED	Greensand Filters Influent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Olympic Wells	Greensand Filters Effluent from Charnock, Arcadia, and Future Wells	RO Feed Tank Influent from Charnock, Arcadia, and Future Wells	RO Bypass	Backwash Holding Tank Influent	Backwash Holding Tank Effluent	Greensand Filter to Waste from Charnock, Arcadia, and Future Wells	Greensand Filter to Waste from Olympic Wells		GAC Contactor Backwash Supply	GAC Contactor Backwash Waste	RO Feed Tank Effluent	Cartridge Filter Feed with Chemical	Treated Water Backwash Supply	Cartridge Filter Waste to EQ Basin	RO Permeate	RO Concentrate/Brine	Combined RO Permeate and Bypass	Decarbonator Effluent	NOT USED	Treated Water	Santa Monica Well #9	Santa Monica Well #8	Future Well	Airport Well #1	Airport Well #2	Airport Well #3	Greensand Filters Influent from Olympic Wells	Greensand Filter Effluent from Olympic Wells	UV-AOP Effluent	RO Feed Tank Influent from Olympic Wells
Minimum	(gpm)	1,005				1,004	1,005		1,005	3	3	1,005	1,005	420	0	8	1	1	2	2	1,589	1,589	8	0	1,303	286	1,723	1,723		1,723	0	0	-	-	-	-	1,004	1,004	1,004	1,004
	(mgd)	1.45				1.45	1.45		1.45	0.00	0.00	1.45	1.45	0.61	0.00	0.01	0.00	0.00	0.00	0.00	2.29	2.29	0.01	0.00	1.88	0.41	2.48	2.48		2.48	0.00	0.00	-	-	-	-	1.45	1.45	1.45	1.45
Initial Phase	(gpm)	4,800	135	95		900	5,030		5,030	16	9	5,030	5,030	1,697	0	26	8	3	2	2	5,333	5,333	26	0	4,800	533	6,497	6,497		6,497	550	550	-	-	-	-	2,000	2,000	2,000	2,000
	(mgd)	6.91	0.19	0.14		1.30	7.24		7.24	0.02	0.01	7.24	7.24	2.44	0.00	0.04	0.01	0.00	0.00	0.00	7.68	7.68	0.04	0.00	6.91	0.77	9.36	9.36		9.36	0.79	0.79	-	-	-	-	2.88	2.88	2.88	2.88
Ultimate	(gpm)	5,067	135	95		900	7,097		7,097	30	9	7,097	7,097	2,092	0	42	21	3	3	3	7,005	7,005	42	0	6,304	700	8,397	8,397		8,397	550	550	900	300	300	300	2,000	2,000	2,000	2,000
	(mgd)	7.30	0.19	0.14		1.30	10.22		10.22	0.04	0.01	10.22	10.22	3.01	0.00	0.06	0.03	0.00	0.00	0.00	10.09	10.09	0.06	0.00	9.08	1.01	12.09	12.09		12.09	0.79	0.79	1.30	0.43	0.43	0.43	2.88	2.88	2.88	2.88

1. INSTANTANEOUS FLOW RATE IS 2,500 GPM FOR 15 MINUTES.
2. BASED ON AVERAGE DAILY FLOW RATE, INSTANTANEOUS FLOW RATE IS 300 TO 1,300 GPM FOR 15 TO 45 MINUTES.
3. BASED ON 90% RECOVERY BY THE RO MEMBRANE SYSTEM.
4. RO BYPASS EQUALS 24% OF FEED FLOW IN INITIAL AND 23% IN ULTIMATE BASED ON TARGET BLENDED WATER QUALITY.
5. REPLACEMENT WELL TO SM-3.
6. BASED ON AVERAGE DAILY FLOW RATE, INSTANTANEOUS FLOW RATE IS 96 TO 504 GPM FOR 2 HOURS.
7. LOSSES DUE TO FILTER TO WASTE OR BACKWASH WASTE NOT DEDUCTED AS THESE OPERATIONS ARE INFREQUENT.
8. NON-OLYMPIC GREENSAND FILTERS WILL RETAIN THE ABILITY TO FILL THE BACKWASH HOLDING TANK WITH GREENSAND FILTRATE IF TREATED WATER IS NOT AVAILABLE FOR BACKWASH SUPPLY.

- FLOW #, FLOWS BASED ON 24 HOUR OPERATION
- P — PUMP(S)
- SM — STATIC MIXER
- (X,X) — NUMBER OF UNITS (INITIAL PHASE,ULTIMATE)
- DEMOLISHED AS PART OF THIS PROJECT
- EXISTING
- PROPOSED
- FUTURE

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65698 CIVIL STATE OF CALIFORNIA 12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
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SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
PROCESS FLOW DIAGRAM

DESIGNED BY : EM
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 G-01-6001
SHT 7 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
BIM 360://154390 - Arcadia Water Treatment Plant Expansion/154390-MASTER-SITEV19.rvt

PROCESS MASS BALANCE - INITIAL

Flow #	F0	F1	F2	F3	F4	F5	F6	F7	F8		F9	F10	F11	F12	F13	F14		F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27	F28	F29	F30	F31	F32	F33	F34	F35	F36
	Charnock Wells	Charknock Wellhead Treatment Effluent	Arcadia Well #4	Arcadia Well #5	Santa Monica Well #4	Inlet Vault Influent	Not Used	Greensand Filters Influent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Olympic Wells	Greensand Filters Effluent from Charnock, Arcadia, and Future Wells	RO Feed Tank Influent from Charnock, Arcadia, and Future Wells	RO Bypass	Backwash Holding Tank Influent	Backwash Holding Tank Effluent	Greensand Filter to Waste from Charnock, Arcadia, and Future Wells	Greensand Filter to Waste from Olympic Wells	GAC Contactor Backwash Supply	GAC Contactor Backwash Waste	RO Feed Tank Effluent	Cartridge Filter Feed with Chemical	Treated Water Backwash Supply	Cartridge Filter Waste to EQ Basin	RO Permeate	RO Concentrate/Brine	Combined RO Permeate and Bypass	Decarbonator Effluent	Not Used	Treated Water	Santa Monica Well #9	Santa Monica Well #8	Future Well [3]	Airport Well #1 [4]	Airport Well #2 [4]	Airport Well #3 [4]	Greensand Filters Influent from Olympic Wells	Greensand Filter Effluent from Olympic Wells	UV-AOP Effluent	RO Feed Tank Influent from Olympic Wells
Flow, Initial (gpm)	**4,800**		**135**	**95**	**900**	**5,030**		**5,030**	**16**	**9**	**5,030**	**5,030**	**1,697**	**0**	**26**	**8**	**3**	**2**	**2**	**5,333**	**5,333**	**26**	**0**	**4,800**	**533**	**6,497**	**6,497**		**6,497**	**550**	**550**	**0**	**0**	**0**	**0**	**2,000**	**2,000**	**2,000**	**2,000**
General Water Quality (Calculated) [1]																																							
pH	7.4	7.4	6.9	7.0	7.1	7.4		7.4	7.4	6.7	7.3	7.3	7.0	8.3	8.3	7.4	6.7	8.3	8.3	7.0	6.3	8.3	6.3	5.1	7.2	5.8	7.3		8.3	7.1	6.3	7.4	7.2	7.2	7.2	6.7	6.7	6.7	6.7
Temperature (°C)	21.2	21.2	20.7	20.9	21.2	21.3		21.3	21.3	21.9	21.3	21.4	21.6	20.8	20.8	21.3	21.9	20.8	20.8	21.6	21.6	20.8	21.6	21.6	21.6	21.3	20.8		20.8	21.0	23.5	21.2	21.5	21.5	21.5	21.9	21.9	22.0	22.0
Total Dissolved Solids (TDS) (mg/L)	1,229	1,229	983	973	1,139	1,218		1,236	1,236	1,132	1,183	1,183	1,161	372	372	1,236	1,132	372	372	1,161	1,132	372	1,132	32.3	10,790	347	346		372	1,361	822	1,229	1,122	1,122	1,122	1,132	1,076	1,076	1,076
Alkalinity (mg/L as CaCO3)	338	338	258	275	331	335		334	334	331	302	302	302	113	113	334	331	113	113	302	183	113	183	19.7	3,293	93.4	98.4		113	430	250	338	289	289	289	331	302	298	298
Hardness (mg/L as CaCO3)	602	602	498	483	577	597		597	597	596	597	597	597	157	157	597	596	157	157	597	596	157	596	0.92	5,318	157	157		157	836	387	602	597	597	597	596	596	596	596
Inorganic Constituents																																							
Aluminum, Total (µg/L)	12.6	12.6	ND	ND	2,400	12.0		12.0	12.0	1,082	12.0	12.0	317	83.0	83.0	12.0	1,082	83.0	83.0	317	317	83.0	317	ND	3,200	83.0	83.0		83.0	2.30	5.30	12.6	8,910	8,910	8,910	1,082	1,082	1,082	1,082
Copper (µg/L)	10.2	10.2	ND	ND	17.0	9.73		9.73	9.73	10.8	9.73	9.73	10.04	2.64	2.64	9.73	10.8	2.64	2.64	10.0	10.0	2.64	10.0	ND	96	2.64	2.64		2.64	3.00	8.50	10.2	10.0	10.0	10.0	10.8	10.8	10.8	10.8
Barium (mg/L)	0.08	0.08	0.07	0.06	0.07	0.08		0.08	0.08	0.06	0.08	0.08	0.07	0.02	0.02	0.08	0.06	0.02	0.02	0.07	0.07	0.02	0.07	ND	0.70	0.02	0.02		0.02	0.03	0.06	0.08	0.09	0.09	0.09	0.06	0.06	0.06	0.06
Calcium (mg/L)	141	141	111	108	129	140		140	140	133	140	140	138	36.2	36.2	140	133	36.2	36.2	138	138	36.2	138	0.24	1,383	36.2	36.2		36.2	183	88	141	138	138	138	133	133	133	133
Iron, Total (mg/L)	0.41	0.41	0.03	0.13	1.63	0.39		0.39	NA	NA	0.03	0.03	0.03	0.01	0.01	0.39	0.82	0.01	0.01	0.03	0.02	0.01	0.02	ND	300	0.01	0.01		0.01	0.03	0.29	0.41	0.50	0.50	0.50	0.82	0.03	0.03	0.03
Lead (µg/L)	1.50	1.50	ND	1.20	4.00	1.45		1.45	1.45	4.69	1.45	1.45	2.37	ND	ND	1.45	4.69	ND	ND	2.37	2.37	ND	2.37	ND	24	0.62	ND		ND	9.30	1.20	1.50	2.37	2.37	2.37	4.69	4.69	4.69	4.69
Magnesium, Total (mg/L)	60.7	60.7	53.5	51.8	62.0	60.3		60.3	60.3	64.3	60.3	60.3	61.5	16.2	16.2	60.3	64.3	16.2	16.2	61.5	61.4	16.2	61.4	0.1	453	16.2	16.2		16.2	92.0	40.5	60.7	61.5	61.5	61.5	64.3	64.3	64.3	64.3
Manganese (mg/L)	0.09	0.09	0.01	0.05	0.05	0.09		0.09	NA	NA	0.03	0.03	0.03	0.01	0.01	0.09	0.03	0.01	0.01	0.03	0.02	0.01	0.02	ND	300	0.01	0.01		0.01	0.00	0.05	0.09	0.07	0.07	0.07	0.03	0.03	0.03	0.03
Potassium (mg/L)	3.00	3.00	2.21	2.78	2.60	2.97		2.97	2.97	2.68	2.97	2.97	2.89	0.97	0.97	2.97	2.68	0.97	0.97	2.89	2.89	0.97	2.89	0.29	26.5	0.97	0.97		0.97	3.00	2.50	3.00	2.89	2.89	2.89	2.68	2.68	2.68	2.68
Arsenic (µg/L)	1.06	1.06	ND	ND	2.40	1.01		1.01	1.01	1.88	1.01	1.01	1.26	ND	ND	1.01	1.88	ND	ND	1.26	1.26	ND	1.26	ND	12	0.42	ND		ND	1.40	1.50	1.06	1.26	1.26	1.26	1.88	1.88	1.88	1.88
Chloride (mg/L)	130	130	123	112	119	129		141	141	131	141	141	138	39.4	39.4	141	131	39.4	39.4	138	138	39.4	138	4.44	1,348	39.4	39.4		39.4	130	110	130	127	127	127	131	131	131	131
Fluoride (mg/L)	0.35	0.35	0.30	0.33	0.33	0.35		0.35	0.35	0.31	0.35	0.35	0.34	0.12	0.12	0.35	0.31	0.12	0.12	0.34	0.34	0.12	0.34	ND	3.00	0.12	0.12		0.12	0.33	0.24	0.35	0.34	0.34	0.34	0.31	0.31	0.31	0.31
Sulfate (mg/L)	323	323	228	224	261	319		319	319	244	319	319	303	87.6	87.6	319	244	87.6	87.6	303	417	87.6	417	3.41	4,175	82.0	82.1		87.6	320	140	323	298	298	298	244	245	245	245
Nitrate (mg/L as N) [5]	0.31	0.31	4.54	2.17	6.16	0.46		0.46	0.46	3.84	0.46	0.46	1.43	0.60	0.60	0.46	3.84	0.60	0.60	1.43	1.43	0.64	1.43	0.36	17.5	0.64	0.64		0.64	3.28	0.62	0.31	1.42	1.42	1.42	3.84	3.84	3.84	3.84
Selenium (µg/L)	3.10	3.10	ND	ND	3.70	2.96		2.96	2.96	2.99	2.96	2.96	2.97	0.99	0.99	2.96	2.99	0.99	0.99	2.97	2.97	0.99	2.97	ND	30	1.00	0.99		0.99	4.2	0.61	3.10	2.97	2.97	2.97	2.99	2.99	2.99	2.99
Silica (mg/L as SiO2)	39.8	39.8	39.9	39.9	49.9	39.8		39.8	39.8	43.9	39.8	39.8	41.0	11.5	11.5	39.8	43.9	11.5	11.5	41.0	41.1	11.5	41.1	1.49	401	11.9	11.8		11.5	31.9	46.0	39.8	41.0	41.0	41.0	43.9	43.9	43.9	43.9
Sodium (mg/L) (Calculated) [2]	118	118	86.9	87.6	92.3	117		124	124	86.3	109	109	98.5	44.2	44.2	124	86.3	44.2	44.2	98.5	98.5	44.2	98.5	8.69	913	37.1	37.2		44.2	58.1	77.9	118	83.9	83.9	83.9	86.3	71.3	71.3	71.3
Organic Constituents																																							
1,4-Dioxane (µg/L)	NA	ND	ND	ND	54.0	ND		ND	ND	26.5	ND	ND	0.070	0.027	0.027	ND	26.5	0.027	0.027	0.070	0.070	0.027	0.070	0.028	0.445	0.039	0.027		0.027	4.00	4.00	NA	NA	NA	NA	26.5	26.5	0.186	0.186
Trichloroethylene (TCE) (µg/L)	NA	0.698	ND	ND	34.0	0.666		0.666	0.666	16.1	0.666	0.666	0.665	0.035	0.035	0.666	16.1	0.035	0.035	0.665	0.665	0.035	0.665	0.199	4.854	0.321	0.035		0.035	1.00	2.00	NA	NA	NA	NA	16.1	16.1	0.097	0.097
Tetrachloroethylene (PCE) (µg/L)	NA	0.055	ND	ND	42.0	0.053		0.053	0.053	20.3	0.053	0.053	0.095	0.003	0.003	0.053	20.3	0.003	0.003	0.095	0.095	0.003	0.095	0.010	0.866	0.032	0.003		0.003	3.00	2.00	NA	NA	NA	NA	20.3	20.3	0.122	0.122
1,2,3-Trichloropropane (1,2,3-TCP) (µg/L)	NA	ND	ND	ND	0.045	ND		ND	ND	0.030	ND	ND	0.011	0.005	0.005	ND	0.030	0.005	0.005	0.011	0.011	0.005	0.011	0.004	0.072	0.006	0.005		0.005	0.017	0.018	NA	NA	NA	NA	0.030	0.030	0.030	0.030
1,1-DCE [µg/L]	NA	ND	ND	ND	1.650	ND		ND	ND	0.858	ND	ND	0.002	0.001	0.001	ND	0.858	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.006	0.002	0.001		0.001	0.120	0.300	NA	NA	NA	NA	0.858	0.858	0.005	0.005
1,1-DCA [µg/L]	NA	ND	ND	ND	0.410	ND		ND	ND	0.207	ND	ND	0.077	0.018	0.018	ND	0.207	0.018	0.018	0.077	0.077	0.018	0.077	0.008	0.705	0.026	0.018		0.018	0.020	0.060	NA	NA	NA	NA	0.207	0.207	0.207	0.207
Cis-1,2-DCE [µg/L]	NA	ND	ND	ND	0.330	ND		ND	ND	1.037	ND	ND	0.002	0.001	0.001	ND	1.037	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.009	0.002	0.001		0.001	0.080	3.150	NA	NA	NA	NA	1.037	1.037	0.006	0.006
Carbon Tetrachloride [µg/L]	NA	ND	0.100	ND	0.540	0.003		0.003	0.003	0.273	0.003	0.003	0.105	0.005	0.005	0.003	0.273	0.005	0.005	0.105	0.105	0.005	0.105	0.026	0.814	0.047	0.005		0.005	0.040	0.070	NA	NA	NA	NA	0.273	0.273	0.273	0.273

Notes:

[1] Temperature, pH, TDS, Alkalinity and Hardness are model calculated values

[2] Sodium was used to perform ion balance in the model, therefore the concentration is a calculated value

[3] Future well concentration is consider same as Charnock Wells blended concentration

[4] Airport well concentration is calculated based on the blended water quality of Charnock, Arcadia, and Santa Monica Wells, without Organic Constituents

[5] Nitrate RO removal percentages changed to 75% based on the discussion with City of Santa Monica on 9/14/2021

ND = Non-detect

NA = No data available

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65694 CIVIL STATE OF CALIFORNIA

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : 20__
REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
PROCESS MASS BALANCE – INITIAL

DESIGNED BY : EM
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
G-01-6002
SHT 8 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
C:\BCPW\D0408669\G-01-6002.DWG 12/23/2021 8:20 AM

PROCESS MASS BALANCE - ULTIMATE

Flow #	F0	F1	F2	F3	F4	F5	F6	F7	F8		F9	F10	F11	F12	F13	F14		F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27	F28	F29	F30	F31	F32	F33	F34	F35	F36
	Charnock Wells	Charknock Wellhead Treatment Effluent	Arcadia Well #4	Arcadia Well #5	Santa Monica Well #4	Inlet Vault Influent	Not Used	Greensand Filters Influent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Charnock, Arcadia, and Future Wells	Greensand Filters Backwash Effluent from Olympic Wells	Greensand Filters Effluent from Charnock, Arcadia, and Future Wells	RO Feed Tank Influent from Charnock, Arcadia, and Future Wells	RO Bypass	Backwash Holding Tank Influent	Backwash Holding Tank Effluent	Greensand Filter to Waste from Charnock, Arcadia, and Future Wells	Greensand Filter to Waste from Olympic Wells	GAC Contactor Backwash Supply	GAC Contactor Backwash Waste	RO Feed Tank Effluent	Cartridge Filter Feed with Chemical	Treated Water Backwash Supply	Cartridge Filter Waste to EQ Basin	RO Permeate	RO Concentrate/Brine	Combined RO Permeate and Bypass	Decarbonator Effluent	Not Used	Treated Water	Santa Monica Well #9	Santa Monica Well #8	Future Well[3]	Airport Well #1[4]	Airport Well #2[4]	Airport Well #3[4]	Greensand Filters Influent from Olympic Wells	Greensand Filter Effluent from Olympic Wells	UV-AOP Effluent	RO Feed Tank Influent from Olympic Wells
Flow, Ultimate (gpm)	**5,067**		**135**	**95**	**900**	**7,097**		**7,097**	**30**	**9**	**7,097**	**7,097**	**2,092**	**0**	**42**	**21**	**3**	**3**	**3**	**7,005**	**7,005**	**42**	**0**	**6,304**	**700**	**8,397**	**8,397**		**8,397**	**550**	**550**	**900**	**300**	**300**	**300**	**2,000**	**2,000**	**2,000**	**2,000**
General Water Quality (Calculated)[1]																																							
pH	7.4	7.4	6.9	7.0	7.1	7.4		7.4	7.4	6.7	7.2	7.2	7.0	8.3	8.3	7.4	6.7	8.3	8.3	7.0	6.3	8.3	6.3	5.1	7.2	6.1	7.3		8.3	7.1	6.3	7.4	7.2	7.2	7.2	6.7	6.7	6.7	6.7
Temperature (°C)	21.2	21.2	20.7	20.9	21.2	21.3		21.3	21.3	21.9	21.3	21.5	21.6	21.5	21.5	21.3	21.9	21.5	21.5	21.6	21.6	21.5	21.6	21.6	21.6	21.7	21.5		21.5	21.0	23.5	21.2	21.5	21.5	21.5	21.9	21.9	22.0	22.0
Total Dissolved Solids (TDS) (mg/L)	1,236	1,236	983	973	1,139	1,214		1,232	1,232	1,132	1,161	1,161	1,150	337	337	1,232	1,132	337	337	1,150	1,124	337	1,124	32.3	10,869	312	311		337	1,361	822	1,236	1,122	1,122	1,122	1,132	1,076	1,076	1,076
Alkalinity (mg/L as CaCO3)	338	338	258	275	331	332		331	331	331	295	291	293	96	96	331	331	96.2	96.2	293	178	96.2	178	19.2	3,191	80.1	82.2		96.2	430	250	338	334	334	334	331	302	302	302
Hardness (mg/L as CaCO3)	602	602	498	483	577	598		597	597	596	597	597	597	150	150	597	596	150	150	597	597	150	597	1.05	6,007	150	150		150	836	387	602	595	595	595	596	596	596	596
Inorganic Constituents																																							
Aluminum, Total (µg/L)	12.6	12.6	ND	ND	2,400	1,147		1,146	1,146	1,082	1,138	1,138	1,126	281	281	1,146	1,082	281	281	1,126	1,126	281	1,126	ND	11,300	281	281		281	ND	5.30	12.6	8,979	8,979	8,979	1,082	1,082	1,082	1,082
Copper (µg/L)	10.2	10.2	ND	ND	17.0	9.81		9.81	9.81	10.81	9.81	9.81	10.03	2.51	2.51	9.81	10.8	2.51	2.51	10.03	10.03	2.51	10.03	ND	96	2.51	2.51		2.51	3.00	8.50	10.2	9.8	9.8	9.8	10.8	10.8	10.8	10.8
Barium (mg/L)	0.08	0.08	0.07	0.06	0.07	0.08		0.08	0.08	0.06	0.08	0.08	0.08	0.02	0.02	0.08	0.06	0.02	0.02	0.08	0.08	0.02	0.08	ND	0.80	0.02	0.02		0.02	0.03	0.06	0.08	0.09	0.09	0.09	0.06	0.06	0.06	0.06
Calcium (mg/L)	141	141	111	108	129	139		139	139	133	139	139	138	34.7	34.7	139	133	34.7	34.7	138	138	34.7	138	0.24	1,388	35	34.7		34.7	183	88.3	141	137	137	137	133	133	133	133
Iron, Total (mg/L)	0.41	0.41	0.03	0.13	1.63	0.40		0.40	89.0	177	0.03	0.03	0.03	0.01	0.01	0.40	0.82	0.01	0.01	0.03	0.02	0.01	0.02	ND	0.30	0.01	0.01		0.01	0.03	0.29	0.41	0.45	0.45	0.45	0.82	0.03	0.03	0.03
Lead (µg/L)	1.50	1.50	ND	1.20	4.00	1.57		1.57	1.57	4.69	1.57	1.57	2.25	ND	ND	1.57	4.69	ND	ND	2.25	2.25	ND	2.25	ND	22.6	0.56	ND		ND	9.30	1.20	1.50	2.32	2.32	2.32	4.69	4.69	4.69	4.69
Magnesium, Total (mg/L)	60.7	60.7	53.5	51.8	62.0	60.5		60.5	60.5	64.3	60.5	60.5	61.3	15.4	15.4	60.5	64.3	15.4	15.4	61.3	61.3	15.4	61.3	0.11	617	15.4	15.4		15.4	92.0	40.5	60.7	61.2	61.2	61.2	64.3	64.3	64.3	64.3
Manganese (mg/L)	0.09	0.09	0.01	0.05	0.05	0.08		0.08	14.0	2.0	0.03	0.03	0.03	0.01	0.01	0.08	0.03	0.01	0.01	0.03	0.02	0.01	0.02	ND	0.30	0.01	0.01		0.01	0.00	0.05	0.09	0.07	0.07	0.07	0.03	0.03	0.03	0.03
Potassium (mg/L)	3.00	3.00	2.21	2.78	2.60	2.97		2.97	2.97	2.68	2.97	2.97	2.91	0.95	0.95	2.97	2.68	0.95	0.95	2.91	2.90	0.95	2.90	0.29	26.7	0.9	0.9		0.9	3.00	2.50	3.00	2.90	2.90	2.90	2.68	2.68	2.68	2.68
Arsenic (µg/L)	1.06	1.06	ND	ND	2.40	1.05		1.05	1.05	1.88	1.05	1.05	1.23	ND	ND	1.05	1.88	ND	ND	1.23	1.23	ND	1.23	ND	11.7	0.4	ND		ND	1.40	1.50	1.06	1.23	1.23	1.23	1.88	1.88	1.88	1.88
Chloride (mg/L)	130	130	123	112	119	129		140	140	131	140	140	138	37.9	37.9	140	131	37.9	37.9	138	138	37.9	138	4.48	1,353	37.9	37.9		37.9	130	110	130	127	127	127	131	131	131	131
Fluoride (mg/L)	0.35	0.35	0.30	0.33	0.33	0.35		0.35	0.35	0.31	0.35	0.35	0.34	0.12	0.12	0.35	0.31	0.12	0.12	0.34	0.34	0.12	0.34	ND	3.00	0.12	0.12		0.12	0.33	0.24	0.35	0.33	0.33	0.33	0.31	0.31	0.31	0.31
Sulfate (mg/L)	323	323	228	224	261	317		317	317	244	317	317	307	84.8	84.8	317	244	84.8	84.8	307	417	84.8	417	3.42	4,170	79.2	79.2		84.8	320	140	323	297	297	297	244	245	245	245
Nitrate (mg/L as N)[5]	1.44	1.44	4.54	2.17	6.16	1.58		1.58	1.58	3.84	0.54	0.54	1.26	0.52	0.52	1.58	3.84	0.52	0.52	1.26	1.26	0.55	1.26	0.32	15.5	0.55	0.55		0.55	3.28	0.62	1.44	2.03	2.03	2.03	3.84	3.84	3.84	3.84
Selenium (µg/L)	3.10	3.10	ND	ND	3.70	2.98		2.97	2.97	2.99	2.97	2.97	2.97	0.96	0.96	2.97	2.99	0.96	0.96	2.97	2.97	0.96	2.97	ND	29.8	0.97	0.96		0.96	4.20	0.61	3.10	2.91	2.91	2.91	2.99	2.99	2.99	2.99
Silica (mg/L as SiO2)	39.8	39.8	39.9	39.9	49.9	39.9		39.9	39.9	43.9	40.0	40.0	40.9	11.0	11.0	39.9	43.9	11.0	11.0	40.9	40.9	11.0	40.9	1.49	399	11.3	11.3		11.0	31.9	46.0	39.8	40.7	40.7	40.7	43.9	43.9	43.9	43.9
Sodium (mg/L) (Calculated)[2]	120	120	86.9	87.6	92.3	115		122	122	86.3	102	102	95.3	37.0	37.0	122	86.3	37.0	37.0	95.3	95.3	37.0	95.3	8.5	884	30.2	30.2		37.0	58.1	77.9	120	84.7	84.7	84.7	86.3	71.3	71.3	71.3
Organic Constituents																																							
1,4-Dioxane (µg/L)	NA	ND	ND	ND	71.0	ND		ND	ND	34.7	ND	ND	0.059	0.023	0.023	ND	34.7	0.023	0.023	0.059	0.059	0.023	0.059	0.024	0.381	0.033	0.023		0.023	5.00	5.00	NA	NA	NA	NA	34.7	34.7	0.208	0.208
Trichloroethylene (TCE) (µg/L)	NA	0.698	ND	ND	45.0	0.668		0.668	0.668	21.1	0.668	0.668	0.681	0.036	0.036	0.668	21.1	0.036	0.036	0.681	0.681	0.036	0.681	0.204	4.973	0.323	0.036		0.036	1.00	2.00	NA	NA	NA	NA	21.1	21.1	0.148	0.015
Tetrachloroethylene (PCE) (µg/L)	NA	0.055	ND	ND	56.0	0.053		0.053	0.053	26.6	0.053	0.053	0.058	0.002	0.002	0.053	26.6	0.002	0.002	0.058	0.058	0.002	0.058	0.006	0.527	0.019	0.002		0.002	3.00	2.00	NA	NA	NA	NA	26.6	26.6	0.159	0.016
1,2,3-Trichloropropane (1,2,3-TCP) (µg/L)	NA	ND	ND	ND	0.074	ND		ND	ND	0.05	ND	ND	0.001	0.001	0.001	ND	0.049	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.009	0.001	0.001		0.001	0.028	0.030	NA	NA	NA	NA	0.049	0.049	0.049	0.005
1,1-DCE [µg/L]	NA	ND	ND	ND	2.200	ND		ND	ND	1.144	ND	ND	ND	ND	ND	ND	1.144	ND	ND	ND	ND	ND	0.000	0.000	ND	ND	ND		ND	0.160	0.400	NA	NA	NA	NA	1.144	1.144	0.005	ND
1,1-DCA [µg/L]	NA	ND	ND	ND	0.600	ND		ND	ND	0.325	ND	ND	0.009	0.002	0.002	ND	0.325	0.002	0.002	0.009	0.009	0.002	0.009	0.001	0.085	0.003	0.002		0.002	0.100	0.100	NA	NA	NA	NA	0.325	0.325	0.325	0.033
Cis-1,2-DCE [µg/L]	NA	ND	ND	ND	0.500	ND		ND	ND	1.408	ND	ND	ND	ND	ND	ND	1.408	ND	ND	ND	ND	ND	ND	ND	0.001	ND	ND		ND	0.100	4.200	NA	NA	NA	NA	1.408	1.408	0.006	0.001
Carbon Tetrachloride [µg/L]	NA	ND	0.100	ND	0.800	0.003		0.003	0.003	0.415	0.003	0.003	0.014	0.001	0.001	0.003	0.415	0.001	0.001	0.014	0.014	0.001	0.014	0.004	0.112	0.006	0.001		0.001	0.100	0.100	NA	NA	NA	NA	0.415	0.415	0.415	0.042

Notes:

[1] Temperature, pH, TDS, Alkalinity and Hardness are model calculated values

[2] Sodium was used to perform ion balance in the model, therefore the concentration is a calculated value

[3] Future well concentration is consider same as Charnock Wells blended concentration

[4] Airport well concentration is calculated based on the blended water quality of Charnock, Arcadia, and Santa Monica Wells, without Organic Constituents

[5] Nitrate RO removal percentages changed to 75% based on the discussion with City of Santa Monica on 9/14/2021

ND = Non-detect

NA = No data available

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED
			REVISIONS	

CONSULTANT

REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
CITY CLIENTS

REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

PROCESS MASS BALANCE – ULTIMATE

PROJECT AND SHEET TITLE

DESIGNED BY : EM
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 G-01-6003
SHT 9 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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12/23/2021 9:06:14 AM
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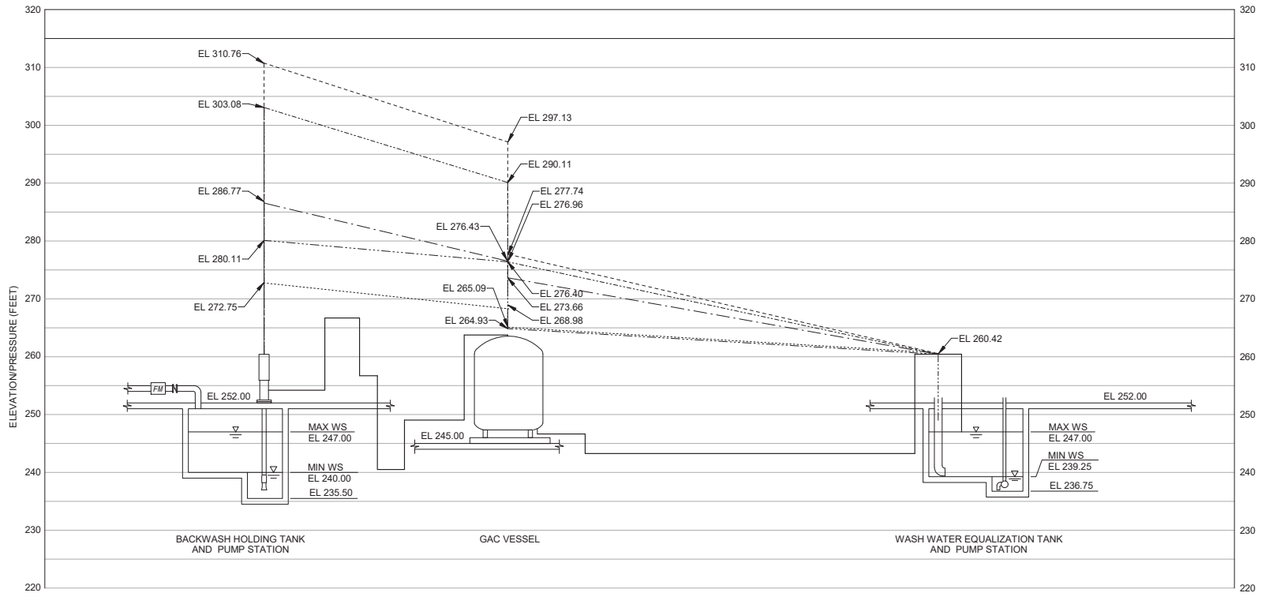
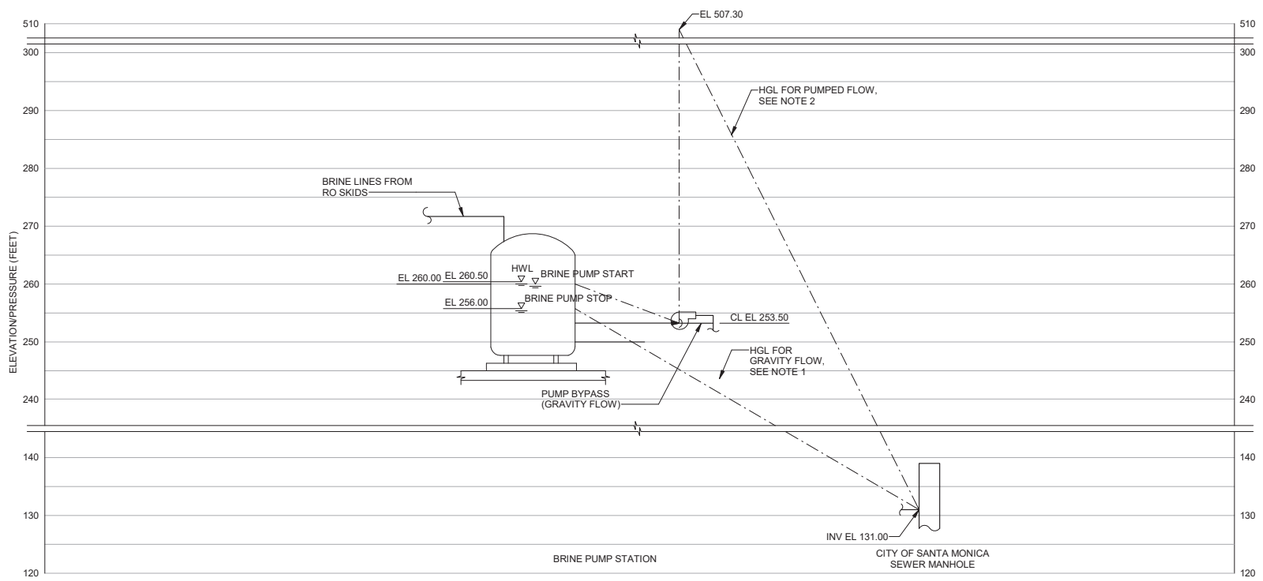


WASTE HYDRAULIC PROFILE

HORIZONTAL: NO SCALE
VERTICAL: 1" = 30'-0"

KEY:

- **MINIMUM WASTE FLOW CONDITION**: BACKWASH RATE OF 8.62 GPM/SF FOR 25% BED EXPANSION, 4 FT OF FILTRASORB 400 MEDIA WITH 0 FT OF SOLIDS ACCUMULATION.
- **AVERAGE WASTE FLOW CONDITION**: BACKWASH RATE OF 9.70 GPM/SF FOR 25% BED EXPANSION, 4 FT OF AQUACARB 1240 MEDIA WITH 10 FT OF SOLIDS ACCUMULATION.
- **MAXIMUM WASTE FLOW CONDITION:** BACKWASH RATE OF 9.70 GPM FOR 25% BED EXPANSION, 12 FT OF AQUACARB 1240 MEDIA WITH 10 FT OF SOLIDS ACCUMULATION.
- **BUMP CONDITION 1**: BACKWASH RATE OF 5 GPM/SF FOR BUMP, 4 FT OF MEDIA.
- **BUMP CONDITION 2:** BACKWASH RATE OF 5 GPM/SF FOR BUMP, 12 FT OF MEDIA.



BRINE HYDRAULIC PROFILE

HORIZONTAL: NO SCALE
VERTICAL: 1" = 30'-0"

NOTES:

1. BRINE WILL BE DISCHARGED BY GRAVITY UNTIL THE LEVEL IN THE TANK REACHES THE PUMP START SET POINT. FLOW RATE WILL VARY WITH THE BRINE TANK LEVEL.
2. BRINE PUMPS WILL OPERATE WHEN THE BRINE TANK LEVEL REACHES THE BRINE PUMP START SET POINT AND WILL STOP WHEN THE LEVEL DROPS TO THE BRINE PUMP STOP SET POINT. MAXIMUM DISCHARGE PRESSURE IS LIMITED TO 110 PSI DUE TO THE CONDITION OF EXISTING PIPES.

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZACHER
No. 65698
CIVIL
STATE OF CALIFORNIA
12/22/2021

TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

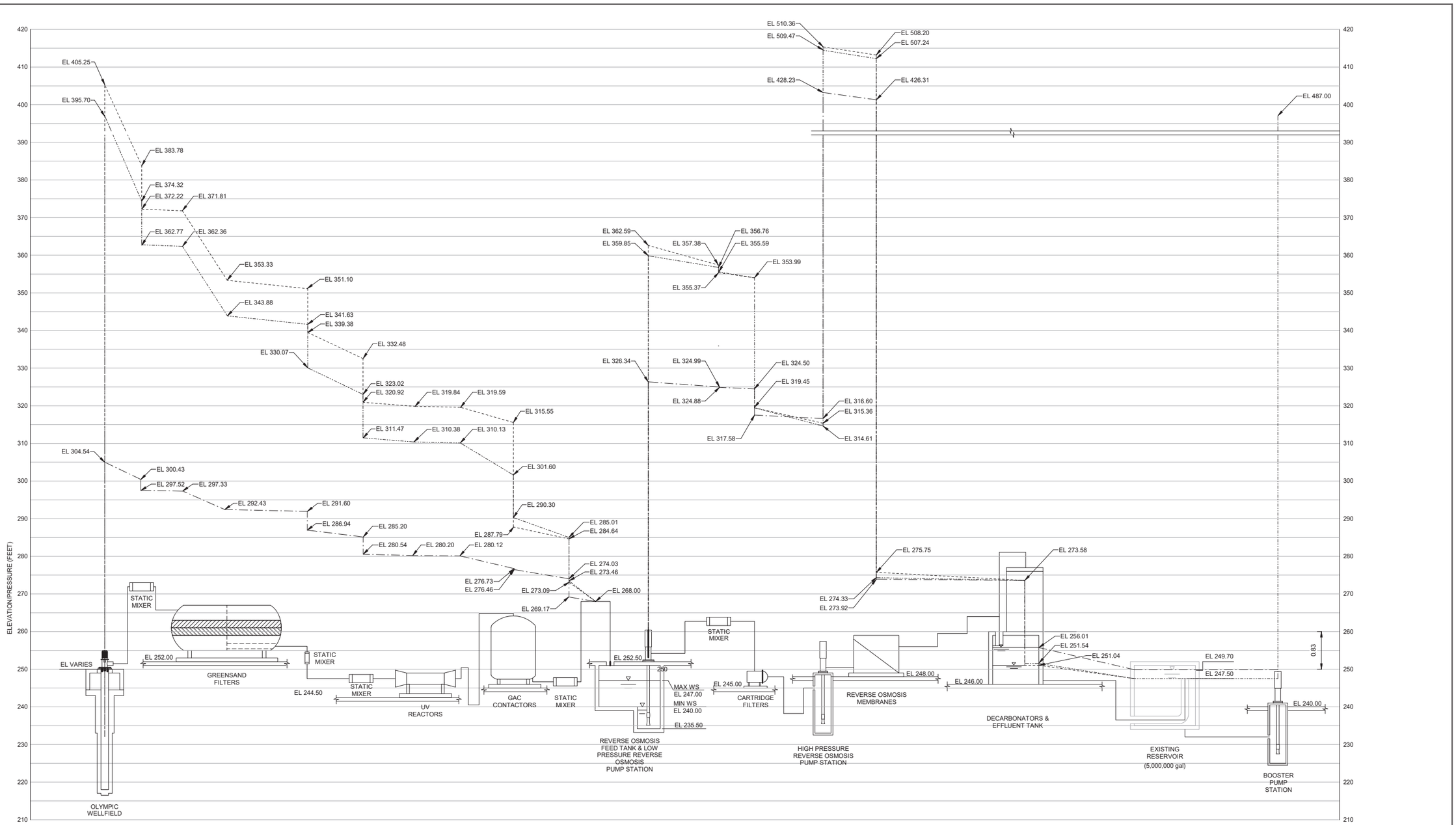
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

WASTE AND BRINE HYDRAULIC PROFILES

DESIGNED BY : LRB
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 G-01-6004
SHT 10 OF 303 SHTS



KEY:

- LOW HEADLOSS CONDITION: MINIMUM FLOW WITH ONE FRRO TRAIN AT 82% RECOVERY IN OPERATION, OLYMPIC FEED PRV SETPOINT AT 25 PSI, ONE GAC CONTACTOR IN OPERATION, CLEAN (0-YEAR) MEMBRANES, CLEAN FILTER/STRAINERS, HIGH TANK LEVELS, HIGH GROUNDWATER LEVELS, MAXIMUM WATER TEMPERATURE.
- HIGH HEADLOSS CONDITION FOR INITIAL PHASE: INITIAL PHASE FLOW WITH THREE FRRO TRAINS AT 90% RECOVERY, OLYMPIC FEED PRV SETPOINT AT 55 PSI, WITH THREE INITIAL PHASE GAC CONTACTORS IN SERVICE FOR HYDROGEN PEROXIDE QUENCHING, FOULED (5-YEAR) MEMBRANES, DIRTY FILTER/STRAINERS, LOW TANK LEVELS, LOW GROUNDWATER LEVELS, MINIMUM WATER TEMPERATURE.
- HIGH HEADLOSS CONDITION FOR FUTURE PHASE: FUTURE PHASE FLOW WITH FOUR FRRO TRAINS AT 90% RECOVERY, OLYMPIC FEED PRV SETPOINT AT 55 PSI, THREE TRAINS OF LEAD/LAG ULTIMATE GAC CONTACTORS FILLED WITH 40,000 LB OF MEDIA, FOULED (5-YEAR) MEMBRANES, DIRTY FILTER/STRAINERS, LOW TANK LEVELS, LOW GROUNDWATER LEVELS, MINIMUM WATER TEMPERATURE.

PLANT HYDRAULIC PROFILE
HORIZONTAL: NO SCALE
VERTICAL: 1" = 30'-0"

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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TEL. (310) 458-8721 FAX. (310) 393-4425

REVISIONS

NO.	DATE	BY	DESCRIPTION	APPROVED

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :
SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

GENERAL HYDRAULIC PROFILE

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHES No. 65698 CIVIL STATE OF CALIFORNIA
12/22/2021

DESIGNED BY : LRB
DRAWN BY : JC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 G-01-6005
SHT 11 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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GENERAL NOTES:

1. THE DESIGN-BUILDER DOES NOT WARRANT THE ACCURACY OF SCALED DIMENSIONS ON ANY PLANS. ALL DIMENSIONS SHALL BE AS DESIGNATED ON THE PLANS.
2. SUBMIT A TYPICAL APPLICATION FROM THE WORK AREA TRAFFIC CONTROL HANDBOOK (W.A.T.C.H.) OR CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD) TO THE CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION PERMITTING AGENCY AND OBTAIN APPROVAL PRIOR TO TEMPORARY SIDEWALK CLOSURE.
3. ADHERE TO CALIFORNIA DEPARTMENT OF PUBLIC HEALTH REGULATION ON MINIMUM SEPARATION REQUIREMENTS FOR WATER MAINS AND SEWER LINES/STORM DRAINS.
4. ANY STREET, CURB, GUTTER, DRAIN OR PAVED AREA (EXCEPT THOSE INDICATED TO BE DEMOLISHED) WHICH ARE DAMAGED OR REMOVED DURING CONSTRUCTION OF THIS PROJECT SHALL BE RETURNED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
5. WITH THE EXCEPTION OF GENERAL NOTE 3, ANY PIPING DESIGNATED AS RELOCATED SHALL HAVE A MINIMUM SEPARATION OF 12" BELOW OR ABOVE EXISTING OR NEW UTILITIES. FOR SEPARATION LESS THEN 12", BACKFILL SHALL BE CONTROLLED DENSITY FILL.
6. FOLLOW OWNER'S SWPPP PERMIT BMPS REQUIREMENTS PER THE CONSTRUCTION GENERAL PERMIT (ORDER NO. 2009-0009-DWQ/CAS000002).
7. PROVIDE TEMPORARY SHORING FOR EXCAVATIONS REMOVING THE LATERAL SUPPORT OF PUBLIC WAY, EXISTING BUILDING, OR AS REQUIRED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
8. CUT AND REMOVE ABANDONED MATERIALS ENCOUNTERED WHILE EXCAVATING AS SHOWN WHEN DIRECTED BY THE OWNER. THE ENDS OF REMAINING PIPING SHALL BE CAPPED OR PLUGGED DEPENDING ON PIPE MATERIAL.
9. BE RESPONSIBLE FOR THE REMEDIATION AND PROPER HANDLING & DISPOSAL OF ALL HAZARDOUS MATERIALS IDENTIFIED ON THE SITE AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS. THE OWNER WILL TAKE ON RESPONSIBILITY AS THE GENERATOR OF THE HAZARDOUS MATERIALS AND WILL SIGN ALL ASSOCIATED SHIPPING MANIFESTS.
10. ADHERE TO SPECIFICATION SECTION 31 23 00 FOR TRENCHING. UNLESS OTHERWISE NOTED, PAVEMENT RESTORATION SHALL BE IN ACCORDANCE WITH CITY OF SANTA MONICA STANDARD DETAIL SM-16.

DATUM:

THE SURVEY WAS CONDUCTED BASED ON NORTH AMERICAN DATUM OF 1983 (NAD83), CALIFORNIA COORDINATE SYSTEM ZONE 5 FOR HORIZONTAL CONTROL AND NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) FOR VERTICAL CONTROL.

BENCHMARK AND LOCAL CONTROL:

PHYSICAL HORIZONTAL AND VERTICAL CONTROL POINTS ARE BASED ON THE ARCADIA AWTP'S CONTROL NETWORK. THE BASIS OF BOTH HORIZONTAL AND VERTICAL CONTROLS USED FOR THE SURVEY ARE THE ARCADIA AWTP'S CONTROL NETWORK OF STATIONS 803, 804, AND 805.

LOCAL CONTROL STATION TABLE

STATION	NORTHING	EASTING	ELEV	DESCRIPTION
803	1838849.052	6420513.104	247.89	SET MAG NAIL & WASHER "PSOMAS"
804	1838758.700	6420476.098	243.75	SET MAG NAIL & WASHER "PSOMAS"
805	1838683.142	6420345.182	240.39	SET MAG NAIL & WASHER "PSOMAS"

CIVIL ABBREVIATIONS:

NOTES:

1. ABBREVIATIONS ON THIS SHEET ARE IN ADDITION TO ABBREVIATIONS DEFINED ON OTHER DRAWINGS.
2. SEE G-01-0003 FOR PROCESS SERVICE AND PIPING TYPE ABBREVIATIONS.

AC	ASPHALT CONCRETE
ARV	AUTOMATIC AIR RELEASE VALVE
BMP	BEST MANAGEMENT PRACTICES
BO	BLOW-OFF
CAB	CRUSHED AGGREGATE BASE
CL	CENTERLINE
CLR	CLEAR
CONC	CONCRETE
CMB	CRUSHED MISCELLANEOUS BASE
DWG	DRAWING
E	EAST
EL	ELEVATION
FCA	FLANGE COUPLING ADAPTER
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOW LINE
GAC	GRANULAR ACTIVATED CARBON
HMA	HOT MIX ASPHALT
INV	INVERT
MIN	MINIMUM
MWD	METROPOLITAN WATER DISTRICT
N	NORTH
NE	NORTHEAST
NO	NUMBER
NPT	NATIONAL PIPE THREAD
NW	NORTHWEST
OD	OUTSIDE DIAMETER
PS	PUMP STATION
RO	REVERSE OSMOSIS
SCH	SCHEDULE
SE	SOUTHEAST
SEG	SUBGRADE ENHANCEMENT GEOTEXTILE
STA	STATION
SW	SOUTHWEST
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
TOC	TOP OF CONCRETE
TC	TOP OF CURB
TOW	TOP OF WALL
TYP	TYPICAL
UV	ULTRAVIOLET
VBF	VALVE, AWWA BUTTERFLY
W	WEST

LEGEND:

- ASPHALT
- CONCRETE
- LANDSCAPE
- DEMOLITION
- EASEMENT
- UTILITY EASEMENT
- PROPERTY LINE
- FENCE LINE
- FENCE (GUARD RAIL)
- RETAINING WALL
- 247.0 PROPOSED GRADE CONTOUR
- 247.0 FUTURE GRADE CONTOUR
- 247.0 EXISTING GRADE CONTOUR

REGISTERED PROFESSIONAL ENGINEER — CURTIS MINKO CASTLE — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : _____ DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
CIVIL NOTES

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 C-01-0001
SHT 12 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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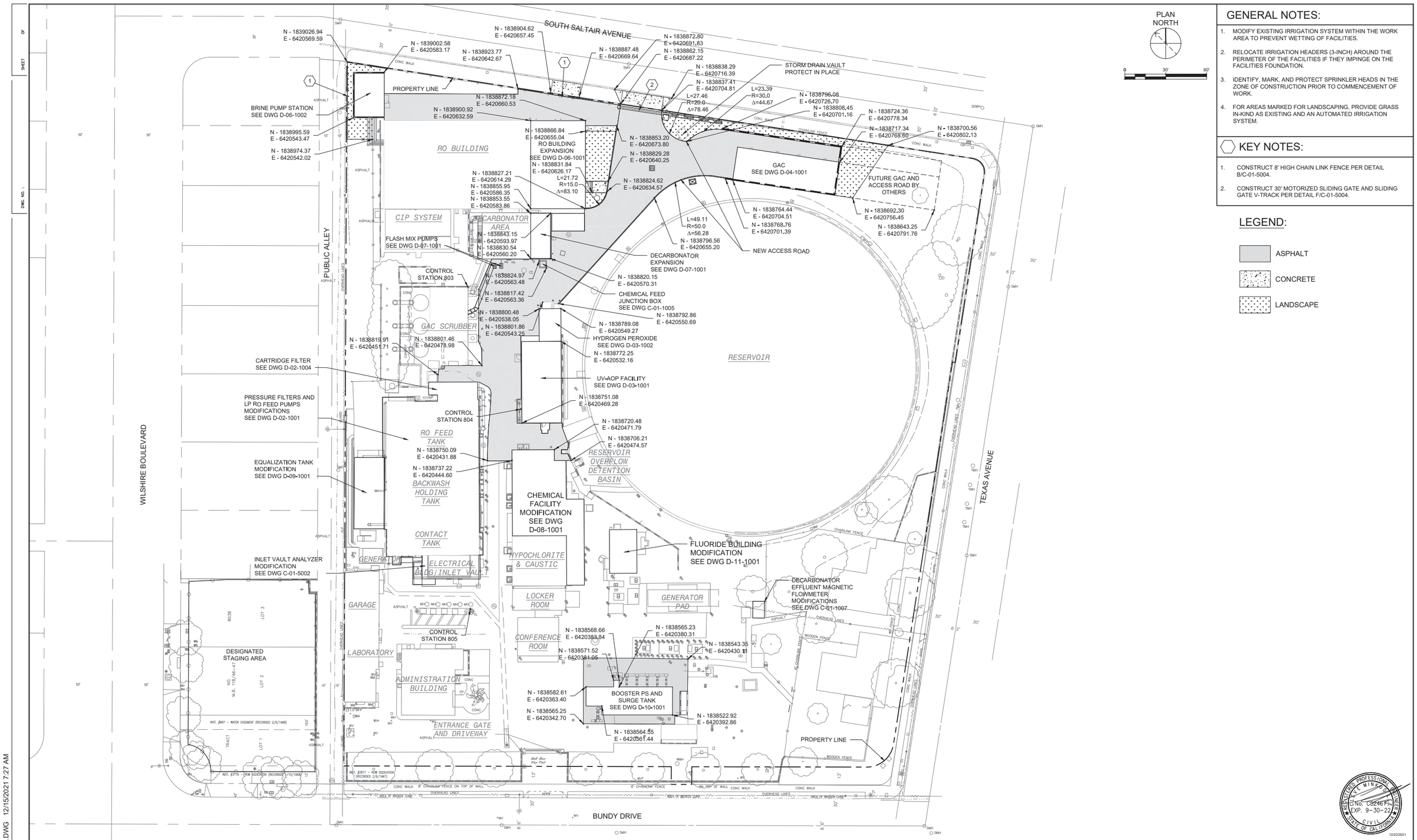


GENERAL NOTES:

1. MODIFY EXISTING IRRIGATION SYSTEM WITHIN THE WORK AREA TO PREVENT WETTING OF FACILITIES.
2. RELOCATE IRRIGATION HEADERS (3-INCH) AROUND THE PERIMETER OF THE FACILITIES IF THEY IMPINGE ON THE FACILITIES FOUNDATION.
3. IDENTIFY, MARK, AND PROTECT SPRINKLER HEADS IN THE ZONE OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK.
4. FOR AREAS MARKED FOR LANDSCAPING, PROVIDE GRASS IN-KIND AS EXISTING AND AN AUTOMATED IRRIGATION SYSTEM.

KEY NOTES:

1. CONSTRUCT 8' HIGH CHAIN LINK FENCE PER DETAIL B/C-01-5004.
2. CONSTRUCT 30' MOTORIZED SLIDING GATE AND SLIDING GATE V-TRACK PER DETAIL F/C-01-5004.

LEGEND:

- ASPHALT
- CONCRETE
- LANDSCAPE

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER M. LEE — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown and Caldwell / WA-SH

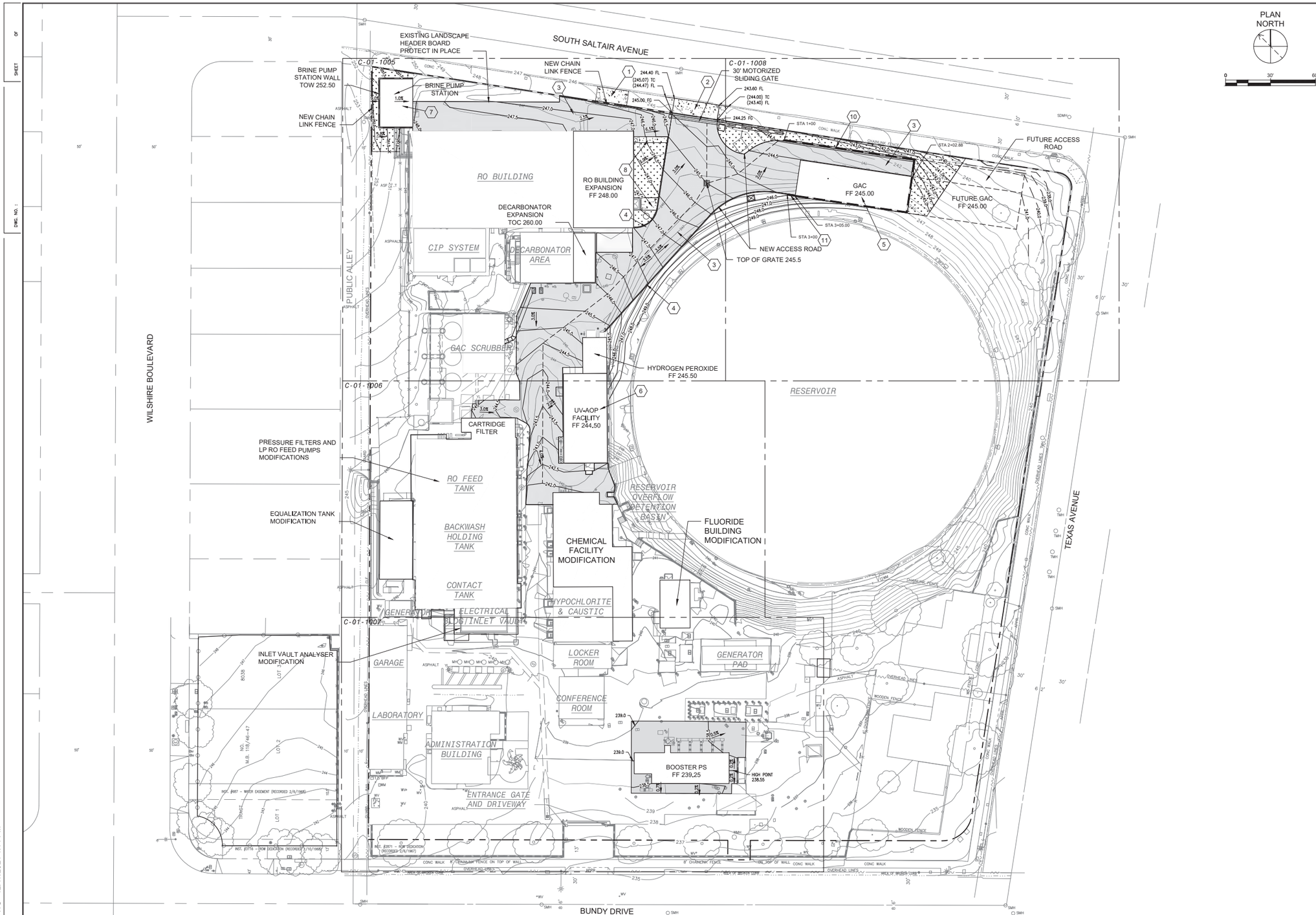
CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
SITE AND HORIZONTAL CONTROL PLAN

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-1001
SHT 13 OF 303 SHTS

TITLE OF PROJECT :
SHEET OF
DWG. NO. :
C:\BCPW\D\0408673\C-01-1001.DWG 12/15/2021 7:27 AM



PLAN NORTH

0 30' 60'

GENERAL NOTE:

1. WHERE NEW AC PAVEMENT MEETS EXISTING PAVEMENT, MEET EXISTING PAVEMENT THICKNESS PER DETAIL F/C-01-5003.

KEY NOTES:

1. CONSTRUCT SIDEWALK PER CITY OF LOS ANGELES STANDARD DETAIL S-444-0.
2. CONSTRUCT DRIVEWAY APPROACH PER CITY OF LOS ANGELES STANDARD DETAIL S-440-4, CASE 2.
3. CONSTRUCT AC PAVEMENT PER DETAIL F/C-01-5003.
4. CONSTRUCT CURB PER CITY OF SANTA MONICA STANDARD DETAIL SM 6.
5. SEE S-04-1001 FOR GAC FOUNDATION.
6. SEE S-03-1001 FOR UV-AOP FACILITY FOUNDATION.
7. SEE S-06-1003 FOR BRINE PUMP STATION FOUNDATION.
8. CONSTRUCT CONCRETE WALK PER DETAIL G/C-01-5004.
9. NOT USED
10. CONSTRUCT MODULAR BLOCK RETAINING WALL PER STANDARD DETAILS C005 THROUGH C008. FOR WALL PROFILE, SEE PROFILE A/C-01-5005. FIELD ROUTE DRAIN LINE TO SANITARY SEWER.
11. CONSTRUCT MODULAR BLOCK RETAINING WALL PER STANDARD DETAILS C005 THROUGH C008. FOR WALL PROFILE, SEE PROFILE B/C-01-5005. FIELD ROUTE DRAIN LINE TO SANITARY SEWER.

LEGEND:

- ASPHALT
- CONCRETE
- LANDSCAPE
- 247.0 PROPOSED GRADE CONTOUR
- 247.0 FUTURE GRADE CONTOUR
- 247.0 EXISTING GRADE CONTOUR

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER LEE MINARD — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

12/22/2021

SHEET OF

DWG. NO. :

C:\BCPW\D0408673\C-01-1002.DWG 12/17/2021 1:11 PM

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : 20__

REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

REFERENCE :

DATE : , 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

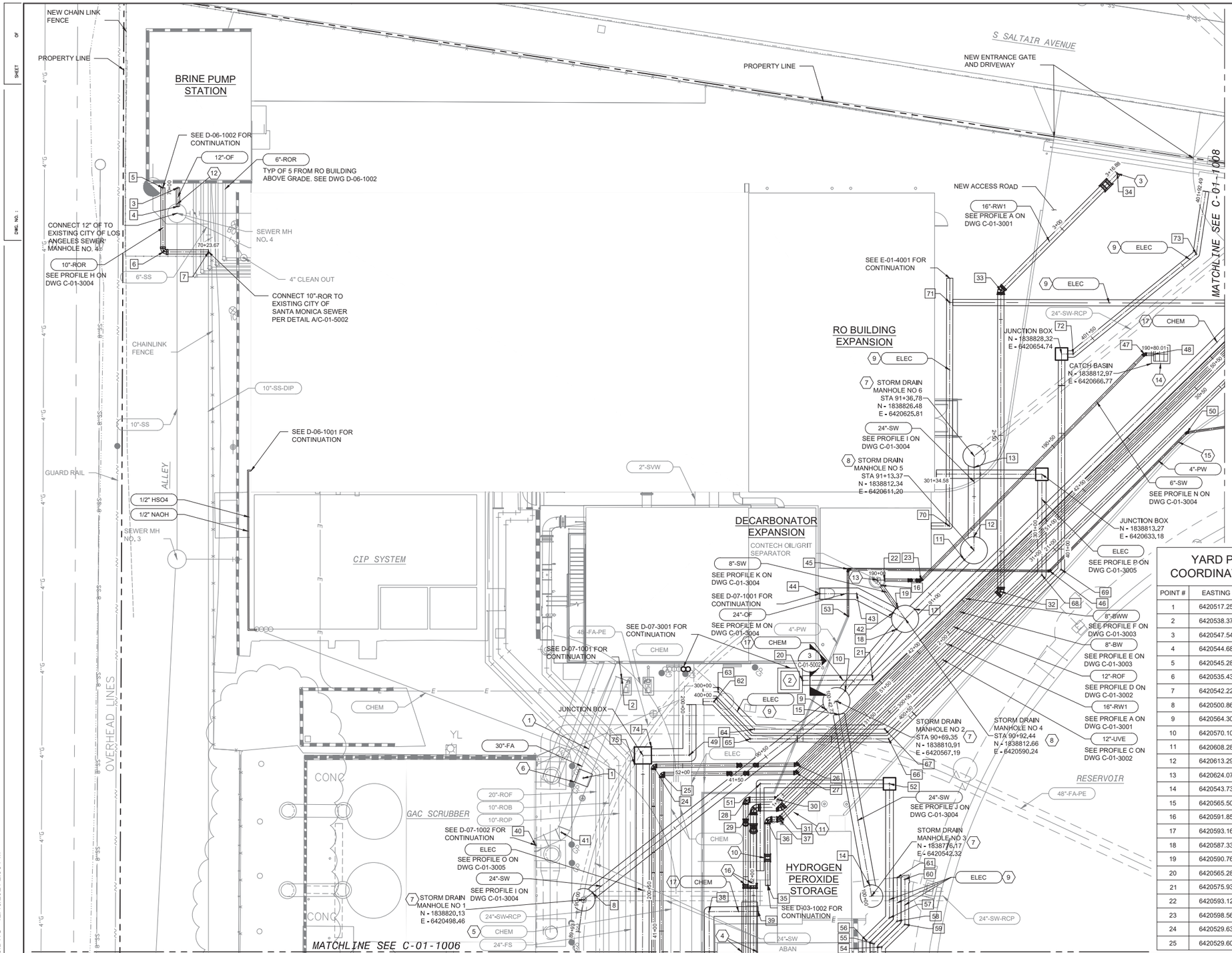
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

GRADING AND PAVING PLAN

PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078
C-01-1002
SHT 14 OF 303 SHTS



PLAN NORTH

0 10' 20'

REGISTERED PROFESSIONAL ENGINEER — KYLE M. NINO — No. C82467 — EXP. 9-30-22 — STATE OF CALIFORNIA — CIVIL

12/22/2021

GENERAL NOTES:

1. ALL EXISTING PIPING AND CONDUIT SHALL BE SUPPORTED IN PLACE DURING TRENCHING OR EXCAVATION WORK PERFORMED.
2. COORDINATES GIVEN AT CENTERLINE OF PIPE.
3. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON ELECTRICAL DUCTBANKS.
4. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. ABOVE GRADE 30" FOUL AIR AT CENTERLINE ELEVATION OF 263.50.
2. CHEMICAL FEED JUNCTION BOX. SEE DETAIL A/C-01-5003. PROVIDE LEAK DETECTION ON CONTAINMENT PIPING WITHIN THE CHEMICAL FEED JUNCTION BOX PER DETAIL A/D-08-5003.
3. EXPOSE EXISTING OLYMPIC WELLFIELD STUB INSTALLED UNDER OTHER PROJECT AND CONNECT NEW 16" RW1. COORDINATE LOCATION WITH OTHER PROJECT.
4. ENCASE 16" RW1 AND 12" ROF IN REINFORCED CONCRETE PER DETAIL S6003/S-01-5006.
5. CONSTRUCT (2) 1/2" NOCL AND 1/2" NSO4 WITHIN EXISTING CHEMICAL DUCTBANK USING SPARE CONDUITS.
6. POTENTIAL LOCATION FOR ABOVE GRADE PIPING PIPE SUPPORT. DESIGN SUPPORTS AND CONFIRM LOCATION WITH OWNER PRIOR TO CONSTRUCTION.
7. CONSTRUCT 48" MANHOLE PER CITY OF SANTA MONICA STANDARD DETAIL SS-5 WITH MANHOLE FRAME AND COVER PER CITY OF SANTA MONICA STANDARD DETAIL SS-8.
8. CONSTRUCT 60" MANHOLE PER CITY OF SANTA MONICA STANDARD DETAIL SS-7 WITH MANHOLE FRAME AND COVER PER CITY OF SANTA MONICA STANDARD DETAIL SS-8.
9. FIELD ROUTE ELECTRICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER UNDER ANY SURFACE THAT IS DRIVEABLE PER NATIONAL ELECTRICAL CODE.
10. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
11. 1" PW FROM UV-AOP FACILITY EMERGENCY EYEWASH STATION TO BE FIELD ROUTED TO NEAREST EMERGENCY EYEWASH STATION POTABLE WATER LOOP.
12. TYPE E PIPE PENETRATION PER DETAIL D1105/D-01-0001 AT CENTERLINE ELEVATION OF 242.95.
13. RAISE MANHOLE COVER TO GRADE.
14. INSTALL 3' L X 3' W X 4' D CONCRETE CATCH BASIN PER DETAIL C009/C-01-5005.
15. FIELD ROUTE POTABLE WATER. MAINTAIN MINIMUM 36" DEPTH OF COVER.
16. RESTRAINED SLEEVE TYPE COUPLING WITHIN 40 INCHES OF ENCASEMENT IN ACCORDANCE WITH SECTION 40 05 06.
17. FIELD ROUTE CHEMICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER.

YARD PIPING COORDINATE TABLE

POINT #	EASTING	NORTHING
1	6420517.25	1838838.49
2	6420538.37	1838847.50
3	6420547.54	1838989.96
4	6420544.68	1838987.17
5	6420545.28	1838992.29
6	6420535.43	1838982.58
7	6420542.22	1838975.60
8	6420500.86	1838819.81
9	6420564.30	1838811.30
10	6420570.10	1838811.13
11	6420608.28	1838812.38
12	6420613.29	1838814.37
13	6420624.07	1838824.80
14	6420543.73	1838778.13
15	6420565.50	1838808.54
16	6420591.85	1838821.38
17	6420593.16	1838812.61
18	6420587.33	1838812.44
19	6420590.76	1838815.53
20	6420565.28	1838819.28
21	6420575.93	1838808.51
22	6420593.12	1838821.73
23	6420598.56	1838816.02
24	6420529.63	1838829.51
25	6420529.60	1838827.05

YARD PIPING COORDINATE TABLE

POINT #	EASTING	NORTHING
26	6420551.35	1838807.53
27	6420550.02	1838806.39
28	6420538.28	1838810.12
29	6420538.25	1838807.74
30	6420543.15	1838805.22
31	6420542.43	1838803.55
32	6420608.85	1838801.97
33	6420655.46	1838847.30
34	6420691.03	1838846.81
35	6420528.37	1838793.81
36	6420538.38	1838803.92
37	6420540.36	1838801.91
38	6420515.48	1838798.96
39	6420522.90	1838791.42
40	6420499.67	1838835.83
41	6420505.56	1838833.66
42	6420589.40	1838815.45
43	6420586.85	1838823.94
44	6420581.27	1838829.68
45	6420589.33	1838828.97
46	6420619.38	1838797.51
47	6420667.16	1838815.46
48	6420668.55	1838814.00
49	6420536.74	1838825.56
50	6420661.50	1838797.11

YARD PIPING COORDINATE TABLE

POINT #	EASTING	NORTHING
51	6420542.93	1838810.28
52	6420562.38	1838790.28
53	6420582.06	1838821.91
54	6420535.95	1838766.96
55	6420535.29	1838768.64
56	6420534.64	1838770.31
57	6420541.64	1838770.12
58	6420542.30	1838768.44
59	6420542.95	1838766.76
60	6420549.94	1838773.55
61	6420549.02	1838774.98
62	6420548.71	1838829.79
63	6420550.83	1838830.62
64	6420550.52	1838819.41
65	6420548.40	1838818.58
66	6420569.20	1838797.19
67	6420570.11	1838799.26
68	6420617.61	1838798.14
69	6420621.36	1838795.95
70	6420611.24	1838819.83
71	6420645.88	1838853.36
72	6420656.48	1838826.52
73	6420690.44	1838822.51
74	6420532.28	1838832.67
75	6420527.10	1838832.70

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS

REVIEWED BY : DATE : ____ 20__

REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : ____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING PLAN – 1

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078
C-01-1005
SHT 15 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :

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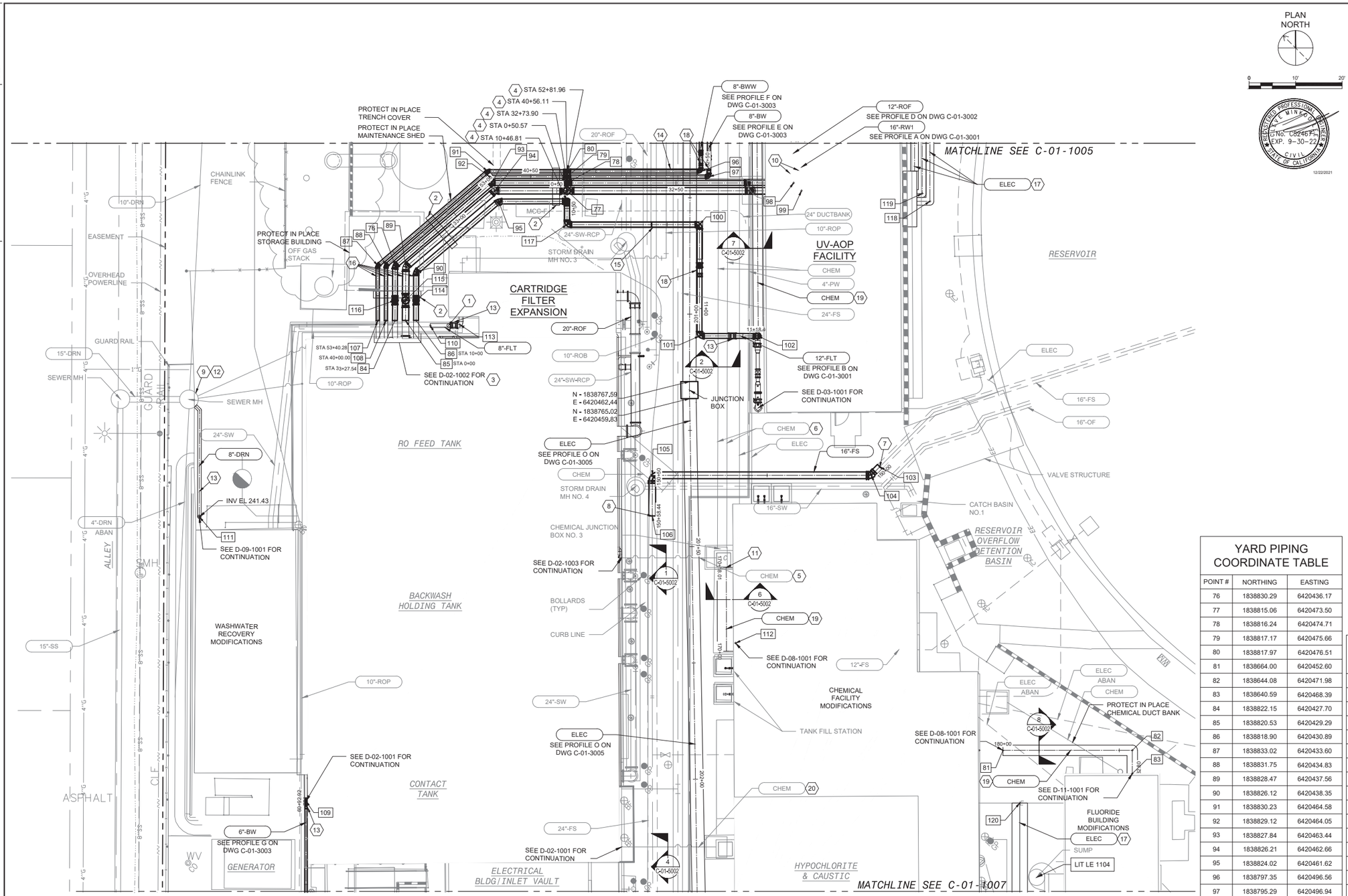

GENERAL NOTES:

1. ALL EXISTING PIPING AND CONDUIT SHALL BE SUPPORTED IN PLACE DURING TRENCHING OR EXCAVATION WORK PERFORMED.
2. COORDINATES GIVEN AT CENTERLINE OF PIPE.
3. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON ELECTRICAL DUCTBANKS.
4. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. FIELD VERIFY EXISTING 10" ROP PIPELINE MATERIAL AND LOCATION PRIOR TO ANY WORK. CONNECT 8" ROF DRAIN LINE TO 10" ROP OFF-SPEC LINE PER DETAIL D/C-01-5001.
2. POTENTIAL LOCATION FOR ABOVE GRADE PIPING PIPE SUPPORT. DESIGN SUPPORTS AND CONFIRM LOCATION WITH OWNER PRIOR TO CONSTRUCTION.
3. BEGIN ABOVE GRADE YARD PIPING.
4. END ABOVE GRADE YARD PIPING.
5. CONSTRUCT 1/2" NSO4 WITHIN EXISTING CHEMICAL DUCTBANK USING SPARE CONDUITS. CONSTRUCT 1/2" HSO4 WITHIN EXISTING CHEMICAL DUCTBANK BY REPLACING EXISTING 1/2" NHS CARRIER PIPE. PROTECT-IN-PLACE EXISTING CONTAINMENT CONDUIT.
6. CONSTRUCT (2) 1/2" NOCL AND 1/2" NSO4 WITHIN EXISTING CHEMICAL DUCTBANK USING SPARE CONDUITS.
7. WELD 16" STEEL PIPE TO EXISTING 16" STEEL PIPE FINISHED SUPPLY. INVERT ELEVATION OF EXISTING 16" STEEL PIPE IS 230.03±. VERIFY DEPTH OF 16" STEEL PIPE PRIOR TO CONSTRUCTION.
8. CONNECT 16" STEEL PIPE TO EXISTING 16" DIP FINISHED SUPPLY PER DETAIL E/C-01-5003. INVERT ELEVATION OF EXISTING 16" DIP IS 229.97±. VERIFY DEPTH OF 16" DIP PRIOR TO CONSTRUCTION.
9. CONNECT 8" DRN TO SANITARY SEWER MANHOLE AT INVERT ELEVATION 240.95±. 8" DRN TO BE SLOPED 0.25-INCH PER 1 FT MIN. MAINTAIN MINIMUM 36" DEPTH OF COVER.
10. ENCASE 16" RW1 AND 12" ROF IN REINFORCED CONCRETE PER DETAIL S6003.
11. PENETRATE WALL OF CHEMICAL JUNCTION BOX FOR CHEMICAL CONDUITS PER DETAIL B/C-01-5003. PROVIDE LEAK DETECTION ON CONTAINMENT PIPING WITHIN THE CHEMICAL FEED JUNCTION BOX PER DETAIL A/D-08-5003.
12. 4" DRAIN FROM UV-AOP FACILITY TO SANITARY SEWER TO BE FIELD ROUTED BY AND SLOPED 0.25-INCH PER 1 FT MIN. SEE D-03-1001. BENDS SHALL BE 45°. CLEANOUTS SHALL BE PROVIDED AT EACH BEND PER DETAIL D4102.
13. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
14. ENCASE 16" RW1, 12" ROF, 8" BW, AND 8" BWW IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
15. ENCASE 12" FLT IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
16. DOUBLE-ARCH ELASTOMER EXPANSION JOINT.
17. FIELD ROUTE ELECTRICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER.
18. RESTRAINED SLEEVE TYPE COUPLING WITHIN 40 INCHES OF ENCASEMENT IN ACCORDANCE WITH SECTION 40 05 06.
19. FIELD ROUTE CHEMICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER.
20. CONSTRUCT 1/2" NOCL WITHIN EXISTING CHEMICAL DUCTBANK USING SPARE CONDUITS. PROTECT-IN-PLACE EXISTING CONTAINMENT CONDUIT.

YARD PIPING COORDINATE TABLE

POINT #	NORTHING	EASTING
76	1838830.29	6420436.17
77	1838815.06	6420473.50
78	1838816.24	6420474.71
79	1838817.17	6420475.66
80	1838817.97	6420476.51
81	1838664.00	6420452.60
82	1838644.08	6420471.98
83	1838640.59	6420468.39
84	1838822.15	6420427.70
85	1838820.53	6420429.29
86	1838818.90	6420430.89
87	1838833.02	6420433.60
88	1838831.75	6420434.83
89	1838828.47	6420437.56
90	1838826.12	6420438.35
91	1838830.23	6420464.58
92	1838829.12	6420464.05
93	1838827.84	6420463.44
94	1838826.21	6420462.66
95	1838824.02	6420461.62
96	1838797.35	6420496.56
97	1838795.29	6420496.94
98	1838781.32	6420508.67
99	1838778.93	6420508.63
100	1838789.57	6420488.14
101	1838772.88	6420470.99

YARD PIPING COORDINATE TABLE

POINT #	NORTHING	EASTING
102	1838763.92	6420479.70
103	1838725.48	6420477.85
104	1838725.51	6420475.26
105	1838759.29	6420442.42
106	1838753.19	6420436.15
107	1838824.77	6420425.11
108	1838823.52	6420426.34
109	1838763.83	6420340.31
110	1838815.94	6420432.23
111	1838822.87	6420368.13
112	1838721.30	6420429.04
113	1838811.56	6420436.81
114	1838821.92	6420433.98
115	1838823.53	6420432.42
116	1838825.16	6420430.83
117	1838810.00	6420468.28
118	1838757.55	6420526.28
119	1838759.90	6420526.31
120	1838653.52	6420447.00

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : 20__
REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

COMPUTER FILE NAME :
SP-FILE NO. : SP2602

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING PLAN – 2

PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-1006
SHT 16 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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YARD PIPING COORDINATE TABLE		
POINT #	NORTHING	EASTING
121	1838545.18	6420412.01
122	1838538.28	6420411.92
123	1838512.37	6420437.11
124	1838512.21	6420448.63
125	1838509.45	6420451.32
126	1838506.83	6420453.86
127	1838559.10	6420351.64
128	1838698.57	6420308.60

YARD PIPING COORDINATE TABLE		
POINT #	NORTHING	EASTING
129	1838716.26	6420291.39
130	1838635.98	6420331.15
131	1838620.52	6420330.72
132	1838622.11	6420421.93
133	1838629.24	6420422.03
134	1838630.01	6420422.82
135	1838597.24	6420428.05
136	1838551.77	6420441.61

PLAN NORTH

0 10' 20'

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER LEE MINO — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

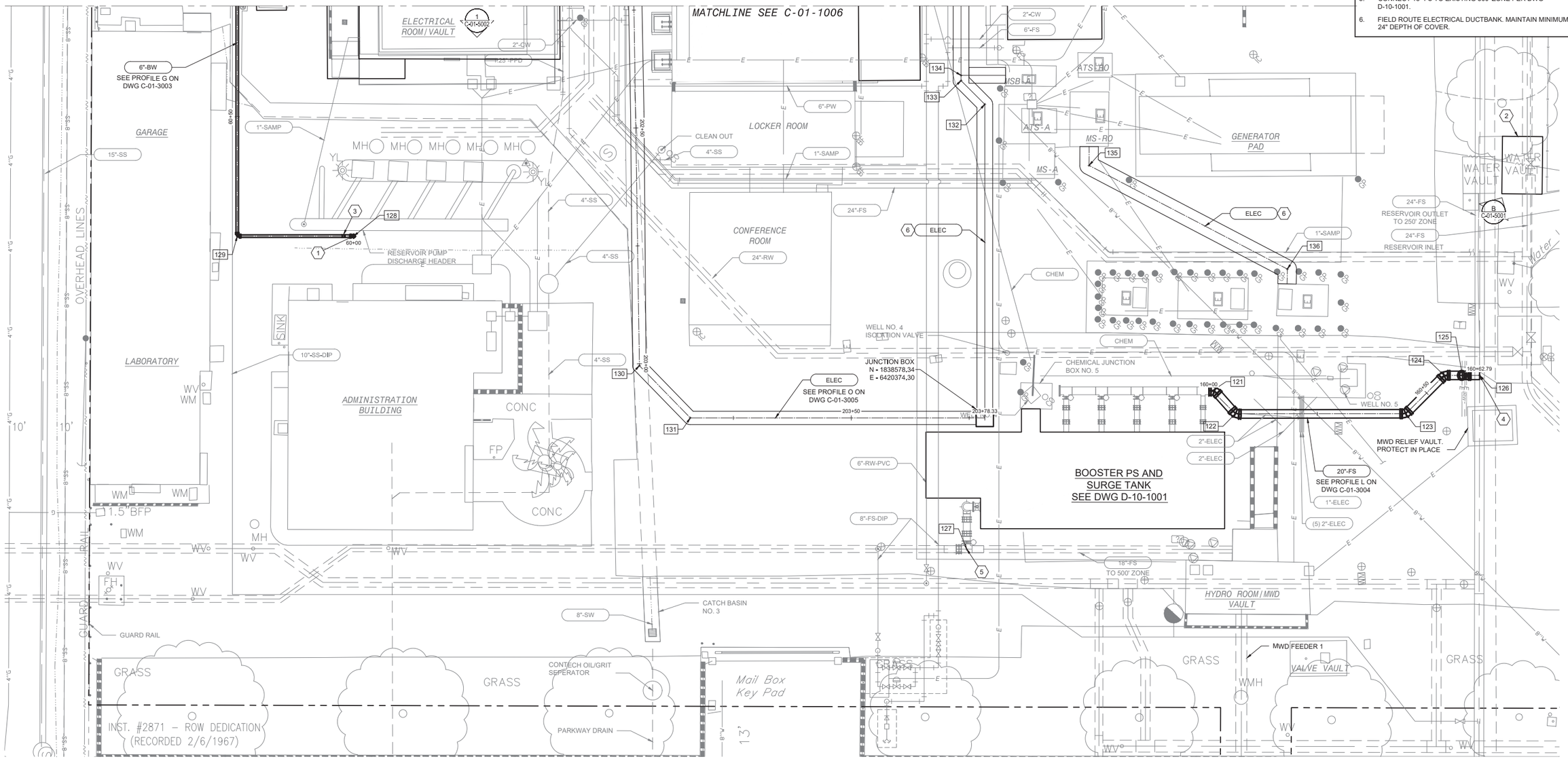
12/22/2021

GENERAL NOTE:

1. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON ELECTRICAL DUCTBANKS.
2. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. CONNECT 6" BW TO RESERVOIR PUMP DISCHARGE HEADER PER DETAIL B/C-01-5002.
2. INSTALL NEW 24" MAGNETIC FLOWMETER AND REPLACE EXISTING 24" BUTTERFLY VALVE WITH NEW WITHIN EXISTING WATER VAULT. SEE DETAIL A/C-01-5001 AND B/C-01-5001.
3. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
4. CONNECT 20" FS TO EXISTING RESERVOIR OUTLET TO 250' ZONE PER DETAIL E/C-01-5001.
5. CONNECT 18" FS TO EXISTING 500' ZONE PER DWG D-10-1001.
6. FIELD ROUTE ELECTRICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER.



City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED
			REVISIONS	

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____, 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____, 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY : DATE : _____, 20__

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING PLAN – 3

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 C-01-1007
SHT 17 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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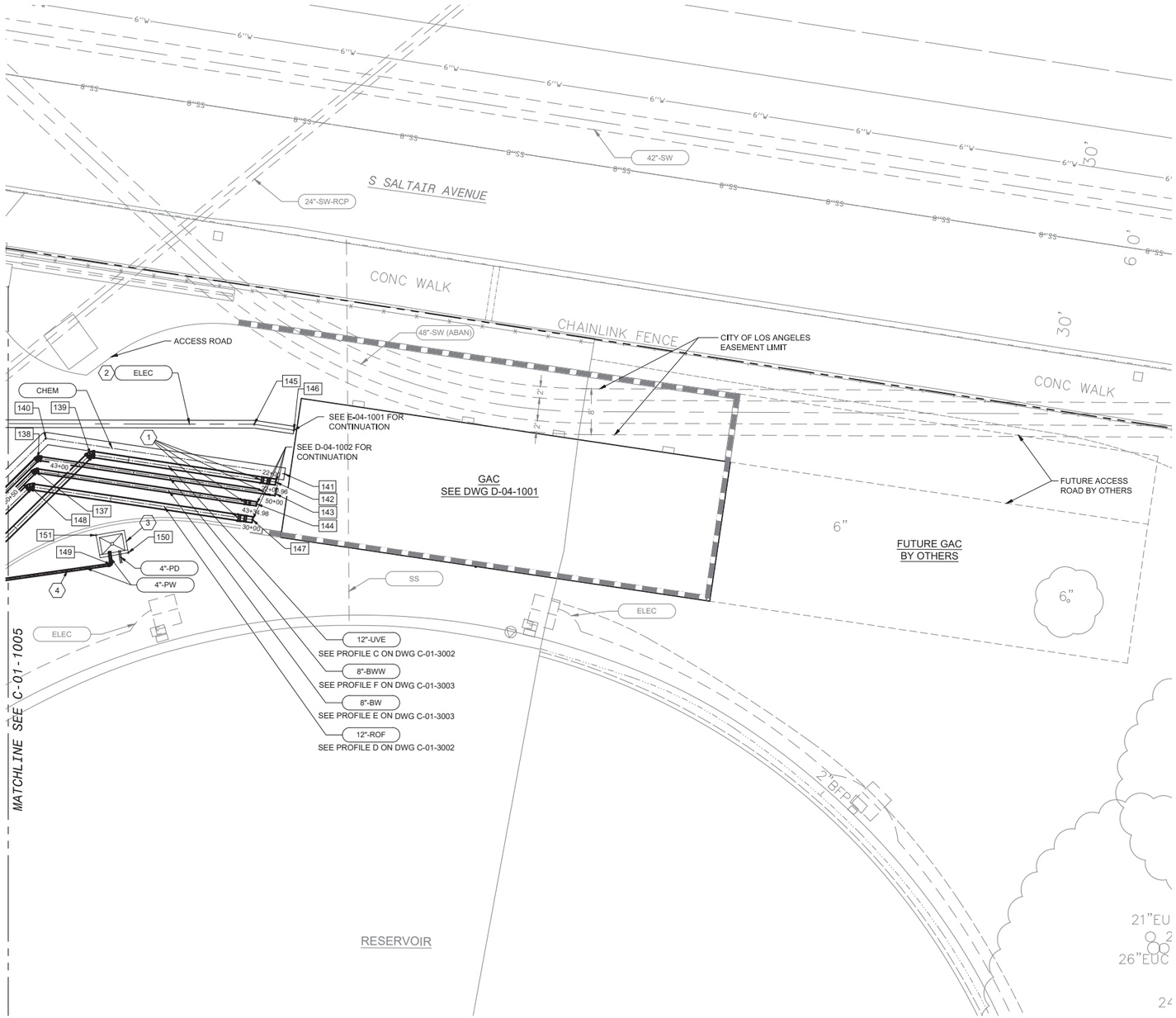


GENERAL NOTES:

1. ALL EXISTING PIPING AND CONDUIT SHALL BE SUPPORTED IN PLACE DURING TRENCHING OR EXCAVATION WORK PERFORMED.
2. COORDINATES GIVEN AT CENTERLINE OF PIPE.
3. SEE ELECTRICAL DRAWINGS FOR FURTHER INFORMATION ON ELECTRICAL DUCTBANKS.
4. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
2. FIELD ROUTE ELECTRICAL DUCTBANK. MAINTAIN MINIMUM 24" DEPTH OF COVER.
3. CONSTRUCT GAC CHANGE WATER AND DRAIN STATION. FOR STRUCTURAL, SEE DETAIL A/S-04-3001. FOR PIPING, SEE DETAIL C/C-01-5001. FIELD ROUTE DRAIN LINE TO SANITARY SEWER.
4. FIELD ROUTE POTABLE WATER. MAINTAIN MINIMUM 36" DEPTH OF COVER.

YARD PIPING COORDINATE TABLE

POINT #	NORTHING	EASTING
137	1838803.24	6420682.96
138	1838804.37	6420684.92
139	1838798.32	6420691.74
140	1838805.84	6420688.33
141	1838771.66	6420712.91
142	1838771.79	6420710.82
143	1838770.41	6420709.34
144	1838771.53	6420705.76
145	1838781.50	6420715.43
146	1838775.83	6420719.52
147	1838770.11	6420703.29
148	1838801.97	6420680.38
149	1838782.33	6420680.51
150	1838781.64	6420684.05
151	1838787.80	6420682.33

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER LEE MINER — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

12/22/2021

SHEET OF

DWG. NO. :

C:\BCPWID\0408673\C-01-1008.DWG 12/15/2021 3:48 PM

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING PLAN – 4

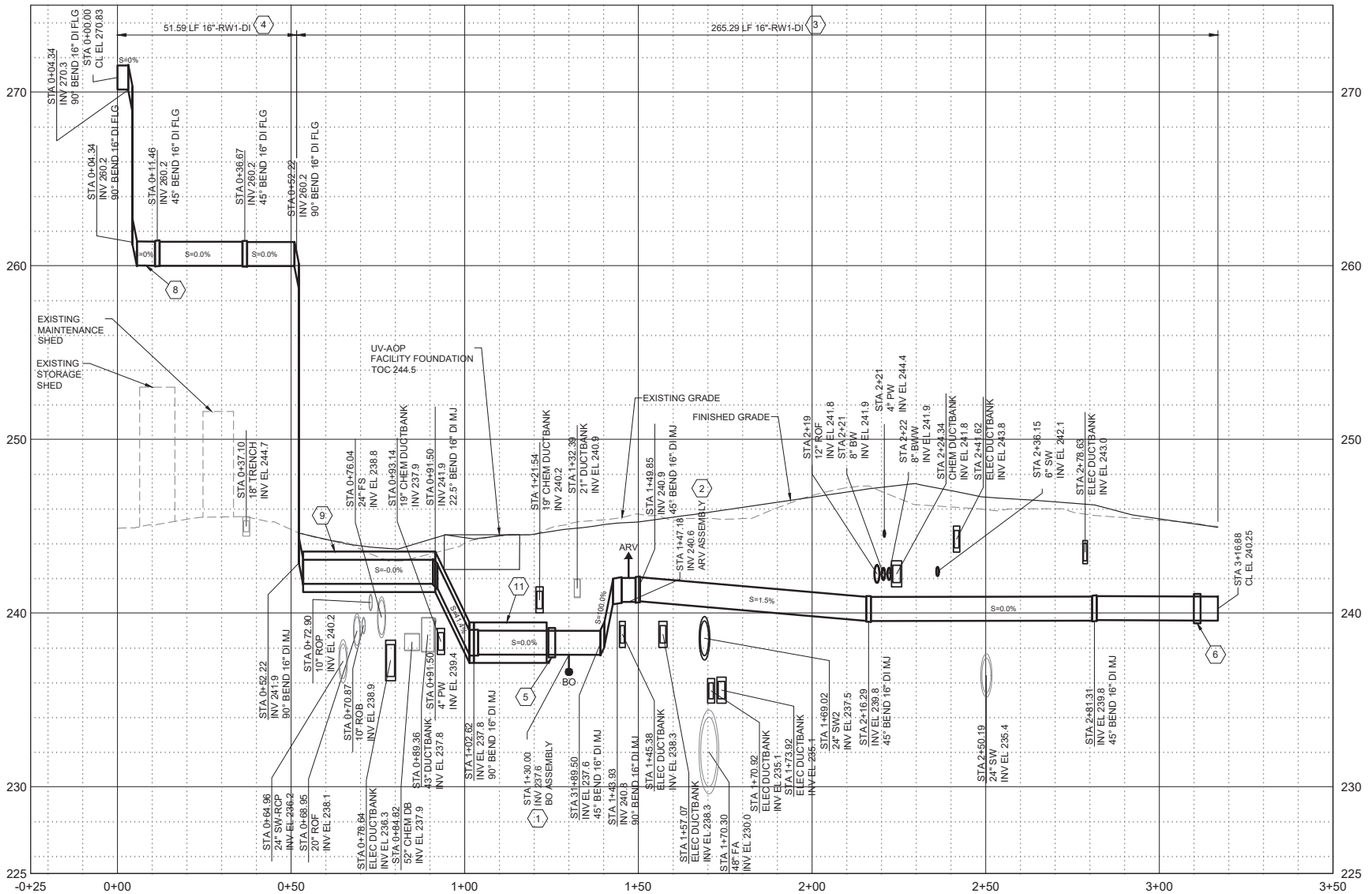
DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-1008
SHT 18 OF 303 SHTS

GENERAL NOTE:

1. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

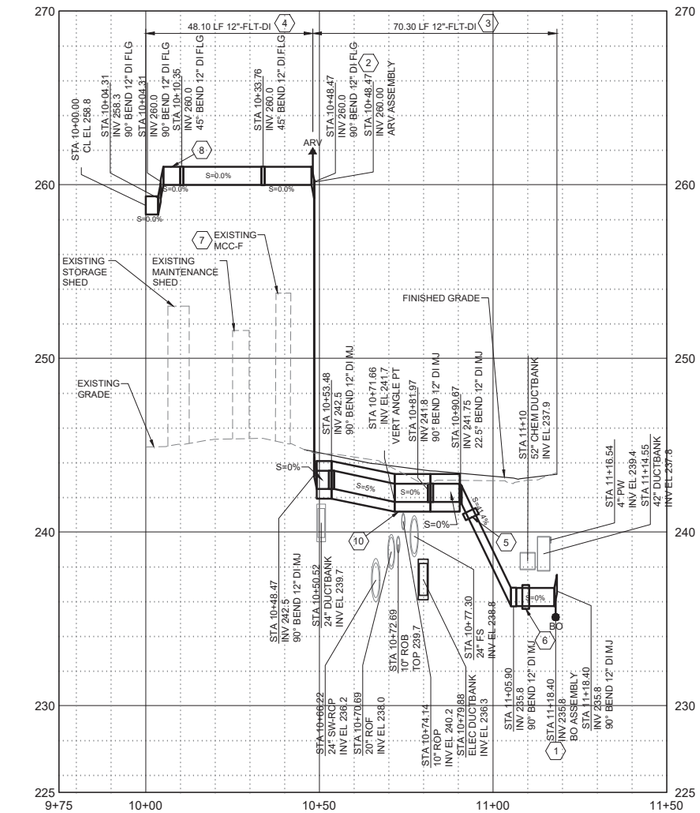
KEY NOTES:

1. CONSTRUCT BLOW-OFF ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-13. FIELD LOCATE WITH OWNER.
2. CONSTRUCT 2" AIR AND VACUUM RELEASE ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-12. FIELD LOCATE WITH OWNER.
3. OPEN CUT TRENCH EXCAVATION PER CITY OF SANTA MONICA STANDARD DETAIL SM 16.
4. ABOVE GRADE PIPING. CONSTRUCT PIPE SUPPORT PER S-07-5001.
5. RESTRAINED SLEEVE TYPE COUPLING WITHIN 40 INCHES OF ENCASEMENT IN ACCORDANCE WITH SECTION 40 05 06.
6. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
7. MINIMUM 6 FEET VERTICAL CLEARANCE FROM TOP OF MCC-F TO ABOVE GRADE YARD PIPING.
8. DOUBLE-ARCH ELASTOMER EXPANSION JOINT
9. ENCASE 16" RW1, 12" ROF, 8" BW, AND 8" BWW IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
10. ENCASE 12" FLT IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
11. ENCASE 16" RW1 AND 12" ROF IN REINFORCED CONCRETE PER DETAIL S6003/S-01-5006.



PROFILE A - 16" RW1

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE B - 12" FLT

SCALE H: 1" = 20'
V: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
KYLE MINYARD
No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA

12/22/2021

C:\BCPW\D0408673\C-01-3001.DWG 12/15/2021 8:16 AM

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING PROFILES – 1

PROJECT AND SHEET TITLE

DESIGNED BY :	CL
DRAWN BY :	HT
CHECKED BY :	AZ
CONSULTANT JOB/SHEET NO.	
DRAWING NO. 7078	C-01-3001
SHT 19 OF 303 SHTS	

SHEET OF

DWG. NO. :

GENERAL NOTE:

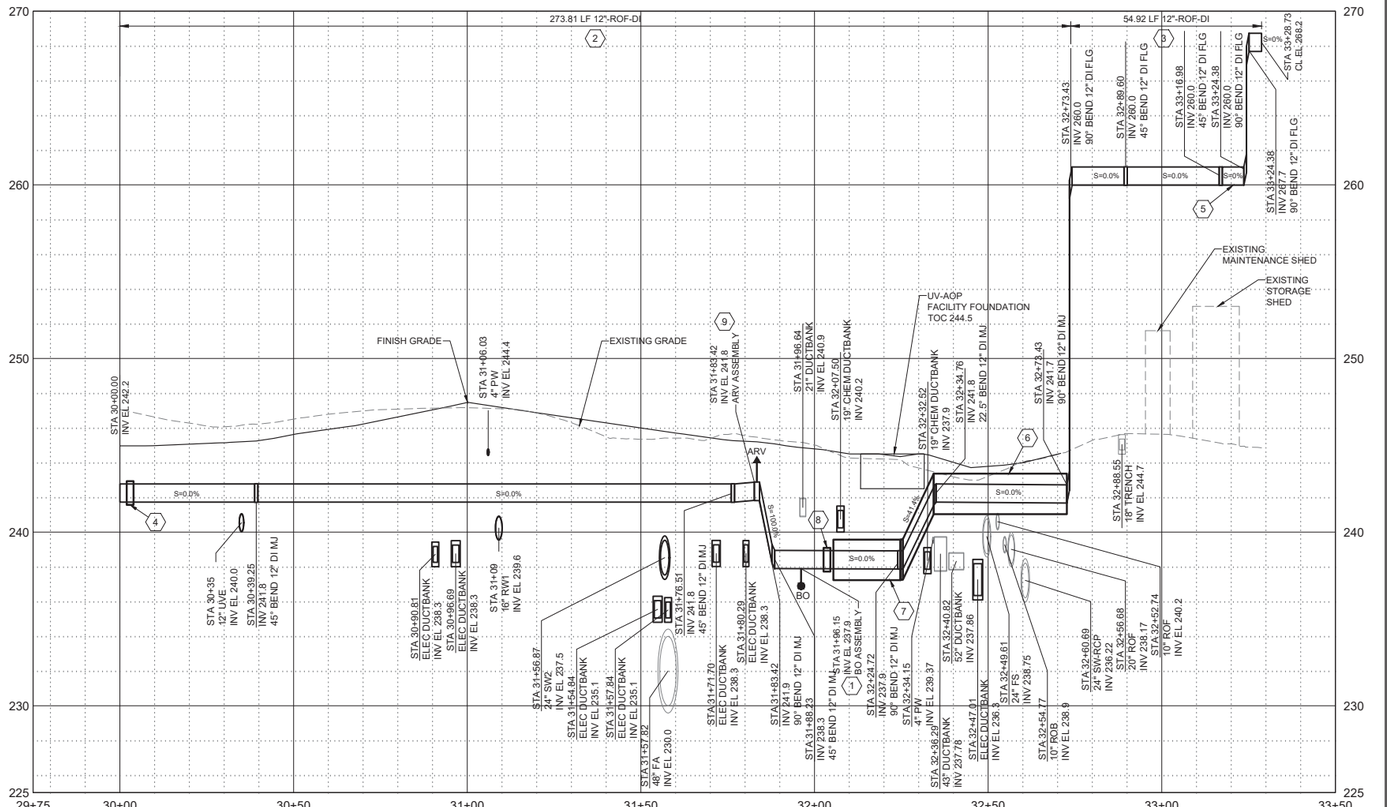
1. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. CONSTRUCT BLOW-OFF ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-13. FIELD LOCATE WITH OWNER.
2. OPEN CUT TRENCH EXCAVATION PER CITY OF SANTA MONICA STANDARD DETAIL SM 16.
3. ABOVE GRADE PIPING. CONSTRUCT PIPE SUPPORT PER S-07-5001.
4. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
5. DOUBLE-ARCH ELASTOMER EXANSION JOINT
6. ENCASE 16" RW1, 12" ROF, 8" BW, AND 8" BWW IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
7. ENCASE 16" RW1 AND 12" ROF IN REINFORCED CONCRETE PER DETAIL S6003/S-01-5006.
8. RESTRAINED SLEEVE TYPE COUPLING WITHIN 40 INCHES OF ENCASEMENT IN ACCORDANCE WITH SECTION 40 05 06.
9. CONSTRUCT 2" AIR AND VACUUM RELEASE ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-12. FIELD LOCATE WITH OWNER.

PROFILE C - 12" UVE

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE D - 12" ROF

SCALE H: 1" = 20'
V: 1" = 4'

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : 20__
REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

COMPUTER FILE NAME :
SP-FILE NO. : SP2602

ENGINEERING AND STREET SERVICES

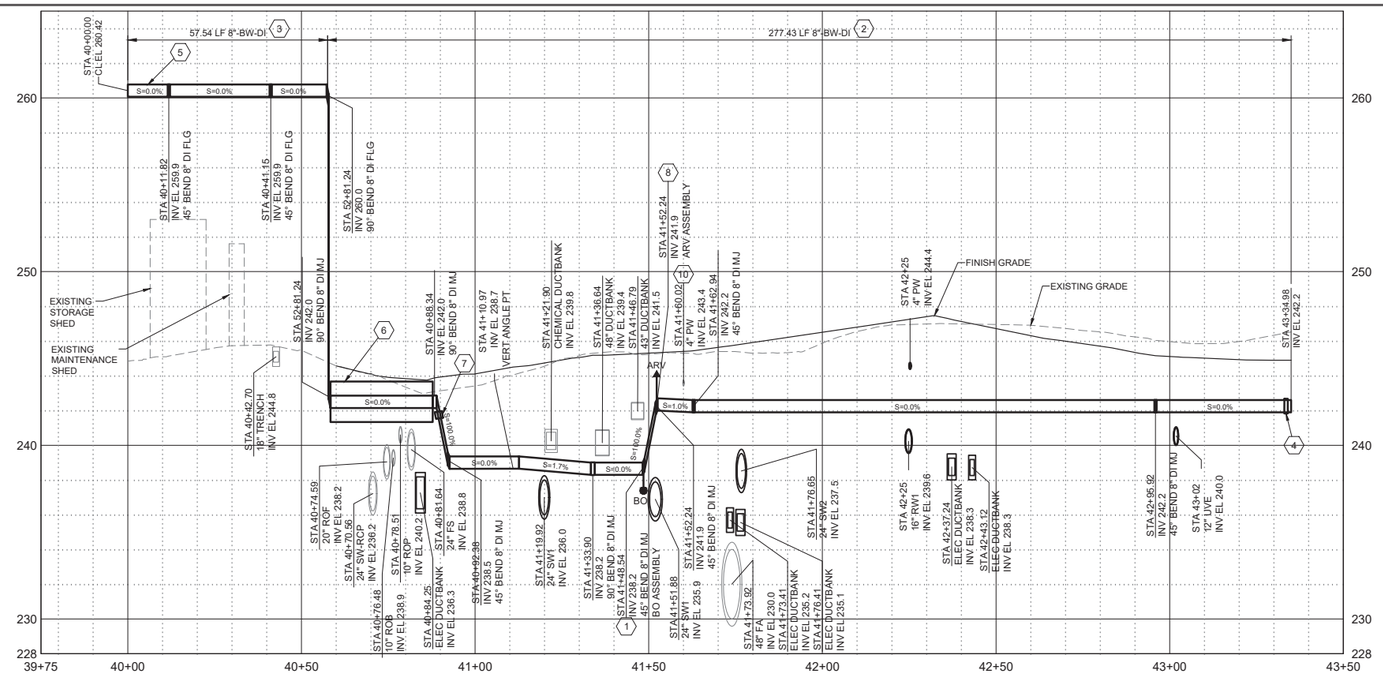
OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

YARD PIPING PROFILES – 2

PROJECT AND SHEET TITLE

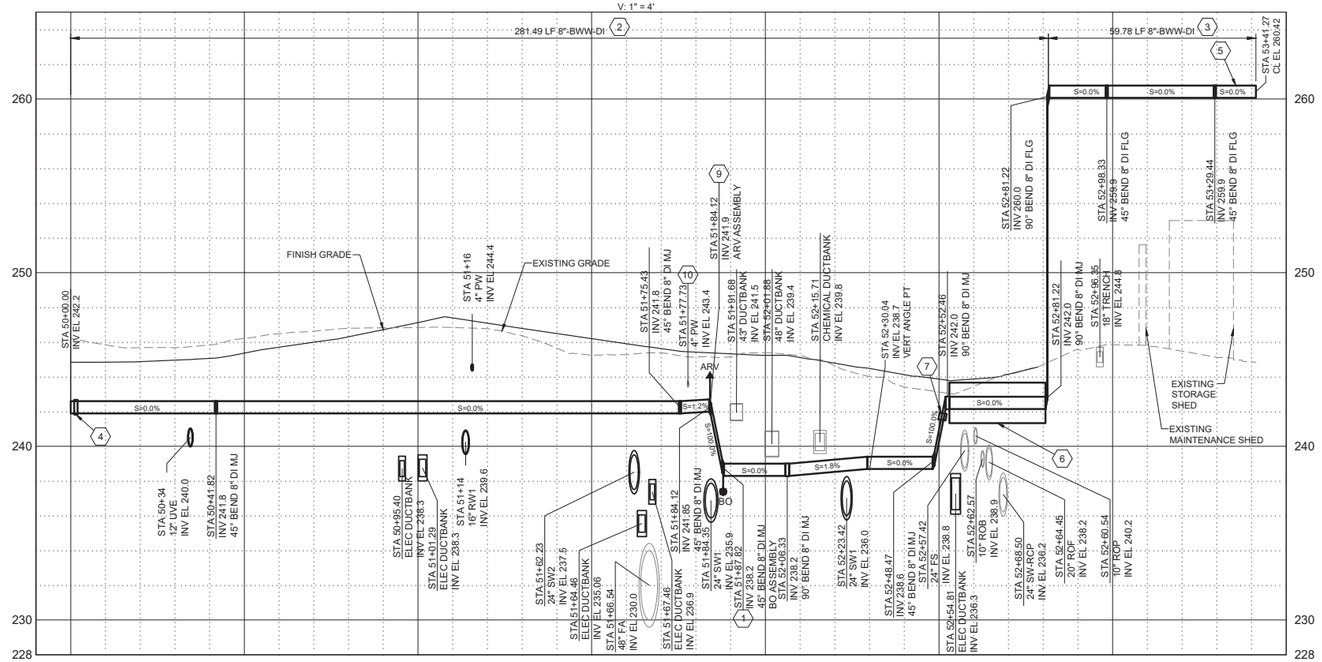
DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-3002
SHT 20 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
C:\BCPWD\D4086731\C-01-3002.DWG 12/15/2021 8:53 AM



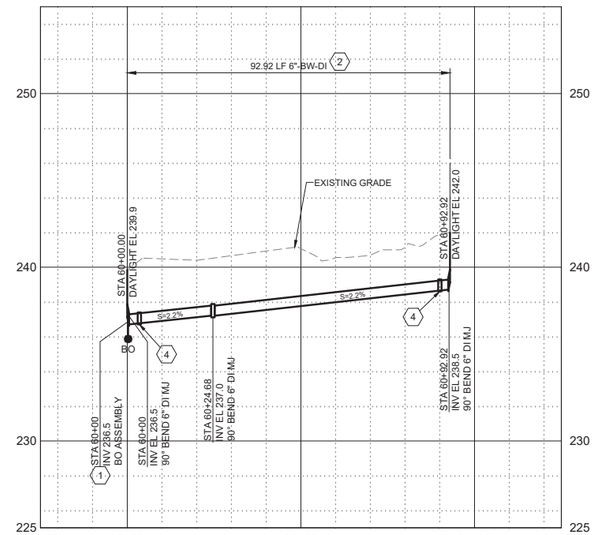
PROFILE E - 8" BW

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE F - 8" BWW

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE G - 6" BW

SCALE H: 1" = 20'
V: 1" = 4'

GENERAL NOTE:

1. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:

1. CONSTRUCT BLOW-OFF ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-13. FIELD LOCATE WITH OWNER.
2. OPEN CUT TRENCH EXCAVATION PER CITY OF SANTA MONICA STANDARD DETAIL SM 16.
3. ABOVE GRADE PIPING. CONSTRUCT PIPE SUPPORT PER S-07-5001.
4. DUAL RESTRAINED MECHANICAL JOINTS IN SERIES PER DETAIL G/C-01-5001.
5. DOUBLE-ARCH ELASTOMER EXPANSION JOINT.
6. ENCASE 16" RW1, 12" ROF, 8" BW, AND 8" BWW IN H20 RATED REINFORCED CONCRETE PER DETAIL S6002/S-01-5006.
7. RESTRAINED SLEEVE TYPE COUPLING WITHIN 40 INCHES OF ENCASEMENT IN ACCORDANCE WITH SECTION 40 05 06
8. CONSTRUCT 2" AIR AND VACUUM RELEASE ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-12. FIELD LOCATE WITH OWNER.
9. CONSTRUCT 1/2" AIR AND VACUUM RELEASE ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-12. FIELD LOCATE WITH OWNER.
10. VERIFY DEPTH OF 4" PW PRIOR TO CONSTRUCTION.

REGISTERED PROFESSIONAL ENGINEER
ALEX M. NAZARCHUK
No. C82464
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA
12/22/2021

SHEET OF

DWG. NO. :

C:\BCPW\D0408673\C-01-3003.DWG 12/15/2021 9:06 AM

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

Brown AND Caldwell
WALSH

CONSULTANT

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP–FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

YARD PIPING PROFILES – 3

PROJECT AND SHEET TITLE

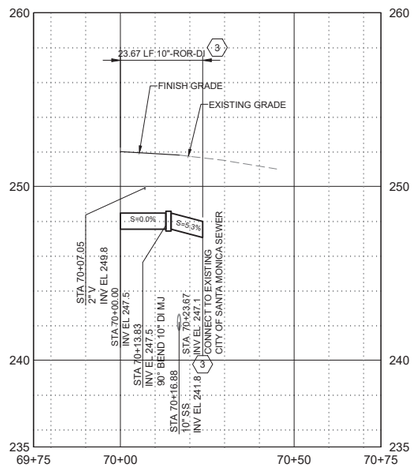
DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-3003
SHT 21 OF 303 SHTS

GENERAL NOTE:

1. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

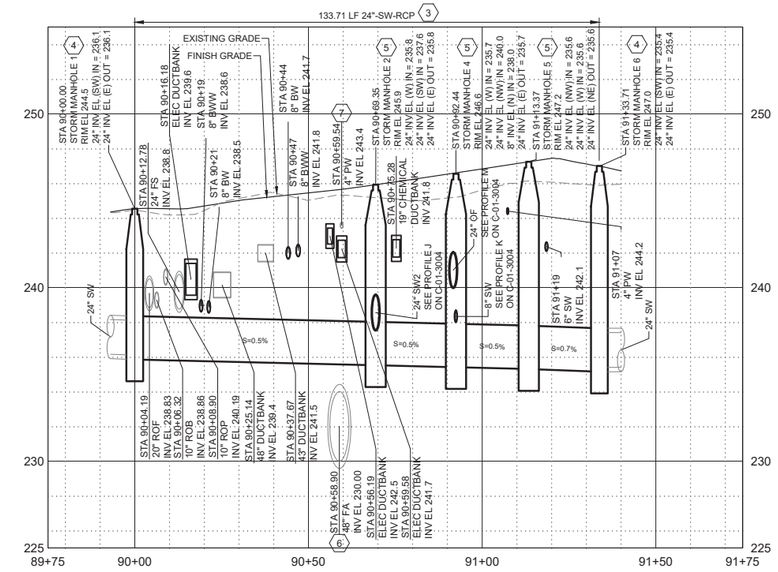
KEY NOTES:

1. CONSTRUCT BLOW-OFF ASSEMBLY PER CITY OF SANTA MONICA STANDARD DETAIL SMW-13. FIELD LOCATE WITH OWNER.
2. SEE DETAIL A/C-01-5002 FOR CONNECTION DETAIL.
3. OPEN CUT TRENCH EXCAVATION PER CITY OF SANTA MONICA STANDARD DETAIL SM 16.
4. CONSTRUCT 48" MANNHOLE PER CITY OF SANTA MONICA STANDARD DETAIL SS-5 WITH MANHOLE FRAME AND COVER PER CITY OF SANTA MONICA STANDARD DETAIL SS-8.
5. CONSTRUCT 60" MANHOLE PER CITY OF SANTA MONICA STANDARD DETAIL SS-7 WITH MANHOLE FRAME AND COVER PER CITY OF SANTA MONICA STANDARD DETAIL SS-8.
6. VERIFY DEPTH OF 48" FA PRIOR TO CONSTRUCTION.
7. VERIFY DEPTH OF 4" PW PRIOR TO CONSTRUCTION.
8. VERIFY DEPTH OF ELECTRICAL DUCTBANK PRIOR TO CONSTRUCTION.
9. VERIFY DEPTH OF 8" W PRIOR TO CONSTRUCTION.



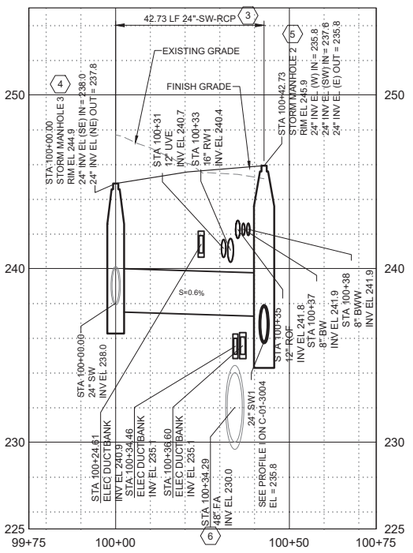
PROFILE H - 10" ROR

SCALE H: 1" = 20'
V: 1" = 4'



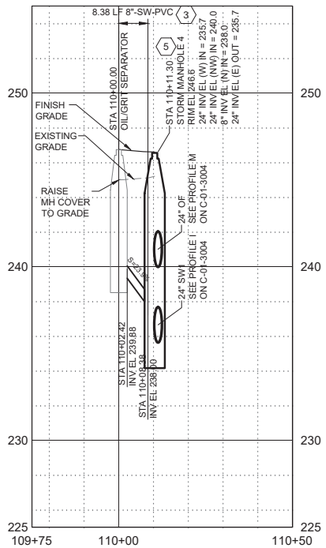
PROFILE I - 24" SW1

SCALE H: 1" = 20'
V: 1" = 4'



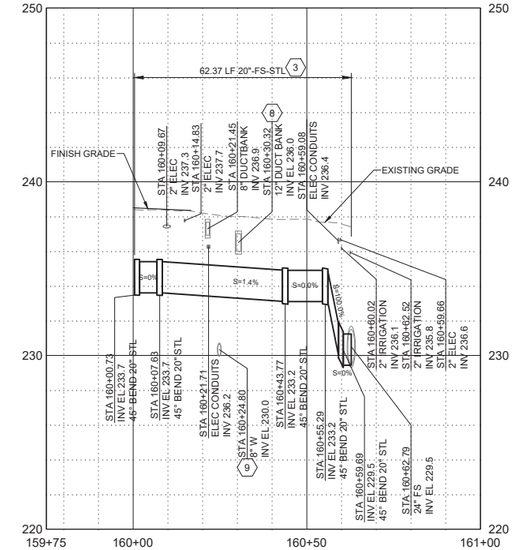
PROFILE J - 24" SW2

SCALE H: 1" = 20'
V: 1" = 4'



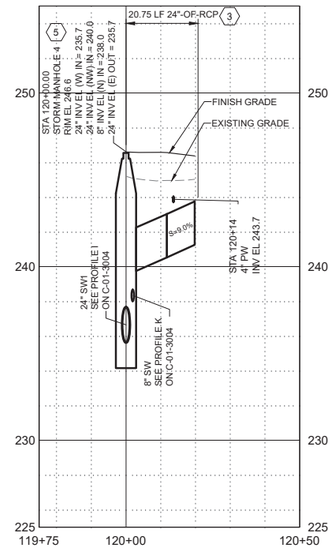
PROFILE K - 8" SW

SCALE H: 1" = 20'
V: 1" = 4'



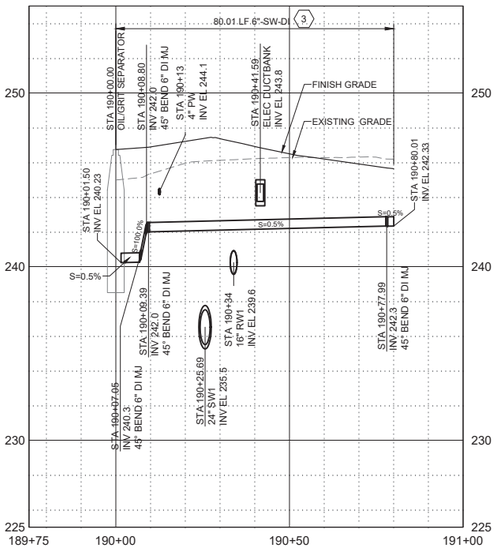
PROFILE L - 20" FS

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE M - 24" OF

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE N - 6" SW

SCALE H: 1" = 20'
V: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER LEE
No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA

12/22/2021

C:\BCPWD\D4086730C-01-3004.DWG 12/15/2021 9:08 AM

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

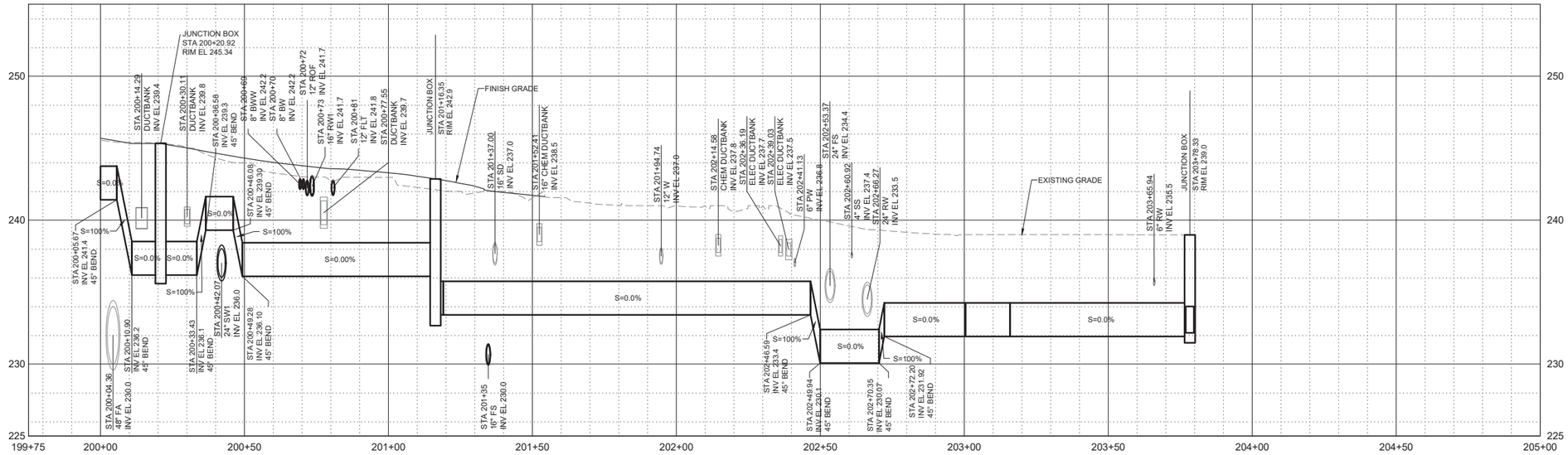
YARD PIPING PROFILES – 4

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-3004
SHT 22 OF 303 SHTS

GENERAL NOTE:

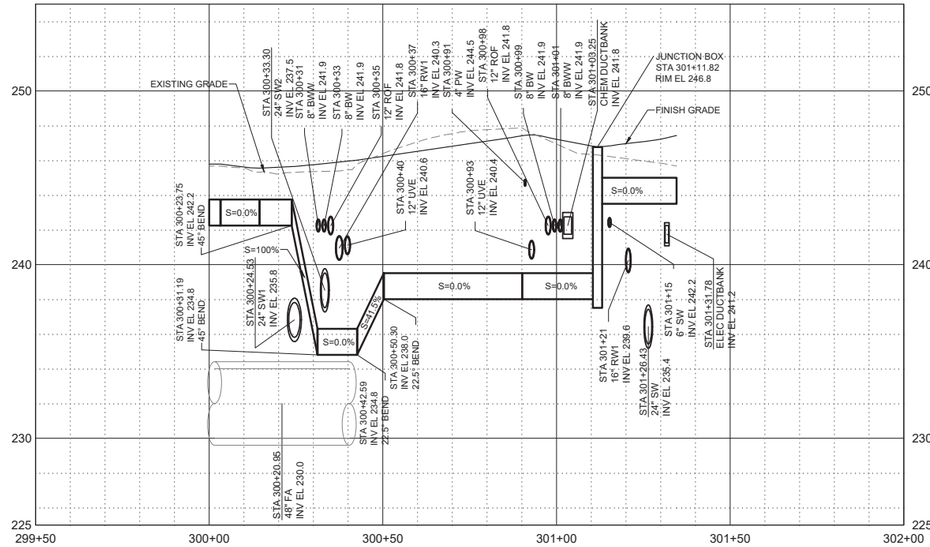
1. COORDINATE DESIGN OF PIPING SUPPORTS, EXPANSION JOINTS, AND EXPANSION CONTROL AND SEISMIC RESTRAINTS PER SPECIFICATION 40 05 01.

KEY NOTES:



PROFILE O - ELECTRICAL DUCTBANK 1

SCALE H: 1" = 20'
V: 1" = 4'



PROFILE P - ELECTRICAL DUCTBANK 2

SCALE H: 1" = 20'
V: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
C. E. MINKEL
C.I. No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA
12/23/2021

C:\BCPWD\D4086733C-01-3005.DWG 12/15/2021 9:16 AM

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

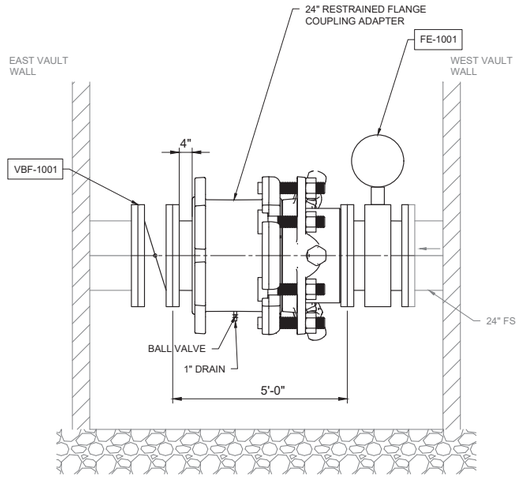
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

YARD PIPING PROFILES – 5

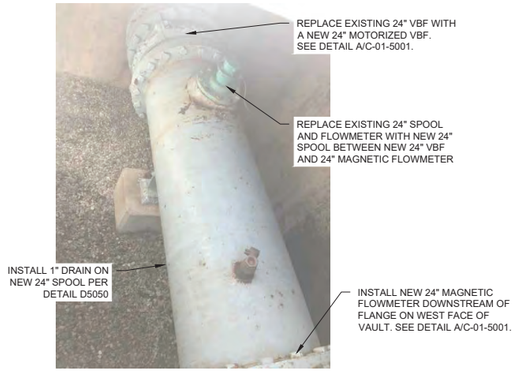
PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : MG
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-3005
SHT 23 OF 303 SHTS



DECARBONATOR EFFLUENT FLOWMETER AND VALVE DETAIL

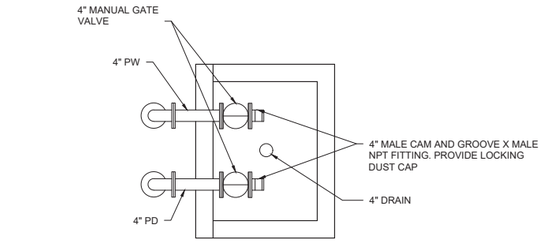
A C-01-1007 SCALE: 1/2" = 1'-0"



DECARBONATOR EFFLUENT MAGNETIC FLOWMETER

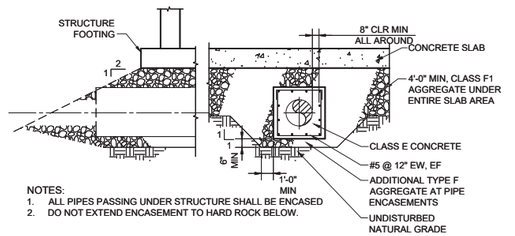
PHOTO

B C-01-1007 SCALE: N.T.S.



GAC CHANGE WATER AND DRAIN STATION

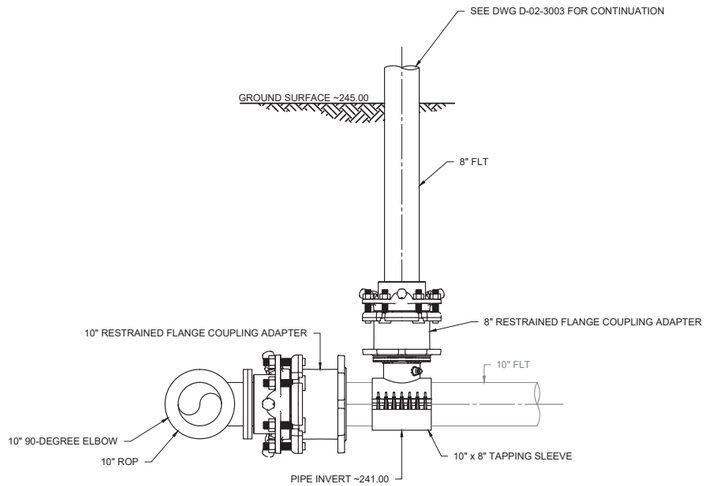
C C-01-1008 SCALE: N.T.S.



NOTES:
1. ALL PIPES PASSING UNDER STRUCTURE SHALL BE ENCASED
2. DO NOT EXTEND ENCASEMENT TO HARD ROCK BELOW.

PIPE ENCASEMENT UNDER STRUCTURES

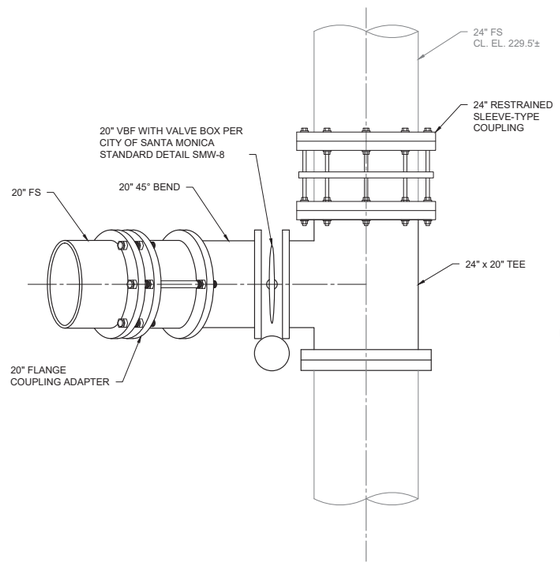
F - SCALE: N.T.S.



NOTES:
1. PROVIDE AN ISOLATION FLANGE KIT WHEREVER DISSIMILAR METALS ARE JOINED.

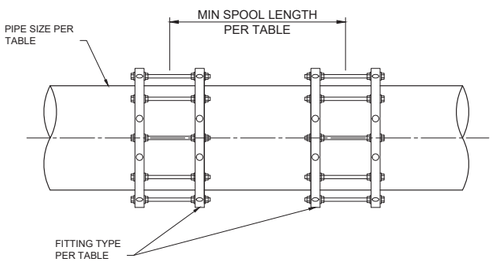
8" FLT CONNECTION DETAIL

D C-01-1006 SCALE: 3/4" = 1'-0"



20" FS CONNECTION DETAIL

E C-01-1007 SCALE: 3/4" = 1'-0"



FITTING TYPE	PIPE SIZE (INCHES)	COMBINED TOTAL SETTLEMENT RANGE PER GEOTECH REPORT (INCHES)	MAXIMUM ANGULAR DEFLECTION (DEGREES)	MINIMUM SPOOL LENGTH (FT)
DUAL RESTRAINED MECHANICAL JOINTS IN SERIES	8	2	4	2'-6"
	12	2	4	2'-6"
	16	1.5	4	2'-0"
DUAL PLAIN END RESTRAINT WITH GRIPPING TEETH IN SERIES	10	2.75	4	3'-6"
DUAL FLEXIBLE PVC COUPLINGS IN SERIES	12	2.75	2	7'-0"
	24	4	2	10-0"

SPOOL LENGTH FOR DUAL FITTINGS IN SERIES

G - SCALE: N.T.S.

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER LEE MINOR — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

12/22/2021

C:\BCPWD\D0408673\C-01-5001.DWG 12/15/2021 9:19 AM

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

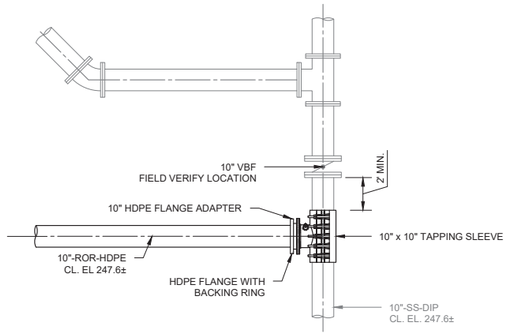
ENGINEERING AND STREET SERVICES

PROJECT AND SHEET TITLE

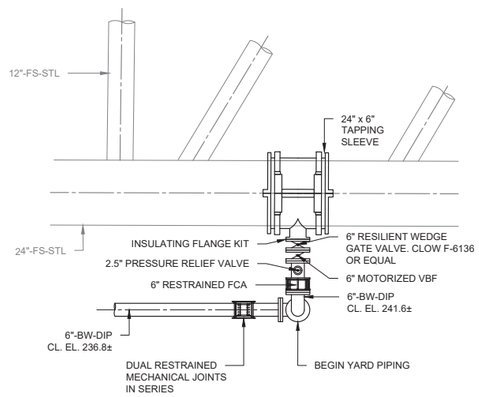
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

MISC CIVIL DETAILS – 1

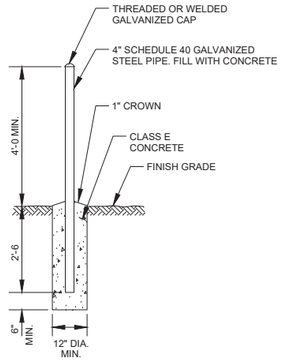
DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-5001
SHT 24 OF 303 SHTS



A C-01-1005 **10" ROR CONNECTION DETAIL**
SCALE: 3/8" = 1'-0"



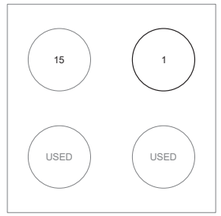
B C-01-1007 **6" BW CONNECTION DETAIL**
SCALE: 3/8" = 1'-0"



C - **GUARD POST**
SCALE: N.T.S.

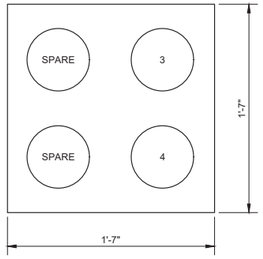
NEW ANALYZER AT INLET VAULT

1 C-01-1007 **PHOTO**
SCALE: N.T.S.



EXISTING CHEMICAL DUCT BANK

1 C-01-1006 **SECTION**
SCALE: N.T.S.



CHEMICAL DUCT BANK

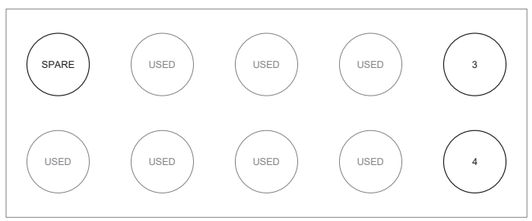
3 C-01-1005 **SECTION**
SCALE: N.T.S.

5 - **NOT USED**
SCALE: N.T.S.

ENCASED CHEMICAL FEED CONDUIT SCHEDULE

MARK	CARRIER PIPE SIZE	CONTAINMENT PIPE SIZE	CHEMICAL / DESTINATION
1	1/2"	3"	NSO4 / RO FEED TANK
2	1/2"	3"	NOCL / GREENSAND FILTER FEED FROM OLYMPIC
3	1/2"	3"	NOCL / GAC EFFLUENT
4	1/2"	3"	NSO4 / GAC EFFLUENT
5	1"	3"	AS/UPSTREAM OF CARTRIDGE FILTERS
6	1/2"	3"	HSO4/UPSTREAM OF RO UNITS AND CARTRIDGE FILTERS (SPLITS AT UNIT)
8	1"	3"	HYDROFLUOROSILICIC ACID /FINISHED WATER AT DECARBONATOR
9	1"	3"	NSO4 / FINISHED WATER AT DECARBONATOR
10	1"	3"	NOCL / FINISHED WATER AT DECARBONATOR
11	1"	3"	NAOH / FINISHED WATER AT DECARBONATOR
12	1"	3"	NAOH / CIP NEUTRALIZATION TANK
13	1/2"	3"	HSO4 / CIP NEUTRALIZATION TANK
14	1/2"	3"	H2O2 / UV FEED
15	1/2"	3"	HSO4 / GREENSAND FILTER EFFLUENT TO UV
16	2"	4"	HYDROFLUOROSILICIC ACID /FLUORIDE BUILDING

NOTE:
1. FOR PIPE MATERIALS, SEE DWG D-01-6001.
2. FOR CHEMICAL DUCTBANK CONSTRUCTION DETAILS SEE DETAIL B / C-01-5003.

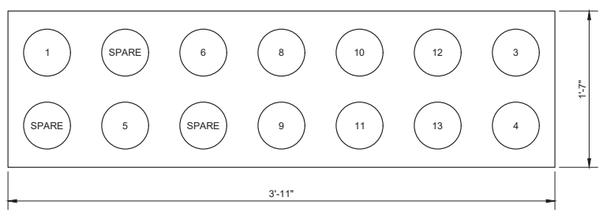


EXISTING CHEMICAL DUCT BANK

2 C-01-1006 **SECTION**
SCALE: N.T.S.

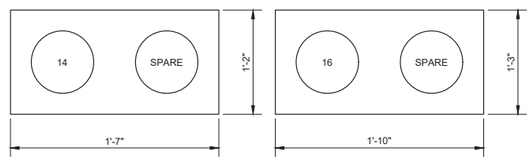
EXISTING CHEMICAL DUCT BANK

4 C-01-1005 **SECTION**
SCALE: N.T.S.



CHEMICAL DUCT BANK

6 C-01-1006 **SECTION**
SCALE: N.T.S.



CHEMICAL DUCT BANK

7 C-01-1006 **SECTION**
SCALE: N.T.S.

CHEMICAL DUCT BANK

8 C-01-1006 **SECTION**
SCALE: N.T.S.

NOTES:

1. FOR REBAR AND PIPE SPACING REQUIREMENTS FOR PROPOSED CHEMICAL DUCT BANK, SEE DETAIL 2/C-01-5003

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER LEE
No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

MISC CIVIL DETAILS – 2

PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-5002
SHT 25 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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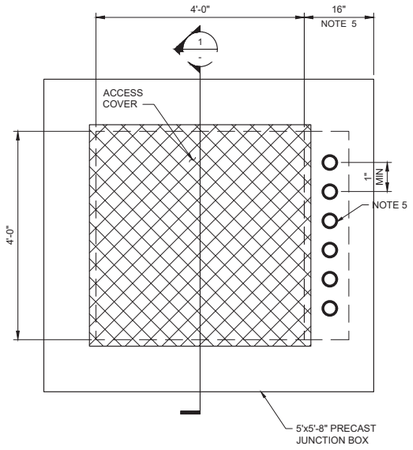
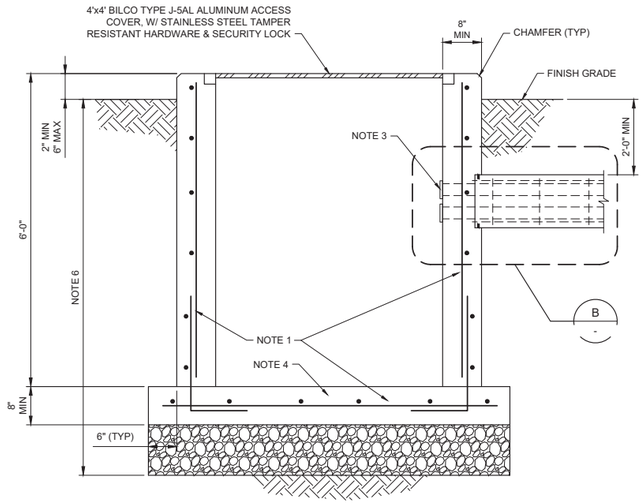


A
C-01-1005 SCALE: N.T.S.

CHEMICAL FEED JUNCTION BOX PLAN

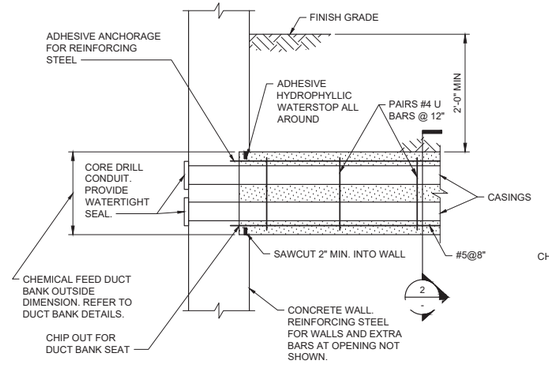


CHEMICAL FEED JUNCTION BOX NOTES:

1. STRUCTURE IS TO BE PRECAST CONCRETE VAULT PER SPEC SECTION 03 48 11. STRUCTURE MUST WITHSTAND H-20 LOADING. STRUCTURAL REINFORCEMENT TO BE DETERMINED BY MANUFACTURER.
2. NO PERMANENT STEPS IN STRUCTURE. JUNCTION BOX WILL BE ACCESSED WITH TEMPORARY LADDER.
3. PIPING WITHIN VAULT TO BE DOUBLE CONTAINED. ROUTE ALONG SIDE OF JUNCTION BOX WALL IN ORDER TO ALLOW CLEARANCE OF AT LEAST 3 FEET WITHIN STRUCTURE FOR INSTALLATION AND REPLACEMENT OF FLEXIBLE TUBING.
4. INCLUDE 12"X12"X9" SUMP LOCATED IN CENTER OF VAULT FLOOR. COVER WITH ALUMINUM GRATE PER S0601.
5. THE TOP OF THE JUNCTION BOX SHALL BE PROVIDED WITH A CANTILEVERED CONCRETE SLAB 16", WIDE MINIMUM. TOP SLAB SHALL BE PROVIDED WITH SLEEVES TO ALLOW PIPING TO ENTER VAULT FROM ABOVE, WHERE REQUIRED. ANNULAR SPACE BETWEEN OUTSIDE DIAMETER OF PIPE AND OPENING DIAMETER SHALL BE SEALED WITH MODULAR CASING.
6. OVER-EXCAVATE AND FILL WITH COMPACTED FILL PER SECTION 31 23 00-3.01.B

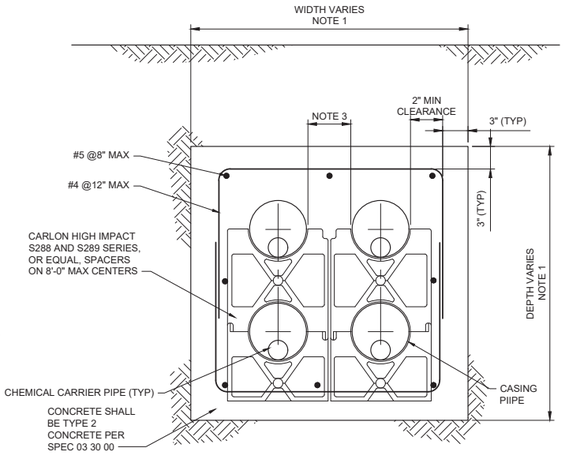
1
-
SCALE: NTS

CHEMICAL FEED JUNCTION BOX SECTION



B
-
SCALE: NTS

TYPICAL CHEMICAL FEED PIPE BANK DETAIL

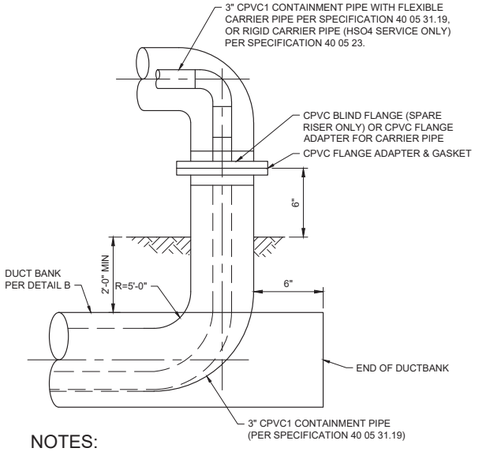


NOTES

1. AT CONFLICTS WITH ELECTRICAL DUCT BANKS, ELECTRICAL DUCT BANK SHALL BE SET AT LOWER ELEVATION.
2. ALL PIPING INSIDE DUCT BANK SHALL BE SUPPORTED AND SECURED AS SHOWN.
3. PROVIDE 2" SEPARATION FOR CONTAINMENT PIPES LESS THAN 4", PROVIDE 3" SEPARATION FOR CONTAINMENT PIPES 4" AND LARGER.
4. PLASTIC CONTAINMENT PIPE AND CARRIER TUBING SHALL FOLLOW SPECIFICATION 40 05 31.19.

2
-
SCALE: NTS

TYPICAL CHEMICAL FEED PIPE BANK DETAIL SECTION

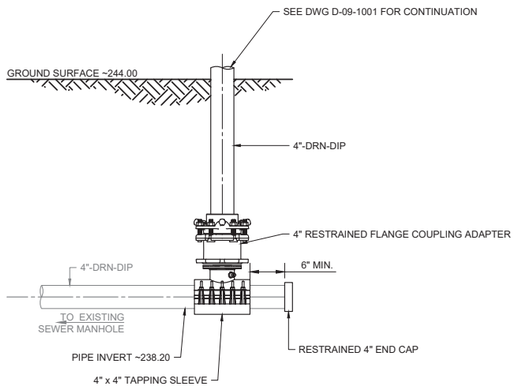


NOTES:

1. ORIENTATION OF CHEMICAL RISER VARIES.
2. DOUBLE CONTAINMENT PIPING ANCHORAGE SHALL PROVIDE ADEQUATE FLEXIBILITY TO ACCOMMODATE STRUCTURAL SETTLEMENT AT TRANSITION TO STRUCTURES.

C
-
SCALE: NTS

CHEMICAL RISER

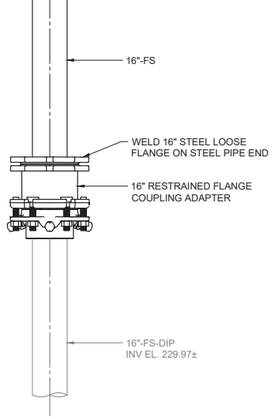


NOTES:

1. PROVIDE AN INSULATING FLANGE KIT WHEREVER DISSIMILAR METALS ARE JOINED.

D
C-01-1006 SCALE: 1" = 1'-0"

4" DRN CONNECTION DETAIL

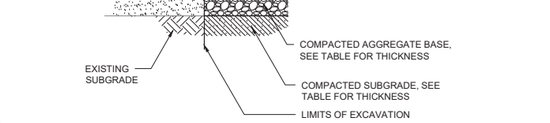


NOTES:

1. PROVIDE AN INSULATING FLANGE KIT WHEREVER DISSIMILAR METALS ARE JOINED.
2. VERIFY DEPTH OF 16"-FS-DIP PRIOR TO CONSTRUCTION.

E
C-01-1006 SCALE: 3/8" = 1'-0"

16" FS CONNECTION DETAIL



NOTES:

1. ALL TRENCH AND PAVEMENT CUTS SHALL BE MADE BY SAWCUTTING ONLY. THE CUTS SHALL BE A MINIMUM OF 3-FOOT ON EACH SIDE OF THE TRENCH WIDTH FOR EXCAVATION.
2. SAWCUTS SHALL BE VERTICAL FULL DEPTH CUTS THAT PROVIDE A CLEAN EDGE TO THE EXISTING PAVEMENT THAT REMAINS.
3. TACK COAT SHALL BE APPLIED TO EXISTING PAVEMENT AND EDGE OF CUT, AND AT COLD JOINTS AND GUTTER PRIOR TO PAVING.
4. PATCHES SHALL BE FEATHERED AND SHIMMED TO AN EXTENT THAT PROVIDES A SMOOTH-RIDING CONNECTION AND EXPEDITIOUS DRAINAGE FLOW.
5. WHERE A PAVEMENT JOINT OR EDGE OF PAVEMENT IS LESS THAN 4-FEET FROM A SAWCUT JOINT, THE PAVEMENT SHALL BE REMOVED TO THAT JOINT OR EDGE.
6. SOIL RESIDUAL HERBICIDE SHALL BE PLACED PRIOR TO PAVING.
7. PRIOR TO ASPHALT PAVEMENT CONSTRUCTION, COORDINATE WITH THE OWNER TO DETERMINE ASPHALT OPTION TO CONSTRUCT.

OPTION	MINIMUM THICKNESSES (INCH)			
	ASPHALT CONCRETE	AGGREGATE BASE (SEE NOTE A)	SEG (SEE NOTE B)	SUBGRADE (SEE NOTE C)
1	8,5	NO	NO	12,0
2	5.0	9.0	NO	12.0
3	4.5	8,5	YES	8,0
A. THE THICKNESSES HAVE BEEN DESIGNED FOR CRUSHED MISCELLANEOUS BASE (CMB). THE THICKNESSES MAY BE REDUCED BY 10 PERCENT WHEN USING CRUSHED AGGREGATE BASE (CAB).				
B. OPTION 2 UTILIZES SUBGRADE ENHANCEMENT GEOTEXTILE (SEG) AND SHALL BE MIRAFI FW500 OR EQUIVALENT. THE SEG SHALL BE PLACED OVER THE COMPACTED/REWORKED SUBGRADE.				
C. THE SUBGRADE SHALL HAVE A MOISTURE CONTENT BETWEEN THE OPTIMUM AND 3 PERCENT ABOVE THE OPTIMUM.				

F
-
SCALE: N.T.S.

HMA PAVED ROAD SECTION

REGISTERED PROFESSIONAL ENGINEER
C. LEE
No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED
			REVISIONS	

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

MISC CIVIL DETAILS – 3

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-5003
SHT 26 OF 303 SHTS

TITLE OF PROJECT :
DWG. NO. :
SHEET OF
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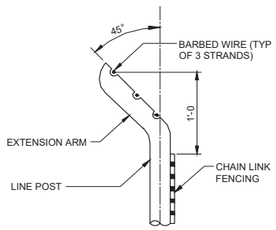
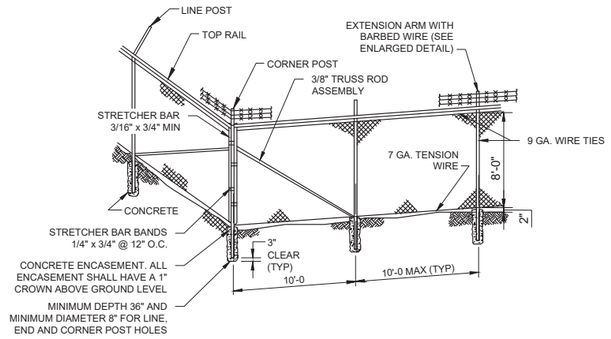
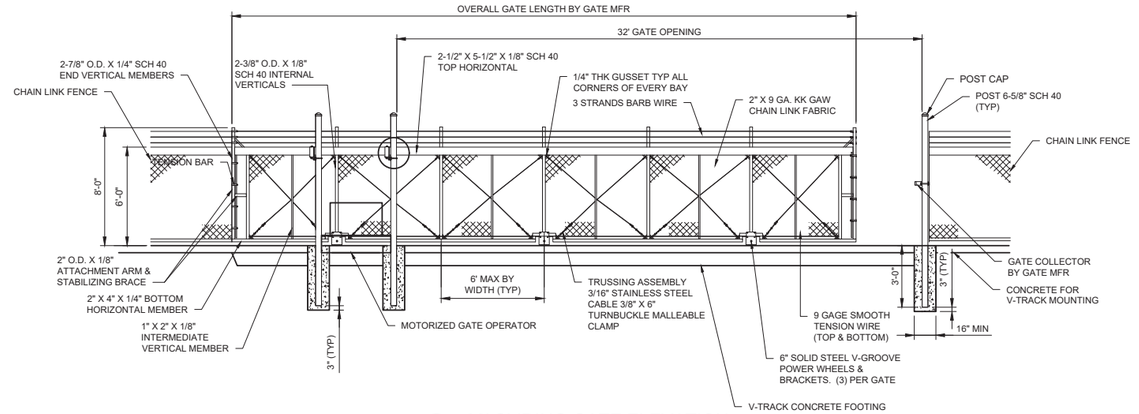


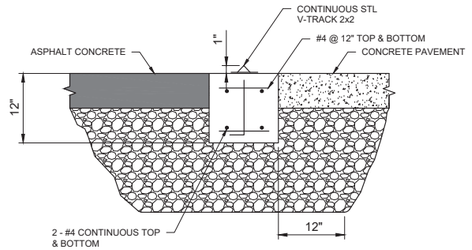
A - CHAIN LINK FENCE EXTENSION ARM WITH BARBED WIRE
SCALE: N.T.S.



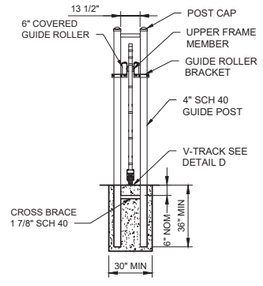
B - CHAIN LINK FENCE
SCALE: N.T.S.



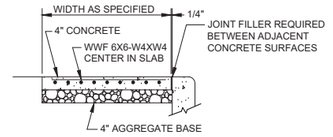
C - 30' SLIDING GATE ELEVATION
SCALE: N.T.S.



D - SLIDING GATE V-TRACK DETAIL
SCALE: N.T.S.



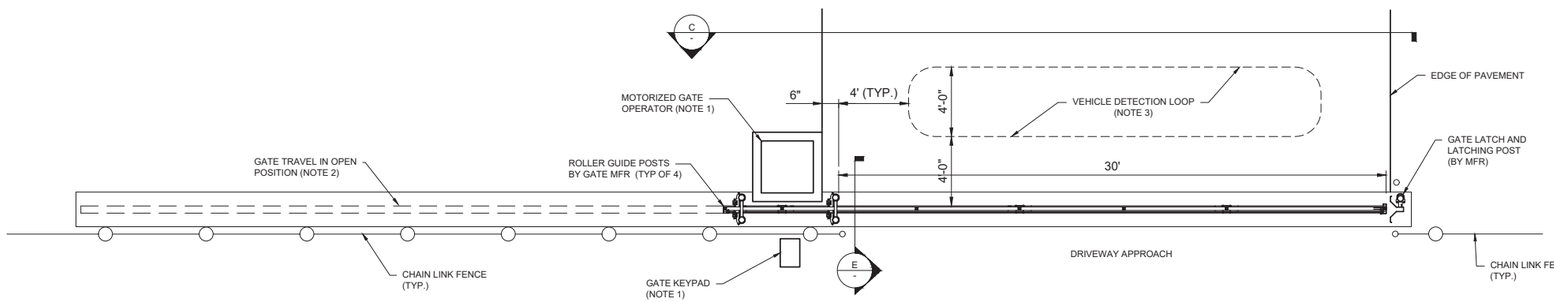
E - SLIDING GATE V-TRACK DETAIL
SCALE: N.T.S.



NOTE:

PROVIDE 1/8"X 1/2" DEEP JOINT EVERY 4 FT AND FULL JOINT WITH PREFORMED JOINT FILLER EVERY 20 FT.

G - C-01-1002 CONCRETE WALK
SCALE: N.T.S.



NOTES:

1. COORDINATE WITH GATE SUPPLIER, AUTOMATIC GATE OPERATOR SUPPLIER AND ENTRY SYSTEM TO PROVIDE A FULLY FUNCTIONING SYSTEM. KEYPAD AT HEIGHT FOR PERSONAL VEHICLE. KEYPAD SHALL BE LOCATED OUTSIDE OF PUBLIC SIDEWALK.
2. PROVIDE GATE V-TRACK IN LENGTH RECOMMENDED BY SLIDING GATE MFR.
3. INSTALL LOOP WIRES PER MOTORIZED GATE OPERATOR MFR. INSTRUCTIONS AND SPECIFICATIONS.
4. PROVIDE 12" THICK CONC. SLAB. OUTER EDGES SHALL BE 6" ABOVE GRADE TO DRAIN AWAY FROM KEYPAD BASE AT 1/4" PER FOOT.
5. INSTALL GUARD POST PER DETAIL C/C-01-5002.

PLAN NORTH

F - SLIDING GATE PLAN
SCALE: N.T.S.

REGISTERED PROFESSIONAL ENGINEER — LEE MINKEL — No. C82467 — EXP. 9-30-22 — CIVIL — STATE OF CALIFORNIA

12/22/2021

City of **Santa Monica**
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1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY : DATE : _____ 20__

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

MISC CIVIL DETAILS – 4

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-5004
SHT 27 OF 303 SHTS

TITLE OF PROJECT :
DWG. NO. :
SHEET OF
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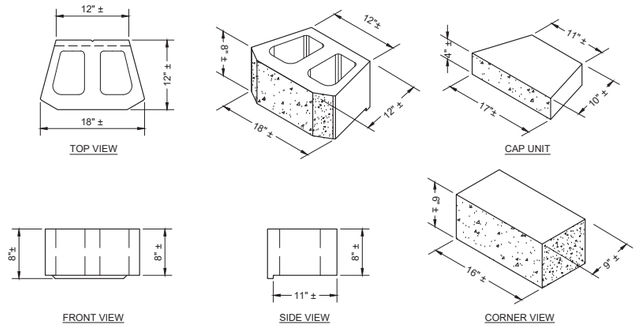
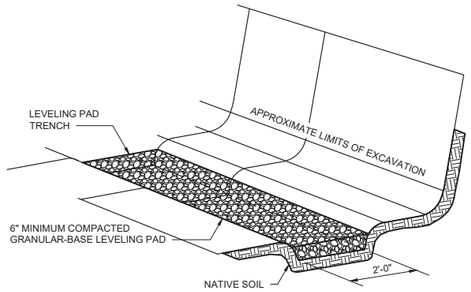


BLOCK

STANDARD DETAIL C005

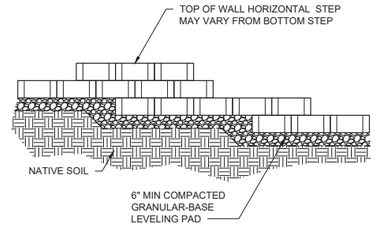
NO SCALE



BASE PREPARATION

STANDARD DETAIL C006

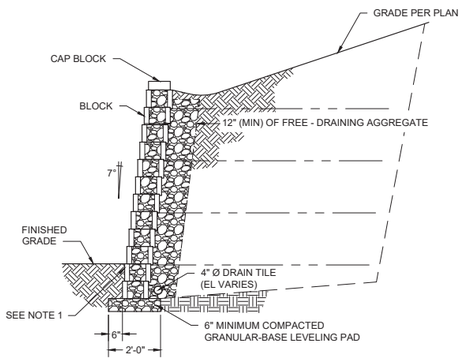
NO SCALE



BASE STEP UP

STANDARD DETAIL C007

NO SCALE



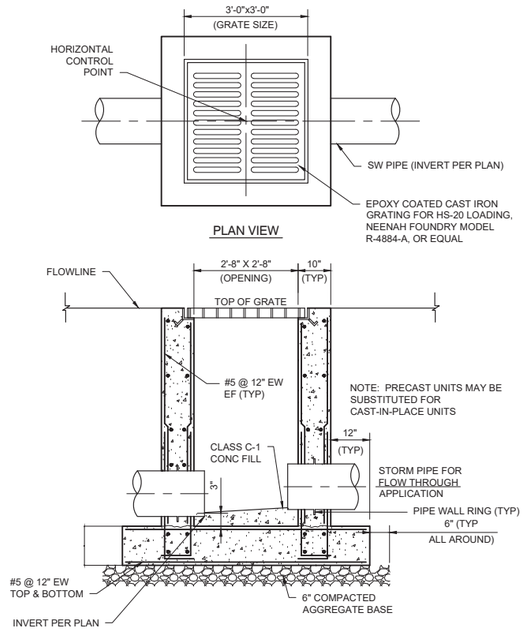
NOTES:

1. ONE BLOCK COURSE MINIMUM TWO COURSE MAXIMUM BELOW FINISH GRADE. TOP OF WALL STEP ELEVATION VARIES FROM BOTTOM COURSE STEP ELEVATIONS.
2. PROVIDE BACKER ROD AND SEALANT FOR FULL HEIGHT AT JOINT BETWEEN MODULAR WALL AND RETAINING WALL.
3. 4" DRAIN TILE TO DAYLIGHT. DRAIN TILE TO BE PLACED NEAR BASE BLOCK AND SLOPE 0.25-INCH PER 1 FT MIN.

REINFORCED CROSS SECTION WITH SLOPE

STANDARD DETAIL C008

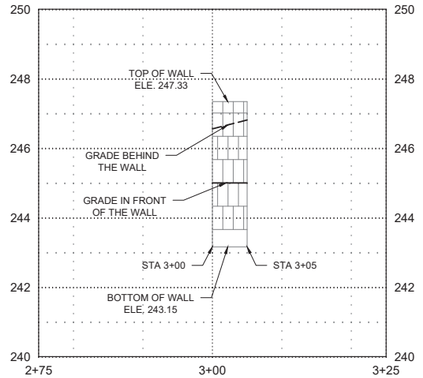
NO SCALE



CATCH BASIN

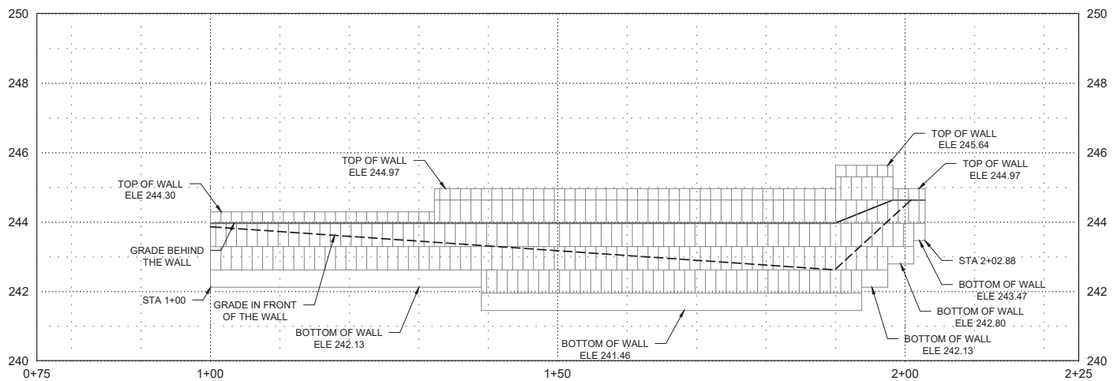
STANDARD DETAIL C009

NO SCALE



PROFILE B - MODULAR WALL

SCALE H: 1" = 10'
V: 1" = 2'



PROFILE A - MODULAR WALL

SCALE H: 1" = 10'
V: 1" = 2'

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER LEE MINAR
No. C82467
EXP. 9-30-22
CIVIL
STATE OF CALIFORNIA

12/22/2021

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SHEET OF

DWG. NO. :

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

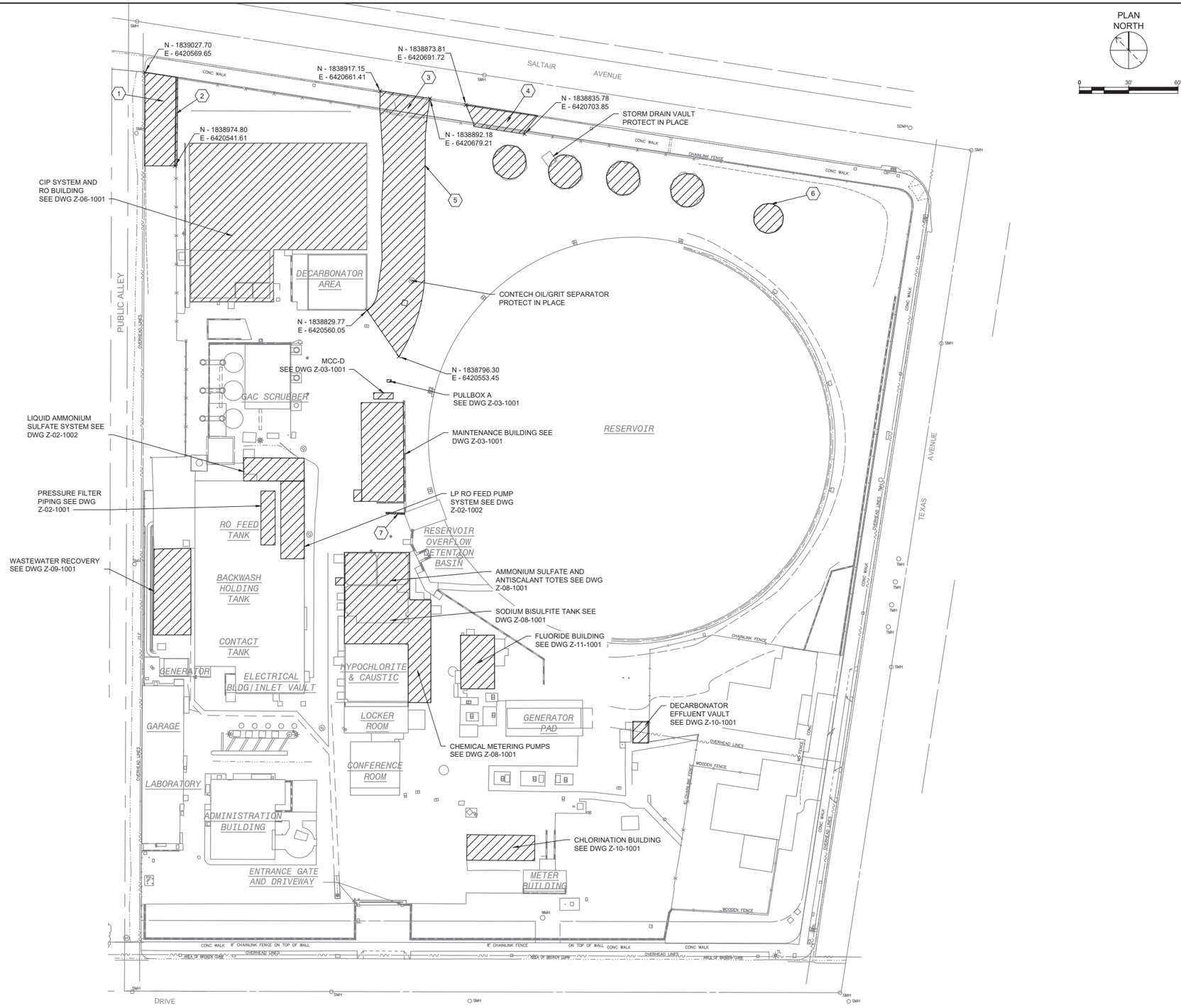
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

MISC CIVIL DETAILS – 5

PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : HT
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
C-01-5005
SHT 28 OF 303 SHTS



PLAN NORTH

0 30' 60'

GENERAL NOTES:

1. MODIFY EXISTING IRRIGATION SYSTEM WITHIN THE WORK AREA TO PREVENT WETTING OF FACILITIES.
2. RELOCATE IRRIGATION HEADERS (3-INCH) AROUND THE PERIMETER OF THE FACILITIES IF THEY IMPINGE ON THE FACILITIES FOUNDATION.
3. IDENTIFY, MARK, AND PROTECT SPRINKLER HEADS IN THE ZONE OF CONSTRUCTION PRIOR TO COMMENCEMENT OF WORK.
4. FOR SITE'S HAZARDOUS ASSESSMENT REPORT, SEE ATTACHMENT A IN SPECIFICATION 31 23 00. FOLLOW ABATEMENT PROCEDURES PER ATTACHMENT B IN SPECIFICATION 31 23 00.
5. FOR YARD PIPING DEMOLITION, SEE Z-01-1002 AND Z-01-1003.

KEY NOTES:

1. SAWCUT AND REMOVE AC PAVED RENTED PARKING SPACES.
2. DEMOLISH EXISTING 8' HIGH CHAIN LINK FENCE, POST, POST FOOTING, AND BARB WIRES.
3. DEMOLISH SLIDING GATE, SLIDING GATE V-TRACK, CARD READER, VEHICLE DETECTION LOOPS, MOTORIZED GATE OPERATOR, AND ASSOCIATED ELECTRICAL. SAWCUT AND REMOVE CONCRETE DRIVEWAY, CURB, AND GUTTER.
4. SAWCUT AND REMOVE CONCRETE SIDEWALK, CURB, AND GUTTER.
5. SAWCUT AND REMOVE AC PAVEMENT ROAD AND AGGREGATE BASE.
6. REMOVE TREE (TYP OF 5)
7. DEMOLISH EXISTING CONCRETE RETAINING WALL PER Z-03-1001.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — KYLE MINK — No. C82402 — CIVIL — STATE OF CALIFORNIA

12/22/2021

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

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City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

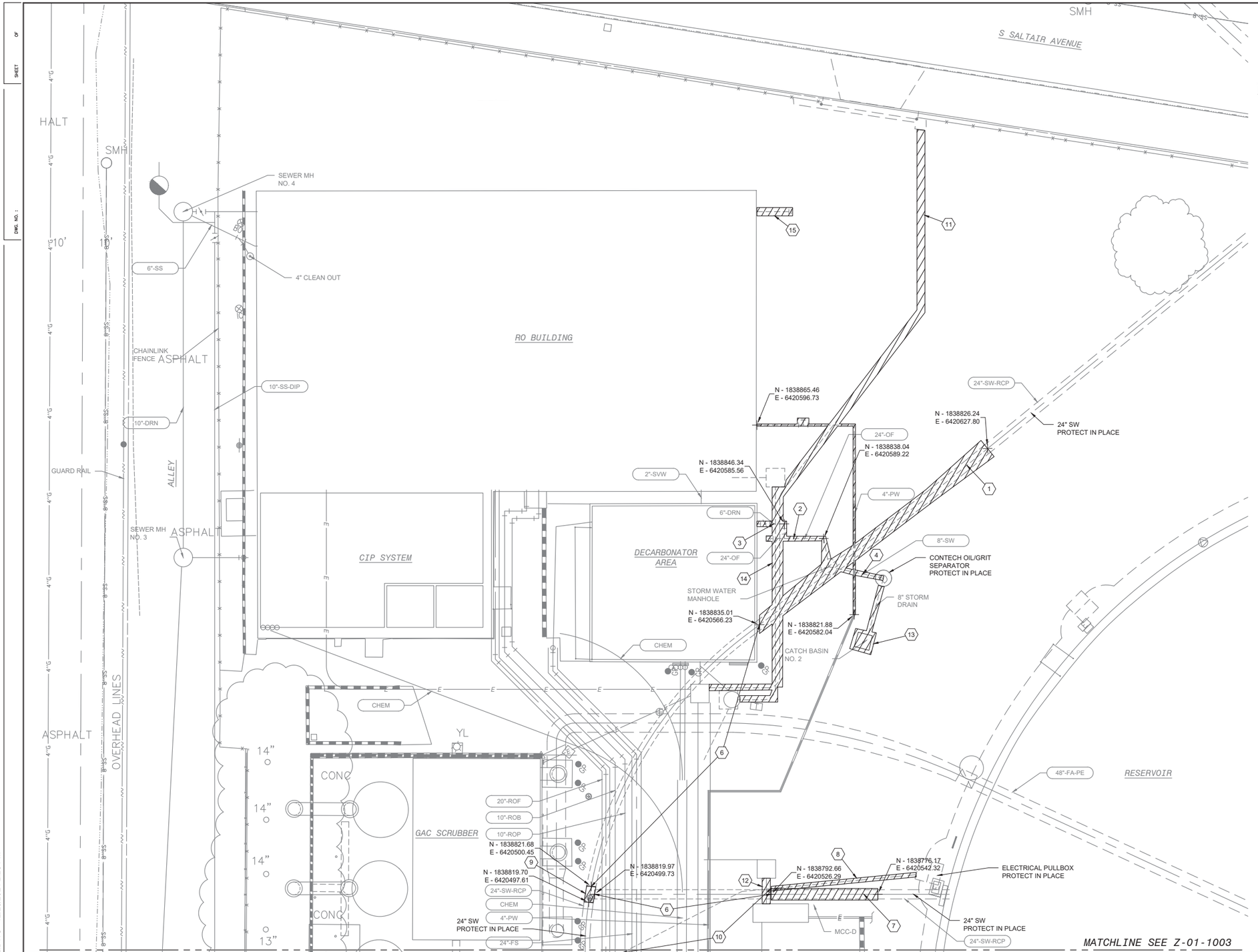
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

SITE DEMOLITION PLAN

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-01-1001
SHT 29 OF 303 SHTS

SHEET OF

DWG NO. :



GENERAL NOTES:

1. FOR STRUCTURE DEMOLITION, SEE Z-01-1001.

KEY NOTES:

1. DEMOLISH 24" RCP STORM WATER AND ASSOCIATED MANHOLE. PIPE INVERT IS APPROXIMATELY 235.70 IN ELEVATION. CUT CLEAN WHERE ADJACENT PIPE ENDS ARE TO REMAIN.
2. DEMOLISH 24" DIP OVERFLOW. PIPE INVERT IS APPROXIMATELY 240.00 IN ELEVATION.
3. DEMOLISH 6" DIP DRAIN. PIPE INVERT IS APPROXIMATELY 240.00 IN ELEVATION.
4. DEMOLISH 8" DIP DRAIN. PIPE INVERT IS APPROXIMATELY 239.50 IN ELEVATION. FILL PIPE WALL PENETRATION AT THE CONTECH OIL/GRIT SEPARATOR WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
5. NOT USED
6. ABANDON IN PLACE 24" RCP STORM WATER. CUT CLEAN AND PLUG BOTH PIPE ENDS WITH CONCRETE.
7. PRIOR TO DEMOLITION OF THE 24" RCP STORM WATER, RELOCATE MCC-D. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002. PIPE INVERT IS APPROXIMATELY 236.00 IN ELEVATION. CUT CLEAN WHERE ADJACENT PIPE ENDS ARE TO REMAIN.
8. PRIOR TO DEMOLITION OF THE 21"W x 12" D ELECTRICAL DUCT BANK, RELOCATE ELECTRICAL. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002. TOP OF DUCT BANK IS APPROXIMATELY 242.00 IN ELEVATION. FILL CONDUIT WALL PENETRATION AT THE ELECTRICAL PULL BOX WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
9. DEMOLISH 24" RCP STORM WATER. PIPE INVERT IS APPROXIMATELY 235.90 IN ELEVATION. CUT CLEAN WHERE ADJACENT PIPE ENDS ARE TO REMAIN.
10. REMOVE ALL WIRES AND ABANDON IN PLACE 21"W x 12" D ELECTRICAL DUCT BANK.
11. DEMOLISH EXISTING SLIDING GATE'S ELECTRICAL AND COMMUNICATION DUCT BANK. FILL CONDUIT WALL PENETRATION AT THE ELECTRICAL PULL BOX WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
12. PRIOR TO DEMOLITION, RELOCATE ELECTRICAL. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002.
13. DEMOLISH CATCH BASIN AND 8" STORM DRAIN. FILL PIPE WALL PENETRATION AT THE CONTECH OIL/GRIT SEPARATOR WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
14. DEMOLISH ELECTRICAL DUCT BANK. FILL CONDUIT WALL PENETRATION AT THE ELECTRICAL PULL BOX WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
15. DEMOLISH 10" ROR RIP AND BLIND FLANGE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — KYLE MINK — No. C82402 — CIVIL — STATE OF CALIFORNIA

12/22/2021

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TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

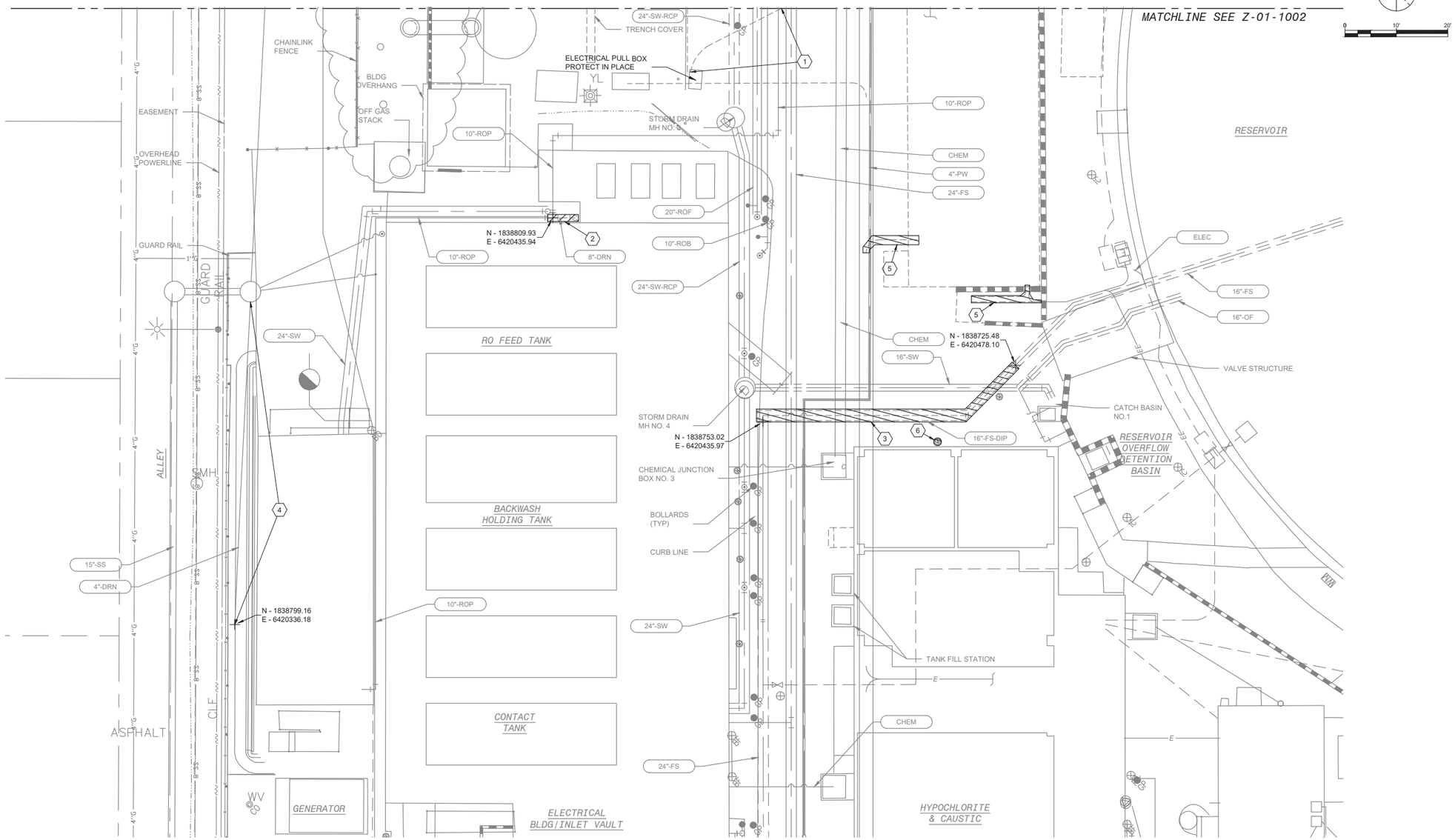
CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
YARD PIPING DEMOLITION PLAN – 1

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-01-1002
SHT 30 OF 303 SHTS



KEY NOTES:

1. FOR STRUCTURE DEMOLITION, SEE Z-01-1001.

KEY NOTES:

1. PRIOR TO ABANDONING IN PLACE OF THE 21"W x 12" D ELECTRICAL DUCT BANK, RELOCATE ELECTRICAL. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002. REMOVE ALL WIRES AND FILL CONDUIT WALL PENETRATION AT THE ELECTRICAL VAULT WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
2. DEMOLISH 8" DIP DRAIN. PIPE INVERT IS APPROXIMATELY 239.80 IN ELEVATION. REPLACE EXISTING 10"x10" DIP TEE WITH A 90-DEGREE DIP ELBOW WITH RESTRAINTS.
3. DEMOLISH 16" STEEL FINISHED SUPPLY. PIPE INVERT IS APPROXIMATELY 230.00 IN ELEVATION. CUT CLEAN WHERE ADJACENT PIPE ENDS ARE TO REMAIN.
4. ABANDON IN PLACE 4" DIP DRAIN. FILL 4" DRAIN AT THE STORM SEWER MANHOLE WITH CONCRETE MORTAR AND PROVIDE A SMOOTH FINISH.
5. REMOVE ALL WIRES AND DEMOLISH ELECTRICAL DUCT BANK.
6. DEMOLISH ABANDONED 1.5" POTABLE WATER VALVE VAULT.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — CLIFF MINK — No. C82402 — CIVIL — STATE OF CALIFORNIA

12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY : DATE : ____ 20__

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

YARD PIPING DEMOLITION PLAN – 2

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 Z-01-1003
SHT 31 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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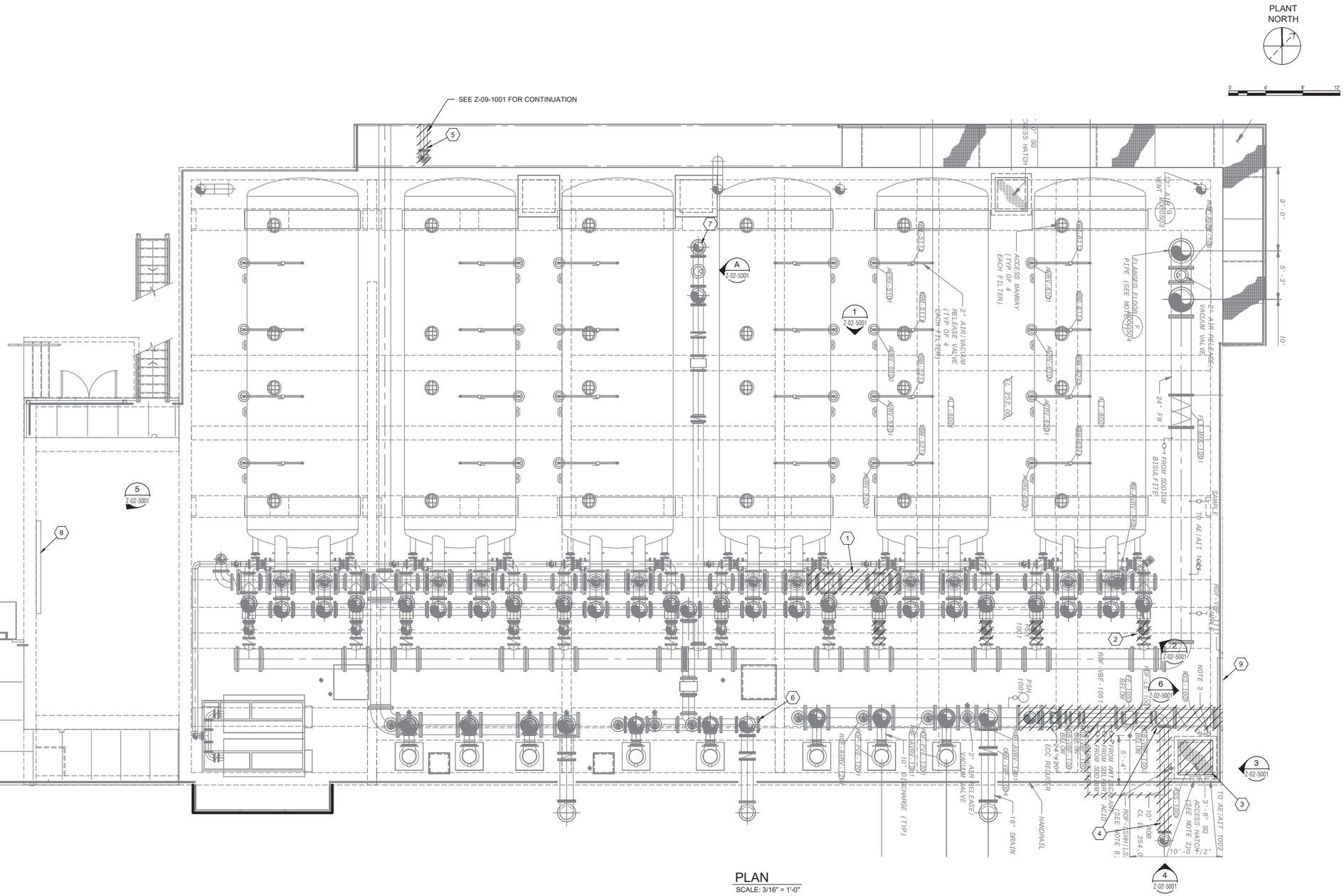

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT, ARCADIA, DRAWING MA03101.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO DEMOLITION. EXISTING CONDITIONS VARY FROM AS-BUILTS.
4. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. SEE PHOTO 1 ON Z-02-5001 FOR DEMOLITION DETAILS.
2. SEE PHOTO 2 ON Z-02-5001 FOR DEMOLITION DETAILS.
3. SEE PHOTO 3 ON Z-02-5001 FOR DEMOLITION DETAILS.
4. SEE PHOTO 4 ON Z-02-5001 FOR DEMOLITION DETAILS.
5. DEMOLISH 8" TREATED WASHWATER RETURN LINE AND ASSOCIATED PIPE SUPPORTS TO THE NEAREST DOWNSTREAM TEE AND PROVIDE A BLIND FLANGE. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
6. REMOVE 14" BLIND FLANGE.
7. SEE SECTION A ON Z-02-5001 FOR DEMOLITION DETAILS.
8. SEE PHOTO 5 ON Z-02-5001 FOR DEMOLITION DETAILS.
9. SEE PHOTO 6 ON Z-02-5001 FOR DEMOLITION DETAILS.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65698 CIVIL STATE OF CALIFORNIA 12/22/2021

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SHEET OF

DWG. NO. :

TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : 20__
REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

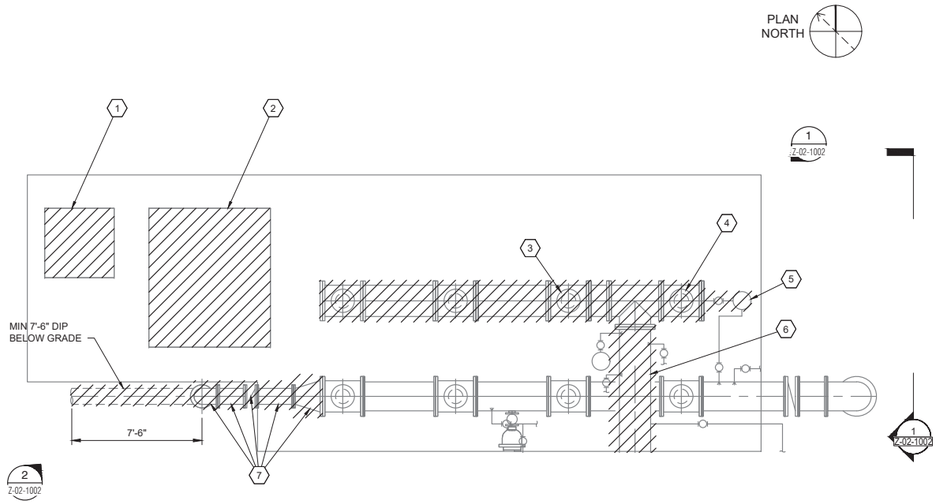
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

PRESSURE FILTERS AND LP RO FEED PUMPS DEMOLITION PLAN

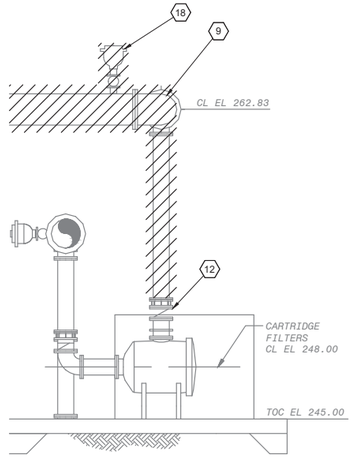
PROJECT AND SHEET TITLE

DESIGNED BY : WL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-02-1001
SHT 32 OF 303 SHTS



CARTRIDGE FILTER PLAN

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



SECTION

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

1
Z-02-1002

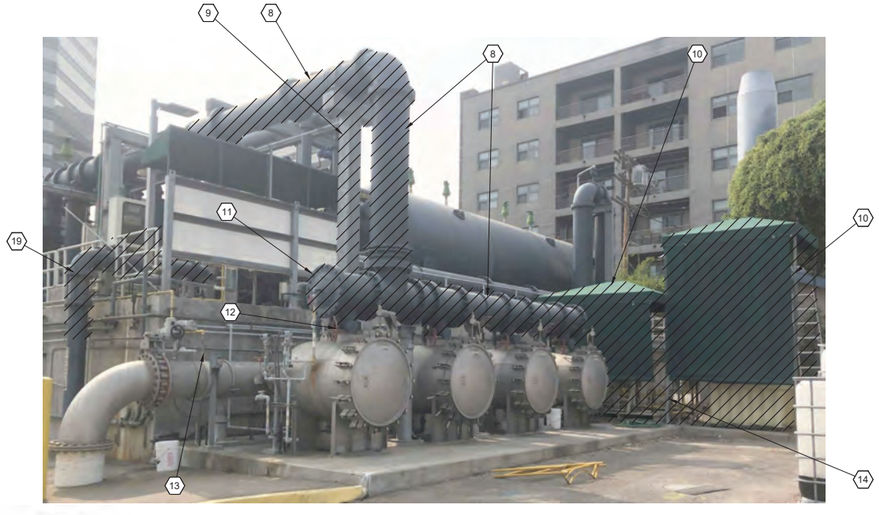


PHOTO 1
NOT TO SCALE
Z-02-1002

PHOTO 2
NOT TO SCALE
Z-02-1002

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT, ARCADIA, DRAWING MA03104 AND MA03301.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.

KEY NOTES:

1. DEMOLISH LIQUID AMMONIUM SULFATE STORAGE TOTE, SEE PHOTO 2.
2. DEMOLISH LIQUID AMMONIUM SULFATE FEED SKID, SEE PHOTO 2.
3. DEMOLISH 20" x 20" x 10" DIP TEE CONNECTING HEADER TO CARTRIDGE FILTER (TYP OF 4).
4. DEMOLISH 20" DIP ROF PIPE, 20" ELBOW, AND 20" x 20" x 20" TEE.
5. DEMOLISH PDIT AND BE REPLACED IN KIND PER D-02-1003. SUPPLIER/SUBCONTRACTOR TO EXTEND EXISTING ELECTRICAL CONDUITS AS NECESSARY TO ACCOMMODATE THE NEW LOCATION OF THE REPLACED INSTRUMENT. FOR CONDUIT AND CONDUCTOR SIZES SEE DRAWING E-01-6008.
6. DEMOLISH EXISTING SAMPLE TAPS, SAMPLE VALVES, AND INSTRUMENTS TO BE REPLACED IN KIND PER D-02-1004. SUPPLIER/SUBCONTRACTOR TO EXTEND EXISTING ELECTRICAL CONDUITS AS NECESSARY TO ACCOMMODATE THE NEW LOCATION OF THE REPLACED INSTRUMENTS. FOR CONDUIT AND CONDUCTOR SIZES SEE DRAWING E-01-6008.
7. RELOCATE ABOVE GRADE 20"x8" REDUCER, 8" DIP SPOOLS, 8" BFV, AND 8" DIP ELBOW PER DWG D-02-1004.
8. DEMOLISH 20" DIP.
9. DEMOLISH PIPE SUPPORT.
10. DEMOLISH LIQUID AMMONIUM SULFATE STORAGE TOTE AND FEED SKID AND CANOPY STRUCTURE.
11. DEMOLISH 20"x20" 10" DIP TEE (TYP OF 4).
12. PROTECT-IN-PLACE 10" BFV (TYP OF 4).
13. PROTECT-IN-PLACE AS INJECTOR.
14. RELOCATE EXISTING UTILITY STATION PER D-02-1004.
15. DEMOLISH ANALYZER AND SAMPLE PIPING.
16. DEMOLISH LIQUID AMMONIUM SULFATE STORAGE AND CANOPY STRUCTURE. DEMOLISH ELECTRICAL WIRING TO METERING SKID SYSTEM UP TO JUNCTION BOX.
17. DEMOLISH REMAINING ABOVE-GRADE 8" DIP BELOW ELBOW FLANGE.
18. DEMOLISH 2" ARV.
19. SEE PHOTO 4 / Z-02-5001 FOR DEMOLITION DETAILS.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65894 CIVIL STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : _____ DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION
CARTRIDGE FILTER
DEMOLITION PLAN, SECTION
AND DETAILS

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-02-1002
SHT 33 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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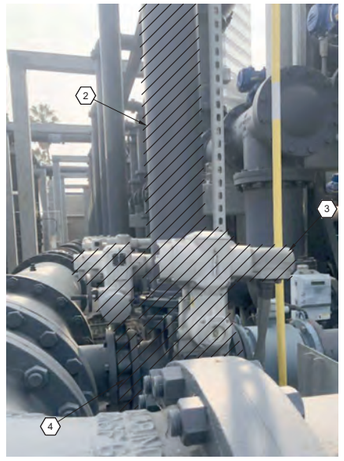
FLOW SEPARATION FOR
PRESSURE FILTERS 5 AND 6

PHOTO 1 Z-02-1001
NOT TO SCALE



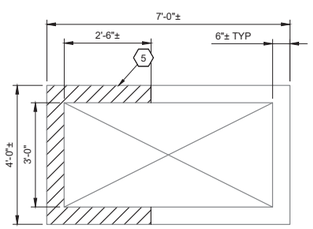
FLOW SEPARATION FOR
PRESSURE FILTERS 5 AND 6

PHOTO 2 Z-02-1001
NOT TO SCALE

RO BYPASS MODIFICATIONS AND
FUTURE RO TRANSFER PUMP LOCATION

PHOTO 3 Z-02-1001
NOT TO SCALE

PLAN
NORTH



HATCH DEMO PLAN
SCALE: 1/2" = 1'-0"

PLAN
NORTH

GENERAL NOTES:

1. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
2. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. REMOVE 24" DIP PIPING BETWEEN EXISTING FLANGES. INSTALL 24" DIP BLIND FLANGE ON EACH END OF REMOVED PIPING.
2. REMOVE 10"x8" TEE AND 8" DIP FW BETWEEN FLANGES. SEE DWG D-02-3001 FOR PIPING MODIFICATIONS (TYPICAL).
3. RELOCATE 8" DIP VBF PER DWG D-02-3001 (TYPICAL).
4. RELOCATE 8" DIP VBF PER DWG D-02-3001. INSTALL 8" DIP BLIND FLANGE ON EXISTING 24"x8" TEE (TYPICAL).
5. REMOVE ACCESS HATCH. DEMOLISH CURB PER HATCH DEMO PLAN.
6. REMOVE 24"x10" TEE AND RELOCATE 10" DIP ROB, 10" VBF (ROB-VBF-1001, ROB-VBF-1002, ROB-VBF-1003), AND FLOW METER. SEE DWG D-02-1003 FOR PIPING MODIFICATIONS. SUPPLIER/SUBCONTRACTOR TO EXTEND EXISTING ELECTRICAL CONDUITS AS NECESSARY TO ACCOMMODATE THE RELOCATION OF THE MOTORIZED FLOW CONTROL VALVE AND FLOW METER. FOR CONDUIT AND CONDUCTOR SIZES SEE DRAWING E-01-6008.
7. REMOVE 24"x20" REDUCER AND 20" DIP ROF. REPLACE AND RELOCATE 20" DIP ROF WITH 20" FRP ROF. SEE DWG D-02-1003 FOR PIPING MODIFICATIONS.
8. REMOVE HSO4 AND AS INJECTION POINT. RELOCATE HSO4 INJECTION POINT. SEE D-02-1003 FOR LOCATION OF NEW HSO4 INJECTION POINT.
9. RELOCATE STATIC MIXER PER DWG D-02-1003.
10. REMOVE PIPE SUPPORT.
11. REMOVE LIGHT FIXTURE. DEMOLISH ELECTRICAL WIRING FROM LIGHT FIXTURE UP TO JUNCTION BOX.
12. REMOVE HAND RAIL.
13. CUT SAW 10" DIP ROB AND INSTALL FLANGE. SEE DWG D-02-1003 FOR PIPING MODIFICATIONS.
14. REMOVE TOTAL CHLORINE ANALYZER AIT-1003. REPLACE WITH NEW ANALYZER AIT-1003 AND CONNECT TO EXISTING FEED AND DRAIN LINES PER DWG PIA00721. SEE PHOTO 1/C-01-5002 FOR MODIFICATIONS. SEE DWG E-01-6009 FOR ASSOCIATED ELECTRICAL.
15. EXTEND 1" PVC SAMPLE LINE BY RELOCATING SAMPLE TAP AND TUBING TO THE RIGHT ALONG SAMPLE BOARD. INSTALL NEW PH PROBE AND SAMPLE AND DRAIN LINES PER PIA00712 TO MATCH EXISTING PH PROBE SAMPLE LINES. PROTECT-IN-PLACE ALL EXISTING ANALYZERS AND TRANSMITTERS.
16. DEMOLISH EXISTING TURBIDIMETER AND CONTROLLER.
17. DEMOLISH EXISTING SAMPLE LINE FOR EXISTING TURBIDIMETER.
18. PROTECT IN PLACE EXISTING ANTISCALANT INJECTION POINT AND 1/2" AS PIPING UP TO CHEMICAL DUCTBANK.
19. CUT SAW 12" DIP BW AND INSTALL 12"X12" TEE. SEE DWG D-02-1002 FOR PIPING MODIFICATIONS.
20. DEMOLISH EXISTING TRASAR PANEL.

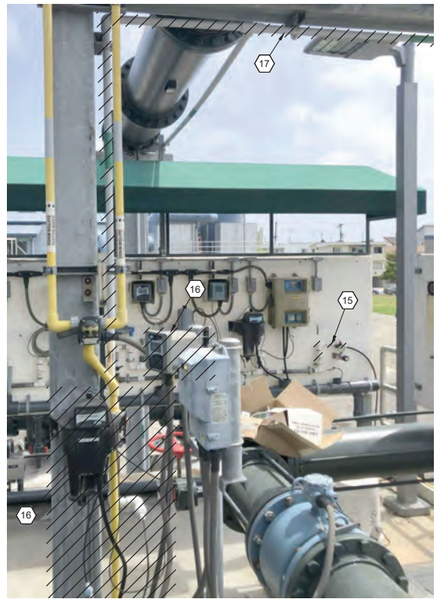
REGISTERED PROFESSIONAL ENGINEER
LAUREN RACHELLE BRAY
No. 92912
CIVIL
STATE OF CALIFORNIA
12/22/2021

RO BYPASS AND RO FEED PIPE MODIFICATIONS

PHOTO 4 Z-02-1001
NOT TO SCALE

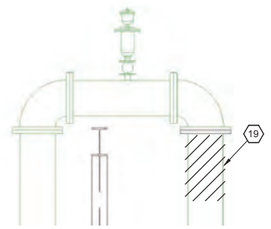
TOTAL CHLORINE ANALYZER AT INLET VAULT
(BELOW ELECTRICAL BUILDING)

PHOTO 5 Z-02-1001
NOT TO SCALE



RO FEED ANALYZER PANEL

PHOTO 6 Z-02-1001
NOT TO SCALE



BACKWASH SUPPLY RECIRCULATION
PIPELINE CONNECTION

SECTION A Z-02-1001
NOT TO SCALE

LEGEND:

DEMOLITION

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP–FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

PRESSURE FILTERS AND LP RO FEED PUMPS DEMOLITION DETAILS

PROJECT AND SHEET TITLE

DESIGNED BY : WL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-02-5001
SHT 34 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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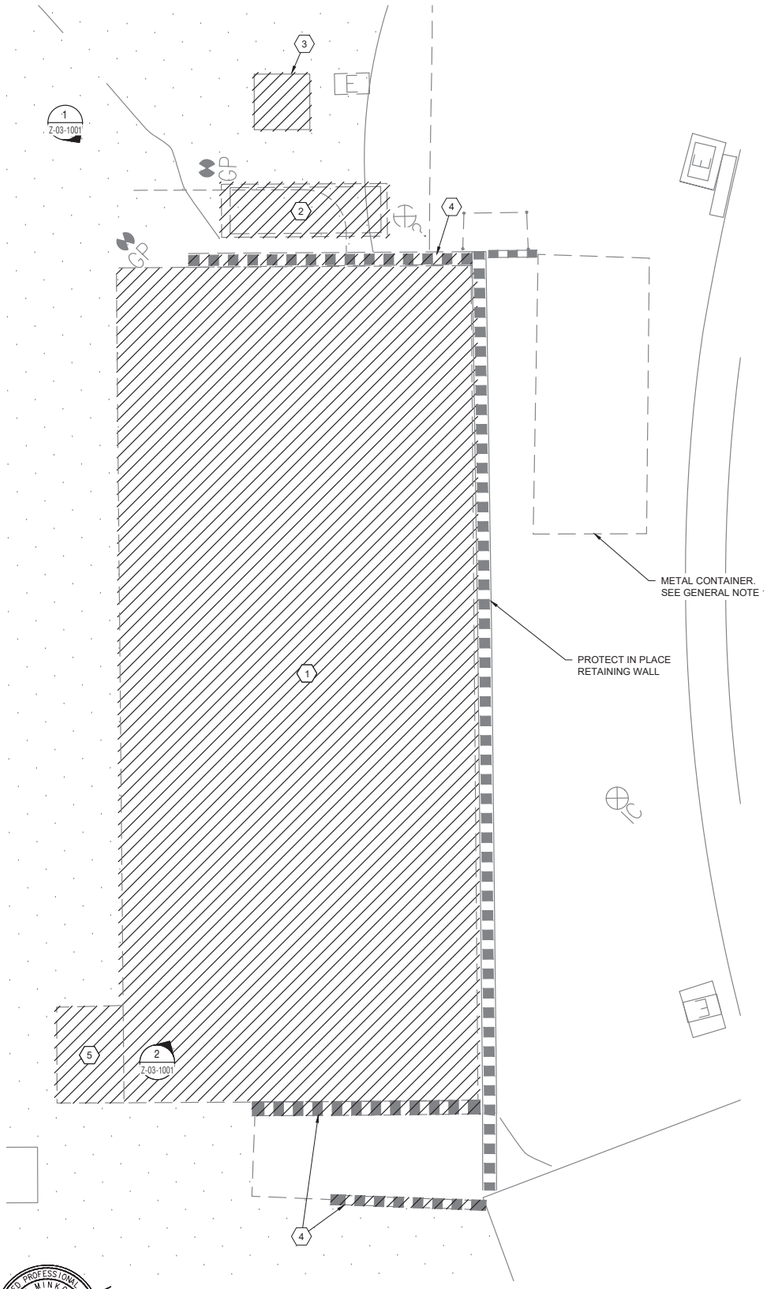
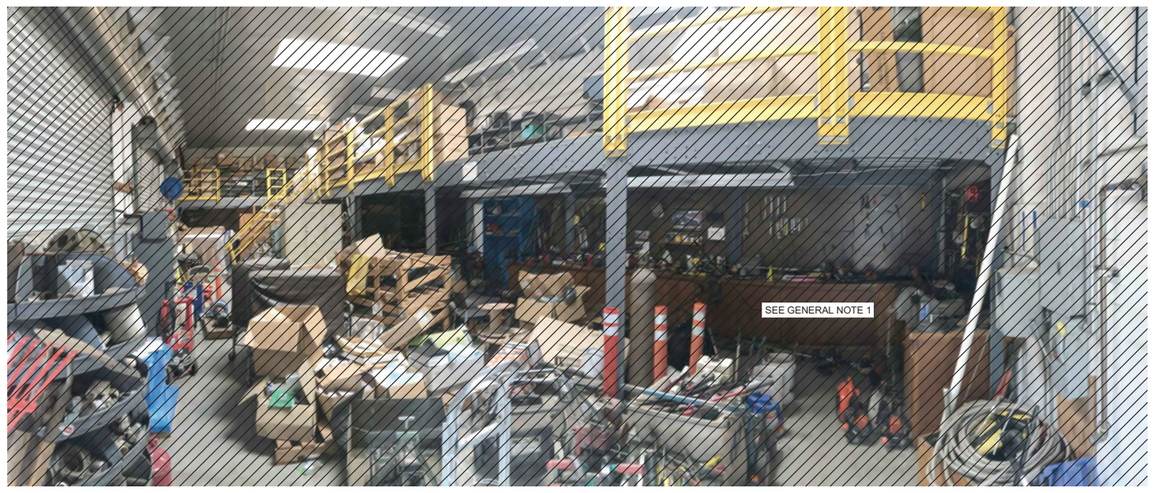


MAINTENANCE BUILDING DEMOLITION PLAN
SCALE: 1"=5'

MCC-D AND OUTSIDE OF MAINTENANCE BUILDING
PHOTO
NOT TO SCALE
1 Z-03-1001



MAINTENANCE BUILDING (INSIDE)
PHOTO
NOT TO SCALE
2 Z-03-1001

PLAN NORTH

0 5 10

GENERAL NOTES:

1. PRIOR TO DEMOLITION, COORDINATE WITH THE OWNER TO REMOVE ALL SALVAGEABLE MATERIALS WITHIN THE EXISTING MAINTENANCE BUILDING AND METAL CONTAINER LOCATED OUTSIDE THE MAINTENANCE BUILDING.
2. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. DEMOLISH MAINTENANCE BUILDING AND ASSOCIATED BUILDING PAD AND ELECTRICAL IN THEIR ENTIRETY AFTER MATERIALS HAVE BEEN SALVAGED.
2. PRIOR TO DEMOLITION, RELOCATE MCC-D. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002.
3. PRIOR TO DEMOLITION, RELOCATE PULL BOX A. FOR RELOCATION, SEE DWGS E-01-4001 AND E-01-4002.
4. DEMOLISH REINFORCED CONCRETE RETAINING WALL ADJACENT TO THE MAINTENANCE BUILDING. GRIND RETAINING WALL FLUSH WITH ADJACENT RETAINING WALL TO REMAIN. REMOVE REINFORCING BARS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
5. DEMOLISH CONCRETE PAD LOCATED OUTSIDE THE MAINTENANCE BUILDING IN ITS ENTIRETY.
6. PRIOR TO DEMOLITION, RELOCATE AERATION PLC. FOR RELOCATION, SEE DWG E-01-4002.
7. PRIOR TO DEMOLITION, TEMPORARILY RELOCATE PLANT ANTENNA. COORDINATE WITH THE OWNER ON LOCATION.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER
CLYDE V. MINKOW
No. C82402
CIVIL
STATE OF CALIFORNIA
12/22/2021

SHEET OF
DWG. NO. :
TITLE OF PROJECT :

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION
MAINTENANCE BUILDING DEMOLITION PLAN AND PHOTOS
PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-03-1001
SHT 35 OF 303 SHTS

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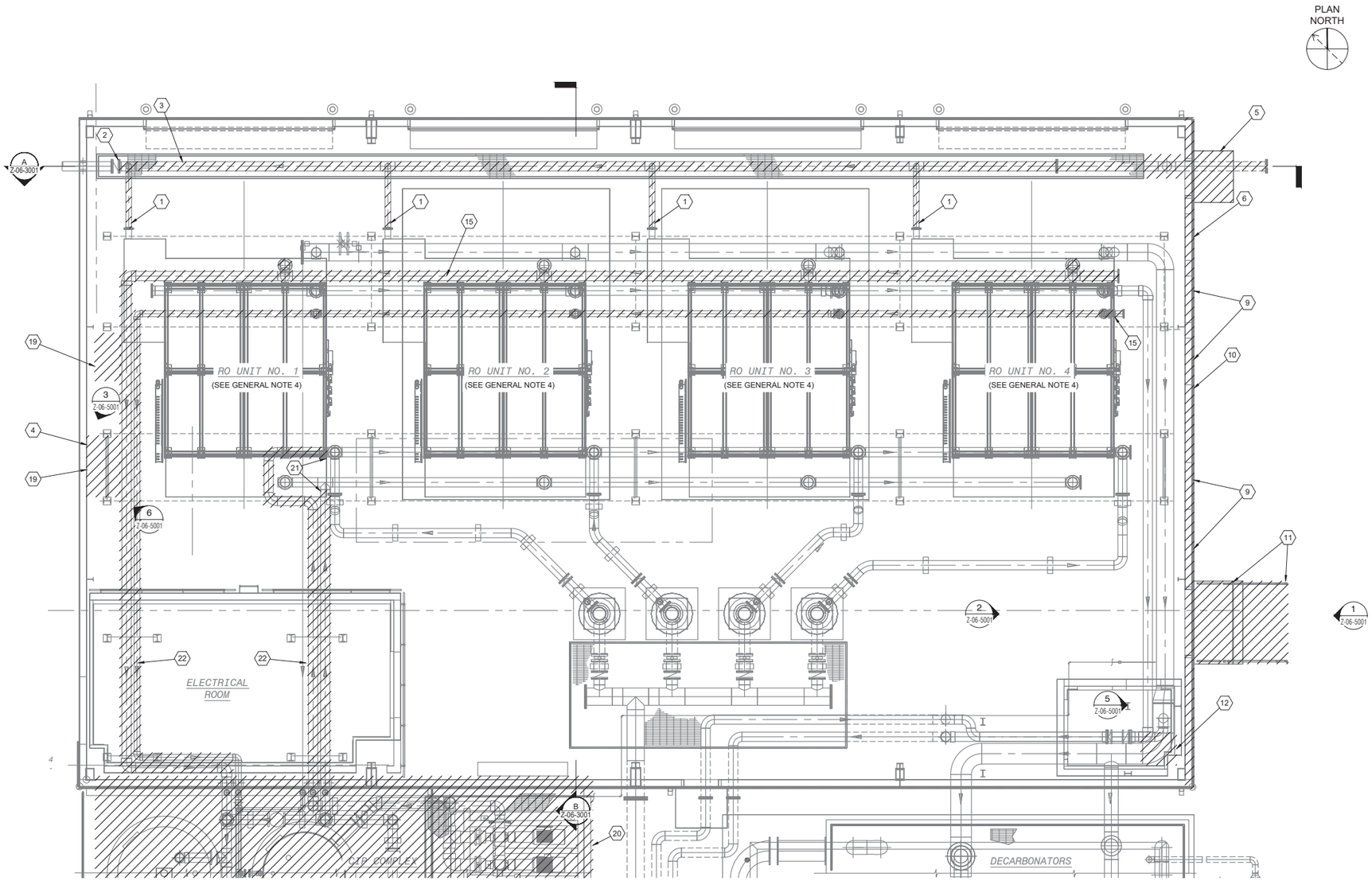

PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT, ARCADIA, DRAWING MA04101.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO DEMOLITION. EXISTING CONDITIONS VARY FROM AS-BUILTS.
4. SEE Z-06-5002 FOR DEMOLITION DETAILS. CONTRACTOR SHALL DEMOLISH ENERGY RECOVERY DEVICE, REMOVE EXISTING MEMBRANES, AND MODIFY WITH SELECTIVE DEMOLITION OF PIPELINES, MANIFOLDS, VALVES, INSTRUMENTS, AND ALL OTHER APPURTENANCES OF THE EXISTING RO SKID UNIT NECESSARY TO FACILITATE RETROFIT OF EXISTING SKID TO HIGH-RECOVERY RO SYSTEM PROVIDED BY VENDOR.
5. EXISTING CIP SYSTEM DEMOLITION WORK TO OCCUR AFTER CONSTRUCTION AND ACCEPTANCE TESTING OF NEW, REPLACEMENT CIP SYSTEM.

KEY NOTES:

1. DEMOLISH 6" ROR DIP UP TO 6" MOV AT SKID CONNECTION.
2. INSTALL 10" DIP BF.
3. DEMOLISH APPROXIMATELY 111' OF 10" ROR DIP.
4. DEMOLISH EXISTING AIR COMPRESSOR AND DRYER. DEMOLISH ELECTRICAL CONDUIT AND CONDUCTORS FROM THE SOURCE TO THE LOAD. CAP ALL UNUSED UNDERGROUND OR IN SLAB CONDUITS.
5. DEMOLISH SINGLE DOOR AND CONCRETE PAD.
6. DEMOLISH WINDOW.
7. NOT USED.
8. NOT USED.
9. DEMOLISH MECHANICAL LOUVERS.
10. DEMOLISH 64' WIDE X 23' TALL WALL PANELS AND ALL SUBFRAMING GIRTS EXCEPT BETWEEN CENTER COLUMNS ABOVE EL 258.0, LEAVE COLUMNS IN PLACE.
11. DEMOLISH DOUBLE DOORS, CONCRETE LANDING AND STAIRS.
12. SEE Z-07-1001 FOR DEMOLITION PLAN.
13. NOT USED.
14. NOT USED.
15. CIPR HEADER TO BE DEMOLISHED AND REPLACED, STARTING AT UNIT 4 AND EXTENDED WITH SUBSEQUENT RO TRAIN RETROFITS TO ALLOW USE OF EXISTING CIP SYSTEM PRIOR TO TRAIN RETROFIT.
16. NOT USED.
17. NOT USED.
18. NOT USED.
19. DEMOLISH EXISTING EXHAUST FANS AND CORRESPONDING DUCTWORK. DEMOLISH ELECTRICAL CONDUIT AND CONDUCTORS FROM THE SOURCE TO THE LOAD. CAP ALL UNUSED UNDERGROUND OR IN SLAB CONDUITS.
20. DEMOLISH 1" RO PERMEATE LINE INSIDE RO BUILDING AND UP TO CHEMICAL DUCTBANK D-1. CAP 1" ROP IN YARD AT LOCATION SHOWN ON PHOTO 2/Z-07-1001.
21. CUT PVC PIPING UPSTREAM OF TEE FITTING AND INSTALL SCHEDULE 80 PVC BLIND FLANGE FITTING AND BLIND FLANGE.
22. DEMO EXISTING CIP AND FLUSH WATER SYSTEM PIPING.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65698 CIVIL STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
RO BUILDING/SYSTEM DEMOLITION PLAN

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-1001
SHT 36 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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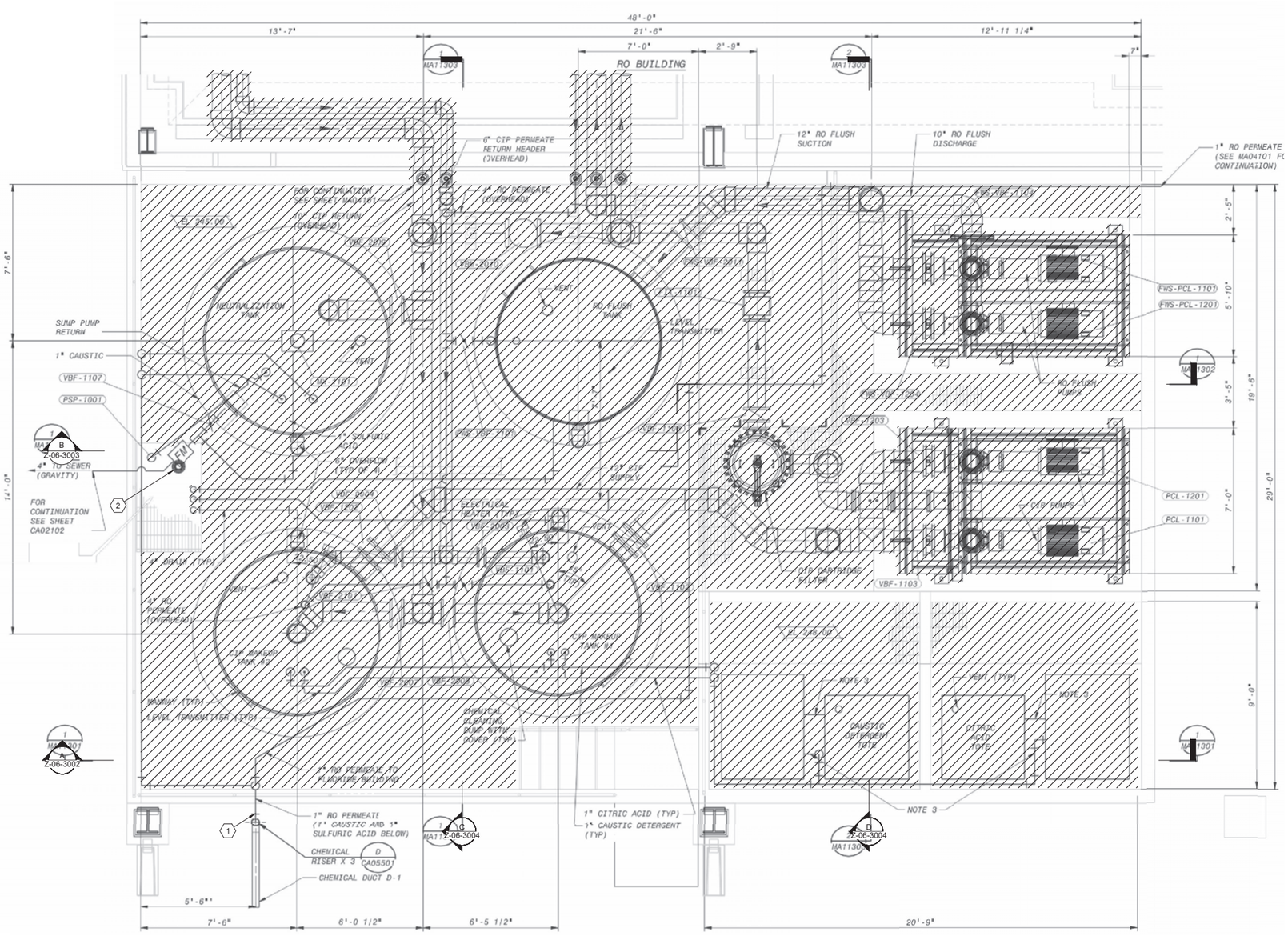
PLAN NORTH



CIP SYSTEM PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA11101.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. EXISTING CIP SYSTEM DEMOLITION WORK TO OCCUR AFTER CONSTRUCTION AND ACCEPTANCE TESTING OF NEW, REPLACEMENT CIP SYSTEM.
4. CONTRACTOR TO VERIFY CIRCUITS PRIOR TO WORK. CONTRACTOR TO DE-ENERGIZE, APPLY LOCK-OUT/TAG-OUT, DETERMINATE EQUIPMENT, REMOVE ALL POWER, CONTROL, AND SIGNAL CABLES. EXPOSED CONDUIT SHALL BE REMOVED AND BURIED OR UNDER SLAB CONDUIT SHALL BE EITHER CUT FLUSH AND GROUTED OVER OR SEALED AND CAPPED.
5. REMOVE ALL EQUIPMENT, PIPING, INSTRUMENTATION AND ELECTRICAL EQUIPMENT. STRUCTURE TO REMAIN INTACT.

KEY NOTES:

1. RE-ROUTE 1" CAUSTIC AND 1" SULFURIC ACID TO NEW CIP AREA PER MECHANICAL DRAWINGS, C-01-1005 AND D-06-1001.
2. REPLACE EXISTING SUMP PUMP WITH NEW PUMP IN-KIND. REMOVE PUMP WIRING WITH EXISTING PUMP AND RE-INSTALL NEW SUMP PUMP CONDUCTORS IN EXISTING CONTROL PANEL.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHARIAS No. 65694 CIVIL STATE OF CALIFORNIA 12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
CIP SYSTEM DEMOLITION PLAN

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 Z-06-1002
SHT 37 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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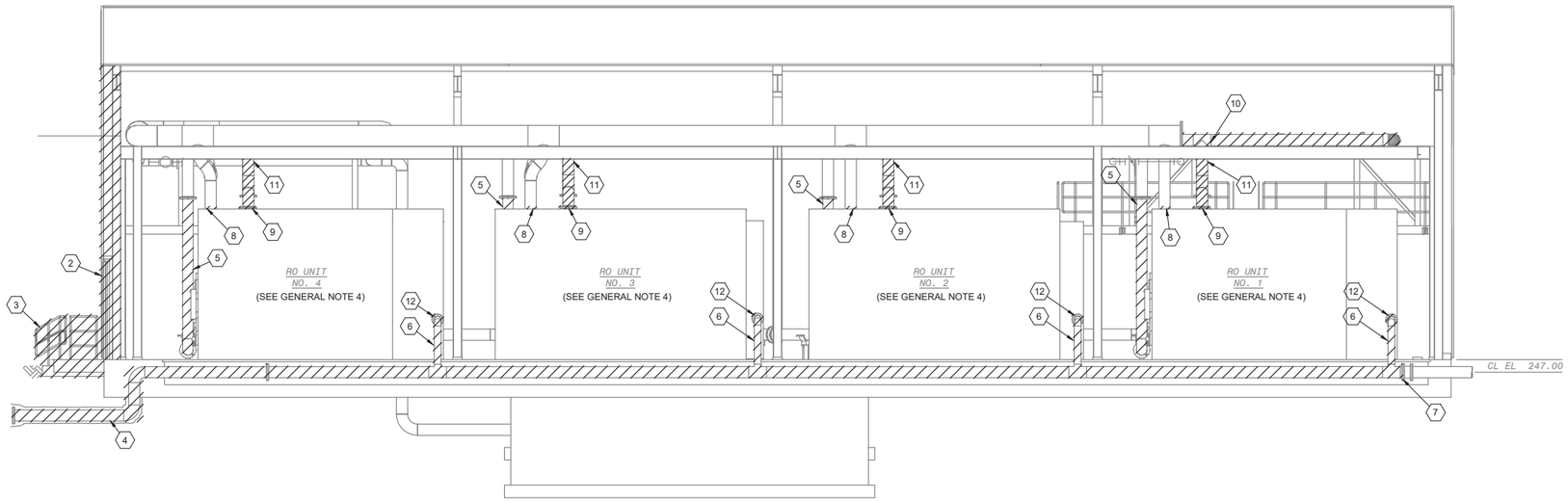
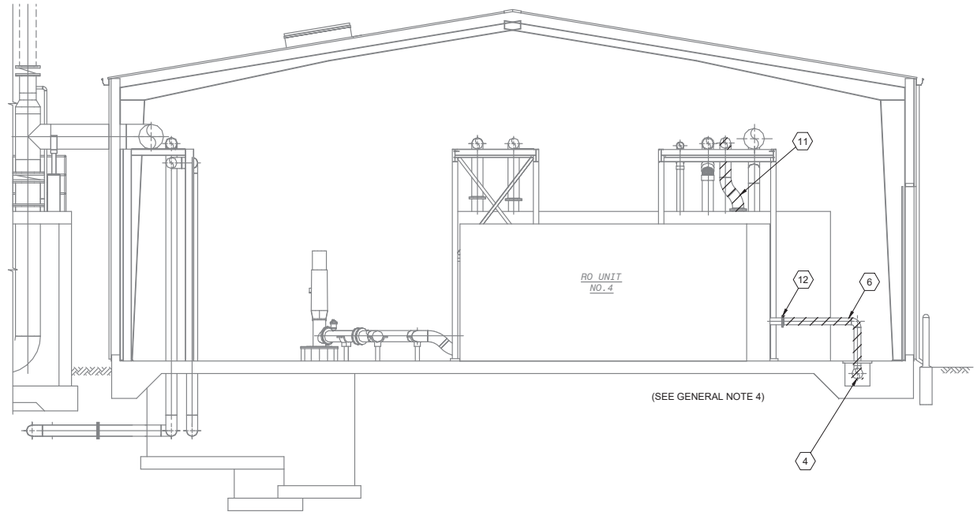


SECTION
SCALE: 3/16" = 1'-0"
A
Z-06-1001



SECTION
SCALE: 3/16" = 1'-0"
B
Z-06-1001

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT, ARCADIA, DRAWING MA04301.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO DEMOLITION. EXISTING CONDITIONS VARY FROM AS-BUILTS.
4. SEE Z-06-5002 FOR DEMOLITION DETAILS. CONTRACTOR SHALL DEMOLISH ENERGY RECOVERY DEVICE, REMOVE EXISTING MEMBRANES, AND MODIFY WITH SELECTIVE DEMOLITION OF PIPELINES, MANIFOLDS, VALVES, INSTRUMENTS, AND ALL OTHER APPURTENANCES OF THE EXISTING RO SKID UNIT NECESSARY TO FACILITATE RETROFIT OF EXISTING SKID TO HIGH-RECOVERY RO SYSTEM PROVIDED BY VENDOR. SEE INSTRUMENTATION DRAWINGS FOR RETROFITTED HIGH-RECOVERY RO SYSTEM. SEE DRAWING E-06-1001 FOR ELECTRICAL REQUIREMENTS RELATED TO ENERGY RECOVERY DEVICE DEMOLITION AND RO SKID MODIFICATION.
5. EXISTING CIP SYSTEM DEMOLITION WORK TO OCCUR AFTER CONSTRUCTION AND ACCEPTANCE TESTING OF NEW, REPLACEMENT CIP SYSTEM.

KEY NOTES:

1. NOT USED.
2. DEMOLISH 64' WIDE X 23' TALL WALL PANELS AND ALL SUBFRAMING GIRTS EXCEPT BETWEEN CENTER COLUMNS ABOVE EL 258.0, LEAVE COLUMNS IN PLACE.
3. DEMOLISH DOUBLE DOORS, CONCRETE LANDING, AND STAIRS
4. DEMOLISH 10" ROR PIPELINE.
5. DEMOLISH 10" RO FLUSH LINE AND RELOCATE TO NEW LOCATION PER DRAWINGS PROVIDED BY RO VENDOR, TYP ALL RO UNITS.
6. DEMOLISH 6" ROR DIP UP TO MOV AT SKID CONNECTION, TYP ALL RO UNITS.
7. INSTALL 10" DIP BF.
8. DEMOLISH 10" SS ROP PIPELINE CONNECTION TO RO UNIT. REROUTE ROP FROM 20" COMMON HEADER TO RO UNIT CONNECTION PER DRAWINGS PROVIDED BY RO VENDOR.
9. DEMOLISH 10" CPVC CIPS AND 10 CPVC CIPR PIPELINE CONNECTION TO RO UNIT. REROUTE FROM CIPR AND CIPS FROM RESPECTIVE 10" COMMON HEADERS TO RO UNIT CONNECTION PER DRAWINGS PROVIDED BY RO VENDOR.
10. CUT PVC PIPING UPSTREAM OF TEE FITTING AND INSTALL SCHEDULE 80 PVC BLIND FLANGE FITTING AND BLIND FLANGE.
11. CIPR RISER PIPES TO BE DEMOLISHED AND RECONSTRUCTED TO OPPOSITE END OF THE RO TRAIN. CIPR HEADER TO BE REPLACED STARTING AT UNIT 4 AND EXTENDED WITH EACH SUBSEQUENT RETROFIT.
12. ROR ISOLATION VALVES AND ACTUATORS TO BE REPLACED.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER
GEORGE A. ZACHREE
No. 65694
CIVIL
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
RO BUILDING/SYSTEM DEMOLITION SECTIONS

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-3001
SHT 38 OF 303 SHTS

SHEET OF
DWG NO. :
TITLE OF PROJECT :
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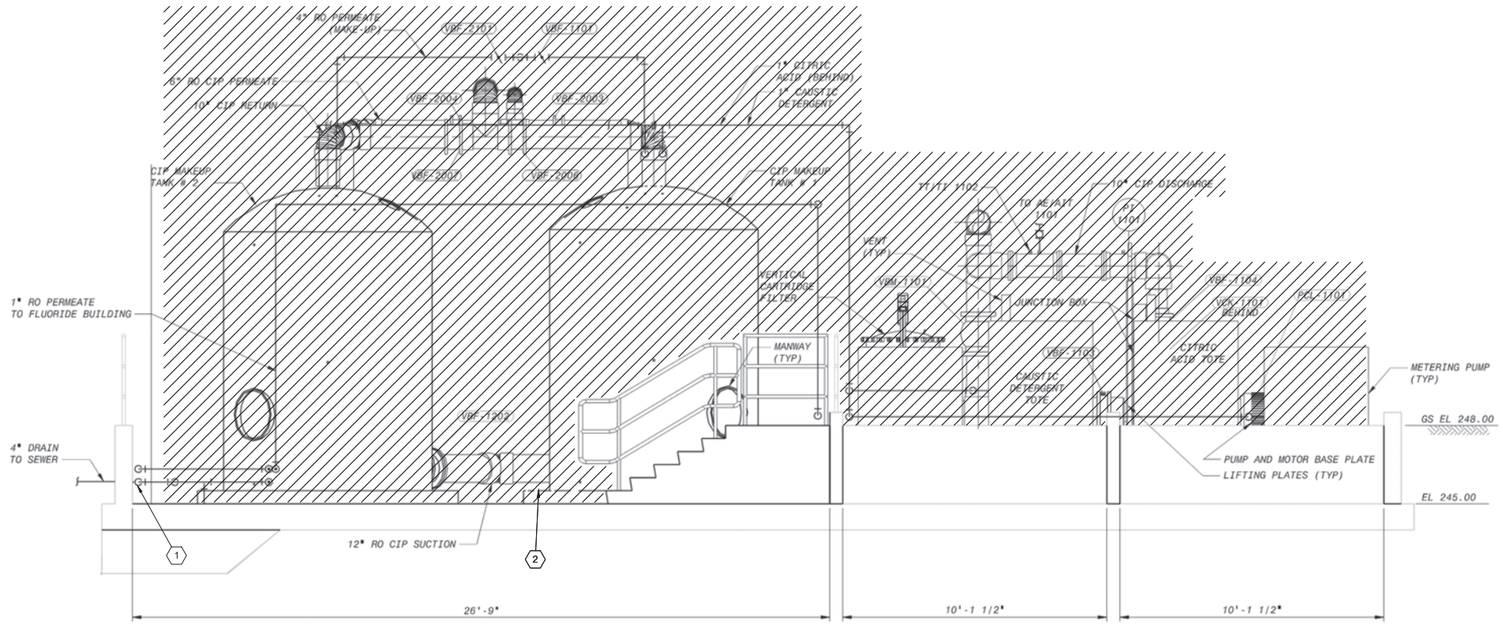

SECTION
SCALE: 3/8" = 1'-0"

A
Z-06-1002

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA11301.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. DEMOLITION OF EXISTING CIP SYSTEM SHALL NOT OCCUR UNTIL NEW CIP FACILITY HAS BEEN CONSTRUCTED AND IS FUNCTIONAL.
4. CONTRACTOR TO VERIFY CIRCUITS PRIOR TO WORK. CONTRACTOR TO DE-ENERGIZE, APPLY LOCK-OUT/TAG-OUT, DETERMINATE EQUIPMENT, REMOVE ALL POWER, CONTROL, AND SIGNAL CABLES. EXPOSED CONDUIT SHALL BE REMOVED AND BURIED OR UNDER SLAB CONDUIT SHALL BE EITHER CUT FLUSH AND GROUTED OVER OR SEALED AND CAPPED.

KEY NOTES:

1. CAP DRAIN LINE IMMEDIATELY INSIDE OF CONTAINMENT AREA.
2. DEMOLISH TANK PADS AND PATCH CONCRETE FLOOR TO PROVIDE UNIFORM SURFACE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65894 CIVIL STATE OF CALIFORNIA
12/22/2021

SHEET OF

DWG NO. :

TITLE OF PROJECT :

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City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

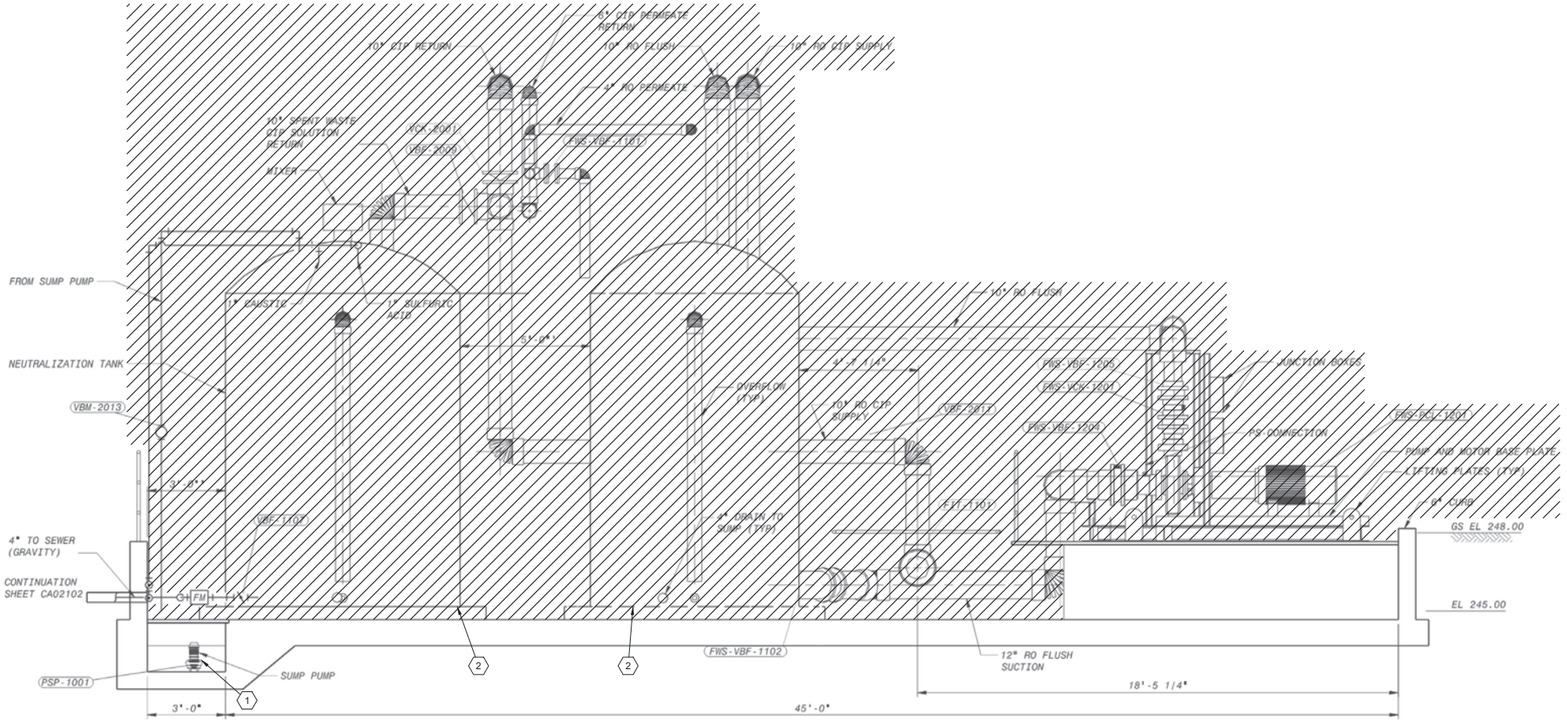
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

CIP SYSTEM DEMOLITION SECTION – 1

PROJECT AND SHEET TITLE

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-3002
SHT 39 OF 303 SHTS



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

B
Z-06-1002

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA11302.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. DEMOLITION OF EXISTING CIP SYSTEM SHALL NOT OCCUR UNTIL NEW CIP FACILITY HAS BEEN CONSTRUCTED AND IS FUNCTIONAL.
4. CONTRACTOR TO VERIFY CIRCUITS PRIOR TO WORK. CONTRACTOR TO DE-ENERGIZE, APPLY LOCK-OUT/TAG-OUT, DE-TERMINATE EQUIPMENT, REMOVE ALL POWER, CONTROL, AND SIGNAL CABLES. EXPOSED CONDUIT SHALL BE REMOVED AND BURIED OR UNDER SLAB CONDUIT SHALL BE EITHER CUT FLUSH AND GROUTED OVER OR SEALED AND CAPPED.

KEY NOTES:

1. REPLACE SUMP PUMP WITH NEW PUMP IN-KIND. RE-ROUTE SUMP PUMP DISCHARGE INTO NEUTRALIZATION TANK DRAIN FLOW METER PIPING. UPSIZE SEWER DISCHARGE LINE TO 6 INCH DOWNSTREAM OF METER RUN. REMOVE PUMP WIRING WITH EXISTING PUMP AND RE-INSTALL NEW SUMP PUMP CONDUCTORS IN EXISTING CONTROL PANEL.
2. DEMOLISH TANK PADS AND PATCH CONCRETE FLOOR TO PROVIDE UNIFORM SURFACE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHARIAS No. 65694 CIVIL STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CIP SYSTEM DEMOLITION SECTION – 2

PROJECT AND SHEET TITLE

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078 Z-06-3003
SHT 40 OF 303 SHTS

SHEET OF
DWG NO. :
TITLE OF PROJECT :
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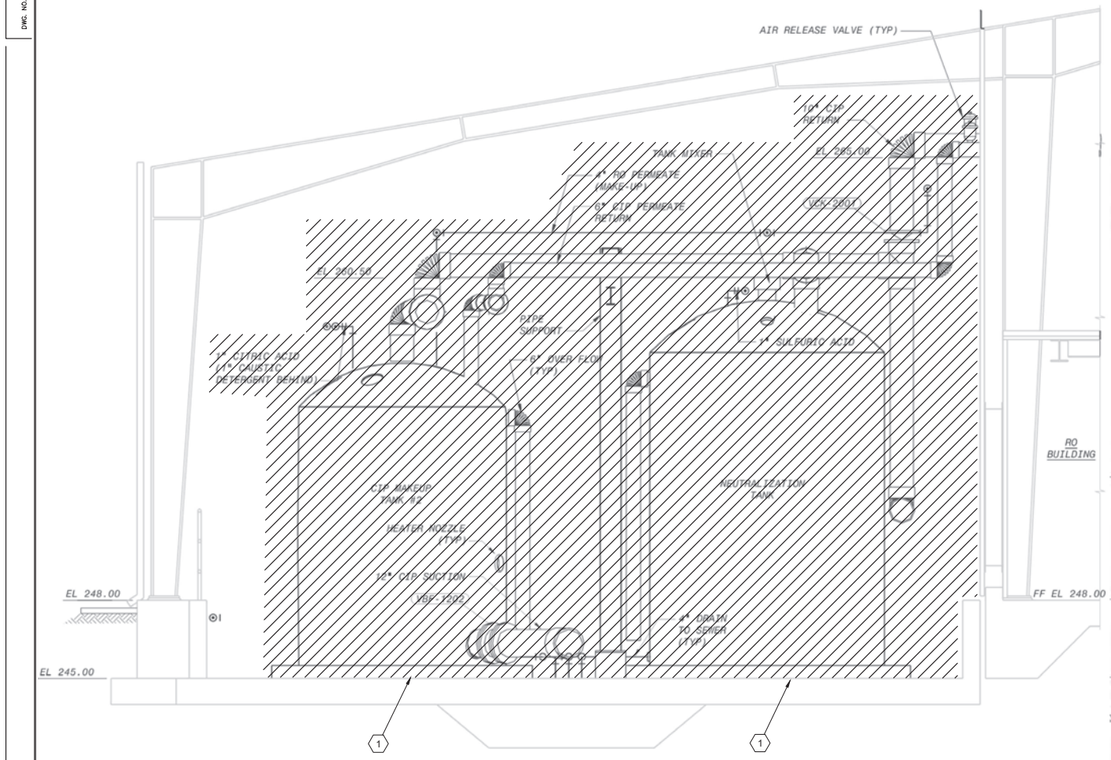
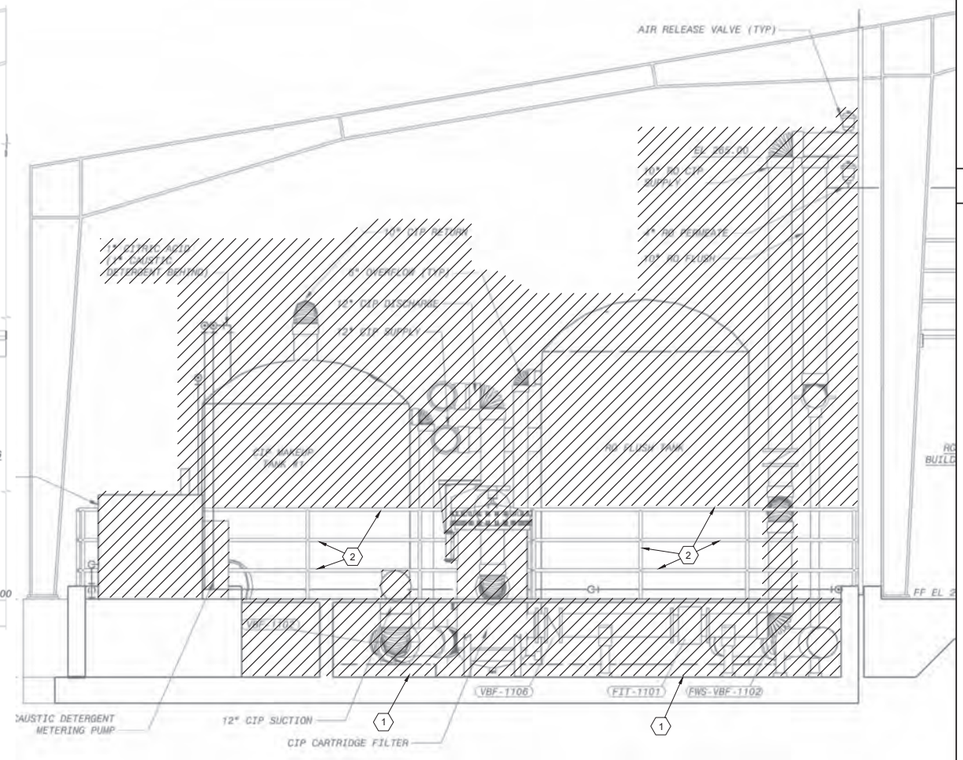


SECTION
SCALE: 3/8" = 1'-0"
C Z-06-1002



SECTION
SCALE: 3/8" = 1'-0"
C Z-06-1002

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA11303.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
3. DEMOLITION OF EXISTING CIP SYSTEM SHALL NOT OCCUR UNTIL NEW CIP FACILITY HAS BEEN CONSTRUCTED AND IS FUNCTIONAL.
4. CONTRACTOR TO VERIFY CIRCUITS PRIOR TO WORK. CONTRACTOR TO DE-ENERGIZE, APPLY LOCK-OUT/TAG-OUT, DETERMINATE EQUIPMENT, REMOVE ALL POWER, CONTROL, AND SIGNAL CABLES. EXPOSED CONDUIT SHALL BE REMOVED AND BURIED OR UNDER SLAB CONDUIT SHALL BE EITHER CUT FLUSH AND GROUTED OVER OR SEALED AND CAPPED.
5. CONTRACTOR TO CUT UP AND HAUL OUT ALL TANKS TO AVOID ROOF REMOVAL.

KEY NOTES:

1. DEMOLISH TANK PADS AND PATCH CONCRETE FLOOR WITH NON-SHRINK GROUT PER SECTION 03 60 00 TO PROVIDE UNIFORM SURFACE.
2. PROTECT GUARDRAIL IN PLACE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHER No. 65898 CIVIL STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__

CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CIP SYSTEM DEMOLITION SECTIONS – 3

PROJECT AND SHEET TITLE

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-3004
SHT 41 OF 303 SHTS

SHEET OF
DWG NO. :
TITLE OF PROJECT :
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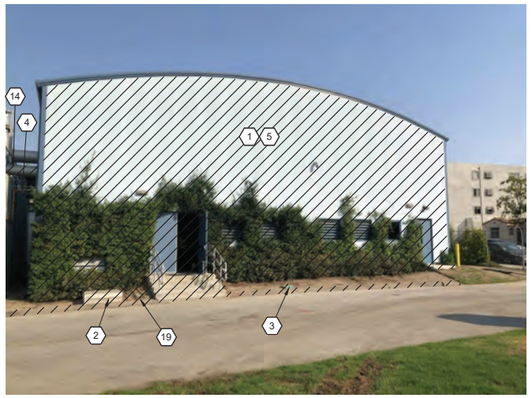
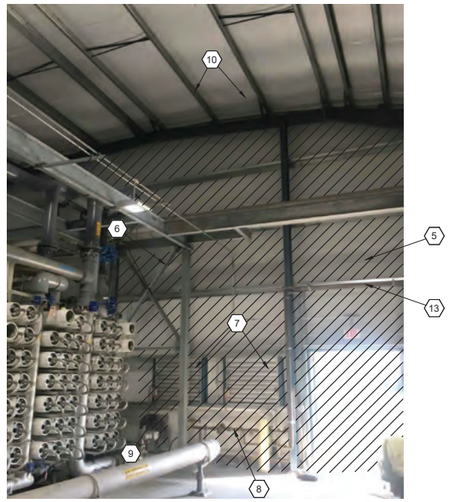


RO BUILDING SOUTH WALL EXTERIOR

PHOTO 1 Z-06-1001

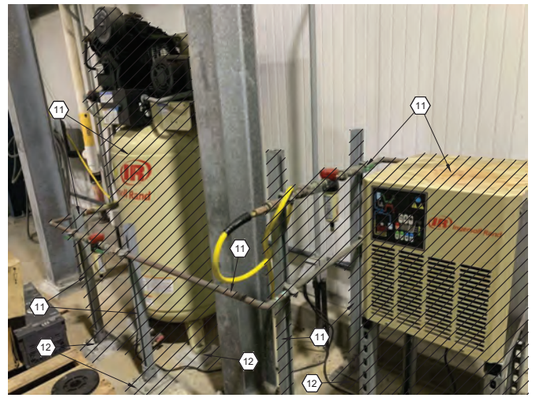
NOT TO SCALE



RO BUILDING SOUTH WALL INTERIOR

PHOTO 2 Z-06-1001

NOT TO SCALE



RO BUILDING AIR COMPRESSOR AND DRYER

PHOTO 3 Z-06-1001

NOT TO SCALE

PHOTO 5 Z-06-1001

NOT TO SCALE

RO BUILDING PROPELLERS FANS

PHOTO 6 Z-06-1001

NOT TO SCALE

NOT USED 4 -

NOT TO SCALE

GENERAL NOTES:

1. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
2. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO DEMOLITION. EXISTING CONDITIONS VARY FROM AS-BUILTS.

KEY NOTES:

1. DEMOLISH STAIRS, GUARDRAILS, DOORS, LANDINGS, MECHANICAL LOUVERS, WINDOWS, GRATES AND LANDSCAPING ALONG SOUTH WALL OF RO BUILDING.
2. DEMOLISH ELECTRICAL JUNCTION BOX. SEE DRAWING E-01-4001 FOR EXISTING CONDUIT REQUIREMENTS.
3. DEMOLISH IRRIGATION CONTROLLER AND PIPELINES. REPLACE-IN-KIND ALONG SOUTH EXTERIOR OF RO BUILDING EXPANSION.
4. DEMOLISH 1" NOCL AND NAOH PIPELINES BETWEEN DECARBONATOR AREA AND RO BUILDING. DEMOLISH PIPELINES WITHIN RO BUILDING ON TOP OF CONTROL ROOM. SEE Z-07-1001 FOR DEMOLITION EXTENTS CONTINUATION.
5. DEMOLISH 64' WIDE X 23' TALL WALL PANELS AND ALL SUBFRAMING GIRTS EXCEPT BETWEEN CENTER COLUMNS ABOVE EL 258.0, LEAVE COLUMNS IN PLACE.
6. PROTECT-IN-PLACE PIPE SUPPORTS AND BRACING.
7. DEMOLISH MECHANICAL LOUVRES.
8. RELOCATE PLANT WATER STATION BACKFLOW PREVENTER PIPE ASSEMBLY TO INTERIOR SOUTH WALL OF RO BUILDING EXPANSION PER D-06-1001.
9. RELOCATE UTILITY STATION TO INTERIOR SOUTH WALL OF RO BUILDING EXPANSION PER D-06-1001.
10. PROTECT-IN-PLACE ROOF AND FRAMING.
11. DEMOLISH AIR COMPRESSOR, TANK, DRYER, AIR FILTERS, AND PIPING. DEMOLISH STEEL SUPPORTS AND BRACKETS. DEMOLISH ELECTRICAL CONDUIT AND CONDUCTORS FROM THE SOURCE TO THE LOAD. CAP ALL UNUSED UNDERGROUND OR IN SLAB CONDUITS.
12. GRIND CONCRETE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
13. PROTECT-IN-PLACE FRAMING.
14. DEMOLISH 16" ROP PIPING. SEE Z-07-5001 FOR DEMOLITION EXTENTS CONTINUATION.
15. NOT USED.
16. DEMOLISH 1" NOCL CPVC PIPELINE, FLEXIBLE TUBING AND INJECTION ASSEMBLY. DEMOLISH 1" NAOH CPVC PIPELINE, FLEXIBLE TUBING AND INJECTION ASSEMBLY (NOT SHOWN) LOCATED DOWNSTREAM OF RO BYPASS TEE. CAP BOTH INJECTION POINTS.
17. DEMOLISH AND CAP 1" ROP FOR FLUORIDE DILUTION SYSTEM.
18. DEMOLISH EXISTING EXHAUST FANS, SUPPORTS, AND CORRESPONDING DUCTWORK. DEMOLISH ELECTRICAL CONDUIT AND CONDUCTORS FROM THE SOURCE TO THE LOAD. CAP ALL UNUSED UNDERGROUND OR IN SLAB CONDUITS.
19. DEMOLISH CONCRETE CURB.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHREE No. 65694 CIVIL STATE OF CALIFORNIA 12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : ____ 20__

REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : ____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

RO BUILDING/SYSTEM DEMOLITION PHOTOS

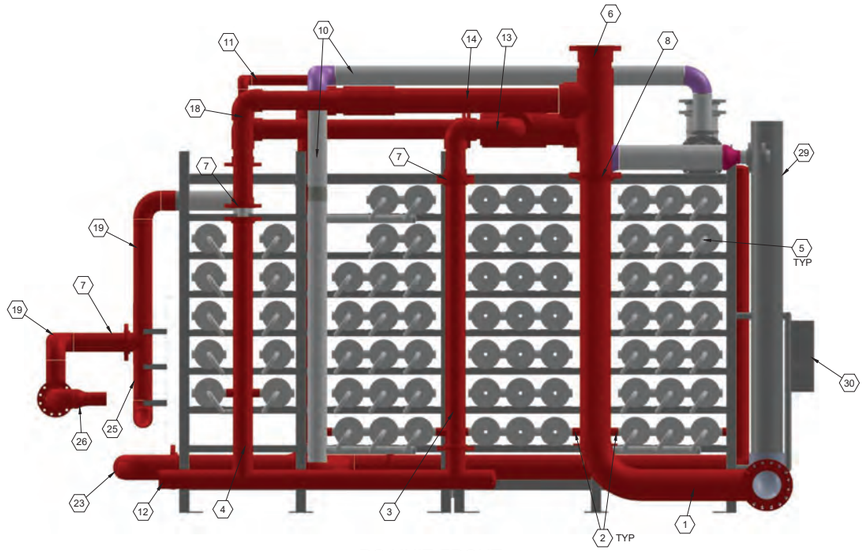
DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-5001
SHT 42 OF 303 SHTS

TITLE OF PROJECT :

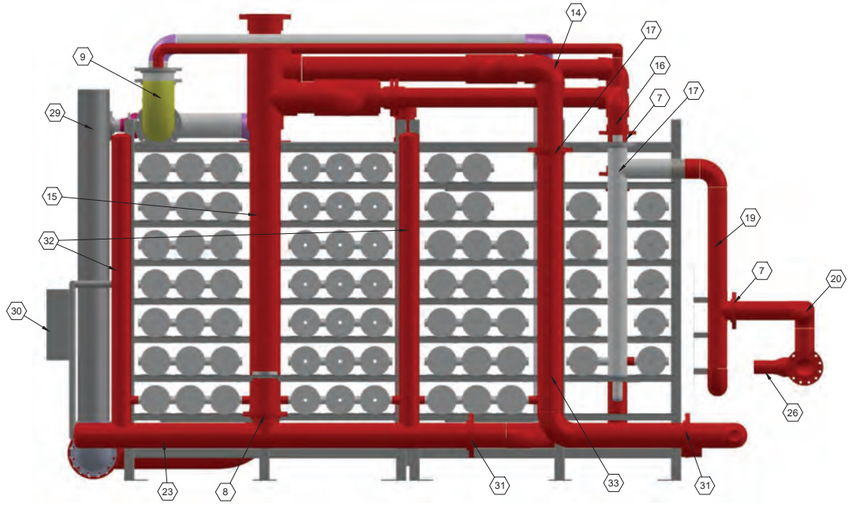
DWG. NO. :

SHEET OF

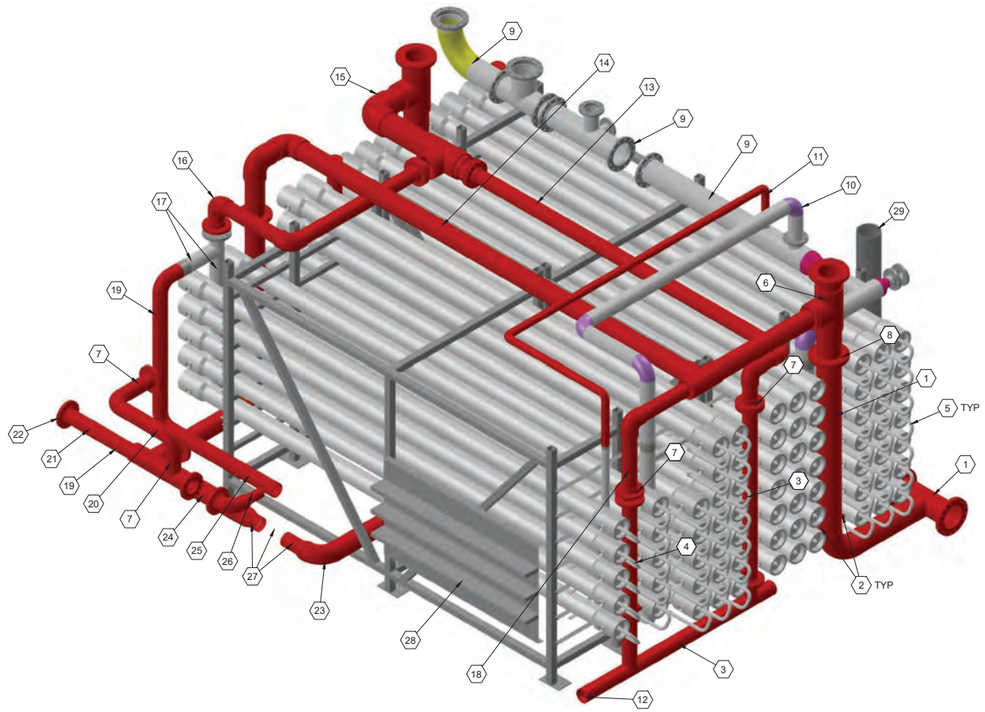
C:\BCPW\D07361114\Z-06-5001.DWG 12/20/2021 2:30 PM



RO UNIT-FRONT
SCALE: NONE



RO UNIT-BACK
SCALE: NONE



RO UNIT-ISOMETRIC
SCALE: NONE

GENERAL NOTES:

1. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPELINES, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.
2. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO DEMOLITION. EXISTING CONDITIONS VARY FROM AS-BUILTS.
3. DEMOLITION SHOWN IS TYPICAL FOR ALL EXISTING RO UNITS UNLESS OTHERWISE SPECIFIED HEREIN OR IN SPECIFICATION 46 63 23, ALL INSTRUMENTS SHALL BE REUSED AND INSTRUMENT TAPS RELOCATED PER PIA00713, PIA00714, PIA00715, AND PIA00716.

KEY NOTES:

1. DEMOLISH 10" SS 1ST STAGE FEED HEADER. PROTECT IN PLACE 10" ANSI 150 BFV INLET VALVE AND 10" ANSI 150 BFV FLUSH VALVE.
2. UNCOUPLE 3" VESSEL PORT CONNECTIONS TO FEED/CONCENTRATE HEADER PIPES. TYP ALL VESSELS. RELOCATE PER DRAWINGS PROVIDED BY RO VENDOR.
3. DEMOLISH 6" SS 2ND STAGE CONCENTRATE HEADER.
4. DEMOLISH 6" SS 3RD STAGE FEED RISER.
5. PROTECT IN PLACE ALL EXISTING PRESSURE VESSELS, VESSEL PERMEATE SS U-BEND PIPES AND CONNECTIONS TO PERMEATE HEADERS. TYP ALL THREE STAGES.
6. DEMOLISH 10" CPVC CIPS HEADER.
7. RELOCATE 6" ANSI 150 BFV, GEAR BOX, AND CHAINWHEEL PER DRAWINGS PROVIDED BY RO VENDOR.
8. RELOCATE 10" ANSI 150 BFV, GEAR BOX, AND CHAINWHEEL PER DRAWINGS PROVIDED BY RO VENDOR.
9. PROTECT-IN-PLACE 10" SS PERMEATE HEADER AND VALVES, INSTRUMENTS, AND APPURTENANCES (NOT SHOWN).
10. PROTECT-IN-PLACE 6" SS 2ND STAGE PERMEATE HEADER.
11. DEMOLISH 3" SS 3RD STAGE PERMEATE HEADER.
12. DEMOLISH 3" BV AND DOWNSTREAM 3" PVC DRAIN PIPE (NOT SHOWN).
13. DEMOLISH 8" CPVC 2ND STAGE CIPR HEADER.
14. DEMOLISH 8" CPVC 2ND STAGE CIPS HEADER.
15. DEMOLISH 10" CPVC CIPR HEADER.
16. DEMOLISH 6" CPVC 3RD STAGE CIPR HEADER.
17. PROTECT-IN-PLACE 6" SS 3RD STAGE CONCENTRATE HEADER.
18. DEMOLISH 6" CPVC 3RD STAGE CIPS HEADER.
19. DEMOLISH 6" SS 3RD STAGE CONCENTRATE HEADER.
20. DEMOLISH 4" V-PORT CONTROL VALVE AND ACTUATOR.
21. RELOCATE 6" FLOWMETER AND 6" DOUBLE-DISC CV (NOT SHOWN) PER DRAWINGS PROVIDED BY RO VENDOR.
22. RELOCATE 6" ANSI 150 BFV (NOT SHOWN) AND ACTUATOR PER DRAWINGS PROVIDED BY RO VENDOR.
23. DEMOLISH 8" SS 1ST STAGE CONCENTRATE.
24. DEMOLISH 6" CV (NOT SHOWN).
25. DEMOLISH 6" SS 3RD STAGE CONCENTRATE TO ERD TURBO PUMP.
26. DEMOLISH 4" SS, 4"X6" REDUCER, AND 6" SS ELBOW ERD TURBO PUMP DISCHARGE PIPING.
27. DEMOLISH 4" SS ERD TURBO PUMP INLET AND OUTLET PIPING AND EXISTING TURBO PUMP (NOT SHOWN).
28. PROTECT EXISTING SAMPLE PANEL IN PLACE. REFURBISH AS NEEDED TO REMOVE SCALE RESIDUE. REROUTE SAMPLE TUBING TO ADDED PRESSURE VESSELS AND RELABEL SAMPLE VALVES ACCORDINGLY.
29. PROTECT-IN-PLACE 10" CPVC FL.
30. PROTECT-IN-PLACE EXISTING INSTRUMENT PANEL.
31. DEMOLISH 8" ANSI 150 BFV, GEAR BOX, AND GEAR WHEEL.
32. DEMOLISH 6" SS 1ST STAGE CONCENTRATE RISERS.
33. DEMOLISH 8" SS 2ND STAGE FEED RISER.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER GEORGE A. ZACHEM No. 65698 CIVIL STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
RO BUILDING/SYSTEM DEMOLITION DETAILS

DESIGNED BY : AZ
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-06-5002
SHT 43 OF 303 SHTS

TITLE OF PROJECT :
SHEET OF
DWG. NO. :
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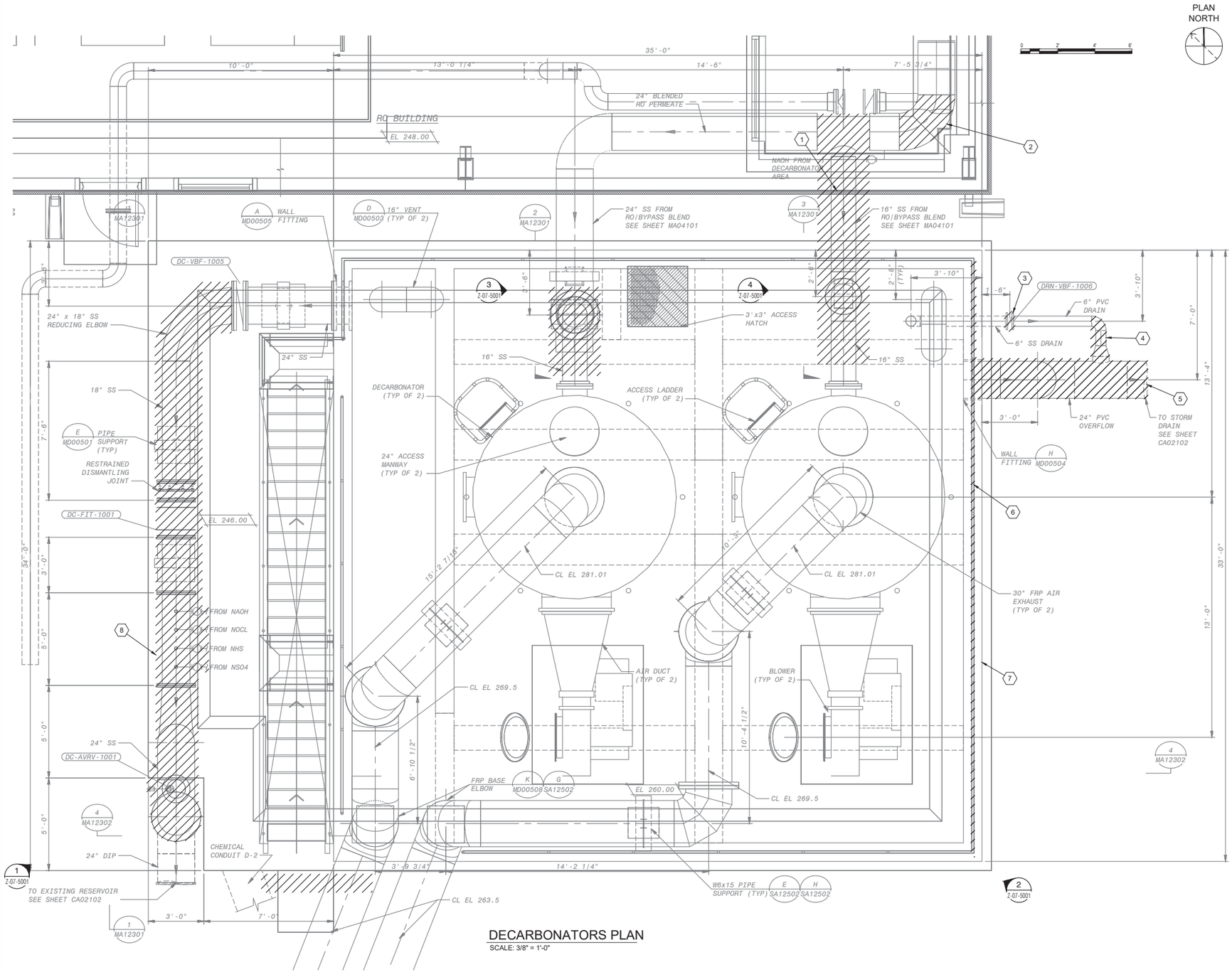

DECARBONATORS PLAN

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

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA1201.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.

KEY NOTES:

1. COVER EXISTING PENETRATION WITH NEW WALL PANEL USING SHEET METAL SCREWS AND RUN SEALANT AROUND EDGES.
2. REMOVE 24" SS ELBOW SEE D-07-1001 FOR PIPING MODIFICATIONS.
3. RELOCATE AND REPLACE WITH NEW 6" BUTTERFLY VALVE PRIOR TO CONSTRUCTION OF NEW DECARBONATOR TANK. SEE D-07-1001.
4. PRIOR TO DEMOLITION, RELOCATE CONNECTION FROM 6" SS DRAIN TO 24" PVC OVERFLOW. FOR RELOCATION, SEE D-07-1001.
5. PRIOR TO DEMOLITION, RELOCATE 24" PVC OVERFLOW. FOR RELOCATION, SEE D-07-1001.
6. PRIOR TO DEMOLITION, RELOCATE HANDRAIL. FOR RELOCATION, SEE D-07-1001.
7. SEE SECTION 2/S-07-3001 FOR TANK WALL PENETRATION LOCATIONS.
8. DEMOLISH PIPING AND APPURTENANCES WITHIN DEMOLITION LIMITS. SEE D-07-1001 FOR PIPING MODIFICATIONS.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — NADIA BOUTROS — NO. M40274 — MECHANICAL — STATE OF CALIFORNIA — 12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__ — SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__ — OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY : — CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX — ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
DECARBONATORS DEMOLITION PLAN

DESIGNED BY : NB
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-07-1001
SHT 44 OF 303 SHTS

TITLE OF PROJECT :
SHEET OF
DWG NO. :
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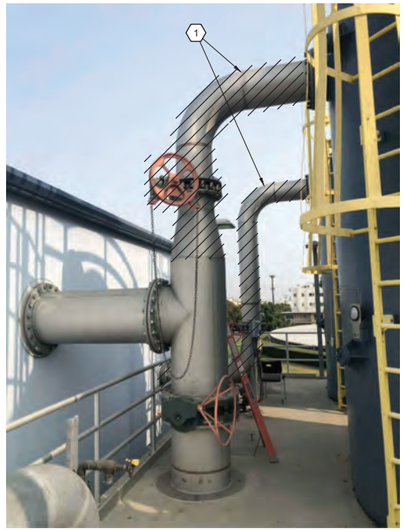
DECARBONATORS

PHOTO 1 Z-07-1001

NOT TO SCALE



DECARBONATORS

PHOTO 3 Z-07-1001

NOT TO SCALE

DECARBONATORS

PHOTO 2 Z-07-1001

NOT TO SCALE

DECARBONATORS

PHOTO 4 Z-07-1001

NOT TO SCALE

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA1201.
2. PROTECT-IN-PLACE ALL EXISTING EQUIPMENT, PIPING, APPURTENANCES, AND INSTRUMENTATION UNLESS NOTED FOR DEMOLITION.

KEY NOTES:

1. DEMOLISH DECARBONATOR PIPING AND APPURTENANCES AS SHOWN.
2. DEMOLISH 1" NSO4 PIPELINE AND CHEMICAL INJECTOR. SEE D-07-1001 FOR PIPING MODIFICATIONS.
3. SEE D-07-1002 FOR PIPING MODIFICATIONS.
4. DEMOLISH 1" NAOH PIPE TO CHEMICAL RISER. BF CHEMICAL RISER.
5. DEMOLISH 1" RO PERMEATE LINE. TERMINATE WITHIN RO BUILDING.
6. DEMOLISH 1" NOCL PIPE TO TEE. CAP THROUGH END OF TEE. PROTECT IN PLACE REMAINING 1" NOCL PIPE.
7. DEMOLISH 1" NAOH AND NOCL CHEMICAL PIPES.
8. CAP AND ABANDON 1" RO PERMEATE IN YARD.
9. PRIOR TO DEMOLITION, RELOCATE HANDRAIL. FOR RELOCATION, SEE D-07-1001.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER
NADIA BOUTROS
NO. M40274
MECHANICAL
STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

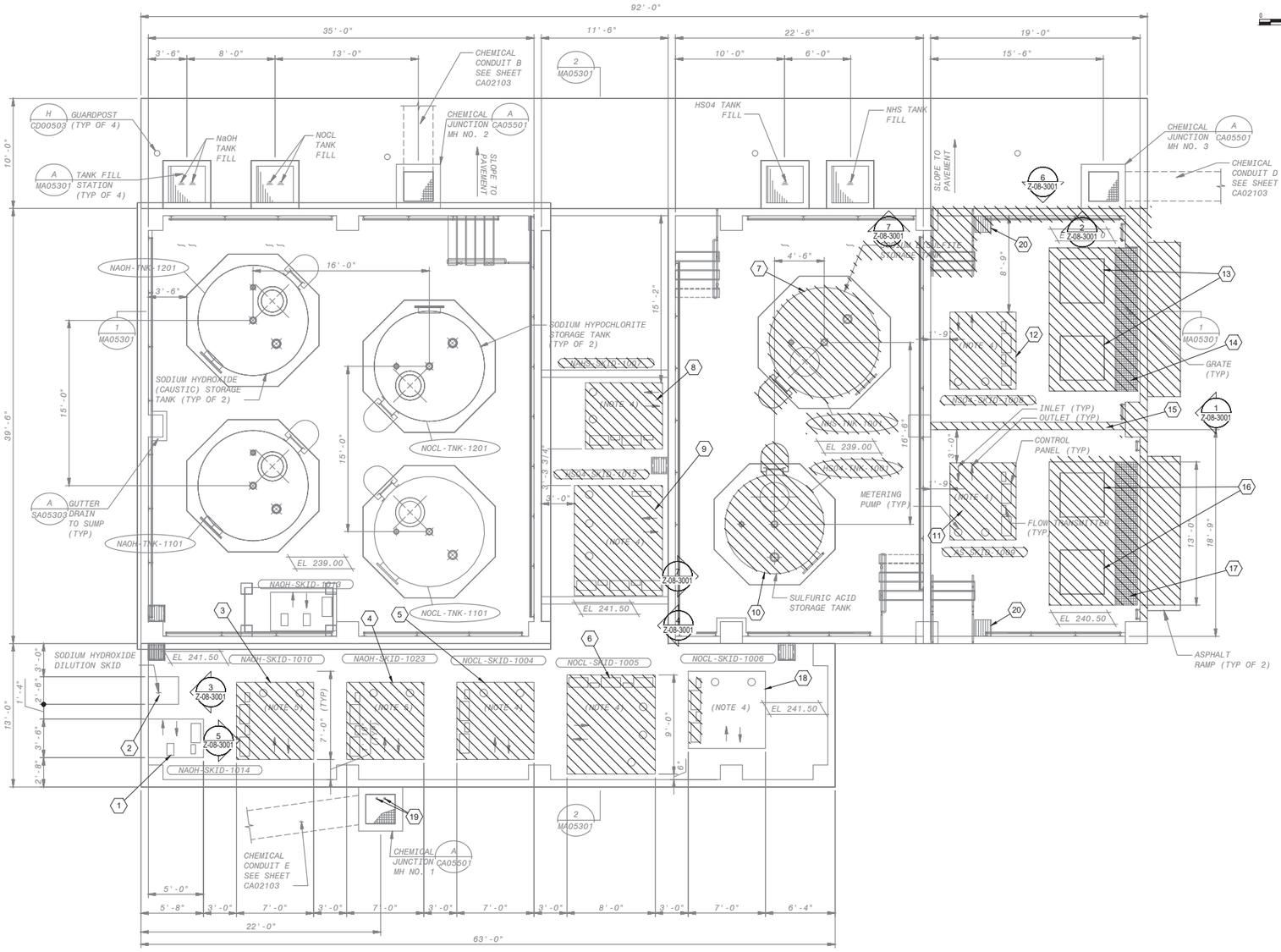
DECARBONATORS DEMOLITION PHOTOS

PROJECT AND SHEET TITLE

DESIGNED BY : NB
DRAWN BY : AC
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-07-5001
SHT 45 OF 303 SHTS

SHEET OF
DWG NO. :
TITLE OF PROJECT :
C:\BCPW\D0736114\Z-07-5001.DWG 12/20/2021 2:31 PM

PLANT NORTH



SECTIONAL PLAN
3/16" = 1'-0"

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT, ARCADIA, DRAWING MA05101.
2. FOR PIPING TIE INS, SEE CHEMICAL STORAGE AREA ENLARGED PLANS.

KEY NOTES:

1. PROTECT IN PLACE NAOH SKID 1014 AND APPURTENANCES.
2. PROTECT IN PLACE NAOH DILUTION SKID AND APPURTENANCES.
3. DEMOLISH NAOH SKID 1010 AND ELECTRICAL APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
4. DEMOLISH NAOH SKID 1023 AND ELECTRICAL APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
5. DEMOLISH NOCL SKID 1004 AND ELECTRICAL APPURTENANCES. DEMOLISH VENT PIPING AND ASSOCIATED VACUUM BREAKERS. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
6. DEMOLISH NOCL SKID 1005 AND ELECTRICAL APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
7. DEMOLISH SODIUM BISULFITE TANK ASSOCIATED PIPING AND APPURTENANCES AND PIPING FROM FILL STATION TO TANK, TANK TO METERING SKID AND METERING SKID TO MH NO.3, PROTECT IN PLACE CONCRETE PAD.
8. DEMOLISH SODIUM BISFULFITE SKID 1007 AND ASSOCIATED PIPING AND ELECTRICAL APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
9. DEMOLISH SULFURIC ACID SKID 1015 AND ASSOCIATED PIPING AND ELECTRICAL APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
10. DEMOLISH SULFURIC ACID TANK, ASSOCIATED PIPING, AND APPURTENANCES.
11. DEMOLISH ANTISCALANT SKID 1009 AND ASSOCIATED PIPING AND APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
12. DEMOLISH LIQUID AMMONIUM SULFATE SKID 1008 AND ASSOCIATED PIPING AND APPURTENANCES. GRIND DOWN ELECTRICAL STUB UPS AND PROVIDE CAP.
13. DEMOLISH LIQUID AMMONIUM SULFATE TOTES AND ASSOCIATED PIPING AND APPURTENANCES.
14. DEMOLISH TRENCH AND ASPHALT RAMP.
15. DEMOLISH DIVIDING CONTAINMENT WALL.
16. DEMOLISH LIQUID AMMONIUM SULFATE TOTES AND ASSOCIATED PIPING AND APPURTENANCES.
17. DEMOLISH TRENCH AND ASPHALT RAMP.
18. PROTECT IN PLACE NOCL SKID 1006. SEE D-08-4001 FOR DETAILS ON RELOCATION. DEMOLISH ELECTRICAL AND INSTRUMENTATION PANELS. PRIOR TO DEMOLITION OF ELECTRICAL PANELS, INVESTIGATE POWER AND CONTROL REQUIREMENTS OF SKID.
19. CAP AND ABANDON IN PLACE 1" NOCL CPVC 1 IN YARD.
20. RELOCATE EYEWASH STATIONS TO SULFURIC ACID CONTAINMENT AREA PER D-08-4002.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER PRAVIN T. HIMMATRAJ No. C41937 CIVIL STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CHEMICAL STORAGE AREA DEMOLITION PLAN

PROJECT AND SHEET TITLE

DESIGNED BY : PT
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-08-1001
SHT 46 OF 303 SHTS

TITLE OF PROJECT :

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CHEMICAL STORAGE AREA CANOPY 1

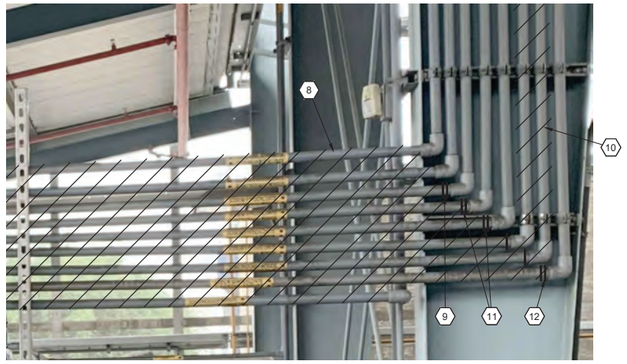
PHOTO 1 - NOT TO SCALE

CHEMICAL STORAGE AREA CANOPY 2

PHOTO 2 - NOT TO SCALE

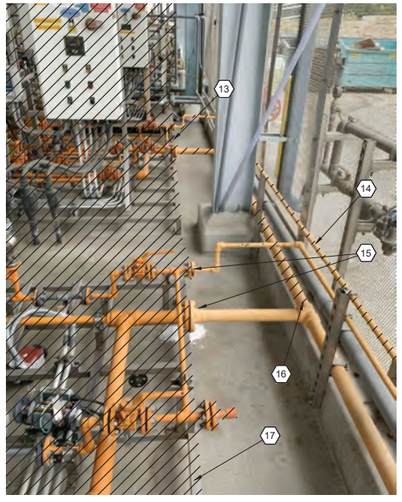
SODIUM HYDROXIDE PIPING

PHOTO 3 - NOT TO SCALE



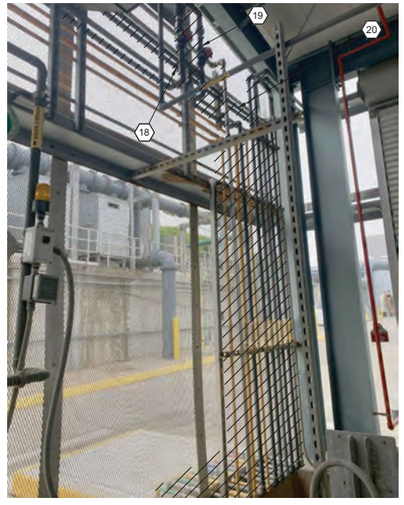
SODIUM HYPOCHLORITE PIPING

PHOTO 4 - NOT TO SCALE



SODIUM HYDROXIDE PIPING

PHOTO 5 - NOT TO SCALE



AMMONIUM SULFATE, ANTISCALANT AND SODIUM BISULFITE

PHOTO 6 - NOT TO SCALE

CHEMICAL PIPING

PHOTO 7 - NOT TO SCALE

KEY NOTES:

1. DEMOLISH CANOPY, ROLL UP DOORS, FIRE SPRINKLER SYSTEM, LIGHTING, ASSOCIATED COLUMNS AND BEAMS. PROTECT IN PLACE EMERGENCY EYE WASH STATIONS UNDER CANOPY.
2. DEMOLISH CANOPY, ASSOCIATED COLUMNS AND BEAMS.
3. DEMOLISH STAIRS AND ACCESS DOOR.
4. DEMOLISH ALL CHEMICAL PIPING LEAVING BUILDING (INCLUDING ELBOWS) UP TO POINT OF ENTRY INTO MH NO.3.
5. PROTECT IN PLACE NAOH DILUTION SYSTEM.
6. PROTECT IN PLACE NAOH CIP TRANSFER PUMP SYSTEM.
7. DEMOLISH 1/2" NAOH CS2 PIPING AND CAP ELBOW.
8. DEMOLISH 1" NOCL CPVC1 PIPING.
9. SEE D-08-4001 FOR CONNECTION TO NOCL SKID 1006.
10. DEMOLISH NOCL (X2) PIPING AND ASSOCIATED ANTISIPHON LOOPS UPTO CHEMICAL JUNCTION MH NO.3.
11. SEE D-08-4001 FOR CONNECTION TO NOCL SKID 1005.
12. CONNECTION FOR COMBINED NOCL VENTS. SEE D-08-4001 FOR CONNECTION POINTS TO NOCL SKIDS.
13. DEMOLISH NAOH SKID 1023 ASSOCIATED PIPING AND APPURTENANCES.
14. DEMOLISH 1/2" NAOH CS2 PIPING.
15. SEE D-08-4001 FOR CONNECTION TO NAOH SKID 1010.
16. DEMOLISH 2" NAOH CS2 PIPING SUPPLY PIPING AND CAP TEE.
17. DEMOLISH NAOH SKID 1010 ASSOCIATED PIPING AND APPURTENANCES.
18. DEMOLISH 1" NHS CPVC1 PIPING AND ASSOCIATED VACUUM BREAKERS.
19. DEMOLISH 1" NSO4 PVC2 PIPING, VACUUM BREAKERS AND ASSOCIATED VENT PIPING.
20. DEMOLISH 1" AS CPVC2 PIPING, VACUUM BREAKERS AND ASSOCIATED VENT PIPING.
21. CONNECTION POINT FOR 1/2" NAOH (X2), 1/2" NOCL AND, NAF. DEMOLISH 1" RO PERMEATE LINE UP TO CHEMICAL JUNCTION. PROVIDE CAP AND ABANDON IN YARD. SEE D-08-4002 FOR TIE INS OF NEW CHEMICAL PIPING.
22. DEMOLISH ALL PIPING ROUTED TO CHEMICAL JUNCTION MH NO.3. PROTECT IN PLACE ANY UTILITIES AND ELECTRICAL CONDUIT.
23. DEMOLISH SODIUM BISULFITE TANK FILL PIPING.
24. DEMOLISH SULFURIC ACID TANK FILL PIPING.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — PRAVIN T. HIMMATANI — No. C71937 — CIVIL — STATE OF CALIFORNIA — 12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
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REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CHEMICAL STORAGE AREA DEMOLITION PHOTOS

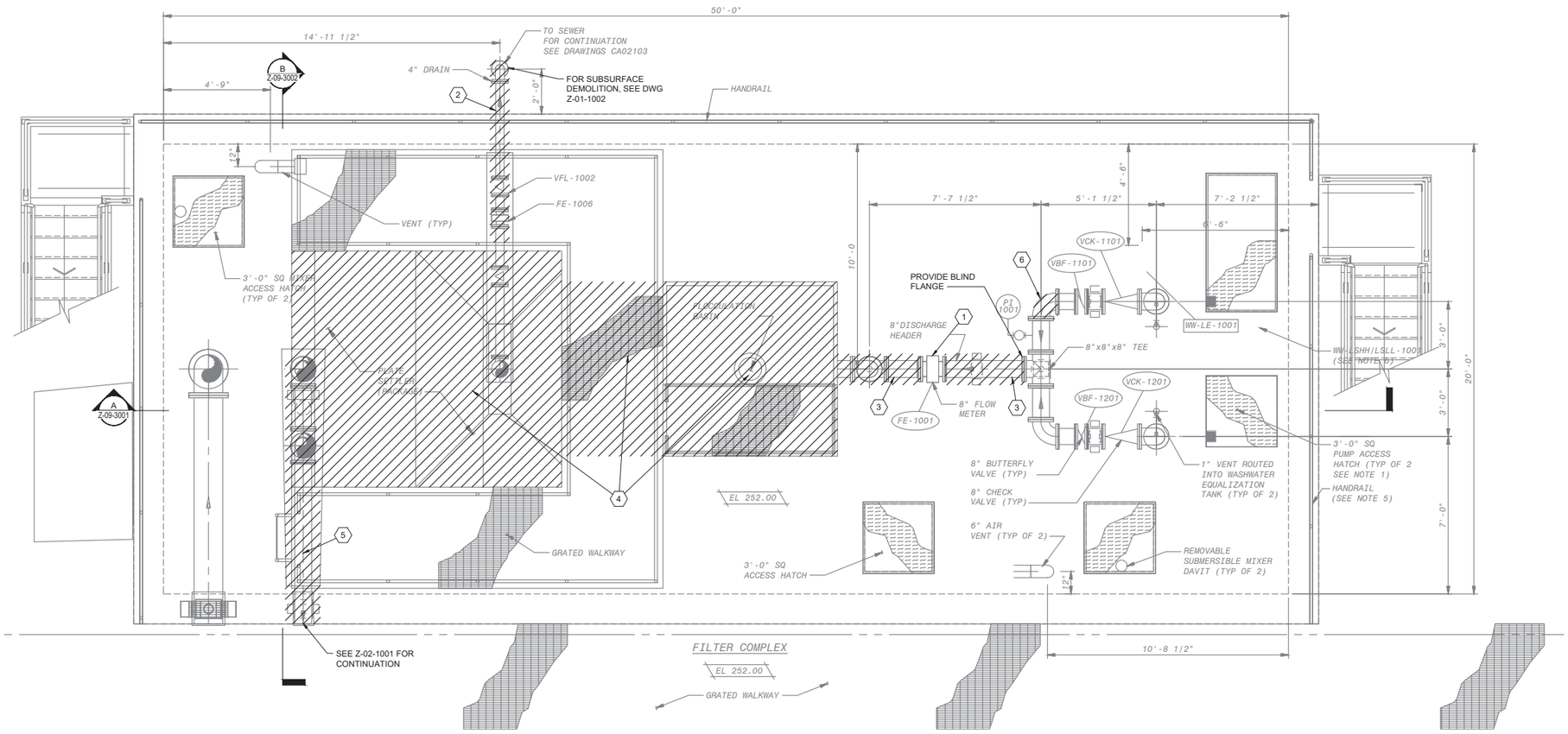
DESIGNED BY : PT
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-08-3001
SHT 47 OF 303 SHTS

TITLE OF PROJECT :

C:\BCPWD\D0736114\Z-08-3001.DWG 12/20/2021 2:31 PM

PLAN NORTH

0 2' 4' 6'



PLAN AT EL 252.00

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA06102.
2. THIS DWG DOES NOT SHOW ELECTRICAL DEMOLITION WORK. REFER TO DWG E-09-1001 FOR DEMOLITION OF ELECTRICAL EQUIPMENT.
3. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. SALVAGE AND REUSE 8" FLOW METER. SEE DWG D-09-1001 FOR RELOCATION.
2. DEMOLISH 4" DRAIN AND ASSOCIATED PIPE SUPPORTS, VALVES, AND INSTRUMENTS FROM THE WASHWATER RECOVERY SYSTEM TO GROUND SURFACE. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
3. DEMOLISH 8" WASHWATER RECOVERY INFLUENT LINE AND ASSOCIATED PIPE SUPPORTS. PROVIDE A BLIND FLANGE AT TEE. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
4. DEMOLISH WASHWATER RECOVERY SYSTEM AND ASSOCIATED PIPES, EQUIPMENT, PIPE SUPPORTS, VALVES, INSTRUMENTS, APPURTENANCES, LADDER CAGE, AND PLATFORM. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
5. DEMOLISH 8" TREATED WASHWATER RETURN LINE AND ASSOCIATED PIPE SUPPORTS TO THE NEAREST DOWNSTREAM TEE AND PROVIDE A BLIND FLANGE. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH.
6. DEMOLISH 8" ELBOW.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER CLYDE MINK No. C82462 CIVIL STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
WASHWATER SYSTEM DEMOLITION PLAN AND SECTION

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-09-1001
SHT 48 OF 303 SHTS

TITLE OF PROJECT :

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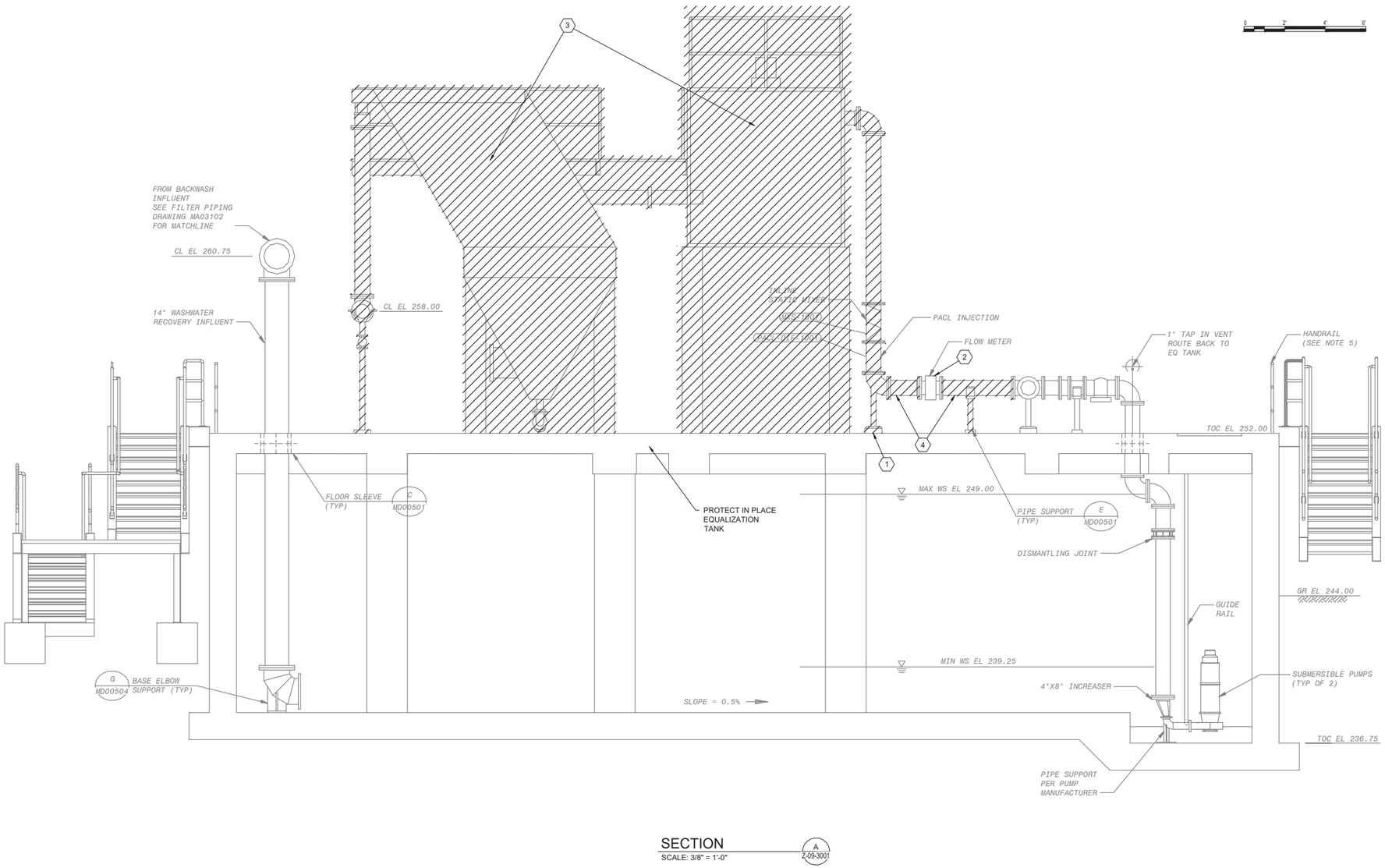


SECTION
SCALE: 3/8" = 1'-0"

A
Z-09-3001

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA06301.
2. THIS DWG DOES NOT SHOW ELECTRICAL DEMOLITION WORK. REFER TO DWG E-09-1001 FOR DEMOLITION OF ELECTRICAL EQUIPMENT.
3. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH. TYPICAL.
2. SALVAGE AND REUSE 8" FLOW METER. SEE DWG D-09-1001 FOR RELOCATION.
3. DEMOLISH WASHWATER RECOVERY SYSTEM AND ASSOCIATED PIPES, EQUIPMENT, PIPE SUPPORTS, VALVES, INSTRUMENTS, APPURTENANCES, LADDER CAGE, AND PLATFORM.
4. DEMOLISH 8" WASHWATER RECOVERY INFLUENT LINE AND ASSOCIATED PIPE SUPPORTS. PROVIDE A BLIND FLANGE AT TEE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — STEVE WINN — No. C82402 — CIVIL — STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__ — SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__ — OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX — SUBMITTED BY : CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : _____ DATE : _____, 20XX — ALEX NAZARCHUK, P.E. – CITY ENGINEER

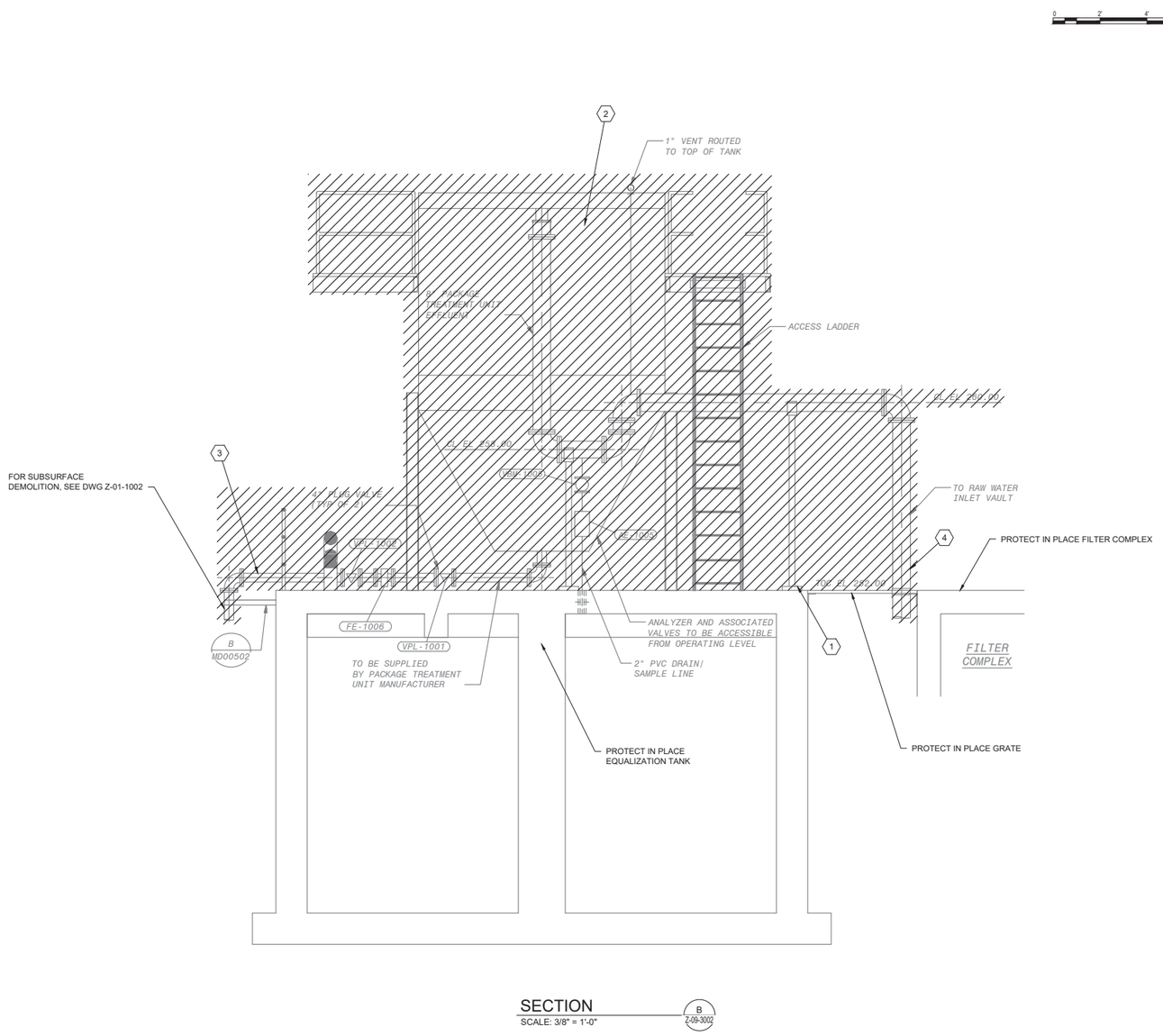
PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
WASHWATER SYSTEM DEMOLITION SECTION – 1

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-09-3001
SHT 49 OF 303 SHTS

SHEET OF
DWG NO. :
TITLE OF PROJECT :
C:\BCPW\D0736114\Z-09-3001.DWG 12/20/2021 2:31 PM

SHEET OF

DWG NO. :



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

B
Z-09-3002

GENERAL NOTES:

1. REFERENCE: CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT. ARCADIA, DRAWING MA06302.
2. THIS DWG DOES NOT SHOW ELECTRICAL DEMOLITION WORK. REFER TO DWG E-09-1001 FOR DEMOLITION OF ELECTRICAL EQUIPMENT.
3. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. GRIND PIPE SUPPORT GROUT BASE FLUSH WITH ADJACENT SURFACE. REMOVE ANCHOR BOLTS 1-1/2 INCHES FROM FACE OF OPENING BY FLAME GOUGING. REPAIR SURFACE WITH CONCRETE MORTAR PROVIDING A SMOOTH FINISH. TYPICAL.
2. DEMOLISH WASHWATER RECOVERY SYSTEM AND ASSOCIATED PIPES, EQUIPMENT, ELECTRICAL, PIPE SUPPORTS, VALVES, INSTRUMENTS, APPURTENANCES, LADDER CAGE, AND PLATFORM.
3. DEMOLISH 4" DRAIN AND ASSOCIATED PIPE SUPPORTS, VALVES, AND INSTRUMENTS FROM THE WASHWATER RECOVERY SYSTEM TO GROUND SURFACE.
4. DEMOLISH 8" TREATED WASHWATER RETURN LINE AND ASSOCIATED PIPE SUPPORTS TO THE NEAREST DOWNSTREAM TEE AND PROVIDE A BLIND FLANGE.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER LEE MINARCIK — No. C82402 — CIVIL — STATE OF CALIFORNIA

12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

WASHWATER SYSTEM DEMOLITION SECTION – 2

PROJECT AND SHEET TITLE

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078
Z-09-3002
SHT 50 OF 303 SHTS

TITLE OF PROJECT :

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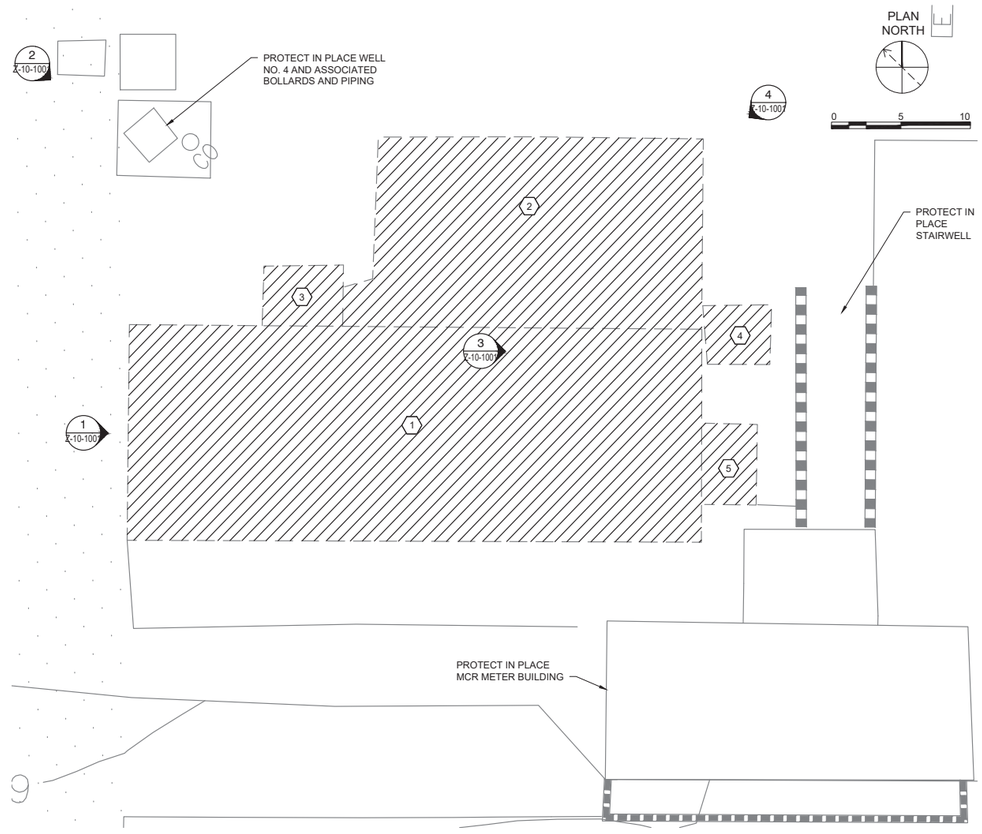


CHLORINATION BUILDING DEMOLITION PLAN

SCALE: 1"=5'

CHEMICAL STORAGE

PHOTO 1 Z-10-1001

NOT TO SCALE

DECARBONATOR EFFLUENT MAGNETIC FLOWMETER

PHOTO 5 C-01-1007

NOT TO SCALE

GENERAL NOTES:

1. PRIOR TO DEMOLITION, COORDINATE WITH THE OWNER TO REMOVE ALL SALVAGEABLE MATERIALS WITHIN THE EXISTING CHLORINATION BUILDING.
2. FOR SEQUENCE OF DEMOLITION WORK, SEE SPECIFICATION 01 12 16.

KEY NOTES:

1. DEMOLISH CHLORINATION BUILDING AND ASSOCIATED BUILDING PAD IN THEIR ENTIRETY AFTER NOTED ITEMS HAVE BEEN RELOCATED AND MATERIALS HAVE BEEN SALVAGED.
2. DEMOLISH LANDSCAPED AREA ADJACENT TO THE CHLORINATION BUILDING.
3. DEMOLISH SAFETY STATION LOCATED OUTSIDE THE CHLORINATION BUILDING.
4. DEMOLISH ELECTRICAL VAULT LOCATED OUTSIDE THE CHLORINATION BUILDING.
5. DEMOLISH CONCRETE PAD LOCATED OUTSIDE THE CHLORINATION BUILDING IN ITS ENTIRETY.
6. PRIOR TO DEMOLITION, RELOCATE WELL NO. 4 ELECTRICAL PANEL. FOR RELOCATION, SEE DWG E-01-4003.
7. PRIOR TO DEMOLITION, RELOCATE WELL NO. 5 ELECTRICAL PANEL. FOR RELOCATION, SEE DWG E-01-4003.
8. DEMOLISH 24" FLOWMETER, 24" VBF, AND 24" DIP SPOOL BETWEEN 24" VBF AND FLANGE ON WEST SIDE OF VAULT.

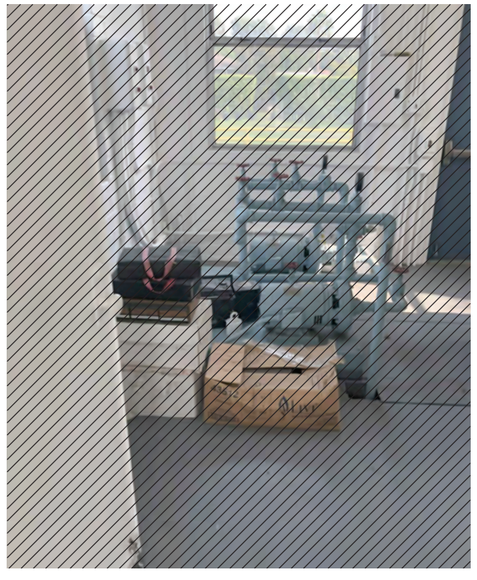
LEGEND:

DEMOLITION

WELL NO. 4 AND CHLORINATION BUILDING (LOOKING SOUTHWEST)

PHOTO 2 Z-10-1001

NOT TO SCALE



CHEMICAL FEED PUMPS

PHOTO 3 Z-10-1001

NOT TO SCALE

CHLORINATION BUILDING (LOOKING NORTHWEST)

PHOTO 4 Z-10-1001

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — CLYDE MINSKOFF — No. C62402 — CIVIL — STATE OF CALIFORNIA

12/22/2021

City of **Santa Monica**

PUBLIC WORKS DEPARTMENT

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CONSULTANT: Brown AND Caldwell / WALSH

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REVIEWED BY : DATE : _____ 20__

SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__

OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :

CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX

ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CHLORINATION BUILDING DEMOLITION PLAN AND PHOTOS

DESIGNED BY : CL

DRAWN BY : AR

CHECKED BY : AZ

CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078

Z-10-1001

SHT 51 OF 303 SHTS

TITLE OF PROJECT :

SHEET OF

DWG. NO. :

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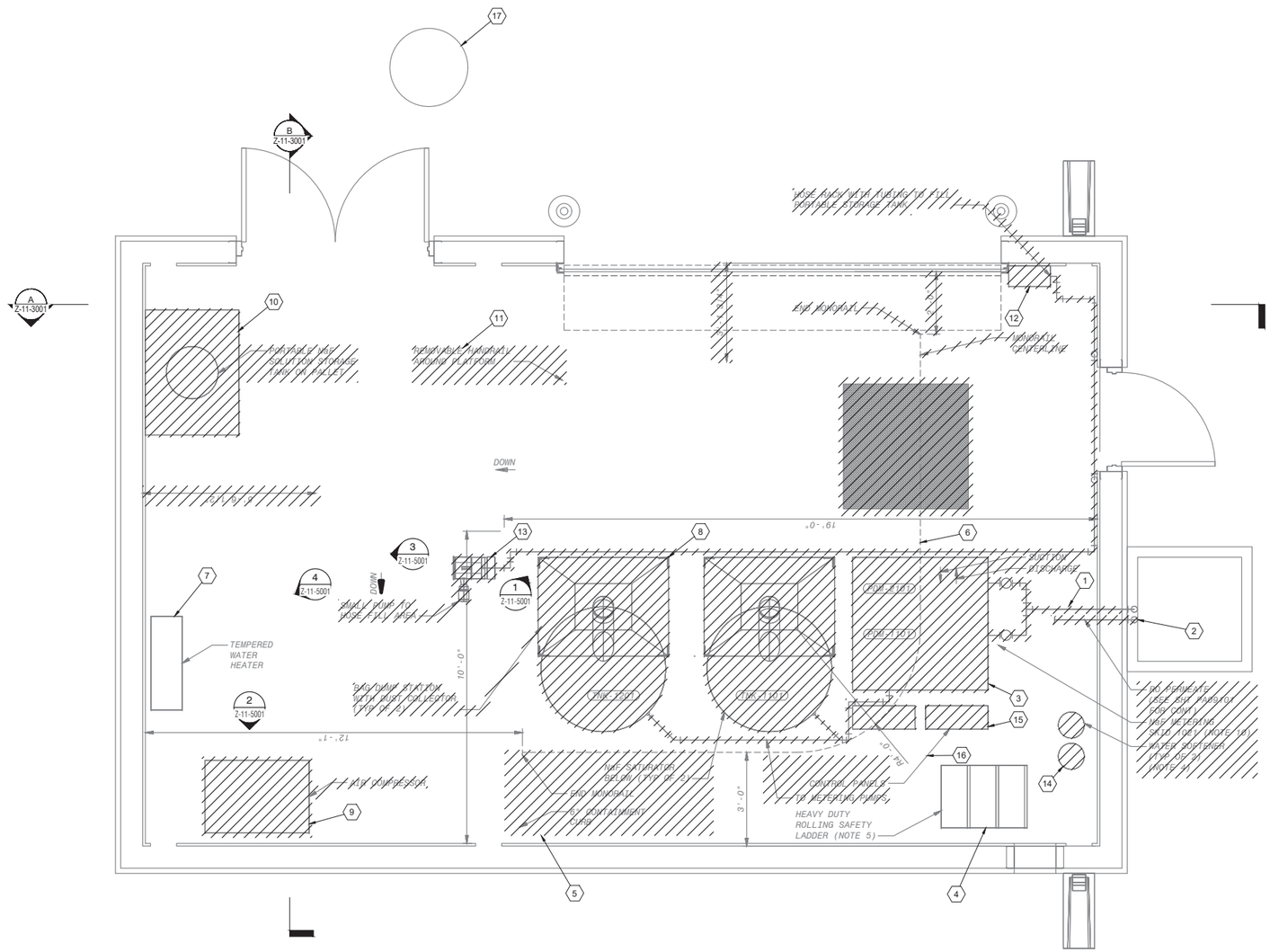


PLAN
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. BACKGROUND HAS BEEN MODIFIED FROM AS-BUILT RECORD DRAWING. SEE MA09101 (CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT ARCADIA) FOR FURTHER DETAILS.

KEY NOTES:

1. DEMOLISH 1" NAF PUMP DISCHARGE PIPING UP TO CHEMICAL JUNCTION BOX NO.4.
2. DEMOLISH 1" RO PERMEATE LINE UP TO CHEMICAL JUNCTION BOX NO.4. CAP AND ABANDON IN YARD.
3. DEMOLISH PDM 2101 AND 1101 SKIDS AND ALL ASSOCIATED ELECTRICAL AND I&C APPURTENANCES.
4. PROTECT IN PLACE ROLLING SAFETY LADDER.
5. DEMOLISH 6" CONTAINMENT CURB.
6. DEMOLISH MONORAIL. DEMOLISH ASSOCIATED ELECTRICAL, APPURTENANCES, CONDUIT, AND CONDUCTORS.
7. PROTECT IN PLACE TEMPERED WATER HEATER.
8. DEMOLISH NAF SATURATOR (TYP OF 2).
9. DEMOLISH AIR COMPRESSOR. DEMOLISH ASSOCIATED ELECTRICAL AND I&C APPURTENANCES, CONDUIT, AND CONDUCTORS.
10. DEMOLISH PORTABLE NAF SOLUTION STORAGE TANK ON PALLET.
11. DEMOLISH REMOVABLE HANDRAIL AROUND PLATFORM.
12. DEMOLISH HOSE RACK.
13. DEMOLISH SMALL PUMP TO HOSE FILL AREA. DEMOLISH ASSOCIATED ELECTRICAL AND I&C APPURTENANCES, CONDUIT, AND CONDUCTORS.
14. DEMOLISH WATER SOFTENER (TYP OF 2).
15. DEMOLISH CONTROL PANELS. DEMOLISH ASSOCIATED ELECTRICAL AND I&C APPURTENANCES, CONDUIT, AND CONDUCTORS.
16. FIELD VERIFY AND PROTECT IN PLACE DRAIN.
17. DEMOLISH FLOAT TYPE LEVEL INDICATOR. DEMOLISH ASSOCIATED ELECTRICAL AND I&C APPURTENANCES, CONDUIT, AND CONDUCTORS.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — PRAVEEN THIMMAPPA — No. C81937 — CIVIL — STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

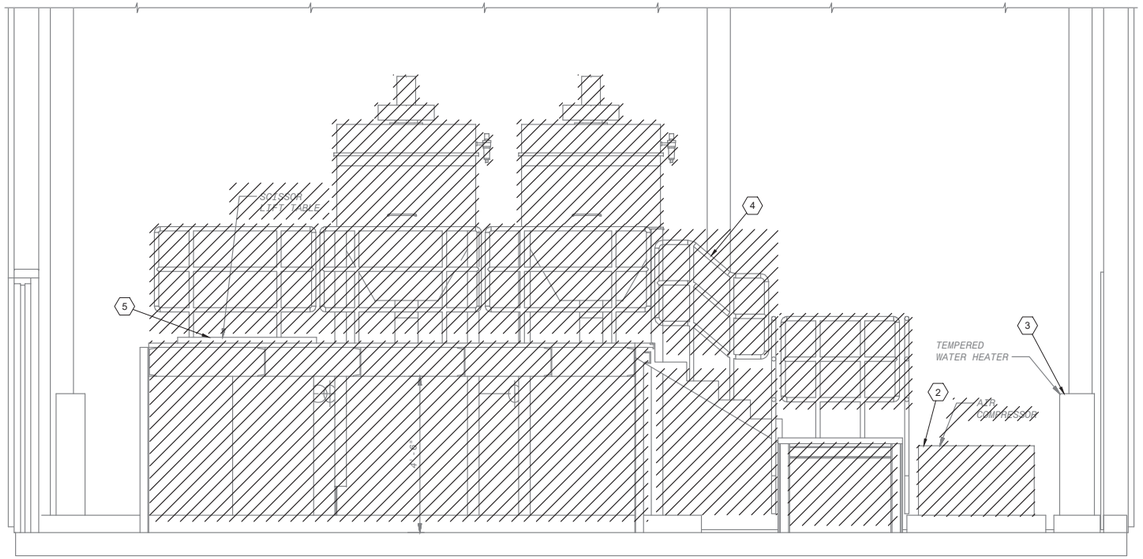
CITY CLIENTS
REVIEWED BY : DATE : 20__
REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

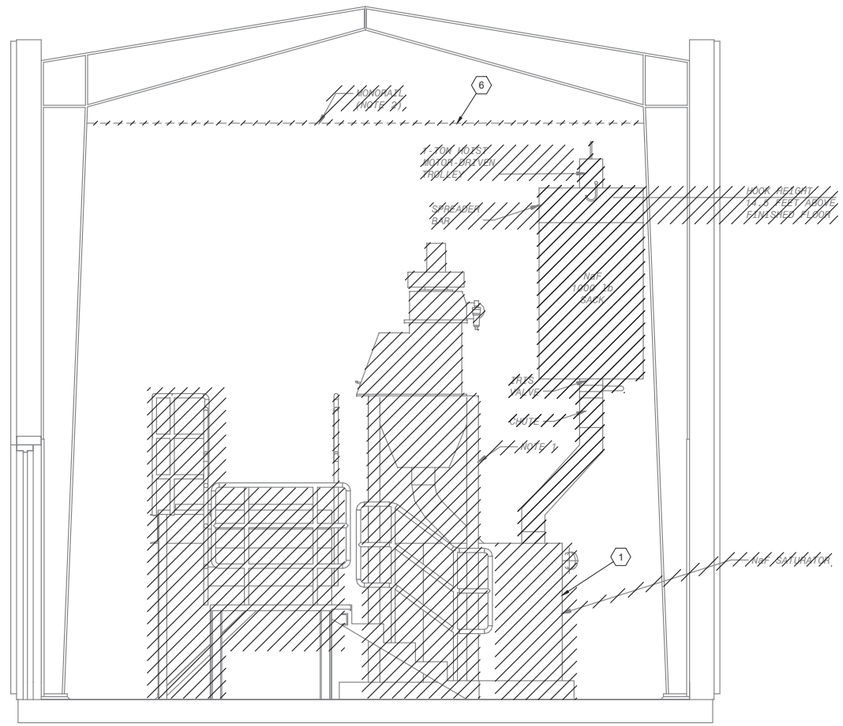
PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
FLUORIDE BUILDING DEMOLITION PLAN

DESIGNED BY : CL
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-11-1001
SHT 52 OF 303 SHTS

TITLE OF PROJECT :
DWG. NO. :
SHEET OF
C:\BCPW\D0736114\Z-11-1001.DWG 12/20/2021 2:32 PM



SECTION A 2-11-1001
SCALE: 1/2" = 1'-0"



SECTION B 2-11-1001
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. BACKGROUND HAS BEEN MODIFIED FROM AS-BUILT RECORD DRAWING. SEE MA09101 (CITY OF SANTA MONICA WELL FIELD RESTORATION PROJECT ARCADIA) FOR FURTHER DETAILS.
2. REFER TO DRAWING Z-11-1001 FOR NOTES ASSOCIATED WITH ELECTRICAL AND I&C DEMOLITION.

KEY NOTES:

1. DEMOLISH NAF SATURATOR (TYP OF 2).
2. DEMOLISH AIR COMPRESSOR.
3. PROTECT IN PLACE TEMPERED WATER HEATER.
4. DEMOLISH HANDRAIL AND PLATFORM.
5. DEMOLISH SCISSOR LIFT TABLE.
6. DEMOLISH MONORAIL.

LEGEND:

DEMOLITION

REGISTERED PROFESSIONAL ENGINEER — PRAVIT THIMMAPPA — No. C41937 — CIVIL — STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
FLUORIDE BUILDING DEMOLITION SECTIONS

DESIGNED BY : PT
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.
DRAWING NO. 7078
Z-11-3001
SHT 53 OF 303 SHTS

SHEET OF
DWG. NO. :
TITLE OF PROJECT :
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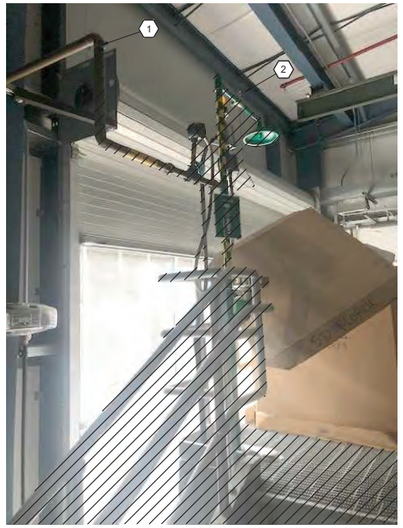


EMERGENCY EYE WASH AND POTABLE WATER PIPING

PHOTO 1 Z-06-1001

NOT TO SCALE

FLOURIDE BUILDING ELECTRICAL PANELS

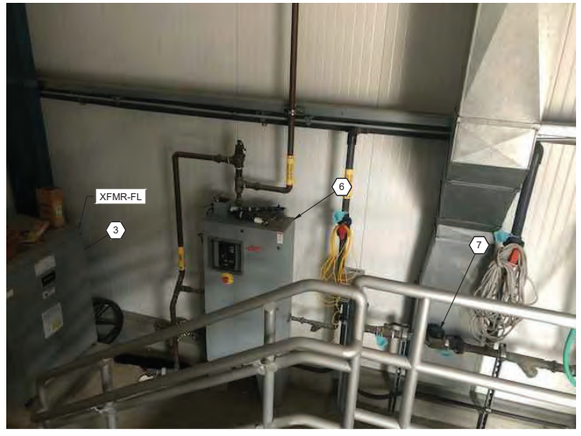
PHOTO 2 Z-06-1001

NOT TO SCALE

FLUORIDE BUILDING HVAC AND SPRINKLER SYSTEM

PHOTO 3 Z-06-1001

NOT TO SCALE



TEMPERED WATER HEATER AND BACKFLOW PREVENTER

PHOTO 4 Z-06-1001

NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER PRAVIN T. HIMMATANI No. C71537 CIVIL STATE OF CALIFORNIA

12/22/2021

KEY NOTES:

1. DEMOLISH POTABLE WATER PIPING UP TO THIS LOCATION. FIELD ROUTE POTABLE WATER LINE FROM THIS LOCATION TO NEW EMERGENCY EYE WASH PER MECHANICAL.
2. DEMOLISH EMERGENCY EYE WASH AND FLOW SWITCH.
3. PROTECT IN PLACE ELECTRICAL PANELS PP-FL, LP-FL, XFRMR-FL AND ASSOCIATED CONDUIT AND WIRING.
4. PROTECT IN PLACE FIRE SPRINKLER SYSTEM.
5. PROTECT IN PLACE HVAC DUCTWORK AND ASSOCIATED AIR HANDLING UNITS AND ALL ASSOCIATED ELECTRICAL AND I&C APPURTENANCES.
6. PROTECT IN PLACE TEMPERED WATER HEATER AND ASSOCIATED ELECTRICAL AND POTABLE WATER PIPING.
7. PROTECT IN PLACE BACKFLOW PREVENTER.
8. DEMOLISH HOSE RACK WITH TUBING.
9. THIS EQUIPMENT IS TO BE DEMOLISHED. DEMOLISH ALL ELECTRICAL CONDUIT AND CONDUCTORS. PROVIDE CONDUIT CAPS FOR ALL IN SLAB CONDUITS.
10. DEMOLISH CONDUIT AND CONDUCTORS FROM TERMINATION POINT BACK TO THE SOURCE. PROVIDE LISTED ENCLOSURE OPENING SEALS WHERE NECESSARY.

LEGEND:

DEMOLITION

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER

REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :

DATE : _____, 20XX

SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.

COMPUTER FILE NAME :

SP-FILE NO. : SP2602

APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

FLUORIDE BUILDING DEMOLITION PHOTOS

DESIGNED BY : PT
DRAWN BY : AR
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO.

DRAWING NO. 7078
Z-11-5001
SHT 54 OF 303 SHTS

SHEET OF

DWG. NO. :

TITLE OF PROJECT :

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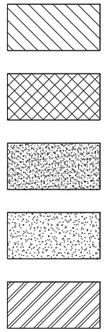
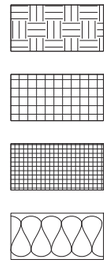
ABBREVIATIONS

ACOUS	ACOUSTICAL
ADMIN	ADMINISTRATION
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
&	AND
A	ARCHITECTURAL
@	AT
B & B	BALLED AND BURLAPPED
BSMT	BASEMENT
BM	BEAM
BLK	BLOCK
BD	BOARD
BOT	BOTTOM
BC	BRICK COURSES
BLDG	BUILDING
CAB	CABINET
CIP	CAST-IN-PLACE
CLG	CEILING
C/S	CIVIL SANITARY
CLO	CLOSET
COL	COLUMN
CONC	CONCRETE
CB	CONCRETE BLOCK
CONT	CONTINUOUS
CJ	CONTROL JOINT
CTSK	COUNTERSINK
CU	CUBIC
CL	CLEAR
DETS	DETAILS
DIA	DIAMETER
DIM	DIMENSION
DO	DOOR OPENING
DR	DOOR
DN	DOWN
DOW	DOWEL
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
E	EAST
EWC	ELECTRIC WATER COOLER
ELEC	ELECTRICAL
EL	ELEVATION
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
EJ	EXPANSION JOINT
EXT	EXTERIOR
FRP	FIBER REINFORCED PLASTIC
FWP	FIBROUS WOOD PANEL
FIN	FINISH
FIN FL	FINISH FLOOR
FE	FIRE EXTINGUISHER
FL	FLOOR
FD	FLOOR DRAIN
GA	GAUGE
GALV	GALVANIZED
GL	GLASS
GSFT	GLAZED STRUCTURAL FACE TILE
GR	GRADE
GCFFB	GROUND AND CEMENTITIOUS FILLED FACE CONCRETE
GCFFAB	GROUND AND CEMENTITIOUS FILLED FACE-SLOTTED ACOUSTICAL BLOCK
GYP	GYPSUM
HDN	HARDENER
HDW	HARDWARE
HVAC	HEATING,VENTILATING AND AIR CONDITIONING
HDCT	HEAVY DUTY CONCRETE TOPPING
HT	HEIGHT
HP	HIGH POINT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
INFO	INFORMATION
ID	INSIDE DIMENSION
INSUL	INSULATION
INT	INTERIOR
JC	JANITOR'S CLOSET
JT	JOINT
LAB	LABORATORY
LAV	LAVATORY
LP	LOW POINT
MFR	MANUFACTURER
MAT'L	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MEZZ	MEZZANINE
MIN	MINIMUM
MOD	MODULAR
N	NORTH
NA	NOT APPLICABLE
NR	NOT REQUIRED
NTS	NOT TO SCALE
NO	NUMBER
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE
OD	OUTSIDE DIAMETER
OCD	OVERHEAD COILING DOOR
OH	OVERHANG
OSD	OVERHEAD SLIDING DOOR
PT	PRESSURE TREATED
PTD	PAINTED
PNL	PANEL
PART	PARTITION
P	PLASTER
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVF	POLYVINYL FLUORIDE
PCP	PORTLAND CEMENT PLASTER
PSF	POUNDS PER SQUARE FOOT
PS	PREMOLDED JOINT
QUAN	QUANTITY
QT	QUARRY TILE
RAD	RADIUS
R	RISER
REF	REFERENCE
REINF	REINFORCING
REQ'D	REQUIRED
RD	ROOF DRAIN
SECT	SECTION
SHT	SHEET
SMS	SHEET METAL SCREWS
S	SOUTH
SPECS	SPECIFICATIONS
SQ	SQUARE
S STL	STAINLESS STEEL
STD	STANDARD
STA	STATION
STOR	STORAGE
STRUC	STRUCTURAL
SUSP	SUSPENDED
TER	TERRAZZO
TC	TERRA COTTA
THKNS	THICKNESS
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TSM	TRANSOM
T	TREAD
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORIES
UON	UNLESS OTHERWISE NOTED
VAR	VARIES
VERT	VERTICAL
VP	VISION PANEL
WT	WEIGHT
W	WEST
W/	WITH
W/O	WITHOUT
WD	WOOD

ARCHITECTURAL GRAPHIC CONVENTIONS

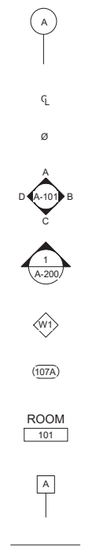


BRICK
CONCRETE MASONRY UNIT
CONCRETE
GROUT
STEEL

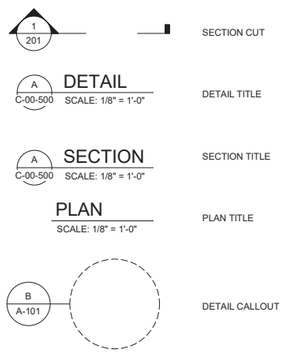


EARTH
RIGID INSULATION
GRATING
BATT INSULATION

ARCHITECTURAL SYMBOLS



COLUMN CENTERLINE
CENTERLINE
DIAMETER
INTERIOR ELEVATION MARKER
EXTERIOR ELEVATION MARKER
WINDOW / LOUVER IDENTIFICATION
DOOR IDENTIFICATION
ROOM TITLE
ROOM NUMBER
WALL PARTITION TYPE
NEW CONSTRUCTION



SECTION CUT
DETAIL TITLE
SECTION TITLE
PLAN TITLE
DETAIL CALLOUT

GENERAL ARCHITECTURAL NOTES

1. THE SYMBOLS AND GRAPHIC CONVENTIONS ON THIS SHEET ARE A COMPREHENSIVE STANDARD GUIDE INTENDED FOR GENERAL USE ON ALL PROJECTS. THEREFORE NOT ALL THE SYMBOLS AND GRAPHIC CONVENTIONS ARE NECESSARILY USED ON THIS PARTICULAR PROJECT AND SHOULD BE USED FOR CLARIFICATION ONLY.
2. ITEMS NOT NOTED ON DRAWINGS SHALL BE CONSIDERED THE SAME AS NOTED ITEMS WHICH ARE GRAPHICALLY REPRESENTED IN THE SAME MANNER.
3. ASTERISK (*) INDICATES VERIFY DIMENSION WITH MANUFACTURER OF EQUIPMENT SUPPLIED.
4. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS.
5. FOR CONCRETE AND STEEL SIZES AND CONFIGURATIONS REFERENCE THE 'S' DRAWINGS.
6. FOR LOCATION OF HVAC EQUIPMENT AND PADS REFERENCE THE 'M' DRAWINGS.
7. FOR FLOOR DRAIN LOCATIONS REFERENCE THE 'D' DRAWINGS.
8. FOR FINAL GRADING AND BUILDING LOCATION REFERENCE THE 'C' DRAWINGS.
9. FOR EXACT LOCATION OF MECHANICAL EQUIPMENT VENTS REFERENCE THE 'M' DRAWINGS.
10. FOR LOCATION AND SIZE OF RECESSED ELECTRICAL DEVICES IN WALLS, REFERENCE THE 'E' DRAWINGS.
11. FOR LIGHT FIXTURE TYPES AND LOCATIONS, REFERENCE THE 'E' DRAWINGS.
12. FOR EXTENT OF METAL GRATING AND DETAILS REFERENCE THE 'S' DRAWINGS.
13. FOR PIPE PENETRATIONS REFERENCE THE 'D' DRAWINGS.
14. FOR THE SIZE AND SPACING OF ALL VERTICAL AND HORIZONTAL REINFORCING BARS, REFERENCE THE 'S' DRAWINGS.
15. ALL DOOR OPENINGS SHOWN ON THE FLOOR PLANS ARE NOMINAL DIMENSIONS.

SHEET REFERENCES

1. FOR RAILING AND LADDER DETAILS REFRENCE STRUCTURAL DRAWINGS
2. FOR ROOF DETAILS REFERENCE SHEET A-03-5001 AND A-06-5001
3. FOR MISCELLANEOUS DETAILS REFERENCE SHEET A-03-5001
4. FOR DOOR AND LOUVER DOOR DETAILS REFERENCE SHEET A-01-5001

12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OWEED POUR, P.E. – PROJECT MANAGER
CITY CLIENTS

REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
ENGINEERING AND STREET SERVICES

OLYMPIC FIELD WELL RESTORATION
AND ARCADIA WTP EXPANSION

ABBREVIATIONS, SYMBOLS, LEGENDS AND GENERAL NOTES

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : SG
CHECKED BY : RVW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-01-0001
SHT 55 OF 303 SHTS

12/20/2021 1:54:10 PM
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TITLE OF PROJECT: OLYMPIC FIELD WELL RESTORATION AND ARCADIA WTP EXPANSION

12/20/2021 1:58:37 PM
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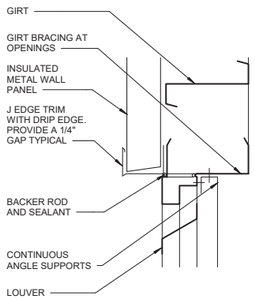
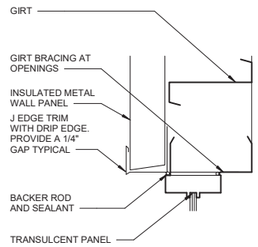
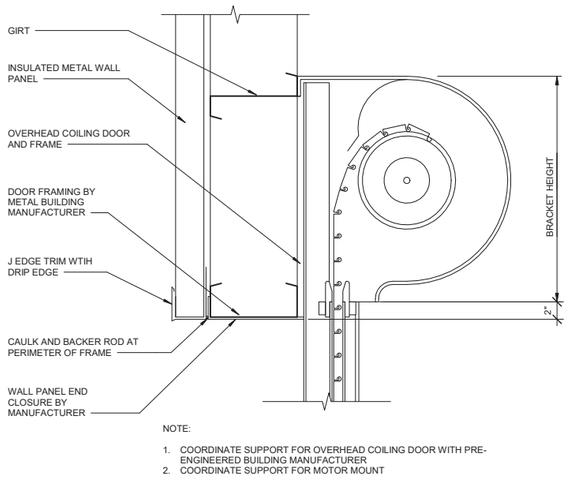
TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION



1 LOUVER HEAD A
N.T.S.

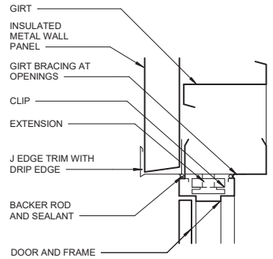


4 WINDOW HEAD A
N.T.S.

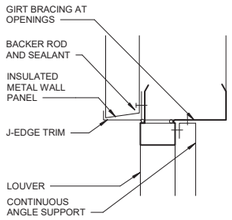


NOTE:
1. COORDINATE SUPPORT FOR OVERHEAD COILING DOOR WITH PRE-ENGINEERED BUILDING MANUFACTURER
2. COORDINATE SUPPORT FOR MOTOR MOUNT

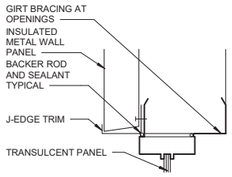
7 DOOR HEAD B
N.T.S.



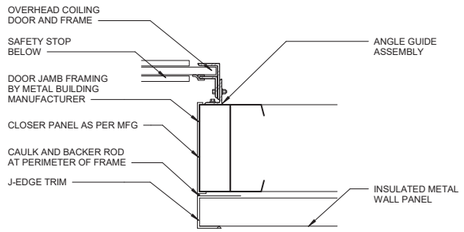
10 DOOR HEAD A
N.T.S.



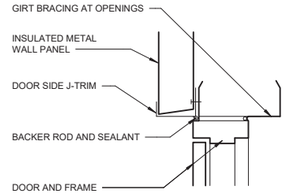
2 LOUVER JAMB A
N.T.S.



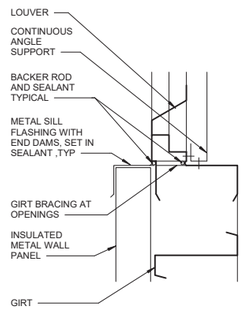
5 WINDOW JAMB A
N.T.S.



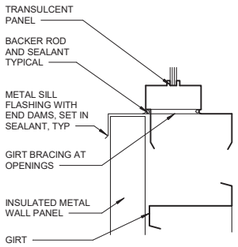
8 DOOR JAMB B
N.T.S.



11 DOOR JAMB A
N.T.S.



3 LOUVER SILL A
N.T.S.



6 WINDOW SILL A
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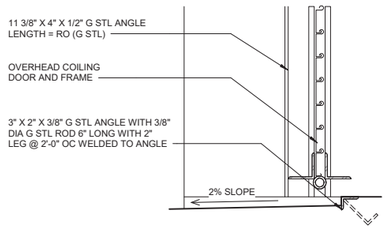

9 DOOR THRESHOLD B
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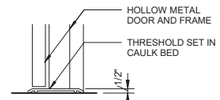


12 DOOR THRESHOLD A
N.T.S.

HARRY N. WILLIAMS
C 8495
12/31/2021
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

WINDOW LOUVER AND DOOR DETAILS

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-01-5001
SHT 56 OF 303 SHTS

ROOM FINISH SCHEDULE

BUILDING	ROOM NUMBER	ROOM NAME	FLOOR MATERIAL	BASE MATERIAL	WALLS												CEILING				NOTES
					N			S			E			W							
					MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	HEIGHT	
RO BUILDING	101	RO ROOM	A	N/A	D	PF	5	D	PF	5	D	PF	5	N/A	N/A	N/A	E	PF	5		
UV-AOP FACILITY	101	UV AREA	A	N/A	C	PF	5	C	PF	5	C	PF	5	C	PF	5	E	PF	5		
UV-AOP FACILITY	102	HYDROGEN TANK AREA	F	N/A	C	PF	5	C	PF	5	C	PF	5	C	PF	5	E	PF	5		

MATERIAL KEY

A	CONCRETE FLOOR HARDENER
B	GIRTS / FRAME
C	SCREEN SYSTEM
D	GIRTS / FRAME / METAL WALL PANEL
E	PURLINS / FRAME
F	FRP GRATING. REFERENCE STRUCTURAL DRAWINGS.

FINISH KEY

E	EXISTING - NO WORK
P1	PAINTED - SEMI GLOSS
P2	PAINTED - FLAT
PF	PAINTED FACTORY FINISH

COLOR KEY

1	GRAY
2	TAN
3	WHITE
4	NO COLOR
5	SHALL BE SELECTED AFTER AWARD OF CONTRACT

LOUVER SCHEDULE

BUILDING	NUMBER	TYPE	QUANTITY	FRAME		COMMENTS
				HEIGHT	WIDTH	
RO BUILDING	LVR-1	A	2	6'-0"	6'-0"	ACOUSTIC

WINDOW SCHEDULE

BUILDING	NUMBER	QUANTITY	R.O.		WINDOW	FRAME				HEAD HEIGHT	Comments
			Width	Height	TYPE	MATERIAL	HEAD	JAMB	SILL		
RO BUILDING	W-1	1	6' - 0"	6' - 0"	A	HM	A	A	A	8' - 0"	

DOOR SCHEDULE

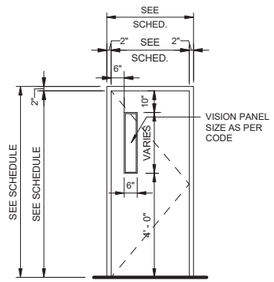
BUILDING	DOOR						FRAME			DETAILS			FIRE RATING LABEL	HARWARE SET	REMARKS
	DOOR NUMBER	WIDTH	HEIGHT	TYPE	MAT'L	GLAZING	WIDTH	HEIGHT	MAT'L	JAMB	HEAD	THRESHOLD			
RO BUILDING	101A	6' - 0"	7' - 10"	B	HM	VP	6' - 4"	8' - 0"	HM	A	A	A	NONE	3	
RO BUILDING	101B	3' - 0"	7' - 10"	A	HM	VP	3' - 4"	8' - 0"	HM	A	A	A	NONE	1	
RO BUILDING	101C	14' - 0"	14' - 0"	D	OCD	NONE	14' - 0"	14' - 0"	OCD	B	B	B	NONE	-	
RO BUILDING	101D	14' - 0"	14' - 0"	D	OCD	NONE	14' - 0"	14' - 0"	OCD	B	B	B	NONE	-	
UV / AOP CANOPY	101A	4' - 0"	8' - 4"	D	HM	NONE	4' - 8"	8' - 8"	HM	A	A	A	NONE	2	
UV / AOP CANOPY	101B	3' - 0"	8' - 4"	D	HM	NONE	3' - 8"	8' - 8"	HM	A	A	A	NONE	2	
UV / AOP CANOPY	102A	3' - 0"	7' - 0"	D	HM	NONE	3' - 8"	7' - 4"	HM	A	A	A	NONE	2	

DOOR HARDWARE SETS:

HARDWARE SET 1
- -MORTISE HINGES (4 HINGES)
- -PANIC EXIT DEVICE (MORTISE)
- -OVERHEAD SURFACE MOUNTED DOOR CLOSER
- -OVERHEAD HOLDER AND STOP
- -PERIMETER WEATHERSTRIPPING
- -THRESHOLD

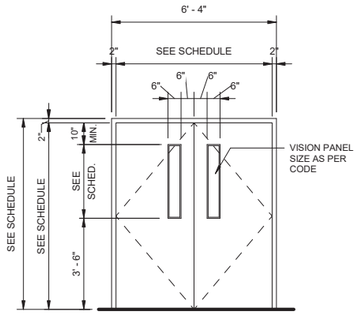
HARDWARE SET 2
- -MORTISE HINGES (4 HINGES)
- -PANIC EXIT DEVICE (MORTISE)
- -OVERHEAD SURFACE MOUNTED DOOR CLOSER
- -OVERHEAD HOLDER AND STOP
- -THRESHOLD

HARDWARE SET 3
- -MORTISE HINGES (8 HINGES)
- -PANIC EXIT DEVICE - ACTIVE LEAF (MORTISE)
- -OVERHEAD SURFACE MOUNTED DOOR CLOSER - ACTIVE LEAF
- -OVERHEAD HOLDER AND STOP
- -PERIMETER WEATHERSTRIPPING
- -THRESHOLD
- -MANUAL FLUSH BOLTS (TOP AND BOTTOM OF INACTIVE LEAF)
- -ASTRAGAL
- -DUST-PROOF STRIKES



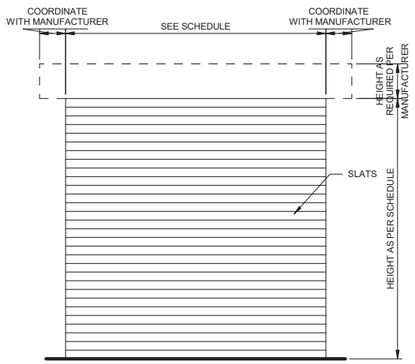
NOTE: PROVIDE SUPER LITE II - XLM 90 VISION PANEL BY SAFTI FIRST OR EQUAL FOR FIRE RATED DOORS

1 DOOR TYPE A
N.T.S.

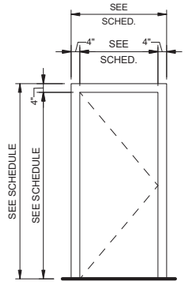


NOTE: PROVIDE SUPER LITE II - XLM 90 VISION PANEL BY SAFTI FIRST OR EQUAL FOR FIRE RATED DOORS

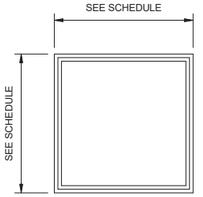
2 DOOR TYPE B
N.T.S.



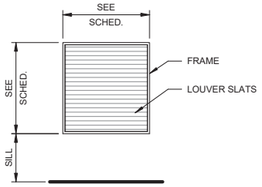
3 DOOR TYPE C
N.T.S.



4 DOOR TYPE D
N.T.S.



5 WINDOW TYPE A
N.T.S.



6 LOUVER TYPE A
N.T.S.

LICENSED ARCHITECT BARRY N. WILLIAMSON C 8495 12/22/2021 STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
CITY CLIENTS

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

DOOR WINDOW AND ROOM FINISH SCHEDULES AND TYPES

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-01-6001
SHT 57 OF 303 SHTS

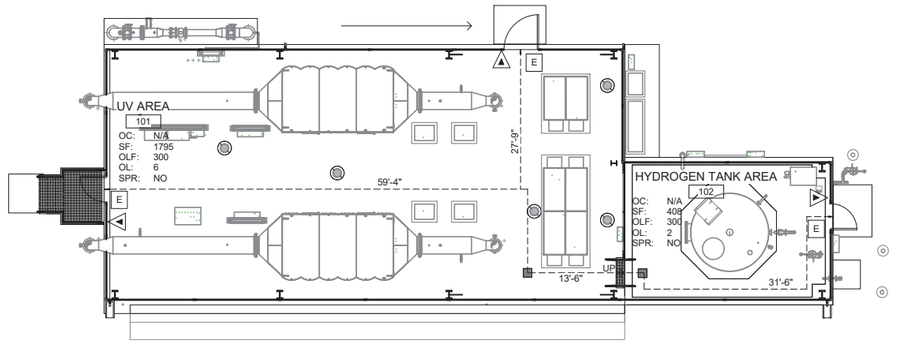
PLAN NORTH

GENERAL CODE CRITERIA

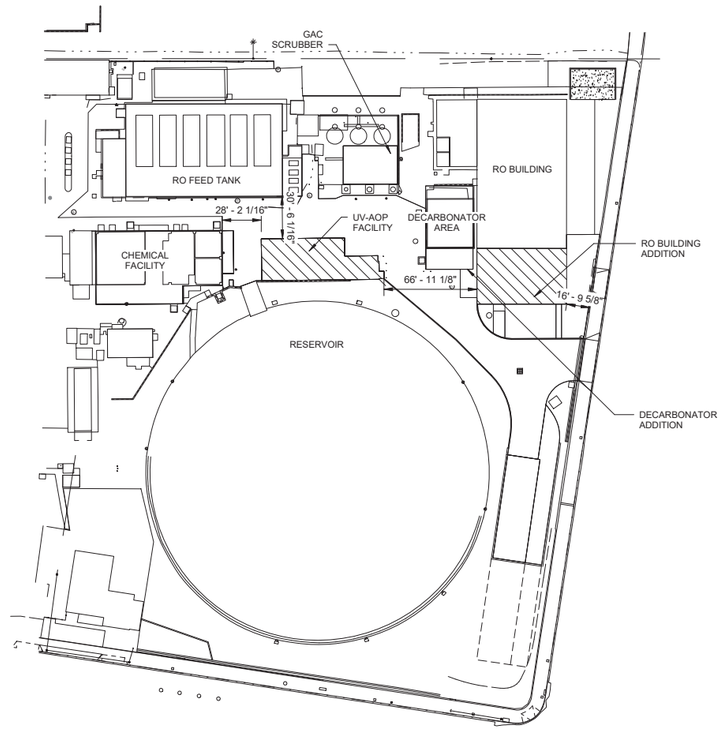
GENERAL CODE AND REGULATIONS	
BUILDING CODE	CALIFORNIA BUILDING CODE, 2019
FIRE CODE	CALIFORNIA FIRE CODE, 2019
PLUMBING CODE	CALIFORNIA PLUMBING CODE, 2019
MECHANICAL CODE	CALIFORNIA MECHANICAL CODE, 2019
ELECTRICAL CODE	CALIFORNIA ELECTRICAL CODE 2019 / NFPA 70
ENERGY CODE	CALIFORNIA ENERGY CODE, 2019
EXISTING BUILDING CODE	CALIFORNIA EXISTING BUILDING CODE, 2019

BUILDING CODE CHART - CALIFORNIA BUILDING CODE 2019

	UV / AOP BUILDING	
OCCUPANCY OF BUILDING	U	
ROOM SEPARATING	N/A	
CONSTRUCTION TYPE	II B	
NUMBER OF STORIES	ALLOWABLE	ACTUAL
	2	1
BUILDING HEIGHT (FT)	ALLOWABLE	ACTUAL
	55	21'-10"
ALLOWABLE FLOOR AREA (SF)	ALLOWABLE	ACTUAL
	8,500	2,069
SEPARATION RATINGS		
FIRE SEPARATION DISTANCE	REQUIRED	PROVIDED
DISTANCE LESS THAN 5'	2 HR	N/A
DISTANCE BETWEEN 5' & 10'	1 HR	N/A
DISTANCE BETWEEN 10' & 30'	0 HR	0 HR
DISTANCE MORE THAN 30'	0 HR	0HR
FIRE RESISTANCE RATINGS		
	REQUIRED	PROVIDED
STRUCTURAL FRAME	0 HR	0HR
BEARING WALLS -EXTERIOR	0 HR	0HR
BEARING WALLS - INTERIOR	0 HR	0HR
NON BEARING WALLS AND PARTITIONS - INTERIOR	2 HR	N/A
FLOOR CONSTRUCTION	0 HR	0HR
ROOF CONSTRUCTION	0 HR	0HR
INTERIOR FINISHES		
	REQUIRED	PROVIDED
VERTICAL EXITS AND EXIT PASSAGEWAYS	CLASS B	N/A
EXIT ACCESS CORRIDORS AND OTHER EXIT WAYS	CLASS C	N/A
ROOMS AND ENCLOSED SPACES	CLASS C	N/A
FIRE PROTECTION SYSTEMS		
	REQUIRED	PROVIDED
AUTOMATIC SPRINKLERS	NO	NO
ALT. AUTOMATIC FIRE EXTINGUISHING SYSTEMS	NO	NO
STANDPIPE SYSTEM	NO	NO
PORTABLE FIRE EXTINGUISHERS	YES	YES
FIRE ALARM AND DETECTION SYSTEMS	NO	NO
MEANS OF EGRESS		
OCCUPANT LOAD FACTORS (SF / PERSON)	MECHANICAL SPACE - 300	
OCCUPANT LOAD CHART	REFERENCE CODE COMPLIANCE PLAN	
EGRESS WIDTH PER OCCUPANT	36" MIN.	36"
SPACES WITH ONE MEANS OF EGRESS	NOT ALLOWED	N/A
MAX. EXIT ACCESS TRAVEL DISTANCE	200ft.	
EXIT ACCESS TRAVEL DISTANCE	REFERENCE CODE COMPLIANCE PLAN	
CORRIDOR FIRE RESISTANCE RATING	0HR	N/A
BUILDINGS WITH ONE EXIT	NOT ALLOWED	N/A
ACCESSIBILITY		
CONSTRUCTION SITES	--	
EQUIPMENT SPACES	SEE NOTE 1	
ACCESSIBILITY ROUTE/ENTRY	SEE NOTE 1	
PARKING	SEE NOTE 1	
SIGNAGE	N/A	



1 CODE COMPLIANCE PLAN
SCALE: 1/8" = 1'-0"



2 SITE PLAN
SCALE: 1" = 50'-0"

LIFE SAFETY LEGEND

##	INDICATES DIRECTION OF EGRESS PATH. ## IS THE DISTANCE IN FEET TO EXIT FROM SQUARE DOT TO ARROW.
OC	OCCUPANCY
SF	SQUARE FEET
OLF	OCCUPANT LOAD FACTOR
OL	OCCUPANT LOAD
SPR	SPRINKLER
NA	NOT APPLICABLE
E	EXIT SIGN LOCATION
	INDICATES 1 HOUR FIRE RATING
	INDICATES 2 HOUR FIRE RATING
	INDICATES 3 HOUR FIRE RATING
	INDICATES 4 HOUR FIRE RATING
	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL WITH RECESSED CABINET
	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL WALL MOUNTED FOR CLASS B FIRES (20 # FOR 50'-0" TRAVEL DISTANCE)
	FIRE EXTINGUISHER, CARBON DIOXIDE WALL MOUNTED FOR CLASS C FIRES (NO DRY CHEM) (20 # FOR 50'-0" TRAVEL DISTANCE)

LICENSED ARCHITECT HARRY N. WILLIAMS C 8495 12/31/2022 STATE OF CALIFORNIA
12/22/2021

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CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS
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REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
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CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

UV/AOP CODE ANALYSIS AND COMPLIANCE PLANS

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-03-0001
SHT 58 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
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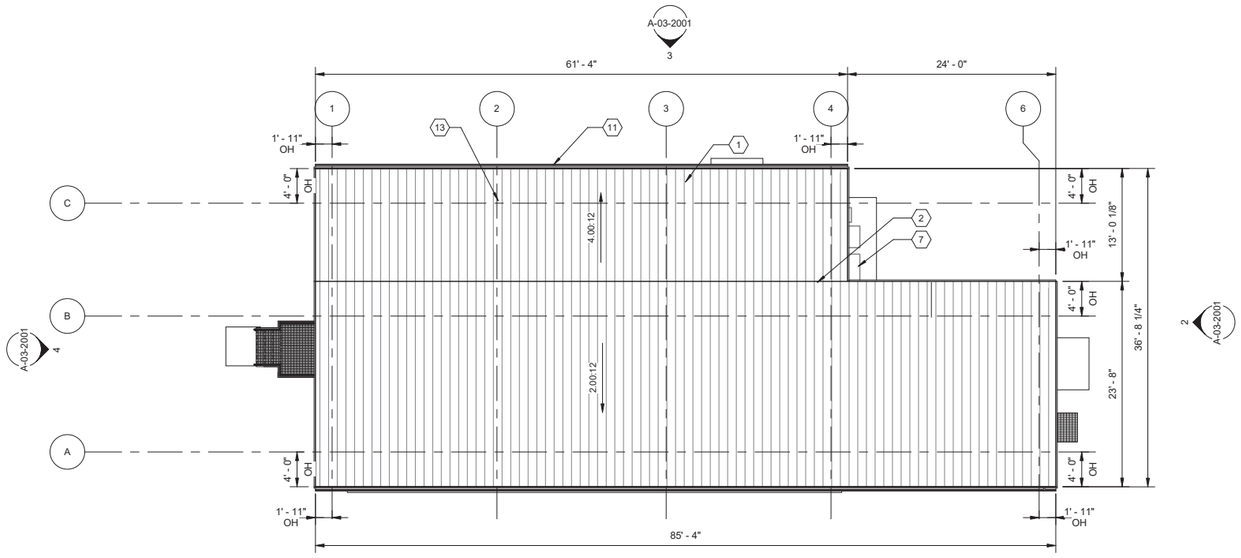
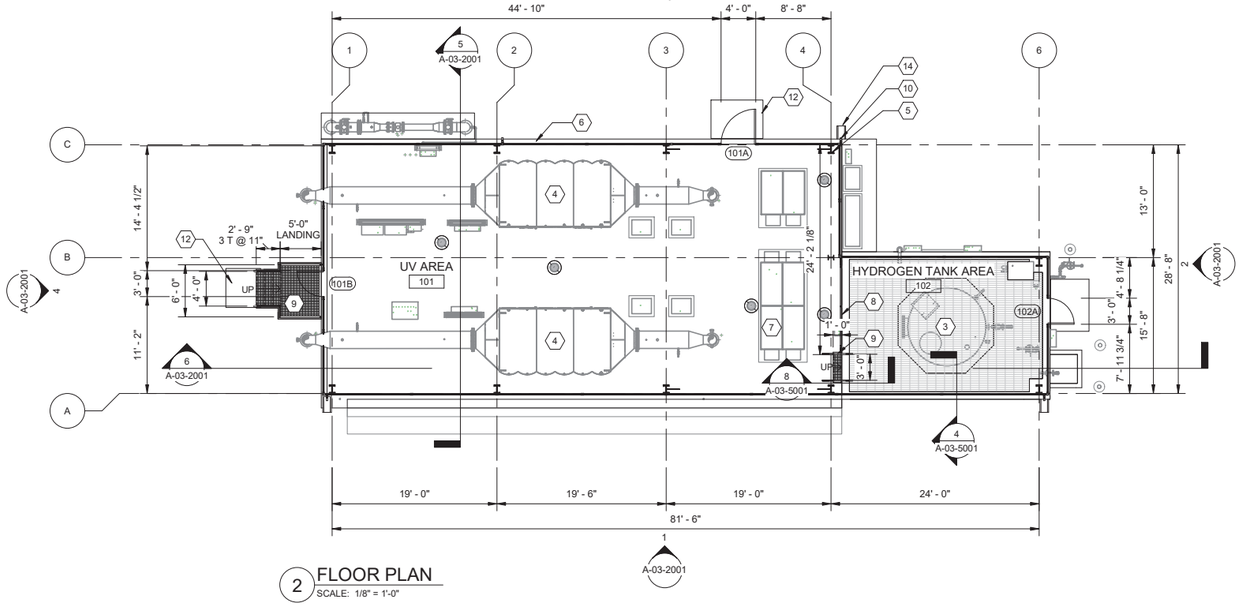
PLAN NORTH



1 ROOF PLAN
SCALE: 1/8" = 1'-0"



2 FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

KEYNOTES:

1	STANDING SEAM METAL ROOF SYSTEM
2	RIDGE
3	TANK, REFERENCE PROCESS DRAWINGS
4	UV VESSEL, REFERENCE PROCESS DRAWINGS
5	METAL FRAME, REFERENCE STRUCTURAL DRAWINGS
6	CONCRETE STRUCTURE, REFERENCE STRUCTURAL DRAWINGS
7	ELECTRICAL EQUIPMENT, REFERENCE ELECTRICAL DRAWINGS
8	ALUMINUM RAILING
9	ALUMINUM STAIR
10	ALUMINUM DOWNSPOUT
11	ALUMINUM GUTTER
12	CONCRETE LANDING, REFERENCE CIVIL DRAWINGS
13	PLANT COMMUNICATIONS ANTENNA, ATTACH TO COLUMN BELOW, PROVIDE FLASHING AT ROOF OPENING AS REQUIRED
14	CONCRETE SPLASHBLOCK

LICENSED ARCHITECT HARRY N. WILLIAMS C. 8492 REG. EXP. 08-31-2023 STATE OF CALIFORNIA

12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

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REVIEWED BY : DATE : 20__
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REVIEWED BY : DATE : 20__
OMEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

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SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

UV/AOP FLOOR PLAN AND ROOF PLAN

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : RNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-03-1001
SHT 59 OF 303 SHTS

SHEET 59 OF 303
DWG. NO. : A-03-1001
TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
12/20/2021 1:55:46 PM
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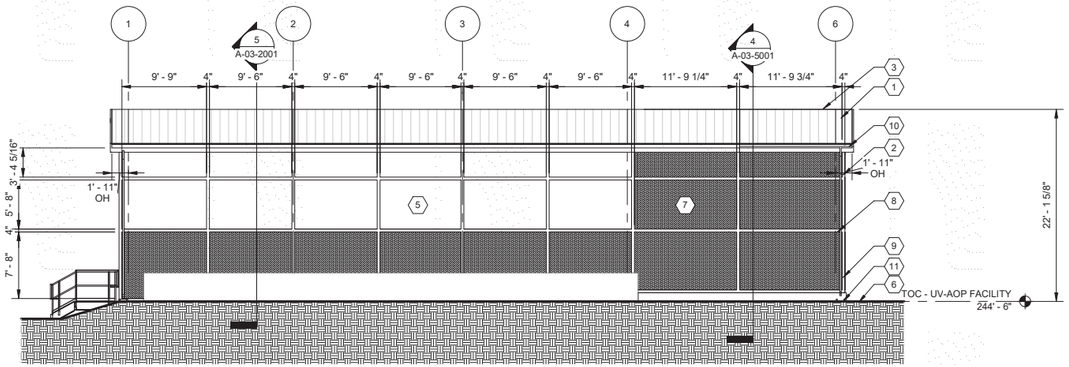
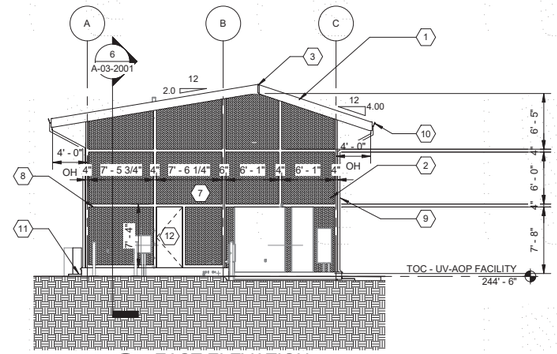
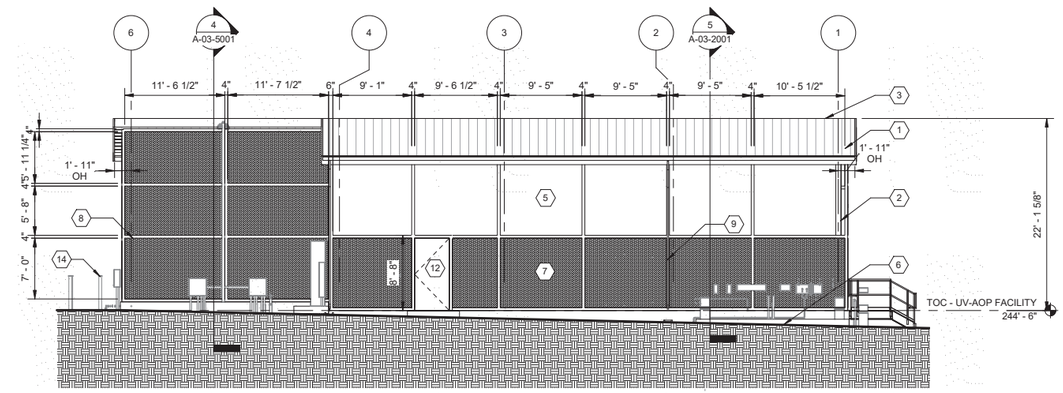


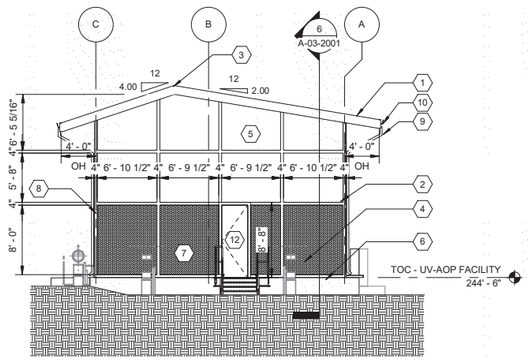
1 SOUTH ELEVATION
A-03-1001 SCALE: 1/8" = 1'-0"



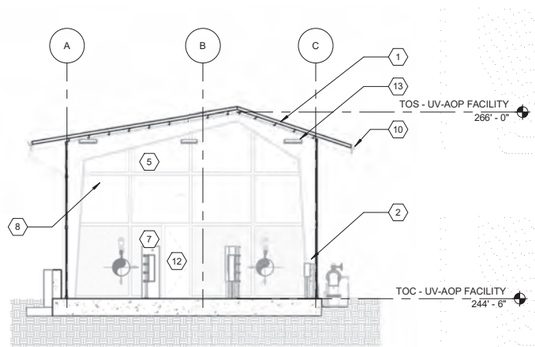
2 EAST ELEVATION
A-03-1001 SCALE: 1/8" = 1'-0"



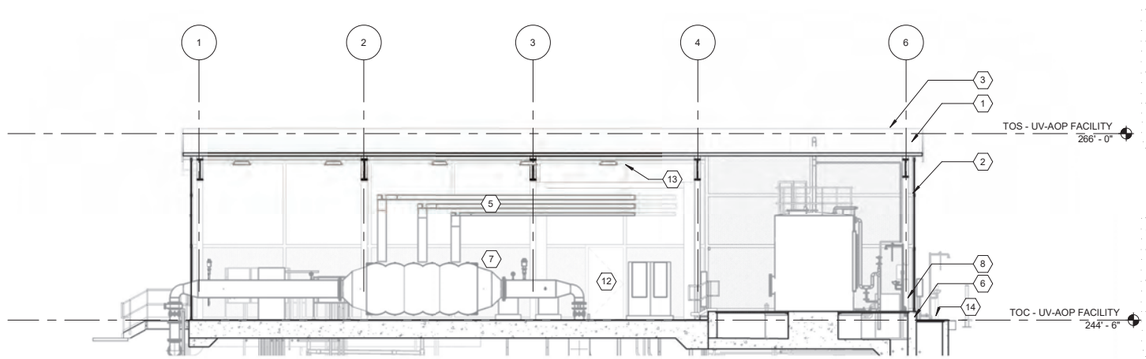
3 NORTH ELEVATION
A-03-1001 SCALE: 1/8" = 1'-0"



4 WEST ELEVATION
A-03-1001 SCALE: 1/8" = 1'-0"



5 CANOPY SECTION
A-03-1001 SCALE: 1/8" = 1'-0"



6 CANOPY SECTION 2
A-03-1001

GENERAL NOTES:

1.
   A. EXPANDED METAL SCREENING SHALL BE MCNICHOLS EXPANDED METAL STANDARD, STAINLESS STEEL, TYPE 304, 1/2" #18 STANDARD (RAISED), 69% OPEN AREA, ITEM # 4800121848, SIZE: 48" X 96"
   B. FASTENERS FOR ATTACHMENT TO GIRTS AND OTHER SECONDARY FRAMING MEMBERS SHALL BE 3/16" STAINLESS STEEL SELF TAPPING SCREWS WITH 1" SS FENDER WASHERS ON EACH SIDE.
   C. FLASHING SHALL BE STAINLESS SETEL AND 16 GAUGE (MIN)
   D. WHEN INSTALLING EXPANDED METAL SHEETS, THE PATTERN OF THE OPENINGS SHOULD BE ALIGNED WITH ADJACENT SHEETS TO PROVIDE UNIFORM APPEARANCE WHENEVER POSSIBLE.
   E. A TEST PANEL SHOULD BE CONSTRUCTED AND TESTED PRIOR TO INSTALLATION OF THE SCREENING.
2.
   A. PROVIDE COMMERCIAL / INDUSTRIAL GRADE PVC - COATED POLYESTER UV-BLOCKING SUN SHADE FABRIC, TEXTILENE 80, COLOR SANDSTONE BY TTF FABRIC COATINGS OR APPROVED EQUAL W/ REINFORCED HEM W/ STAINLESS STEEL GROMMETS AT 8" OC.
   B. STAINLESS STEEL SUPPORT CABLE EXTENDED THROUGH CANOPY STEEL FRAMING SYSTEM, CONNECTED TO SUN SHADE FABRIC GROMMETS WITH STAINLESS STEEL QUICK LINK.
   C. STAINLESS STEEL MOUNTING BRACKET W/ EYELET AT 8" OC FASTENED TO PRE ENGINEERED BUILDING CANOPY STEEL FRAMING SYSTEM CONNECTED TO SUN SHADE FABRIC GROMMETS WITH STAINLESS STEEL QUICK LINK.
3. PROVIDE 4" WIDE BY 16 GAUGE (MIN) TYPE 304 STAINLESS STEEL FLASHING STRIPS (BACK TO BACK), SPACED 4'-0" OC VERTICALLY AND 8'-0" OC HORIZONTALLY. TO MATCH THE EXISTING CHEMICAL FACILITY.

KEYNOTES:

1	STANDING SEAM METAL ROOF SYSTEM
2	METAL FRAME, REFERENCE STRUCTURAL DRAWINGS
3	RIDGE
4	UV VESSEL, REFERENCE PROCESS DRAWINGS
5	SUN SHADE FABRIC, REFERENCE GENERAL NOTE 2 ABOVE
6	CONCRETE STRUCTURE, REFERENCE STRUCTURAL DRAWINGS
7	EXPANDED METAL SCREENING, REFERENCE GENERAL NOTE 1 ABOVE
8	FLASHING STRIPS, REFERENCE GENERAL NOTE 3 ABOVE
9	ALUMINUM DOWNSPOUT
10	ALUMINUM GUTTER
11	CONCRETE SPLASHBLOCK
12	HOLLOW METAL DOOR
13	LIGHTING, REFERENCE ELECTRICAL DRAWINGS
14	BOLLARD, TYPICAL. FOR DETAILS REFERENCE CIVIL DRAWINGS

LICENSED ARCHITECT HARRY N. WILLIAMS RC 8495 STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

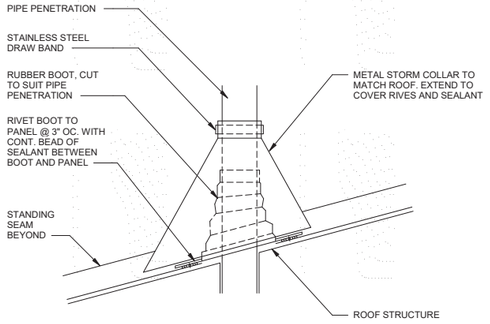
CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
UV/AOP ELEVATIONS, SECTION AND DETAILS

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-03-2001
SHT 60 OF 303 SHTS

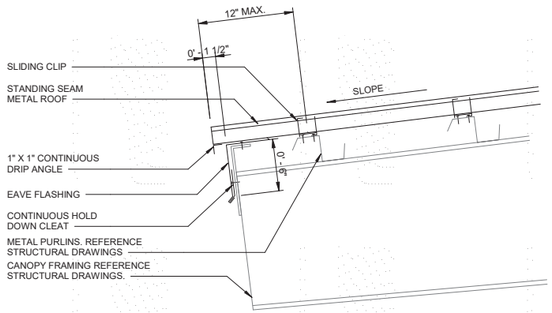
SHEET 60 OF 303
DWG. NO.: A-03-2001
TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
12/20/2021 1:56:03 PM
BIM 360://154390 - Arcadia Water Treatment Plant Expansion/154390-A-03V19.rvt



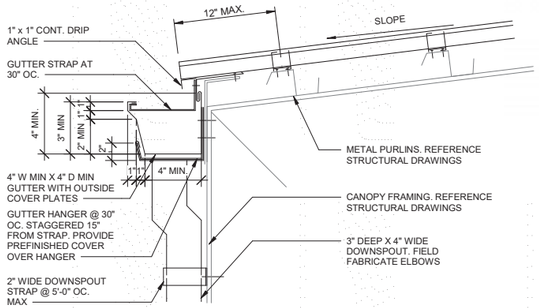
NOTES

1. PROVIDE 1" MIN. BETWEEN RIVETS AND STANDING SEAM.
2. WHEN THE PIPE IS FIXED TO THE STRUCTURE AND NOT DESIGNED TO FLOAT WITH ROOF PANELS. CUT WHOLE IN BASE PAN TO ALLOW FOR THE MAX. ANTICIPATED THERMAL EXPANSION (1" WIDER THAN PIPE).
3. ALL PIPE PENETRATIONS SHALL OCCUR BETWEEN SEAMS.

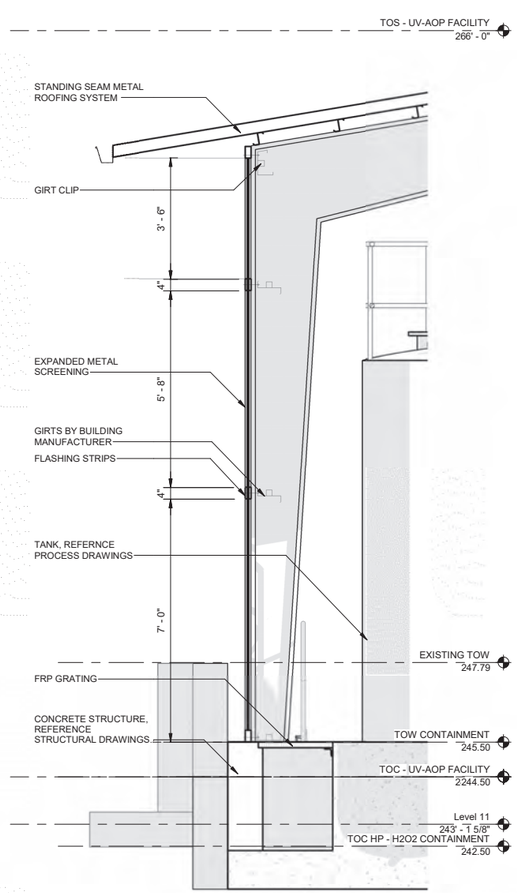
1 ROOF EAVE DETAIL
N.T.S.



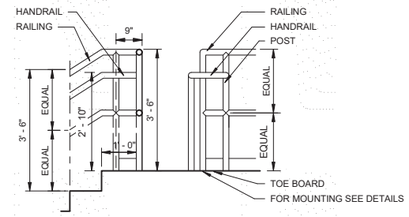
2 ROOF EAVE FLASHING DETAIL
N.T.S.



3 ROOF EAVE GUTTER DETAIL
N.T.S.

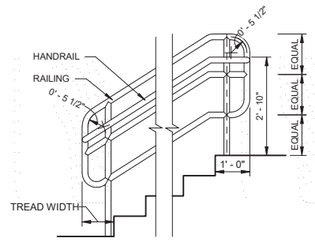


4 SECTION
SCALE: 1/2" = 1'-0"

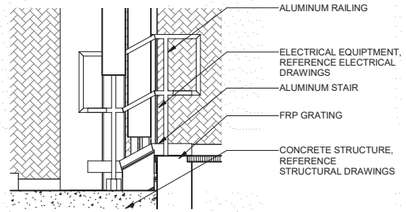


(RAILING CONTINUOUS AROUND CORNER)
(LANDING EDGE AND NOSING EDGE DO NOT ALIGN)

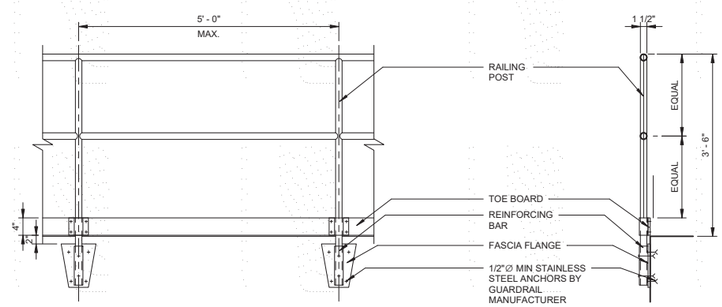
5 TYPICAL RAILING TO RAILING STAIR CORNER
N.T.S.



6 TYPICAL STAIR END
N.T.S.



8 STAIR AT HYDROGEN TANK AREA SECTION
N.T.S.



NOTES:

1. NUMBER OF ANCHORS AND SIZE OF ANCHORS ARE MINIMUM. PROVIDE LARGER ANCHOR SIZE IF NECESSARY TO MEET LOAD REQUIREMENTS. CONTRACTOR'S SUPPLIER AND DESIGN PROFESSIONAL LICENSED IN CALIFORNIA ARE RESPONSIBLE FOR DESIGNING BASE BRACKET AND STAINLESS STEEL ANCHOR BOLT SIZE AND EMBEDMENT DEPTH INTO CONCRETE TO RESIST LOADS TAKING INTO ACCOUNT ANCHOR EDGE DISTANCES AND CONCRETE STRENGTHS AT THE POINT OF ATTACHMENT.
2. RAILING SHALL BE ALUMINUM. ANCHOR BOLTS SHALL BE TYPE 316 STAINLESS STEEL

7 TYPICAL SIDE MOUNT
N.T.S.

LICENSED ARCHITECT
HENRY N. WILLIAMS
No. C 8491
REGISTERED
STATE OF CALIFORNIA
12/22/2021

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TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

Brown AND Caldwell
WALSH
CONSULTANT

REVIEWED BY: DATE: _____ 20__
REVIEWED BY: DATE: _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY: DATE: _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
CITY CLIENTS

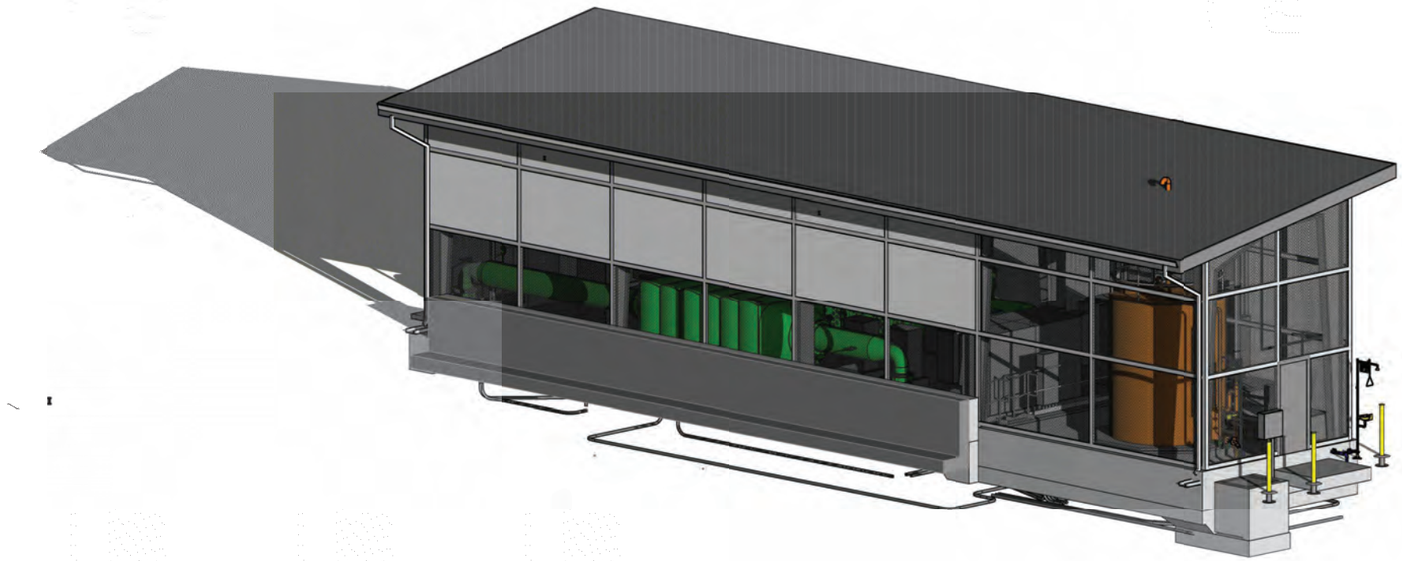
REFERENCE:
DATE: _____, 20XX
SUBMITTED BY:
COMPUTER FILE NAME:
SP-FILE NO.: SP2602
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY: DATE: _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

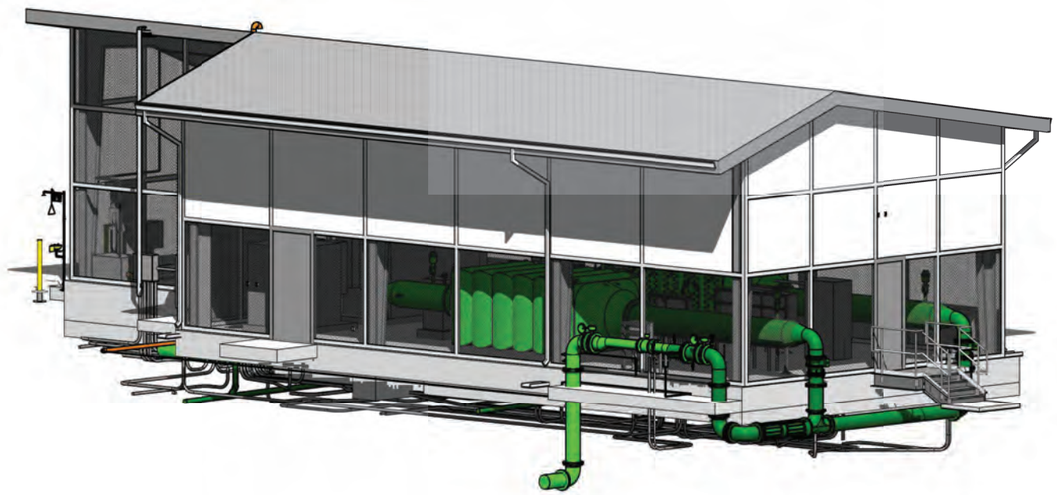
UV/AOP DETAILS

PROJECT AND SHEET TITLE

DESIGNED BY: DC
DRAWN BY: BG
CHECKED BY: RNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-03-5001
SHT 61 OF 303 SHTS



1 3D VIEW EAST SIDE 7AM



2 3D VIEW WEST SIDE 4PM

HARRY N. WILLIAMS
C 8495
12/31/2021
STATE OF CALIFORNIA
12/22/2021

City of **Santa Monica**
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REVISIONS

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CITY CLIENTS

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CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
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ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

UV/AOP 3D VIEWS

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-03-7001
SHT 62 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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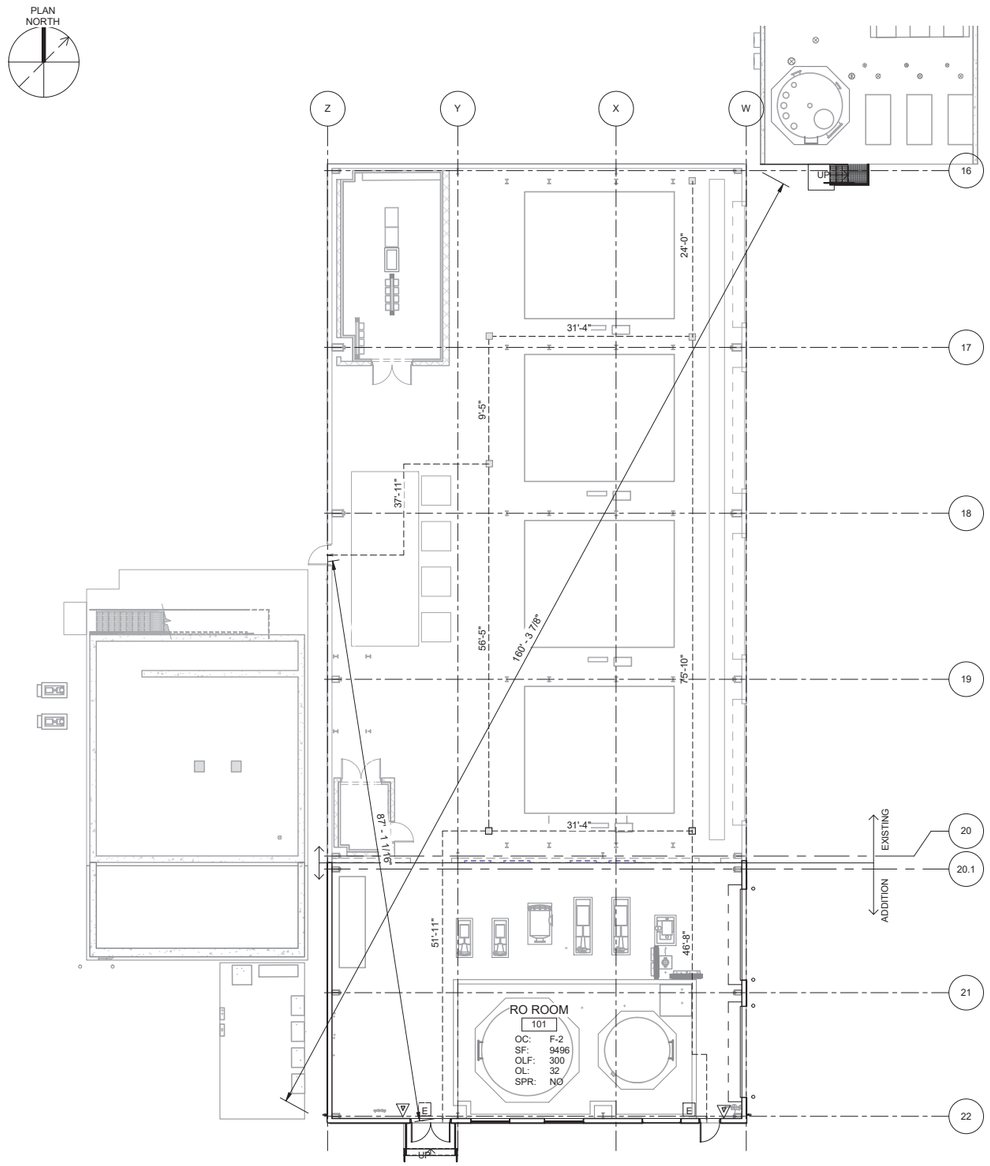
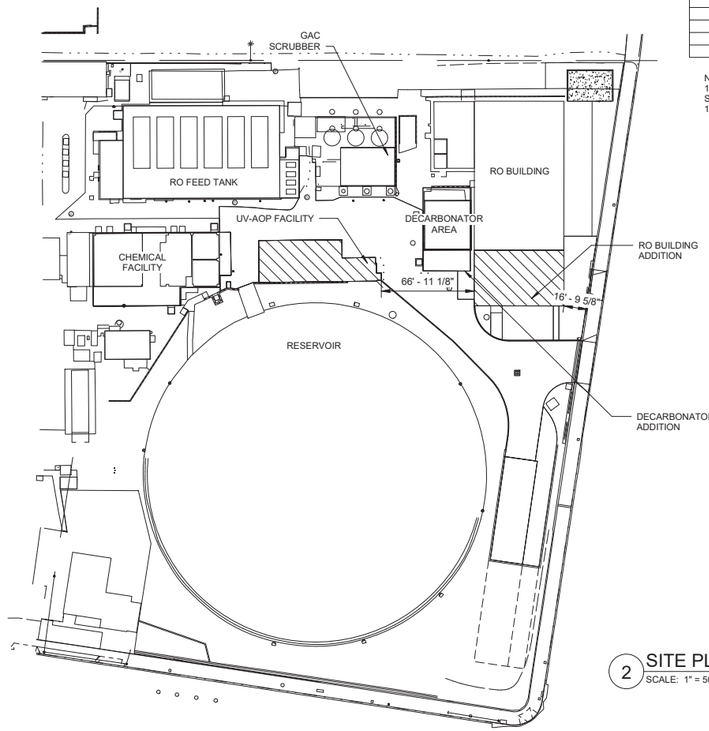


1 RO BUILDING CODE COMPLIANCE PLAN
SCALE: 3/32" = 1'-0"



2 SITE PLAN
SCALE: 1" = 50'-0"

GENERAL CODE CRITERIA

GENERAL CODE AND REGULATIONS	
BUILDING CODE	CALIFORNIA BUILDING CODE, 2019
FIRE CODE	CALIFORNIA FIRE CODE, 2019
PLUMBING CODE	CALIFORNIA PLUMBING CODE, 2019
MECHANICAL CODE	CALIFORNIA MECHANICAL CODE, 2019
ELECTRICAL CODE	CALIFORNIA ELECTRICAL CODE 2019 / NFPA 70
ENERGY CODE	CALIFORNIA ENERGY CODE, 2019
EXISTING BUILDING CODE	CALIFORNIA EXISTING BUILDING CODE, 2019

CALIFORNIA ENERGY CODE 2019

CLIMATE ZONE 6		
	BUILDING ENVELOPE REQUIREMENTS (TABLE140.3-B)	BUILDING ENVELOPE DESIGN
ROOFS / CEILING (U VALUE)		
METAL BUILDINGS	0.041	0.041
WOOD FRAMED AND OTHER	0.034	N/A
WALLS (U VALUE)		
METAL BUILDING	0.113	0.113
METAL FRAMED	0.069	0.069
MASS LIGHT	0.440	N./A
MASS HEAVY	0.690	N/A
WOOD - FRAMED AND OTHER	0.110	N/A
FLOORS / SOFFITS (U VALUE)		
RAISED MASS	0.269	N/A
OTHER	0.071	0.071
EXTERIOR DOOR (MAXIMUM U FACTOR)		
NONSWINGING	1.45	1.45
SWINGING	0.70	0.70
FENESTRATION	**BUILDING ENVELOPE REQUIREMENTS (TABLE 140.3-B)**	**BUILDING ENVELOPE DESIGN**
VERTICAL FENESTRATION: MAX U FACTOR		
FIXED WINDOW	0.36	0.25
OPERABLE WINDOW	0.46	N/A
CURTAIN WALL OR STOREFRONT	0.41	N/A
GLAZED DOORS	0.45	N/A
VERTICAL FENESTRATION: MAX RSHGC		
FIXED WINDOW	0.25	0.25
OPERABLE WINDOW	0.22	N/A
CURTAIN WALL OR STOREFRONT	0.26	N/A
ENTRANCE DOORS	0.23	N/A
SKYLIGHTS: MAX U FACTOR		
GLASS, CURB MOUNTED	0.58	N/A
GLASS, DECK MOUNTED	0.46	N/A
PLASTIC, CURB MOUNTED	0.88	0.88
SKYLIGHTS: MAX SHGC		
GLASS, CURB MOUNTED	0.25	N/A
GLASS, DECK MOUNTED	0.25	N/A
PLASTIC, CURB MOUNTED	NR	NR

BUILDING CODE CHART - CALIFORNIA BUILDING CODE 2019

	RO BUILDING ADDITION	
OCCUPANCY OF BUILDING	F2	
ROOM SEPARATING	N/A	
CONSTRUCTION TYPE	II B	
NUMBER OF STORIES	ALLOWABLE	ACTUAL
	2	1
BUILDING HEIGHT (FT)	ALLOWABLE	ACTUAL
	55	27'-11"
ALLOWABLE FLOOR AREA (SF)	ALLOWABLE	ACTUAL
	15,500	9,496 TOTAL / 2,585 ADDITION
SEPARATION RATINGS		
FIRE SEPARATION DISTANCE	REQUIRED	PROVIDED
DISTANCE LESS THAN 5'	2 HR	N/A
DISTANCE BETWEEN 5' & 10'	1 HR	N/A
DISTANCE BETWEEN 10' & 30'	0 HR	0 HR
DISTANCE MORE THAN 30'	0 HR	0 HR
FIRE RESISTANCE RATINGS		
	REQUIRED	PROVIDED
STRUCTURAL FRAME	0 HR	0HR
BEARING WALLS -EXTERIOR	0 HR	0HR
BEARING WALLS - INTERIOR	0 HR	0HR
NON BEARING WALLS AND PARTITIONS - INTERIOR	2 HR	2HR
FLOOR CONSTRUCTION	0 HR	0HR
ROOF CONSTRUCTION	0 HR	0HR
INTERIOR FINISHES		
	REQUIRED	PROVIDED
VERTICAL EXITS AND EXIT PASSAGEWAYS	CLASS B	CLASS B
EXIT ACCESS CORRIDORS AND OTHER EXIT WAYS	CLASS C	CLASS C
ROOMS AND ENCLOSED SPACES	CLASS C	CLASS C
FIRE PROTECTION SYSTEMS		
	REQUIRED	PROVIDED
AUTOMATIC SPRINKLERS	NO	NO
ALT. AUTOMATIC FIRE EXTINGUISHING SYSTEMS	NO	NO
STANDPIPE SYSTEM	NO	NO
PORTABLE FIRE EXTINGUISHERS	YES	YES
FIRE ALARM AND DETECTION SYSTEMS	NO	NO
MEANS OF EGRESS		
OCCUPANT LOAD FACTORS (SF / PERSON)	MECHANICAL SPACE - 300	
OCCUPANT LOAD CHART	REFERENCE CODE COMPLIANCE PLAN	
EGRESS WIDTH PER OCCUPANT	36" MIN.	36"
SPACES WITH ONE MEANS OF EGRESS	NOT ALLOWED	N/A
MAX. EXIST ACCESS TRAVEL DISTANCE	200ft.	
EXIT ACCESS TRAVEL DISTANCE	REFERENCE CODE COMPLIANCE PLAN	
CORRIDOR FIRE RESISTANCE RATING	0HR	N/A
BUILDINGS WITH ONE EXIT	NOT ALLOWED	N/A
ACCESSIBILITY		
CONSTRUCTION SITES	--	
EQUIPMENT SPACES	SEE NOTE 1	
ACCESSIBILITY ROUTE/ENTRY	SEE NOTE 1	
PARKING	SEE NOTE 1	
SIGNAGE	N/A	

NOTES:
1. THE RO BUILDING DOES NOT CONTAIN OCCUPIABLE AREAS; AS SUCH, THE BUILDING IS INCLUDED AS AN EXEMPT SPACE UNDER SECTION 11B-203, "GENERAL EXCEPTIONS" AND SECTION 11B-203.5, "MACHINERY SPACES " OF CHAPTER 11B OF THE 2019 CBC AND ARTICLE 203.5 OF THE 2010 ADA STANDARDS FOR ACCESSIBILITY.

LIFE SAFETY LEGEND

##	INDICATES DIRECTION OF EGRESS PATH ## IS THE DISTANCE IN FEET TO EXIT FROM SQUARE DOT TO ARROW.
OC	OCCUPANCY
SF	SQUARE FEET
OLF	OCCUPANT LOAD FACTOR
OL	OCCUPANT LOAD
SPR	SPRINKLER
NA	NOT APPLICABLE
E	EXIT SIGN LOCATION
	INDICATES 1 HOUR FIRE RATING
	INDICATES 2 HOUR FIRE RATING
	INDICATES 3 HOUR FIRE RATING
	INDICATES 4 HOUR FIRE RATING
	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL WITH RECESSED CABINET
	FIRE EXTINGUISHER, MULTI-PURPOSE DRY CHEMICAL WALL MOUNTED FOR CLASS B FIRES (20 B FOR 50'-0" TRAVEL DISTANCE)
	FIRE EXTINGUISHER, CARBON DIOXIDE WALL MOUNTED FOR CLASS C FIRES (NO DRY CHEM) (20 B FOR 50'-0" TRAVEL DISTANCE)

LICENSED ARCHITECT BARRY N. WILLIAMS C 8495 12/31/2021 STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
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CONSULTANT: Brown AND Caldwell / WALSH

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REVIEWED BY : DATE : _____, 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

RO BUILDING CODE ANALYSIS AND COMPLIANCE PLAN

DESIGNED BY : DC
DRAWN BY : SG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-06-0001
SHT 63 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
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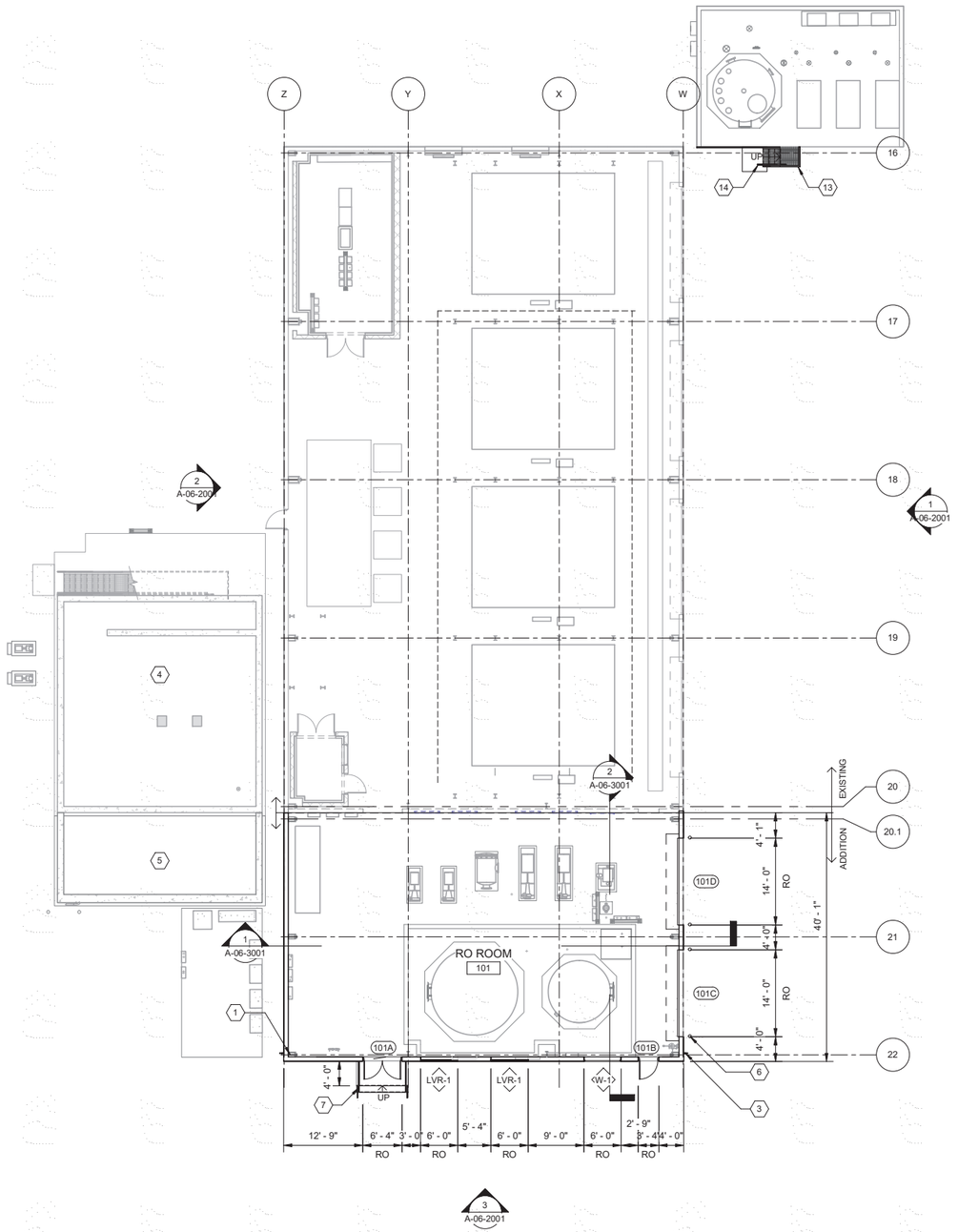
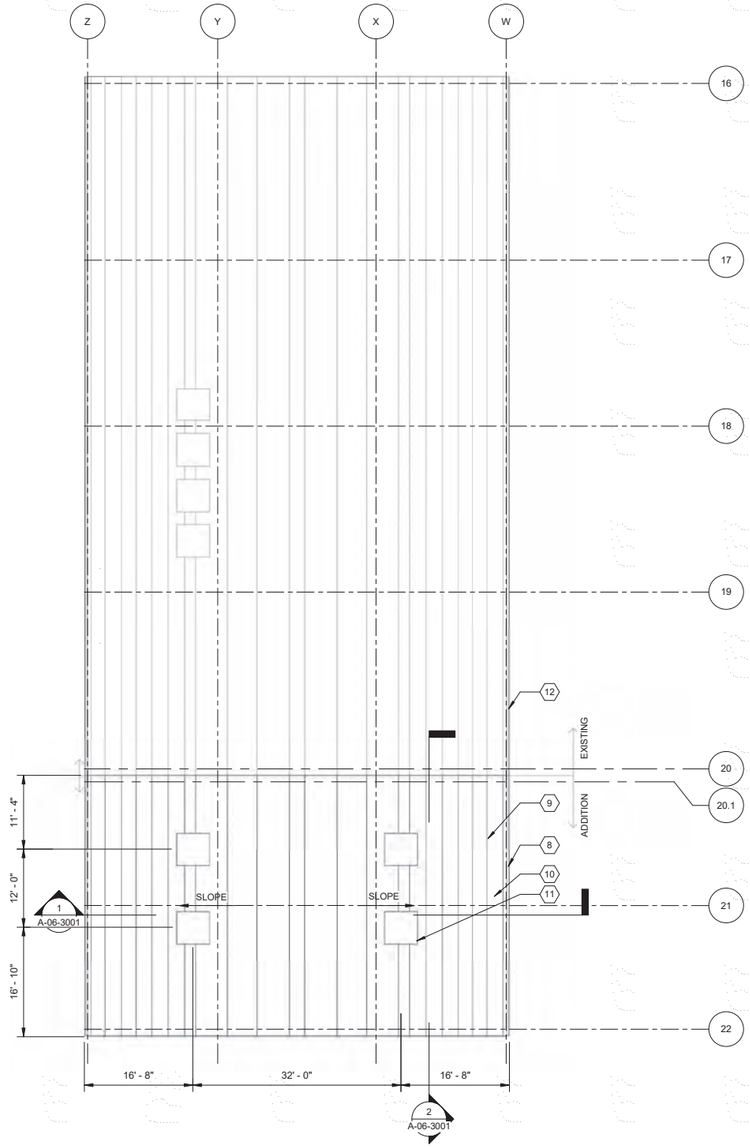
PLAN NORTH



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



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

GENERAL NOTES:

KEYNOTES:

1	METAL FRAME, REFERENCE STRUCTURAL DRAWINGS
2	TANK, REFERENCE PROCESS DRAWINGS
3	ALUMINUM DOWNSPOUT
4	DECARBONATOR AREA
5	DECARBONATOR EXPANSION
6	BOLLARD, TYPICAL. FOR DETAILS REFERENCE CIVIL DRAWINGS
7	ALUMINUM RAILING
8	ALUMINUM GUTTER
9	STANDING SEAM METAL ROOF SYSTEM
10	ADDITION
11	PROVIDE FOUR 5'-0" X 5'-0" TRANSLUCENT SKYLIGHTS
12	EXISTING GUTTER TO REMAIN
13	ALUMINUM GUARDRAIL
14	ALUMINUM HANDRAIL

HARRY N. WILLIAMS
C 8495
REGISTERED ARCHITECT
STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY : DATE : 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : 20__
OWEED POUR, P.E. – PROJECT MANAGER

CITY CLIENTS

REFERENCE :
DATE : , 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
APPROVED BY : DATE : , 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER
COMPUTER FILE NAME :
SP-FILE NO. : SP2602

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

RO BUILDING FLOOR PLAN AND ROOF PLAN

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : SG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-06-1001
SHT 64 OF 303 SHTS

SHEET 64 OF 303
DWG. NO. : A-06-1001
TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
12/20/2021 1:58:46 PM
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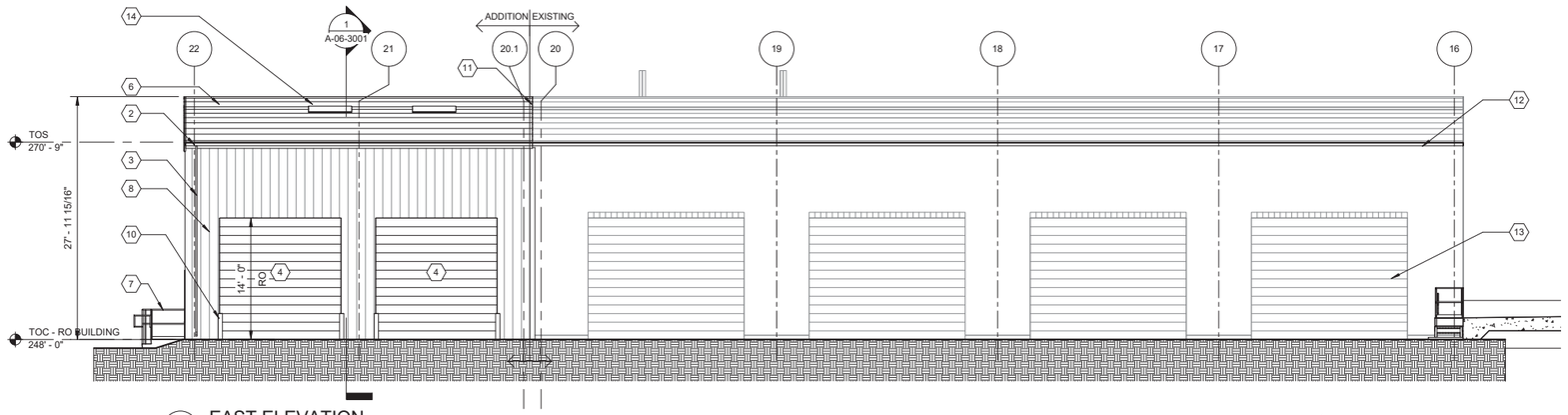
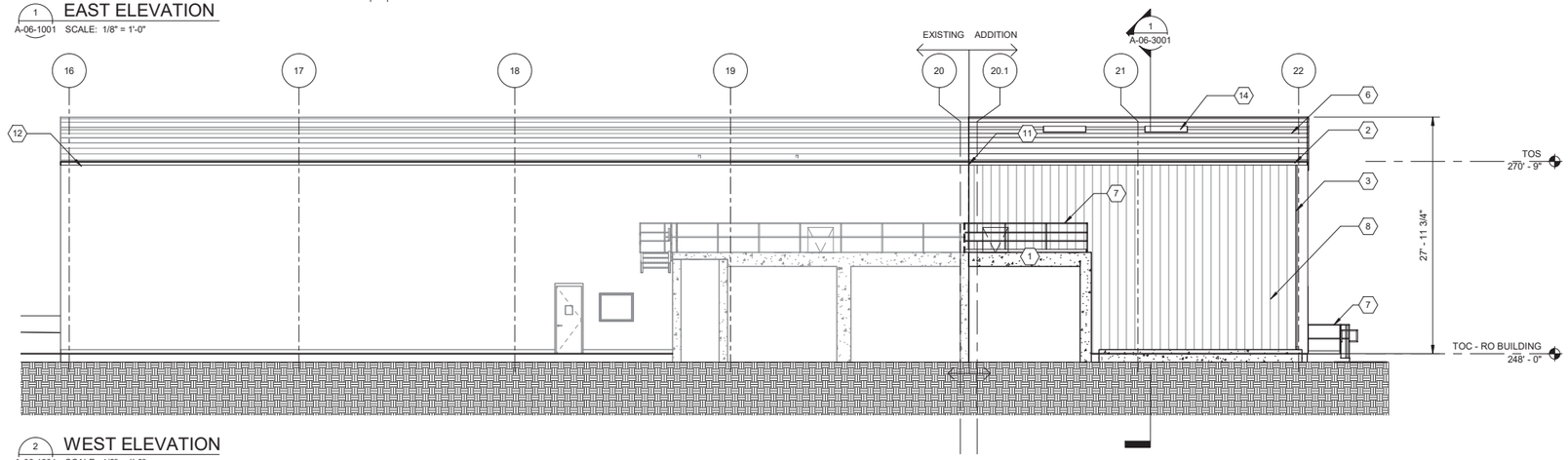
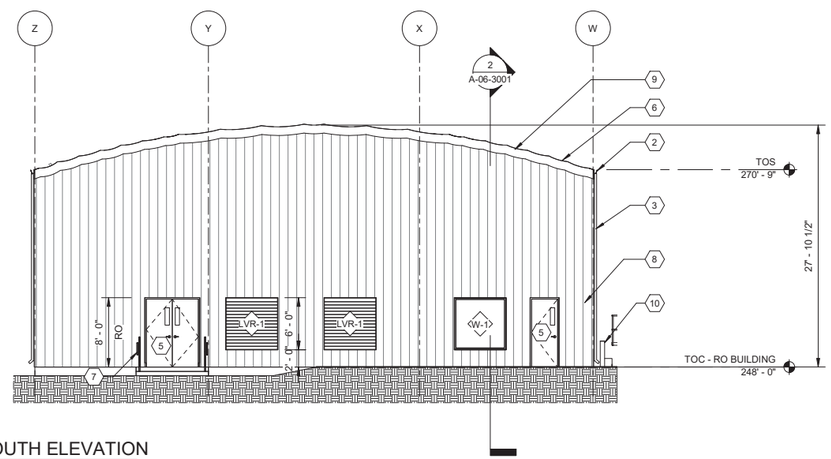


1 A-06-1001 **EAST ELEVATION**
SCALE: 1/8" = 1'-0"



2 A-06-1001 **WEST ELEVATION**
SCALE: 1/8" = 1'-0"



3 A-06-1001 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

KEYNOTES:

1	CONCRETE STRUCTURE, REFERENCE STRUCTURAL DRAWINGS
2	ALUMINUM GUTTER
3	ALUMINUM DOWNSPOUT
4	OVERHEAD COILING DOOR
5	HOLLOW METAL DOOR
6	STANDING SEAM METAL ROOF SYSTEM
7	ALUMINUM RAILING
8	INSULATED METAL BUILDING PANELS, TO MATCH EXISTING
9	METAL FASCIA
10	BOLLARD, TYPICAL. FOR DETAILS REFERENCE CIVIL DRAWINGS
11	MODIFY EXISTING GUTTER EDGE TO ATTACH TO GUTTER EXPANSION. PROVIDE GUTTER EXPANSION JOINT AT THIS LOCATION.
12	EXISTING GUTTER TO REMAIN
13	EXISTING OVERHEAD COILING DOOR TO REMAIN
14	PROVIDE FOUR 5'-0" X 5'-0" TRANSLUCENT SKYLIGHTS

HARRY N. WILLIAMS C 8495 (EXP. 03.31.2023) STATE OF CALIFORNIA
12/22/2021

SHEET 65 OF 303
DWG. NO.: A-06-2001
TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
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City of **Santa Monica**
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

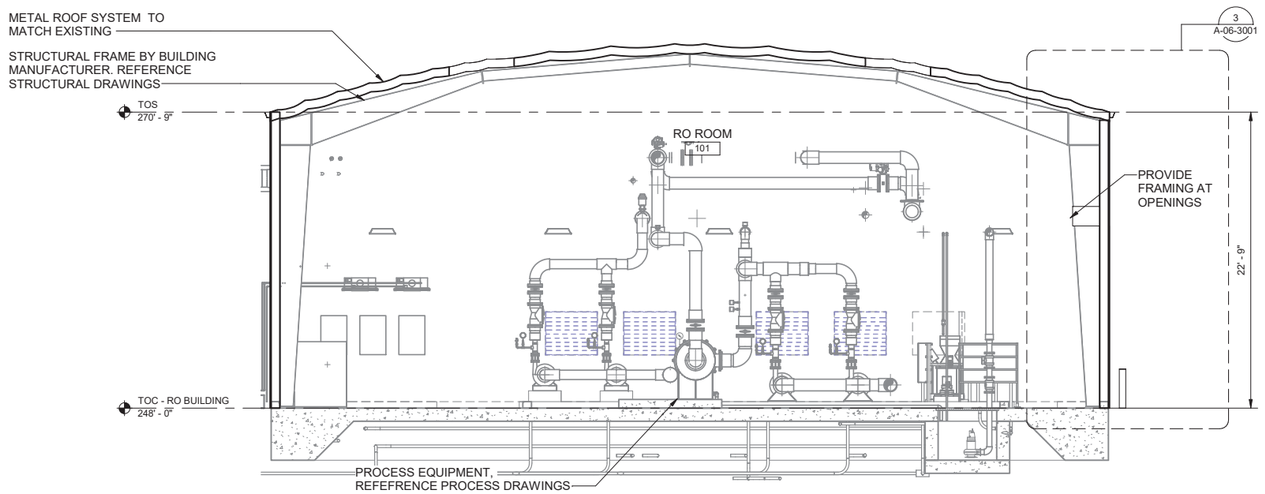
CITY CLIENTS
REVIEWED BY : DATE : ____ 20__
REVIEWED BY : DATE : ____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : ____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : ____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : ____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

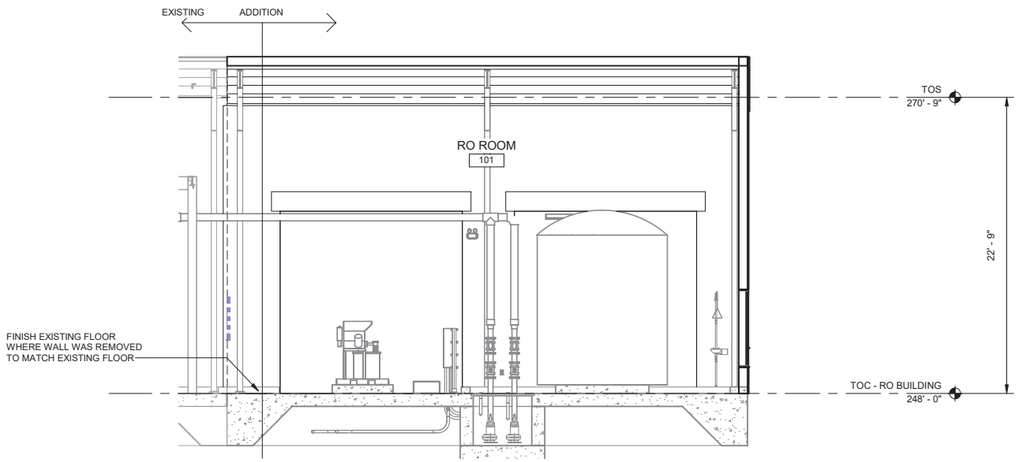
PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

RO BUILDING ELEVATIONS

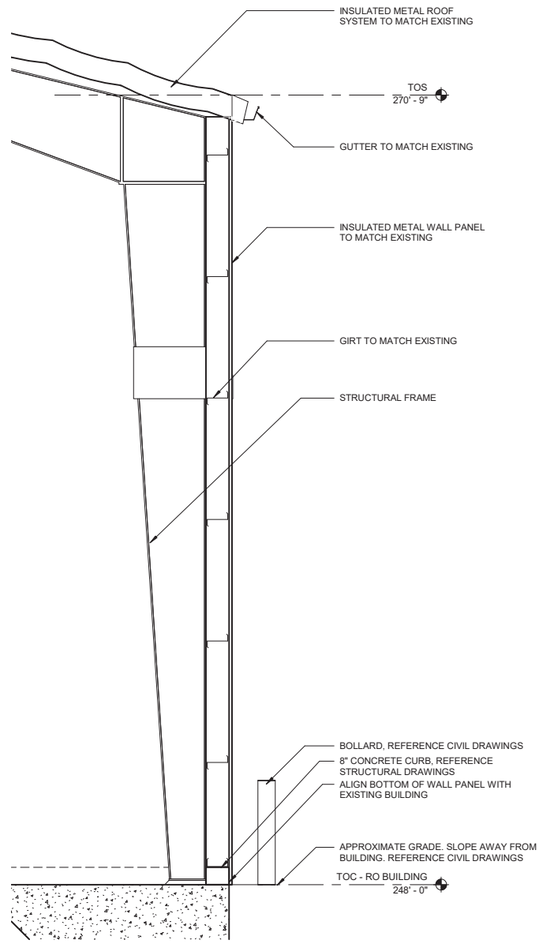
DESIGNED BY : DC
DRAWN BY : SG
CHECKED BY : DWM
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-06-2001
SHT 65 OF 303 SHTS



1 A-06-1001 BUILDING SECTION 1
SCALE: 3/16" = 1'-0"



2 A-06-1001 BUILDING SECTION 2
SCALE: 3/16" = 1'-0"



3 A-06-3001 WALL SECTION
SCALE: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
BARRY N. WILLIAMS
No. C 8492
CIVIL
STATE OF CALIFORNIA
12/22/2021

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TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

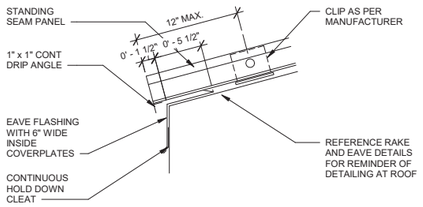
ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
RO BUILDING SECTIONS

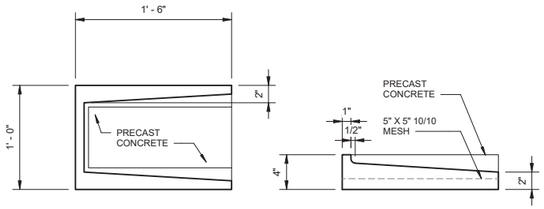
DESIGNED BY : DC
DRAWN BY : BC
CHECKED BY : RUW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 A-06-3001
SHT 66 OF 303 SHTS

GENERAL NOTES:

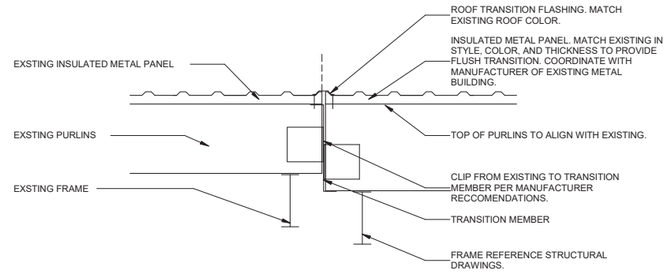
1. ALL DETAILS TO MATCH EXISTING RO BUILDING



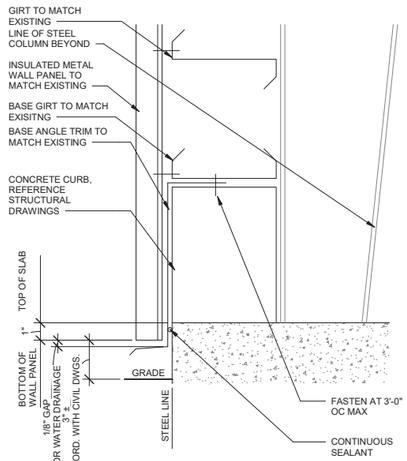
1 EAVE / RAKE
N.T.S.



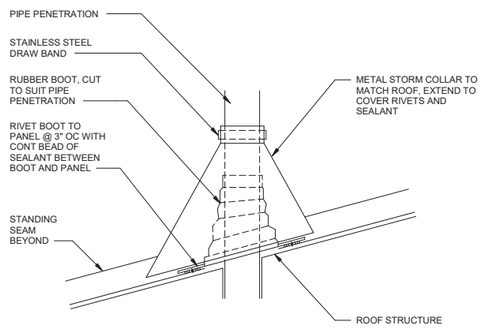
4 CONCRETE SPLASH BLOCK
N.T.S.



7 WALL TRANSITION
N.T.S.



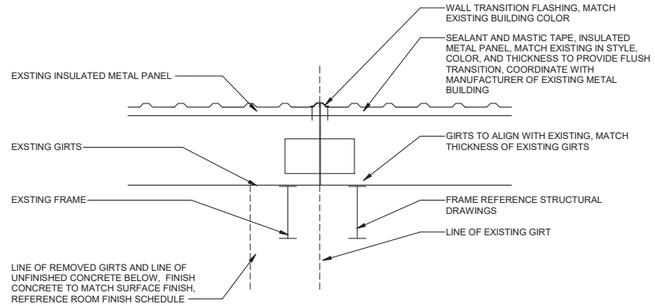
2 BASE DETAIL
N.T.S.



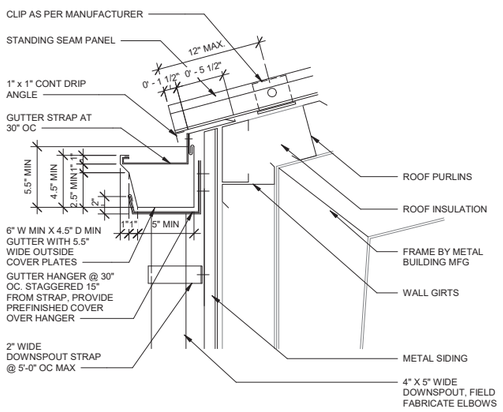
NOTES

1. PROVIDE 1" MIN. BETWEEN RIVETS AND STANDING SEAM.
2. WHEN THE PIPE IS FIXED TO THE STRUCTURE AND NOT DESIGNED TO FLOAT WITH ROOF PANELS. CUT WHOLE IN BASE PAN TO ALLOW FOR THE MAX. ANTICIPATED THERMAL EXPANSION (1" WIDER THAN PIPE).
3. ALL PIPE PENETRATIONS SHALL OCCUR BETWEEN SEAMS.

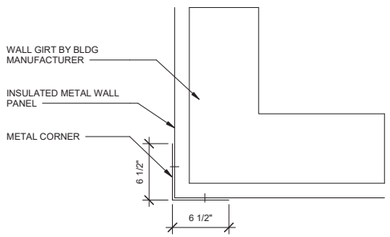
5 WINDOW SILL A
N.T.S.



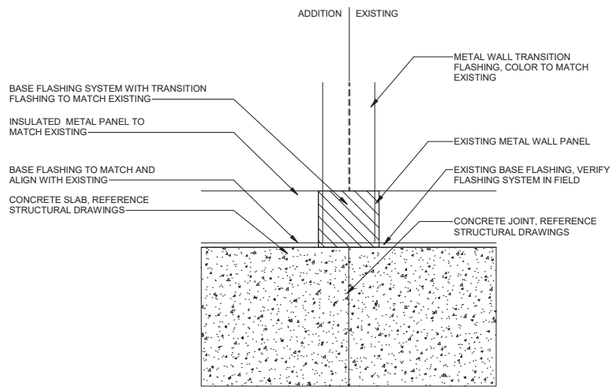
8 WALL TRANSITION
N.T.S.



3 GUTTER DETAIL
N.T.S.



6 METAL BUILDING CORNER
N.T.S.



9 DETAIL AT BASE
N.T.S.

12/22/2021

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TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

CITY CLIENTS

REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES

REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE

OLYMPIC WELL FIELD RESTORATION
AND ARCADIA WTP EXPANSION

RO BUILDING DETAILS

DESIGNED BY : DC
DRAWN BY : HB
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078
A-06-5001
SHT 67 OF 303 SHTS

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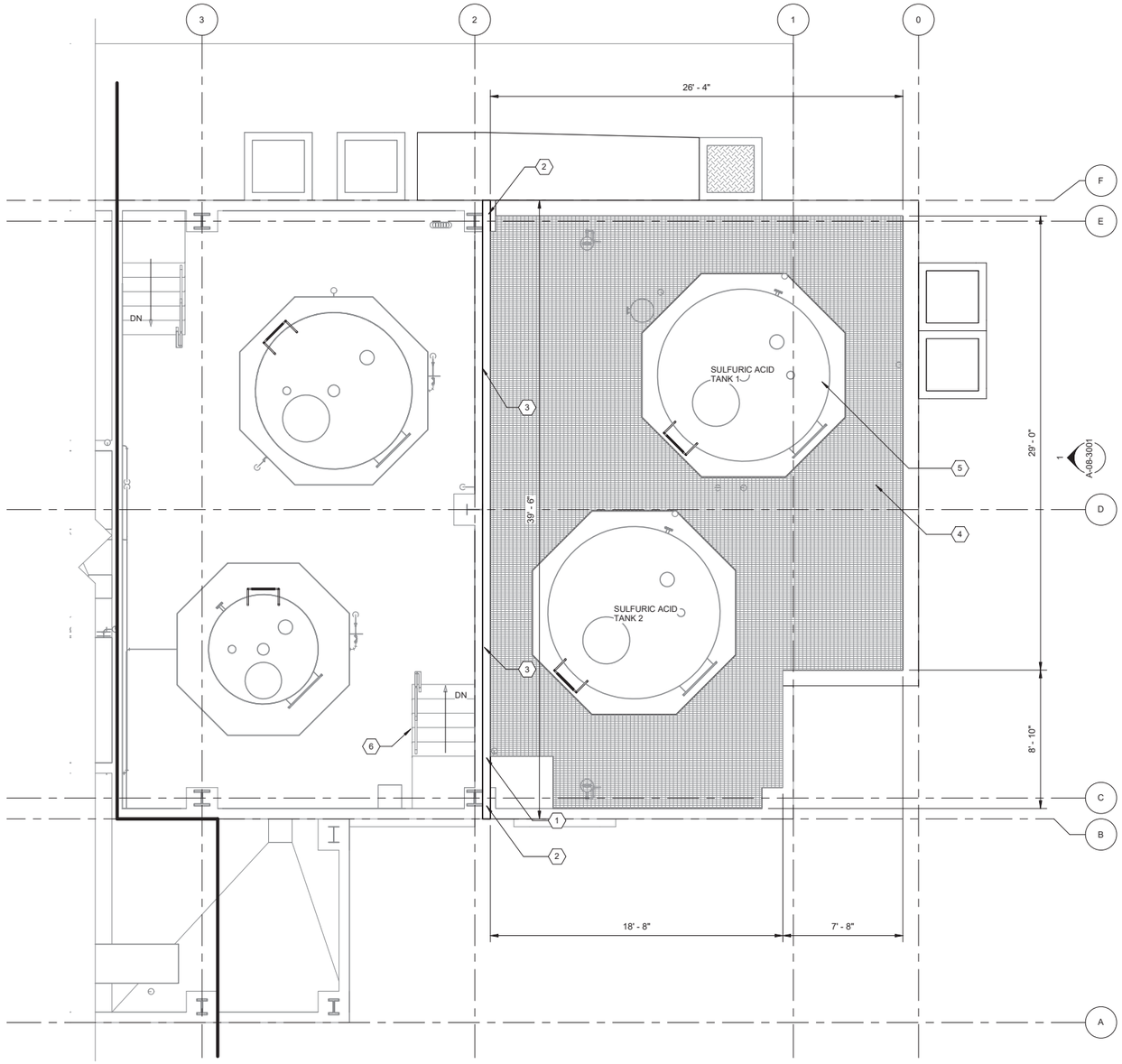
TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

PLAN NORTH



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

KEYNOTES:

1. METAL 2HR FIRE RATED WALL PANEL, TO UNDERSIDE OF CANOPY ROOF STRUCTURE. THE METAL WALL PANEL SHALL BE 22 GA WITH SHADOWLINE PROFILE ON BOTH FACES, AND 42" WIDE X 6" THICK, WITH CONCEALED FASTENERS. COLOR SHALL MATCH EXISTING METAL WALL PANELS ON SITE. PROVIDE METAL PANEL MANUFACTURED BY KINGSPAN GROUP OR APPROVED EQUAL.
2. CUSTOM END PANEL, SEE DETAIL 2 ON SHEET A-08-3001
3. GIRTS BY PRE-ENGINEERED BUILDING MANUFACTURER
4. FRP GRATING
5. TANK, REFERENCE PROCESS DRAWINGS
6. EXISTING STAIRS TO REMAIN

LICENSED ARCHITECT HARRY N. WILLIAMS C 8495 12/31/2022 STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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REVISIONS

CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS
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REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

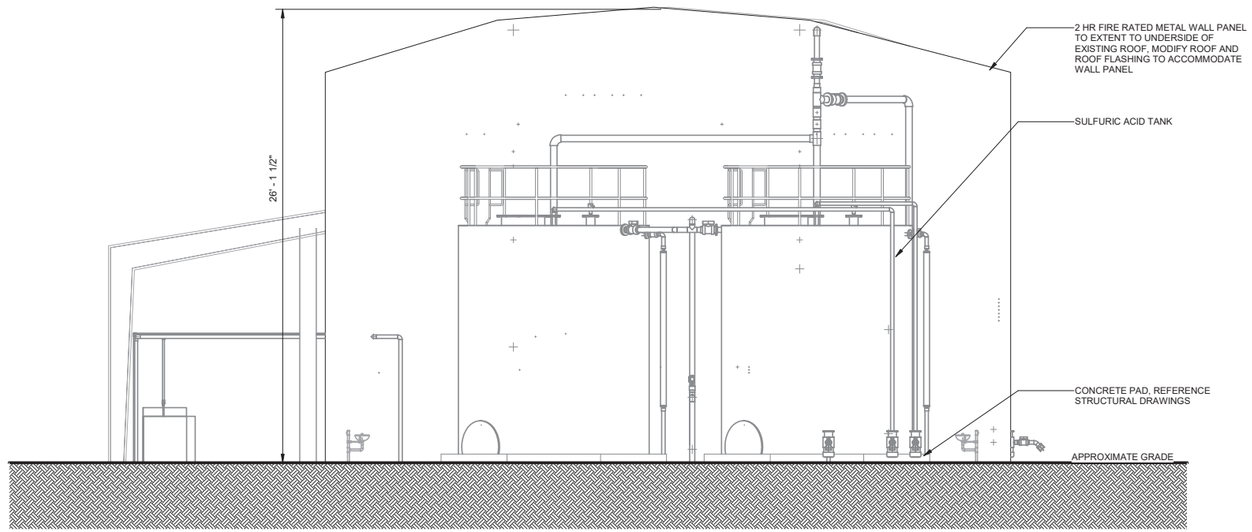
ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2002
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CHEMICAL STORAGE AREA PLAN

PROJECT AND SHEET TITLE

DESIGNED BY : DC
DRAWN BY : BG
CHECKED BY : BNW
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078
A-08-1001
SHT 68 OF 303 SHTS

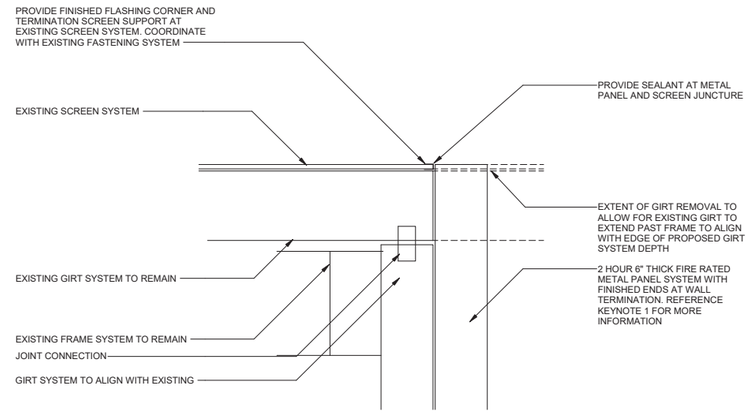


1 EAST ELEVATION
A-08-1001 SCALE: 1/4" = 1'-0"

NOTES: FOR EXTENT OF DEMOLITON IN THIS AREA REFERENCE DEMOLITION DRAWNGS.

BUILDING CODE CHEMICAL CHART

CHEMICAL	CONCENTRATION	STORAGE VOL (GAL)	MATERIAL	CLASS OF MOST HAZARDOUS MATERIAL	GROUP	CHEMICAL AREA MAX ALLOWABLE QUANITITY PER CONTROL AREA (INDOOR) (MOST HAZARDOUS MATERIAL)			CHEMICAL AREA MAX ALLOWABLE QUANITITY PER CONTROL AREA (OUTDOOR AREA) (MOST HAZARDOUS MATERIAL)		
						STORAGE	USE-CLOSED SYSTEM	USE OPEN SYSTEM	STORAGE	USE-CLOSED SYSTEM	USE OPEN SYSTEM
SULFURIC ACID	93%	9,250	CORROSIVE / HIGHLY TOXIC / WATER REACTIVE CLASS II	HEALTH HAZARD - N/A	OUTSIDE STORAGE (N/A)	10 (LB) / 10 (LIQ GA LB)	10 (LB) / 10 (LIQ GA LB)	3 (LB) / 3 (LIQ GA LB)	20 (LB) / 20 (LIQ GA LB)	10 (LB) / 10 (LIQ GA LB)	3 (LB) / 3 (LIQ GA LB)



2 END PANEL DETAIL
N.T.S.

LICENSED ARCHITECT HARRY N. WILLIAMS C 8495 REN. 08/31/2023 STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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REVISIONS

CONSULTANT: Brown and Caldwell; WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER

ENGINEERING AND STREET SERVICES
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DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

CHEMICAL STORAGE AREA SECTIONS AND DETAILS

DESIGNED BY :	DC
DRAWN BY :	BG
CHECKED BY :	BNW
CONSULTANT JOB/SHEET NO.	154390
DRAWING NO. 7078	A-08-3001
SHT	69 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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GENERAL

G 1 SCOPE
THE GENERAL NOTES AND STANDARD DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

G 2 PRECEDENCE
IF THERE IS A CONFLICT BETWEEN PROJECT SPECIFICATIONS AND STRUCTURAL DRAWINGS, INCLUDING STRUCTURAL NOTES, CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR CLARIFICATION. SPECIFIC NOTES AND DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

G 3 DIMENSIONS
STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO THE MECHANICAL OR ELECTRICAL EQUIPMENT AND DIMENSIONS RELATED TO EXISTING FACILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION DIMENSIONS AND NOTIFYING CONSTRUCTION MANAGER OF DISCREPANCIES IN A TIMELY FASHION.

G 4 PROVISIONS FOR EQUIPMENT
MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND EMBEDMENTS NOT SPECIFIED ON THE STRUCTURAL DRAWINGS, BUT SPECIFIED ON OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

G 5 MEANS, METHODS & CONSTRUCTION LOADS
CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS AND SEQUENCE OF CONSTRUCTION, AND SHALL MAKE ADEQUATE PROVISION TO MAINTAIN THE INTEGRITY OF ALL STRUCTURES AT ALL STAGES OF CONSTRUCTION. DETERMINATION OF AND PROVISIONS FOR CONSTRUCTION LOADING SHALL BE PROVIDED BY THE CONTRACTOR.

G 6 SAFETY
CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO ENSURE THE SAFETY OF WORKERS AND VISITORS TO THE SITE, INCLUDING BUT NOT LIMITED TO SHORING, BRACING AND ACCESS RESTRICTION. COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY CODES AND STANDARDS.

G 7 DRAINAGE SURFACES
SLOPE DRAINAGE SURFACES UNIFORMLY TO DRAIN. SLOPE SHALL BE 1/8" TO 1/4" PER FOOT EXCEPT WHERE NOTED OTHERWISE ON THE PLANS.

G 8 OPENINGS
OPENINGS THROUGH NEW AND EXISTING WALLS AND SLABS FOR PIPES, DUCTS, CONDUITS, ETC., ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES AND PROVIDE THESE OPENINGS IN ACCORDANCE WITH THE OTHER CONTRACT DOCUMENTS.

DESIGN CRITERIA

D 1 GOVERNING BUILDING CODE
CONSTRUCTION AND DESIGN SHALL BE IN ACCORDANCE WITH 2019 CALIFORNIA BUILDING CODE (CBC) WITH 2020 THE CITY OF LOS ANGELES BUILDING CODE (LABC) AMENDMENTS. THIS CODE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR CONTRACT PROVISIONS ARE MORE RESTRICTIVE.

D 2 LIVE LOADS
1. SLAB-ON-GRADE CONCRETE AREAS..... 400 PSF
2. ELEVATED CONCRETE SLAB AREAS..... 300 PSF
3. STAIRS, LANDINGS, AND PLATFORMS ..... 100 PSF
4. GRATING ..... 100 PSF
5. ROOF LIVE LOAD ..... 20 PSF

D 3 MAJOR EQUIPMENT LOADS

UV REACTOR	DL = 60,000 LBS
UV POWER DISTRIBUTION CENTER	DL = 2,000 LBS
HYDROGEN PEROXIDE TANK	DL = 90,000 LBS
BRINE TANK	DL = 59,000 LBS
BRINE PUMP	DL = 5,500 LBS
GAC TANK	DL = 782,000 LBS
DECARBONATOR TANK	DL = 110,000 LBS
RO FEED PUMP	DL = 3,300 LBS
SULFURIC ACID TANK	DL = 142,200 LBS
ANTISCALANT TANK	DL = 76,000 LBS
LIQUID AMMONIUM SULFATE TANK	DL = 72,000 LBS
BOOSTER SURGE TANK	DL = 30,000 LBS
BOOSTER PUMP	DL = 4,000 LBS

D 4 WIND

BASIC WIND SPEED (ULTIMATE)	105 MPH
RISK CATEGORY	IV
EXPOSURE CATEGORY	C
TOPOGRAPHIC FACTOR	K_{zt}= 1.0

D 5 SEISMIC

MCE_R ACCELERATION, SHORT PERIOD		S_S = 1.988 g
MCE_R ACCELERATION, 1-SEC PERIOD		S_1 = 0.711 g
SITE CLASS		D
DESIGN ACCEL, SHORT PERIOD		S_{DS} = 1.476 g
DESIGN ACCEL, 1-SEC PERIOD		S_{D1} = 1.086 g
RISK CATEGORY		IV
SEISMIC IMPORTANCE FACTOR	I_e = 1.50	I_p = 1.50
SEISMIC DESIGN CATEGORY		D
BASINS AND VAULTS:		
GROUND SUPPORTED REINFORCED CONCRETE TANKS WITH NON-SLIDING BASE (ASCE 7-16, TABLE 15.4-2)	R = 2	Ω_o = 2
UV & HYDROPEROXIDE TANK CANOPY, AND RO BUILDING EXPANSION (PRE-ENGINEERED METAL BUILDINGS):		
ORDINARY STEEL MOMENT FRAMES (ASCE 7-16, TABLE 12.2-1)	R = 3.5	Ω_o = 3
ORDINARY STEEL CONCENTRICALLY BRACED FRAMES (ASCE 7-16, TABLE 12.2-1)	R = 3.25	Ω_o = 2
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE EXCEPT AT LIQUID CONTAINING BASINS ANALYSIS BASED ON ACI 350.3-06	R_I = 2	R_c = 1

FOUNDATION

F 1 DESIGN BASIS
FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT, "GEOTECHNICAL AND GEOHAZARD INVESTIGATION REPORT", BY GEO-ADVANTEC, INC., DATED JANUARY 26, 2021. CONTRACTOR SHALL FOLLOW THE PROJECT SPECIFICATIONS AND TAKE INTO CONSIDERATION RECOMMENDATIONS CONTAINED IN THE REPORT. NOTIFY THE CONSTRUCTION MANAGER OF CONFLICTS BETWEEN SPECIFICATIONS AND THE REPORT RECOMMENDATIONS FOR RESOLUTION.

F 2 GROUNDWATER AND FLOOD DESIGN ELEVATIONS
HIGH GROUNDWATER = 8 BGS

F 3 ALLOWABLE BEARING PRESSURE
VARIES DEPENDING ON STRUCTURE, SEE FOUNDATION PLAN FOR EACH STRUCTURE.

F 4 MINIMUM FOUNDATION PREPARATION
SEE "ADDITIONAL FOUNDATION REQUIREMENTS" SECTION OF GENERAL STRUCTURAL NOTES, THIS SHEET. FOUNDATION PLAN FOR EACH STRUCTURE.

F 5 DIFFERING CONDITIONS
FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE INDICATED IN THE REPORT SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER. SUB-CONTRACTOR IS RESPONSIBLE FOR REPLACING WORK CONDUCTED AFTER SUCH NOTIFICATION BUT BEFORE CONSTRUCTION MANAGER PROVIDES ADDITIONAL DIRECTIONS.

F 6 EXCAVATION, DE-WATERING, & SAFETY
SUB-CONTRACTOR SHALL PROVIDE FOR ALL DE-WATERING OF EXCAVATIONS, AND DESIGN / PROVIDE ALL CRIBBING, SHORING, AND BRACING REQUIRED FOR SAFETY AND TO ALLOW CONSTRUCTION OF THE WORK PRESENTED HEREIN.

F 7 STRUCTURE BACKFILL
UNLESS NOTED OTHERWISE, BACKFILL SHALL BE PLACED IN UNIFORM LAYERS AND SHALL BE BROUGHT UP UNIFORMLY AROUND THE STRUCTURE. ADDITIONALLY, BACKFILL SHALL BE BROUGHT UP UNIFORMLY ON BOTH SIDES OF FOUNDATION WALLS. SEE SPECIFICATION 31 23 00 FOR ADDITIONAL INFORMATION.

CONCRETE

C 1 APPLICABLE CODES
CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 301-16 "SPECIFICATIONS FOR STRUCTURAL CONCRETE", AND THE FOLLOWING CODES:
ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
ACI 350-06 (FOR LIQUID CONTAINING STRUCTURES) - "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"

C 2 REINFORCING STEEL DETAILS
ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.

C 3 DESIGN STRENGTH
1. STRUCTURAL CAST-IN-PLACE CONCRETE..... f'c = 4,500 PSI
2. REINFORCED STEEL ..... ASTM A615, GRADE 60
DEFORMED BARS UNLESS OTHERWISE NOTED

C 4 CONCRETE COVER
CONCRETE COVER FOR REINFORCING BARS SHALL CONFORM TO ACI 350 AND AS FOLLOWS:
1. CONCRETE CAST AGAINST EARTH ..... 3"
2. CONCRETE EXPOSED TO EARTH, WASTEWATER, CHEMICALS OR WEATHER ..... 2"
3. CONCRETE NOT EXPOSED TO EARTH, WASTEWATER, CHEMICALS OR WEATHER ..... 1 1/2"

C 5 BAR DEVELOPMENT AND LAP SPLICE LENGTH
SEE TABLE AT THE END OF THESE STRUCTURAL NOTES. IN SLABS, BEAMS, GIRDERS AND HORIZONTAL REINFORCING AT WALLS, SPLICES OF ADJACENT REINFORCING STEEL BARS SHALL BE STAGGERED AT LEAST ONE SPLICE LENGTH, UNLESS OTHERWISE SPECIFIED.

C 6 WELDING REINFORCING BARS
ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706. REBAR WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4.

C 7 STANDARD HOOKS
BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-14. PROVIDE STANDARD HOOK IN BARS WHICH TERMINATE AT WALL OR SLAB EDGES / INTERSECTIONS THAT PROVIDE LESS THAN THE SPECIFIED DEVELOPMENT LENGTH.

C 8 CHAMFERS
EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE-ENTRANT CORNERS SHALL NOT HAVE FILLETS.

C 9 ANCHOR BOLTS AND ALL-THREAD RODS
ANCHOR BOLTS AND ALL-THREAD RODS SHALL BE STAINLESS STEEL TYPE 316 MATERIAL UNLESS OTHERWISE NOTED (SEE SPECIFICATIONS).

C 10 INSERTS
PROVIDE ANCHORAGE INSERTS ON CONCRETE WALLS AND CONCRETE CEILINGS IN GALLERIES, PIPE CHASES, TUNNELS AS REQUIRED BY MECHANICAL AND ELECTRICAL INSTALLATIONS. USE UNISTRUT P3200 SERIES HOT DIP GALVANIZED OR EQUAL UNLESS OTHERWISE SPECIFIED.

C 11 COMPATIBLE FINISHES
CURING COMPOUNDS AND OTHER SURFACE TREATMENTS, CONCRETE ADMIXTURES AND SUB-SLAB DRAINAGE SHALL BE REVIEWED BY CONTRACTOR AND CERTIFIED COMPATIBLE WITH FINISHES TO BE APPLIED LATER IN THE CONSTRUCTION SEQUENCE.

C 12 VAPOR BARRIER BELOW SLAB ON GRADE
VAPOR BARRIER, WHERE NOTED ON THE DRAWINGS, SHALL BE 10 MIL MINIMUM CLASS A OR B PLASTIC WATER VAPOR RETARDER PER ASTM E1745. INSTALL PER ASTM E1643. LAP JOINTS 6" AND SEAL WITH MANUFACTURER'S RECOMMENDED TAPE OR ADHESIVE.

C 13 EXPOSED ENDS OF REINFORCING BARS AT SAWCUT OPENINGS IN EXISTING CONCRETE
REMOVE REINFORCING BARS 1 1/2 INCHES BACK FROM FACE OF OPENING BY FLAME GOUGING. FILL HOLE AND REPAIR SURFACE WITH CONCRETE REPAIR MORTAR.

C 14 ADDITIONAL DIAGONAL REINFORCING
ADDITIONAL DIAGONAL REINFORCING AT OPENINGS IN WALLS AND SLABS SHALL BE PLACED IMMEDIATELY INWARD OF CURTAIN OR REINFORCING EACH FACE.

C 15 SLOPING CONCRETE SLAB THICKNESS
CONCRETE SLABS WITH SLOPED TOP SURFACE SHALL HAVE BOTTOM SLOPED TO MATCH TOP SURFACE, THEREBY MAINTAINING UNIFORM THICKNESS INDICATED ON THE DRAWINGS. AT THE SUB-CONTRACTOR'S OPTION, THE SLAB BOTTOM SURFACE MAY BE KEPT LEVEL MAINTAINING THE INDICATED THICKNESS AS A MINIMUM, PROVIDED THE MAXIMUM THICKNESS DOES NOT EXCEED 125% OF THE INDICATED THICKNESS FOR ELEVATED SLABS, AND 200% FOR SLABS AT GRADE.

C 16 TWO-PART DOWELS
AT SUB-CONTRACTOR'S OPTION, TWO-PART DOWELS MAY BE USED WHERE HORIZONTAL DOWELS SHOWN, EXCEPT AT CANTILEVER SECTION.

C 17 POST-INSTALLED CONCRETE ANCHORS
POST-INSTALLED CONCRETE ANCHORS SHALL BE PROVIDED PER DETAIL S3001 AND SPECIFICATION SECTION 05 05 20 WHERE SPECIFICALLY NOTED AND SHALL NOT BE CONSIDERED WHERE CAST-IN-PLACE ANCHORS ARE SPECIFIED.

GROUT

GR 1 PRECISION NON-SHRINK CEMENT GROUT FOR STRUCTURAL STEEL COLUMNS AND STANCHION PLATES:
MASTERFLOW 928 GROUT OR EQUAL APPROVED BY DESIGN-BUILDER.

GR 2 EQUIPMENT GROUTING
SEE MECHANICAL SPECIFICATIONS AND SPECIFICATION SECTION 03 60 00, GROUT.

GR 3 EPOXY ADHESIVE GROUT AT ANCHORS INTO CONCRETE:
HIT-RE 500v3 EPOXY ADHESIVE ANCHOR SYSTEM BY HILTI INC., SET-3G BY SIMPSON STRONG-TIE, OR EQUAL APPROVED BY ENGINEER OF RECORD. INSTALLERS OF HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS SHALL BE CERTIFIED IN ACCORDANCE WITH THE ACI / CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.

DOWELS

DL 1 LOCATE HOLES IN EXISTING CONCRETE TO MISS MAIN REINFORCING BARS, STIRRUPS, AND EMBEDMENTS. THIS MAY INVOLVE RELOCATING DOWELS FROM POSITIONS SHOWN. NOTIFY THE OWNER OF ANY DOWEL RELOCATIONS. PRIOR TO DRILLING HOLES, FIELD VERIFY AND MARK THE LOCATION OF NEARBY EXISTING REINFORCING BARS, STIRRUPS AND EMBEDMENTS USING A PACHOMETER. IF THEY ARE HIT DURING DRILLING, NOTIFY THE OWNER.

DL 2 CLEAN AND PREPARE HOLES IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS.

DL 3 FILL EACH HOLE WITH A SUFFICIENT AMOUNT OF EPOXY TO COMPLETELY SURROUND THE DOWEL. INSERT THE DOWEL AFTER THE EPOXY IS PLACED IN THE HOLE.

STEEL

ST 1 ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360-16), AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303-16), AND AISC 341-16, "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS".

ST 2 MATERIALS
1. STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO ASTM A36.
2. STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 TYPES E OR S, GRADE B. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B (Fy = 46 KSI).
3. ALL STAINLESS STEEL SHALL BE TYPE 316 MEETING ASTM A276 FOR BARS AND SHAPES, AND ASTM A240 FOR PLATES, UNLESS OTHERWISE SPECIFIED. ALL STAINLESS STEEL SHALL BE PASSIVATED PER ASTM A380.

ST 3 WELDING
1. WELDING SHALL CONFORM TO AWS D1.1-1 AND AISC 341-16.
2. ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO AWS A5.1 OR A5.5, CLASS E70XX.
3. STAINLESS STEEL WELDING SHALL CONFORM TO AWS D1.6 WITH A5.4 OR A5.9 ELECTRODES.

ST 4 BOLTS
STRUCTURAL BOLTS AT STEEL FRAMING SHALL BE GALVANIZED AND CONFORM TO ASTM F3125 GRADE A325N (TYPE 1) FOR CONNECTION OF GALVANIZED OR PAINTED FRAMING. HIGH STRENGTH BOLTS SHALL BE FULLY TENSIONED UNLESS CONNECTING HSS SHAPES OR OTHERWISE NOTED. STAINLESS STEEL TYPE 316 BOLTS SHALL BE USED FOR CONNECTION OF STAINLESS STEEL AND ALUMINUM FRAMING.

ST 5 EXPANSION ANCHORS
EXPANSION ANCHORS SHALL BE TYPE 316 STAINLESS STEEL "KWIK BOLT TZ2" BY HILTI INC. OR EQUAL APPROVED BY OWNER.

ST 6 ENCASED STEEL
STEEL COMPLETELY ENCASED IN CONCRETE SHALL NOT BE GALVANIZED OR PAINTED AND SHALL HAVE A CLEAN SURFACE FOR BONDING TO CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

ST 7 PAINTING
STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATION. SHOP PRIMER SHALL BE COMPATIBLE WITH FINISH COATINGS.

STEEL GRATING

SG 1 WHERE INDICATED ON DRAWINGS, GRATING SHALL BE WELDED STEEL BAR GRATING FABRICATED FROM STEEL CONFORMING TO ASTM SPECIFICATION A1011. GRATING THICKNESS SHALL BE 1 1/2" UNLESS NOTED OTHERWISE ON THE DRAWINGS. THE MINIMUM BEARING BAR WIDTH SHALL BE 3/16". BEARING BAR CLEAR SPACING SHALL NOT EXCEED 1" AND CROSSBAR SPACING SHALL NOT EXCEED 4" CENTER TO CENTER (NAAMM DESIGNATION W-19-4). STEEL GRATING SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM SPECIFICATION A123 AFTER FABRICATION.

SG 2 STEEL GRATING STAIR TREADS SHALL BE FABRICATED FROM 1 1/2" BAR GRATING AS DESCRIBED ABOVE AND SHALL COMPLY WITH NAAMM RECOMMENDATIONS CONTAINED IN THE METAL BAR GRATING MANUAL. TREADS SHALL BE GALVANIZED AND BE COMPLETE WITH ABRASIVE NOSINGS. CHECKERED PLATE NOSING IS NOT ALLOWED.

SG 3 STEEL GRATING SHALL BE ANCHORED TO SUPPORT STEEL WITH 1/4" DIAMETER SELF-TAPPING GALVANIZED SCREWS PLACED THROUGH GALVANIZED U-SHAPED CLIPS ENGAGING TWO MAIN BEARING BARS. MINIMUM FOUR CLIPS PER GRATING PANEL. MAXIMUM DISTANCE BETWEEN CLIPS SHALL BE THREE FEET.

SG 4 ALL GRATING, INCLUDING STAIR TREADS, SHALL BE SERRATED FOR SLIP RESISTENCE UNLESS NOTED OTHERWISE.

ALUMINUM

A 1 APPLICABLE CODE
ALUMINUM CONSTRUCTION SHALL CONFORM TO THE 2015 EDITION OF THE ALUMINUM DESIGN MANUAL OF THE ALUMINUM ASSOCIATION.

A 2 MATERIAL
1. ALUMINUM STRUCTURAL SHAPES SHALL BE ALLOY 6061-T6 PER ASTM B308.
2. ALUMINUM PIPE AND TUBING SHALL BE ALLOY 6061-T6 PER ASTM B241.
3. ALUMINUM PLATE SHALL BE ALLOY 6061-T6 PER ASTM B209.
4. ALUMINUM RAISED PATTERN (CHECKERED PLATE) PLATE SHALL BE ALLOY 6061-T6 TREAD PLATE PER ASTM B632.

A 3 DISSIMILAR MATERIALS
WHERE ALUMINUM IS IN CONTACT WITH CONCRETE OR MASONRY SURFACES, CONTACT SURFACE SHALL BE COATED WITH A HEAVY COAT OF ALKALI-RESISTANT BITUMINOUS PAINT.

FRP GRATING

FG 1 FIBERGLASS REINFORCED PLASTIC (FRP) GRATING SHALL BE "FIBERGRATE" (VI-CORR RESIN), OR EQUAL APPROVED BY OWNER, WITH 1 1/2" SQUARE GRID x 1 1/2" DEEP, UNLESS NOTED OTHERWISE, WITH AN ANTI-SKID SURFACE AND FIRE RESISTIVE RESIN. FRP GRATING SHALL BE 2-WAY GRATING; ONE WAY SPANNING GRATING WILL NOT BE ACCEPTED.

FG 2 FRP EMBEDMENT ANGLES, "EZ ANGLE" BY FIBERGRATE COMPOSITE STRUCTURES OR EQUAL APPROVED BY OWNER, SHALL BE USED AT SUMPS AND TRENCHES WITH FRP GRATING.

FG 3 FRP STAIR TREADS SHALL BE 1 1/2" THICK "FIBERTRED" OR "CHEMTRED" PANELS BY FIBERGRATE COMPOSITE STRUCTURES OR EQUAL APPROVED BY OWNER, WITH BARS AT 1 1/2" x 6" GRID, ANTI-SLIP GRIT TOP SURFACE AND A 1 1/2" WIDE GRITTED NOSING STRIP.

FG 4 FRP GRATING AND STAIR TREADS SHALL BE SECURED TO THE STRUCTURE WITH TYPE 316 STAINLESS STEEL CLIPS AND FASTENERS AT MAXIMUM 48" SPACING, MINIMUM 4 CLIPS PER PIECE OF GRATING (8 CLIPS MINIMUM FOR 4' x 12' PANELS).

FRP STRUCTURES

FS 1 FIBERGLASS REINFORCED PLASTIC (FRP) PLATFORMS, STAIRS, STRINGERS, RAILINGS, LADDERS, AND SUPPORT STRUCTURES SHALL BE MANUFACTURED FROM VINYL ESTER RESIN. FLAME SPREAD TO BE LESS THAN 25 PER ASTM E84 AND SHALL BE SELF-EXTINGUISHING PER ASTM D635. ALL FRP STRUCTURES SHALL BE MANUFACTURED WITH A ULTRA-VIOLET (UV) INHIBITOR. IN ADDITION, AN INDUSTRIAL GRADE POLYURETHANE UV RESISTANT COATING SHALL BE FACTORY APPLIED TO ALL FRP PRODUCTS AND FABRICATIONS.

FS 2 FRP STRUCTURES SHALL BE CONNECTED WITH TYPE 316 STAINLESS STEEL BOLTS.

FS 3 PULTRUDED FRP STRUCTURAL SHAPE SHALL HAVE THE FOLLOWING MINIMUM ULTIMATE COUPON PROPERTIES:
1. TENSILE STRESS IN LONGITUDINAL DIRECTION..... 30,000 PSI
2. COMPRESSIVE STRESS IN LONGITUDINAL DIRECTION..... 30,000 PSI
3. FLEXURAL STRESS IN LONGITUDINAL DIRECTION..... 30,000 PSI
4. SHORT BEAM SHEAR IN LONGITUDINAL DIRECTION..... 4,500 PSI
5. TENSILE STRESS IN TRANSVERSE DIRECTION..... 7,000 PSI
6. COMPRESSIVE STRESS IN TRANSVERSE DIRECTION..... 15,000 PSI
7. FLEXURAL STRESS IN TRANSVERSE DIRECTION..... 10,000 PSI
8. MODULUS OF ELASTICITY, FULL SECTION..... 2,800 KSI

ADDITIONAL FOUNDATION REQUIREMENTS

AFR 1 THE ENTIRE DEPTH OF UNDOCUMENTED FILL SHALL BE OVER-EXCAVATED, REMOVED AND BACKFILLED WITH PROPERLY COMPACTED FILL. EXCAVATION DEPTH IS APPROXIMATELY THE GREATER OF 5 FEET BELOW EXISTING GRADE OR AS SHOWN HEREIN. THE ACTUAL DEPTHS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD (GEOR) BASED ON OBSERVED FIELD CONDITIONS DURING EXCAVATION.

AFR 2 OVER-EXCAVATION SHALL EXTEND AT LEAST 5 FEET PAST THE OUTER FACES OF THE FOUNDATIONS IN ALL DIRECTION, OR TO THE LIMITS OF ADJACENT STRUCTURES, WHICHEVER IS LESS. WHERE NEW FOUNDATIONS ADJOIN EXISTING FOUNDATIONS, THE OVER-EXCAVATED SHALL ONLY EXTEND 1 FOOT BELOW THE BOTTOM OF THE EXISTING FOUNDATION. THE OVER-EXCAVATION SHALL SLOPE DOWN TO REQUIRED DEPTH MOVING AWAY FROM THE EXISTING STRUCTURE. CUT SLOPES OR SHORING FOR ALL EXCAVATED AREAS SHALL MEET THE MORE STRINGENT REQUIREMENTS OF CAL-OSHA, OSHA AND GEOR OBSERVING FIELD CONDITIONS DURING EXCAVATION.

AFR 3 FOLLOWING OVER-EXCAVATION, THE REMAINING SUBGRADE SHALL BE SCARIFIED A MINIMUM OF 8 INCHES DEEP, PROPERLY MOISTURE-CONDITIONED AND COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY (MDD) PRIOR TO PLACING ENGINEERED FILL. NO ENGINEERED FILL SHALL BE PLACED UNTIL ADEQUATELY PREPARED SUBGRADE HAS BEEN INSPECTED AND APPROVED BY THE GEOR.

AFR 4 ENGINEERED FILL SHALL BE THOROUGHLY MIXED, MOISTURE CONDITIONED AND PLACED IN UNIFORM LAYERS OF 8 INCHES OR LESS PRIOR TO COMPACTION. ENGINEERED FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MDD. ENGINEERED FILL EXTENDING PAST THE LIMITS OF THE FOUNDATION SHALL BE PLACED TO AN ELEVATION LEVEL WITH THE BOTTOM OF THE ADJACENT FOUNDATION. BACKFILL MATERIAL SHALL EXTEND THE REST OF THE WAY UP TO FINISHED GRADE.

AFR 5 ENGINEERED FILL SHALL BE FREE OF DEBRIS, ORGANIC MATERIALS, AND ROCKS OR HARD FRAGMENTS LARGER THAN 3 INCHES. THE ON-SITE SHALLOW SOILS CONSISTING OF SANDY LEAN CLAYS, CLAYEY SANDS, AND SILTY SANDS ARE ANTICIPATED TO BE SUITABLE FOR RE-USE AS ENGINEERED FILL UPON PROPER CONDITIONING. IMPORT MATERIAL, IF NEEDED, SHALL HAVE AN EXPANSION INDEX LESS THAN 35, CONTAIN SUFFICIENT FINES, AND A SAMPLE OF THE MATERIAL SHALL BE SUBMITTED TO THE GEOR FOR APPROVAL PRIOR TO FILL OPERATIONS COMMENCEMENT.

AFR 6 BACKFILL MATERIAL THE ON-SITE SHALLOW SOILS DESCRIBED ABOVE ARE SUITABLE TO BE RE-USED AS BACKFILL UPON PROPER CONDITIONING. IMPORT MATERIAL, IF NEEDED, SHALL BE FREE OF DEBRIS, ORGANIC MATERIALS AND COBBLES LARGER THAN 3 INCHES, WITH NO MORE THAN 25 PERCENT OF THE MATERIAL LARGER THAN 2 INCHES AND NO MORE THAN 50 PERCENT PASSING No. 200 SIEVE. THE GEOR SHALL APPROVE BACKFILL MATERIAL PRIOR TO FILL OPERATIONS COMMENCEMENT. BACKFILL MATERIAL SHALL BE THOROUGHLY MIXED, MOISTURE CONDITIONED AND PLACED IN UNIFORM LAYERS OF 12 INCHES OR LESS PRIOR TO COMPACTION. BACKFILL SHALL BE COMPACTED TO AT LEAST 90 PERCENT OF MDD.

REGISTERED PROFESSIONAL ENGINEER
ERIC J. FALLEN
S6132
(DIGITALLY SIGNED)
STRUCTURAL
STATE OF CALIFORNIA
12/22/2021

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TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT

REVIEWED BY: DATE: _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY: DATE: _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY: DATE: _____ 20__

CITY CLIENTS

REFERENCE:
DATE: _____, 20XX
SUBMITTED BY:
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME:
SP-FILE NO.: SP2602
APPROVED BY: DATE: _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

ENGINEERING AND STREET SERVICES

OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

GENERAL NOTES – 1

PROJECT AND SHEET TITLE

DESIGNED BY: EJF
DRAWN BY: REK
CHECKED BY: AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078
S-01-0001
SHT 70 OF 303 SHTS

SPECIAL INSPECTIONS

SI 1AN INDEPENDENT TESTING COMPANY RETAINED BY THE DESIGN-BUILDER REPRESENTATIVE AND APPROVED BY THE BUILDING OFFICIAL SHALL INSPECT THE FOLLOWING (SEE EXPANDED LIST ON DRAWINGS S-01-0003 AND S-01-0004, SPECIFICATIONS AND GOVERNING CODE):

1. SOIL COMPACTION AT FOUNDATIONS.
2. REINFORCING BAR, CONCRETE PLACEMENT AND TAKING OF CONCRETE TEST SPECIMENS.
3. ANCHOR BOLTS.
4. FIELD WELDING OF STRUCTURAL STEEL AND ALUMINUM.
5. SHOP WELDING OF STRUCTURAL STEEL EXCEPT WHERE WELDING IS DONE IN AN APPROVED FABRICATOR'S SHOP IN ACCORDANCE WITH THE PROVISIONS OF THE GOVERNING BUILDING CODE.
6. EXPANSION ANCHOR INSTALLATION.
7. ANCHORS INSTALLED USING EPOXY ADHESIVE.
8. HIGH STRENGTH BOLTING.
9. MECHANICAL AND ELECTRICAL EQUIPMENT, PERIODIC SPECIAL INSPECTION OF STRUCTURAL COMPONENTS FOR SEISMIC RESISTANCE:
   - A. ANCHORAGE OF ELECTRICAL EQUIPMENT.
   - B. EMERGENCY AND STANDBY POWER SYSTEMS.
   - C. PIPING SYSTEMS INTENDED TO CARRY FLAMMABLE, COMBUSTIBLE OR HIGHLY TOXIC CONTENTS AND THEIR ASSOCIATED UNITS.
   - D. HVAC DUCTWORK THAT WILL CONTAIN HAZARDOUS MATERIALS.
   - E. INSTALLATION OF COMPONENTS WHERE THE COMPONENT IMPORTANCE FACTOR IS 1.5.
   - F. ELECTRICAL MOTORS, TRANSFORMERS, SWITCHGEAR UNIT SUBSTATIONS, AND MOTOR CONTROL CENTERS.
   - G. TANKS, HEAT EXCHANGERS, AND PRESSURE VESSELS.
   - H. EQUIPMENT USING COMBUSTIBLE ENERGY SOURCES.
   - I. EQUIPMENT VIBRATION ISOLATION SYSTEMS.

SI 2DESIGN-BUILDER SHALL NOTIFY THE TESTING COMPANY FOR ALL INSPECTIONS.

STRUCTURAL OBSERVATIONS

SO 1 THE OWNER SHALL RETAIN A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS. THE CONSTRUCTION MANAGER SHALL NOTIFY THE OWNER AT LEAST 48 HOURS BEFORE A DESIGNATED WORK IS TO BE COVERED. REFER TO SPECIFICATION 01 45 00 FOR ADDITIONAL REQUIREMENTS.

SO 2 REQUIRED STRUCTURAL OBSERVATIONS INCLUDE:

1. STRUCTURAL FILL.
2. FOUNDATIONS PREPARED FOR CONCRETE PLACEMENT.
3. COMPLETION OF BEARING WALLS PRIOR TO COVER-UP WITH NON-STRUCTURAL ELEMENTS.
4. COMPLETION OF LATERAL FORCE RESISTING ELEMENTS INCLUDING MOMENT CONNECTIONS, BRACING, DIAPHRAGMS, AND OTHER ELEMENTS.

STRUCTURAL DEFERRED SUBMITTALS

SDS 1 THE DESIGN-BUILDER SHALL SUBMIT DRAWINGS AND CALCULATIONS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN CALIFORNIA TO THE DESIGN-BUILDER REPRESENTATIVE FOR REVIEW. DEFERRED SUBMITTALS SHALL MEET THE REQUIREMENTS OF THEIR RESPECTIVE TECHNICAL SPECIFICATION SECTION REFERENCED AS WELL AS SECTION 01 73 24. STRUCTURAL DEFERRED SUBMITTALS INCLUDE:

1. ANCHOR BOLTS FOR ALL EQUIPMENT ANCHORAGE, SEE SECTION 05 05 20.
2. GUARDRAILS AND HANDRAILS, SEE SECTION 05 52 10.
3. FLOOR AND ROOF ACCESS HATCHES, SEE SECTION 05 50 00.
4. PRE-ENGINEERED METAL BUILDINGS, INCLUDING ANCHORAGE AND ANY MODIFICATIONS TO DESIGN TO ACCOMODATE ANCHORS, SEE SECTION 13 49 19.
5. FRP PLATFORMS AND FRP SUPPORT STRUCTURES, SEE SECTIONS 06 71 10 AND 06 74 13.
6. EQUIPMENT ACCESS PLATFORMS AS SPECIFIED, SEE SPECIFIC EQUIPMENT AND TANK SECTIONS.
7. CONSTRUCTION SHORING, SEE SECTION 31 41 00.
8. ELECTRICAL BUILDING AND FOUNDATION SLAB, SEE SECTION 26 24 26.01.

TENSION DEVELOPMENT AND LAP SPLICE LENGTHS (IN INCHES)

BAR SIZE	APPLICATION	CONCRETE COVER = 1.50 IN.			CONCRETE COVER = 2.00 IN.			CONCRETE COVER = 3.00 IN.		
		TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING
#3	DEVELOPMENT	12	12	3.50	12	12	4.50	12	12	6.50
	LAP SPLICE	16	16	3.75	16	16	4.75	16	16	6.75
#4	DEVELOPMENT	15	12	3.50	15	12	4.50	15	12	6.50
	LAP SPLICE	20	16	4.00	20	16	5.00	20	16	7.00
#5	DEVELOPMENT	19	15	3.75	19	15	4.75	19	15	6.75
	LAP SPLICE	24	19	4.25	24	19	5.25	24	19	7.25
#6	DEVELOPMENT	22	17	3.75	22	17	4.75	22	17	6.75
	LAP SPLICE	29	22	4.50	29	22	5.50	29	22	7.50
#7	DEVELOPMENT	37	28	4.00	33	25	5.00	33	25	7.00
	LAP SPLICE	48	37	4.75	42	33	5.75	42	33	7.75
#8	DEVELOPMENT	47	36	4.00	37	29	5.00	37	29	7.00
	LAP SPLICE	60	47	5.00	48	37	6.00	48	37	8.00
#9	DEVELOPMENT	57	44	3.25	46	36	5.25	42	32	7.25
	LAP SPLICE	74	57	4.25	60	46	6.25	55	42	8.25

NOTES:
1. TABULATED VALUES ARE BASED ON UNCOATED GRADE 60 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE MINIMUM f'c = 4,000 PSI.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 IN. OF FRESH CONCRETE CAST BELOW THE BARS.
3. LAP SPLICE LENGTHS ARE LAP CLASS B = 1.3 l_d.
4. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14.
5. LENGTHS ABOVE THE HEAVY LINE DO NOT CHANGE BASE ON COVER THICKNESS. LENGTHS BELOW THE HEAVY LINE ARE DIFFERENT AT EACH COVER THICKNESS.

REGISTERED PROFESSIONAL ENGINEER
ERIC J. FALKEN
S6132
DIGITALLY SIGNED
STRUCTURAL
STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
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NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell; WALSH

CITY CLIENTS
REVIEWED BY: DATE: _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY: DATE: _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY: DATE: _____ 20__

ENGINEERING AND STREET SERVICES
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SUBMITTED BY:
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME:
SP-FILE NO.: SP2602
APPROVED BY: DATE: _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

GENERAL NOTES – 2

DESIGNED BY: EJF
DRAWN BY: REK
CHECKED BY: AZ
CONSULTANT JOB/SHEET NO.: 154390
DRAWING NO. 7078: S-01-0002
SHT 71 OF 303 SHTS

TITLE OF PROJECT: OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION

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TABLE 1				
REQUIRED SPECIAL INSPECTIONS - STRUCTURAL SYSTEMS				
SYSTEM OR MATERIAL	REQUIRED INSPECTION	FREQUENCY OF INSPECTION		REMARKS
		CONTINUOUS	PERIODIC	
SOILS	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X	
	VERIFY SOIL MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY		X	
	PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X	
	PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X	SEE TABLE 3
	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	X		SEE TABLE 3
	VERIFY USE OF DRAIN ROCK BEHIND RETAINING WALLS		X	
	PROOF ROLLING OF SOILS DISTURBED BY GROUND IMPROVEMENTS		X	
CONCRETE	INSPECT FORMWORK FOR LOCATION AND DIMENSIONS OF MEMBER BEING FORMED		X	
	VERIFY MATERIAL FOR REINFORCEMENT		X	DESIGN-BUILDER TO SUBMIT CERTIFIED MILL TEST REPORTS
	REINFORCING STEEL PLACEMENT		X	
	INSPECT ANCHORS TO BE CAST IN CONCRETE		X	PRIOR TO AND DURING CONCRETE PLACEMENT
	INSPECT POST-INSTALLED CONCRETE ANCHORS: - HORIZONTAL AND UPWARDLY INCLINED ADHESIVE ANCHORS - OTHER ANCHORS UNLESS ICC REPORT REQUIRED CONTINUOUS INSPECTION	X	X	INSPECTION TO CONFORM TO CBC AND TO ANCHOR MANUFACTURER'S RECOMMENDATIONS AND ICC REPORTS
	VERIFY USE OF REQUIRED CONCRETE MIX DESIGN(S)		X	
	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND TEMPERATURE OF CONCRETE	X		CONTINUOUS DURING PREPARATION OF SAMPLES
	CONCRETE PLACEMENT	X		
	INSPECTION FOR MAINTENANCE OF CURING PROCEDURES AND TEMPERATURE		X	VERIFY APPROPRIATE CURING METHOD HAS BEEN IMPLEMENTED AFTER EACH POUR
	VERIFY IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM STRUCTURAL SLABS AND BEAMS		X	
	CEMENTITIOUS GROUTING OF BASE PLATES AND EPOXY GROUTING FOR EQUIPMENT MOUNTING	X		
STRUCTURAL STEEL AND ALUMINUM	FABRICATION OF STRUCTURAL ELEMENTS			FABRICATOR SHALL BE APPROVED IN ACCORDANCE WITH CBC, CHAPTER 17 TO PERFORM WORK WITHOUT SPECIAL INSPECTION
	VERIFY MATERIAL OF ANCHOR BOLTS AND THREADED RODS		X	DESIGN-BUILDER TO SUBMIT MANUFACTURER'S CERTIFIED TEST REPORTS
	VERIFY MATERIAL OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		X	DESIGN-BUILDER TO SUBMIT MANUFACTURER'S CERTIFIED TEST REPORTS
	VERIFY MATERIAL FOR STRUCTURAL STEEL AND ALUMINUM SHAPES, PLATES, BARS, ETC.		X	DESIGN-BUILDER TO SUBMIT CERTIFIED MILL TEST REPORTS
	VERIFY MATERIALS FOR WELD FILLER MATERIALS		X	
	VERIFY WELDER QUALIFICATIONS		X	DESIGN-BUILDER TO SUBMIT WELDERS CERTIFICATES
	VERIFY USE OF PROPER WELDING PROCEDURES		X	
	INSPECT COMPLETE AND PARTIAL-PENETRATION GROOVE WELDS, MULTI-PASS FILLET WELDS, AND SINGLE-PASS FILLET WELDS GREATER THAN 5/16"	X		
	INSPECT SINGLE-PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16"		X	VISUALLY INSPECT ALL WELDS
	INSPECT HIGH-STRENGTH BEARING-TYPE BOLTED CONNECTIONS		X	
	INSPECT HIGH-STRENGTH SLIP CRITICAL-TYPE BOLTED CONNECTIONS	X		
	VERIFY TYPE, DEPTH AND GAGE OF DECKING AND GRATING		X	
	INSPECT INSTALLATION (ATTACHMENT) OF DECKING AND GRATING		X	

TABLE 1 (Continued)				
REQUIRED SPECIAL INSPECTIONS - STRUCTURAL SYSTEMS				
SYSTEM OR MATERIAL	REQUIRED INSPECTION	FREQUENCY OF INSPECTION		REMARKS
		CONTINUOUS	PERIODIC	
FRP	VERIFY MATERIAL FOR FRP SHAPES, PLATES, BAR, ETC.		X	
	VERIFY BOLTS, NUTS AND WASHERS USED AT FRP CONNECTIONS		X	
	VERIFY TYPE AND DEPTH OF FRP GRATING		X	
	INSPECT ATTACHMENT OF FRP GRATING TO SUPPORTS		X	

QUALITY ASSURANCE NOTES

1. THE QUALITY OF THE WORKMANSHIP AND THE QUALITY OF THE MATERIALS OF CONSTRUCTION ARE GOVERNED BY THE 2019 CALIFORNIA BUILDING CODE (CBC).
2. ALL NEW STRUCTURES AND MODIFICATIONS TO EXISTING STRUCTURES TO BE CONSTRUCTED AS A PART OF THIS PROJECT ARE CLASSIFIED AS OCCUPANT CATEGORY III, WATER TREATMENT FACILITY, IN ACCORDANCE WITH THE CBC. THE STRUCTURES ARE CLASSIFIED AS SEISMIC DESIGN CATEGORY D.
3. TO ASSURE THE QUALITY OF THE CONSTRUCTION OF THIS PROJECT, STRUCTURAL TESTS, SPECIAL INSPECTION AND STRUCTURAL OBSERVATION WILL BE PERFORMED IN ACCORDANCE WITH CBC, CHAPTER 17.
4. WHERE FREQUENCY OF INSPECTION IS SPECIFIED TO BE CONTINUOUS, THE SPECIAL INSPECTOR IS EXPECTED TO BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED AND PROVIDING FULL-TIME OBSERVATION OF THE WORK REQUIRING SPECIAL INSPECTION.
5. WHERE FREQUENCY OF INSPECTION IS SPECIFIED TO BE PERIODIC, THE SPECIAL INSPECTOR IS EXPECTED TO BE PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK (PRIOR TO THE NEXT CONSTRUCTION TASK).
6. SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE BUILDING OFFICIALS. CONSTRUCTION IS SUBJECT TO INSPECTION BY THE BUILDING OFFICIAL. COORDINATE WITH BUILDING DEPARTMENT TO DETERMINE REQUIRED INSPECTIONS.
7. DESIGN-BUILDER SHALL PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS. DESIGN-BUILDER SHALL PROVIDE NOTIFICATION IN ADVANCE OF REQUIRED INSPECTIONS, TESTING AND STRUCTURAL OBSERVATIONS.

REGISTERED PROFESSIONAL ENGINEER ERIC J. FALKEN S6132 DIGITALLY SIGNED STRUCTURAL STATE OF CALIFORNIA
12/22/2021

City of Santa Monica
PUBLIC WORKS DEPARTMENT
1685 MAIN STREET, MAIL STOP 15, SANTA MONICA, CA 90401
TEL. (310) 458-8721 FAX. (310) 393-4425

NO.	DATE	BY	DESCRIPTION	APPROVED

REVISIONS

CONSULTANT: Brown AND Caldwell / WALSH

CITY CLIENTS
REVIEWED BY : DATE : _____ 20__
SUNNY WANG, P.E. – WATER RESOURCES MANAGER
REVIEWED BY : DATE : _____ 20__
OMEED POUR, P.E. – PROJECT MANAGER
REVIEWED BY : DATE : _____ 20__

ENGINEERING AND STREET SERVICES
REFERENCE :
DATE : _____, 20XX
SUBMITTED BY :
CURTIS CASTLE, P.E. – PRINCIPAL C.E.
COMPUTER FILE NAME :
SP-FILE NO. : SP2602
APPROVED BY : DATE : _____, 20XX
ALEX NAZARCHUK, P.E. – CITY ENGINEER

PROJECT AND SHEET TITLE
OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
GENERAL NOTES – 3

DESIGNED BY : EJF
DRAWN BY : REK
CHECKED BY : AZ
CONSULTANT JOB/SHEET NO. 154390
DRAWING NO. 7078 S-01-0003
SHT 72 OF 303 SHTS

TITLE OF PROJECT : OLYMPIC WELL FIELD RESTORATION AND ARCADIA WTP EXPANSION
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