

November 18, 2016

BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA

ADDENDUM NO. 4 / IFB NO. Y17-711-PH

SOUTH WATER RECLAMATION FACILITY FATS OILS AND GREASE (FOG)
AND SEPTAGE RECEIVING STATION

BID OPENING DATE: December 6, 2016

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. Additions are indicated by underlining, deletions are indicated by ~~striketrough~~.

A. BIDDER QUESTIONS

1. Q. Please provide specifications and sizes for the carbon canisters.

A. Each carbon canister shall be rated for 200cfm each and shall meet specifications of the manufacturer on Drawing M07, model VBPE-200-T or equal.

2. Q. Please provide specifications/sizes/performance requirements for the accompanying fans.

A. See answer to question 1.

3. Q. The geotech report calls for an over excavation of three feet under all footers. Is this applicable for the entirety of this project including the areas of concrete paving?

A. Over excavation is necessary under the footings and slabs-on-grade at the metal building. Over excavation is not needed at the concrete paving.

4. Q. Details on the reclaimed water line seem to vary between pages (M01 & C04), can you confirm the pipe sizes and valving requirements. Additionally, is encasement required for this line?

A. See revised drawings M01 attached.

**ORANGE COUNTY UTILITIES
SWRF FOG & SEPTAGE RECEIVING STATIONS
Issued for Bid**

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APPENDICES

Appendix A Geotechnical Reports

- Jammal & Associates, Inc., “Foundation Soil Investigation – Phase III Expansion, Sand Lake Road Regional WWTF”, dated September 1987. Refer to BH4 and BH5 only.

Appendix B Forms

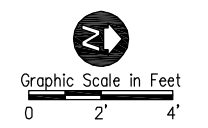
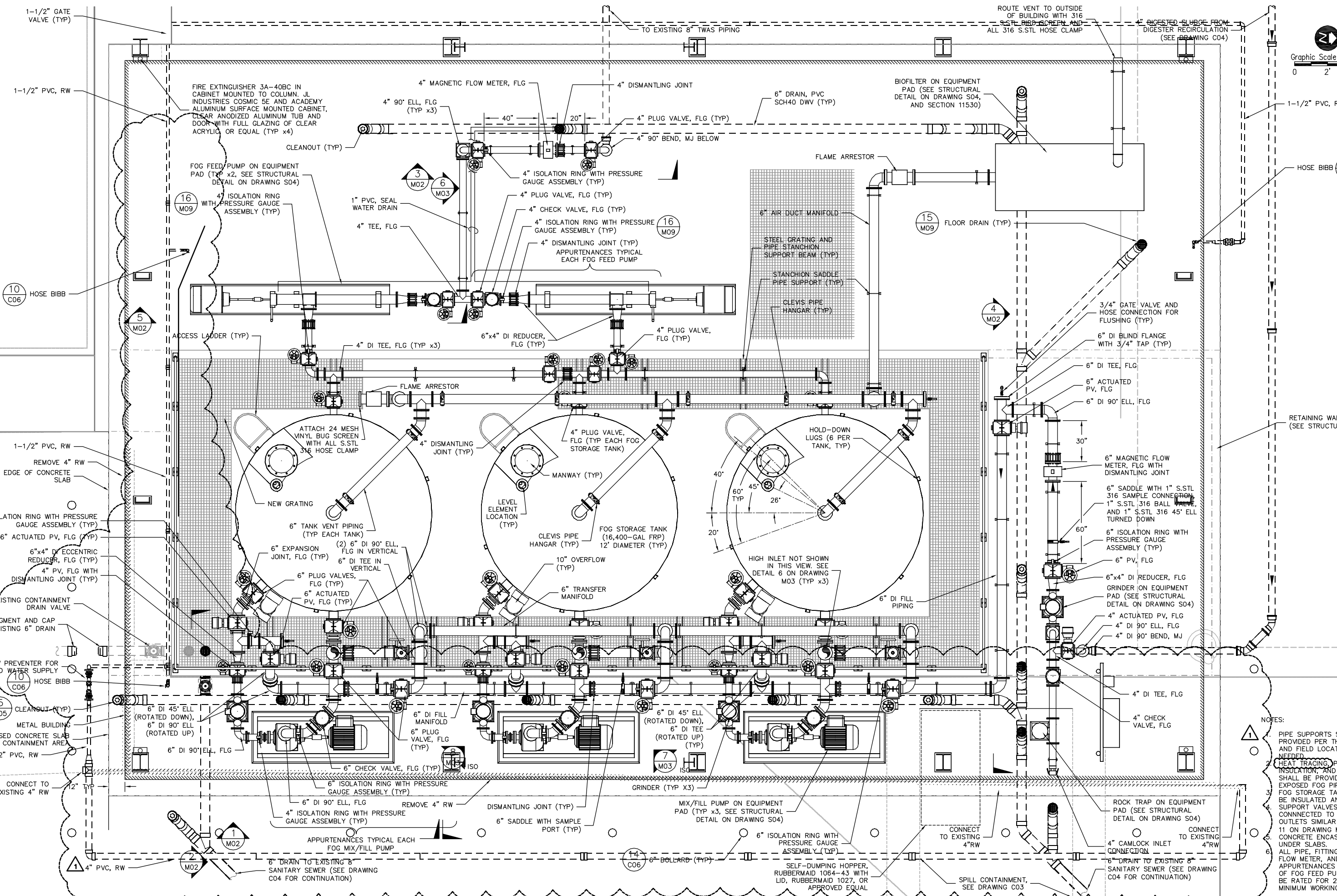
- Pressure Test
- Pump Station Start-Up

Appendix C Permits Obtained by the County

- FDEP Permit for Minor Revision to a Wastewater Facility or Activity Permit
- FDEP Environmental Resource Permit
- Orange County Building Permit Review

Appendix D List of Approved Products

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- NOTES:
- PIPE SUPPORTS SHALL BE PROVIDED PER THE PLANS AND FIELD LOCATED AS NEEDED.
 - HEAT TRACING PIPE INSULATION AND JACKETING SHALL BE PROVIDED ON ALL EXPOSED FOG PIPING.
 - FOG STORAGE TANKS SHALL BE INSULATED AND COATED. SUPPORT VALVES CONNECTED TO TANK OUTLETS SIMILAR TO DETAIL 11 ON DRAWING M09.
 - CONCRETE ENCASE PIPING UNDER SLABS.
 - ALL PIPE, FITTINGS, VALVES, FLOW METER, AND OTHER APPURTENANCES DOWNSTREAM OF FOG FEED PUMPS SHALL BE RATED FOR 250 PSI MINIMUM WORKING PRESSURE.



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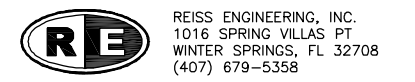
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 Curtis I. Kunihiro, P.E.
 Florida P.E. No. 33688
 Reiss Engineering, Inc.
 Certificate of Authorization No. 8181
 1016 Spring Villas Pt.
 Winter Springs, FL 32708

Designed: CLK
 Drawn: RLL
 Checked: DNN
 Reviewed: MKW
 Approved: CLK

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS

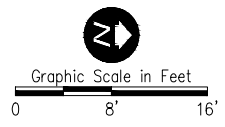
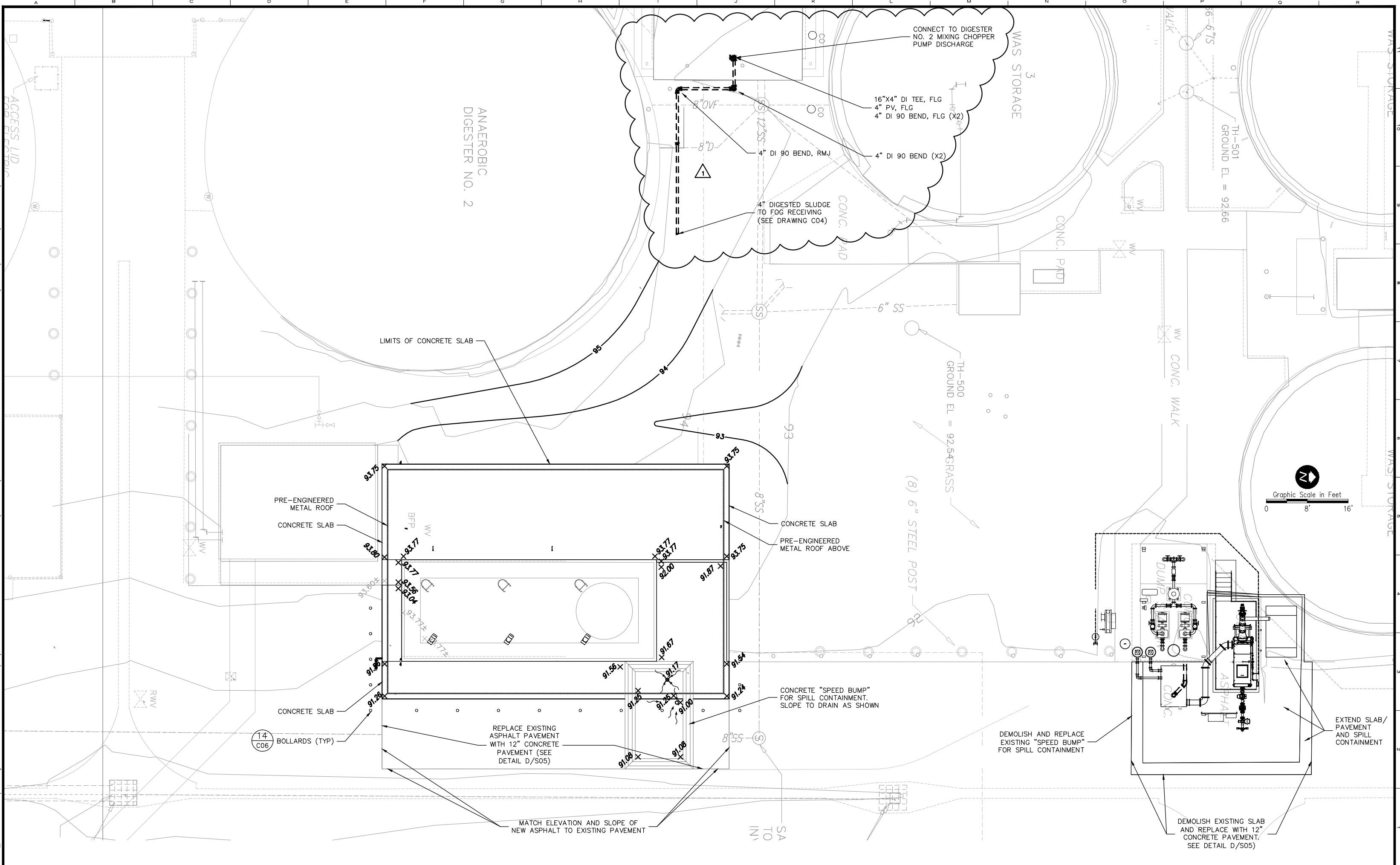
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DRAWING NO.:	M01
SHEET NO.:	17 OF 48



REISS ENGINEERING, INC.
 1016 SPRING VILLAS PT.
 WINTER SPRINGS, FL 32708
 (407) 679-5358

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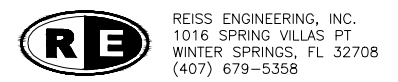
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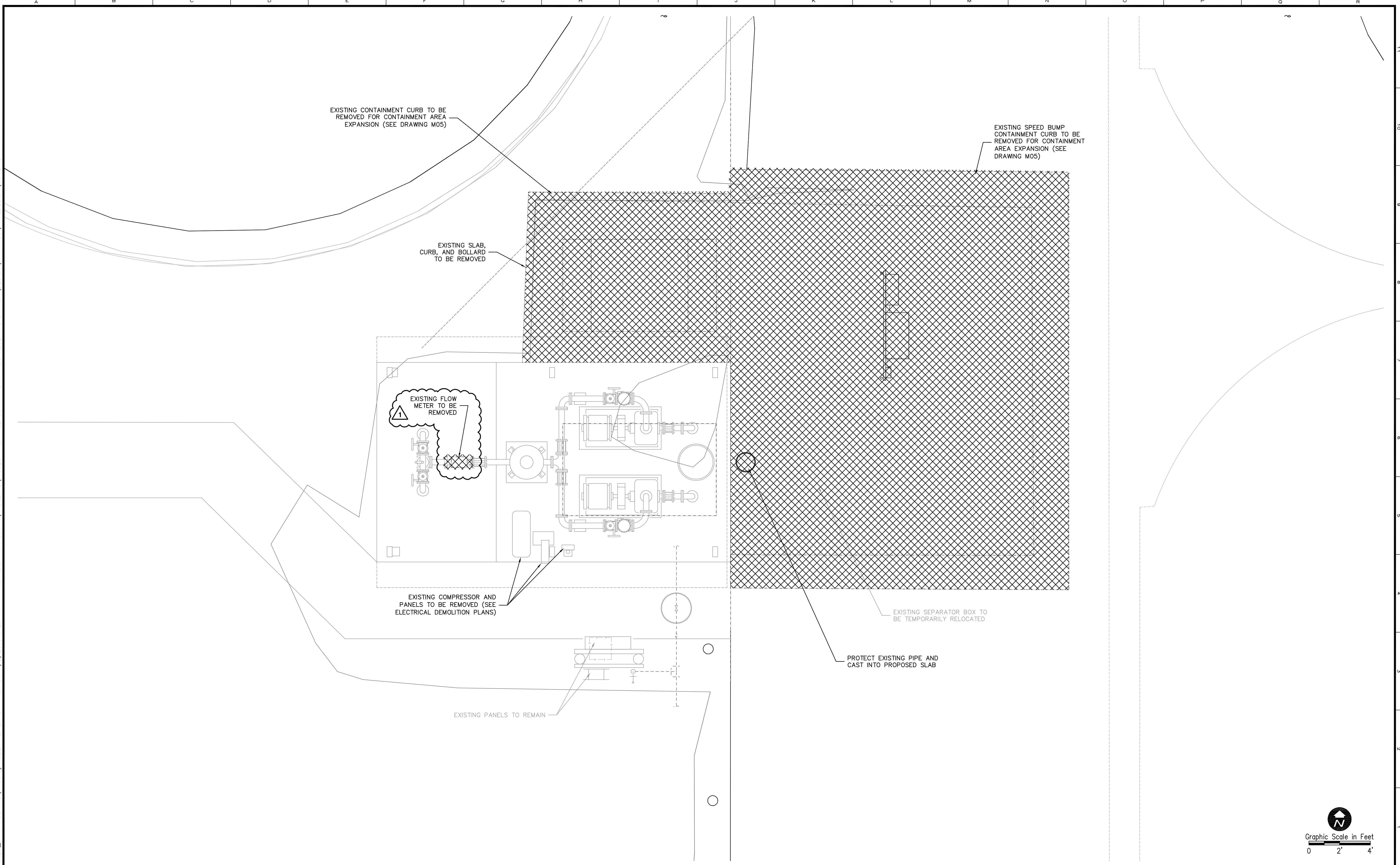
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 Drawn RLL
 Checked DNN
 Reviewed MKW
 Approved CLK

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 CIVIL
 SITE PLAN AND PAVING & GRADING

PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 1
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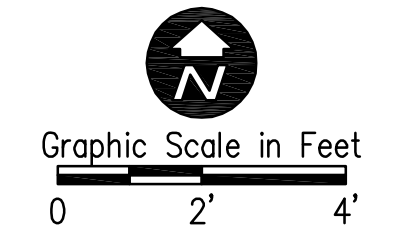
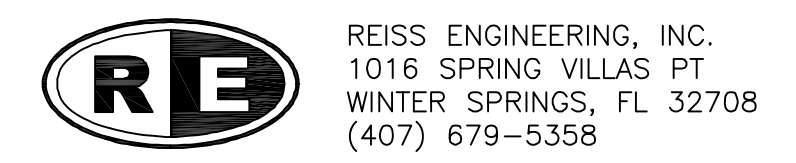
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1	11/4/16	ADDENDUM	RLL

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 Curtis I. Kunihiro, P.E.
 Florida P.E. No. 33688
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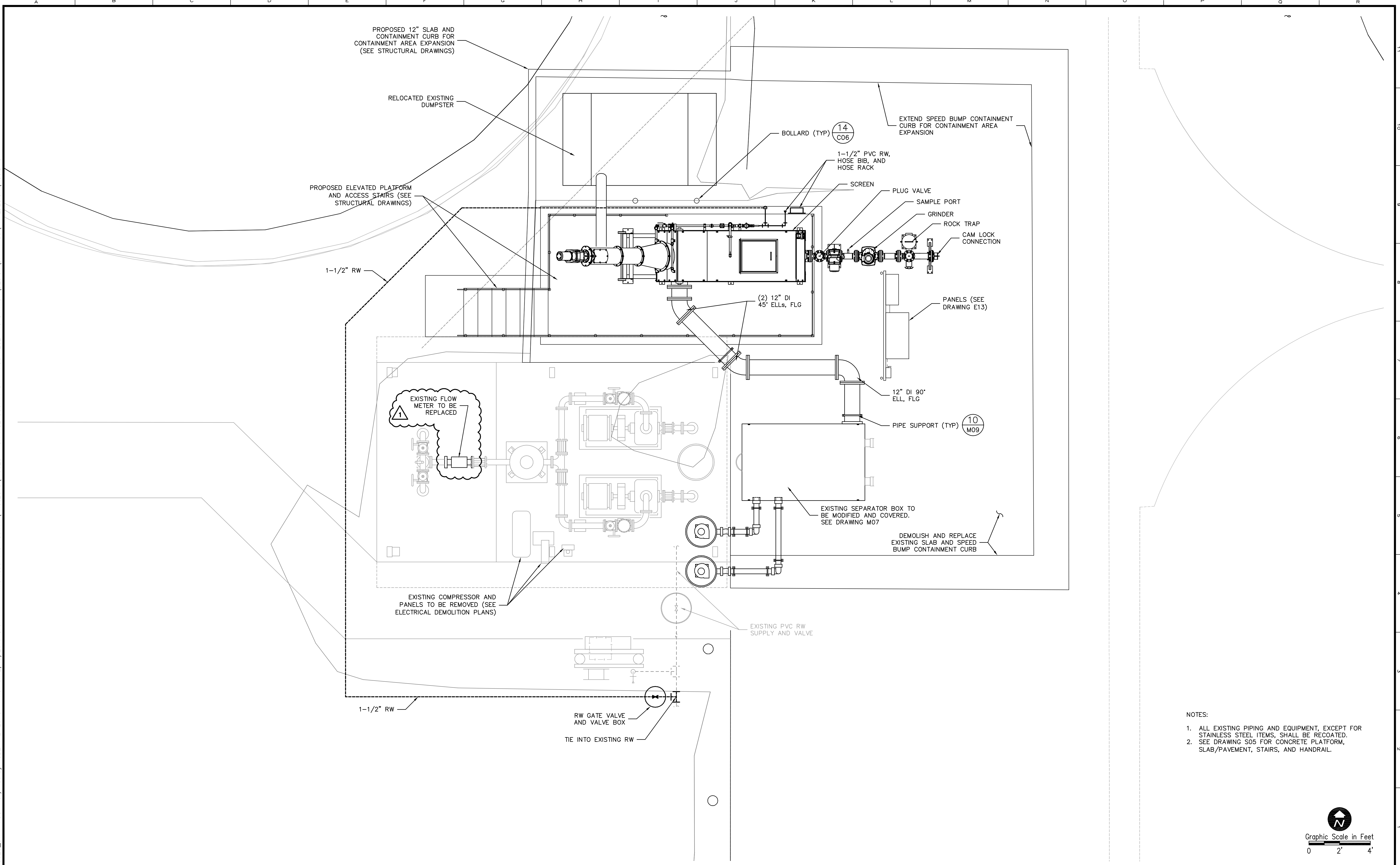
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ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 MECHANICAL
 EXISTING SEPTAGE RECEIVING STATION AND DEMOLITION

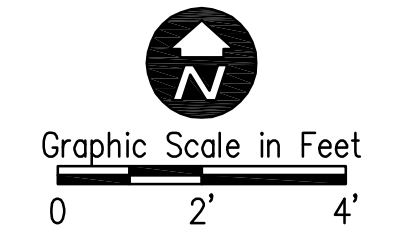
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- NOTES:
1. ALL EXISTING PIPING AND EQUIPMENT, EXCEPT FOR STAINLESS STEEL ITEMS, SHALL BE RECOATED.
 2. SEE DRAWING S05 FOR CONCRETE PLATFORM, SLAB/PAVEMENT, STAIRS, AND HANDRAIL.



REV	DATE	DESCRIPTION	BY
0	9/2016	ISSUED FOR BID	RLL
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 Reviewed_MKW
 Approved_CIK

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 MECHANICAL
 SEPTAGE RECEIVING STATION PLAN

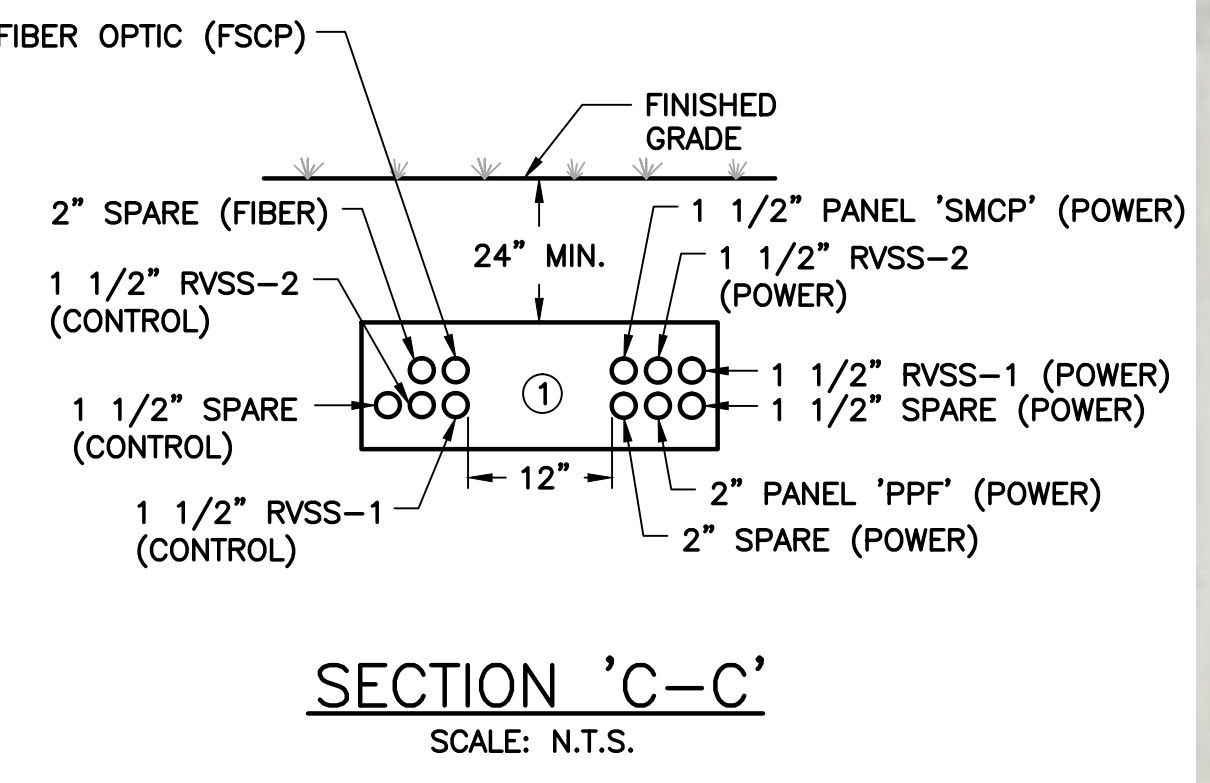
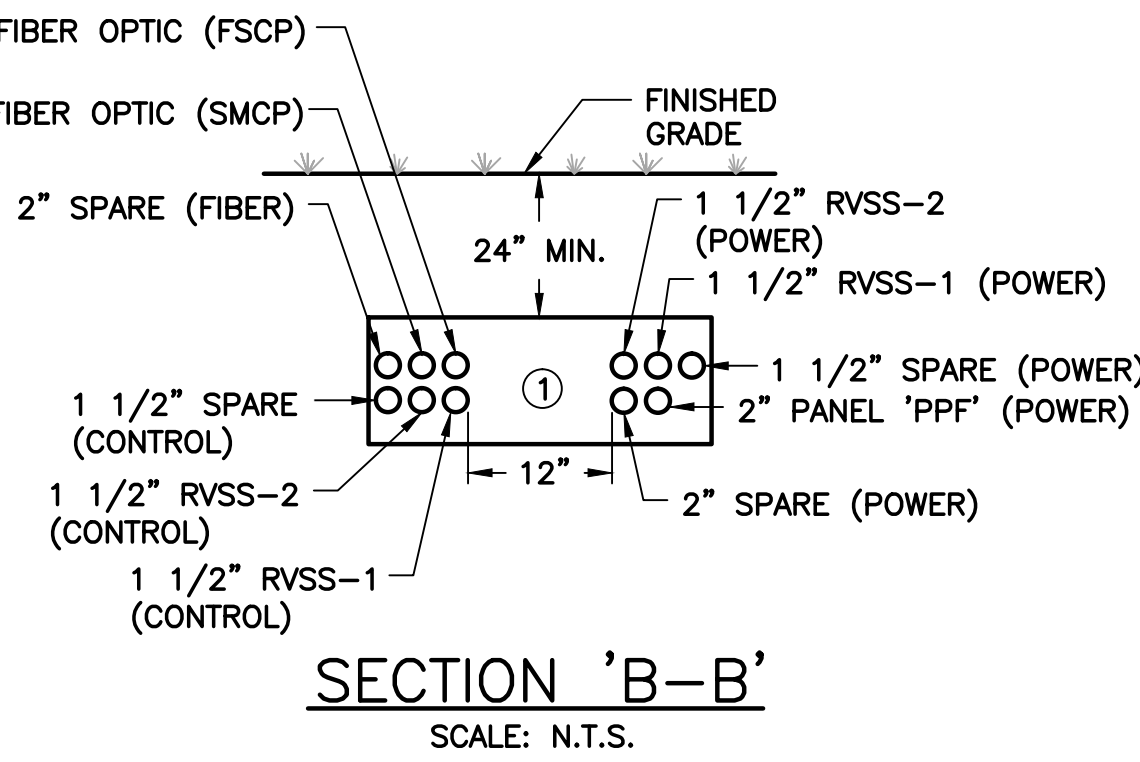
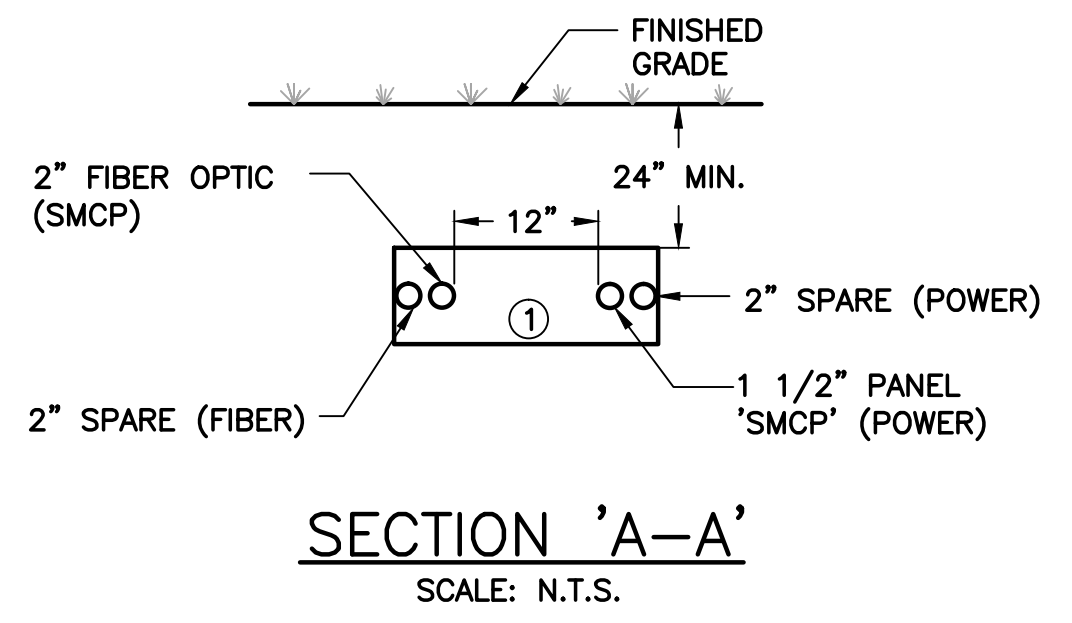
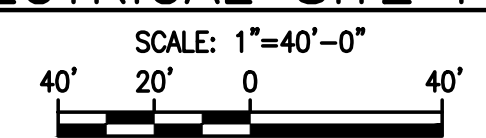
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REISS ENGINEERING, INC.
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 WINTER SPRINGS, FL 32708
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Parent Sheet Set: 110025_SWRF FOG & SEPTAGE RECEIVING STATIONS 10_ADDENDUM 3 DWGS



ELECTRICAL SITE PLAN



- NOTES:**
- ALL UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED, INCLUDING INDIVIDUAL CONDUITS. ALL DUCTBANKS SHALL BE DYED RED.
 - ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULLSTRINGS.

EDA
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 6965 PIAZZA GRANDE AVE., STE. 412
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 PHONE: (407) 745-5604
 FAX: (407) 745-5603
 C.O.A. No. 8079
 WILLIAM C. NELSON, P.E.
 Florida P.E. No. 42017



REV	DATE	DESCRIPTION	BY
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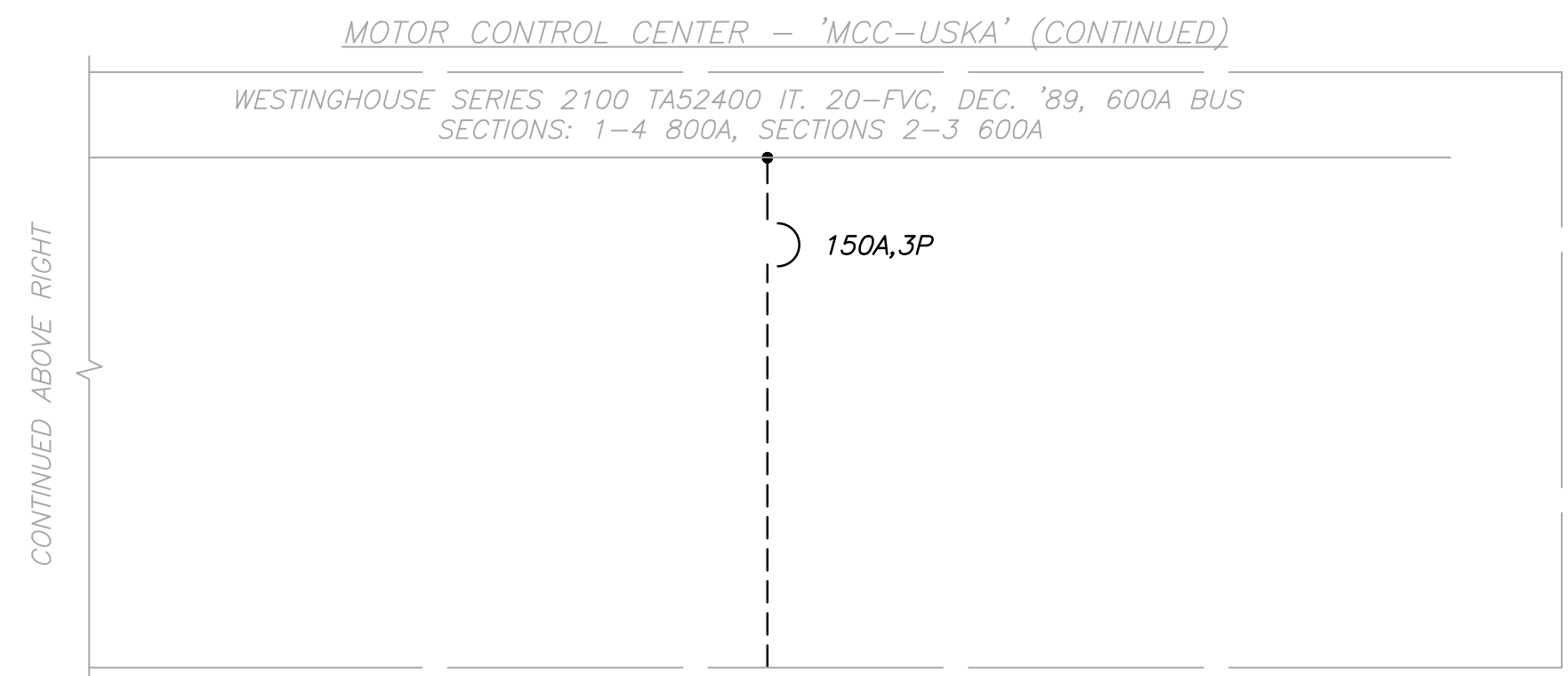
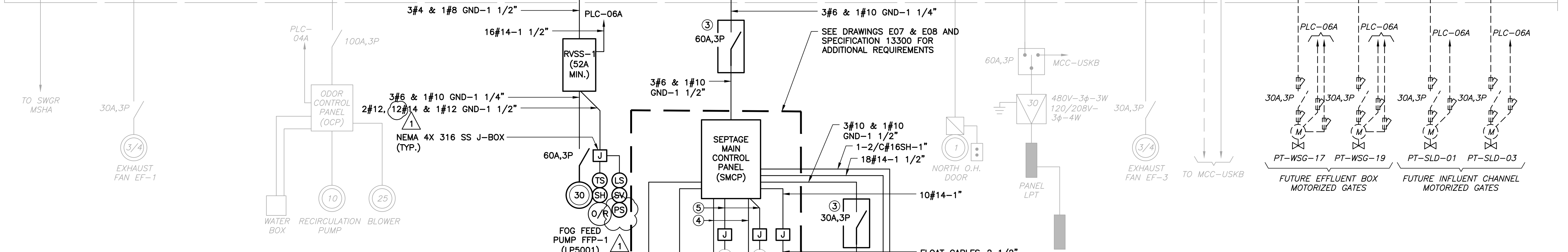
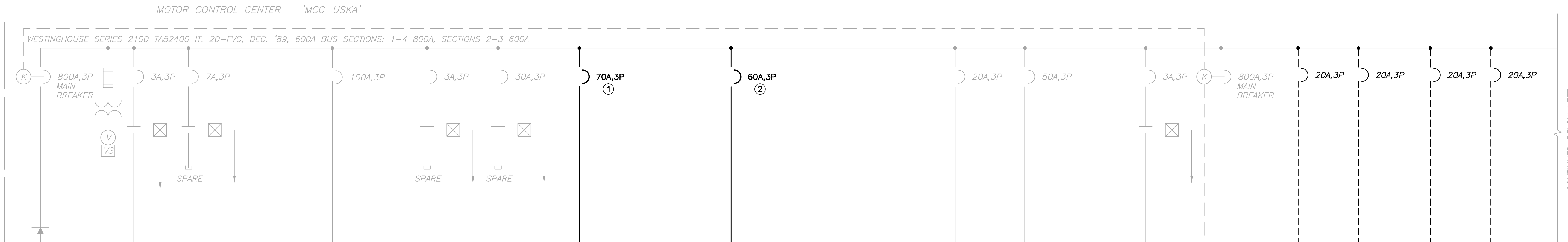
Issue Certification
 William C. Nelson, P.E.
 Florida P.E. No. 42017
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 6965 Piazza Grande Ave., Ste. 412
 Orlando, FL 32835

Designed_DD
 Drawn_RRM
 Checked_LMR
 Reviewed_DD
 Approved_LMR

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 ELECTRICAL
 ELECTRICAL SITE PLAN

PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 0
DRAWING NO. E02	SHEET NO.: 27 OF 48

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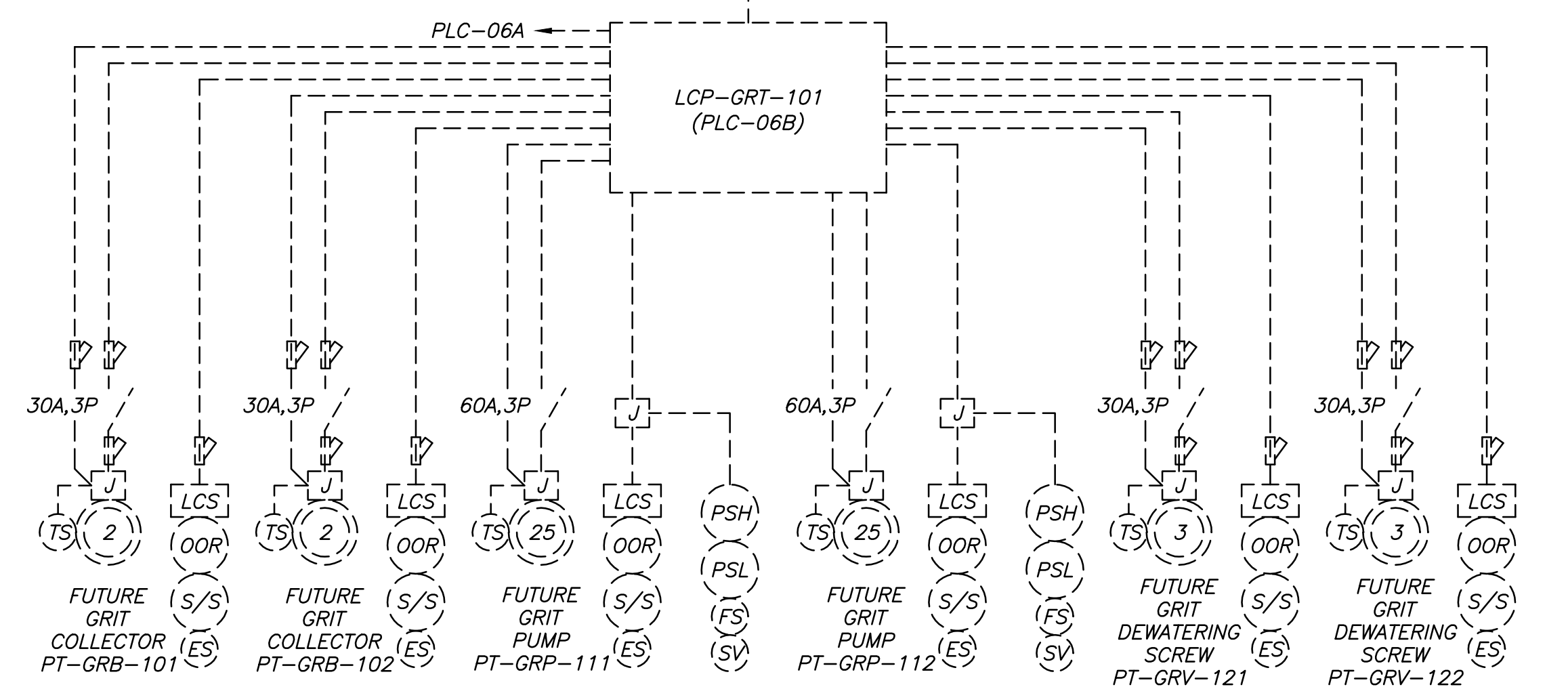
'MCC-USKA' LOAD TABULATION
480V-3Φ-3W

DESCRIPTION	LOAD	AMPACITY
① EXHAUST FAN	2 @ 0.75 HP	= 2.20 AMPS
① ODOR CONTROL	1 @ 50.0 HP	= 65.00 AMPS
① OVERHEAD DOOR	1 @ 1.0 HP	= 1.10 AMPS
① PNL LPT VIA XFMR	-	= 36.08 AMPS
① FUTURE INFL MOT. VALVE	2 @ 1.0 HP	= 4.20 AMPS
① FUTURE EFF MOT. VALVE	2 @ 1.0 HP	= 4.20 AMPS
① FUTURE GRIT DEWTR SCREW	2 @ 3.0 HP	= 9.60 AMPS
① FUTURE GRIT COLLECTOR	2 @ 2.0 HP	= 6.80 AMPS
① FUTURE GRIT PUMP	2 @ 25.0 HP	= 68.00 AMPS
① FOG FEED PUMP	1 @ 30.0 HP	= 40.00 AMPS
① SEPTAGE PUMP	2 @ 5.0 HP	= 15.20 AMPS
① SEPTAGE GRINDER	1 @ 5.0 HP	= 7.60 AMPS
① SEPTAGE AUGER	1 @ 2.0 HP	= 3.40 AMPS
① SEPTAGE BLOWER	2 @ 5.0 HP	= 15.20 AMPS
CONNECTED LOAD		= 278.58 AMPS
② SERVICE ENTRANCE = 278.58 AMPS + (0.25)(65.00)		= 294.83 AMPS

NOTES:
 ① AMPACITIES PER TABLE 430-250 OF THE NATIONAL ELECTRICAL CODE.
 ② SERVICE ENTRANCE MINIMUM SIZE AS PER ARTICLE 230 OF THE NATIONAL ELECTRICAL CODE.

- NOTES:**
- CONTRACTOR TO REPLACE EXISTING 30A,3P CIRCUIT BREAKER WITH NEW 70A,3P CIRCUIT BREAKER.
 - CONTRACTOR TO REPLACE EXISTING 20A,3P CIRCUIT BREAKER WITH NEW 60A,3P CIRCUIT BREAKER.
 - 480V NEMA 4X STAINLESS STEEL, HEAVY-DUTY NON-FUSED DISCONNECT SWITCH, 42,000 AIC.
 - 3#12, 2#14 & 1#12 GND-1\".
 - 4#14-1\".

'MCC-USKA' SINGLE LINE DIAGRAM
(EXISTING PRE-TREATMENT FACILITY)



REV	DATE	DESCRIPTION	BY
Δ	11/4/16	ADDENDUM NO. 3	DD
0	9/2016	ISSUED FOR BID	LMR

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 Florida P.E. No. 42017
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 6965 Piazza Grande Ave., Ste. 412
 Orlando, FL 32835

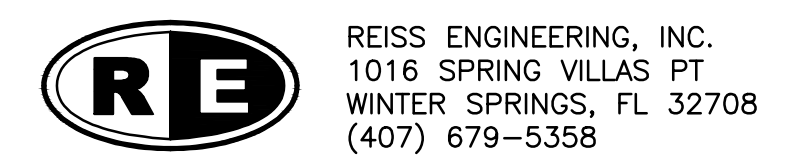
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 Checked LMR
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 Approved LMR

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS

ELECTRICAL

MCC-USKA SINGLE LINE DIAGRAM

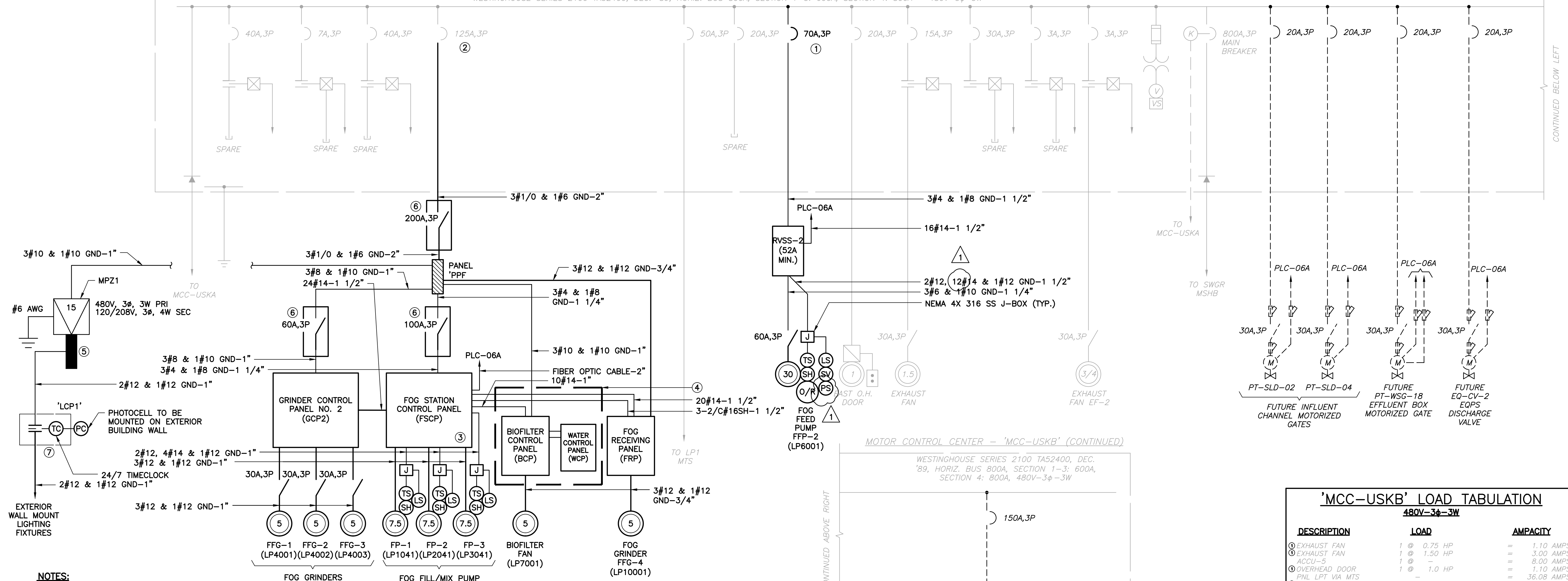
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MOTOR CONTROL CENTER - 'MCC-USKB'

WESTINGHOUSE SERIES 2100 TA52400, DEC. '89, HORIZ. BUS 800A, SECTION 1-3: 600A, SECTION 4: 800A - 480V-3φ-3W

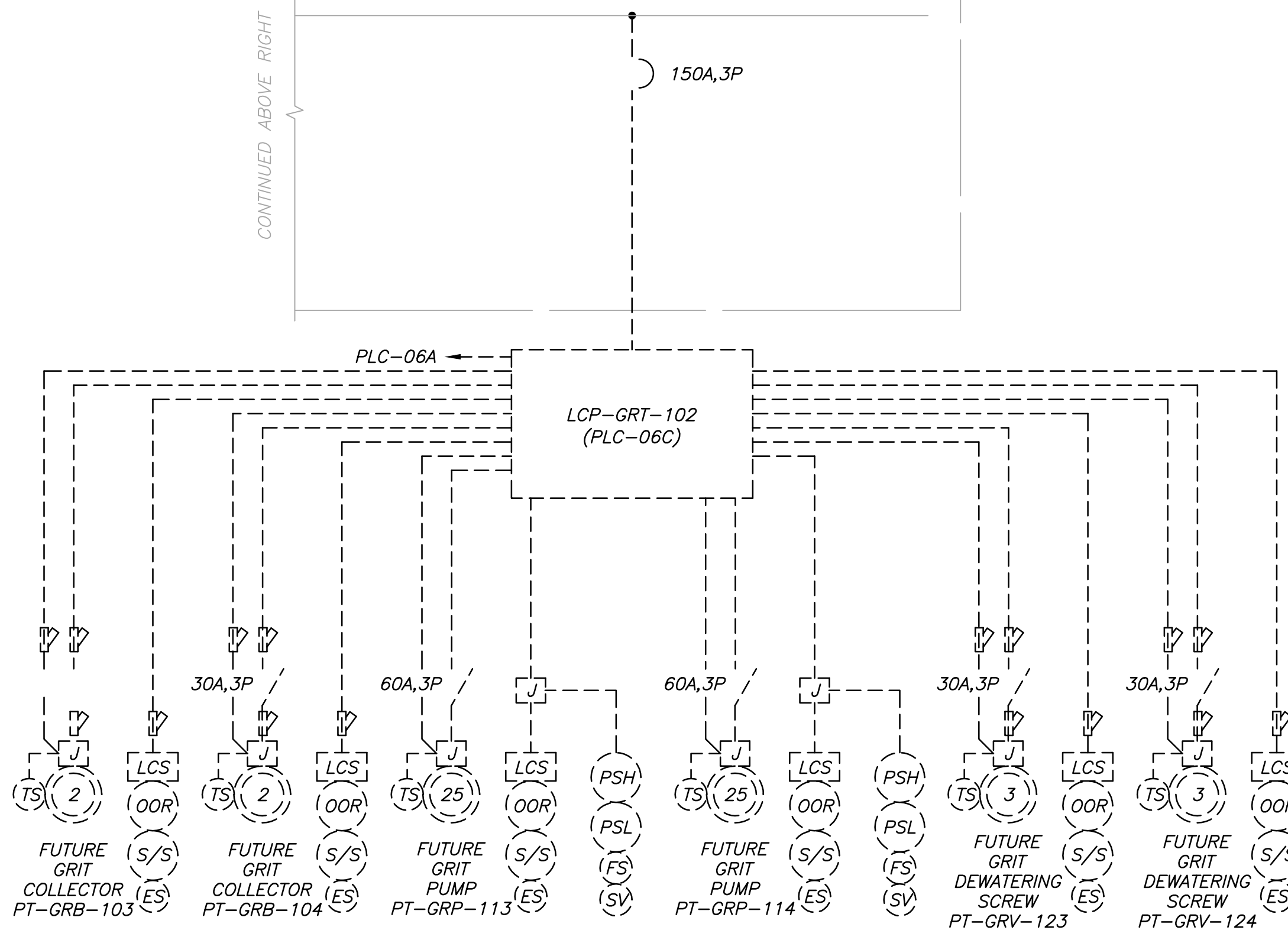


- NOTES:**
- CONTRACTOR TO REPLACE EXISTING 30A,3P CIRCUIT BREAKER WITH NEW 70A,3P CIRCUIT BREAKER.
 - TIE INTO EXISTING LOAD SIDE OF EXISTING CIRCUIT BREAKER.
 - SEE DRAWINGS E07, E08 AND SPECIFICATION SECTION 13300 FOR ADDITIONAL REQUIREMENTS.
 - PRE-WIRED ELECTRICAL COMPONENTS FURNISHED BY BIOFILTER CONTROL SYSTEM SUPPLIER AND INSTALLED BY THIS CONTRACTOR. SEE DIVISION 11 FOR ADDITIONAL REQUIREMENTS.
 - CONTRACTOR TO FURNISH AND INSTALL 15KVA MINI POWER-ZONE (MPZ1), NEMA 3R STAINLESS STEEL ENCLOSURE AS MANUFACTURED BY SQUARE D OR APPROVED EQUAL.
 - 480V NEMA 4X STAINLESS STEEL, HEAVY-DUTY NON-FUSED DISCONNECT SWITCH, 42,000 AIC.
 - 30A,2P ELECTRICALLY HELD LIGHTING CONTACTOR WITH 120V COIL IN A NEMA 4X 316 SS ENCLOSURE. PROVIDE RELAYS AND HOA AS SHOWN IN THE CONTACTOR ELEMENTARY DIAGRAM ON DRAWING E09.

'MCC-USKB' SINGLE LINE DIAGRAM (EXISTING PRE-TREATMENT FACILITY)

MOTOR CONTROL CENTER - 'MCC-USKB' (CONTINUED)

WESTINGHOUSE SERIES 2100 TA52400, DEC. '89, HORIZ. BUS 800A, SECTION 1-3: 600A, SECTION 4: 800A, 480V-3φ-3W



'MCC-USKB' LOAD TABULATION		
480V-3φ-3W		
DESCRIPTION	LOAD	AMPACITY
① EXHAUST FAN	1 @ 0.75 HP	= 1.10 AMPS
② EXHAUST FAN	1 @ 1.50 HP	= 3.00 AMPS
ACCU-5	1 @ -	= 8.00 AMPS
③ OVERHEAD DOOR	1 @ 1.0 HP	= 1.10 AMPS
FNL LPT VIA MTS		
④ FUTURE INFL. MOT. VALVE	2 @ 1.0 HP	= 36.08 AMPS
⑤ FUTURE EFF. MOT. VALVE	1 @ 1.0 HP	= 2.10 AMPS
⑥ FUTURE EQPS DISCH. VALVE	1 @ 1.0 HP	= 2.10 AMPS
⑦ FUTURE GRIT DWTR. SCREW	2 @ 3.0 HP	= 9.60 AMPS
⑧ FUTURE GRIT COLLECTOR	2 @ 2.0 HP	= 6.80 AMPS
⑨ FUTURE GRIT PUMP	2 @ 25.0 HP	= 68.00 AMPS
⑩ FOG FEED PUMP	1 @ 30.0 HP	= 40.00 AMPS
⑪ GRINDER	4 @ 5.0 HP	= 30.40 AMPS
⑫ FOG MIX/FILL PUMP	3 @ 7.5 HP	= 33.00 AMPS
⑬ ODOR CNTRL. BLWR	1 @ 5.0 HP	= 7.60 AMPS
CONNECTED LOAD		= 253.08 AMPS
⑭ SERVICE ENTRANCE = 253.08 AMPS + (0.25)(40.00) = 263.08 AMPS		

NOTES:

- AMPACITIES PER TABLE 430-250 OF THE NATIONAL ELECTRICAL CODE.
- SERVICE ENTRANCE MINIMUM SIZE AS PER ARTICLE 230 OF THE NATIONAL ELECTRICAL CODE.



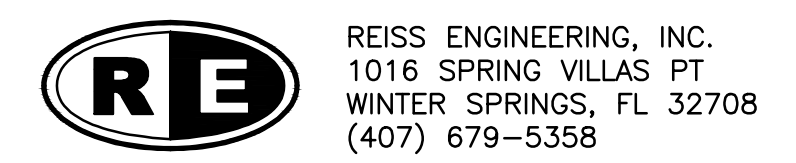
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9/2016	ISSUED FOR BID	LMR	

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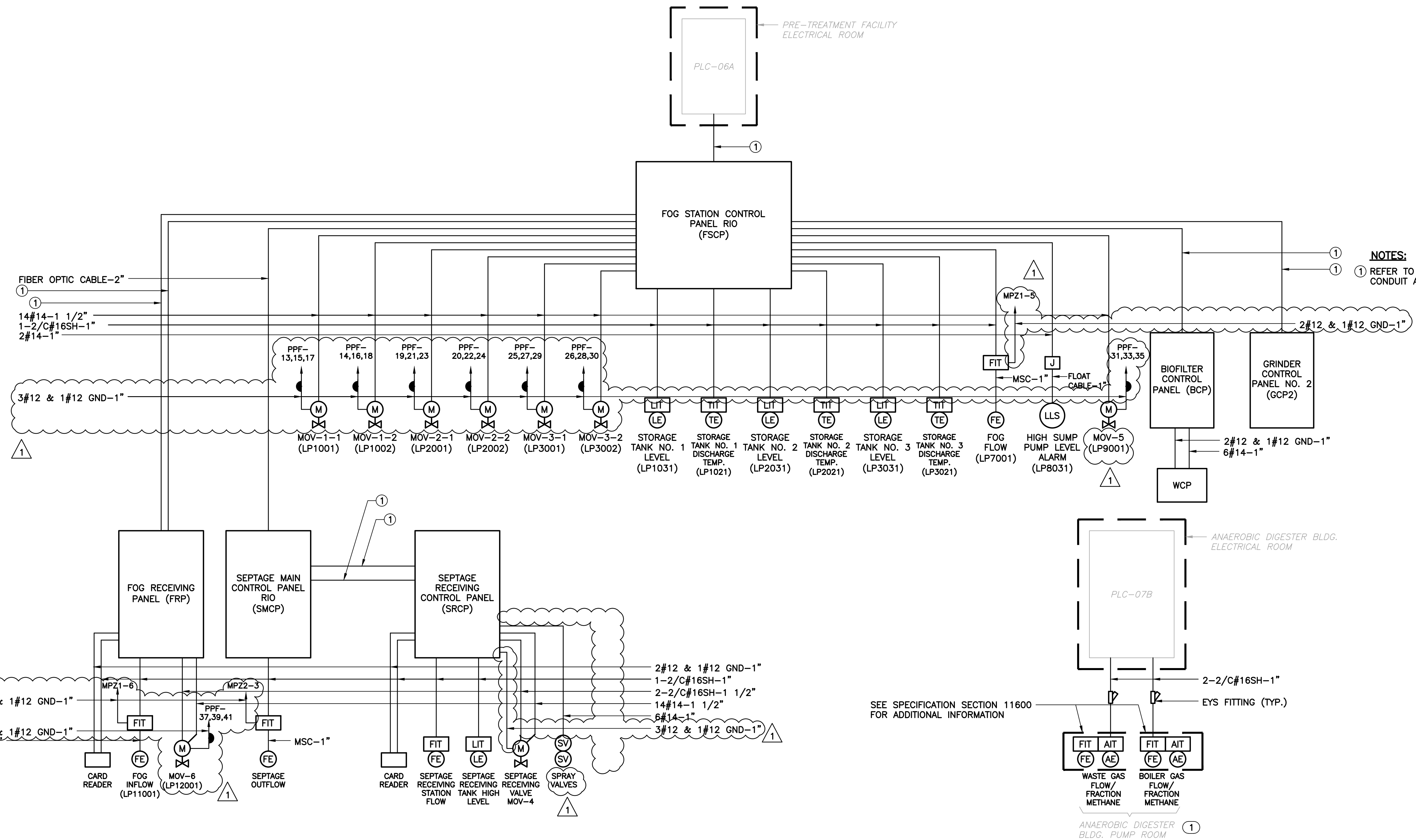
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 Approved_LMR

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 ELECTRICAL
 MCC-USKB SINGLE LINE DIAGRAM

PROJECT NO.:	110025
SCALE:	NOTED
DRAWING NO.:	E04
REVISION:	1
SHEET NO.:	29 OF 48



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 C.O.A. No. 8079
 WILLIAM C. NELSON, P.E.
 Florida P.E. No. 42017



NOTES:
 ① REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS.

SEE SPECIFICATION SECTION 11600 FOR ADDITIONAL INFORMATION

NOTES:
 ① THE ANAEROBIC DIGESTER PUMP ROOM IS CLASSIFIED AS CLASS I, DIVISION 1, GROUP D HAZARDOUS AREA PER NFPA-820-2012 EDITION. ALL WIRING METHODS IN THE CLASSIFIED AREA ARE TO BE PER THE REQUIREMENTS OF THE N.E.C. ARTICLE 500.

CONTROL INTERFACE WIRING DIAGRAM



REV	DATE	DESCRIPTION	BY
Δ	11/4/16	ADDENDUM NO. 3	DD
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 Drawn_RRM
 Checked_LMR
 Reviewed_DD
 Approved_LMR

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS

ELECTRICAL

CONTROL INTERFACE WIRING DIAGRAM

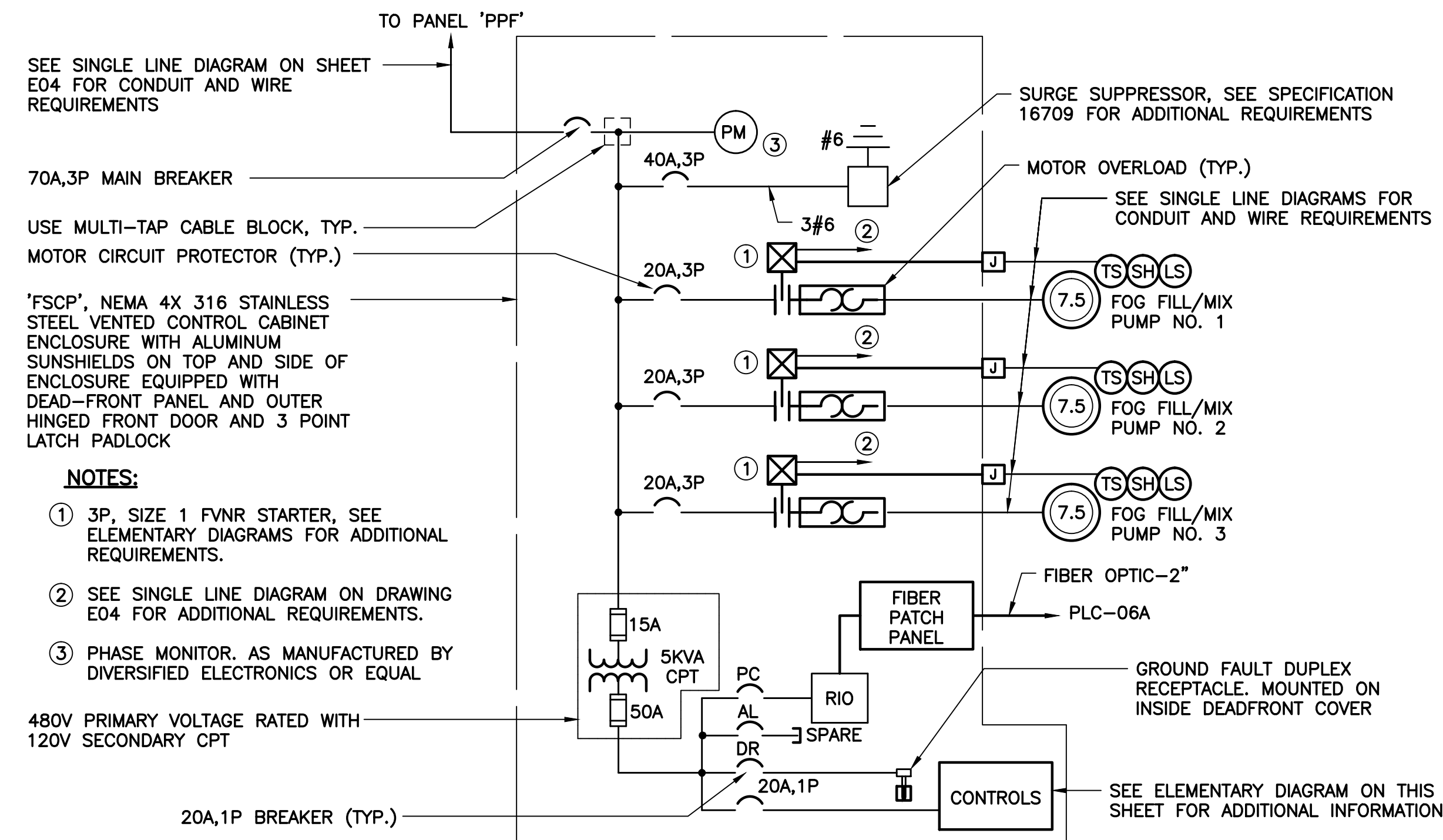
PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 1
DRAWING NO. E07	SHEET NO.: 32 OF 48



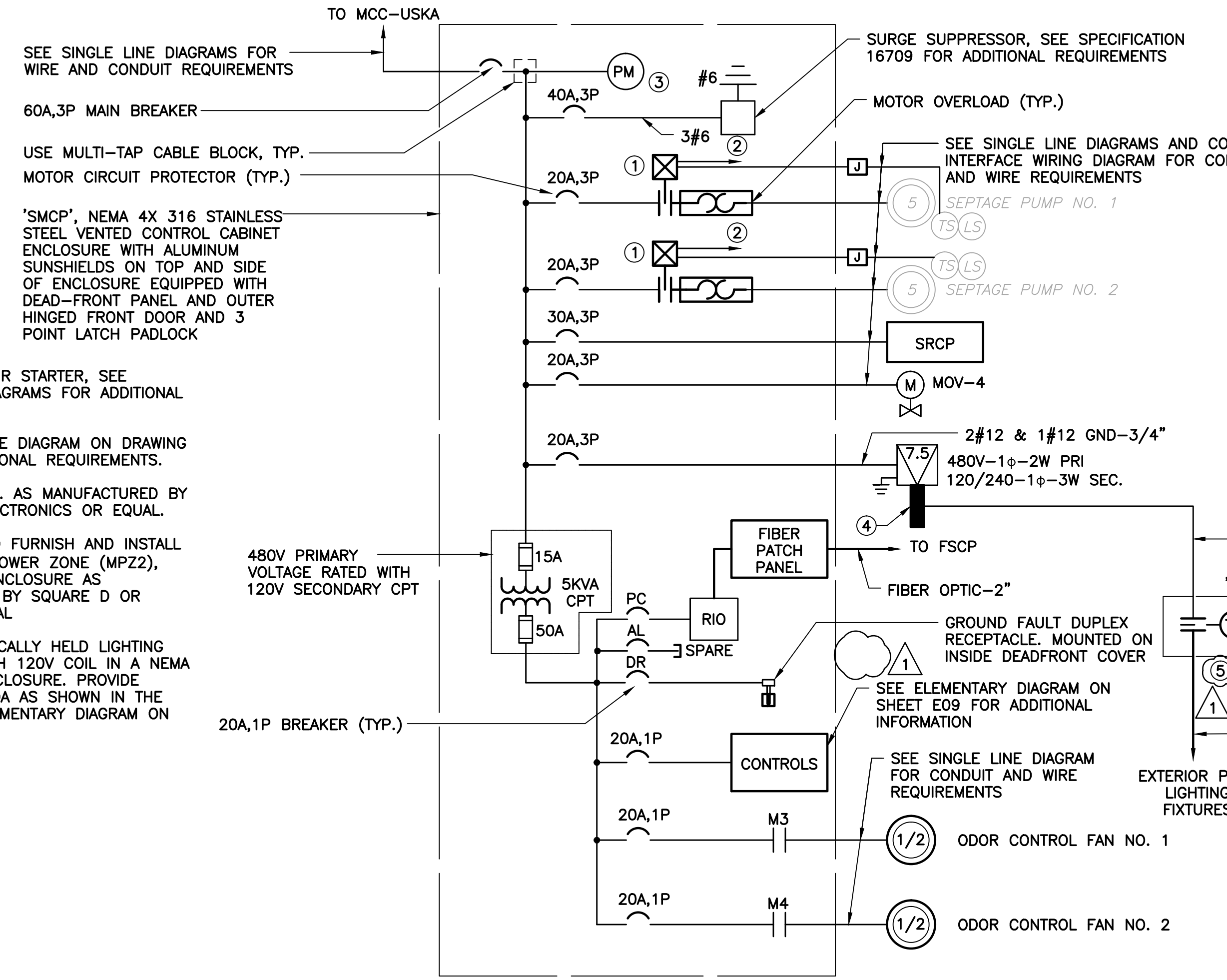
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Parent Sheet Set: 110025_SWRF FOG & SEPTAGE RECEIVING STATIONS 10_ADDENDUM 3 DWGS



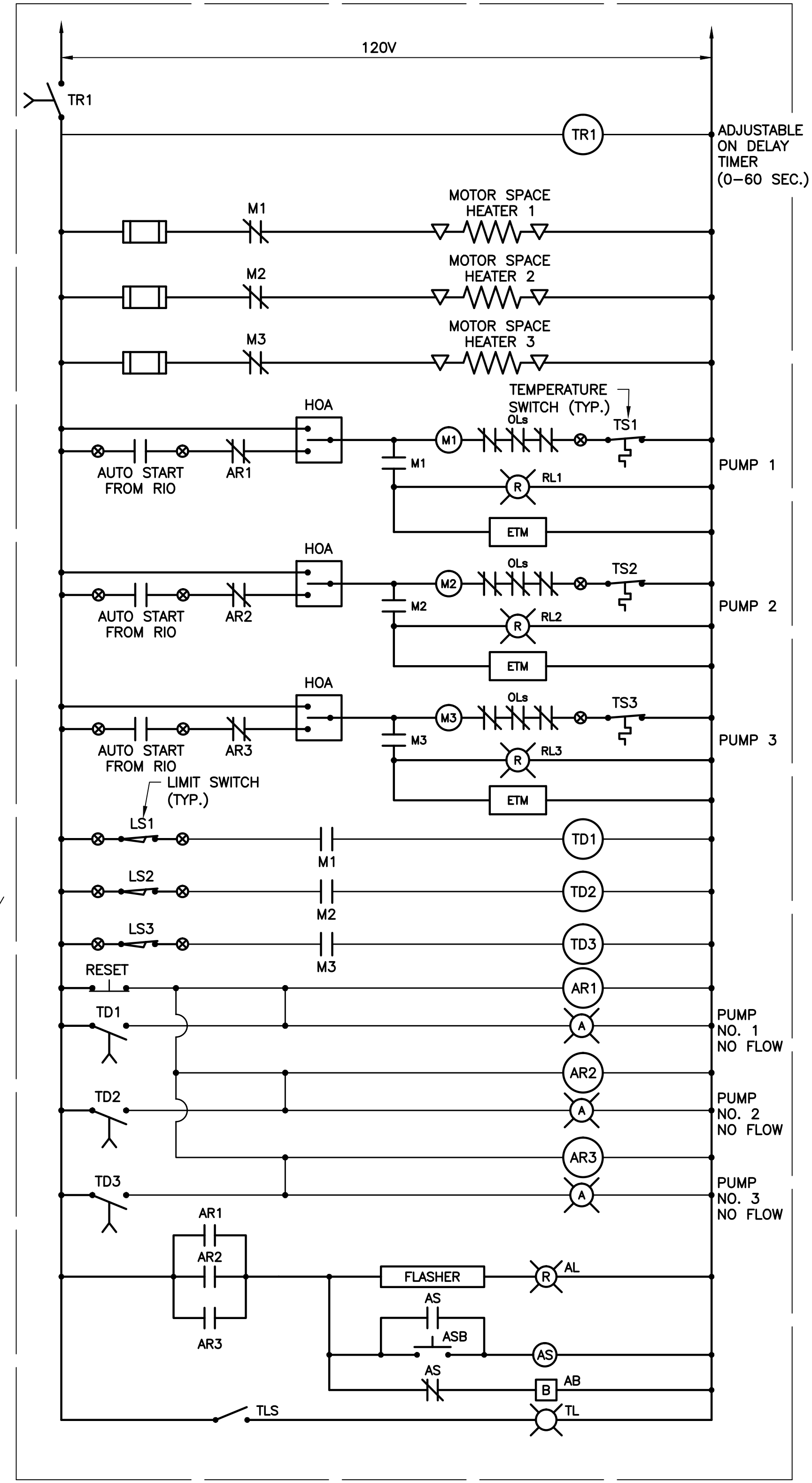
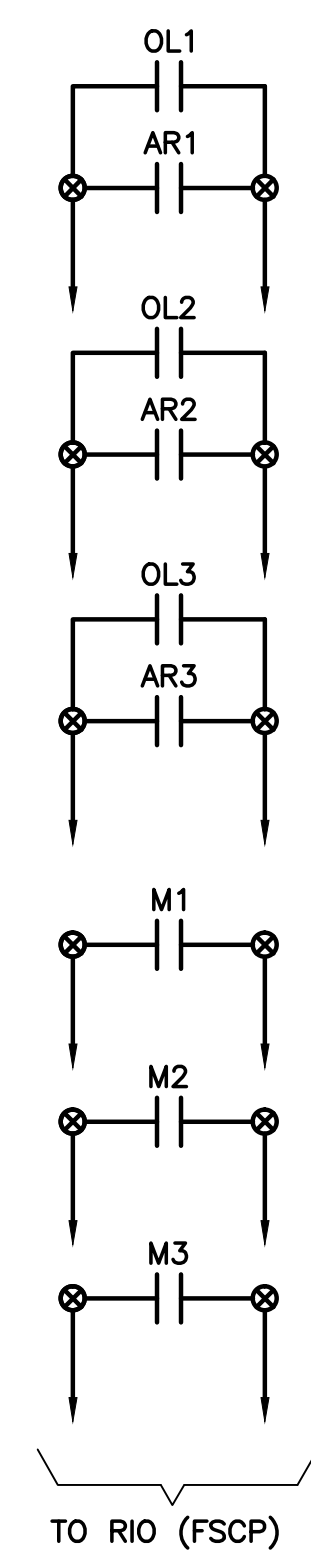
FOG STATION CONTROL PANEL (FSCP) SINGLE LINE DIAGRAM



SEPTAGE MAIN CONTROL PANEL (SMCP) SINGLE LINE DIAGRAM

- NOTES:**
- ① 3P, SIZE 1 FVNR STARTER, SEE ELEMENTARY DIAGRAMS FOR ADDITIONAL REQUIREMENTS.
 - ② SEE SINGLE LINE DIAGRAM ON DRAWING E04 FOR ADDITIONAL REQUIREMENTS.
 - ③ PHASE MONITOR, AS MANUFACTURED BY DIVERSIFIED ELECTRONICS OR EQUAL

- NOTES:**
- ① 3P, SIZE 1 FVNR STARTER, SEE ELEMENTARY DIAGRAMS FOR ADDITIONAL REQUIREMENTS.
 - ② SEE SINGLE LINE DIAGRAM ON DRAWING E03 FOR ADDITIONAL REQUIREMENTS.
 - ③ PHASE MONITOR, AS MANUFACTURED BY DIVERSIFIED ELECTRONICS OR EQUAL.
 - ④ CONTRACTOR TO FURNISH AND INSTALL 7.5 KVA MINI POWER ZONE (MPZ2), NEMA 3R SS ENCLOSURE AS MANUFACTURED BY SQUARE D OR APPROVED EQUAL
 - ⑤ 30A, 2P ELECTRICALLY HELD LIGHTING CONTACTOR WITH 120V COIL IN A NEMA 4X 316 SS ENCLOSURE. PROVIDE RELAYS AND HOA AS SHOWN IN THE CONTACTOR ELEMENTARY DIAGRAM ON DRAWING E09.



FOG STATION ELEMENTARY DIAGRAM



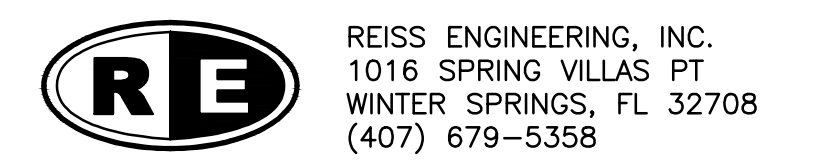
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 ELECTRICAL
 ELEMENTARY DIAGRAMS - 1

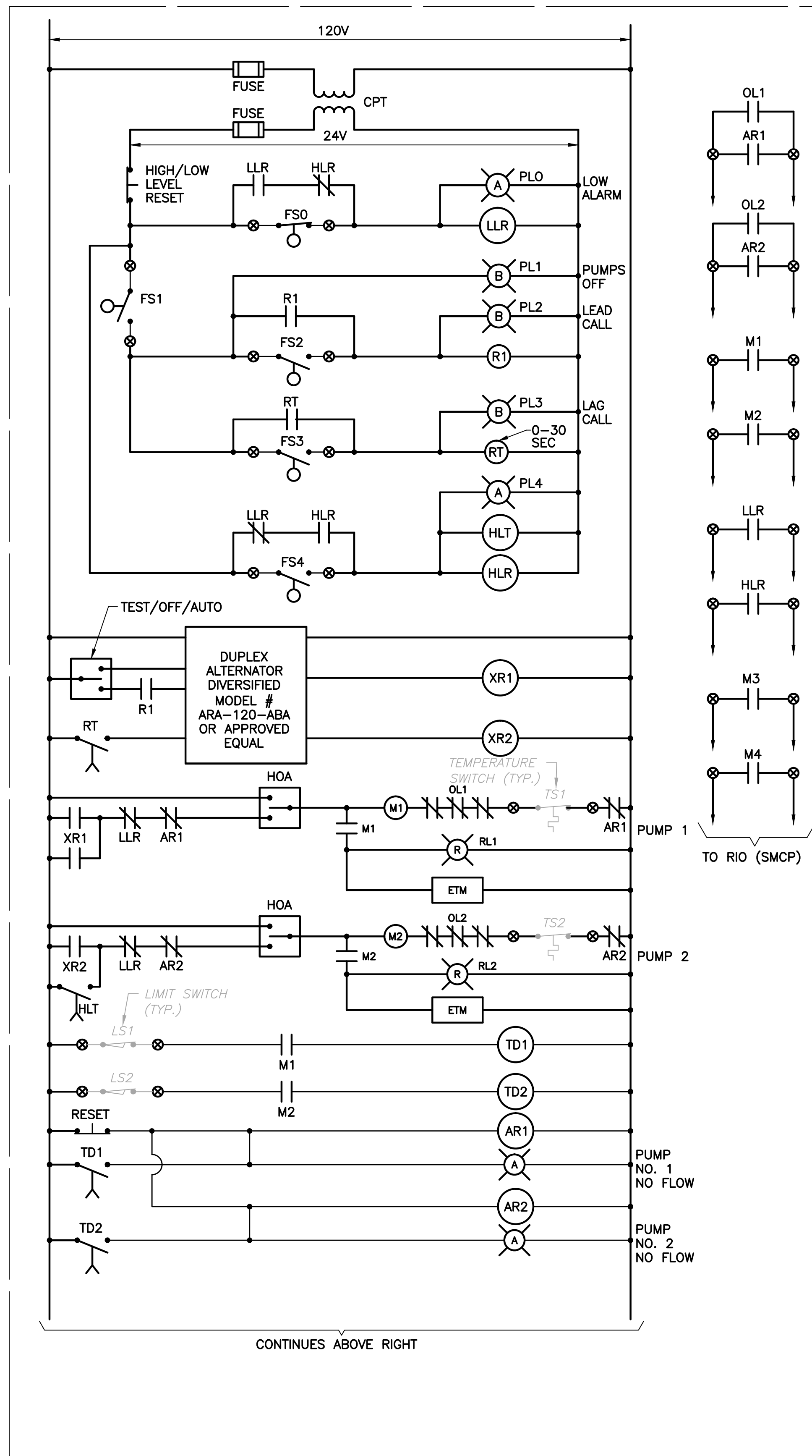
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REVISION:	1
DRAWING NO.:	E08
SHEET NO.:	33 OF 48



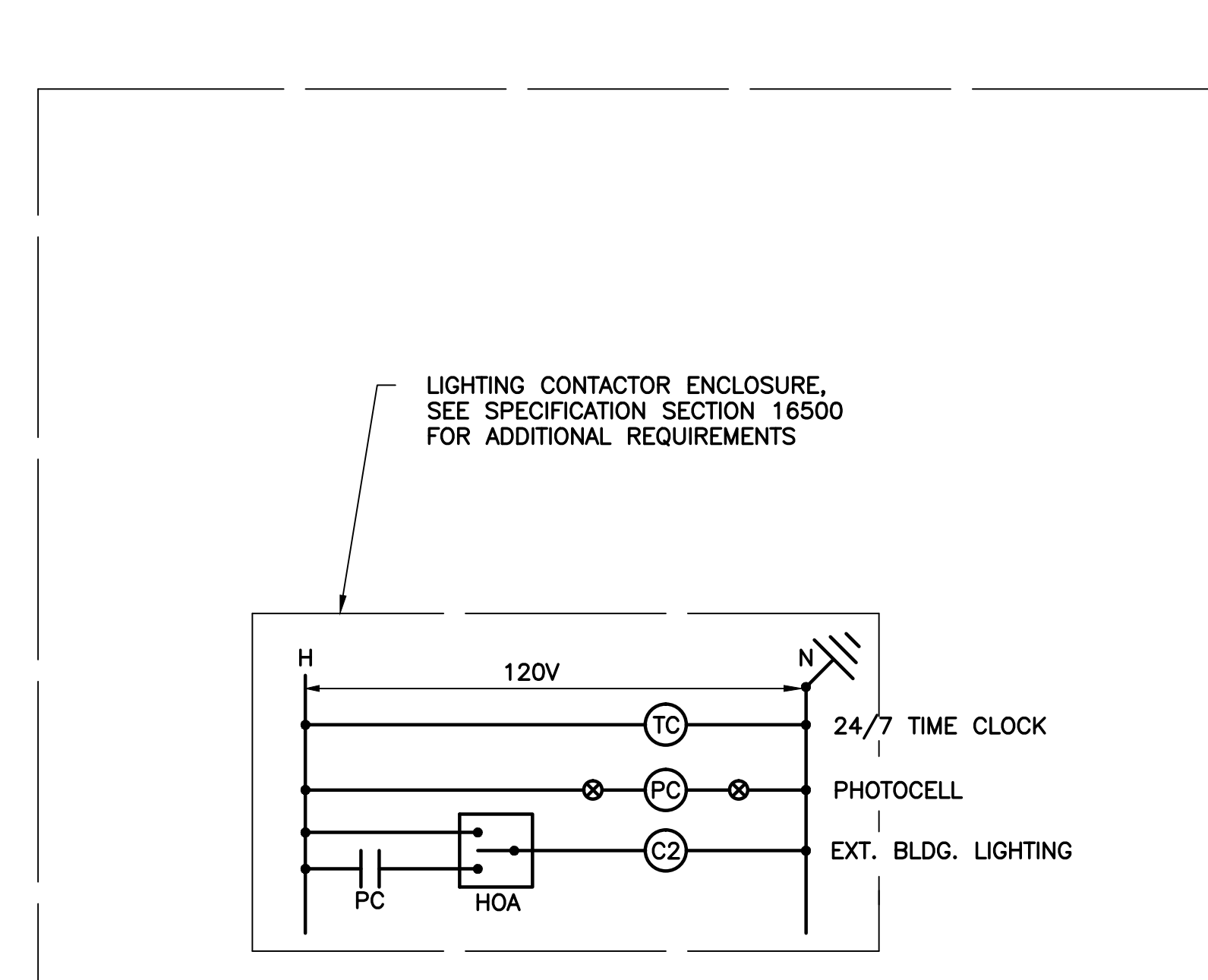
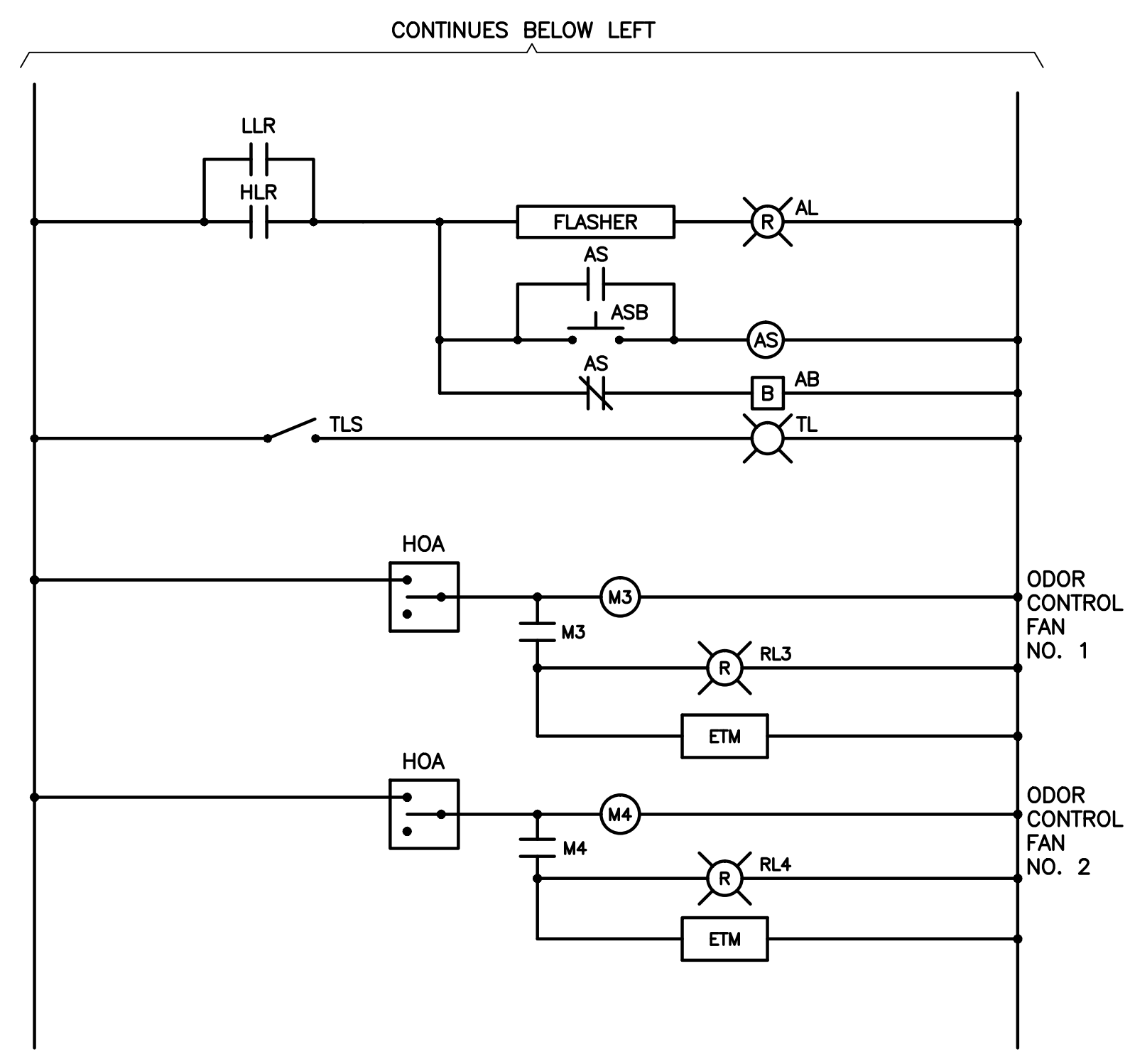
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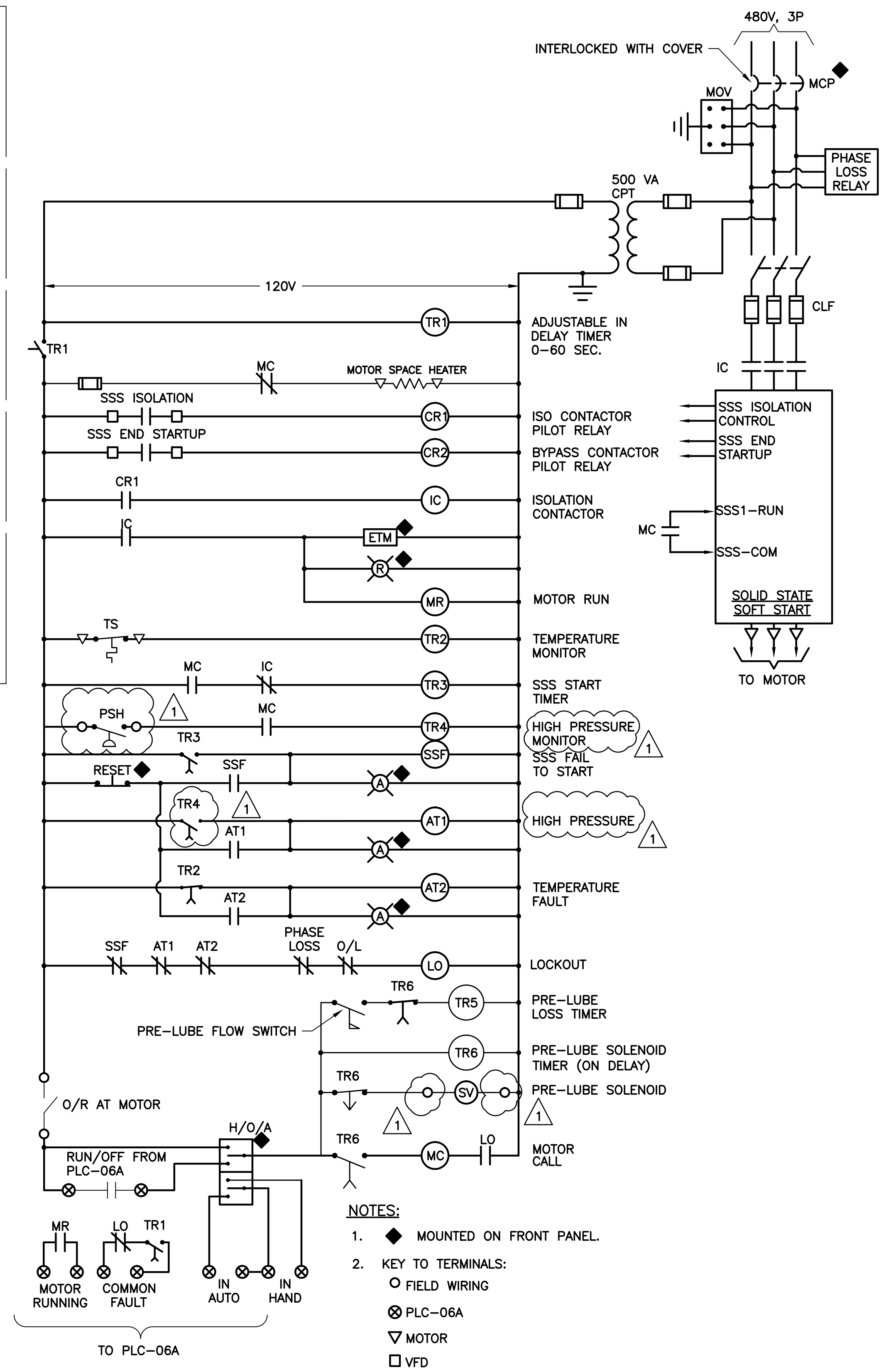
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SEPTAGE PUMP/SEPERATOR BLOWER ELEMENTARY DIAGRAM



CONTAINER ELEMENTARY DIAGRAM (TYP. LCP1 & LCP2) N.T.S.



FOG FEED PUMP REDUCED VOLTAGE SOFT STARTER ELEMENTARY DIAGRAM (TYP. 2)

- NOTES:
- ◆ MOUNTED ON FRONT PANEL.
 - KEY TO TERMINALS:
○ FIELD WIRING
⊗ PLC-06A
▽ MOTOR
□ VFD



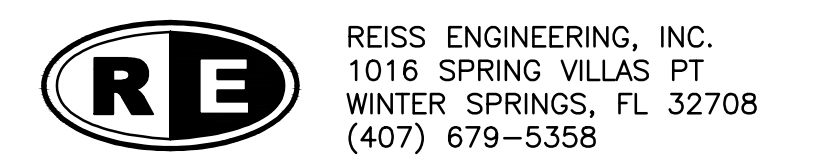
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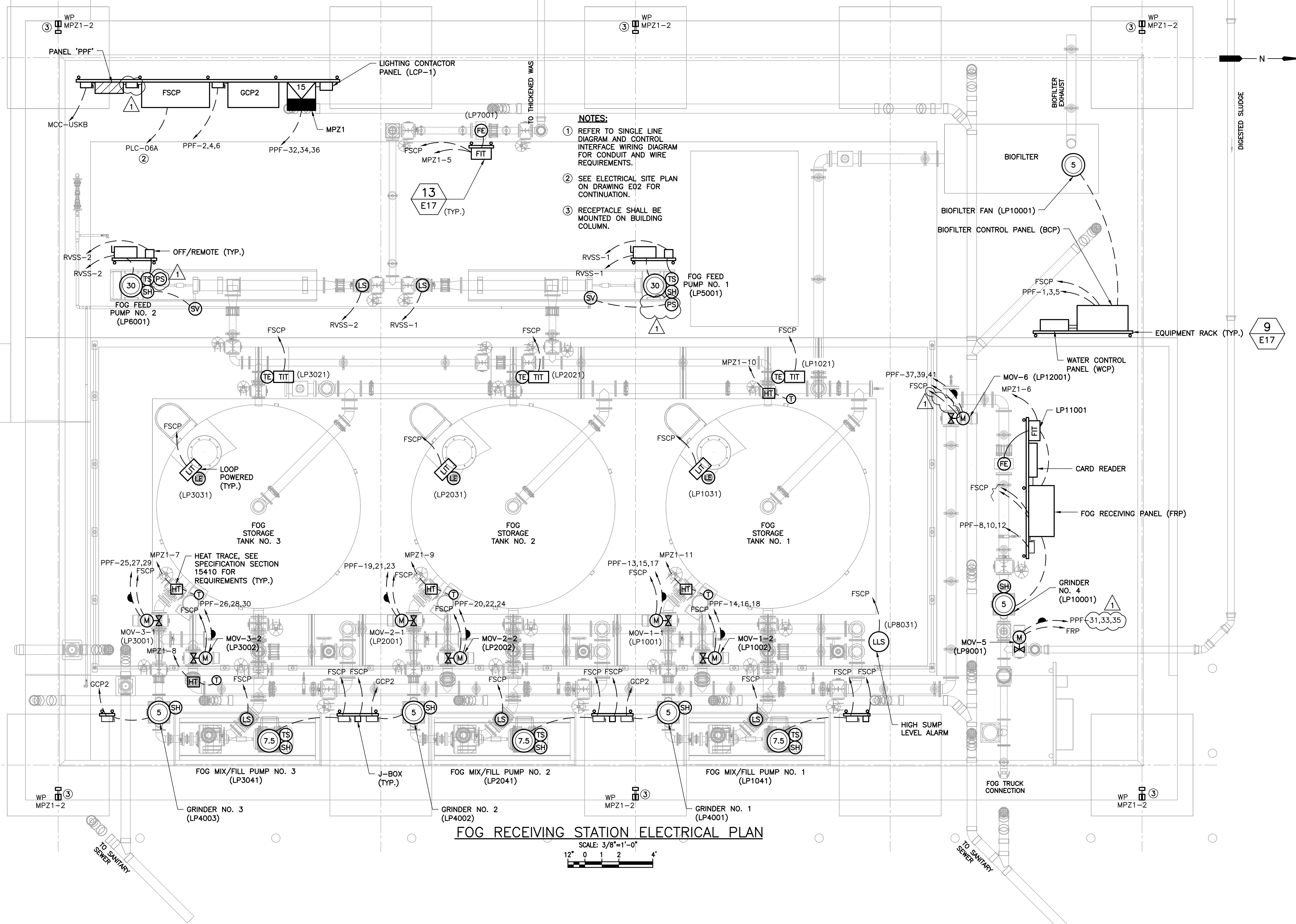
ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 ELECTRICAL
 ELEMENTARY DIAGRAMS - 2

PROJECT NO.:	110025
SCALE:	NOTED
DRAWING NO.:	E09
REVISION:	1
SHEET NO.:	34 OF 48

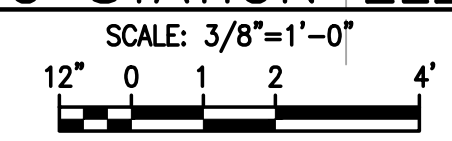


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Parent Sheet Set: 110025_SWRF FOG & SEPTAGE RECEIVING STATIONS SWRF ORANGE COUNTY UTILITIES FOG & SEPTAGE RECEIVING STATIONS 110025_ADDENDUM 3 DWGS



- NOTES:**
- REFER TO SINGLE LINE DIAGRAM AND CONTROL INTERFACE WIRING DIAGRAM FOR CONDUIT AND WIRE REQUIREMENTS.
 - SEE ELECTRICAL SITE PLAN ON DRAWING E02 FOR CONTINUATION.
 - RECEPTACLE SHALL BE MOUNTED ON BUILDING COLUMN.



FOG RECEIVING STATION ELECTRICAL PLAN



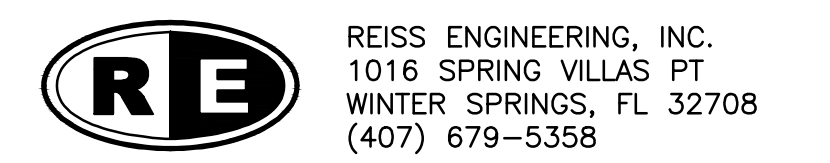
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1	11/4/16	ADDENDUM NO. 3	DD
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 Checked LMR
 Reviewed DD
 Approved LMR

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 ELECTRICAL
FOG RECEIVING STATION ELECTRICAL PLAN

PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 1
DRAWING NO. E10	SHEET NO.: 35 OF 48



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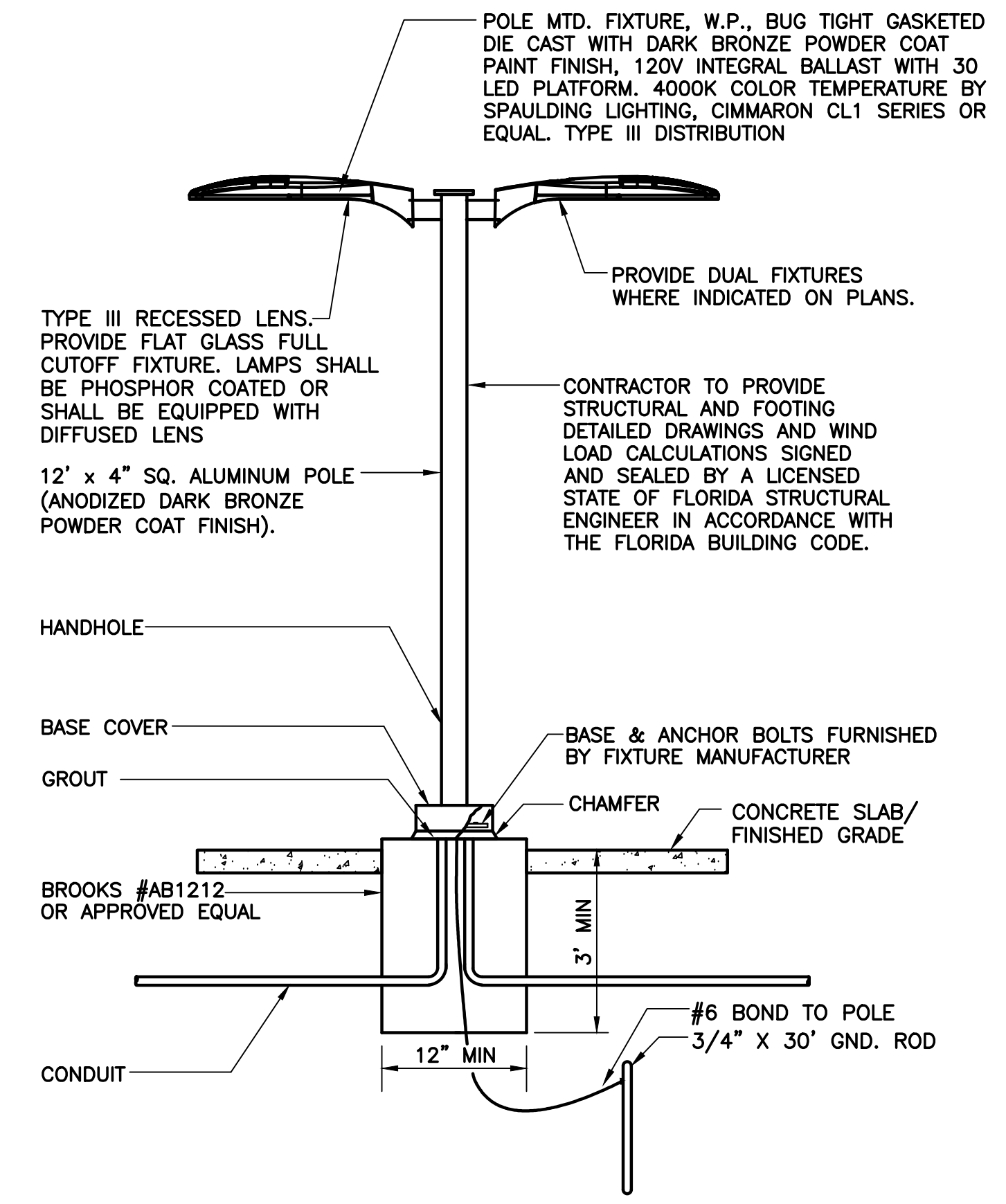
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Parent Sheet Set: 110025_SWRF FOG & SEPTAGE RECEIVING STATIONS 10_ADDENDUM 3 DWGS
 Rev on: 11/4/2016 11:10 AM
 Indicated by: DAMON MARTIN
 Rev/Plot by: DAMON MARTIN
 V:\Info\Design\Comp\SWRF_FOG & Septage Receiving Stations\10_ADDENDUM 3\DWGS\110025_SWRF_FOG & SEPTAGE RECEIVING STATIONS 10_ADDENDUM 3.DWG

PANEL: PPF										BUS: 225 AMP			VOLT: 480V-3φ-3W						
LOCATION: FOG RECEIVING STATION										MAINS: 125A,3P			REMARKS: PROVIDE SPD						
MOUNTING: EQUIPMENT RACK										POLES: 42			A.I.C. SYMM: SEE SPECIFICATIONS						
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS		
						A	B	C	A	B	C								
30	3	10	10	1"	BIOFILTER C.P. (BCP)	5.50			1	2	5.82			GRINDER C.P. #2 (GCP2)	8	10	1"	3	40
-	-	-	-	-	-		5.50		3	4	5.82			-	-	-	-	-	-
-	-	-	-	-	-			5.50	5	6		5.82		-	-	-	-	-	-
70	3	4	8	1 1/4"	FOG STATION C.P. (FSCP)	9.14			7	8	5.50			FOG RECEIVING PNL (FRP)	10	10	1"	3	30
-	-	-	-	-	-		9.14		9	10		5.50		-	-	-	-	-	-
-	-	-	-	-	-			9.14	11	12		5.50		-	-	-	-	-	-
20	3	12	12	1"	MOV-1-1	0.50			13	14	0.50			MOV-1-2	12	12	1"	3	20
-	-	-	-	-	-		0.50		15	16		0.50		-	-	-	-	-	-
-	-	-	-	-	-			0.50	17	18		0.50		-	-	-	-	-	-
20	3	12	12	1"	MOV-2-1	0.50			19	20	0.50			MOV-2-2	12	12	1"	3	20
-	-	-	-	-	-		0.50		21	22		0.50		-	-	-	-	-	-
-	-	-	-	-	-			0.50	23	24		0.50		-	-	-	-	-	-
20	3	12	12	1"	MOV-3-1	0.50			25	26	0.50			MOV-3-2	12	12	1"	3	20
-	-	-	-	-	-		0.50		27	28		0.50		-	-	-	-	-	-
-	-	-	-	-	-			0.50	29	30		0.50		-	-	-	-	-	-
20	3	12	12	1"	MOV-5	0.50			31	32	2.00			MPZ1	8	10	1"	3	40
-	-	-	-	-	-		0.50		33	34		2.00		-	-	-	-	-	-
-	-	-	-	-	-			0.50	35	36		2.00		-	-	-	-	-	-
20	3	12	12	1"	MOV-6	0.50			37	38	0.10			SPD	6	6	-	3	60
-	-	-	-	-	-		0.50		39	40		0.10		-	-	-	-	-	-
-	-	-	-	-	-			0.50	41	42		0.10		-	-	-	-	-	-
TOTAL (PHASE):						17.14	17.14	17.14			14.92	14.92	14.92	NOTES:					
TOTAL KVA:														PROVIDE SPD. SEE SPECIFICATION SECTION 16709.					
TOTAL AMPS:																			
TOTAL DEMAND AMPS:																			

PANEL: MPZ1										BUS: 45A SEC. MB			VOLT: 120/208V, 3φ, 4W						
LOCATION: FOG RECEIVING STATION										MAINS: 15 KVA			REMARKS: NEMA 3R 316 SS ENCL.						
MOUNTING: EQUIPMENT RACK										POLES: 24			A.I.C. SYMM: SEE SPECIFICATIONS						
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA			BUS KVA			LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS		
						A	B	C	A	B	C								
20	1	12	12	1"	INTERIOR LTG	0.77			1	2	0.72			RECEPTACLES	12	12	1"	1	20
20	1	12	12	1"	INTERIOR LTG		0.77		3	4		0.88		EXTERIOR LIGHTING (LCP1)	12	12	1"	1	20
20	1	12	12	1"	FIT (LP7001)			0.10	5	6		0.10		FIT (LP11001)	12	12	1"	1	20
20	1	12	12	1"	HEAT TRACE	0.50			7	8	0.50			HEAT TRACE	12	12	1"	1	20
20	1	12	12	1"	HEAT TRACE		0.50		9	10		0.50		HEAT TRACE	12	12	1"	1	20
20	1	12	12	1"	HEAT TRACE			0.50	11	12		-		SPARE	-	-	-	1	20
20	1	-	-	-	SPARE				13	14		-		SPARE	-	-	-	1	20
20	1	-	-	-	SPACE				15	16		-		SPACE	-	-	-	-	-
20	1	-	-	-	SPACE				17	18		-		SPACE	-	-	-	-	-
20	1	-	-	-	SPACE				19	20	0.10			SPD	6	6	-	3	60
-	-	-	-	-	SPACE				21	22		0.10		-	-	-	-	-	-
-	-	-	-	-	SPACE				23	24		0.10		-	-	-	-	-	-
TOTAL (PHASE):						1.27	1.27	0.60			1.32	1.48	0.20	NOTES:					
TOTAL KVA:														PROVIDE SPD. SEE SPECIFICATION SECTION 16709.					
TOTAL AMPS:																			
TOTAL DEMAND AMPS:																			

PANEL: MPZ2										BUS: 40A SEC. MB			VOLT: 120/240V, 1φ, 3W						
LOCATION: SEPTAGE RECEIVING STATION										MAINS: 7.5 KVA			REMARKS: NEMA 3R 316 SS ENCL.						
MOUNTING: EQUIPMENT RACK										POLES: 24			A.I.C. SYMM: SEE SPECIFICATIONS						
AMPS	POLE	WIRE	GND.	COND.	LOAD SERVED	BUS KVA		BUS KVA		BUS KVA		LOAD SERVED	WIRE	GND.	COND.	POLE	AMPS		
						A	B	A	B	A	B								
20	1	12	12	1"	INTERIOR LIGHTING	0.20			1	2	-			SPARE	-	-	-	1	20
20	1	12	12	1"	FIT (SEPTAGE OUTFLOW)		0.10		3	4		0.54		RECEPTACLES	12	12	1"	1	20
20	1	-	-	-	SPARE				5	6		-		EXIT SIGN	12	12	1"	1	20
20	1	12	12	1"	SITE LIGHTING (LCP2)		0.20		7	8		0.10		SPD	8	8	-	2	20
20	1	-	-	-	SPARE				9	10	0.10			-	-	-	-	-	-
TOTAL (PHASE):						0.20	0.30				0.10	0.64	NOTES:						
TOTAL KVA:														PROVIDE SPD. SEE SPECIFICATION SECTION 16709.					
TOTAL AMPS:																			
TOTAL DEMAND AMPS:																			



1 POLE MOUNTED TYPE 'B' FIXTURE DETAIL
E16 SCALE: N.T.S.

LIGHTING FIXTURE SCHEDULE		
TYPE	WATT	DESCRIPTION
A	144	4 FOOT LOW PROFILE, CLASS 1, DIVISION 2 LED LINEAR FIXTURE, SUITABLE FOR INDUSTRIAL AND HAZARDOUS LOCATIONS, RUGGED SOLID STATE DESIGN, FULLY GASKETED IP 66/67 RATED ENCLOSURE SUITABLE FOR DUST AND WET LOCATIONS, 1598A RATING, 120V, CLEAR LENS (5000K COOL WHITE) 7000 LUMENS, TOP MOUNT.
A1	144	SAME AS TYPE "A" EXCEPT WITH EMERGENCY BATTERY PACK.
B	42	SEE LIGHTING FIXTURE DETAIL ON THIS SHEET.
C	71	FULL CUT-OFF WALLPACK. DECORATIVE, DIE-CAST ALUMINUM HOUSING AND DOOR. WHITE POWDER PAINT FINISHES PROVIDING A LASTING APPEARANCE IN OUTDOOR ENVIRONMENTS. 30 HIGH POWER LEDS, 4673 LUMENS. 5000K/70 CRI. 120V, TYPE III DISTRIBUTION.
D	50	4 FT. ONE-PIECE SEAM WRAP AROUND POLYCARBONATE LENS. SURFACE MOUNTED FIXTURE WITH 16 GAUGE COLD ROLLED STEEL. BASEPLATE WITH SIX-POINT MOUNTING. 4000K LED 50W 8955 LUMENS WITH DIMMER CONSTANT CURRENT LED DRIVER. UL LISTED FOR DAMP AND WET LOCATIONS 120V WITH SINGLE FUSE AND HOLDER. SUITABLE FOR CORROSIVE AND HAZARDOUS AREAS
⊗	5	NEMA 4X LED EXIT SIGN, SUITABLE FOR USE IN DAMP LOCATIONS, WATERTIGHT AND DUST TIGHT SEAL, CORROSION RESISTANT POLYCARBONATE HOUSING AND COVER, RED HIGH OUTPUT LEDS, MAINTENANCE FREE NICKEL CADMIUM BATTERY, 120V.



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ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS

ELECTRICAL

PANEL SCHEDULES AND LIGHTING DETAILS

PROJECT NO.:	110025
SCALE:	NOTED
DRAWING NO.:	E16
REVISION:	1
SHEET NO.:	41 OF 48

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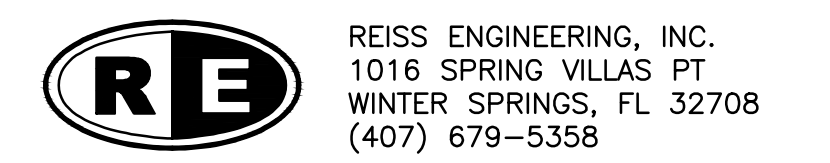
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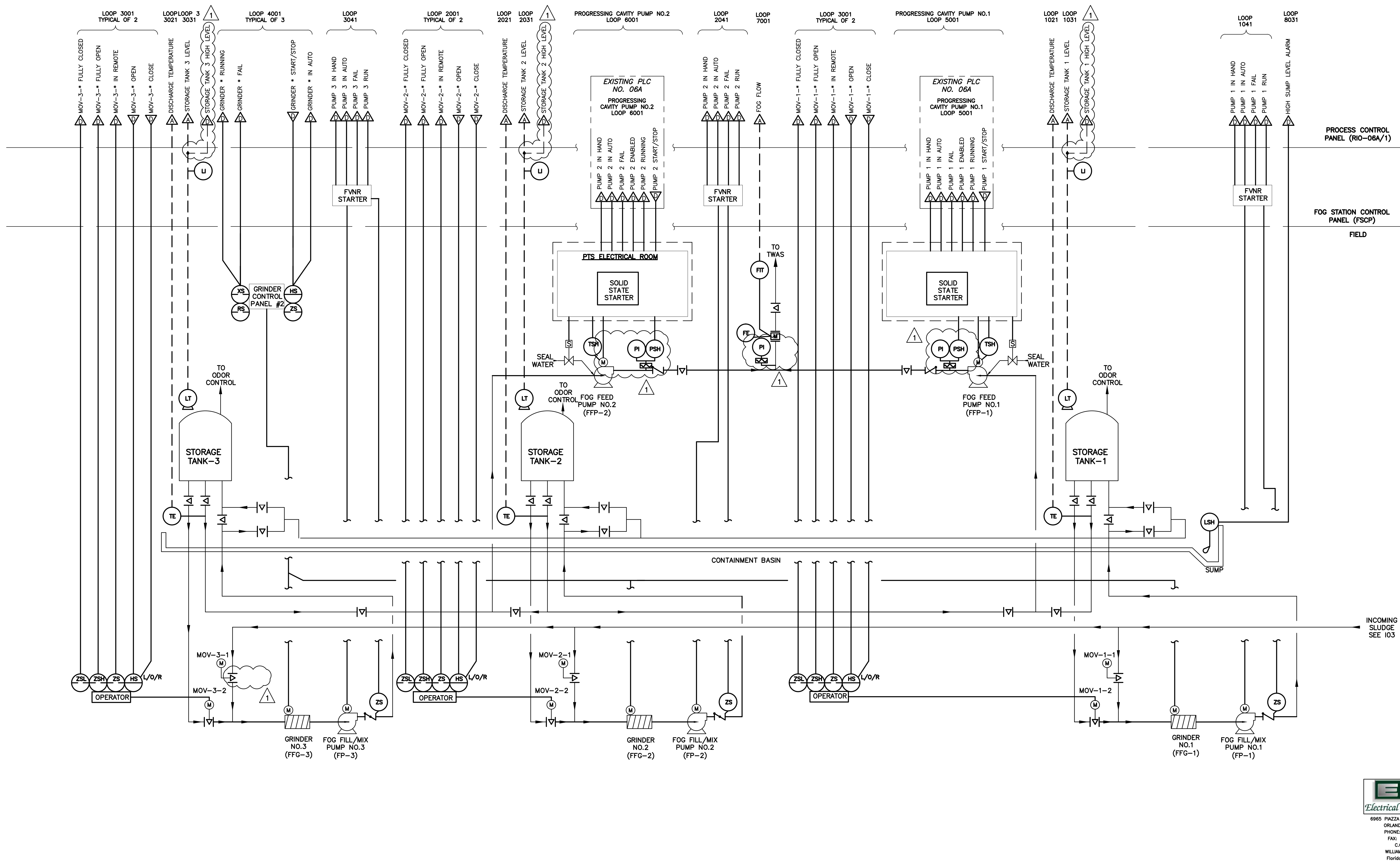
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 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 INSTRUMENTATION & CONTROLS
 FOG RECEIVING STATION - P&ID 1

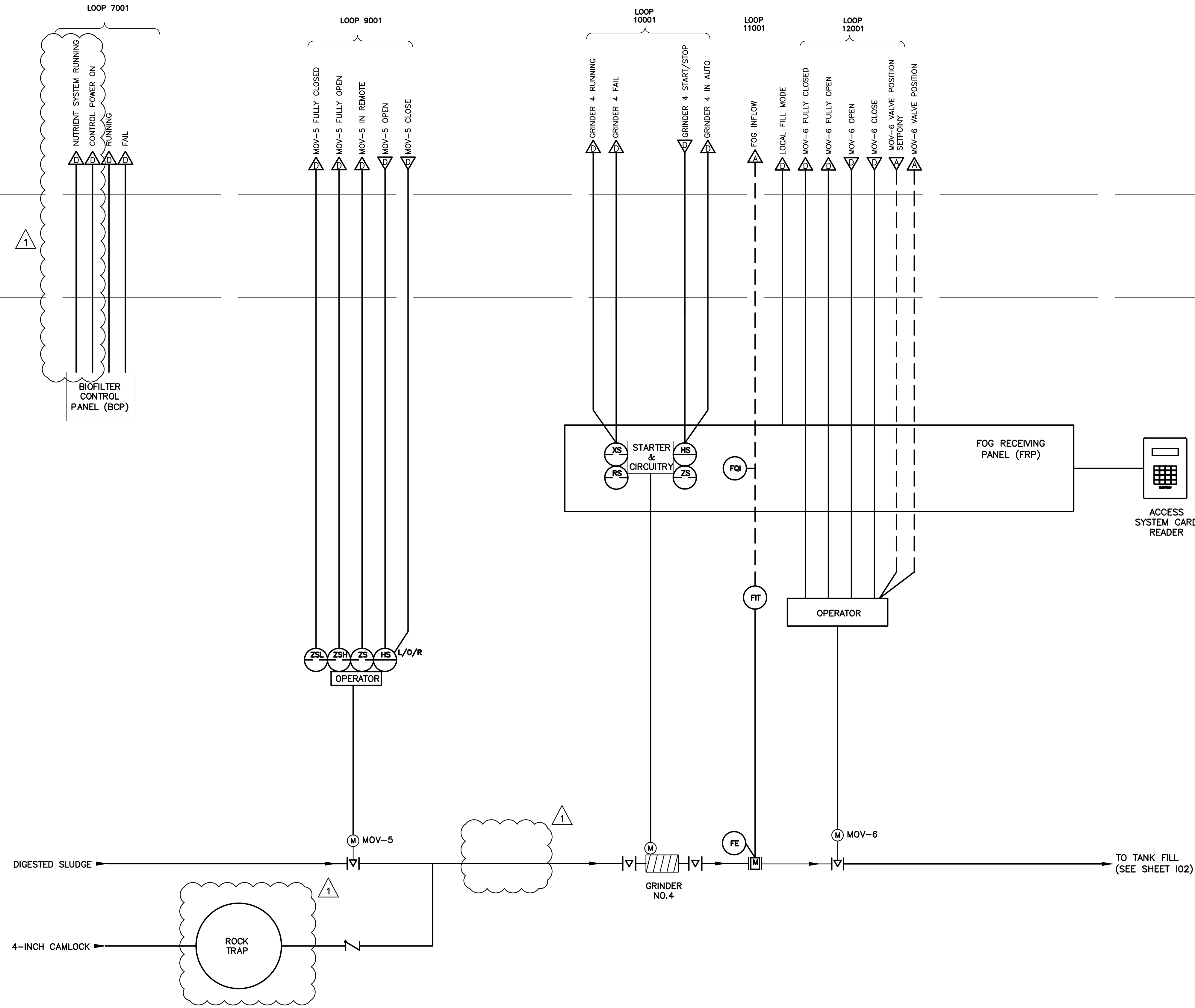
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SCALE:	NOTED
DRAWING NO.:	102
REVISION:	1
SHEET NO.:	45 OF 48



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ORANGE COUNTY UTILITIES
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 INSTRUMENTATION & CONTROLS
 FOG RECEIVING STATION - P&ID 2

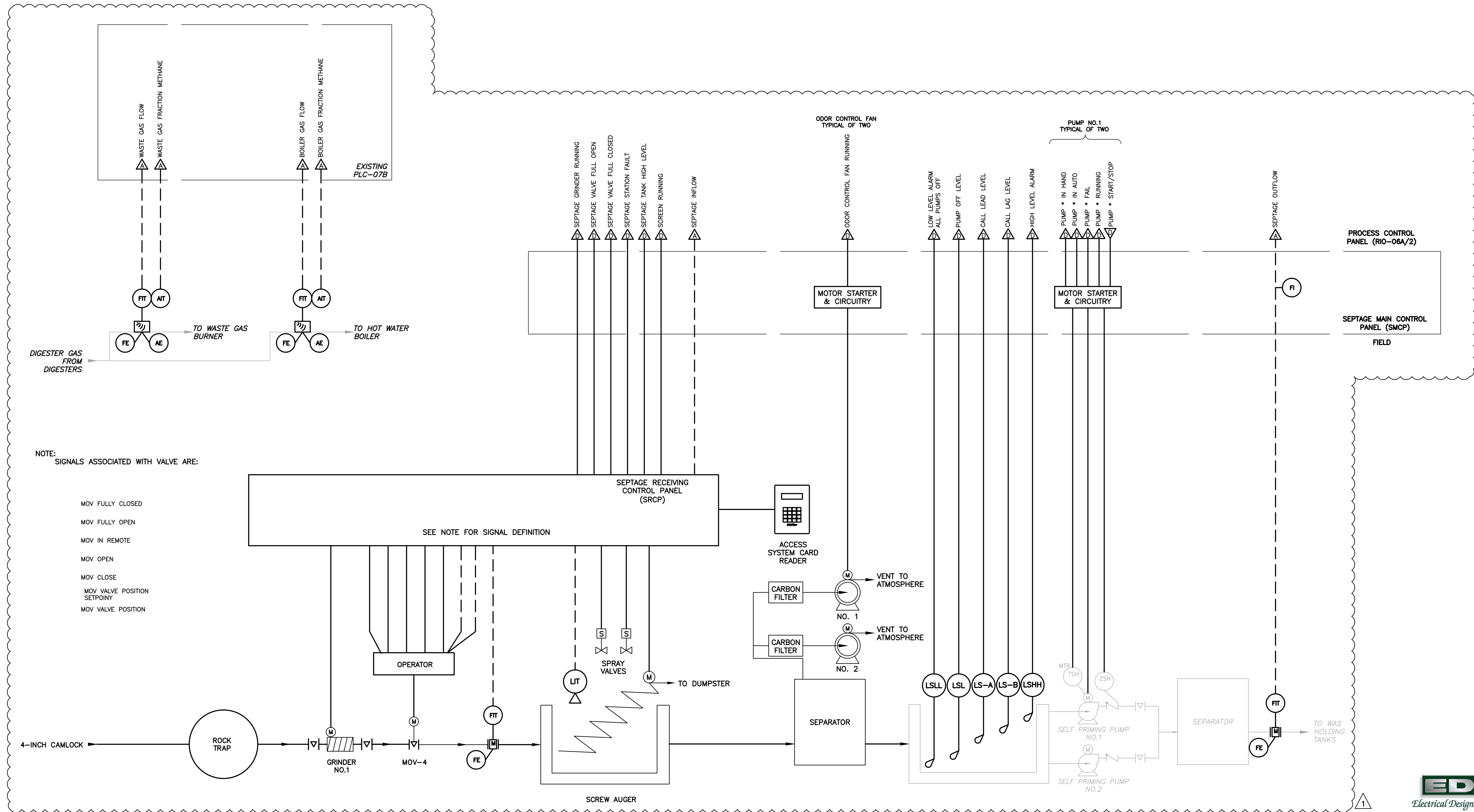
PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 1
DRAWING NO. 103	SHEET NO.: 46 OF 48



REISS ENGINEERING, INC.
 1016 SPRING VILLAS PT
 WINTER SPRINGS, FL 32708
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 C.O.A. No. 8079
 WILLIAM C. NELSON, P.E.
 Florida P.E. No. 42017

Parent Sheet Set: 110025_SWRF_FOG Rev/Plot by: DAMON MARTIN Rev on: 11/4/2016 11:46 AM Individual File Path: Y:\REISS\ORANGE COUNTY\SWRF_FOG & SEPTAGE RECEIVING STATIONS\10_ADDENDUM_3\DWG\104.DWG



NOTE: SIGNALS ASSOCIATED WITH VALVE ARE:

- MOV FULLY CLOSED
- MOV FULLY OPEN
- MOV IN REMOTE
- MOV OPEN
- MOV CLOSE
- MOV VALVE POSITION SETPOINT
- MOV VALVE POSITION

SEPTAGE RECEIVING CONTROL PANEL (SRCP)
SEE NOTE FOR SIGNAL DEFINITION

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Florida P.E. No. 42017



REV	DATE	DESCRIPTION	BY
Δ	11/4/16	ADDENDUM NO. 3	JRN
0	9/2016	ISSUED FOR BID	LMR

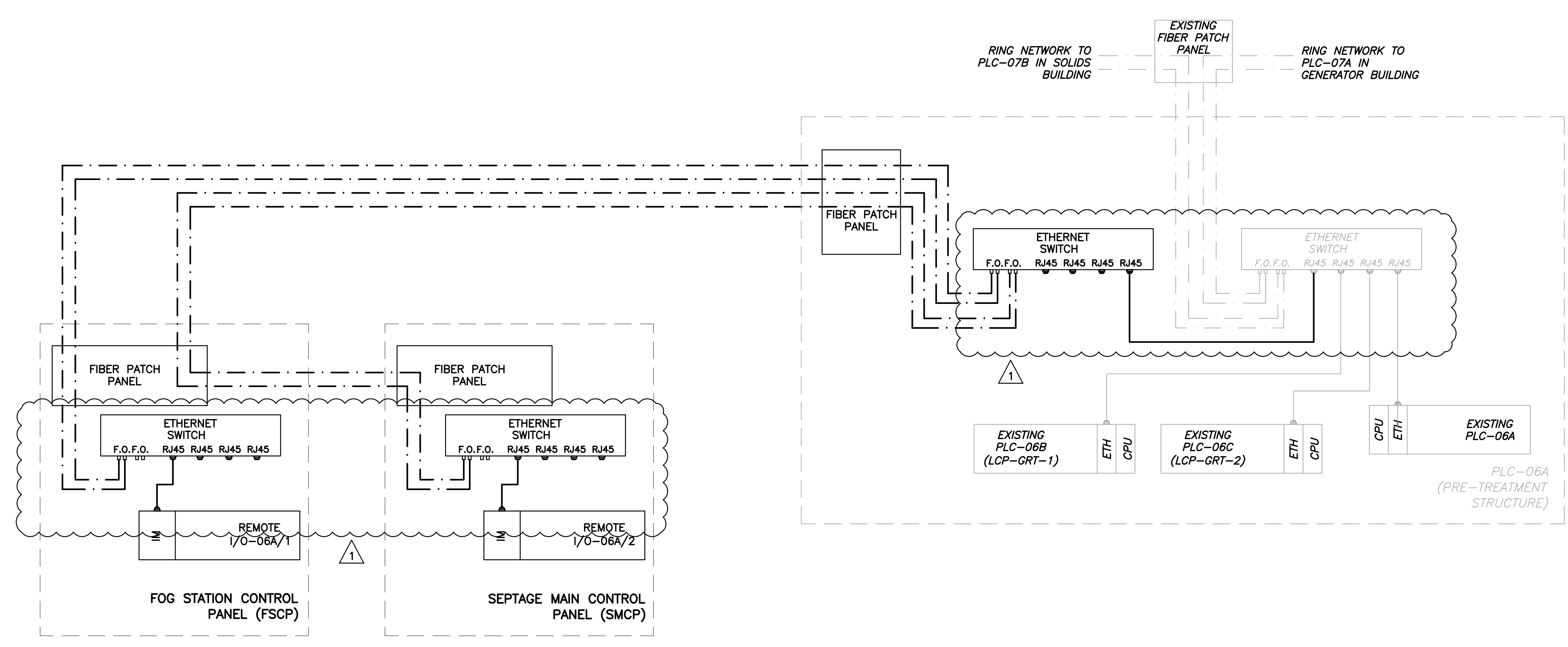
Issue Certification
William C. Nelson, P.E.
Florida P.E. No. 42017
Electrical Design Associates
Certificate of Authorization No. 8079
6965 Piazza Grande Ave., Ste. 412
Orlando, FL 32835

Designed_DD
Drawn_RRM
Checked_LMR
Reviewed_DD
Approved_LMR

ORANGE COUNTY UTILITIES
SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
INSTRUMENTATION & CONTROLS
SEPTAGE RECEIVING STATION - P&ID

PROJECT NO.:	110025
SCALE:	NOTED
REVISION:	1
DRAWING NO.:	104
SHEET NO.:	47 OF 48

RE REISS ENGINEERING, INC.
1016 SPRING VILLAS PT
WINTER SPRINGS, FL 32708
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Parent Sheet Set: 110025_SWFR_FOG_Rev/Plot by: DAMON MARTIN Rev on: 11/4/2016 11:53 AM Individual File Path: Y:\REISS\ORANGE COUNTY\SWFR_FOG & SEPTAGE RECEIVING STATIONS\10_ADDENDUM_3\DWG\105.DWG



REV	DATE	DESCRIPTION	BY
Δ	11/4/16	ADDENDUM NO. 3	JRN
0	9/2016	ISSUED FOR BID	LMR

Issue Certification
 William C. Nelson, P.E.
 Florida P.E. No. 42017
 Electrical Design Associates
 Certificate of Authorization No. 8079
 6965 Piazza Grande Ave., Ste. 412
 Orlando, FL 32835

Designed DD
 Drawn RRM
 Checked LMR
 Reviewed DD
 Approved LMR

LINE IS 1/4" AT FULL SIZE
 LINE IS 1/8" AT HALF SIZE

ORANGE COUNTY UTILITIES
 SOUTH WATER RECLAMATION FACILITY FOG & SEPTAGE RECEIVING STATIONS
 INSTRUMENTATION & CONTROLS
 PARTIAL NETWORK BLOCK DIAGRAM

PROJECT NO.: 110025	
SCALE: NOTED	REVISION: 1
DRAWING NO. 105	SHEET NO.: 48 OF 48



REISS ENGINEERING, INC.
 1016 SPRING VILLAS PT
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 WILLIAM C. NELSON, P.E.
 Florida P.E. No. 42017

- 5. Q. Is a backflow device required on the septage reclaimed line?**
- A. Yes
- 6. Q. Are expansion joints required for the high inlet on the FRP tanks?**
- A. No.
- 7. Q. Please confirm connection point of the 4" Digester Sludge Line. C04 does not indicate a termination point.**
- A. The intent is to connect the 4" digester sludge line to the Anaerobic Digester No. 2 recirculation system. Connection to be made by installing 16" x 4" flanged tee with 4" flanged plug valve on the 16" discharge line between Digester No. 2 Mixing Chopper Pumps. See revised drawing C03 attached.
- 8. Q. Is encasement required on existing facilities located under the proposed concrete areas? If so, please detail the lines subject to this encasement.**
- A. Existing facilities have been relocated from proposed concrete areas. See revised drawing M01 attached.
- 9. Q. Will septage deliveries be rerouted during construction operations or will the contractor need to coordinate continuing operations?**
- A. As far as practical, the septage receiving station will remain in service. We understand some shutdowns will be required in order to complete the work.
- 10. Q. Please provide specifications for the proposed containment drain valve.**
- A. The containment drain valve shall be an MJ plug valve in accordance with Specification Section 15100. The valve shall have a 2" square nut for use with an extended "T" handle. A valve box shall be provided.
- 11. Q. Please specify the shutdown window available for the installation of the proposed gas meters.**
- A. 6 Hours.
- 12. Q. Is the 8" of compacted granular fill required under all proposed concrete slabs & pads or just those under the proposed metal building?**
- A. The 8" of compacted granular fill shall be provided at the footings and slabs-

on-grade at the metal building and at the septage receiving elevated pad.

13. Q. Will the adjacent roadway need to remain in operation during construction? If so, to what level of functionality? (i.e. one lane, one lane with flaggers, temp road for two way travel, etc.)

A. Yes, the roadway will need to remain open during construction to allow one-way passage of the septage trucks. We understand some complete road shutdowns will be required in order to complete the work.

14. Q. Will a source of suitable fill be available on site?

A. Yes, the onsite source of fill will be as directed by the County's RPR. The general location of the stockpile is in the southern portion of the plant site.

15. Q. Will there be a location available on site to dispose of any unneeded strippings/unsuitable/over excavated materials generated?

A. Yes, strippings and over excavated materials may be moved to their respective onsite stockpile areas as directed by the County's RPR. Any contaminated soils will be disposed offsite.

16. Q. Since some of the following questions pertain to PLC-6A being updated with S7-1500 modules as part of the current Phase V project, what is the anticipated schedule for this work on the FOG & Septage system? I believe that the PLC-6A update is scheduled for install by May 2017.

A. Work on the FOG and Septage system should assume the Phase V work will be completed first.

17. Q. The CPU at PLC-6A is scheduled to be replaced with a Siemens S7-1500 CPU as part of the Phase V improvements at SWRF. Should the Remote I/O racks utilize components from the S7-1500 family as well?

Interface Module (PN):	6ES7155-5AA00-0AC0
Digital Inputs (16 pt):	6ES7521-1BH00-0AB0
Digital Outputs (16 pt relay):	6ES7522-5HH00-0AB0
Analog Inputs (8 pt):	6ES7531-7NF10-0AB0
Analog Outputs (8 pt):	6ES7532-5HF00-0AB0
PLC Power Supply (70W):	6EP1332-4BA00
Mounting Rail:	6ES7590-1AE80-0AA0

A. Specifications and drawings have been revised to require S7-1500 components for the Remote I/O racks.

18. Q. The Phase V improvements at SWRF already include a new plant network switch for PLC-6A. Could a second switch of the same type (X304-2FE) be added to PLC-6A to separately handle the Remote I/O fiber network? Adding an X304-2FE is about \$1400, adding the specified XM308M with required multi-media modules is about \$6000.

A. Network drawing has been revised to add the new switch in PLC-06A.

19. Q. The network drawing (Dwg. No. 105, Sheet 48) indicates a fiber optic run that goes all the way to the Interface Module on the Remote I/O rack. I believe this was an option with S7-300 hardware, but is not an option for the S7-1500 family. Should an additional fiber optic network switch (X304-2FE) be added to both Remote I/O panels?

A. Network drawing and specifications have been revised.

20. Q. Section 13591 Par 2.03.D calls for the use of Fiber Optic Epoxy Connectors. All the work on Phase V has been specified to use Factory Fiber Optic Pigtails and perform Fusion Splicing to connect the field cables. Will fusion splicing be acceptable on this bid?

A. Specification 13591 has been revised to reflect the approach used for Phase V.

21. Q. The specification (13300 Par 2.04.A.4) calls for a 40W fluorescent panel light. Most recent work at OCU SWRF has been specified to use LED panel lighting. Will LED panel lighting be acceptable?

A. Specification 13300 has been revised to require LED panel light.

22. Q. The drawings note that fittings/valves/flow meter and other appurtenances need to be rated for 250psi minimum working pressure. It is also specified that the FOG2 lines be tested to 250psi in Specification #15044. The specified plug valves (200 psi discharge, 175 psi feed) and check valves (200psi) do not meet that testing criteria. Please clarify how pipe testing of these pipe runs will be accomplished on site.

A. All FOG2 valves, appurtenances and flow meter shall have 250 psi minimum working pressure. Tapping valve at tie-in point shall be ductile iron with drip tight shutoff. Plug valves shall be ductile iron as follows: DeZurik PEC ductile iron, Pratt Ballcentric ductile iron, or Valmatic ductile iron. Bi-directional plug valves are preferred. However, if plug valves are unidirectional, they shall be oriented to be drip tight against downstream pressure. Check valves shall be ductile iron, resilient flapper type, instead of swing check, as follows: American Flow Control 2100, M&H Kenflex, or Mueller Flexible Disc, with epoxy coated interior and

exterior, with EPDM encapsulated steel flapper with totally encapsulated fabric reinforcing. Pressure testing shall be done for the FOG pump discharge piping as an assembly prior to connecting the FOG pumps. The assembly will be isolated by blind flanges at pump discharge tie-in points and closed tapping valve at discharge tie-in. Plug valves and check valves shall be open during the pressure test.

23. Q. Drawing detail 4/S03 appears to show 2 grated openings in the new containment area, but the plan view on Drawing S01 only shows 1. Please verify there is only 1 grated area.

A. Only one grated opening is to be provided.

24. Q. Please confirm details for Septage Receiving Area 12" Slab and Containment Wall and Curb referenced on Drawing M05 is actually 8" as shown on detail D/S05.

A. 8-inch is correct.

25. Q. Please confirm the 12" concrete pavement referenced is 8" as shown on Drawing D/S05 with 12" thickened edges.

A. 8-inch is correct.

26. Q. For specification section 11310, 2.06 A, will the County allow Hydromatic pumps as an approved equal to Gorman-Rupp for the self-priming pumps?

A. The County does not consider requests for substitution during bidding. The selected Contractor may submit a request for a product substitution as a submittal after Notice of Award, in accordance with the General Conditions.

27. Q. For specification section 11310, Paragraphs 2.01,B.10 and 2.02, A 6, will the County allow the following changes to the pump specifics?

- Flange size: up to 6" suction/discharge
- Maximum pump speed: up to 1200 RPM

A. No, provide 4" suction/discharge as specified on the Drawings and provide 1150 RPM pump as specified.

28. Q. For specification section 11530, Paragraph 2.02, B – Service Conditions, the specification states:

H2S Performance 99% removal, or 0.2 ppm/V, whichever results in the higher removal

VOC Performance 80% removal, or less than 600 odor units (D/T), whichever results in the higher removal.

Please consider suggested language as follows:

H2S Performance 99% removal, or < 0.2 ppm/V, whichever is least stringent.

VOC Performance 80% removal, or less than 600 odor units (D/T), whichever is least stringent.

The reason for this is the concern that the actual inlet concentration may be significantly LOWER than specified, in which case, it is more challenging (and potentially impossible) to guarantee >99% removal (of H2S) or > 80% removal (of odor) given very low inlet conditions. Hence the "Or less than" provision in the specification language.

A. The requirements in this paragraph are revised as follows:

H2S Performance 99% removal for inlet H2S concentrations of 20 ppm/V or greater. Outlet H2S concentration of 0.2 ppm/V or less for inlet H2S concentrations less than 20 ppm/V

VOC Performance 80% removal for inlet VOC of 3000 odor units (D/T) or greater. Outlet VOC concentration of 600 odor units (D/T) or less for inlet VOC less than 3000 odor units (D/T)

B. SPECIFICATIONS

1. Specification Section 01065, Part 1, revise as follows:

B. Permits by Owner: The Owner prior to the advertisement of the project has applied for permits with the following agencies:

1. FDEP Minor Modification
2. FDEP Environmental Resource Permit
3. Commercial Building Permit ~~Fees for Review shall be paid by Contractor, See Permit documents and links to the Division of Building Safety Website.~~ Commercial Building Permit Review and Application Fees for Permits will be paid by the Owner. All other fees are by the Contractor.

C. Permits by Contractor

1. The Contractor shall apply for and obtain ~~the Commercial Building Permit and~~ all the Subtrade Commercial Building Permits.

2. Specification Section 11332, Part 2, 2.01, B, 8, revise as follows:

8. Auger Screen (Septage Receiving Station Only)

3. Add specification section 16670 – Lightning Protection System to the specification TOC. Revised TOC attached.

4. Specification Section 15100, Part 2.02, C, 13, revise as follows:

13. Electric actuators shall be provided as indicated in the Specifications and Drawings and shall be manufactured by Auma, Model SG 1 for quarter-turn applications and Model SA for multi-turn applications. Electrical actuators shall be 480V, 3-phase and include remote position transmitter and mechanical position switch and position indicator.

4. Specification Section 01000, Paragraph 1.01, A, 3rd paragraph. Revise the last sentence as follows:

“The proposed flow meter will be used for billing purposes based on the incoming flows, and the ~~existing~~ new flow meter will be used to determine the total flow from the Septage Receiving Station to the WAS storage tanks.”

5. Specification Section 11332, paragraph 2.01. Insert new paragraph C as follows:

“C. Control Panels. The control panels shall provide for monitoring and control from the plant control system. This shall include interface for hard-wired signals with the plant control system as shown on the ‘I’ sheets in the Contract Drawings and the ability to transfer operations between the panel and the plant control system.”

6. Specification Section 13300, paragraph 1.01, C. Delete Item 3 and renumber Item 4:

~~“3. Electro Design Engineering, Inc.
4. 3. No equal.”~~

7. Specification Section 13300, paragraph 1.02. Insert new paragraph C as follows:

“C. Specification Section 11600 defines gas flow and quality meters to be furnished by the SYSTEM SUPPLIER.”

8. Specification Section 13300, paragraph 1.03, B. Revise as follows:

“B. Each new control panel shall include the following major control system elements:

1. A remote input/output (RIO) drop to interface with field instruments and process equipment located within its general area.
2. A fiber-optic PROFINET interface module.
3. A fiber patch panel terminating all incoming fibers

4. A mixed media Ethernet switch interconnecting the RIO with the Plant Control System.”

9. Specification Section 13300, paragraph 2.01. Insert the following new paragraph:

“I. All discrete inputs entering a control panel shall be wetted by 120 VAC. Provide isolation relays within the panel where necessary to accommodate this requirement.”

10. Specification Section 13300, paragraph 2.02. Insert the following new paragraph:

“G. Discrete Inputs. Lightning and surge suppression shall be provided on all discrete signals entering the panel.”

11. Specification Section 13300, paragraph 2.04. Insert the following new paragraphs:

“D. Limit Switch. The limit switch shall detect the closed position of a hatch, door, etc. by means of an actuator. The actuator shall energize the switch while the door is closed.

1. General:

- a. Actuator orientation: As required for application
- b. Actuator mechanism: Adjustable lever roller.
- c. Switch shall not be mounted on the moving portion of the door or hatch.

2. Materials:

- a. Normal applications: Phosphate coated zinc with Epoxy coating.
- b. Corrosive locations: All 316 Stainless Steel including actuating lever.

3. Ratings:

- a. NEMA 4X for normal applications.
- b. NEMA 6 where potential submergence exists.
- c. Use explosion proof switches with factory installed cable for all Class I rated locations.

4. Electrical:

- a. Normally open and normally closed dry contacts.

b. Dry contact rated to 10 Amps at 120 VAC.

5. Options:

a. Provide stainless steel supports/mounting and strike plates as required.

6. Manufacturer, model:

a. Honeywell, model HDLS or LSX as applicable.

b. Approved equal.

E. Pressure Switch. The pressure switch shall sense pressure variations by means of a diaphragm and operate a snap action switch when the pressure reaches an adjustable level. Pressure switches shall be equipped with diaphragm seals where shown on the drawings

1. Performance:

a. Adjustable deadband over measurement range.

b. Automatic reset.

c. DPDT contacts.

d. Setpoint and deadband adjustments visible from outside the enclosure.

2. Materials:

a. Pressure Chamber Wetted parts – 316 Stainless Steel.

b. Diaphragm and O-ring – Buna-N.

c. Housing – Low copper aluminum with polyurethane paint.

3. Ratings:

a. NEMA 4X.

b. Electrical:

c. Contacts rated 15 Amps at 120 V AC.

4. Manufacturer, Models:

a. Mercoid, DAW 7000 series.

b. Approved equal.

F. Temperature Transmitter. The temperature transmitter shall comprise a sensor (Temperature Element, TE) inserted into the process liquid and an electronics unit (Temperature Indicating Transmitter, TIT) that converts the sensor signal into a standard analog signal proportional to temperature.

1. Performance:

- a. Overall accuracy shall be less than or equal to 0.5 degrees C
- b. Sensor shall be Type K thermocouple mounted within a thermowell.
- c. Immersion length shall be half the pipe diameter.
- d. Transmitter shall be direct mounted via a nipple-union-nipple connection.

2. Materials:

- a. Thermowell – 316 Stainless Steel
- b. Transmitter – Polyurethane painted low copper aluminum

3. Ratings:

- a. Enclosure – NEMA 4X

4. Electrical:

- a. Transmitter excitation: 12 to 40 Volts DC.

5. Options

- a. Provide surge/lightning protection within the transmitter.
- b. Provide integral LCD indicator with displayed value in degrees Fahrenheit

6. Manufacturer, model:

- a. Rosemount, 3144P
- b. Endress & Hauser, TMT 162
- c. Approved equal.”

12. Specification Section 13300, paragraph 2.04, A, 3. Revise as follows:

“3. The panel shall be a ~~ventilated NEMA-4X~~ NEMA 3R, white-painted Type 316 stainless steel enclosure with 30% spare mounting space for future, additional equipment. The enclosure shall have a three point latch with provisions for padlocking the door and a dead front inner door unit for mounting controls. All exterior hardware and hinges shall be stainless steel.

13. Specification Section 13300, paragraph 2.04, A, 4. Revise as follows:

“4. The panel shall be equipped with an internal, hand-switch controlled, 40-watt fluorescent LED light and 120V, 15 amp, duplex utility receptacle. These shall be serviced through a dedicated breaker.”

14. Specification Section 13300, paragraph 2.06, C. Delete:

~~“The PLC shall comprise the following modules:~~

- ~~1. Power Supply Module. The power supply module shall convert 120 VAC power into the DC voltages necessary to power the rest of the rack. Siemens model PS 307.~~
- ~~2. PROFINET Interface Module. The Interface Module shall function as the receiver (slave) connection with PLC-06A. Provide with appropriate fiber to copper converter, if not internal to the Interface Module.~~
- ~~3. Input/Output (I/O) Modules. Provide sufficient I/O modules to accommodate the signals shown on the Contract drawings plus an additional 15% fully wired spares of each type. Use the following modules:
 - ~~a. Analog Input Module. Eight, optically isolated analog input channels. Siemens model S7 331.~~
 - ~~b. Analog Output Module. Four, isolated analog output channels. Siemens model S7 332.~~
 - ~~c. Discrete Input Module. Sixteen 120 VAC input channels. Siemens model S7 321.~~
 - ~~d. Discrete Output Module. Eight 120 VAC, 2A rated relay outputs in two groups of four. Siemens model S7 322.”~~~~

And Replace with new paragraph as follows:

“C. The PLC shall comprise the following S7-1500 series modules:

1. Power Supply Module. The power supply module shall convert 120 VAC power into the DC voltages necessary to power the rest of the rack. Siemens Part No. 6EP1332-4BA00.
2. PROFINET Interface Module. The Interface Module shall function as the receiver (slave) connection with PLC-06A. Provide Siemens Part No. 6ES7155-5AA00-0AC0.
3. Mounting Rail. Provide Siemens Part No. 6ES7590-aAE80-0AA0.
4. Input/Output (I/O) Modules. Provide sufficient I/O modules to accommodate the signals shown on the Contract drawings plus an additional 15% fully wired spares of each type. Use the following modules:
 - a. Analog Input Module. Eight analog input channels. Siemens Part No. 6ES7531-7NF10-0AB0.

- b. Analog Output Module. Eight analog output channels. Siemens Part No. 6ES7532-5HF00-0AB0.
- c. Discrete Input Module. Sixteen input channels. Siemens Part No. 6ES7521-1BH00-0AB0.
- d. Discrete Output Module. Sixteen relay outputs. Siemens Part No. 6ES7522-5HH0-0AB0.

15. Specification Section 13300, paragraph 2.06, D. Delete:

~~“Ethernet PROFINET switch for PLC-06A. A switch with the required number of ports is required for the connection of the additional fiber optic cables. The switch shall be Siemens X-series and meet the following requirements:~~

- ~~1. A minimum of four (4) fiber optic ports BFOC style, two of which are to be used for current redundant fiber optic ring topology (Siemens).~~
- ~~2. A minimum of four (4) copper RJ45 ports.~~
- ~~3. The capability of replacing the current OSM TP62.~~
- ~~4. Integrated Redundancy manager~~
- ~~5. Provide:~~
 - ~~a. Siemens Scalance XM-300 model XM308-2MTS with two dual-multimedia pluggable modules – Siemens MM991-2~~
 - ~~b. Approved equal”~~

And Replace with new paragraph as follows:

“D. Mixed Media Ethernet Switch. The switch shall be Siemens X-series and meet the following requirements:

- 1. Two (2) fiber optic ports.
- 2. Four (4) copper RJ45 ports.
- 3. Provide Siemens Scalance X304-2FE, no equal.”

16. Specification Section 13300, paragraph 3.04. Insert the following new paragraphs:

“H. FOG Feed Pumps. Provide an operator controllable software HAND/OFF/AUTO select switch and repeat cycle timer with up to four on/off cycles per hour for each pump.

- 1. While the switch is in HAND, run the pump.
- 2. While the switch is in OFF, stop the pump.
- 3. While the switch is in AUTO, run the pump based on the repeat cycle timer.

I. Digester Gas Flow Monitoring. Sum, totalize and record the two digester gas flow rates.

17. Specification Section 13591, paragraph 2.03, D. Delete:

~~“Fiber optic cable connectors. All optical fibers shall be terminated with connectors that are type ST for multimode cable.~~

~~1. Epoxy Connectors: Epoxy connectors shall be provided to terminate each fiber in the cable. Connector style, ST shall be coordinated with the patch panels and field devices that will interface directly with the cable. Connectors shall be compatible with the supplied cable. Connector loss shall be no greater than 0.3 dB. Loss measurement shall be performed at the time of splicing and documentation shall be furnished for each termination. Connectors shall be Corning Cable Systems Connectors, or equal.~~

~~2. Crimp Style Connectors. Not used.”~~

And Replace with new paragraph as follows:

“D. Fiber Optic Cable Connectors. All optical fibers within each cable are to be connected via fusion spliced factory cables and connected to patch points within each fiber optic patch panel. Connector type used shall be consistent with the existing fiber installation.”

C. TABLE OF CONTENTS

See revised table of Contents as attached

D. DRAWINGS/ATTACHMENTS

- 1. See revised drawings M01 as attached**
- 2. See revised drawing C03 as attached.**
- 3. Existing septage receiving flow meter to be replaced. Revised drawings M04 and M05 are attached.**
- 4. Drawing E02: Replace Drawing E02 in its entirety with the attached Drawing E02 issued as part of this addendum.**
- 5. Drawing E03: Replace Drawing E03 in its entirety with the attached Drawing E03 issued as part of this addendum.**
- 6. Drawing E04: Replace Drawing E04 in its entirety with the attached Drawing E04 issued as part of this addendum.**
- 7. Drawing E07: Replace Drawing E07 in its entirety with the attached Drawing E07 issued as part of this addendum.**
- 8. Drawing E08: Replace Drawing E08 in its entirety with the attached Drawing E08 issued as part of this addendum.**

9. Drawing E09: Replace Drawing E09 in its entirety with the attached Drawing E09 issued as part of this addendum.
10. Drawing E10: Replace Drawing E10 in its entirety with the attached Drawing E10 issued as part of this addendum.
11. Drawing E16: Replace Drawing E16 in its entirety with the attached Drawing E16 issued as part of this addendum.
12. Drawing E17: Replace Drawing E17 in its entirety with the attached Drawing E17 issued as part of this addendum.
13. Drawing I02: Replace Drawing I02 in its entirety with the attached Drawing I02 issued as part of this addendum.
14. Drawing I03: Replace Drawing I03 in its entirety with the attached Drawing I03 issued as part of this addendum.
15. Drawing I04: Replace Drawing I04 in its entirety with the attached Drawing I04 issued as part of this addendum.
16. Drawing I05: Replace Drawing I05 in its entirety with the attached Drawing I05 issued as part of this addendum.

E. ACKNOWLEDGEMENT OF ADDENDA

- a. The Proposer shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of proposal.
- b. All other terms, conditions and specifications remain the same.

Receipt acknowledged by:

Authorized Signature

Date Signed

Title

Name of Firm