CITY OF NORTH MIAMI

PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT

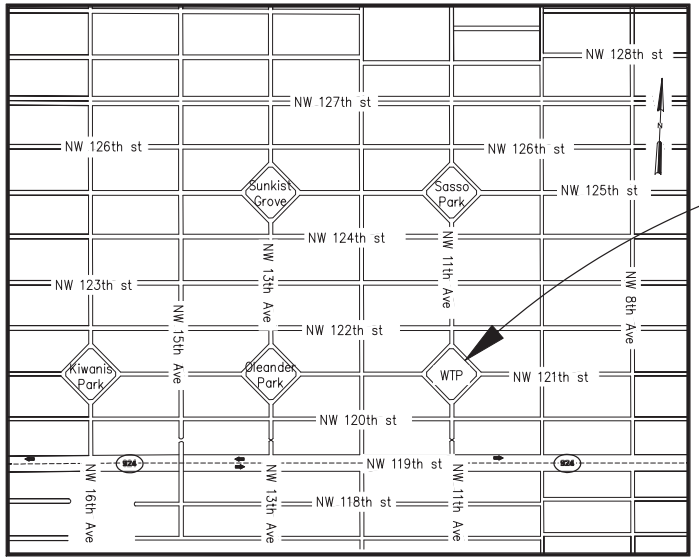
RELIABILITY IMPROVEMENTS
VOLUME A: FILTER REHAB

VOLUME A: GENERAL, CIVIL, MECHANICAL, INSTRUMENTATION, STRUCTURAL AND ELECTRICAL

NORTH MIAMI
FLORIDA

HAZEN AND SAWYER
Environmental Engineers & Scientists

4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771



PROJECT LOCATION:
12098 NORTHWEST 11th AVE
NORTH MIAMI, FLORIDA 33168

LOCATION MAP
NOT TO SCALE

JULY 2015
REQUEST FOR PROPOSAL

TITLE SHEET AND LOCATION MAP
SHEET 1 OF 69
DRAWING No. G-01

H&S PROJECT No.44238-004 – VOLUME A – FILTER REHAB
REQUEST FOR PROPOSAL

PLOT DATE: 7/29/2015 2:57 PM BY: TBOCAS
XREFs: ..\..\Base\Location_Map
File = N:\44238-004\Drawings\design build package\volume a – filter rehab\bid package 1 – filter rehab\Gen\44238-004BP1-G01 Saved by tbocas Save date = 7/24/2015 8:49 AM

LIST OF DRAWINGS
VOLUME A : FILTER REHAB

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
		GENERAL
1	G-01	COVER SHEET
2	G-02	LIST OF DRAWINGS SHEET 1
3	G-03	LIST OF DRAWINGS SHEET 2
4	G-04	LIST OF DRAWINGS SHEET 3
5	G-05	ABBREVIATIONS, SYMBOLS AND LEGEND
		CIVIL
6	C-01	EXISTING SITE PLAN
7	C-02	STAGING PLAN AND PROJECT AREA LOCATION
8	C-03	CIVIL DETAILS
		MECHANICAL
9	M-01	EXISTING CONDITIONS LOWER PLAN
10	M-02	EXISTING CONDITIONS UPPER PLAN
11	M-03	EXISTING CONDITIONS PHOTOS – SHEET 1
12	M-04	EXISTING CONDITIONS PHOTOS – SHEET 2
13	M-05	EXISTING CONDITIONS PHOTOS – SHEET 3
14	M-06	EXISTING CONDITIONS PHOTOS – SHEET 4
15	M-07	FILTER DEMOLITION LOWER PLAN
16	M-08	FILTER POST-DEMOLITION LOWER PLAN
17	M-09	FILTER DEMOLITION UPPER PLAN
18	M-10	FILTER POST-DEMOLITION UPPER PLAN
19	M-11	FILTER DEMOLITION SECTION 1
20	M-12	FILTER POST-DEMOLITION SECTION 1
21	M-13	FILTER DEMOLITION SECTION 2
22	M-14	FILTER POST-DEMOLITION SECTION 2
23	M-15	FILTER DEMOLITION SECTION 3
24	M-16	FILTER POST-DEMOLITION SECTION 3
25	M-17	MECHANICAL PIPING SCHEMATIC
26	M-18	PROPOSED FILTERS LOWER PLAN AND LIFE SAFETY PLAN
27	M-19	PROPOSED FILTERS UPPER PLAN
28	M-20	PROPOSED FILTERS SECTION 1 AND HEAD ROOM CLEARANCE
29	M-21	PROPOSED FILTERS SECTION 2
30	M-22	PROPOSED FILTERS SECTION 3
31	M-23	PROPOSED FILTERS SECTION 4
32	M-24	DETAILS – SHEET 1
33	M-25	DETAILS – SHEET 2
		INSTRUMENTATION
34	I-01	SYMBOLS AND LEGEND
35	I-02	BLOCK DIAGRAM
36	I-03	PROCESS AND INSTRUMENTATION DIAGRAM FILTER NO. 1
37	I-04	PROCESS AND INSTRUMENTATION DIAGRAM FILTER NO. 2
38	I-05	PROCESS AND INSTRUMENTATION DIAGRAM FILTER NO. 3
39	I-06	PROCESS AND INSTRUMENTATION DIAGRAM FILTER NO. 4
40	I-07	INSTRUMENTATION DETAILS SHEET 1
41	I-08	INSTRUMENTATION DETAILS SHEET 2

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
		STRUCTURAL
42	S-01	GENERAL NOTES
43	S-02	EXISTING CONDITIONS LOWER PLAN
44	S-03	EXISTING CONDITIONS UPPER PLAN
45	S-04	EXISTING CONDITIONS PHOTOS
46	S-05	FILTER DEMOLITION LOWER PLAN
47	S-06	FILTER DEMOLITION UPPER PLAN
48	S-07	FILTER DEMOLITION SECTION 1
49	S-08	FILTER DEMOLITION SECTION 2
50	S-09	PROPOSED FILTERS LOWER PLAN
51	S-10	PROPOSED FILTERS UPPER PLAN
52	S-11	SECTIONS
53	S-12	DETAILS – SHEET 1
54	S-13	DETAILS – SHEET 2
55	S-14	DETAILS – SHEET 3
56	S-15	DETAILS – SHEET 4
		ELECTRICAL
57	E-01	ELECTRICAL LEGEND AND NOTES
58	E-02	GENERAL NOTES AND SPECIFICATIONS
59	E-03	ELECTRICAL SITE PLAN
60	E-04	ELECTRICAL DEMOLITION
61	E-05	ELECTRICAL PLAN PIPE GALLERY LOWER PLAN
62	E-06	ELECTRICAL PLAN PIPE GALLERY UPPER PLAN
63	E-07	ELECTRICAL PLAN SECOND FLOOR
64	E-08	EXISTING SINGLE LINE DIAGRAM
65	E-09	PROPOSED SINGLE LINE DIAGRAM
66	E-10	CONDUIT AND WIRE SCHEDULES
67	E-11	PANEL AND FIXTURE SCHEDULES
68	E-12	MISCELLANEOUS ELECTRICAL STANDARD DETAILS SHEET 1
69	E-13	MISCELLANEOUS ELECTRICAL STANDARD DETAILS SHEET 2

PLOT DATE: 7/29/2015 2:57 PM BY: TBOCAS

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-G02

NORTH MIAMI FLORIDA
CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
LIST OF DRAWINGS
SHEET 1

DATE: JULY 2015
SHEET: 2 OF 69
DRAWING: G-02

REQUEST FOR PROPOSAL

XREFs= ..\Tblock\44238-004-BP1-TB

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Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

LIST OF DRAWINGS
VOLUME B : WTP REHAB

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
		GENERAL
1	G-01	COVER SHEET
2A	G-2A	LIST OF DRAWINGS SHEET 1
2	G-02	LIST OF DRAWINGS SHEET 2
3	G-03	LIST OF DRAWINGS SHEET 3
4	G-04	ABBREVIATIONS, SYMBOLS AND LEGEND
5	G-05	GENERAL NOTES
6	G-06	EXISTING SITE PLAN
7	G-07	EXISTING SITE AERIAL AND ZONING MAP
8	G-08	PROPOSED SITE PLAN
9	G-09	PROPOSED STAGING PLAN – PHASE I
10	G-10	PROPOSED STAGING PLAN DEMOLITION PLAN – PHASE I
11	G-11	PROPOSED STAGING PLAN CONSTRUCTION PLAN – PHASE I
12	G-12	PROPOSED STAGING PLAN PHASES II, III & IV
13	G-13	PROPOSED STAGING PLAN DEMOLITION AND CONSTRUCTION PLAN – PHASE II
14	G-14	PROPOSED STAGING PLAN DEMOLITION PLAN – PHASE III
15	G-15	PROPOSED STAGING PLAN CONSTRUCTION PLAN – PHASE III
16	G-16	PROPOSED STAGING PLAN DEMOLITION PLAN – PHASE IV
17	G-17	PROPOSED STAGING PLAN CONSTRUCTION PLAN – PHASE IV
		CIVIL
18	C-01	YARD PIPING – EXISTING PLAN
19	C-02	YARD PIPING – DEMOLITION PLAN SEQUENCING
20	C-03	YARD PIPING – PROPOSED PLAN
21	C-04	YARD PIPING – DETAILS SHEET 1
22	C-05	YARD PIPING – DETAILS SHEET 2
23	C-06	YARD PIPING – DETAILS SHEET 3
24	C-07	YARD PIPING – DETAILS SHEET 4
25	C-08	YARD PIPING – DETAILS SHEET 5
26	C-09	PAVING, GRADING & DRAINAGE EXISTING PLAN
27	C-10	PAVING, GRADING & DRAINAGE EXISTING CONDITION PHOTOS
28	C-11	PAVEMENT MARKING AND SIGNAGE PLAN
29	C-12	SITE PLAN DETAILS
30	C-13	SETBACK PLAN
31	C-14	PAVING, GRADING & DRAINAGE PROPOSED PLAN
32	C-15	SWALES DRAINAGE PROPOSED PLAN
33	C-16	GATE NO. 1
34	C-17	GATE NO. 2
35	C-18	GATE NO. 3
36	C-19	GATE NO. 5
37	C-20	GATE NO. 6
38	C-21	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 1
39	C-22	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 2
40	C-23	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 3
41	C-24	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 4
42	C-25	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 5
43	C-26	PAVING, GRADING & DRAINAGE SECTIONS – SHEET 6
44	C-27	BREEZEWAY PLANS AND DETAILS
45	C-28	CIVIL DETAILS SHEET 1
46	C-29	CIVIL DETAILS SHEET 2
47	C-30	CIVIL DETAILS SHEET 3
48	C-31	CIVIL DETAILS SHEET 4
49	C-32	CIVIL DETAILS SHEET 5
50	C-33	CIVIL DETAILS SHEET 6
51	C-34	CIVIL DETAILS SHEET 7
52	C-35	CIVIL DETAILS SHEET 8
53	C-36	CIVIL DETAILS SHEET 9
54	C-37	CIVIL DETAILS SHEET 10
55	C-38	CIVIL DETAILS SHEET 11
56	C-39	CIVIL DETAILS SHEET 12
57	C-40	CIVIL DETAILS SHEET 13
58	C-41	CIVIL DETAILS SHEET 14
59	C-42	CIVIL DETAILS SHEET 15
60	C-43	CIVIL DETAILS SHEET 16
61	C-44	CIVIL DETAILS SHEET 17
		MECHANICAL
62	M-01	EXISTING PROCESS FLOW DIAGRAM
63	M-02	PROPOSED PROCESS FLOW DIAGRAM
64	M-03	DEMOLITION AERIAL PLAN KEY PLAN
65	M-04	RAW WATER WELL NO. 1 DEMOLITION PLAN AND PHOTOS
66	M-05	RAW WATER WELL NO. 2 DEMOLITION PLAN AND PHOTOS
67	M-06	LIME CONTACTOR REHABILITATION DEMOLITION PLAN
68	M-07	LIME CONTACTOR REHABILITATION DEMOLITION PHOTOS – SHEET 1
69	M-08	LIME CONTACTOR REHABILITATION DEMOLITION PHOTOS – SHEET 2
70	M-09	LIME CONTACTOR REHABILITATION DEMOLITION PHOTOS – SHEET 3
71	M-10	LIME CONTACTOR REHABILITATION DEMOLITION PHOTOS – SHEET 4
72	M-11	LIME CONTACTOR REHABILITATION DEMOLITION PHOTOS – SHEET 5
73	M-12	LIME SLAKER AND SILO MODIFICATIONS DEMOLITION PLAN
74	M-13	LIME SLAKER AND SILO MODIFICATIONS DEMOLITION PHOTOS
75	M-14	HIGH SERVICE PUMP STATION DEMOLITION PLAN
76	M-15	HIGH SERVICE PUMP STATION DEMOLITION PHOTOS – SHEET 1
77	M-16	HIGH SERVICE PUMP STATION DEMOLITION PHOTOS – SHEET 2
78	M-17	HIGH SERVICE PUMP STATION DEMOLITION PHOTOS – SHEET 3
79	M-18	HIGH SERVICE PUMP STATION DEMOLITION PHOTOS – SHEET 4
80	M-19	BACKWASH & WASTE SLUDGE HOLDING BASIN DEMOLITION PLAN
81	M-20	BACKWASH & WASTE SLUDGE HOLDING BASIN DEMOLITION PHOTOS – SHEET 1
82	M-21	BACKWASH & WASTE SLUDGE HOLDING BASIN DEMOLITION PHOTOS – SHEET 2
83	M-22	BACKWASH & WASTE SLUDGE HOLDING BASIN DEMOLITION PHOTOS – SHEET 3
84	M-23	WATER STORAGE TANK 0.75 MG EXISTING PLAN
85	M-24	WATER STORAGE TANK 0.75 MG AND LP TANK PHOTOS
86	M-25	WATER STORAGE TANK 1.5 MG DEMOLITION PLAN
87	M-26	WATER STORAGE TANK 1.5 MG DEMOLITION PHOTOS
88	M-27	SODIUM HYPOCHLORITE FACILITY DEMOLITION PLAN
89	M-28	SODIUM HYPOCHLORITE FACILITY DEMOLITION PHOTOS
90	M-29	COAGULANT FEED SYSTEM DEMOLITION PLAN AND PHOTOS
91	M-30	FLUORIDE FEED SYSTEM DEMOLITION PLAN AND PHOTOS
92	M-31	AMMONIA FEED SYSTEM DEMOLITION PLAN AND PHOTOS
93	M-32	RAW WATER WELL NO. 1 PROPOSED PLAN, SECTIONS AND DETAILS
94	M-33	RAW WATER WELL NO. 2 PROPOSED PLAN, SECTIONS AND DETAILS
95	M-34	RAW WATER WELL DETAILS
96	M-35	LIME CONTACTOR REHABILITATION PROPOSED PLAN
97	M-36	LIME CONTACTOR REHABILITATION SECTIONS AND DETAILS
98	M-37	LIME CONTACTOR REHABILITATION SECTIONS AND DETAILS
99	M-38	LIME CONTACTOR REHABILITATION DETAILS
100	M-39	LIME CONTACTOR REHABILITATION SECTIONS AND DETAILS
101	M-40	LIME SLAKER AND SILO MODIFICATIONS PLAN
102	M-41	LIME SLAKER AND SILO MODIFICATIONS PLANS
103	M-42	LIME SLAKER AND SILO MODIFICATIONS SECTION AND DETAILS
104	M-43	LIME SLAKER AND SILO MODIFICATIONS DIAGRAMS
105	M-44	MASTER PUMP STATION KEY PLAN
106	M-45	HIGH SERVICE PUMPS PLAN
107	M-46	BACKWASH AND TRANSFER PUMPS PLAN
108	M-47	MASTER PUMP STATION SECTIONS AND DETAILS
109	M-48	MASTER PUMP STATION SECTIONS
110	M-49	MASTER PUMP STATION SECTIONS AND DETAILS
111	M-50	INTERIM CHEMICAL STORAGE AND FEED SYSTEMS
112	M-51	CHEMICAL HANDLING FACILITY KEY PLAN AND SIGNAGE
113	M-52	CHEMICAL HANDLING FACILITY ANTI-COAGULANT AND COAGULANT AID
114	M-53	CHEMICAL HANDLING FACILITY FLUORIDE AND AQUEOUS AMMONIA
115	M-54	CHEMICAL HANDLING FACILITY SECTIONS
116	M-55	CHEMICAL HANDLING FACILITY SECTIONS AND DETAILS
117	M-56	BACKWASH HOLDING BASIN PROPOSED PLAN
118	M-57	BACKWASH HOLDING BASIN SECTIONS AND DETAILS
119	M-58	BACKWASH BASIN SLUDGE PUMP PLAN AND SECTIONS
120	M-59	BACKWASH BASIN DECANT PUMP PLAN AND SECTIONS
121	M-60	WASTE LIME SLUDGE PUMP STATION PLAN AND DETAILS
122	M-61	WASTE LIME SLUDGE PUMP STATION SECTIONS
123	M-62	SODIUM HYPOCHLORITE FACILITIES PROPOSED PLAN
124	M-63	SODIUM HYPOCHLORITE FACILITIES SECTIONS – SHEET 1
125	M-64	SODIUM HYPOCHLORITE FACILITIES SECTIONS – SHEET 2
126	M-65	SODIUM HYPOCHLORITE FACILITIES SECTIONS – SHEET 3
127	M-66	SODIUM HYPOCHLORITE FACILITIES DETAILS
128	M-67	SAMPLE PUMP DETAILS
129	M-68	EXISTING FILTER CONTROL ROOM WATER QUALITY ANALYZERS
130	M-69	EXISTING FILTER CONTROL ROOM WATER QUALITY ANALYZERS – SECTION
131	M-70	EXISTING FILTERS HYPOCHLORITE INJECTION
132	M-71	MECHANICAL DETAILS – SHEET 1
133	M-72	MECHANICAL DETAILS – SHEET 2
134	M-73	MECHANICAL DETAILS – SHEET 3
135	M-74	MECHANICAL DETAILS – SHEET 4
136	M-75	MECHANICAL DETAILS – SHEET 5
137	M-76	MECHANICAL DETAILS – SHEET 6
138	M-77	MECHANICAL DETAILS – SHEET 7
139	M-78	MECHANICAL DETAILS – SHEET 8
140	M-79	MECHANICAL DETAILS SHEET 9
		STRUCTURAL
141	S-01	GENERAL STRUCTURAL NOTES
142	S-02	NEW ADMINISTRATION BUILDING FOUNDATION PLAN
143	S-03	NEW ADMINISTRATION BUILDING FIRST FLOOR PLAN
144	S-04	NEW ADMINISTRATION BUILDING SECOND FLOOR PLAN
145	S-05	NEW ADMINISTRATION BUILDING ROOF PLAN
146	S-06	NEW ADMINISTRATION BUILDING ROOF TRUSS PLANS
147	S-07	NEW ADMINISTRATION BUILDING ACCESS AND SIDEWALK
148	S-08	NEW ADMINISTRATION BUILDING SECTIONS SHEET 1
149	S-09	NEW ADMINISTRATION BUILDING SECTIONS SHEET 2
150	S-10	NEW ADMINISTRATION BUILDING DETAILS SHEET 1
151	S-11	NEW ADMINISTRATION BUILDING DETAILS SHEET 2
152	S-12	NEW ADMINISTRATION BUILDING BEAM AND COLUMN SCHEDULES
153	S-13	AERATOR EXISTING PLAN AND PHOTOS
154	S-14	AERATOR SUPPORT STRUCTURE IMPROVEMENTS PLAN AND SECTIONS
155	S-15	AERATOR MIST PANEL IMPROVEMENTS SECTIONS AND DETAILS
156	S-16	AERATOR/LIME CONTACTOR ACCESS STAIRS SECTIONS AND DETAILS –SHEET 1
157	S-17	AERATOR/LIME CONTACTOR ACCESS STAIRS SECTIONS AND DETAILS –SHEET 2
158	S-18	AERATOR/LIME CONTACTOR ACCESS STAIRS SECTIONS AND DETAILS –SHEET 3
159	S-19	LIME SLAKER AND SILO MODIFICATIONS PLANS
160	S-20	LIME SLAKER AND SILO MODIFICATIONS SECTIONS AND DETAILS
161	S-21	WASTE LIME SLUDGE PUMP STATION PROPOSED PLAN, SECTIONS AND DETAILS
162	S-22	EXISTING FILTER CONTROL ROOM STAIRS PLAN
163	S-23	FILTER/OPS BUILDINGS STAIRS ELEVATIONS AND DETAILS
164	S-24	HIGH SERVICE PUMP STATION AND ELECTRICAL ROOM 1 STRUCTURAL MODIFICATIONS – SHEET 1
165	S-25	HIGH SERVICE PUMP STATION AND ELECTRICAL ROOM 1 STRUCTURAL MODIFICATIONS – SHEET 2
166	S-26	HIGH SERVICE PUMP STATION AND ELECTRICAL ROOM 1 STRUCTURAL MODIFICATIONS – SHEET 3
167	S-27	MASTER PUMP STATION PROPOSED PLAN
168	S-28	MASTER PUMP STATION SECTIONS AND DETAILS
169	S-29	MASTER PUMP STATION SECTIONS
170	S-30	CHEMICAL HANDLING FACILITY PROPOSED PLAN
171	S-31	CHEMICAL HANDLING FACILITY SECTIONS AND DETAILS SHEET 1
172	S-32	CHEMICAL HANDLING FACILITY SECTIONS AND DETAILS SHEET 2
173	S-33	CHEMICAL HANDLING FACILITY SECTIONS AND DETAILS SHEET 3
174	S-34	BACKWASH HOLDING BASIN DEMOLITION PLAN
175	S-35	BACKWASH HOLDING BASIN REHABILITATION PLANS AND DETAILS
176	S-36	BACKWASH HOLDING BASIN REHABILITATION DETAILS
177	S-37	SODIUM HYPOCHLORITE FACILITIES LIFE SAFETY AND PROPOSED PLANS
178	S-38	SODIUM HYPOCHLORITE FACILITIES SECTIONS AND DETAILS
179	S-39	SODIUM HYPOCHLORITE FACILITIES GRATING PLAN AND DETAILS
180	S-40	CHEMICAL INJECTION VAULT PLAN AND SECTION
181	S-41	CLEARWELL EXTENSION PLAN AND SECTION
182	S-42	STRUCTURAL DETAILS SHEET 1
183	S-43	STRUCTURAL DETAILS SHEET 2
184	S-44	STRUCTURAL DETAILS SHEET 3
185	S-45	STRUCTURAL DETAILS SHEET 4
186	S-46	STRUCTURAL DETAILS SHEET 5
187	S-47	STRUCTURAL DETAILS SHEET 6
188	S-48	STRUCTURAL DETAILS SHEET 7
189	S-49	STRUCTURAL DETAILS SHEET 8

PLOT DATE: 7/29/2015 2:57 PM BY: TBOCAS

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
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CLIENTS PROJECT: –
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CAD REFERENCE: 44238-004BP1-G03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

LIST OF DRAWINGS
SHEET 2

DATE: JULY 2015
SHEET: 3 OF 69
DRAWING: G-03

REQUEST FOR PROPOSAL

XREFs= ..\Tblock\44238-004-BP1-TB

File = H:\44238-004\Drawings\design build package\volume a - filter rehab\bid package 1 - filter rehab\Gen\44238-004BP1-G03 Saved by tbocas Save date = 7/29/2015 2:35 PM

Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

LIST OF DRAWINGS
VOLUME C : WTP REHAB

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
		GENERAL
1	G-01	COVER SHEET
2A	G-2A	LIST OF DRAWINGS SHEET 1
2	G-02	LIST OF DRAWINGS SHEET 2
3	G-03	LIST OF DRAWINGS SHEET 3
		ARCHITECTURAL
190	A-01	NEW ADMINISTRATION BUILDING SCHEDULES
191	A-02	NEW ADMINISTRATION BUILDING LIFE SAFETY PLANS
192	A-03	NEW ADMINISTRATION BUILDING FIRST FLOOR PLAN
193	A-04	NEW ADMINISTRATION BUILDING SECOND FLOOR PLAN
194	A-05	NEW ADMINISTRATION BUILDING ROOF PLAN
195	A-06	NEW ADMINISTRATION BUILDING FIRST FLOOR REFLECTED CEILING PLAN
196	A-07	NEW ADMINISTRATION BUILDING SECOND FLOOR REFLECTED CEILING PLAN
197	A-08	NEW ADMINISTRATION BUILDING SOUTH AND EAST ELEVATIONS
198	A-09	NEW ADMINISTRATION BUILDING NORTH AND WEST ELEVATIONS
199	A-10	NEW ADMINISTRATION BUILDING WALL SECTIONS – SHEET 1
200	A-11	NEW ADMINISTRATION BUILDING WALL SECTIONS – SHEET 2
201	A-12	NEW ADMINISTRATION BUILDING ENLARGED FLOOR PLAN AND ELEVATIONS SHEET 1
202	A-13	NEW ADMINISTRATION BUILDING ENLARGED FLOOR PLAN AND ELEVATIONS SHEET 2
203	A-14	NEW ADMISTRATION BUILDING DETAILS
204	A-15	NEW ADMINISTRATION BUILDING FIRST FLOOR FURNITURE PLAN
205	A-16	NEW ADMINISTRATION BUILDING SECOND FLOOR FURNITURE PLAN
206	A-17	CHEMICAL HANDLING FACILITY LIFE SAFETY PLAN
207	A-18	CHEMICAL HANDLING FACILITY PROPOSED PLAN
208	A-19	CHEMICAL HANDLING FACILITY SECTIONS AND DETAILS
209	A-20	CHEMICAL HANDLING FACILITY SCHEDULES AND DETAILS
210	A-21	EXISTING WTP EXTERIOR PAINTING
211	A-22	STANDARD ARCHITECTURAL DETAILS SHEET 1
212	A-23	STANDARD ARCHITECTURAL DETAILS SHEET 2
213	A-24	STANDARD ARCHITECTURAL DETAILS SHEET 3
214	A-25	STANDARD ARCHITECTURAL DETAILS SHEET 4
215	A-26	FIRESTOPPING DETAILS
		INSTRUMENTATION
216	I-1	SYMBOLS AND LEGEND
217	I-2	SYSTEM BLOCK DIAGRAM
218	I-3	NEW ADMINISTRATION BUILDING CONTROL ROOM LAYOUT
219	I-4	ON-SITE PRODUCTION WELLS AND AERATOR
220	I-5	LIME CONTACTOR AND WASTE SLUDGE BLOWDOWN
221	I-6	LIME SLAKING SYSTEM NO. 1
222	I-7	LIME SLAKING SYSTEM NO. 2
223	I-8	FILTERS (FROM BP 1)
224	I-9	MASTER PUMP STATION BACKWASH AND TRANSFER PUMPS
225	I-10	MASTER PUMP STATION HIGH SERVICE PUMPS
226	I-11	CHEMICAL HANDLING FACILITY AMMONIA FEED SYSTEMS
227	I-12	CHEMICAL HANDLING FACILITY – FLUORIDE FEED SYSTEMS
228	I-13	CHEMICAL HANDLING FACILITY COAGULANT FEED SYSTEM
229	I-14	CHEMICAL HANDLING FACILITY – ANTI-COAGULANT FEED SYSTEM
230	I-15	BACKWASH HOLDING BASINS
231	I-16	WASTE LIME SLUDGE PUMP STATION
232	I-17	HYPOCHLORITE STORAGE AND FEED FACILITY
233	I-18	MASTER PUMP STATION ANALYZERS
234	I-19	ENCLOSURE DETAILS
235	I-20	SITE SECURITY AND TELEMETRY MODIFICATIONS

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
236	I-21	ELECTRICAL MONITORING SYSTEM AND SCHEMATICS
237	I-22	INSTALLATION AND MISCELLANEOUS DETAILS SHEET 1
238	I-23	INSTALLATION AND MISCELLANEOUS DETAILS SHEET 2
239	I-24	INSTALLATION AND MISCELLANEOUS DETAILS SHEET 3
		ELECTRICAL
240	E-01	ELECTRICAL LEGEND AND SYMBOLS
241	E-02	ELECTRICAL NOTES
242	E-03	ELECTRICAL SITE PLAN EXISTING
243	E-04	ELECTRICAL SITE PLAN PROPOSED
244	E-05	EXISTING FACILITY SINGLE LINE DIAGRAM
245	E-06	PROPOSED FACILITY SINGLE LINE DIAGRAM SHEET 1 OF 2
246	E-07	PROPOSED FACILITY SINGLE LINE DIAGRAM SHEET 2 OF 2
247	E-08	EXISTING FILTER BUILDING FIRST FLOOR ELECTRICAL PLAN
248	E-09	EXISTING FILTER CONTROL ROOM ELECTRICAL PLAN
249	E-10	NEW ADMINISTRATION BUILDING FIRST FLOOR PLAN
250	E-11	NEW ADMINISTRATION BUILDING ELECTRICAL ROOM PLAN
251	E-12	NEW ADMINISTRATION BUILDING SECOND FLOOR PLAN
252	E-13	NEW ADMINISTRATION BUILDING ROOF POWER
253	E-14	NEW ADMINISTRATION BUILDING FIRST FLOOR LIGHTING
254	E-15	NEW ADMINISTRATION BUILDING SECOND FLOOR LIGHTING
255	E-16	NEW ADMINISTRATION BUILDING FIRST FLOOR FIRE ALARM PLAN
256	E-17	NEW ADMINISTRATION BUILDING SECOND FLOOR FIRE ALARM PLAN
257	E-18	NEW ADMINISTRATION BUILDING FIRE ALARM RISER AND CALCULATIONS
258	E-19	NEW ADMINISTRATION BUILDING FIRE ALARM NOTES AND LEGENDS
259	E-20	SECURITY ACCESS ELECTRICAL DETAILS SHEET 1
260	E-21	SECURITY ACCESS ELECTRICAL DETAILS SHEET 2
261	E-22	SECURITY ACCESS ELECTRICAL DETAILS SHEET 3
262	E-23	ELECTRICAL ROOM 1 DEMOLITION AND PROPOSED PLAN
263	E-24	ELECTRICAL ROOM 2 EQUIPMENT MODIFICATIONS
264	E-25	RAW WATER WELL NOS. 1 AND 2 POWER AND LIGHTING PLAN
265	E-26	AERATOR / LIME CONTACTOR ACCESS STAIRS POWER AND LIGHTING PLAN
266	E-27	LIME CONTACTOR POWER AND LIGHTING PLAN
267	E-28	LIME SLAKER AND SILO MODIFICATIONS POWER AND LIGHTING PLAN
268	E-29	MASTER PUMP STATION POWER AND LIGHTING PLAN
269	E-30	HIGH SERVICE PUMPS SECTION
270	E-31	BACKWASH AND TRANSFER PUMPS SECTION
271	E-32	INTERIM CHEMICAL STORAGE AND FEED SYSTEM POWER AND LIGHTING PLAN
272	E-33	CHEMICAL HANDLING FACILITY POWER AND LIGHTING PLAN
273	E-34	BACKWASH HOLDING BASINS POWER PLAN
274	E-35	WASTE LIME SLUDGE PUMP STATION POWER PLAN
275	E-36	SODIUM HYPOCHLORITE FACILITIES POWER AND LIGHTING
276	E-37	LIGHTNING PROTECTION SYSTEM
277	E-38	SITE LIGHTING PLAN
278	E-39	SITE SECURITY PLAN
279	E-40	SECURITY SCHEDULES
280	E-41	PANEL SCHEDULES ADMINISTRATION BUILDING
281	E-42	PANEL SCHEDULES PROCESS AREA SHEET 1
282	E-43	PANEL SCHEDULES PROCESS AREA SHEET 2
283	E-44	PANEL SCHEDULES PROCESS AREA SHEET 3
284	E-45	PANEL SCHEDULES PROCESS AREA SHEET 4
285	E-46	SCHEMATICS SHEET 1
286	E-47	SCHEMATICS SHEET 2
287	E-48	SCHEMATICS SHEET 3

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
288	E-49	ELECTRICAL CONTROL AND SIGNAL RISER DIAGRAMS 1
289	E-50	ELECTRICAL CONTROL AND SIGNAL RISER DIAGRAMS 2
290	E-51	ELECTRICAL CONTROL AND SIGNAL RISER DIAGRAMS 3
291	E-52	ELECTRICAL CONTROL AND SIGNAL RISER DIAGRAMS 4
292	E-53	ELECTRICAL CONTROL AND SIGNAL RISER DIAGRAMS 5
293	E-54	ELECTRICAL CONTROL AN SIGNAL RISER DIAGRAMS 6
294	E-55	ELECTRICAL CONTROL AN SIGNAL RISER DIAGRAMS 7
295	E-56	ELECTRICAL CONTROL AN SIGNAL RISER DIAGRAMS 8
296	E-57	DUCT BANK SECTIONS
297	E-58	DUCT BANK SCHEDULES
298	E-59	MANHOLES – E1 AND C1 CONDUIT RISERS
299	E-60	MANHOLES – E2 AND C2 CONDUIT RISERS
300	E-61	MANHOLES – E3 AND E4 CONDUIT RISERS
301	E-62	MANHOLES – C3 AND C4 CONDUIT RISERS
302	E-63	ELECTRICAL DETAILS SHEET 1
303	E-64	ELECTRICAL DETAILS SHEET 2
304	E-65	ELECTRICAL DETAILS SHEET 3
305	E-66	ELECTRICAL DETAILS SHEET 4
306	E-67	ELECTRICAL DETAILS SHEET 5
307	E-68	ELECTRICAL DETAILS SHEET 6
308	E-69	ELECTRICAL DETAILS SHEET 7
309	E-70	ELECTRICAL DETAILS SHEET 8
		HVAC
310	H-01	HVAC SYMBOLS, ABBREVIATIONS AND NOTES
311	H-02	NEW ADMINISTRATION BUILDING FIRST FLOOR – HVAC PLAN
312	H-03	NEW ADMINISTRATION BUILDING SECOND FLOOR – HVAC PLAN
313	H-04	NEW ADMINISTRATION BUILDING ROOF – HVACPLAN
314	H-05	CHEMICAL HANDLING FACILITY HVAC PLAN
315	H-06	HVAC SCHEDULES
316	H-07	HVAC DETAILS SHEET 1
317	H-08	HVAC DETAILS SHEET 2
		PLUMBING
318	P-01	PLUMBING SYMBOLS, ABBREVIATIONS, AND NOTES
319	P-02	NEW ADMINISTRATION BUILDING FIRST FLOOR SANITARY PLAN
320	P-03	NEW ADMINISTRATION BUILDING SECOND FLOOR SANITARY PLAN
321	P-04	NEW ADMINISTRATION BUILDING FIRST FLOOR POTABLE WATER PLAN
322	P-05	NEW ADMINISTRATION BUILDING SECOND FLOOR POTABLE WATER PLAN
323	P-06	NEW ADMINISTRATION BUILDING ROOF DRAINAGE PLAN
324	P-07	NEW ADMINISTRATION BUILDING SANITARY ISOMETRIC
325	P-08	NEW ADMINISTRATION BUILDING FIRST FLOOR POTABLE WATER ISOMETRIC
326	P-09	NEW ADMINISTRATION BUILDING SECOND FLOOR POTABLE WATER ISOMETRIC
327	P-10	PLUMBING DETAILS SHEET 1
328	P-11	LANDSCAPE ELEVATIONS – CODE MINIMUM
		LANDSCAPING
329	L-1	LANDSCAPE PLAN
330	L-2	LANDSCAPE NOTES
331	L-3	LANDSCAPE DETAILS
		IRRIGATION
332	IR-1	IRRIGATION PLAN
333	IR-2	IRRIGATION DETAILS
334	IR-3	IRRIGATION DETAILS & NOTES
335	IR-4	IRRIGATION NOTES

PLOT DATE: 7/29/2015 2:57 PM BY: TBOCAS

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

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CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-G04

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
LIST OF DRAWINGS
SHEET 3

DATE: JULY 2015
SHEET: 4 OF 69
DRAWING: G-04

REQUEST FOR PROPOSAL

XREFs= ..\Tblock\44238-004-BP1-TB

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Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

SYMBOLS

- SOLENOID VALVE
- MOTOR OPERATED VALVE
- BALL VALVE
- BUTTERFLY VALVE/DAMPER
- DIAPHRAGM VALVE
- CHECK VALVE
- GATE VALVE
- PLUG VALVE
- THREE WAY VALVE
- PRESSURE REDUCING/RELIEF VALVE
- PRESSURE REGULATING VALVE
- HOSE BIBB (PLAN)
- HOSE BIBB (ELEVATION)
- REDUCER (SINGLE LINE)
- REDUCER (DOUBLE LINE)
- VENTURI METER
- MAGNETIC METER
- FLAME ARRESTER
- GAUGE
- UNION
- EXPANSION JOINT COUPLING
- HARNESSED EXPANSION JOINT COUPLING
- MECHANICAL COUPLING
- HARNESSED MECHANICAL COUPLING
- GROOVED COUPLING
- FLANGED JOINT
- MECHANICAL JOINT
- PUSH-ON JOINT
- THREADED JOINT
- WELDED JOINT
- PIPE SUPPORT
- FIRE HYDRANT
- MANHOLE
- SEALED MANHOLE
- EXISTING STRUCTURE OR UTILITY
- NEW STRUCTURE OR UTILITY-THIS CONTRACT
- EXISTING PIPELINE (DOUBLE LINE IF SCALE OF DRAWING PERMITS)
- NEW PIPELINE-THIS CONTRACT (DOUBLE LINE IF SCALE OF DRAWING PERMITS)
- SLUICE GATE
- SLIDE GATE
- STOP LOG

ABBREVIATIONS

VALVES, FITTINGS, ETC.

ARV	AIR RELIEF VALVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BV	BALL VALVE
CLV	CHLORINE GAS VALVE UNDER VACUUM
CPLG	COUPLING
CV	CHECK VALVE
EXP. JT.	EXPANSION JOINT
FD	FLOOR DRAIN
FDA	FOOD AND DRUG ADMINISTRATION
FH	FIRE HYDRANT
FLG, F	FLANGE
FTG	FITTING
GV	GATE VALVE
HB	HOSE BIBB
HIC	HAND INDICATING CONTROL
LR	LONG RADIUS
MC	MECHANICAL COUPLING
MJ	MECHANICAL JOINT
NPT	NATIONAL PIPE THREAD
PE	PLAIN END
PO	PUSH ON
PRV	PRESSURE RELIEF VALVE
P.S.	PUMP STATION
PV	PLUG VALVE
RD	ROOF DRAIN
RJ	RESTRAINED JOINT
SOV	SOLENOID OPERATED VALVE
THD	THREADED
VAC	VACUUM

PIPING

CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CPLG, C	COUPLING
CU	COPPER
DIP	DUCTILE IRON PIPE
FM	FORCE MAIN
FRP	FIBERGLASS REINFORCED PIPE
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
IPS	IRON PIPE SIZE
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PVC	POLYVINYLCHLORIDE
RCP	REINFORCED CONCRETE PIPE
RCPP	REINFORCED CONCRETE PRESSURE PIPE

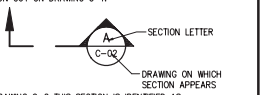
GENERAL

AA	AQUEQUS AMMONIA
A/C	AIR CONDITIONER
AB	ANCHOR BOLT
AIR	AIR SCOUR
AL, ALUM	ALUMINUM
∠	ANGLE
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
BD	BASIN DRAIN
BLDG	BUILDING
BLK.	BLOCK
BS	BACKWASH SUPPLY
BOTT	BOTTOM
BP	BID PACKAGE
BWW	BACKWASH WASTE
BWS	BACKWASH SUPPLY
CB	CATCH BASIN
CC	CENTER TO CENTER
CHK'D	CHECKERED
CHLOR, CL_2	CHLORINE
℄	CENTER LINE
CLR.	CLEAR
CO	CLEAN OUT
CO.	COMPANY
COL	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
DEC	DECANT
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISCH	DISCHARGE
DN	DOWN
DR	DRAIN
DWG	DRAWING
DWL.	DOWEL
EA	EACH
ECC	ECCENTRIC
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT
EL ELEV	ELEVATION
ELEC.	ELECTRIC
EPA	ENVIRONMENTAL PROTECTION AGENCY
EQUIP	EQUIPMENT
EW	EACH WAY
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FILTER DRAIN
FE	FIRE EXTINGUISHER OR FILTER EFFLUENT
FI	FILTER INFLUENT OR FILTER FEED
FIG	FIGURE
FIN	FINISH
FL	FLOOR
FT	FOOT
FTG	FOOTING
FW	FILTERED WATER
GALV	GALVANIZED
GD	GRAVITY DRAIN
GR	GRADE
HORIZ	HORIZONTAL
HP	HIGH POINT
HS	HYPOCHLORITE SOLUTION
HWH	HOT WATER HEATER
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
IF	INSIDE FACE
INF	INFLUENT
INJ	INJECTION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IQ	IRRIGATION QUALITY
ISO	ISOLATION
JB	JUNCTION BOX
JT, J	JOINT
LAT.	LATERIAL
LBS	POUNDS
LBS/FT	POUNDS PER FOOT
LG	LONG
LGTH	LENGTH
LN	LINE
LOC	LOCATION
LP	LOW POINT
L.P.	LIGHT POLE
LWL	LOW WATER LEVEL
MAX	MAXIMUM
M.B.	MAILBOX
MECH, M	MECHANICAL
MFGR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MO	MASONRY OPENING
NIC	NOT IN CONTRACT
No.	NUMBER
NSF	NATIONAL SCIENCE FOUNDATION
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
P	POLYMER
OPNG	OPENING
P/L, ℙ	PROPERTY LINE
PC	POINT OF CURVATURE
PI	PRESSURE INDICATOR (GAUGE)
P.I.	POINT OF INTERSECTION
PO	POLYMER SOLUTION
POT	POTABLE
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVT	PAVEMENT
PW	POTABLE WATER
R/W, ROW	RIGHT OF WAY
RAD, R	RADIUS
RECIR	RECIRCULATION
RED	REDUCER
REHAB	REHABILITATION
REINF	REINFORCING
REQ'D	REQUIRED
REST.	RESTRAINED
REV	REVISION
RJ	RESTRAINED JOINT
RJW	REJECT WATER
RW	RAW WATER
SA	SAMPLE WATER
SAN	SANITARY
SECT	SECTION
ℌ	SECTION LINE
SH	SODIUM HYPOCHLORITE
SHT	SHEET
SL	SAMPLE LINE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
SSS	SURFACE SCOUR SUPPLY
STA	STATION
STD	STANDARD
STL	STEEL
STRUC	STRUCTURAL
SYMM	SYMMETRICAL
TBD	TO BE DETERMINED
TEMP	TEMPORARY
THK	THICK
TI	TEMPERATURE INDICATOR
TOC	TOP OF CONCRETE
TOS	TOP OF SLAB
TYP	TYPICAL
VERT	VERTICAL
VTR	VENT THROUGH ROOF
W	WIDE
W/	WITH
W/L	WATER LEVEL
W/MO	WITH MOTOR OPERATOR
W/O	WITH OUT
WTR	WATER
WWF	WELDED WIRE FABRIC

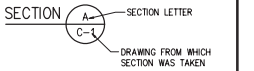
SECTION AND DETAIL IDENTIFICATION

SECTION IDENTIFICATION

(1) SECTION CUT ON DRAWING C-1:



(2) ON DRAWING C-2 THIS SECTION IS IDENTIFIED AS:



DETAIL IDENTIFICATION

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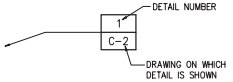
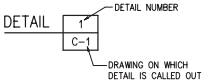
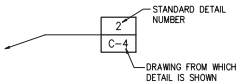


(2) ON DRAWING C-2 THIS DETAIL IDENTIFIED AS:

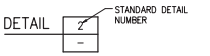


STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON PLAN OR SECTION:



(2) ON DRAWING C-4 THIS DETAIL IDENTIFIED AS:



NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A DASH.

NOTES:

(1) ELECTRICAL SYMBOLS SHOWN ON ELECTRICAL SHEETS.

(2) FOR WELDING SYMBOLS USE AMERICAN WELDING SOCIETY STANDARD SYMBOLS. SEE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.

* DENOTES DIMENSIONS OR ELEVATIONS DEPENDENT ON EQUIPMENT SUPPLIED.

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
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SCALE: N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-G05

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ABBREVIATIONS, SYMBOLS AND LEGEND

DATE: JULY 2015
SHEET: 5 OF 69
DRAWING: G-05

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:02 AM BY: TBOCAS

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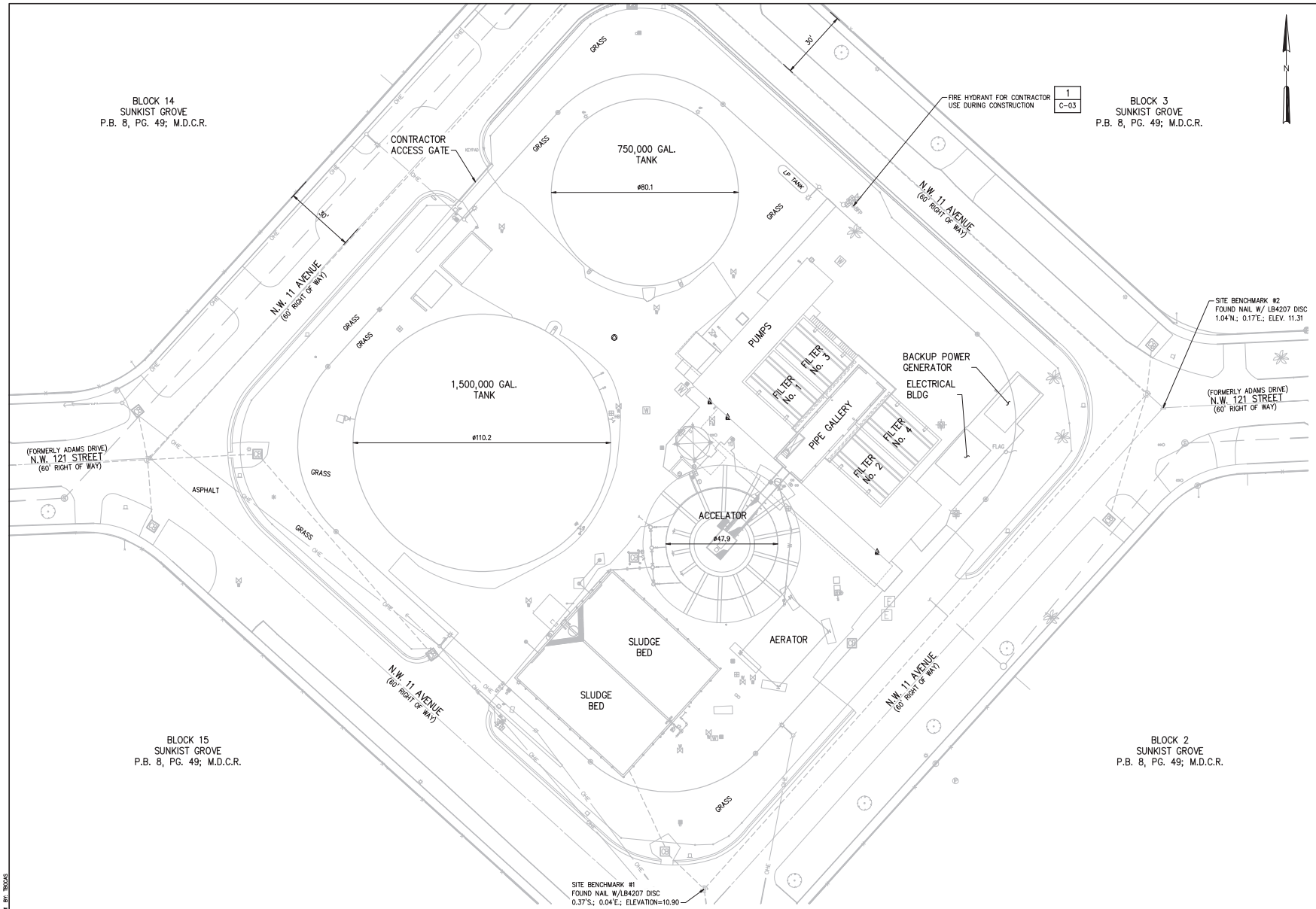

SYMBOL LEGEND
(THIS SHEET ONLY)

- ELECTRICAL JUNCTION BOX
- ANCHOR
- BOLLARD
- BFP — BACKFLOW PREVENTOR
- CATCH BASIN
- CENTERLINE
- CONCRETE POWER POLE
- CONCRETE LIGHT POLE
- DECORATIVE CONCRETE LIGHT POLE
- DDCV — DOUBLE DETECTOR CHECK VALVE
- DRAINAGE MANHOLE
- ELECTRICAL CONTROL BOX
- ELECTRICAL METER
- ELECTRICAL PULL BOX
- FIRE HYDRANT
- IRR — IRRIGATION VALVE
- METAL STREET LIGHT POLE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- SIGN
- SPOT ELEVATION
- SPOT/LANDSCAPE LIGHTING
- TELEPHONE MANHOLE
- WATER GATE VALVE
- WOOD POWER POLE
- WOOD STREET LIGHT POLE
- W — WATER VAULT
- 10.00 + — SPOT HARD SURFACE ELEVATION
- 10.0 + — SPOT GROUND ELEVATION
- SHADE TREE
- PALM TREE
- CHAIN LINK FENCE
- OHC — OVER HEAD WIRES
- SS — SANITARY SEWER MAIN
- SD — STORM DRAINAGE

ABBREVIATION LEGEND
(THIS SHEET ONLY)

BH	BUD HEIGHT
B.O.S.	BOTTOM OF STRUCTURE
CATV	CABLE TELEVISION
C.B.	CATCH BASIN
(CFT)	CALCULATED FROM TRAVERSE
℄	CENTERLINE
C.L.F.	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CLF	CHAIN LINK FENCE
F.F.	FINISHED FLOOR
FND	FOUND
INV.	INVERT ELEVATION
I.R.	5/8" IRON ROD
LB	LICENSED BUSINESS
LP	LIQUID PETROLEUM
M.D.C.R.	MIAMI-DADE COUNTY RECORDS
N & T	NAIL & TAB
OHW	OVER HEAD WIRES
O.R.B.	OFFICIAL RECORDS BOOKS
(P)	PLAT
P.B.	PLAT BOOK
P.G.	PAGE
RCP	REINFORCED CONCRETE PIPE
R.E.	RIM ELEVATION
R/W	RIGHT-OF-WAY
W/	WITH
W.I.F.	WROUGHT IRON FENCE

GENERAL NOTE:

1. THIS DRAWING IS BASED UPON AND BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY CRAVEN THOMPSON AND ASSOCIATES, INC. (CIA) DATED 03-10-10. CTA PROJECT No. 10-0013-001

1"=20'-0" (20 10 0 20')

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SCALE 1"=20'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-C01

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING SITE PLAN

DATE: JULY 2015
SHEET: 6 OF 69
DRAWING: C-01

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:03 AM BY: TBOCAS

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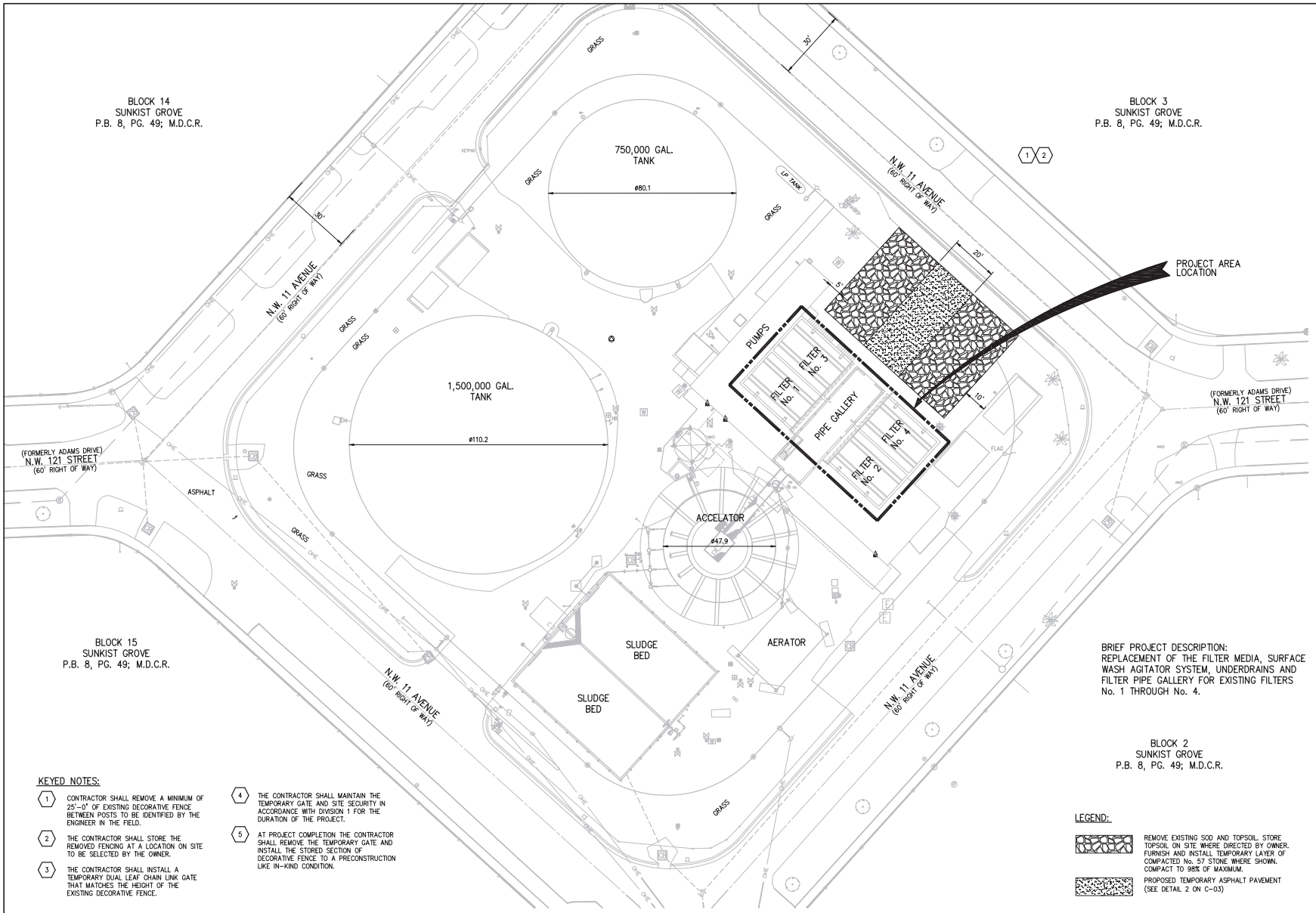

SYMBOL LEGEND
(THIS SHEET ONLY)

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- S SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- SIGN
- 6.5' SPOT ELEVATION
- SPOT/LANDSCAPE LIGHTING
- TELEPHONE MANHOLE
- W WATER GATE VALVE
- WOOD POWER POLE
- WOOD STREET LIGHT POLE
- W WATER VAULT
- 10.00 + SPOT HARD SURFACE ELEVATION
- 10.0 + SPOT GROUND ELEVATION
- SHADE TREE
- PALM TREE
- CHAIN LINK FENCE
- OHC OVER HEAD WIRES
- SS SANITARY SEWER MAIN
- SD STORM DRAINAGE

ABBREVIATION LEGEND
(THIS SHEET ONLY)

BH	BUD HEIGHT
B.O.S.	BOTTOM OF STRUCTURE
CATV	CABLE TELEVISION
C.B.	CATCH BASIN
(CFT)	CALCULATED FROM TRAVERSE
℄	CENTERLINE
C.L.F.	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CONC.	CONCRETE
CLF	CHAIN LINK FENCE
F.F.	FINISHED FLOOR
FND	FOUND
INV.	INVERT ELEVATION
I.R.	5/8" IRON ROD
LB	LICENSED BUSINESS
LP	LIQUID PETROLEUM
M.D.C.R.	MIAMI-DADE COUNTY RECORDS
N&T	NAIL & TAB
OHW	OVER HEAD WIRES
O.R.B.	OFFICIAL RECORDS BOOKS
(P)	PLAT
P.B.	PLAT BOOK
P.G.	PAGE
RCP	REINFORCED CONCRETE PIPE
R.E.	RIM ELEVATION
R/W	RIGHT-OF-WAY
W/	WITH
W.I.F.	WROUGHT IRON FENCE

BRIEF PROJECT DESCRIPTION:
REPLACEMENT OF THE FILTER MEDIA, SURFACE WASH AGITATOR SYSTEM, UNDERDRAINS AND FILTER PIPE GALLERY FOR EXISTING FILTERS No. 1 THROUGH No. 4.

KEYED NOTES:

1. CONTRACTOR SHALL REMOVE A MINIMUM OF 25'-0" OF EXISTING DECORATIVE FENCE BETWEEN POSTS TO BE IDENTIFIED BY THE ENGINEER IN THE FIELD.
2. THE CONTRACTOR SHALL STORE THE REMOVED FENCING AT A LOCATION ON SITE TO BE SELECTED BY THE OWNER.
3. THE CONTRACTOR SHALL INSTALL A TEMPORARY DUAL LEAF CHAIN LINK GATE THAT MATCHES THE HEIGHT OF THE EXISTING DECORATIVE FENCE.
4. THE CONTRACTOR SHALL MAINTAIN THE TEMPORARY GATE AND SITE SECURITY IN ACCORDANCE WITH DIVISION 1 FOR THE DURATION OF THE PROJECT.
5. AT PROJECT COMPLETION THE CONTRACTOR SHALL REMOVE THE TEMPORARY GATE AND INSTALL THE STORED SECTION OF DECORATIVE FENCE TO A PRECONSTRUCTION LIKE IN-KIND CONDITION.

LEGEND:

- REMOVE EXISTING SOD AND TOPSOIL. STORE TOPSOIL ON SITE WHERE DIRECTED BY OWNER. FURNISH AND INSTALL TEMPORARY LAYER OF COMPACTED No. 57 STONE WHERE SHOWN. COMPACT TO 98% OF MAXIMUM.
- PROPOSED TEMPORARY ASPHALT PAVEMENT (SEE DETAIL 2 ON C-03)

GENERAL NOTE:

1. THIS DRAWING IS BASED UPON AND BOUNDARY AND TOPOGRAPHIC SURVEY PREPARED BY CRAVEN THOMPSON AND ASSOCIATES, INC. (CIA) DATED 03-10-10. CTA PROJECT No. 10-0013-001
2. REFERENCE THE SECTION ENTITLED "SUMMARY OF WORK" AND "SITE ACCESS AND STORAGE" FOR ACCESS AND STAGING REQUIREMENTS.
3. CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS (VALVES, VALVE BOXES, ETC.).

1"=20'-0" (20 10 0 20')

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1"=20'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-C02

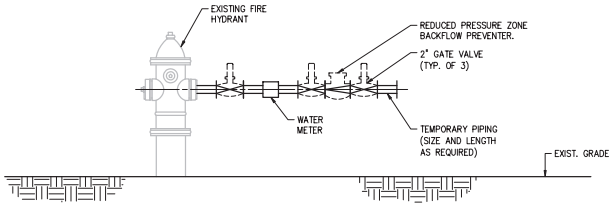
CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

STAGING PLAN AND PROJECT AREA LOCATION

DATE: JULY 2015
SHEET: 7 OF 69
DRAWING: C-02

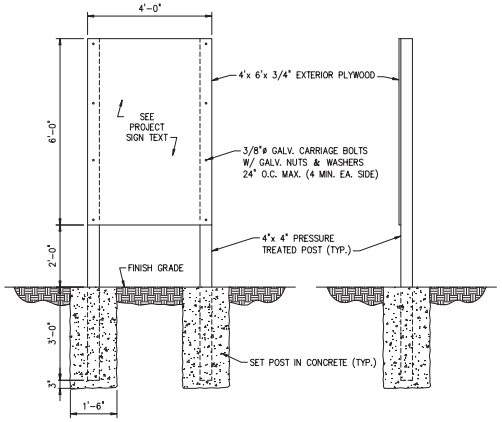
REQUEST FOR PROPOSAL



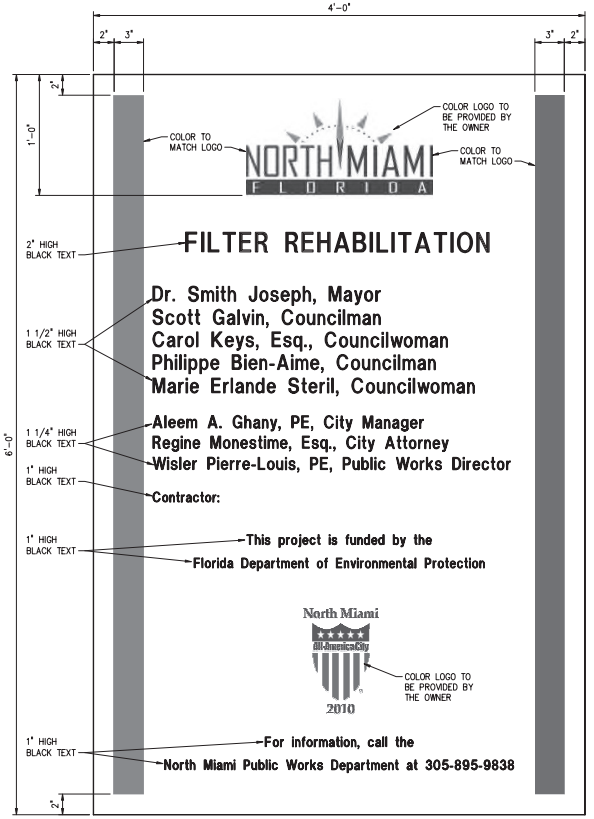
NOTE:

1. METER TO BE SUPPLIED BY THE CITY OF NORTH MIAMI.
2. THIS DETAIL SHALL BE USED TO PROVIDE POTABLE WATER FOR ALL TESTING, FLUSHING, DISINFECTION AND OTHER USES REQUIRED FOR A COMPLETE PROJECT.

DETAIL 1 — N.T.S. C-01



FRONT VIEW SIDE VIEW

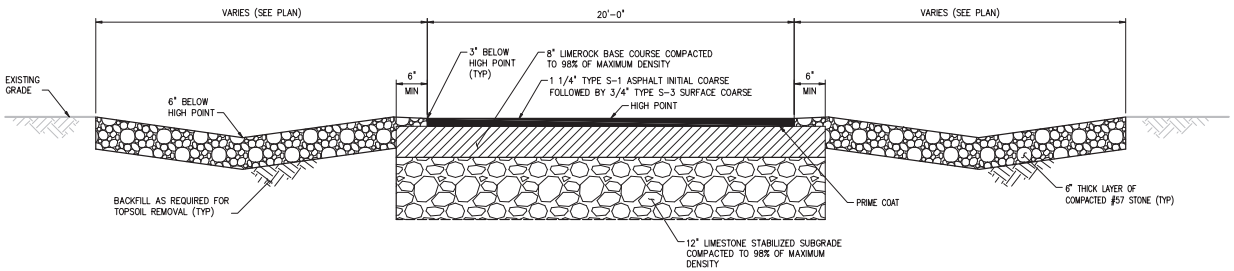


NOTE:
THE TEXT FONT SHALL BE AS SELECTED BY THE OWNER.

PROJECT SIGN TEXT

PROJECT SIGN

DETAIL 3 — N.T.S. –



TEMPORARY ASPHALT PAVEMENT IN CONTRACTOR STAGING AREA

DETAIL 2 — N.T.S. C-03

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B. — DRAWN L.M.S. — CHECKED G.N.C. — PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E. No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-C03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
CIVIL DETAILS

DATE: JULY 2015
SHEET: 8 OF 69
DRAWING: C-03

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:03 AM BY: TBOCAS

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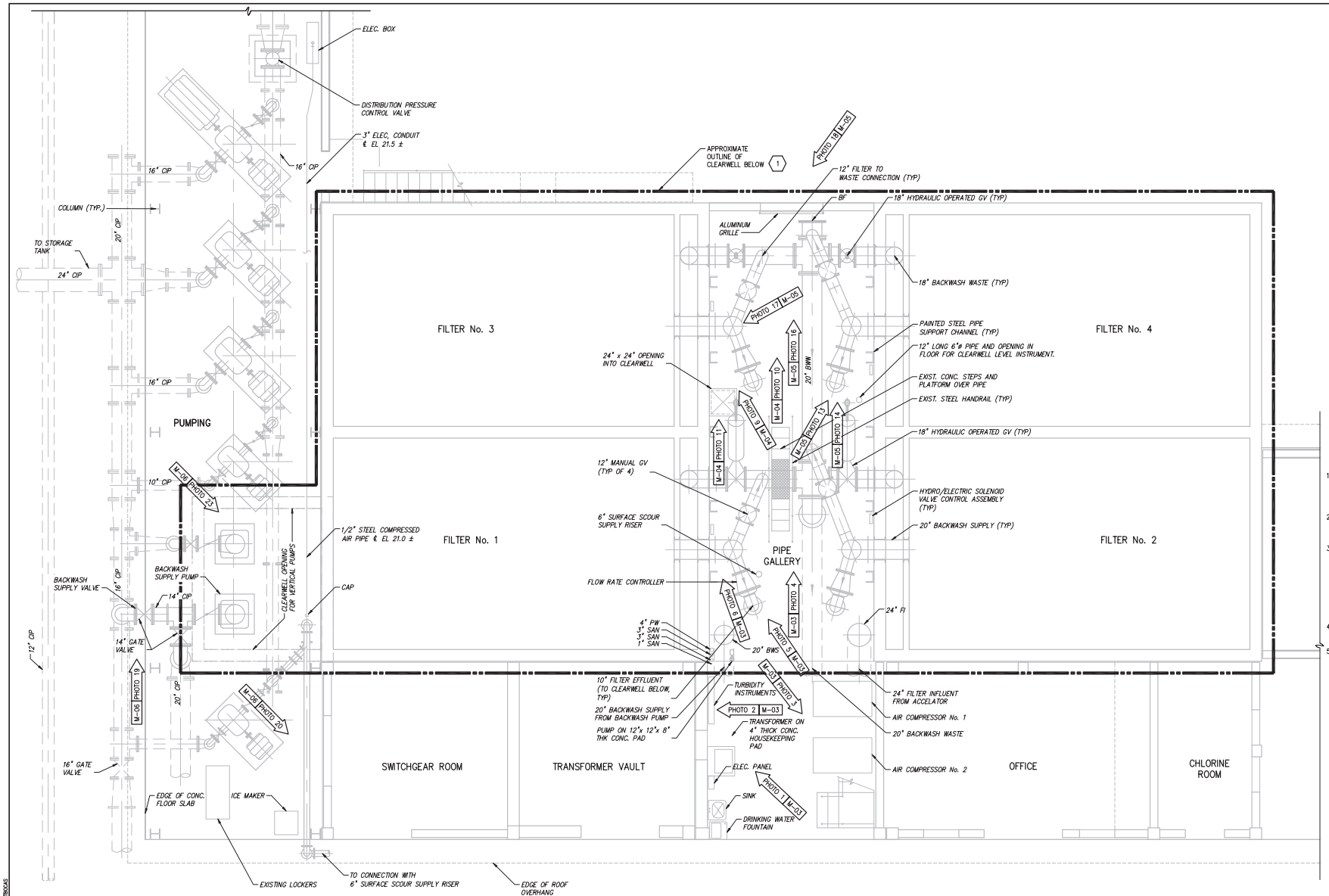

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. EXISTING PIPE GENERALLY CONSISTS OF DUCTILE IRON PIPE.

KEYED NOTES:

1 — THE CLEARWELL CONTAINS DRINKING WATER FOR THE CITY. PROTECT FROM CONSTRUCTION DEBRIS AND CONTAMINATION.

LEGEND:

EXISTING

PHOTO # – ARROW INDICATES DIRECTION AND POINT OF VIEW OF PHOTO

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M01

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING CONDITIONS
LOWER PLAN

DATE: JULY 2015
SHEET: 9 OF 69
DRAWING: M-01

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:03 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Plan-Bottom-X,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X

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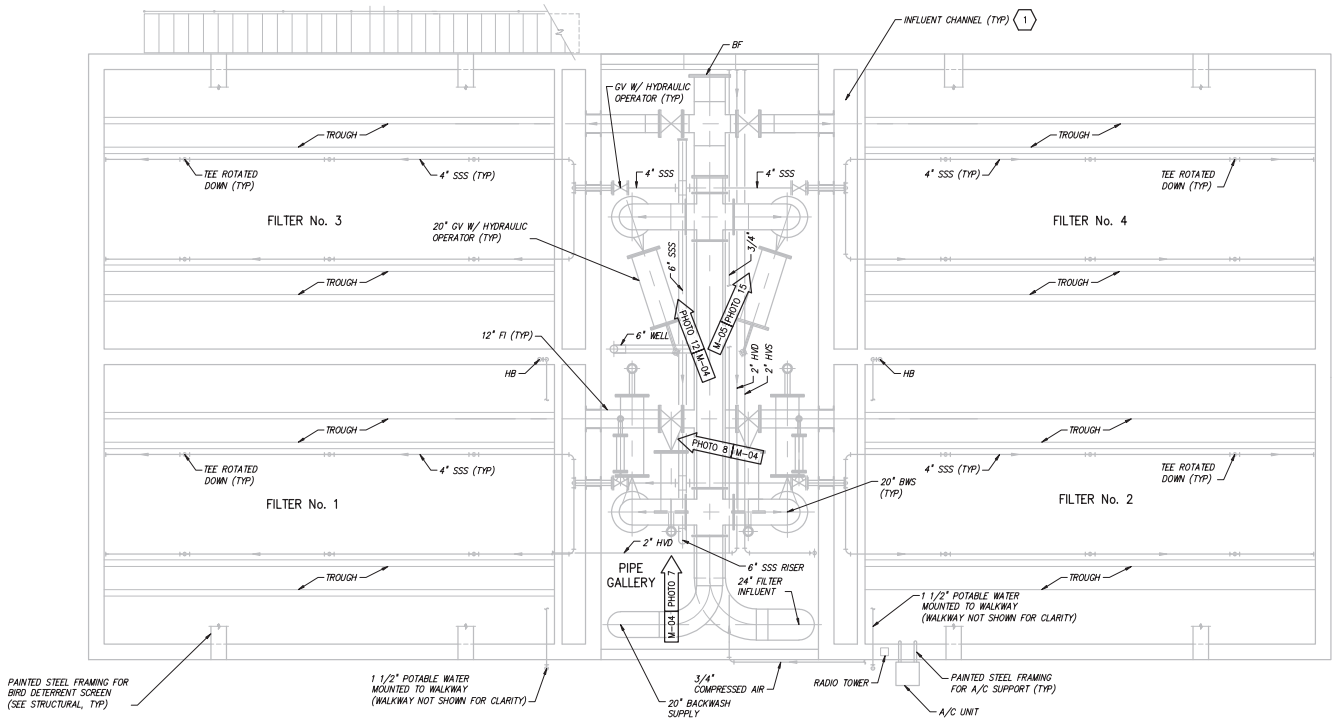

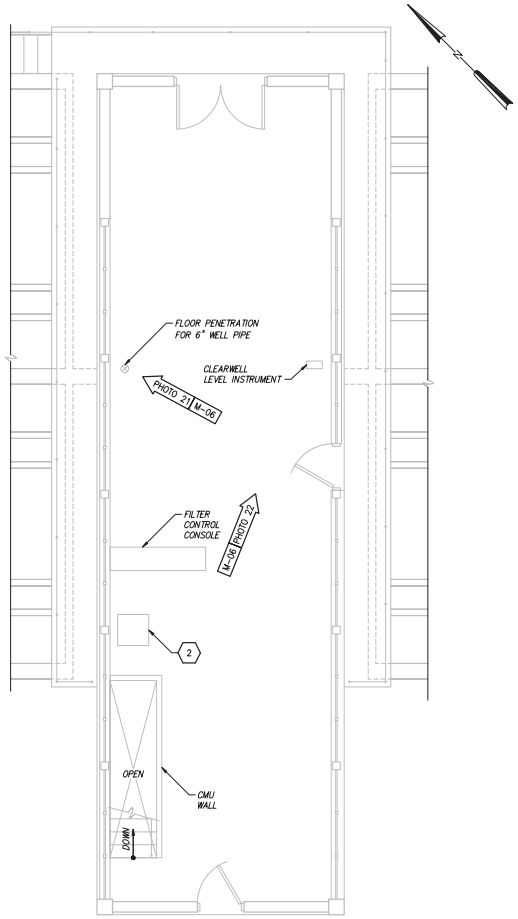

OPERATING ROOM PLAN

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. EXISTING PIPE GENERALLY CONSISTS OF DUCTILE IRON PIPE.

KEYED NOTES:

1. CONCRETE WALKWAY ABOVE INFLUENT CHANNEL NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR WALKWAY ABOVE THE INFLUENT CHANNEL.
2. EXISTING REFRIGERATOR TO BE RELOCATED BY THE OWNER

LEGEND:

EXISTING

PHOTO # –

ARROW INDICATES DIRECTION AND POINT OF VIEW OF PHOTO

1/4"=1'-0"

1 0 1 2 3 7'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M02

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING CONDITIONS
UPPER PLAN

DATE: JULY 2015
SHEET: 10 OF 69
DRAWING: M-02

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:03 AM BY: TBOCAS

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PHOTO 1

PHOTO 2

PHOTO 3

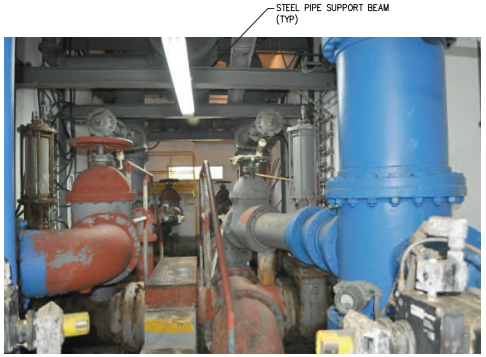

PHOTO 4

PHOTO 5

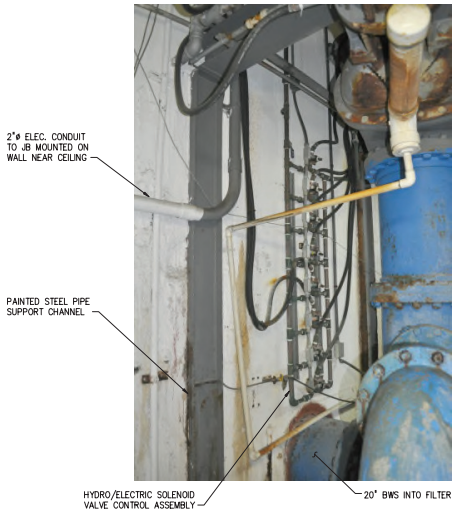

PHOTO 6

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN C.C.P.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

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Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING CONDITIONS PHOTOS – SHEET 1

DATE: JULY 2015
SHEET: 11 OF 69
DRAWING: M-03

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:04 AM BY: TBOCAS

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PHOTO 7

PHOTO 8

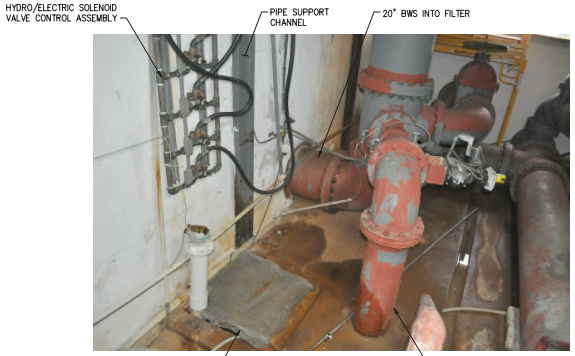

PHOTO 9

PHOTO 10

PHOTO 11

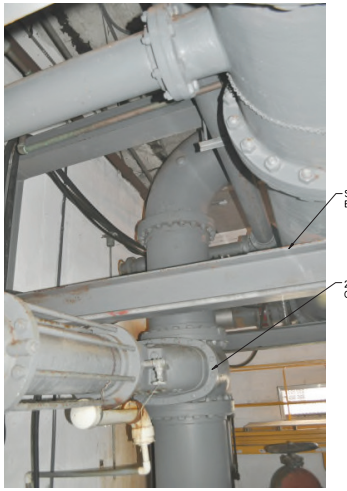

PHOTO 12

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN C.C.P.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

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Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M04

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
EXISTING CONDITIONS PHOTOS – SHEET 2

DATE: JULY 2015
SHEET: 12 OF 69
DRAWING: M-04

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:05 AM BY: TBOCAS

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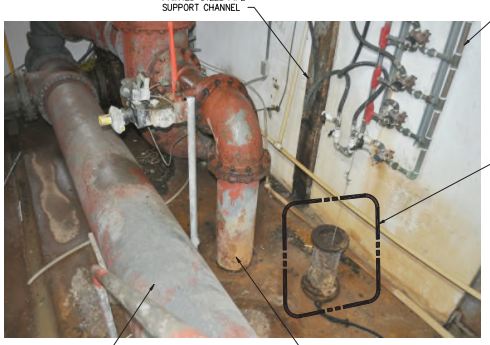

PHOTO 13

PHOTO 14

PHOTO 15

PHOTO 16

PHOTO 17

PHOTO 18

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN C.C.P.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M05

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
EXISTING CONDITIONS PHOTOS – SHEET 3

DATE: JULY 2015
SHEET: 13 OF 69
DRAWING: M-05

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:06 AM BY: TBOCAS

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PHOTO 19

PHOTO 20

PHOTO 21

PHOTO 22

PHOTO 23

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN C.C.P.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
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4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M06

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
EXISTING CONDITIONS PHOTOS – SHEET 4

DATE: JULY 2015
SHEET: 14 OF 69
DRAWING: M-06

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:06 AM BY: TBOCAS

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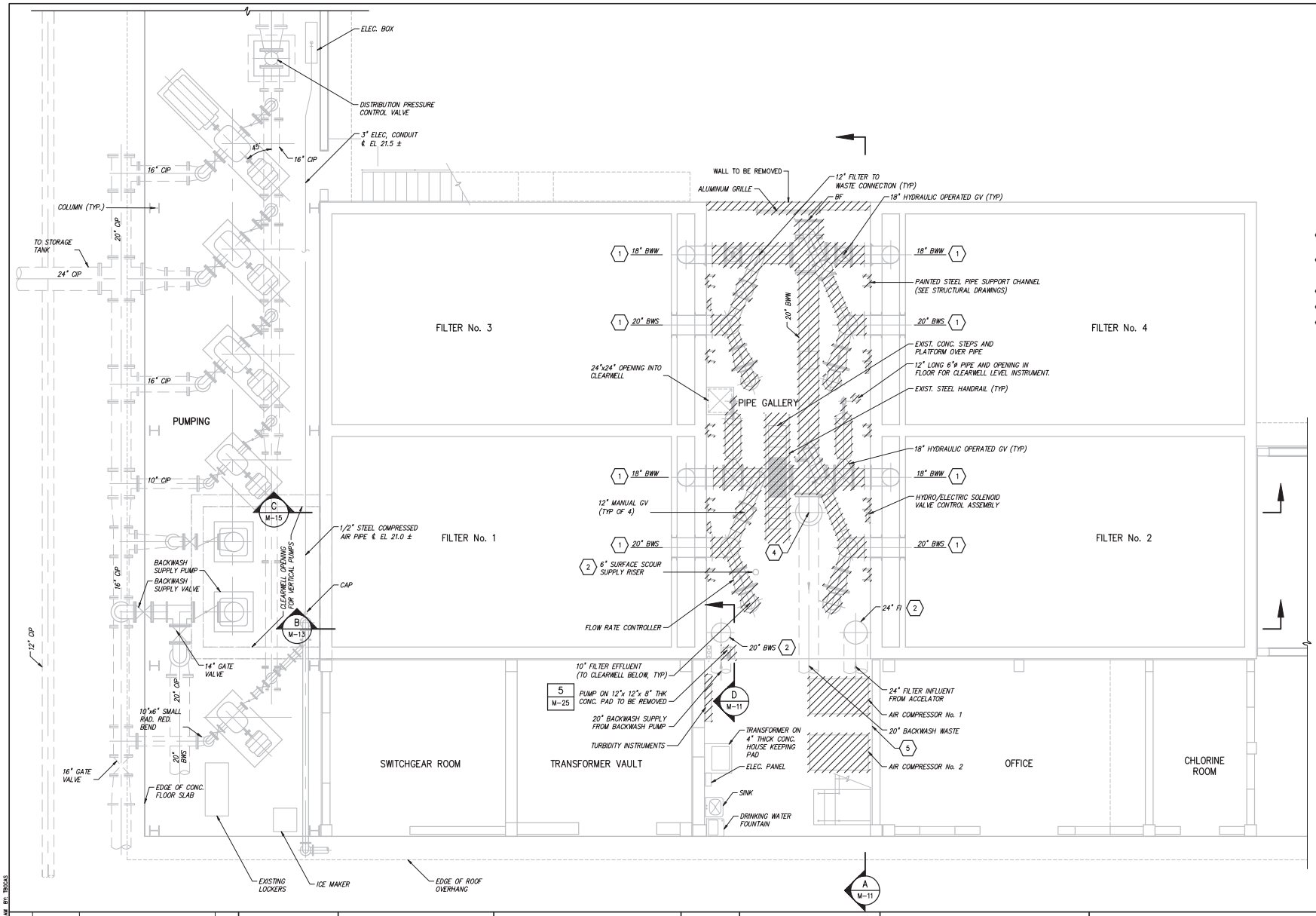

KEYED NOTES:

1. THE EXISTING WALL PIPE UP TO THE FLANGE SHALL REMAIN.
2. CUT THE EXISTING PIPE 2'-0" ABOVE THE FINISHED FLOOR. CAST-IN PIPE TO REMAIN. PIPE ABOVE PROPOSED CUT TO BE REMOVED.
3. KEYED NOTE 3 IS NOT USED.
4. ELBOW CAST INTO FLOOR SHALL REMAIN
5. PIPE ASSOCIATED WITH THE EXISTING AIR COMPRESSOR IS NOT SHOWN FOR CLARITY. REMOVE ALL EXISTING COMPRESSED AIR PIPING WITHIN THE PIPE GALLERY. AIR PIPING OUTSIDE OF THE PIPE GALLERY SHALL REMAIN. CUT AND CAP THE EXISTING AIR PIPING THAT IS TO REMAIN AT UP TO FOUR LOCATIONS SELECTED IN THE FIELD. PRIOR TO REMOVAL OF THE EXISTING COMPRESSORS AND ASSOCIATED PIPING, CONSTRUCT AND PLACE IN SERVICE THE NEW AIR COMPRESSOR PIPING AND ELECTRICAL.

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL OF THE PIPING, CONDUITS, AND WIRE ASSOCIATED WITH THE VALVE OPERATORS AND HYDRO/ELECTRIC SOLENOID VALVE CONTROL ASSEMBLIES, ARE NOT SHOWN FOR CLARITY.
7. PIPING ASSOCIATED W/ THE TURBIDITY INSTRUMENTS IS NOT SHOWN FOR CLARITY.
8. REMOVE ALL PIPING, CONDUITS AND WIRE ASSOCIATED WITH THE VALVE OPERATORS, SOLENOIDS AND INSTRUMENTS ACCORDINGLY.

LEGEND:

EXISTING

TO BE REMOVED

1/4"=1'-0"

1 0 1 2 3 7'

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M07

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION
LOWER PLAN

DATE: JULY 2015
SHEET: 15 OF 69
DRAWING: M-07

PLOT DATE: 7/24/2015 9:06 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Plan-Bottom-X,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X

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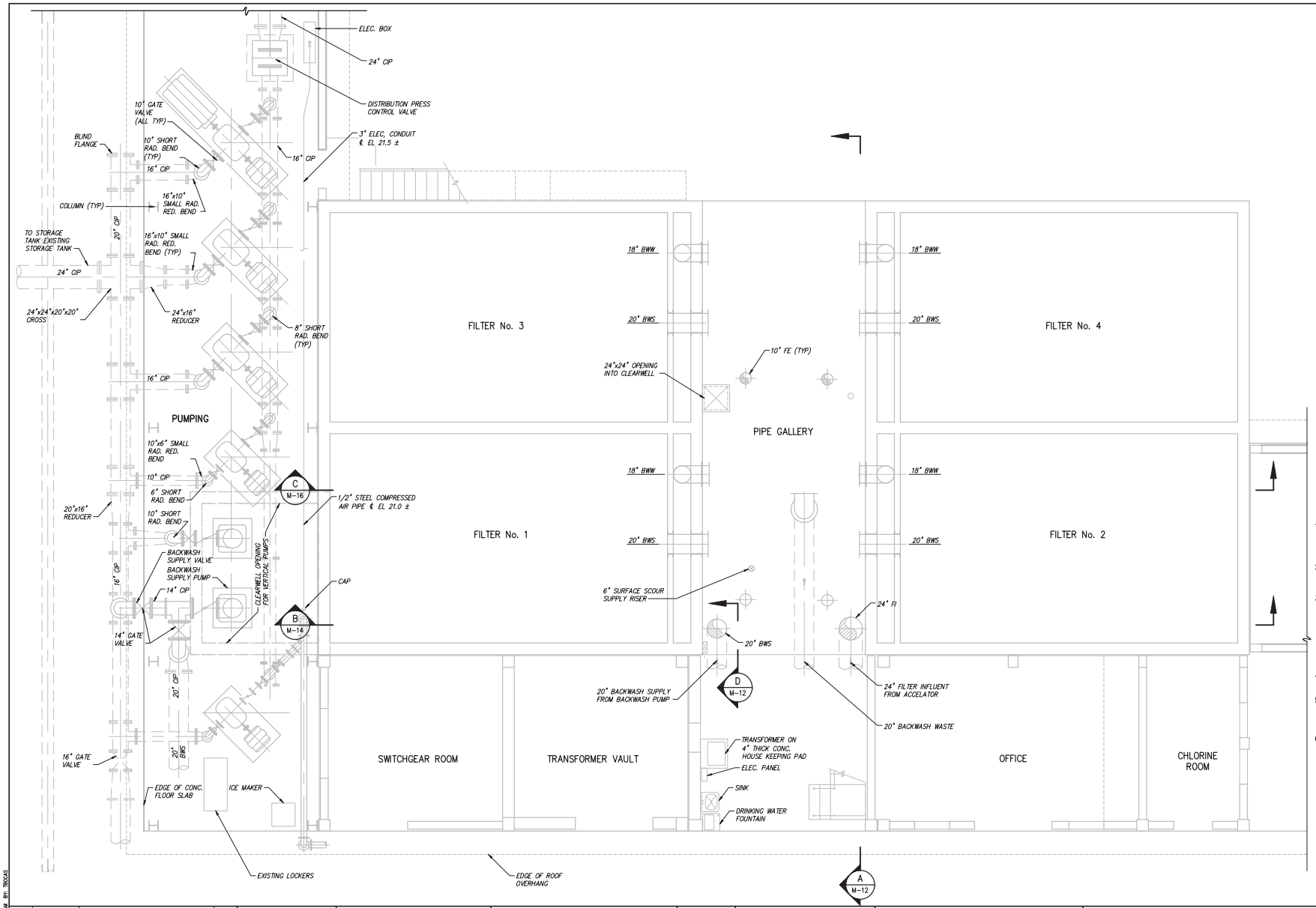

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL REMAINING PIPE SHALL IMMEDIATLY BE PLUGGED/CAPPED AFTER DEMOLITION AND SHALL REMAIN AS SUCH UNTIL PROPOSED PIPING IS BEING INSTALLED.

LEGEND:

EXISTING

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M08

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER POST-DEMOLITION LOWER PLAN

DATE: JULY 2015
SHEET: 16 OF 69
DRAWING: M-08

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:06 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Plan-Bottom-X,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X

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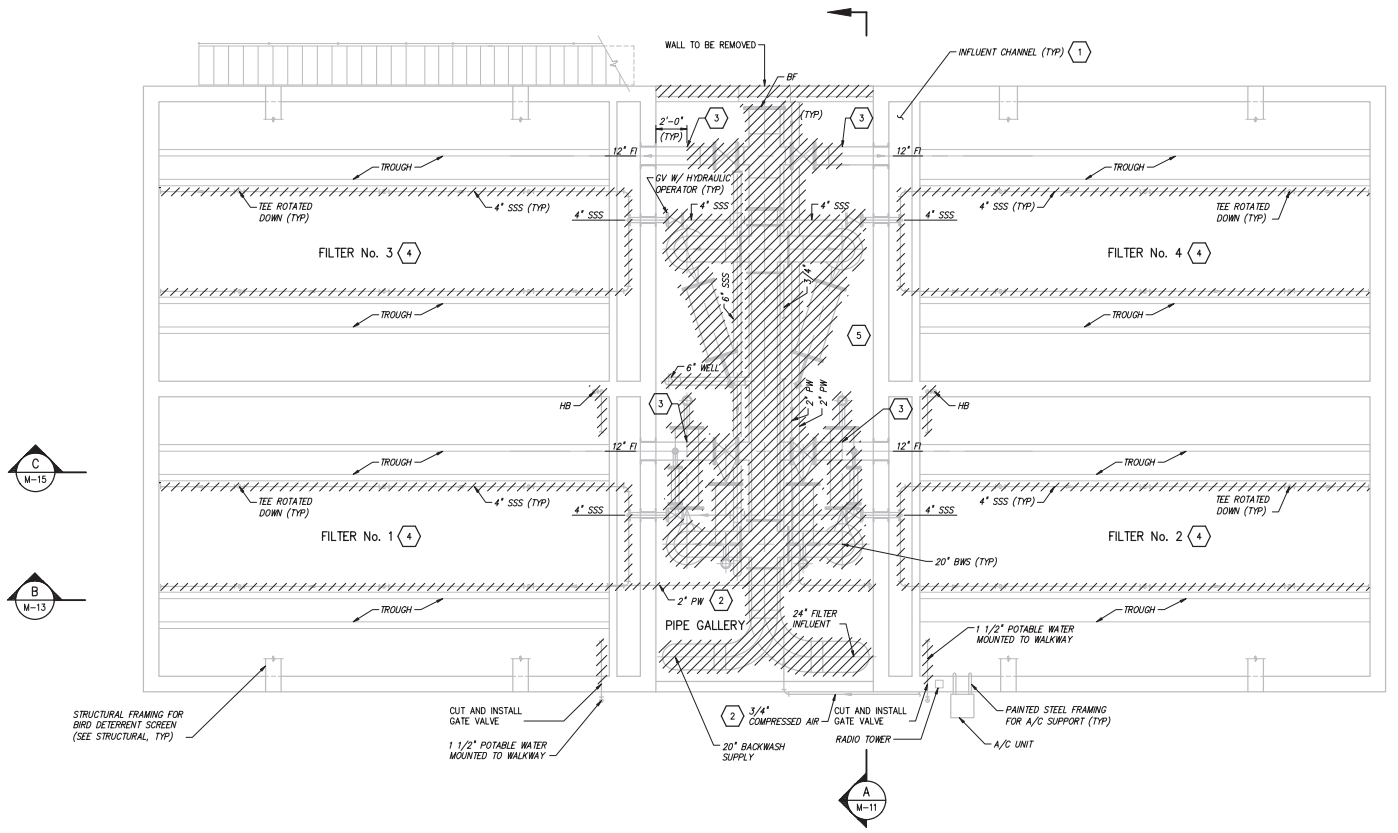

KEYED NOTES:

1. CONCRETE WALKWAY ABOVE INFLUENT CHANNEL NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR WALKWAY ABOVE THE INFLUENT CHANNEL.
2. SMALL DIAMETER (4-INCH DIAMETER AND LESS) POTABLE WATER AND COMPRESSED AIR PIPING NOT SHOWN IN ITS ENTIRETY FOR CLARITY. REMOVE ALL SMALL DIAMETER POTABLE WATER AND COMPRESSED AIR PIPING WITHIN THE PIPE GALLERY AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. CUT THE EXISTING 14"ø FILTER INFLUENT PIPE 2-FEET FROM FILTER WALL. THE CAST-IN PORTION OF PIPE IS TO REMAIN.
4. REMOVE ENTIRETY OF FILTER CONTENTS, INCLUDING FILTER MEDIA, FILTER UNDERDRAIN AND FILTER SURFACE SCOUR SUPPLY PIPING AND SURFACE SCOUR SWEEPS. FILTER TROUGHS TO REMAINS.
5. EXISTING PAINTED STEEL PIPE SUPPORTS NOT SHOWN FOR CLARITY.

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL OF THE PIPING, CONDUITS, AND WIRE ASSOCIATED WITH THE VALVE OPERATORS AND HYDRO/ELECTRIC SOLENOID VALVE CONTROL ASSEMBLIES, ARE NOT SHOWN FOR CLARITY.
7. PIPING ASSOCIATED W/ THE TURBIDITY INSTRUMENTS IS NOT SHOWN FOR CLARITY.
8. REMOVE ALL PIPING, CONDUITS AND WIRE ASSOCIATED WITH THE VALVE OPERATORS, SOLENOIDS AND INSTRUMENTS ACCORDINGLY.

LEGEND:

EXISTING

TO BE REMOVED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M09

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION
UPPER PLAN

DATE: JULY 2015
SHEET: 17 OF 69
DRAWING: M-09

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB_..\Base-BP1\M-BP1-Filters-Plan-Upper-X_..\Base-BP1\S-BP1-Filters-Plan-Intermediate-X

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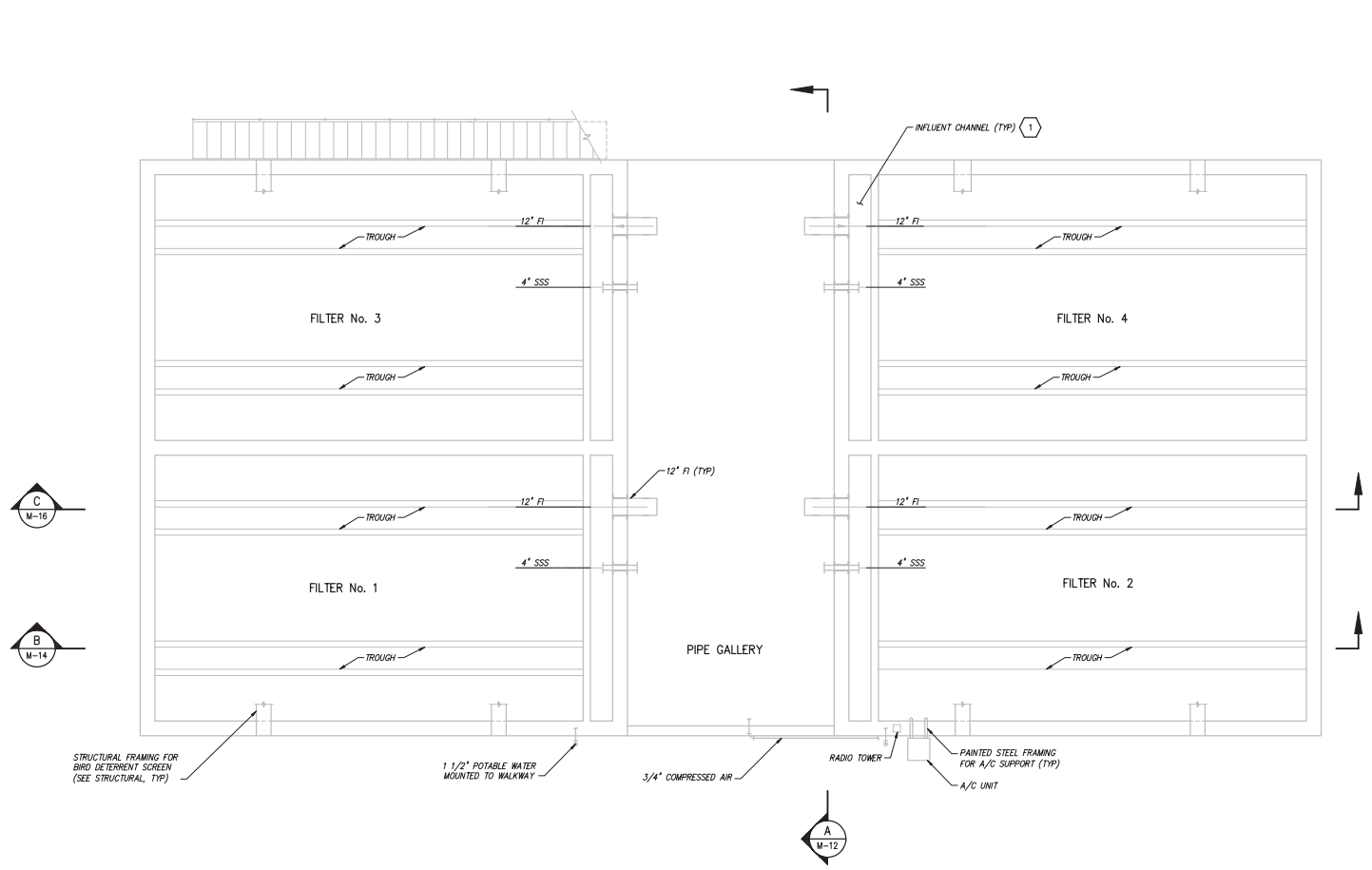

KEYED NOTES:

1. CONCRETE WALKWAY ABOVE INFLUENT CHANNEL NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR WALKWAY ABOVE THE INFLUENT CHANNEL.

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL REMAINING PIPE SHALL IMMEDIATLY BE PLUGGED/CAPPED AFTER DEMOLITION AND SHALL REMAIN AS SUCH UNTIL PROPOSED PIPING IS BEING INSTALLED.

LEGEND:

EXISTING

PROPOSED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M10

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER POST-DEMOLITION
UPPER PLAN

DATE: JULY 2015
SHEET: 18 OF 69
DRAWING: M-10

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB_..\Base-BP1\M-BP1-Filters-Plan-Upper-X_..\Base-BP1\S-BP1-Filters-Plan-Intermediate-X

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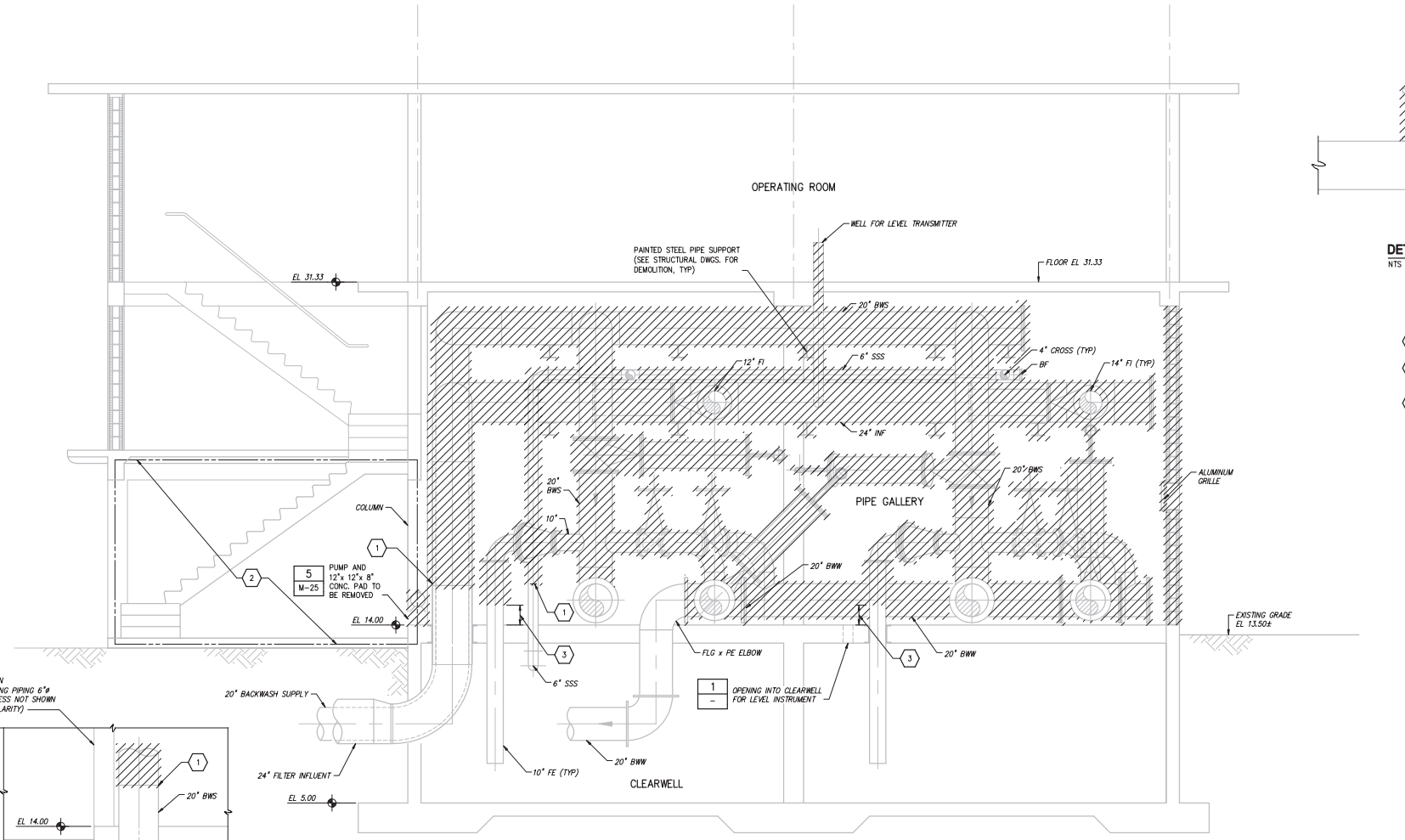
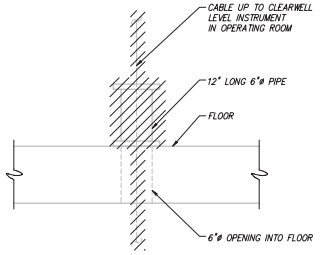


SECTION 3/8" = 1'-0" (D / M-07 — D / M-09)

SECTION 3/8" = 1'-0" (A / M-07 — A / M-09)



DETAIL 1 / – NTS

KEYED NOTES:

1. CUT PIPE 2–FEET ABOVE FINISHED FLOOR.
2. EXISTING EQUIPMENT, PIPING, ELECTRICAL, INSTRUMENTS, AND OTHER IMPROVEMENTS ARE NOT SHOWN FOR CLARITY.
3. CUT PIPING AT HEIGHT AS REQUIRED TO SUIT PROPOSED PIPING.

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
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4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL OF THE PIPING, CONDUITS, AND WIRE ASSOCIATED WITH THE VALVE OPERATORS AND HYDRO/ELECTRIC SOLENOID VALVE CONTROL ASSEMBLIES, ARE NOT SHOWN FOR CLARITY.
7. PIPING ASSOCIATED W/ THE TURBIDITY INSTRUMENTS IS NOT SHOWN FOR CLARITY.
8. REMOVE ALL PIPING, CONDUITS AND WIRE ASSOCIATED WITH THE VALVE OPERATORS, SOLENOIDS AND INSTRUMENTS ACCORDINGLY.

LEGEND:

EXISTING

TO BE REMOVED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B. DRAWN A.B.C. CHECKED G.N.C. PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E. No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –

ENGINEERS PROJECT: 44238-004

CAD REFERENCE: 44238-004BP1-M11

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT

RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION SECTION 1

DATE: JULY 2015

SHEET: 19 OF 69

DRAWING: M-11

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Sections-X,..\Base-BP1\S-BP1-Filters-Sections-X

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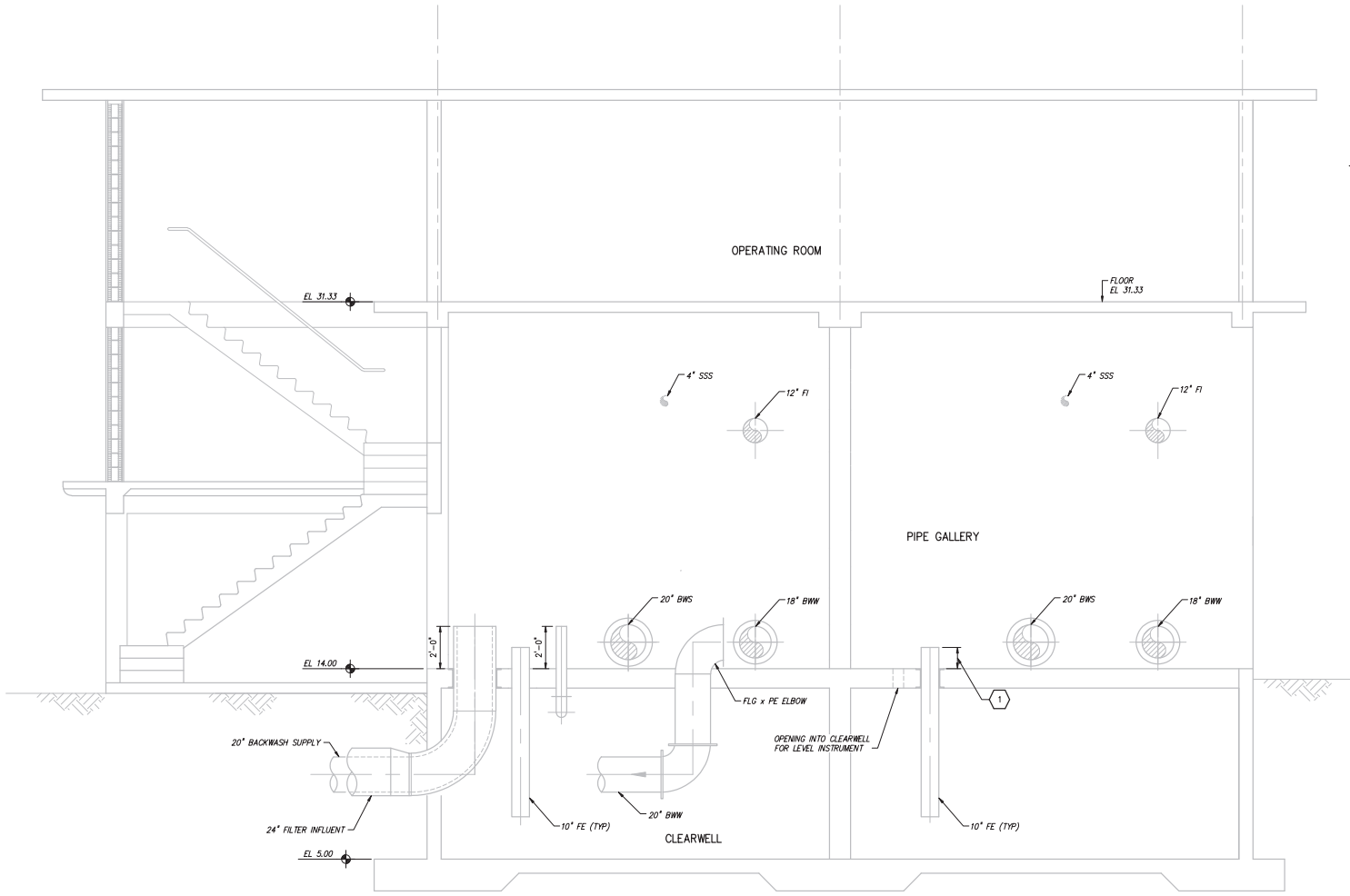
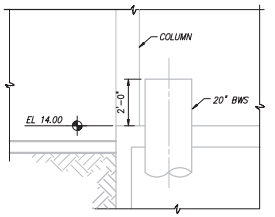


SECTION 3/8" = 1'-0" (A M-08 / A M-10)



SECTION 3/8" = 1'-0" (D M-08 / D M-10)

KEYED NOTES:

1. HEIGHT OF REMAINING PORTION OF PIPE SHALL BE DETERMINED BY CONTRACTOR TO SUIT PROPOSED PIPING.

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. THE LOCATION AND ELEVATION OF ALL PIPES PENETRATING THE WALLS AND THE LOCATION OF PIPES PENETRATING THE TOP OF THE CLEARWELL ARE APPROXIMATE. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL NEEDED FIELD VERIFICATION TO ENSURE ALIGNMENT BETWEEN THE PROPOSED FILTER PIPING AND CONNECTION WITH THE EXISTING CAST-IN PORTIONS OF FILTER PIPING SHOWN TO REMAIN.
6. ALL REMAINING PIPE SHALL IMMEDIATLY BE PLUGGED/CAPPED AFTER DEMOLITION AND SHALL REMAIN AS SUCH UNTIL PROPOSED PIPING IS BEING INSTALLED.

LEGEND:

EXISTING

3/8"=1'-0" 12" 0 1 2 4'

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN A.B.C.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M12

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER POST-DEMOLITION SECTION 1

DATE: JULY 2015
SHEET: 20 OF 69
DRAWING: M-12

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Sections-X,..\Base-BP1\M-BP1-Filters-Sections-X

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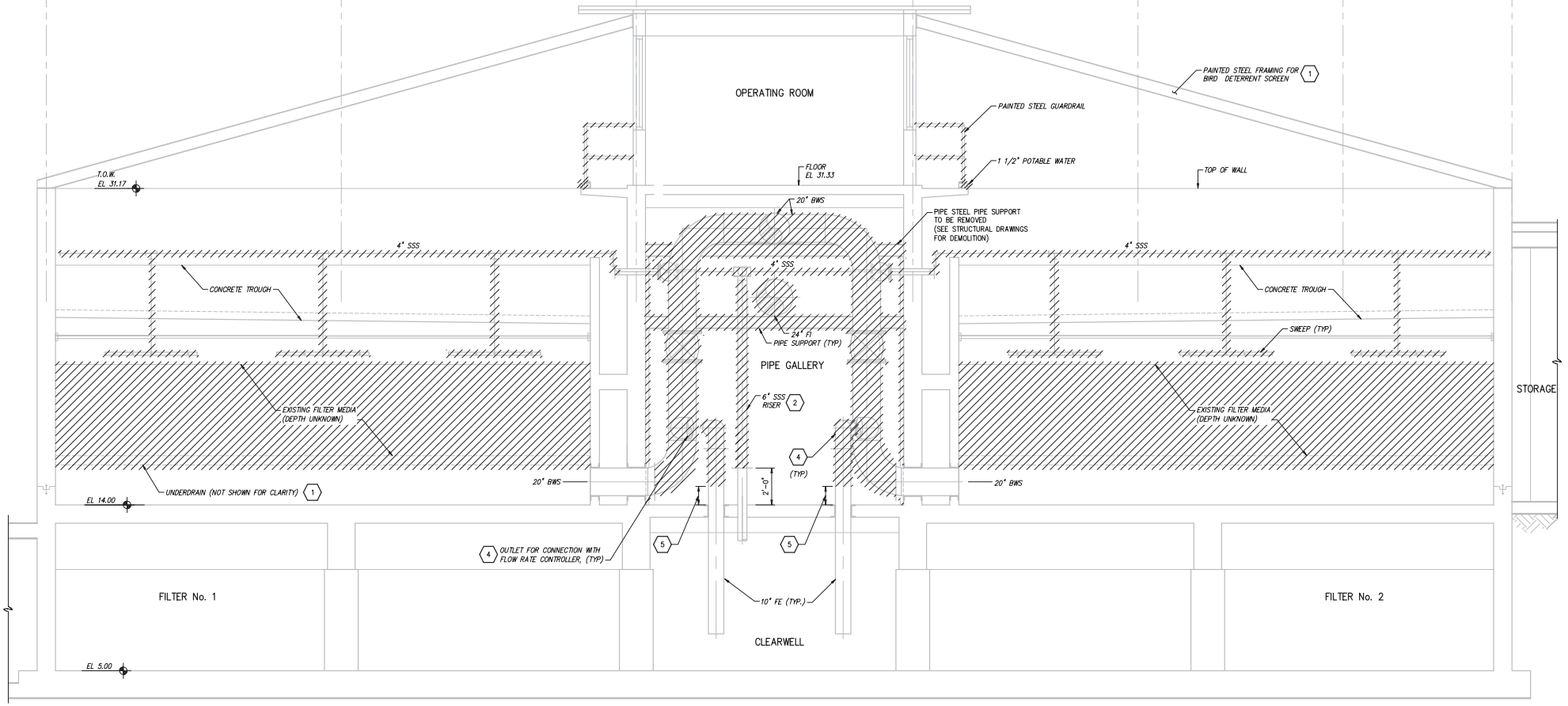


SECTION B M-07 / B M-09
3/8" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION, AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
6. ALL OF THE PIPING, CONDUITS, AND WIRE ASSOCIATED WITH THE VALVE OPERATORS AND HYDRO/ELECTRIC SOLENOID VALVE CONTROL ASSEMBLIES, ARE NOT SHOWN FOR CLARITY.
7. PIPING ASSOCIATED W/ THE TURBIDITY INSTRUMENTS IS NOT SHOWN FOR CLARITY.
8. REMOVE ALL PIPING, CONDUITS AND WIRE ASSOCIATED WITH THE VALVE OPERATORS, SOLENOIDS AND INSTRUMENTS ACCORDINGLY.

KEYED NOTES:

(1) SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DETAIL.
(2) CUT THE 6" SSS RISER 2-FEET ABOVE THE FLOOR. THE CAST-IN PORTION OF PIPE IS TO REMAIN
(3) SEAL OPENING IN FLOOR (SEE STRUCTURAL)
(4) FLOW RATE CONTROLLER NOT SHOWN IN ITS ENTIRETY FOR CLARITY.
(5) HEIGHT OF REMAINING PORTION OF PIPE SHALL BE DETERMINED BY CONTRACTOR TO SUIT PROPOSED PIPING.

LEGEND:

EXISTING
TO BE REMOVED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M13

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION SECTION 2

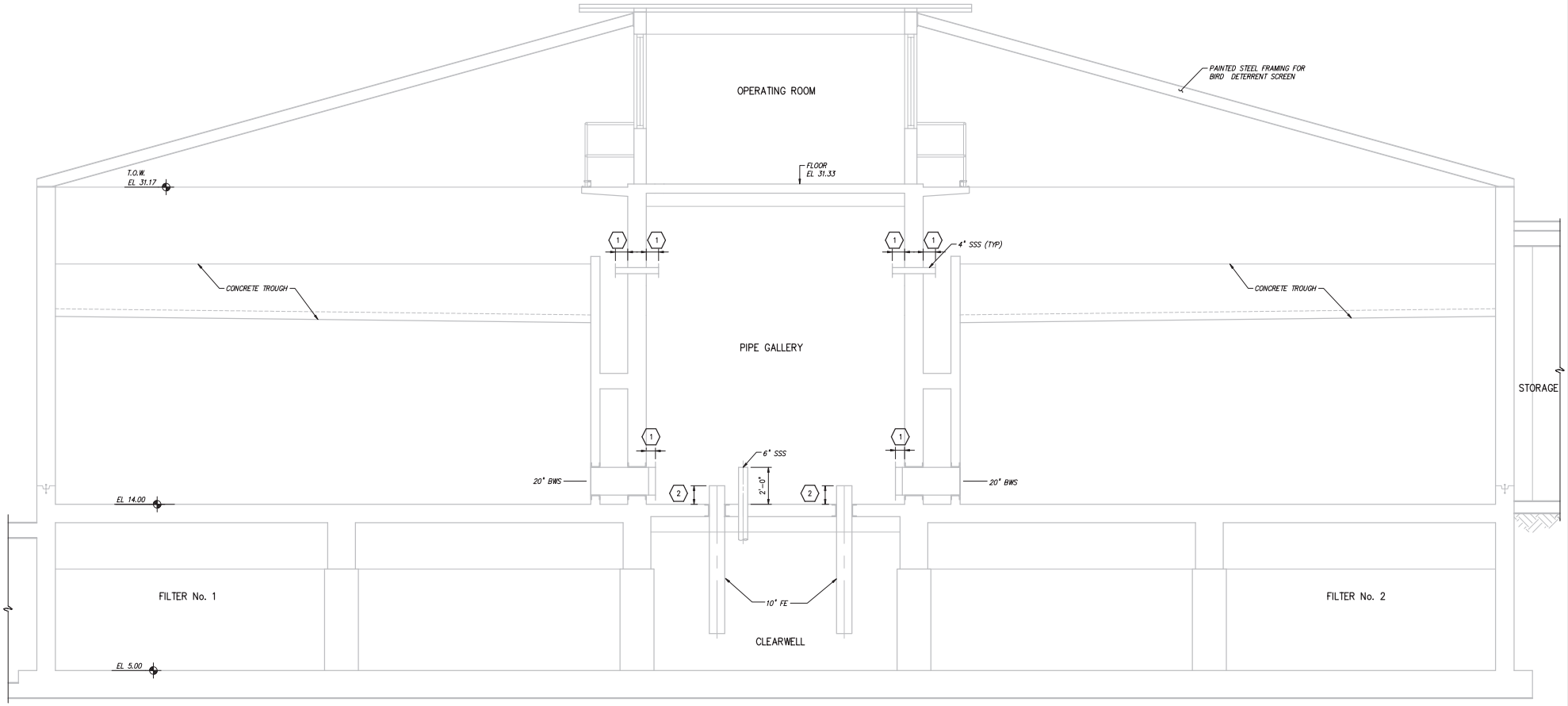
DATE: JULY 2015
SHEET: 21 OF 69
DRAWING: M-13

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Sections-X,..\Base-BP1\S-BP1-Filters-Sections-X

File = H:\44238-004\Drawings\design build package\volume a - filter rehab\bid package 1 - filter rehab\Mech\44238-004BP1-M13 Saved by tbocas Save date = 7/22/2015 1:12 PM



SECTION B/M-08 B/M-10
3/8" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. THE LOCATION AND ELEVATION OF ALL PIPES PENETRATING THE WALLS AND THE LOCATION OF PIPES PENETRATING THE TOP OF THE CLEARWELL ARE APPROXIMATE. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL NEEDED FIELD VERIFICATION TO ENSURE ALIGNMENT BETWEEN THE PROPOSED FILTER PIPING AND CONNECTION WITH THE EXISTING CAST-IN PORTIONS OF FILTER PIPING SHOWN TO REMAIN.
6. ALL REMAINING PIPE SHALL IMMEDIATLY BE PLUGGED/CAPPED AFTER DEMOLITION AND SHALL REMAIN AS SUCH UNTIL PROPOSED PIPING IS BEING INSTALLED.

KEYED NOTES:

(1) DIMENSION IS UNKNOWN, CONTRACTOR TO FIELD VERIFY.
(2) HEIGHT OF REMAINING PORTION OF PIPE SHALL BE DETERMINED BY CONTRACTOR TO SUIT PROPOSED PIPING.

LEGEND:

EXISTING

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M14

NORTH MIAMI FLORIDA
CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER POST-DEMOLITION SECTION 2

DATE: JULY 2015
SHEET: 22 OF 69
DRAWING: M-14

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB_..\Base-BP1\M-BP1-Filters-Sections-X_..\Base-BP1\S-BP1-Filters-Sections-X

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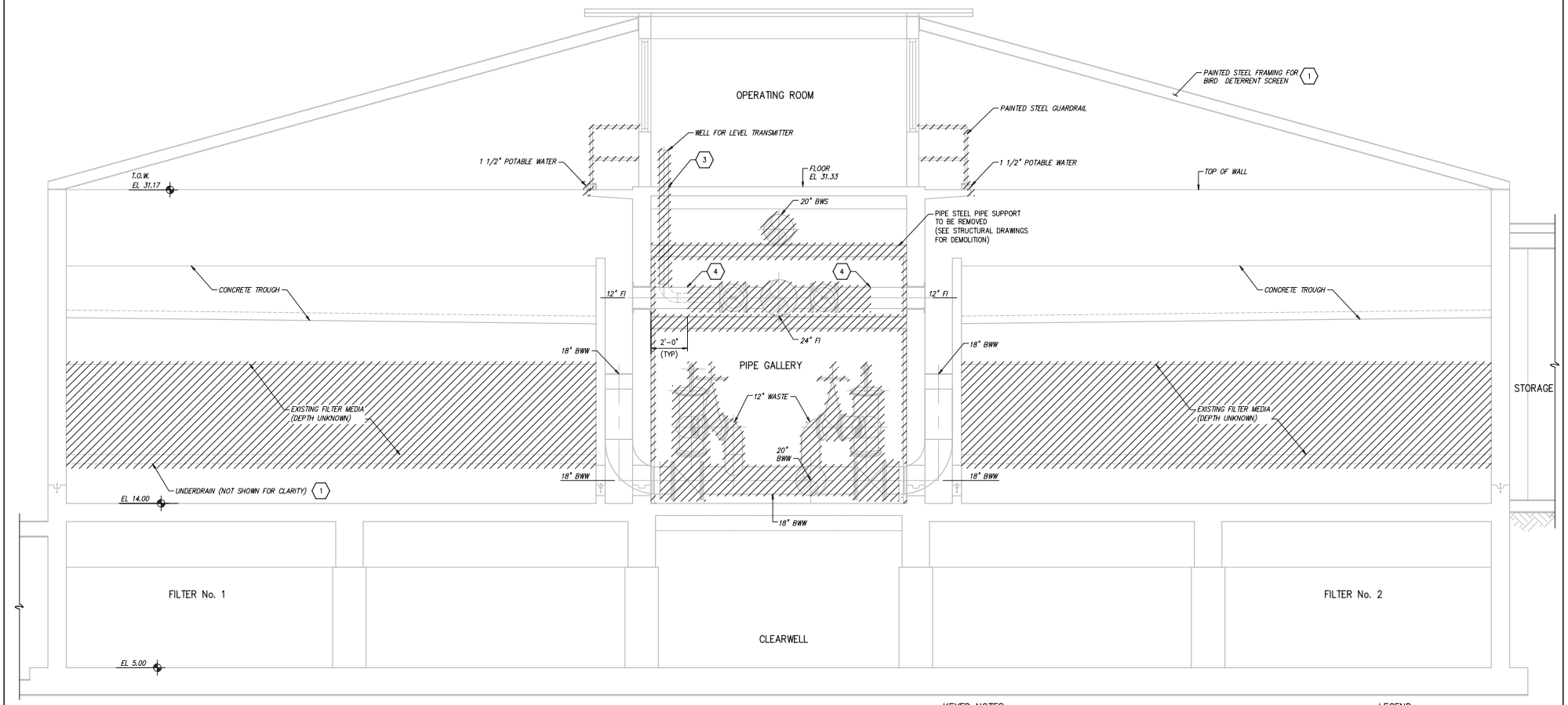

SECTION C/M-07 C/M-09
3/8" = 1'-0"

KEYED NOTES:

1. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DETAIL.
2. CUT THE 6" SSS RISER 2-FEET ABOVE THE FLOOR. THE CAST-IN PORTION OF PIPE IS TO REMAIN
3. SEAL OPENING IN FLOOR (SEE STRUCTURAL)
4. CUT THE EXISTING 12"ø FILTER INFLUENT PIPE 2-FEET FROM FILTER WALL. THE CAST-IN PORTION OF PIPE IS TO REMAIN.

LEGEND:

EXISTING

TO BE REMOVED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M15

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION
SECTION 3

DATE: JULY 2015
SHEET: 23 OF 69
DRAWING: M-15

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB_..\Base-BP1\M-BP1-Filters-Sections-X_..\Base-BP1\S-BP1-Filters-Sections-X

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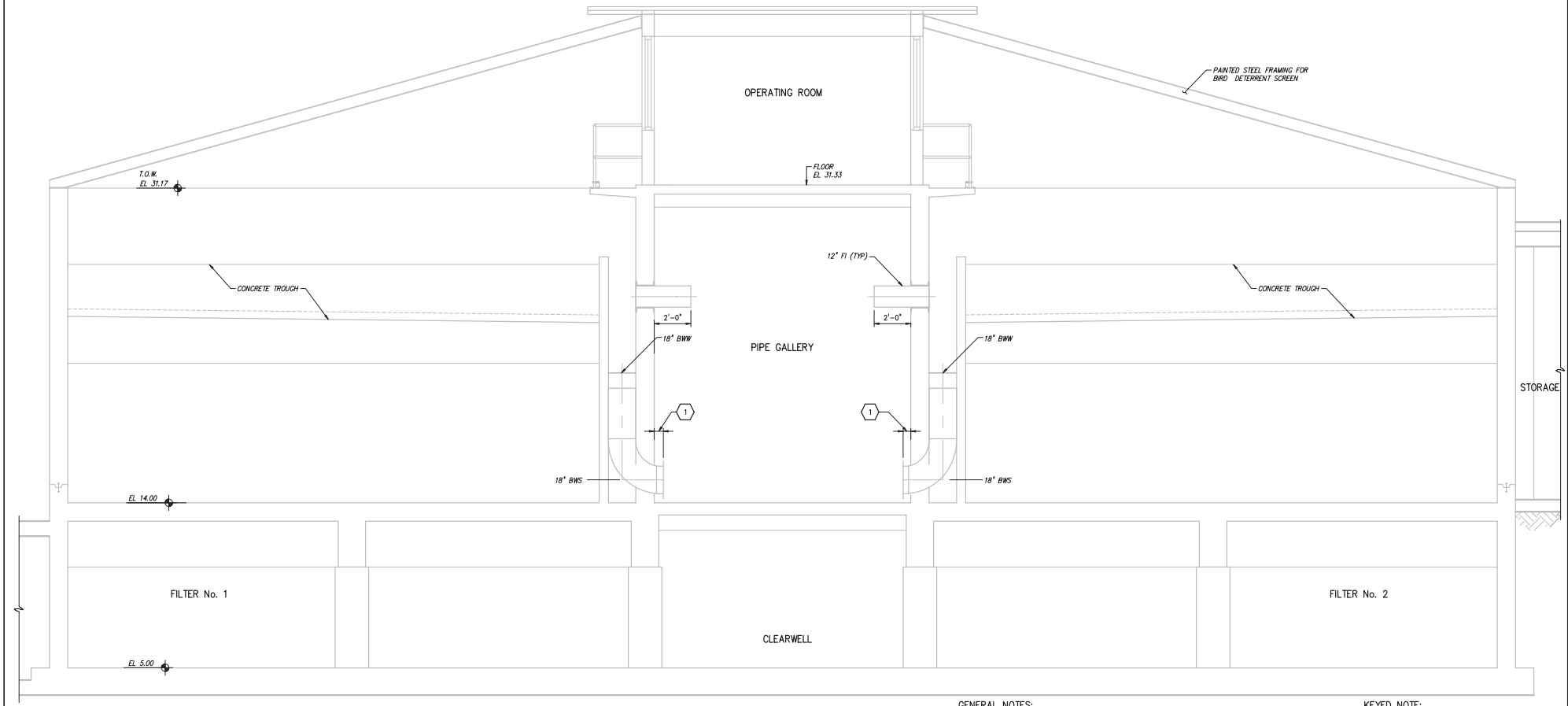

SECTION C M-08 / C M-10
3/8" = 1'-0"

GENERAL NOTES:

1. THIS DRAWING IS BASED UPON RECORD DRAWINGS ENTITLED "WEST SIDE WATER TREATMENT PLANT" PREPARED BY INTERSTATE ENGINEERING CO., INC. DATED 1962.
2. FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.
3. CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WETHER SHOWN OR NOT.
4. ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).
5. THE LOCATION AND ELEVATION OF ALL PIPES PENETRATING THE WALLS AND THE LOCATION OF PIPES PENETRATING THE TOP OF THE CLEARWELL ARE APPROXIMATE. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL NEEDED FIELD VERIFICATION TO ENSURE ALIGNMENT BETWEEN THE PROPOSED FILTER PIPING AND CONNECTION WITH THE EXISTING CAST-IN PORTIONS OF FILTER PIPING SHOWN TO REMAIN.

KEYED NOTE:

(1) DIMENSION IS UNKNOWN, CONTRACTOR TO FIELD VERIFY.

LEGEND:

EXISTING

3/8"=1'-0"

12" 0 1 2 4'

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN A.B.C.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

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4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M16

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER POST-DEMOLITION
SECTION 3

DATE: JULY 2015
SHEET: 24 OF 69
DRAWING: M-16

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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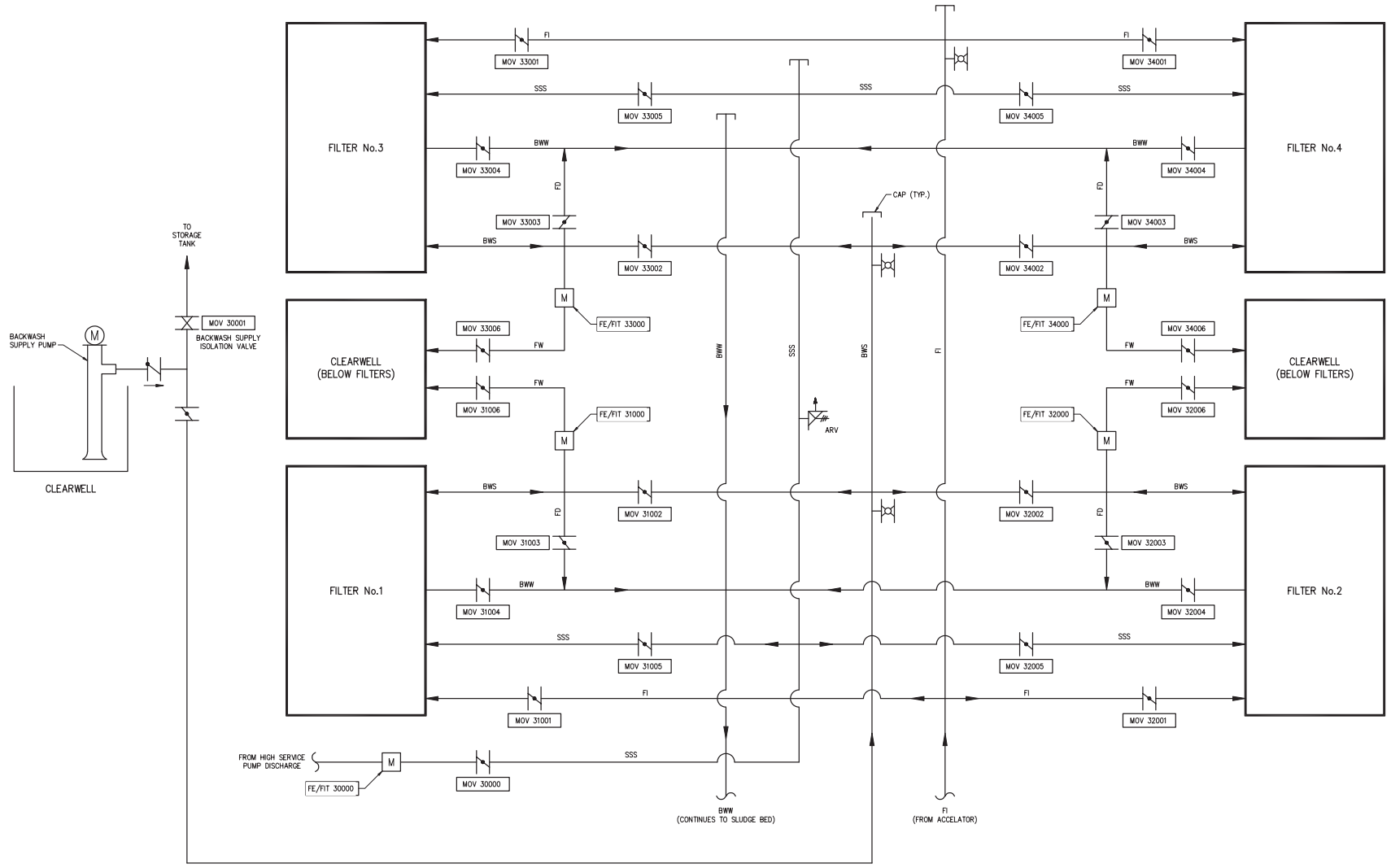

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN N.E.P.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M17

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

MECHANICAL PIPING SCHEMATIC

DATE: JULY 2015
SHEET: 25 OF 69
DRAWING: M-17

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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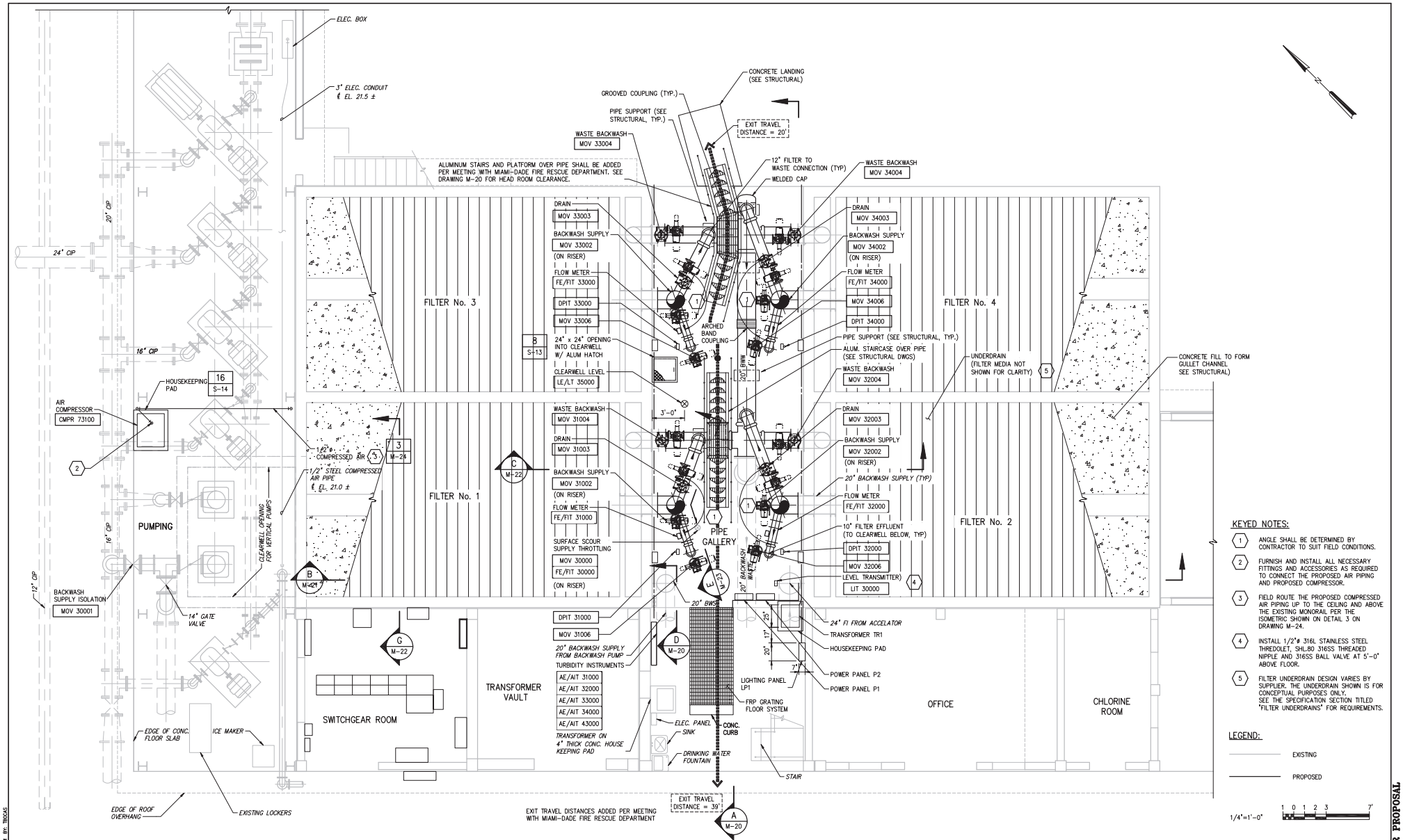

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN A.B.C.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M18

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
PROPOSED FILTERS LOWER PLAN AND LIFE SAFETY PLAN

DATE: JULY 2015
SHEET: 26 OF 69
DRAWING: M-18

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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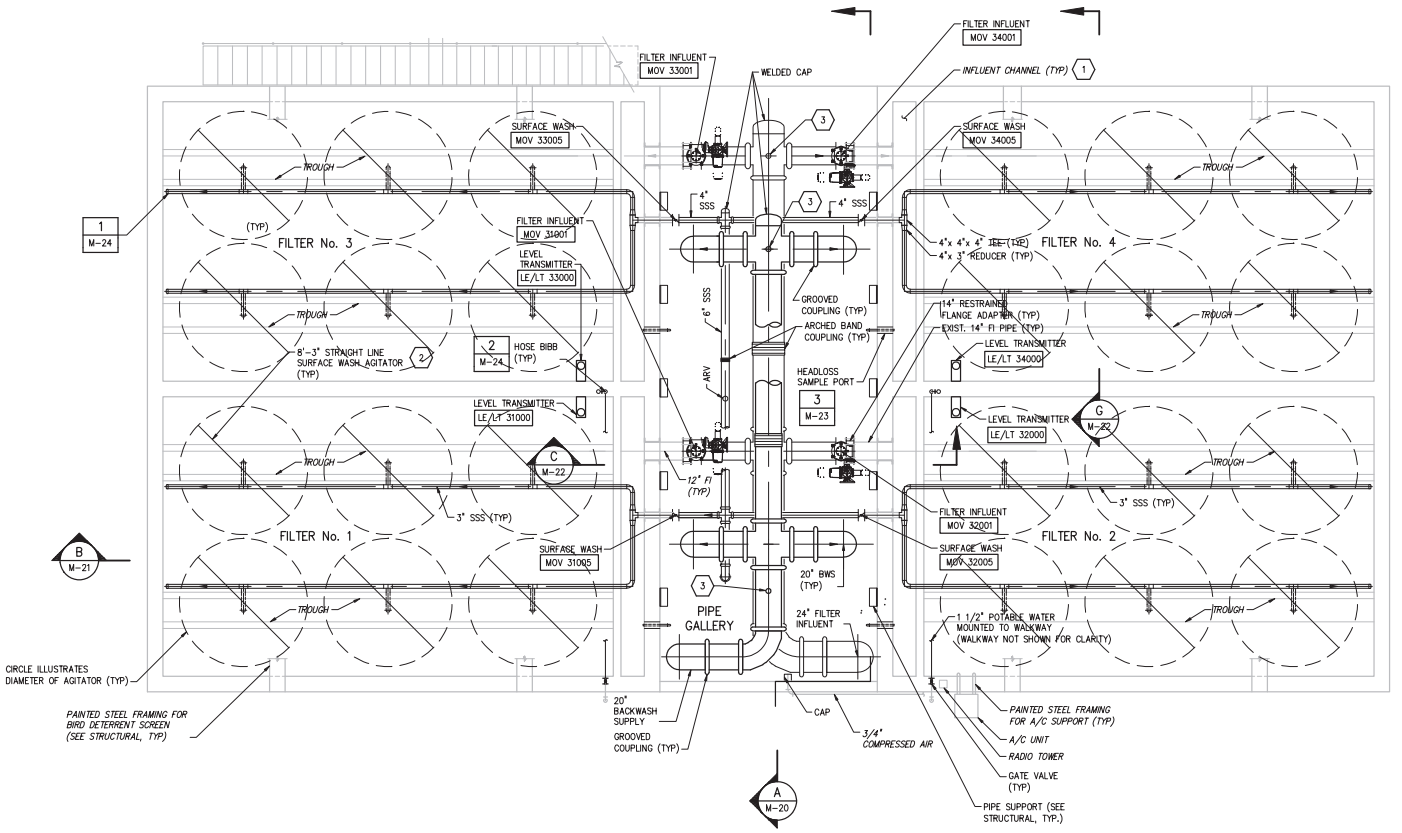

KEYED NOTES:

1. CONCRETE WALKWAY ABOVE INFLUENT CHANNEL NOT SHOWN FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR WALKWAY ABOVE THE INFLUENT CHANNEL.
2. THE LENGTH OF THE AGITATOR SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE ACTUAL SIZE TO SUIT FIELD CONDITIONS.
3. 2"ø 316 STAINLESS STEEL THREDOLET AND 2"ø 316 STAINLESS STEEL BALL VALVE.

LEGEND:

EXISTING

PROPOSED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
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Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –

ENGINEERS PROJECT: 44238-004

CAD REFERENCE: 44238-004BP1-M19

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS
UPPER PLAN

DATE: JULY 2015
SHEET: 27 OF 69
DRAWING: M-19

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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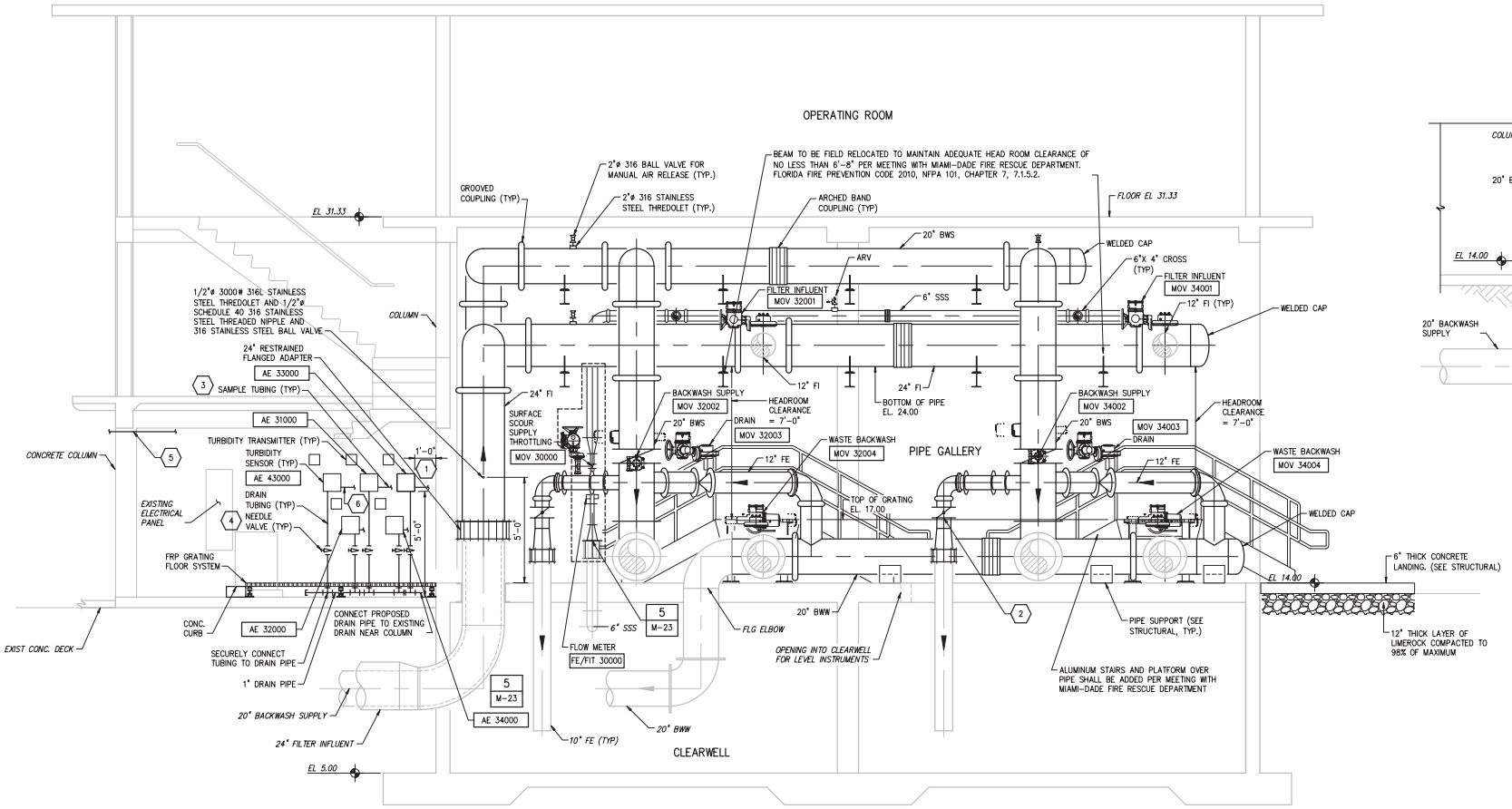
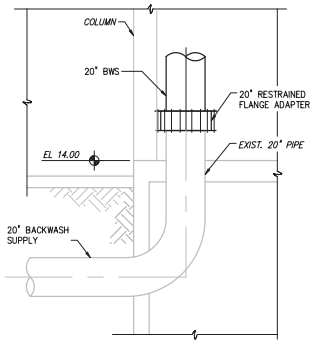


SECTION 3/8" = 1'-0" (A M-18 / A M-19)



SECTION 3/8" = 1'-0" (D M-18)

KEYED NOTES:

1. ADJUST TO SUIT FIELD CONDITIONS.
2. ALL ELECTRIC OPERATORS ARE NOT SHOWN FOR CLARITY, SEE PLAN (TYP.).
3. FIELD ROUTE SAMPLE TUBING TO CONNECTION WITH SAMPLE TAP ON THE FILTER PIPING. (TYPICAL FOR FILTER TURBIDITY MONITORING)
4. ADJUST NEEDLE VALVE IN FIELD TO PROVIDE FLOW RATE THROUGH INSTRUMENT PER THE MANUFACTURER'S RECOMMENDATION.
5. APPROXIMATE LOCATION OF EXISTING 2"ø FINISHED WATER PIPE TO BE USED FOR TURBIDITY SAMPLING.
6. FIELD ROUTE SAMPLE PIPE FOR THE FINISHED WATER TURBIDITY SENSOR TO A CONNECTION WITH THE EXISTING FINISHED WATER PIPE. TAP THE FINISHED WATER PIPE FOR SAMPLE PIPE CONNECTION WHERE DIRECTED BY THE OWNER.

LEGEND:

EXISTING

PROPOSED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M20

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS SECTION 1 AND HEAD ROOM CLEARANCE

DATE: JULY 2015
SHEET: 28 OF 69
DRAWING: M-20

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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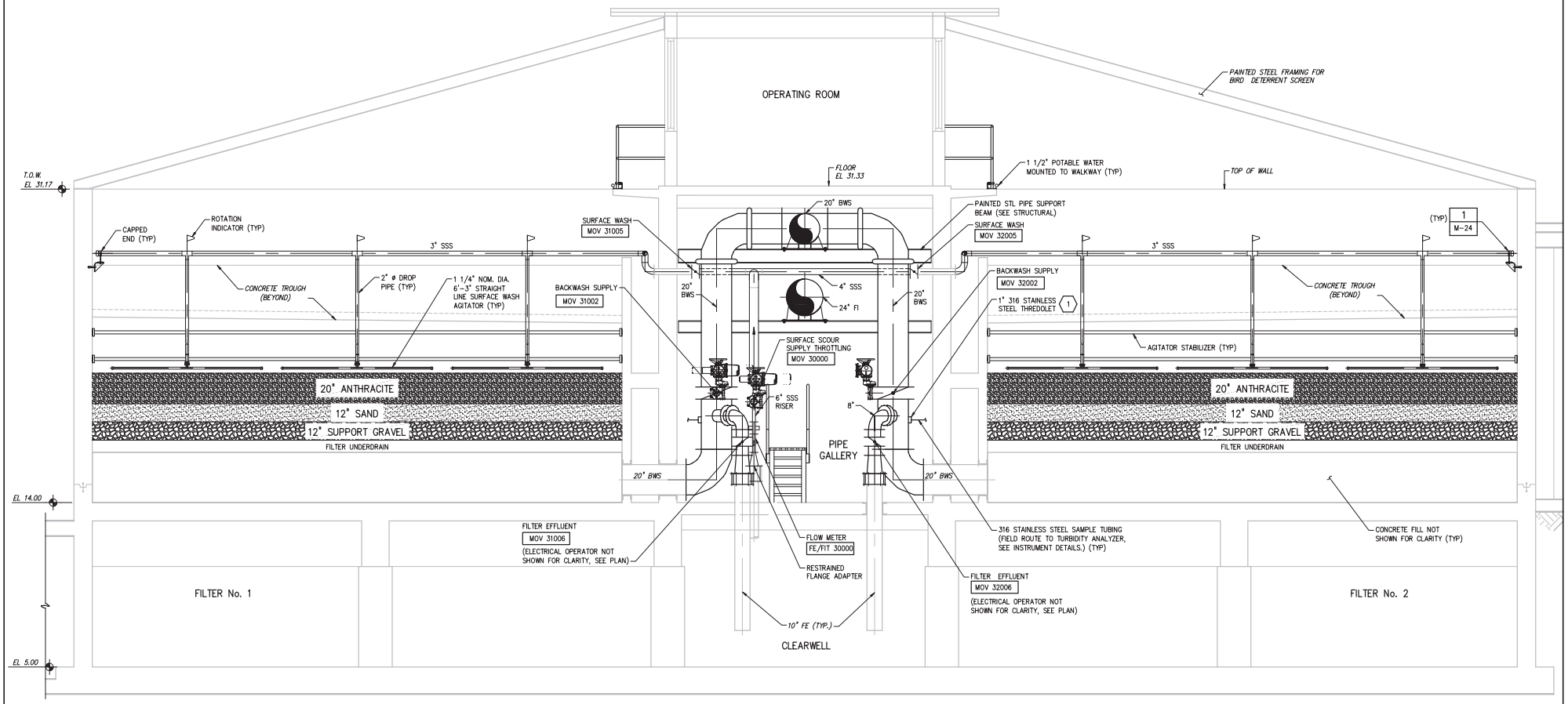

SECTION B M-18 / B M-19
3/8" = 1'-0"

KEYED NOTES:
1. TAP FOR FILTER TURBIDITY SAMPLE SHALL BE BELOW THE FILTER EFFLUENT OUTLET.

LEGEND:
EXISTING
PROPOSED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M21

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
PROPOSED FILTERS SECTION 2

DATE: JULY 2015
SHEET: 29 OF 69
DRAWING: M-21

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:07 AM BY: TBOCAS

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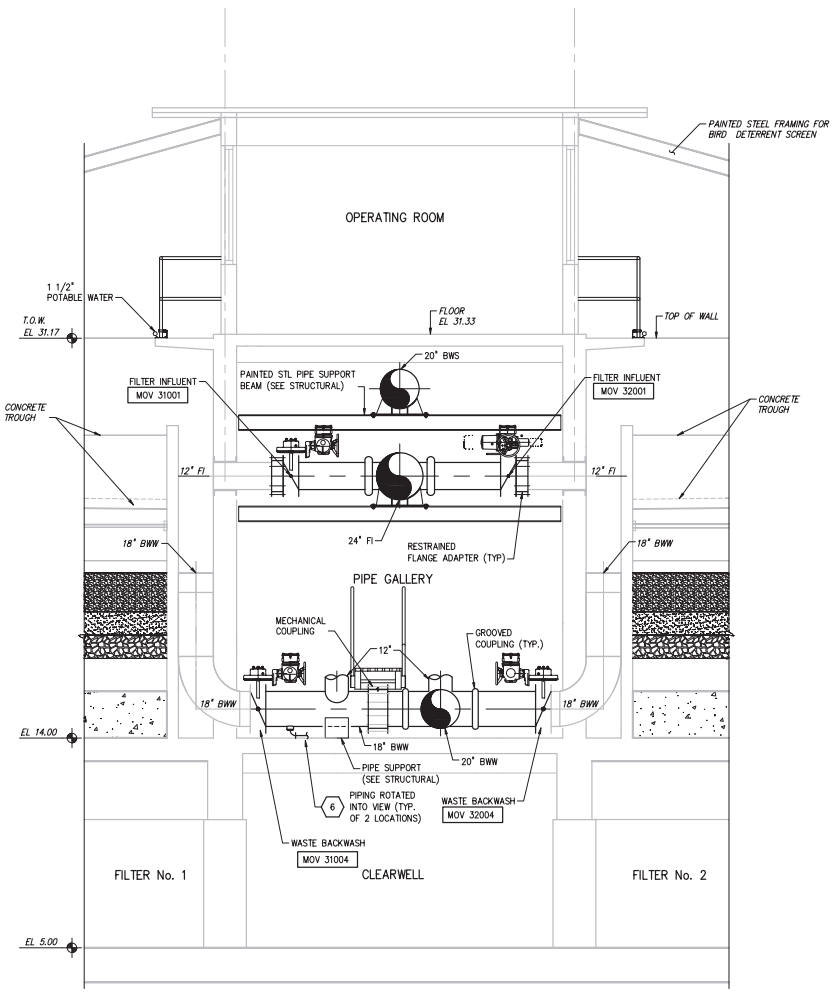
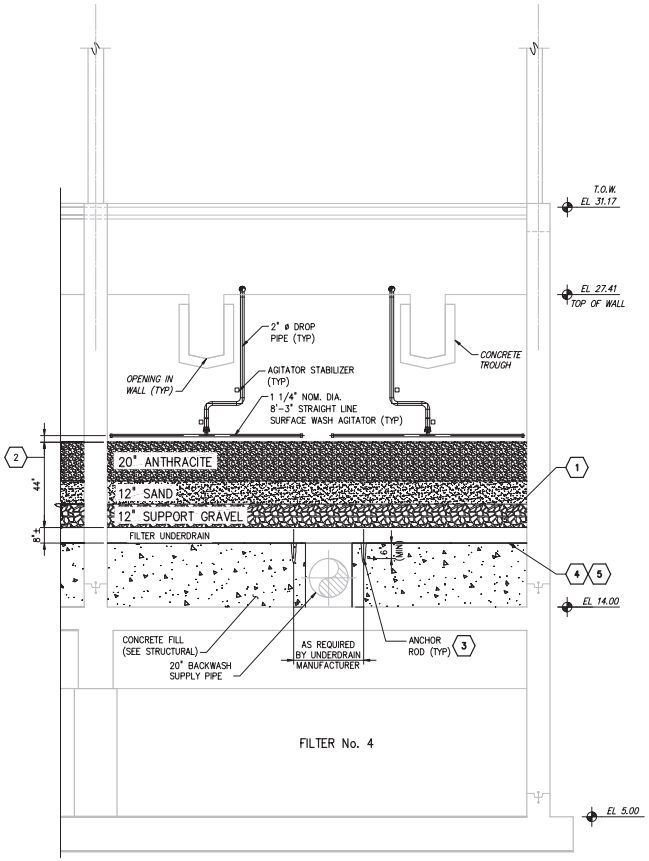


SECTION C C
3/8" = 1'-0" M-18 M-19



SECTION G G
3/8" = 1'-0" M-18 M-19

KEYED NOTES:

1

SUPPORT GRAVEL GRADATION		
SIZE	DEPTH	COMMENT
1/8"x #12	3"	TOP LAYER
1/4"x 1/8"	3"	
1/2"x 1/4"	3"	
3/4"x 1/2"	3"	BOTTOM LAYER
NOTE: PROVIDE 3 PERCENT EXTRA		

2 ADJUST SURFACE WASH AGITATOR DROP PIPE PER MANUFACTURER'S RECOMMENDATION TO PROVIDE A MINIMUM CLEARANCE OF 2" BETWEEN CENTERLINE OF SURFACE WASH AGITATOR AND TOP OF MEDIA.

3 ANCHOR RODS TO BE DESIGNED AND SUPPLIED BY UNDERDRAIN MANUFACTURER. ANCHOR RODS SHALL BE INSTALLED BY CONTRACTOR TO THE DEPTH REQUIRED BY THE UNDERDRAIN MANUFACTURER AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE ADHESIVE SYSTEM. ANCHORS SHALL BE SET IN ADHESIVE SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 05050 – METAL FASTENING.

4 UNDERDRAIN BLOCK SET ON 3/4"± OF LEVELING GROUT AS RECOMMENDED BY UNDERDRAIN MANUFACTURER AND SUPPLIED BY CONTRACTOR. CONTRACTOR SHALL FURNISH AND INSTALL BONDING AGENT RECOMMENDED BY UNDERDRAIN MANUFACTURER.

5 FILTER UNDERDRAIN DESIGN VARIES BY SUPPLIER. THE UNDERDRAIN SHOWN IS FOR CONCEPTUAL PURPOSES ONLY. SEE THE SPECIFICATION SECTION TITLED "FILTER UNDERDRAINS" FOR REQUIREMENTS.

6 INSTALL 2"ø 316 STAINLESS STEEL THREDOLET, 2"ø 316 STAINLESS STEEL PIPING, FITTINGS AND BALL VALVE. BALL VALVE NOT SHOWN FOR CLARITY. EXTEND VALVE TO AN ACCESSIBLE LOCATION TO FACILITATE DRAINING THE PIPING.

LEGEND:

EXISTING

PROPOSED

1/2"=1'-0" 12" 0 1 3'

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE: AS NOTED

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M22

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS SECTION 3

DATE: JULY 2015
SHEET: 30 OF 69
DRAWING: M-22

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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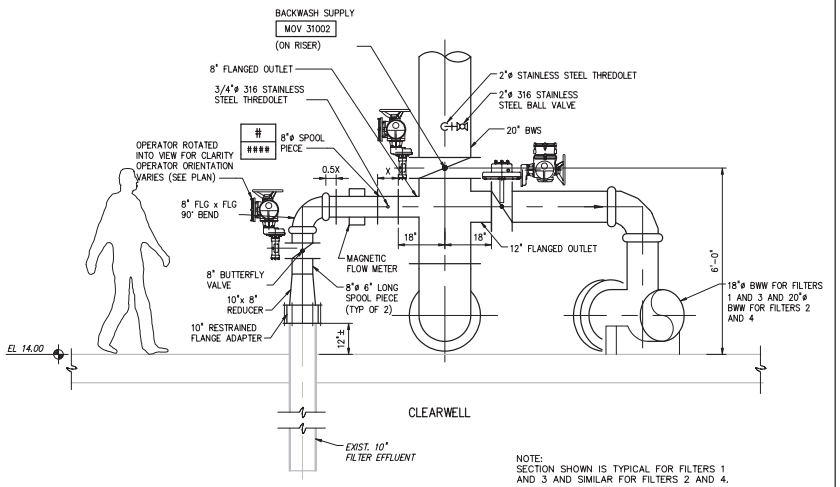
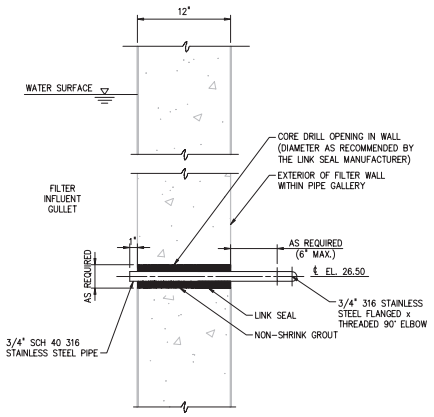


NOTE:
SECTION SHOWN IS TYPICAL FOR FILTERS 1 AND 3 AND SIMILAR FOR FILTERS 2 AND 4.

SECTION E
1/2" = 1'-0" M-18

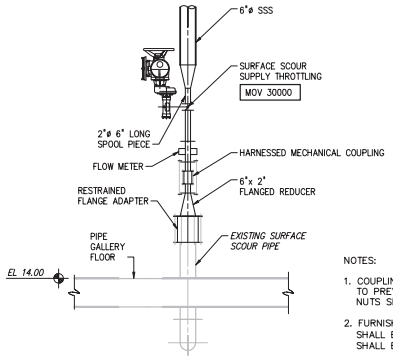


SECTION

HEADLOSS SAMPLE PORT AT FILTER BOX

DETAIL 3
N.T.S. M-19

NOTE:
SEE THE "LOSS OF HEAD TRANSMITTER PIPING" DETAIL ON DRAWING I-07 FOR ADDITIONAL INFORMATION.



NOTES:

1. COUPLINGS SHALL BE HARNESSED AND BACK BOLTED TO PREVENT MOVEMENT IN EITHER DIRECTION. BACKING NUTS SHALL BE 316 STAINLESS STEEL.
2. FURNISH AND INSTALL (2) HARNESSING RODS. RODS SHALL BE 3/4-INCH DIAMETER. THREADED RODS SHALL BE 316 STAINLESS STEEL.
3. THREADED RODS SHALL BE BOLTED TO 1-INCH THICK STAINLESS STEEL TABS.

DETAIL 5
1/2" = 1'-0" M-20

LEGEND:

EXISTING

PROPOSED

1/2"=1'-0" 12" 0 1 3'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

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Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/2"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M23

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS SECTION 4

DATE: JULY 2015
SHEET: 31 OF 69
DRAWING: M-23

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Sections-X,..\Base-BP1\M-BP1-Filters-Sections

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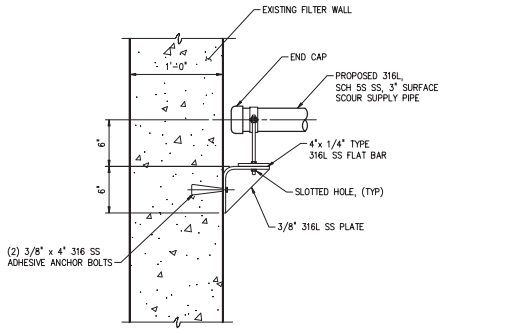
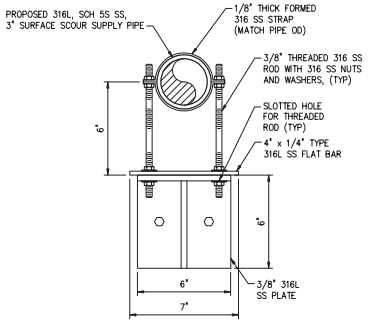
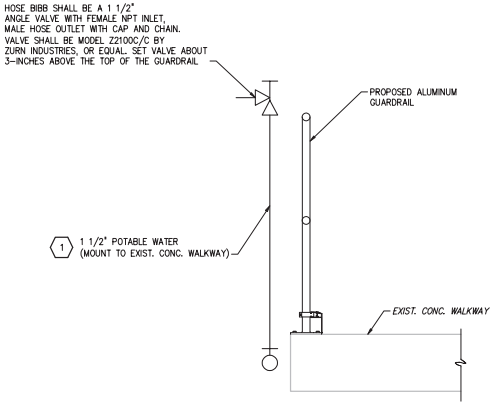


SIDE VIEW



FRONT VIEW

DETAIL 1 / M-21
N.T.S.



KEYED NOTES:

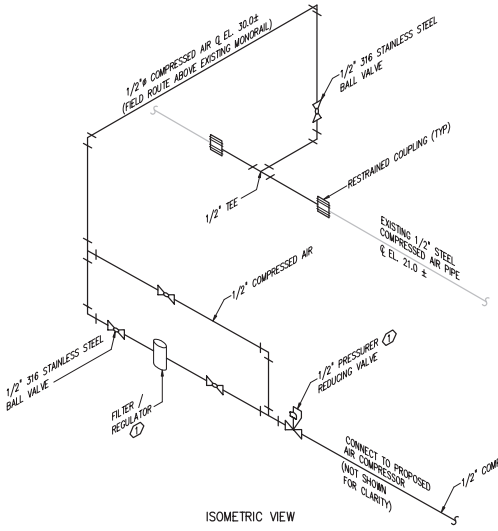
1. SECURE POTABLE WATER RISER TO THE ALUMINUM GUARDRAIL VIA 316 STAINLESS STEEL PIPE CLAMPS AT A MINIMUM OF TWO LOCATIONS

LEGEND:

EXISTING

PROPOSED

DETAIL 2 / M-19
N.T.S.



ISOMETRIC VIEW

KEYED NOTES:

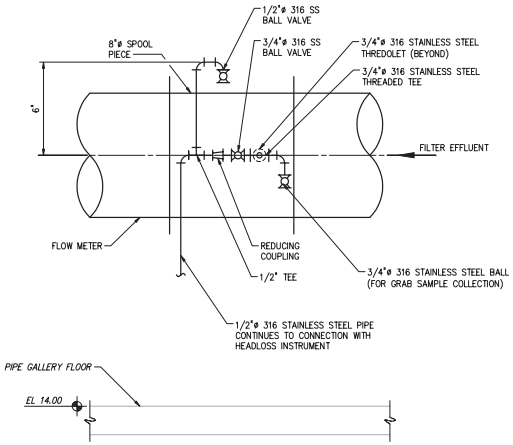
1. LOCATE FILTER / REGULATOR AND PRESSURE REDUCING VALVE APPROXIMATELY 3-FEET ABOVE PUMP STATION FLOOR TO ENSURE ACCESSIBILITY FOR MAINTENANCE

LEGEND:

EXISTING

PROPOSED

DETAIL 3 / M-18
N.T.S.



HEADLOSS SAMPLE PORT AT FILTER EFFLUENT PIPE

DETAIL 4 / M-23
3"=1'-0"

LEGEND:

EXISTING

PROPOSED

3"=1'-0"

2" 0 2 4 6"

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

GEORGE A. BROWN P.E.
No. 56076

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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M24

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
DETAILS – SHEET 1

DATE: JULY 2015
SHEET: 32 OF 69
DRAWING: M-24

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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DETAIL 5
N.T.S. M-07

LEGEND:

TO BE REMOVED

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED G.A.B.
DRAWN L.M.S.
CHECKED G.N.C.
PROJ. ENGR. G.A.B.

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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-M25

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
DETAILS – SHEET 2

DATE: JULY 2015
SHEET: 33 OF 69
DRAWING: M-25

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:06 AM BY: TBOCAS

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Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

INSTRUMENT AND FUNCTION SYMBOLS

	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILLARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	NORMALLY INACCESSIBLE OR BEHIND THE PANEL DEVICES OR FUNCTIONS
FIELD/PANEL EQUIPMENT	XXX 000	XXX 000	XXX 000	XXX 000
SHARED DISPLAY, SHARED CONTROL	XXX 000	XXX 000	XXX 000	XXX 000
PROGRAMMABLE LOGIC CONTROLLER	XXX 000 PLC I/O		PLC LOGIC	XXX 000
SUPERVISORY COMPUTER FUNCTION (OIT/HMI)	ABC 12345	ABC 12345	ABC 12345	ABC 12345

SINGLE INSTRUMENT OR OTHER DEVICE HAVING MULTIPLE FUNCTIONS OR SHARING A COMMON HOUSING

XXXX YYY SOFTWARE LOGIC OR CONTROL MODULE XXXX AND SUB-MODULE YYY RESIDENT IN DISTRIBUTED CONTROL SYSTEM (DCS) OR PROGRAMMABLE LOGIC CONTROLLER (PLC) REFER TO CONTRACT DOCUMENTS FOR CONTROL AND MODULE DESCRIPTIONS.

ZZZ DESIGNATIONS OF CONTROL FUNCTIONS (ZZZ) ASSOCIATED WITH INSTRUMENT OR OTHER DEVICES.

AHC – AUTO/HOLD/CLOSE
AM – AUTO/MANUAL
DEV – DEVIATION
HOA – HAND/OFF/AUTO
MOA – MANUAL/OFF/AUTO
HOR – HAND/OFF/REMOTE
LOS – LOCKOUT STOP
LR – LOCAL/REMOTE
LOR – LOCAL/OFF/REMOTE
OO – ON/OFF
OC – OPEN/CLOSE
OSC – OPEN/STOP/CLOSED
POT – POTENTIOMETER
RL – RAISE/LOWER
RSL – RAISE/STOP/LOWER
SD – SHUTDOWN
SEL – SELECT
SP – SET POINT
SR – START/RESET
SS – START/STOP

* INSTRUMENT PANEL MOUNTED WITH COMPUTING OR CONVERTING FUNCTION

CONVERT */*
E – VOLTAGE
I – CURRENT
P – PNEUMATIC
A – ANALOG
B – BINARY
H – HYDRAULIC
O – ELECTROMAGNETIC, SONIC
R – RESISTANCE (ELECT.)
D – DIGITAL

COMPUTE *
Σ SUMMING
△ SUBTRACTOR
X MULTIPLYING
÷ DIVIDING
√ ROOT EXTRACTION
K PROPORTIONAL
d/dt DERIVATIVE
x^n EXPONENTIAL
Σ/n AVERAGING
: RATIO
> HIGH SELECTING
< LOW SELECTING
∫ INTEGRAL
PID PID

XXX 000 PANEL MOUNTED PILOT LIGHT

AIT 000 XXXX ANALYZER, XXXX = TYPE

ALK – ALKALINITY
Cl_2 – CHLORINE CONCENTRATION
COMB – COMBUSTIBLE GAS
COND – CONDUCTIVITY
DO – DISSOLVED OXYGEN
H_2S – HYDROGEN SULFIDE
LEL – LOWER EXPLOSIVE LIMIT
O_2 – OXYGEN CONCENTRATION
O_3 – OZONE
ORP – OXIDATION/REDUCTION POTENTIAL
pH – HYDROGEN ION CONCENTRATION
T – TURBIDITY
TH – TOTAL HARDNESS
UV – ULTRAVIOLET

* ASTERISK IDENTIFIES FIELD INSTRUMENTS OR PANELS FURNISHED UNDER SPECIFICATIONS OTHER THAN DIVISION 17.

◇ OPERATIONAL INTERLOCK
◇ ! COMPLEX INTERLOCK
◇ # # = 1, 2, 3, etc. INTERLOCK NUMBER DESCRIPTION ON ON SAME SHEET
AND AND LOGIC
OR OR LOGIC

VALVE AND ACTUATOR SYMBOLS

GENERIC VALVE | PLUG VALVE | GLOBE VALVE | BALL VALVE
BALL VALVE (3-WAY) | 3-WAY VALVE (GENERAL) | PINCH VALVE | COMBINATION VACUUM AND PRESSURE RELIEF VALVE
BUTTERFLY VALVE | CHECK VALVE | BALL CHECK VALVE | DIAPHRAGM VALVE
NEEDLE VALVE | ANGLE VALVE | ROTARY VALVE | THROUGH PLUG VALVE
PRESSURE RELEIF OR SAFETY VALVE | VACUUM RELIEF VALVE | PRESSURE-REDUCING REGULATOR | BACKPRESSURE REGULATOR
BACKFLOW PREVENTER | SLUICE GATE | STOP/SLIDE GATE | STRAINER
BACKFLOW PREVENTER | ELECTRIC ACTUATOR | SOLENOID ACTUATOR | PNEUMATIC ACTUATOR
ELECTROPNEUMATIC ACTUATOR | ELECTROHYDRAULIC ACTUATOR | HAND WHEEL |

INSTRUMENT SYMBOLS

MAGNETIC FLOW METER | VENTURI FLOW TUBE | TURBINE FLOW METER | ROTAMETER | ULTRASONIC FLOW METER | PADDLE WHEEL FLOW METER | VORTEX FLOW METER | POSITIVE DISPLACEMENT FLOW METER
PITOT TUBE | PARSHALL FLUME | WEIR | ORIFICE PLATE | STRAIGHTENING VANES | ULTRASONIC LEVEL SENSOR | SUBMERSIBLE LEVEL SENSOR | FLOAT TYPE LEVEL SWITCH
TAPPED RING SEAL | DIAPHRAGM SEAL | FULL LINE RING SEAL | VALVED TAP | RTD AND THERMOWELL | RADAR LEVEL SENSOR (UNGUIDED) | RADAR LEVEL SENSOR (GUIDED) | CAPACITANCE LEVEL SENSOR

NOTES:

1. LIGHT LINES AND SYMBOLS INDICATE EXISTING ITEMS (OR FUTURE ITEMS WHERE NOTED). DARK LINES AND SYMBOLS INDICATE PROPOSED ITEMS.
2. SYMBOLS AND NOMENCLATURE ARE BASED ON ISA STANDARDS S5.1, S5.2, AND S5.4. SEE ASSOCIATED ELECTRICAL AND MECHANICAL SYMBOL SHEETS FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.

PUMP AND EQUIPMENT SYMBOLS

CENTRIFUGAL PUMP | CENTRIFUGAL WET PIT PUMP (SUBMERSIBLE) | BLOWER (CENTRIFUGAL) | GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
PROGRESSIVE CAVITY PUMP | SCREW PUMP | PISTON PUMP | DIAPHRAGM PUMP
VERTICAL PUMP | SUBMERSIBLE VERTICAL PUMP | CHEMICAL FEED PUMP | COMPRESSOR
MIXER | TURBINE

MISCELLANEOUS SYMBOLS

I-XXX DRAWING REFERENCE | XXX_YYYY EQUIPMENT TAG | M MOTOR | AIR FILTER | STATIC MIXER | INJECTOR | PULSATION DAMPENER | CALIBRATION CYLINDER
V VENT | D DRAIN | FILTER | REDUCER | PIPE MATERIAL CHANGE | QUICK CONNECT | BLIND FLANGE | EXPANSION TANK
HORN | HORN/STROBE | RUPTURE DISK

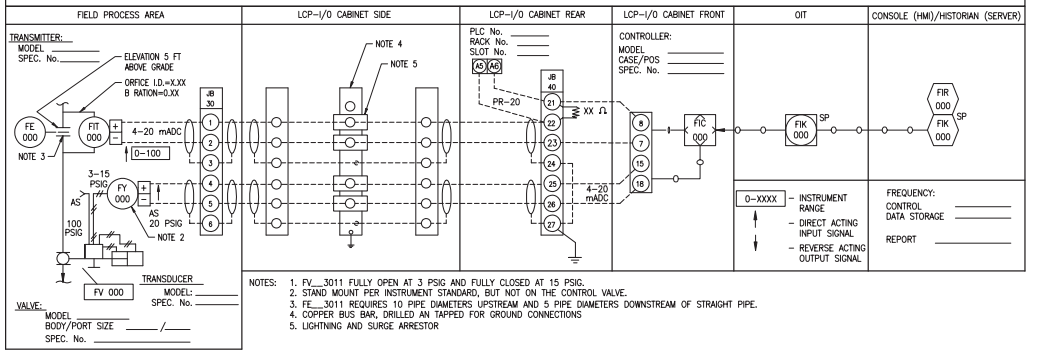
INSTRUMENT/DEVICE IDENTIFICATION LETTERS

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C				CONTROL	CLOSE/CLOSED
D		DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M		MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE				
O			ORIFICE, RESTRICTION		OPEN/OPENED
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RUN		RECORD & STORE	REPORT	
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, VOLUME MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	FAILURE OR TROUBLE	X AXIS			
Y	EVENT, STATE OR PRESENCE	Y AXIS		COMPUTE, CONVERT, RELAY	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

LINETYPE LEGEND

- MAJOR PROCESS PIPES OR CHANNELS
- SECONDARY PROCESS OR MECHANICAL CONNECTIONS
- CAPILLARY OR IMPULSE TUBING
- AIR SUPPLY OR SIGNAL
- HYDRAULIC SUPPLY OR SIGNAL
- ELECTRICAL SIGNAL
- CATEGORY 6 CABLE
- FIBER OPTIC CABLE
- DATA LINK OR INTERNAL SOFTWARE LINK

SAMPLE LOOP DIAGRAM ISA EXPANDED FORMAT



NOTES:
1. FV__3011 FULLY OPEN AT 3 PSIG AND FULLY CLOSED AT 15 PSIG.
2. STAND MOUNT PER INSTRUMENT STANDARD, BUT NOT ON THE CONTROL VALVE.
3. FE__3011 REQUIRES 10 PIPE DIAMETERS UPSTREAM AND 5 PIPE DIAMETERS DOWNSTREAM OF STRAIGHT PIPE.
4. COPPER BUS BAR, DRILLED AN TAPPED FOR GROUND CONNECTIONS
5. LIGHTNING AND SURGE ARRESTOR

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
DRAWN R.D.A.
CHECKED L.P.A.
PROJ. ENGR. B.J.V.

EVAN P. CURTIS P.E.
No. 69657

HAZEN AND SAWYER
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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I01

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
SYMBOLS AND LEGEND

DATE: JULY 2015
SHEET: 34 OF 69
DRAWING: I-01

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS
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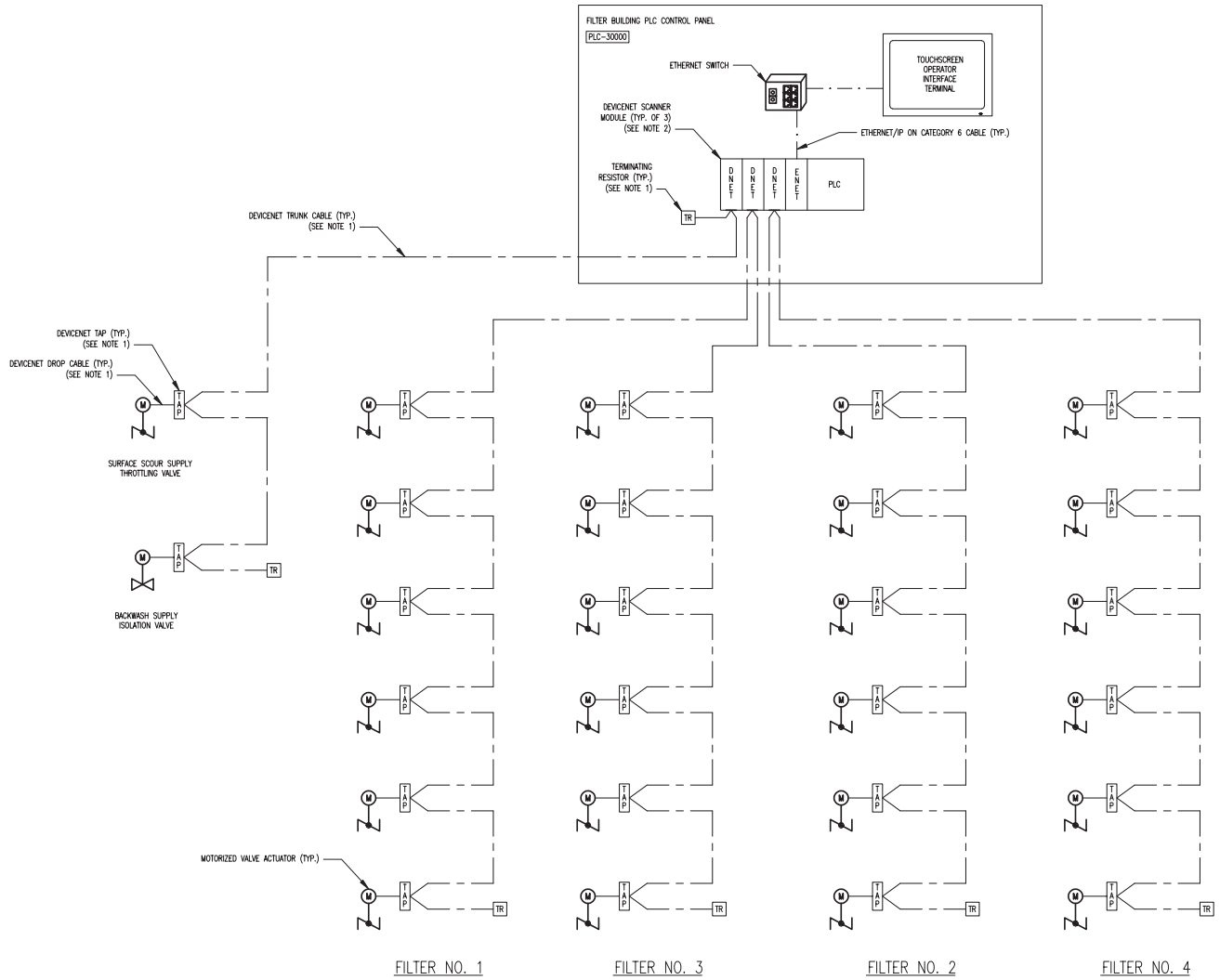

NOTES:

1. ALL DEVICENET CABLES, CONNECTORS, TERMINATING RESISTORS, AND DEVICES SHALL BE ODVA CERTIFIED AND SHALL BE FURNISHED BY THE INSTRUMENTATION SUBCONTRACTOR. DEVICENET TAPS AND DROP CABLES SHALL BE PROVIDED TO FACILITATE DISCONNECTION OF ANY DEVICE ON THE NETWORK WITHOUT DISRUPTION OF COMMUNICATIONS ON THE TRUNK CABLE. SURGE PROTECTION DEVICES SHALL BE PROVIDED AT EACH DEVICE IN ACCORDANCE WITH SPECIFICATION SECTION 17560.
2. PROVIDE INDEPENDENT DEVICENET POWER SUPPLIES WITHIN THE PLC PANEL FOR EACH NETWORK.

NO.	DATE	ISSUED FOR	BY
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DESIGNED E.P.C.
DRAWN R.D.A.
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PROJ. ENGR. B.J.V.

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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I02

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

BLOCK DIAGRAM

DATE: JULY 2015
SHEET: 35 OF 69
DRAWING: I-02

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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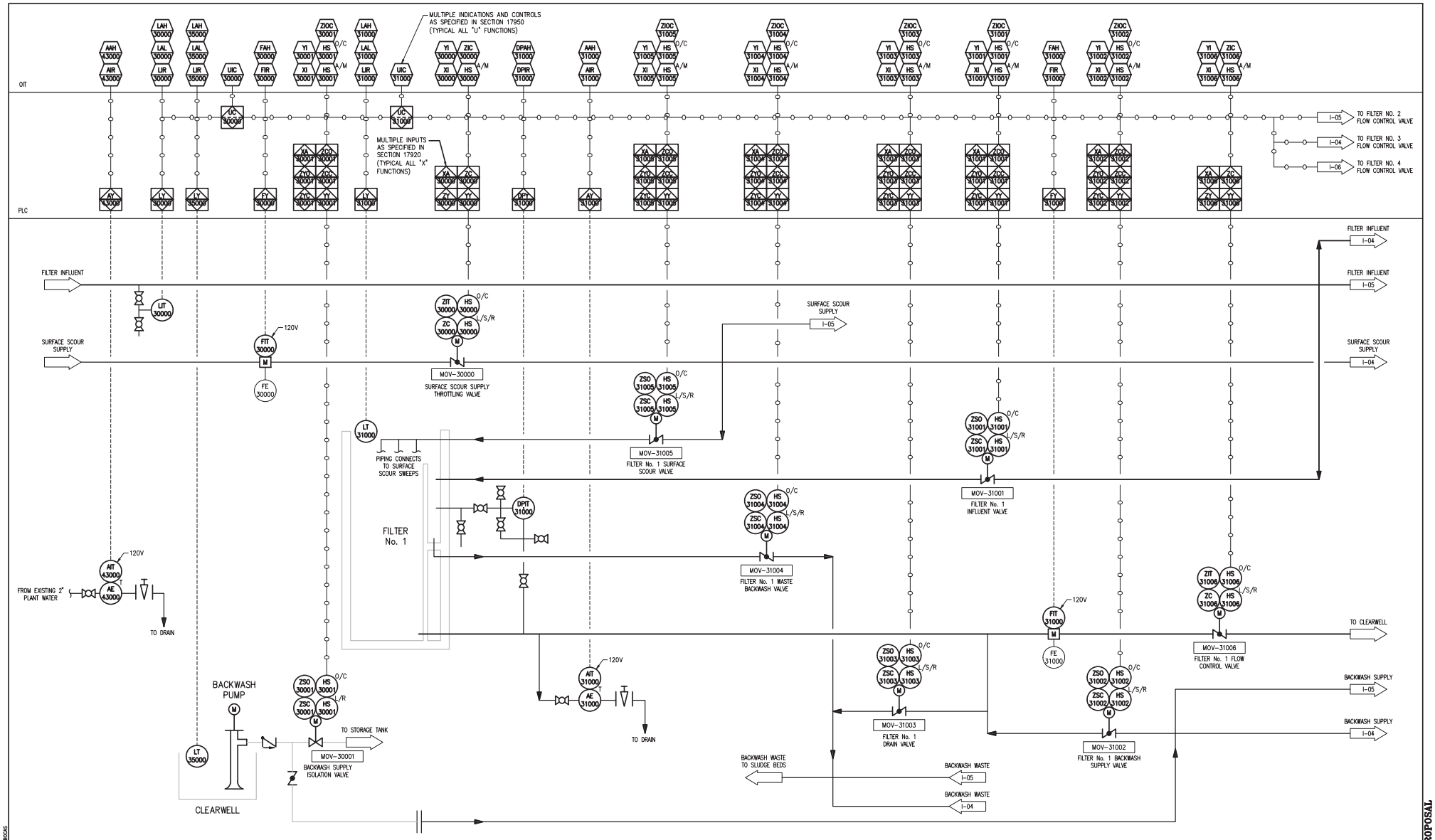

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
DRAWN R.D.A.
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PROJ. ENGR. B.J.V.

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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROCESS AND INSTRUMENTATION DIAGRAM
FILTER NO. 1

DATE: JULY 2015
SHEET: 36 OF 69
DRAWING: I-03

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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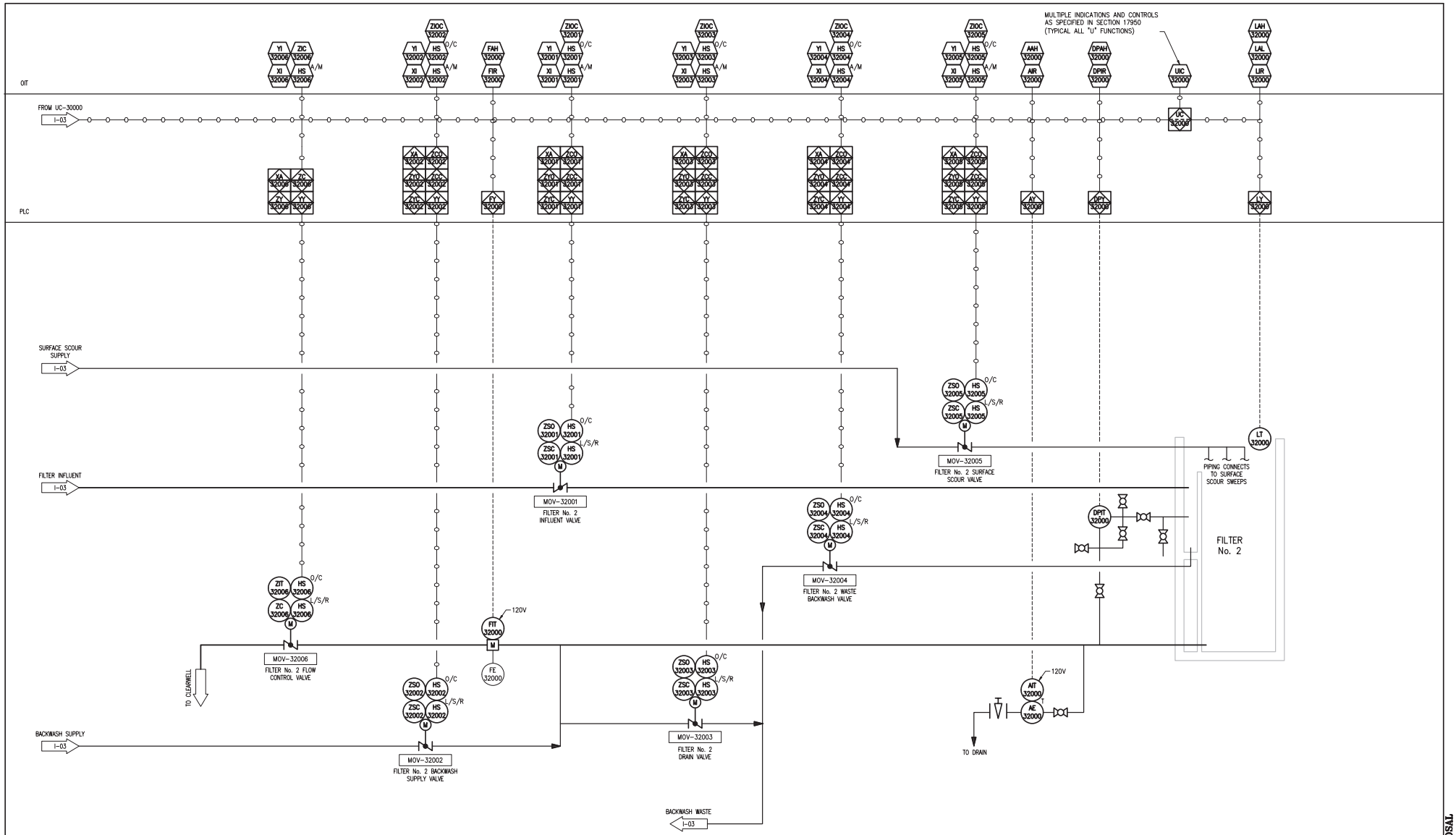

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
DRAWN R.D.A.
CHECKED L.P.A.
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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I04

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROCESS AND INSTRUMENTATION DIAGRAM
FILTER NO. 2

DATE: JULY 2015
SHEET: 37 OF 69
DRAWING: I-04

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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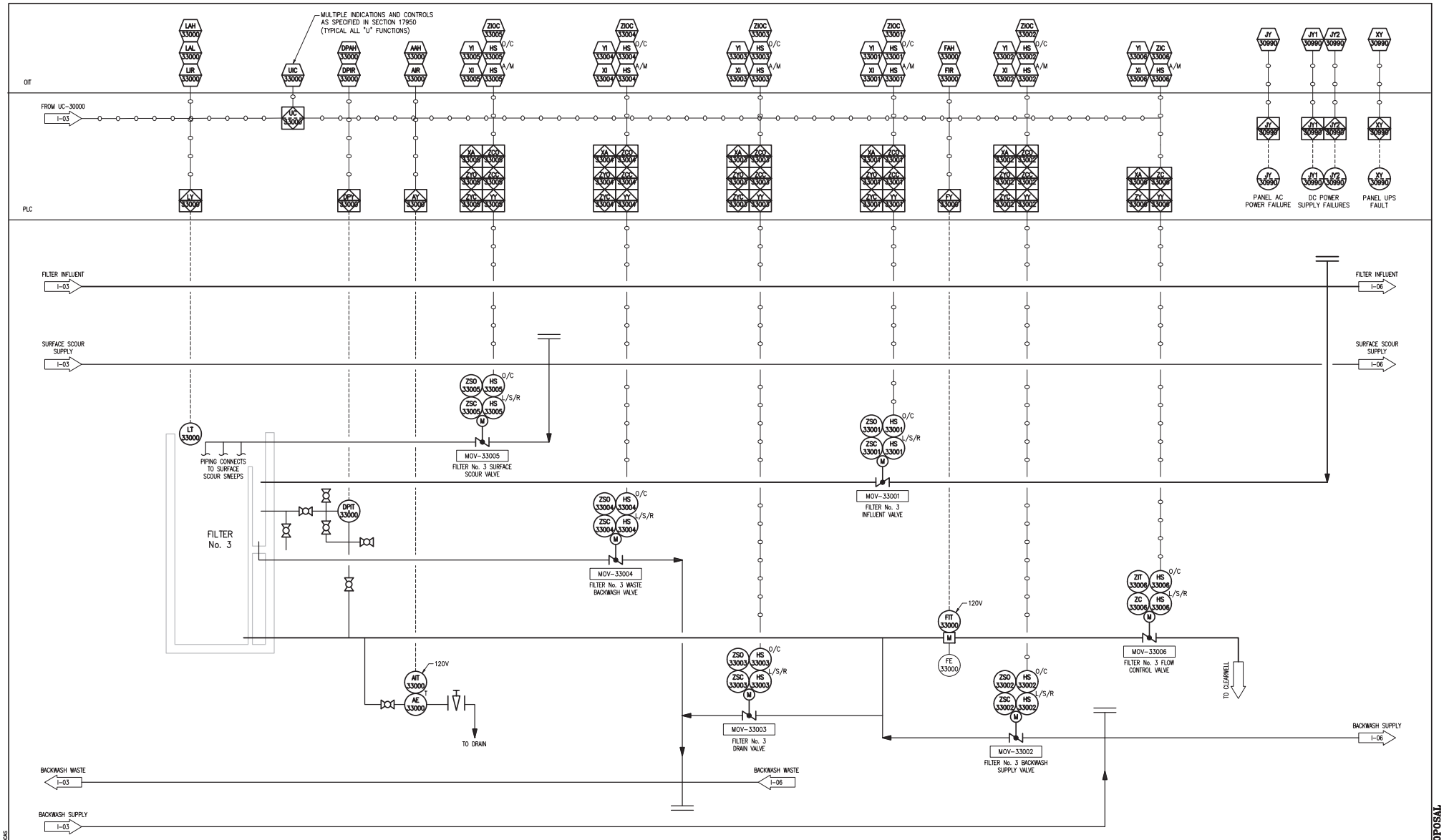

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
DRAWN R.D.A.
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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I05

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROCESS AND INSTRUMENTATION DIAGRAM
FILTER NO. 3

DATE: JULY 2015
SHEET: 38 OF 69
DRAWING: I-05

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS
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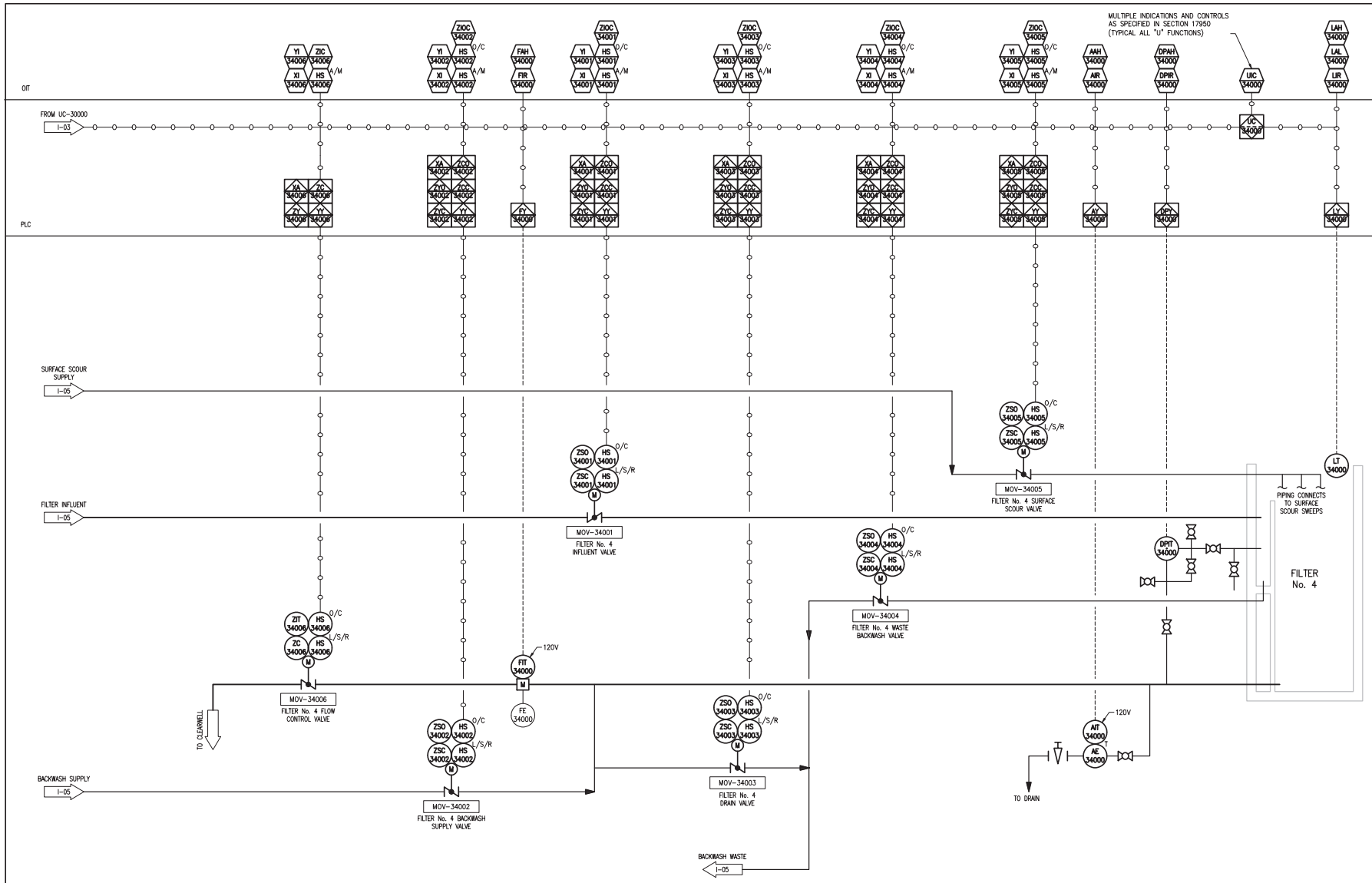

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I06

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROCESS AND INSTRUMENTATION DIAGRAM
FILTER NO. 4

DATE: JULY 2015
SHEET: 39 OF 69
DRAWING: I-06

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS
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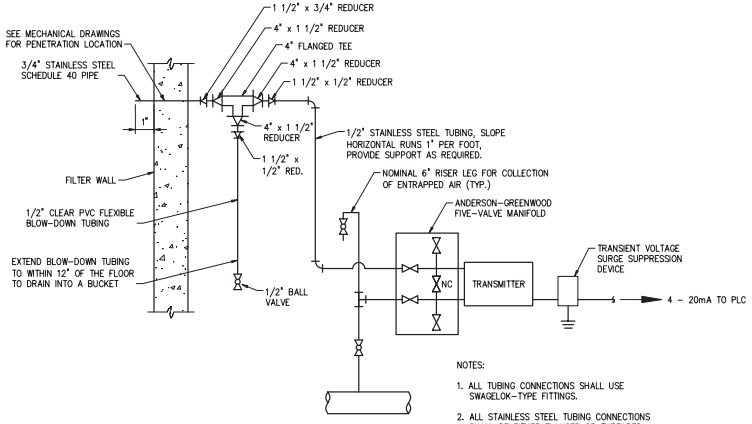
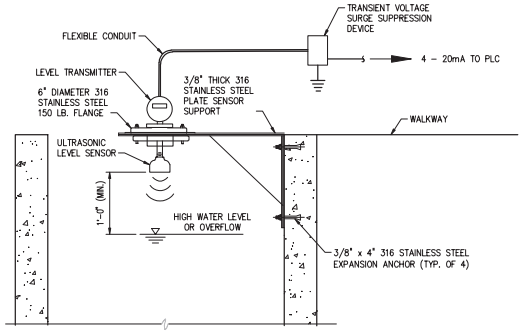
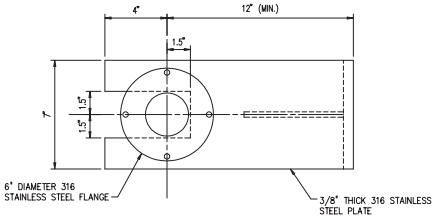


LOSS OF HEAD TRANSMITTER PIPING

N.T.S.



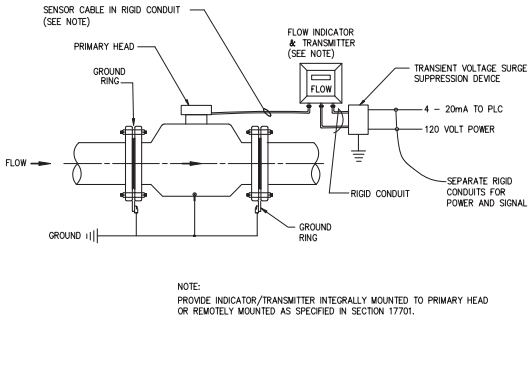
ELEVATION VIEW



PLAN VIEW

ULTRASONIC LEVEL TRANSMITTER - OPEN TANK MOUNTED

N.T.S.



MAGNETIC FLOW METER

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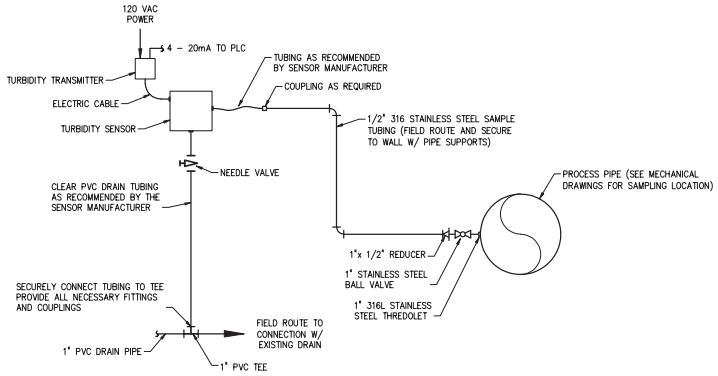

TURBIDITY ANALYZER INSTALLATION

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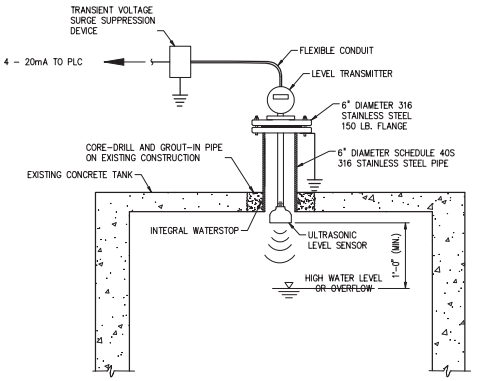

ULTRASONIC LEVEL TRANSMITTER - FLANGE MOUNTED IN EXISTING CONCRETE TANK

N.T.S.

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED E.P.C.
DRAWN R.D.A.
CHECKED L.P.A.
PROJ. ENGR. B.J.V.

EVAN P. CURTIS P.E.
No. 69657

HAZEN AND SAWYER
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4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: -
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-I07

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS - VOLUME A: FILTER REHAB

INSTRUMENTATION DETAILS
SHEET 1

DATE: JULY 2015
SHEET: 40 OF 69
DRAWING: I-07

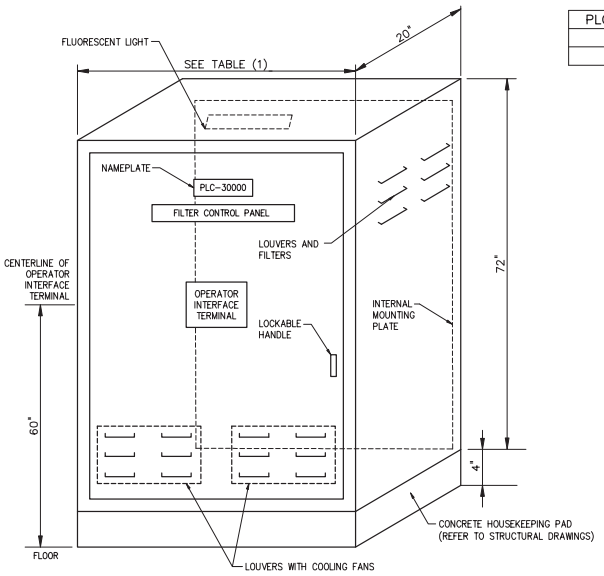
REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB

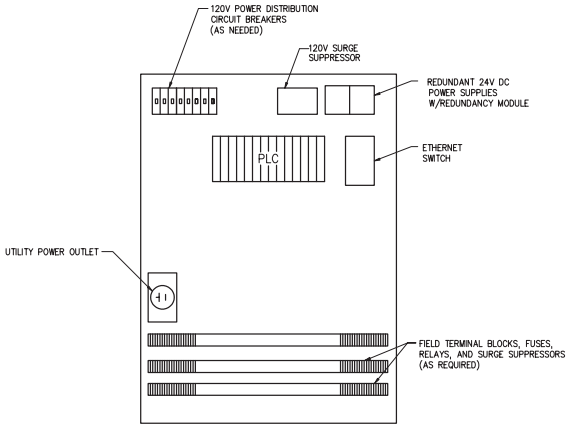
File = H:\44238-004\Drawings\design build package\volume a - filter rehab\bid package 1 - filter rehab\instrumentation\44238-004BP1-I07 Saved by tbocas Save date = 7/22/2015 1:16 PM

PLC ENCLOSURE	DIMENSION	NOTES
ENCLOSURE	(1)	
PLC-30000	36" – 48" MAXIMUM	NEMA-12



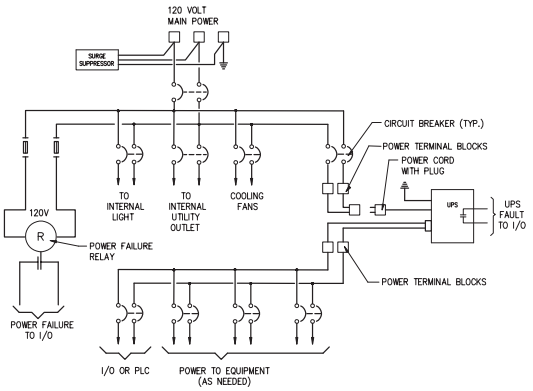
PLC ENCLOSURE

N.T.S.



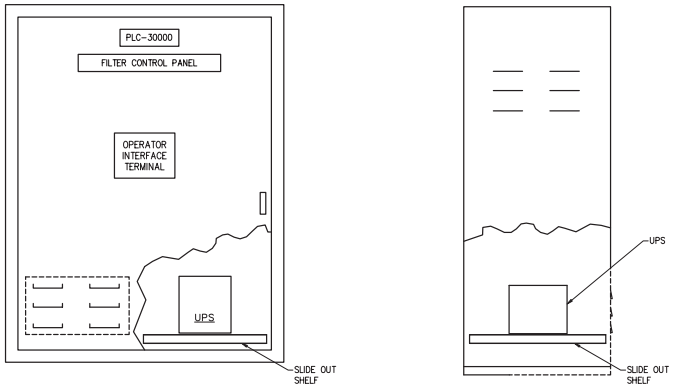
PLC INTERNAL MOUNTING PLATE

N.T.S.



PLC ENCLOSURE POWER DISTRIBUTION

N.T.S.

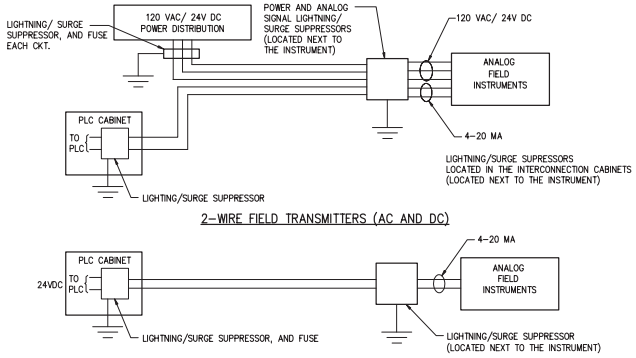


FRONT VIEW

SIDE VIEW

PLC ENCLOSURE/UPS LOCATION

N.T.S.



2–WIRE FIELD TRANSMITTERS (DC)

ANALOG CIRCUITS – LIGHTNING PROTECTION

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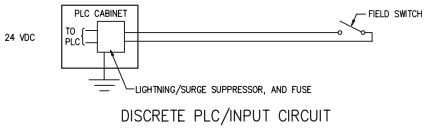
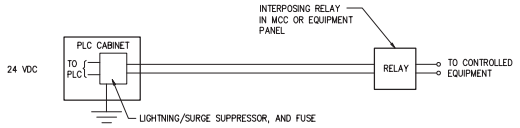


DISCRETE PLC/INPUT CIRCUIT

N.T.S.



DISCRETE PLC/OUTPUT CIRCUIT

N.T.S.

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238–004
CAD REFERENCE: 44238–004BP1–108

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

INSTRUMENTATION DETAILS
SHEET 2

DATE: JULY 2015
SHEET: 41 OF 69
DRAWING: I–08

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB

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Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

GENERAL STRUCTURAL NOTES

G-1 THESE NOTES ARE GENERAL AND SUPPLEMENT THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

G-2 STANDARD DETAILS SHALL BE USED WHEN REFERRED TO OR WHEN NO MORE RESTRICTIVE OR DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.

G-3 DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE FLORIDA BUILDING CODE 2010 EDITION. THE DESIGN LOADS AND OTHER DESIGN VALUES GIVEN IN NOTES G-4 WERE USED FOR DESIGN OF STRUCTURES UNLESS NOTED OTHERWISE SHOWN ON THE DRAWINGS. SCOPE OF WORK FOR THE EXISTING FILTERS IS CONSIDERED TO BE AN ALTERATION IN COMPLIANCE WITH THE PRESCRIPTIVE COMPLIANCE METHOD OF FLORIDA BUILDING CODES, EXISTING BUILDING.

G-4 WIND DESIGN CRITERIA:

WIND LOADS ARE IN ACCORDANCE WITH ASCE 7 AS REFERENCED BY THE FLORIDA BUILDING CODE:
BASIC WIND SPEED = 186 MPH
WIND EXPOSURE = C
INTERNAL PRESSURE COEFFICIENT (GCPI) = +/-0.18

DESIGN WIND PRESSURES FOR DOORS, WINDOWS, LOUVERS, ETC., ARE SHOWN ON THE DRAWINGS. EQUIPMENT AND PRODUCT VENDORS SHALL COMPLY WITH THE DESIGN PARAMETERS SPECIFIED ABOVE.

G-5 ALL DIMENSIONS INDICATED (+) SHALL BE VERIFIED EITHER BY FIELD MEASUREMENTS FOR EXISTING STRUCTURES OR BY SHOP DRAWINGS FOR EQUIPMENT FURNISHED. STRUCTURAL DIMENSIONS NOT SHOWN BUT CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.

G-6 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION IN THE FIELD

G-7 IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED.

G-8 EQUIPMENT ANCHOR BOLT SIZES, TYPES, EMBEDMENT AND PATTERNS SHALL BE VERIFIED WITH THE MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO INSURE ACCURACY OF PLACEMENT.

G-9 STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH THE DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.

STRUCTURAL METALS

M-1 DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AISC 360-05.

M-2 STEEL MATERIAL:

A) STRUCTURAL TUBING:	ASTM A500, GRADE B OR A501 (42 KSI)
B) STRUCTURAL PIPE:	ASTM A53, TYPE E OR S, GRADE B (35 KSI)
C) PLATES AND BARS:	ASTM A36 UNO (36 KSI)
D) STRUCTURAL W SHAPES:	ASTM A992 (50 KSI)
E) STRUCTURAL S, M, C,& L SHAPES:	ASTM A36 (36 KSI)
F) STRUCTURAL HP SHAPES:	ASTM A 572, GRADE 50 (50 KSI)

M-3 PROVIDE MINIMUM 3/4" DIAMETER ASTM A325 HIGH STRENGTH BOLTS WITH FULLY TIGHTENED TYPE N CONNECTIONS FOR STRUCTURAL STEEL UNLESS NOTED OTHERWISE.

M-4 PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOADS OF BEAMS UNLESS NOTED OTHERWISE.

M-5 DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ARE TO BE ENCASED IN CONCRETE.

M-6 ALL STAINLESS STEEL FABRICATIONS SHALL BE TYPE 316, UNLESS NOTED OTHERWISE.

M-7 ALUMINUM SHALL BE ALLOY 6061-T6 UNLESS NOTED OTHERWISE.

M-8 ALL BOLTS, ANCHOR BOLTS, AND CONCRETE ANCHORS CONNECTING ALUMINUM SHALL BE TYPE 316 STAINLESS STEEL.

M-9 DETAIL, FABRICATE, AND ERECT ALUMINUM IN ACCORDANCE WITH THE LATEST EDITION OF THE ALUMINUM ASSOCIATION ALUMINUM DESIGN MANUAL.

M-10 ALUMINUM SHALL BE ISOLATED FROM CONTACT WITH CONCRETE AND DISSIMILAR METALS.

M-11 ALL GROOVE AND BUTT WELDS SHALL BE FULL PENETRATION.

M-12 FILLET WELD SIZES SHALL BE THE MINIMUM SIZE REQUIRED BY AISC CODE FOR PLATE SIZES TO BE CONNECTED AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH, BUT NOT LESS THAN 3/16".

M-13 BOTTOM SURFACES OF BASE PLATES SHALL BE GROUTED TO INSURE FULL BEARING CONTACT WITH CONCRETE SLAB.

M-14 WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, THERE SHALL BE A MINIMUM OF TWO FASTENINGS PER PIECE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 0.25 OF FASTENER SPACING FROM EACH END.

CONCRETE (CAST-IN-PLACE)

C-1 DESIGN OF CONCRETE ELEMENTS INCLUDING WALLS, FORMED SLABS, BEAMS, AND COLUMNS IS IN ACCORDANCE WITH ACI 318 (CODE REQUIREMENTS FOR STRUCTURAL CONCRETE) AND 350 (CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES).

C-2 FOR CONCRETE MIX DESIGN SEE SPECIFICATION SECTION 03300.

C-3 CONCRETE STRENGTH CLASSES (28-DAY COMPRESSIVE STRENGTH):

A) CLASS A - (4,500 PSI) CLASS A STRUCTURAL CONCRETE SHALL BE USED IN ALL STRUCTURES UNLESS NOTED OTHERWISE.

B) CLASS B - (3,000 PSI). CLASS C CONCRETE SHALL BE USED IN ALL CURBS, GUTTERS, CATCH BASINS, FENCE AND GUARD POST EMBEDMENTS, ENCASEMENTS, AND ALL OTHER CONCRETE APPURTENANT TO ELECTRICAL FACILITIES UNLESS NOTED OTHERWISE. CLASS C CONCRETE SHALL ALSO BE USED FOR THRUST BLOCKS, PIPE TRENCH CUT-OFF BLOCKS AND CRADLES, MUDMATS AND CONCRETE FILLS WHERE THEY ARE UNREINFORCED.

C-4 ALL BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60, OR ASTM A706, GRADE 60 WHERE REINFORCEMENT IS TO BE WELDED IN ACCORDANCE WITH AWS D1.4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

C-5 CONCRETE COVER FOR REINFORCING (UNLESS NOTED OTHERWISE ON THE DRAWINGS):

A) CONCRETE DEPOSITED DIRECTLY AGAINST SOIL	3"
B) FORMED CONCRETE EXPOSED EARTH AND WEATHER	
1. SLABS (#5 OR SMALLER)	1 1/2"
2. SLABS (#6 OR SMALLER)	2"
3. WALLS	2"
4. BEAMS AND COLUMNS (TO REMAIN REINFORCEMENT)	2"
5. BEAMS AND COLUMNS (TO TIES OR STIRRUPS)	1 1/2"
6. FOR SURFACES EXPOSED TO WATER OR SEWAGE, ADD 1/2" TO ABOVE	

C-6 SPLICES SHALL BE CLASS 'B' CONFORMING TO THE PROVISIONS OF ACI 318 UNLESS NOTED OTHERWISE.

C-7 CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS NOT SHOWN SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE APPROVAL OF THE ENGINEER PRIOR TO SUBMITTING REBAR SHOP DRAWINGS.

C-8 ALL JOINTS WHICH ARE IN MEMBERS IN CONTACT WITH LIQUID OR BELOW GRADE SHALL HAVE A WATERSTOP. CONSTRUCTION JOINTS SHALL HAVE A 6" PVC RIBBED WATERSTOP. EXPANSION JOINTS SHALL HAVE A 9" PVC CENTERBULB RIBBED WATERSTOP. IN VERTICAL JOINTS, WATERSTOPS SHALL TERMINATE NO LESS THAN 18" ABOVE THE MAXIMUM WATER SURFACE OR 18" ABOVE GRADE, WHICHEVER IS HIGHER.

C-9 SLABS WITH SLOPING SURFACES SHALL HAVE THE INDICATED SLAB THICKNESS MAINTAINED AS THE MINIMUM. SLAB BOTTOMS CAN EITHER SLOPE WITH THE TOP SURFACE OR BE LEVEL. REINFORCEMENT IN SLABS WITH SLOPING SURFACES SHALL BE PLACED AT THE REQUIRED CLEARANCE FROM THE SLAB SURFACE.

C-10 ALL EXPOSED CORNERS SHALL HAVE A 3/4" CHAMFER OR A 1/2" RADIUS TOOLED CORNER.

C-11 EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.

C-12 REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE FLANGE, METAL CONDUIT, OR OTHER METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM CLEARANCE OF 2" SHALL BE PROVIDED.

C-13 DOWELS, ANCHOR BOLTS, PIPES, WATERSTOPS AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS BEING PLACED.

C-14 CONDUITS AND OTHER SIMILAR ITEMS EMBEDDED IN OR PENETRATING THROUGH CONCRETE SHALL BE SPACED ON CENTER NOT LESS THAN 3 TIMES THEIR OUTSIDE DIMENSION, BUT NOT LESS THAN 2 1/2" CLEAR. WHEN SUCH ITEMS ARE EMBEDDED IN WALLS OR SLABS, THEY SHALL NOT OCCUPY MORE THAN 1/3 OF THE MEMBER THICKNESS.

C-15 AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH MATCHING DOWELS SET IN EPOXY IN DRILLED HOLES AS SPECIFIED. DOWELS LOCATED CLOSER THAN 3" FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.

C-16 DRILLED ADHESIVE DOWELS (WHERE DOWELS ARE SHOWN TO BE PLACED INTO HARDENED CONCRETE):

A) THE HOLE DIAMETER SHALL BE NO LARGER THAN 1/8" GREATER THAN THE DIAMETER OF THE REINFORCING BAR AT THE DEFORMATIONS.
B) THE DEPTH OF EMBEDMENT SHALL BE 12 BAR DIAMETERS, UNLESS NOTED OTHERWISE.
C) ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER.

C-17 CLEAR DISTANCE FROM ANCHOR BOLTS TO ANY CONCRETE EDGE SHALL BE 4" MINIMUM UNLESS NOTED OTHERWISE.

CONCRETE BLOCK MASONRY WALLS:

W-1 ALL REGULAR MASONRY WALLS USED AS FILLER BETWEEN CONCRETE FRAMED STRUCTURE AND/OR MASONRY LOAD BEARING WALLS WITH REINFORCING SHALL BE 8" CONCRETE TWO CELL BLOCKS WITH f'm = 1,500 P.S.I. (MIN.), (UNLESS OTHERWISE INDICATED ON THE PLANS.

W-2 FOR COMPLETE INFORMATION, SEE PROJECT SPECIFICATION.

W-3 A FLORIDA REGISTERED ARCHITECT OR PROFFESSIONAL ENGINEER SHALL FURNISH INSPECTION OF ALL REINF. MASONRY STRUCTURES.

CONCRETE MASONRY LINTEL NOTES:

L-1 LINTELS SHALL BE PRECAST CONCRETE "U" SECTIONS.

L-2 SPANS UP TO 4'-0": 8" HIGH PRECAST CONCRETE SECTION.

L-3 SPANS 4'-0" TO 8'-0": 8" HIGH PRECAST CONCRETE SECTION WITH 1#5 BOTTOM, 1#5 TOP

L-4 SPANS 8'-0" TO 12'-0": 16" HIGH SECTION COMPOSED OF 8" HIGH PRECAST CONCRETE "U" SECTION AND 8" CONCRETE MASONRY UNIT. REINFORCE WITH 1#5 BOTTOM, 2#5 TOP.

L-5 EXTEND LINTELS (MIN.) 8" BEYOND OPENING.

DEMOLITION

D-1 FOR DEMOLITION REQUIREMENTS, REFER TO SPECIFICATION 01540 - DEMOLITION OF EXISTING FACILITIES.

D-2 ALL CONCRETE DEMOLITION OF WALLS OR SLABS SHOWN SHALL BE SELECTIVE DEMOLITION BY CORE DRILLING OR SAWCUTTING AND CAREFUL REMOVAL OF CONCRETE SHOWN TO BE REMOVED. NO OVER CUTTING OF AREAS TO BE DEMOLISHED SHALL BE PERMITTED. CONTRACTOR SHALL CORE DRILL CORNERS OF OPENING PRIOR TO SAWCUTTING. EXPLOSIVES AND VIBRATORY HAMMERS SHALL NOT BE USED FOR DEMOLITION WORK.

D-3 UNLESS ANCHORING DEVICES AND/OR REINFORCEMENT IS NOTED TO REMAIN FOLLOWING DEMOLITION, REMOVE AND/OR BURN BACK ANCHORS AND REINFORCEMENT STEEL 1/2" MIN BELOW SURFACE AND VOIDS CREATED SHALL BE FILLED WITH EPOXY RESIN BINDER.

D-4 WHERE DRAWINGS INDICATE A CONCRETE EQUIPMENT PAD TO BE DEMOLISHED, THE FLOOR SLAB SURFACE SHALL BE REPAIRED AS APPROVED BY ENGINEER. FOLLOWING SELECT DEMOLITION AND REMOVAL OF THE EQUIPMENT PAD, THE FLOOR SLAB SURFACE SHALL BE INSPECTED. IF THE FLOOR SLAB IS DAMAGED FROM THE EQUIPMENT PAD REMOVAL THE REPAIR SHALL BE:

A) SAW CUT THE FLOOR SLAB AROUND THE EQUIPMENT PAD PERIMETER TO A DEPTH OF 1/4 INCH.
B) SCARIFY AND REMOVE SLAB CONCRETE LAITANCE.
C) RESURFACE THE AREA BY APPLYING A POLYMER MODIFIED OR SILICA FUME ENHANCED CEMENTITIOUS REPAIR MORTAR, APPROVED BY THE ENGINEER, FOLLOWING THE MANUFACTURERS SURFACE PRESENTATION AND APPLICATION RECOMMENDATIONS. LEVEL AND FINISH THE SURFACE TO MACH THE FLOOR SLAB SURROUNDING AREA.

D-5 CONCRETE SURFACES LEFT EXPOSED FOLLOWING DEMOLITION SHALL BE SEALED WITH EPOXY RESIN COATING SUCH AS "SIKAGARD" BY SIKA CORPORATION, "DURACOTE 240" BY TAMMS INDUSTRIES, OR APPROVED EQUAL.

D-6 A DETAILED CONSTRUCTION AND DEMOLITION PLAN SHALL BE SUBMITTED TO THE ENGINEER AND APPROVED BY THE ENGINEER AND OWNER PRIOR TO BEGINNING CONSTRUCTION. ANY SHUTDOWNS SHALL BE SUBMITTED TO, COORDINATED WITH, AND APPROVED BY THE OWNER. ONCE APPROVED, CONTRACTOR SHALL PROVIDE A MINIMUM OF THREE (3) WEEKS NOTICE TO OWNER PRIOR TO SHUTDOWN.

EXISTING INFORMATION

X-1 ALL EXISTING INFORMATION SHOWN ON THESE DRAWINGS INCLUDING LOCATION, DIMENSIONS, ELEVATIONS, AND CONFIGURATIONS IS DERIVED FROM RECORD DRAWINGS PROVIDED BY THE CITY AND IS NOT GUARANTEED TO BE COMPLETE OR CORRECT. "CITY OF NORTH MIAMI, FLORIDA PROJECT No. 1203 H. AND H.F.A. PROJECT No. APW-FLA-30G. WEST SIDE WATER TREATMENT PLANT." COPIES ARE AVAILABLE WITH THE BID DOCUMENTS. THE ENGINEER OR CITY HAS NOT VERIFIED THE PROVIDED INFORMATION.

X-2 FIELD OBSERVATIONS INDICATE THAT FIELD CONDITIONS DO NOT FULLY MATCH THE ABOVE REFERENCED RECORD DRAWINGS.

X-3 CONTRACTOR RETAINS FULL RESPONSIBILITY FOR FIELD VERIFICATION OF ALL IMPROVEMENTS TO BE REMOVED FOR THIS WORK. VERIFICATION SHALL INCLUDE STRUCTURAL, ARCHITECTURAL, HVAC, PLUMBING, PROCESS PIPING, ELECTRICAL, IRRIGATION, CONTROLS, EQUIPMENT, FILTER MEDIA AND ANY AND ALL OTHER EXISTING EQUIPMENT WITHIN THE BOUNDARY OF THE WORK, WHETHER SHOWN OR NOT.

X-4 ALL ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD '29).

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
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JEAN PAUL SILVA P.E.
No. 66522

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4000 Hollywood Boulevard, Suite 750N
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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: -
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S01

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS - VOLUME A: FILTER REHAB
GENERAL NOTES

DATE: JULY 2015
SHEET: 42 OF 69
DRAWING: S-01

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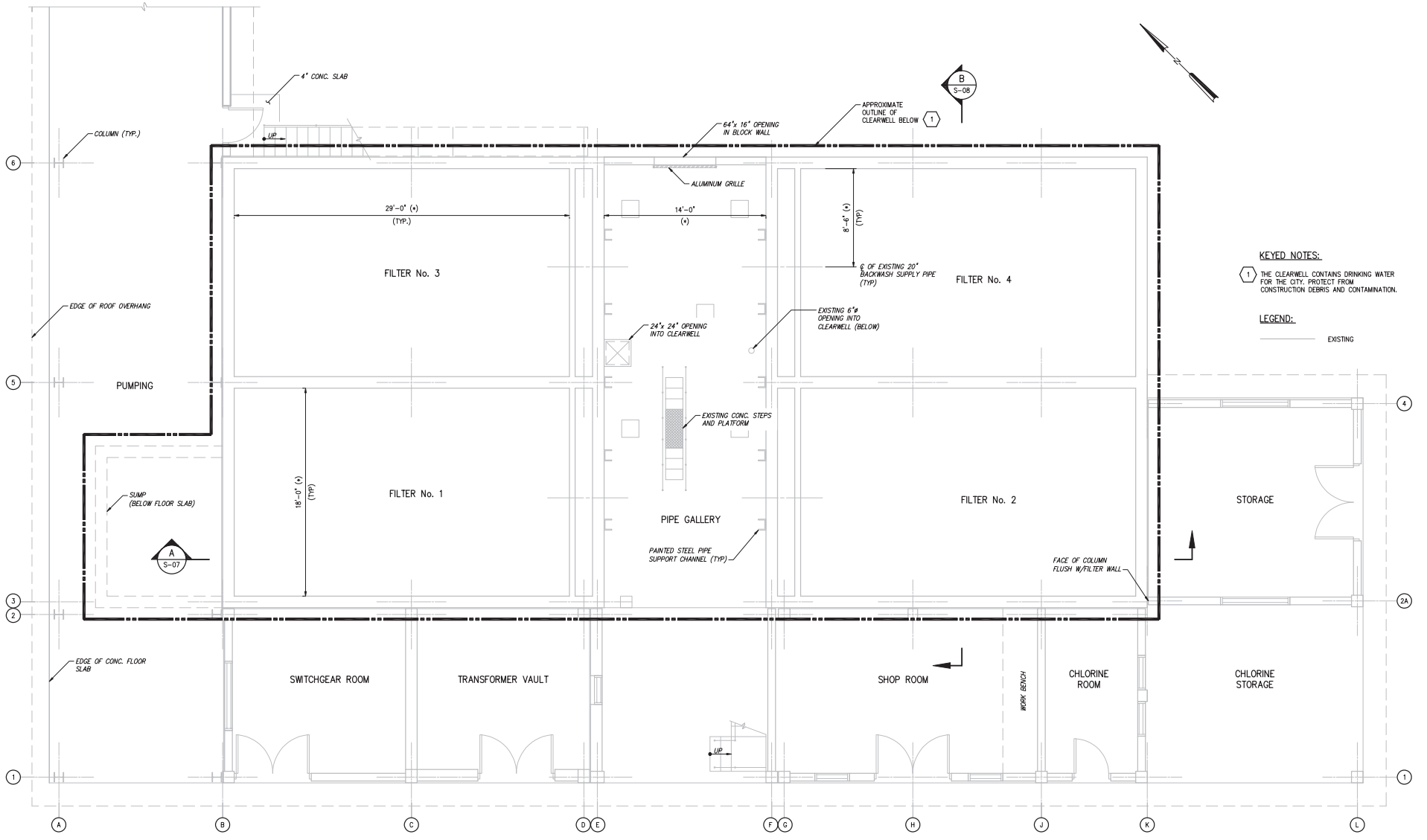

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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S02

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING CONDITIONS
LOWER PLAN

DATE: JULY 2015
SHEET: 43 OF 69
DRAWING: S-02

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:08 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X,..\Base-BP1\A-BP1-Filters-Plan-Bottom-X

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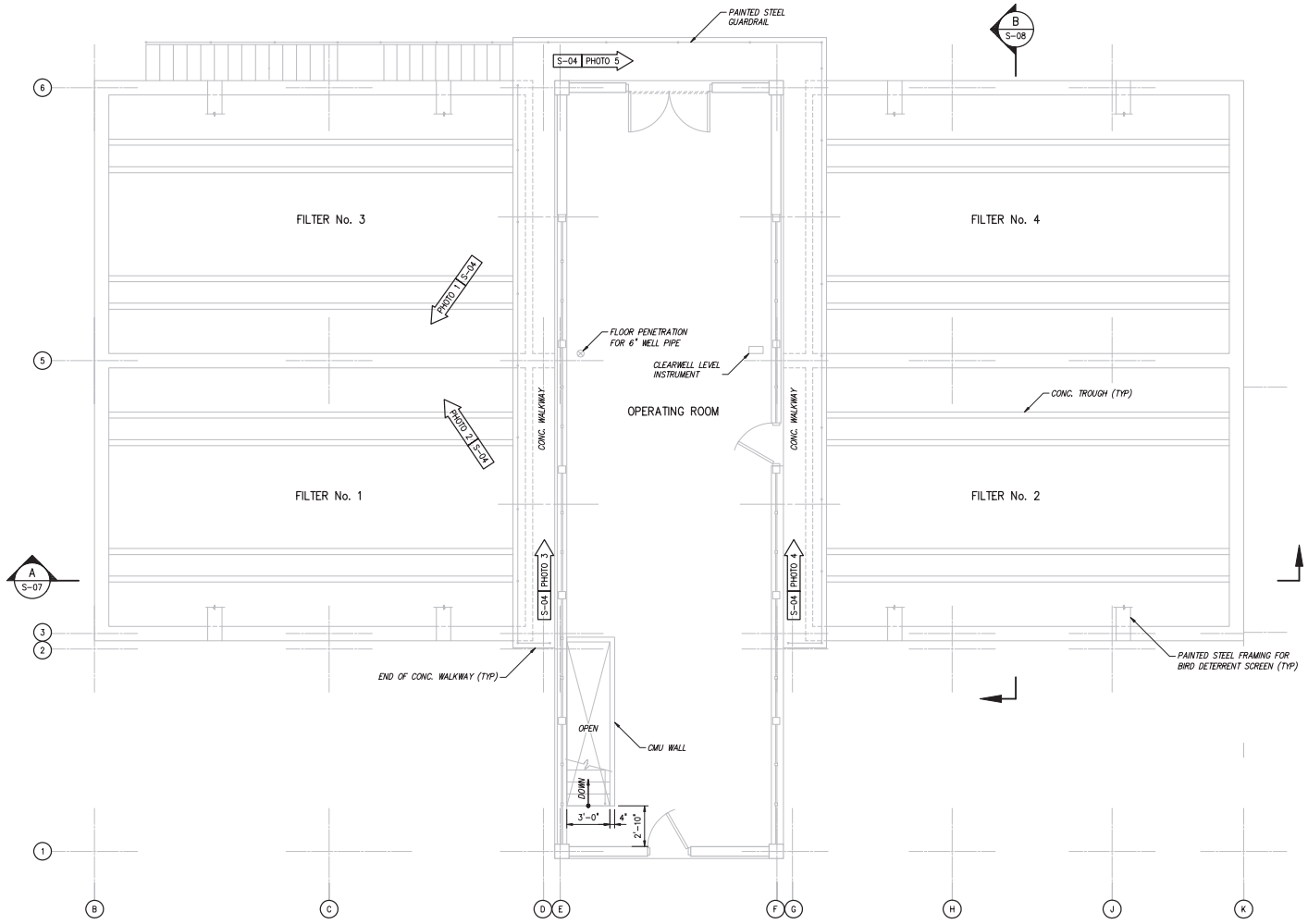

LEGEND:

EXISTING

PHOTO # – ARROW INDICATES DIRECTION AND POINT OF VIEW OF PHOTO

1/4"=1'-0"

1 0 1 2 3 7'

NO.	DATE	ISSUED FOR	BY
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DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

JEAN PAUL SILVA P.E.
No. 66522

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

EXISTING CONDITIONS
UPPER PLAN

DATE: JULY 2015
SHEET: 44 OF 69
DRAWING: S-03

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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PHOTO 1

PHOTO 2

PHOTO 3

PHOTO 4

PHOTO 5

LEGEND:

EXISTING

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S04

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
EXISTING CONDITIONS PHOTOS

DATE: JULY 2015
SHEET: 45 OF 69
DRAWING: S-04

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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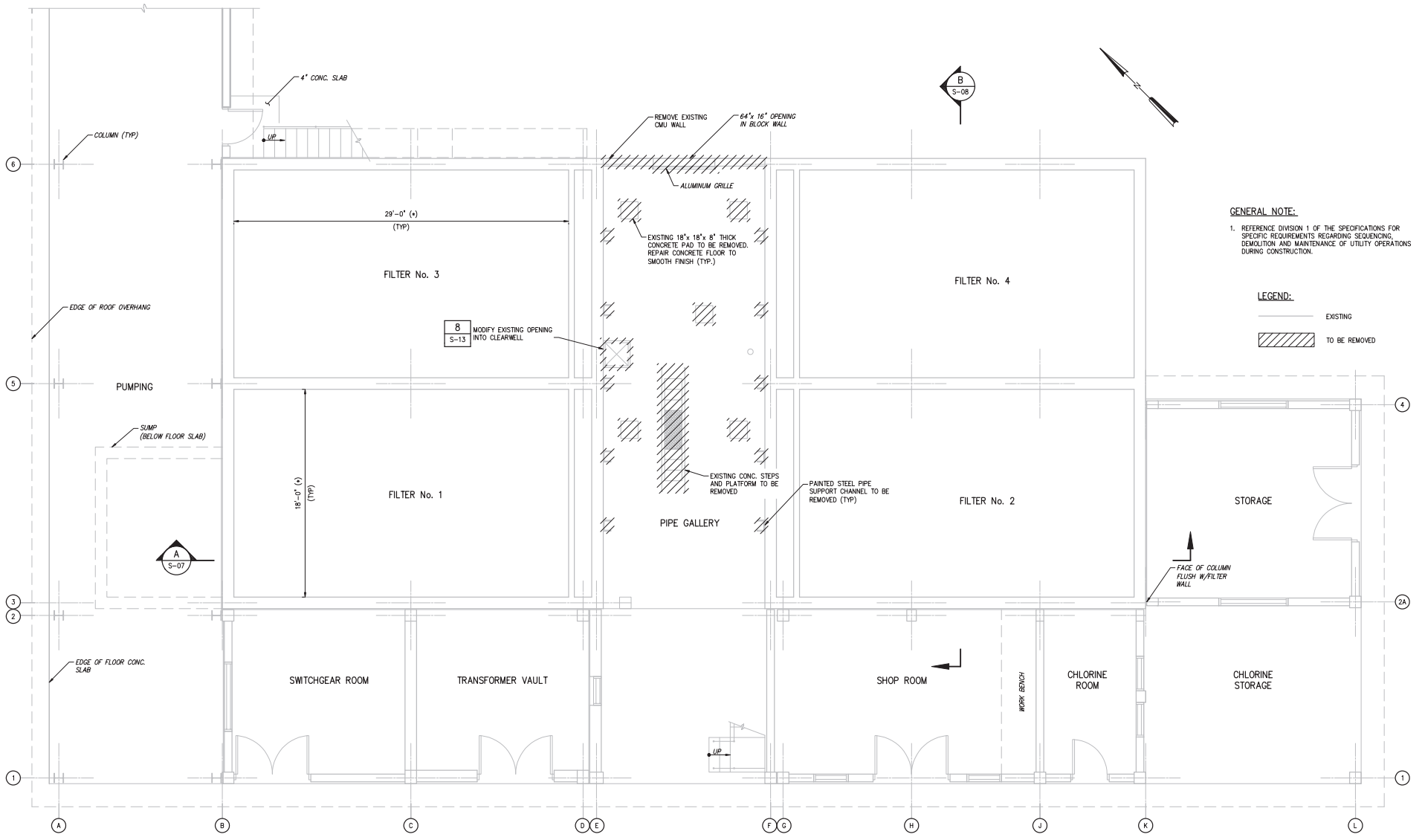

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S05

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION
LOWER PLAN

DATE: JULY 2015
SHEET: 46 OF 69
DRAWING: S-05

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X,..\Base-BP1\A-BP1-Filters-Plan-Bottom-X

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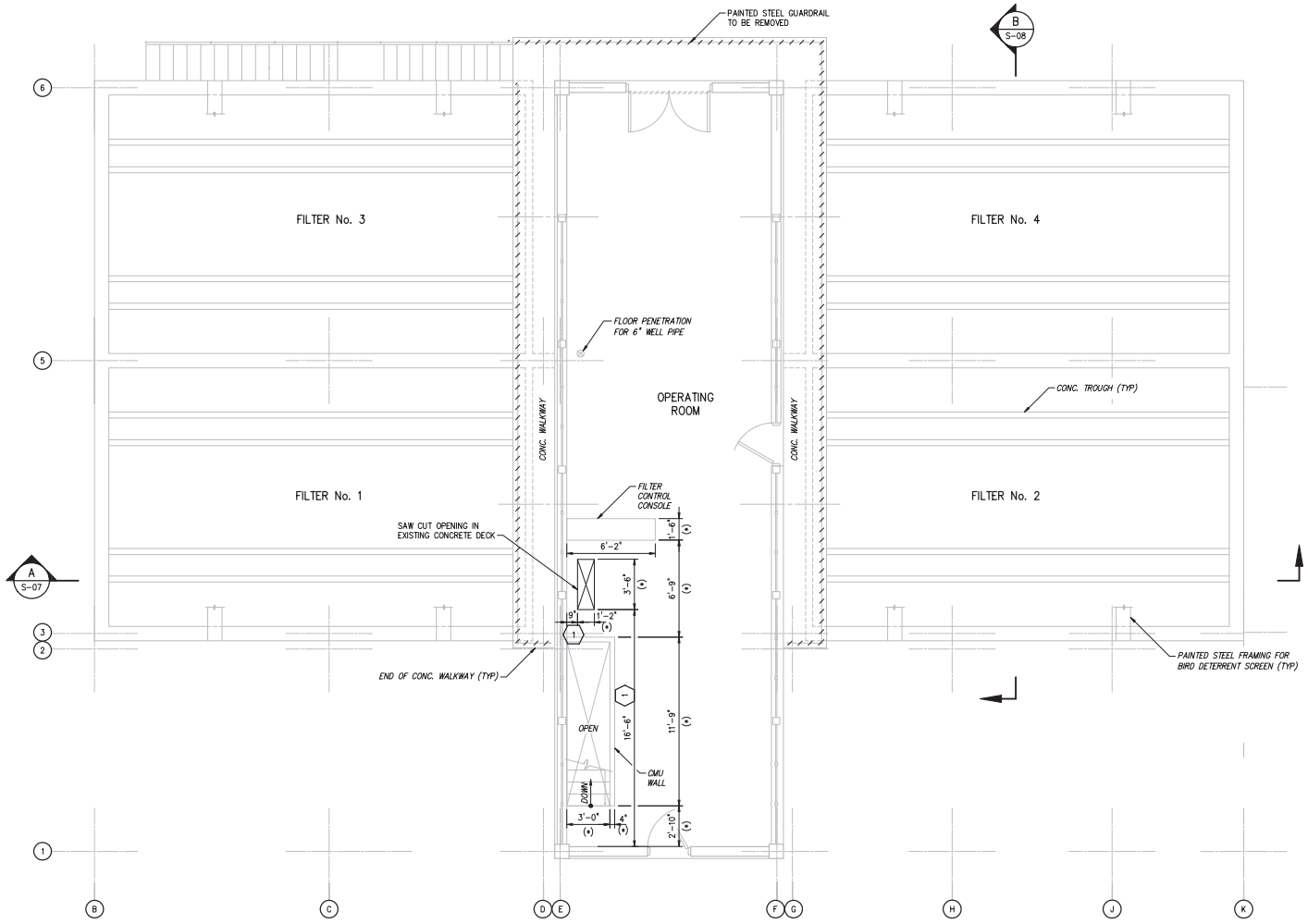

GENERAL NOTES:

1. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.
2. DIMENSIONS MARKED WITH AN ASTERISK (*) ARE APPROXIMATE AND MAY VARY WITH THE EQUIPMENT SUPPLIED.

KEYED NOTES:

1. LOCATION FOR CUTTING THE EXISTING CONCRETE DECK ARE APPROXIMATE AND MAY VARY TO SUIT FIELD CONDITIONS.

LEGEND:

EXISTING

TO BE REMOVED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S06

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION
UPPER PLAN

DATE: JULY 2015
SHEET: 47 OF 69
DRAWING: S-06

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB_..\Base-BP1\S-BP1-Filters-Plan-Upper-X_..\Base-BP1\A-BP1-Filters-Plan-Upper-X

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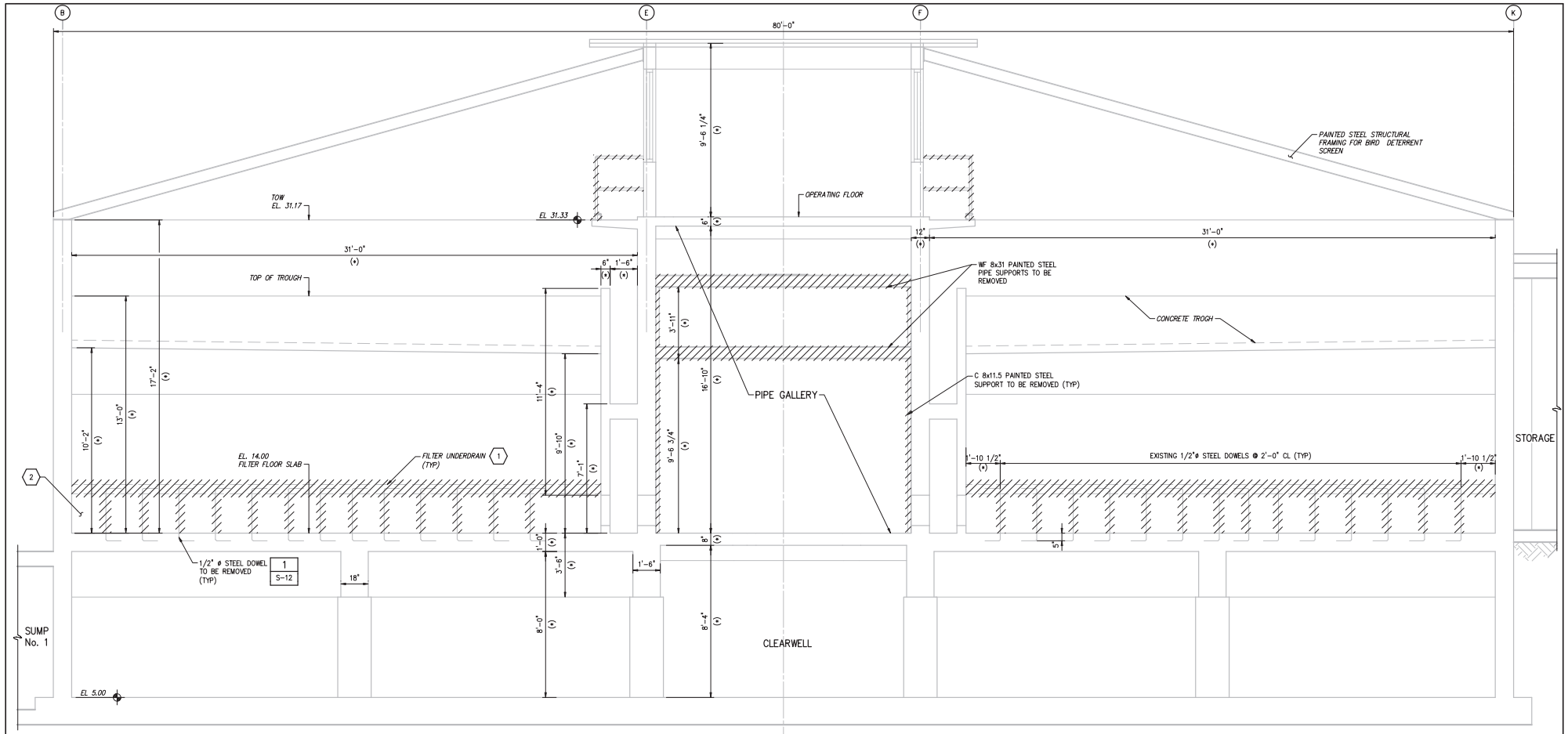

℄ OF PIPE GALLERY

SECTION A / S-02
3/8" = 1'-0"

GENERAL NOTE:

1. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.

KEYED NOTES:

1. NO RECORD DRAWING INFORMATION ON THE TYPE OF FILTER UNDERDRAIN IS AVAILABLE. BASED ON DISCUSSION WITH THE CITY, IT IS ASSUMED THAT THE UNDERDRAIN IS A WHEELER TYPE.
2. THERE ARE CONCRETE SUPPORTS BETWEEN THE UNDERDRAIN AND THE FILTER SLAB. THE CONCRETE SUPPORTS ARE NOT SHOWN FOR CLARITY. REMOVE ALL SUPPORTS DOWN TO FILTER SLAB ELEVATION 14.00

LEGEND:

EXISTING

TO BE REMOVED

3/8"=1'-0"

12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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Environmental Engineers & Scientists
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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S07

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
FILTER DEMOLITION SECTION 1

DATE: JULY 2015
SHEET: 48 OF 69
DRAWING: S-07

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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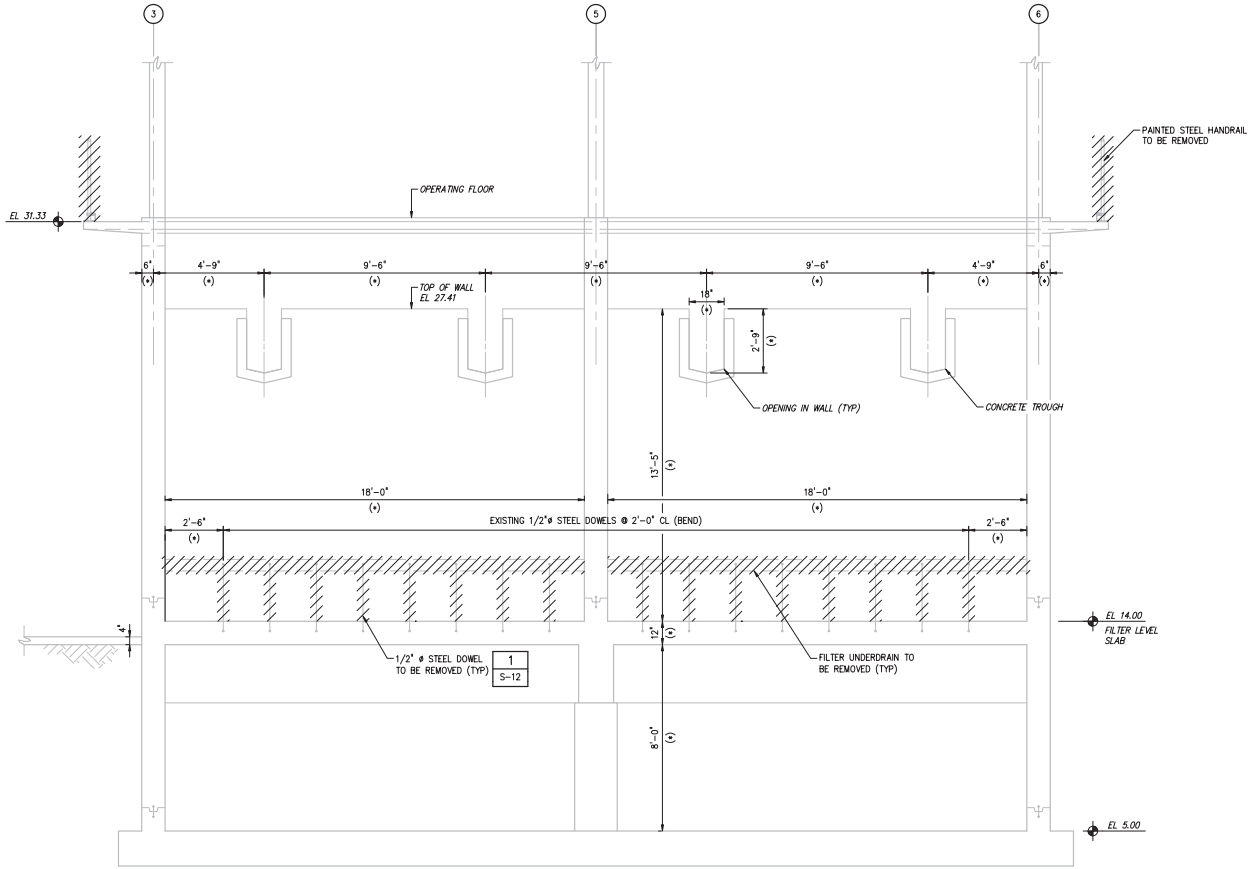

SECTION B
3/8" = 1'-0" S-02

GENERAL NOTE:

1. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.

LEGEND:

EXISTING

TO BE REMOVED

3/8"=1'-0" 12" 0 1 2 4'

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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Environmental Engineers & Scientists
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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S08

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

FILTER DEMOLITION SECTION 2

DATE: JULY 2015
SHEET: 49 OF 69
DRAWING: S-08

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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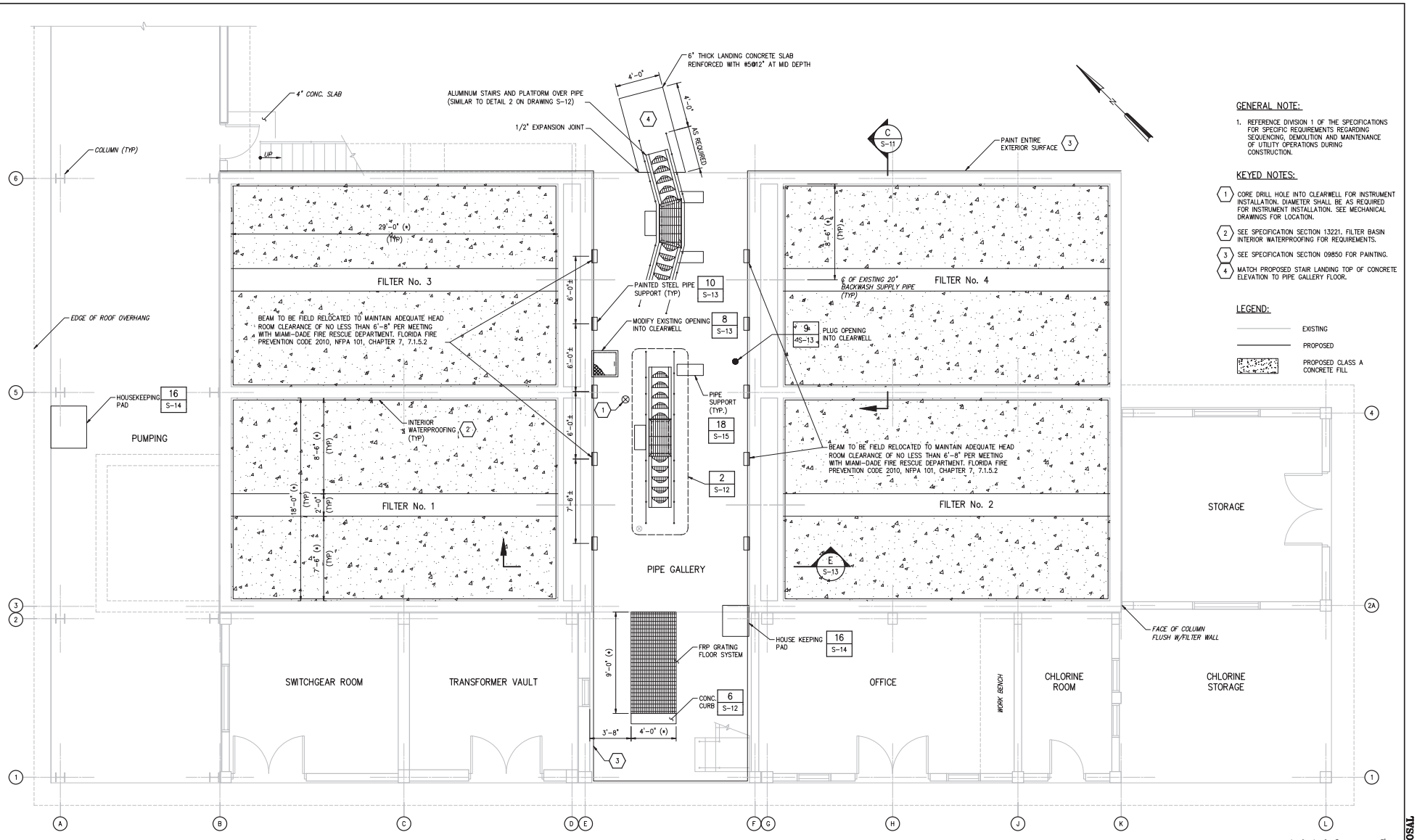

GENERAL NOTE:

1. REFERENCE DIVISION 1 OF THE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS REGARDING SEQUENCING, DEMOLITION AND MAINTENANCE OF UTILITY OPERATIONS DURING CONSTRUCTION.

KEYED NOTES:

1. CORE DRILL HOLE INTO CLEARWELL FOR INSTRUMENT INSTALLATION. DIAMETER SHALL BE AS REQUIRED FOR INSTRUMENT INSTALLATION. SEE MECHANICAL DRAWINGS FOR LOCATION.
2. SEE SPECIFICATION SECTION 13221, FILTER BASIN INTERIOR WATERPROOFING FOR REQUIREMENTS.
3. SEE SPECIFICATION SECTION 09850 FOR PAINTING.
4. MATCH PROPOSED STAIR LANDING TOP OF CONCRETE ELEVATION TO PIPE GALLERY FLOOR.

LEGEND:

EXISTING
PROPOSED
PROPOSED CLASS A CONCRETE FILL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S09

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS
LOWER PLAN

DATE: JULY 2015
SHEET: 50 OF 69
DRAWING: S-09

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X,..\Base-BP1\A-BP1-Filters-Plan-Bottom-X,..\Base-BP1\S-BP1-Filters-Plan-Bottom

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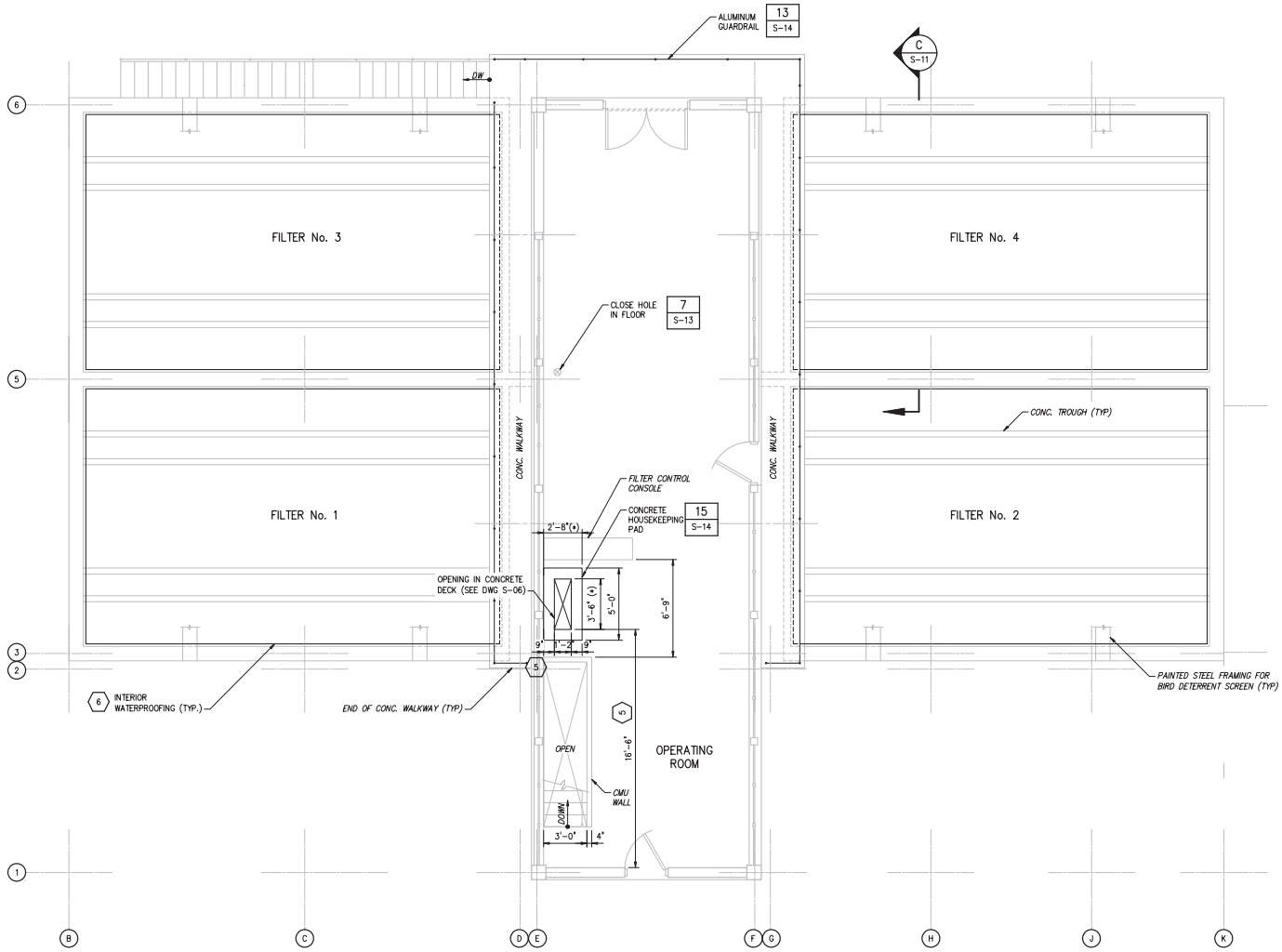

KEYED NOTES:

1. CONTRACTOR SHALL INSTALL A TEMPORARY PARTITION BETWEEN FILTERS No.1 AND No.2 AND A TEMPORARY PARTITION BETWEEN FILTERS No.3 AND No.4 DURING CONSTRUCTION OF IMPROVEMENTS WITHIN EACH FILTER BASIN TO ENSURE THAT CONSTRUCTION ACTIVITIES ARE SUITABLY SEPARATED FROM THE FILTERS THAT REMAIN IN OPERATION.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, PERMITTING, FABRICATION AND INSTALLATION OF THE PARTITIONS TO COMPLY WITH ALL APPLICABLE JURISDICTIONAL REQUIREMENTS.
3. THE EXISTING BIRD DETERRENT SCREEN SHALL REMAIN IN PLACE AND FULLY OPERATIONAL ON ALL OPERATING FILTERS.
4. THE CONTRACTOR, AT ITS DISCRETION, WITH THE OWNER'S APPROVAL, MAY TEMPORARILY REMOVE THE BIRD DETERRENT SCREEN FROM A FILTER THAT HAS BEEN TAKEN OUT OF SERVICE FOR MODIFICATION. SCREENS THAT ARE REMOVED SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.
5. SEE DRAWING S-06 FOR LOCATION OF OPENING
6. SEE SPECIFICATION SECTION 13221. FILTER BASIN INTERIOR WATERPROOFING FOR REQUIREMENTS.

LEGEND:

EXISTING

PROPOSED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

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SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S10

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PROPOSED FILTERS
UPPER PLAN

DATE: JULY 2015
SHEET: 51 OF 69
DRAWING: S-10

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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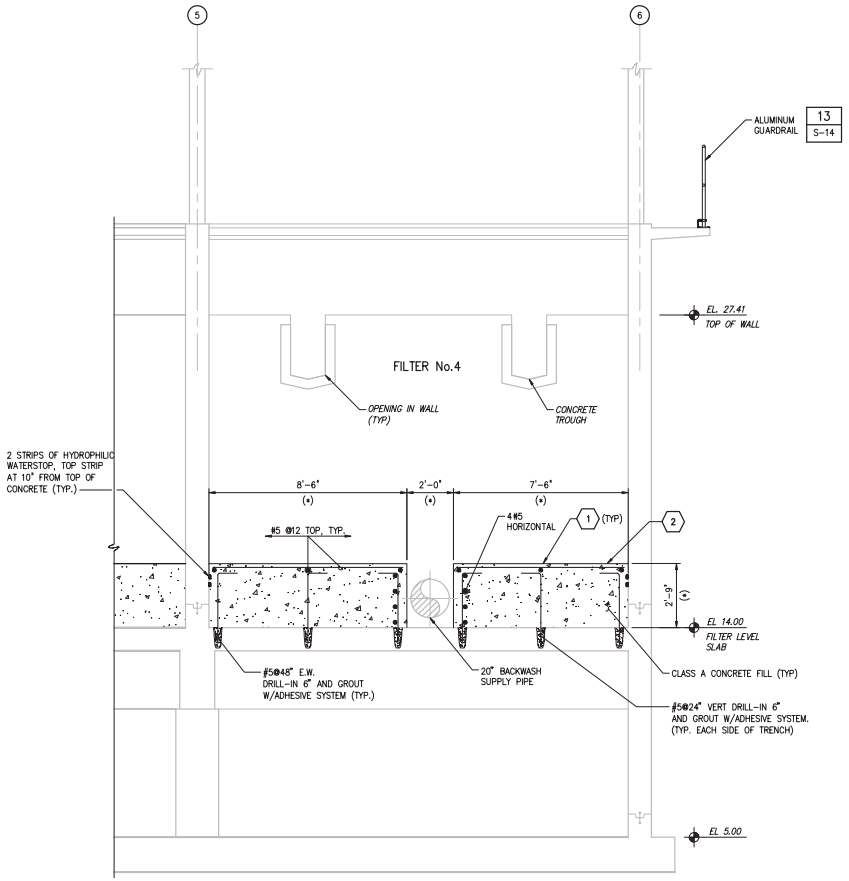

SECTION C / S-09
3/8" = 1'-0"

KEYED NOTES:

1. THE MANUFACTURER OF THE PROPOSED UNDERDRAIN REQUIRES A "ROUGH" FLOOR FINISH TO AID IN BASE GROUT ADHESION TO THE FILTER FLOOR SLAB. DEPENDING ON THE CONDITION OF THE FILTER FLOOR ONCE THE EXISTING UNDERDRAINS ARE REMOVED, THE FLOOR MAY REQUIRE ROUGHENING TO PROVIDE A 1/8-INCH PROFILE. COORDINATE WITH UNDERDRAIN MANUFACTURER TO DETERMINE THE REQUIREMENTS FOR A SUITABLE FILTER FLOOR FINISH. PROVIDE ROUGHENED SURFACE AS REQUIRED BY THE UNDERDRAIN MANUFACTURER.
2. THE PROPOSED GULLET DESIGN MAY VARY FROM THAT SHOWN DEPENDING ON THE UNDERDRAIN SUPPLIED. THE CONTRACTOR SHALL NOT COMMENCE CONSTRUCTION OF THE PROPOSED GULLET UNTIL IT HAS PROPERLY COORDINATED THE UNDERDRAIN SHOP DRAWING AND ANY REVISED GULLET DESIGN REQUIREMENTS WITH THE UNDERDRAIN SUPPLIER AND ENGINEER.

LEGEND:

EXISTING

PROPOSED

3/8"=1'-0" 12" 0 1 2 4'

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
DRAWN L.M.S.
CHECKED A.H.
PROJ. ENGR. J.P.S.

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Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
Hollywood, Florida 33021
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SCALE 3/8"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S11

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
SECTIONS

DATE: JULY 2015
SHEET: 52 OF 69
DRAWING: S-11

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

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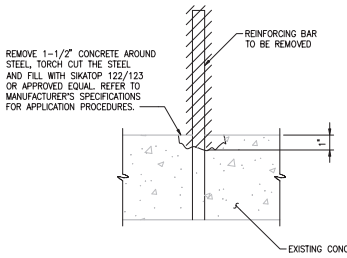
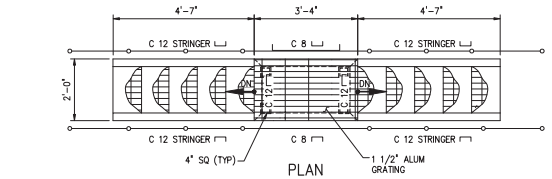
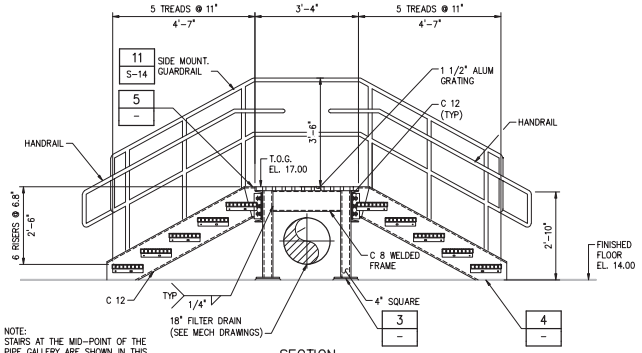


CONCRETE RESTORATION WHEN REINFORCING IS ENCOUNTERED

DETAIL 1 / 1 — N.T.S. — S-07 / S-08



PLAN

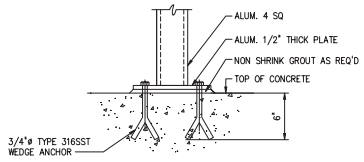


NOTE:
STAIRS AT THE MID-POINT OF THE PIPE GALLERY ARE SHOWN IN THIS DETAIL. THE STAIRS AT THE NORTH END OF THE PIPE GALLERY SHALL BE SIMILAR, THE DESIGN SHALL BE ADJUSTED BY THE CONTRACTOR TO SUIT.

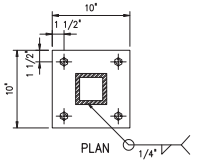
SECTION

ALUMINUM STAIRS AND PLATFORM OVER PIPE

DETAIL 2 / 1/2" = 1'-0" — S-09

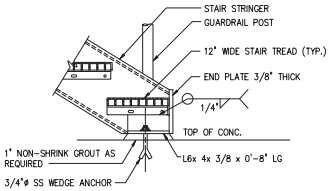


SECTION



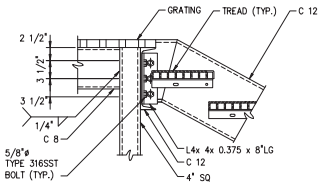
PLAN

DETAIL 3 / 1 1/2" = 1'-0" — –

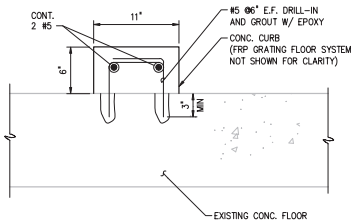


SECTION

DETAIL 4 / 1" = 1'-0" — –



DETAIL 5 / 1" = 1'-0" — –



CONCRETE CURB

DETAIL 6 / N.T.S. — S-09

1/2"=1'-0" (12" 0 1 3')

1"=1'-0" (12" 6 0 1')

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

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S. — DRAWN L.M.S. — CHECKED A.H. — PROJ. ENGR. J.P.S.

JEAN PAUL SILVA P.E. No. 66522

HAZEN AND SAWYER
Environmental Engineers & Scientists
4000 Hollywood Boulevard, Suite 750N
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Certificate of Authorization Number: 2771

SCALE: AS NOTED

CLIENTS PROJECT: –

ENGINEERS PROJECT: 44238-004

CAD REFERENCE: 44238-004BP1-S12

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT

RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

DETAILS – SHEET 1

DATE: JULY 2015

SHEET: 53 OF 69

DRAWING: S-12

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\S-BP1-Filters-Plan-Bottom,..\Base-BP1\S-BP1-Filters-Plan-Bottom-X,..\Base-BP1\M-BP1-Filters-Plan-Bottom,..\Base-BP1\S-BP1-Filters-Sections-X,..\Base-BP1\M-BP1-Filters-Sections

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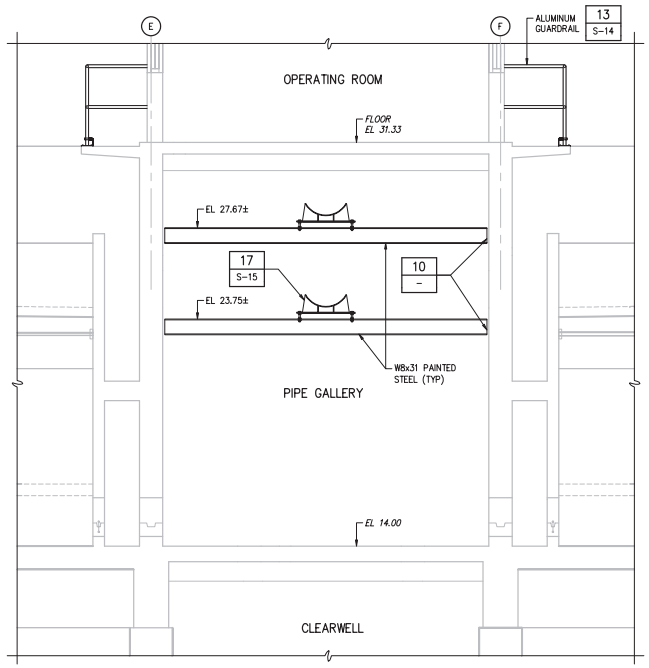
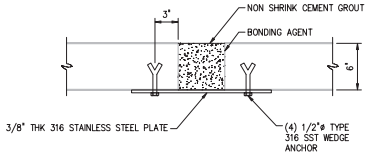
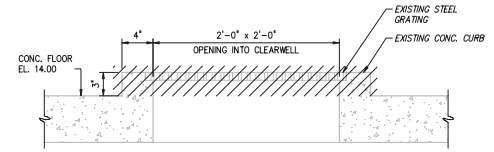


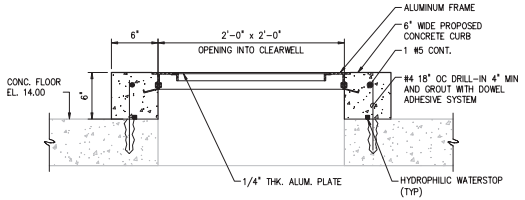
SECTION E
3/8" = 1'-0" S-09



DETAIL 7
1 1/2" = 1'-0" S-10

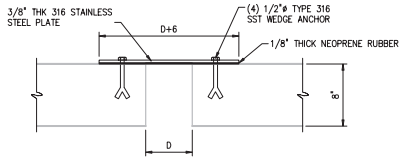


EXISTING SECTION

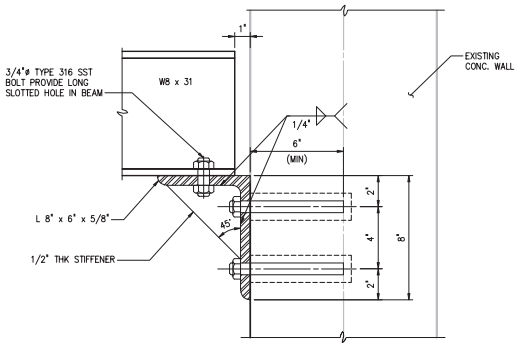


PROPOSED SECTION

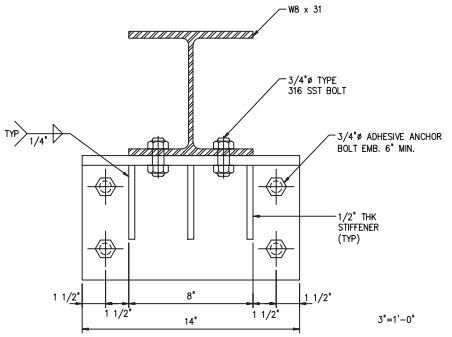
DETAIL 8 | 8
1 1/2" = 1'-0" S-05 | S-09



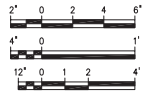
DETAIL 9
1 1/2" = 1'-0" S-09



SIDE VIEW



FRONT VIEW



DETAIL 10
3" = 1'-0" -

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.P.S.
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CHECKED A.H.
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SCALE: AS NOTED
CLIENTS PROJECT: -
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S13

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
DETAILS – SHEET 2

DATE: JULY 2015
SHEET: 54 OF 69
DRAWING: S-13

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS

XREFs= ..\Block\44238-004-BP1-TB_..\Base-BP1\S-BP1-Filters-Sections-X

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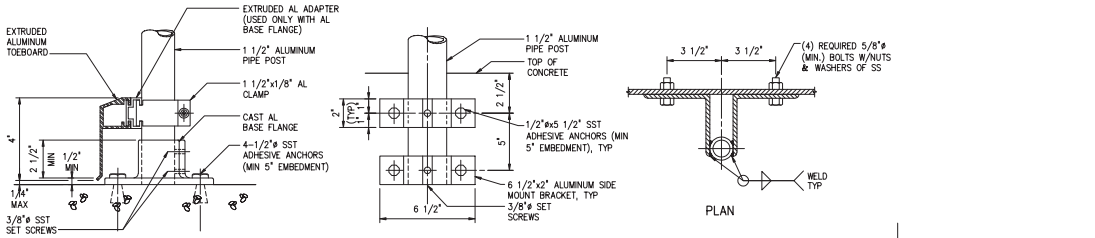
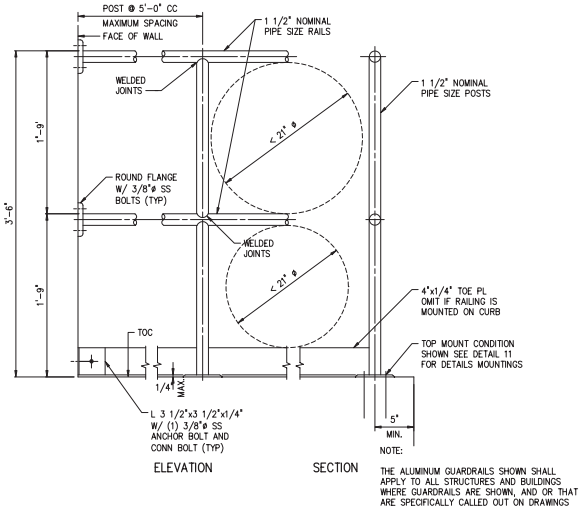
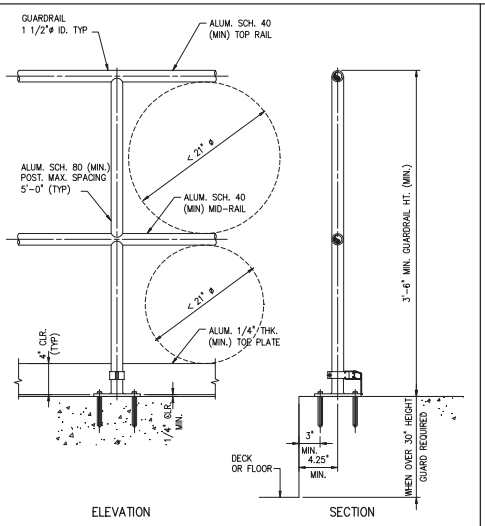
Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements





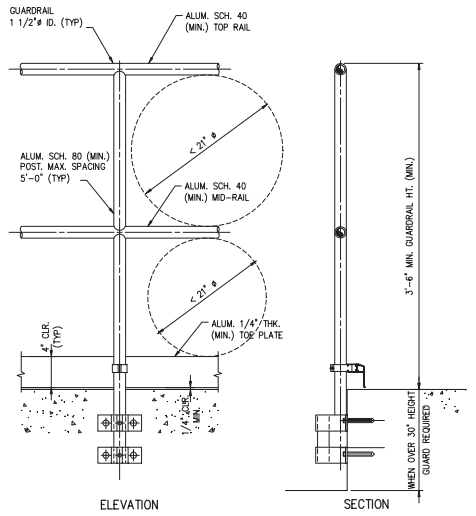
TYPICAL GUARDRAIL AT LANDINGS

DETAIL 12
NTS STD



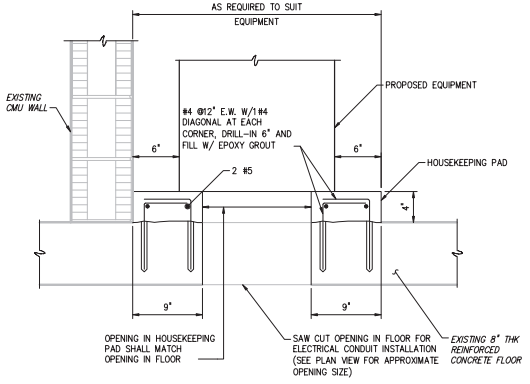
STANDARD GUARDRAIL TOP MOUTED TO CONCRETE WALKWAY

DETAIL 13
NTS STD



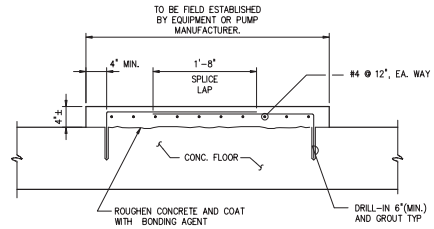
STANDARD GUARDRAIL SIDE MOUNTED TO CONCRETE WALKWAY

DETAIL 14
NTS STD



HOUSEKEEPING PAD DETAIL W/ OPENING

DETAIL 15
NTS STD



HOUSE KEEPING PAD DETAIL

DETAIL 16
1" = 1'-0" S-14

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

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SCALE NTS

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S14

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
DETAILS – SHEET 3

DATE: JULY 2015
SHEET: 55 OF 69
DRAWING: S-14

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:09 AM BY: TBOCAS
XREFs= ..\Tblock\44238-004-BP1-TB
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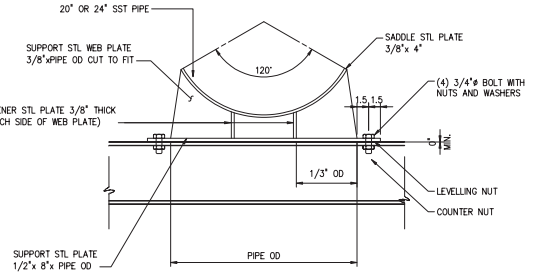
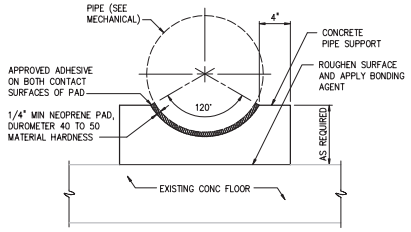


CRADLE PIPE SUPPORT

DETAIL 17
1 1/2" = 1'-0" S-13



12" WIDE CONCRETE PIPE SUPPORT

DETAIL 18
N.T.S. S-09

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Sections

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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-S15

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

DETAILS – SHEET 4

DATE: JULY 2015
SHEET: 56 OF 69
DRAWING: S-15

REQUEST FOR PROPOSAL

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Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements

ELECTRICAL PLAN/LAYOUT

SYMBOL	DESCRIPTION
ITC	TELEPHONE TERMINAL CABINET
	TERMINAL JUNCTION BOX
	ELECTRICAL EQUIPMENT
X	CEILING MOUNTED DOWNLIGHT LUMINAIRE – SEE SCHEDULE FOR TYPE
X	FLOURESCENT LUMINAIRE, SURFACE OR LAY IN TYPE SEE SCHEDULE FOR TYPE
X	LUMINAIRE AND POLE – SEE SCHEDULE FOR TYPE
X	WALL MOUNTED LUMINAIRE – SEE SCHEDULE FOR TYPE
X	FLOOD LIGHTS – AIM IN THE DIRECTION SHOWN SEE SCHEDULE FOR TYPE
X	EXIT LIGHTS – SOLID SECTION IS DIRECTION OF FACE SEE SCHEDULE FOR TYPE
X	EMERGENCY LIGHT WITH BATTERY PACK SEE SCHEDULE FOR TYPE
X (Y, Z) (TYP)	LIGHTING FIXTURE POWER AND SWITCHING LEGEND X=FIXTURE TYPE Y=PANEL–CIRCUIT BRKR Z=SWITCH IF NO Z INDICATED, CONNECT DIRECTLY TO CIRCUIT BREAKER.
[B2]	CONDUIT/CONDUCTOR – REFER TO CIRCUIT SCHEDULE
LPA–2	HOME RUN – PANEL AND CIRCUIT NUMBER SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	UNDERGROUND CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12, 1#12G IN 3/4"C.
YCX	YARD CONDUIT. REFER TO YARD CONDUIT SCHEDULE
DB	DIRECT BURIED CONDUIT
	CONDUIT, STUBBED AND CAPPED AS SHOWN
	GROUND WIRE, 4/0 UNLESS OTHERWISE NOTED
	6 FOOT GROUND WIRE PIGTAIL, 4/0 UNLESS OTHERWISE NOTED
	GROUND ROD – 5/8" x 20' COPPER CLAD UNLESS OTHERWISE NOTED
S	WALL SWITCH: 2– DOUBLE POLE, 3– THREE WAY, 4– FOUR WAY, P– PILOT LIGHT, K– KEY OPERATED, D– DIMMER, WP–WEATHERPROOF, CRE– CORROSION RESISTANT
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE WP–WEATHERPROOF, C– CLOCK HANGER, TL– TWIST LOCK, CRE–CORROSION RESISTANT, GFI–GROUND FAULT INTERRUPTER
	CONVENIENCE RECEPTACLE – 20A QUADROPLEX UNLESS SPECIFIED OTHERWISE
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE. LOCATED ABOVE COUNTER TOP GFI–GROUND FAULT INTERRUPTER
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE. MOUNTED FLUSH IN FLOOR.
30	RECEPTACLE, SPECIAL PURPOSE – AMPERAGE AS INDICATED.
	TELEPHONE/DATA RECEPTACLE (OUTLET BOX, 18" AFF) W – WALL MOUNTED, 54" AFF
	TELEPHONE/DATA RECEPTACLE MOUNTED FLUSH IN FLOOR
J	JUNCTION BOX NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X SS
F	FIRE ALARM PULL STATION
F	FIRE ALARM HORN/STROBE LIGHT
F	FIRE ALARM STROBE LIGHT
W	ELEVATOR WARNING LIGHT

SYMBOL	DESCRIPTION
SD	FIRE ALARM SMOKE DETECTOR
HD	FIRE ALARM HEAT DETECTOR
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
BD R	BEAM DETECTOR, T=TRANSMITTER, R=RECEIVER
SD D	DUCT SMOKE DETECTOR
RTU	REMOTE TEST UNIT

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
A	AMMETER, AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AS	AMMETER SWITCH, AMPERE SENSOR
ASU	AIR SUPPLY UNIT
ATS	AUTOMATIC TRANSFER SWITCH
BC	BYPASS CONTACTOR
BRKR	BREAKER
C	CONDUIT, CONTACTOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CMS	COMBINATION MOTOR STARTER
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DIV	DIVISION
EF	EXHAUST FAN
EG	ELECTRICAL GROUND
ETM	ELAPSED TIME METER
EXST	EXISTING
FDR	FEEDER
F, FU	FUSE
FI	FLOW INDICATOR
FLR	FLOOR
FLUOR	FLUORESCENT
FM	FLOW METER
FS	FLOAT SWITCH, FLOW SWITCH
FT	FLOW TRANSMITTER
FUT	FUTURE
FVNR	FULL VOLTAGE NON–REVERSING STARTER
G	GREEN, GROUND
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND/OFF/AUTO
HOR	HAND/OFF/REMOTE
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATING & AIR CONDITIONING
IC	INTERRUPTING CAPACITY
I & C	INSTRUMENTATION AND CONTROL
INST	INSTANTANEOUS
IP	INSTRUMENT PANEL (PANELBOARD)
J, J–BOX	JUNCTION BOX
K	KEY INTERLOCK
KK	KIRK KEY INTERLOCK
LA	LIGHTNING ARRESTER
LC	LIGHTING CONTACTOR
LP	LIGHTING PANEL (PANELBOARD)
LR	LOCAL/REMOTE, LATCHING RELAY
LS	LIMIT SWITCH
LT FLEX	LIQUID TIGHT FLEX CONDUIT
LTG	LIGHTING
M	MAGNETIC CONTACTOR COIL OR MOTOR
MA	MILLIAMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MERC	MERCURY VAPOR
MH	MOTOR HEATER, MANHOLE
MLO	MAIN LUGS ONLY
MPZ	MINI POWER ZONE
MS	MOTOR STARTER
MSC	MANUFACTURER SUPPLIED CABLE
MT	MOUNT
MTD	MOTOR TEMPERATURE DETECTOR
N	NEUTRAL
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
NO	NORMALLY OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
OL	OVERLOAD RELAY
P	POLE
PB	PULL BOX
PC	PHOTOCELL
PH	PHASE
PM	PHASE MONITOR,POWER METER
PNL	PANEL
PP	POWER PANEL (480VAC)
PR	PAIR
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE CONDUIT
RCPT	RECEPTACLE
RMS	ROOT MEAN SQUARE
RS	RIGID STEEL CONDUIT
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TELEMETRY UNIT
SC	SURGE CAPACITOR
SF	SUPPLY FAN
SH	SPACE HEATER
S/N	SOLID NEUTRAL
SPD	SPEED
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
SST	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	THERMOSTAT
TB	TERMINAL BOARD
TDR	TIME DELAY RELAY
TJB	TERMINAL JUNCTION BOX
TS	THERMAL SWITCH
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UVR	UNDER VOLTAGE RELAY
V	VOLTMETER, VOLT
VFD	VARIABLE FREQUENCY DRIVE
VS	VOLTMETER SWITCH
W	WATT
WHD	WATTHOUR DEMAND METER
WP	WEATHERPROOF
XFMR	TRANSFORMER

ONE LINE DIAGRAMS, RISER DIAGRAMS AND SCHEMATICS

SYMBOL	DESCRIPTION
5	MOTOR SQUIRREL CAGE INDUCTION UNLESS OTHERWISE NOTED – HORSEPOWER INDICATED
	OVERLOAD RELAY HEATER
1	MAGNETIC STARTER WITH NEMA SIZE INDICATED
M	MOTOR CIRCUIT PROTECTOR, MAGNETIC, 3 POLE UNLESS INDICATED OTHERWISE.
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
100	SWITCH – CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
400 600	DRAWOUT CIRCUIT BREAKER, LOW VOLTAGE 600= FRAME RATING, 400=TRIP SETTING
400 600	DRAWOUT CIRCUIT BREAKER, MEDIUM VOLTAGE 600= FRAME RATING, 400=TRIP SETTING
600 400	DRAWOUT FUSED SWITCH, LOW OR MEDIUM VOLTAGE 600= FRAME RATING, 400=FUSE RATING
(3)	CURRENT TRANSFORMER, NUMBER OF WINDINGS INDICATED
480–120 /208V 15 KVA, 3φ K–4 RATED	TRANSFORMER, VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE
	LIGHTNING ARRESTER
	CAPACITOR OR SURGE CAPACITOR
M	UTILITY METER
G	GENERATOR
X 0–600V	METER SCALE RANGE SHOWN IF REQUIRED A – AMPS PM – PHASE MONITOR V – VOLTS P – POWER METER
	FUSE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
	GROUND
CPT 120V	CONTROL TRANSFORMER
GFR	GROUND FAULT RELAY WITH C.T.
	PUSH–BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH–BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	REMOTE DEVICE
A	INDICATING LIGHT – LETTER INDICATES COLOR A – AMBER G – GREEN B – BLUE R – RED C – CLEAR W – WHITE
A	PUSH TO TEST AND CONNECT INDICATING LIGHT SCHEMATIC DIAGRAMS ONLY A – AMBER G – GREEN B – BLUE R – RED C – CLEAR W – WHITE

SYMBOL	DESCRIPTION
S M	MANUAL MOTOR STARTER SWITCH, NEMA 4X UNLESS OTHERWISE NOTED. NUMBER OF POLES AS REQUIRED
PB 4X	PUSH–BUTTON STATION, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X STAINLESS STEEL ENCLOSURE. SEE CONTROL DIAGRAMS FOR TYPE PUSH BUTTON REQUIRED
30 4X	NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X STAINLESS STEEL
F 40/60 4X	FUSED DISCONNECT SWITCH, SIZE INDICATED (60 = SWITCH RATING: 40 = FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X STAINLESS STEEL
LC 30 4X	LIGHTING CONTACTOR, CURRENT RATING INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM FOR NUMBER OF POLES. 4X = NEMA 4X STAINLESS STEEL
2 4X	MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE, UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM. 4X = NEMA 4X STAINLESS STEEL
2 4X	COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED). MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL SCHEMATIC DIAGRAM. 4X = NEMA 4X STAINLESS STEEL
	ELECTRIC RESISTANCE HEATER
ETM	ELAPSED TIME METER
CRX	CONTACT – NORMALLY OPEN WITH COIL INDICATED
CRX	CONTACT – NORMALLY CLOSED WITH COIL INDICATED
CRX	CONTROL RELAY, X=SEQUENTIAL NUMBER
LRX (L)	LATCHING RELAY, X=SEQUENTIAL NUMBER L – LATCH, U – UNLATCH
TDX NOTC	TIME DELAY RELAY, X=SEQUENTIAL NUMBER NOTC=NORMALLY OPEN TIMED CLOSED NOTO=NORMALLY OPEN TIMED OPEN AFTER CLOSE NCTO=NORMALLY CLOSED TIMED OPEN NCTC=NORMALLY CLOSED TIMED CLOSED AFTER OPEN
	TEMPERATURE OPENS ON RISING TEMPERATURE, CLOSES ON FALLING TEMPERATURE
	CLOSES ON RISING TEMPERATURE, OPENS ON FALLING TEMPERATURE
H O A XOO OOX	SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION

POSITION			
CKT.	HAND	OFF	AUTO
1	X	0	0
2	0	0	X

X – CLOSED CONTACT
0 – OPEN CONTACT

GENERAL

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS SECTION.
1"C,2#12,1#12G 1"C,1–25/C TYPE 1	INDICATES RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES, SIZES, AND TYPES.
	DEMOLITION TO BE REMOVED OR DELETED

LINE WEIGHT

NEW — EXISTING

FUTURE

NOTE:

THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE UTILIZED ON PROJECT.

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1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
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CHECKED J.C.B.
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SCALE: NTS

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238–004
CAD REFERENCE: 44238–004BP1–E01

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL LEGEND AND NOTES

DATE: JULY 2015
SHEET: 57 OF 69
DRAWING: E–01

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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GENERAL NOTES AND SPECIFICATIONS:

1. THE SCOPE OF WORK SHALL CONSIST PRIMARILY OF THE FOLLOWING:

1.1. PROVIDE AND INSTALL ALL ELECTRICAL SYSTEMS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS COMPLETE IN PLACE.
1.2. PROVIDE AND INSTALL ALL NEW WIRE AND CONDUIT NECESSARY TO COMPLETE ALL ELECTRICAL SYSTEMS COMPLETE IN PLACE.
1.3. PROVIDE AND INSTALL NEW LIGHTING AND RECEPTACLES.
1.4. PROVIDE AND INSTALL NEW TRANSFORMERS, LIGHTING PANELS, POWER DISTRIBUTION PANELS, DISCONNECTS, ETC. AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS FOR A COMPLETE WORKING SYSTEM IN PLACE.
1.5. PROVIDE AND INSTALL ALL GROUNDING AS REQUIRED FOR A COMPLETE WORKING SYSTEM IN PLACE.

2. PROVIDE AND INSTALL ALL ELECTRICAL NECESSARY TO SUPPORT THE INSTRUMENTATION AND CONTROL DESIGN.

3. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.

4. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, LOCAL CODES, CITY CODES AND FLORIDA BUILDING CODE.

5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS AND TO INCLUDE ALL FEES AS PART OF HIS BID IF NOT OTHERWISE NOTED.

6. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.

7. THE CONTRACTOR SHALL, BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.

8. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL LOCAL UTILITIES, INCLUDING THE POWER AND TELEPHONE UTILITIES TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS. ALL FEES, LABOR, EQUIPMENT OR MATERIALS NECESSARY TO MEET THESE REQUIREMENTS IS TO BE INCLUDED IN THE BID. THE CONTRACTOR SHALL OBTAIN, DELIVER AND INSTALL ALL CONDUITS, PULL-BOXES AND EQUIPMENT AS REQUIRED BY THE UTILITIES TO THEIR SPECIFICATIONS.

9. ALL EQUIPMENT AND MATERIAL SHALL BE UNUSED AND U.L. LISTED. ALL REFERENCES TO A PARTICULAR MANUFACTURER ARE GIVEN ON AN "APPROVED EQUAL" BASIS.

10. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.

11. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.

12. ALL CONDUCTORS SHALL BE COPPER. NO ALUMINUM ALLOWED UNLESS SPECIFICALLY INDICATED ON DRAWINGS.

13. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL ELECTRICAL & CONTROL EQUIPMENT AND MATERIAL.

14. ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL-508A APPROVED PANEL VENDOR AND SHALL BEAR A UL-508A LABEL ON THE PANEL.

15. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS.

16. ALL LOCATIONS OF EQUIPMENT, PANELS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY AND COORDINATE EXACT LOCATION AND SIZE WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION AND THEN INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS.

17. SEE OTHER DISCIPLINE DRAWINGS FOR COORDINATION OF ALL DRAWINGS. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION AND MOVEMENT OF CONDUITS OR OTHER ELECTRICAL EQUIPMENT SHALL BE ACCOMPLISHED WITHOUT ANY ADDITIONAL COST FOR THE OWNER.

18. LOCATIONS OF MANHOLES, HANDHOLES AND PULL BOXES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH EXISTING AND NEW PIPING OR CONDUIT AND ADJUST ACCORDINGLY.

19. NOT ALL CONDUITS SHOWN ON RISER AND ONE-LINE DIAGRAMS ARE SHOWN ON BUILDING LAYOUTS. CONTRACTOR SHALL SUPPLY ALL CONDUITS AND CABLES AS SHOWN ON RISER AND ONE-LINE DIAGRAMS.

20. ALL CIRCUITS SHALL BE IDENTIFIED IN JUNCTION BOXES, PULL BOXES, CONTROL PANELS, PANELBOARDS, LIGHTING POLES, CONTROLLERS AND SERVICE POINTS. IDENTIFICATION SHALL MATCH PANELBOARD SCHEDULES.

21. EXPOSED RUNS OF CONDUITS SHALL BE INSTALLED WITH RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS, WITH RIGHT ANGLE TURNS CONSISTING OF SYMMETRICAL BENDS OR PULL BOXES AS INDICATED ON THE DRAWINGS. BENDS AND OFFSETS SHALL BE AVOIDED WHERE POSSIBLE.

22. INSTRUMENTATION IS LOW VOLTAGE SIGNALS SUCH AS 4-20mA, TELEPHONE COMMUNICATION, FIRE ALARM COMMUNICATION. POWER CONDUIT SHALL ONLY CROSS OTHER CONDUITS PERPENDICULARLY AT RIGHT ANGLES WITH 6" SEPARATION.

23. CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.

24. MINIMUM DISTANCE ALLOWED BETWEEN POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE:

	VOLTAGE	DISTANCE
24.1.		
24.2.	4160V	3 FT
24.3.	480V	2 FT
24.4.	120V	1 FT

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUIT AND WIRING INSTALLATION FOR ALL VENDOR PROVIDED EQUIPMENT (PACKAGE SYSTEMS). IF THE SHOP DRAWINGS DIFFER FROM THE DESIGNED FACILITIES, THE CONTRACTOR SHALL REDESIGN THE FACILITIES AND SUBMIT THE REVISED DESIGN FOR THE ENGINEER'S APPROVAL ALONG WITH THE SHOP DRAWINGS. THERE SHALL BE NO ADDITIONAL COST TO THE OWNER FOR THE REDESIGN NOR FOR ANY ADDITIONAL CONDUITS AND WIRING. DURING SUBMITTAL THE CONTRACTOR SHALL VERIFY ALL SUPPLIED BREAKER SIZES FOR ALL PACKAGED SYSTEMS SUCH AS HVAC, EXHAUST FANS, MIXERS, CHEMICAL PUMPS ETC. AND MODIFY ALL BREAKERS IN MCC'S AND PANELBOARDS ACCORDINGLY WITHOUT ANY ADDITIONAL COST TO THE OWNER.

26. ALL EXCAVATIONS FOR CONDUITS, HANDHOLES, MANHOLES AND PULLBOXES NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH PLANT ENGINEER.

27. MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED.

28. COLORED WARNING TAPE 6" WIDE SHALL BE INSTALLED 8" BELOW FINISHED GRADE DIRECTLY ABOVE ALL UNDERGROUND YARD CONDUITS ACCORDING TO THE FOLLOWING SCHEDULE:
28.1. POWER: RED
28.2. ALL OTHER CONDUITS: GREEN

29. CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOD AND SPRINKLER SYSTEM PIPING TO MATCH EXISTING, AFTER THE COMPLETION OF THE CONDUITS AND PULLBOXES INSTALLATION.

30. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 250. THE GROUNDING SYSTEM TEST SHALL NOT EXCEED A 48 HOUR SPAN DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMIC UNLESS SPECIFICALLY INDICATED OTHERWISE.

31. AN EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON THE PLANS.

32. ALL ENCLOSURES, TJB, WIREWAY, PULL BOXES ETC. SHALL CONTAIN A GROUNDING BUS. CONNECT ALL RACEWAY BONDS TO THIS BUS VIA GROUNDING BUSHING AND EXTEND BONDING JUMPER FROM THIS BUS TO THE ENCLOSURE.

33. NEW STRUCTURES GROUNDING SHALL INCLUDE AN EMBEDDED GRID OF MINIMUM #4/0 AWG STRANDED COPPER WIRE INSTALLED IN THE FOUNDATION AND AROUND THE STRUCTURE PERIMETER TO FORM A COMPLETE LOOP. SECONDARY GROUND CONNECTIONS TO ALL METAL EQUIPMENT, HAND RAILS, STRUCTURAL STEEL, CONCRETE PADS, REBAR ETC. SHALL HAVE A MINIMUM #4 AWG STRANDED COPPER CONDUCTOR BONDED USING EXOTHERMIC CONNECTIONS. ALL EQUIPMENT GROUNDING CONDUCTORS PENETRATING CONCRETE SLABS OR FINISHED GRADE SHALL HAVE A 72-INCH CONDUCTOR PIGTAIL AT EACH LOCATION FOR CONNECTION TO EQUIPMENT. EXISTING STRUCTURES GROUNDING SHALL BE AS SHOWN ON THE DRAWINGS.

34. GROUND SURROUNDING YARD FENCE AND ALL YARD LIGHTING FIXTURES WITH MINIMUM #4 STRANDED COPPER CONDUCTORS BELOW GRADE TO SITE GROUNDING GRID PER NFPA 54/70.

35. ALL CONCRETE ENCASED DUCTBANKS SHALL CARRY A MINIMUM #4/0 AWG BARE COPPER GROUND WIRE, OVER THE ENTIRE LENGTH, WHICH SHALL BE CONNECTED TO THE SITE GROUNDING GRID AND GROUND RODS LOCATED CONNECTING MANHOLES, HANDHOLES OR PULL BOXES.

36. CONTRACTOR SHALL CORE DRILL EXISTING CONCRETE WALLS, FLOORS, MANHOLES, HANDHOLES AND PULL BOXES FOR CONDUIT PENETRATIONS. SEAL PENETRATIONS WITH NON-SHRINK GROUT OR APPROPRIATE FIRE RATED DEVICES WHERE APPLICABLE.

37. ALL CONDUITS PENETRATING RATED FIRE WALLS OR RATED FIRE FLOORS SHALL BE INSTALLED WITH U.L. APPROVED DEVICES TO MAINTAIN THE FIRE RATING OF THE WALL OR FLOOR PENETRATED.

38. PROVIDE CONDUIT DUCT SEAL AT ALL CONDUIT ENDS.

39. ALL SPARE CONDUITS SHALL BE SEALED WITH A CAP OF SAME MATERIAL AT BOTH ENDS AND A PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS.

40. ALL RECEPTACLES SHALL BE INSTALLED 18" AFF UNLESS OTHERWISE NOTED. LIGHT SWITCHES SHALL BE MOUNTED 48" AFF UNLESS OTHERWISE NOTED.

41. ALL RECEPTACLES WITHIN 6 FEET OF A SINK SHALL BE GFI.

42. FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.

43. ELECTRICAL PULL BOXES SHALL BE SUPPLIED WITH PVC JUNCTION BOXES AND A STEEL TRAFFIC-RATED COVER MARKED "ELECTRICAL" OR "SIGNAL".

44. TYPEWRITTEN PANEL SCHEDULES SHALL BE INSTALLED IN EACH PANELBOARD, AND TYPEWRITTEN TERMINAL BLOCK SCHEDULES IN EACH CONTROL CABINET.

45. ALL SPDs SHALL BE INTEGRAL TO THE NEW EQUIPMENT SHOWN AND SUPPLIED AS ONE UNIT AND ONE U.L. ENTITY.

46. AS PART OF THE ELECTRICAL SUBMITTAL, CONTRACTOR SHALL PROVIDE A LAYOUT OF THE ELECTRICAL ROOM SHOWING SIZES OF ALL EQUIPMENT AND THEIR SPATIAL RELATIONSHIPS.

47. BRANCH CIRCUITS EXCEEDING 100 FT IN LENGTH SHALL BE WIRED WITH MINIMUM #10 AWG WIRES.

48. ALL ELECTRICAL EQUIPMENT SUPPORTS AN OTHER MATERIAL IN DESIGNATED WET AREAS SHALL BE NEMA 4X 316 STAINLESS STEEL OR NON-METALLIC.

49. ALL OUTDOOR LIGHTING FIXTURES SHALL BE OF COPPER FREE CONSTRUCTION.

50. CONTRACTOR SHALL BALANCE PANELBOARD LOADS AT THE END OF THE PROJECT.

51. WHEN NOTED AS STAINLESS STEEL OR S.S. IT SHALL MEAN 316 STAINLESS STEEL.

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED JMB
DRAWN A.B.C.
CHECKED JCB
PROJ. ENGR. JMB

JOHN C. BURKE P.E.
No. 17301

HAZEN AND SAWYER
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Hollywood, Florida 33021
Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E02

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
GENERAL NOTES AND SPECIFICATIONS

DATE: JULY 2015
SHEET: 58 OF 69
DRAWING: E-02

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS
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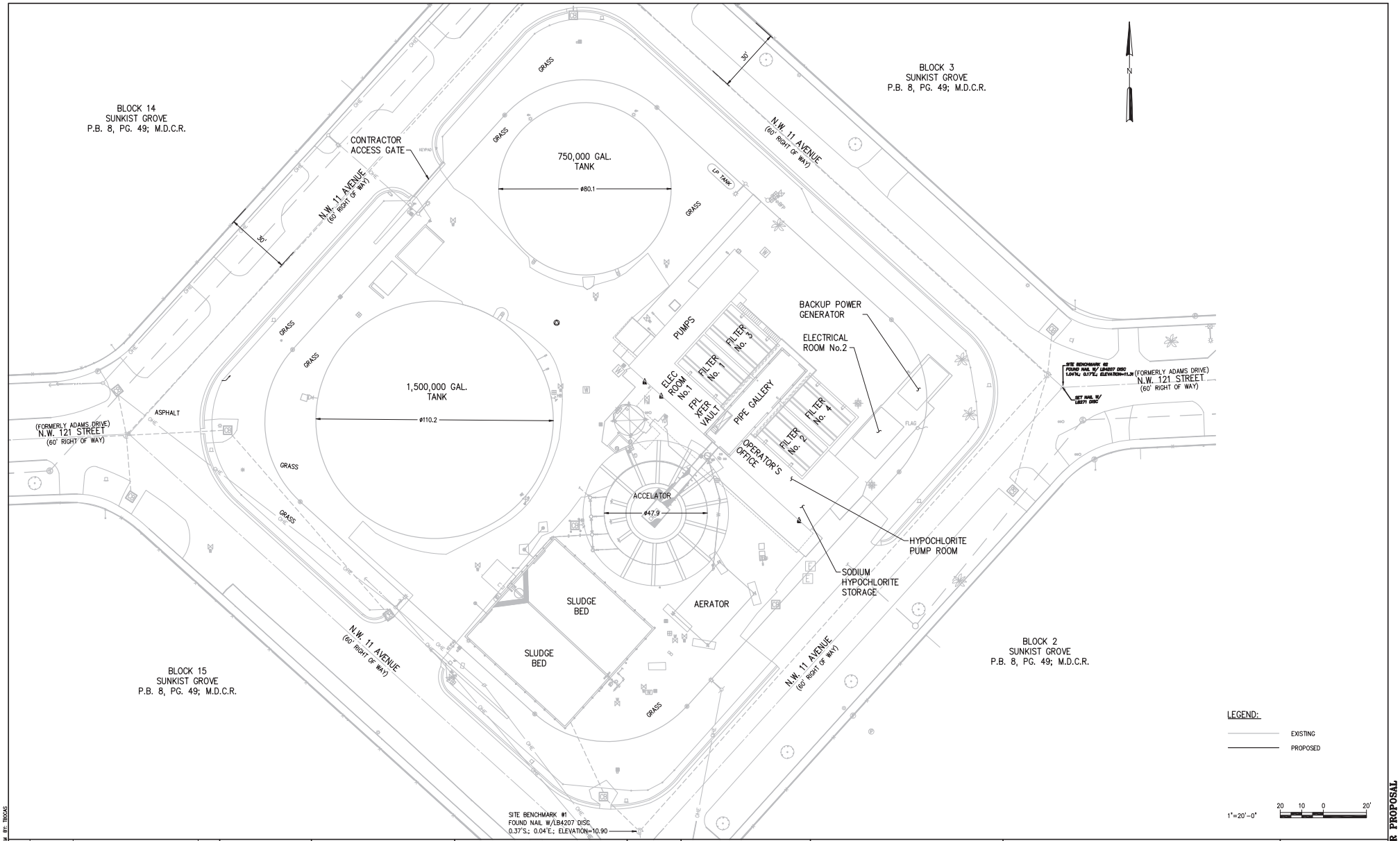

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN A.B.C.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

JOHN C. BURKE P.E.
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SCALE 1"=20'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E03

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL SITE PLAN

DATE: JULY 2015
SHEET: 59 OF 69
DRAWING: E-03

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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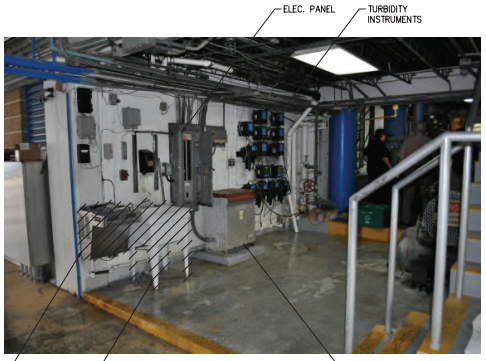

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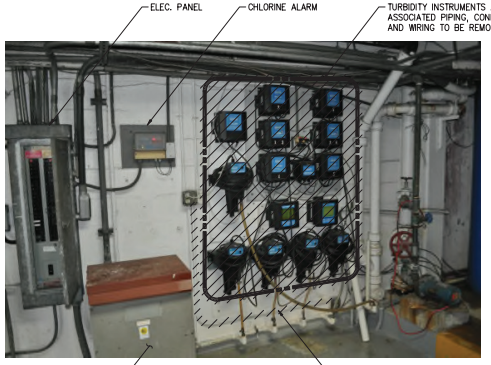

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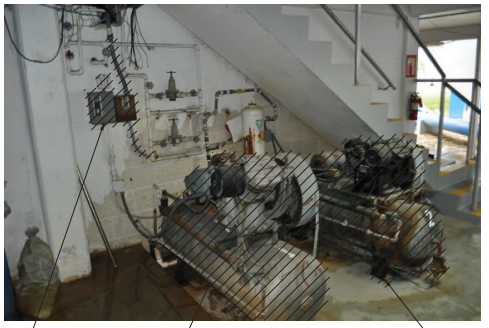

PHOTO 3

PHOTO 4

LEGEND:

TO BE REMOVED

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN N.E.P.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

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SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E04

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL DEMOLITION

DATE: JULY 2015
SHEET: 60 OF 69
DRAWING: E-04

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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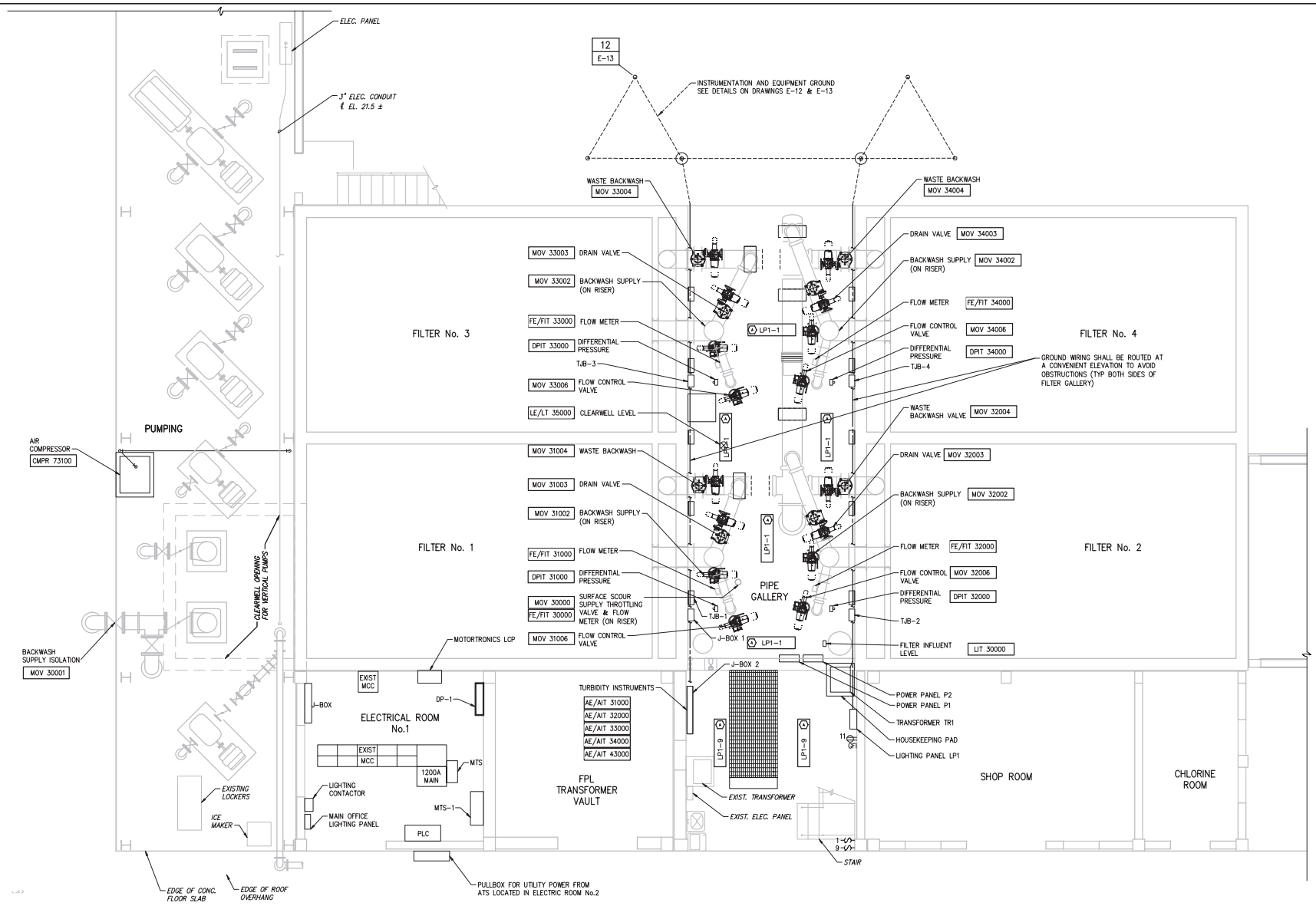

NOTES:

1. A MINIMUM OF 7 TYPE "A" FIXTURES SHALL BE PROVIDED FOR THE PIPE GALLERY. THESE FIXTURES SHALL BE LOCATED AND INSTALLED AFTER PIPING, VALVES, AND MOTOR OPERATORS HAVE BEEN INSTALLED. INDICATED LOCATIONS ARE PRELIMINARY SUGGESTIONS.
2. A MINIMUM OF 2 TYPE "A" FIXTURES SHALL BE PROVIDED IN THE ENTRANCE TO THE PIPE GALLERY. THESE FIXTURES SHALL BE LOCATED AND INSTALLED AFTER OTHER WORK IN AREA IS INSTALLED.
3. GROUND WIRING IN THE PIPE GALLERY SHALL HAVE VERTICAL TAP EXTENSIONS AS REQUIRED TO GROUND ALL MOV's, INSTRUMENTS AND OTHER ELECTRICAL EQUIPMENT.
4. A GROUND WIRING TAP SHALL EXTEND UPSTAIRS TO THE NEW LOCAL CONTROL PANEL.
5. FILTER LEVEL TRANSMITTERS GROUNDING SHALL EXTEND TO MAIN GROUNDING SYSTEM.
6. ON THE PIPE GALLERY EAST WALL ADD ONE CONVENIENCE RECEPTACLE WITH FULL TIME USE COVER ADJACENT TO EXHAUST FAN DISCONNECT. POWER FROM LP1 CIRCUIT #3.
7.

LEGEND:

EXISTING
PROPOSED

MTS MANUAL TRANSFER SWITCHES
MTS-1 USED AS A DISCONNECT SWITCH
TJB-x MOV AND INSTRUMENTATION SIGNALS ASSOCIATED WITH ADJACENT FILTER SHALL BE ROUTED THROUGH JUNCTION BOX TO PLC ON UPPER FLOOR
DP-1 EXISTING 480V, 3PH, 600A DISTRIBUTION PANELBOARD SEE CHANGE DETAILS ON DWG. E-09.

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN A.B.C.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

JOHN C. BURKE P.E.
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SCALE 1/4"=1'-0"

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E05

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL PLAN
PIPE GALLERY
LOWER PLAN

DATE: JULY 2015
SHEET: 61 OF 69
DRAWING: E-05

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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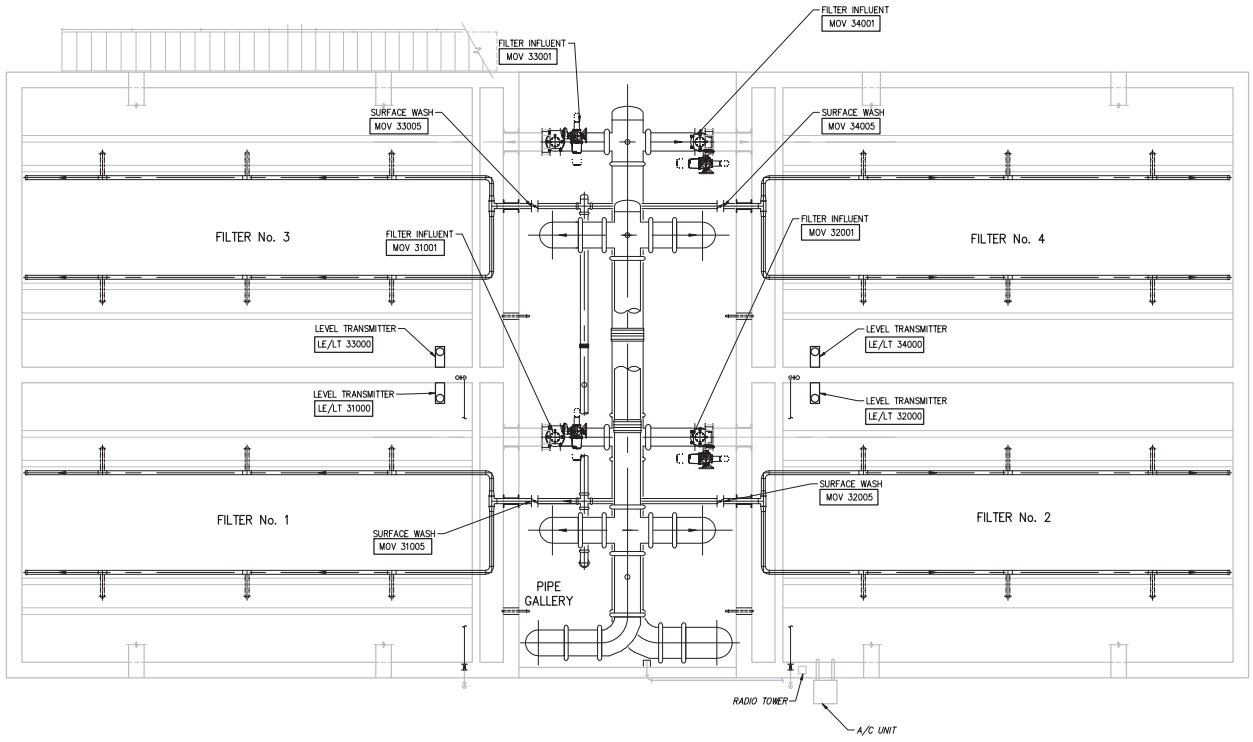

LEGEND:

EXISTING

PROPOSED

1/4"=1'-0"

1 0 1 2 3 7'

REQUEST FOR PROPOSAL

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN L.M.S.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

JOHN C. BURKE P.E.
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SCALE 1/4"=1'-0"

CLIENTS PROJECT: –

ENGINEERS PROJECT: 44238-004

CAD REFERENCE: 44238-004BP1-E06

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL PLAN
PIPE GALLERY
UPPER PLAN

DATE: JULY 2015
SHEET: 62 OF 69
DRAWING: E-06

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

XREFs= ..\Tblock\44238-004-BP1-TB,..\Base-BP1\M-BP1-Filters-Plan-Upper-X,..\Base-BP1\S-BP1-Filters-Plan-Intermediate-X,..\Base-BP1\M-BP1-Filters-Plan-Upper,..\Base-BP1\E-BP1-Filters-Plan-Upper

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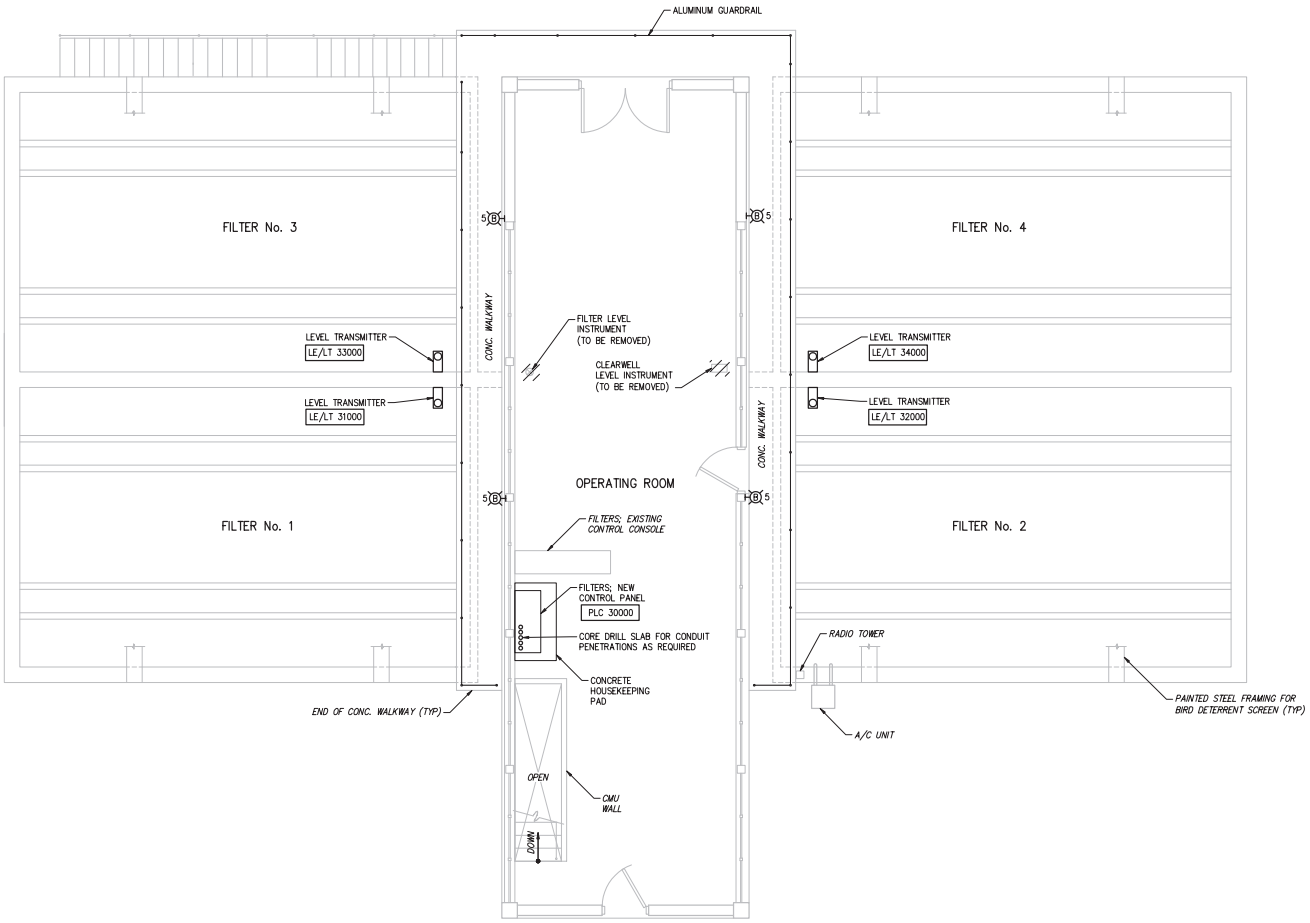

NOTE:
CONTRACTOR MAY SAW CUT OR CORE DRILL OPENINGS FOR EACH CONDUIT TO FACILITATE EASE OF SEALING EACH PENETRATION. NOTE THAT ALL PENETRATIONS SHALL BE SEALED WITH A 2-HOUR RATED SEALING COMPOUND.

LEGEND:

EXISTING

PROPOSED

TO BE REMOVED

1/4"=1'-0"

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN L.M.S.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

JOHN C. BURKE P.E.
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SCALE 1/4"=1'-0"

CLIENTS PROJECT: –

ENGINEERS PROJECT: 44238-004

CAD REFERENCE: 44238-004BP1-E07

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT

RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

ELECTRICAL PLAN SECOND FLOOR

DATE: JULY 2015
SHEET: 63 OF 69
DRAWING: E-07

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:10 AM BY: TBOCAS

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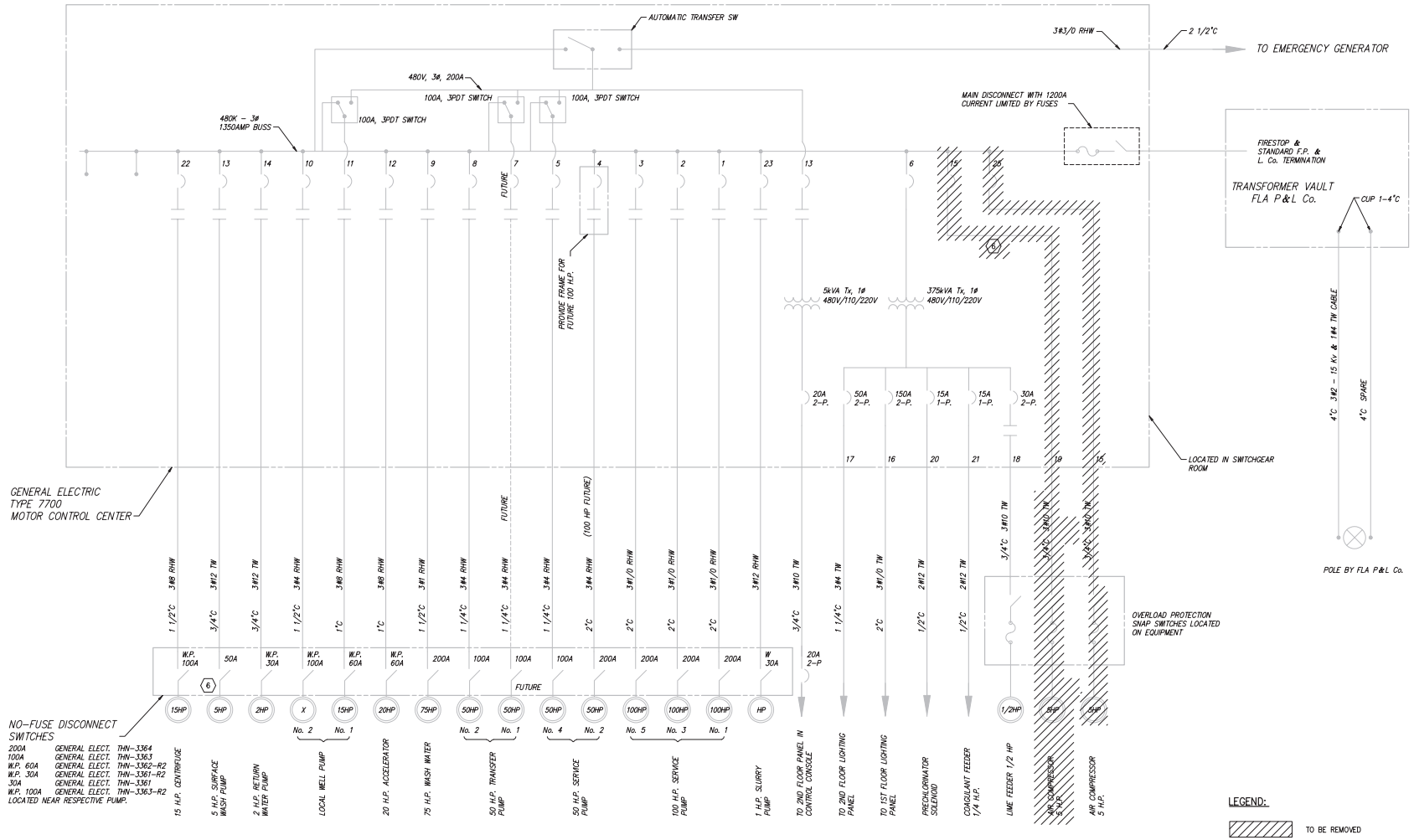

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN L.M.S.
CHECKED J.C.B.
PROJ. ENGR. J.C.B.

JOHN C. BURKE P.E.
No. 17301

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Certificate of Authorization Number: 2771

SCALE NTS

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E08

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
EXISTING SINGLE LINE DIAGRAM

DATE: JULY 2015
SHEET: 64 OF 69
DRAWING: E-08

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:11 AM BY: TBOCAS
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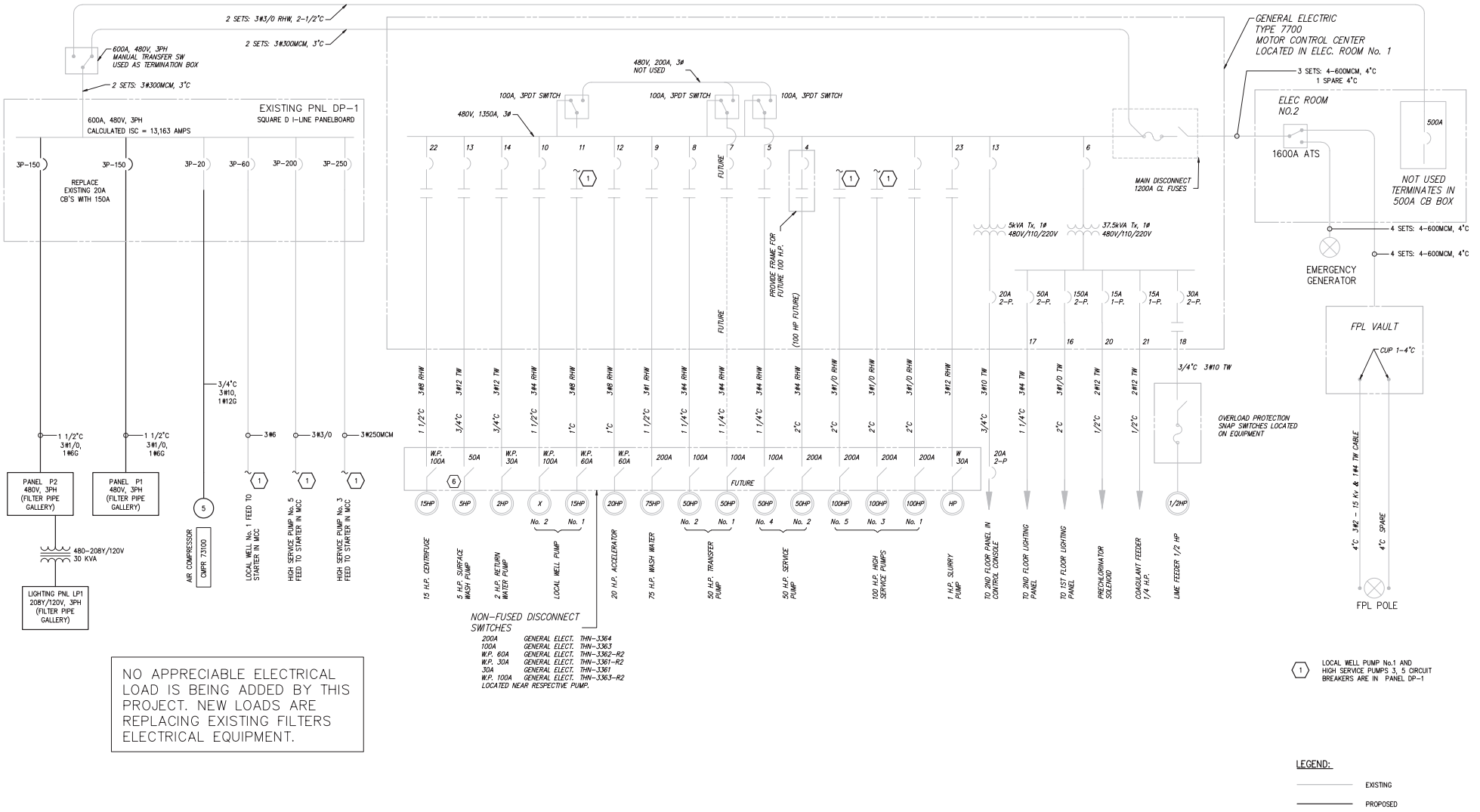

NO.	DATE	ISSUED FOR	BY
1	07/24/15	REQUEST FOR PROPOSAL	G.A.B.

DESIGNED J.M.B.
DRAWN L.M.S.
CHECKED J.C.B.
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SCALE: NTS

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E09

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
PROPOSED SINGLE LINE DIAGRAM

DATE: JULY 2015
SHEET: 65 OF 69
DRAWING: E-09

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:11 AM BY: TBOCAS
XREFs= ..\Tblock\44238-004-BP1-TB
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CONTROL CABLE AND CONDUIT SCHEDULE

CONDUIT	SIZE	FROM	TO	CABLE	REMARKS
C-101	3"	PLC 30000	J-BOX 1	5 MSC	JUNCTION BOX NO. 1 (DEVICENET COMMUNICATION)
	1"	PLC 30000	TJB1	5#16 TSP	TERMINAL JUNCTION BOX NO. 2 (4-20 MA SIGNAL)
C-110	3/4"	TJB1	FE/FIT 31000	1#16 TSP	FILTER NO. 1 EFFLUENT FLOW METER (4-20 MA SIGNAL)
C-111	3/4"	TJB1	DPIT 31000	1#16 TSP	FILTER NO. 1 DIFFERENTIAL PRESSURE TRANSMITTER
C-112	3/4"	TJB1	LE/LT 35000	1#16 TSP	CLEARWELL LEVEL TRANSMITTER
C-113	3/4"	TJB1	FE/FIT 30000	1#16 TSP	SURFACE SCOUR SUPPLY FLOW
C-115	1"	PLC 30000	TJB2	3#16 TSP	TERMINAL JUNCTION BOX NO. 2 (4-20 MA SIGNAL)
C-122	3/4"	TJB2	FE/FIT 32000	1#16 TSP	FILTER NO. 2 EFFLUENT FLOW METER
C-123	3/4"	TJB2	DPIT 32000	1#16 TSP	FILTER NO. 2 DIFFERENTIAL PRESSURE TRANSMITTER
C-125	1"	PLC 30000	TJB3	3#16 TSP	TERMINAL JUNCTION BOX NO. 3 (4-20 MA SIGNAL)
C-132	3/4"	TJB3	FE/FIT 33000	1#16 TSP	FILTER NO. 3 EFFLUENT FLOW METER
C-133	3/4"	TJB3	DPIT 33000	1#16 TSP	FILTER NO. 3 DIFFERENTIAL PRESSURE TRANSMITTER
C-135	1"	PLC 30000	TJB4	3#16 TSP	TERMINAL JUNCTION BOX NO. 4 (4-20 MA SIGNAL)
C-142	3/4"	TJB4	FE/FIT 34000	1#16 TSP	FILTER NO. 4 EFFLUENT FLOW METER
C-143	3/4"	TJB4	DPIT 34000	1#16 TSP	FILTER NO. 4 DIFFERENTIAL PRESSURE TRANSMITTER
C-145	1-1/4"	PLC 30000	J-BOX 2	6#16 TSP	
C-146	3/4"	J-BOX 2	AE/AIT 31000	1#16 TSP	FILTER NO. 1 TURBIDIMETER
C-147	3/4"	J-BOX 2	AE/AIT 32000	1#16 TSP	FILTER NO. 2 TURBIDIMETER
C-148	3/4"	J-BOX 2	AE/AIT 33000	1#16 TSP	FILTER NO. 3 TURBIDIMETER
C-149	3/4"	J-BOX 2	AE/AIT 34000	1#16 TSP	FILTER NO. 4 TURBIDIMETER
C-150	3/4"	J-BOX 2	AE/AIT 43000	1#16 TSP	FINISHED WATER TURBIDIMETER
C-151	3/4"	PLC 30000	LE/LT 31000	1#16 TSP	FILTER NO. 1 LEVEL TRANSMITTER
C-152	3/4"	PLC 30000	LE/LT 33000	1#16 TSP	FILTER NO. 3 LEVEL TRANSMITTER
C-153	3/4"	PLC 30000	LE/LT 32000	1#16 TSP	FILTER NO. 2 LEVEL TRANSMITTER
C-154	3/4"	PLC 30000	LE/LT 34000	1#16 TSP	FILTER NO. 4 LEVEL TRANSMITTER
C-155	3/4"	PLC 30000	LIT 30000	1#16 TSP	FILTER INFLUENT LEVEL TRANSMITTER

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CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E10

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

CONDUIT AND WIRE SCHEDULES

DATE: JULY 2015
SHEET: 66 OF 69
DRAWING: E-10

REQUEST FOR PROPOSAL

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PANEL LP1																
225A,208Y/120V,3PH,4W		VA LOAD			WIRE/CONDUIT	C.B.			C.B.		WIRE/CONDUIT	VA LOAD			MAIN LUGS	
NO.	USE	A	B	C	QTY SIZE	TRIP	POLE		POLE	TRIP	QTY SIZE	A	B	C	USE	NO.
1	PIPE GALLERY LIGHTING	700			2#12,1#12G,3/4C	20	1		1	20	2#12,1#12G,3/4C	180			FIT 31000	2
3	RECEPTACLES		720		2#12,1#12G,3/4C	20	1		1	20	2#12,1#12G,3/4C		180		FIT 32000	4
5	FILTERS-WALL PACKS			200	2#12,1#12G,3/4C	20	1		1	20	2#12,1#12G,3/4C			180	FIT 33000	6
7	VENTILATOR	720			2#12,1#12G,3/4C	20	1		1	20	2#12,1#12G,3/4C	180			FIT 34000	8
9	PIPE GALLERY LIGHTING		200		2#12,1#12G,3/4C	20	1		1	20			180		AE/AIT 31000	10
11	RECEPTACLES			360	2#12,1#12G,3/4C	20	1		1	20	2#12,1#12G,3/4C			180	AE/AIT 32000	12
13	SPARE	360				20	1		1	20		180			AE/AIT 33000	14
15	SPARE		2000			20	1		1	20	2#12,1#12G,3/4C		180		AE/AIT 34000	16
17	SPARE			180		20	1		1	20				180	AE/AIT 43000	18
19	SPARE	180				20	1		1	20		180			SPARE	20
21	SPARE		180			20	1		1	20			180		SPARE	22
23	SPARE			180		20	1		1	20				180	SPARE	24
25	SPARE	180				20	1		1	20		180			SPARE	26
27	SPARE		180			20	1		1	20			180		SPARE	28
29	SPARE			180		20	1		1	20				180	SPARE	30
31	SPARE	180				20	1		1	20		180			SPARE	32
33	SPARE		180			20	1		1	20			180		SPARE	34
35	SPARE			180		20	1		1	20				180	SPARE	36
37	SPARE	180				20	1		1	20		180			SPARE	38
39	SPARE		180			20	1		1	20			180		SPARE	40
41	SPARE			180		20	1		1	20				180	SPARE	42
		2320	3280	1100								1080	900	900		
		0	0	0							TOTAL DEMAND LOAD	3400	4180	2000	9580	

PANEL P1																
225A, 480V, 3PH, 3W		VA LOAD			WIRE/CONDUIT	C.B.			C.B.		WIRE/CONDUIT	VA LOAD			MAIN LUGS	
NO.	USE	A	B	C	QTY SIZE	TRIP	POLE		POLE	TRIP	QTY SIZE	A	B	C	NEMA 4X WALL MOUNT	
															USE	NO.
1	MOV 31001 FILTER 1 INFLUENT	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33001 FILTER 3 INFLUENT	2
3			1400										1400			4
5				1400										1400		6
7	MOV 31002 FILTER 1 BACKWASH SUPPLY	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33002 FILTER 3 BACKWASH SUPPLY	8
9			1400										1400			10
11				1400										1400		12
13	MOV 31003 FILTER 1 DRAIN	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33003 FILTER 3 DRAIN	14
15			1400										1400			16
17				1400										1400		18
19	MOV 31004 FILTER 1 WASTE BACKWASH	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33004 FILTER 3 WASTE BACKWASH	20
21			1400										1400			22
23				1400										1400		24
25	MOV 31005 FILTER 1 SURFACE WASH	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33005 FILTER 3 SURFACE WASH	26
27			1400										1400			28
29				1400										1400		30
31	MOV 31006 FILTER 1 FLOW CONTROL	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 33006 FILTER 3 FLOW CONTROL	32
33			1400										1400			34
35				1400										1400		36
37	MOV 30000 SURFACE SCOUR THROTTLING	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 30001 BACKWASH PUMP DISCH	38
39			1400										1400			40
41				1400										1400		42
		9800	9800	9800								9800	9800	9800		
		0	0	0							TOTAL DEMAND	19600	19600	19600	58800	

PANEL P2																
225A, 480V, 3PH, 3W		VA LOAD			WIRE/CONDUIT	C.B.			C.B.		WIRE/CONDUIT	VA LOAD			MAIN LUGS	
NO.	USE	A	B	C	QTY SIZE	TRIP	POLE		POLE	TRIP	QTY SIZE	A	B	C	NEMA 4X WALL MOUNT	
															USE	NO.
1	MOV 32001 FILTER 2 INFLUENT	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34001 FILTER 4 INFLUENT	2
3			1400										1400			4
5				1400										1400		6
7	MOV 32002 FILTER 2 BACKWASH SUPPLY	2000			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34002 FILTER 4 BACKWASH SUPPLY	8
9			2000										1400			10
11				2000										1400		12
13	MOV 32003 FILTER 2 DRAIN	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34003 FILTER 4 DRAIN	14
15			1400										1400			16
17				1400										1400		18
19	MOV 32004 FILTER 2 WASTE BACKWASH	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34004 FILTER 4 WASTE BACKWASH	20
21			1400	1400									1400			22
23				1400										1400		24
25	MOV 32005 FILTER 2 SURFACE WASH	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34005 FILTER 4 SURFACE WASH	26
27			1400										1400			28
29				1400										1400		30
31	MOV 32006 FILTER 2 FLOW CONTROL	1400			3#12,1#12G,3/4C	20	3		3	20	3#12,1#12G,3/4C	1400			MOV 34006 FILTER 4 FLOW CONTROL	32
33			1400										1400			34
35				1400										1400		36
37	SPARE	1400				20	3		3	20	3#8,1#10G,1C	6000			30kVA LIGHTING TRANSFORMER	38
39			1400										6000			40
41				1400										6000		42
		10400	10400	11800								14400	14400	14400		
		0	0	0							TOTAL DEMAND	24800	24800	26200	75800	

FIXTURE SCHEDULE					
ID	DESCRIPTION	ORIENTATION	VOLTAGE	INST HARDWARE	MFG
A	48" INDUSTRIAL FLUORESCENT FIXTURE WITH ENCLOSED AND GASKETED NON-METALIC ENCLOSURE; 2-32W, T8 LAMP	CEILING, PENDANT, CHAIN, OR WALL MOUNTED	120V	BRACKETS, HANGERS AND ANCHORS SHALL BE STAINLESS STEEL	HUBBELL LIGHTING, INC LUN SERIES OR EQUAL
B	WALL PACK 175W METAL HALIDE FIXTURES WITH INTEGRAL PC CONTROL	WALL MOUNTED	120V	BRACKETS, HANGERS AND ANCHORS SHALL BE STAINLESS STEEL	HUBBELL LIGHTING, INC S9-42F OR EQUAL

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WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB

PANEL AND FIXTURE SCHEDULES

DATE: JULY 2015
SHEET: 67 OF 69
DRAWING: E-11

REQUEST FOR PROPOSAL

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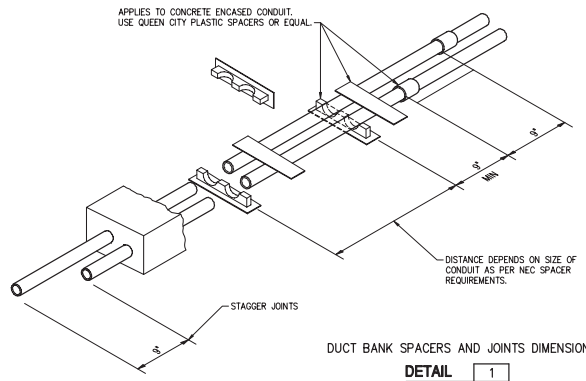
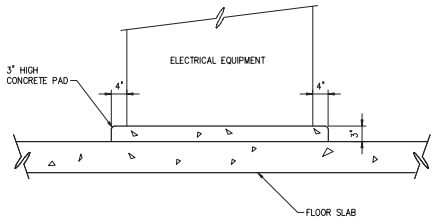
Addendum No. 1, RFP No. 45-08-15 Winson Water Treatment Plant Reliability Improvements



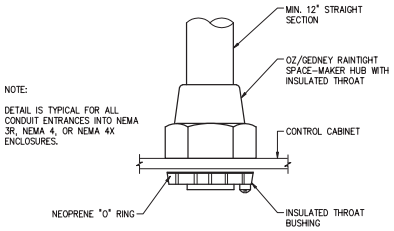
DUCT BANK SPACERS AND JOINTS DIMENSIONS

DETAIL 1 | NTS | STD



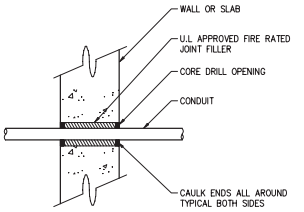
EQUIPMENT HOUSEKEEPING PAD

DETAIL 2 | NTS | STD



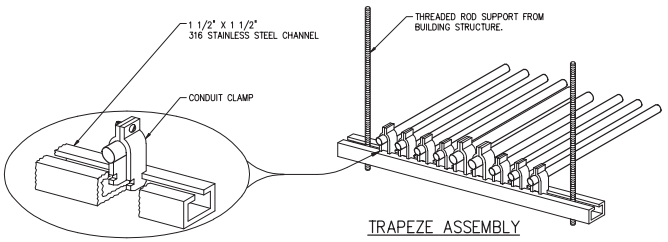
CONDUIT HUB

DETAIL 3 | NTS | STD

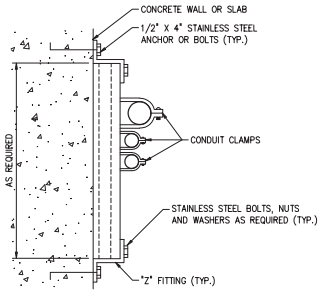


CONDUIT PENETRATION AT WALL OR SLAB

DETAIL 4 | NTS | STD



CONDUIT PIPE STRAP MOUNTING DETAILS

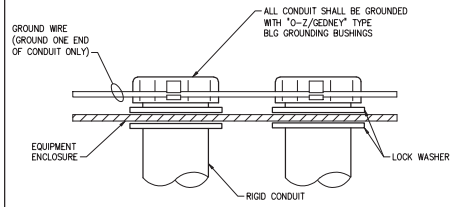


NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. CHANNEL AND ALL SUPPORT DEVICES TO BE 316 STAINLESS STEEL. FIELD DRESS ALL CUTS.
3. CHANNELS TO BE SPACED 5' MAXIMUM.

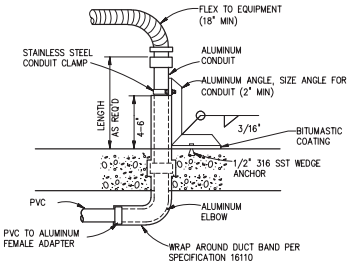
CONDUIT SUPPORTS

DETAIL 5 | NTS | STD

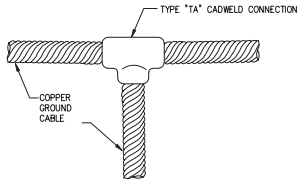


CONDUIT GROUNDING

DETAIL 6 | NTS | STD

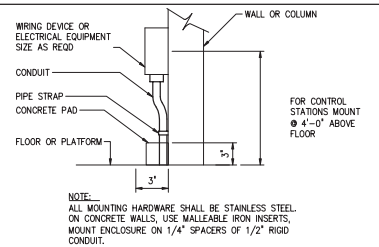


DETAIL 7 | NTS | STD



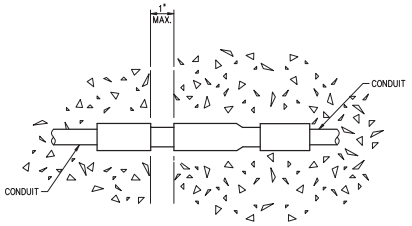
GROUND CABLE CONNECTION

DETAIL 8 | NTS | STD



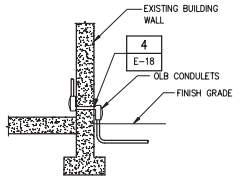
WALL OR COLUMN MOUNTRD DEVICE

DETAIL 9 | NTS | STD



EXPANSION COUPLING

DETAIL 10 | NTS | STD



CONDUIT WALL PENETRATION

DETAIL 11 | NTS | STD

REQUEST FOR PROPOSAL

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WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
MISCELLANEOUS ELECTRICAL STANDARD DETAILS SHEET 1

DATE: JULY 2015
SHEET: 66 OF 69
DRAWING: E-12

PLOT DATE: 7/24/2015 9:11 AM BY: TBOCAS

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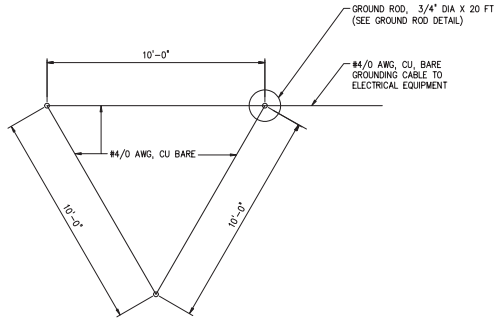
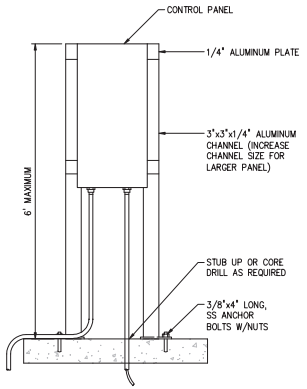


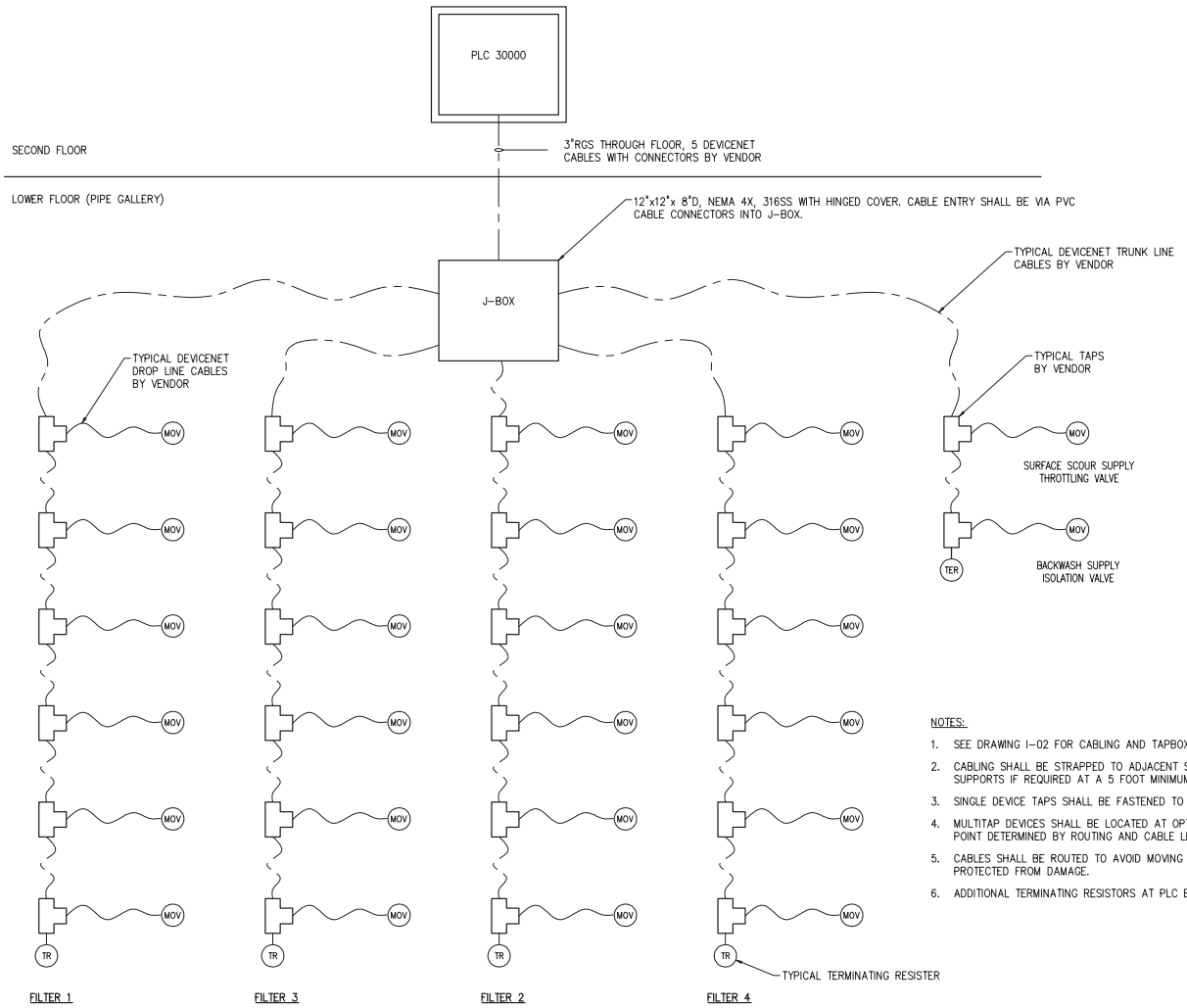
GROUNDING DELTA LAYOUT

DETAIL	12
NTS	STD



DISCONNECT OR PANEL ON PEDESTAL

DETAIL	13
NTS	E-13



NOTES:

1. SEE DRAWING I-02 FOR CABLING AND TAPBOX DETAILS
2. CABLING SHALL BE STRAPPED TO ADJACENT SUPPORTS OR NEW SUPPORTS IF REQUIRED AT A 5 FOOT MINIMUM SPACING.
3. SINGLE DEVICE TAPS SHALL BE FASTENED TO ASSOCIATED DEVICE.
4. MULTITAP DEVICES SHALL BE LOCATED AT OPTIMUM INSTALLATION POINT DETERMINED BY ROUTING AND CABLE LENGTH LIMITATIONS.
5. CABLES SHALL BE ROUTED TO AVOID MOVING PARTS AND BE PROTECTED FROM DAMAGE.
6. ADDITIONAL TERMINATING RESISTORS AT PLC END NOT SHOWN.

FILTERS VALVES MOTOR ACTUATORS
CONTROL CABLING RISER

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Certificate of Authorization Number: 2771

SCALE N.T.S.

CLIENTS PROJECT: –
ENGINEERS PROJECT: 44238-004
CAD REFERENCE: 44238-004BP1-E13

CITY OF NORTH MIAMI
PUBLIC WORKS UTILITIES

WINSON WATER TREATMENT PLANT
RELIABILITY IMPROVEMENTS – VOLUME A: FILTER REHAB
MISCELLANEOUS ELECTRICAL STANDARD DETAILS
SHEET 2

DATE: JULY 2015
SHEET: 69 OF 69
DRAWING: E-13

REQUEST FOR PROPOSAL

PLOT DATE: 7/24/2015 9:11 AM BY: TBOCAS
XREFs= -\Tblock\44238-004-BP1-TB
File = H:\44238-004\Drawings\design build package\volume a - filter rehab\bid package 1 - filter rehab\Dec\44238-004BP1-E13 Saved by tbocas Save date = 7/22/2015 1:23 PM