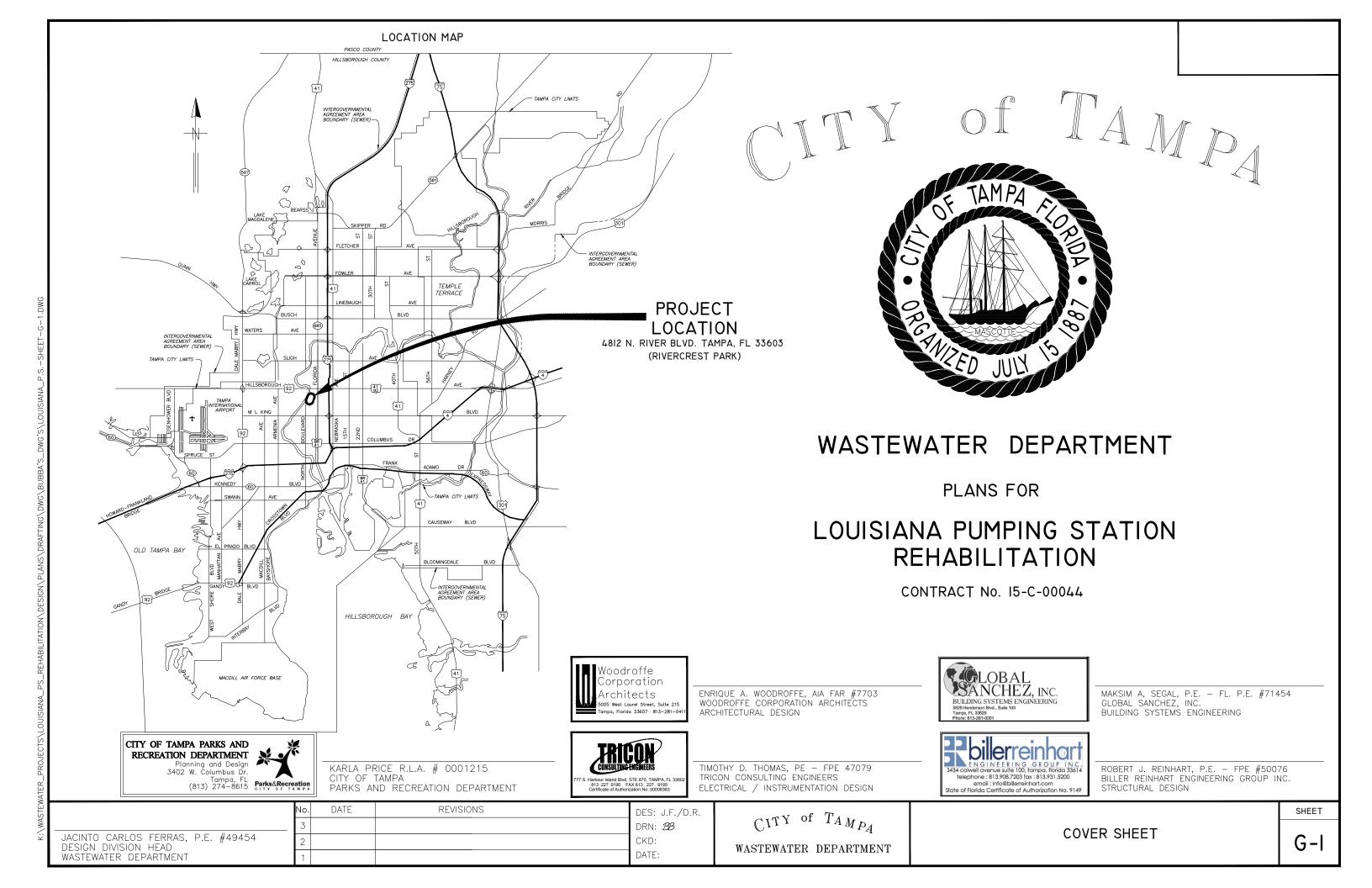
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Please Email ALL Questions:

MailTo:ContractAdministration@TampaGov.net

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456



SHEET No.	TITLE	SHEET No.	TITLE	SHEET No.	TITLE
	GENERAL		ARCHITECTURAL CON'T		ELECTRICAL
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G-3	GENERAL NOTES	A-27	FLORIDA PRODUCT APPROVALS	E-3	ELECTRICAL SCOPE OF WORK
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C-5	PROPOSED OUTSIDE PIPING PLAN		H.V.A.C.	E-I0 E-II	PROPOSED UPPER LEVEL ELECTRICAL EQUIPMENT LAYOUT PROPOSED LOWER LEVEL ELECTRICAL EQUIPMENT LAYOUT
C-6	PROPOSED FORCE MAIN SECTIONS	V0.I	MECHANICAL GENERAL	E-12	ELECTRICAL ROOM AND PUMP ROOM UNDERGROUND CONDUIT ROUTING
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C-9	PROPOSED INTERCONNECTION ""A""	V4.2	MECHANICAL UPPER LEVEL PROPOSED PLAN (LOUVERS)	E-15	PROPOSED UPPER LEVEL POWER PLAN
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C-I3	RIVERCREST TRAIL AERIAL PLAN VIEW & MISCELLANEOUS DETAILS (I OF 2)	VIO.I	MECHANICAL CONTROLS / SEQUENCE OF OPERATIONS	E-19	PROPOSED SCREEN ROOM DETAILS
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LS-I	LANDSCAPE PLAN	P3.1	PLUMBING UPPER LEVEL PROPOSED PLANS	E-24	CIRCUIT BREAKER CONTROL DIAGRAM (SHEET I OF 3)
LS-2	PLANT MATERIALS LIST AND TECHNICAL MAINTENANCE PLAN	P7.I	PLUMBING DETAILS	E-25	CIRCUIT BREAKER CONTROL DIAGRAM (SHEET 2 OF 3)
LS-3	LANDSCAPE DETAILS	P8.I	PLUMBING RISER DIAGRAMS	E-26	CIRCUIT BREAKER CONTROL DIAGRAM (SHEET 3 OF 3)
LS-4	LANDSCAPE NOTES AND TREE BARRICADE DETAIL AND NOTES		STRUCTURAL	E-27	REMOTE CONTROL CIRCUIT BREAKER PANEL (RCBP) DETAILS
IR-I	IRRIGATION PLAN	SI.0	GENERAL STRUCTURAL NOTES	E-28	REMOTE CONTROL CIRCUIT BREAKER PANEL WIRING DETAILS
IR-2	IRRIGATION PLAN ENLARGEMENT	SI.I	GENERAL STRUCTURAL NOTES	E-29	REMOTE CONTROL CIRCUIT BREAKER PANEL WIRING DETAILS
IR-3	IRRIGATION DETAILS	SI.2	GENERAL STRUCTURAL NOTES	E-30	CIRCUIT BREAKER CONTROL SCHEDULE
IR-4	IRRIGATION NOTES	SI.3	GENERAL STRUCTURAL NOTES	E-31	MOTOR CONTROL CENTER MCC-LPS ELEVATION
	MECHANICAL	\$1.4	GENERAL STRUCTURAL NOTES	E-32	MOTOR CONTROL CENTER MCC-LPS ONE-LINE DIAGRAM
M-I	UPPER LEVEL DEMOLITION PLAN	SI.5	GENERAL STRUCTURAL NOTES	E-33	ADJUSTABLE FREQUENCY DRIVES TYPICAL ELEVATIONS AND DETAILS
M-2	LOWER LEVEL DEMOLITION PLAN	\$2.0	LOWER LEVEL EXISTING PLAN	E-34	ADJUSTABLE FREQUENCY DRIVES TYPICAL CONTROL DIAGRAM (SHEET I OF 4)
M-3	PUMP ROOM DEMOLITION SECTION A-A	S2.I	UPPER LEVEL EXISTING PLAN	E-35	ADJUSTABLE FREQUENCY DRIVES TYPICAL CONTROL DIAGRAM (SHEET 2 OF 4)
M-4	EXISTING PUMP SUCTION DEMOLITION PLAN	\$2.2	EXISTING DEMOLITION PLAN	E-36	ADJUSTABLE FREQUENCY DRIVES TYPICAL CONTROL DIAGRAM (SHEET 3 OF 4)
M-5	UPPER LEVEL PROPOSED PLAN	S2.3	LOWER LEVEL FOUNDATION PLAN	E-37	ADJUSTABLE FREQUENCY DRIVES TYPICAL CONTROL DIAGRAM (SHEET 4 OF 4)
M-6	PROPOSED SECTIONS AND WEIR DETAILS	\$2.4	UPPER LEVEL FOUNDATION PLAN	E-38	VALVE CONTACT DEVELOPMENT CHART
M-7	LOWER LEVEL PROPOSED PLAN	S2.5	UPPER LEVEL GRATING FRAMING PLAN	E-39	MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET I OF 3)
M-8	PROPOSED PUMP ROOM SECTION C	\$2.6	ROOF FRAMING PLAN	E-40	MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET 2 OF 3)
M-9	PROPOSED PUMP ROOM SECTION D	S2.7	SCREEN ROOM FOUNDATION PLAN	E-41	MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET 3 OF 3)
M-10	PUMP SUCTION INSTALLATION DETAILS	S2.8	SCREEN ROOM GRATING FRAMING PLAN	E-42	AIR COMPRESSOR AND PUMP SUCTION VALVES CONTROL DIAGRAMS
M-II	VACUUM PRIMING SYSTEM SCHEMATIC	\$2.9	STEEL PLATE LAYOUT PLAN	E-43	ELECTRICAL DETAILS (SHEET I OF 2)
M-12	AIR PIPING SCHEMATIC DIAGRAM	\$3.0	DETAILS AND SECTIONS	E-44	ELECTRICAL DETAILS (SHEET 2 OF 2)
M-13	WATER; SUMP PUMP; AND PUMP SEAL SCHEMATIC DIAGRAMS	S3.1	DETAILS AND SECTIONS	E-45	ELECTRICAL SCHEDULES
M-14	MECHANICAL DETAILS	\$3.2	DETAILS AND SECTIONS	E-46	CONDUIT SCHEDULE (SHEET OF 4)
M-I5	PUMP STATION OPERATING ELEVATIONS AND FLOWS	\$3.3	DETAILS AND SECTIONS	E-47	CONDUIT SCHEDULE (SHEET 2 OF 4)
M-16	BACKUP MANUAL BAR SCREEN PLAN AND DETAILS	S3.4	DETAILS AND SECTIONS	E-48	CONDUIT SCHEDULE (SHEET 3 OF 4)
	ARCHITECTURAL	S3.5	ELEVATIONS DETAILS AND SECTIONS	E-49	CONDUIT SCHEDULE (SHEET 4 OF 4)
A-0	ARCHITECTURAL NOTES	\$3.6 \$3.7	DETAILS AND SECTIONS DETAILS AND SECTIONS		INSTRUMENTATION
A-I	DEMOLITION FLOOR PLAN	\$3.7 \$3.8	DETAILS AND SECTIONS DETAILS AND SECTIONS	I-I	INSTRUMENTATION CONTROL LEGEND AND SYMBOLS
A-2	PROPOSED / ADDITION FLOOR PLAN	\$3.8 \$3.9	DETAILS AND SECTIONS DETAILS AND SECTIONS	I-2	EXISTING INSTRUMENTATION AND CONTROLS PLAN
A-3	DEMOLITION LOWER LEVEL FLOOR PLAN	\$3.9 \$4.0	DETAILS AND SECTIONS DETAILS AND SECTIONS	1-3	PROPOSED INSTRUMENTATION AND CONTROLS PLAN
A-4	LOWER LEVEL FLOOR PLAN	\$4.0 \$4.1	DETAILS AND SECTIONS DETAILS AND SECTIONS	1-4	NEW BUBBLER CONTROL PANEL BP-LOI DETAILS (SHEET I OF 2)
A-5	DEMOLITION ROOF PLAN	\$4.2	DETAILS AND SECTIONS DETAILS AND SECTIONS	I-5	NEW BUBBLER CONTROL PANEL BP-LOI DETAILS (SHEET 2 OF 2)
A-6	ROOF PLAN		DETAILS AND SECTIONS DETAILS AND SECTIONS	1-6	PROPOSED PUMP CONTROL/MONITORING EQUIPMENT RACK DETAILS (TYPICAL OF 3)
A-7	DEMOLITION EXTERIOR ELEVATIONS		DETAILS AND SECTIONS DETAILS AND SECTIONS	1-7	NEW PUMP CONTROL PANEL CP-LOI DETAILS (SHEET I OF 2)
A-8	DEMOLITION EXTERIOR ELEVATIONS	\$4.4 \$4.5	DETAILS AND SECTIONS DETAILS AND SECTIONS	I-8	NEW PUMP CONTROL PANEL CP-LOI DETAILS (SHEET 2 OF 2)
A-9	EXTERIOR ELEVATIONS	\$4.6	DETAILS AND SECTIONS DETAILS AND SECTIONS	1-9	PUMP CONTROL PLC ANALOG I/O WIRING DIAGRAM (SHEET I OF 2)
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A-II	DEMO AND PROPOSED SECTION		DETAILS AND SECTIONS	1-11	PUMP CONTROL PLC DISCRETE I/O WIRING DIAGRAM (SHEET I OF 3)
A-I2	ROOF DETAILS	\$4.9	DETAILS AND SECTIONS	1-12	PUMP CONTROL PLC DISCRETE I/O WIRING DIAGRAM (SHEET 2 OF 3)
A-I3	ROOF DETAILS	\$5.0	DETAILS AND SECTIONS	I-I3	PUMP CONTROL PLC DISCRETE I/O WIRING DIAGRAM (SHEET 3 OF 3)
A-14	ROOF DETAILS	S5.I	DETAILS AND SECTIONS	1-14	PUMP CONTROL PANEL CP-LOI P&ID
A-15	ROOF DETAILS		DETAILS AND SECTIONS	I-I5	PUMP CONTROL PANEL CP-LOI P&ID (CONTINUED)
A-16	ROOF DETAILS DOOR; WINDOW AND LOUVER SCHEDULES	\$5.3	DETAILS AND SECTIONS	1-16	SWITCHGEAR LPS PLC P&ID
A-17		S5.4	DETAILS AND SECTIONS	1-17	COMMUNICATIONS RISER DIAGRAM
A-18	WINDOW AND LOUVER HEAD; JAMB; SILL DETAILS		DETAILS AND SECTIONS	1-18	SWITCHGEAR LPS PLC I/O WIRING DIAGRAM (AUTOMATIC TRANSFER SCHEME)
A-19	DOOR HEAD; JAMB; SILL DETAILS FLORIDA PRODUCT APPROVALS		DETAILS AND SECTIONS	1-19	SWITCHGEAR LPS PLC I/O WIRING DIAGRAM (AUTOMATIC TRANSFER SCHEME)
A-20	FLORIDA PRODUCT APPROVALS FLORIDA PRODUCT APPROVALS	\$5.7	DETAILS AND SECTIONS	I-20	FLOW METER REMOTE TRANSMITTER DETAILS
A-21 A-22	FLORIDA PRODUCT APPROVALS FLORIDA PRODUCT APPROVALS	\$5.8	DETAILS AND SECTIONS	1-21	PUMP NO. I CTC VIBRATION MONITOR DETAILS (TYPICAL OF 3)
A-LL			DETAILS AND SECTIONS	1-22	PROPOSED SAMPLE PUMP CONTROL SCREENS
A-23	FLORIDA PRODUCT APPROVALS			1-23	PROPOSED SAMPLE ANNUNCIATOR SCREENS

JACINTO CARLOS FERRAS P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

No. DATE REVISIONS

DES: D.R./J.F.
DRN: 28
CKD:
DATE:

 \mathbb{C}^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION INDEX SHEET G-2

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GENERAL NOTES

- CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE ENGINEER AND CITY OF TAMPA WASTEWATER DEPARTMENT PERSONNEL PRIOR TO COMMENCING ACTIVITIES.
- 2. ALL HORIZONTAL COORDINATES CONTAINED HEREIN ARE IN US SURVEY FEET AND REFLECT A PROJECTION OF GRID COORDINATES IN THE STATE PLANE COORDINATE SYSTEM, FLORIDA WEST ZONE, NAD 1983, BASED ON THE FLORIDA PERMANENT REFERENCE NETWORK (FPRN). ALL ELEVATIONS SHOWN ARE BASED ON NGVD 1929.
- EXISTING DIMENSIONS AND ELEVATIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. TRUE DIMENSIONS AND ELEVATIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWING SUBMITTALS.
- 4. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE). NO FACSIMILE COPIES OR POOR QUALITY COPIES WILL BE ACCÈPTED FOR SUBMITTAL REVIEW.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING, INSTALLING, LEVELING, ALIGNING, AND TESTING (FLOW AND VIBRATION) ALL MOTORS AND PUMPS.
 PROCEDURES FOR INSTALLATION, AS OUTLINED IN THE HYDRAULICS INSTITUTE STANDARDS, MOST CURRENT EDITION, SHALL BE ADHERED TO. THE SPECIFIC PROVISIONS CONTAIN ADDITIONAL INFORMATION. IF THERE IS A CONFLICT BETWEEN THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS AND THE HYDRAULIC INSTITUTE STANDARDS, THE MORE STRINGENT STANDARD SHALL BE FOLLOWED.
- THE CONSTRUCTION SITE SHALL BE MAINTAINED IN AS NEAT AND ORDERLY CONDITION AS POSSIBLE DURING CONSTRUCTION OPERATIONS. CONTRACTOR SHALL SECURE THE PUMP STATION SITE, BYPASS PUMPING SYSTEM AND ANY TEMPORARY EQUIPMENT / MATERIAL LAYOUT AREA WITH TEMPORARY PERIMETER SECURITY FENCES, WITH PRIVACY CANVAS, OF AT LEAST 6 FT. HIGH.
- REPLACE OR INSTALL AS SHOWN, ALL AIR SUPPLY, WATER SUPPLY, DRAINS AND VACUUM PIPING. LAYOUT NEW PIPING AS REQUIRED FOR THE NEW EQUIPMENT. ISOLATION BALL VALVES AND PIPE UNIONS FOR PRESSURE PIPES SHALL BE PROVIDED TO ALLOW FOR THE REMOVAL OF EQUIPMENT. PIPE MATERIALS SHALL BE AS FOLLOWS:
- AIR / VACUUM / BUBBLER PIPING 316 S.S. (SWAGELOK COMPRÉSSION, WELDED, OR EQUAL)
- WATER / SEWER & FLOOR DRAIN / VENT PIPING SCH. 80 PVC
- PUMP ANCHOR BOLTS SHALL BE SIZED PER PUMP MANUFACTURER'S RECOMMENDATIONS. ANCHOR BOLTS SHALL BE DOUBLE-NUTTED AND SHALL HAVE SUFFICIENT LENGTH SO THAT THE BOLTS EXTEND BEYOND THE FASTENING NUTS BY A MINIMUM OF 1/2 INCH.
- 9. ALL HARDWARE, UNLESS OTHERWISE NOTED, SHALL BE TYPE 316 STAINLESS STEEL.
- PROPOSED STEEL PIPE SPOOL PIECES AND FITTINGS, WHERE INDICATED (INCLUDING PUMP SUCTION REDUCERS), SHALL BE FABRICATED TO SUIT THE DIMENSIONS OF THE PROPOSED EQUIPMENT OR LAYOUT, AND SHALL BE ASTM A 36 STEEL WITH A MINIMUM WALL THICKNESS OF ½ INCH. STEEL PIPE SHALL BE LINED AND PAINTED PER SPECIFICATIONS. FABRICATED STEEL FITTINGS SHALL BE MANUFACTURED BY AN AWWA CERTIFIED FABRICATOR.
- 11. ALL FIELD WELDS SHALL CONFORM TO PROCEDURES OUTLINED IN AWWA M 11 AND
- 12. CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT CERTIFIED WELDING INSPECTOR TO TEST ALL FIELD WELDS. CERTIFIED WELD INSPECTOR SHALL PERFORM AS A MINIMUM A VISUAL INSPECTION AND EITHER A DYE PENETRATING TINT OR MAG PARTICLE TEST TO ASSERT QUALITY OF FIELD WELDS.
- 13. DUCTILE IRON PIPE SHALL BE MINIMUM PRESSURE CLASS 200 AND SHALL HAVE PROTECTO 401 CERAMIC EPOXY LINING. ALL BURIED DI PIPE, FITTINGS, BENDS AND VALVES FOR THIS PROJECT SHALL BE 401 EPOXY LINED, POLYETHYLENE ENCASED AND INSTALLED USING CLASS C BEDDING.
- RESTRAIN ALL NEW DUCTILE IRON PIPE, VALVES AND FITTINGS. BURIED DUCTILE IRON PIPE SHALL BE MECHANICAL JOINT TYPE AND RESTRAINED BY EXTERNAL JOINT RESTRAINERS "MEGALUG SERIES 1100" AS MANUFACTURED BY EBAA IRON OR AN APPROVED EQUIVALENT PRODUCT AND POLYETHELENE ENCASED.
- 15. EXPOSED DUCTILE IRON PIPE SHALL BE FLANGED, MINIMUM CLASS 53 AND SHALL HAVE CERAMIC PROTECTO 401 EPOXY LINING.
- 16. PLUG VALVES SHALL BE DEZURIK, PEF 100 PERCENT PORT, EPOXY LINED ECCENTRIC PLUG VALVES. THIS ITEM IS STANDARDIZED AT THIS FACILITY AND NO "OR EQUALS" WILL BE CONSIDERED.

- 17. ALL METAL PIPE, FITTINGS, VALVES, ETC., SHALL RECEIVE THE FOLLOWING (DFT -DRY FILM THICKNESS)
 - A. SHOP COAT ONE COAT, 4 6 MILS (DFT) TNEMEC N140-1211 EPOXY PRIMER
 - B. FIELD COAT 1 ONE COAT, 5 7 MILS (DFT) TNEMEC SERIES 446 PERMA-SHIELD MCU
 - C. FIELD COAT 2
 - ABOVE GRADE ONE COAT, 4 6 MILS (DFT) TNEMEC 1074U
 - ENDURASHIELD (WITH FACTORY ADDED UV BLOCKER)

 BELOW GRADE ONE COAT, 5 7 MILS (DFT) TNEMEC SERIES 446 PERMA-SHIELD MCU
- 18. BACKFILL (NO CLAY OR CLAYEY MATERIAL) SHALL BE COMPACTED IN 6—INCH LAYERS (MAX.) TO 98 PERCENT MAXIMUM DRY DENSITY OF MODIFIED PROCTOR IN CONFORMANCE WITH AASHTO T—180, METHOD A.
- THE CONTRACTOR SHALL INSTALL THE FORCE MAIN TO THE ELEVATIONS AND SLOPES SHOWN ON THE DRAWINGS. THERE SHALL BE NO INTERMEDIATE HIGH OR LOWER POINTS BETWEEN CONNECTION POINTS, EXCEPT AS SHOWN ON THE
- 20. CONTRACTOR SHALL RESTORE ANY EXISTING LANDSCAPING, SIDEWALK, CURBING, FENCING, SODDING AND SPRINKLER SYSTEM PIPING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION TO ITS ORIGINAL CONDITION OR BETTER, EXCEPT WHERE INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM WET WELL; SHALL PRESSURE WASH ALL WET WELL CONCRETE SURFACES; SHALL PREPARE CONCRETE SURFACE FOR COATING; AND, SHALL APPLY AN APPROVED COATING SYSTEM IN
- 22. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL OSHA SAFETY REQUIREMENTS AND STANDARDS AND SHALL SUPPLY ALL REQUIRED OSHA STANDARD SAFETY EQUIPMENT INCLUDING, BUT NOT LIMITED TO, SAFETY HARNESSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC., WHERE THE WORK DICTATES THEIR USÉ.
- 23. THE CITY WILL OBTAIN ALL NECESSARY BUILDING PERMITS AND THE FDEP WASTEWATER PERMIT. THE CONTRACTOR IS RESPONSIBLE FOR APPLYING AND OBTAINING APPROVAL FOR ANY PERMITS ASSOCIATED WITH THE DEWATERING
- 24. CONTRACTOR SHALL CALL SUNSHINE (811) AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITY.
- 25. NORMAL WORKING HOURS SHALL BE WEEKDAYS FROM 7:30 AM TO 4:00 PM UNLESS OTHERWISE APPROVED BY THE ENGINEER AND THE CITY.
- CONTRACTOR SHALL RELOCATE TO THE LOCATION SHOWN ON THE PLANS, THE EXISTING BACKFLOW PRESSURE DEVICE AND RE-CONNECT THE WATER SERVICE THROUGH THE DEVICE TO THE PUMP STATION BUILDING, AS INDICATED ON THE
- 27. THE EXISTING CHEMICAL FEED SYSTEM FOR ODOR CONTROL SHALL REMAIN IN SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE THE STORAGE TANK AS REQUIRED TO THE LOCATION INDICATED ON THE DRAWING, OR AS NEEDED TO ACCOMODATE CONSTRUCTION ACTIVITIES. THE CHEMICAL FEED PIPING SHALL BE RELOCATED AS REQUIRED TO FEED CHEMICAL INTO THE BYPASS SYSTEM. UPON COMPLETION OF CONSTRUCTION, THE CHEMICAL FEED PIPING SHALL BE MODIFIED TO FEED ODOR CONTROL CHEMICAL TO THE WET WELL AS BEFORE CONSTRUCTION. RELOCATION OF THIS EQUIPMENT SHALL BE COORDINATED WITH THE CHEMICAL SUPPLY COMPANY, EVOQUA. (Ph. 941-359-7942)
- 28. ALL WORK SHALL BE PERFORMED IN ACCORDANCE TO THE FLORIDA BUILDING CODE (FBC) 6th EDITION (2017), THE NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
- 29. THE PROPOSED THICKNESS OF ALL STRUCTURAL COATING APPLICATIONS ON CONCRETE SURFACES, AS SHOWN, FOR THIS PROJECT IS 250 MILS (DFT) UNLESS
- 30. THIS PROJECT INCLUDES THE CIPP LINING OF VARIOUS SIZE PIPES. REFER TO SHEET C-16 AND SPECIFICATIONS.
- ALL CONCRETE PAVEMENT, UNLESS OTHERWISE NOTED, SHALL BE MIN 8" THICK CONCRETE WITH 4x4 W5.4xW5.4 WWF. CONCRETE SHALL BE CONSTRUCTED ON A COMPACTED SUB-BASE (MINIMUM 98% MODIFIED PROCTOR) WITH 1.5" DEEP CONTROL JOINTS SAW CUT @ 15' MAX, CUT WITHIN 12 HOURS OF CONCRETE
- ALL CEMENTITIOUS CONCRETE AND GROUT, UNLESS OTHERWISE NOTED, SHALL BE CLASS "B", 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. ALL REINFORCING STEEL SHALL BE GRADE 60.

DEMOLITION NOTES:

- 1. ALL DIMENSIONS ARE APPROXIMATE. ACTUAL DIMENSIONS SHALL BE DETERMINED IN THE FIELD.
- 2. SALVAGEABLE MATERIALS AS DETERMINED BY THE WASTEWATER DEPARTMENT PERSONNEL AND AS LISTED IN THE SPECIFIC PROVISIONS SHALL BE DELIVERED TO THE CITY OF TAMPA'S HOWARD F. CURREN AWTP, LOCATED AT 2700 MARITIME BLVD, TAMPA FL 33605. NON-SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH APPROPRIATE DEPARTMENT PERSONNEL FOR ACCESS TO THE AWTP SITE.
- 3. CONTRACTOR SHALL CUT ALL EXPOSED REINFORCING STEEL TO A DEPTH OF 1-INCH BELOW THE EXPOSED SURFACE AND THE OPENING SHALL BE SEALED WITH NON-SHRINK GROUT.

TREE PROTECTION NOTES:

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL TREES WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION IN ACCORDANCE WITH CHAPTER 13 OF THE CITY OF TAMPA CODE.
 PRUNING OF BRANCHES IS NOT AUTHORIZED WITHOUT PRIOR APPROVAL FROM THE CITY OF TAMPA PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION, AND SHALL BE COMPLETED BY A CERTIFIED ARBORIST. EXCAVATION WITHIN THE PROTECTIVE RADIUS OF TREES WILL REQUIRE ROOT PRUNING WITH THE APPROPRIATE EQUIPMENT TO ASSURE ROOTS ARE SEVERED CLEAN AT THE APPROVED RADIUS. FOR QUESTIONS REGARDING THESE REQUIREMENTS, PLEASE CONTACT THE PLANNING AND DEVELOPMENT DEPARTMENT, NATURAL RESOURCE SECTION AT 274-3100, OPTION 4, OR 1400 N. BOULEVARD, TAMPA, FLORIDA 33607.
- 2. ROOT PRUNING MAY BE NECESSARY WHERE THERE ARE EXISTING TREES ACCORDING TO PLAN AND NOTES. CONTRACTOR TO VERIFY SITE CONDITIONS AND SCOPE OF WORK PRIOR TO SUBMITTING BID. THE PARKS AND RECREATION DEPARTMENT PROJECT MANAGER MAY RED LINE PLANS TO CLARIFY FOR
- 3. ROOT PRUNING SHALL BE DONE BY A CERTIFIED, QUALIFIED ARBORIST USING A DOSKO ROOT PRUNER OR THE EQUIVALENT PIECE OF MACHINERY. CONTRACTOR TO OBTAIN APPROVAL FROM CITY OF TAMPA PROJECT MANAGER FOR "EQUIVALENT PIECE OF MACHINERY" PRIOR TO CONDUCTING ROOT
- 4. ROOTS SHALL BE CUT CLEAN, EVEN AND SMOOTH WITH SOIL AND ROOTBALL INTACT BEGINNING ONE INCH OFFSET FROM BACK OF CURB AND CONTINUING PARALLEL TO PLANTER TO A DEPTH NOT TO EXCEED THE PROFILE OF THE CURB OR APPROXIMATELY NINE INCHES.
- 5. FOLLOWING CONSTRUCTION OF CURB, THE QUALIFIED ARBORIST SHALL DRENCH THE PERIMETER OF THE ROOTBALL(S) WITH AN APPROVED SYSTEMIC FUNGICIDE AND ROOT INDUCING HORMONE E.G. IBA.

<u>TREE CALIPER</u>	<u>DISTANCE FROM BASE OF TRE</u>
2" - 6"	6'
6" - 24"	10'
24"+	15'

ELECTRICAL NOTE:

REPEATED FROM THE SPECIFIC PROVISIONS, "GENERAL PROVISIONS G-7.01 & 7.02 SHALL BE MODIFIED IN THAT WATER AND ELECTRICAL POWER IS PRESENTLY PROVIDED AT THE SITE AND MAY BE USED BY THE CONTRACTOR IN THEIR PRESENT STATE. SHOULD ANY CHANGES, MODIFICATIONS OR RELOCATIONS BE NECESSARY TO PROVIDE WATER OR POWER DURING THE CONSTRUCTION AND/OR BY-PASS PUMPING PHASE, ALL COST SHALL BE BORNE BY THE

DATE REVISIONS DES: D.R. DRN: BB JACINTO CARLOS FERRAS P.E. #49454 CKD: DESIGN DIVISION HEAD WASTEWATER DEPARTMENT DATE:

CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION **REHABILITATION** NOTES

SHEET

G-3

ABBREVIATIONS

<u>LINETYPES</u>

Δ	TRAVERSE POINT	b≤1	GAS VALVE
	FOUND CONCRETE MONUMENT	X & @	GAS METER
_	SET CONCRETE MONUMENT	Ğ	U/G GAS LINE PAINT MARK
• •	FOUND PIN	<u>8</u>	U/G GAS LINE MARKER
•	SET CAPPED IRON ROD 1/2" LB 7302	e P	U/G PROPANE LINE MARKER
¤	FOUND SCRIBED X CUT		PROPANE VALVE
× *	SET SCRIBED X CUT	X2 Q3	U/G AMMONIA LINE MARKER
.	BENCH MARK	2	O/O AMMONIA LINE MARKER
▽ ▽	FOUND NAIL	⊠ ARV	AIR RELEASE VALVE
v ▼	SET NAIL & DISK LB 7302	æ	FIRE HYDRANT
		o ₩	
Ø	UTILITY POLE		U/G WATER LINE BAINT MARK
X	LIGHT POLE	W	U/G WATER LINE PAINT MARK
	SURFACE MOUNTED LIGHT	íwì ×	WATER WALL
←	GUY ANCHOR	X₩ @	WATER WETER
-	SIGN (SINGLE)	₩ ₽	WATER METER
$\overline{}$	SIGN (MULTIPLE ON POLE)	₹	U/G RECLAIMED WATER LINE MARKER
0	PARKING METER		U/G RECLAIMED WATER LINE PAINT MARK RECLAIMED WATER VALVE
0	BOLLARD	X <i>₹V</i> ®	RECLAIMED WATER VALVE
	REFLECTIVE MARKER POST	(L)	RECLAIMED WATER METER
MB	MAIL BOX	⊠ SPV	SPRINKLER VALVE
4	FLAG POLE	SPH	SPRINKLER HEAD
STOP	STOP SIGN	<i>□</i>	BACKFLOW PREVENTER
	CABLE TV SPLICE BOX	₩	METER VAULT (COMMERCIAL)
8	U/G CABLE TV MARKER	ì	GROUND WATER MONITORING
	U/G CABLE TV PAINT MARK	@	WELL (SAMPLING POINT)
8		(M)	WATER VALVE MANHOLE
8	TELEPHONE VAULT	(SS)	SANITARY MANHOLE
(1)	TELEPHONE MANHOLE	%	SANITARY CLEANOUT
	TELEPHONE SPLICE BOX	co ⊠ sv	FORCE MAIN GATE VALVE
Q	U/G TELEPHONE MARKER		
ij	U/G TELEPHONE PAINT MARK		U/G SANITARY PAINT MARK
	5,5070,0 111110,5	\bar{\bar{\bar{\bar{\bar{\bar{\bar{	U/G SANITARY MARKER
(E)	ELECTRIC MANHOLE	<u>(99)</u>	STORM MANHOLE
<u>0</u>	ELECTRIC METER	0	CURB INLET
Ę.	RESIDENTIAL TRANSFORMER PAD		SINGLE-WING CATCH BASIN
	U/G ELECTRIC MARKER		SINGLE-WING CATCH BASIN
	U/G ELECTRIC PAINT MARK		DOUBLE-WING CATCH BASIN
E	ELECTRIC SPLICE BOX	S9	SINGLE-WING CATCH BASIN
L		<u></u>	SINGLE-WING CATCH BASIN
<u>G</u> .	HANDICAP PARKING		SINGLE - WING CATOLI DASIN
<u> </u>	SOIL BORING		DOUBLE-WING CATCH BASIN
R-1	OSIE BONNO		GRATE TOP INLET
			DITCH BOTTOM INLET
#2050	ADDRESS	Ð	MITERED END SECTION
	VEDICIED VEDTICAL A MARIEUTA	\triangleright	FLARED END SECTION
VVH-1	VERIFIED VERTICAL & HORIZONTAL	UD-CO	UNDERDRAIN CLEANOUT
	GATE VALVE (RMJ/RMJ)		PLUG VALVE (RMJ/RMJ)
	GATE VALVE (FL/FL)		PLUG VALVE (FL/FL)

NAD	NORTH AMERICAN DATUM
NGS	NATIONAL GEODETIC SURVEY
NAVD	NORTH AMERICAN VERTICAL DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
PID	PERMANENT IDENTIFIER
FCM	FOUND CONCRETE MONUMENT
FCIR	FOUND CAPPED IRON ROD
FIR	FOUND IRON ROD
FPIP	FOUND PINCH IRON PIPE
FIP	FOUND IRON PIPE
FND	FOUND
RRS	RAILROAD SPIKE
TBM	TEMPORARY BENCH MARK
W/	WITH
SCIR	SET CAPPED IRON ROD 1/2" LB 7302
(C)	CALCULATED
(D)	DEED
(F)	FIELD
(P)	PLAT BASELINE
₽, B/L S/L	SECTION LINE
U/G	UNDERGROUND
ADCP	ADVANCED DRAINAGE CORRUGATED
ADCF	PLASTIC PIPE
AC	ASBESTOS CEMENT
A/C	AIR CONDITIONING
BLDG	BUILDING
BLS	BELOW SURFACE
CB	CATCH BASIN
Ą	CENTERLINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
c/s	CONCRETE SLAB
CPVC	CORRUGATED POLYVINYL CHLORIDE PIPE
DBI	DITCH BOTTOM INLET
DHW	DESIGN HIGH WATER
DLW	DESIGN LOW WATER
DIP	DUCTILE IRON PIPE
ECMP	ELLIPTICAL CORRUGATED METAL PIPE ELEVATION
EL, ELEV	
EOP, EP EOW	EDGE OF PAVEMENT EDGE OF WATER
FPC	ENVIRONMENTAL PROTECTION
	COMMISSION
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
FF	FINISHED FLOOR
FL	FLANGED
FM	SANITARY FORCE MAIN
FSP	FIRE STAND PIPE

0.0	0.00 1.005
	GAS LINE GRATE TOP INLET
	HORIZONTAL DIRECTIONAL DRILL
	HIGH DENSITY POLYETHYLENE
	HUB AND TACK
	IRRIGATION LINE
	INVERT
	MANHOLE
	NORMALLY OPEN NORMALLY CLOSED
	NORMALLY CLOSED NORMAL WATER LEVEL
	NORMAL WATER LEVEL
	OVERHEAD WIRE
	OFFICIAL RECORD BOOK
	PLAT BOOK
	PAGE
· -	PRE-STRESSED CONCRETE CYLINDER PIPE
	POINT OF BEGINNING
	POINT OF COMMENCEMENT
	POLYETHYLENE
_	POLYVINYL CHLORIDE PIPE
	PROPERTY LINE
_	POINT OF INTERSECTION
	RECLAIMED WATER
	REINFORCED CONCRETE PIPE
	RESTRAINED MECHANICAL JOINT
ROW, R/W	RIGHT OF WAY
s/W	SIDEWALK
CSW	CONCRETE SIDEWALK
	ASPHALT SIDEWALK
SS	SANITARY SEWER
TCB	TRAFFIC CONTROL BOX
TOP, TOB	TOP OF BANK
TOE, TOS	TOE OF SLOPE
TRANS	ELECTRIC TRANSFORMER
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC LINE
UGT	UNDERGROUND TELEPHONE LINE
VCP	VITRIFIED CLAY PIPE
WM	WATER MAIN
	WOOD FENCE
,	DRIVEWAY
	NOT TO SCALE
	STATION
	LEFT
	RIGHT
×26.3	SPOT ELEVATION
ΧV	

	SECTION LINE
	BASELINE
	RIGHT OF WAY LINE
	PROPERTY LINE
	EASEMENT
90	CONTOUR LINE
	WETLAND LINE
	OVERHEAD WIRE
	TOP OF SLOPE
	TOE OF SLOPE
	CENTERLINE OF DITCH
——X———X——	EXISTING CHAIN LINK FENCE
	EXISTING WOOD FENCE
////	EXISTING BARB WIRE FENCE
	EXISTING PLASTIC FENCE
—— A ——— A ——	EXISTING AMMONIA LINE
——— GAS ———	EXISTING GAS LINE
BT	EXISTING BURIED TELEPHONE LINE
CATV	EXISTING CABLE TV LINE
—— FO ——	EXISTING FIBER OPTIC CABLE
—— UG —— EL ——	EXISTING UNDERGROUND ELECTRIC
———W————W——	EXISTING WATER
	EXISTING RECLAIMED WATER
	EXISTING SEWER
———FM———	EXISTING FORCE MAIN
	EXISTING STORM PIPE

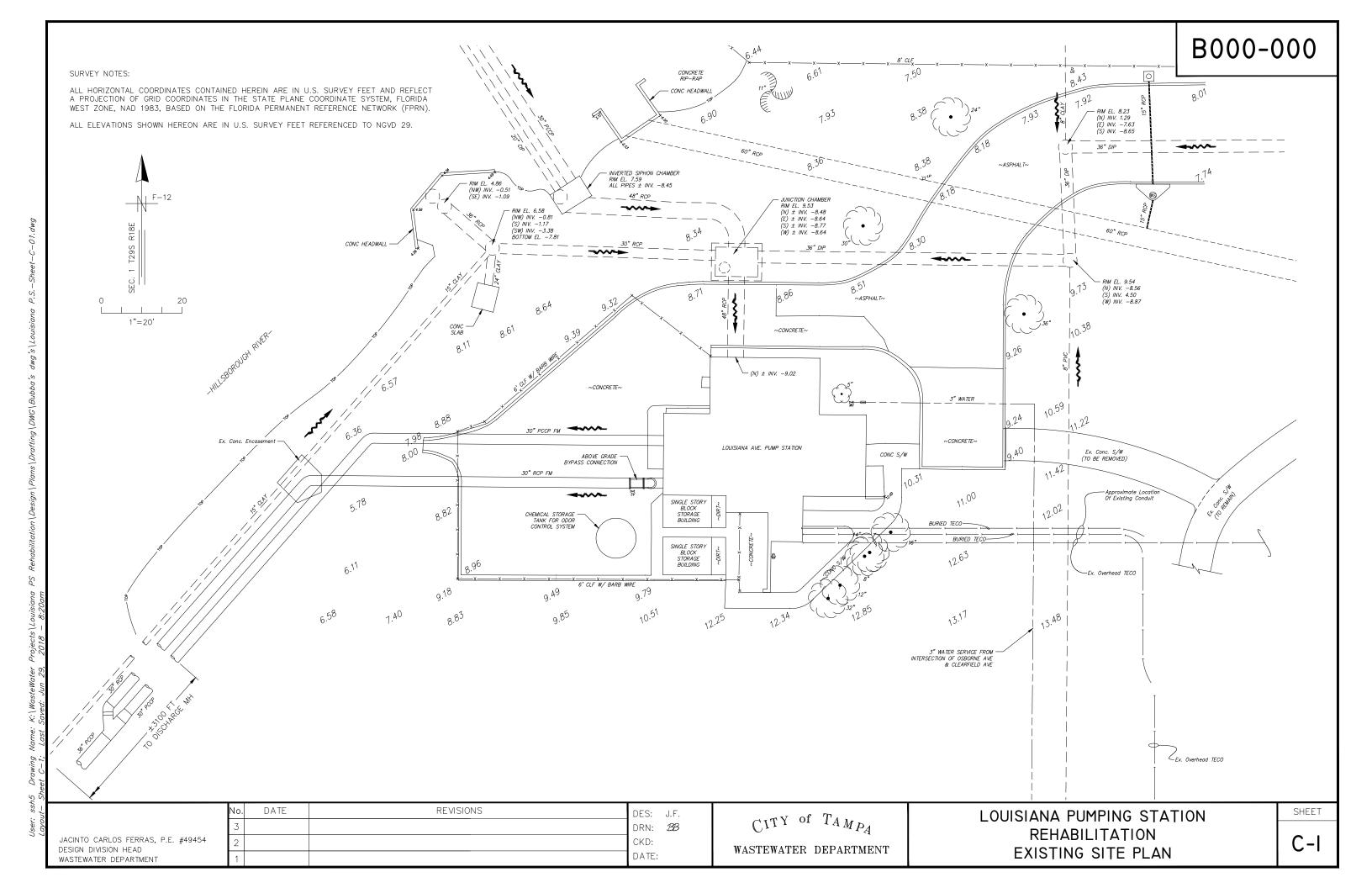
	No.	DATE	REVISIONS	DES: D.R.
JACINTO CARLOS FERRAS P.E. #49454	. 3			DRN: <i>B</i> B
DESIGN DIVISION HEAD	2			CKD:
WASTEWATER DEPARTMENT	1			DATE:

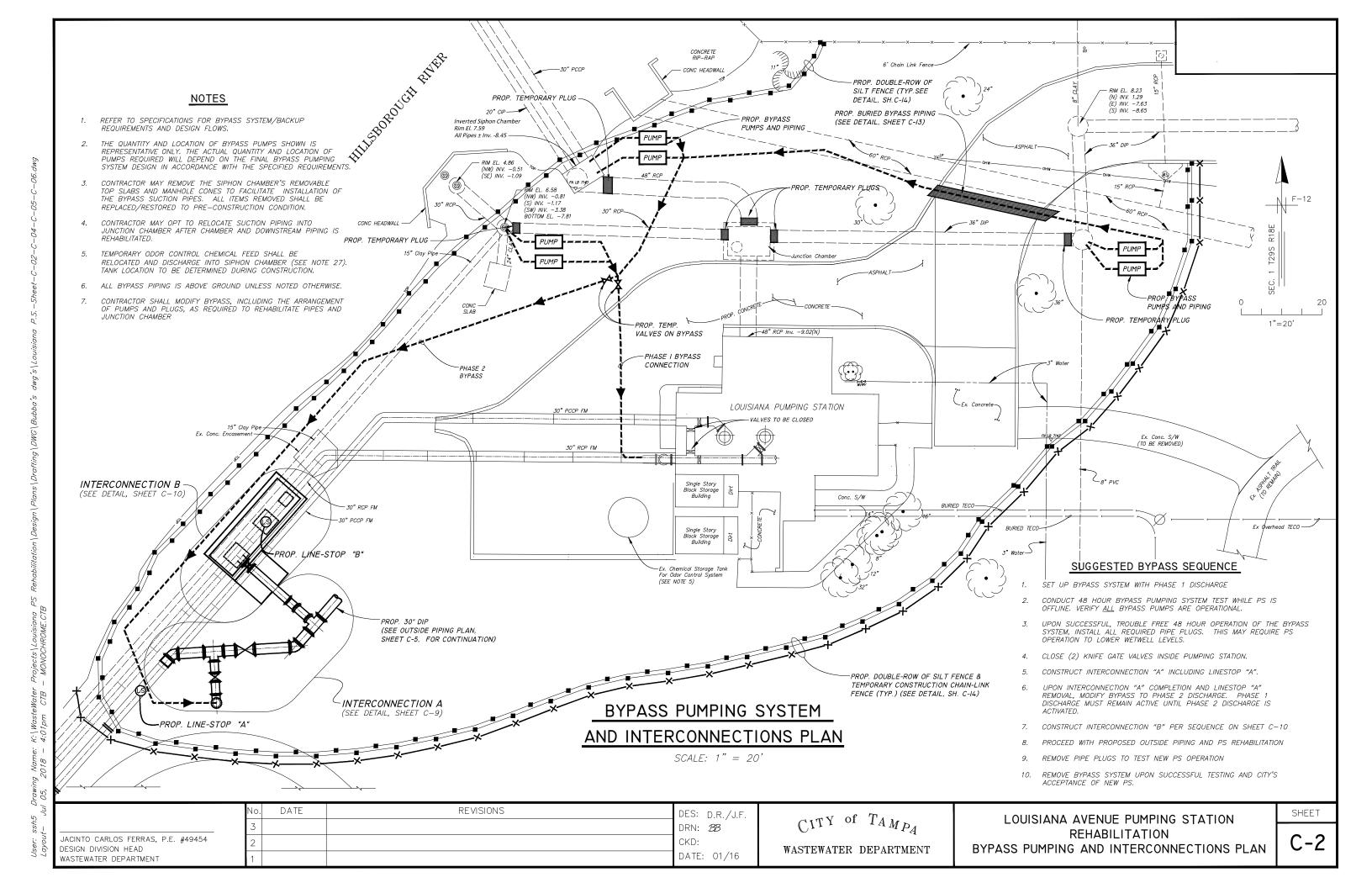
LINESTOP

CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION
REHABILITATION
LEGEND, ABBREVIATIONS AND LINETYPES

SHEET

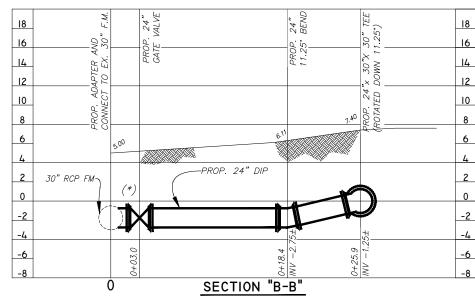
G-4

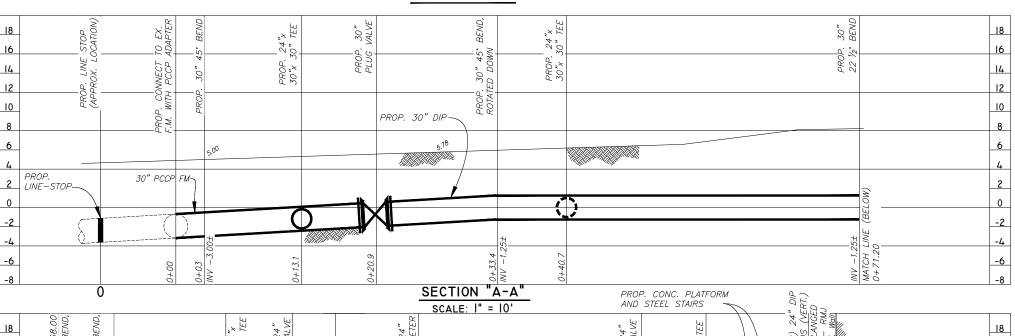


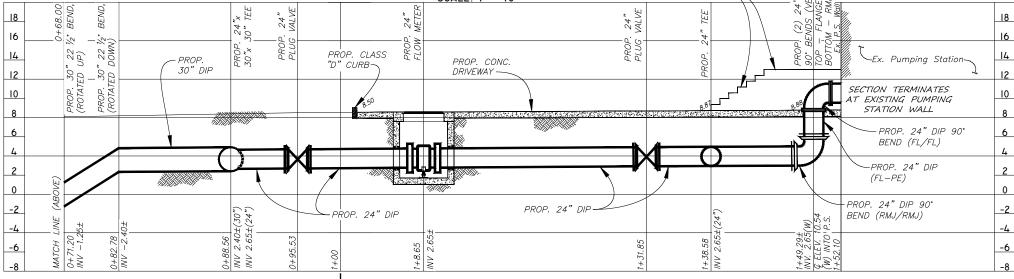


NOTES:

- 1. STATIONING IS ALONG CENTERLINE OF PROPOSED PIPE.
- 2. INVERT ELEVATION OF FLOW METER'S BYPASS PIPE IS 2.96 FEET - SAME AS FLOW METER PIPING (NOT SHOWN).
- 3. REPRESENTATION OF FLOW METER BYPASS IS SHOWN BETWEEN STA. 0+88.5 AND STA. 1+38.5 IN SECTION A-A.
- (*) ISOLATE FLANGED JOINT (SEE DETAIL)







DATE REVISIONS DES: D.R./J.F. DRN: BB CKD: DATE:

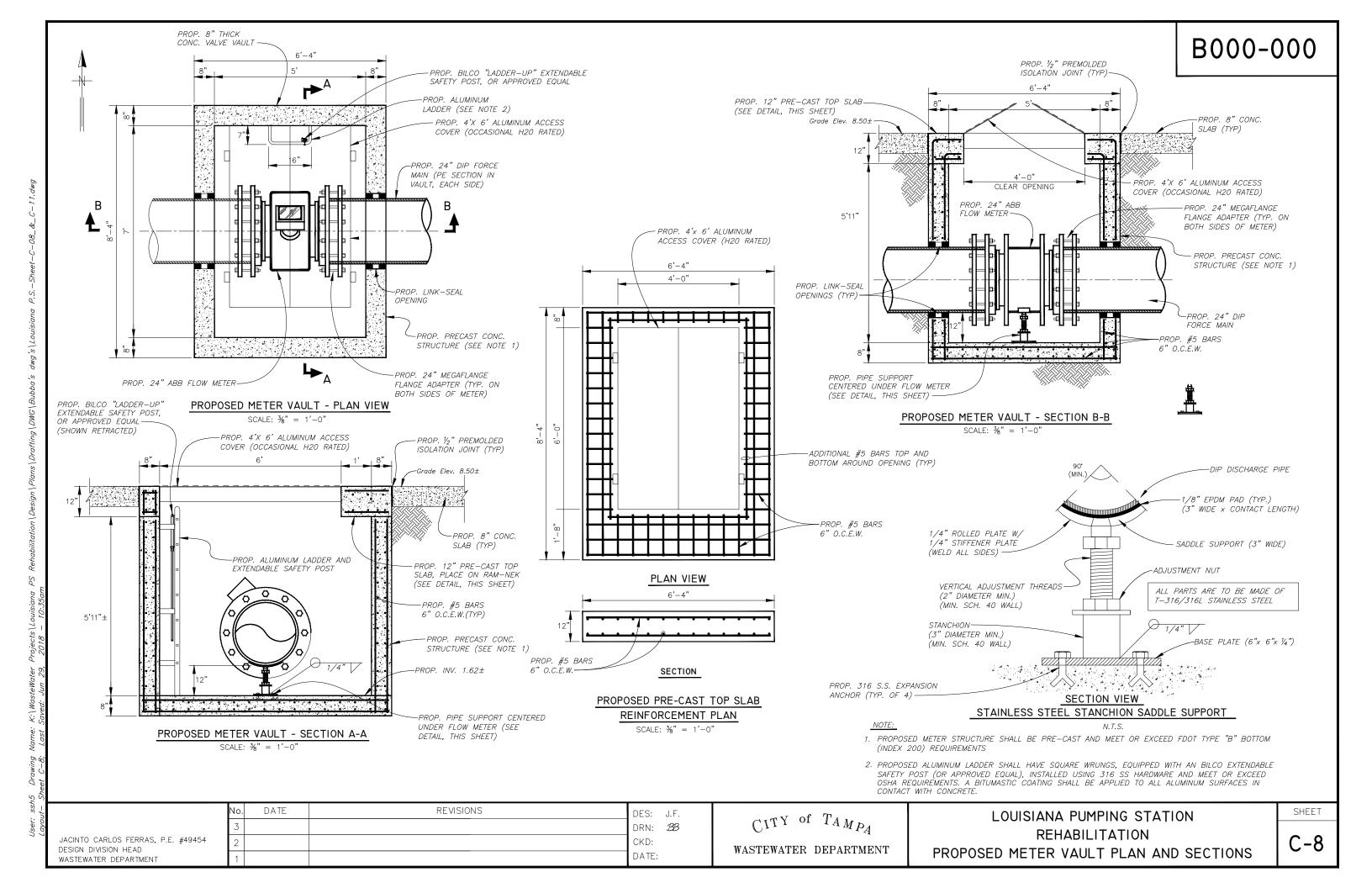
CITY of TAMPA

LOUISIANA AVENUE PUMPING STATION REHABILITATION PROPOSED FORCE MAIN PROFILES

SHEET C-6

JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT

WASTEWATER DEPARTMENT



CKD:

DATE:

WASTEWATER DEPARTMENT

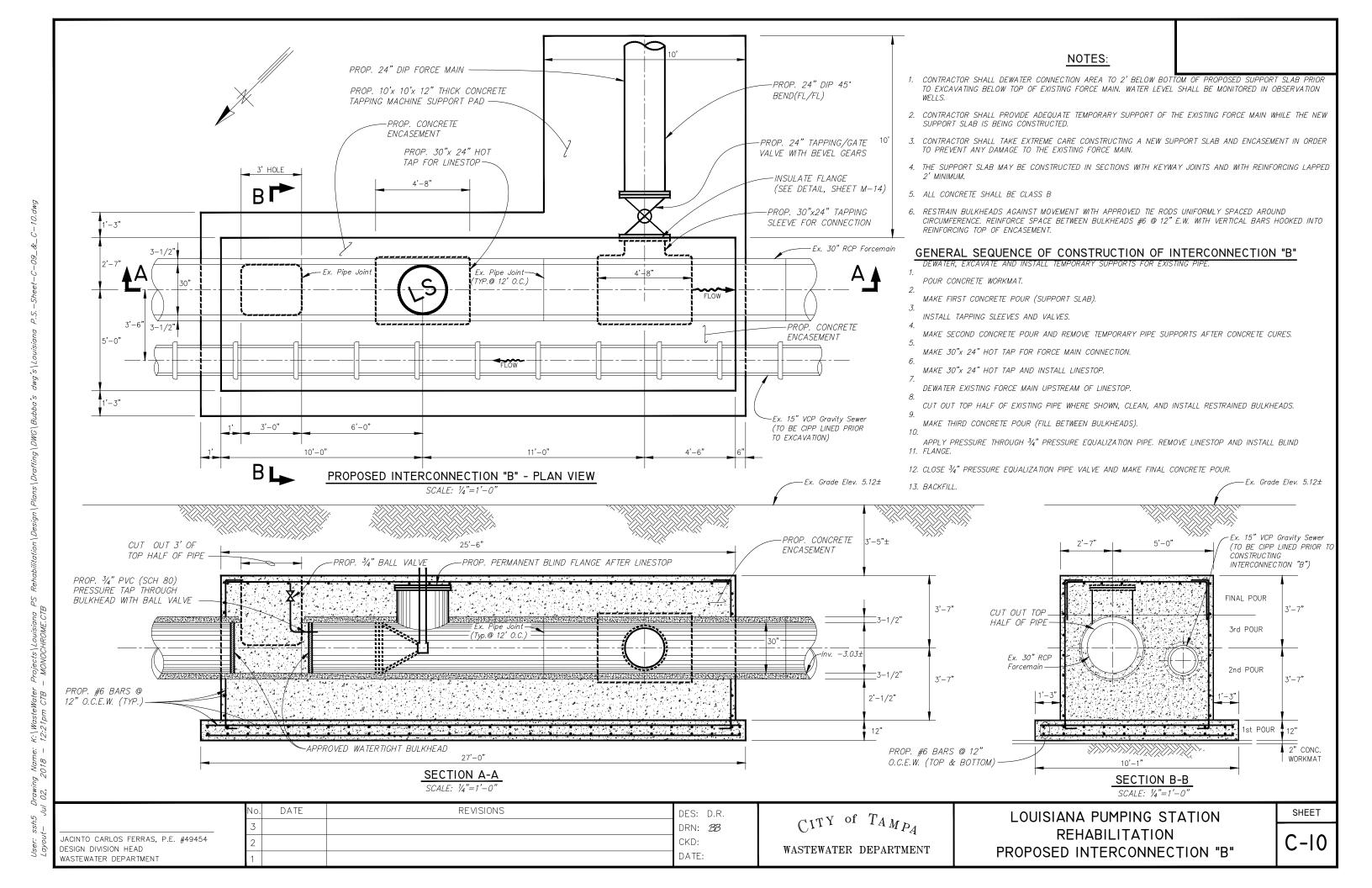
C-9

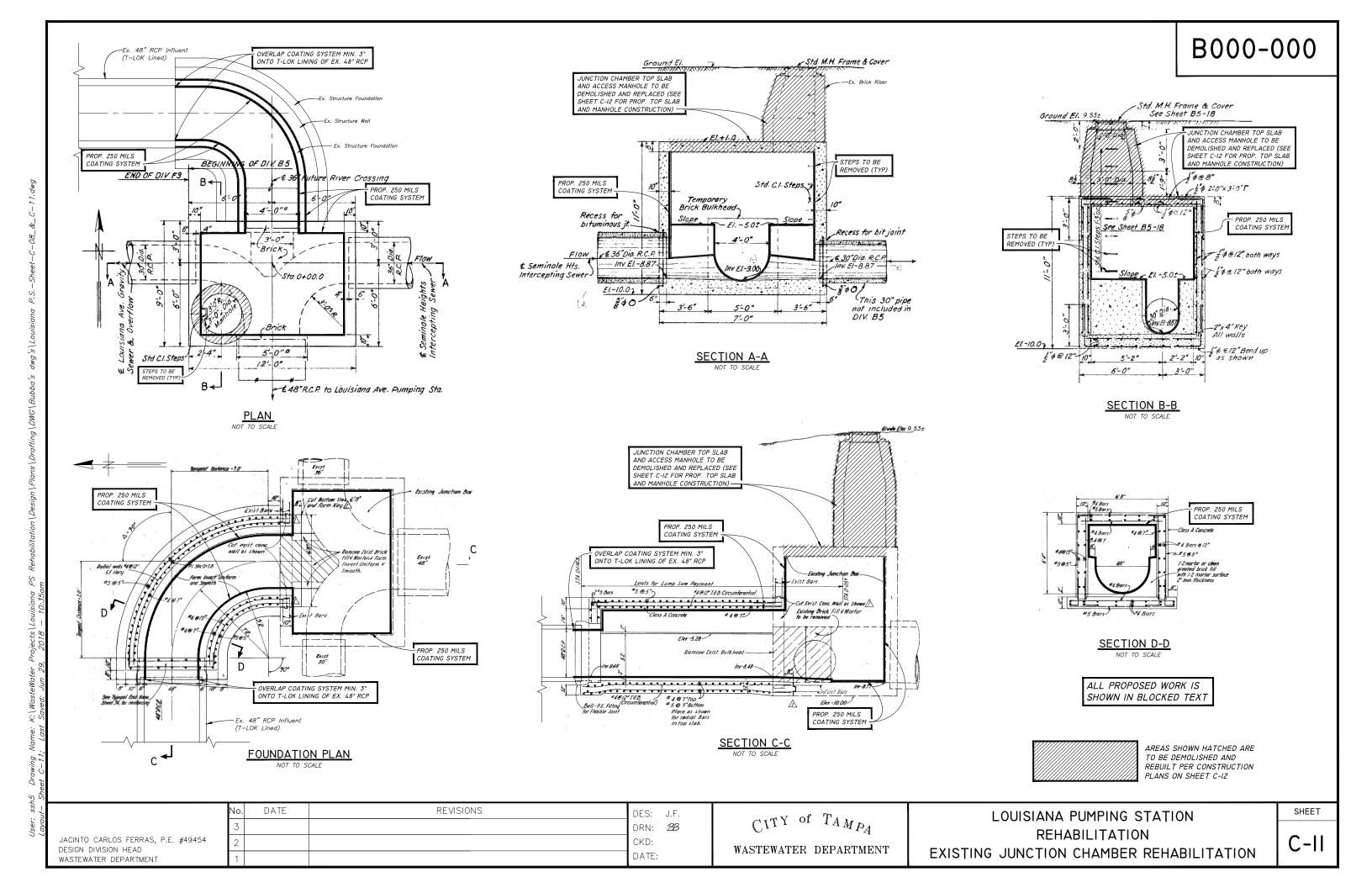
PROPOSED INTERCONNECTION "A"

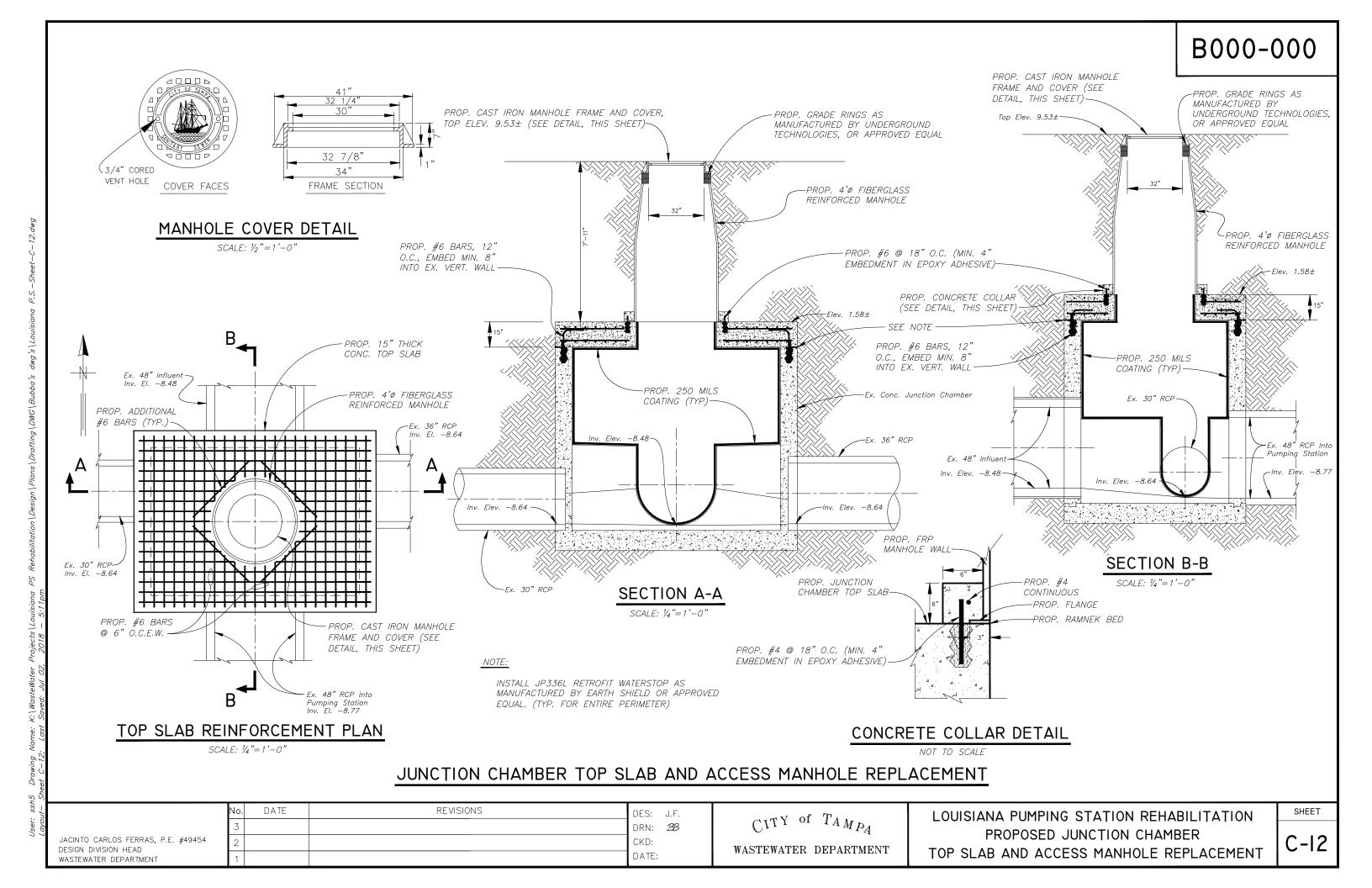
JACINTO CARLOS FERRAS, P.E. #49454

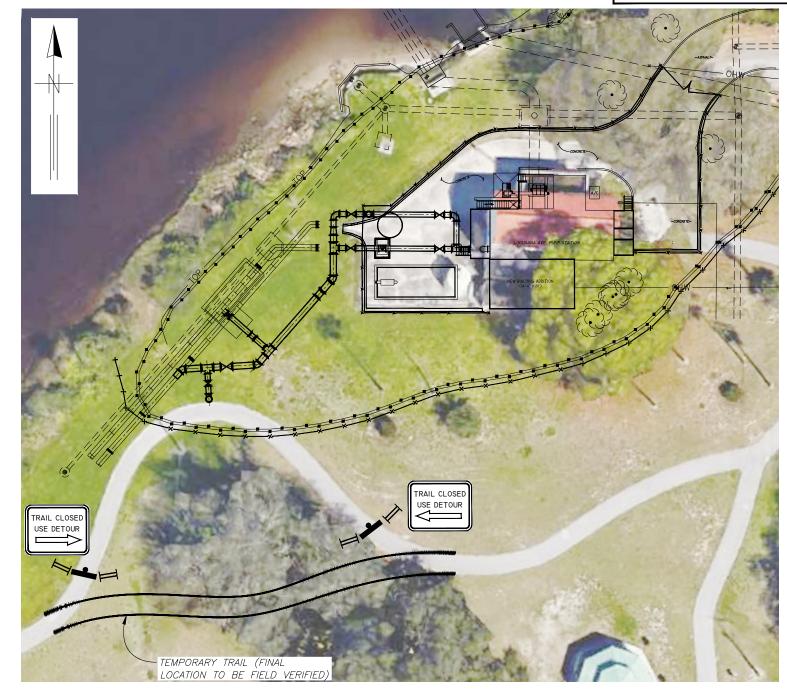
DESIGN DIVISION HEAD

WASTEWATER DEPARTMENT





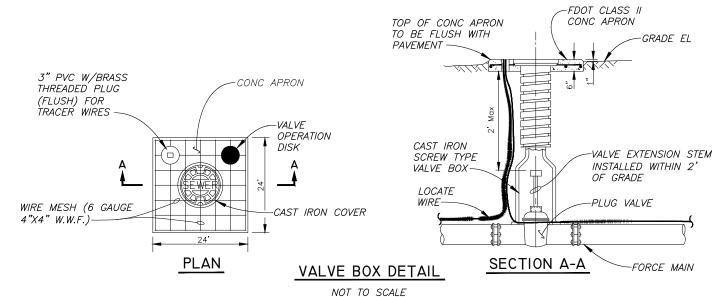






NOT TO SCALE

- (1) THIS PLAN VIEW SHOWS THE CLOSE PROXIMITY OF THE EXISTING TRAIL TO THE PROPOSED WORK. THE CONTRACTOR SHALL CLOSE A SECTION OF THE TRAIL WHERE THE WORK IS NEARBY FOR PEDESTRIAN SAFETY. CONTRACTOR SHALL PROVIDE AN ALTERNATE TRAIL PATH, AS SHOWN. CONTRACTOR SHALL COORDINATE WITH CITY OF TAMPA PARKS AND RECREATION REPRESENTATIVE ON EXACT ROUTE FOR ALTERNATIVE TRAIL PRIOR TO INSTALLATION. CONTRACTOR SHALL PROVIDE PROPER SIGNAGE AND CONSTRUCT PATH WITH COMPACTED ASPHALT MILLINGS OR OTHER MEANS APPROVED BY THE ENGINEER. AFTER CONSTRUCTION COMPLETION, SITE SHALL BE RESTORED TO PRE—CONSTRUCTION CONDITION OR BETTER.
- ② COORDINATE WITH CITY OF TAMPA PARKS AND RECREATION REPRESENTATIVE ON EXACT ROUTE FOR ALTERNATIVE TRAIL PRIOR TO INSTALLATION.



PROP. ABOVE—GROUND
BYPASS PIPING

4' MIN. (TYP.)

18" MIN. COVER—

PROP. FLANGED CONNECTION (FOR
FUTURE USE) INSTALL BLIND FLANGE
AFTER BYPASS OPERATION (TYP)

PROP. ABOVE—GROUND
BYPASS PIPING

PROP. BURIED
BYPASS PIPING

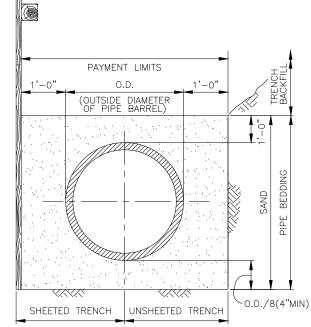
AFTER BYPASS OPERATION (TYP)

BURIED BYPASS DETAIL

NOT TO SCALE

NOTES:

- BYPASS PIPE SHALL BE FUSED OR FLANGED HDPE (MIN. DR-17 WALL THICKNESS).
- 2. RESTORE PAVEMENT WITH 12" CRUSHED CONCRETE BASE AND 2" SUPERPAVE ASPHALT ON COMPACTED SUB-BASE.
- 3. BURIED SECTION OF BYPASS WILL NOT HAVE TO BE REMOVED.



CLASS C BEDDING

No. DATE REVISIONS DES: J.F.

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

REVISIONS

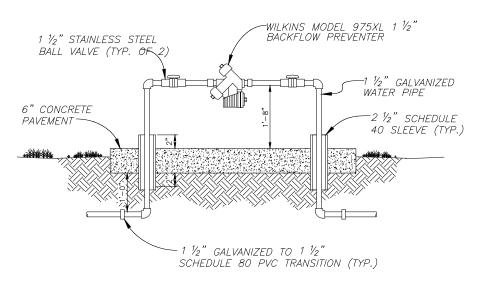
DES: J.F.

CKD:
DATE:

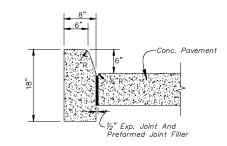
DATE:

 \mathbb{C}^{TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION RIVERCREST TRAIL AERIAL PLAN VIEW & MISCELLANEOUS DETAILS (I OF 2) C-I3



BACKFLOW PREVENTER DETAIL



TYPE "D" CONC. CURB DETAIL

DOUBLE ROW SILT FENCE DETAIL

NOT TO SCALE

NOTES:

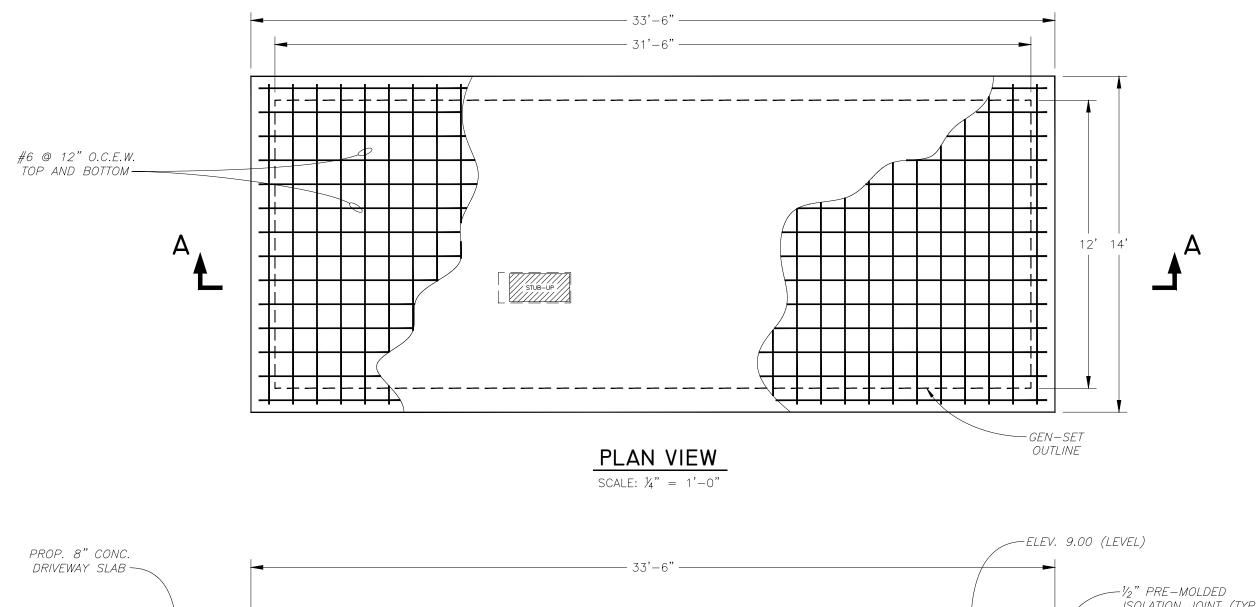
- 1. THE FABRIC SHALL FACE THE AREA OF CONSTRUCTION WITH THE STAKES ON THE OUTSIDE AWAY FROM CONSTRUCTION.
- 2. FABRIC MUST BE TRENCHED IN AND BACK FILLED. THIS CAN BE DONE WITH A TRENCHER, FRONT BUCKET, OR BY HAND. FLAP MUST BE FOUR INCHES BELOW GRADE AND EXTEND FOUR INCHES TOWARDS THE FLOW OF SILT.
- 3. DOUBLE ROW SHALL BE USED ON ANY SITE NEAR A WATER BODY OR A STORM WATER CONVEYANCE SYSTEM. DOUBLE ROW WILL ALSO BE USED ON ANY SITE THAT IS NEAR AN INLET STRUCTURE THAT LEADS DIRECTLY TO A WATER BODY, EVEN IF THE SITE ITSELF IS NOT NEAR THE WATER BODY.

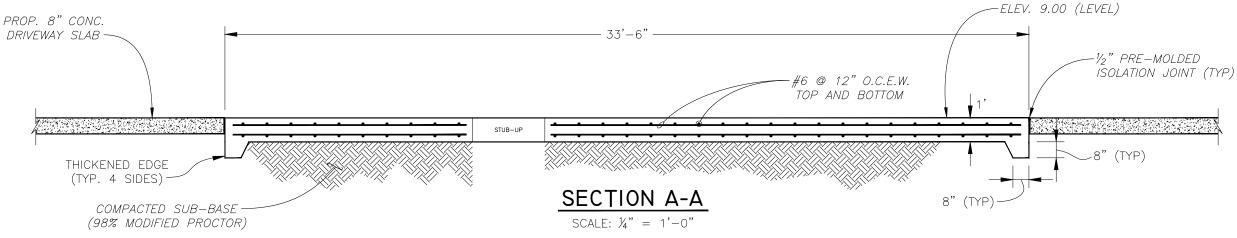
	No.	DATE	REVISIONS	DES:	J.F.
	3			DRN:	$B\!B$
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD	2			CKD:	
WASTEWATER DEPARTMENT	1			DATE:	

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
MISCELLANEOUS DETAILS (2 OF 2)

C-14



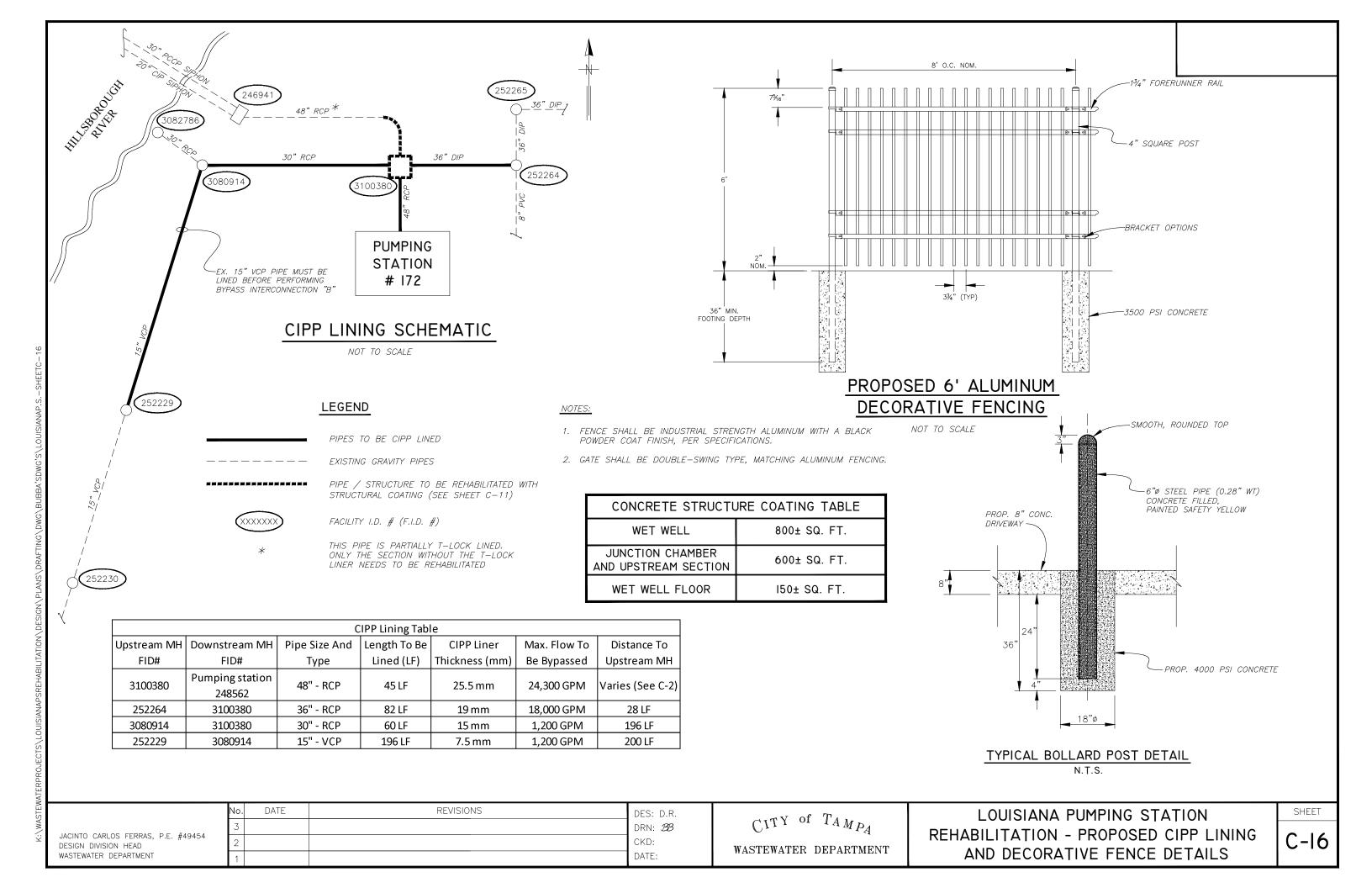


	No.	DATE	REVISIONS	DES:	J.F.
	3			DRN:	$B\!\!B$
ACINTO CARLOS FERRAS, P.E. #49454 ESIGN DIVISION HEAD	2			CKD:	
ASTEWATER DEPARTMENT	1			DATE:	

 \mathbb{C}^{TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION
PROPOSED GENERATOR FOUNDATION
PLAN AND SECTION

C-15



STATION IMPROVEMENTS

KARLA PRICE, RLA No. 0001215

PLANT L	S
SCIENTIEIC	N

			T	1	T
SCIENTIFIC NAME	COMMON NAME	QTY	SIZE	SPACING	COMMENTS
TREES *					
Sabal palmetto	Sabal palm	3	FG	As shown	12', 14', 16' C.T. No boots, regenerated roots \$ leaves.
Taxodium distichum 'Autumn Gold'	Bald Cypress	2	45 gallon	As shown	Min. 9' ht., min. 4' spd., min. 3" cal.
Viburnum obovatum "Withlacoochee"	Withlacoochee Viburnum	5	45 gallon	As shown	Min. 8' ht., min. 6' spd., min. 4" cal. Multi-stem.
SHRUBS/ GRASSES/ GROUNDCOVER	RS *			•	
Hamelia nodosa	Dwarf Firebush	3	3 gallon	As Shown	Min. 24" ht. Full, dense foliage.
Muhlenbergia capillaris	Muhly Grass	34	3 gallon	30" o.c.	Min. 18" ht. Full, dense foliage.
Myrica cerifera	Wax Myrtle	12	15 gallon	6' o.c.	Min. 4' ht., min. 3' spd. Multi-stem, full to ground.
Spartina bakeri	Cord Grass	5	3 gallon	3' o.c.	Min. 18" ht. Full, dense foliage.
Trachelonspermum jasminoides	Confederate Jasmine	9	3 gallon	As Shown	Min. 24" ht. 12" spd. on trellis. Full, dense foliage.
Tripsacum floridana	Florida Gama Grass	29	3 gallon	30" o.c.	Min. 12" ht. Full, dense foliage.
Zamía florídana	Coontie	52	3 gallon	30" o.c.	Min. 12" ht. Full, dense foliage.
ADDITIONAL ITEMS				•	
Florimulch or approved equal					3" deep in beds, contractor to verify quantity
Diehard Palm Transplant Soil Amend	ment or approved equal				Contractor to calculate quantity as Per Specs
Diehard Transplant Soil Amendment o	or approved equal				Contractor to calculate quantity as Per Specs

- * ALL MATERIAL TO BE APPROVED BY CITY REPRESENTATIVE PRIOR TO INSTALLATION.
- * ALL MATERIAL TO BE FLORIDA GRADE #1 QUALITY.
- **ALL QUANTITIES ARE ESTIMATED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY .

TECHNICAL MAINTENANCE PLAN

WEEDING/ LITTER PICKUP PRUNING FERTILIZING MOWING EDGING MULCHING	90 DAY MA	CITY OF TAMPA COMMITMENT ON YEARLY CYCLE															
	1234	5678	9 10 11 12	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	ОСТ	NOY	DEC		
WATERING	7777	4 4 4 4	2 2 2 2								'			'			
	and schedule	The Contractor shall provide a watering frequency and schedule to the City for the MIR irrigation system for the maintenance period duration.			City shall water once a week or as needed after the 90 day maintenance period (during drought periods) using City water truck										d (during		
	×	×	×	Weec	lina ev	eru 14 d	laus as í	indicate	ed usina	an app	roved l	nerbicida	e such a	as "Rou	nd Up" or		
WEEDING/ LITTER PICKUP	planting bed	hall weed and pid is once per month period duration.		equa under	l applie the su	ed at th	ne rate o on of a	of 1 1/2 (oz. per	gallon a	nd app	lied by a ck up pe	a licens	ed app	licator or		
PRUNING	branches. Co	o mechanically re ontractor shall ma m to attain final a		Pruning shall be accomplished using chain saws, hand saws, and/or lopping shears. Sheall be pruned yearly to a height of 24" or less.						s. Shrubs							
FERTILIZING	Specification	ns. After 60 day	zed when planted per s, apply fertilizer Landscape Note 15.	Shruk	s and	groundo	covers t	o be fo	ertilizec	d annually	y per Sp	oecificat	ions.				
MOWING	Not applicab	ole		Not a	applica	ble											
EDGING	Not applicab	ole		Not a	applica	ble											
MULCHING	Restore 3" la	ayer of mulch at e	end of 90 days.		ore 3" s to be		mulch c	once a (jear or	as need	ed. Se	e Plant L	ist for	mulch			
FUNGICIDE		l shall be treated Specifications di	d with fungicide as uring maintenance	Not a	ipplica	ble								for mulch			

CITY OF	TAMPA PARKS AND
RECREA	ATION DEPARTMENT
· *	Planning and Design
	3402 W. Columbus Dr.
Parks & Recreation	Tampa, FL (813) 274-8615

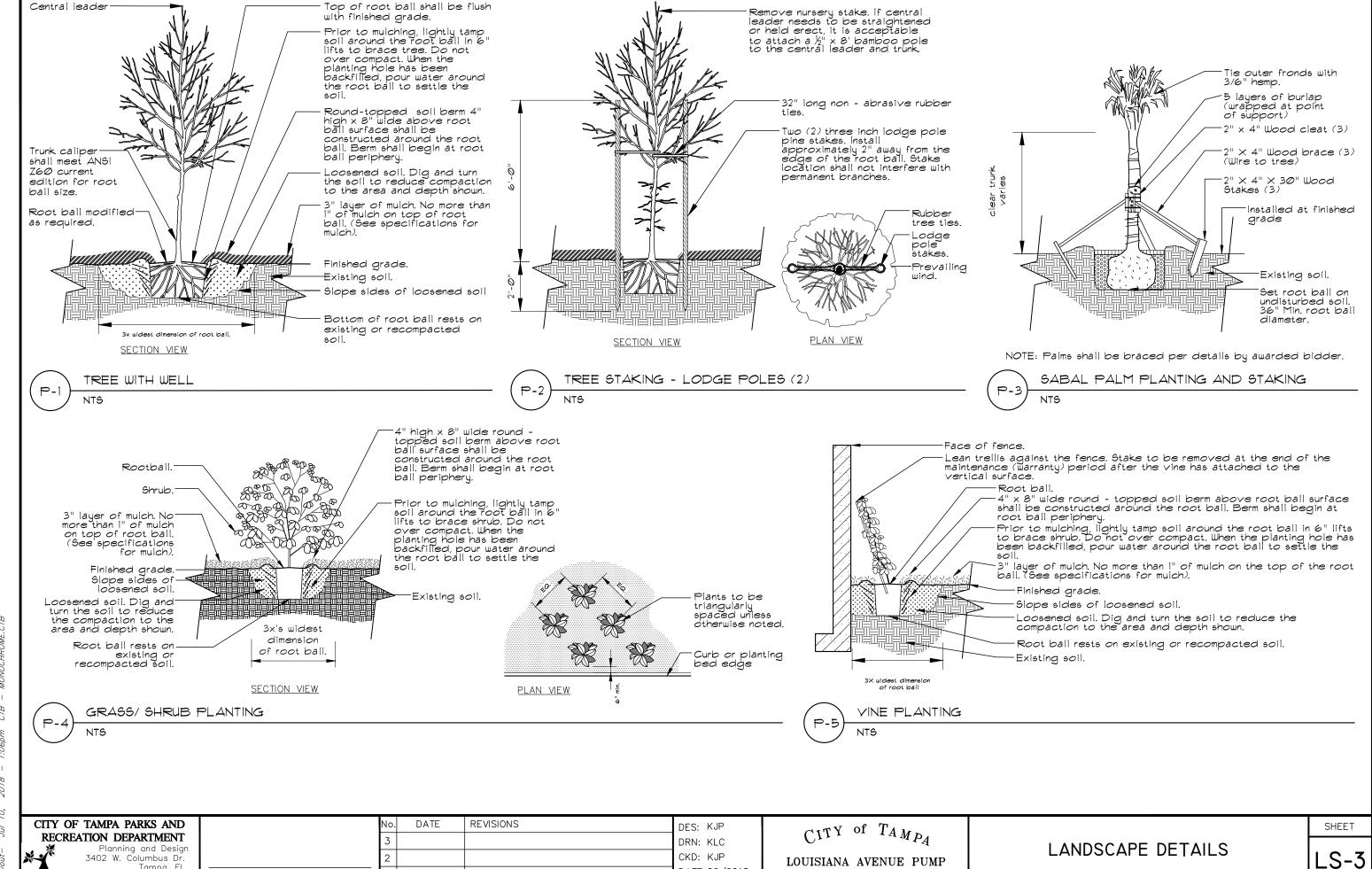
	No.	DATE	REVISIONS	DES: KJP
	3			DRN: KLC
	2			CKD: KJP
KARLA PRICE, RLA No. 0001215	1			DATE: 06/201

 C^{1TY} of T_{AMP_A} LOUISIANA AVENUE PUMP STATION IMPROVEMENTS

PLANT/MATERIALS LIST AND TECHNICAL MAINTENANCE PLAN

SHEET

LS-2



DATE: 06/2018

LOUISIANA AVENUE PUMP

STATION IMPROVEMENTS

K:\WasteWater 1:06pm CTB 7 Nam 2018

Tampa, Fl

(813) 274-861

KARLA PRICE, RLA No. 0001215

GENERAL LANDSCAPE NOTES

- CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT SITE CONDITIONS AND QUANTITIES INDICATED ON THESE PLANS BEFORE PRICING WORK.
- PLANT MATERIAL SHALL BE FLORIDA GRADE NO. I OR BETTER AS SPECIFIED IN "GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION DIVISION OF PLANT INDUSTRY, FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES AND SHALL CONFORM TO CURRENT AMERICAN ASSOCIATION OF NURSERYMAN STANDARDS FOR NURSERY STOCK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE CONDITION OF UNDERGROUND UTILITIES THAT EFFECT PLANTING PROCEDURES. IF ANY CONFLICTS OCCUR BETWEEN PROPOSED LOCATION OF TREES FOR ON THE DRAWINGS AND ANY UNDERGROUND UTILITIES OR SUBSURFACE STRUCTURES THE CONTRACTOR SHALL NOTIFY THE CITY OF TAMPA REPRESENTATIVE IF THE CONTRACTOR DAMAGES ANY STAKED OR IN PLACE UTILITIES BY HIS OUN NEGLIGENCE THEY SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE.
- CONTRACTOR SHALL NOTIFY CITY REPRESENTATIVE OF ANY CONDITIONS THAT WOULD PREVENT THE HEALTHY GROWTH OF PLANT SPECIES CALLED FOR ON THE DRAWINGS. THIS NOTIFICATION MUST OCCUR PRIOR TO CONTRACT AWARD.
- IF ANY DISCREPANCIES OCCUR BETWEEN QUANTITIES CALLED FOR ON THE PLANT LIST AND THOSE INDICATED ON THE DRAWINGS. THE DRAWINGS QUANTITY SHALL GOVERN.
- PLANTS SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECTS, EGGS, OR LARVAE, AND SHALL HAVE HEALTHY, WELL DEVELOPED ROOT SYSTEMS. THEY SHALL BE FREE FROM PHYSICAL DAMAGE OR ADVERSE CONDITIONS THAT WOULD PREVENT THRIVING GROWTH.
- PLANTS SHALL CONFORM TO THE VARIETIES INDICATED IN THE PLANT LIST
- SUBSTITUTION OF PLANT MATERIALS WILL NOT BE PERMITTED UNLESS AUTHORIZED BY THE CITY OF TAMPA REPRESENTATIVE. IF PROOF IS SUBMITTED THAT ANY PLANT SPECIFIED IS NOT OBTAINABLE, A PROPOSAL WILL BE CONSIDERED FOR USE OF THE NEAREST EQUIVALENT SIZE OR VARIETY WITH CORRESPONDING ADJUSTMENT OF CONTRACT PRICES
- PLANT MATERIAL LOCATIONS AND BED OUTLINES SHALL BE STAKED OR FLAGGED ON SITE BY THE CONTRACTOR AND SHALL BE ADJUSTED IF REQUIRED TO FIT ACTUAL AS-BUILT CONDITIONS ON SITE AND APPROVED BY THE CITY OF TAMPA REPRESENTATIVE PRIOR
- IØ. CONTRACTOR SHALL EXCAVATE PLANT PITS ACCORDING TO THE DRAWINGS.
- BACKFILL AROUND PLANT MATERIAL SHALL BE WORKED FIRMLY, TAMPED AND WATERED IMMEDIATELY-IN UNDER AND AROUND THE ROOT BALL TO FILL VOIDS.
- CONTRACTOR SHALL BEAR FINAL RESPONSIBILITY FOR PROPER SURFACE DRAINAGE OF PLANTED AREAS. ANY DISCREPANCY IN THE DRAWINGS, OBSTRUCTION ON THE SITE, OR PRIOR WORK DONE BY ANOTHER PARTY WHICH THE CONTRACTOR FEELS PRECLUDES ESTABLISHING PROPER DRAINAGE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CITY OF TAMPA REPRESENTATIVE. THE FINAL GRADE SHALL BE PROVIDED BY THE CONTRACTOR.
- AFTER PLANT MATERIAL HAS BEEN INSTALLED AND APPROVED, PLANTING BEDS SHALL BE RAKED TO AN EVEN GRADE TO CONFORM TO PRE-MULCHING FINISH GRADES, PLANTING BEDS SHALL THEN BE UNIFORMLY COVERED WITH MULCH AS SPECIFIED.
- TOPSOIL MIXTURE SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, OBTAINED FROM A WELL-DRAINED ARABLE SITE, REASONABLY FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS, WITH ACIDITY RANGE BETWEEN PH 5.5 AND 6.5. BACKFILL WITH 50% NATIVE SAND AND 50% SPECIFIED TOPSOIL MIXTURE.
- AT TIME OF PLANTING CONTRACTOR SHALL APPLY DIEHARD MYCORRHIZAL SOIL AMENDMENT PER MANUFACTURER'S RECOMMENDATION TO ALL PALMS, TREES, SHRUBS AND GROUNDCOVERS. MIX PRODUCT WITH BACKFILL IN UPPER 1/3 OF PLANTING PIT. ENSURE THAT THE PRODUCT IS NEXT TO THE ROOTS.
 - DIEHARD TRANSPLANT (OR APPROVED EQUAL) MYCORRHIZAL SOIL AMENDMENT SHALL CONTAIN SEVEN SPECES OF ENDOMYCORRHIZAE, AT LEAST TWO SPECIES OF ECTOMYCORRHIZAE, BACTERIA (COMPRISED OF BACILLUS, PSUEDOMONAS AND

 - STREPTOMYCES), TRICHODERMA, 21% HUMID ACID, 10% SEA KELP, 4% YUCCA, AND 29% CO-POLYMER GEL.
 DIEHARD PALM TRANSPLANT (OR APPROVED EQUAL) MYCORRHIZAL SOIL AMENDMENT SHALL CONTAIN SEVEN SPECIES OF ENDOMYCORRHIZAE, BACTERIA (COMPRISED OF BACILLUS, PSEUDOMONAS, AND STREPTOMYCES), TRICHODERMA, 3% HUMIC ACID, 4% SEA KELP, 1% YUCCA, AND 25% CO-PLOYMER GEL.

AFTER 60 DAYS, CONTRACTOR SHALL APPLY A FERTILIZER TREATMENT ON ALL PLANTS. FERTILIZER SHALL BE NEUTRAL AND CONTAIN THE ESSENTIAL MICRO-NUTRIENTS (CHELATED FE, MN, ZN, MO, BO, CU) IN SULFATES UNLESS OTHERWISE INDICATED IN PPM. FERTILIZER SHALL BE SLOW RELEASE. FERTILIZER SHALL BE COMPLETE WITH THE FOLLOWING ANALYSIS AND SOURCE COMPOUNDS: 10% NITROGEN DERIVED FROM AMMONIUM NITRATE.

- 2% PHOSPHOROUS DERIVED FROM SUPER PHOSPHATE.
- 10% POTASSIUM DERIVED FROM POTASSIUM SULFATE.
- 4% MAGNESIUM DERIVED FROM MAGNESIUM SULFATE.
- 16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS BEFORE COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN PLANT MATERIAL ON SITE BEFORE AND AFTER PLANTING, UNTIL FINAL ACCEPTANCE BY THE CITY OF TAMPA REPRESENTATIVE. CONTRACTOR TO SUPPLY TRUCK WATERING IN OF MATERIAL AT TIME OF PLANTING, UNTIL FINAL ACCEPTANCE BY THE CITY OF TAMPA REPRESENTATIVE. WATERING UNTIL IRRIGATION SYSTEM IS FULLY OPERATIONAL.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE HEALTHY PLANTS AND IN FLOURISHING CONDITION OF ACTIVE GROWTH (SIX (6) MONTHS FROM FINAL INSPECTION AND ACCEPTANCE FOR TREES AND PALMS, NINETY (90) DAYS FROM FINAL INSPECTION AND ACCEPTANCE FOR SHRUBS AND GROUNDCOVERS).
- 19. THE CITY OF TAMPA REPRESENTATIVE HAS THE RIGHT TO REJECT ANY AND ALL WORK WHICH IN HIS OPINION DOES NOT MEET WITH THE REQUIREMENTS OF THE SPECIFICATIONS AT ANY STAGE OF THE PROJECT.
- 20. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE CLEANUP OF PREMISES AND REMOVAL OF DISCARDED AND SURPLUS MATERIALS AND RUBBISH, SITE TO BE CLEANED DAILY, DO NOT LEAVE OPEN HOLES OVERNIGHT.
- LANDSCAPE CONTRACTOR TO REPAIR DAMAGES RESULTING FROM PLANTING OPERATIONS, REPAIRS TO INCLUDE EXISTING IRRIGATION SYSTEM, EXISTING LIGHTING FIXTURES, EXISTING ST. AUGUSTINE SOD, EXISTING LANDSCAPE BEDS AND EXISTING TREES.
- LANDSCAPE CONTRACTOR SHALL REPLACE PLANTS THAT ARE NOT HEALTHY AND IN FLOURISHING CONDITION DURING THE GUARANTEE PERIOD, ALL REJECTED PLANT MATERIALS SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY OF TAMPA.
- 23. PLEASE REFER TO CITY OF TAMPA SPECIFICATIONS FOR DETAILED INFORMATION ON PLANTING AND IRRIGATION
- 24. SABAL PALMS
 - A. ROOT BALLS SHALL HAVE NEW REGENERATED, ROUND-TIPPED ROOTS THAT HAVE EMERGED FROM THE ROOT INITIATION ZONE, ROOTS SHALL BE WHITISH-YELLOW IN COLOR, HAVE TAPERED ENDS AND BE PRESENT ON ALL SIDES. TO QUALIFY AS "REGENERATED ROOTS" SABAL PALMS, AFTER FIELD HARVESTING AND DURING THE ROOT REGENERATING PERIOD, THE ROOT BALLS SHALL HAVE BEEN PLACED IN CONTAINERS OR BE CONTAINED WITHIN "PLASTIC FABRIC OR FILM MATERIAL", OR APPROVED THEY SHALL HAVE A MINIMUM OF THREE FULLY EXPANDED NEW FRONDS THAT HAVE NOT BEEN PRUNED. FULLY EXPANDED NEW FRONDS SHALL MEET THE MINIMUM REQUIREMENTS TO BE CONSIDERED "EXCELLENT LEAVES", AS DEFINED BY THE GLOSSARY OF TERMS IN THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES GRADES AND STANDARDS FOR NURSERY PLANTS-PALMS & CYADS.
 - COLOR PHOTOGRAPHS OF "REGENERATED ROOT" SABAL PALMS SHALL BE PROVIDED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF TAMPA REPRESENTATIVE FOR APPROVAL PRIOR TO DELIVERY AND INSTALLATION. PHOTOS SHALL CLEARLY DEPICT: THE CLEAR TRUNK HEIGHT, THE TRUNK DIAMETER MEASURED AT THE BASE, THE ROOT BALL MEASUREMENTS, REGENERATED ROOTS ON ALL SIDES OF THE ROOT BALL, THREE FULLY EXPANDED NEW FRONDS. ALL MEASUREMENTS AND REQUIREMENTS NOTED HEREIN SHALL BE CLEARLY IDENTIFIABLE IN THE COLOR PHOTOGRAPHS SUBMITTALS. UPON DELIVERY TO THE PROJECT SITE OR HOLDING AREA, "REGENERATED ROOT" SABAL PALMS WILL BE SUBJECT TO INSPECTION BY THE CITY OF TAMPA REPRESENTATIVE TO CONFIRM COMPLIANCE WITH THESE SPECIFICATIONS BEFORE INSTALLATION, SABAL PALMS THAT DO NOT MEET THE MINIMUM REQUIREMENTS WILL NOT BE ACCEPTED.
- 26. LANDSCAPE CONTRACTOR SHALL CONTACT MARK NEUBERGER (813-478-5280), CITY OF TAMPA IRRIGATION SUPERVISOR, TO ENSURE THAT THE IRRIGATION SYSTEM IS OPERATIONAL BEFORE AND AFTER PLANTING.

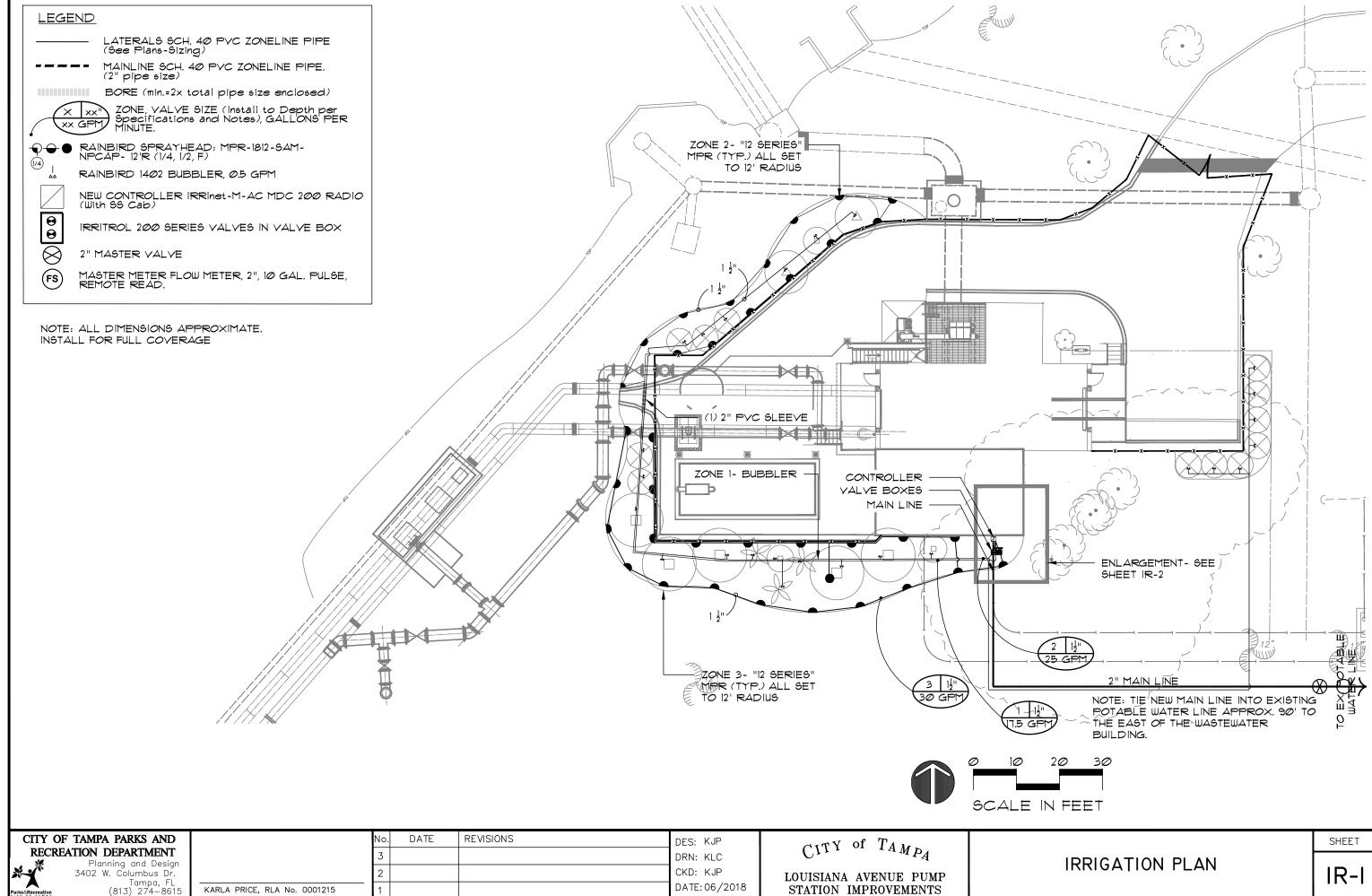
	TAMPA PARKS AND		No.	DATE	REVISIONS	DES: KJP
	ATION DEPARTMENT Planning and Design		3			DRN: KLC
**	3402 W. Columbus Dr.		2			CKD: KJP
Parks&Recreation	Tampa, FL (813) 274-8615	KARLA PRICE, RLA No. 0001215	1			DATE: 06/2018

CITY of TAMPA LOUISIANA AVENUE PUMP

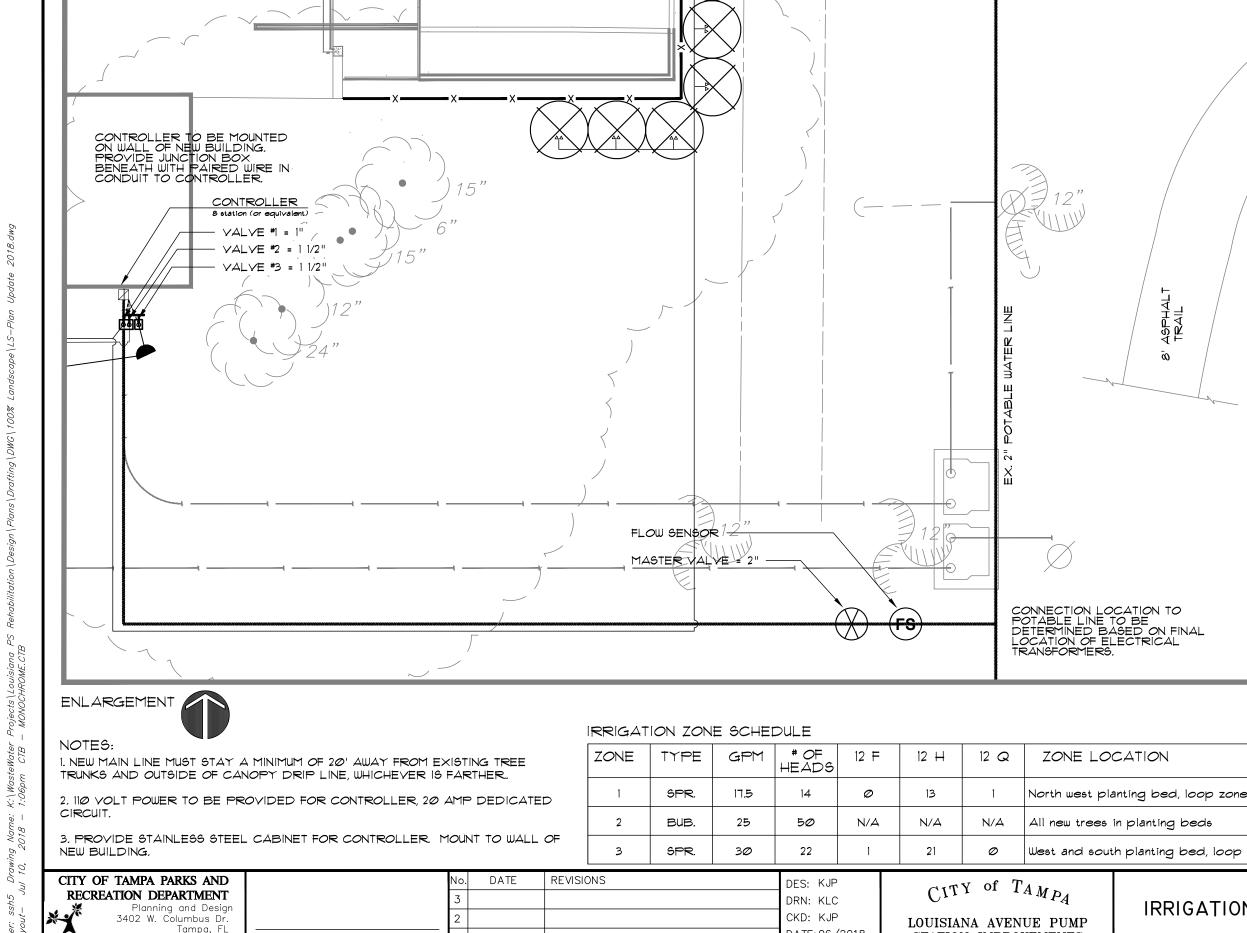
STATION IMPROVEMENTS

LANDSCAPE NOTES

SHFFT



(813) 274-8615



LEGEND

LATERALS SCH. 40 PVC ZONELINE PIPE (See Plans-Sizing) MAINLINE SCH. 40 PVC ZONELINE PIPE. $(2\frac{1}{2}"$



X XX"

ZONE, VALVE SIZE (Install to Depth per Specifications and Notes), GALLONS PER MINUTÉ.

RAINBIRD SPRAYHEAD: MPR-1812-SAM-NPCAP- 12'R (1/4, 1/2, F)

pipe size)

RAINBIRD 1402 BUBBLER, Ø.5 GPM

NEW CONTROLLER IRRInet-M-AC MDC 200 RADIO (With 95 Cab)

IRRITROL 200 SERIES VALVES IN VALVE BOX 8

2" MASTER VALVE

MASTER METER FLOW METER, 2", 10 GAL. PULSE, REMOTE READ FS

ZONE	TYPE	GPM	# <i>O</i> F HEADS	12 F	12 H	12 Q	ZONE LOCATION
1	SPR.	17.5	14	0	13	1	North west planting bed, loop zone
2	BUB.	25	50	N/A	N/A	N/A	All new trees in planting beds
3	SPR.	3Ø	22	1	21	0	West and south planting bed, loop zone

(813) 274-8615

KARLA PRICE, RLA No. 0001215

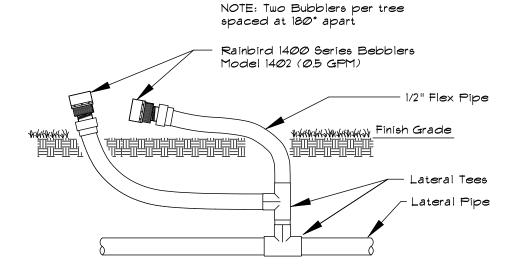
DATE: 06/2018

STATION IMPROVEMENTS

IRRIGATION PLAN ENLARGEMENT

SHEET

IR-2



Plastic Purple Valve -24 Volt Solenoid Box with Locking Cover Finish Grade - www Control Wire with Irritrol 200B Series Control Identification Tag-Valve 90° EII-PVC Sch 40 Sch 40 PVC Nipple Brick Support (1-Ea. Corner) Main Line Fitting To Sprinklers 6" Pea Gravel -Main Supply Line Sump -Line bottom of Valve Boxes with Landscape Fabric

(P-6)

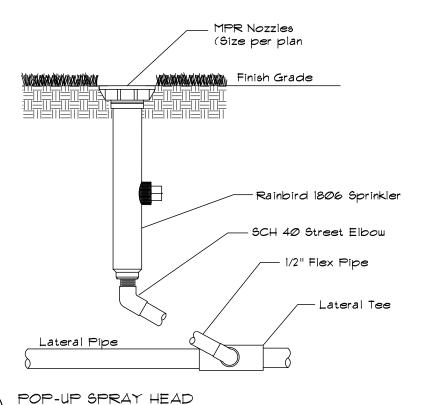
RAINBIRD 1400 SERIES BUBBLER

NTS

P-7) REMOTE

REMOTE CONTROL VALVE

NTS



Finish Grade

10" Round Reinf.
Plastic Valve Box

Ball Valve
NIBCO Model 4660-T

Irrigation Mainline

PVC Sch 40 Male
Adaptors

P-8) NTS

P-9 ISOLATION BALL VALVE

CITY	OF	TAMPA	PA	RKS	AND
REC	REA	TION D	EP/	ARTN	MENT
*		Plann	ning	and	Design

Planning and Design 3402 W. Columbus Dr. Tampa, FL (813) 274–8615

	No.	DATE	REVISIONS	DES: KJP
	3			DRN: KLC
	2			CKD: KJP
KARLA PRICE, RLA No. 0001215	1			DATE: 06/2018

 $C^{1\mathrm{TY}}$ of $T_{AMP_{\mathcal{A}}}$ LOUISIANA AVENUE PUMP

STATION IMPROVEMENTS

IRRIGATION DETAILS

SHEET

IR-3

GENERAL IRRIGATION NOTES:

- 1. LOCATE SPRAY HEADS, ROTORS AND LATERAL PIPE A MIN. OF 6" FROM BOC AND 12" FROM PAVEMENT.
- 2. FOR TRENCHING AND EXCAYATION: HAND DIG AROUND UTILITIES, NO TRENCHING WITHIN THE DRIPLINE OF EXISTING TREES.
- 3. BACKFILL ALL TRENCHES TO MEET FULL COMPACTION.
- 4. CALL 811 FOR UTILITY COORDINATION AND LOCATION BEFORE DIGGING.
- 5. ALL SLEEVES TO BE 2X PIPE SIZE.
- 6. ALL DIRECTIONAL BORES TO BE 2.5 X PIPE SIZE.
- 7. CONFIRM 110 YOLT 15A DEDICATED CIRCUIT IS EXISTING AND AVAILABLE.
- 8. ALL WIRING TO RUN UNDER MAINLINE OR IN CONDUIT.
- 9. USE 14 GAUGE WIRING: BLUE ZONE WIRE, BLUE MASTER VALVE WIRE, BLACK WIRE FOR EXTRAS.
- 10. USE 12 GAUGE WHITE COMMON WIRE
- 11. 14/2 SHIELDED MAXI-COM CABLE FROM FLOW METER TO CONTROLLER.
- 12. CONTROLLER MUST BE PURCHASED THROUGH CENTRAL CONTROL SYSTEMS, WOODLAWN, CA (530)
- 13. CONTRACTOR SHALL CONTACT MARK NEUBERGER (813-478-5280) TO ENSURE THAT THE IRRIGATION SYSTEM IS OPERATIONAL BEFORE AND AFTER PLANTING.

ALL IRRIGATION MATERIALS AND INSTALLATION TO COMPLY TO CITY OF TAMPA IRRIGATION SPECIFICATIONS 02440.

CITY OF TAMPA PARKS AND RECREATION DEPARTMENT Planning and Design 3402 W. Columbus Dr.

Tampa, FL (813) 274-8615

REVISIONS DATE KARLA PRICE, RLA No. 0001215

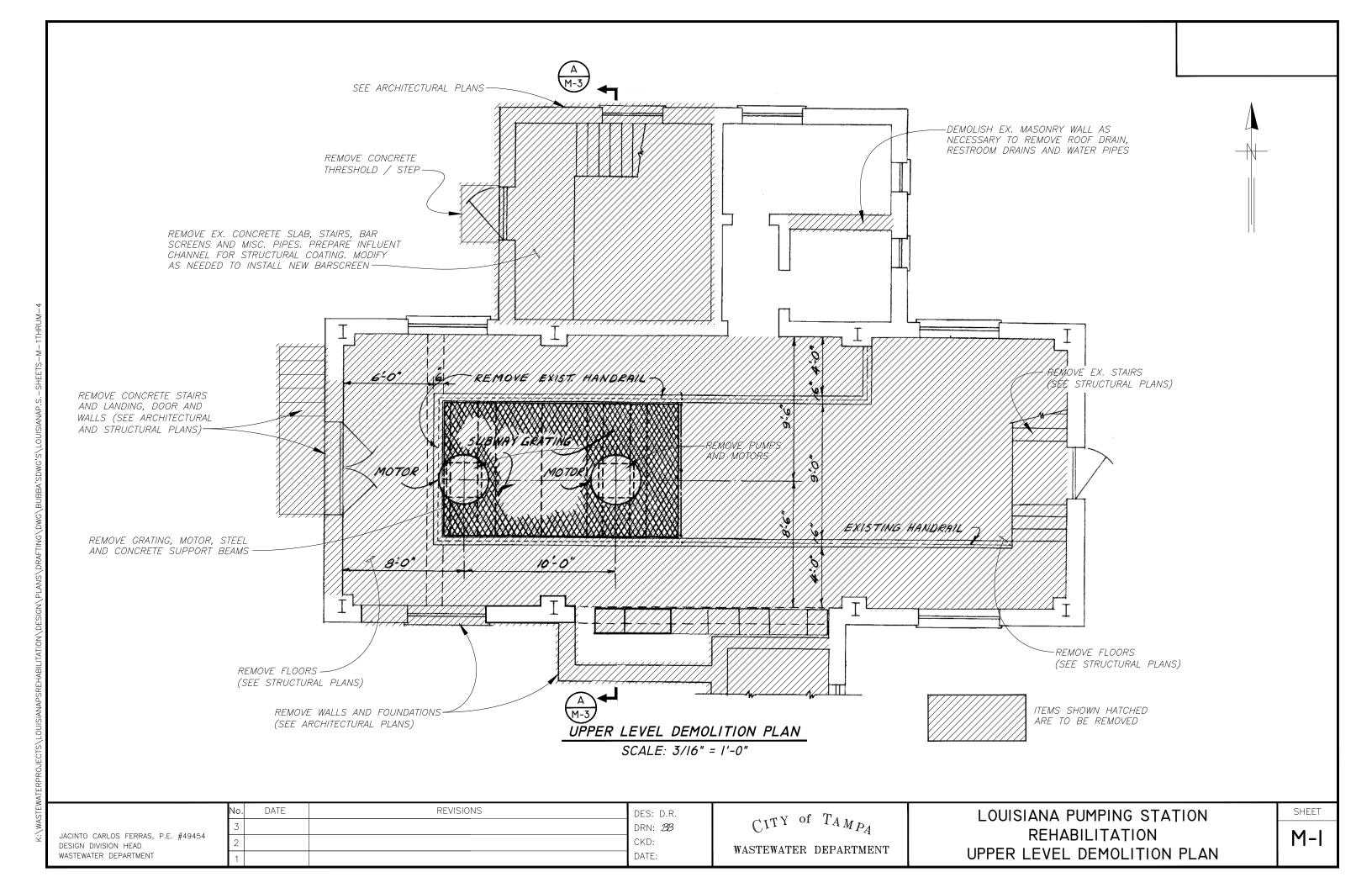
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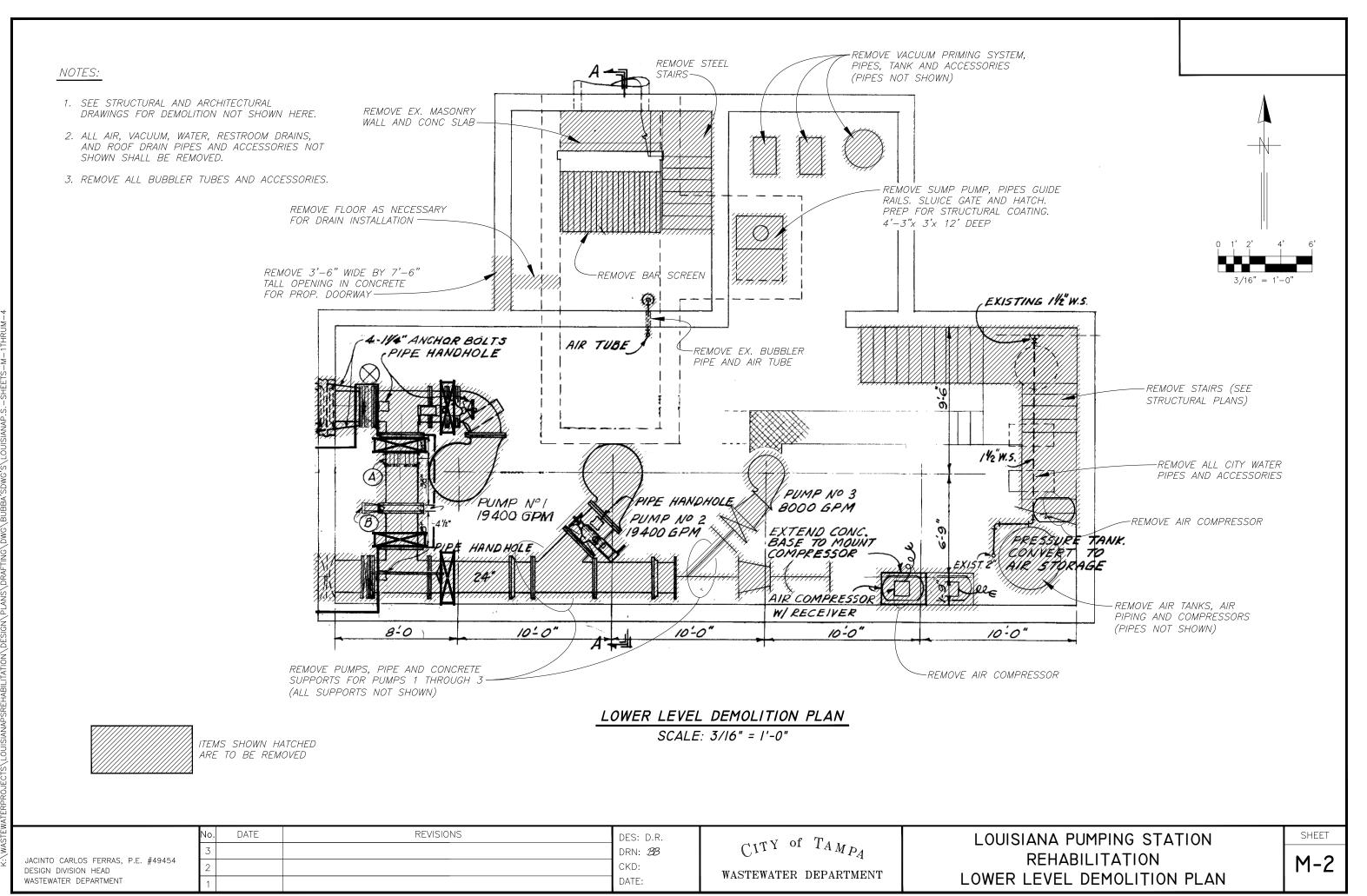
LOUISIANA AVENUE PUMP STATION IMPROVEMENTS

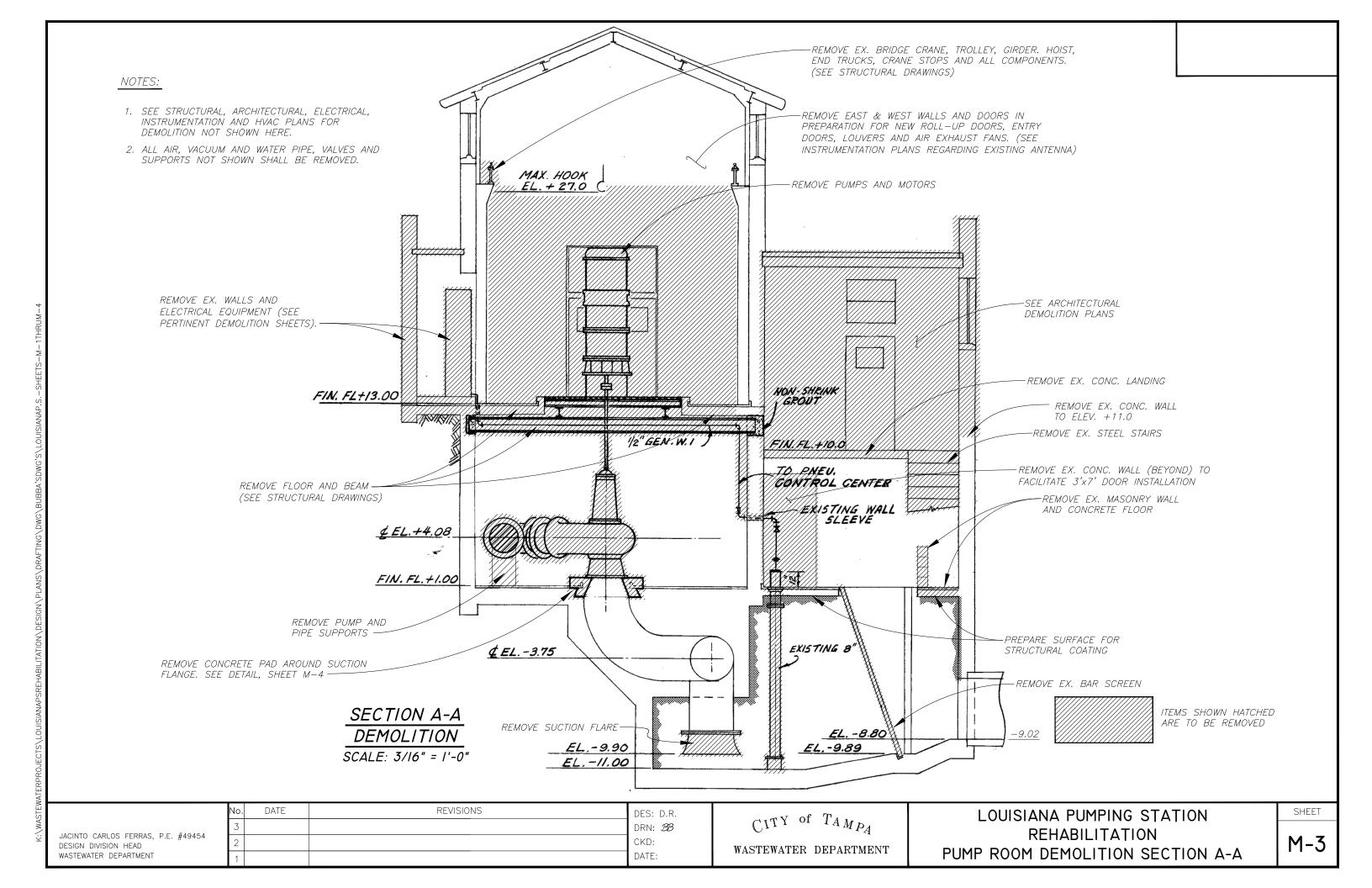
IRRIGATION NOTES

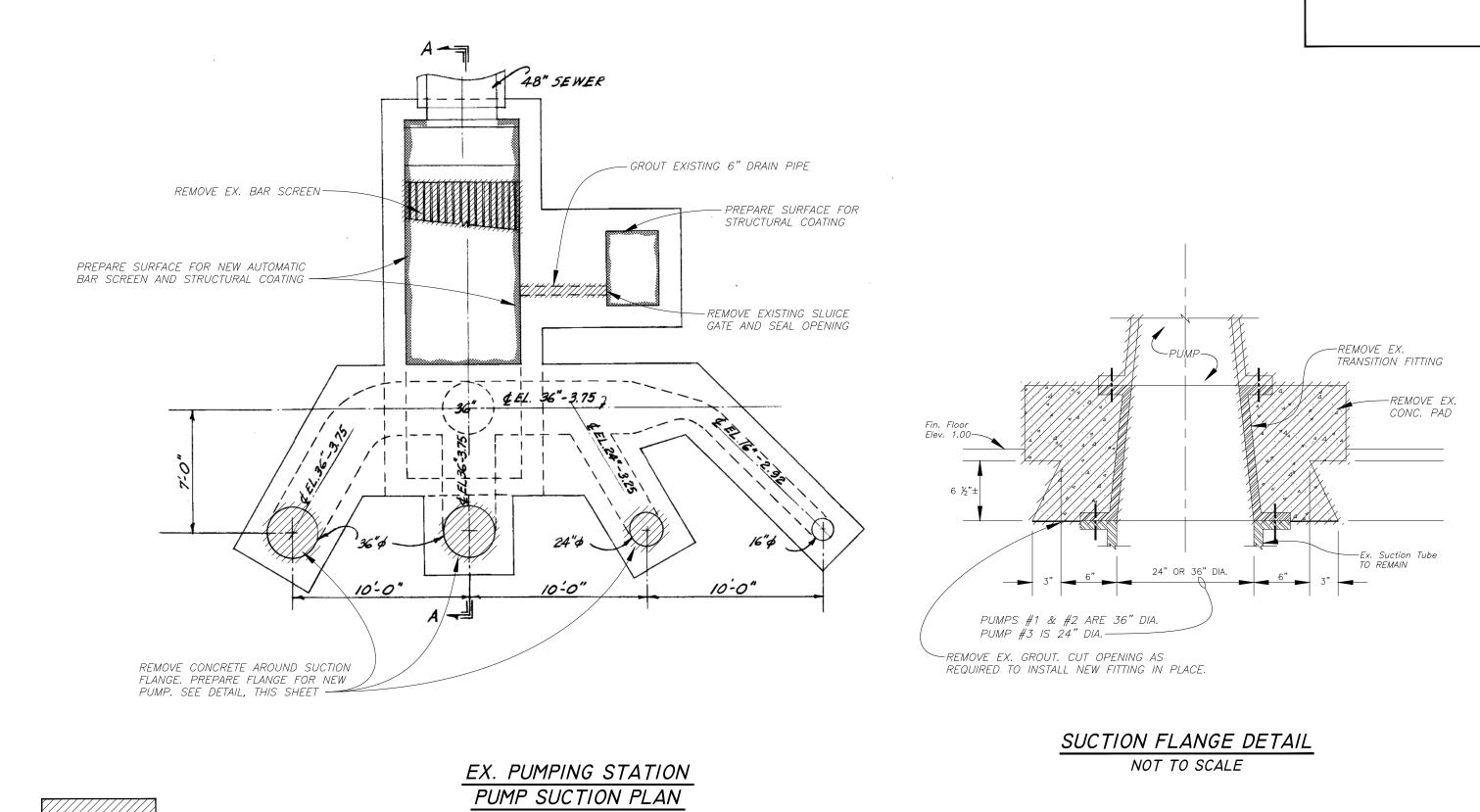
SHEET

IR-4









JACINTO CARLOS FERRAS, P.E. #49454

DESIGN DIVISION HEAD

WASTEWATER DEPARTMENT

ITEMS SHOWN HATCHED ARE TO BE REMOVED

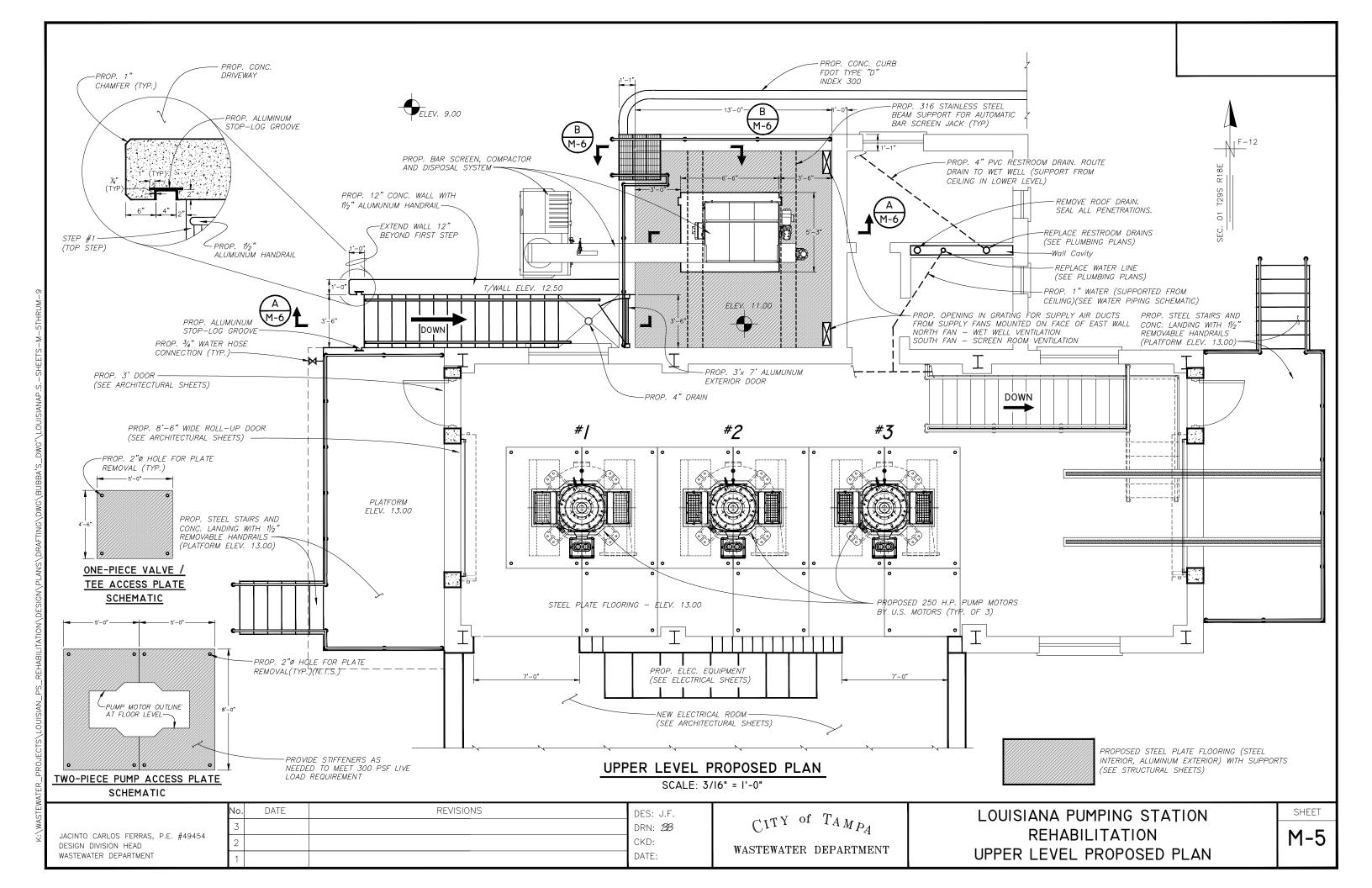
SCALE: 3/16" = 1'-0"

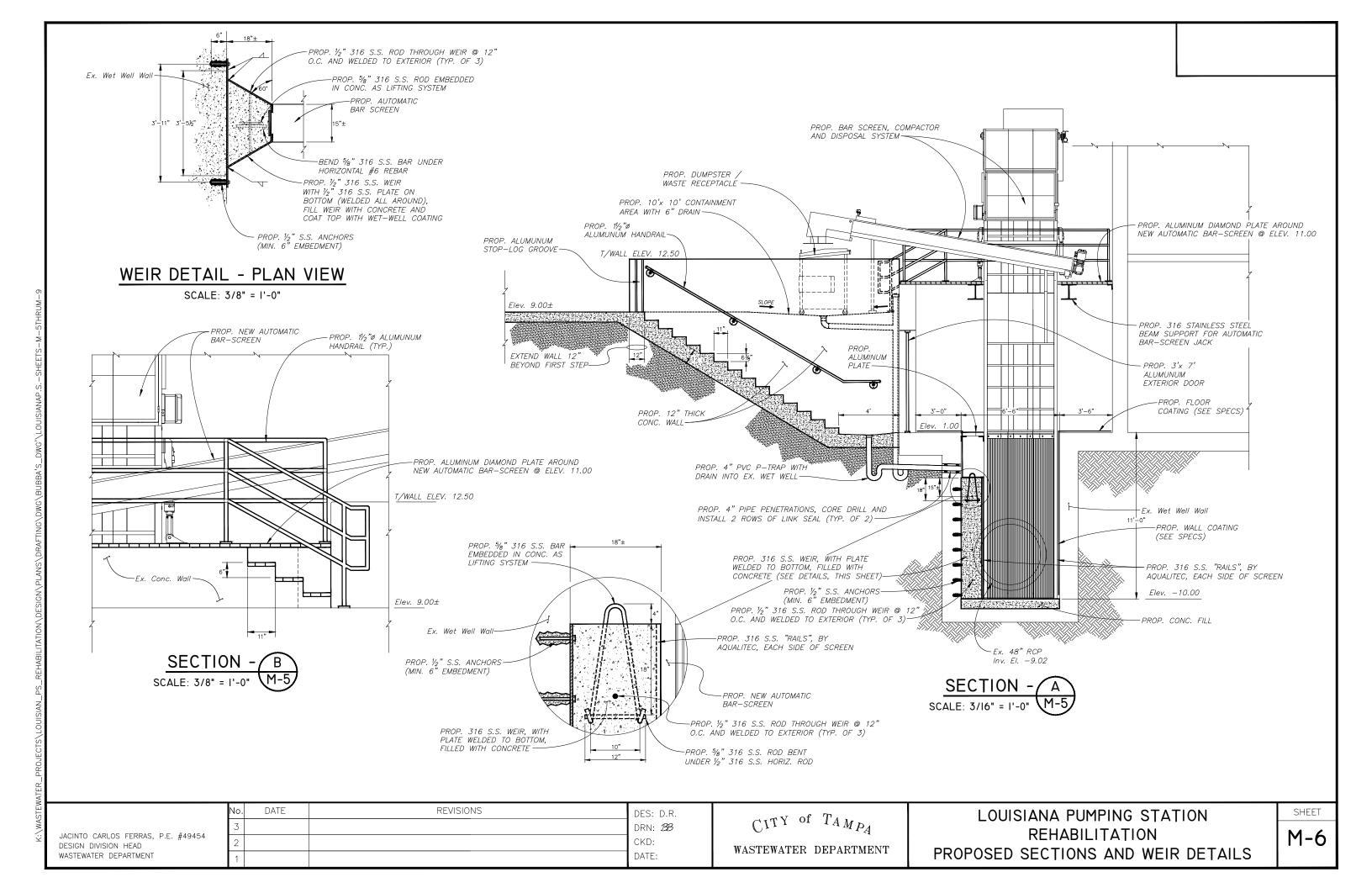
DATE REVISIONS DES: D.R. DRN: *BB* CKD: DATE:

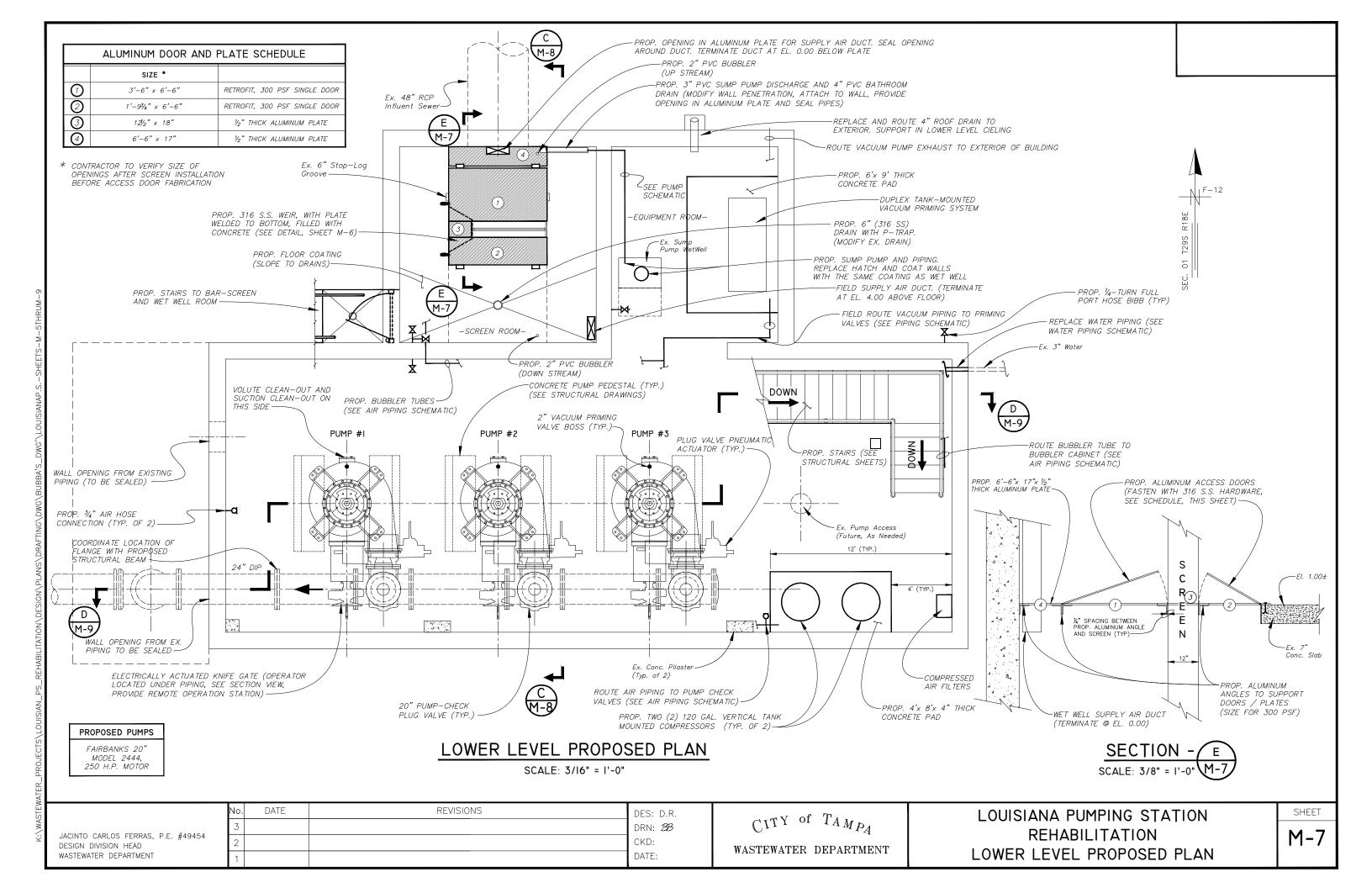
CITY of TAMPA WASTEWATER DEPARTMENT

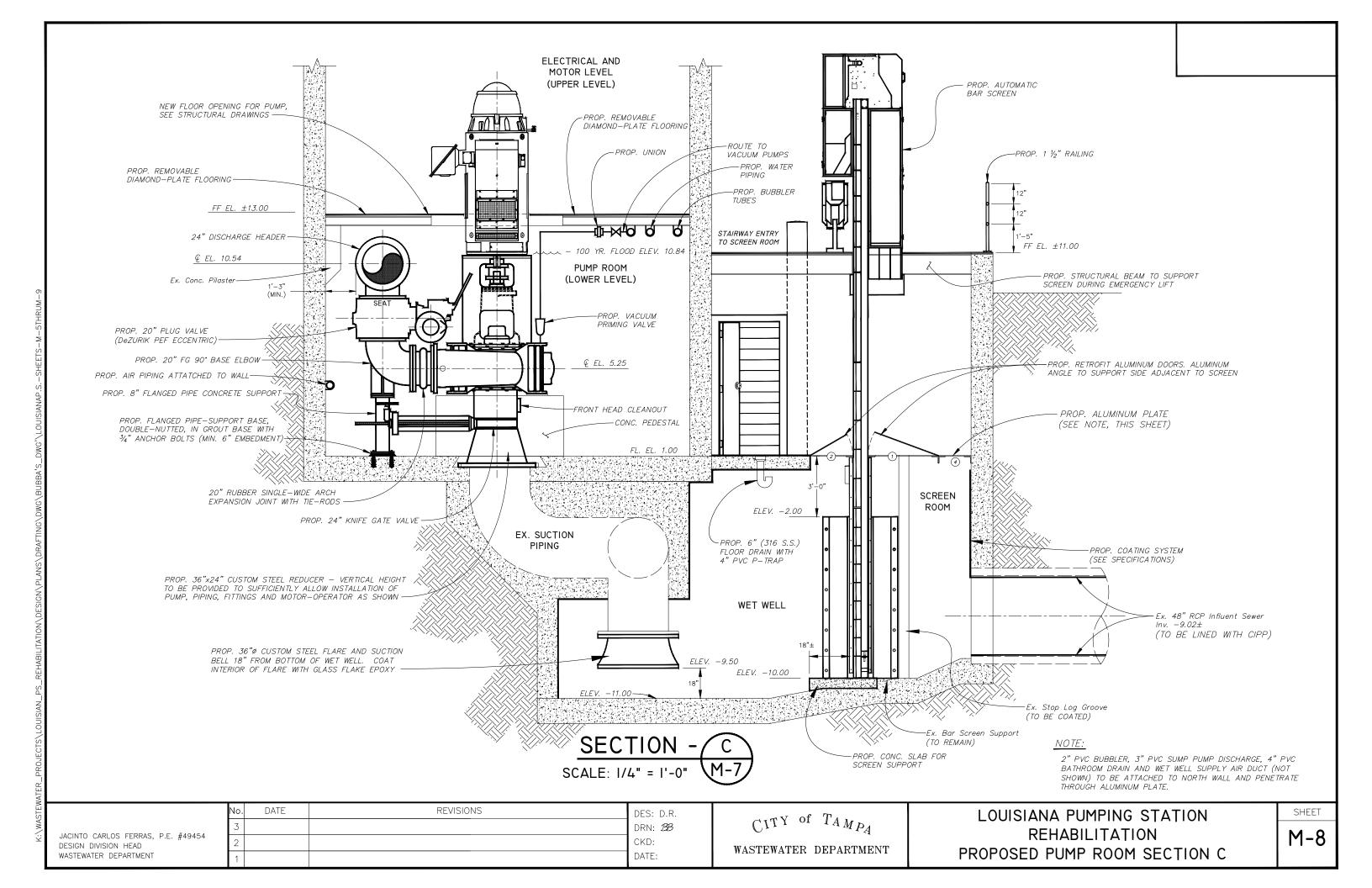
LOUISIANA PUMPING STATION **REHABILITATION** EXISTING PUMP SUCTION DEMOLITION PLANS

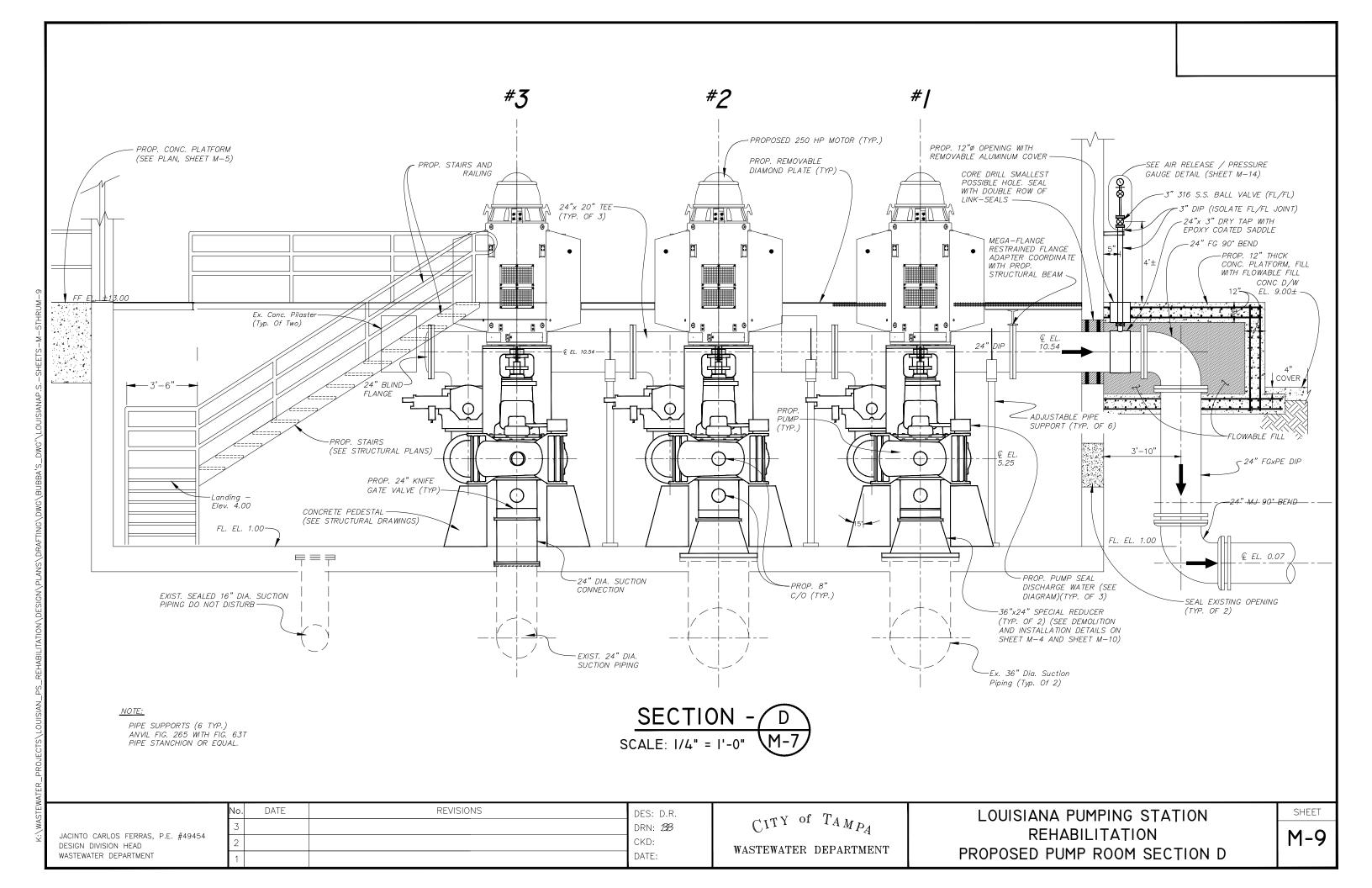
SHEET M-4

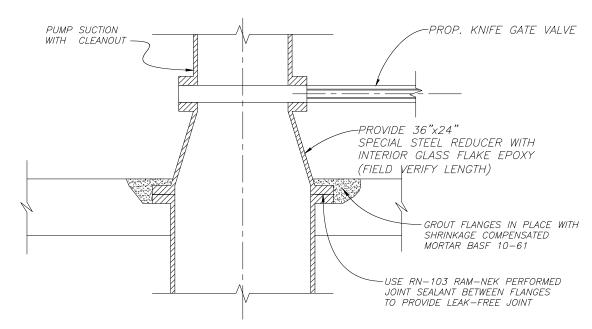






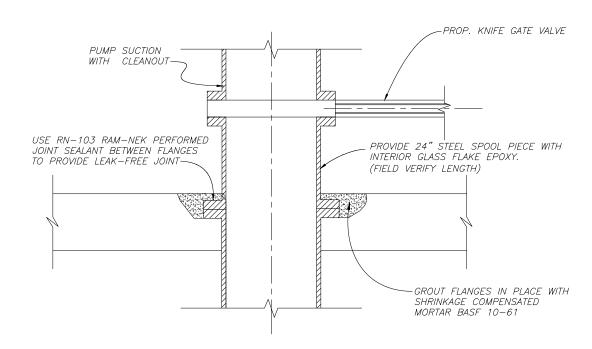






PROPOSED PUMP SUCTION PIPING 36" DIAMETER OPENING

NOT TO SCALE



PROPOSED PUMP SUCTION PIPING 24" DIAMETER OPENING

NOT TO SCALE

No.DATEREVISIONSDES: D.R.3DRN: 282CKD:1DATE:

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION
REHABILITATION
PUMP SUCTION INSTALLATION DETAILS

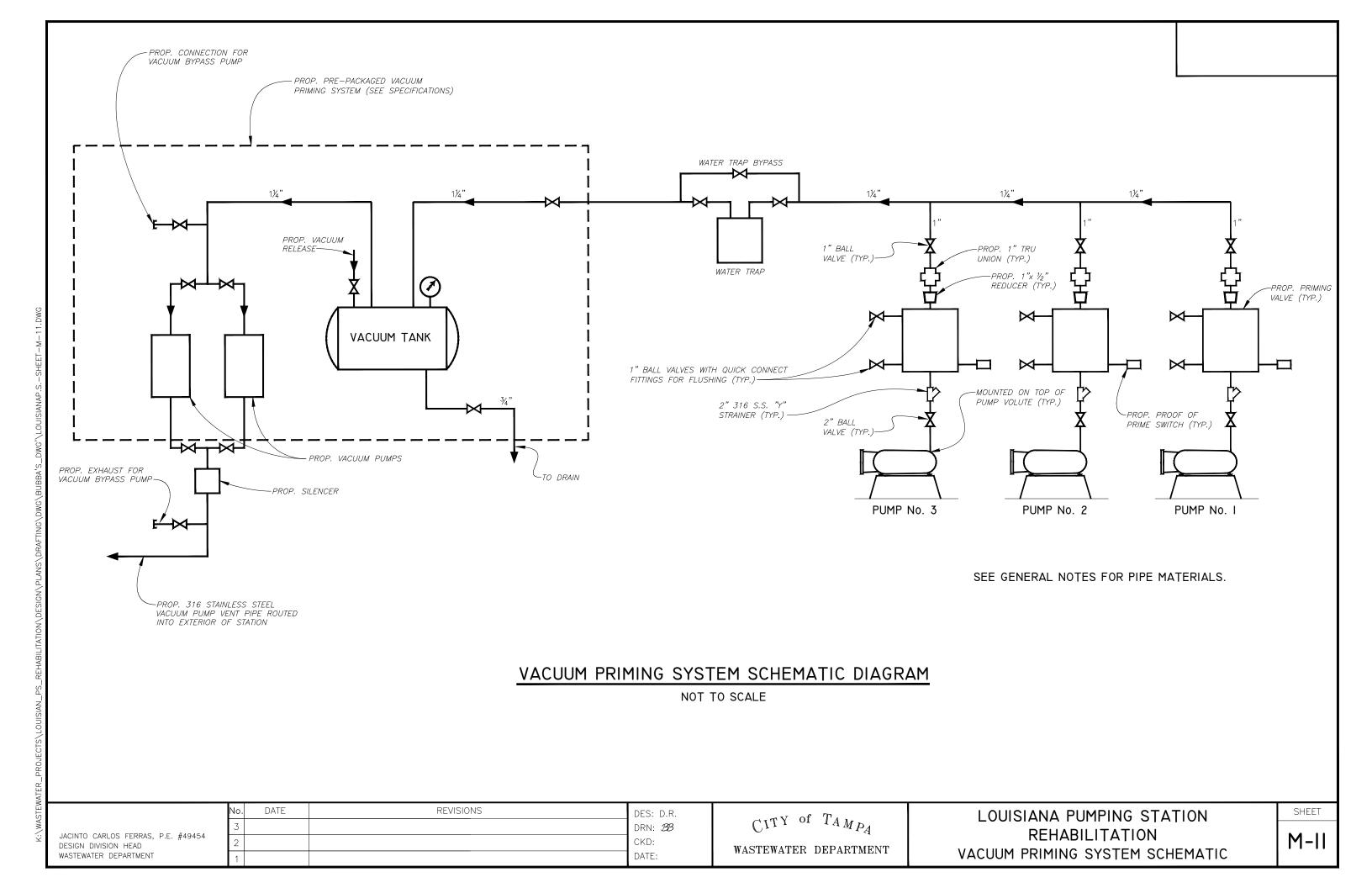
M-I0

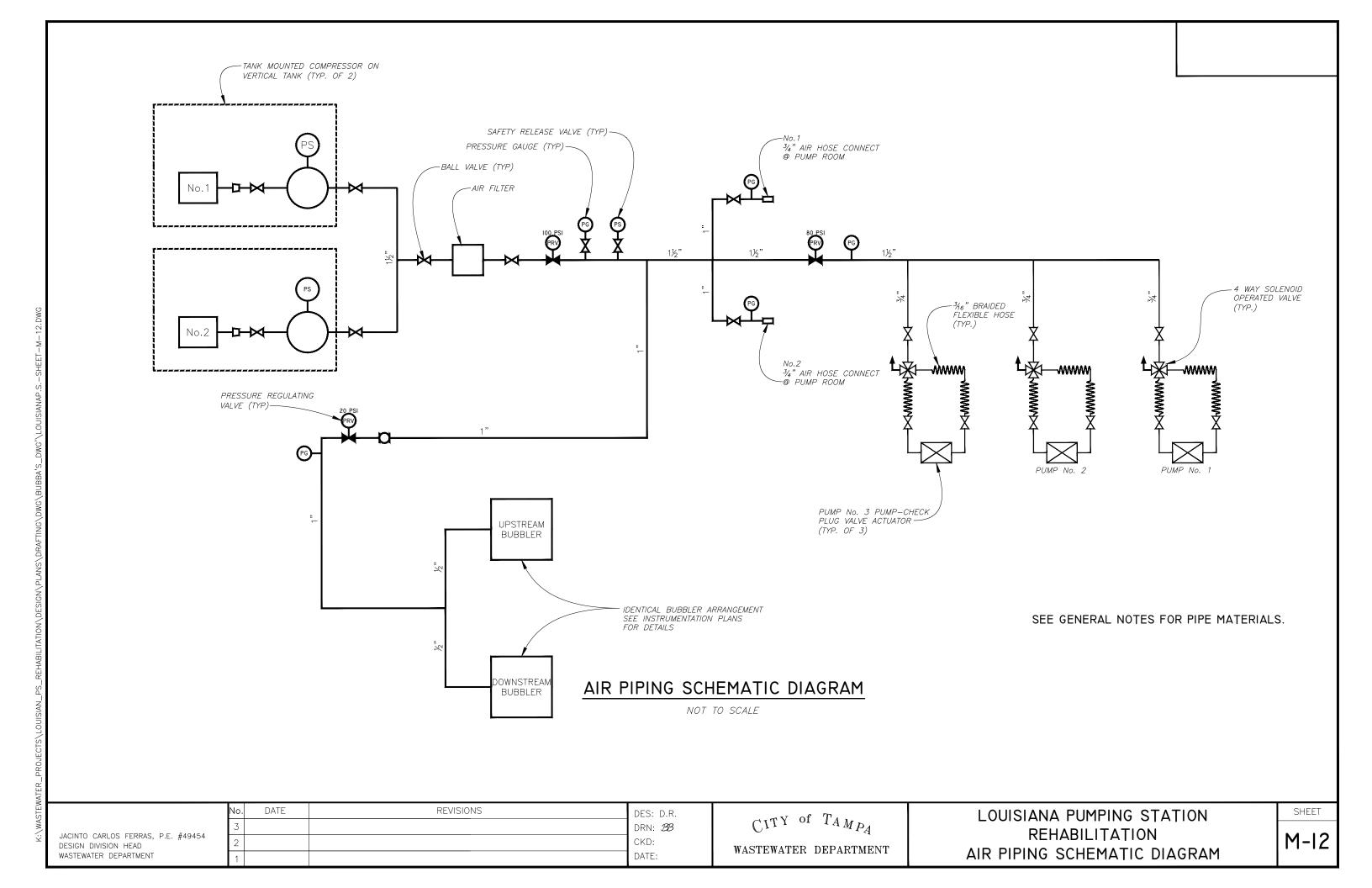
K:\WASTEWATER_PROJECTS\LOUISIAN_PS_REHABILITATION\DESIGN\PLANS\DRAFTING`

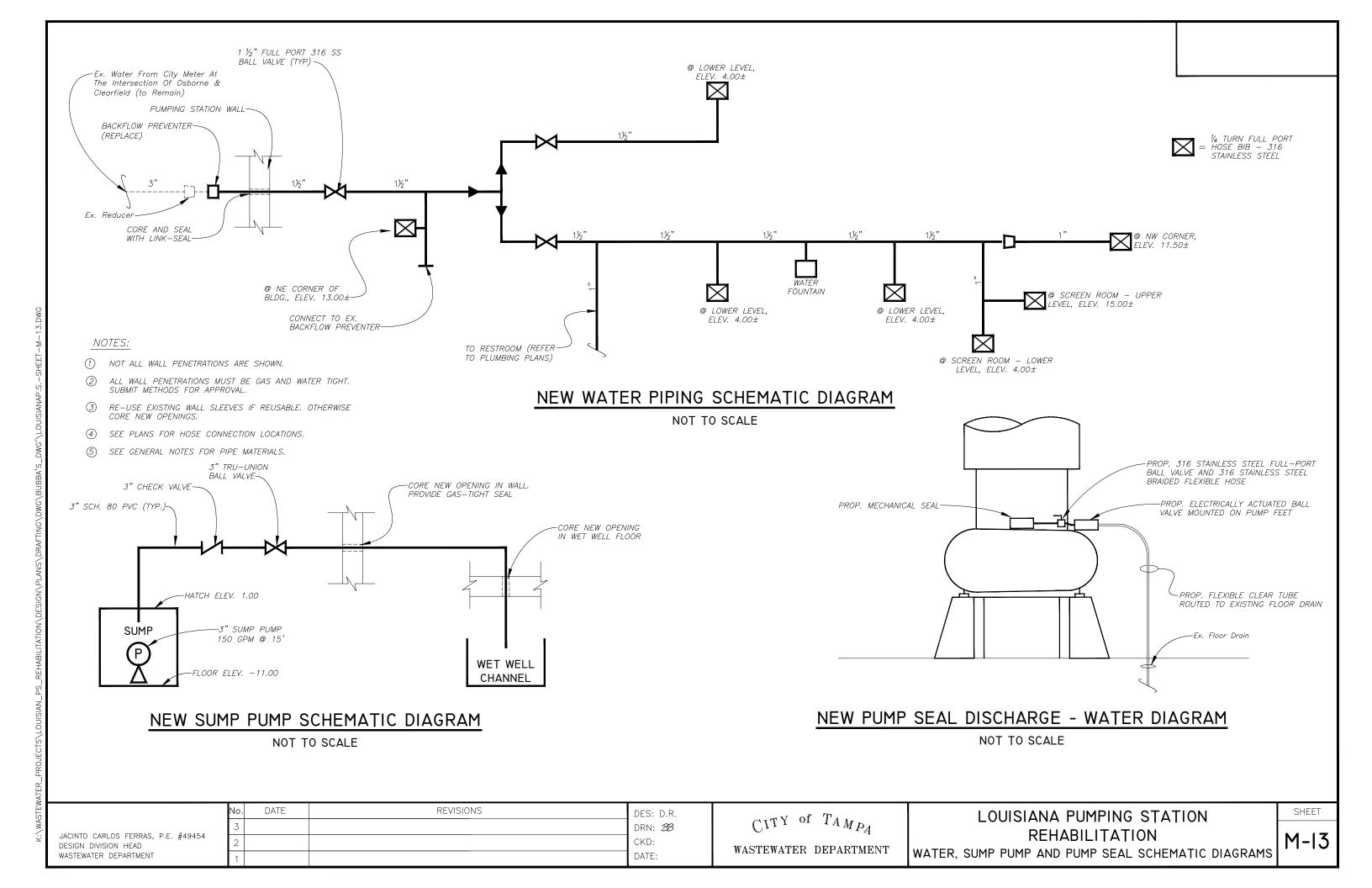
JACINTO CARLOS FERRAS, P.E. #49454

DESIGN DIVISION HEAD

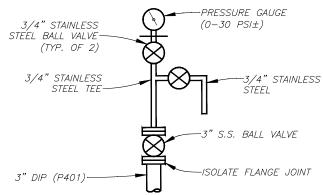
WASTEWATER DEPARTMENT



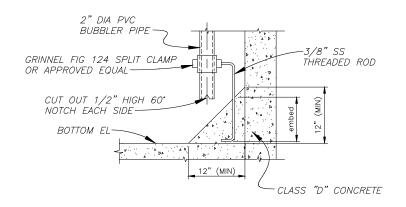




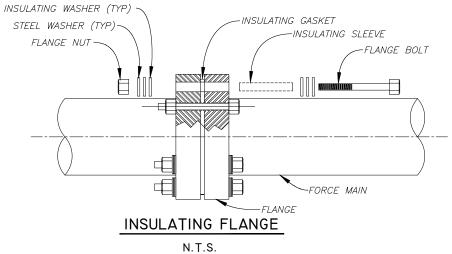


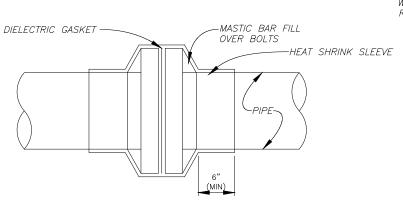


AIR RELEASE AND PRESSURE GAUGE N.T.S.

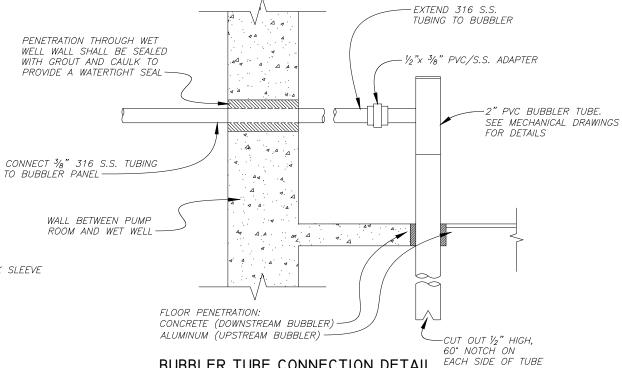


BUBBLER DETAIL





DIELECTRIC GASKET ENCASEMENT NEAR TIE-IN POINTS N.T.S.



BUBBLER TUBE CONNECTION DETAIL

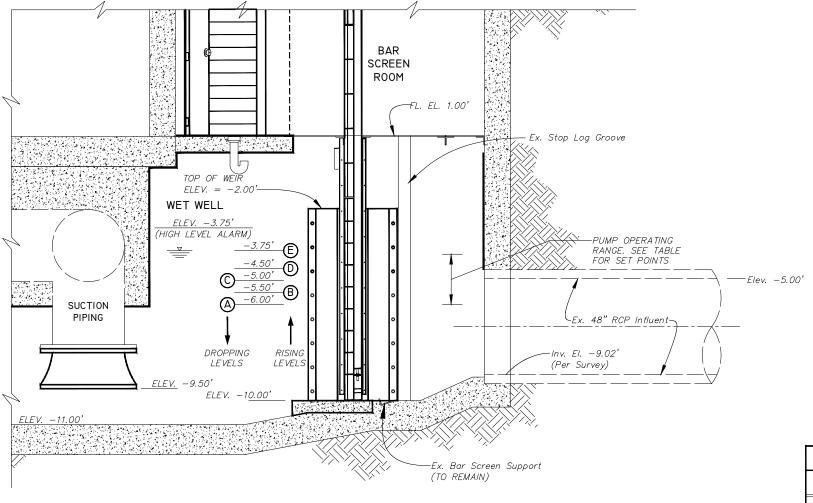
DATE JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT

REVISIONS DES: D.R. DRN: *BB* CKD: DATE:

CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION **REHABILITATION** MECHANICAL DETAILS

SHEET

M-14



	LOUISIANA PUMPING STATI	ON
	PUMPING SYSTEM OPERATING SET POINTS	ELEVATION (FT)
€	HIGH LEVEL ALARM FLOAT SWITCH (LSH-1)	-3.75°
(D)	LAG PUMP START — SET POINT	-4.50°
(C)	LAG PUMP OFF - SET POINT	-5.00'
$^{f B}$	LEAD PUMP START — SET POINT	<i>−5.50</i> ′
\triangle	LEAD PUMP OFF - SET POINT	-6.00'

NOTE:

PUMPING SYSTEM OPERATING ELEVATIONS ARE BASED ON READINGS FROM THE SOUTH BUBBLER LOCATED DOWNSTREAM OF THE SCREEN.

LOUISIANA PUMPING STATION					
PUMP STATUS	PROPOSED P.S. FLOW (MGD)	ASSUMED WET WELL LEVEL (FT)			
PUMPS 1 & 2 @ 100% SPEED	35.0	-4.00'			
PUMPS 1 & 2 @ 75% SPEED	23.6	-4.50°			
PUMP 1 @ 100% SPEED	23.1	-4.40'			
PUMP 1 @ 75% SPEED	15.5	-5.00'			
PUMP 1 @ 50% SPEED	6.2	-5.50°			

WET WELL SECTION

NOT TO SCALE

No.DATEREVISIONSDES: J.F.3DRN: BB2CKD:1DATE:

 \mathbb{C}^{TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

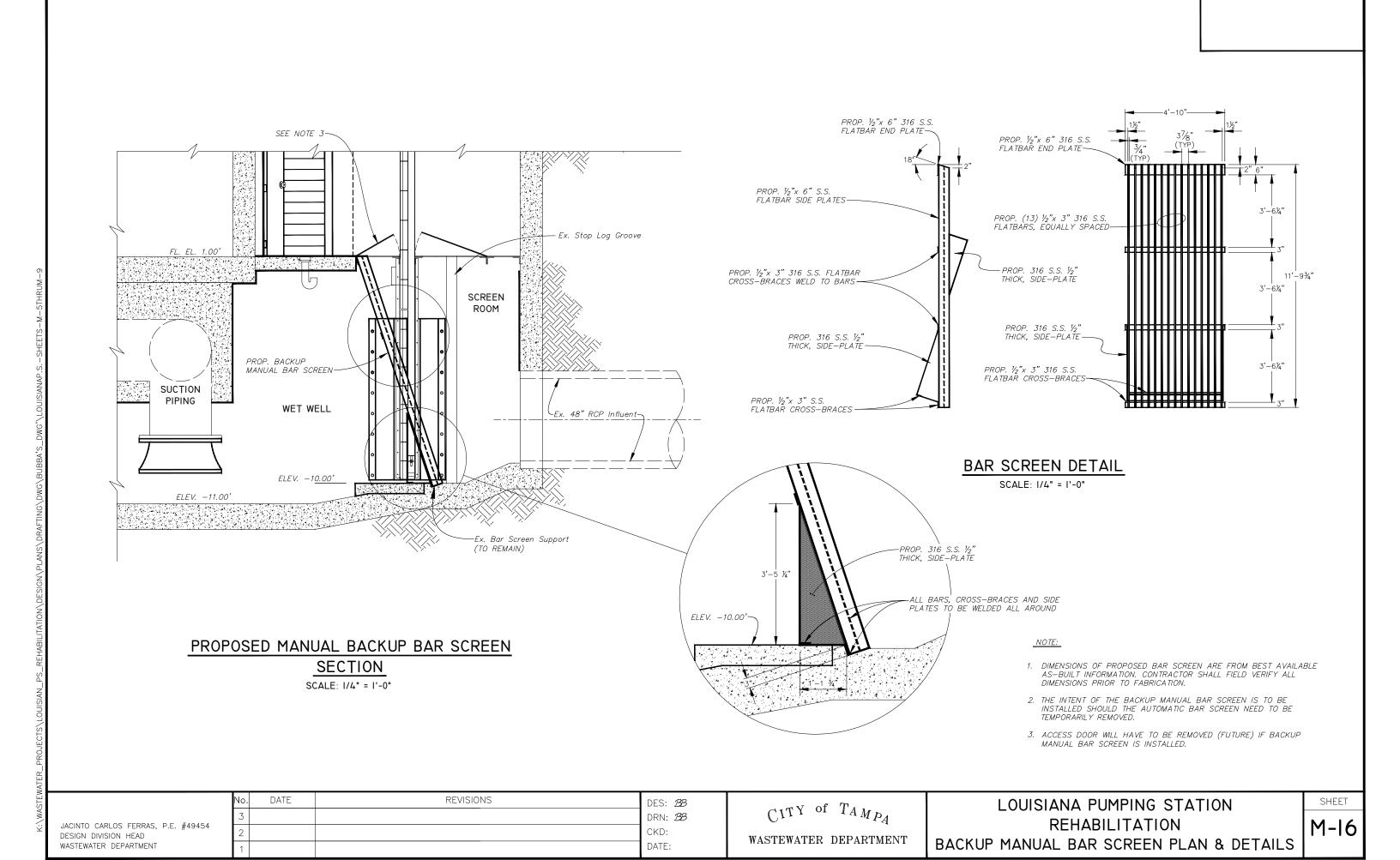
LOUISIANA PUMPING STATION
REHABILITATION
PUMP STATION OPERATING ELEVATIONS

SHEET M-I5

JACINTO CARLOS FERRAS, P.E. #49454

DESIGN DIVISION HEAD

WASTEWATER DEPARTMENT



FLORIDA LICENSE AR 0007703

CODE DATA

TO THE BEST OF MY KNOWLEDGE, THESE DRAWINGS AND PROJECT. MANUAL ARE COMPLETE AND COMPLY WITH THE:

- 1. FLORIDA BUILDING CODE (FBC), 6TH EDITION (2017)
- 2. FLORIDA BUILDING CODE (FBC)- EXISTING BUILDING, 6TH EDITION (2017)
- 3. FLORIDA FIRE PREVENTION CODE (FFPC), (INCLUDES FLORIDA VERSION OF NPFA 101, 6TH EDITION (2017)
- 4. CITY OF TAMPA BUILDING CODE, CHAPTER 5
- 5. OSHA STANDARDS

GENERAL NOTES

DEMOLITION AS LISTED BELOW OR AS REQUIRED BY THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS OTHERWISE NOTED.

- CONTRACTOR SHALL DEMOLISH AND REMOVE ALL ITEMS INDICATED AS SUCH ON THE DRAWINGS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DEMOLITION AND/OR REMOVALS NOT SPECIFICALLY CALLED FOR IN THE DRAWINGS AND SPECIFICATIONS, BUT REQUIRED TO ACHIEVE THE FINAL DESIGN INTENT AS REQUIRED ON THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL DEBRIS
 CAUSED BY DEMOLITION. CONTRACTOR SHALL NOT ALLOW AN EXCESSIVE
 AMOUNT OF DEBRIS TO ACCUMULATE AT ANY TIME.
- CONTRACTOR SHALL MAINTAIN FACILITY GROUNDS AND BUILDING PERIMETERS, INCLUDING VEHICLE/EQUIPMENT ACCESS WAYS, DEBRIS COLLECTION AREAS AND CONTRACTOR STAGING AREAS, FREE OF MISCELLANEOUS MATERIAL, SCRAP AND DEBRIS RESULTING FROM DEMOLITION AND RE-ROOFING ACTIVITIES.
- 4. THE GENERAL CONTRACTOR SHALL COORDINATE ALL DEMOLITION WITH EACH TRADE WHETHER IT BE PRIME OR SUBCONTRACTOR. CONTRACTOR SHALL VERIFY ALL CONDITIONS AT THE JOB SITE AND NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK. DO NOT SCALE THESE DRAWINGS.
- 5. CONTRACTOR SHALL PROTECT ALL EXISTING ADJACENT CONSTRUCTION TO PREVENT DAMAGE DURING DEMOLITION AND CONSTRUCTION AND AT ALL TIMES
- CONTRACTOR SHALL PATCH AND/ OR REPAIR ALL EXISTING ADJACENT CONSTRUCTION AS MAY BE REQUIRED AFTER DEMOLITION TO PROVIDE A COMPLETE FINISHED INSTALLATION.
- ALL MATERIAL AND EQUIPMENT REMOVED FROM THE BUILDING SHALL BE DISPOSED OF BY THE CONTRACTOR, EXCEPT WHERE NOTED IN SPECIFIC PROVISIONS.
- EACH TRADE WHETHER IT BE THE GENERAL CONTRACTOR OR SUBCONTRACTOR, IS RESPONSIBLE FOR THEIR OWN CUTTING. ALL PATCHING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- 9. WHERE EXISTING EQUIPMENT IS TO BE REMOVED, ALL SERVICE TO SAME SHALL BE CAPPED OR REMOVED IN ACCORDANCE WITH APPLICABLE CODES. WHERE EXISTING LIGHTING, PLUMBING, HVAC, ETC. ARE TO REMAIN BUT ARE EFFECTED BY ADJACENT DEMOLITION AND/OR NEW CONSTRUCTION. CONTRACTOR IS TO PROVIDE RECONNECTION, CLEANING AND RELOCATION IF NECESSARY.
- 10. PRIOR TO INSTALLATION OF NEW MATERIALS MAKE SUBMITTAL OF SHOP DRAWINGS/SAMPLES FOR OWNER APPROVAL. ALL INSTALLATIONS AND PREPARATION OF SURFACES TO BE PER MANUFACTURER'S RECOMMENDATIONS INCLUDING, PROVIDING ANY MISCELLANEOUS TRIM PIECES OR ACCESSORIES.
- 11. FINAL CLEANING TO BE BY EXPERIENCED WORKMEN. SCHEDULE FINAL CLEANING TO ENABLE OWNER TO ACCEPT A COMPLETELY CLEAN AREA (INTERIOR & EXTERIOR BE CLEANED AS REQUIRED).
- CONTRACTOR TO REVIEW EXISTING CONDITIONS AND DOCUMENT ANY EXISTING DAMAGES PRIOR TO COMMENCING WORK.

- 13. THE BUILDING DATA ON THE DRAWINGS IS REPRODUCED AS RECEIVED FROM OWNER AND/OR RECORDED FROM OBSERVATIONS IN FIELD. BECAUSE THE DRAWINGS MAY NOT REPRESENT THE EXISTING CONDITIONS ACURATELY, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND SUBMIT SHOP DRAWINGS OF ALL CONFLICTING CONDITIONS AND/OR LOCATIONS OF WORK, AND A WORKABLE SOLUTION TO ARCHITECT FOR PRIOR APPROVAL BEFORE INSTALLING ANY QUESTIONABLE WORK.
- 14. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES IN THE DRAWINGS OR NOTES, CONTRACTOR SHALL REQUEST A CLARIFICATION TO THE ARCHITECT OR ENGINEER PRIOR TO SUBMITTING THE BID. IN THE EVENT OF DISCREPANCIES, THE APPROPRIATE METHOD OF PERFORMING THE WORK AND/OR ITEMS TO BE INCORPORATED INTO THE SCOPE OF WORK SHALL BE DETERMINED BY THE ARCHITECT OR ENGINEER.
- 15. CONTRACTOR TO BRING ANY INCONSISTENCIES, SITE LAYOUT PROBLEMS OR ANY OTHER CLARIFICATIONS TO THE CITY FOR RESOLUTION PRIOR TO THE ISSUANCE OF THE BID. FAILURE TO DO SO SHALL CAUSE THE CONTRACTOR TO BE INELIGIBLE FOR COMPENSATION RELATING TO SUCH MATTERS.
- 16. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY, ACTIONS AND CONDUCT OF HIS EMPLOYEES AND HIS SUBCONTRACTORS' EMPLOYEES WHILE IN THE PROJECT AREA, ADJACENT AREAS AND IN THE BUILDING AND ITS VICINITY. CONTRACTOR SHALL PROVIDE APPROPRIATE PLATFORMS AND ACCESS TO PERFORM THE WORK PER OSHA REQUIREMENTS.
- 17. WEATHER CONDITION LIMITATIONS PROCEED WITH ROOFING WORK ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS COMPLY WITH MANUFACTURERS RECOMMENDATIONS AND WARRANTY REQUIREMENTS.
- THE CONTRACTOR MUST NOTIFY THE CITY (7) DAYS IN ADVANCE OF ANY INSTALLATION WORK.
- 19. CONTRACTOR IS RESPONSIBLE FOR ANY WATER DAMAGE INCURRED DURING THE CONSTRUCTION PROCESS.
- 20. RAW OR CUT EDGES OF OPENINGS AT DOWNSPOUTS SHALL BE WRAPPED WITH VINYL / RUBBER SAFETY TRIM SIMILAR TO THAT USED ON THE EDGES OF CAR DOORS, SO AS TO AVOID CUTS AND ABRASIONS ON THE HANDS OF PERSONS MAINTAINING THE DOWNSPOUTS.
- 21. COMPLY WITH NRCA AND SMACNA RECOMMENDATIONS AND DETAILS FOR ALL ROOFING WORK, EXCEPT AS MODIFIED BY THE ATTACHED DETAILS.
- 22. CONSTRUCT ALL NECESSARY CHUTES, PLATFORMS OR EDGE DEVICES TO PROTECT PROPERTY AND EQUIPMENT FROM DAMAGE. PROVIDE SPECIAL PROTECTION FOR ALL EXISTING WORK NOT BEING REMOVED. CONTRACTOR TO PREVENT ANY OBJECT FROM FALLING OFF ROOF OR SIDE OF BUILDING.
- 23. ALL WOOD BLOCKING SHALL BE PRESSURE TREATED. USE ONLY CORROSION RESISTANT FASTENERS.
- 24. LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS (REFER TO APPENDIX 1 OF THE TECHNICAL SPECIFICATIONS).



WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

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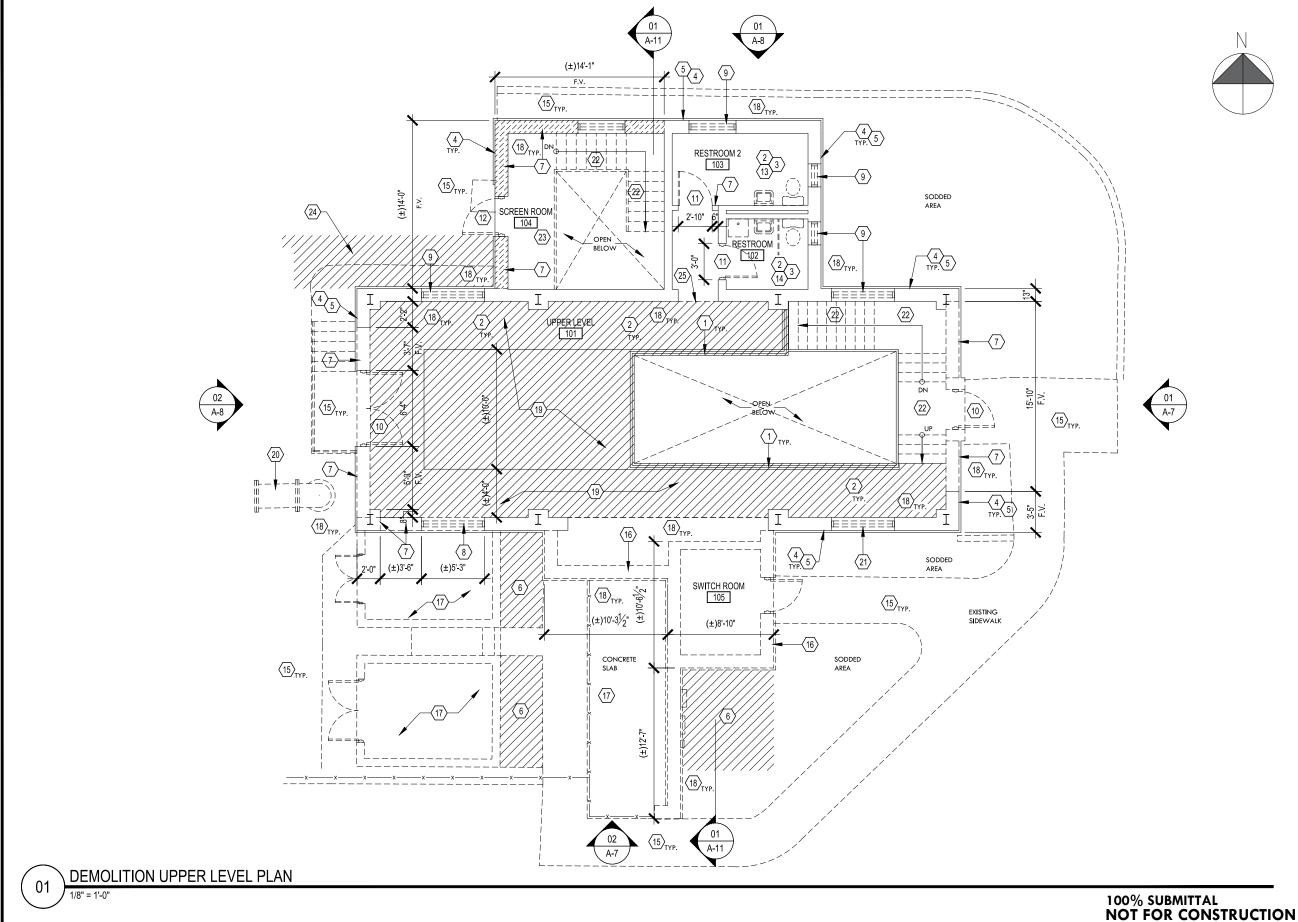
 C^{TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION ARCHITECTURAL NOTES

A-0

ENRIQUE A. WOODROFFE, FAIA, LEED

FLORIDA LICENSE AR 0007703



GENERAL DEMOLITION NOTES

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- CONTRACTOR TO COORDINATE WITH THE OWNER
 REGARDING THE SAFE DISPOSAL / STORAGE OF ALL ITEMS,
 FIXTURES, ETC. TO BE DEMOUSHED OR REMOVED. OWNER
 RESERVES THE RIGHT TO DECIDE WHICH ITEMS, FIXTURES,
 ETC. ARE WORTH SAVING.

 LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS
- LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESU (REFER TO APPENDIX 1 OF THE TECHNICAL SPECIFICATIONS).
- 4. DIMENSIONS, WHERE SHOWN, ARE ONE OF THE FOLLOWING:

CENTERLINE OF ITEMS
FACE OF CONCRETE AT EXTERIOR

FACE OF FINISHES AT INTERIOR

5. REFER TO ELECTRICAL, MECHANICAL, PLUMBING,
INSTRUMENTAL CONSTRUCTION DOCUMENTS FOR THE
"SHUT DOWN" OF THESE COMPONENTS.

DEMOLITION NOTES "(#)'

- REFER TO STRUCTURAL DRAWINGS FOR THE DEMOLITIONS
 OF THE HANDRAILS AND GUARDRAILS.
- PATCH AND PREPARE ALL INTERIOR WALLS AND TRIM TO RECEIVE NEW PAINT.
- PREPARE INTERIOR CONCRETE FLOORS AND WALL BASES TO RECEIVE NEW PAINT / COATING.
- 4. PATCH HAIRLINE CRACKS AND DAMAGED STUCCO AS
- REQUIRED AND PREPARE TO BE PAINTED.

 5. PATCH BRICK BANDING AND PREPARE TO BE PAINTED.
- REMOVE EXISTING SURFACE SOIL AND PREPARE FOR NEW FOUNDATION. REFER TO STRUCTURAL DRAWINGS.
- REMOVE PORTION OF 12" CMU WALL. PATCH ADJACENT WALLS. REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS.
- 8. REMOVE WINDOW AND PREPARE OPENING FOR IN-FILL (AS REQUIRED). REFER TO STRUCTURAL DRAWINGS.
- REMOVE WINDOW AND PATCH WALLS AND FINISHES
 AROUND WINDOW OPENING. PREPARE OPENING TO
 RECEIVE NEW WINDOW.
- 10. REMOVE DOOR AND FRAME
- REMOVE DOOR AND FRAME. PATCH WALLS AND FINISHES
 AROUND DOOR OPENING. PREPARE OPENING TO
 RECEIVE NEW DOOR AND FRAME.
- 12. REMOVE DOOR, FRAME AND THRESHOLD
- REMOVE PLUMBING FIXTURES AND CAP PLUMBING REF TO PLUMBING DRAWINGS FOR DETAILS.
- REMOVE PLUMBING FIXTURES AND PREPARE FOR NEW PLUMBING FIXTURES - REFER TO PLUMBING DWGS FOR DETAILS.
- REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR ALL EXTERIOR DEMOLITION (STEPS, HANDRAILS, WALKS, STAIRS, LANDING, CURBS, ETC.).
- 16. REMOVE EXISTING CONCRETE ROOF SLAB, 12" CMU WALLS, DOOR AND DOOR FRAME, CONCRETE FLOOR AND FOUNDATION. PREPARE AREA FOR NEW CONSTRUCTION. REFER TO STRUCTURAL AND ELECTRICAL DWGS FOR DETAILS.
- 17. REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR THE DEMOLITION OF THE STORAGE BUILDING, FENCES AND CONCRETE SLAB. PREPARE AREA FOR NEW CONSTRUCTION.
- 18. REFER TO ELECTRICAL DRAWINGS FOR THE REMOVAL OF THE INTERIOR AND EXTERIOR ELECTRICAL COMPONENTS.
 CONTRACTOR TO REPAIR DAMAGE AREAS AND SEAL
- WALL OPENING. WORK TO MATCH EXISTING.

 19. REMOVE EXISTING FLOOR SLAB, CURB AND METAL
 GRATING. REFER TO STRUCTURAL DRAWINGS FOR
 REINFORCEMENT DETAILS.
- 20. EXISTING PIPE. REFER TO MECHANICAL DRAWINGS F
 ADDITIONAL INFORMATION.
- 21. REMOVE WINDOW AND PATCH WALLS AND FINISHES
 AROUND OPENING, PREPARE OPENING TO RECEIVE NEW
- REMOVE EXISTING METAL STAIR, LANDING AND RAILINGS.
 REFER TO STRUCTURAL DRAWINGS.
- 23. REMOVE EXISTING CONCRETE LANDING. PATCH WALL.
 REFER TO STRUCTURAL DRAWINGS.
- REMOVE PORTION OF EXISTING CONCRETE SLAB AND SOIL. PREPARE AREA FOR NEW CONCRETE WALL, FOUNDATION AND CONCRETE STAIR. REFER TO CIVIL AND STRUCTURAL DRAWNINGS.
- LIMITS OF FLOOR SLAB REMOVAL. REFER TO STRUCTURAL DRAWINGS.



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CITY of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION DEMOLITION FLOOR PLAN

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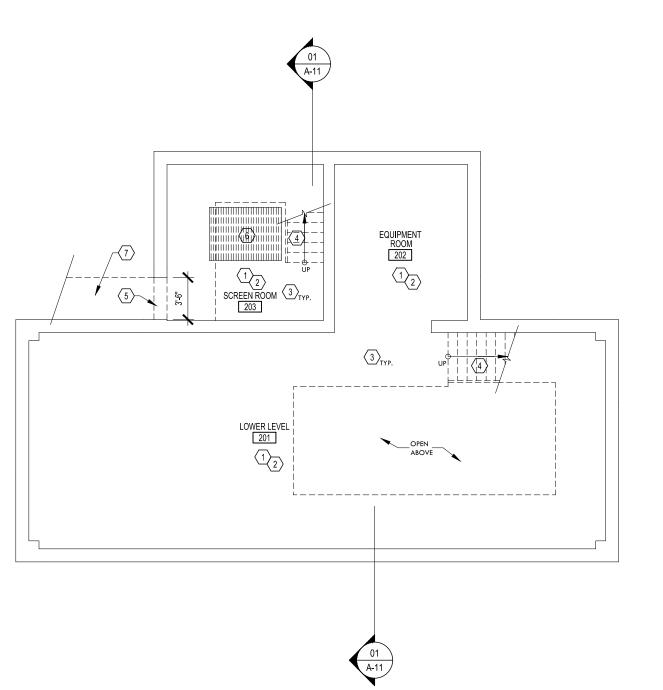
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CITY of TAMPA WASTEWATER DEPARTMENT

REHABILITATION PROPOSED/ADDITION FLOOR PLAN

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GENERAL DEMOLITION NOTES

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- 2. CONTRACTOR TO COORDINATE WITH THE OWNER REGARDING THE SAFE DISPOSAL / STORAGE OF ALL ITEMS, FIXTURES, ETC. TO BE DEMOLISHED OR REMOVED.
 OWNER RESERVES THE RIGHT TO DECIDE WHICH ITEMS,
- FIXTURES, ETC. ARE WORTH SAVING.

 3. LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS (SEE APPENDIX C OF THE EXISTING CONDITIONS REPORT).

 4. DIMENSIONS, WHERE SHOWN, ARE ONE OF THE
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 CENTERLINE OF ITEMS

CENTERLINE OF ITEMS
FACE OF CONCRETE AT EXTERIOR
FACE OF FINISHES AT INTERIOR

DEMOLITION NOTES "(#)"

- . PATCH AND PREPARE ALL INTERIOR WALLS AND TRIM
- RECEIVE NEW PAINT.

 2. PREPARE INTERIOR CONCRETE FLOOR AND WALL BASE TO RECEIVE NEW PAINT / COATING.
- 3. REFER TO ELECTRICAL DRAWINGS FOR THE REMOVAL OF THE INTERIOR AND EXTERIOR ELECTRICAL COMPONENTS. CONTRACTOR TO REPAIR DAMAGE AREAS AND SEAL
- WALL OPENING. WORK TO MATCH EXISTING.

 4. REMOVE EXISTING METAL STAIR, LANDING AND RAILINGS.
 REFER TO STRUCTURAL DRAWINGS.
- REFER TO STRUCTURAL DRAWINGS.

 5. REMOVE PORTION OF EXISTING 12" CONCRETE WALL.
 PREPARE OPENING TO RECEIVE NEW DOOR AND FRAME.
 REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT
- REMOVE EXISTING BAR SCREEN, REFER TO MECHANICAL DRAWINGS.
- 7. REMOVE PORTION OF EXISTING SOIL. PREPARE AREA FOR NEW CONCRETE WALL, FOUNDATION AND CONCRETE STAIR. REFER TO CIVIL AND STRUCTURAL DRAWINGS.

01 DEMOLITION LOWER LEVEL PLAN
1/8" = 1'-0"

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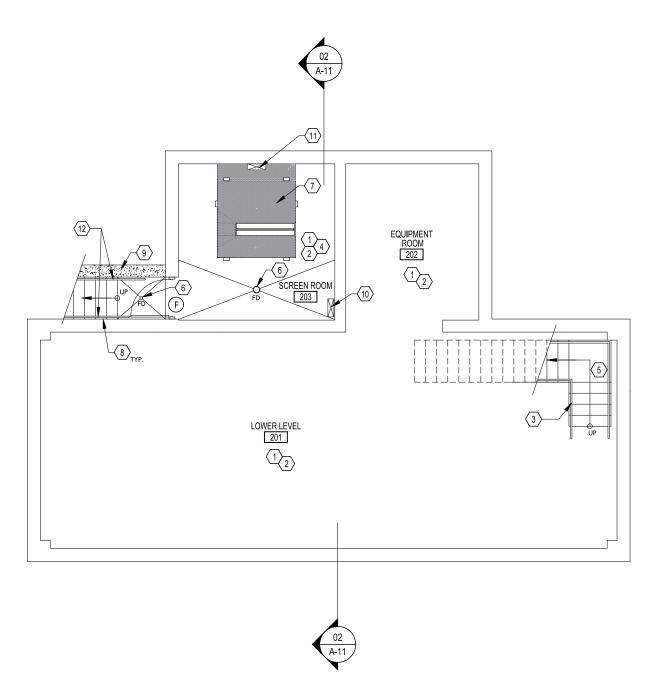
LOUISIANA PUMPING STATION
REHABILITATION
DEMO LOWER LEVEL FLOOR PLAN

A-3

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FLORIDA LICENSE AR 0007703





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 DIMENSIONS, WHERE SHOWN, ARE ONE OF THE FOLLOWING: CENTERLINE OF ITEMS

FACE OF CONCRETE AT EXTERIOR
FACE OF FINISHES AT INTERIOR

PROPOSED NOTES "(#)"

- PAINT ALL INTERIOR WALLS AND TRIM.
 CONCRETE FLOORS AND WALL BASE TO RECEIVE COATING. REFER TO MECHANICAL DWGS.
 NEW METAL STAIR PAINT HANDRAILS/GUARDRAILS.
- 4. CLEAN AND SEAL "WET WELL".
 5. NEW STAIR, LANDING AND RAILINGS. REFER TO

- 5. NEW STAIR, LANDING AND RAILINGS. REFER TO STRUCTURAL DRAWINGS.
 6. NEW FLOOR DRAIN. REFER TO MECHANICAL DRAWINGS.
 7. NEW ALUMINUM PLATE, REFER TO MECHANICAL DRAWINGS.
 8. NEW STAIR OPENING -EXISTING WALL SIDE- NEW (±)1"STUCCO FINISH. STUCCO OR MASONRY TO BE CONTINUOUS TO MATCH IN TEXTURE EXISTING STUCCO.
- NEW 12" CONCRETE WALL WITH 1" STUCCO FINISH. REFER TO STRUCTURAL DRAWINGS. 10. NEW SUPPLY AIR DUCT. REFER TO MECHANICAL AND HVAC DRAWINGS.
- HYAC DRAWINGS.

 11. NEW OPENING IN ALUMINUM PLATE FOR SUPPLY AIR
 DUCT. REFER TO MECHANICAL AND HYAC DRAWINGS.

 12. NEW ALUMINUM 1 ½" HANDRAIL. REFER TO MECHANICAL
 DRAWINGS.

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CITY of TAMPA WASTEWATER DEPARTMENT

PROPOSED LOWER LEVEL FLOOR PLAN

LOUISIANA PUMPING STATION REHABILITATION LOWER LEVEL FLOOR PLAN

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GENERAL DEMOLITION NOTES

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 OWNER RESERVES THE RIGHT TO DECIDE WHICH ITEMS, FIXTURES, ETC. ARE WORTH SAVING.

 3. LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS
- (SEE APPENDIX C OF THE EXISTING CONDITIONS REPORT).

 4. DIMENSIONS, WHERE SHOWN, ARE ONE OF THE
- FOLLOWING: CENTERLINE OF ITEMS

FACE OF CONCRETE AT EXTERIOR FACE OF FINISHES AT INTERIOR

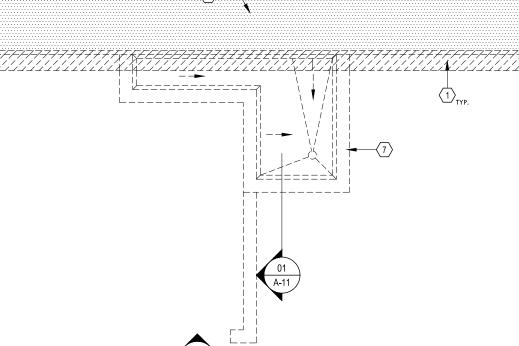
ROOF DEMO NOTES "(#)"

- PREPARE AREAS FOR REPLACEMENT.

 2. REMOVE EXISTING ROOFING AND FLASHING. PREPARE
- AREA TO RECEIVE NEW ROOFING, FLASHING SYSTEM.

 3. REMOVE EXISTING CLAY ROOFING TILE, ROOF WOOD
- BATTENS, UNDERLAYMENT AND METAL FLASHING.
 PREPARE AREA TO RECEIVE NEW ROOF SYSTEM AND CLAY TILES.
 4. REMOVE CLAY COPING TILE AND PREPARE TO RECEIVE
- NEW WOOD CLEAT AND METAL COPING.
 5. CUT HOLE IN WALL TO RECEIVE NEW THRU-WALL
- SCUPPER.

 6. REMOVE PORTION OF 12" CMU WALL, PRE CAST CONCRETE ROOF SLAB AND STEEL BEAMS- REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS.
- 7. REMOVE EXISTING CONCRETE ROOF SLAB, 12" CMU
 WALLS, CONCRETE FLOOR AND FOUNDATION. PREPARE AREA TO RECEIVE NEW CONSTRUCTION, REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS.
- 8. REMOVE EXISTING ROOF DRAIN AND ASSOCIATE PIPING. REFER TO PLUMBING DRAWINGS.



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CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION REHABILITATION **DEMOLITION ROOF PLAN**

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GENERAL NOTES

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FACE OF CONCRETE AT EXTERIOR FACE OF FINISHES AT INTERIOR

ROOF PLAN NOTES "(#)"

- 2. PRE-FINISHED ALUMINUM DOWNSPOUT AND SPLASH BLOCK.
- 3. PRE-FINISHED ALUMINUM THRU-WALL SCUPPER, DOWNSPOUT AND SPLASH BLOCK. REFER TO DETAIL
- 4. PRE-FINISHED ALUMINUM THRU-WALL SCUPPER, DOWNSPOUT AND SPLASH BLOCK, REFER TO DETAIL 2/A-13.
- 5. RE-FINISHED ALUMINUM COPING.
 6. NEW SIPLAST- PARAPRO ROOF MEMBRANE SYSTEM WITH SYNTHETIC CHIPS.

 7. INSTALL NEW CLAY ROOFING TILES.
- NEW UNDERLAYMENT.
 NEW PARAPET. REFER TO STRUCTURAL DRAWINGS.
- NEW ROOF MOUNTED EXHAUST FAN. REFER TO HVAC AND STRUCTURAL DRAWINGS.
- 11. ROOF CURB (12" HIGH). REFER TO STRUCTURAL AND HVAC DRAWINGS.
- 12. NEW GALVANIZED STEEL ROOF ACCESS LADDER WITH PLATFORM BRIDGING OVER PROPOSED 30" CONDUICT. CONTRACTOR SHALL DESIGN PER OSHA REQUIREMENTS AND FLORIDA BUILDING CODE AND SUBMIT FOR APPROVAL. COORDINATE LADDER ATTACHMENT WITH ROOF SYSTEM.
- 13. NEW DUCTS, REFER TO HVAC AND STRUCTURAL DWGS.
 COORDINATE DUCT ATTACHMENTS WITH ROOF SYSTEM.

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CITY of TAMPA WASTEWATER DEPARTMENT

EXISTING ROOF SLOPE

LOUISIANA PUMPING STATION REHABILITATION **ROOF PLAN**

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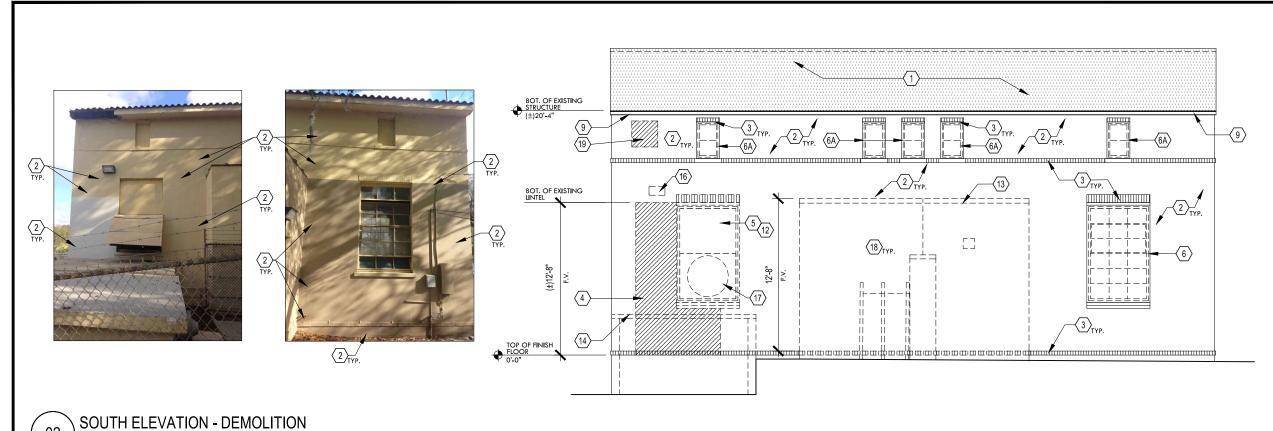
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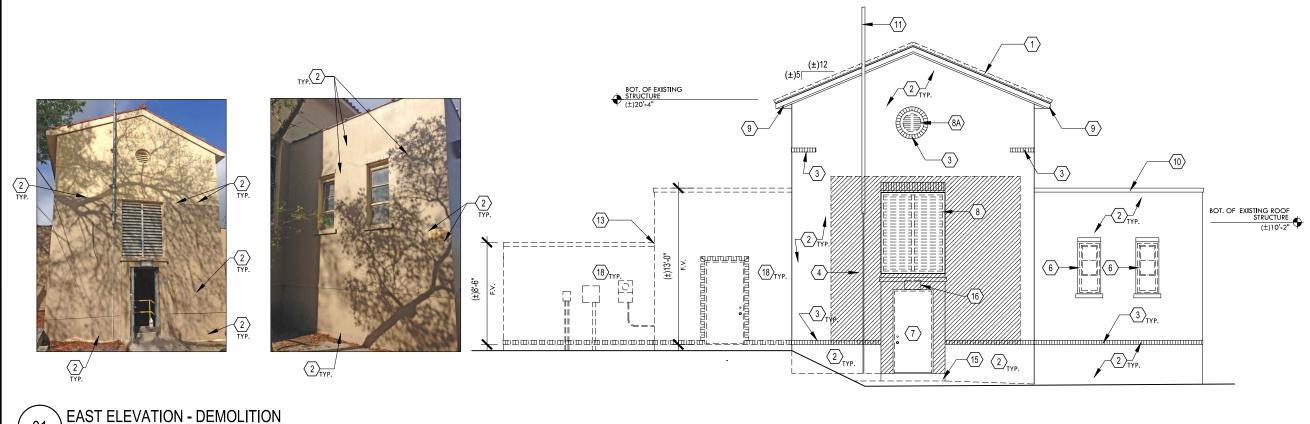
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- 2. CONTRACTOR TO COORDINATE WITH THE OWNER REGARDING THE SAFE DISPOSAL / STORAGE OF ALL ITEMS, FIXTURES, ETC. TO BE DEMOLISHED OR REMOVED. OWNER RESERVES THE RIGHT TO DECIDE WHICH ITEMS, FIXTURES, ETC. ARE WORTH SAVING
- 3. LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS
- (SEE APPENDIX C OF THE EXISTING CONDITIONS REPORT) DIMENSIONS, WHERE SHOWN, ARE ONE OF THE FOLLOWING:

CENTERLINE OF ITEMS FACE OF CONCRETE AT EXTERIOR FACE OF FINISHES AT INTERIOR

DEMOLITION NOTES "(#)

- 1. REMOVE EXISTING CLAY ROOFING TILE, ROOF WOOD BATTENS, UNDERLAYMENT AND METAL FLASHING. PREPARE AREA TO RECEIVE NEW ROOF SYSTEM AND CLAY THES.
- 2. PATCH HAIRLINE CRACKS AND DAMAGED STUCCO AS REQUIRED. PREPARE AREA(S) TO RECEIVE NEW PAINT.
- PATCH BRICK BANDING AND PREPARE TO RECEIVE NEW
- 4. REMOVE PORTION OF 12" CMU WALL. PATCH ADJACENT WALLS. REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS.
- 5. REMOVE WINDOW AND PREPARE OPENING FOR IN-FILL 6. REMOVE WINDOW. PATCH WALLS AND FINISHES
- AROUND OPENING, PREPARE OPENING TO RECEIVE NEW LOUVER. 6A. REMOVE WINDOW AND METAL SHEET. PATCH WALLS AND FINISHES AROUND WINDOW OPENING. PREPARE
- OPENING TO RECEIVE NEW WINDOW. REMOVE DOOR AND FRAME.
- 8. REMOVE LOUVER.
- 8.A REMOVE LOUVER. PATCH WALLS AND FINISHES AROUND LOUVER OPENING. PREPARE OPENING TO RECEIVE NEW LOUVER.
- REMOVE ALL WOOD FASCIA, RAFTERS TAIL AND BLOCKING. PREPARE AREA(S) FOR NEW MATERIAL.
- REMOVE CLAY COPING TILE AND PREPARE TO RECEIVE NEW WOOD CLEAT AND METAL COPING.
- 11. RELOCATE WALL MOUNTED TRANSMISSION POLE.
 CONTRACTOR TO REPAIR DAMAGE AREAS AND SEAL WALL OPENING. WORK TO MATCH EXISTING. REFER TO INSTRUMENTATION & CONTROL DRAWINGS.
- REMOVE BRICK TRIM AT JAMB AND HEADER, COCRETE SILI PATCH AND PREPARE TO RECEIVE NEW STUCCO.
- REMOVE EXISTING CONCRETE ROOF SLAB, 12" CMU WALLS, DOOR AND DOOR FRAME, CONCRETE FLOOR AND FOUNDATION AND DOWNSPOUTS. PREPARE AREA FOR NEW CONSTRUCTION. SEE STRUCTURAL AND ELECTRICAL DRAWINGS FOR DETAILS.

 14. REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR THE
- DEMOLITION OF THE STORAGE BUILDING AND CONCRETE SLAB. PREPARE AREA FOR NEW CONSTRUCTION.
- 15. REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR ALL EXTERIOR DEMOLITION (STEPS, HANDRAILS, WALKS, STAIRS, ETC.).

 16. REMOVE EXISTING EXTERIOR LIGHTING FIXTURE.
- 17. REMOVE ELECTRICAL FAN SYSTEM. REFER TO ELECTRICAL DRAWINGS.
- 18. REFER TO ELECTRICAL DRAWINGS FOR THE REMOVAL OF THE INTERIOR AND EXTERIOR ELECTRICAL COMPONENTS.
- REMOVE PORTION OF 12" CMU WALL. PATCH ADJACENT WALLS. PREPARE OPENING TO RECEIVE NEW DUCT.REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS AND WITH HVAC DWGS.



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CITY of TAMPA WASTEWATER DEPARTMENT

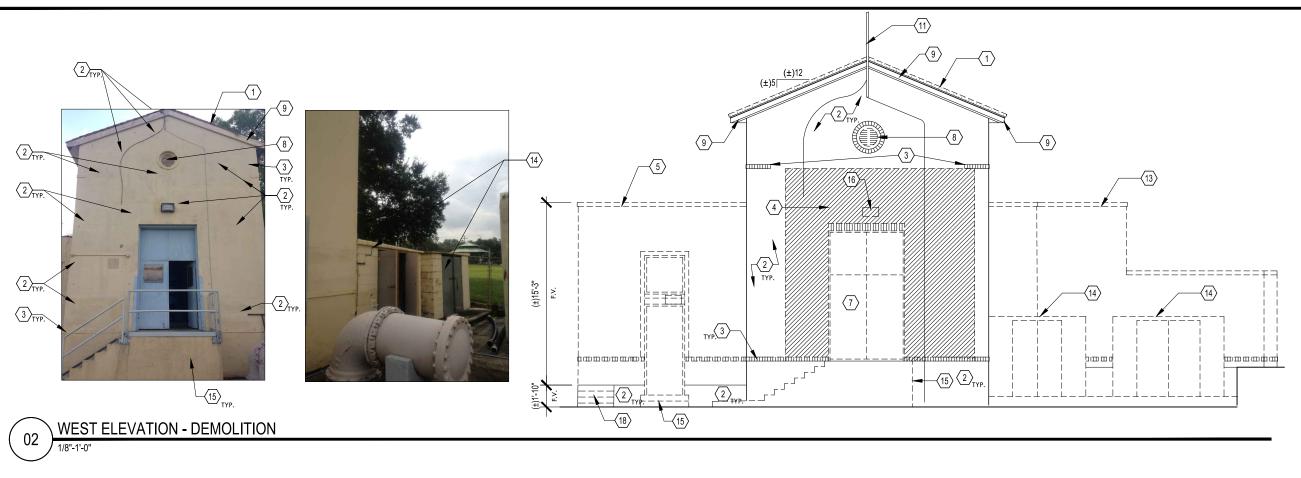
LOUISIANA PUMPING STATION REHABILITATION **DEMOLITION EXTERIOR ELEVATIONS**

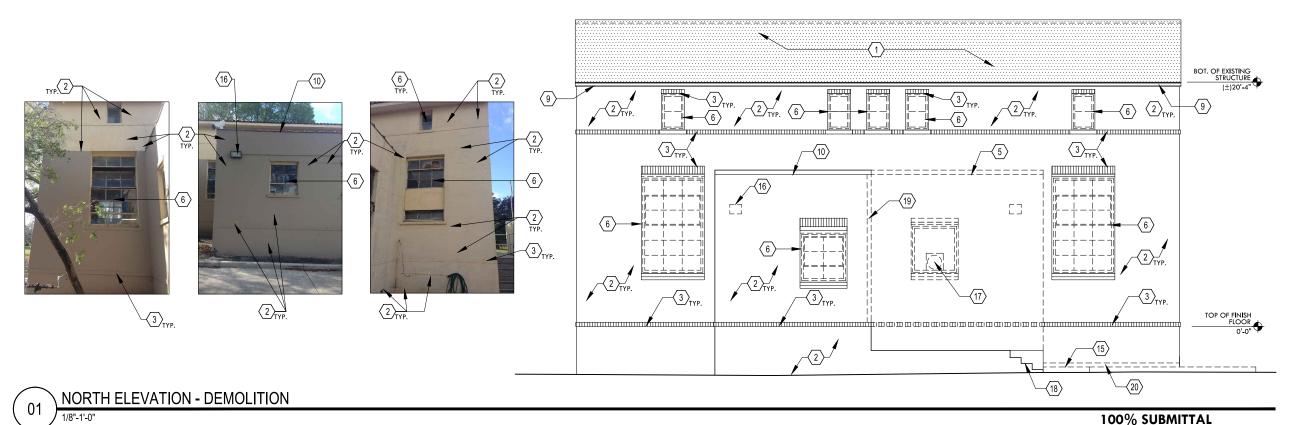
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GENERAL DEMOLITION NOTES

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- LEAD BASED PAINT TO BE REMOVED PER LAB TEST RESULTS
- (SEE APPENDIX C OF THE EXISTING CONDITIONS REPORT). DIMENSIONS, WHERE SHOWN, ARE ONE OF THE FOLLOWING:

CENTERLINE OF ITEMS FACE OF CONCRETE AT EXTERIOR FACE OF FINISHES AT INTERIOR

DEMOLITION NOTES "(#)'

- REMOVE EXISTING CLAY ROOFING TILE, ROOF WOOD BATTENS, UNDERLAYMENT AND METAL FLASHING. PREPARE AREA TO RECEIVE NEW ROOF SYSTEM AND CLAY TILES.
- 2. PATCH HAIRLINE CRACKS AND DAMAGED STUCCO AS REQUIRED. PREPARE AREA(S) TO RECEIVE NEW PAINT.
- PATCH BRICK BANDING AND PREPARE TO RECEIVE NEW
- REMOVE PORTION OF 12" CMU WALL REFER TO
- STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS. REMOVE PORTION OF 12" CMU WALL, PRE CAST CONCRETE ROOF SLAB AND STEEL BEAMS- REFER TO STRUCTURAL DRAWINGS FOR REINFORCEMENT DETAILS.
- 6. REMOVE WINDOW, PATCH WALLS AND FINISHES AROUND WINDOW OPENING. PREPARE OPENING TO RECEIVE NEW WINDOW.
- REMOVE DOOR AND FRAME.
- REMOVE LOUVER. PREPARE OPENING TO RECEIVE NEW ROUND LOUVER.
- REMOVE ALL WOOD FASCIA, RAFTERS TAIL AND BLOCKING. PREPARE AREA(S) FOR NEW MATERIAL.
- 10. REMOVE CLAY COPING TILE AND PREPARE TO RECEIVE NEW WOOD CLEAT AND METAL COPING.
- RELOCATE EXISTING ANTENNA. CONTRACTOR TO REPAIR DAMAGE AREAS AND SEAL WALL OPENING. WORK TO MATCH EXISTING. REFER TO INSTRUMENTATION & CONTROL DRAWINGS.
- 12. NOT USED.
- 13. REMOVE EXISTING CONCRETE ROOF SLAB, 12" CMU WALLS, DOOR AND DOOR FRAME, CONCRETE FLOOR AND FOUNDATION. PREPARE AREA FOR NEW CONSTRUCTION. SEE STRUCTURAL AND ELECTRICAL DRAWINGS FOR DETAILS.
- 14. REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR THE DEMOLITION OF THE STORAGE BUILDING, BUILDING COMPONENTS AND CONCRETE SLAB. PREPARE AREA FOR NEW CONSTRUCTION.
- REFER TO CIVIL AND STRUCTURAL DRAWINGS FOR ALL EXTERIOR DEMOLITION (STEPS, LANDING, HANDRAILS, WALKS, STAIRS, ETC.).

 16. REMOVE EXISTING EXTERIOR LIGHTING FIXTURE. REFER TO
- ELECTRICAL DRAWINGS.

 17. REMOVE ELECTRICAL FAN SYSTEM. REFER TO ELECTRICAL
- DRAWINGS.

 18. REMOVE PORTION OF EXISTING 12" WALL TO RECEIVE
- NEW STEPS.

 19. REMOVE PORTION OF EXISTING STUCCO TO BLEND-IN
- NEW STUCCO AT WALL RETURN.

 20. REMOVE PORTION OF EXISTING STUCCO TO BLEND-IN

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

DATE REVISIONS DRN: CKD: ENRIQUE A. WOODROFFE, FAIA, LEED DATE: 05/25/18 FLORIDA LICENSE AR 0007703

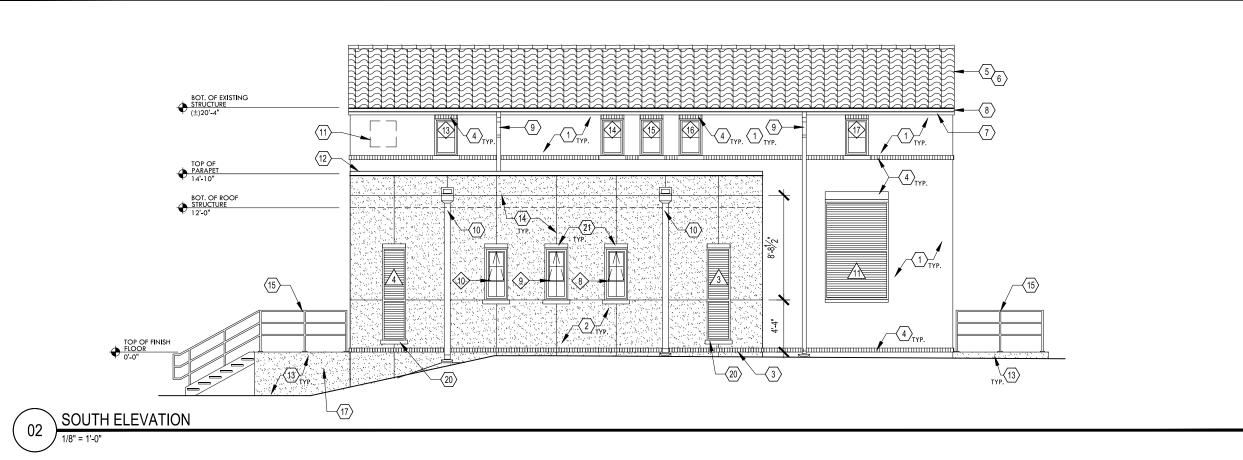
CITY of TAMPA WASTEWATER DEPARTMENT

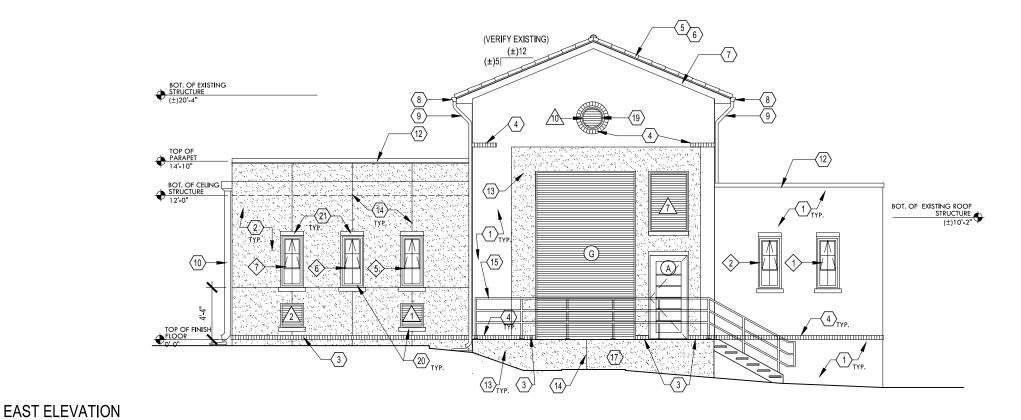
LOUISIANA PUMPING STATION REHABILITATION **DEMOLITION EXTERIOR ELEVATIONS**

NOT FOR CONSTRUCTION

SHEET

A-8





GENERAL NOTES

- INFORMATION ON THIS SHEET REGARDING EXISTING CONDITIONS IS PROVIDED ONLY AS A REFERENCE AND DOES NOT NECESSARILY REFLECT ALL EXISTING CONDITIONS. CONTRACTOR SHALL VERIFY EXISTING
 CONDITIONS IN FIELD PRIOR TO START OF PROJECT AND SHALL NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS OR DISCREPANCIES BEFORE
- BEGINNING, OR FABRICATING ANY WORK.

 2. DIMENSIONS, WHERE SHOWN, ARE ONE OF THE

CENTERLINE OF ITEMS FACE OF FINISHES AT INTERIOR

PROPOSED NOTES "(#)"

- PAINT EXISTING STUCCO.
 NEW CONCRETE BLOCK WALL WITH (±) 1" STUCCO FINISH TO MATCH EXISTING. PAINT NEW CONSTRUCTION.
- CONSTRUCTION.

 NEW CONSTRUCTION BRICK WAINSCOT TO BE PAINTED MATCH EXISTING.

 PAINT EXISTING BRICK BANDING.

 NEW ROOF CLAY TILES.

 NEW ROOF UNDERLAYMENT AND SYSTEM OVER
 EXISTING CONCRETE PLANKS.

 NEW FASCIA AND SOFFIT. PAINT FINISH.

 PRE-FINISHED ALUMINUM GUTTER.

 PRE-FINISHED ALUMINUM GUTTER.

- PRE-FINISHED ALUMINUM DOWNSPOUT AND CONCRETE SPLASH BLOCK.
- 10. PRE-FINISHED ALUMINUM THRU-WALL SCUPPER,
 DOWNSPOUT AND SPLASH BLOCK.
 11. NEW DUCT OPENING. REFER TO HVAC AND STRUCTURAL
 DRAWINGS.

- 12. PRE-FINISHED ALUMINUM METAL COPING.
 13. NEW (±)1"STUCCO FINISH. STUCCO TO BE CONTINUOUS TO MATCH IN TEXTURE EXISTING STUCCO.

 14. STUCCO CONTROL JOINT.
- 15. NEW GUARDRAIL. REFER TO STRUCTURAL DRAWINGS.
 16. NOT TO USED.
- 17. NEW CONCRETE LANDING AND STEEL STAIR. REFER TO CIVIL AND STRUCTURAL DRAWINGS.
- 18. NOT USED.19. NEW 24" ROUND LOUVER.
- 20. NEW CONCRETE PRECAST SILL.
 21. NEW FACE BRICK. (MATCH EXISTING)

SYMBOL LEGEND

DOOR



LOUVER

KEY NOTE - SEE ABOVE



WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

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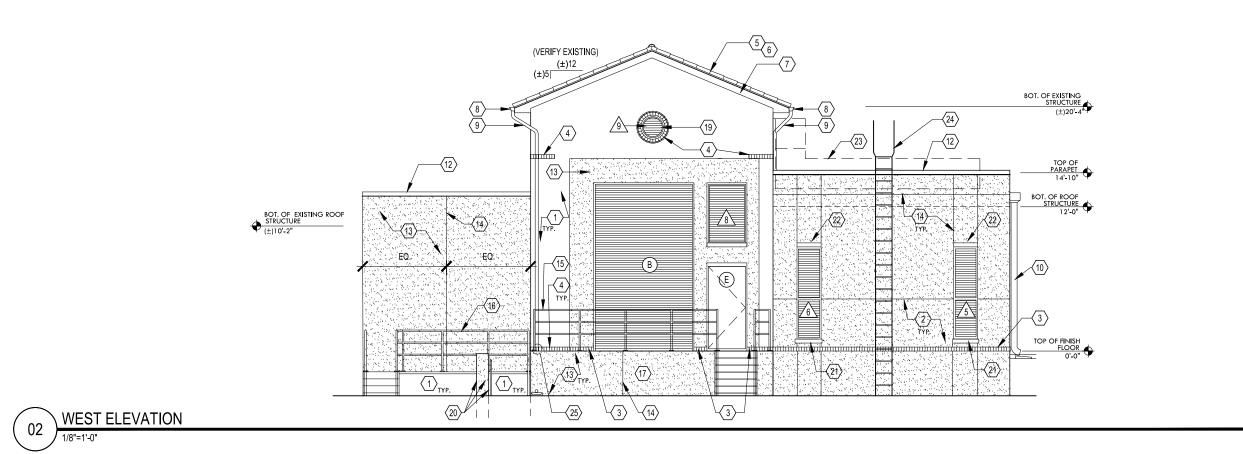
CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION REHABILITATION **EXTERIOR ELEVATIONS**

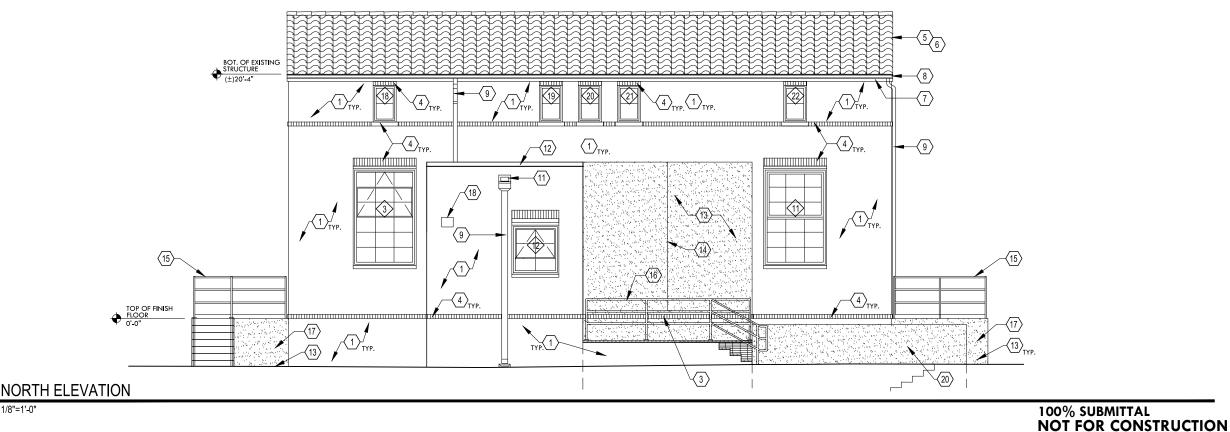
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A-9

FLORIDA LICENSE AR 0007703





GENERAL NOTES

- INFORMATION ON THIS SHEET REGARDING EXISTING CONDITIONS IS PROVIDED ONLY AS A REFERENCE AND DOES NOT NECESSARILY REFLECT ALL EXISTING CONDITIONS. CONTRACTOR SHALL VERIFY EXISTING
 CONDITIONS IN FIELD PRIOR TO START OF PROJECT AND SHALL NOTIFY THE ARCHITECT OF ANY DIMENSIONAL ERRORS, OMISSIONS OR DISCREPANCIES BEFORE BEGINNING, OR FABRICATING ANY WORK
- DIMENSIONS, WHERE SHOWN, ARE ONE OF THE

CENTERLINE OF ITEMS FACE OF FINISHES AT INTERIOR

PROPOSED NOTES "(#)"

- PAINT EXISTING STUCCO.
 NEW CONCRETE BLOCK WALL WITH (±) 1" STUCCO FINISH TO MATCH EXISTING. PAINT NEW CONSTRUCTION.
- 3. NEW CONSTRUCTION BRICK WAINSCOT TO BE PAINTED -MATCH EXISTING.

 4. PAINT EXISTING BRICK BANDING.

 5. NEW ROOF CLAY TILES.

- 6. NEW ROOF UNDERLAYMENT AND SYSTEM OVER EXISTING CONCRETE PLANKS.
- NEW FASCIA AND SOFFIT. PAINT FINISH.
 PRE-FINISHED ALUMINUM GUTTER.
- 9. PRE-FINISHED ALUMINUM DOWNSPOUT AND SPLASH BLOCK.
- 10. PRE-FINISHED ALUMINUM THRU-WALL SCUPPER, DOWNSPOUT AND CONCRETE SPLASH BLOCK.
- PRE-FINISHED ALUMINUM THRU-WALL SCUPPER.
 PRE-FINISHED ALUMINUM METAL COPING.
- 13. NEW (±)1"STUCCO FINISH. STUCCO OR MASONRY TO BE CONTINUOUS TO MATCH IN TEXTURE EXISTING STUCCO.
- 14. STUCCO CONTROL JOINT.15. NEW REMOVABLE GUARDRAIL. REFER TO STRUCTURAL
- DRAWINGS.

 16. NEW ALUMINUM RAILING. REFER TO STRUCTURAL
- DRAWINGS.

 17. NEW CONCRETE LANDING AND STEEL STAIR. REFER TO
- CIVIL AND STRUCTURAL DRAWINGS.

 18. NEW EXTERIOR LIGHTING FIXTURE. REFER TO ELECTRICAL
- DRAWINGS.

 19. NEW 24" ROUND LOUVER.

 20. NEW 12" CONCRETE WALL WITH NEW (±)1"STUCCO
 FINISH IN ALL SIDES. REFER TO STRUCTURAL DRAWINGS.

- 21. NEW CONCRETE PRECAST SILL.
 22. NEW FACE BRICK. (MATCH EXISTING)
 23. NEW DUCTS. REFER TO HYAC DWGS.
 24. NEW GALVANIZED STEEL ROOF ACCESS LADDER WITH
- PLATFORM BRIDGING OVER PROPOSED 30" CONDUICT. CONTRACTOR SHALL DESIGN PER OSHA REQUIREMENTS AND FLORIDA BUILDING CODE AND SUBMIT FOR
- 25. PROVIDE PVC ADAPTER TO CONNECT NEW ALUMINUM DOWNSPOUT WITH NEW PVC PIPE INSIDE THE LANDING.

SYMBOL LEGEND

DOOR



LOUVER

KEY NOTE - SEE ABOVE



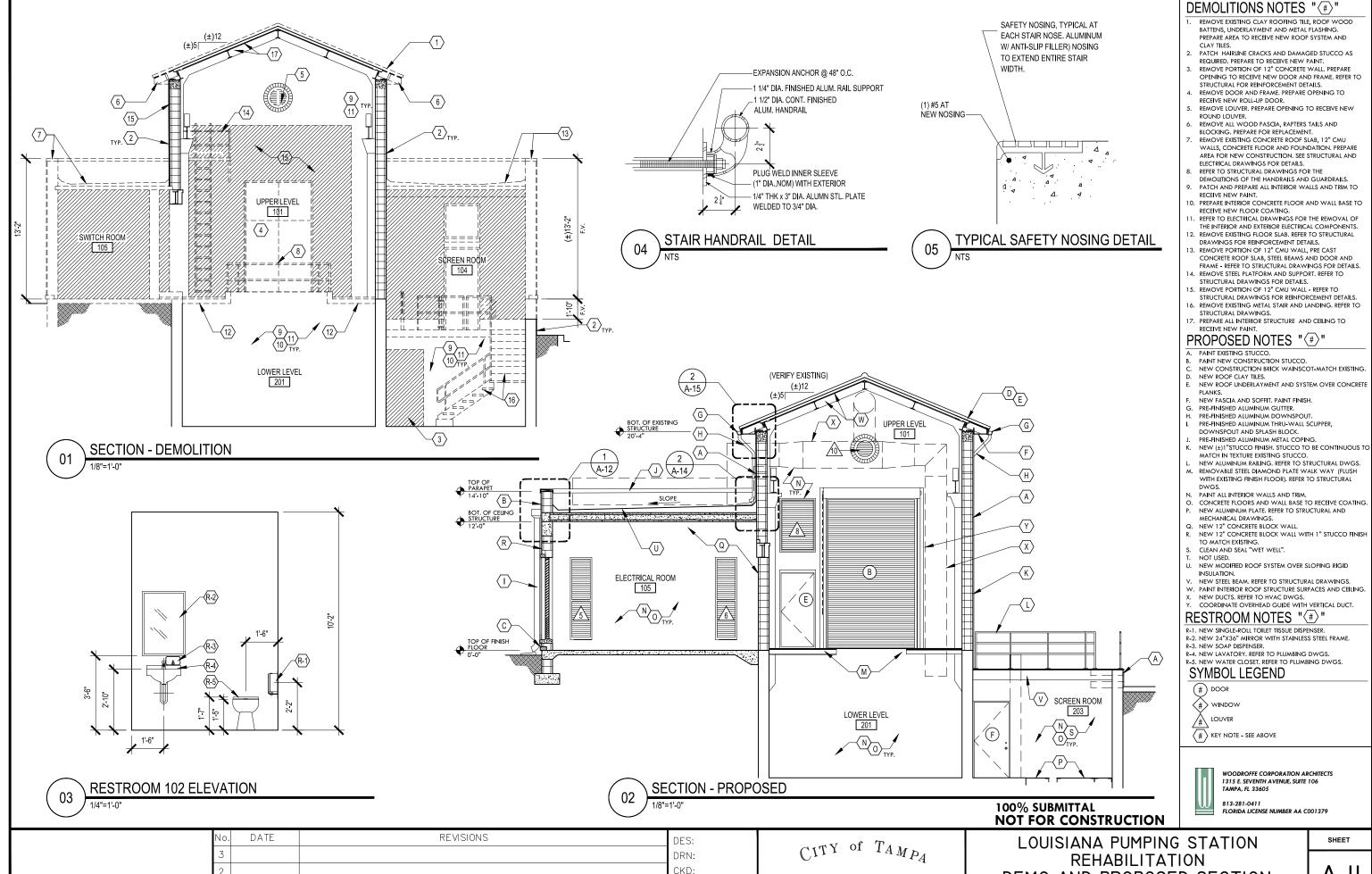
WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

DATE REVISIONS DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION REHABILITATION **EXTERIOR ELEVATIONS**

A-10



DATE: 05/25/18

WASTEWATER DEPARTMENT

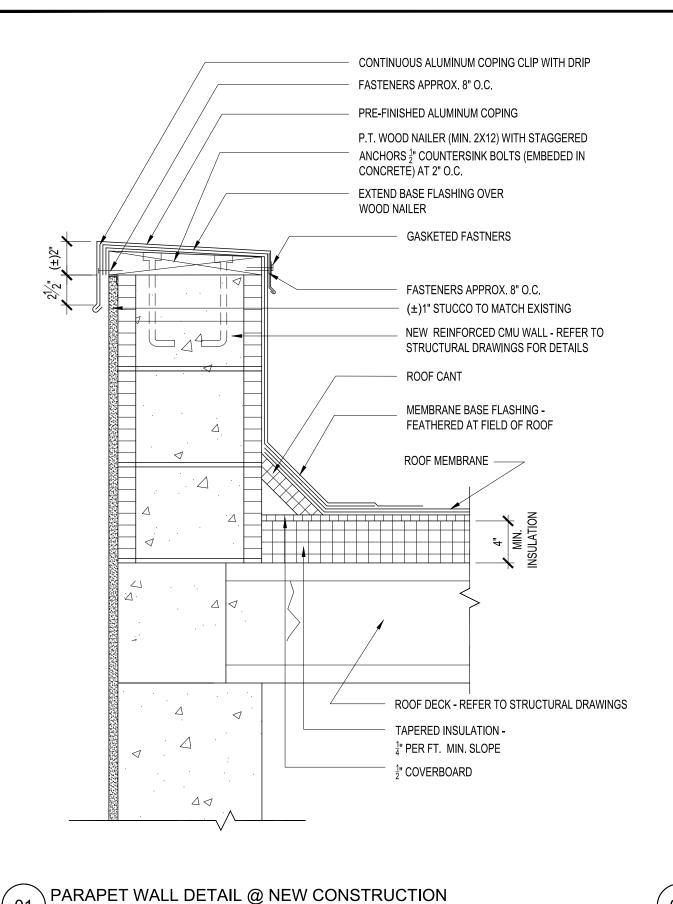
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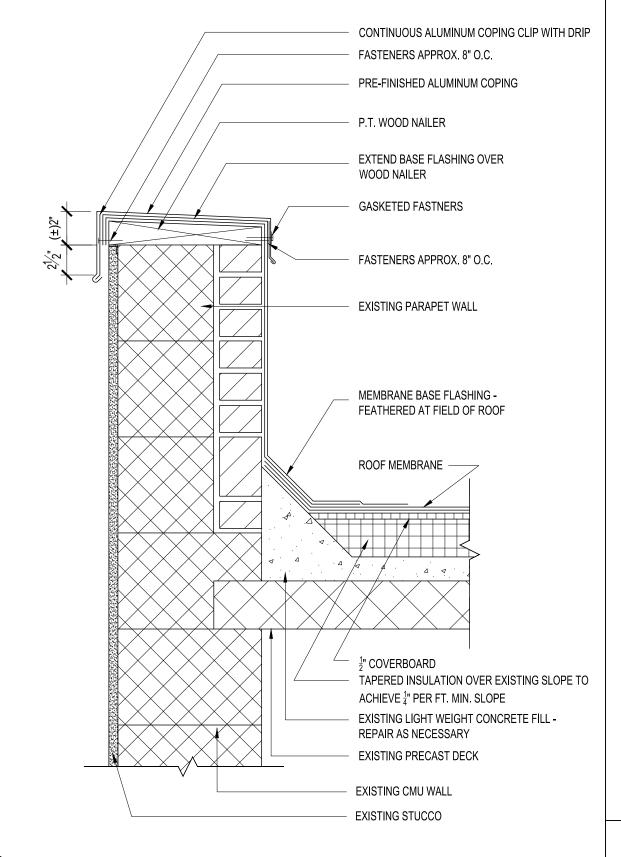
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FLORIDA LICENSE AR 0007703

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DEMO AND PROPOSED SECTION





PARAPET DETAIL @ EXISTING

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WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

DATE REVISIONS ENRIQUE A. WOODROFFE, FAIA, LEED FLORIDA LICENSE AR 0007703

DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION REHABILITATION **ROOF DETAILS**

100% SUBMITTAL

SHEET

A-12

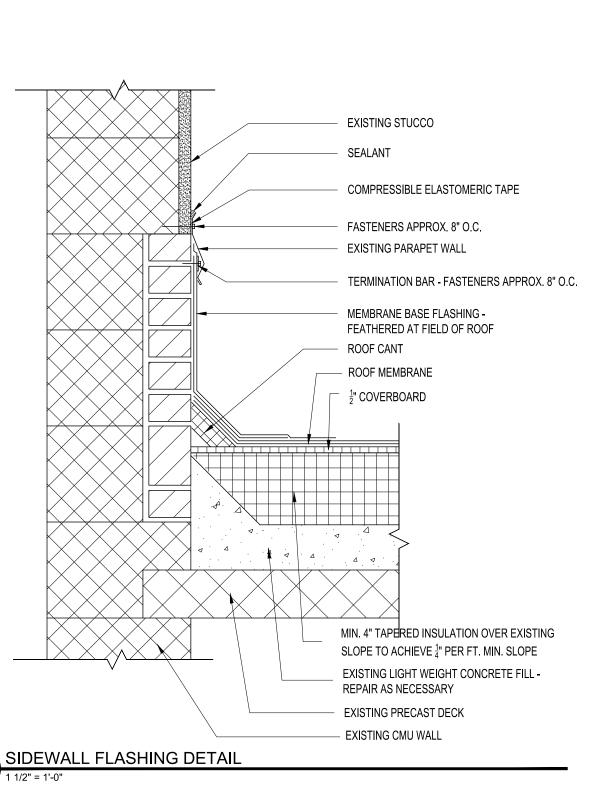
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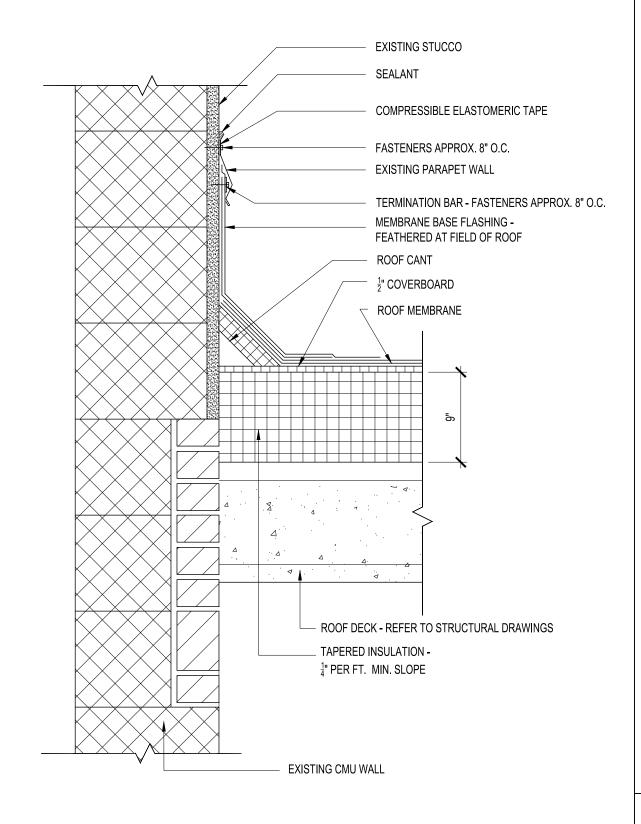
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PARAPET DETAIL @ EXISTING TO NEW CONNECTION

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WO 131 TAM 813 FLC

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA CO0137

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 DATE: 05/25/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION ROOF DETAILS

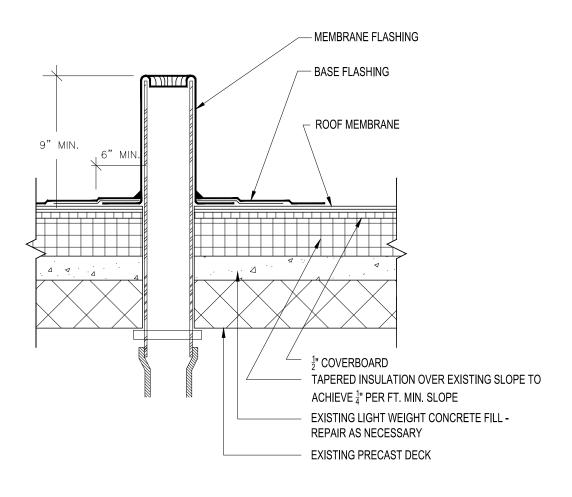
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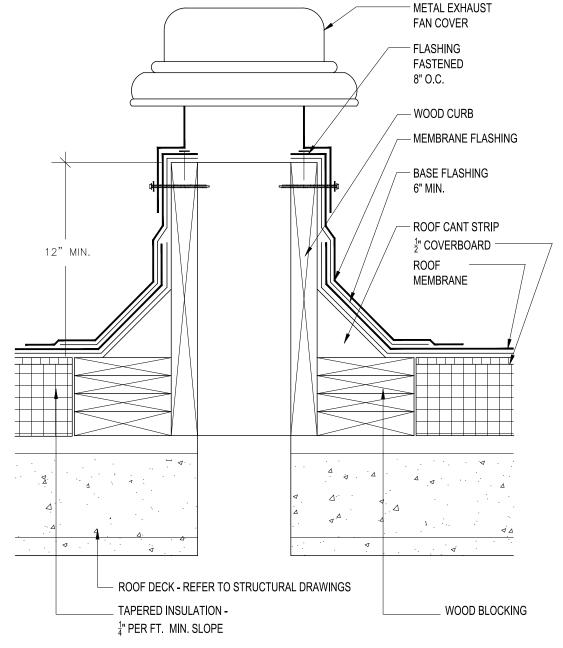
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PLUMBING STACK DETAIL @ EXISTING

EXHAUST FAN DETAIL

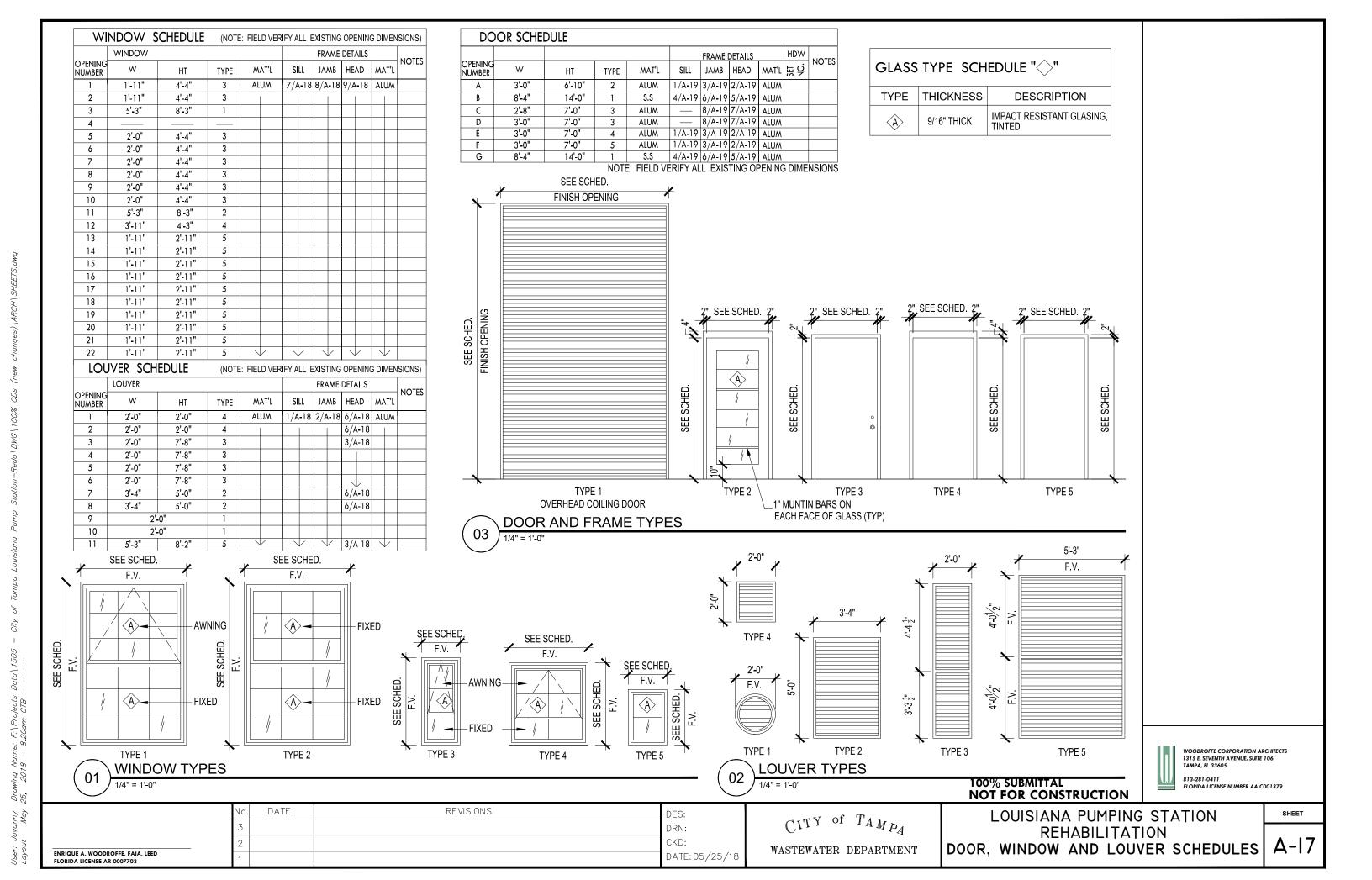
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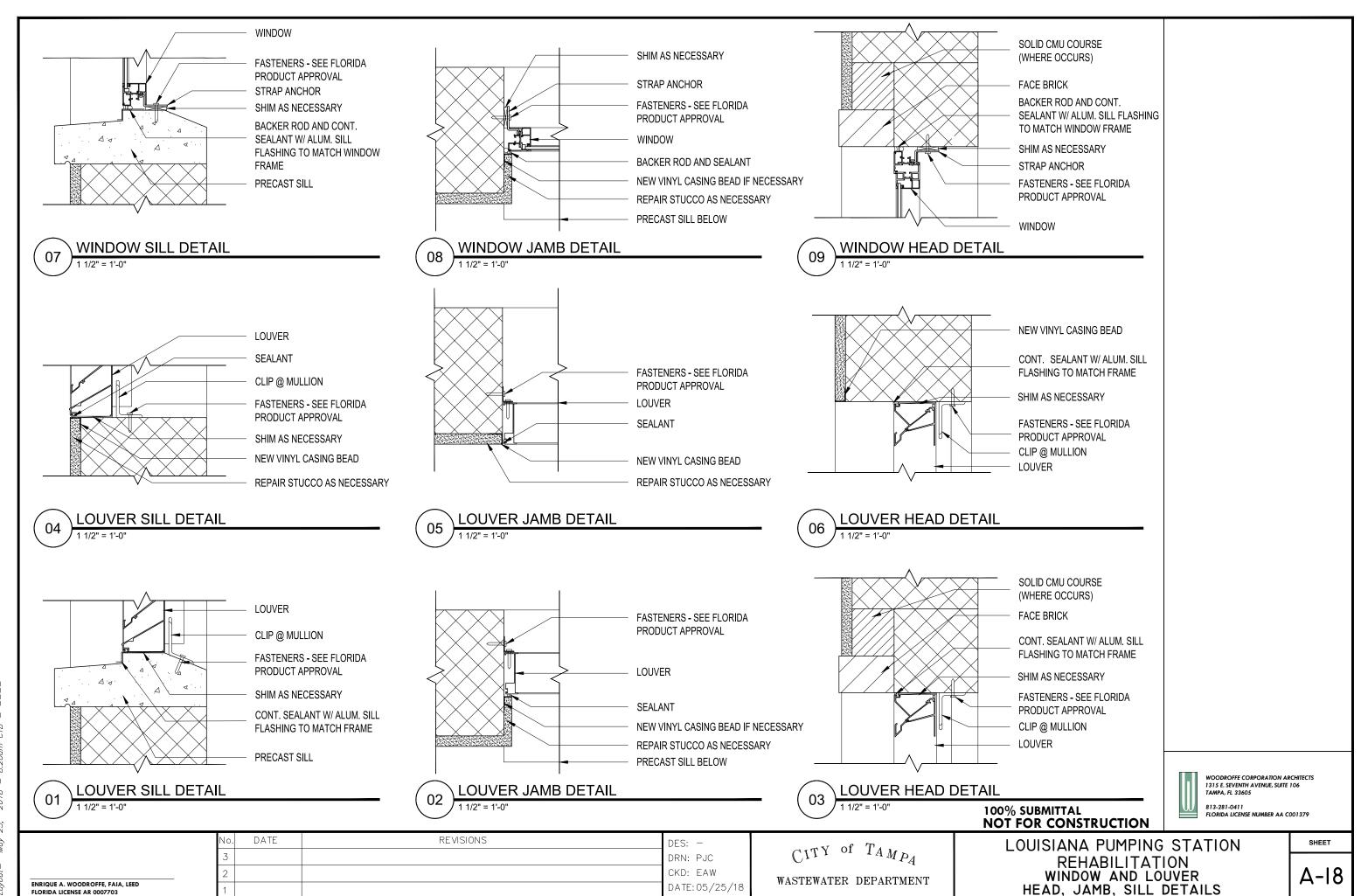
WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

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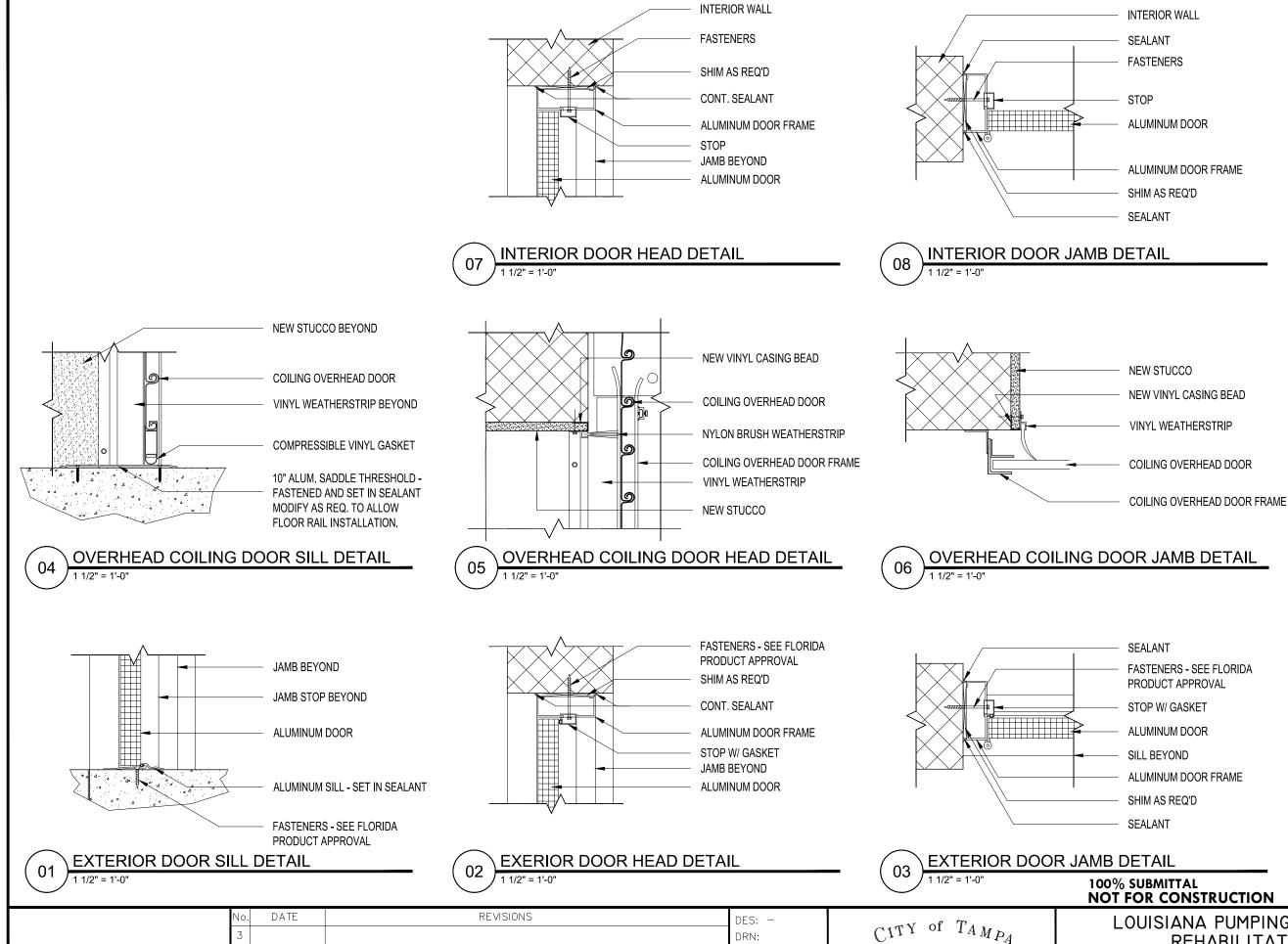
CITY of TAMPA WASTEWATER DEPARTMENT LOUISIANA PUMPING STATION REHABILITATION ROOF DETAILS

A-16





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FLORIDA LICENSE AR 0007703

WASTEWATER DEPARTMENT

CKD:

DATE: 05/25/18

LOUISIANA PUMPING STATION REHABILITATION DOOR HEAD, JAMB, SILL DETAILS

A-19

SHEET

WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

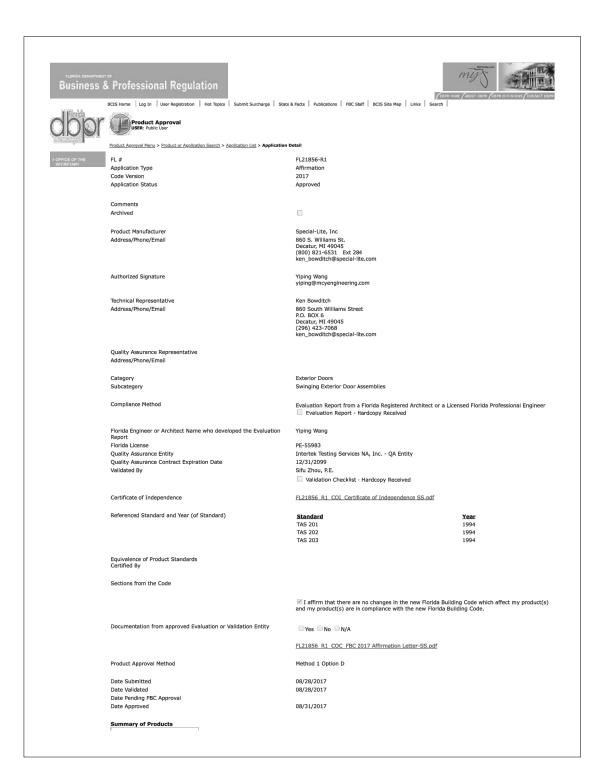
FLORIDA LICENSE AR 0007703

FL # Model, Number or Name		Description		
21856.1	Series 15 Aluminum Frame Outswing Door - L.M.I. & S.M.I.	Series 15 Aluminum Frame Outswing Door - Large and Small Missile Impact		
Limits of Use Approved for use in HVHZ: Y Approved for use outside H\ Impact Resistant: Yes Design Pressure: +65/-65 Other: For door sizes and wate installation instructions.		Installation Instructions F12.1856 Rt II 2017-02-16 Si-15 Outswing glazing Door SS.pdf Verified by: Yiping Wang PE ≢55983 Created by Independent Third Party: Yes Evaluation Reports F12.1856 Rt AE Evaluation Report SS.pdf Created by Independent Third Party: Yes		
21856.2	Series 16, 17, 19-1 & 20 Aluminum Frame Outswing Door w/ Skin - L.M.I. & S.M.I.	Series 16, 17, 19-1 & 20 Side Hinged Aluminum Frame Outswing Door w/ FRP, Aluminum, and AMP Skins - Large and Small Missile Impact		
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +65/5 Other: For door sizes and water infiltration options vs. design pressures, see installation instructions.		Installation Instructions F121856 R.J. II. Aluminum frame with aluminum skin 2-16-17 SS.pdf Verified By: Yiping Wanp PE #55983 Created by Independent Third Party: Yes Evaluation Reports F21856 R.J. AE. Evaluation Report SS.pdf Created by Independent Third Party: Yes		
21856.3	Series 217, 100 & 220 Fiberglass Outswing Doors w/ Skin - L.M.I. & S.M.I.	Series 217, 100 & 220 Side Hinged Fiberglass Outswing Door w/ FRP and Pultruded Fiberglass Skins - Large and Small Missile Impact		
Limits of Use Approved for use in HVH2: Yes Approved for use outside HVH2: Yes Impact Resistant: Yes Design Pressure: +65/-65 Other: For door sizes and water infiltration options vs. design pressures, see installation instructions.		Installation Instructions Fi2.1856 R.1 II Fiber Glass Frame with skin 02.15 SS.pdf Verified by: Yiping Wang PE #55983 Created by Independent Third Party: Yes Evaluation Reports Fi2.1856 R.1 AE Evaluation Report Ss.pdf Created by Independent Third Party: Yes		

Back Next

Contact Us :: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824





FLORIDA PRODUCT APPROVAL - DOOR - FL # 21856-R1 NOT TO SCALE

> DATE REVISIONS DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT **NOT FOR CONSTRUCTION**

WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

100% SUBMITTAL

A-20



MCY ENGINEERING, INC. GLAZING CONSULTANT

8501 SW 124th Ave. Ste. 205A Miami, FL. 33183 P: 305 271-0117 F: 305 279-6818

PRODUCT APPROVAL EVALUATION REPORT

Product Manufacturer: Product Name/Model & Description: Special-Lite Inc. Series 16, 17, 19-1 & 20 Aluminum Frame Outswing Door 860 S. Williams Street, P.O. Box 6 (LMI & SMI) Decatur, MI 49045 Side Hinged Aluminum Outswing Double Door w/ FRP, Aluminum, and AMP Skins - LMI & SMI (HVHZ) Series 15 Aluminum Frame Outswing Door (LMI & SMI) Side Hinged Aluminum Outswing Double Door - LMI & SMI (HVHZ) Series 217, 100 & 220 Fiberglass Frame Outswing Door (LMI & SMI) Side Hinged Fiberglass Outswing Double Door w/ FRP and Pultruded Fiberglass Skins - LMI & SMI (HVHZ)

Scope: This product has been evaluated by the below-signed Florida Professional Engineer for compliance with the Code noted herein and is, for the purpose intended, at least equivalent to that required by the Code, in accordance with section 553.842 F.S. & chapter 61G20-3.005 F.A.C. Re-evaluation of this product shall be required following applicable Code modifications or revisions.

Code: 5th Edition Florida Building Code (2014), inclusive of all Supplements effective as of this report date.

Compliance Method: 61G20-3.005 (1)(d) – Evaluation Report from a licensed Professional Engineer

Product Description: Product Approval **Drawing #AD17-02, #AD17-03, #AD17-04** prepared by MCY Engineering, signed and sealed by Yiping Wang, P.E., is an integral part of this Evaluation Report.

Limitations & Conditions of Use:

- This product has been evaluated for use inside or outside of the HVHZ (High Velocity Hurricane
- Impact Resistance: Large Missile and Small Missile Impact
- Refer to Product Approval Drawing noted above for:
 - o Maximum allowable wind loads at related maximum allowable size(s).
 - Other load limitations applicable to the product, if any.
 - o Overall dimensions and material/grade of main product components, accessories, etc.
 - $\circ\quad$ Illustrated diagrams of the attachment of the product to the structure.
 - o Anchor type(s), size(s), substrate(s), embedment, edge distance, and spacing/locations.



MCY ENGINEERING, INC.

8501 SW 124th Ave. Ste. 205A Miami, FL. 33183 P: 305 271-0117 F: 305 279-6818

Test Reports:

Mandatory Tests (Tested in accordance with AAMA 501)

Test Lab	Report Number	Test Report Date	Test Standard & Description
Fenestration Testing Laboratory, Inc. – Medley, FL	FTL-8945, signed and sealed by Idalmis Ortega, P.E. FL #76905	10/24/16	ASTM E283 (air infiltration) ASTM E331 (static pressure water resistance) AAMA 1304 (forced entry test) TAS 201 (large missile impact test) TAS 202 (uniform static test) TAS 203 (cyclic wind pressure loading)

Engineering Analysis: The following engineering analyses and/or calculations have been performed:

- No comparative analysis has been performed for conditions other than those tested.
- No rational analysis has been performed.
- Anchor calculations are based on manufacturer's published anchor capacity, anchor Notice of Acceptance by Miami Dade County.



FL #55983

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FLORIDA PRODUCT APPROVAL - DOORS - FL # 21856-R1

NOT TO SCALE

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813-281-0411 FLORIDA LICENSE NUMBER AA C001379

LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

SHEET

A-2

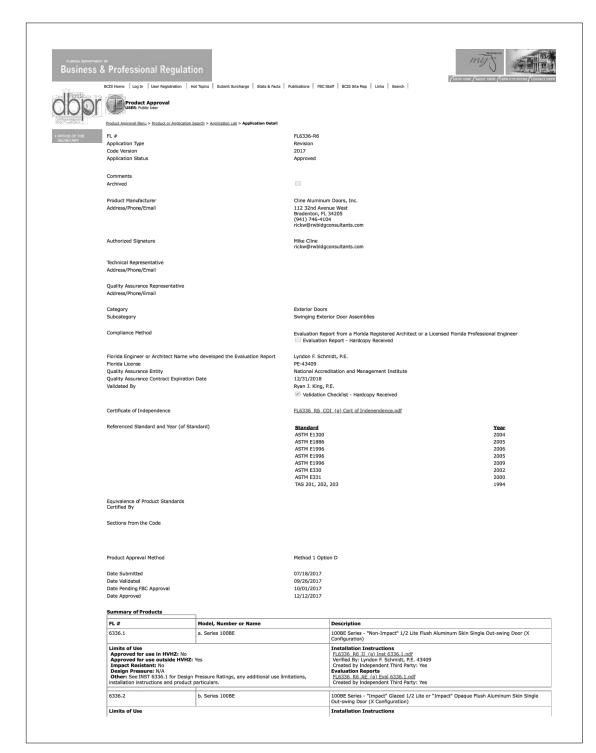
ENRIQUE A. WOODROFFE, FAIA, LEED FLORIDA LICENSE AR 0007703

FLORIDA LICENSE AR 0007703

pproved for use in HVHZ: No pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.2 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	FI.6338. R6 II. (b) Inst 6338.2.pdf Verified By; Inydon F. Schmidt, P.E. 43409 Created by Independent Third Party; Yes Evaluation Reports FI.6338. R6 AE. (b) Expl. 6336.2.pdf Created by Independent Third Party; Yes
36.3	c. Series 200BE	200BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Fiberglass Skin Single Out-swing Door (X Configuration)
mits of Use pproved for use in HVHZ: No pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.3 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions F.6.538. R6 II. (b) Inst 6338.3.def F.6.538. R6 II. (c) Inst 6338.3.def Verified By; Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes Evaluation Reports F.6.536. R6 AE. (a) Exp. 6336.3.def Created by Independent Third Party: Yes Created by Independent Third Party: Yes
36.4	d. Series 100BE	100BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Aluminum Skin Single Out-swing Door (X Configuration)
mits of Use pproved for use in HVHZ: Yes pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.4 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions FI6.33.6. R6. II. (b) Inst 6336.4. adf Verified by; Inyloon F. Schmidt, P.E. 43409 Created by Independent Third Parity; Yes Evaluation Reports FI6.53.6. R6. Rf. (a) Expl. 633.6.4. adf Created by Independent Third Parity; Yes Created by Independent Third Parity; Yes
36.5	e. Series 200BE	200BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Fiberglass Skin Single Out-swing Door (X Configuration) with Multi-point Exit Device
mits of Use pproved for use in HVHZ: No pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.5 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions FI6.338. R6 I. I. (c.) Inst \$638.5.5.0df Verifice By; Lyndon F. Schmidt, PE. 43409 Created by Independent Third Party: Yes Evaluation Reports FI6.338. R6 AE. (a) Evgl. 6336.5.0df Created by Independent Third Party: Yes
36.6	f. Series 100BE	100BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Aluminum Skin Single Out-swing Door (X Configuration) with Multi-point Exit Device
mits of Use pproved for use in HVHZ: Yes pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.6 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions 16.338 6.01 If () Inst 6.33.6.0.0f Verified By: Lyndon F. Schmidt, P.E. 43.409 Created by Independent Third Party: Yes Evaluation Reports El.633.6.8.04 E. (a) Eval 6.33.6.0.df Created by Independent Third Party: Yes
36.7	g. Series 200BE	200BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Fiberglass Skin Double Out-swing Door (XX Configuration) with Multi-point Exit Device and Removable Mullion
mits of Use pproved for use in HVHZ: No pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.7 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions FL6338. R6 II. (c) Inst 6335.7. Indf Verified By Lyndon F. Schmidt, PE. 43409 Created by Independent Third Party: Yes Evaluation Reports FL6338. R6 AE. (a) Expl. 6336.7. Indf Created by Independent Third Party: Yes
36.8	h. Series 100BE	100BE Series - "Impact" Glazed 1/2 Lite or "Impact" Opaque Flush Aluminum Skin Double Out-swing Door (XX Configuration) with Multi-point Exit Device and Removable Mullion
mits of Use pproved for use in HVHZ: Yes pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A ther: See INST 6336.8 for Design stallation instructions and product	Pressure Ratings, any additional use limitations,	Installation Instructions FIG.336. R6 II. (c.) Inst G336.8. Bdf Verified By; Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party; Yes Evaluation Reports FIG.336. R6 AE. (a) P.E. G336.8. Ddf Created by Independent Third Party; Yes
36.9	i. Series 100BE	100BE Series - "Impact" Louver Aluminum Skin Single Out-swing Door (X Configuration)
mits of Use pproved for use in HVHZ: No pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A tther: See INST 6336.9 for Design stallation instructions and product	Pressure Ratings, any additional use limitations.	Installation Instructions FL6338 F6 II (I) In Inst 6335 9.0df Verified By: Lyndon F. Schmidt, PE. 43409 Created by Independent Third Party: Yes Evaluation Reports FL6336 R6 AE (a) FL961 6336.9.0df Created by Independent Third Party: Yes
36.10	j. Series 100BE	100BE Series - "Impact" Louver Aluminum Skin Single Out-swing Door (X Configuration)
mits of Use pproved for use in HVHZ: Yes pproved for use outside HVHZ: mpact Resistant: Yes esign Pressure: N/A tther: See INST 6336.10 for Desig stallation instructions and product	n Pressure Ratings, any additional use limitations,	Installation Instructions F1.6336. R6. II. (b). Inst. 636.1.0.pdf Verified By: Lyndon F. Schmidt, P.E. 43409 Created by Independent Third Party: Yes Evaluation Reports F1.6336. R6. AE. (a). Expl. 6335.10.pdf Created by Independent Third Party: Yes
	line line	del Ment
		I, Tallahassee FL 32399 Phone: 850-487-1824

you have any questions, please contact 890,497.1995. "Pursuant to Section 495.275(1), Florids Statutes, effective October 1, 2012, licensess licensed under Chapter 455, F.S. must provide the Department with an email address if they have one. The emails provided may be used for official communication with the licenses. However email addresses are polic record. If you can be interest to supply a personal address, please provide the Department with an email address which can be made available to the public. To determine 17 you are a licenses under Chapter 455, F.S. please click begs.





FLORIDA PRODUCT APPROVAL - DOOR - FL # 6336-R6 NOT TO SCALE

> DATE REVISIONS DES: DRN: CKD:

LOUISIANA PUMPING STATION REHABILITATION

SHEET **A-22**

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

CITY of TAMPA WASTEWATER DEPARTMENT

DATE: 05/25/18

NOT FOR CONSTRUCTION

100% SUBMITTAL

FLORIDA PRODUCT APPROVALS

R W Building Consultants, Inc. Consulting and Engineering Services for the Building Industry P.O. Box 230 Valrico, FL 33595 Phone 813.659.9197 Florida Board of Professional Engineers Certificate of Authorization No. 9813 FL-6336.4 Report No.: **Product Evaluation Report** July 11, 2017 Sub Category Manufacturer **Product Name** Cline Aluminum Doors, Inc. Series 100BE Swinging Exterior Door 112 32nd Ave. West Aluminum Door Bradenton, FL 34205-8096 Outswing This is a Product Evaluation report issued by R W Building Consultants, Inc. and Lyndon F. Schmidt, P.E. for Cline Aluminum Doors, Inc. based on Rule Chapter No. 61G20-3, Method 1D of the State of Florida Product Approval, Department of Business & Professional Regulation. RW Building Consultants and Lyndon F. Schmidt, P.E. do not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein. 1. This product has been evaluated and is in compliance with the 6th Edition (2017) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ). 2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or 3. When used in the "HVHZ" this product complies with Section 1626 of the Florida Building Code and does not require an impact resistant 4. When used in areas outside of the "HVHZ" requiring wind borne debris protection, this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1. 5. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction. 6. Site conditions that deviate from the details of drawing FL-6336.4 require further engineering analysis by a licensed engineer or 7. Outswing configurations do not meet the water infiltration requirements for the "HVHZ" and shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less 8. Aluminum components, including fasteners, shall meet the requirements of FBC Section 2003. 9. See drawing FL-6336.4 for size and design pressure limitations. 1. Test Report No. Test Standard Testing Laboratory TAS 201, 202 & 203-94 Lyndon F. Schmidt, P.E. TEL 01920363.1 Testing Evaluation Lab. Testing Evaluation Lab. Lyndon F. Schmidt, P.E. TEL 01920453 TAS 201, 202 & 203-94 Testing Evaluation Lab. William B. Shelton, P.E. TEL 01901409 TAS 201, 202 & 203-94 Testing Evaluation Lab. William B. Shelton, P.E. TEL 01901407 TAS 201, 202 & 203-94 Testing Evaluation Lab. William B. Shelton, P.E. 2. Drawing No. Prepared by Signed & Sealed by No. FL-6336.4 RW Building Consultants, Inc. (CA #9813) 3. Miami-Dade NOA No. **Materials Testing** 14-0916.11 Prepared by Signed & Sealed by Anchoring RW Building Consultants, Inc. (CA #9813)
ASTM E 1300 Glass Load Lyndon F. Schmidt, P.E. Lyndon F. Schmidt, P.E. 5. Quality Assurance No 43409 Certificate of Participation issued by National Accreditation and Management Institute, certifying that Cline Aluminum Doors, Inc. is manufacturing products within a quality assurance program that complies with ISO/IEC 17020 and STATE OF Lyndon F. Schmidt, P.E. FL PE No. 43409

FLORIDA PRODUCT APPROVAL - DOORS - FL # 6336-R6

NOT TO SCALE

100% SUBMITTAL
NOT FOR CONSTRUCTION

8 F

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

A-23

ENRIQUE A. WOODROFFE, FAIA, LEED

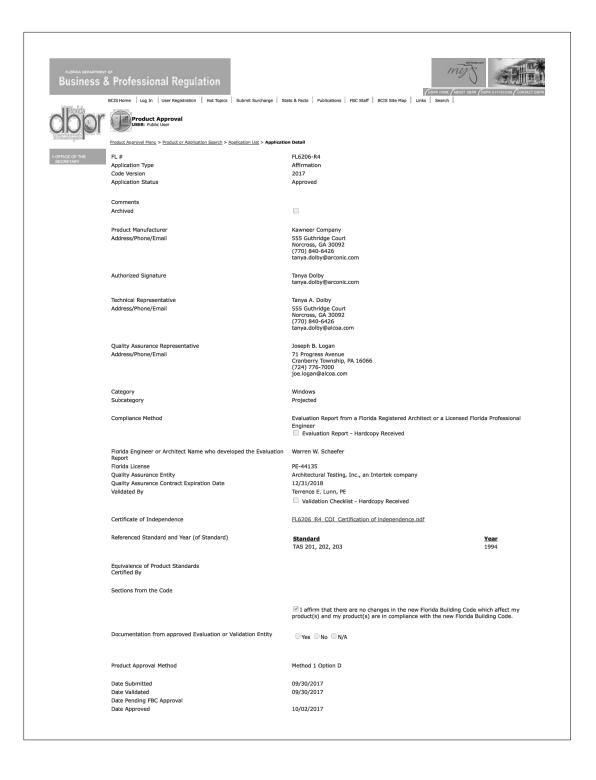
FLORIDA LICENSE AR 0007703

FL#	Model, Number or Name	Description
6206.1	7225/8225TL Aluminum Fixed/PO Window - LMI	7225 Non-Thermal & 8225TL Thermal Fixed/PO LMI
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Impact Resistant: Yes Design Pressure: +90/-90 Other: Window size, assembly and installation requirements are to be as specified in the attached drawing No. 1415. Job required design wind pressure shall be calculated in accordance with the Florida Building Code Chapter 16 and ASCE? Minimum Design Loads for Buildings and Other Structures. This window system is rated as a wind zone 4 missile level "D" product. All glass meets the requirements of the current ASTM E1300 Standard.		Installation Instructions F.6206 R4_II Drawing 1415.pdf Verified By, Warren W. Schaefer, PE 44135 Created by Independent Third Party; Yes Evaluation Reports F.6206 R4_AE_Evaluation_report_WWS-265.pdf Created by Independent Third Party; Yes
6206.2	7225/8225TL Aluminum Fixed/PO Window - SMI	7225 Non-Thermal & 8225TL Thermal Fixed/PO SMI
specified in the attached draw shall be calculated in accordan ASCE 7 Minimum Design Loads	IVHZ: Yes 0 0 y and installation requirements are to be as ing No. 1416. Job required design wind pressure ce with the Florida Building Code Chapter 16 and for Buildings and Other Structures. This window 4 missile level "X" product. All glass meets the	Installation Instructions FL6206 R4 II. Drawing, 1416.pdf Verfiled By: Warren W. Schaefer, P.E. 44135 Created by Independent Third Party: Yes Evaluation Reports FL6206 R4 AE Evaluation report WWS-266.pdf Created by Independent Third Party: Yes

Contact Us:: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824

Back Next







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WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

DATE REVISIONS DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

A-24

W. W. Schaefer Engineering & Consulting, P.A. (CA #6809)

7480 150th Court North Palm Beach Gardens, FL 33418 Phone (561)744-3424

ENGINEER'S EVALUATION REPORT #WWS-265

Prepared for:

Kawneer Company, Inc. 555 Guthridge Court Norcross, GA 30092-3503 Phone: (770) 449-5555

Prepared by:

Warren W. Schaefer, P.E. Florida Professional Engineer #44135

Manufacturer: Kawneer Company, Inc.

Product Category: Windows

Evaluation Method: 1-D (Engineer's evaluation)

Product model & name: 7225/8225TL Fixed Over Project-out LMI Window

Documents that must accompany this report:

1. W. W. Schaefer Engineering & Consulting drawing No. 1415

Window size restrictions and assembly requirements:

See drawing NO. 1415

Maximum allowable design pressure:

+/-90 psf

Installation requirements:

See drawing No. 1415

Code compliance:

Code chapter(s) considered with this evaluation: Chapters 17 & 24 of the Florida Building Code

All glass meets the current ASTM E1300 standard.

Mullion conditions stated in this approval have been tested in accordance with TAS-201, 202 & 203 and meet the requirements of the FBC

Test Standards applicable to the testing of these windows:

Test Laboratory: Architectural Testing, Inc. (Previously named Hurricane Test Laboratory, Inc.) & Farabaugh Engineering & Testing Inc.

Test report numbers: G049-0102-05, G049-0403-05 & G049-0505-05 from Architectural Testing Inc.; T248-11 & T247-11 from Farabaugh Engineering & testing Inc.

General report notes & system limitations:

- 1. All size & installation conditions shown in this report and the referenced drawing No. 1415 are based off the referenced test reports and/or engineering analysis in accordance with the Florida Building Code.
- 2. Windows shall be constructed in accordance with the descriptions in this report, and the manufacturer's state approved quality assurance entity specifications.
- 3. This product is approved for use in & outside of the High Velocity Hurricane Zones (HVHZ).
- 4. Job required design wind pressure shall be calculated in accordance with the Florida Building Code Chapter 16 and ASCE 7 Minimum Design Loads for Buildings and Other Structures (0.85 directionality factor may apply per the current ASCE 7 standard).
- 5. These windows are large missile impact rated for use in wind zone 4 & missile level "D" locations and need not be shuttered.

Quality Assurance Entity: Architectural Testing, Inc. (ATI)

APR 22 2015 Warren W. Schaefer, P.E. Flori da P.E. #44135

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FLORIDA PRODUCT APPROVAL - WINDOWS- FL # 6206-R4

NOT TO SCALE

ENRIQUE A. WOODROFFE, FAIA, LEED

FLORIDA LICENSE AR 0007703

DATE REVISIONS DES: DRN: CKD: DATE: 05/25/18

LOUISIANA PUMPING STATION REHABILITATION

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

FLORIDA PRODUCT APPROVALS

A-25

SHEET

CITY of TAMPA WASTEWATER DEPARTMENT

FL#	Model, Number or Name	Description	
6876.1	AFJ-601X	6" Deep, Fabricated Aluminum, Acoustical Florida Product Approved Stationary Louver	
Approved for use in HVH2: Yes Approved for use outside HVH2: Yes Impact Resistant: Yes Design Pressure: +200/-200 Other: Load and size ratings in accordance with attached table. Rated for Basic Impact Missile Level D (50 fps). Product not rated for AMCA 550 or TAS 100(A), but may be installed in a location where the room behind the louver is designed to drain water penetrating into the room and the room will house water resistant/proof equipment, components, and/or supplies.		Certification Agency Certificate FL6876 R10 C CAC R25119 AF1-501X UL Cert Compliance.pdf FL6876 R10 C CAC UL Quality Assurance Contract 9-19-2020.pdf Quality Assurance Contract Expiration Date 09/19/2020 Installation Instructions FL6876 R10 II AF1-601X Install Details - Clip Angle Mount.pdf FL6876 R10 II AF1-601X Install Details - Continuous Angle Mount.pdf FL6876 R10 II AF1-601X Install Details - Continuous Angle Mount.pdf FL6876 R10 II AF1-601X Install Details - Continuous Angle Mount.pdf FL6876 R10 II R25119 Load and Size Ratings.pdf Verified By: UL LLC Created by Independent Third Party: Evaluation Reports Created by Independent Third Party:	
6876.2	EHH-501X	5" Deep, Extruded Aluminum, Horizontal Wind Driven Rain, Florida Product Approved Stationary Louver	
for Basic Impact Missile Level or TAS 100(A), but may be in the louver is designed to drai	HVHZ: Yes	Certification Agency Certificate FL6876 R10 C CAC R25119 FHH-501X UL Cert Compliance.pdf FL6876 R10 C CAC UL Quality Assurance Contract 9-19-2020.pdf Quality Assurance Contract Expiration Date 09/19/2020 Installation Instructions FL6876 R10 II EHH-501X Install Details - Clip Angle Mount.pdf FL6876 R10 II EHH-501X Install Details - Continuous Angle Mount.p FL6876 R10 II R25119 Load and Size Ratings.pdf Verified By: UL LLC Created by Independent Third Party: Evaluation Reports Created by Independent Third Party:	
6876.3	ESD-435X	4" Deep, Extruded Aluminum, Drainable Blade Florida Product Approved Stationary Louver	
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +200/-200 Other: Load and size ratings in accordance with attached table. Rated for Basic Impact Missile Level D (50 fps). Product not rated for AMCA 550 or TAS 100(A), but may be installed in a location where the room behind the louver is designed to drain water penetrating into the room and the room will house water resistant/proof equipment, components, and/or supplies.		Certification Agency Certificate 16.8726 R10 C ACR .25119 ESD-435X UL Cert Compilance.pdf 16.8526 R10 C CAC .25119 ESD-435X UL Cert Compilance.pdf 16.8526 R10 C .CAC UL Quality Assurance Contract 9-19-2020.pdf Quality Assurance Contract Expiration Date 09/19/2020 Installation Instructions 16.8726 R10 II ESD-435X Install Details - Clip Angle Mount.pdf 16.8726 R10 II ESD-435X Install Details - Continuous Angle Mount.pdf 16.8726 R10 II R25119 Load and Size Ratings.pdf Verified By: UL LLC Created by Independent Third Party: Evaluation Reports Created by Independent Third Party:	
6876.4	ESD-635X	6" Deep, Extruded Aluminum, Drainable Blade Florida Product Approved Stationary Louver	
for Basic Impact Missile Level or TAS 100(A), but may be in the louver is designed to drai	HVHZ: Yes	Certification Agency Certificate FL6876 R10 C CAC R25119 ESD-635X UL Cert Compiliance.pdf FL6876 R10 C CAC UL Quality Assurance Contract 9-19-2020.pdf Quality Assurance Contract Expiration Date 09/19/2020 Installation Instructions FL6876 R10 II ESD-635X Install Details - Clip Angle Mount.pdf FL6876 R10 II ESD-635X Install Details - Continuous Angle Mount.pdf FL6876 R10 II ESD-635X Install Details - Continuous Angle Mount.pdf FL6876 R10 II ESD-635X Install Details - Continuous Angle Mount.pdf FL6876 R10 II LSD-635X Install Details - Continuous Angle Mount.pdf FL6876 R10 II LSD-635X Install Details - Continuous Angle Mount.pdf FL6876 R10 II R25119 Load and Size Ratings.pdf Verified By: UL LLC Created by Independent Third Party: Evaluation Reports Created by Independent Third Party:	
	Back	Most	
	Contact Us :: 2601 Blair Stone Road, Tal	lahassee FL 32399 Phone: 850-487-1824	
		Florida, :: Privacy Statement :: Accessibility Statement :: Refund Statement	
licensed under Chapter 455, F.S. mu:	st provide the Department with an email address if they ha	leased in response to a public-records request, do not send electronic mail to this entity. Insteat 187.1395. "Pursuant to Section 455.275(1), Florida Statutes, effective October 1, 2012, license von en. The emails provided may be used for official communication with the licenses. However the Department with an email address which can be made available to the public. To determit ter 455, F.S., Debes click [per]	

Product Approval Accepts:

BCIS Home | Log In | User Registration | Hot Topics | Submit Surcharge | Stats & Facts | Publications | FBC Staff | BCIS Site Map | Links | Search $\underline{Product\ Approval\ Menu} > \underline{Product\ or\ Application\ Search} > \underline{Application\ List} > \underline{Application\ Detail}$ Application Type Affirmation Code Version Greenheck Fan Corporation Product Manufacturer Authorized Signature Michael Steele mike.steele@greenheck.com **Ouality Assurance Representative** Panel Walls Wall Louver Subcategory Certification Agency UL LLC UL LLC Validated By Referenced Standard and Year (of Standard) TAS-201 TAS-203 Equivalence of Product Standards Certified By $\begin{tabular}{ll} \hline \end{tabular} I affirm that there are no changes in the new Florida Building Code which affect my product(s) and my product(s) are in compliance with the new Florida Building Code.$ Documentation from approved Evaluation or Validation Entity Yes No N/A Product Approval Method Method 1 Option A

07/24/2017

07/25/2017

FLORIDA PRODUCT APPROVAL - LOUVERS- FL # 6876-R10

NOT TO SCALE

FLORIDA LICENSE AR 0007703

100% SUBMITTAL **NOT FOR CONSTRUCTION** CITY of TAMPA

Date Validated

Date Pending FBC Approval Date Approved

Summary of Products

WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION

SHEET

No.	DATE	REVISIONS	DES:
3			DRN:
2			CKD:
1			DATE: 05/25/18

FLORIDA PRODUCT APPROVALS

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WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379



01 FLORIDA PRODUCT APPROVAL - LOUVERS- FL # 6876-R10

100% SUBMITTAL NOT FOR CONSTRUCTION

WC 131 TA/ 813

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

	No.	DATE	REVISIONS	DES:
	3			DRN:
	2			CKD:
ENRIQUE A. WOODROFFE, FAIA, LEED FLORIDA LICENSE AR 0007703	1			DATE: 05/25/

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

A-27

SHEET

May

ROOFING ASSEMBLY APPROVAL

Category: Roofing **Sub Category:** Roofing Tiles Clay

Material:

1. SCOPE

This approves a roofing system using Verea Barrel Tile Grade 1 manufactured by Ceramica Verea in La Coruña, Spain and is distributed by Ceramica Verea, USA Corp., as described in Section 2 of this Notice of Acceptance. For locations where the pressure requirements, as determined by applicable Building Code, do not exceed the design pressure values obtained by calculations in compliance with RAS 127 using the values listed in section 4 herein. The attachment calculations shall be done as a moment based system.

2. PRODUCT DESCRIPTION

Manufactured by Applicant	<u>Dimensions</u>	Test Specifications	Product <u>Description</u>
Verea Barrel Tile Grade 1	L = 19.5" W = 8.15"	ASTM C1167 Type I Grade 1	High profile two-piece clay roof tile. For direct deck, adhesive set applications.
Trim Pieces	Length: varies Width: varies varying thickness	ASTM C1167	Accessory trim, clay roof pieces for use at hips, rakes, ridges and valley terminations manufactured for each tile profile.
Verea Hurricane Clip	2.95" x 0.47" x 0.09" diam.		(Optional) stainless steel clip.

2.1 MANUFACTURING LOCATION

2.1.1. Mesia (La Coruña) España

NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 2 of 7



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY PRODUCT CONTROL SECTION 11805 SW 26 Street, Room 208 Miami, Florida 33175-2474

T (786) 315-2590 F (786) 315-2599 www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Ceramica Verea Lanza S/N 15685 Mesia (Coruňa) Spain

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (in Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Verea Barrel Tile Grade 1

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA# 16-0921.09 and consists of pages 1 through 7. The submitted documentation was reviewed by Alex Tigera.





NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 1 of 7

100% SUBMITTAL

NOT FOR CONSTRUCTION

FLORIDA PRODUCT APPROVAL - ROOFING- NOA # 18-0119.03

ENRIQUE A. WOODROFFE, FAIA, LEED

FLORIDA LICENSE AR 0007703

DATE **REVISIONS** DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION **REHABILITATION** FLORIDA PRODUCT APPROVALS

WOODROFFE CORPORATION ARCHITECTS 813-281-0411

1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

FLORIDA LICENSE NUMBER AA CO01379

A-28

SHEET

3. LIMITATIONS:

- **3.1** Fire classification is not part of this acceptance.
- 3.2 For mortar or adhesive set tile applications, a static field uplift test shall be performed in accordance with
- 3.3 Applicant shall retain the services of a Miami-Dade County Certified Laboratory to perform quarterly test in accordance with TAS 112, appendix 'A'. Such testing shall be submitted to the Miami-Dade County Product Control Section for review.
- 3.4 Minimum underlayment shall be in compliance with the applicable Roofing Applications Standards listed
- 3.5 30/90 hot mopped underlayment applications may be installed perpendicular to the roof slope unless stated otherwise by the underlayment material manufacturers published literature.
- 3.6 This acceptance is for wood deck applications. Minimum deck requirements shall be in compliance with applicable building code.

4. Installation

- 4.1 Verea Barrel Tile Grade 1 and its components shall be installed in strict compliance with Roofing Application Standard RAS-118, RAS 119, and RAS-120.
- 4.2 Data For Attachment Calculations.

Table 1: Average Weight (W) and Dimensions (I x w)						
Tile Profile Weight-W (lbf) Length-I (ft) Width-w (ft)						
Verea Barrel Tile Grade 1 5.5 1.625 0.679						

Table 2: Aerodynamic Multipliers - λ (ft³)					
Verea Barrel Tile Grade 1 N/A 0.26					

	Table 3: Restoring Moments due to Gravity - Mg (ft-lbf)								
Tile Profile	2":12"	3":12"	4":12"	5":12"	6":12"	7":12" or Greater			
Verea	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck			
Barrel Tile Grade 1	4.19	4.11	4.01	3.87	3.69	3.47			

ENRIQUE A. WOODROFFE, FAIA, LEED

FLORIDA LICENSE AR 0007703

NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 4 of 7

2.2 EVIDENCE SUBMITTED

Test Identifier	Test Name/Report	Date
CVER-012-02-01	TAS 101	02/19/14
RT0517.01-11 RT0621.02-16 RT0202.01-18	TAS 101 ASTM C 1167 ASTM C 1167	06/13/11 09/09/16 02/10/18
4709-2 4709-4	ASTM C 1167 TAS 101	11/12/07 12/21/07
7161-03 Appendix III Letter P09647-01 P0402	PA 102 & PA 102(A) PA 108 (Nail-On) PA 108 (Mortar Set) Withdrawal Resistance Testing of screw vs. smooth shank nails	Dec. 1991 Aug. 1994 July 1994 Sept. 1993
25-7094-(3, 6 & 9) 25-7120-(1 & 2) 25-7183-(3 & 4) 25-7214-(3, 4, &7) 25-7804-4	PA 102 PA 102 PA 102 PA 102 PA 102	Oct. 1994 Nov. 1994 Feb. 1995 March, 1995 Sep. 1996
	CVER-012-02-01 RT0517.01-11 RT0621.02-16 RT0202.01-18 4709-2 4709-4 7161-03 Appendix III Letter P09647-01 P0402 25-7094-(3, 6 & 9) 25-7120-(1 & 2) 25-7183-(3 & 4) 25-7214-(3, 4, & 7)	CVER-012-02-01 RT0517.01-11 RT0621.02-16 RT0202.01-18 ASTM C 1167 ASTM C 116



NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 3 of 7

100% SUBMITTAL

FLORIDA PRODUCT APPROVAL - ROOFING- NOA # 18-0119.03

DATE REVISIONS DES: DRN: CKD: DATE: 05/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

REHABILITATION FLORIDA PRODUCT APPROVALS SHEET

WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

NOT FOR CONSTRUCTION LOUISIANA PUMPING STATION

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Table 7: Attachment Resistance Expressed as a Moment - M _f (ft-lbf) for Mortar Set Systems						
Tile Profile	Tile Application	Minimum Attachment Resistance				
Verea Barrel Tile Grade 1	Quikrete Roof Tile Mortar, FL-15	45.38				

5. LABELING

5.1 All tiles shall bear the imprint or identifiable marking of the manufacturer's name or logo as detailed below, or following statement: "Miami-Dade County Product Control Approved".

VEREA SPAIN CE

LABEL FOR VEREA BARREL TILE GRADE 1 (LOCATED ON THE SIDE OF TILE)

6. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or the applicable Building Code in order to properly evaluate the installation of this system. This Notice of Acceptance on its own cannot be used to obtain a building permit.

FLORIDA LICENSE AR 0007703

NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 6 of 7

Table 4: Attachment Resistance Expressed as a Moment - M _f (ft-lbf) for Mechanically Attached Systems					
Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens	
Verea Barrel Tile Grade	2-10d Ring Shank Nails	28.6	41.2	n/a	
1	1-10d Smooth or Screw Shank Nail	5.1	6.8	n/a	
	2-10d Smooth or Screw Shank Nails	6.9	9.2	n/a	
	1 #8 Screw	20.7	20.7	n/a	
	2 #8 Screw	43.2	43.2	n/a	
	1-10d Smooth or Screw Shank Nail (Field Clip)	23.1	23.1	n/a	
	1-10d Smooth or Screw Shank Nail (Eave Clip)	29.3	29.3	n/a	
	2-10d Smooth or Screw Shank Nails (Field Clip)	27.6	27.6	n/a	
	2-10d Smooth or Screw Shank Nails (Eave Clip)	38.1	38.1	n/a	

Table 5: Attachment Resistance Expressed as a Moment - M _f (ft-lbf) for Mechanically Attached Systems						
Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens		
Verea Barrel Tile Grade 1	2-10d Ring Shank Nails ¹	33.1	48.1	n/a		
1 Installation with a 4" tile	e headlap and fasteners are loca	ted a min. of 21/2" f	rom head of tile.			

Table 6: Attachment Resistance Expressed as a Moment - M _f (ft-lbf) for Single Patty Adhesive Set Systems					
Tile Profile	Tile Application	Minimum Attachment Resistance			
Verea Barrel Tile Grade 1	ICP Adhesives Polyset AH-160	118.31 ¹			

NOA No.: 18-0119.03 Expiration Date: 03/13/23 Approval Date: 03/22/18 Page 5 of 7

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FLORIDA PRODUCT APPROVAL - ROOFING- NOA # 18-0119.03

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WOODROFFE CORPORATION ARCHITECTS

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

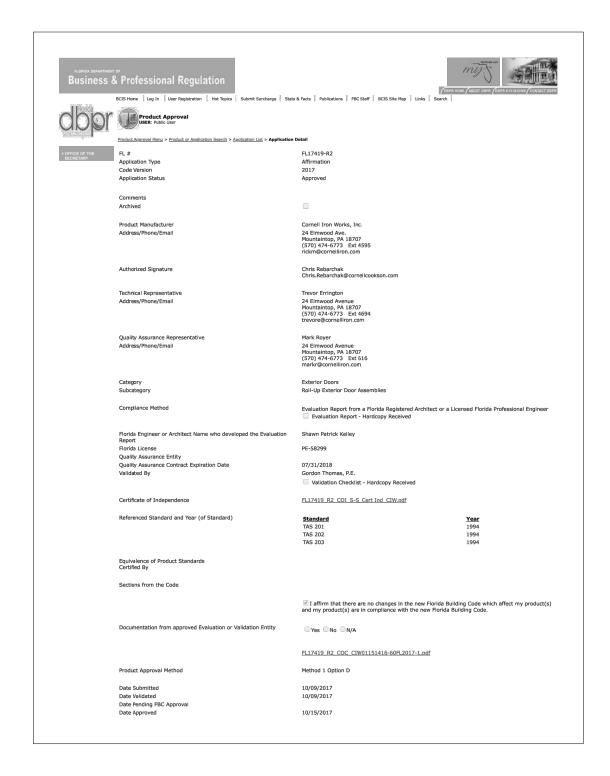
LOUISIANA PUMPING STATION

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DATE: 05/25/18

FLORIDA LICENSE AR 0007703









WOODROFFE CORPORATION ARCHITECTS

813-281-0411 100% SUBMITTAL FLORIDA LICENSE NUMBER AA CO01379 **NOT FOR CONSTRUCTION**

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LOUISIANA PUMPING STATION REHABILITATION FLORIDA PRODUCT APPROVALS

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CIW011514-16 FL: Review, Evaluation, and Certification of Code Compliance

Page 2 of 4

Details of door assembly and associated components appear in the following documents:

Table 1. Rolling door systems evaluated, with applicable drawings by Cornell Iron Works

Configuration	Impact Rating	Drawing No.	Revision Date	Detail Sheets	Configuration Table Sheets
Non-Insulated	Non-impact	ES-16-62-CIW	9/30/2014	1-9	10-21
Non-Insulated	50 FPS	ES-16-60-CIW	11/20/2014	1-9	10-19
Non-Insulated	80 FPS	ES-16-61-CIW	10/2/2014	1-9	10-15
Insulated	Non-impact	ES-16-65-CIW	11/18/2014	1-9	10-21
Insulated	50 FPS	ES-16-63-CIW	11/18/2014	1-9	10-16
Insulated	80 FPS	ES-16-64-CIW	11/18/2014	1-9	10-13

Allowable configurations of this door assembly under applicable wind loads are tabulated in the configuration tables sheets noted above.

Door Slats:

CP0020 Slats:

All non-insulated doors covered by this report use a CP0020 slat with a minimum thickness of 0.0220" (0.0405" thickness for perforated slats). The nominal dimensions of the formed slat are approximately 2-5/8" height by 3/4" depth for all CP0020 slats.

All insulated doors covered by this report use a CP0001 or CP0651 slat. The minimum thickness of the front portion of these slats is 0.0220". The minimum thickness of the back portion of these slats is 0.0220". The dimensions of the formed slats are approximately 3" height by 1" depth for all CP0001 and CP0651 slats. The CP0001 is injected with a polyurethane foam insulation. The CP0651 is filled with mineral wool insulation.

Slats may be manufactured using galvanized steel sheet, ASTM A653 HSLAS, grade 40; ASTM A653 HSLAS-F, grade 40; or ASTM A653 structural steel, grade 40. Stainless steel slats may use Type 201, 304, 316, or 430 alloys with minimum specified yield strength of 40 ksi.

A rational analysis was made on each tabulated door to determine the structural requirements of the curtain, guides, windlock attachments, and guide attachments for each of the indicated design wind pressures. A comparison with test results was made to substantiate analysis results.

Technical Documentation:

ENRIQUE A. WOODROFFE, FAIA, LEED FLORIDA LICENSE AR 0007703

Test results were used to substantiate the analysis procedure. The following information was considered in a comparative analysis of the design:

I. Door Tests with Non-Insulated Slats

1. TAS 201-94, 202-94, 203-94 - Testing of roll-up door assembly with 0.0236" and 0.0296" CP0020 slat profiles per FBC HVHZ and Miami-Dade County requirements. Parameters: 14'-5" width, 10' height, design wind pressures ±65.15 psf and large

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December 16, 2014

Cornell Iron Works 24 Elmwood Ave Mountaintop, PA 18707 Attn: Trevor Errington



RE: Review, Evaluation, and Certification of Code Compliance Project #CIW011514-16 FL: Exterior Rolling Overhead Doors

(CP0020, CP0001, and CP0651 Slats)

Includes insulated and non-insulated doors rated for "Non-Impact", 50 FPS, and 80 FPS impact velocity conditions.

To whom it may concern:

Moment Engineering + Design has performed a comprehensive structural review of the Cornell Iron Works Rolling Overhead Door product lines described above, for typical installations in the State of Florida.

Statement of Compliance:

When constructed and installed per the conditions and design criteria described herein, the Rolling Overhead Door product lines described above are compliant with applicable sections of the design reference documents noted below.

Design Reference Documents:

- o 2010 Florida Building Code
- o FBC Test Protocols TAS 201, 202, and 203
- o 2009 International Building Code
- o ASCE/SEI 7-10 Minimum Design Loads for Buildings & Other Structures
- o Proprietary load test data and evaluation (see technical documentation below)
- o Proprietary sections and materials properties as noted

The doors described in this report consist of a continuous door panel made of interlocking cold-formed steel slats suspended from an overhead drum roller. The drum roller serves to store the curtain in a coiled configuration when the door is opened. Note that evaluation of the drum roller assembly is not included in this report.

The sides of the curtain are constrained from lateral movement along their vertical edges by steel guides attached to the door jambs. This constraint provides resistance to lateral wind forces. Various guide configurations are used for the different door styles included in this report. The lateral wind forces are transferred from the curtain to the guides and then through the attachment elements to the door jamb. The door jambs are part of the main wind force resisting system of the existing structure and are usually constructed of steel, concrete, or concrete masonry units. Resistance of existing structures to design loads from proposed overhead rolling doors is not included in the scope of this analysis and should be evaluated by a registered design professional where required by the authority having jurisdiction.

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FLORIDA PRODUCT APPROVAL - OVERHEAD DOOR- FL # 17419-R2

NOT FOR CONSTRUCTION

WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411

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Impact Resistance:

Doors with CP0020 slats (0.00236") and doors with CP0001 slats (0.0296" front / 0.0220" back) have passed the FBC Protocols TAS 201 and TAS 203 for impact on both sides of the door, permitting installation on either the inside or the outside of the wall. These tests were conducted on the lightest gage curtains doors shown in the detail drawings designed for impact resistance. All doors shown in drawings ES-16-60-CIW, ES-16-61-CIW, ES-16-63-CIW, and ES-16-64-CIW may be considered to be impact resistant.

Limitations and Conditions of use:

The use of the door is limited to buildings for which the design wind loads for wall components and cladding - determined in accordance with Section 1609 of the 2010 Florida Building Code - do not exceed the rated design wind loads of the door as shown on the Cornell drawings listed in Table 1.

The maximum width limitations for each style are shown in the attached tables. The maximum height for all doors is limited to 30 ft. The doors covered by this report are not designated for use in the High Velocity Hurricane Zone (HVHZ). Manufacturing of doors described in this report is limited to those plants that have met the Product Approval quality assurance requirements.

Certification of Independence:

I, Shawn P. Kelley, President, certify that Moment Engineering + Design, operates as an independent limited liability company providing professional engineering services. Neither I nor Moment Engineering + Design has a financial interest in - nor intent to obtain financial interest in - any company manufacturing or distributing products for which it has issued or will issue evaluation or code-compliance reports.

Neither I nor Moment Engineering + Design has nor will acquire a financial interest in any other entity involved in the approval process for this product.

We appreciate the opportunity to assist you with this project. Should you have any further questions regarding this review, please feet the contact me directly at 703-988-2350.

Best Regards,

Shawn P. Kelley, P.E. Principal, Structural Englicer

moment ENGINEERING + DES www.msegllc.com

Phone: 703-988-2350 Email: spkellev@msegllc.com

ENRIQUE A. WOODROFFE, FAIA, LEED

FLORIDA LICENSE AR 0007703

Signed and sealed copy of Cornell Drawing No. ES-16-60-CIW, dated 12/10/2014. Signed and sealed copy of Cornell Drawing No. ES-16-61-CIW, dated 12/10/2014 Signed and sealed copy of Cornell Drawing No. ES-16-62-CIW, dated 12/10/2014

Signed and sealed copy of Cornell Drawing No. ES-16-63-CIW, dated 12/10/2014.

Signed and sealed copy of Cornell Drawing No. ES-16-64-CIW, dated 12/10/2014 igned and sealed copy of Cornell Drawing No. ES-16-65-CIW, dated 12/10/2014.

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missile impact testing. Conducted by Architectural Testing, Inc. Report No: D1278.01-109-18, dated 01/29/2014. Miami-Date County Notification No.: ATI 13008.

- 2. TAS 201-94, 202-94, 203-94 Testing of roll-up door assembly with perforated CP0020 slat profiles per FBC HVHZ and Miami-Dade County requirements. Parameters: 27'-5" width, 10' height, design wind pressures ±60.0 psf and large missile impact testing. Conducted by Architectural Testing, Inc. Report No: D5148.01-109-18, dated 06/20/2014. Miami-Date County Notification No.: ATI 14005.
- 3. TAS 201-94, 202-94, 203-94 Testing of roll-up door assembly with perforated CP0020 slat profiles per FBC HVHZ and Miami-Dade County requirements. Parameters: 25'-5" width, 10' height, design wind pressures ±65.0 psf and large missile impact testing. Report No: C6863.01-109-18-R0, dated 01/28/2014. Miami-Dade County Notification No.: ATI 13008.

II. Door Tests with Insulated Slats

- 1. TAS 201-94, 202-94, 203-94 Testing of "Thermiser" foam-insulated roll-up door assembly with CP0001 slat profiles (0.0405" front / 0.0220" back) per FBC HVHZ and Miami-Dade County requirements. Parameters: 14'-5" width, 10' height, design wind pressures ±120.0 psf and large missile impact testing. Conducted by Architectural Testing, Inc. Report No: D1278.02-109-18, dated 01/29/2014. Miami-Date County Notification No.: ATI 13008.
- 2. TAS 201-94, 202-94, 203-94 Testing of "Thermiser" foam-insulated roll-up door assembly with CP0001 slat profiles (0.0296" front / 0.0220" back) per FBC HVHZ and Miami-Dade County requirements. Parameters: 12'-5" width, 10' height, design wind pressures ±65.0 psf and large missile impact testing. Conducted by Architectural Testing, Inc. Report No: D2662.01-109-18, dated 02/07/2014. Miami-Date County Notification No.: ATI 13008.
- 3. TAS 201-94, 202-94, 203-94 Testing of "Thermiser" foam-insulated roll-up door assembly with CP0001 slat profiles (thickness varies per test) per FBC HVHZ and Miami-Dade County requirements. Parameters: 25'-5" width, 10' height, design wind pressures ±65.0 psf and large missile impact testing. Report No: C6863.02-109-18-R0, dated 01/29/2014. Miami-Dade County Notification No.: ATI 13008.

III. Research Slat Tests:

1. ASTM E330-02 test, 7'-0" clear span (CP0020 and CP0001 slats). Conducted by Architectural Testing, Inc. Report No. C4840.01-109-44-R1, dated 04/10/2013.

Installation Requirements:

Installation requirements are described in the document "Cornell Iron Works: Service Door (Insulated and Non-Insulated) Installation Instructions, ES 10-341, Rev. 2, dated 2013-04-18".

Drawings referenced above include design tables specifying allowable installation geometry for door panels under applicable design wind loads of 20, 30, 40, 50, 60, 65, 70, 80, 90, 100 psf (and 120 psf for insulated doors). Specific requirements are shown for selected door widths. All data tables shown in drawings ES-16-60-CIW, and ES-16-63-CIW are applicable for a large missile impact (as defined in applicable design reference documents noted previously) with design velocity of 50 fps. All data tables shown in drawings ES-16-61-CIW, and ES-16-64-CIW are applicable for a large missile impact (as defined in applicable design reference documents noted previously) with design velocity of 80 fps. Linear interpolation between data points shown in tables is permissible.

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FLORIDA PRODUCT APPROVAL - OVERHEAD DOOR- FL # 17419-R2 NOT TO SCALE

813-281-0411 FLORIDA LICENSE NUMBER AA COO1379

WOODROFFE CORPORATION ARCHITECTS

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CITY of TAMPA WASTEWATER DEPARTMENT

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MECHANICAL GENERAL NOTES.

- 1 PLANS INDICATE THE GENERAL LAYOUT AND LOCATION OF THE MECHANICAL SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THESE PLANS SHALL NOT BE SCALED.
- 2 NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.
- 3 THE SEPARATE DIVISIONS SHOWN ON THE CONTRACT DOCUMENTS ARE COMPLEMENTARY OF EACH OTHER AND DO NOT RELIEVE THE CONTRACTOR AND THIS INSTALLER FROM THE RESPONSIBILITY TO PROVIDE THE WORK WHICH IS INDICATED ON ANY OF THE CONTRACT DOCUMENTS. THIS INSTALLER SHALL REVIEW AND COORDINATE THE SCOPE OF HIS WORK WITH THOSE DOCUMENTS TO ASSURE THAT COMPLETE AND FUNCTIONAL SYSTEMS ARE PROVIDED.
- 4 THE DIMENSIONS AND CONDITIONS SHOWN ON THE CONTRACT DOCUMENTS ARE BASED ON AVAILABLE EXISTING INFORMATION. THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- 5 NO INSTALLATION WORK SHALL PROCEED UNTIL A COMPLETE COORDINATION HAS BEEN DONE WITH ALL TRADES INVOLVED IN THIS PROJECT.
- 6 CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DAMAGE TO THE EXISTING INSTALLATION BEFORE PROCEEDING WITH HIS WORK. DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT NO COST TO THE CONTRACT AND TO THE OWNER'S SATISFACTION.
- 7 CONSTRUCTION WORK SHALL COMPLY WITH FLORIDA BUILDING CODE 2017 (6TH EDITION).
- 8 SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- 9 DRAWINGS INDICATE THE APPROXIMATE LOCATION OF THE EXISTING AIR MOVING EQUIPMENT BASED ON INFORMATION SHOWN ON AS-BUILT RECORD DOCUMENTS. CONTRACTOR SHALL VERIFY THIS INFORMATION BEFORE PROCEEDING WITH WORK. ALL DEVIATIONS PLUS NEW WORK SHALL BE NOTED ON A NEW SET OF AS-BUILT RECORD DRAWINGS TO BE KEPT AT THE JOB SITE. THESE AS-BUILTS RECORD DRAWINGS TO BE INCLUDED WITH THE PROJECT CLOSE OUT DOCUMENTS.
- 10 COORDINATE ROOF PENETRATIONS AND OTHER ROOFING WORK WITH ROOFING CONTRACTOR HOLDING BOND TO ROOF. CONTACT CITY OF TAMPA PROJECT MANAGER FOR THAT INFORMATION.

MECHANICAL SCOPE OF WORK-

- 1 UPGRADE VENTILATION SYSTEM TO CURRENT CODE REQUIREMENTS.
- 2 SYSTEM TO FACILITATE REMOVAL OF HEAT GENERATED BY NEW PUMPS AND ASSOCIATED CONTROL EQUIPMENT.
- 3 PROVIDE FANS, DUCTS, CONTROLS AND AIR INTAKE AND EXHAUST LOUVERS AS SHOWN ON CONTRACT DOCUMENTS.
- 4 COORDINATE WORK WITH TRICON AND CITY OF TAMPA PROJECT MANAGERS.

MECHANICAL (VENTILATION) DRAWING LIST

- **VO.1** MECHANICAL GENERAL NOTES, SCOPE OF WORK
- **V2.1** MECHANICAL UPPER LEVEL DEMOLITION PLAN
- **V4.1** MECHANICAL UPPER LEVEL PROPOSED PLAN
- **V4.2** MECHANICAL UPPER LEVEL PROPOSED PLAN (LOUVERS)
- **V8.1** MECHANICAL ELEVATIONS AND SECTIONS
- **V8.2** MECHANICAL ELEVATIONS AND SECTIONS
- **V9.1** MECHANICAL DETAILS
- **V10.1** MECHANICAL CONTROLS / SEQUENCE OF OPERATIONS
- **V11.1** MECHANICAL SCHEDULES





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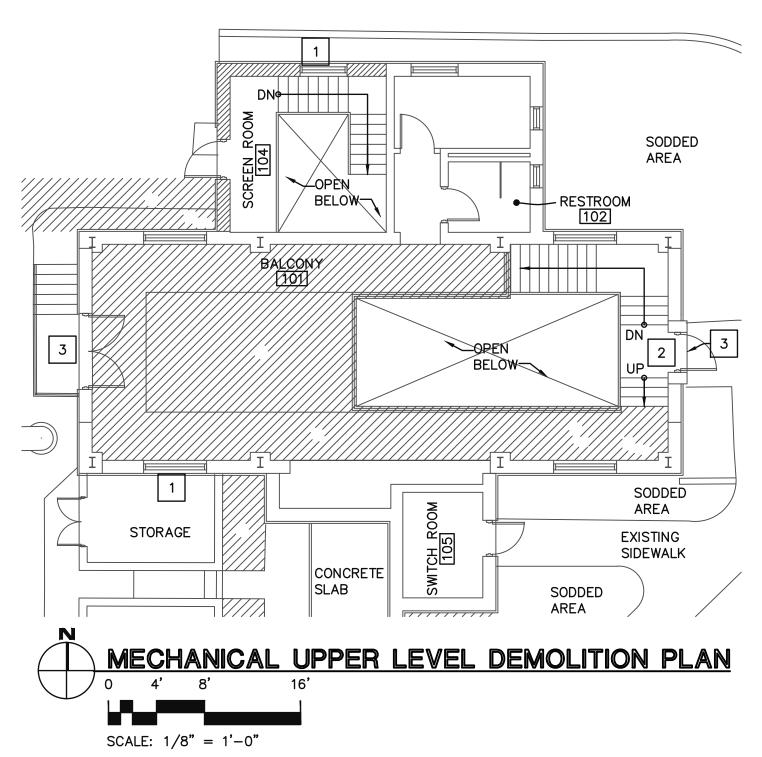
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LOUISIANA PUMPING STATION REHABILITATION MECHANICAL GENERAL SHEET

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MECHANICAL DEMOLITION NOTES:

- 1 EXISTING PROPELLER FAN TO BE REMOVED AND DISPOSED OF.
- 2 EXISTING 60"x84" LOUVER ABOVE DOOR TO BE REMOVED AND DISPOSED OF.
- 3 EXISTING 24"ø LOUVER TO BE REMOVED AND REPLACED WITH NEW. REFER TO DRAWING V4.2 FOR NEW LOUVER INFORMATION.





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CITY of TAMPA
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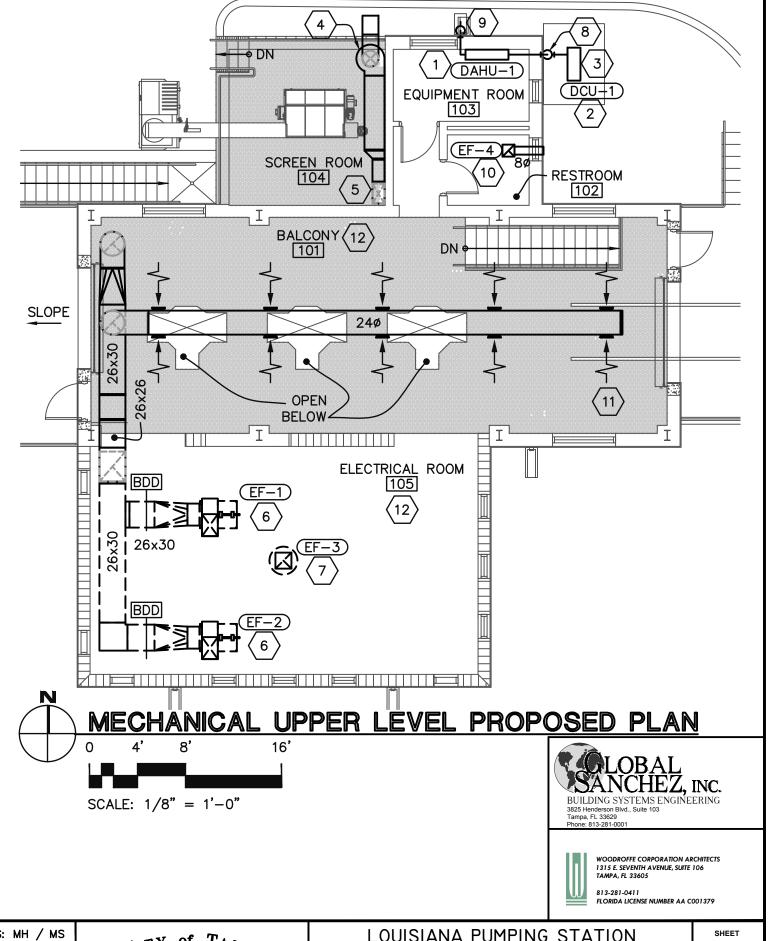
LOUISIANA PUMPING STATION
REHABILITATION
MECHANICAL UPPER LEVEL DEMOLITION PLAN

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MECHANICAL RENOVATION NOTES:

- 1 NEW WALL MOUNTED DUCTLESS AIR HANDLING UNIT. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH ARCHITECT/OWNER. REFER TO SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 2 NEW DUCTLESS SYSTEM CONDENSING UNIT. UNIT SHALL BE MOUNTED ON A MINIMUM 6" THICK CONCRETE PAD. PAD TO EXTEND A MINIMUM OF 24" PAST UNIT IN ALL DIRECTIONS. PROVIDE 1" THICK NEOPRENE ISOLATION PADS BETWEEN UNIT AND CONCRETE PAD. COORDINATE WITH STRUCTURAL FOR SECURING OF UNIT TO CONCRETE PAD. REFER TO SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 3 COORDINATE EXACT CLEARANCE REQUIREMENTS FOR SERVICE / MAINTENANCE OF CONDENSING UNIT WITH MANUFACTURER PRIOR TO INSTALLATION.
- 4 NEW SUPPLY FANS (1 HIGH, 1 LOW). REFER TO DRAWING V8.1.
- 5 SUPPLY DUCTS FROM FANS TO DROP DOWN TO BELOW ALUMINUM DECKING AND PENETRATE ALUMINUM PLATE ABOVE SCREEN ROOM BELOW. DUCT DIMENSIONS TO MATCH FAN OUTLET DIMENSIONS. COORDINATE WITH STRUCTURAL FOR SUPPORTING OF DUCTWORK.
- 6 NEW UTILITY FAN MOUNTED ON ROOF ABOVE. TRANSITION DUCT SIZE TO MATCH FAN INLET. REFER TO DRAWING V8.2 AND SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 7 NEW ROOF MOUNTED EXHAUST FAN ABOVE. PROVIDE MINIMUM 12" HIGH ROOF CURB. COORDINATE WITH STRUCTURAL FOR SECURING OF CURB TO ROOF AND FAN TO CURB. REFER TO SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 8 REFRIGERANT PIPING FOR AHU/DCU-1. PENETRATE EXTERIOR WALL, DROP DOWN TO GROUND LEVEL AND CONNECT TO DCU. PROVIDE SLEEVE AT WALL AND SEAL PENETRATION WITH A UL LISTED CAULK. SUPPORT REFRIGERANT PIPING FROM WALL AND PROVIDE ALUMINUM COVER PLATE PAINTED TO MATCH WALL. COORDINATE WITH ARCHITECT.
- 9 CONDENSATE DRAIN PIPING FROM DAHU—1 SHALL PENETRATE EXTERIOR WALL, DROP DOWN AND DISCHARGE AT A SPLASH BLOCK. PROVIDE SLEEVE AT WALL AND SEAL PENETRATION WITH A UL LISTED CAULK. SUPPORT PIPING FROM WALL AND PROVIDE ALUMINUM COVER PLATE PAINTED TO MATCH WALL. COORDINATE WITH ARCHITECT.
- 10 NEW CEILING EXHAUST FAN FOR RESTROOM. PROVIDE 8"Ø SHEET METAL EXHAUST DUCT FROM FAN AND DISCHARGE THRU WALL CAP AT EXTERIOR WALL. COORDINATE EXACT LOCATION WITH ARCHITECT. REFER TO FAN SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 11 NEW 12"x10" EXHAUST AIR GRILLE EQUAL TO TITUS MODEL 350ZFL, 0' DEFLECTION, 3/4" SPACING. BALANCE TO 400 CFM EACH. GRILLES SHALL BE MOUNTED AT 45' ANGLE DOWN ON DUCT. REFER TO DETAIL #011, SECTION 15400 ON DRAWING V9.1. TYPICAL OF 10 GRILLES.
- 12 SEE DRAWING V4.2 FOR LOUVER INFORMATION ASSOCIATED WITH THIS SPACE.



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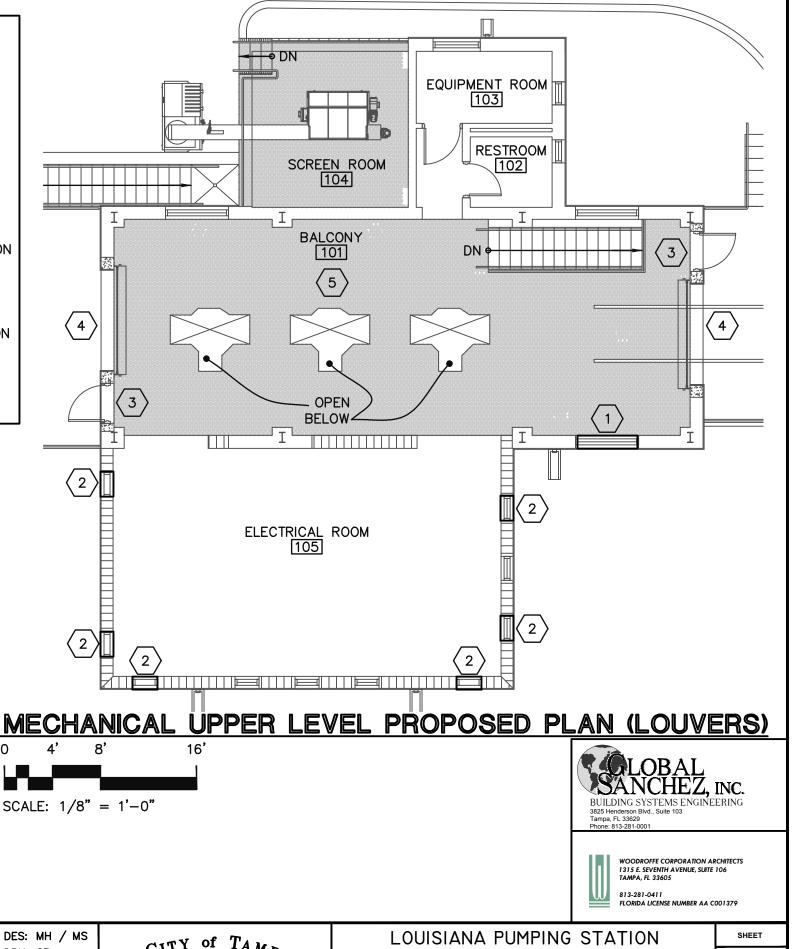
LOUISIANA PUMPING STATION
REHABILITATION
MECHANICAL UPPER LEVEL PROPOSED PLAN

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SED PLAN V4.

MECHANICAL RENOVATION NOTES:

- 1 NEW 60"x96" AIR INTAKE LOUVER (GREENHECK MODEL EHH-501X OR APPROVED EQUIVALENT). LOUVER SHALL BE A MINIMUM OF 17.68 FT2 FREE AREA, ALUMINUM CONSTRUCTION AND SHALL MEET MIAMI-DADE RATING FOR WIND DRIVEN RAIN AND BE APPROVED FOR USE IN FLORIDA'S HIGH VELOCITY HURRICANE ZONE. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL.
- 2 NEW AIR INTAKE LOUVER (GREENHECK MODEL EHH-501X OR APPROVED EQUIVALENT). LOUVER SHALL BE ALUMINUM CONSTRUCTION AND SHALL MEET MIAMI-DADE RATING FOR WIND DRIVEN RAIN AND BE APPROVED FOR USE IN FLORIDA'S HIGH VELOCITY HURRICANE ZONE. BOTTOM OF LOUVER TO BE +/-12" FROM FINISHED FLOOR ELEVATION. COORDINATE LOUVER SIZES AND LOCATIONS WITH ARCHITECTURAL PLANS. TOTAL FREE FACE AREA (FOR THE SIX LOUVERS COMBINED) SHALL EXCEED 12.9 FT2.
- 3 NEW 36"x60" AIR INTAKE LOUVER ABOVE DOOR (GREENHECK MODEL EHH-501X OR APPROVED EQUIVALENT). LOUVER SHALL BE A MINIMUM OF 6.45 FT2 FREE AREA, ALUMINUM CONSTRUCTION AND SHALL MEET MIAMI-DADE RATING FOR WIND DRIVEN RAIN AND BE APPROVED FOR USE IN FLORIDA'S HIGH VELOCITY HURRICANE ZONE. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL.
- 4 NEW 24" AIR INTAKE LOUVER ABOVE DOOR (GREENHECK MODEL EHH-501X OR APPROVED EQUIVALENT). LOUVER SHALL BE A MINIMUM OF 0.91 FT2 FREE AREA, ALUMINUM CONSTRUCTION AND SHALL MEET MIAMI-DADE RATING FOR WIND DRIVEN RAIN AND BE APPROVED FOR USE IN FLORIDA'S HIGH VELOCITY HURRICANE ZONE. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL.
- 5 SEE DRAWING V4.1 FOR ADDITIONAL MECHANICAL WORK IN THIS BUILDING.

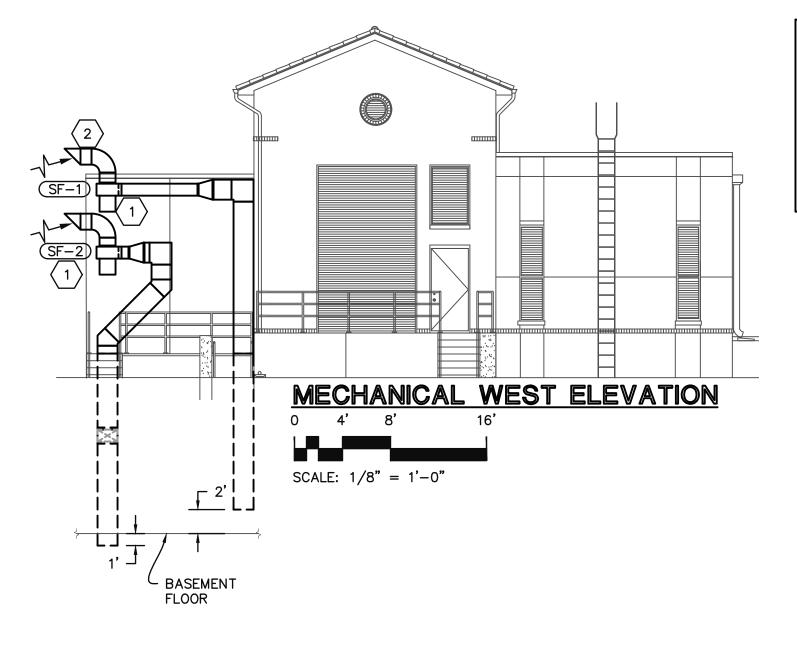


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CITY of TAMPA WASTEWATER DEPARTMENT REHABILITATION

V4.2

MECHANICAL UPPER LEVEL PROPOSED PLAN (LOUVERS)



MECHANICAL RENOVATION NOTES



- 1 NEW SUPPLY FAN MOUNTED ON EXTERIOR WALL. COORDINATE MOUNTING / SUPPORTING FROM WALL WITH STRUCTURAL. DUCT DIMENSIONS SHALL MATCH FAN INLET/OUTLET DIMENSIONS UNLESS OTHERWISE NOTED. REFER TO FLOOR PLAN ON DRAWING V4.1 AND FAN SCHEDULE ON DRAWING V11.1 FOR ADDITIONAL INFORMATION.
- 2 PROVIDE 36" LONG SECTION OF DUCT CONNECTED TO FAN INLET. END OF DUCT SHALL TERMINATE IN HORIZONTAL POSITION WITH A 45° ANGLE AT END TO PREVENT WATER INTRUSION. PROVIDE 316 STAINLESS STEEL BIRD SCREEN SECURED TO END OF DUCT. TYPICAL.





WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

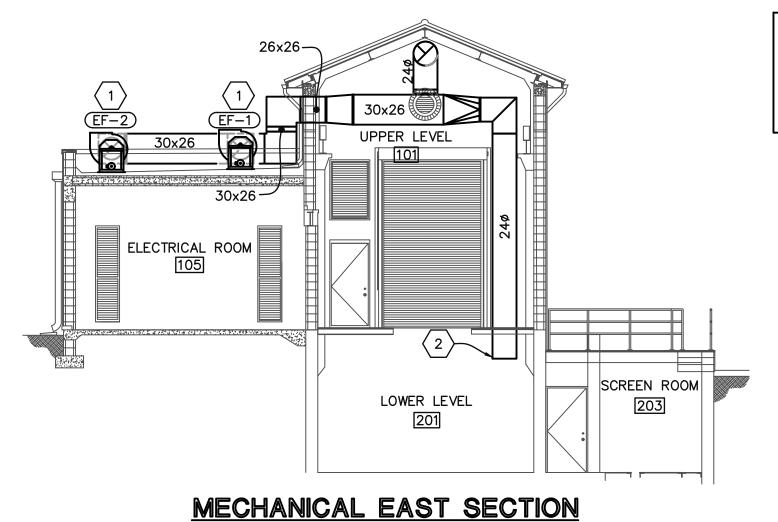
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NAKSIM A. SEGAL, PE LORIDA LICENSE PE 71454	1			DATE: 05/25/18

PIT

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
MECHANICAL ELEVATIONS / SECTIONS

V8.



16'

MECHANICAL RENOVATION NOTES

- 1 NEW EXHAUST FAN MOUNTED ON ROOF. COORDINATE WITH STRUCTURAL FOR SECURING OF FAN TO ROOF.
- 2 OPEN ENDED DUCT WITH VOLUME DAMPER AND INSECT SCREEN. BALANCE TO 4000 CFM.



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BUILDING SYSTEMS ENGINEERING

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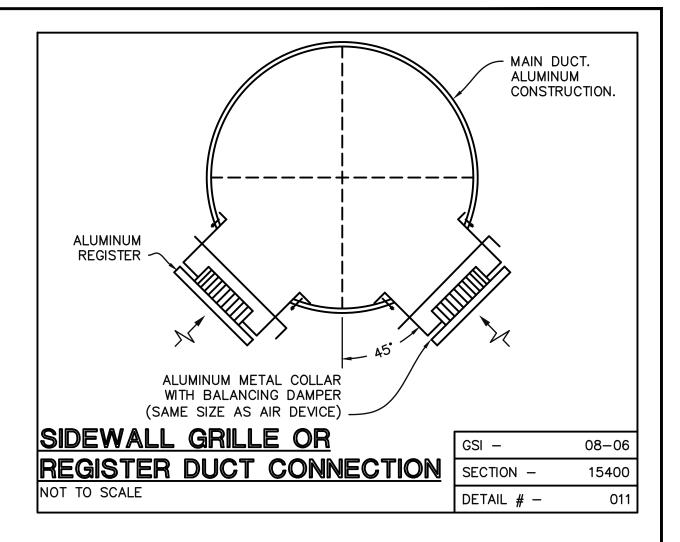
4'

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

 C^{1TY} of $T_{A_{MP_A}}$ WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
MECHANICAL ELEVATIONS / SECTIONS

V8.2







WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

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	2			CKD: M. SEG
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/ MS / GB EGAL 25/18 **WASTE**

 C^{1TY} of T_{AMP_A} WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION MECHANICAL DETAILS V9.

FAN CONTROLS / SEQUENCE OF OPERATIONS.

EF-1 / EF-2:

- EF-1 FAN RUNS CONTINUOUSLY AND EF-2 IS STAND-BY.
- PROVIDE FLOW SWITCH AT EACH FAN DISCHARGE.
- IF A LOSS OF FLOW IS DETECTED, STAND-BY FAN IS ENERGIZED, A RED PILOT LIGHT SHOWS AT THE REMOTE FAN CONTROLLER AND A SIGNAL IS SENT TO SCADA.

EF-3:

- FAN EF-3 IS CONTROLLED THRU TWO (2) SPACE TEMPERATURE SENSORS AND AN H-O-A SELECTOR SWITCH IN THE CONTROL PANEL.
- IN THE H (HAND) POSITION FAN RUNS CONTINUOUSLY.
- IN THE O (OFF) POSITION FAN IS DE-ENERGIZED.
- IN THE A (AUTO) POSITION THE FAN IS CONTROLLED BY THE TEMPERATURE SENSORS SET—POINT AND CYCLES ON/OFF. CONTROL TEMPERATURE IS AN AVERAGE OF THE READINGS AT THE TWO SENSORS.

SF-1 / SF-2:

- SF-1 FAN RUNS CONTINUOUSLY AND SF-2 IS INTERMITTENT USE.
- PROVIDE FLOW SWITCH AT EACH FAN DISCHARGE.
- IF A LOSS OF FLOW IS DETECTED A RED PILOT LIGHT SHOWS AT THE REMOTE FAN CONTROLLER AND A SIGNAL IS SENT TO SCADA.
- AT THE ENTRANCE DOOR TO THE SCREEN ROOM PROVIDE A WALL SWITCH FOR EACH FAN.





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 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA PUMPING STATION
REHABILITATION
MECHANICAL CONTROLS / SEQUENCE OF OPERATIONS

SHEET

| VIO.

DUCTLESS DX SPLIT SYSTEM SCHEDULE							
MARK	DAHU-1/DCU-1						
LOCATION	EQUIPMENT 103						
INDOOR UNIT INSTALLATION	WALL MOUNT						
REFRIGERANT	R-410A						
SEER	19.0						
COOLING CAPACITY (BTUH)	24000						
MAXIMUM AIRFLOW (CFM-WET)	740-660						
INDOOR UNIT ELECTRICAL (V/PH/HZ)	208/1/60						
INDOOR UNIT MCA/MOCP	1/-						
OUTDOOR UNIT ELECTRICAL (V/PH/HZ)	208/1/60						
OUTDOOR UNIT MCA/MOCP	17.1/20						
MANUFACTURER	MITSUBISHI						
MODEL (INDOOR/OUTDOOR)	MSY-GE24NA/MUY-GE24NA						

NOTES:

- 1 DISCONNECT FOR INDOOR AND OUTDOOR UNIT BY ELECTRICAL.
- 2 PROVIDE WALL MOUNTED WIRELESS PROGRAMMABLE THERMOSTAT.
- 3 PROVIDE INTEGRAL CONDENSATE PUMP IF NECESSARY.
- 4 PROVIDE INVERTER DRIVEN COMPRESSOR.

FAN SCHEDULE										
UNIT NO.	_	EF-1	EF-2	EF-3	EF-4	SF-1	SF-2			
LOCATION	_	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS			
AIR QUANTITY	CFM	8000	8000	2000	100	1600	1600			
EXT. STATIC PRESS.	IN. H₂O	0.5	0.5	0.25	0.25	0.25	0.25			
FAN TYPE	_	UTILITY	UTILITY	DOWNBLAST	CEILING	UTILITY	UTILITY			
DRIVE	_	BD	BD	DD	DD	BD	BD			
SONES	_	23	23	12.0	1.3	51 DBA	51 DBA			
MOTOR	HP	5	5	1/3	0.62A/52.5W	0.75	0.75			
FAN	RPM	622	622	1150	1100	782	782			
ELECTRICAL	V/φ/HZ	460/3/60	460/3/60	460/3/60	120/1/60	460/3/60	460/3/60			
CONTROLS	NOTE #	4	4	4	8	4	4			
MANUFACTURER	_	GREENHECK	GREENHECK	COOK	GREENHECK	COOK	COOK			
MODEL	_	SFB-20-50	SFB-20-50	ACE-B	SP-A125	165CPS	165CPS			
NOTES	NOTE #	1, 5, 6	1, 5, 6	2, 5, 6	9	3, 5, 7	3, 5, 7			

NOTES:

- 1 PROVIDE ROOF ANCHORING DETAILS.
- 2 PROVIDE 12" HIGH ROOF CURB. PROVIDE ROOF ANCHORING DETAILS.
- 3 PROVIDE WALL MOUNTED SELECTOR SWITCH BY TOP OF STAIRS TO SCREEN ROOM.
- 4 INTERLOCK AS PER CONTROLS / SEQUENCE OF OPERATIONS ON DRAWING V10.1.
- 5 PROVIDE DISCONNECT SWITCH. OUTDOOR DISCONNECTS SHALL BE NEMA 3 RATED.
- 6 PROVIDE BACKDRAFT DAMPER AND S.S. BIRD SCREEN.
- 7 PHENOLIC EPOXY FINISH U.V. RESISTANT.
- 8 INTERLOCK WITH LIGHTS DIV. 26.
- 9 PROVIDE UNIT MOUNTED AIR INTAKE GRILLE, BACKDRAFT DAMPER, SOLID STATE SPEED CONTROLER AND WALL CAP EQUAL TO GREENHECK MODEL WC.





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 C^{1TY} of T_{AMP_A} WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION MECHANICAL SCHEDULES VII.I

PLUMBING GENERAL NOTES.

- 1 CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION, TYPE, NUMBER, MOUNTING HEIGHTS AND INSTALLATION OF ALL PLUMBING FIXTURES (ADA COMPLIANT AND NON ADA COMPLIANT) AS PER LATEST ARCHITECTURAL DRAWINGS ISSUED AT BID TIME INCLUDING ALL ADDENDUMS.
- 2 CONTRACTOR SHALL VERIFY CLEARANCES NEEDED FOR FIXTURES INSTALLED IN CASEWORK. NOTIFY ARCHITECT / ENGINEER OF ANY CONFLICTS.
- 3 EACH INDIVIDUAL FIXTURE AND PIECE OF EQUIPMENT SHALL HAVE A SHUTOFF VALVE IN EACH WATER SUPPLY TO ALLOW FOR SERVICE WITHOUT INTERFERING WITH THE WATER SUPPLY OF OTHER FIXTURES OR EQUIPMENT.
- 4 UNLESS OTHERWISE NOTED, DOMESTIC WATER SHUT OFF VALVES SHALL BE FULLPORT BALL VALVE TYPE.
- 5 VERIFY THE EXACT LOCATION OF EXISTING SOIL, WASTE, VENT, HOT AND COLD WATER MAINS FROM THE ACTUAL JOB SITE.
- 6 MAKE OFFSETS AND DEVIATIONS FROM WORK SHOWN ON THE DRAWINGS AS MAY BE NECESSARY TO FIT THE ACTUAL SPACE CONDITIONS. NOTE SUCH CHANGES IN THE AS BUILT RECORD DRAWINGS.
- 7 WHERE VALVES OCCUR IN NON ACCESSIBLE CEILINGS OR ARE CONCEALED BEHIND WALLS, THIS CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS OF PROPER SIZE TO ALLOW FULL ACCESS WITH BOTH HANDS.
- 8 THE PLANS AND DIAGRAMS OF UTILITY RUNS ARE SCHEMATIC ONLY AND SHOULD NOT BE SCALED. INSTALLER SHALL COORDINATE SITE PLUMBING WORK WITH HVAC, FIRE SUPPRESSION AND ELECTRICAL WORK TO AVOID CONFLICT IN LOCATION WITH OTHER WORK UNDER THIS CONTRACT OR THAT MAY BE EXISTING. ALL CONFLICTS SHALL BE RESOLVED AT CONTRACTOR'S FIELD COORDINATION MEETINGS.
- 9 IF THE NEW CONNECTIONS TO THE EXISTING UTILITIES REQUIRE A SHUTDOWN OR INTERRUPTION OF EXISTING SERVICES, ALL PREPARATORY WORK UP TO THE POINT OF CONNECTION IS TO BE PERFORMED FIRST TO MINIMIZE DOWN TIME. PROVIDE AMPLE NOTICE TO ALL AFFECTED BY SHUTDOWN.
- 10 UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST ALL EQUIPMENT TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. ALL TESTING SHALL BE DONE BY QUALIFIED PERSONNEL AS PER TESTING PROCEDURES LISTED IN SPECIFICATIONS. SHOULD ANY PART OF THE SYSTEM FAIL TO MEET THESE REQUIREMENTS, ADJUST, REPAIR OR REPLACE ALL DEFECTIVE OR INOPERATIVE PARTS AND AGAIN CONDUCT THE COMPLETE PERFORMANCE TESTS.

SITE UTILITIES FIELD COORDINATION

- PLANS INDICATE THE CONNECTION OF THE BUILDING (SANITARY, STORM AND WATER) LINES TO SITE UTILITIES PROVIDED UNDER ANOTHER SECTION OF THE CONTRACT DOCUMENTS.
- PLUMBING INSTALLER TO VERIFY POINT OF CONNECTION TO SITE UTILITIES BEFORE COMMENCING INSTALLATION OF HIS LINES. IF, DUE TO FIELD CONDITIONS, ELEVATIONS OR POINT OF CONNECTION CANNOT BE MET, PLUMBING INSTALLER TO NOTIFY (CONTRACTOR FOR GENERAL CONSTRUCTION) (CONSTRUCTION MANAGER) AND ARCHITECT / ENGINEER BEFORE PROCEEDING WITH WORK. FAILURE TO PROVIDE SUCH NOTIFICATION ON A TIMELY MANNER WILL RESULT IN THE REJECTION OF ANY CLAIMS FROM THE INSTALLER AND THE CONTRACTOR.
- IF SITE UTILITIES ARE NOT IN PLACE WHEN PLUMBING INSTALLER COMPLETES HIS UNDERGROUND WORK, PLUMBING INSTALLER TO CLEARLY IDENTIFY END AND ELEVATION OF HIS LINES AND NOTIFY THE CONTRACTOR FOR GENERAL CONSTRUCTION OR CONSTRUCTION MANAGER. IN THAT CASE SITE UTILITIES INSTALLER SHALL COORDINATE FINAL CONNECTION.

PIPING MATERIALS

PLUMBING INSTALLER SHALL REFER TO SPECIFICATIONS FOR PIPING MATERIALS TO BE USED IN PROJECT.

PLUMBING DRAWING LIST

- PO.1 PLUMBING LEGEND, GENERAL NOTES, FIXTURE SCHEDULE
- **P2.1** PLUMBING UPPER LEVEL DEMOLITION PLAN
- P3.1 PLUMBING UPPER LEVEL PROPOSED PLANS
- **P7.1** PLUMBING DETAILS
- **P8.1** PLUMBING RISER DIAGRAMS





WOODROFFE CORPORATION ARCHITECTS 1315 E. SEVENTH AVENUE, SUITE 106 TAMPA, FL 33605

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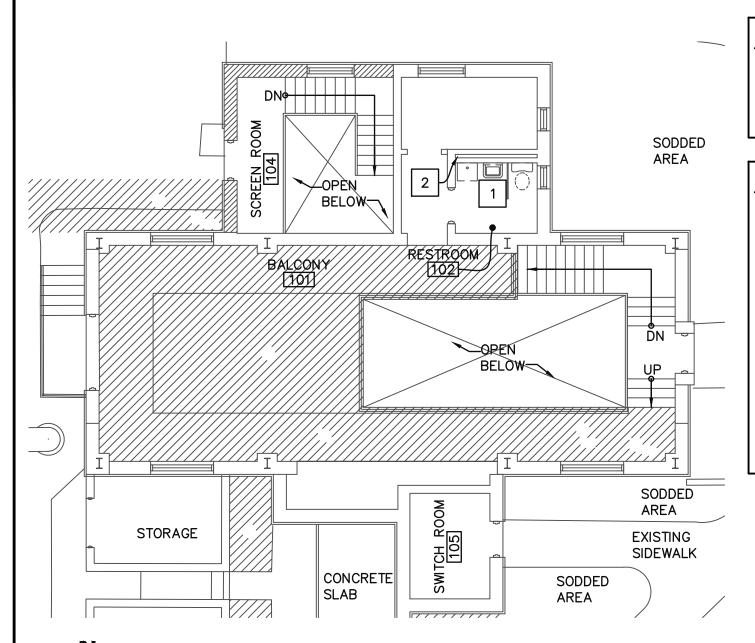
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 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION PLUMBING GENERAL SHEET

P0.1



PLUMBING UPPER LEVEL DEMOLITION PLAN 16'



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

PLUMBING DEMOLITION NOTES.

- 1 REMOVE EXISTING PLUMBING FIXTURES, ALL ASSOCIATED PIPING AND APPURTENANCES. COORDINATE WITH COT DRAWING M-5 AND ASSOCIATED DRAWINGS FOR FULL EXTENT OF PIPING REMOVAL.
- 2 REMOVE EXISTING STORM PIPING, ROOF DRAIN AND ASSOCIATED APPURTENANCES. COORDINATE WITH COT DRAWING M-5 AND ASSOCIATED DRAWINGS FOR FULL EXTENT OF PIPING REMOVAL.

PLUMBING DEMOLITION GENERAL NOTES.

- A FIXTURE REMOVAL:
 - 1 REMOVE ALL EXISTING PLUMBING FIXTURES THAT ARE DESIGNATED TO BE REMOVED UNDER THIS CONTRACT. DISCARD AND DISPOSE OF REMOVED PLUMBING FIXTURES.
- B PIPING REMOVAL:
 - 1 REMOVE ALL PLUMBING SYSTEM PIPING AS INDICATED IN THE CONTRACT DOCUMENTATION. SEE COT (CITY OF TAMPA) DRAWING M-5 AND ASSOCIATED DOCUMENTATION FOR FULL EXTENT OF PIPING REMOVAL. NO PIPING SHALL BE ABANDONED IN PLACE.
 - 2 PROVIDE AND INSTALL TEMPORARY PLUMBER'S TEST PLUGS INTO OPENED SANITARY SYSTEM PIPING AS WILL BE REQUIRED TO MINIMIZE THE RELEASE OF NOXIOUS GASES INTO PUBLIC AND WORKING SPACES.
 - 3 PRIOR TO THE REMOVAL OF ANY DOMESTIC WATER LINE, CONTRACTOR SHALL ENSURE THAT THE CONDITION OF EXISTING ISOLATION VALVE IS TOTALLY CAPABLE OF SHUTTING OFF THE WATER SUPPLY. IF VALVE IS DETERMINED TO BE DEFECTIVE, CONTRACTOR SHALL COORDINATE WITH ENGINEER FOR THE LOCATION OF AN ALTERNATIVE ISOLATION VALVE AND OBTAIN ENGINEERS DIRECTIVE FOR THE REPLACEMENT OF DEFECTIVE VALVE.



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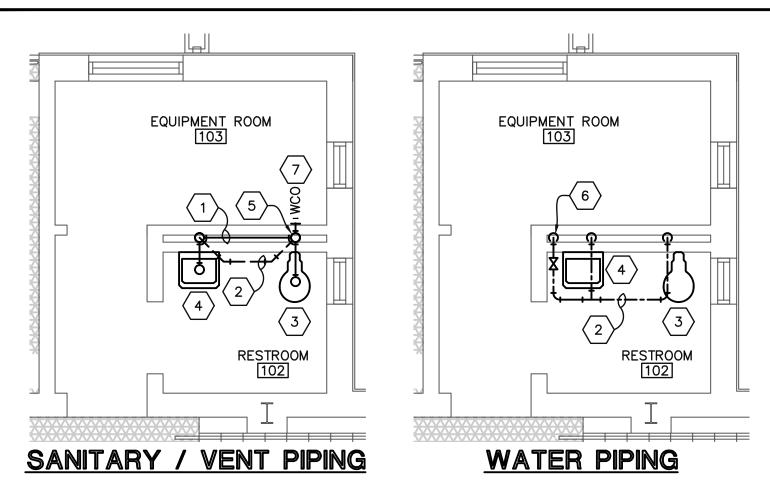
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 C^{1TY} of T_{AMP_A} WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION
REHABILITATION
PLUMBING UPPER LEVEL DEMOLITION PLAN

SHEET

P2.



SEE PLUMBING RISER DIAGRAMS ON DRAWING P8.1



PLUMBING RENOVATION NOTES:

- 1 PIPING BELOW UPPER LEVEL FLOOR.
- 2 PIPING ABOVE CEILING / HIGH IN SPACE.
- 3 NEW WATER CLOSET (WC) EQUAL TO AMERICAN STANDARD CHAMPION 4 ELONGATED RIGHT HEIGHT ONE-PIECÉ TOILET MODEL 2004.014, WHITE VITREOUS CHINA, ELONGATED BOWL WITH EXTRA HEAVY DUTY OPEN FRONT SEAT LESS COVER WITH STAINLESS STEEL CHECK HINGES.
- 4 NEW WALL HUNG LAVATORY (LAV) EQUAL TO AMERICAN STANDARD LUCERNE MODEL 0355.012, WHITE VITREOUS CHINA, WITH CHICAGO FAUCET MODEL 802-V317XKABCP, GRID STRAINER, 1-1/4" C.P., 17 GA. P-TRAP WITH CLEANOUT, LOOSE TEE KEY STOPS AND SUPPLY RISERS. PROVIDE FLOOR MOUNTED CARRIER, CONCEALED ARM SYSTEM (ZURN MODEL Z-1231) AND TANKLESS WATER HEATER (TWH; EEMAX MODEL EX32082 OR APPROVED EQUIVALENT; 208 V, SINGLE PHASE, 3 KW, 15A). COORDINATE MOUNTING HEIGHTS WITH ARCHITECT.
- 5 4" SANITARY LINE DOWN, 3" VTR. SEE DETAIL 0011, SECTION 15205 ON DRAWING P7.1. FOR SANITARY LINE CONTINUATION SEE COT (CITY OF TAMPA) DRAWING M-5 AND ASSOCIATED DRAWINGS.
- 6 3/4" COLD WATER LINE DOWN. FOR CONTINUATION SEE COT DRAWING M-5 AND ASSOCIATED DRAWINGS.
- 7 WALL CLEAN OUT (WCO). SEE DETAIL #005K, SECTION 15100 ON DRAWING P7.1.





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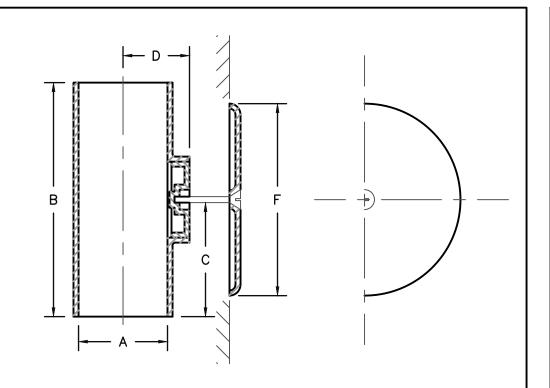
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CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION PLUMBING UPPER LEVEL PROPOSED PLANS

SHEET P3.1



	DIMENSIONS IN INCHES												
Α		N	Н			HB :	x SP						
PIPE SIZE	В	С	D	F	В	С	D	F					
2	6-3/8	3-3/16	1-3/4	5	10	4-1/2	2-3/4	5					
3	7-3/4	3-7/8	2-1/2	5	12	5-3/4	3	5					
4	8-7/8	4-7/16	3	7	12	5-3/4	3-1/2	7					
5	_	_	-	_	13	6-1/4	4	7					
6	12-1/2	6-1/4	4-5/16	9	14	6-3/4	4-1/2	9					
8	_	_	_	_	17	8-1/4	5-1/2	11					

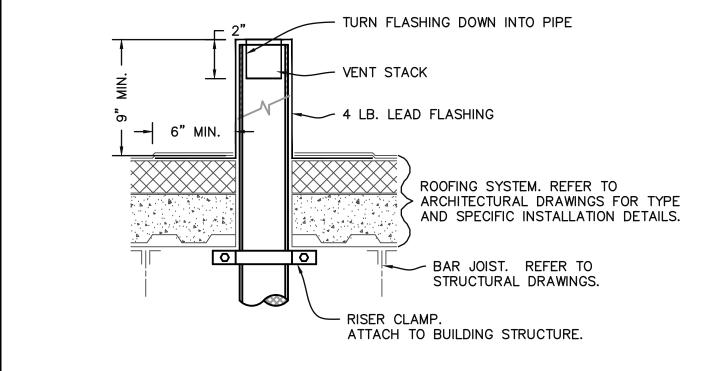
ACCEPTABLE MANUFACTURERS: ZURN, JOSAM, J.R. SMITH & WADE

WALL CLEANOUT WITH ROUND WALL ACCESS COVER NOT TO SCALE G.S.I. SECTION

SECTION - 15100

DETAIL # - 005K

08-14



NOTES:

- 1 ALL VENTS THROUGH ROOF (VTR) SHALL BE A MINIMUM OF 10'-0" FROM OUTSIDE AIR INTAKES.
- 2 ALL VTR FLASHING SHALL BE BY METAL ROOF MANUFACTURER.

VTR DETAIL

G.S.I. –	10-14
SECTION -	15205
DETAIL # -	0011





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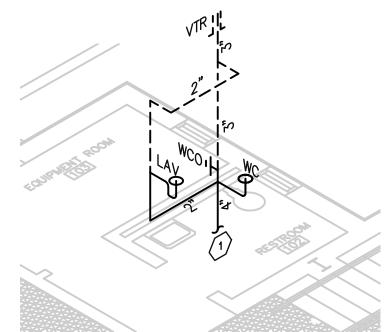
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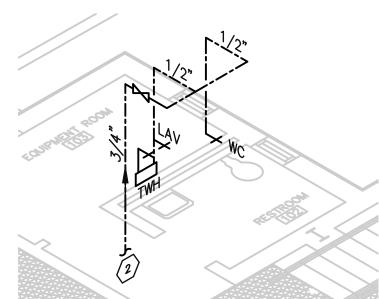
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CITY OF TAMPA
WASTEWATER DEPARTMENT

LOUISIANA PUMPING STATION REHABILITATION PLUMBING DETAILS SHEET

P7.I





SANITARY / VENT PIPING WATER PIPING PLUMBING RISER DIAGRAMS

NOT TO SCALE

PLUMBING RISER DIAGRAM NOTES:

- 1 4" SANITARY LINE DOWN. FOR SANITARY LINE CONTINUATION SEE COT (CITY OF TAMPA) DRAWING M-5 AND ASSOCIATED DRAWINGS.
- 2 3/4" COLD WATER LINE DOWN. FOR CONTINUATION SEE COT DRAWING M-5 AND ASSOCIATED DRAWINGS.





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LOUISIANA PUMPING STATION REHABILITATION PLUMBING RISER DIAGRAMS

P8.1

GENERAL STRUCTURAL NOTES

SCOPE OF WORK

1. WORK DETAILED ON THE DRAWINGS AND APPLICABLE ITEMS DESCRIBED IN THE GENERAL STRUCTURAL NOTES.

DRAWINGS AND SPECIFICATIONS

- 1. DO NOT SCALE DRAWINGS FOR DIMENSIONS NOT GIVEN.
- 2. ADVISE ENGINEER OF DIMENSIONAL DISCREPANCIES.
- 3. VERIFY ALL EXISTING FIELD CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
- 4. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK AT ANY TIME WITHOUT CONTRACT DOCUMENTS OR, WHERE REQUIRED, APPROVED SHOP DRAWINGS, PRODUCT DATA OR SAMPLES FOR SUCH PORTION OF THE WORK.

CONSTRUCTION SAFETY

1. THESE DRAWINGS DO NOT INCLUDE PROVISIONS TO SATISFY SAFETY REQUIREMENTS. CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING SAFETY DURING CONSTRUCTION AND FOR CONFORMANCE TO ALL APPLICABLE OSHA STANDARDS AND OTHER APPLICABLE CODES. JOBSITE VISITS BY ENGINEER SHALL NOT CONSTITUTE APPROVAL, AWARENESS OR LIABILITY FOR ANY HAZARDOUS CONDITIONS.

SHORING AND SUPPORT

- 1. WHEN REMOVAL OF STRUCTURAL ELEMENTS FOR MODIFICATIONS MAY CAUSE TEMPORARY WEAKNESS, EXCESSIVE DEFLECTIONS OR STRUCTURAL INSTABILITY, SHORING OR OTHER SUITABLE SUPPORTS SHALL BE PROVIDED UNTIL COMPLETION AND ADEQUATE CURING OF MODIFICATIONS.
- 2. THE CONTRACTOR SHALL SUBMIT CUT SHEETS WITH CERTIFIED CAPACITIES FOR SHORING TO BE USED. SHORING PLANS SHALL BE PREPARED, SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.

VALUE ENGINEERING

 ANY CHANGES TO THE STRUCTURE OR DESIGN SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.

FIELD MODIFICATIONS

- 1. ANY CHANGES TO THE STRUCTURE SHALL HAVE BEEN REVIEWED AND APPROVED IN WRITING BY THE ENGINEER PRIOR TO COMMENCING WORK ON ITEMS AFFECTED.
- 2. ANY CHANGES MADE WITHOUT PRIOR APPROVAL ARE SUBJECT TO REVIEW BY THE ENGINEER. CONTRACTOR SHALL PROVIDE SKETCHES, PHOTOGRAPHS AND WRITTEN DESCRIPTION OF EACH DEVIATION FROM THE PLANS FOR THE ENGINEER'S REVIEW.

BUILDING CODES AND SPECIFICATIONS

- 1. FLORIDA BUILDING CODE 6TH EDITION (2017).
- 2. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES ASCE 7-10.
- 3. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES ACI 530-05 / ASCE 5-05 / TMS 402-05.
- 4. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE ACI 318-08.
- 5. AISC MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
- 6. AWS STRUCTURAL WELDING CODE D1-1.

DESIGN LOADS

- DEAD LOADS
- A. TABLE C3-1: MINIMUM DESIGN LOADS, ASCE 7-10
- 2. LIVE LOADS A. ROOF ...

B. STAIRS AND EXIT WAYS	100 PSF
C. PUMP	6 TONS
D. MOTOR	6 TONS
E. TRANSFER CART	2500 LBS
G. PUMP ROOM	300 PSF
H. BAR SCREEN PLATFORM	150 PSF

3. WIND LOAD

ROBERT J.

A. DESIGN WIND SPEED, VULT150 MPH (3 SECOND GUST)

D. ENCLOSED BUILDING

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES 4. COMPONENT AND CLADDING

- A. SPECIALTY ENGINEER DESIGNING THE COMPONENTS AND CLADDING SHOULD DETERMINE THE TRIBUTARY AREA FOR SUCH COMPONENTS AND CLADDING AND USE THE TABLE FOR THE AREA EQUAL TO OR SMALLER THAN THE ACTUAL TRIBUTARY AREA.
- B. COMPONENTS AND CLADDING SUB-CONTRACTOR SHALL PROVIDE SIGNED AND SEALED DRAWINGS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

 DOCUMENTATION SHALL INCLUDED THE DESIGN OF THE COMPONENTS AND CLADDING, AND CONNECTIONS TO THE MAIN STRUCTURE.

VALL COMPONENTS	AND CLADDING						
			PRE	SSURE			
EFFECTIVE WIND	EXTERNAL PRE	SSURE COEFFICIE	NT GCp	INTERNAL PRESSURE	P (psf)		
AREA (SQ. FT.)	ZONE 4 ZONE 5			COEFFICIENT GCpi	ZONE 4	ZONE 5	
< 10	1.00	1.00		0.18	54.95	54.95	
20	0.95	0.95		0.18	52.62	52.62	
50	0.90	0.90		0.18	50.29	50.29	
100	0.81	0.81		0.18	46.10	46.10	
200	0.78	0.78		0.18	44.71	44.71	
500 <	0.70	0.70		0.18	40.98	40.98	
			SUC	TION			
EFFECTIVE WIND	EXTERNAL PRE	SSURE COEFFICIE	NT GCp	INTERNAL PRESSURE	P (psf)		
AREA (SQ. FT.)	ZONE 4	ZONE 5		COEFFICIENT GCpi	ZONE 4	ZONE 5	
< 10	-1.10	-1.40		-0.18	-59.61	-73.58	
20	-1.05	-1.30		-0.18	-57.28	-68.92	
50	-0.98	-1.15		-0.18	-54.02	-61.94	
100	-0.92	-1.02		-0.18	-51.23	-55.88	
200	-0.85	-0.95		-0.18	-47.97	-52.62	
500 <	-0.80	-0.80		-0.18	-45.64	-45.64	

^{*}WIND LOADS BASED ON LRFD VALUES

			PRES	SSURE			
EFFECTIVE WIND	EXTERNAL PRE	P (psf)	P (psf)				
AREA (SQ. FT.)	ZONE 4	ZONE 5		COEFFICIENT GCpi	ZONE 4	ZONE 5	
< 10	1.00	1.00		0.18	32.97	32.97	
20	0.95	0.95		0.18	31.57	31.57	
50	0.90	0.90		0.18	30.18	30.18	
100	0.81	0.81		0.18	27.66	27.66	
200	0.78	0.78		0.18	26.82	26.82	
500 <	0.70	0.70		0.18	24.59	24.59	
			SUC	CTION			
EFFECTIVE WIND	EXTERNAL PRE	SSURE COEFFICIEN	NT GCp	INTERNAL PRESSURE		P (psf)	
AREA (SQ. FT.)	ZONE 4	ZONE 5		COEFFICIENT GCpi	ZONE 4	ZONE 5	
< 10	-1.10	-1.40		-0.18	-35.77	-44.15	
20	-1.05	-1.30		-0.18	-34.37	-41.35	
50	-0.98	-1.15		-0.18	-32.41	-37.16	
100	-0.92	-1.02		-0.18	-30.74	-33.53	
200	-0.85	-0.95		-0.18	-28.78	-31.57	
500 <	-0.80	-0.80		-0.18	-27.38	-27.38	

*WIND LOADS BASED ON ASD VALUES



W 51

WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

	No.	DATE	REVISIONS	DES: R.R.
	3			DRN: R.C./R.M.
	2			CKD: R.R.
J. REINHART, P.E. E. NO. 50076	1			DATE: 05/17/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
GENERAL STRUCTURAL NOTES

SHEET

				PRESSURE			
EFFECTIVE WIND	EXTERNAL P	RESSURE COEF	FICIENT GCp	INTERNAL PRESSURE		P (psf)	
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE3
< 10	0.30	0.30	0.30	0.18	22.35	22.35	22.35
20	0.25	0.25	0.25	0.18	20.02	20.02	20.02
50	0.22	0.22	0.22	0.18	18.63	18.63	18.63
100 <	0.20	0.20	0.20	0.18	17.70	17.70	17.70
				SUCTION			
EFFECTIVE WIND	EXTERNAL P	RESSURE COEF	ICIENT GCp	INTERNAL PRESSURE		P (psf)	
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE3
< 10	-1.00	-1.80	-2.80	-0.18	-54.95	-92.21	-138.78
20	-0.98	-1.60	-2.30	-0.18	-54.02	-82.89	-115.49
50	-0.95	-1.30	-1.60	-0.18	-52.62	-68.92	-82.89
100 <	-0.90	-1.10	-1.10	-0.18	-50.29	-59.61	-59.61

OVERHANG COMP	OVERHANG COMPONENTS OF CLADDING										
SUCTION											
EFFECTIVE WIND	EXTERNAL P	RESSURE COEFI	FICIENT GCp	INTERNAL PRESSURE		P (psf)					
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE 3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE 3				
< 10	-1.70	-1.70	-2.80	-0.18	-87.55	-87.55	-138.78				
20	-1.65	-1.65	-2.20	-0.18	-85.22	-85.22	-110.83				
50	-1.62	-1.62	-1.40	-0.18	-83.82	-83.82	-73.58				
100 <	-1.60	-1.60	-0.80	-0.18	-82.89	-82.89	-45.64				
	<u>'</u>										

*WIND LOADS BASED ON LRFD VALUES

ROOF COMPONEN	ITS AND CLAD	DING - GABLE S	SLOPE ≤ 7°								
	PRESSURE										
EFFECTIVE WIND	EXTERNAL P	RESSURE COEFI	FICIENT GCp	INTERNAL PRESSURE	P (psf)						
ARFA (SQ. FT.)	70NF 1	70NF 2	7ONF3	COFFFICIENT GCpi	70NF 1	70NF 2	7ONF3				
< 10	0.30	0.30	0.30	0.18	13.41	13.41	13.41				
20	0.25	0.25	0.25	0.18	12.01	12.01	12.01				
50	0.22	0.22	0.22	0.18	11.18	11.18	11.18				
100 <	0.20	0.20	0.20	0.18	10.62	10.62	10.62				
				SUCTION							
EFFECTIVE WIND	EXTERNAL P	RESSURE COEFI	FICIENT GCp	INTERNAL PRESSURE		P (psf)					
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE3				
< 10	-1.00	-1.80	-2.80	-0.18	-32.97	-55.32	-83.27				
20	-0.98	-1.60	-2.30	-0.18	-32.41	-49.74	-69.29				
50	-0.95	-1.30	-1.60	-0.18	-31.57	-41.35	-49.74				
100 <	-0.90	-1.10	-1.10	-0.18	-30.18	-35.77	-35.77				

OVERHANG COMP	OVERHANG COMPONENTS OF CLADDING										
SUCTION											
EFFECTIVE WIND EXTERNAL PRESSURE COEFFICIENT GCp INTERNAL PRESSURE P (psf)											
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE 3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE 3				
< 10	-1.70	-1.70	-2.80	-0.18	-52.53	-52.53	-83.27				
20	-1.65	-1.65	-2.20	-0.18	-51.13	-51.13	-66.50				
50	-1.62	-1.62	-1.40	-0.18	-50.29	-50.29	-44.15				
100 <	-1.60	-1.60	-0.80	-0.18	-49.74	-49.74	-27.38				

*WIND LOADS BASED ON ASD VALUES

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,
THE PLANS AND SPECIFICATIONS COMPLY WITH
THE APPLICABLE MINIMUM BUILDING CODES

THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES					
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

 C^{1} of $T_{A}{}_{M}{}_{P_{A}}$ wastewater department

ZONE3

31.67
27.94
26.08
22.35

ZONE3

-129.46
-120.15
-110.83

P (psf)

ZONE 2

31.67

27.94

26.08

22.35

P (psf)

ZONE 2

-87.55

-81.96

-72.65

-64.27

P (psf)

ZONE 3

-180.69

-166.25

-139.71

-124.80

-101.52

ZONE 1

31.67

27.94

26.08

22.35

ZONE 1

-50.29

-47.97

-46.57

-45.64

ZONE 2

-110.83

-110.83

-110.83

-110.83

P₁ P₂ P₂ WINDWARD

PARAPET (LRFD)

 $P_1 = 54.95 PSF$

 $P_2 = 138.78 \text{ PSF}$

 $P_3 = 54.95 PSF$ $P_4 = 73.58 PSF$

P₃ LEEWARD

ROOF COMPONENTS AND CLADDING - GABLE SLOPE 7° < 0 < 27°										
PRESSURE										
EFFECTIVE WIND	EXTERNAL P	RESSURE COEF	FICIENT GCp	INTERNAL PRESSURE		P (psf)				
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE3	ONE3 COEFFICIENT GCpi		ZONE 2	ZONE3			
< 10	0.50	0.50	0.50	0.18	19.00	19.00	19.00			
20	0.42	0.42	0.42	0.18	16.76	16.76	16.76			
50	0.38	0.38	0.38	0.18	15.65	15.65	15.65			
100 <	0.30	0.30	0.30	0.18	13.41	13.41	13.41			
	•		S	UCTION						
EFFECTIVE WIND	EXTERNAL P	RESSURE COEF	FICIENT GCp	INTERNAL PRESSURE		P (psf)				
AREA (SQ. FT.)	ZONE 1	ZONE 2	ZONE3	COEFFICIENT GCpi	ZONE 1	ZONE 2	ZONE3			
< 10	-0.90	-1.70	-2.60	-0.18	-30.18	-52.53	-77.68			
20	-0.85	-1.58	-2.40	-0.18	-28.78	-49.18	-72.09			
50	-0.82	-1.38	-2.20	-0.18	-27.94	-43.59	-66.50			
100 <	-0.80	-1.20	-2.00	-0.18	-27.38	-38.56	-60.91			

PRESSURE

COEFFICIENT GCpi

0.18

0.18

0.18

INTERNAL PRESSURE

COEFFICIENT GCpi

-0.18

-0.18

-0.18

-0.18

COEFFICIENT GCpi

-0.18

-0.18

SUCTION

EXTERNAL PRESSURE COEFFICIENT GCp INTERNAL PRESSURE

ZONE3

0.50

0.42

0.38

0.30

ZONE3

-2.60

-2.40

-2.20

-2.00

EXTERNAL PRESSURE COEFFICIENT GCp INTERNAL PRESSURE

ZONE 2

0.50

0.42

0.38

0.30

EXTERNAL PRESSURE COEFFICIENT GCp

ZONE 2

-1.70

-1.58

-1.38

ZONE 3

-2.82

-2.50

OVERHANG COMPONENTS OF CLADDING									
SUCTION									
EFFECTIVE WIND	EXTERNAL PRESSURE COEFFICIENT GCp			INTERNAL PRESSURE		P (psf)			
AREA (SQ. FT.)	ZONE 2	ZONE 3		COEFFICIENT GCpi	ZONE 2	ZONE 3			
< 10	-2.20	-3.70		-0.18	-66.50	-108.41			
20	-2.20	-3.39		-0.18	-66.50	-99.75			
50	-2.20	-2.82		-0.18	-66.50	-83.82			
100 <	-2.20	-2.50		-0.18	-66.50	-74.88			

*WIND LOADS BASED ON ASD VALUES

ROOF COMPONENTS AND CLADDING - GABLE SLOPE 7° < 0 < 27°

ZONE 1

0.50

0.42

0.38

0.30

ZONE 1

-0.90

-0.85

-0.82

-0.80

ZONE 2

-2.20

-2.20

-2.20

OVERHANG COMPONENTS OF CLADDING

*WIND LOADS BASED ON LRFD VALUES

EFFECTIVE WIND

AREA (SQ. FT.)

100 <

EFFECTIVE WIND

AREA (SQ. FT.)

< 10

20

50

100 <

EFFECTIVE WIND

AREA (SQ. FT.)

50



WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

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LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
GENERAL STRUCTURAL NOTES

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FOUNDATIONS - REFER TO SPECIFICATION 03300

- 1. FOUNDATION DESIGN BASED ON 2000 PSF MINIMUM ALLOWABLE BEARING PRESSURE, THIS VALUE SHALL BE VERIFIED BY THE CONTRACTOR.
- NOTIFY ENGINEER IF FOOTING EXCAVATION REVEALS UNSUITABLE OR UNSTABLE SOILS OR MATERIALS OR CONDITIONS NOT PREVIOUSLY ANTICIPATED.
- 3. CONTRACTOR SHALL CONSIDER THE POSSIBLE IMPACT OF GROUNDWATER ON CONSTRUCTION TECHNIQUES, SEASONAL VARIATIONS, ANY OTHER SITE INDICATORS AND HIS OWN JUDGMENT.
- 4. SOIL DIRECTLY BELOW FOUNDATIONS AND SLAB ON GRADE SHALL BE COMPACTED TO 95% OF THE ASTM D 1557 (MODIFIED PROCTOR) MAXIMUM DRY DENSITY.
- 5. PREPARE SITE AND SOILS IN ACCORDANCE WITH REPORT OF GEOTECHNICAL ENGINEERING SERVICES PREPARED BY xxx, xxx. PROJECT NO. xxxx DATED xxxxxx.

PORTLAND CEMENT CONCRETE - REFER TO SPECIFICATION 03300

- 1. CONCRETE PROPERTIES
 - A. FOUNDATIONS, WALLS, BEAMS, AND COLUMNS 4000 PSI, 3" TO 5" SLUMP
 - B. FILLED CELLS IN CMU 3000 PSI, 8" TO 11" SLUMP, 3/8" PEA GRAVEL
 - C. SLABS ON GRADE 4000 PSI, 3" TO 5" SLUMP
- 2. FLY ASH SHALL NOT EXCEED 20 PERCENT BY WEIGHT OF TOTAL CEMENT, IF USED.
- 3. CONTRACTOR SHALL STRICTLY ADHERE TO SLUMP LIMITS. SUPERPLASTICIZER MAY BE USED AT THE CONTRACTORS OPTION TO INCREASE WORKABILITY.
- 4. MAXIMUM MIXING TIME (FROM BATCHING TO PLACEMENT)
 - A. AIR TEMPERATURE LESS THAN 85° F: 90 MINUTES
- B. AIR TEMPERATURE 85° F TO 90° F: 75 MINUTES
- C. AIR TEMPERATURE OVER 90° F: 60 MINUTES
- 5. MINIMUM COVER FOR REINFORCEMENT
 - A. FOOTINGS, 3 INCHES TO BOTTOM AND UNFORMED SIDES, 2 INCHES TO FORMED SIDES
 - B. OTHER, 2 INCHES TO MAIN REINFORCING, 1 ½" INCHES TO TIES AND STIRRUPS.
- ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE BY STANDARD ACCESSORIES DURING CONCRETE PLACEMENT.
- 7. REINFORCEMENT SHALL BE GRADE 60 CONFORMING TO ASTM A615.
- 8. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
- 9. DETAIL AND FABRICATE REINFORCEMENT IN ACCORDANCE WITH "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES," ACI 315.
- 10. PROVIDE MINIMUM LAP SPLICES PER ACI 318-08 FOR ALL REINFORCING BARS, UNLESS OTHERWISE NOTED. STAGGER SPLICES IN ADJACENT BARS AT LEAST 24 INCHES, EXCEPT IN BEAMS AND COLUMNS.
- 11. IN WALL FOOTINGS, GRADE BEAMS AND BOND BEAMS, PROVIDE BENT BARS AT CORNERS AND INTERSECTIONS OF THE SAME NUMBER AND SIZE AS STRAIGHT BARS.
- 12. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C309 TYPE 1 CLASS A. APPLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

CONCRETE SLAB ON GRADE - REFER TO SPECIFICATION 03300

- 1. THE INTENDED USE OF THE SLAB ON GRADE IS FOR PEDESTRIAN TRAFFIC ONLY.
- 2. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS: 4000 PSI
- 3. MINIMUM THICKNESS: 5 INCHES
- 4. MAXIMUM SLUMP AT POINT OF DELIVERY: 5 INCHES
- 5. MAXIMUM AGGREGATE SIZE: 1 INCH
- 6. ENTRAINED AIR CONTENT: 4.5%

TO THE BEST OF THE ENGINEER'S KNOWLEDGE

- WELDED WIRE FABRIC SHALL BE WWF 6X6-W1.4XW1.4, UNLESS OTHERWISE NOTED, CONFORMING TO ASTM A 185.
- 8. THE WELDED WIRE FABRIC SHALL BE PLACED IN THE CENTER OF THE DEPTH OF SLAB ON GRADE UNLESS OTHERWISE NOTED. ALL MESH JOINTS SHALL BE LAPPED TWO FULL MESHES.
- 9. INTERRUPT TYPICAL SLAB REINFORCEMENT AT ALL CONSTRUCTION AND EXPANSION JOINTS.
- 10. CUT ALTERNATE WIRES ALONG THE LINE OF SAW CUT CONTROL JOINTS PRIOR TO PLACING CONCRETE. MAKE SAW CUTS WITHIN 12 HOURS OF CONCRETE PLACEMENT, OR AS SOON AS CUTTING CAN BE DONE SUCH THAT THE SAW BLADE DOES NOT DISLODGE AGGREGATE AND THE EDGES OF THE CUT DO NOT RAVEL.
- 11. PROVIDE ½" PREFORMED EXPANSION JOINT MATERIAL WHERE SLAB ABUTS VERTICAL SURFACES SUCH AS WALLS AND COLUMNS.
- 12. PROVIDE TERMITE PROTECTION TO SOIL PER FLORIDA BUILDING CODE 2010 BEFORE SLAB PLACEMENT.
- 13. PROVIDE VAPOR RETARDER UNDER ALL SLABS ON GRADE IN ENCLOSED SPACE.

- 14. APPLY CURING COMPOUND TO SLAB WITHIN TWO HOURS OF COMPLETION OF FINISHING OPERATIONS. USE LIQUID MEMBRANE FORMING COMPOUND COMPLYING WITH ASTM C 309 TYPE 1 CLASS A. THE COMPOUND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 15. THE CONTRACTOR SHALL CONFIRM THAT THE CURING COMPOUND WILL NOT INTERFERE WITH THE BONDING OF ANY APPLIED FLOOR SURFACE. IF THE CURING COMPOUND IS FOUND TO INTERFERE WITH BONDING, THE USE OF WET BURLAP AND TRICKLE HOSES IS ACCEPTABLE.
- 16. FOR LARGE SLABS, IT IS RECOMMENDED THAT THE SLAB BE CAST IN ALTERNATING LONG STRIPS AND SAW CUT TRANSVERSELY TO MINIMIZE SHRINKAGE CRACKING.

CONCRETE MASONRY UNITS- REFER TO SPECIFICATIONS 04200 AND 04230

- 1. BLOCKS SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90 LATEST EDITION, TYPE II NON-MOISTURE CONTROLLED. THE MINIMUM NET AREA COMPRESSIVE STRENGTH SHALL BE 1500 PSI FOR AN AVERAGE OF THREE UNITS AND 1900 PSI FOR AN INDIVIDUAL UNIT. SAMPLE AND TEST MASONRY UNITS IN ACCORDANCE WITH ASTM C 140. SAMPLE AND TEST MASONRY GROUT FILL IN ACCORDANCE WITH ASTM
- 2. MORTAR SHALL CONFORM TO ASTM C 270 LATEST EDITION. MORTAR FOR ABOVE GRADE WORK SHALL BE TYPE S WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 1800 PSI. MORTAR FOR BELOW GRADE WORK SHALL BE TYPE M MORTAR WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI. SAMPLE AND TEST MORTAR IN ACCORDANCE WITH ASTM C 109.
- 3. PREFABRICATED HORIZONTAL JOINT REINFORCEMENT SHALL HAVE 9 GAGE SIDE RAILS FABRICATED FROM HIGH-STRENGTH COLD-DRAWN WIRE CONFORMING TO ASTM A 82 AND SHALL BE GALVANIZED AFTER FABRICATION. PLACE JOINT REINFORCEMENT IN ALTERNATE COURSES IN ALL WALLS. PLACE THREE ROWS AT 8 INCHES ON CENTER IMMEDIATELY ABOVE ALL WALL OPENINGS AND AT THE TOP OF ALL WALLS. LAP SIDE RAILS AT LEAST 6 INCHES AT SPLICES. JOINT REINFORCEMENT TO BE TRUSS-TYPE.
- 4. PROVIDE ALL SPECIAL, LINTEL, KNOCK-OUT, JAMB AND SASH BLOCK AS REQUIRED TO COMPLETE THE WALLS. MASONRY SAWS SHALL BE USED TO CUT THE BLOCK AS REQUIRED.
- 5. BRACE FOUNDATION WALLS BEFORE BACKFILLING AGAINST THEM TO PREVENT OVERSTRESSING, BUCKLING OR ROTATION OF THE WALLS. BRACE ALL WALLS AGAINST WIND, CONSTRUCTION LOADS OR OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NO LONGER REQUIRED FOR THE SAFE SUPPORT OF THE WALL. BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 6. IN ADDITION TO REQUIREMENTS ELSEWHERE IN THE DRAWINGS FOR FILLING MASONRY CELLS, FILL CELLS WITH CONCRETE AND ONE #5 BAR AT A MAXIMUM SPACING OF 48 INCHES UNLESS OTHERWISE NOTED. FILL FIRST CELL WITH CONCRETE AND ONE #5 BAR EACH SIDE OF ANY OPENING AND FILL FIRST CELL AT END OF WALL.
- 7. EXTEND AND HOOK VERTICAL BARS INTO FOOTING. EXTEND AND HOOK VERTICAL BARS INTO TOP OF WALL BOND BEAM OR TIE BEAM. PROVIDE HOOKS AND EXTEND VERTICAL BARS IN LINTELS AND BEAMS ABOVE OPENINGS.
- 3. ALL VERTICAL BARS SHALL BE SECURELY TIED TO THE LOWER BAR AT ANY SPLICES, ESPECIALLY AT THE FOOTING DOWELS. BARS SHALL BE SECURED IN THEIR PROPER POSITIONS WITHIN THE CELLS BY TIE WIRES, REBAR POSITIONERS OR BY OTHER APPROVED METHODS.
- 9. PROVIDE CLEANOUTS AND/OR INSPECTION PORTS FOR FILLING CELLS IN LIFTS EXCEEDING 5 FEET. LIFTS SHALL NOT
- 10. CONTROL JOINT SPACING ALONG A STRAIGHT WALL SHALL NOT EXCEED 25 FEET, NOR 3 TIMES THE WALL HEIGHT. USE PREFORMED NEOPRENE JOINT STRIPS AND STANDARD SASH BLOCKS.
- 11. PROVIDE CONTROL JOINTS IN ACCORDANCE WITH DETAILS ON THE DRAWINGS AND IN ACCORDANCE WITH THESE GUIDELINES:
 - A. AT CHANGES IN WALL HEIGHT
 - B. AT CHANGES IN WALL THICKNESS
 - C. AT WALL OPENINGS LESS THAN 6'-0" WIDE, ONE SIDE
 - D. AT WALL OPENINGS 6'-0" OR WIDER, BOTH SIDES
 - E. AT CONTROL JOINTS IN APPLIED PLASTER OR MASONRY VENEER
 - F. AT CHASES AND RECESSES FOR PIPES, COLUMNS, ETC.
- 12. IN ADDITION TO REQUIREMENTS ELSEWHERE IN THE DRAWING, PROVIDE A CONTINUOUS HORIZONTAL #5 IN FULLY GROUTED KNOCK OUT BLOCK BELOW WINDOW OPENINGS EXTENDED 8" BEYOND EACH SIDE OF OPENING.





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
GENERAL STRUCTURAL NOTES

SHEET

TO THE BEST OF THE ENGINEER'S KNOWLEDGE

STRUCTURAL STEEL - REFER TO SPECIFICATION 05120

- 1. ALL W-SHAPED STEEL (BEAMS AND COLUMNS) SHALL CONFORM TO ASTM A992 GRADE 50.
- 2. STEEL CHANNELS, ANGLES, PLATES, AND BARS CONFORM TO ASTM A36.
- 3. RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B, Fy = 46 KSI.
- 4. ROUND HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 GRADE B, Fy = 42 KSI.
- 5. STRUCTURAL STEEL PIPE SECTIONS SHALL CONFORM TO ASTM A53 GRADE B, Fy = 35 KSI.
- 6. ANCHOR BOLTS AND RODS SHALL CONFORM TO ASTM F1554 GRADE 55.
- 7. ALL BEAMS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP
- 8. ALL WELDS SHALL BE MADE WITH E70 LOW HYDROGEN ELECTRODES, BY QUALIFIED WELDERS AS PER AWS D1.1 REQUIREMENTS
- 9. ALL BOLTS, EXCEPT ANCHOR BOLTS, SHALL BE HIGH-STRENGTH ASTM A325, 3/4 IN. DIA., UNLESS NOTED OTHERWISE. USE HARDENED WASHERS UNDER TURNED ELEMENTS.
- 10. CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING, SHORING AND GUYING OF THE FRAMING AGAINST WIND, CONSTRUCTION LOADS OR OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NO LONGER REQUIRED FOR THE SAFE SUPPORT OF THE STRUCTURE.
- 11. RETURN ALL WELDS AT CORNERS TWICE THE NOMINAL WELD SIZE MINIMUM.
- 12. ANCHOR BOLTS SHALL BE FURNISHED WITH HEAVY HEX NUTS AND FLAT WASHERS AND SHALL BE THREADED WITH A NUT AT THE EMBEDDED END. TAC WELD NUT TO BOLT OR STRIKE THREADS.
- 13. ALL COPES, BLOCKS, CUTOUTS AND OTHER CUTTING OF STRUCTURAL MEMBERS SHALL HAVE ALL REENTRANT CORNERS SHAPED NOTCH-FREE TO A RADIUS OF 1/2 IN. MINIMUM.
- 14. ALL STRUCTURAL STEEL SHALL RECEIVE TWO SHOP COATS OF PRIMER PAINT CONFORMING TO THE PERFORMANCE REQUIREMENTS OF FEDERAL SPECIFICATION TT-P-636 OR EQUAL.
- 15. ENDS OF COLUMNS SHALL BE MILLED TO BEAR AT ALL SPLICES AND ATTACHMENT OF BASE PLATES.
- 16. WELDS NOT OTHERWISE DESIGNATED SHALL BE 1/4 IN. MINIMUM FILLET WELDS.
- 17. ADHESIVE ANCHORS SHALL BE THE HILTI HIT-RE 500 V3 ADHESIVE ANCHOR SYSTEM (OR APPROVED EQUAL) INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- 18. EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT 3 (OR APPROVED EQUAL) INSTALLED AS PER THE MANUFACTURERS RECOMMENDATIONS.
- 19. ALL STRUCTURAL STEEL THAT IS EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE GALVANIZED AS PER ASTM A 123.
- 20. WHEN SPECIFICALLY NOT DETAILED ON THE DESIGN DRAWINGS PROVIDE THE GREATER OF ONE OF THE FOLLOWING BEAM END CONNECTIONS:
 - A. MINIMUM 5/16 INCHES THICK DOUBLE ANGLE SHEAR CONNECTION, FULL DEPTH OF THE BEAM, WELDED OR BOLTED WITH VERTICAL BOLT SPACING = 3".
 - B. WHERE BEAM REACTIONS ARE SHOWN, CONNECTIONS SHALL DEVELOP THE REACTION GIVEN.
 - C. WHEN BEAM REACTIONS ARE NOT SHOWN, CONNECTIONS SHALL BE PROPORTIONED TO SUPPORT 60% OF THE TOTAL UNIFORM LOAD CAPACITY (ULC) SHOWN IN THE ALLOWABLE UNIFORM LOAD TABLES, PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL, FOR THE GIVEN BEAM, SPAN, AND GRADE OF STEEL SPECIFIED. FOR COMPOSITE BEAMS, PROPORTION CONNECTIONS FOR 100 % OF THE ULC.
 - D. CONNECTIONS SHALL BE PROPORTIONED FOR THE ECCENTRICITY BETWEEN THE CONNECTION CENTROID AND THE CENTROID OF THE SUPPORTING MEMBER.
- 21. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS PREPARED UNDER SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER, INCLUDING COMPLETE DETAILS AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL STEEL MEMBERS, PROCEDURES AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLES AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS SYMBOLS AND SHOW SIZE, LENGTH AND TYPE OF EACH WELD. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER WHO SUPERVISED THEIR PRODUCTION.

PRECAST PRESTRESSED CONCRETE/HOLLOW CORE SLAB - REFER TO SPECIFICATION 03415

- GENERAL: PROVIDE AND INSTALL PRECAST-PRESTRESSED HOLLOW CORE SLAB CONCRETE ROOF SLABS WHERE CALLED FOR ON THE DRAWINGS.
- TYPE OF SLAB:
 - A. ROOF SLABS SHALL BE "PERMA-SPAN" PRECAST-PRESTRESSED CONCRETE UNITS, AS FABRICATED BY CORE SLAB STRUCTURES, INC., ORLANDO, FLORIDA, OR APPROVED EQUAL.
 - B. ALL PERMA-SPAN DESIGNS SHALL CONFORM TO THE LATEST EDITIONS OF ACI BUILDING CODE (ACI 318), FLORIDA BUILDING CODE, AND ALL APPLICABLE LOCAL CODES.
 - C. DESIGN SUPERIMPOSED LIVE LOADS:

OOF:	.2 0 PSF
OOMS:	40 PSF
CORRIDORS:	80 PSF
XITWAYS:	100 PSF
ESIGN SUPERIMPOSED DEAD LOA	ADS:
OOF:	30 PSF (SEE MECHANICAL FOR ROOF MOUNTED UNITS)

FLOORS:20 PSF
EXHAUST FANS (VERIFY WEIGHT WITH MECHANICAL DRAWINGS) EF-1 AND EF-2 INCLUDING CURB......650 LBS
EF-3 INCLUDING CURB.......750 LBS

MATERIALS:

D.

- A. CONCRETE
 - i. CEMENT SHALL CONFORM TO ASTM C150
 - ii. AGGREGATES SHALL CONFORM TO ASTM C33 OR ASTM C330
 - iii. ADMIXTURES CONTAINING CALCIUM CHLORIDES SHALL NOT BE USED
- B. REINFORCEMENT:
- i. PRESTRESSING STEEL SHALL BE UNCOATED SEVEN-WIRE, STRESS-RELIEVED STRAND IN ACCORDANCE WITH ASTM A416. MINIMUM ULTIMATE TENSILE STRENGTH SHALL BE 250,000 PSI.
- ii. REINFORCING STEEL SHALL CONFORM TO A615, GRADE 60.
- C. STRUCTURAL SHAPES AND PLATES SHALL CONFORM TO ASTM A36
- D. BEARING STRIPS SHALL BE 1/8" TEMPERED HARDBOARD, MASONITE OR EQUAL.
- E. GROUT SHALL BE ONE PART PORTLAND CEMENT TO THREE PARTS FINE SAND.
- 4. SUBMITTALS
- A. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION, SHOWING IDENTIFYING MARKS OF EACH UNIT, OPENINGS REQUIRING HANGERS (OTHER THAN PLUMBING AND ELECTRICAL) AND ANCHORAGE DETAILS.
- B. DESIGN CALCULATIONS SHALL BE SUBMITTED WITH SHOP DRAWINGS AND SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA.





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
GENERAL STRUCTURAL NOTES

SHEET

STEEL STAIRS

- STAIR TREADS SHALL BE WELDED STEEL GRATING WITH 1" x 3/16" SERRATED BEARING BARS AT 1 3/16"
 CENTERS AND CROSS BARS AT 4" CENTERS. STAIR TREADS SHALL HAVE STEEL END PLATES AND
 CHECKERED PLATE NOSING.
- 2. STAIR TREADS SHALL BE SHOP ASSEMBLED TO STRINGERS.
- 3. ALL RISERS MUST BE EQUAL ON A SET OF STAIRS.
- 4. STAIR STRINGERS SHALL BE C10 X 15.3.

PIPE HANDRAIL

- 1. PIPE HANDRAIL SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B.
- 2. POSTS AND RAILS SHALL BE STANDARD WEIGHT 1 1/2 "NOMINAL DIAMETER PIPE.
- 3. TOE PLATES SHALL BE 4" x 1/4".
- 4. HANDRAIL SHALL BE SHOP ASSEMBLED WITH TOE PLATE IN COMPLETE PANELS REQUIRING NO FIELD SPLICES.
- 5. EACH HANDRAIL PANEL SHALL HAVE A MINIMUM OF TWO POSTS.
- 3. MINIMUM WELD SHALL BE 3/16" FILLET.
- 7. ALL WELDED JOINTS SHALL BE COMPLETELY SEALED.
- ALL JOINTS AND WELDS IN TOP RAIL SHALL BE GROUND SMOOTH.
- 9. BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIA. UNFINISHED BOLTS.
- 10. ALL CORNERS SHALL BE MITER CUT OR MINIMUM RADIUS BEND. CORNERS AT LADDER OPENINGS SHALL BE MITER CUT.
- 11. OPEN END OF ALL POSTS SHALL BE PLUGGED AND WELDED.

GUARDRAIL AND HANDRAIL

- 1. STAIRWAY GUARDRAIL AND HANDRAIL SYSTEM SHALL COMPLY AS APPLICABLE TO FLORIDA BUILDING CODE 6TH EDITION (2017) AND LOCAL BUILDING CODES.
- 2. PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW INDICATING COMPLETE GUARDRAIL AND HANDRAIL SYSTEM, BUT NOT LIMITED TO, PLANS, ELEVATIONS, DIMENSIONS, MEMBER SIZES, MEMBER PROFILES, CONNECTIONS, FASTENERS, MATERIALS, AND TECHNICAL DATA.
- 3. SHOP DRAWINGS BEARING THE SIGNATURE AND SEAL OF THE SPECIALTY ENGINEER IN RESPONSIBLE CHARGE OF THEIR PREPARATION SHALL BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW

STRUCTURAL STAINLESS STEEL

- 1. PLATES, BARS, CHANNELS AND ANGLES SHALL CONFORM TO ASTM A276 STANDARD SPECIFICATION FOR STAINLESS STEEL BARS AND SHAPES, ALLOY TYPE 316. TUBES SHALL CONFORM TO ASTM A554, ALLOY TYPE 316. STAINLESS STEEL SHEETS SHALL CONFORM TO ASTM A240 (OR ASTM A666), ALLOY TYPE 316.
- 2. ALL WELDS SHALL BE MADE BY QUALIFIED WELDERS WITH ELECTRODES AS PER AWS REQUIREMENTS FOR STAINLESS STEEL (AWS D1.6 STRUCTURAL WELDING CODE STAINLESS STEEL, AWS E/ER 308 OR 312 FILLER METAL).
- 3. ALL FRAMING MEMBERS SHALL BE CONNECTED WITH FULL WELDS AT MEMBER INTERFACES. WELDS NOT OTHERWISE DESIGNATED SHALL BE 3/16 INCH MINIMUM FILLET.
- 4. RETURN ALL WELDS AT CORNERS TWICE THE NORMAL WELD SIZE MINIMUM.
- 5. ALL BOLTS SHALL CONFORM TO ASTM F593 STAINLESS STEEL SPECIFICATION, ALLOY TYPE 316, ¾ INCH DIAMETER, UNLESS NOTED OTHERWISE.
- ALL NUTS SHALL CONFORM TO ASTM F594 STAINLESS STEEL SPECIFICATION, ALLOY TYPE 316, UNLESS NOTED OTHERWISE.
- 7. ALL COPES, BLOCKS, CUTOUTS AND OTHER CUTTING OF STRUCTURAL MEMBERS SHALL HAVE ALL RE-ENTRANT CORNERS SHAPED NOTCH-FREE TO A RADIUS OF ½ INCH MINIMUM.

TROLLEY CRANE STRUCTURAL PERFORMANCE REQUIREMENTS

- 1. EXISTING 12WF40 AND 12WF45 BEAMS SUPPORTING EXISTING CRANE RAILS ARE TO REMAIN.
- 2. EXISTING CRANE RAILS (TO BE VERIFIED IN THE FIELD): ASCE 30 LBS, 3-1/8" DEPTH, 3-1/8" BASE WIDTH.
- 3. CENTER LINE TO CENTER LINE OF CRANE RAILS (TO BE VERIFIED IN THE FIELD): 16'-2"
- 4. NEW TROLLEY CRANE CONFIGURATION: SINGLE GIRDER SPANNING BETWEEN EXISTING 12WF BEAMS AND RAILS, WITH HOIST, TROLLEY, END TRUCKS, BRIDGE COMPONENTS AND ALL NECESSARY ANCILLARY ELEMENTS FOR OPERATION.
- 5. CAPACITY OF NEW TROLLEY CRANE: 7.5 TONS.
- 6. ALL EXISTING TROLLEY CRANE ACCESSORIES (I.E., STOPS, RAILS, SPLICES, CONNECTIONS, ETC.) SHALL BE REPAIRED OR REPLACED RESULTING IN A FULLY OPERATIONAL SYSTEM FOR THE TRANSPORT AND MANEUVERING PUMP STATION EQUIPMENT. NEW SYSTEM SHALL MEET ALL CURRENT OSHA REQUIREMENTS.

REVISIONS

- 7. NEW RAIL STOPS AT WEST ENDS OF CRANE BEAMS SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH NEW EXHAUST FAN DUCT WORK.
- 8. AFTER INSTALLATION, PERFORM FIELD LOAD TEST PER OSHA REQUIREMENTS.

DATE

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076

GUARD RAIL AND HANDRAIL DESIGN NOTES

- 1. THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT TECHNICAL DATA, SPECIFICATION, AND LABORATORY TEST RESULTS THAT VALIDATE PRODUCT COMPLIANCE WITH THE REQUIREMENTS FOR THE PROJECT. SHOW COMPLETE LAYOUT; PLAN VIEWS, ELEVATIONS CONNECTIONS, DETAILS FOR FABRICATION AND ATTACHMENT TO OTHER ELEMENTS, AND OTHER INSTALLATION DETAILS.
- 2. INCLUDE CALCULATIONS AND MEASUREMENTS SIGNED AND SEALED BY A FLORIDA REGISTERED PE ENGINEER RESPONSIBLE FOR THE SYSTEM'S STRUCTURAL DESIGN.
- 3. THE CONTRACTOR SHALL ISSUE CERTIFICATES OF WARRANTY STATING THAT ALL MATERIALS HAVE BEEN INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS. PROVIDE A 5 YEAR WARRANTY AGAINST WORKMANSHIP AND FINISH
- 4. ALL SUBMITTALS FOR SUBSTITUTIONS MUST BE MADE IN WRITING TO THE ENGINEER WITH SUPPORTING TECHNICAL DATA SHEETS AND TEST DATA SHOWING COMPLETE EQUIVALENT PERFORMANCE.
- 5. STRUCTURAL PERFORMANCE OF RAILING SYSTEM: ENGINEER, FABRICATE, AND INSTALL HAND RAILING SYSTEMS TO WITHSTAND ALL APPLICABLE STRUCTURAL LOADS AS INDICATED MEET OR EXCEED APPLICABLE BUILDING CODES.
- 6. ALL FASTENERS TO BE CORROSIVE RESISTANT GALVANIZED. FASTENER SIZE AND TYPE SHALL BE AS PER THE MANUFACTURER'S ENGINEERED DRAWINGS. FASTENERS SHALL BE COATED OR ISOLATED (NEOPRENE WASHERS), IF REQUIRED, TO INHIBIT GALVANIC ACTION.
- 7. GUARDRAIL/HANDRAIL SYSTEMS SHALL BE DESIGNED FOR A SINGLE CONCENTRATED LOAD OF 200 LBS. APPLIED IN ANY DIRECTION AT ANY POINT ON THE TOP OF THE GUARDRAIL AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE. THIS LOAD NOT BE ASSUMED TO ACT CONCURRENTLY WITH THE LOADS SPECIFIED IN FBC §1607.7.1. (FBC §1607.7.1.1).
- 8. GUARDRAIL/HANDRAIL SYSTEMS SHALL BE DESIGNED FOR TO RESIST A LOAD OF 50 POUNDS PER LINEAL FOOT OR A CONCENTRATED LOAD OF 200 POUNDS APPLIED IN ANY DIRECTION AT THE TOP OF SUCH BARRIERS AT ANY LOCATION ON THE SAFEGUARD, WHICHEVER CONDITION PRODUCES THE MAXIMUM STRESSES. THE REACTIONS AND STRESSES CAUSED BY THE ABOVE REFERENCED UNIFORM AND CONCENTRATED LOADS SHALL BE CONSIDERED NOT BE ACTING SIMULTANEOUSLY (FBC HVHZ §1618.4.6.1).
- 9. COMPONENTS INTERMEDIATE RAILS (ALL THOSE EXCEPT THE HANDRAIL), BALUSTERS AND PANEL FILLERS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 POUNDS ON AN AREA EQUAL TO 1 SQ. FT., INCLUDING OPENINGS AND SPACE BETWEEN RAILS. REACTIONS DUE TO THIS LOADING ARE NOT REQUIRED TO BE SUPERIMPOSED WITH THOSE OF FBC §1607.7.1 OR 1607.7.1.1. (FBC §1607.7.1.2).
- 10. IN HVHZ, INTERMEDIATE RAILS, BALUSTERS AND PANEL FILLERS ARE DESIGNED FOR A UNIFORM HORIZONTAL LOAD OF NOT LESS THAN 25 POUNDS PER SQUARE FOOT OVER THE GROSS AREA OF THE GUARD, INCLUDING THE AREA OF ANY OPENINGS IN THE GUARD, OF WHICH THEY ARE A PART WITHOUT RESTRICTION BY DEFLECTION. REACTIONS RESULTING FROM THIS LOADING NEED NOT BE ADDED TO THE LOADING SPECIFIED IN FBC

STEEL CHECKERED / RAISED PATTERN FLOOR PLATE

- CHECKERED / RAISED PATTERN PLATE SHALL BE FABRICATED FROM STEEL CONFORMING TO ASTM A36, WITH NON-SLIP, RAISED DIAMOND PATTERN. NOMINAL THICKNESS SHALL BE 1/4 - INCH UNLESS OTHERWISE NOTED ON THE DESIGN DRAWINGS.
- CHECKERED PLATE SHALL BE WELDED TO THE SUPPORT FRAMING UNLESS OTHERWISE NOTED ON THE DESIGN DRAWINGS.
 WELDS AT PERIMETER AND INTERIOR SPLICE FRAMING SHALL BE MINIMUM 3/16 FILLET BY 1-1/2 INCHES LONG AT 8-INCH
 CENTERS, STAGGERED AT SPLICES. USE 9/16 INCH PLUG WELDS AT 12 INCH CENTERS WHEN PLATE IS CONTINUOUS
 OVER FRAMING.
- 3. REMOVABLE CHECKERED PLATE SHALL BE FASTENED TO SUPPORT FRAMING WITH "FLOOR-FAST" FLOOR PLATE FASTENERS AS MANUFACTURED BY STRUCT-FAST, INC., OR APPROVED EQUAL. CHECKERED PLATE SPLICES SHALL BE AT SUPPORT BEAMS. FASTENERS SHALL BE PROVIDED ALL AROUND THE PERIMETER OF A PLATE PANEL. MAXIMUM SPACING BETWEEN ADJACENT FASTENERS SHALL BE 18 INCHES. SPECIFICATIONS:

Castings:

Malleable iron to DIN 1692, corresponding to ANSI/ASTM A47-84-32510, tapped for a 1/2" countersunk flat socket cap bolt Cap bolt corresponds to ANSI B18.3 1976

Galvanizing to ASTM Specification B695 Class 50

Weight per 100 units: 34 lbs.

Torque recommendations: Floor-Fast: 16 ft. lbs





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

DES: R.R.

DRN: R.C./R.M.

CKD: R.R.

DATE: 05/17/18CITY of T_{AMP_A} WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
GENERAL STRUCTURAL NOTES

SHEET

@	AT	(1.)	LONG
ABUT.	ABUTMENT	(L) LAT.	LATERAL
A.F.F.	ABOVE FINISH FLOOR	L.H.	LEFT HAND
AB. ARCH.	ANCHOR BOLT ARCHITECTURAL/	L.G. L.W.	LIGHT GAUGE LONG WAY
АКСП.	ARCHITECTURAL/ ARCHITECT'S (DRAWINGS)	L.VV. LIN. FT.	LINEAR FOOT
L.	ANGLE	LLO	LONG LEG OUT
Ľ'S	ANGLES	LLV	LONG LEG VERTICAL
B. B/	BOTTOM BOTTOM OF	LONG. MAT'L.	LONGITUDINAL MATERIAL
B.B.	BOTTOM BAR	MAX.	MAXIMUM
B.J.	BAR JOIST	MECH.	MECHANICAL
BCK.	BACK BASELINE	MIN. MSL	MINIMUM MEAN SEA LEVEL
BE Bridg.	BRIDGING	MPH	MILES PER HOUR
BRNG.	BEARING	NO.	NUMBER
BOT.	BOTTOM	N.S.	NON-SHRINK
BLDG. Ç	BUILDING CENTERLINE	O.C. O.C.E.W.	ON CENTER ON CENTER EACH WAY
Č. то с.	CENTER TO CENTER	OPNG.	OPENING
C.I.P.	CAST IN PLACE	O.H.	OPPOSITE HAND
CLR. C.M.U.	CLEAR CONCRETE MASONRY UNIT	O.D. O.F.P.	OUTSIDE DIAMETER OUTSIDE FACE OF PANEL
C.M.U.	COLUMN	PAV'T.	PAVEMENT
CONC.	CONCRETE	PL.	PLATE
CONT.	CONTINUOUS	PT. P.T.	POINT PRESSURE TREATED
CONST. C.J.	CONSTRUCTION CONSTRUCTION JOINT	PSF	POUND PER SQUARE FOOT
CU. FT.	CUBIC FOOT	PSI	POUNDS PER SQUARE INCH
CU. IN.	CUBIC INCH	P.G. PROP.	PROFILE GRADE PROPOSED
CU. YD. DET.	CUBIC YARD Detail	RAD.	RADIUS
DIA.	DIAMETER	REINF.	REINFORCING
Ø	DIAMETER STRUC. STL.	REQ. REQ'D.	REQUIRE REQUIRED
DWG. DWGS.	DRAWING DRAWINGS	REQ D. REQMTS.	REQUIREMENTS
EA.	EACH	R.H.	RIGHT HAND
EL.	ELEVATION	(S) SECT	SHORT SECTION
ELEV. EQ.	ELEVATION EQUALLY/EQUAL		SIMILAR
E.W.	EACH WAY	SIM. SPL. SP.	SPLICE
EXP.	EXPANSION	SP. S.F.	SPACE OR SPACING
EXIST. EXT.	EXISTING EXTERIOR	3.F. S.W.	SQUARE FOOT SHORT WAY
F.B.	FIELD BEND	S.Y.	SQUARE YARD
FIN. FLR.	FINISH FLOOR	STD.	STANDARD
F.F. FLR.	FINISH FLOOR FLOOR	STA. STL.	STATION STEEL
FLNG.	FLANGE	STFNR.	STIFFENER
FT.	FOOT	STRUC.	STRUCTURAL
FTG. FND.	FOOTING FOUNDATION	SYMM. T.	SYMMETRICAL TOP
FRMG.	FRAMING	T/	TOP OF
GALV.	GALVANIZED	T.B.	TOP BAR
GA. G/B	GAGE GIRDER BEARING	T & B T/J	TOP AND BOTTOM TOP OF BAR JOIST
H.S.	HIGH STRENGTH	T/P	TOP OF PANEL
HK.	HOOK	TRANS.	TRANSVERSELY/TRANSVERSE
HORIZ. H.S.A.	HORIZONTAL HEADED STUD ANCHOR	T/W TYP.	TOP OF WALL TYPICAL
IN.	INCH	U.N.O.	UNLESS NOTED OTHERWISE
I.D.	INSIDE DIAMETER	V.I.F.	VERIFY IN FIELD
INT. ISO.	INTERIOR ISOLATION	WT. WWR	WEIGHT WELDED WIRE REINFORCING
J/B	JOIST BEARING	W.F.	WIDE FLANGE
JT.	JOINT	W/	WITH WORK POINT
KIP. K.O.	KILOPOUNDS (KIPS.) KNOCK-OUT	W.P. YD.	YARD

(in.) 0.375	CASE 1 (in.)	CASE 2 (in.)			
` ′	(in.)	(in.)			
0.375			_		
0.375	4.0	07			
	18	27			
0.5	24	36			
0.625	29	44			
0.75	35	53			
0.75	- 55	- 55			
0.875	42	62			
1	48	71			
EQUIREME	ENTS:				
MINIMUM CO	OVER OF d	∟ I₅ IS PROV	IDED ALONG		
OR MINIMUM CLEAR COVER OF dh AND A					
	0.625 0.75 0.875 1 EQUIREMENTAL MINIMUM CO	0.625 29 0.75 35 0.875 42 1 48 EQUIREMENTS: MINIMUM COVER OF d	0.625 29 44 0.75 35 53 0.875 42 62 1 48 71		

REINFORCING MINIMUM DEVELOPMENT
S1.5 NOT TO SCALE

CASE 2: DOES NOT MEET CASE 1 REQUIREMENTS

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS GENERAL STRUCTURAL NOTES

Bollereinhort
ENGINEERING GROUP INC.
3434 colwell avenue suite 100, tampa, florida 33614
telephone: 813.908.7203 fax: 813.931.5200
email: info@billereinhort.com

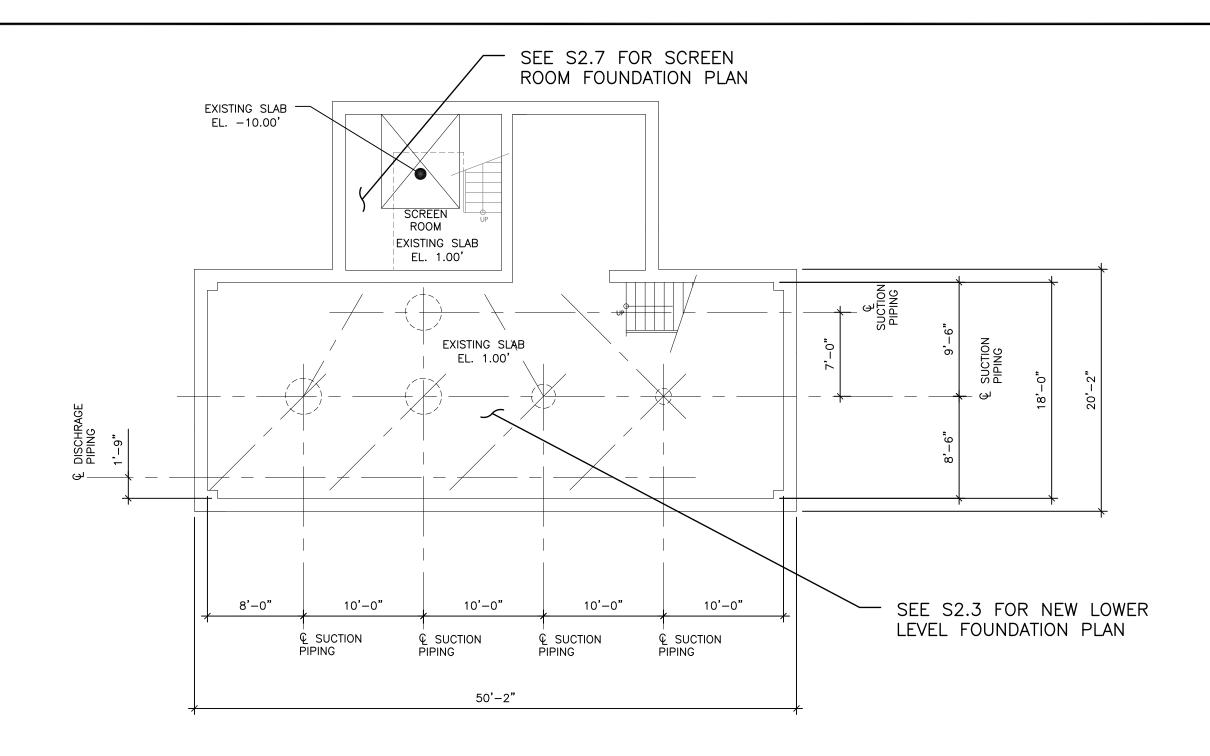
email: info@billerreinhart.com State of Florida Certificate of Authorization No. 9149

WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

SHEET SI.5

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,









1 LOWER LEVEL EXISTING PLAN S2.0 SCALE: 1/8" = 1'-0"

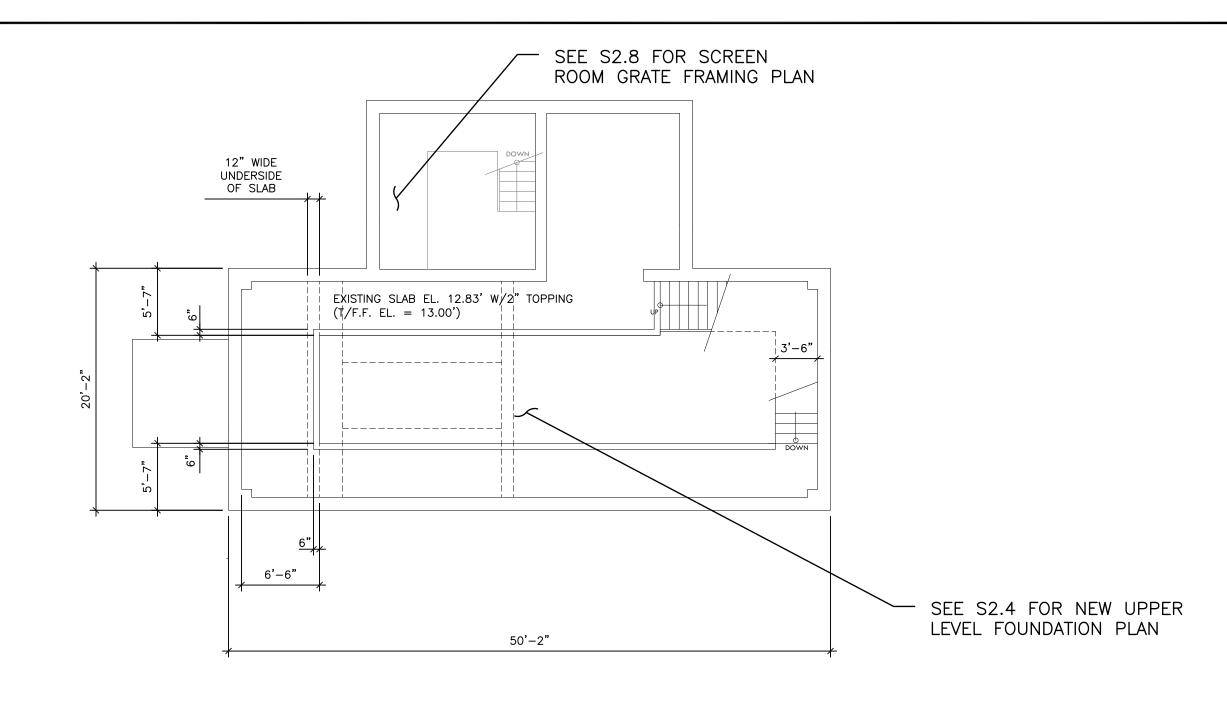
THE APPLICABLE MINIMUM BUILDING CODES					
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	. 2			CKD:	R.R.
Robert J. Reinhart, P.E. Fl. P.E. No. 50076	1			DATE	: 05/17/18

 $C^{1\mathrm{TY}}$ of $T_{A}{}_{MP_{\mathcal{A}}}$ wastewater department

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
LOWER LEVEL EXISTING PLAN

S2.0

SHEET





State of Horida Certificate of Authorization No. 914



WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

1 UPPER LEVEL EXISTING PLAN

S2.1 SCALE: 1/8" = 1'-0"

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

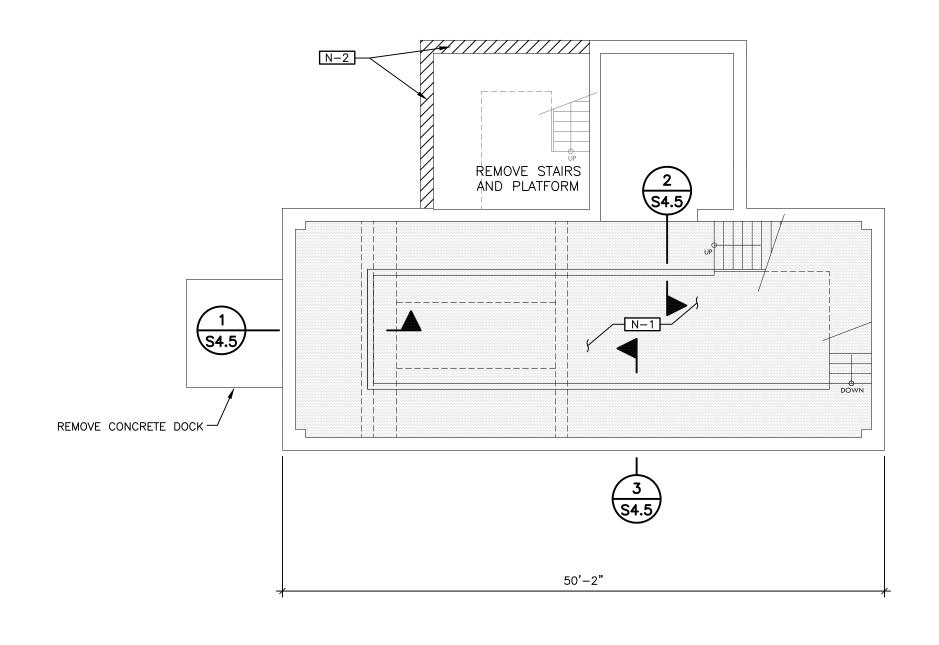
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
DODEDT I DEPUILANT DE	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

 C^{1} TY of $T_{A}{}_{M}{}_{P_{A}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
UPPER LEVEL EXISTING PLAN

S2.I

SHEET



NOTES

N-1 DEMOLITION AREA

EXTERIOR CONCRETE/CMU WALL TO BE LOWERED REFERENCE S2.6





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA C001379

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

				DEMOLITION	<u>PLAN</u>	a
1	S2.2	SCALE:	1/8" =	1'-0"		7

	No.	DATE	REVISIONS	DES:	R.R.			
	3			DRN:	R.C./R.M.			
DODEST I DENILLADI DE	2			CKD:				
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18			

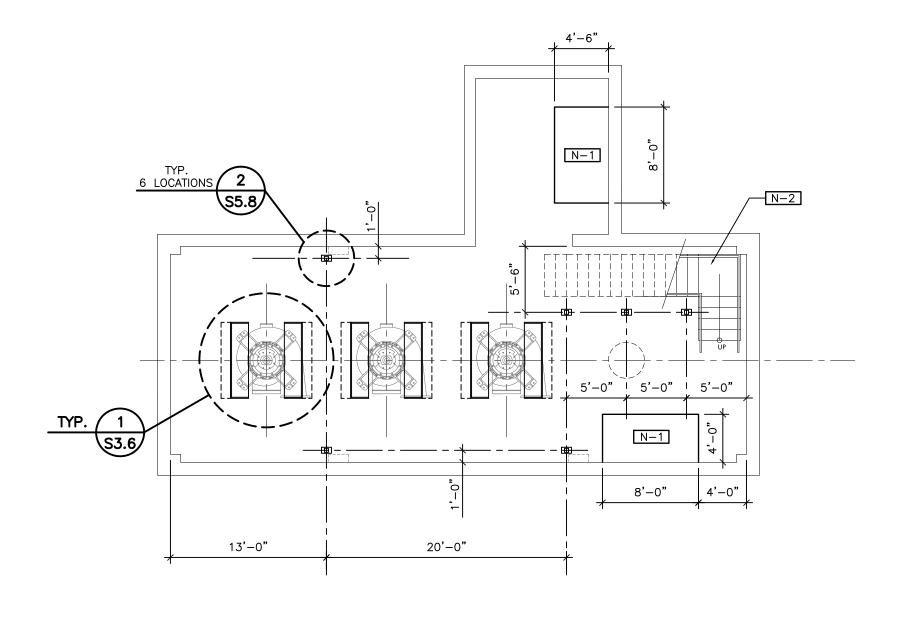
 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
EXISTING DEMOLITION PLAN

SHEET

S2.2

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,



NOTES

MECHANICAL PAD SEE DETAIL 4/S4.5.

PROPOSED STEEL STAIRS. SEE DETAIL 1/S3.3 AND 1/3.4





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

1 LOWER LEVEL FOUNDATION PLAN

S2.3 SCALE: 1/8" = 1'-0"

DES:	R.R.	
DRN:	R.C./R.M.	
CKD:	R.R.	١,
DATE	: 05/17/18	'

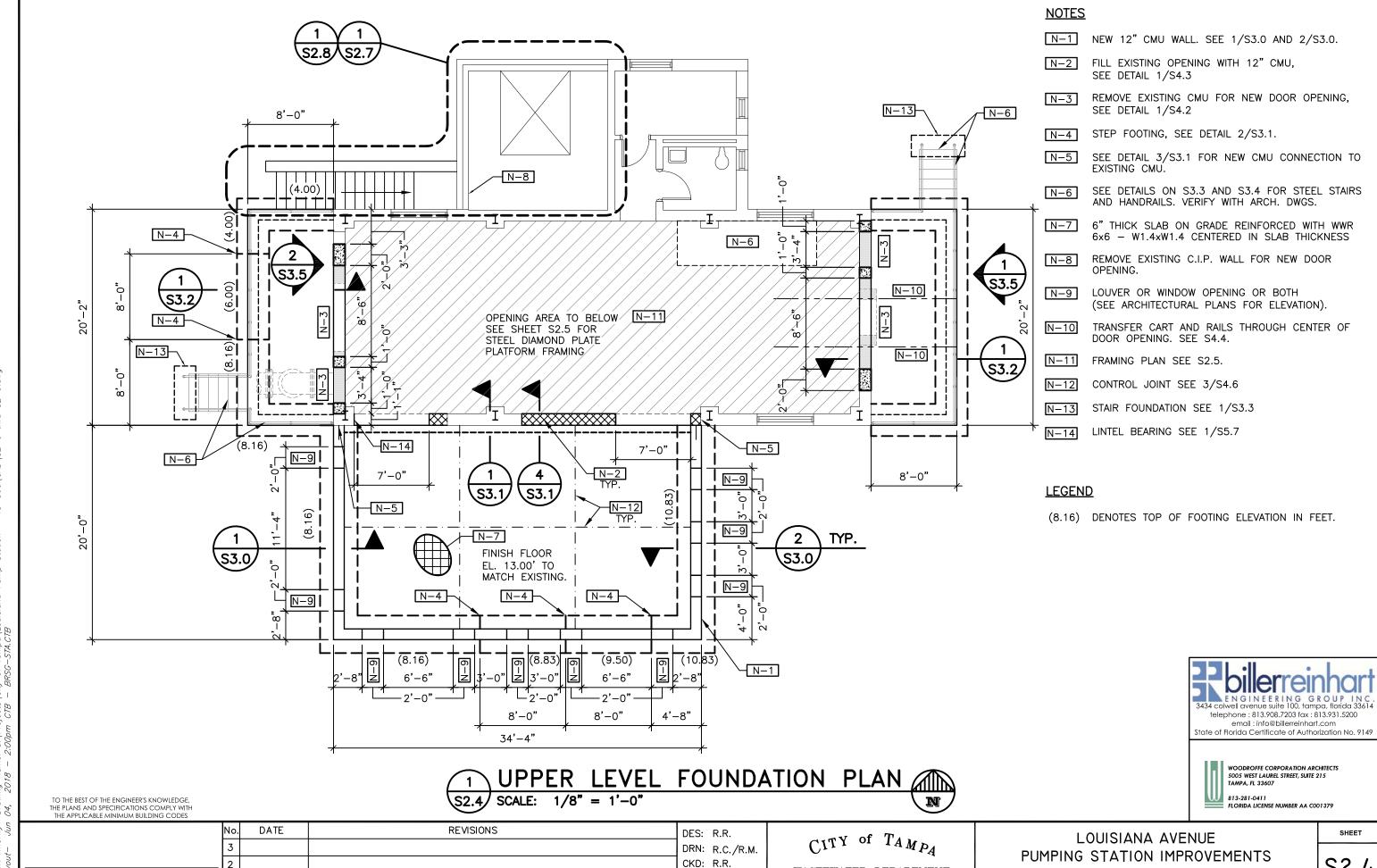
CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS LOWER LEVEL FOUNDATION PLAN

S2.3

SHEET

THE APPLICABLE MINIMUM BUILDING CODES					
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M
200527 1 250 111 2 5	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE:	05/17/



DATE: 05/17/18

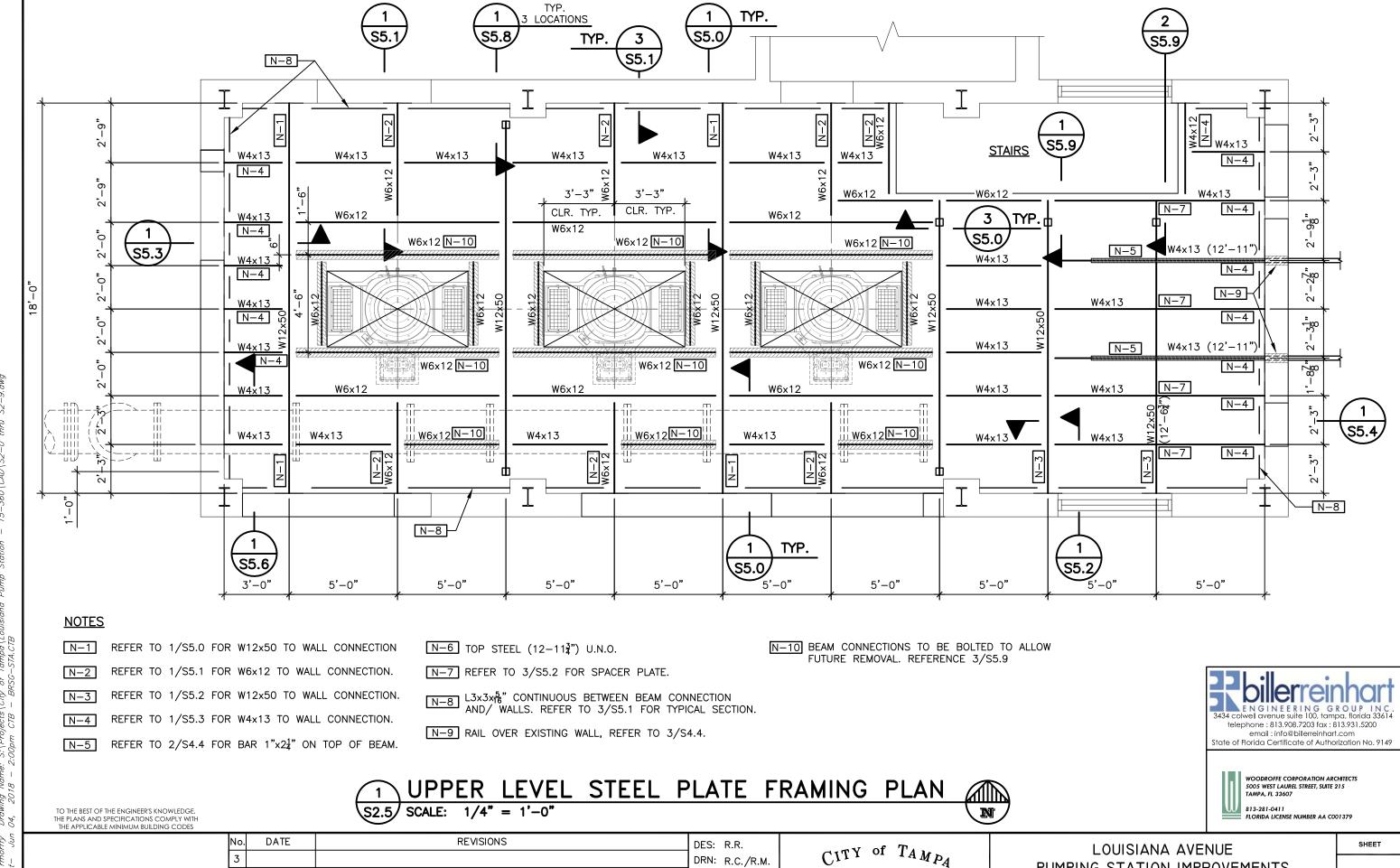
WASTEWATER DEPARTMENT

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076

UPPER LEVEL FOUNDATION PLAN

S2.4



DRN: R.C./R.M.

DATE: 05/17/18

WASTEWATER DEPARTMENT

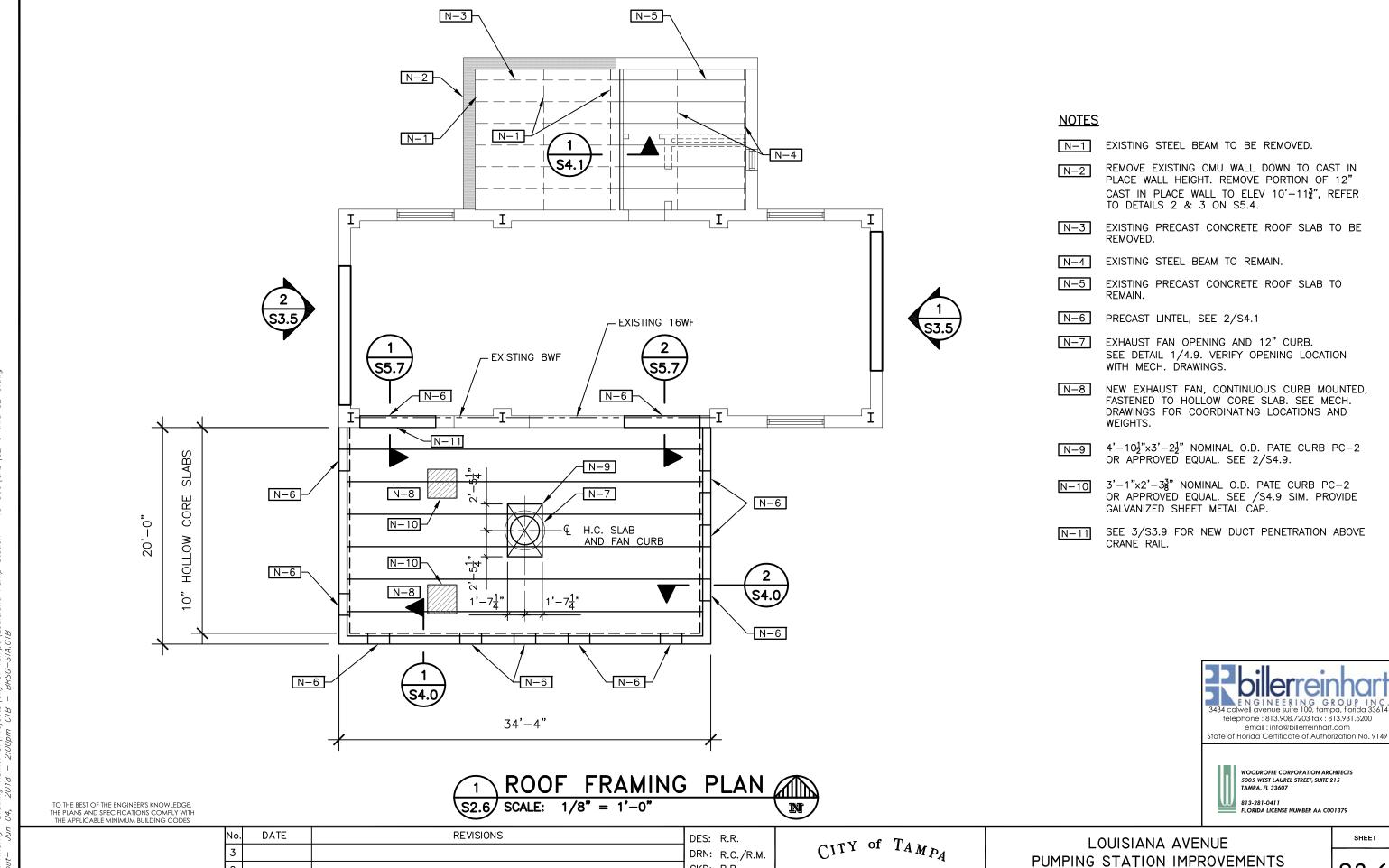
CKD: R.R.

PUMPING STATION IMPROVEMENTS

UPPER LEVEL GRATING FRAMING PLAN

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076



CKD: R.R.

DATE: 05/17/18

WASTEWATER DEPARTMENT

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076

S2.6

ROOF FRAMING PLAN

SHEET

N-7

NOTES

N-1 NEW 12" CAST-IN-PLACE CONCRETE WALL.

REMOVE EXISTING 12" CAST-IN-PLACE FOR NEW DOOR OPENING, SEE DETAIL 1/S4.7.

CONCRETE STAIRS N-3

N-4 STEP FOOTING, SEE DETAIL 2/S3.1.

SEE DETAILS ON S3.3, S3.4 & S3.5 FOR ALUMINUM HANDRAILS.

N-6 6" THICK SLAB ON GRADE REINFORCED WITH WWR 6x6 - W1.4xW1.4 CENTERED IN SLAB THICKNESS.

N-7 EXISTING 12" CAST-IN-PLACE WALL.

<u>LEGEND</u>

(8.16) DENOTES TOP OF FOOTING ELEVATION IN FEET.

ENGINEERING GROUP INC. 3434 colwell avenue suite 100, tampa, florida 33614 telephone: 813.908.7203 fax: 813.931.5200 email:info@billerreinhart.com State of Florida Certificate of Authorization No. 9149



WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

SCREEN ROOM FOUNDATION PLAN

S2.7 SCALE: 1/4" = 1'-0" THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES DATE REVISIONS DES: R.R. DRN: R.C./R.M. CKD: R.R. ROBERT J. REINHART, P.E. DATE: 05/17/18 FL. P.E. NO. 50076

CITY of TAMPA WASTEWATER DEPARTMENT

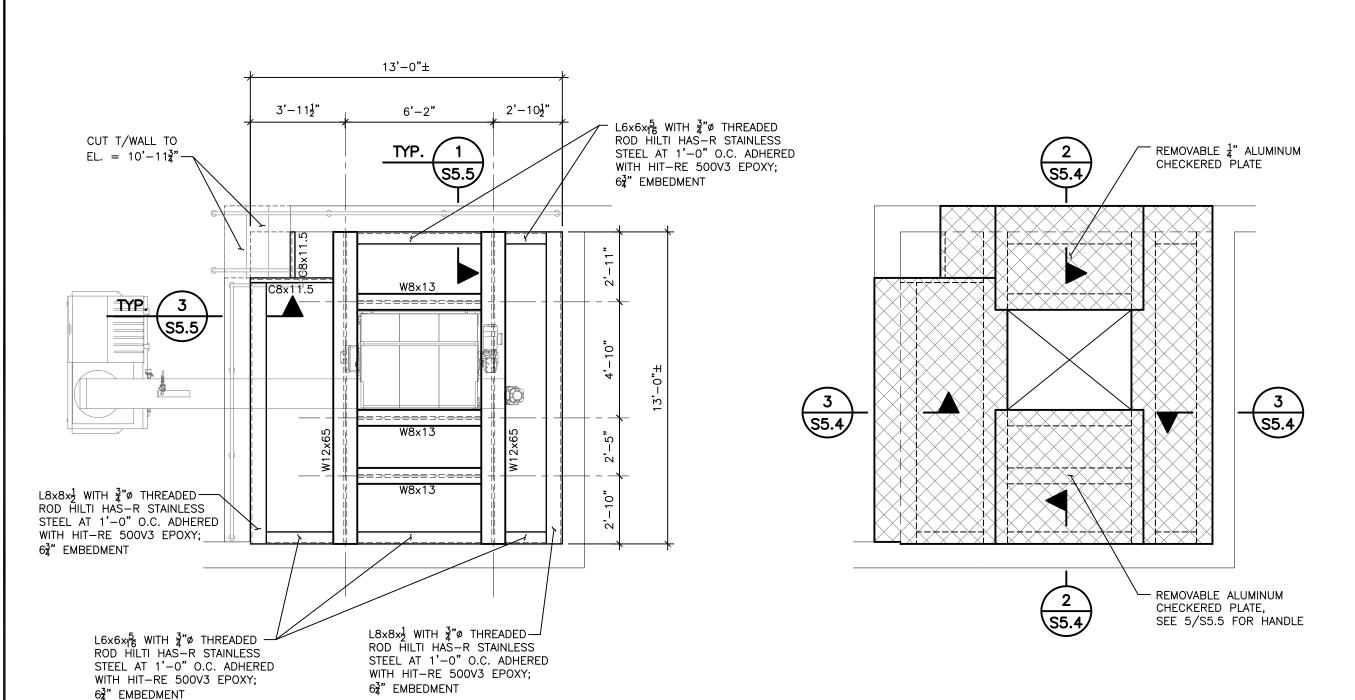
LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS SCREEN ROOM FOUNDATION PLAN

SHEET

TO THE BEST OF THE ENGINEER'S KNOWLEDGE,

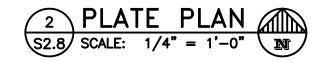


TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES



NOTE: ALL STEEL BEAMS, CHANNELS, ANGLES, PLATES, AND ANCHORS ARE 316 STAINLESS STEEL. TOP OF STEEL = 11'-0"









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813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

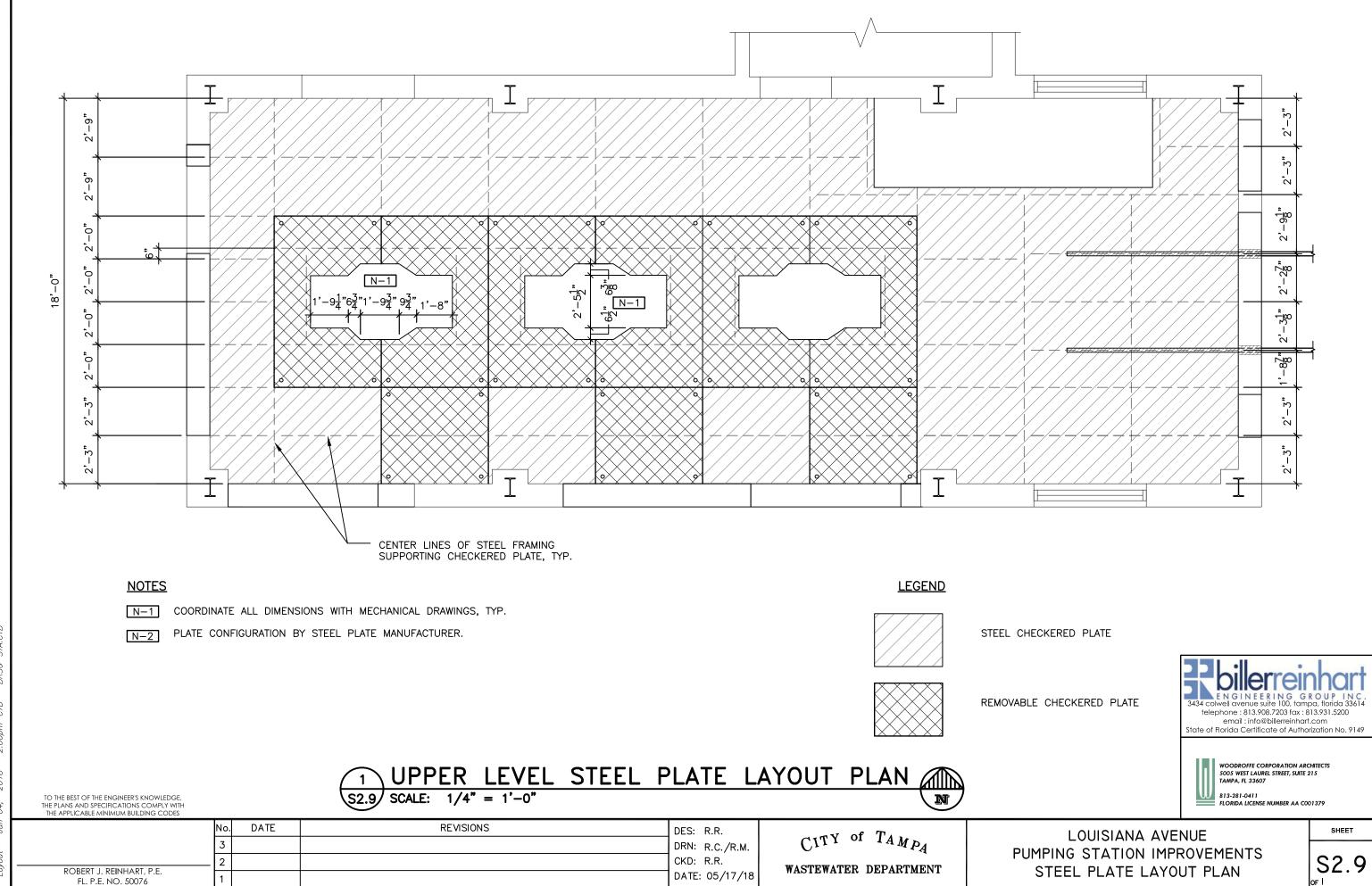
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

 C^{1TY} of $T_{A_{MP_{\mathcal{A}}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
SCREEN ROOM GRATING FRAMING PLAN

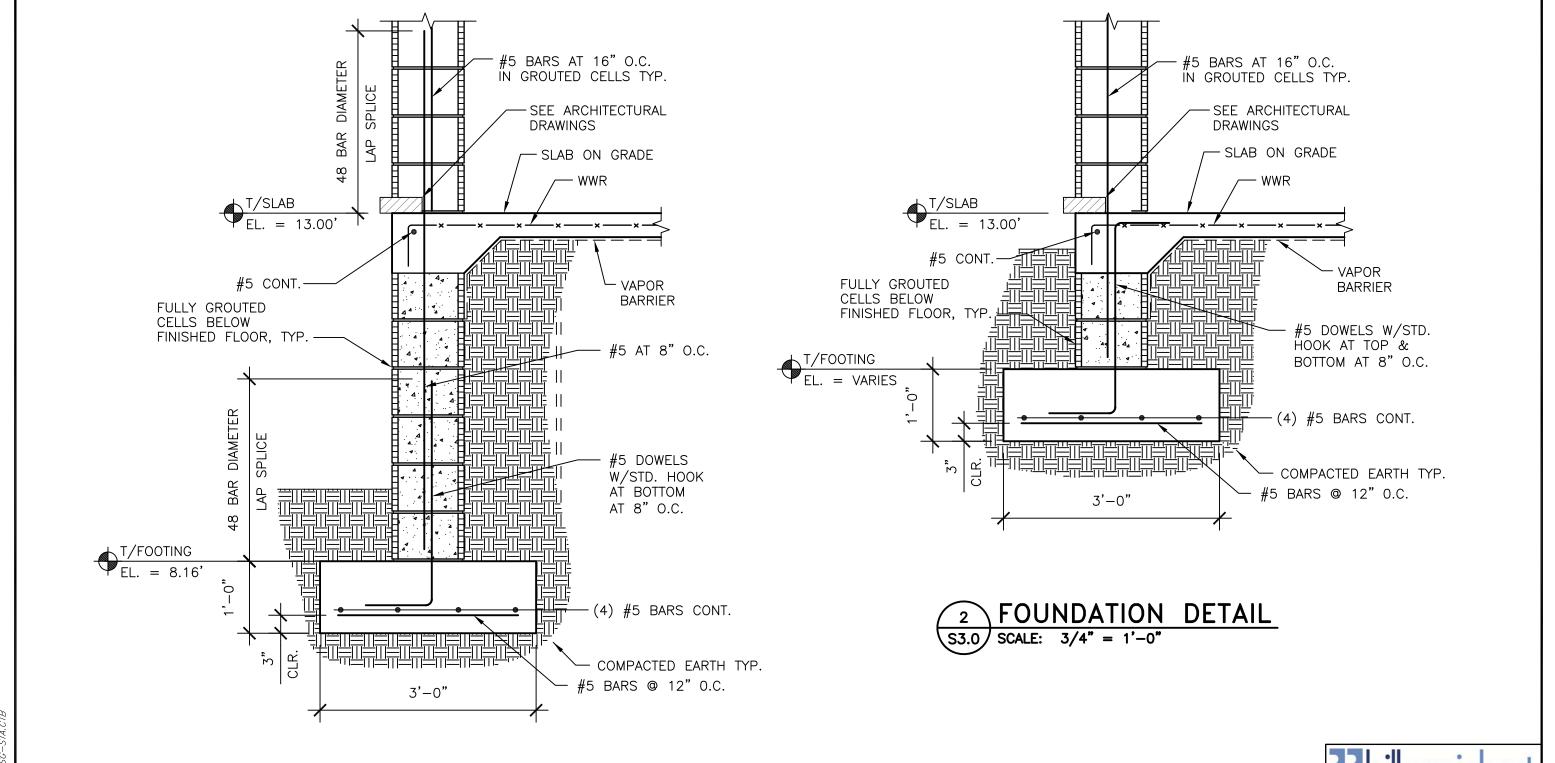
SHEET

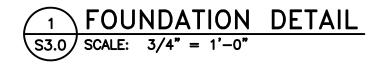
S2.8



User: rmorffy Drawing Name: S:\Projects\City of Tampa\Louisiana Pump Station — 15—360\CAD\S2—0 th Layout— Jun 04, 2018 — 2:00pm CTB — BRSG—STA.CTB

TO THE BEST OF THE ENGINEER'S KNOWLEDGE. THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES





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813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
DODEST I DENUITABLE DE	_ 2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE:	: 05/17/18

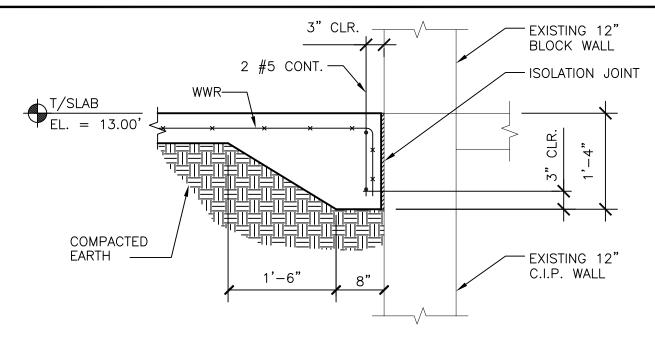
CITY of TAMPA WASTEWATER DEPARTMENT

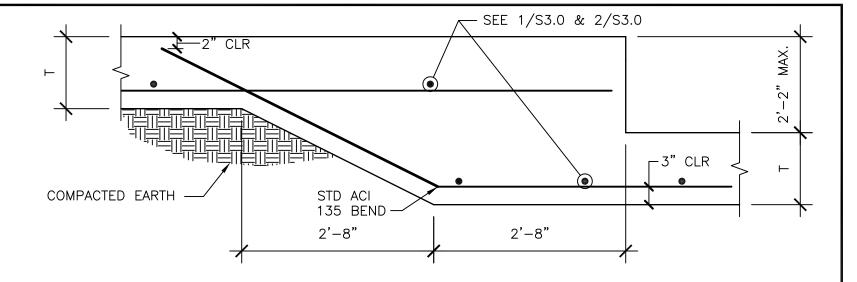
LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

S3.0

SHEET

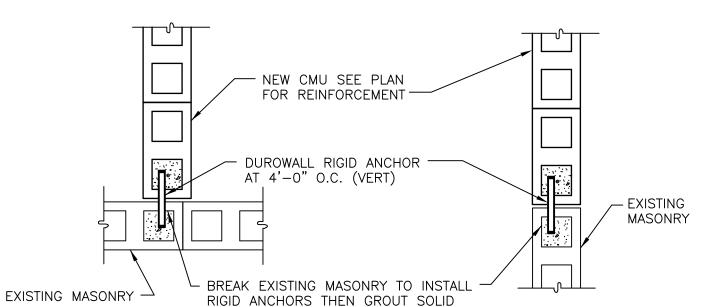






T = FTG.THICKNESS SEE SCHEDULE

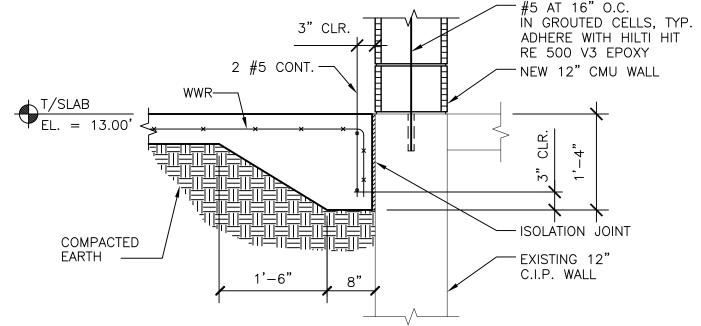
THICKENED SLAB EDGE S3.1 SCALE: 3/4" = 1'-0"



NEW MASONRY PARALLEL

STEP FOOTING DETAIL

S3.1 SCALE: 3/4" = 1'-0"



NEW MASONRY PERPENDICULAR

3 CMU CONNECTION TO EXISTING MASONRY
S3.1 SCALE: 3/4" = 1'-0"

NEW WALL DETAIL

S3.1 SCALE: 3/4" = 1'-0"



TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

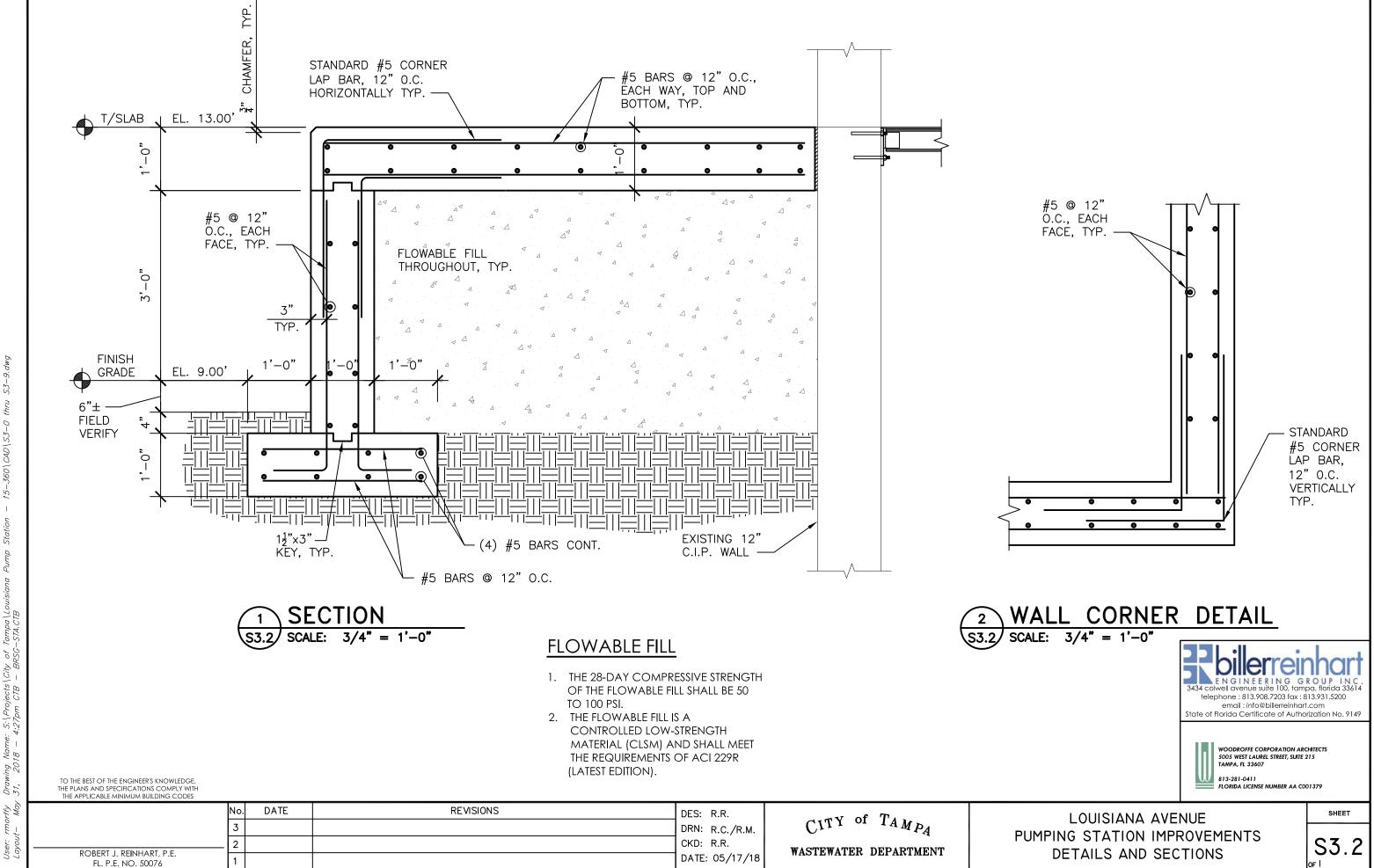
	No.	DATE	REVISIONS	DES: R.R.	l
	3			DRN: R.C./R.M.	l
	. 2			CKD: R.R.	l
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE: 05/17/18	ı

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
DETAILS AND SECTIONS

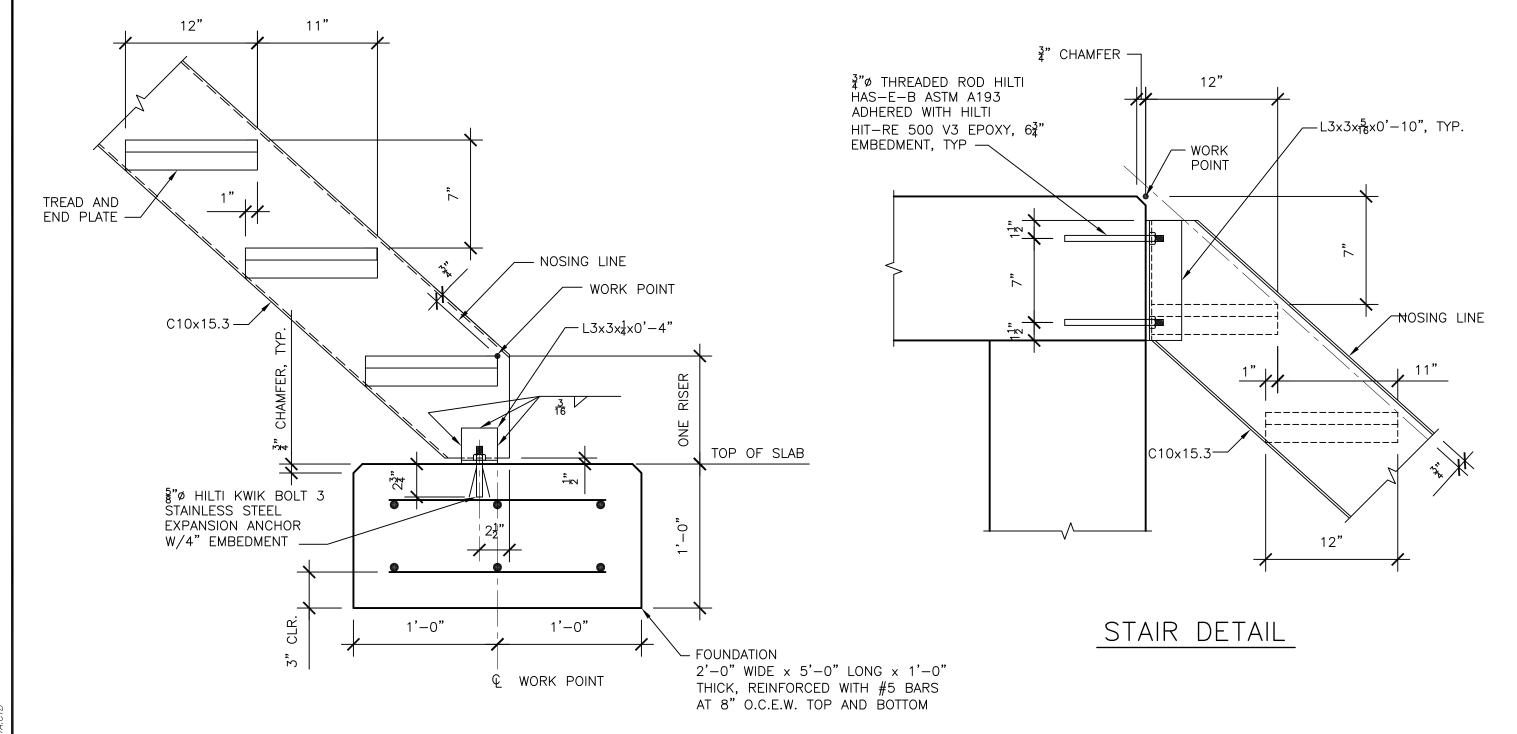
S3.1

SHEET



DATE: 05/17/18

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES



STAIR DETAIL





WOO 5003 TAM 813-

WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

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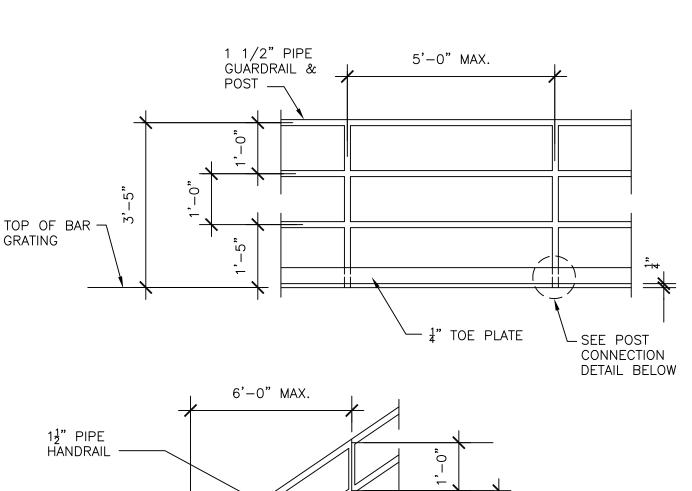
LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
DETAILS AND SECTIONS

S3.3

SHEET

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076



DATE

Õ

STRUCTURAL ALUMINUM FOR GUARD RAIL AND HANDRAIL ASSEMBLIES

ALL ANGLES ASTM B308/B308M - 02, "STANDARD SPECIFICATION FOR ALUMINUM-ALLOY 6061-T6 STANDARD STRUCTURAL PROFILES", WITH MINIUM YIELD STRENGTH Fy = 35 KSI.

ALL STRUCTURAL PIPE AND TUBE (NOT INTENDED FOR FLUID-CARRYING APPLICATIONS) SHALL CONFORM TO ASTM B429/B429M -06, "STANDARD SPECIFICATION FOR ALUMINUM-ALLOY EXTRUDED STRUCTURAL PIPE AND TUBE", WITH MINIMUM YIELD STRENGTH Fy = 35 KSI.

ALL PLATES SHALL CONFORM TO ASTM B209 - 07, "STANDARD SPECIFICATION FOR ALUMINUM AND ALUMINUM-ALLOY SHEET AND PLATE", WITH MINIMUM YIELD STRENGTH Fy = 35 KSI.

TOE PLATES SHALL BE 4" x 1/4 "

HANDRAIL SHALL BE SHOP ASSEMBLED WITH TOE PLATE IN COMPLETE PANELS REQUIRING NO FIELD SPLICES.

EACH HANDRAIL PANEL SHALL HAVE A MINIMUM OF TWO POSTS.

MINIMUM WELD SHALL BE 3/16" FILLET.

ALL WELDED JOINTS SHALL BE COMPLETELY SEALED.

ALL JOINTS AND WELDS IN TOP RAIL SHALL BE GROUND SMOOTH.

BOLTED CONNECTIONS SHALL BE MADE WITH 3/4 " DIA. ASTM F 593 STAINLESS STEEL ALLOY 316 BOLTS.

ALL CORNERS SHALL BE MITER CUT OR MINIMUM RADIUS BEND.

OPEN END OF ALL POSTS SHALL BE PLUGGED AND WELDED.

WELDING PROCESSES FOR ALUMINUM SHALL BE GAS METAL ARC WELDING (GMAW), COMMONLY CALLED MIG, OR GAS

TUNGSTEN ARC WELDING (GTAW), REFERED TO AS TIG.

ALL WELDS SHALL BE MADE BY QUALIFIED WELDERS AS PER AWS D1.2 "STRUCTURAL WELDING CODE - ALUMINUM" REQUIREMENTS. MIG AND TIG FILLER ALLOYS SHALL BE PER AWS A5.10/A5.10M "SPECIFICATION FOR BARE ALUMINUM AND ALUMINUM-ALLOY WELDING ELECTRODES AND RODS." ALUMINUM ALLOY FILLER MATERIALS SHALL BE PER TABLE 7.2-1 OF THE ALUMINUM DESIGN MANUAL 2005. ALLOY FILLER PREFERRED IS 5356; HOWEVER, ALLOYS 4043, 4047, 5183, OR 5556 MAY BE

RETURN ALL WELDS AT CORNERS TWICE THE NOMINAL WELD SIZE MINIMUM.

WELDS NOT OTHERWISE DESIGNATED SHALL BE 1/4 IN. MINIMUM FILLET WELDS.

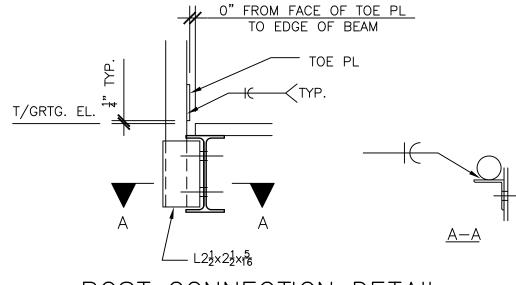
ALUMINUM FINISHES

A. FINISH DESIGNATIONS PREFIXED BY AA COMPLY WITH THE SYSTEM ESTABLISHED BY THE ALUMINUM ASSOCIATION FOR DESIGNATING ALUMINUM FINISHES.

B. AS-FABRICATED: AA-M10 (MECHANICAL FINISH: AS FABRICATED, UNSPECIFIED).

CLASS I, CLEAR ANODIC FINISH; AA-M12C22A41 (MECANICAL FINISH: NONSPECULAR AS FABRICATED; CHEMICAL FINISH: ETCHED, MEDIUM MATTE; ANODIC COATING: ARCHITECTURAL CLASS I, CLEAR COATING 0.018 MM OR THICKER) COMPLYING WITH AAMA 607.1.

SHOP DRAWINGS: SUBMIT SHOP DRAWINGS PREPARED UNDER SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER, INCLUDING COMPLETE DETAILS AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL ALUMINUM MEMBERS, PROCEDURES AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLES AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS SYMBOLS AND SHOW SIZE, LENGTH AND TYPE OF EACH WELD. STRUCTURAL ALUMINUM SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER WHO SUPERVISED THEIR PRODUCTION.



POST CONNECTION DETAIL

NOTE: CONFIGURATIONS APPLICABLE TO BOTH STRUCTURAL ALUMINUM AND STEEL

TYPICAL STAIR SECTIONS AND DETAILS SCALE: NTS

REVISIONS DES: R.R. DRN: R.C./R.M. CKD: R.R. DATE: 05/17/18

CITY of TAMPA

WASTEWATER DEPARTMENT

ENGINEERING GROUP INC. telephone: 813.908.7203 fax: 813.931.5200 email:info@billerreinhart.com State of Florida Certificate of Authorization No. 9149

WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS DETAILS AND SECTIONS

SHEET

S3.4

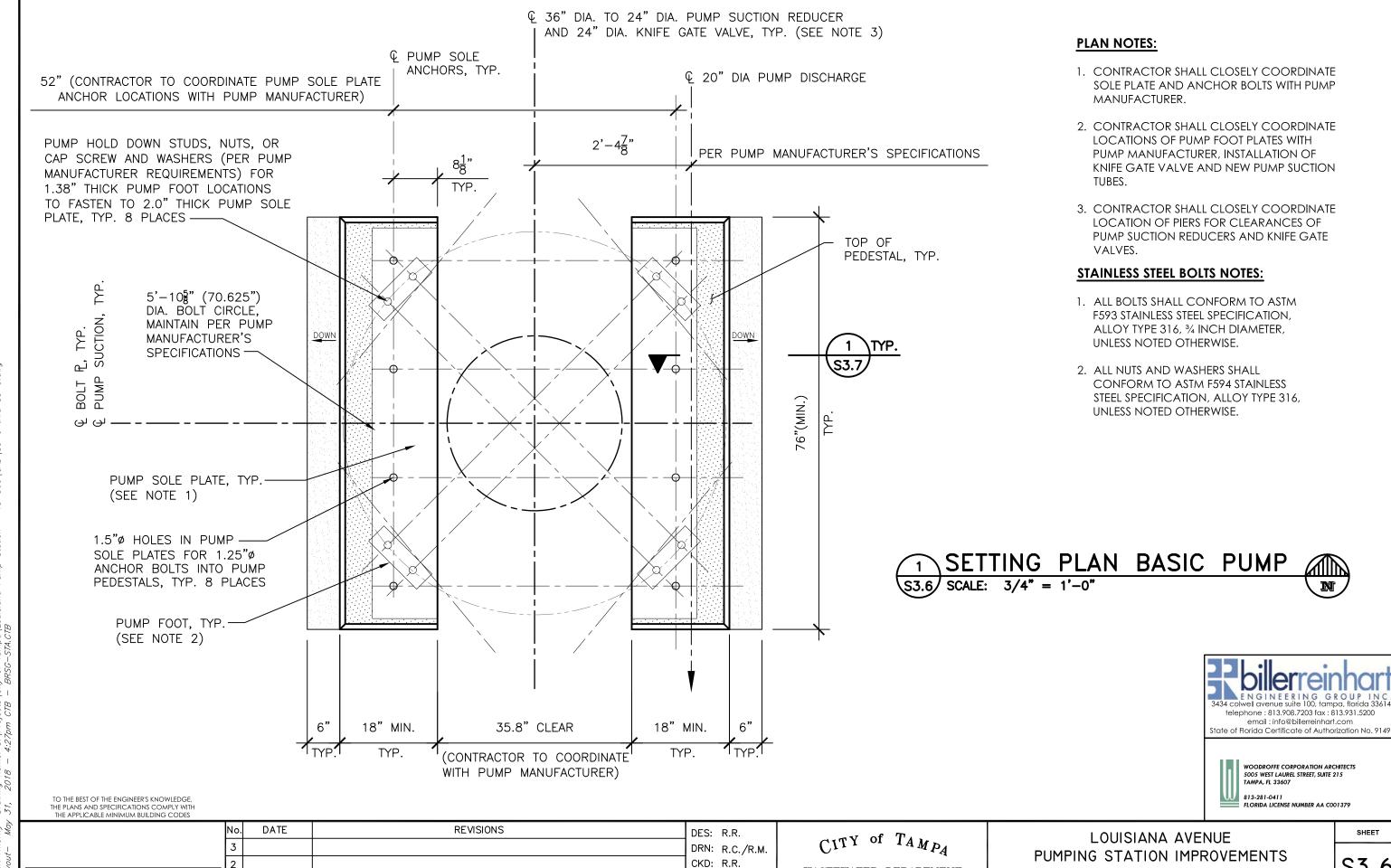
User: rmorffy Drawing Name: S:\Projects\City of Tampo\Louisiana Pump Station – 15-Layout– May 30, 2018 – 4:06pm CTB – BRSG-STA.CTB

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

 C^{1TY} of $T_{A_{MP_{\mathcal{A}}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
ELEVATIONS

\$3.5



DATE: 05/17/18

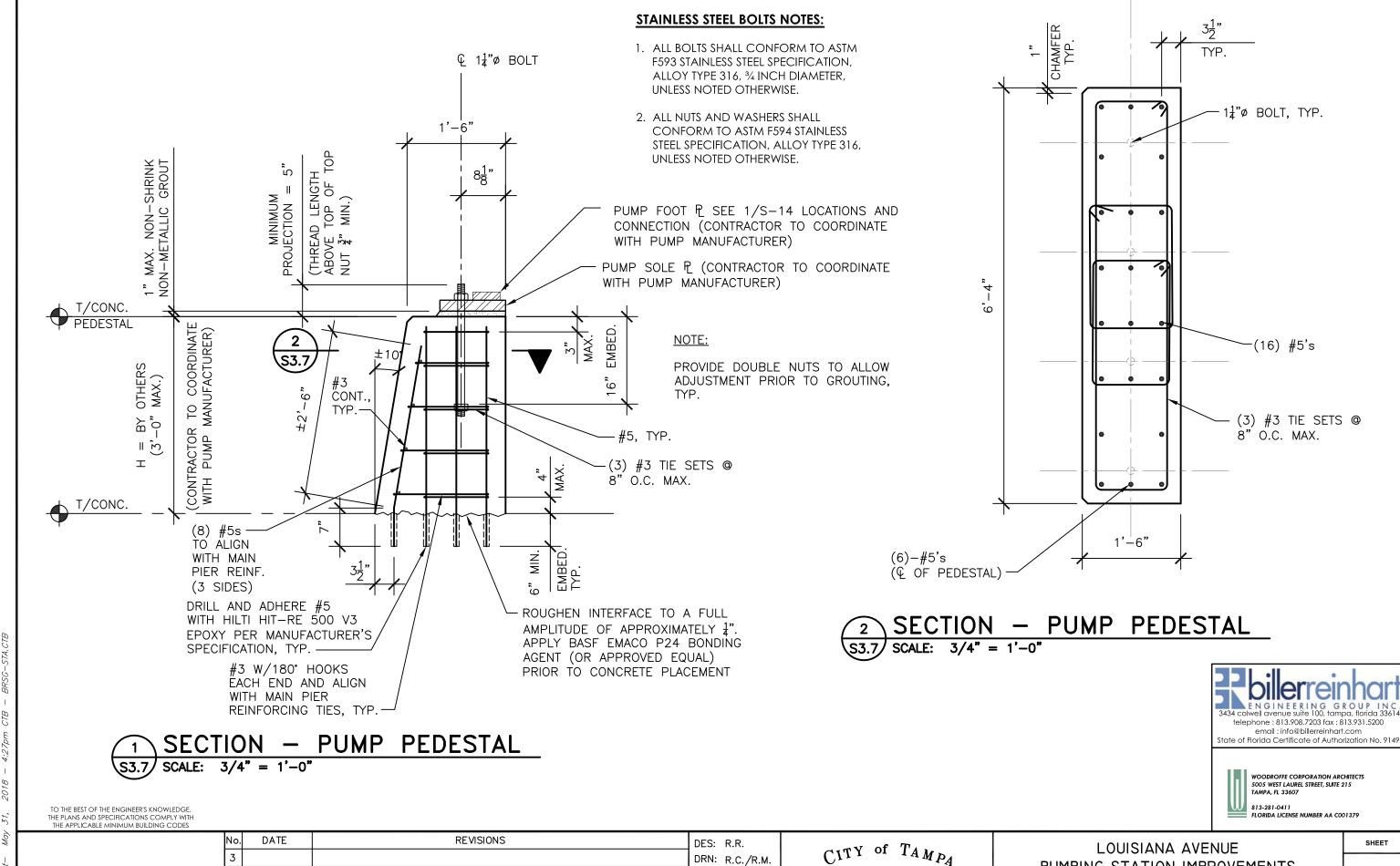
WASTEWATER DEPARTMENT

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076

S3.6

DETAILS AND SECTIONS



ROBERT J. REINHART, P.E.

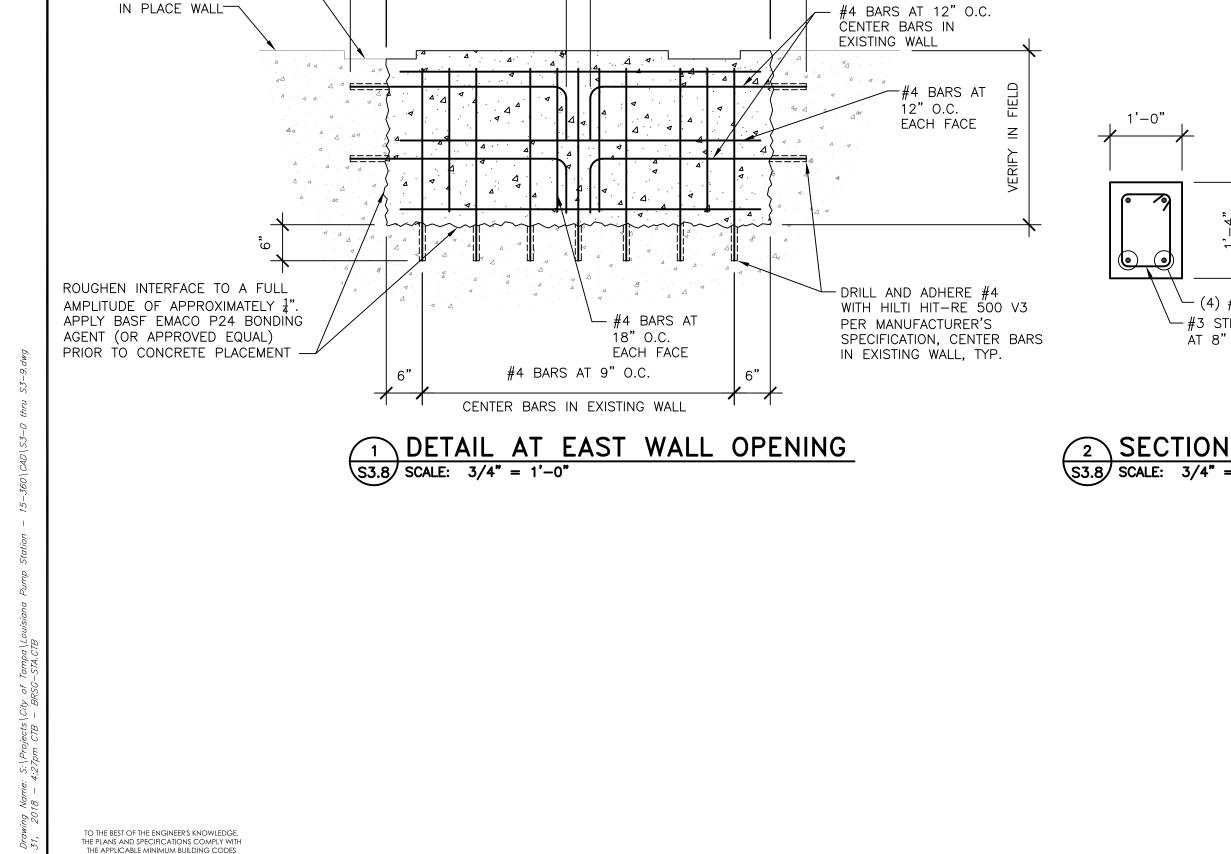
FL. P.E. NO. 50076

DRN: R.C./R.M. WASTEWATER DEPARTMENT DATE: 05/17/18

CKD: R.R.

LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

S3.7



REVISIONS

DES: R.R.

CKD: R.R.

DRN: R.C./R.M.

DATE: 05/17/18

VERIFY IN FIELD

2'-6"

2'-6"

(4) #6 CONT. #3 STIRRUPS AT 8" O.C. (8) #6 CONT. #3 STIRRUPS

ÄT 8" O.C.

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813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

CITY of TAMPA WASTEWATER DEPARTMENT

LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

S3.8

SHEET

ROBERT J. REINHART, P.E.

FL. P.E. NO. 50076

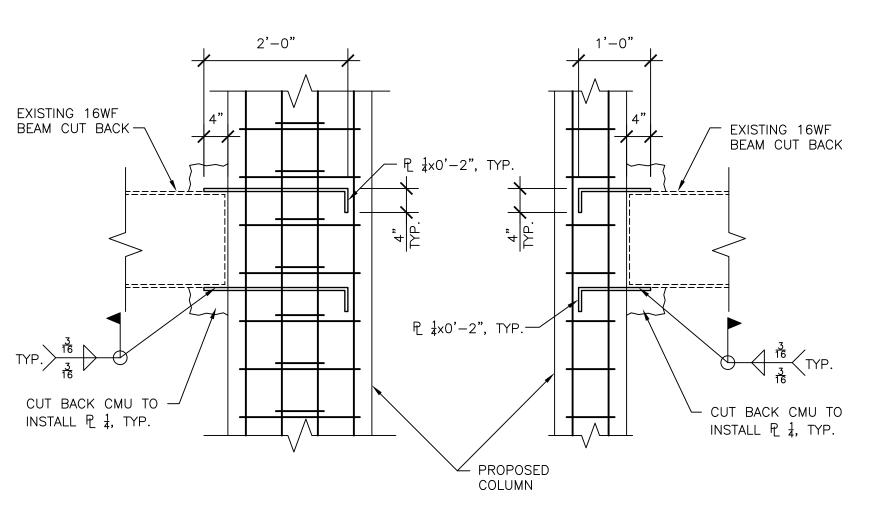
PROVIDE NOTCH FOR CART RAIL,

DATE

REFER TO 3/S4.4, TYP. -

EXISTING CAST

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES



CUT FACE SHELLS OF CMU ABOVE OPENING TO BE PROVIDED FOR DUCT, PLUS 4" EACH SIDE. INSTALL GROUT CELL STOPS AND (2)-#5 BARS CONT. x 36", WEB FACES OF CMU TO BE CUT TO INSTALL (2)-#5 BARS AS REQUIRED T/WALL EL. = 33'-0"± %, H T/WALL BLOCK NOTE: 'SQ. OPENING 26"x26" DUCT GROUT JAMB CELLS SOLID USING GROUT CELL STOPS AS REQUIRED CUT OUT CMU FOR OPENING AFTER HEADER, JAMB AND SILL HAVE BEEN PREPARED AS DETAILED 30" FOR GROUT CELLS SOLID BELOW OPENING PLUS 4" EACH SIDE. USE GROUT CELL STOPS AS REQUIRED

1 SECTION S3.9 SCALE: 3/4" = 1'-0"

2 SECTION \$3.9 SCALE: 3/4" = 1'-0" 3 DUCT OPENING \$3.9 SCALE: 3/4" = 1'-0"



WOODROFFE C 5005 WEST LAI TAMPA, FL 336 813-281-0411 FLORIDA LICEN

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813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

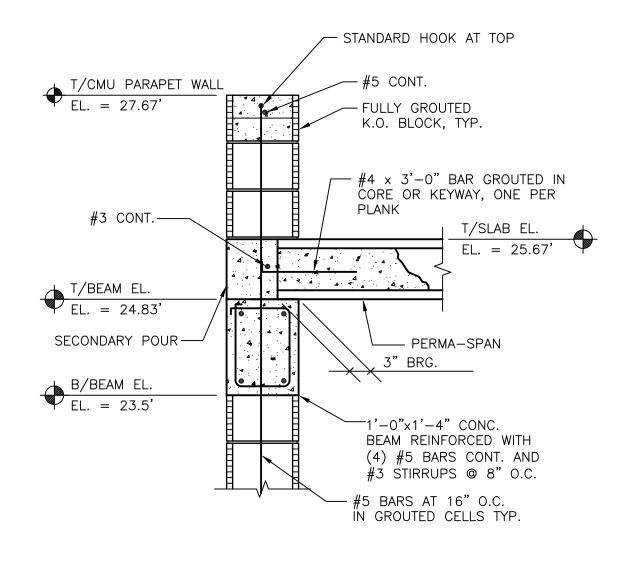
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE:	: 05/17/18

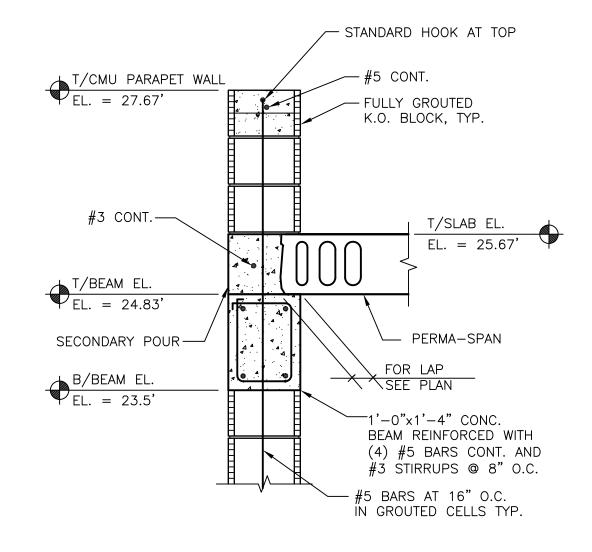
 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
DETAILS AND SECTIONS

S3.9

SHEET





1 HOLLOW CORE SLAB DETAIL S4.0 SCALE: 3/4" = 1'-0"

2 HOLLOW CORE SLAB DETAIL
S4.0 SCALE: 3/4" = 1'-0"



	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
DODERT I DENILLARI DE	2			CKD:	
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
DETAILS AND SECTIONS

SHEET

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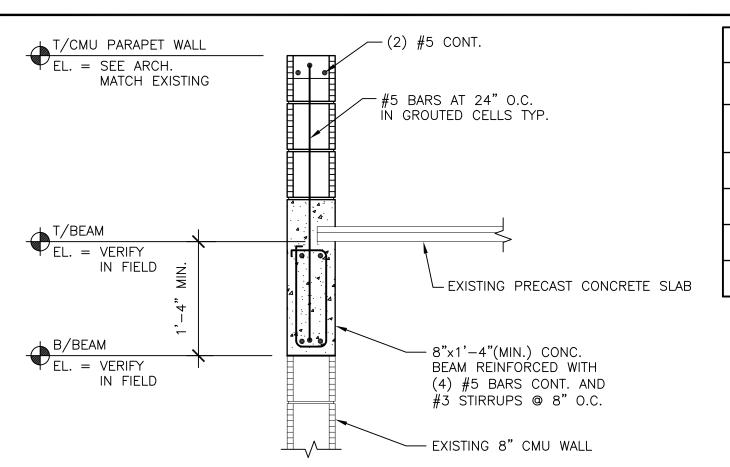
> WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

S4.0



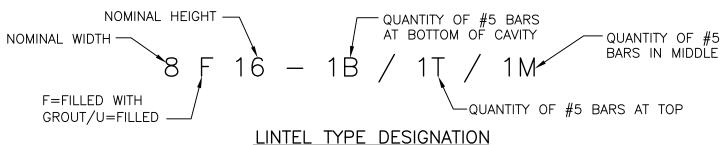
TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES



PRECAST LINTEL SCHEDULE

PROVIDE CAST CRETE PRECAST LINTELS FOR OPENINGS IN MASONRY AS INDICATED IN TABLE BELOW. FLORIDA BUILDING COMMISSION PRODUCT APPROVAL #FL 158

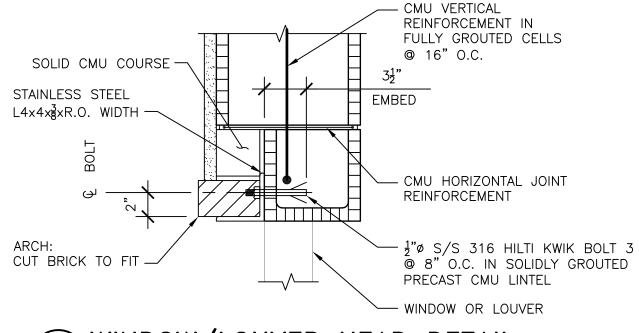
WALL THICKNESS	MINIMUM BEARING	LINTEL TYPE	CLEAR SPAN	ALLOWABLE LOAD	NOTES
12" WALL	4"	12F8-0B	UP TO 3'-6"	2561#LF	_
12" WALL	4"	12F8-1B	3'-6" TO 6'-6"	1011#LF	-
12" WALL	4"	12F16-2B	6'-6" TO 9'-6"	2230#LF	-
BRICK COURSE W/8" CMU	4"	8F8-1B	UP TO 4'-0"	SPECIAL CONDITION	3/S4.1





PRECAST LINTEL SCHEDULE

(S4.1) SCALE: N.T.S.



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WOODROFFE CORPORATION ARCHITECTS
5005 WEST LAUREL STREET, SUITE 215
TAMPA, FL 33607

813-281-0411
FLORIDA LICENSE NUMBER AA C001379

WINDOW/LOUVER HEAD DETAIL

S4.1 SCALE: 1 1/2" = 1'-0"

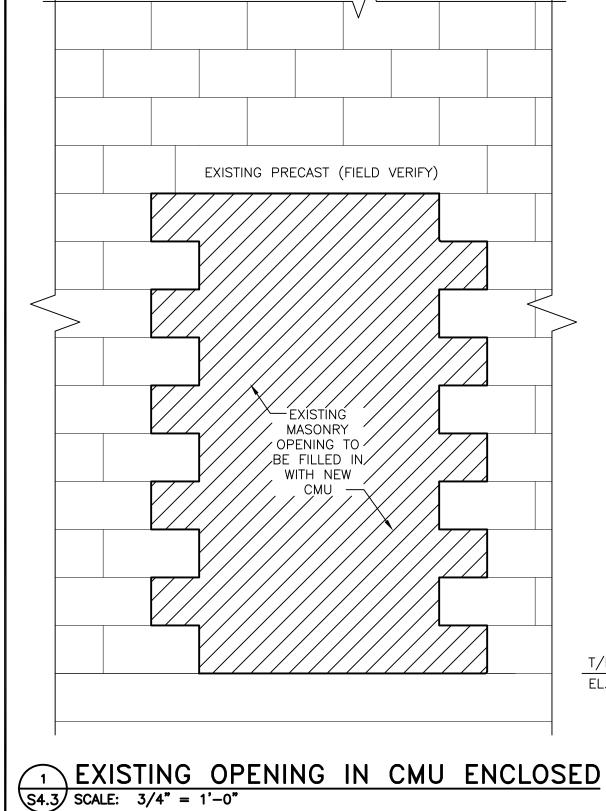
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
DETAILS AND SECTIONS

S4.I

SHEET



(4) #6 W/#3 TIES @ 8" O.C.

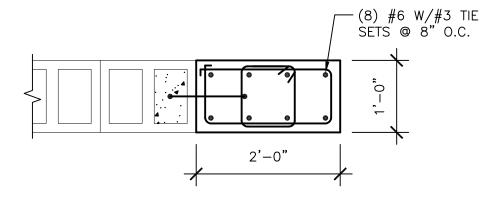
ALL DIMENSIONS TO BE VERIFIED WITH ARCH. DRAWINGS

(4) #6 W/#3 TIES @ 8" O.C. Ô **EXISTING** CMU WALL 2'-0"

2 COLUMN DETAIL
S4.3 SCALE: 3/4" = 1'-0"

T/EXISTING SLAB
EL. = 13.00'

3 COLUMN DETAIL S4.3 SCALE: 3/4" = 1'-0"



ALL DIMENSIONS TO BE VERIFIED WITH ARCH. DRAWINGS





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES DATE REVISIONS DES: R.R. DRN: R.C./R.M. CKD: R.R. ROBERT J. REINHART, P.E. DATE: 05/17/18 FL. P.E. NO. 50076

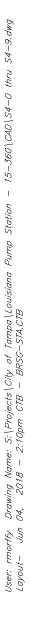
CITY of TAMPA WASTEWATER DEPARTMENT

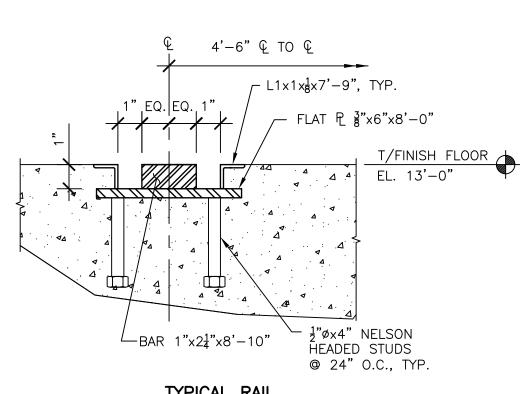
LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

S4.3

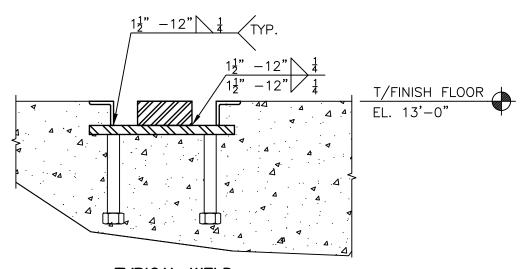
SHEET

TO THE BEST OF THE ENGINEER'S KNOWLEDGE.





TYPICAL RAIL



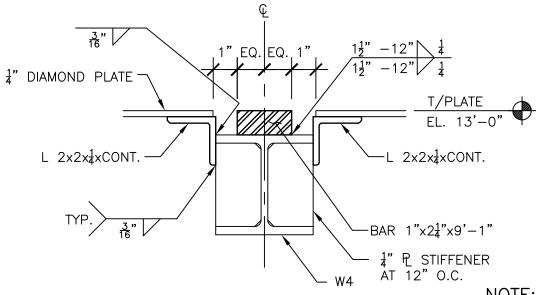
TYPICAL WELD

NOTE: VERIFY CART RAIL ASSEMBLIES ARE COMPATIBLE WITH CITY'S EXISTING TRANSFER CART FROM KRAUSE PUMP STATION



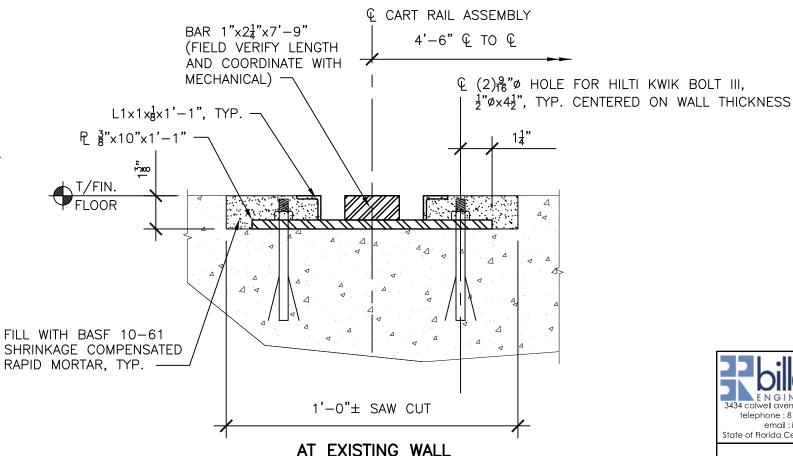
TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES





RAIL DETAIL SCALE: N.T.S.

NOTE: COAT EXPOSED BEAM AND BAR WITH HI-BUILD TNEME-TAR SERIES 46H-413 OR APPROVED **EQUAL**



AT EXISTING WALL





WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607 813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

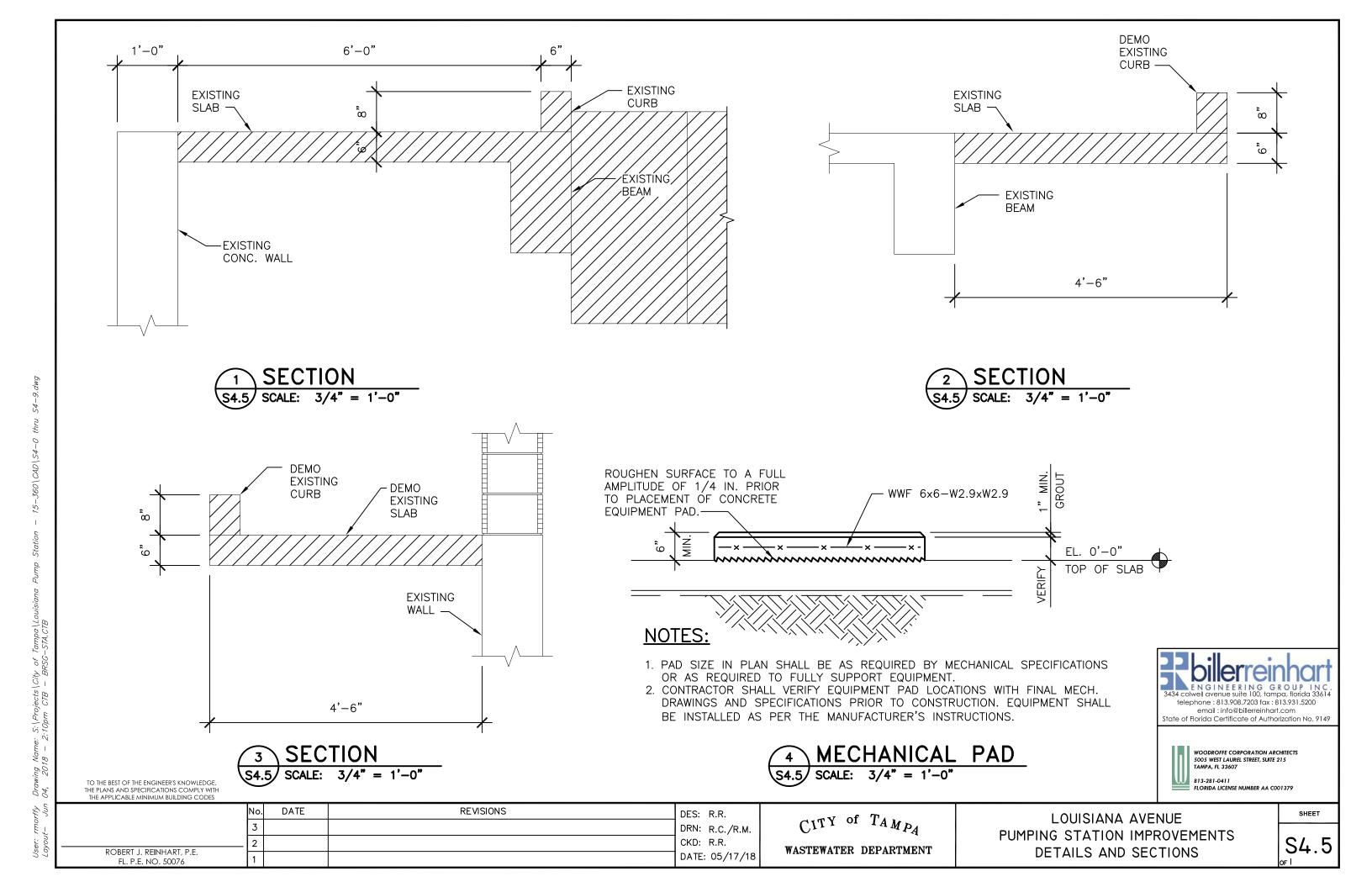
	No.	DATE	REVISIONS	DES:	R.R.
	3			DRN:	R.C./R.M.
	2			CKD:	R.R.
ROBERT J. REINHART, P.E. FL. P.E. NO. 50076	1			DATE	: 05/17/18

CITY of TAMPA WASTEWATER DEPARTMENT

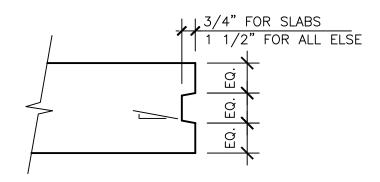
LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

SHEET

\$4.4

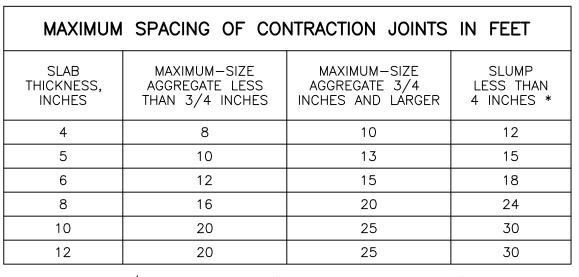


TO THE BEST OF THE ENGINEER'S KNOWLEDGE. THE PLANS AND SPECIFICATIONS COMPLY WITH
THE APPLICABLE MINIMUM BUILDING CODES

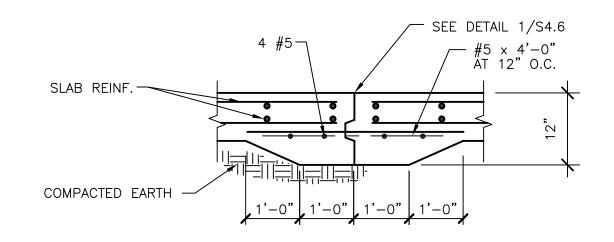


PROVIDE A KEYED JOINT WHERE A CONTINUOUS CONCRETE ELEMENT IS CONSTRUCTED IN PARTS. USE THIS DETAIL FOR A CONSTRUCTION JOINT WHERE REQ'D, UNLESS NOTED OTHERWISE. EXTEND REINFORCEMENT THE MINIMUM LAP DIMENSION INTO THE NEW CONCRETE POUR.

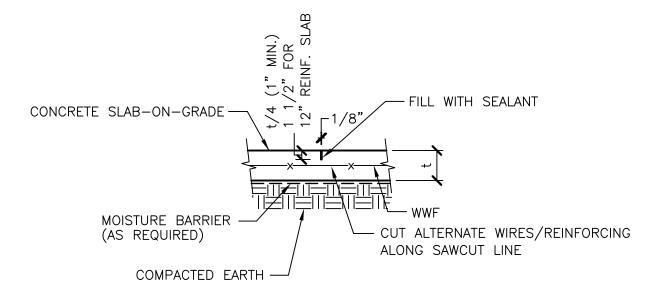




* 3/4 INCHES AND LARGER MAXIMUM SIZE AGGREGATE



CONSTUCTION JOINT IN SLAB ON GRADE SCALE: 3/4" = 1'-0"



NOTE: MAKE CONTRACTION JOINTS IN SLABS ON GRADE BY SAWING A CONTINUOUS CUT IN THE TOP OF SLAB.



ENGINEERING GROUP INC. telephone: 813.908.7203 fax: 813.931.5200 email:info@billerreinhart.com State of Florida Certificate of Authorization No. 9149



WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

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CITY of TAMPA WASTEWATER DEPARTMENT

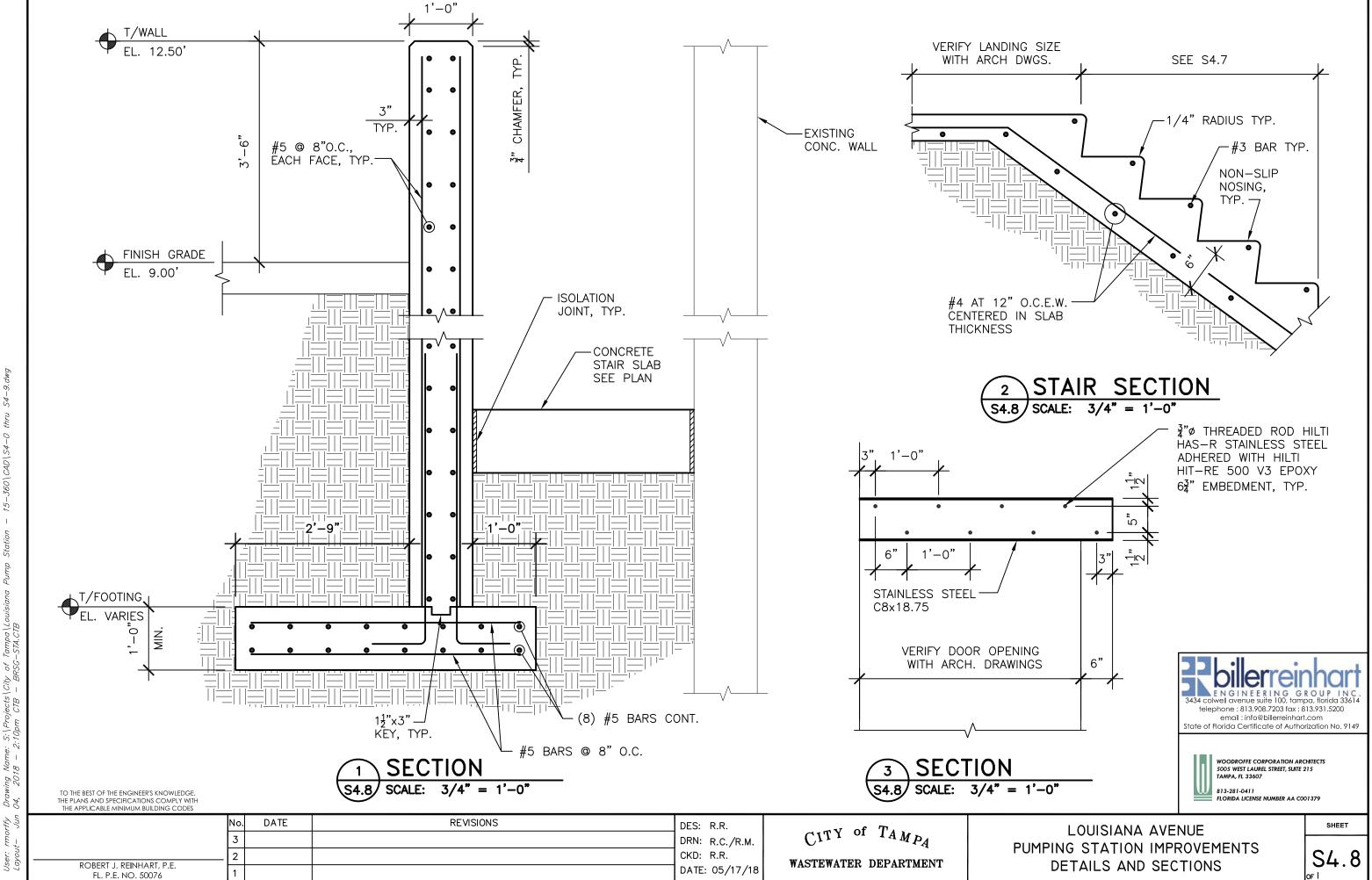
LOUISIANA AVENUE PUMPING STATION IMPROVEMENTS **DETAILS AND SECTIONS**

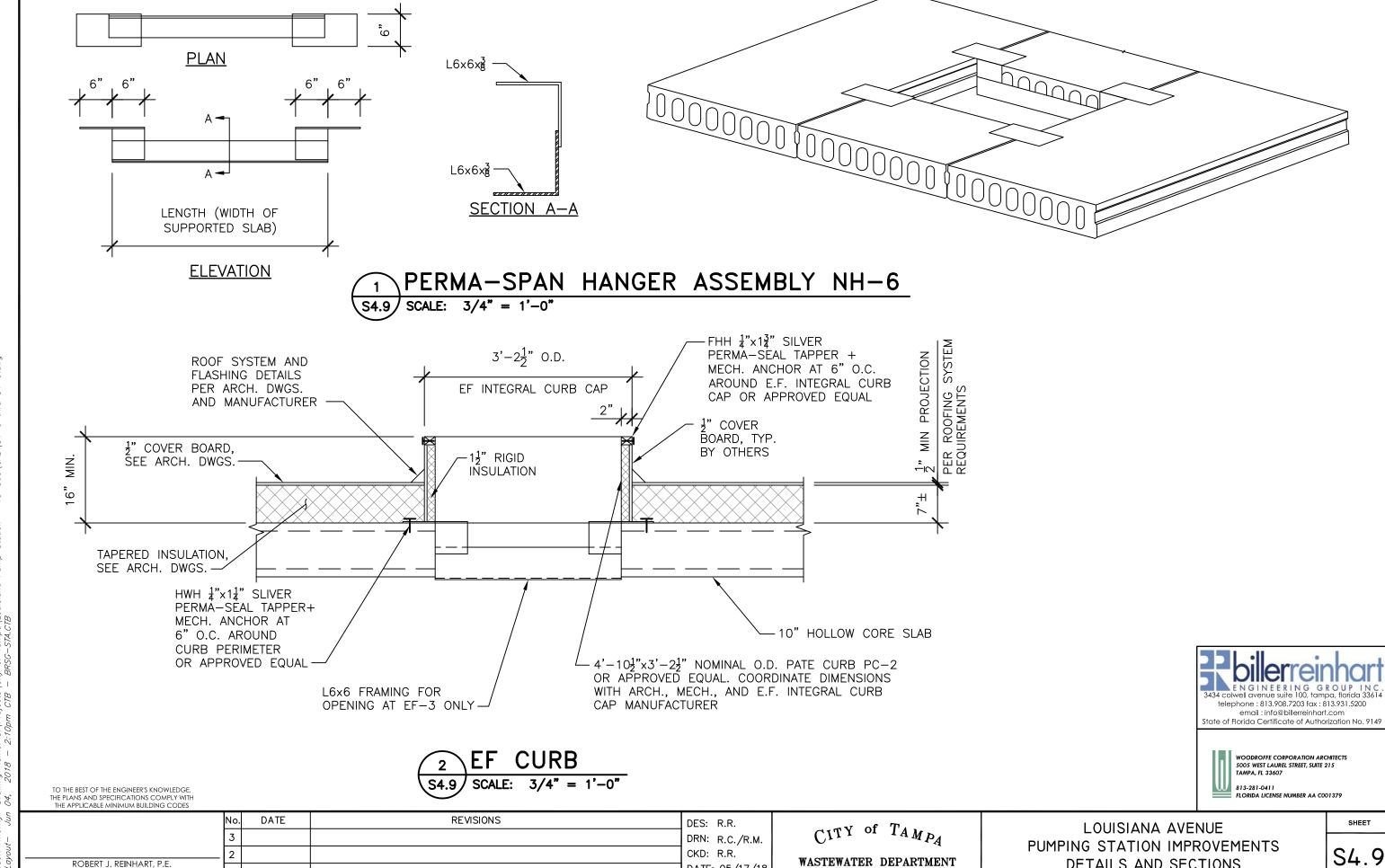
SHEET

\$4.6

DATE: 05/17/18

ROBERT J. REINHART, P.E. FL. P.E. NO. 50076



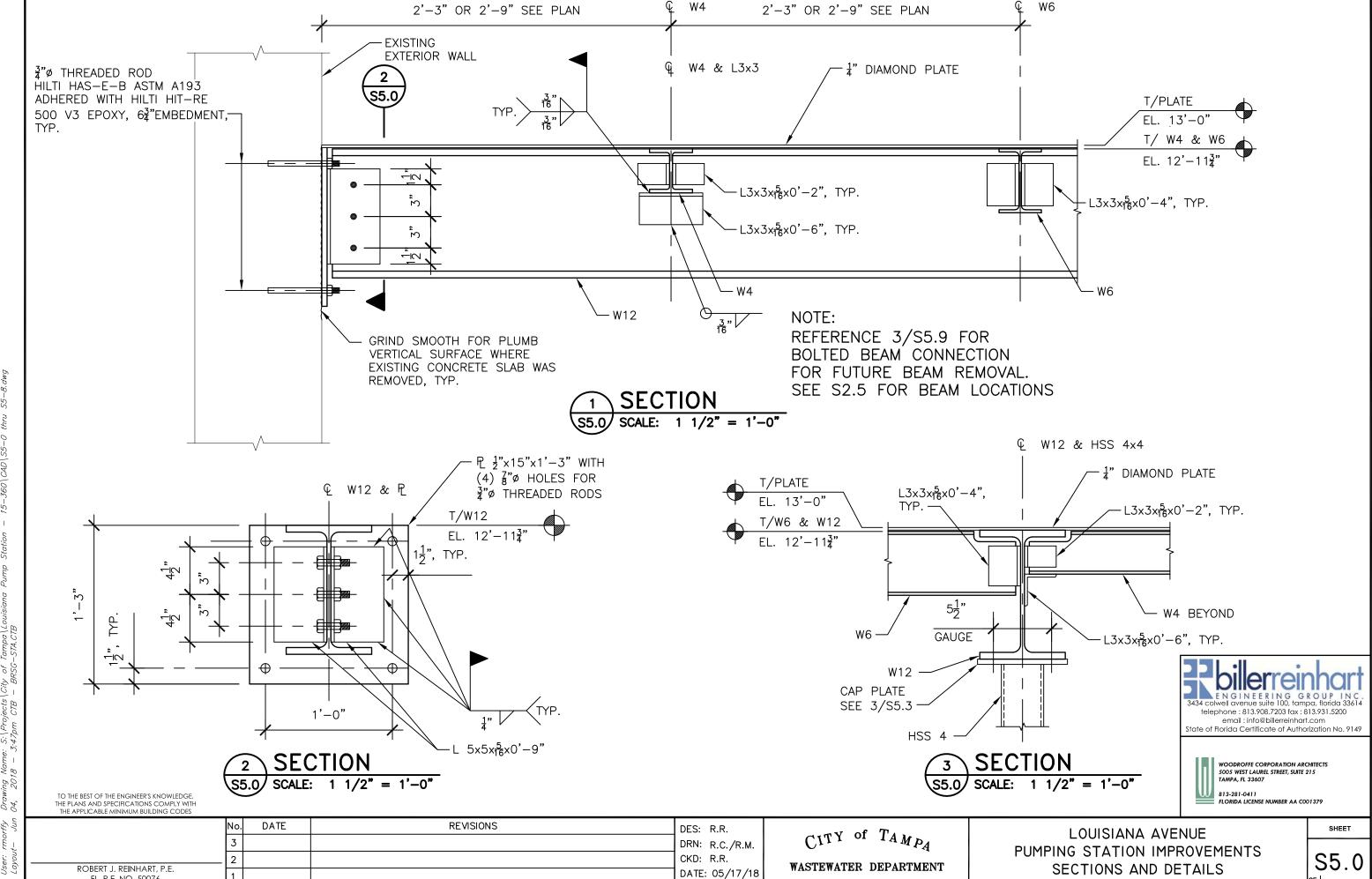


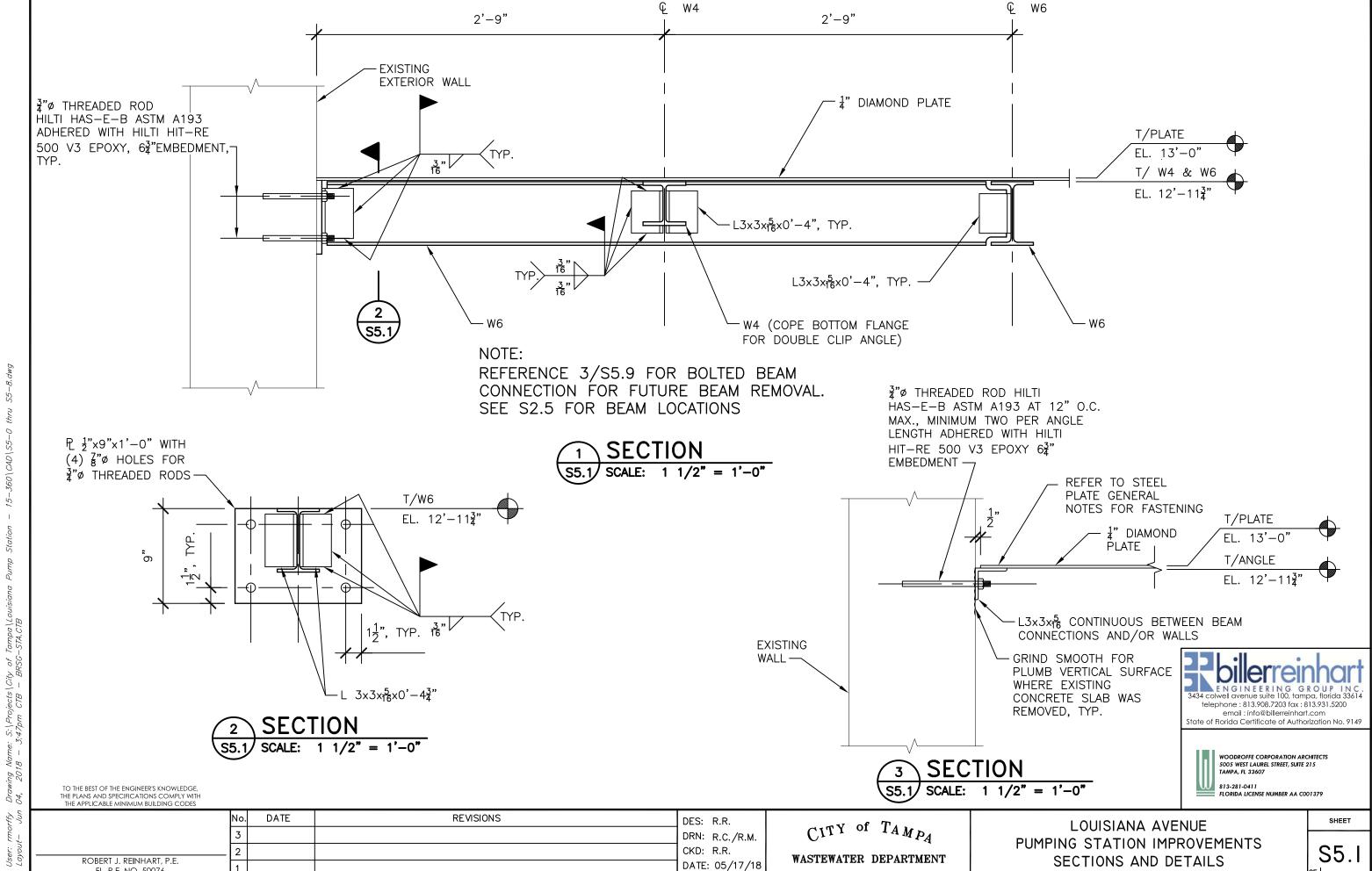
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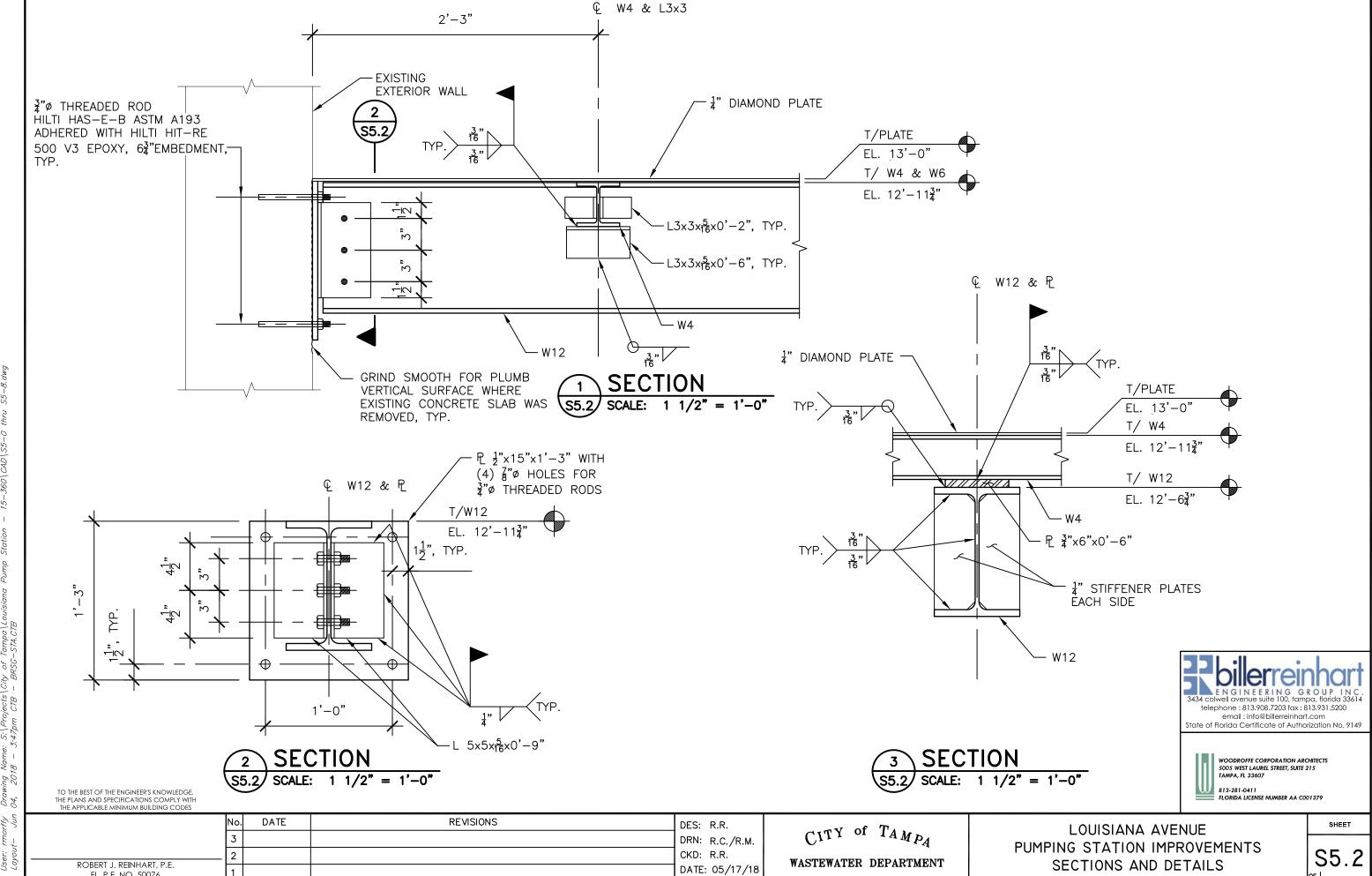
WASTEWATER DEPARTMENT

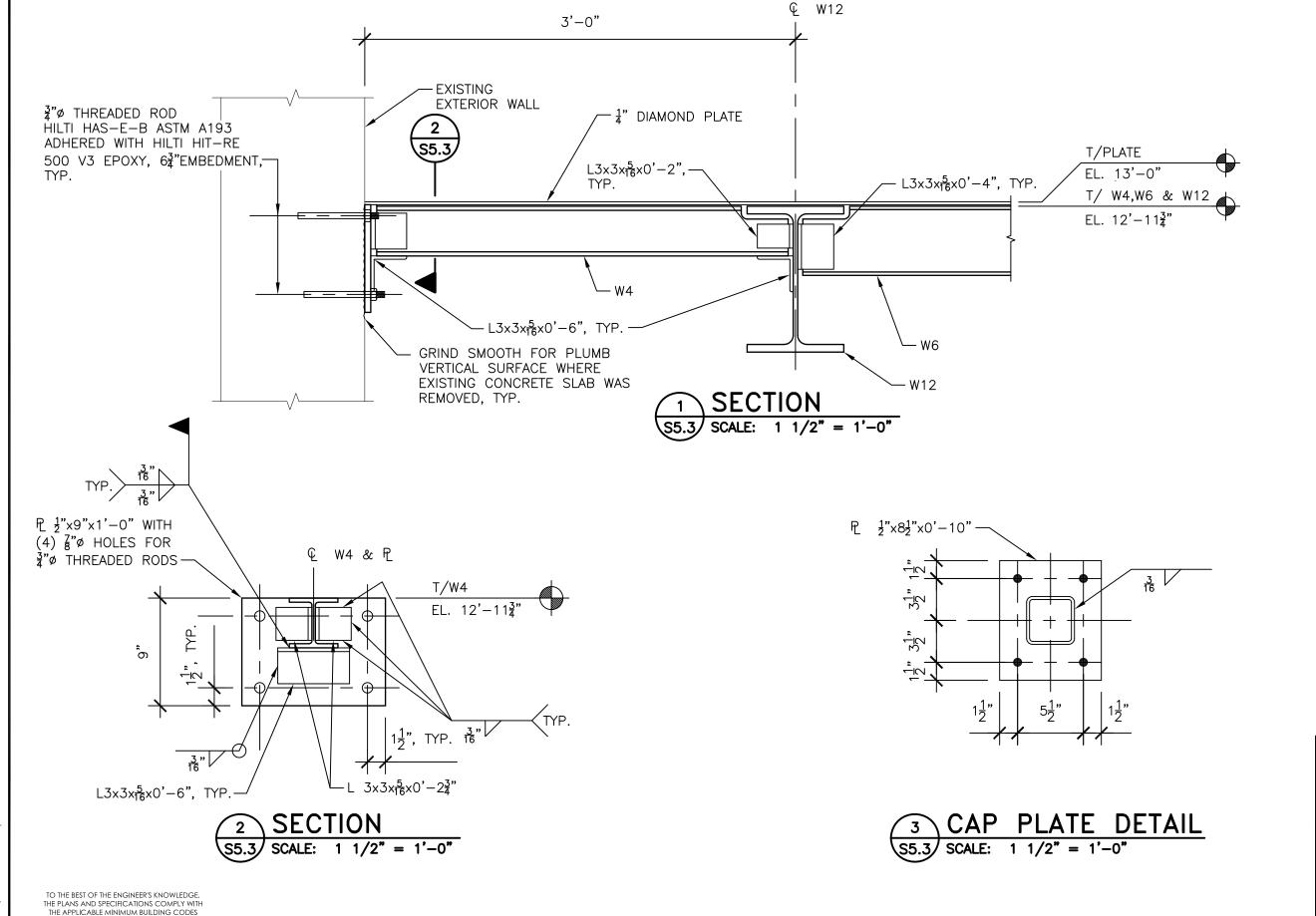
DETAILS AND SECTIONS

ROBERT J. REINHART, P.E.









3434 colwell avenue suite 100, tampa, florida 33614 telephone : 813.908.7203 fax : 813.931.5200 email : info@billerreinhart.com
State of Florida Certificate of Authorization No. 9149

W6 50 TA

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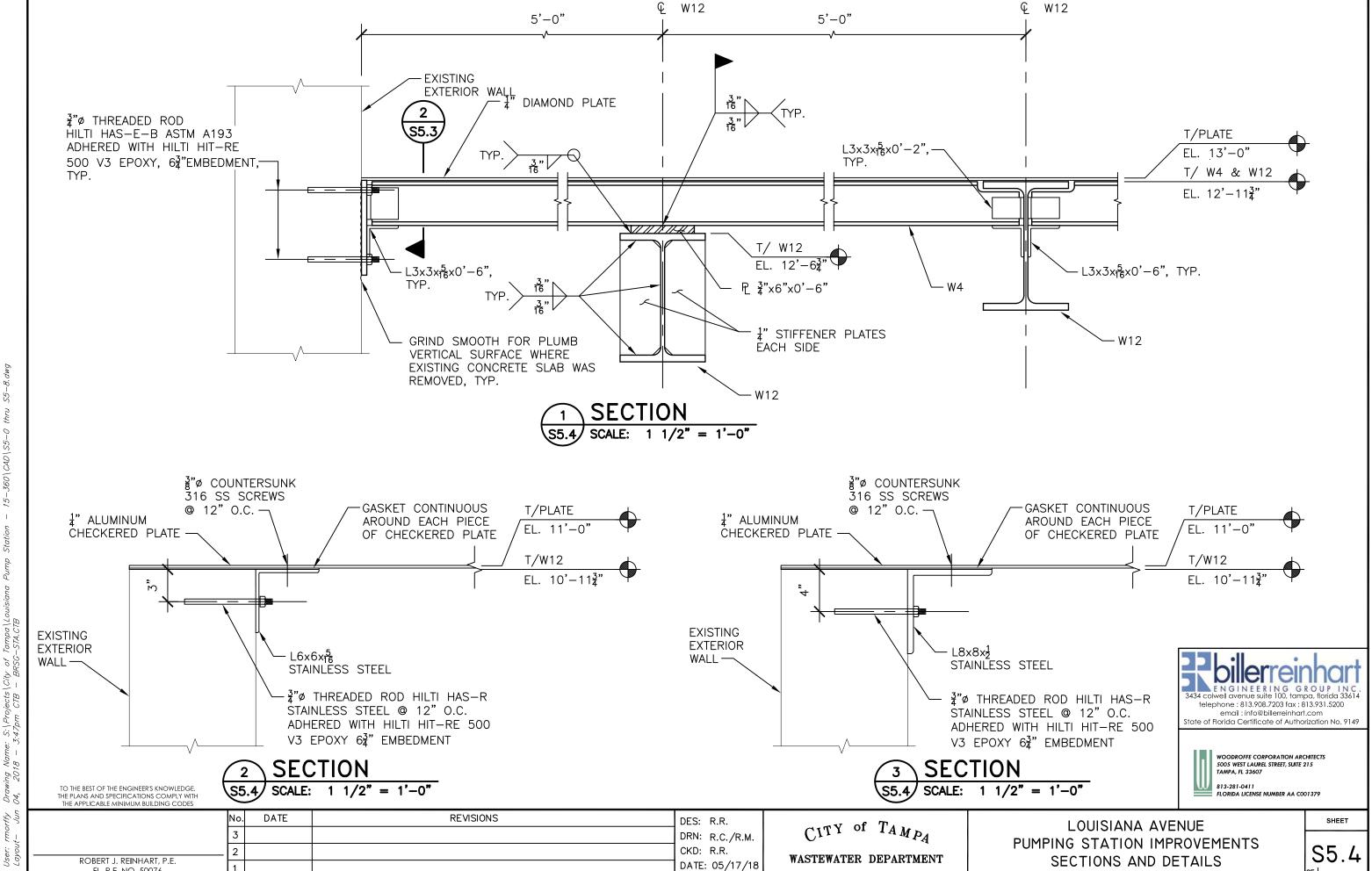
813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
SECTIONS AND DETAILS

S5.3

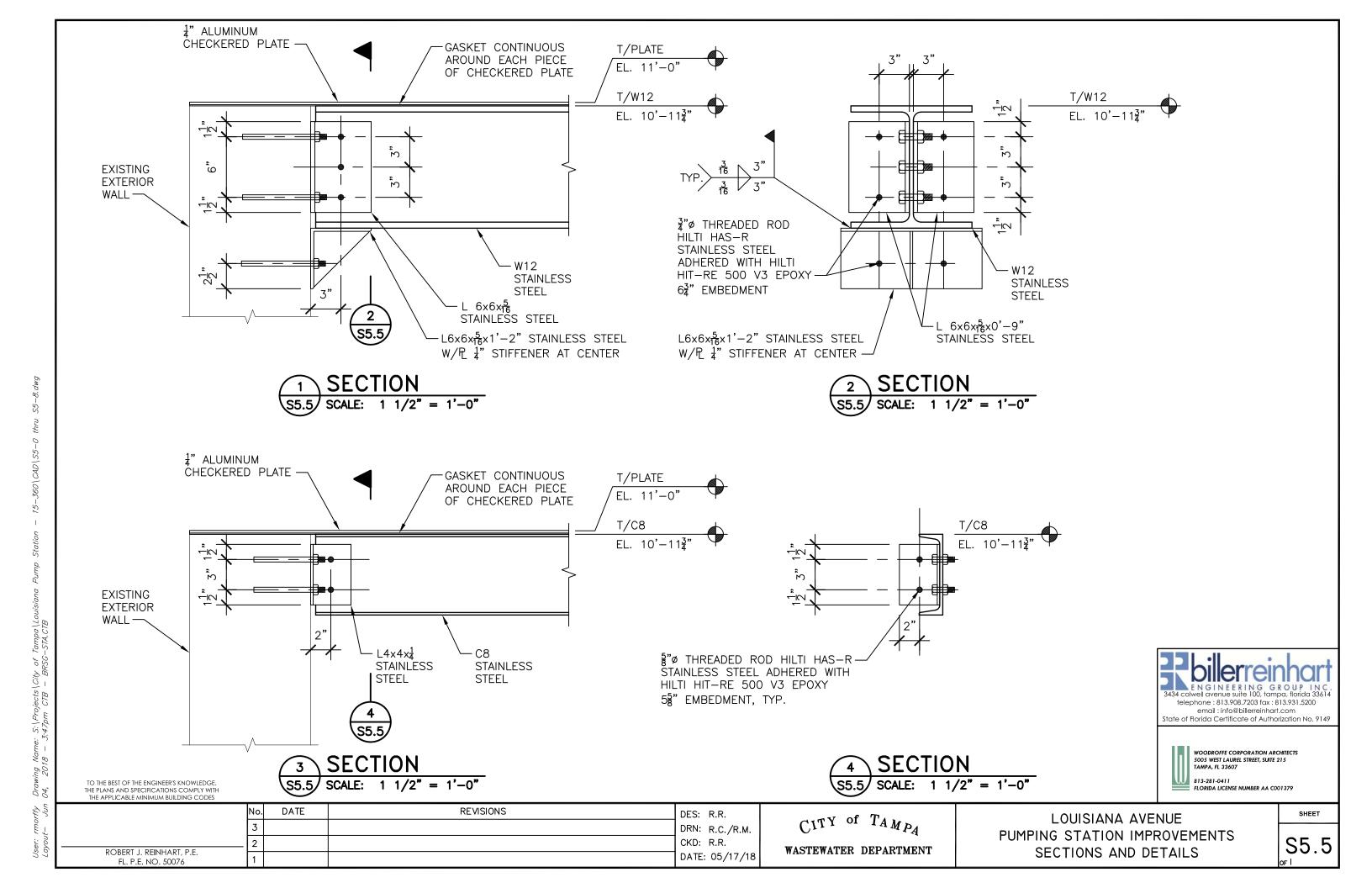
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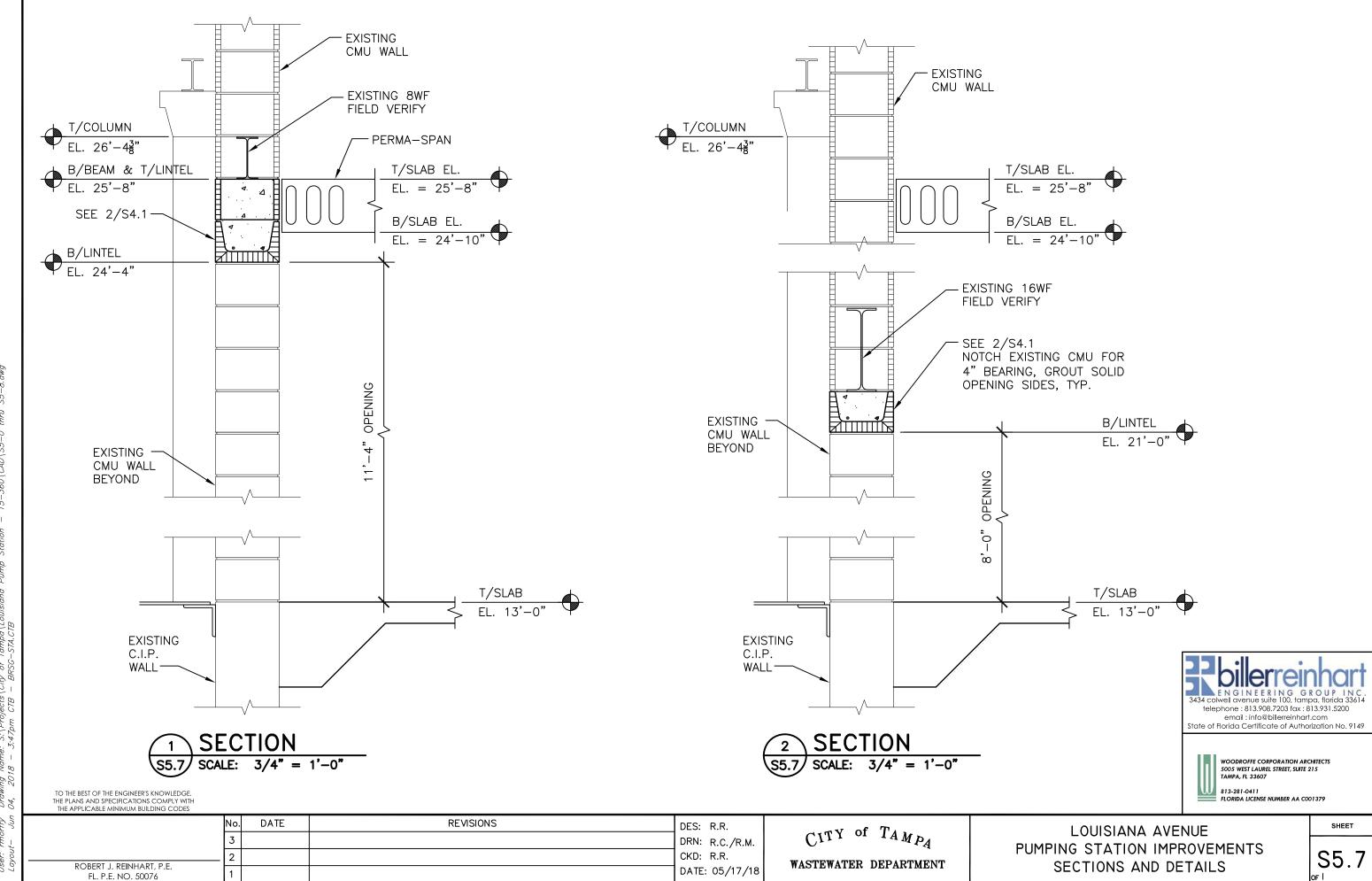


WASTEWATER DEPARTMENT

SECTIONS AND DETAILS

S5.4

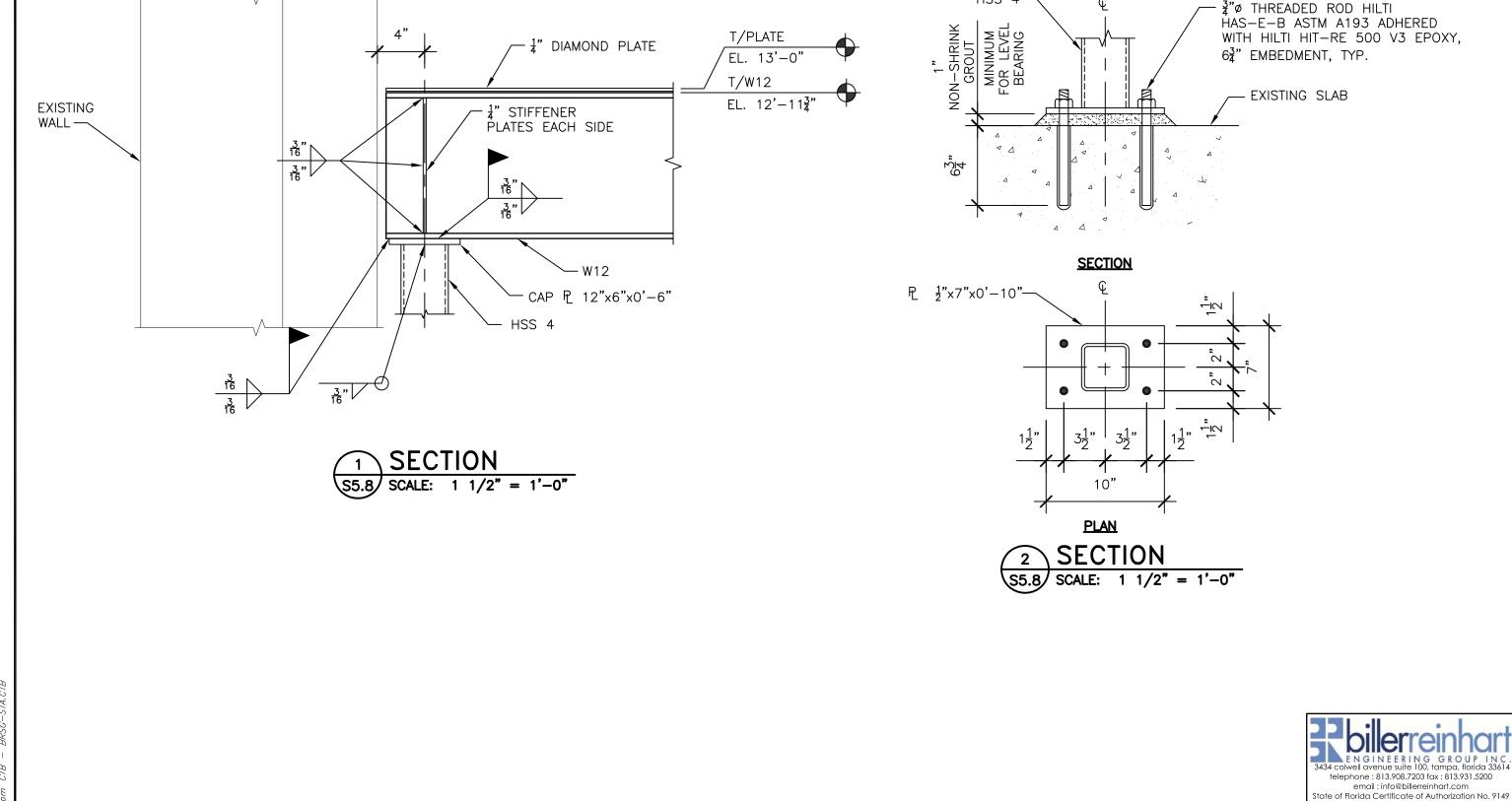




DATE: 05/17/18

SECTIONS AND DETAILS

S5.7



User: rmorffy Drawing Name: S:\Projects\City of Tampa\Louisiana Pump Layout- Jun 04, 2018 - 3:47pm CTB - BRSG-STA.CTB

TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES

> ROBERT J. REINHART, P.E. FL. P.E. NO. 50076

DATE

REVISIONS

DES: R.R.

DRN: R.C./R.M.

CKD: R.R.

DATE: 05/17/18

CITY OF TAMPA PUMPING S
WASTEWATER DEPARTMENT SECT

HSS 4-

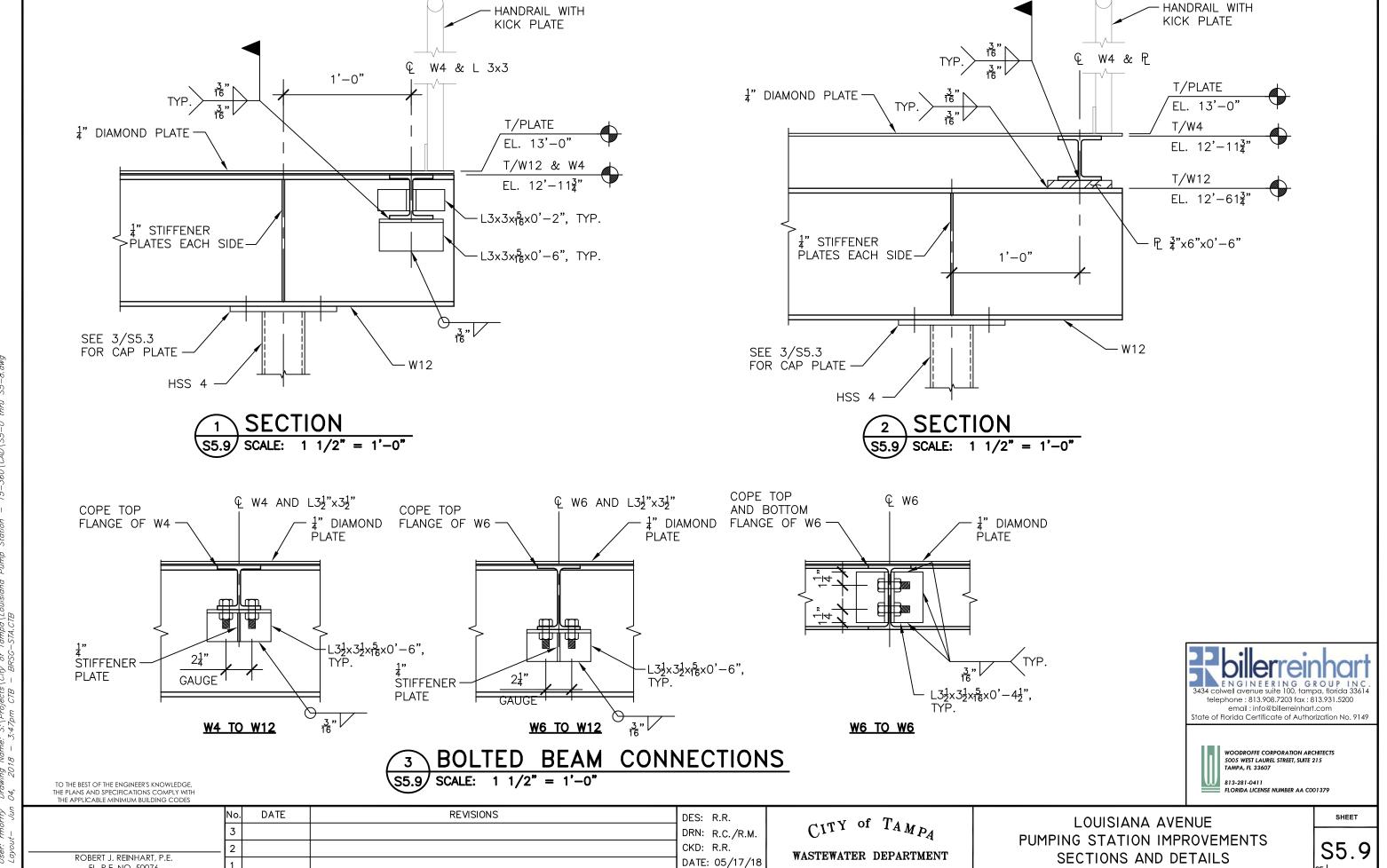
LOUISIANA AVENUE
PUMPING STATION IMPROVEMENTS
SECTIONS AND DETAILS

SHEET

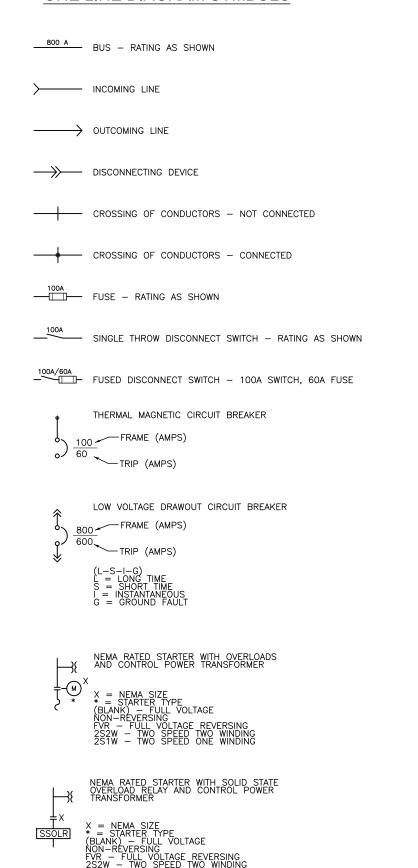
WOODROFFE CORPORATION ARCHITECTS 5005 WEST LAUREL STREET, SUITE 215 TAMPA, FL 33607

813-281-0411 FLORIDA LICENSE NUMBER AA CO01379

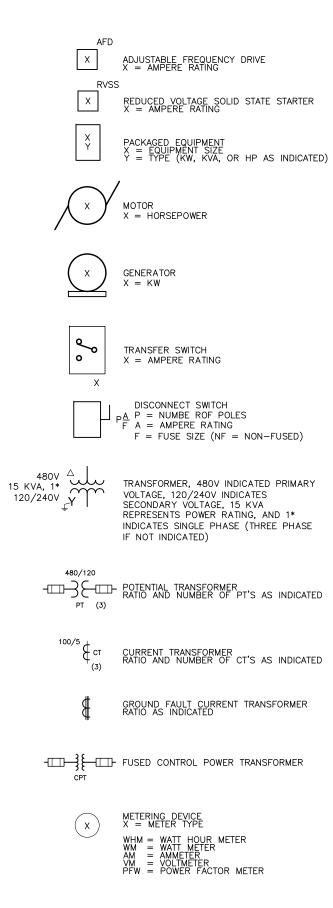
S5.8



ONE LINE DIAGRAM SYMBOLS



TIMOTHY THOMAS, PE



AS AMMETER SWITCH

VS VOLTMETER SWITCH

KEY INTERLOCK

SPD SURGE PROTECTIVE DEVICE

MMS MICROPROCESSOR METERING SYSTEM

EO ELECTRICALLY OPERATED CIRCUIT BREAKER

GROUND CONNECTION

LIGHTNING ARRESTOR OR SURGE ARRESTOR

CAPACITOR

CAPACITOR

ELAPSED TIME METER

20 AMPERE 480V, 3-PHASE TRANSFER CART



07-25-18 No. DATE REVISIONS

DES: T.D.T.
DRN: J.L.H.
CKD: T.D.T.
DATE: 7/25/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

ELECTRICAL LEGEND AND SYMBOLS (SHEET I OF 2)

SHEET

E-I

SCHEMATIC AND WIRING DIAGRAM SYMBOLS

	POWER AND LIGHTING SYMBOL LE	GEND
SYMBOL	DESCRIPTION	MOUNTING/REMARKS
	LED AREA LIGHTING FIXTURE (1)	PENDANT MOUNTED
B/C	4' LED STRIP FIXTURE (1)	CEILING OR WALL MOUNTED
	LED WALLPACK LUMINAIRE (1)	WALL MOUNTED
Шε	LED WALL LUMINAIRE (1)	WALL MOUNTED
X'₁ ғ	EXPLOSIONPROOF, WALL MOUNTED LUMINAIRE (1)	WALL MOUNTED
G/H	8' LED STRIP FIXTURE (1)	MOUNTING AS NOTED
IXI	EXIT SIGN FIXTURE WITH GUARD (1)	UNIVERSAL MOUNT
EX 🖶 EM	EXPLOSIONPROOF EMERGENCY LUMINAIRE (1)	WALL MOUNTED
=	DUPLEX RECEPTACLE: 20A, 125VAC	TOP 12" AFF OR AS NOTED
⊕	QUAD RECEPTACLE: 20A, 125VAC	TOP 12" AFF OR AS NOTED
GFI ←	DUPLEX GFI RECEPTACLE: 20A, 125VAC	TOP 12" AFF OR AS NOTED
\$	SWITCH: SINGLE-POLE OR AS NOTED, 20A, 120/277VAC	TOP 48" AFF OR AS NOTED
\$ ³	SWITCH: 3-WAY, 20A, 120/277VAC	TOP 48" AFF OR AS NOTED
	ELECTRIC PANEL	REFER TO PANEL SCHEDULE
\one \operation \(\sqrt{\text{\tin}\ext{\texi{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tin}\\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\ti}\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\ti}\text{\text{\text{\text{\text{\text{\texi}\text{\texi}\text{\ti}\text{\text{\text{\text{\text{\text{\texi{\texi}\text{\texit{\ti}\tint{\text{\texit{\text{\tin}\tint{\tiin}\tint{\tiin}\t	JUNCTION BOX WITH FLEXIBLE CONNECTION	WIRES INDICATED AS FOLLOWS:
	CONDUIT RUN CONCEALED IN CEILING SPACE OR WALL	TWO WIRES:
	CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND	——————————————————————————————————————
	CONDUIT RUN EXPOSED	FOUR WIRES, ETC. NEUTRAL WIRE
— G —	GROUNDING ELECTRODE CONDUCTOR	ISOLATED GR.
E	CONDUIT STUB OUT AND CAP	WIRE PROVIDE 2#12 THWN CU. IN
0	GROUND ROD	1/2" C. UNLESS OTHERWISE NOTED AND EQUIPMENT
	HOME RUN TO PANEL/CIRCUIT(S) INDICATED	GROUND WIRE (NOT
1	REFER TO LIKE-NUMBERED NOTES	INDICATED) IN ALL POWER AND LIGHTING RACEWAYS.

GENERAL NOTES:

(1) LETTER INSIDE OR ADJACENT TO FIXTURE SYMBOL INDICATES TYPE. REFER TO FIXTURE SCHEDULE.

NORMALLY OPEN (N.O.) CONTACT -1/-NORMALLY CLOSED (N.C.) CONTACT GROUND CONNECTION \mathbb{R} INDICATING PILOT LIGHT LETTER INDICATES COLOR OF LENS RELAY OR MOTOR STARTER COIL TIMING RELAY TIME DELAY RELAY CONTACT. NORMALLY OPEN **√**0 CONTACT TIMED TO CLOSE (N.O.T.C.) TIME DELAY RELAY CONTACT. NORMALLY CLOSED CONTACT TIMED TO OPEN (N.C.T.O.) उँ FLOAT SWITCH. OPENS ON HIGH LEVEL. ~√~ PRESSURE SWITCH. CLOSES ON LOW PRESSURE. FLOW SWITCH. OPENS ON FLOW. -olo-LIMIT SWITCH. NORMALLY CLOSED. -0--10-LIMIT SWITCH, NORMALLY OPEN. NORMALLY OPEN MOMENTARY CIRCUIT CLOSING PUSH-BUTTON SWITCH. SPRING OPEN. NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC NORMALLY CLOSED MOMENTARY CIRCUIT OPENING PUSH-BUTTON SWITCH. SPRING CLOSE. NUMBER <u>-حلہ</u>-OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC NORMALLY OPEN MOMENTARY EMERENCY STOP PUSH-BUTTON SWITCH. SPRING OPEN. NUMBER OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC (P) HIGH PRESSURE SWITCH (F)FLOW SWITCH

 \bigcirc B JUNCTION BOX

MOTOR ON-OFF/LOCKOUT SWITCH

GAS ANALYZER

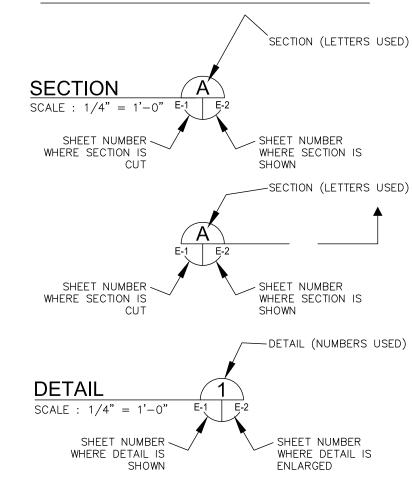
FM FLOW METER

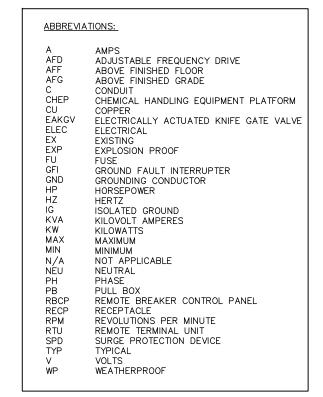
G

PRESSURE INDICATING TRANSMITTER

RECEPTACLE SWITCH SOLENOID VALVE 0/\0

EXAMPLE OF SECTION CUT AND DETAIL







	07–25–18 _{No}	. DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
MOTHY THOMAS, PE	1			DATE:	7/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

ELECTRICAL LEGEND AND SYMBOLS (SHEET 2 OF 2)

SHEET

SCOPE OF WORK

THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, AND PERFORMING ALL OPERATIONS REQUIRED TO SUPPORT THE INSTALLATION AND COMMISSIONING OF THE ELECTRICAL PORTION OF THE CITY OF TAMPA'S LOUISIANA PUMP STATION REHABILITATION. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- 1. SUBMIT WORKING DRAWINGS, PARTS SCHEDULES AND CUT-SHEETS TO THE ENGINEER.
- 2. FURNISH AND INSTALL ALL EQUIPMENT, CONTROLS AND INSTRUMENTATION AS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

SPECIFICALLY:

TIMO

- A. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED FOR THE CITY OF TAMPA'S LOUISIANA AVENUE PUMP STATION IMPROVEMENTS AS HEREINAFTER SPECIFIED AND SHOWN ON THE DRAWINGS. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
- 1. REMOVE THE EXISTING 480V PUMP STATION ELECTRICAL SERVICE FEEDERS BACK TO THE BASE OF THE EXISTING TAMPA ELECTRIC COMPANY (TECO) POWER DISTRIBUTION POLES. ALL WORK SHALL BE COORDINATED WITH TECO.
- 2. PROVIDE AND INSTALL NEW 480V PUMP STATION ELECTRICAL SERVICE FEEDERS FROM THE BASE OF THE EXISTING TAMPA ELECTRIC COMPANY (TECO) POWER DISTRIBUTION POLES TO THE NEW SERVICE ENTRANCE SWITCHGEAR TO BE PROVIDED. ALL WORK SHALL BE COORDINATED WITH TECO.
- 3. DEMOLISH AND REMOVE THE EXISTING CURRENT TRANSFORMER (C.T.) METER ASSOCIATED WITH THE EXISTING SERVICE.
- 4. DEMOLISH AND REMOVE THE EXISTING 480V, 600A, SERVICE ENTRANCE DISCONNECT SWITCHES LOCATED IN THE EXISTING SERVICE ENTRANCE ROOM.
- 5. THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING TRANSFER SWITCH LOCATED IN THE EXISTING SERVICE ENTRANCE ROOM AND TURN OVER TO THE CITY OF TAMPA FOR MAINTENANCE INVENTORY.
- 6. DEMOLISH AND REMOVE THE EXISTING MOTOR CONTROL CENTER (MCC). THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING ADJUSTABLE FREQUENCY DRIVE (AFD) FOR PUMP #3 AND ALL MOTOR STARTERS. THE AFD AND MOTOR STARTERS SHALL BE TURNED OVER TO THE CITY OF TAMPA FOR MAINTENANCE INVENTORY.
- 7. DEMOLISH AND REMOVE THE EXISTING LIGHTING FIXTURES AND SWITCHES AS INDICATED ON THE DRAWINGS.
- 8. DEMOLISH AND REMOVE THE EXISTING 480V CAPACITOR BANKS, LOCATED ON THE LOWER LEVEL OF THE PUMP STATION, AS INDICATED ON THE DRAWINGS.
- 9. DEMOLISH AND REMOVE THE EXISTING 480V MOTOR STARTERS AND DISCONNECTS, LOCATED ON THE LOWER LEVEL OF THE PUMP STATION, AS INDICATED ON THE DRAWINGS.
- 10. PROVIDE AND INSTALL THE NEW SERVICE ENTRANCE SWITCHGEAR, DESIGNATED 'SWITCHBOARD LPS', AS INDICATED ON THE DRAWINGS.
- 11. PROVIDE AND INSTALL THE NEW MOTOR CONTROL CENTER, DESIGNATED 'MCC-1', AS INDICATED ON THE DRAWINGS.
- 12. PROVIDE AND INSTALL THE NEW ADJUSTABLE FREQUENCY DRIVES, DESIGNATED AS 'AFD-P1', 'AFD-P2' AND 'AFD-P3', AS INDICATED ON THE DRAWINGS.
- 13. PROVIDE AND INSTALL THE NEW STANDBY GENERATOR SETS, DESIGNATED AS 'G-1' AND 'G-2', AS INDICATED ON THE DRAWINGS
- THE EXISTING MOSCAD CABINET, LOCATED IN THE UPPER LEVEL EQUIPMENT ROOM, CONTAINS AN EXISTING MOSCAD—L UNIT, A MOTOROLA RADIUS CM 200 RADIO, A BRIGHTHOUSE CABLE MODEM, A LINKSYS RV042 VPN ROUTER, A UPS, A BATTERY AND A 24V DC POWER SUPPLY. THE CONTRACTOR SHALL CAREFULLY REMOVE THE COMPONENTS. WHILE THESE COMPONENTS ARE TO BE REPLACED, THE CONTRACTOR MAY UTILIZE THE EXISTING EQUIPMENT TO PROVIDE TEMPORARY RADIO COMMUNICATIONS DURING CONSTRUCTION. TORY. THE LOUISIANA PUMP STATION'S EXISTING MOSCAD EQUIPMENT SERVES AS THE STORE AND FORWARD POINT FOR MORE THAN THIRTY (30) EXISTING PUMP STATIONS. THEREFORE, THE REQUIRED EQUIPMENT SHALL BE TEMPORARY RELOCATED AND BE KEPT FREE FROM MOISTURE AND EXCESSIVE HEAT DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A PLAN FOR REVIEW AND APPROVAL TO KEEP THE MOSCAD RADIO SYSTEM OPERATIONAL DURING ALL PHASES OF CONSTRUCTION. THIS PLAN SHALL INCLUDE THE SEQUENCE OF WORK TO BE PERFORMED, A LIST OF ALL TEMPORARY EQUIPMENT TO BE SUPPLIED, THE TEMPORARY EQUIPMENT'S RATING AND SPECIFICATIONS, THE PROPOSED TEMPORARY LOCATION OF THE EQUIPMENT AND THE PLAN SHALL IDENTIFY THE SPECIFIC STEPS TO BE TAKEN TO PROTECT THE EQUIPMENT FROM MOISTURE AND EXCESSIVE HEAT. THE PLAN SHALL INCORPORATE THE USE OF THE PUMP STATION'S EXISTING IN PETWORK AS THE SECONDARY BACKUP. THE CONTRACTOR SHALL COORDINATE ALL REQUIPMENT AFFECTED BY THE OUTAGE, THE AMOUNT OF TIME REQUIES SCADA OUTAGE, WITH THE CITY OF TAMPA. THE REQUIES SHALL BE SUBMITTED TO THE CITY OF TAMPA. THE REQUIES PRIOR TO THE OUTAGE REQUEST SHALL BE SUBMITTED TO THE CITY OF TAMPA. A MINIMUM OF 2 WEEKS PRIOR TO THE DATE OF THE OUTAGE. THE CONTRACTOR SHALL NOT BE ALLOWED TO INITIATE THE OUTAGE PRIOR TO RECEIVING WRITTEN APPROVAL FROM THE CITY OF TAMPA.
- 15. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW SCADA CONTROL PANEL TO BE DESIGNATED 'CP-L01'.
- 16. THE EXISTING BUBBLER/PUMP CONTROL CABINET, LOCATED ON THE UPPER LEVEL OF THE PUMP STATION, SHALL BE REWORKED AS INDICATED ON THE DRAWINGS. THE NEWLY REWORKED CABINET SHALL SERVE AS THE STATION'S BUBBLER PANEL AND SHALL BE DESIGNATED 'BP-L01'
- 17. THE EXISTING SCADA CABINET, LOCATED ON THE UPPER LEVEL OF THE PUMP STATION, SHALL BE REWORKED AS INDICATED ON THE DRAWINGS. THE NEWLY REWORKED CABINET SHALL SERVE AS THE STATION'S PUMP CONTROL PANEL AND SHALL BE DESIGNATED 'CP-L02'.
- 18. PROVIDE AND INSTALL NEW LIGHTING FIXTURES, SWITCHES AND LIGHTING CONTROLS AS INDICATED ON THE DRAWINGS.
- 19. PROVIDE AND INSTALL NEW 120V RECEPTACLES AS INDICATED ON THE DRAWINGS.
- 20. DEMOLISH AND REPLACE MISCELLANEOUS CONDUCTORS/CONDUITS AS INDICATED ON THE DRAWINGS.
- 21. THE CONTRACTOR SHALL COORDINATE ALL SITE, ELECTRICAL WORK, CONTROLS WORK, TEMPORARY CONSTRUCTION POWER, TEMPORARY CONTROL SYSTEMS, AND ALL BYPASS SYSTEMS REQUIRED WITH CITY OF TAMPA STAFF AND THE MECHANICAL CONTRACTOR TO ALLOW FOR UNINTERRUPTED PUMP STATION OPERATION DURING CONSTRUCTION.
 - a. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY POWER TO THE FACILITIES REQUIRED DURING CONSTRUCTION. THE CONTRACTOR MAY RENT THE STANDBY POWER ENGINE/GENERATOR SETS REQUIRED OR USE EQUIPMENT FROM HIS/HER INVENTORY. THE CONTRACTOR SHALL COORDINATE THE TEMPORARY POWER REQUIREMENTS WITH THE MECHANICAL CONTRACTOR, AS DIESEL DRIVEN PUMP SET(S) MAY ALSO BE UTILIZED TO ACCOMMODATE A PORTION OF THE PUMPING REQUIREMENTS.
 - b. THE CONTRACTOR SHALL ALSO SUPPLY AND INSTALL ANY AND ALL CIRCUIT BREAKER PANELBOARDS, COMBINATION STARTERS, ADJUSTABLE FREQUENCY DRIVES, CABLING, ETC. THAT MAY BE REQUIRED TO FACILITATE THE TEMPORARY LOAD CONNECTIONS.

TRICON CONSULTING ENGINEERS 775 Habou Island Blvd, STE 30, TAMPA, R. 30802 815 227, 9190 FAX 613, 227, 9195

07-25-18	No.	DATE	REVISIONS	DES:	T.D.T.
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	2			CKD:	T.D.T.
OTHY THOMAS, PE PRIDA LICENSE PE 47079	1			DATE:	7/25/

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

ELECTRICAL SCOPE OF WORK

SHEET

GENERAL NOTES:

TIMOTHY THOMAS, PE

FLORIDA LICENSE PE 47079

- 1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL AND SHALL RECEIVE SAID APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
- 2. AFTER CORE DRILLING HOLES THROUGH REINFORCED CONCRETE WALLS AND FLOORS, COAT EXPOSED REINFORCING STEEL CONCRETE SURFACES WITH EMACO P24 BY BASF. AFTER ROUTING CONDUIT THROUGH HOLE, FILL AND FINISH CONCRETE WITH A SHRINKAGE COMPENSATING REPAIR MORTAR WITH CORROSION INHIBITING PROPERTIES, EMACO S66 C1 BY BASF.
- 3. SHIELD AND DRAIN WIRE FOR EACH ANALOG SIGNAL (4-20 MA) CABLE SHALL BE GROUNDED AT THE PLC ONLY. THE SHIELD AND DRAIN WIRE AT EACH FIELD DEVICE SHALL BE NEATLY TRIMMED & TAPED WITH (2) LAYERS OF VINYL ELECTRICAL TAPE (SCOTCH 33+).
- 4. ALL CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN WITH XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
- 5. THE WET WELL CLASSIFICATION IS CLASS 1, GROUPS C & D, DIVISION 1 (HAZARDOUS AREA). NEC ARTICLES 500 & 501 ARE APPLICABLE FOR WIRING METHODS USED IN THE WET WELL.
- ALL WIRING SHALL BE IDENTIFIED WITH NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS. MARKERS SHALL BE THOMAS & BETTS INSTA-CODE CLIP-ON MARKERS OR APPROVED EQUAL.
- 7. ALL CIRCUITS SHALL HAVE GROUNDING CONDUCTORS ROUTED INSIDE THE CONDUIT WITH POWER CONDUCTORS.
- 8. ALL POWER CONDUCTORS AND MOTOR WINDINGS SHALL BE TESTED WITH A 600 VOLT INSULATION RESISTANCE TESTER "MEGGER". INSULATION READINGS SHALL BE A MINIMUM OF 20 MEGOHMS TO GROUND (DO NOT TEST LOW-VOLTAGE CONTROLS). INSULATION READINGS THAT ARE LESS THAN 20 MEGOHMS SHALL REQUIRE THE REPLACEMENT OF THE CONDUCTOR OR MOTOR AS APPLICABLE.
- 9. NEATLY COIL AND TAPE SPARE CONDUCTORS WITH VINYL ELECTRICAL TAPE (SCOTCH 33+) U.O.N.
- 10. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
- 11. LIQUIDTIGHT FLEXIBLE NON-METALLIC CONDUIT CONNECTIONS TO EACH MOTOR SHALL NOT EXCEED A LENGTH OF 36".
- 12. ALL THREADED CONNECTIONS SHALL BE COATED WITH COPPER SHIELD ANTI-SEIZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B).
- 13. ALL UNDERGROUND CONDUITS SHALL BE BURIED WITH A MINIMUM OF 24" COVER UNLESS OTHERWISE NOTED.
- 14. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC UNLESS OTHEWISE NOTED. CONTRACTOR SHALL OPTIMIZE THE CONDUIT ROUTING, TAKING INTO ACCOUNT THE FIELD CONDITIONS AND THE FINAL EQUIPMENT SELECTED AND APPROVED IN THE SUBMITTALS.
- 15. PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND TO AVOID EXCESSIVE PULLING TENSION ON WIRING IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150' OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.
- 16. PROVIDE PVC SLEEVES FOR ALL METALLIC CONDUIT PENETRATIONS THROUGH CONCRETE. WHERE ALUMINUM SURFACES SUCH AS BOXES, CONDUIT OR STRUCTURAL SUPPORTS COME IN CONTACT WITH INCOMPATIBLE METALS, LIME, MORTAR, CONCRETE OR OTHER MASONRY MATERIALS, THE CONTACT AREA SHALL BE GIVEN ONE FIELD COAT OF KOPPERS METAL PASSIVATOR NO. 40 AND ONE COAT OF KOPPERS BITUMASTIC SUPER SERVICE BLACK OR TWO COATS OF ASPHALT VARNISH CONFORMING TO FED. SPEC. TT-V-51.
- 17. ALL CONDUIT TRENCHES SHALL BE DUG BY HAND TO AVOID DAMAGING UNDERGROUND PIPING AND UTILITIES.
- 18. ALL UNDERGROUND CONDUITS NOT INSTALLED BENEATH BUILDING SLAB SHALL BE ENCASED IN STEEL REINFORCED CONCRETE. CONCRETE ENCASEMENT SHALL BE IN ACCORDANCE WITH THE DUCT BANK DETAIL. PROVIDE 6—INCH WIDE DETECTABLE TYPE PLASTIC RED TAPE WITH WARNING DESCRIPTION "CAUTION: BURIED ELECTRICAL LINE BELOW".

- 19. THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, FENCES & OTHER IMPROVEMENTS WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
- 20. CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES & DITCHES DURING ALL PHASES OF CONSTRUCTION.
- 21. ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5'-O" INTERVALS.
- 22. ALL FASTENING AND MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL, GALVANIZED HARDWARE WILL NOT BE ACCEPTED.
- 23. ALL UNISTRUT SHALL BE 1 5/8" X 1 5/8" X 12 GA. 316 STAINLESS STEEL
- 24. CONTRACTOR SHALL FIELD VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATINGS PRIOR TO CONNECTING.
- 25. CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
- 26. ALL PANELS, PANEL COMPONENTS, DISCONNECTS, SWITCHES & EQUIPMENT COVERPLATES SHALL BE LABELED WITH NAMEPLATES. NAMEPLATES SHALL BE THREE PLY PHENOLIC BLACK—WHITE—BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16") MIN. EDGES OF NAMEPLATES SHALL BE BEVELED 45°. THE NAMEPLATES SHALL BE SECURED TO EQUIPMENT WITH STAINLESS STEEL SCREWS OR RIVETS. THE USE OF GLUE IS NOT PERMITTED.
- 27. ALL INSTALLED COMPONENTS SHALL BE LISTED BY UNDERWRITERS LABORATORY (UL), OR SIMILAR NATIONALLY RECOGNIZED TESTING LABORATORY.
- 28. REFERENCE PLAN & SECTION DRAWINGS FOR EQUIPMENT LOCATIONS.
- 29. COORDINATE ALL INSTALLATIONS WITH ALL OTHER TRADES.
- 30. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN DRAWINGS & ACTUAL CONDITIONS ARE DISCOVERED.
- 31. ALL "AS BUILT" DRAWINGS PROVIDED BY THE CONTRACTOR SHALL BE SIGNED AND DATED WITH CHANGES CLEARLY NOTED IN RED. ADDITIONALLY, THE PRINTED NAME OF THE INDIVIDUAL SIGNING THE "AS BUILT" DRAWINGS ALONG WITH THAT PERSON'S COMPANY AFFILIATION SHALL BE INCLUDED. IF NO CHANGES WERE MADE DURING CONSTRUCTION, A NOTE DESIGNATING "NO CHANGES" SHALL BE INCLUDED ON THE "AS BUILT" DRAWINGS.
- 32. ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID & PRIOR TO COMMENCING CONSTRUCTION.
- 33. PROVIDE A MINIMUM OF 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT FOR ADDITIONAL CLEARANCE AND TO COMPLY WITH ARTICLE 110 OF THE NEC.
- 34. PLANS ARE DESIGNED IN ACCORDANCE WITH THE 6TH EDITION 2017 OF THE FLORIDA BUILDING CODE AND THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
- 35. ALL CONDUITS ROUTED IN CONCRETE SHALL BE INSTALLED WITH A SEPARATION BETWEEN CONDUITS OF NOT LESS THAN 3 INCH DIAMETERS (CENTER-TO-CENTER) & IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE STANDARD NO. 318-89.
- 36. ALL CONDUIT EXPOSED ABOVE GRADE SHALL BE RIGID HEAVY WALL ALUMINUM, UNLESS OTHERWISE NOTED. CONDUITS EXTENDING BELOW GRADE SHALL BE RIGID HEAVY WALL ALUMINUM CONDUIT THROUGH AND INCLUDING THE FIRST 90 DEGREE ELBOW (OR EQUIVALENT SET OF FITTINGS) INSTALLED BELOW GRADE. DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALLBE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. CONNECTIONS TO PVC CONDUIT SHALL BE MADE WITH A RIGID ALUMINUM TO PVC CONDUIT ADAPTER. ALUMINUM IN CONTACT WITH SOIL OR OTHER INCOMPATIBLE MATERIALS SHALL BE COATED WITH TWO COATS OF BITUMASTIC.

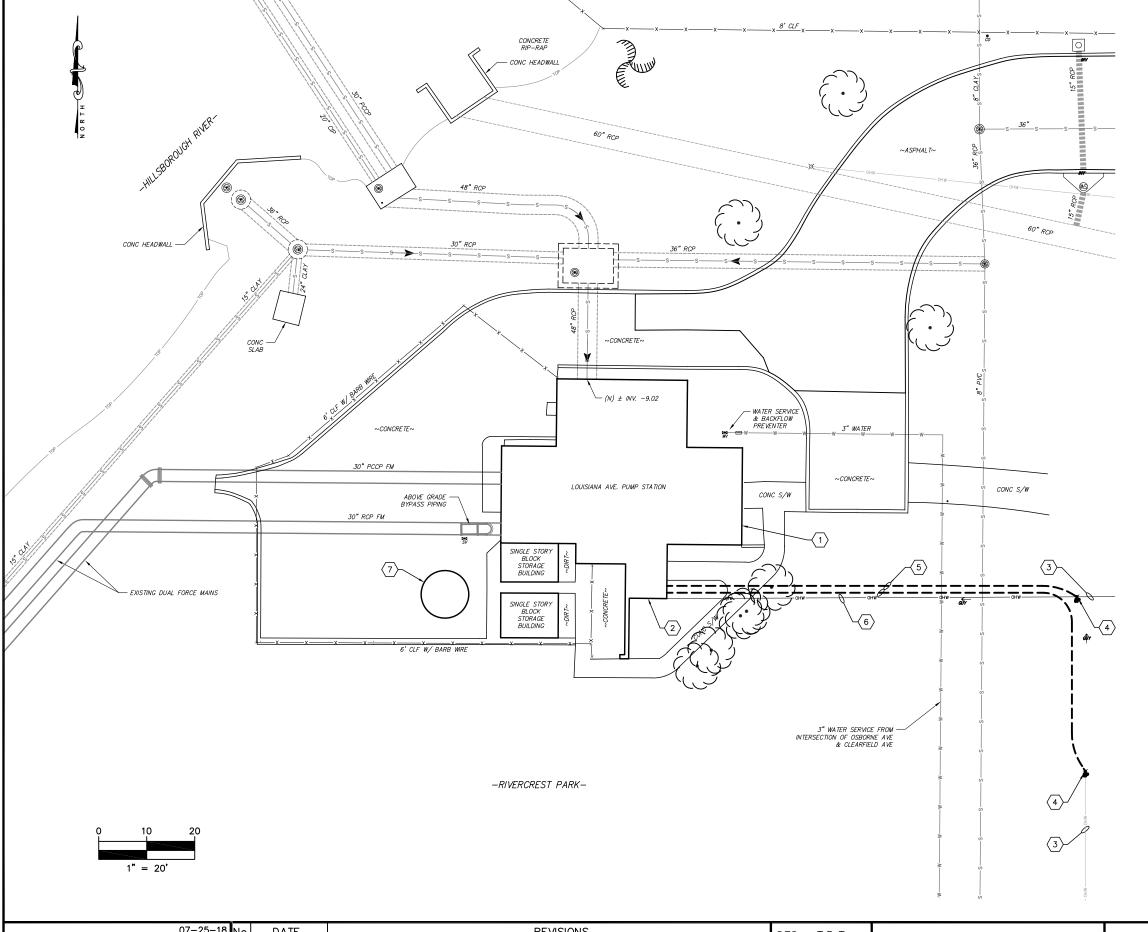


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ELECTRICAL GENERAL NOTES

SHEET



KEYED NOTES:

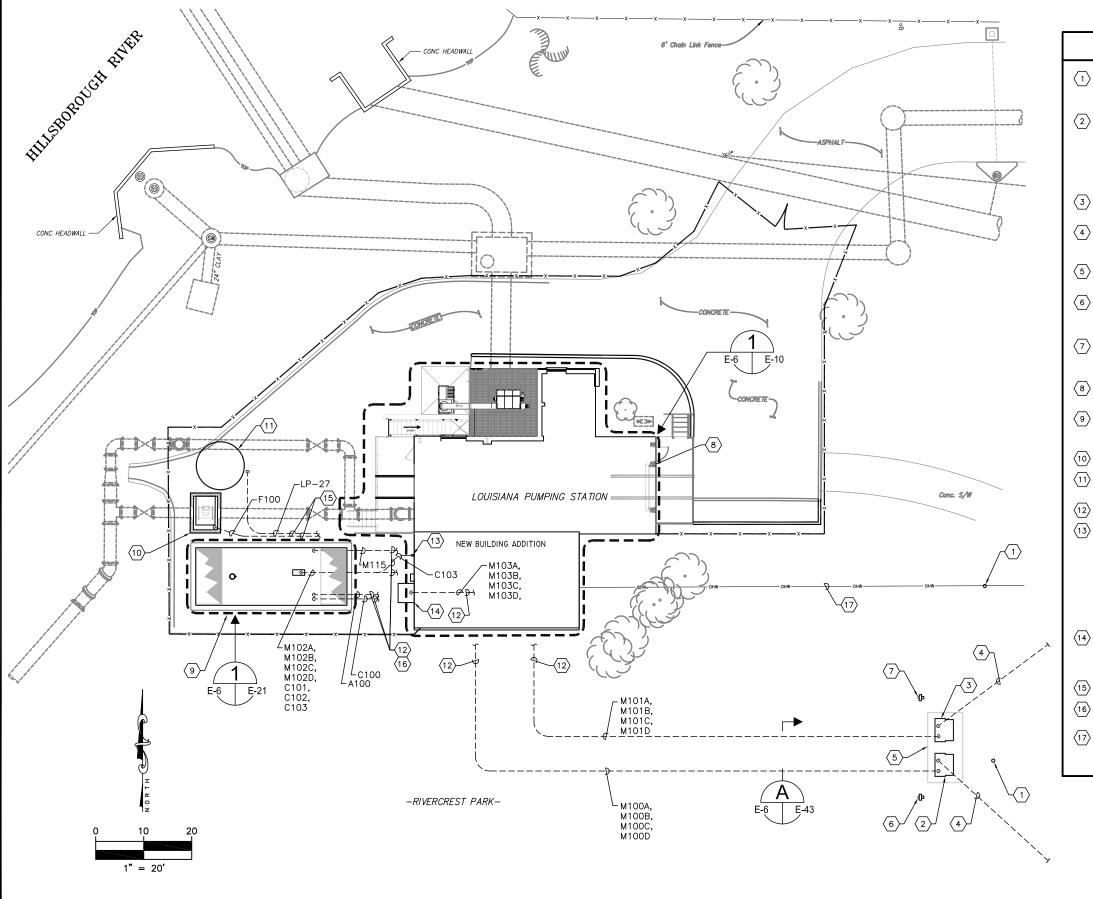
- EXISTING LOUISIANA AVENUE PUMP STATION. EXISTING TRANSFORMERS MAY BE UTILIZED FOR ELECTRIC PORTION OF BYPASS PLAN
- $\fbox{2}$ EXISTING ELECTRICAL SERVICE ENTRANCE ROOM. REFER TO SHEET E-7 FOR MODIFICATIONS.
- 3) EXISTING TAMPA ELECTRIC (TECO) OVERHEAD DISTRIBUTION FEEDER.
- EXISTING TECO DISTRIBUTION POLE WITH POLE—MOUNTED TRANSFORMERS. EXISTING POLE—MOUNTED TRANSFORMERS TO BE REMOVED AND REPLACED WITH PAD—MOUNTED TRANSFORMERS. REFER TO SHEET E—6 FOR PROPOSED ELECTRICAL SITE PLAN.
- (5) EXISTING UNDERGROUND 480V PUMP STATION FEEDERS (EXACT LOCATION/ROUTING IS NOT KNOWN) FROM EXISTING POLE-MOUNTED TAMPA ELECTRIC (TECO) TRANSFORMERS. POLE-MOUNTED TRANSFORMERS TO BE REMOVED (REFER TO KEYED NOTE #4). EXISTING UNDERGROUND 480V PUMP STATION CONDUCTORS AND CONDUIT TO BE REMOVED. REFER ALSO TO SHEET E-6 FOR PROPOSED ELECTRICAL SITE PLAN.
- 6 EXISTING OVERHEAD TELEPHONE AND CABLE COMPANY CONDUCTORS TO BE RAISED AND REUSED.
- 7 CURRENT LOCATION FOR EXISTING CHEMICAL STORAGE TANK (FOR ODOR CONTROL SYSTEM). EXISTING CHEMICAL TANK SHALL BE RELOCATED AND REUSED. REFER TO SHEET E-6 (PROPOSED ELECTRICAL SITE PLAN) FOR PROPOSED LOCATION.

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EXISTING ELECTRICAL SITE PLAN

SHEET



- 21 EXISTING TAMPA ELECTRIC COMPANY (TECO) POWER DISTRIBUTION POLE. REFER ALSO TO SHEET E-5. EXISTING TRANSFORMERS MAY BE UTILIZED FOR ELECTRIC PORTION OF BYPASS PLAN.
- PROPOSED 13.2KV-277/480V, 3-PHASE, 4-WIRE 1,000 KVA TRANSFORMER 'A'. TRANSFORMER AND CONCRETE PAD TO BE PROVIDED AND INSTALLED BY TECO. AS AN ALTERNATE, THE ELECTRICAL SERVICE FOR THE BYPASS PLAN MAY BE TAKEN FROM THE NEW TRANSFORMERS. THE CONTRACTOR WOULD BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL TEMPORARY SERVICE EQUIPMENT AND PAYING ALL ENERGY USAGE CHARGES FROM THE LITTLITY
- 3 PROPOSED 13.2KV-277/480V, 3-PHASE, 4-WIRE 1,000 KVA TRANSFORMER 'B'. TRANSFORMER AND CONCRETE PAD TO BE PROVIDED AND INSTALLED BY TECO.
- TECO SHALL FEED NEW TRANSFORMER FROM A NEW DISTRIBUTION POINT. 13.2 KV DISTRIBUTION CONDUIT AND CONDUCTORS TO BE PROVIDED AND INSTALLED BY TECO.
- 5 CONTRACTOR TO PROVIDE AND INSTALL NEW CONCRETE PAD FOR PROPOSED TECO TRANSFORMERS. COORDINATE ALL REQUIREMENTS WITH TECO.
- 6) PROPOSED LOCATION OF TECO TRANSFORMER 'A' ELECTRIC METER. INSTALL ON 6" SQUARE CONCRETE POST. PROVIDE 2" SPARE CONDUIT FROM TRANSFORMER 'A' TO PROPOSED METER. COORDINATE ALL OTHER REQUIREMENTS WITH TECO.
- 7) PROPOSED LOCATION OF TECO TRANSFORMER 'B' ELECTRIC METER. INSTALL ON 6" SQUARE CONCRETE POST. PROVIDE 2" SPARE CONDUIT FROM TRANSFORMER 'B' TO PROPOSED METER. COORDINATE ALL OTHER REQUIREMENTS WITH TECO.
- (8) EXISTING LOUISIANA PUMP STATION BUILDING WITH PROPOSED ADDITION. REFER TO SHEET E-10 FOR EQUIPMENT AND CONDUIT LAYOUTS.
- 9 PROPOSED 480V, 3-Ø, 4-WIRE, 750 KVA GENERATOR IN WEATHERPROOF SOUND ATTENUATED ENCLOSURE. GENERATOR ENCLOSURE TO BE PROVIDED WITH SKID-MOUNTED BASE TANK. REFER TO SHEET E-21 FOR DETAILS.
- $\langle 10
 angle$ proposed flow meter vault. Refer to sheet I–20 for details.
- PROPOSED LOCATION FOR EXISTING CHEMICAL STORAGE TANK (FOR ODOR CONTROL SYSTEM).
- $\langle 12 \rangle$ FOR CONTINUATION REFER TO SHEET E-12.
- GENERATOR EMERGENCY SHUT DOWN PUSH BUTTON STATION. MAINTAINED 2 POSITION SWITCH WITH 1-5/8" DIA. OPERATOR, 1 N.O. & 1 N.C. CONTACT MOUNTED IN A NEMA 4X SS ENCLOSURE, 4'-6" ABOVE FINISHED GRADE. BREAK-GLASS OPERATORS ARE NOT AN ACCEPTABLE SUBSTITUTION. PROVIDE PHENOLIC NAMEPLATE ABOVE PUSH BUTTON STATION. NAMEPLATE SHALL BE THREE-PLY PHENOLIC RED-WHITE-RED ENGRAVED THROUGH THE FIRST RED LAYER. LETTERING SHALL BE 1/2" MIN., EDGES OF NAMEPLATE SHALL BE BEVELED 45 DEG. NAMEPLATE SHALL READ AS FOLLOWS: "GENERATOR EMERGENCY SHUT DOWN".
- PROPOSED 84" X 48" X 41" GENERATOR DOCKING STATION. 1200A, 480V, 3-POLE, 4-WIRE WITH ROTARY TRANSFER SWITCH TRYSTAR GDR-125P-LLM-I. CONTRACTOR TO COORDINATE INSTALLATION LOCATION OF GENERATOR DOCKING STATION WITH LOUVER AND LADDER ON WEST WALL OF BUILDING.
- (15) FIELD ROUTE CONDUIT AS REQUIRED.
- 16 CONTRACTOR SHALL CUT EXISTING CONCRETE SLAB, INSTALL CONDUIT AND CONDUCTORS AND REPAIR SLAB TO EXISTING CONDITIONS.
- (17) EXISTING OVERHEAD LINE INCLUDES EXISTING BRIGHTHOUSE SERVICE CABLE. CONTRACTOR SHALL COORDINATE RELOCATION/MODIFICATION OF EXISTING BRIGHTHOUSE SERVICE AS REQUIRED.

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DRN: J.L.H.

CKD: T.D.T.

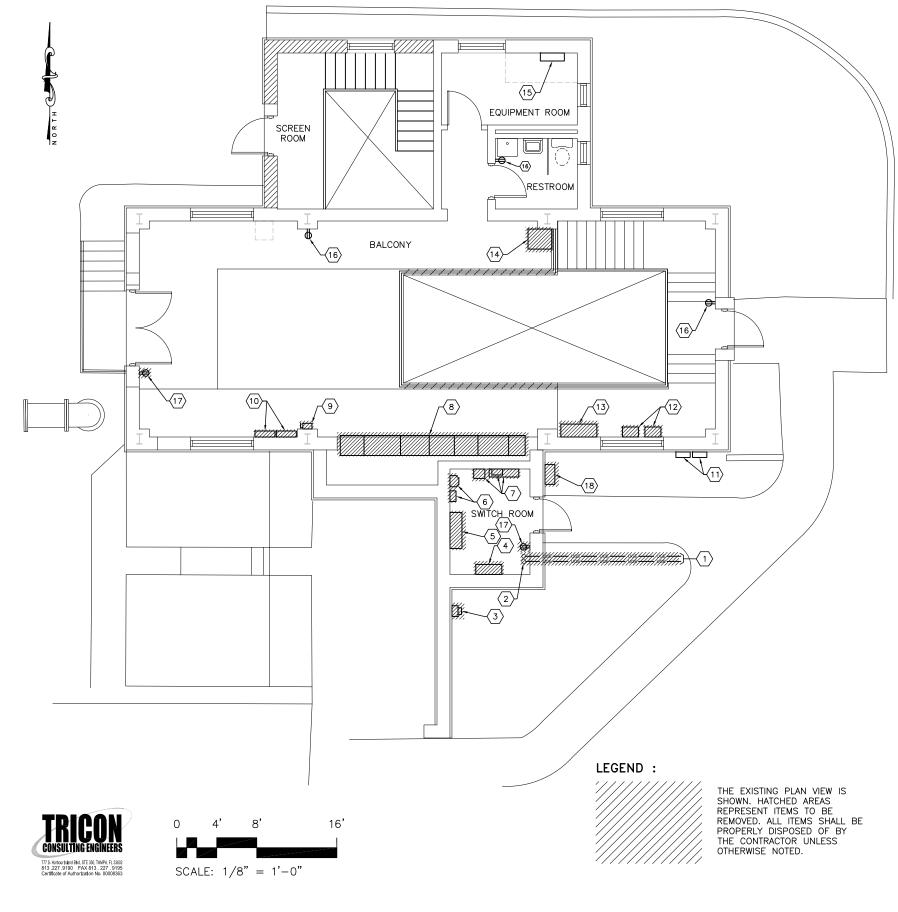
TIMOTHY THOMAS, PE
FLORIDA LICENSE DE 47/729

DATE: 7/25/18

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PROPOSED ELECTRICAL SITE PLAN

SHEET



- 1) EXISTING UNDERGROUND 480V PUMP STATION FEEDERS FROM EXISTING POLE—MOUNTED TAMPA ELECTRIC (TECO) TRANSFORMERS TO BE REMOVED. COORDINATE ALL WORK WITH TECO.
- 2) STUB UP LOCATION OF PUMP STATION FEEDERS. EXISTING PUMP STATION FEEDERS TO BE REMOVED. CONTRACTOR TO CUT CONDUIT OFF AT SLAB AND CAP.
- (3) CONTRACTOR SHALL REMOVE EXISTING C.T. METER. COORDINATE ALL WORK WITH TECO.
- CONTRACTOR SHALL REMOVE TWO (2) EXISTING 600A DISCONNECTS. DISCONNECTS ARE MOUNTED WITH ONE DIRECTLY ABOVE THE OTHER.
- 5) CONTRACTOR TO CAREFULLY REMOVE EXISTING TRANSFER SWITCH AND TURN OVER TO CITY FOR MAINTENANCE INVENTORY.
- 6 CONTRACTOR TO REMOVE EXISTING 480-120/240V STEP-DOWN TRANSFORMER AND ASSOCIATED LOADCENTER.
- CONTRACTOR TO REMOVE EXISTING 480-120/240V STEP-DOWN TRANSFORMER, ASSOCIATED LOADCENTER, AUTOMATIC TRANSFER SWITCH (ATS) AND WIREWAY FOR MCC FEEDER. THE CITY WILL DETERMINE WHAT IS SALVAGEABLE PRIOR TO DEMOLITION.
- (8) CONTRACTOR TO REMOVE EXISTING MOTOR CONTROL CENTER. CONTRACTOR SHALL CAREFULLY REMOVE THE ADJUSTABLE FREQUENCY DRIVE (AFD) FOR PUMP #3 AND MOTOR STARTERS. THE CITY WILL DETERMINE WHAT IS SALVAGEABLE PRIOR TO DEMOLITION.
- (9) CONTRACTOR TO REMOVE EXISTING CRANE 480V DISCONNECT SWITCH
- (10) CONTRACTOR TO REMOVE EXISTING PANELBOARDS, TIMECLOCKS, AND RECEPTACLES.
- (11) EXISTING TELEPHONE AND BRIGHTHOUSE CABLE SERVICE ENTRANCE CABINETS TO REMAIN.
- (12) CONTRACTOR TO REMOVE EXISTING JUNCTION BOX. JUNCTION BOX CONTAINS EXISTING BRIGHTHOUSE COAXIAL COMMUNICATIONS CABLE. COAXIAL COMMUNICATIONS CABLE TO BE REPOUTED. REFER ALSO TO SHEET I-17.
- 23 EXISTING CABINET TO BE REMOVED. REFER TO SHEET E-10 FOR NEW PUMP CONTROL CABINET 'CP-L01' INSTALLATION LOCATION. CONTRACTOR SHALL EXTEND EXISTING CONDUIT AND PROVIDE NEW CONDUCTORS AS REQUIRED FOR NEW INSTALLATION.
- (14) EXISTING CABINET TO BE REMOVED. REFER TO SHEET E-10 FOR NEW BUBBLER PANEL 'BP-L01' INSTALLATION LOCATION. CONTRACTOR SHALL EXTEND EXISTING CONDUIT AND PROVIDE NEW CONDUCTORS AS REQUIRED FOR NEW INSTALLATION.
- EXISTING CABINET CONTAINING EXISTING MOTOROLA—L UNIT, MOTOROLA RADIUS CM 200 RADIO, BRIGHTHOUSE CABLE MODEM, LINSYS RV042 VPN ROUTER, UPS, BATTERY AND POWER SUPPLY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW MOTOROLA ACE3600 REMOTE TERMINAL UNIT IN THIS LOCATION. REFER TO INSTRUMENTATION SHEETS FOR DETAILS. THE EXISTING COMPONENTS SHALL BE REUSED AS A MEANS OF PROVIDING TEMPORARY RADIO COMMUNICATIONS DURING CONSTRUCTION. REFER TO SCOPE OF WORK NOTE #14 ON SHEET E—3 FOR TEMPORARY RADIO COMMUNICATIONS REQUIREMENTS.
- (16) EXISTING RECEPTACLE TO BE REPLACED WITH NEW. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS TO NEW RECEPTACLE. EXISTING CONDUIT MAY BE REUSED IF POSSIBLE, AFTER MANDREL CLEANING. PROVIDE NEW STAINLESS STEEL DEVICE PLATE (DEVICE PLATES SHALL BE GANGED WHEN LIGHTING SWITCHES ARE ADJACENT. REFER TO LIGHTING PLANS FOR SWITCH LOCATIONS).
- (17) EXISTING RECEPTACLE TO BE REMOVED.
- (18) CONTRACTOR TO REMOVE EXISTING GENERATOR TERMINAL BOX.

GENERAL NOTES:

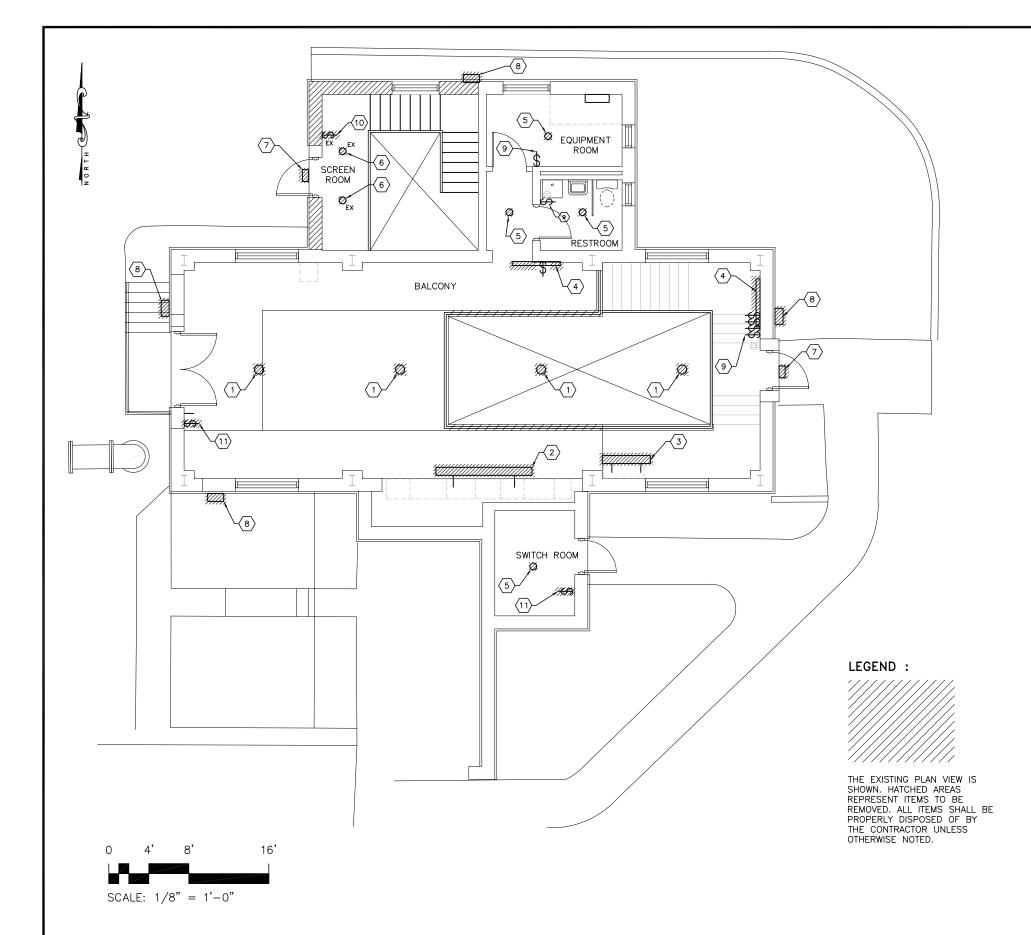
- 1. ALL EQUIPMENT DEPICTED ON THIS DRAWING IS EXISTING. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING A BID OR COMMENCING CONSTRUCTION.
- COORDINATE ALL DEMOLITION ACTIVITIES, INCLUDING WHICH EQUIPMENT IS TO BE SALVAGED, WITH THE OWNER AND OTHER TRADES.
- 3. ALL EXISTING INSTALLATIONS DENOTED ON THIS DRAWING ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION.

07–27–18	No.	. DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/1

 $C^{\Upsilon\Upsilon}$ of $T_{AMP_{\mathcal{A}}}$ wastewater department

UPPER LEVEL ELECTRICAL DEMOLITION PLAN

SHEET



- CONTRACTOR SHALL REMOVE EXISTING INCANDESCENT LIGHTING FIXTURE. LIGHTING FIXTURE IS PENDANT MOUNTED APPROXIMATELY 18'-6" ABOVE BALCONY FINISHED FLOOR.
- (2) CONTRACTOR SHALL REMOVE EXISTING 8 FT. FLUORESCENT LIGHTING FIXTURE IS CANTILEVER HUNG, APPROXIMATELY 8'-0" ABOVE BALCONY FINISHED FLOOR.
- (3) CONTRACTOR SHALL REMOVE EXISTING 4 FT. FLUORESCENT LIGHTING FIXTURE. FIXTURE IS CANTILEVER HUNG, APPROXIMATELY 8'-0" ABOVE BALCONY FINISHED FLOOR.
- CONTRACTOR SHALL REMOVE EXISTING 4 FT. FLUORESCENT LIGHTING FIXTURE. FIXTURE IS SURFACE MOUNTED ON WALL, APPROXIMATELY 9'-0" ABOVE FINISHED FLOOR.
- 5) CONTRACTOR SHALL REMOVE EXISTING INCANDESCENT LIGHTING FIXTURE. LIGHTING FIXTURE IS SURFACE MOUNTED ON CEILING.
- 6 CONTRACTOR SHALL REMOVE EXISTING EXPLOSION PROOF INCANDESCENT LIGHTING FIXTURE. LIGHTING FIXTURE IS PENDANT MOUNTED APPROXIMATELY 12'-0" ABOVE SCREEN ROOM ENTRY FLOOR.
- CONTRACTOR SHALL REMOVE EXISTING EXTERIOR FLUORESCENT LIGHTING FIXTURE. FIXTURE IS SURFACE MOUNTED ABOVE DOOR, AT AN APPROXIMATE ELEVATION OF 8'-0".
- 8 CONTRACTOR SHALL REMOVE EXISTING EXTERIOR HID WALLPACK LIGHTING FIXTURE. FIXTURE IS SURFACE MOUNTED. ELEVATION VARIES PER FIXTURE.
- 9 EXISTING SWITCHES TO BE REPLACED WITH NEW. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS TO NEW SWITCH. EXISTING CONDUIT MAY BE REUSED IF POSSIBLE, AFTER MANDREL CLEANING. PROVIDE NEW STAINLESS STEEL DEVICE PLATE (DEVICE PLATES SHALL BE GANGED WHEN APPLICABLE AND SHALL INCLUDE RECEPTACLE COVER WHEN APPLICABLE. REFER ALSO TO SHEET E-7 FOR RECEPTACLE LOCATIONS).
- (10) EXISTING EXPLOSION PROOF SWITCH TO BE REMOVED.
- (11) EXISTING SWITCH TO BE REMOVED.

GENERAL NOTES:

- 1. ALL EQUIPMENT DEPICTED ON THIS DRAWING IS EXISTING. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING A BID OR COMMENCING CONSTRUCTION.
- 2. COORDINATE ALL DEMOLITION ACTIVITIES WITH THE OWNER AND OTHER TRADES.
- 3. ALL EXISTING INSTALLATIONS DENOTED ON THIS DRAWING ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION.

CONSULTING ENGINEERS

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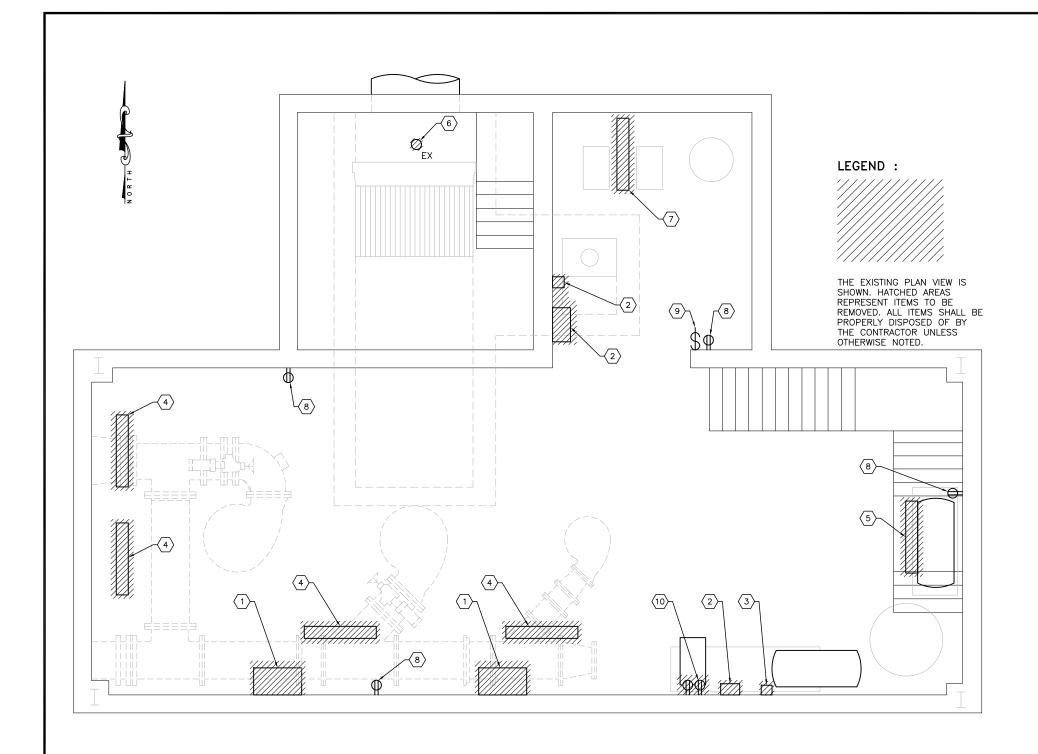
TIMOTHY THOMAS, PE
FLORIDA LICENSE PE 47079

DATE: 7/25/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

UPPER LEVEL LIGHTING DEMOLITION PLAN

SHEET



- (1) CONTRACTOR SHALL REMOVE EXISTING CAPACITOR BANK AND ALL ASSOCIATED CONDUIT/CONDUCTORS.
- (2) CONTRACTOR SHALL REMOVE EXISTING COMBINATION STARTER AND ALL ASSOCIATED CONDUIT/CONDUCTORS.
- (3) CONTRACTOR SHALL REMOVE EXISTING DISCONNECT SWITCH AND MOTOR STARTER (MOTOR STARTER LOCATED BELOW DISCONNECT).
- CONTRACTOR SHALL REMOVE EXISTING 4 FT. FLUORESCENT LIGHTING FIXTURE. FIXTURE IS CEILING MOUNTED, APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.
- CONTRACTOR SHALL REMOVE EXISTING 4 FT. FLUORESCENT LIGHTING FIXTURE. FIXTURE IS CHAIN HUNG FROM STRAIR WELL, APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.
- CONTRACTOR SHALL REMOVE EXISTING EXPLOSION PROOF INCANDESCENT LIGHTING FIXTURE. LIGHTING FIXTURE IS CEILING MOUNTED ON UNDERSIDE OF STAIRWELL, APPROXIMATELY 12'-0" ABOVE SCREEN ROOM FINISHED FLOOR.
- CONTRACTOR SHALL REMOVE EXISTING 4 FT. FLUORESCENT LIGHTING FIXTURE. FIXTURE IS CEILING MOUNTED, APPROXIMATELY 9'-0" ABOVE FINISHED FLOOR.
- (8) EXISTING RECEPTACLE TO BE REPLACED WITH NEW AND RELOCATED (REFER TO SHEET E-16 FOE NEW LOCATION. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS TO NEW RECEPTACLE. EXISTING CONDUIT MAY BE REUSED IF POSSIBLE, AFTER MANDREL CLEANING. PROVIDE NEW STAINLESS STEEL DEVICE PLATE (DEVICE PLATES SHALL BE GANGED WHEN LIGHTING SWITCHES ARE ADJACENT).
- 9 EXISTING SWITCH TO BE REPLACED WITH NEW. CONTRACTOR SHALL PROVIDE AND INSTALL NEW CONDUCTORS TO NEW SWITCH. EXISTING CONDUIT MAY BE REUSED IF POSSIBLE, AFTER MANDREL CLEANING. PROVIDE NEW STAINLESS STEEL DEVICE PLATE (DEVICE PLATES SHALL BE GANGED WHEN APPLICABLE AND SHALL INCLUDE RECEPTACLE COVER WHEN APPLICABLE).
- (10) EXISTING RECEPTACLES TO BE REMOVED.

GENERAL NOTES:

- 1. ALL EQUIPMENT DEPICTED ON THIS DRAWING IS EXISTING. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING A BID OR COMMENCING CONSTRUCTION.
- 2. COORDINATE ALL DEMOLITION ACTIVITIES WITH THE OWNER AND OTHER TRADES.
- 3. ALL EXISTING INSTALLATIONS DENOTED ON THIS DRAWING ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION.



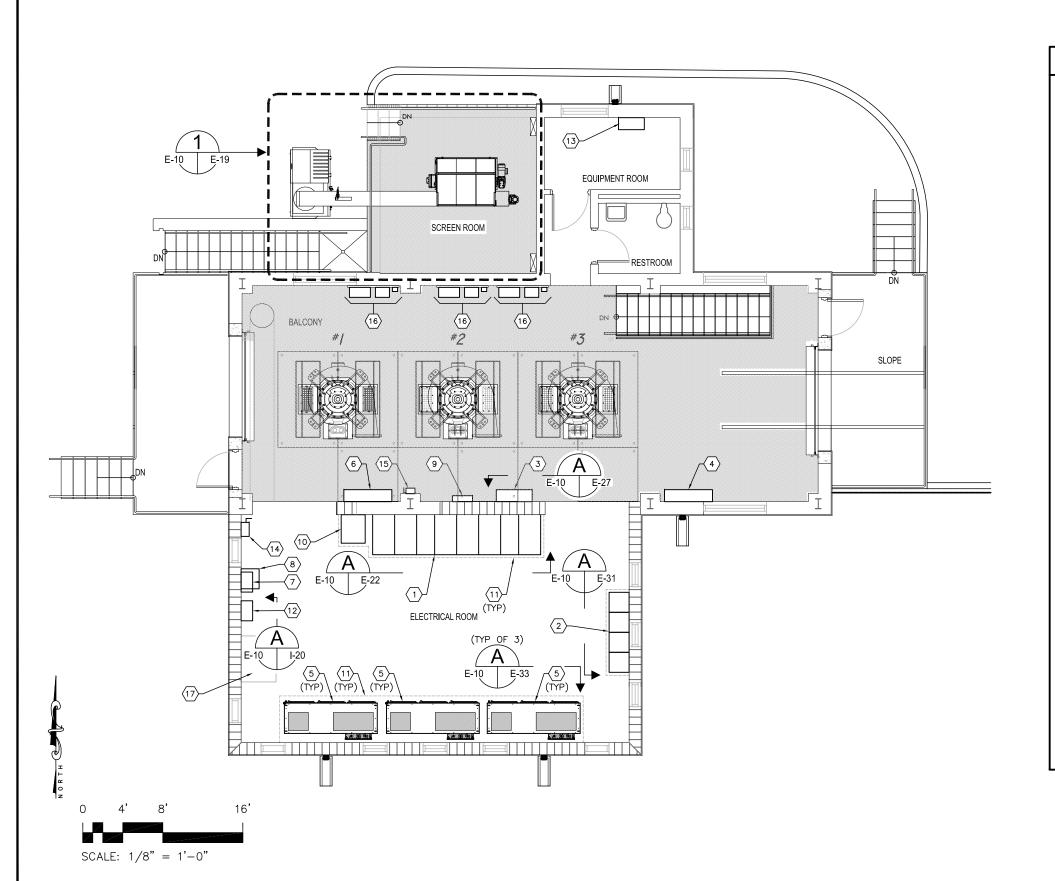


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 C^{TTY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

LOWER LEVEL ELECTRICAL & LIGHTING DEMOLITION PLAN

SHEET



- CONTRACTOR TO PROVIDE AND INSTALL NEW 480V, 1,200A SERVICE ENTRANCE SWITCHGEAR, DESIGNATED AS 'SWITCHGEAR LPS'. REFER TO ELEVATIONS ON SHEET E-22. REFER TO SHEET E-18 FOR GROUNDING REQUIREMENTS.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 480V, 200 AMPERE MOTOR CONTROL CENTER (MCC), DESIGNATED AS 'MCC-1'. REFER TO ELEVATION ON SHEET E-31.
- (3) CONTRACTOR TO PROVIDE AND INSTALL NEW REMOTE BREAKER CONTROL PANEL 'RBCP'. REFER TO SHEET E-27 FOR DETAILS. MOUNT CONTROL PANEL ON CMU WALL WITH 1-5/8" X 1-5/8" SS UNISTRUT.
- (4) CONTRACTOR TO PROVIDE AND INSTALL NEW PUMP CONTROL PANEL 'CP-L01. REFER TO INSTRUMENTATION SHEETS FOR DETAILS.
- 5 CONTRACTOR TO PROVIDE AND INSTALL NEW ADJUSTABLE FREQUENCY DRIVES (AFD'S) FOR NEW PUMP MOTORS. REFER SHEET E-33 FOR TYPICAL ELEVATION.
- 6 CONTRACTOR TO PROVIDE AND INSTALL NEW BUBBLER PANEL. REFER TO INSTRUMENTATION SHEETS FOR DETAILS.
- PROVIDE AND INSTALL 100A, 480V, 3-POLE AUTOMATIC TRANSFER SWITCH (ATS) IN A NEMA 1 ENCLOSURE. AUTOMATIC TRANSFER SWITCH SHALL BE POWER SEEKING TYPE. MOUNT ATS ON CMU WALL WITH 1-5/8" X 1-5/8" SS UNISTRUT.
- PROVIDE AND INSTALL NEW 480V-120/208V, 3Ø, 45KVA TRANSFORMER 'T1', NEMA 2 RATED. TRANSFORMER TO BE MOUNTED TO WALL ABOVE ABOVE ATS SHOWN IN KEYED NOTE #7 ABOVE. PROVIDE AND INSTALL #8 BARE COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" PVC CONDUIT TO GROUNDING GRID. REFER ALSO TO SHEET E-18.
- 9 PROVIDE AND INSTALL NEW 120/208V, 3ø, 4-WIRE PANELBOARD 'LP' IN NEMA 1 ENCLOSURE. PROVIDE PANELBOARD WITH 125A, 3-POLE MAIN CIRCUIT BREAKER. INSTALL PANELBOARD ON CMU WALL WITH 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT. REFER TO SHEET E-45 FOR PANEL SCHEDULE
- PROVIDE AND INSTALL NEW UPS FOR SWITCHGEAR LPS. REFER TO SHEET E-27 FOR UPS WIRING SCHEMATIC.
- 11) PROVIDE NEW 4" CONCRETE HOUSEKEEPING PAD WITH 45" CHAMFERED EDGES. HOUSEKEEPING PADS SHALL EXTEND 3" BEYOND EQUIPMENT (TYPICAL). REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- PROVIDE AND INSTALL NEW FLOW METER REMOTE TRANSMITTER CABINET. REFER TO SHEET I-20 FOR DETAILS. MOUNT TRANSMITTER CABINET ON CMU WALL WITH 1-5/8" X 1-5/8" SS UNISTRUT.
- PROVIDE AND INSTALL A NEW MOSCAD ACE3600 REMOTE TERMINAL UNIT IN THIS LOCATION. THE RTU SHALL BE COMPLETE WITH ACE3600, RADIO (TO BE COMPATIBLE WITH THE CITY'S EXISTING RADIO COMMUNICATIONS SYSTEM) UPS AND BATTERY. THE EXISTING COMPONENTS SHALL BE REUSED AS A MEANS OF PROVIDING TEMPORARY RADIO COMMUNICATIONS DURING CONSTRUCTION. REFER TO SCOPE OF WORK NOTE #14 ON SHEET E-3 FOR TEMPORARY RADIO COMMUNICATIONS REQUIREMENTS.
- PROVIDE AND INSTALL NEW 240V, 3-POLE, 200A DISCONNECT FOR PANELBOARD 'LP' IN NEMA 1 ENCLOSURE. FUSE DISCONNECT AT 125 AMPERES WITH CLASS RK5 FUSES. MOUNT DISCONNECT ON CMU WALL WITH 1-5/8" X 1-5/8" SS UNISTRUT.
- PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A, NON-FUSED DISCONNECT FOR OVERHEAD CRANE POWER IN NEMA 1 ENCLOSURE. MOUNT DISCONNECT ON CMU WALL WITH 1-5/8" X 1-5/8" SS UNISTRUT.
- (16) PROPOSED LOCATION OF NEW PUMP MONITORING EQUIPMENT RACK. TYPICAL OF 3. REFER TO SHEET I—6 FOR DETAILS.
- $\langle 17
 angle$ SPACE FOR FUTURE PUMP NO. 4 AFD.

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 J.L.H.

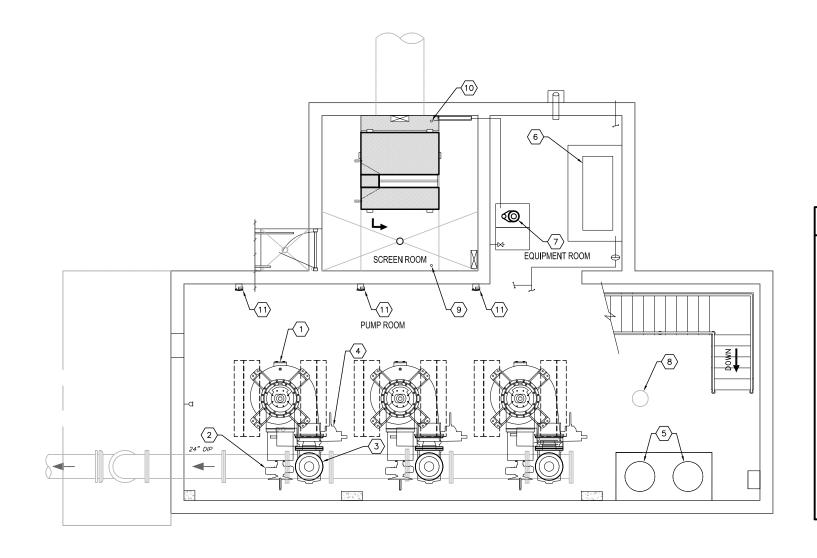
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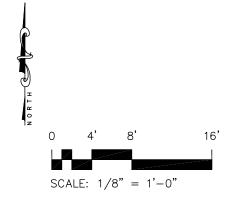
 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

PROPOSED UPPER LEVEL ELECTRICAL EQUIPMENT LAYOUT

SHEET



- 1 PROPOSED PUMP AND 250 HP MOTOR (TYP. OF 3)
- 2 PROPOSED 24" MOTOR OPERATED KNIFE GATE (TYP. OF 3)
- 3 PROPOSED 20" PLUG VALVE (TYP. OF 3)
- PROPOSED PNEUMATIC ACTUATOR FOR 20" PLUG VALVE (TYP. OF 3)
- 5 PROPOSED 120 GALLON VERTICAL TANK MOUNTED COMPRESSOR WITH LOCAL CONTROL PANEL.
- 6 PROPOSED DUPLEX TANK-MOUNTED VACUUM PRIMING SYSTEM.
- $\ensuremath{\overline{7}}\xspace$ Proposed sump pump to be installed in existing sump pump wetwell.
- (8) EXISTING PUMP ACCESS (FUTURE, AS NEEDED)
- 9 PROPOSED 2" PVC FOR DOWN STREAM BUBBLER.
- (10) PROPOSED 2" PVC FOR UP STREAM STREAM BUBBLER.
- $\fbox{11}$ PROPOSED LOCATION FOR ELECTRICALLY ACTUATED KNIFE GATE REMOTE OPERATOR. REFER ALSO TO SHEET E-12.





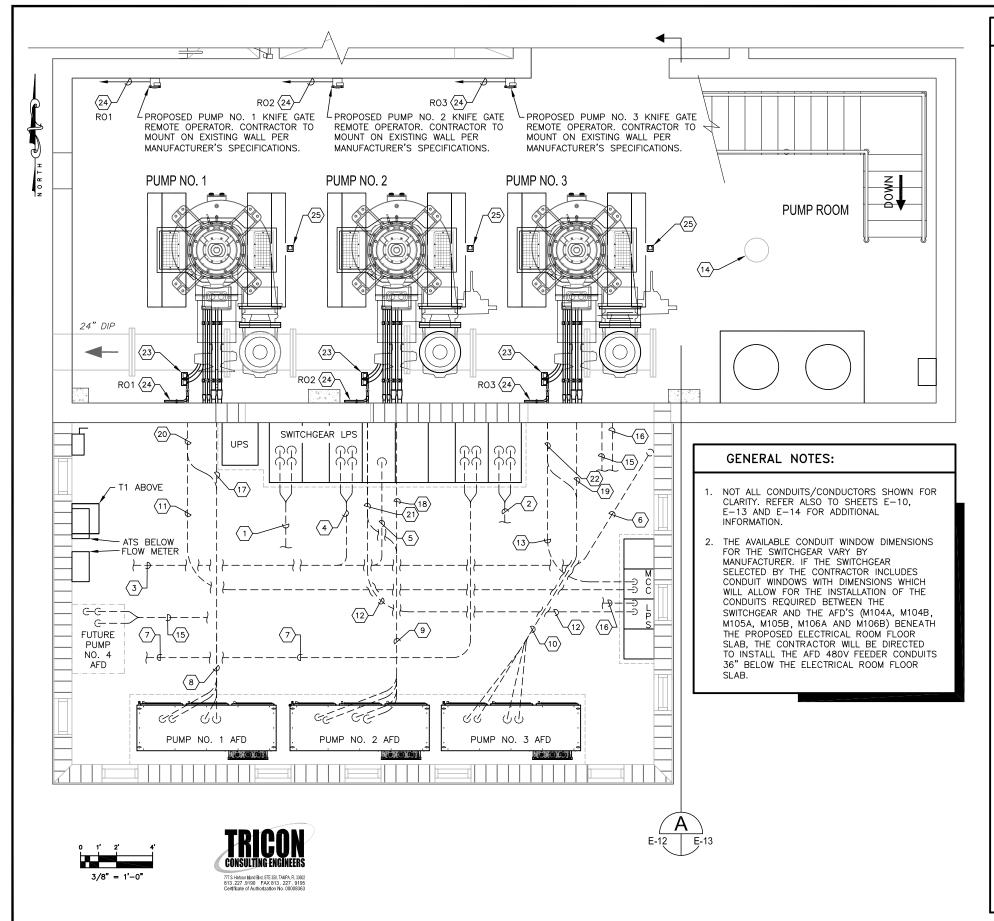
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TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/1

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PROPOSED LOWER LEVEL ELECTRICAL EQUIPMENT LAYOUT

SHEET

E-II



- PROPOSED CONDUIT AND CONDUCTORS TO TECO TRANSFORMER 'A' (M100A, M100B, M100C AND M100D) REFER TO SHEET E-6 FOR CONTINUATION.
- $\langle 2 \rangle$ PROPOSED CONDUIT AND CONDUCTORS TO TECO TRANSFORMER 'A' (M101A, M101B, M101C AND M101D). REFER TO SHEET E-6 FOR CONTINUATION.
- PROPOSED CONDUIT AND CONDUCTORS TO PROPOSED STANDBY GENERATOR (M102A, M102B, M102C, M102D, C100, C101, C102 AND A100. A100 SHALL BE SEPARATED FROM POWER CONDUCTORS BY A MINIMUM OF 18 INCHES). REFER TO SHEET E-6 FOR CONTINUATION.
- 4 M102A, M102B, M102C AND M102D
- (5) C102
- 6 C100, C101 AND A100. CONDUIT TO CONTINUE TO ELECTRICAL ROOM CEILING AND ON TO CONTROL PANEL 'CP-L01'. REFER TO SHEET E-10 FOR CP-L01 LOCATION.
- PROPOSED CONDUIT AND CONDUCTORS TO PROPOSED PORTABLE GENERATOR TERMINAL BOX (M103A, M103B, M103C AND M103D. REFER TO SHEET E-6 FOR CONTINUATION.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 1 (M104C, M104D, M104E, C104, C132 AND A101). REFER ALSO TO PUMP ROOM ELEVATIONS.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 2 (M105C, M105D, M105E, C105, C133 AND A102).
 REFER ALSO TO PUMP ROOM ELEVATIONS.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 3 (M106C, M106D, M105E, C105, C134 AND A103).
 REFER ALSO TO PUMP ROOM ELEVATIONS.
- $\langle 11
 angle$ proposed conduit and conductors to pump no. 1 electrically actuated knife gate (M121).
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 2 ELECTRICALLY ACTUATED KNIFE GATE (M122).
- (13) PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 3 ELECTRICALLY ACTUATED KNIFE GATE (M123).
- (14) LOCATION OF FUTURE PUMP NO. 4.
- PROVIDE AND INSTALL ONE (1) 3" AND TWO (2) 2" SPARE CONDUITS FROM PROPOSED FUTURE PUMP NO. 4 AFD LOCATION TO SOUTH WALL OF LOWER LEVEL PUMP ROOM FOR FUTURE PUMP NO. 1 REFER TO KEYED NOTE #14 FOR LOCATION OF FUTURE PUMP NO. 4. PROVIDE PULL STRING AND CAP CONDUITS.
- PROVIDE AND INSTALL ONE (1) 1" SPARE CONDUIT FROM MCC-LPS TO SOUTH WALL OF LOWER LEVEL PUMP ROOM FOR FUTURE PUMP NO. 4 ELECTRICALLY ACTUATED KNIFE GATE. REFER TO KEYED NOTE #14 FOR FUTURE LOCATION OF PUMP NO. 4.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 1 (M104C, M104D, M104E, C104 AND A101). REFER ALSO TO PUMP ROOM ELEVATIONS.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 2 (M105C, M105D, M105E, C105 AND A102). REFER ALSO TO PUMP ROOM ELEVATIONS.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 3 (M106C, M106D, M105E, C105 AND A103). REFER ALSO TO PUMP ROOM ELEVATIONS.
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 1 ELECTRICALLY ACTUATED KNIFE GATE (M121, C132).
- PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 2 ELECTRICALLY ACTUATED KNIFE GATE (M122, C133).
- 22) PROPOSED CONDUIT AND CONDUCTORS TO PUMP NO. 3 ELECTRICALLY ACTUATED KNIFE GATE (M123, C134).
- MOUNT CONDUITS REQUIRED WITH 2" SQUARE ALUMINUM POSTS. PROVIDE FULL FILLET WELD TO 4" X 4" X 3/4" ALUMINUM BASE PLATE. SECURE BASE PLATE TO CONCRETE W/(4) STAINLESS STEEL 1/2" DIA. X 8" BOLTS & STAINLESS STEEL HEX NUTS WITH LOCKWASHER. DRILL CONCRETE & EMBED BOLTS AND ANCHORS IN EPOXY. COAT BOTTOM OF BASE PLATE WITH ASPHALT PAINT. PROVIDE NEOPRENE GASKET BETWEEN ALL STAINLESS STEEL AND ALUMINUM COMPONENTS. PROVIDE 3/4" WATERTIGHT, NON-METALLIC FLEXIBLE CONDUIT CONNECTION TO ACTUATOR WITH 1-3/C-#12 FOR 480V POWER CONDUCTORS. PROVIDE SUBMERSIBLE CONTROL CORD/CABLE FITTING WITH NEOPRENE BUSHING AND GLAND NUT SIZED FOR CABLE. CROUSE-HINDS CGB SERIES.
- PROPOSED CONDUIT AND CONDUCTORS FOR ELECTRICALLY ACTUATED KNIFE GATE REMOTE OPERATOR. INSTALL CONDUIT ON PUMP ROOM WALL. FIELD ROUTE AS REQUIRED.
- 25) CONTRACTOR TO PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT FROM FLOOR MOUNTED STAINLESS STEEL UNISTRUT BASE (UNISTRUT P2942) TO UNISTRUT FRAMING CONNECTED TO THE UNDERSIDE OF PROPOSED STRUCTURAL I-BEAMS. (TYPICAL). REFER TO STRUCTURAL DRAWINGS FOR I-BEAM LOCATIONS. PROVIDE SUBMERSIBLE CORD/CABLE AS KEYED NOTE #23. PROPOSED CONDUIT/CABLE C123, C126, C129, C142 AND A110 OR C124, C127, C130, C143 AND A112 OR C125, C128, C131, C143 AND A114. REFER ALSO TO SHEET E-14.

07-27-18 No. DATE REVISIONS DES: T.D.T.

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TIMOTHY THOMAS, PE
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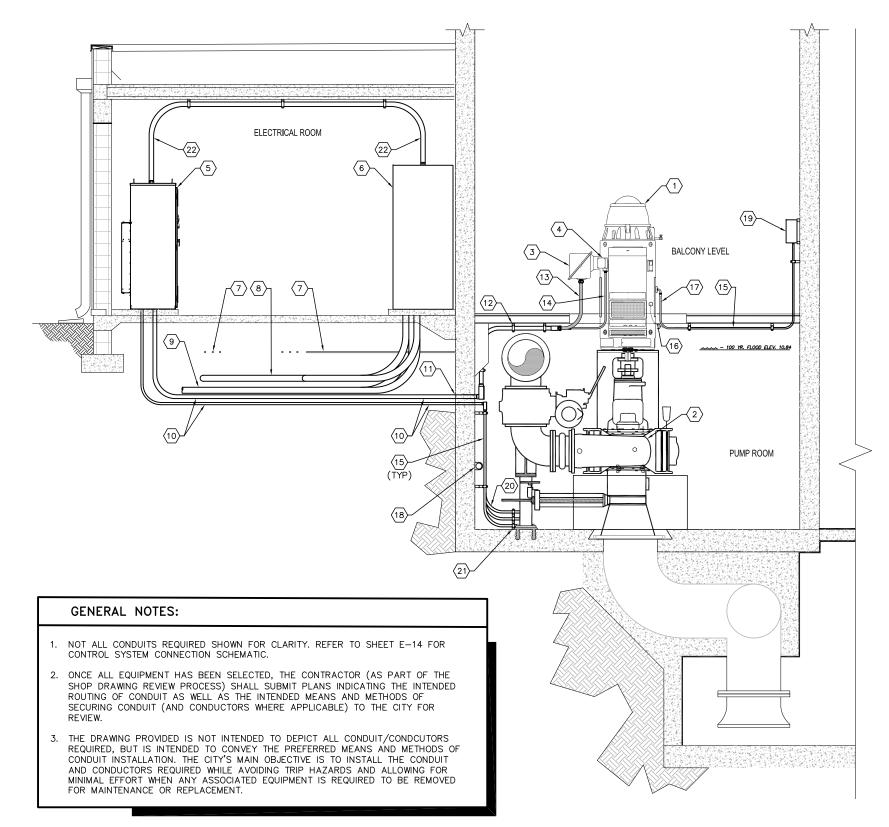
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CITY of TAMPA

WASTEWATER DEPARTMENT

ELECTRICAL ROOM AND PUMP ROOM UNDERGROUND CONDUIT ROUTING

SHEET



- 1 PROPOSED 250 HP PUMP MOTOR (TYP. OF 3)
- $\langle 2 \rangle$ PROPOSED PUMP (TYP. OF 3)
- (3) PROPOSED MOTOR TERMINAL LEAD JUNCTION BOX (TYP. OF 3) LOCATION BASED ON THE INFORMATION OF A SPECIFIC MANUFACTURER.
- $\langle 4
 angle$ proposed accessory conduit box (Typ. of 3) verify location with motor manufacturer.
- 5 PROPOSED AFD LOCATIONS IN ELECTRICAL ROOM.
- (6) PROPOSED SWITCHGEAR LPS LOCATED IN ELECTRICAL ROOM.
- PROPOSED MCC BRANCH CIRCUITS, CONTROL CONDUCTORS, ANALOG CONDUCTORS, ETC. TO BE INSTALLED A MINIMUM OF 24" BELOW SLAB.
- PROPOSED 480V FEEDERS FROM STANDBY GENERATOR AND PORTABLE GENERATOR TERMINAL BOX TO BE INSTALLED 40" BELOW SLAB.
- 9 PROPOSED 480V FEEDERS FROM TECO TRANSFORMER 'A' AND TECO TRANSFORMER 'B' TO BE INSTALLED 48" BELOW SLAB.
- PROPOSED 480V FEEDERS FROM ASSOCIATED AFD TO ASSOCIATED PUMP MOTOR, AS WELL AS, CONTROL CONDUCTORS AND MOTOR SPACE HEATER CIRCUITS FROM ASSOCIATED AFD TO ASSOCIATED PUMP CONTROLS TO BE INSTALLED AT AN ELEVATION BELOW TECO TRANSFORMER FEEDERS IN ORDER TO OBTAIN REQUIRED HEIGHT ON PUMP ROOM SOUTH WALL. CONTRACTOR MAY FIELD ADJUST ELEVATION IF REQUIRED AND APPROVED BY THE CITY OF TAMPA.
- GROUT AND CAULK CONDUIT PENETRATION THROUGH WALL OF BUILDING TO PROVIDE A WATERTIGHT SEAL. TYPICAL FOR ALL CONDUIT PENETRATIONS. TYPICAL.
- (12) CONTRACTOR TO PROVIDE AND INSTALL UNISTRUT SUPPORTS (OR OTHER MEANS APPROVED BY THE CITY OF TAMPA) TO INSTALL PROPOSED CONDUITS ON UNDERSIDE OF PROPOSED STRUCTURAL I-BEAMS. (TYPICAL). REFER TO STRUCTURAL DRAWINGS FOR I-BEAM LOCATIONS. ALL MATERIALS SHALL BE 316 STAINLESS STEFL.
- (13) PROPOSED 480V PUMP MOTOR FEEDERS (M104C, M104D AND M104E, M105C, M105D AND M105E OR M106C, M106D AND M106E AS APPLICABLE).
- (14) PROPOSED PUMP MOTOR RTD SIGNALS (A101, A102 OR A103 AS APPLICABLE).
- (15) COORDINATE INSTALLATION OF CONDUITS WITH VACUUM PIPING, WATER PIPING AND BUBBLER TUBES. REFER TO MECHANICAL DRAWINGS.
- 16) PROPOSED PUMP MOTOR VIBRATION AND TEMPERATURE SENSOR CABLE (A109, A111 AND A113 AS APPLICABLE).
- 17 PROPOSED PUMP MOTOR VIBRATION INDICATION SWITCH SIGNALS (C135, C136 AND C137 AS APPLICABLE).
- PROPOSED AIR PIPING TO BE ATTACHED TO SOUTH WALL. REFER ALSO TO MECHANICAL PLANS.
- PROPOSED CTC VIBRATION/CONTROL STATIONS. REFER TO SHEET E-10 FOR LOCATIONS. REFER TO SHEET I-21 FOR DETAILS.
- PROPOSED MOTOR ACTUATED KNIFE GATE SUCTION POWER, CONTROL AND SIGNAL CABLES. (M121, C132 AND R01, M122, C133 AND R02 OR M123, C134 AND R03 AS APPLICABLE).
- 21) CONTRACTOR TO PROVIDE AND INSTALL UNISTRUT SUPPORTS AND ALL THREAD (OR OTHER MEANS APPROVED BY THE CITY OF TAMPA) INSTALL PROPOSED CONDUITS ON PUMP ROOM FLOOR.
- PROPOSED 480V FEEDERS FROM SWITCHGEAR 'LPS' TO ASSOCIATED AFD (M104A, M104B, M105A, M105B, M106A AND M106B). REFER ALSO TO GENERAL NOTE #2 ON SHEET E-12. INSTALL CONDUITS 36" UNDER ELECTRICAL ROOM FLOOR IF SWITCHGEAR 'LPS' CONDUIT WINDOWS WILL ACCOMMODATE THESE (AND OTHER) CONDUITS).

ELECTRICAL ROOM AND PUMP ROOM SECTION

SCALE: NONE



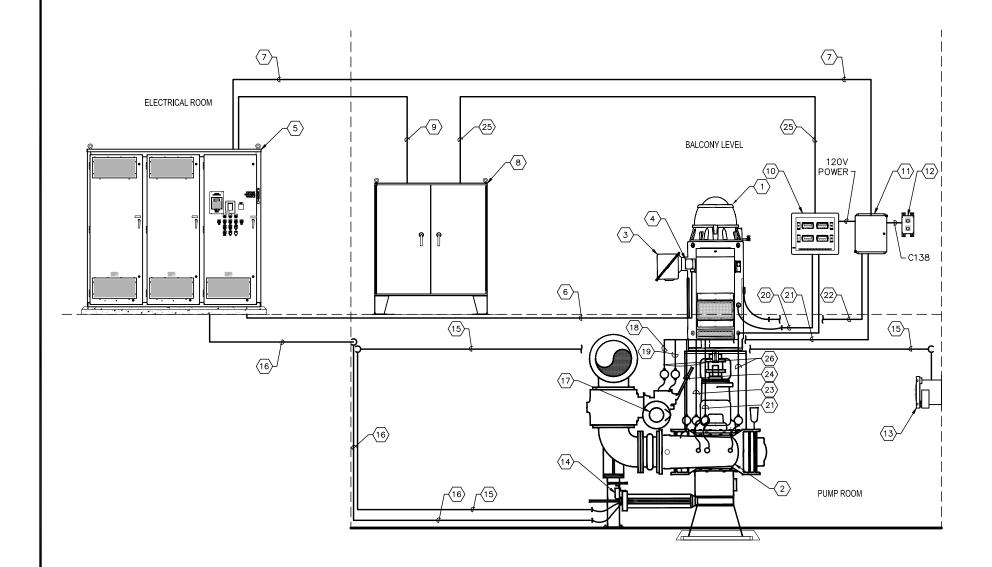


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	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE	1			DATE:	7/25/18

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

ELECTRICAL ROOM AND PUMP ROOM SECTION

SHEET



TYPICAL CONTROL SYSTEM SCHEMATIC

SCALE : NONE



KEYED NOTES:

- 1 PROPOSED 250 HP PUMP MOTOR NO. 1.
- $\langle 2 \rangle$ PROPOSED PUMP NO. 1
- 3 PROPOSED MOTOR TERMINAL LEAD JUNCTION BOX. VERIFY TERMINATIONS AVAILABLE AT ACCESSORY CONDUIT BOX WITH MANUFACTURER.
- PROPOSED ACCESSORY CONDUIT BOX. VERIFY TERMINATIONS AVAILABLE AT ACCESSORY CONDUIT BOX WITH MANUFACTURER.
- (5) PROPOSED PUMP NO. 1 AFD.
- 6 PROPOSED PUMP MOTOR RTD SIGNALS A101.
- PROPOSED AFD CONTROLS C104. ROUTE CONDUIT AROUND BALCONY EXTERIOR WALL. COORDINATE HEIGHT WITH LIGHTING FIXTURES, BRIDGE CRANE AND MECHANICAL PIPING.
- 8 PROPOSED PUMP CONTROL PANEL 'CP-L01'.
- 9 PROPOSED AFD CONTROLS C120.
- (10) PROPOSED CTC VIBRATION MONITOR.
- $\langle 11
 angle$ PROPOSED TERMINAL JUNCTION BOX.
- $\langle 12
 angle$ PROPOSED RESUME/RESET, E-STOP/L PUSHBUTTON STATION.
- (13) PROPOSED ELECTRICALLY ACTUATED KNIFE GATE REMOTE OPERATOR.
- (14) PROPOSED ELECTRICALLY ACTUATED KNIFE GATE OPERATOR.
- PROPOSED ELECTRICALLY ACTUATED KNIFE GATE REMOTE OPERATOR COMMUNICATIONS CABLE R01.
 ROUTE CONDUIT AROUND PUMP ROOM EXTERIOR WALL. COORDINATE HEIGHT WITH LIGHTING FIXTURES AND MECHANICAL PIPING.
- PROPOSED ELECTRICALLY ACTUATED KNIFE GATE REMOTE OPERATOR SIGNAL CONDUCTORS C132.
- $\langle 17 \rangle$ PROPOSED PNEUMATIC PLUG DISCHARGE VALVE.
- (18) PROPOSED PNEUMATIC PLUG DISCHARGE VALVE CONDUCTORS C123.
- (19) PROPOSED PNEUMATIC PLUG DISCHARGE VALVE CONDUCTORS C126.
- (20) PROPOSED MOTOR ACCELEEROMETER/TEMPERATURE SIGNAL CABLE A109.
- 21) PROPOSED PUMP ACCELEEROMETER/TEMPERATURE SIGNAL CABLE A110.
- (22) PROPOSED VIBRATION SWITCH SIGNAL C135.
- 23 PROPOSED PROOF OF PRIME SWITCH SIGNAL C129.
- PROPOSED 120V AC POWER FOR PUMP NO. 1 PUMP SEAL DISCHARGE WATER BALL VALVE CONTROL. C142.
- PROPOSED CTC VIBRATION MONITOR SIGNALS A104. ROUTE CONDUIT AROUND BALCONY EXTERIOR WALL. COORDINATE HEIGHT WITH LIGHTING FIXTURES, BRIDGE CRANE AND MECHANICAL PIPING.
- CONTRACTOR TO PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT FROM FLOOR MOUNTED STAINLESS STEEL UNISTRUT BASE (UNISTRUT P2942) TO UNISTRUT FRAMING CONNECTED TO THE UNDERSIDE OF PROPOSED STRUCTURAL I-BEAMS. (TYPICAL). REFER TO STRUCTURAL DRAWNIGS FOR I-BEAM LOCATIONS. REFER TO SHEET E-12 FOR UNISTRUT LOCATION. PROVIDE PROVIDE JUNCTION BOXES AND SUBMERSIBLE CONTROL CORD/CABLE FITTING WITH NEOPRENE BUSHING AND GLAND NUT SIZED FOR CABLE. CROUSE-HINDS CGB SERIES. JNCTION BOXES TO BE INSTALLED AT VARIOUS ELEVATIONS BASED ON REQUIRED CONNECTION LOCATION.

GENERAL NOTES:

- SCHEMATIC DEPICTS CONTROLS FOR PUMP NO. 1. PUMPS NO. 2 AND NO. 3 ARE IDENTICAL, WITH ONLY CHANGES TO THE CONDUIT/CONDUCTORS DESIGNATIONS.
- 2. PUMP 480V POWER, SPACE HEATER, KNIFE GATE 480V POWER, ETC. NOT SHOWN IN CONTROLS SCHEMATIC FOR CLARITY.

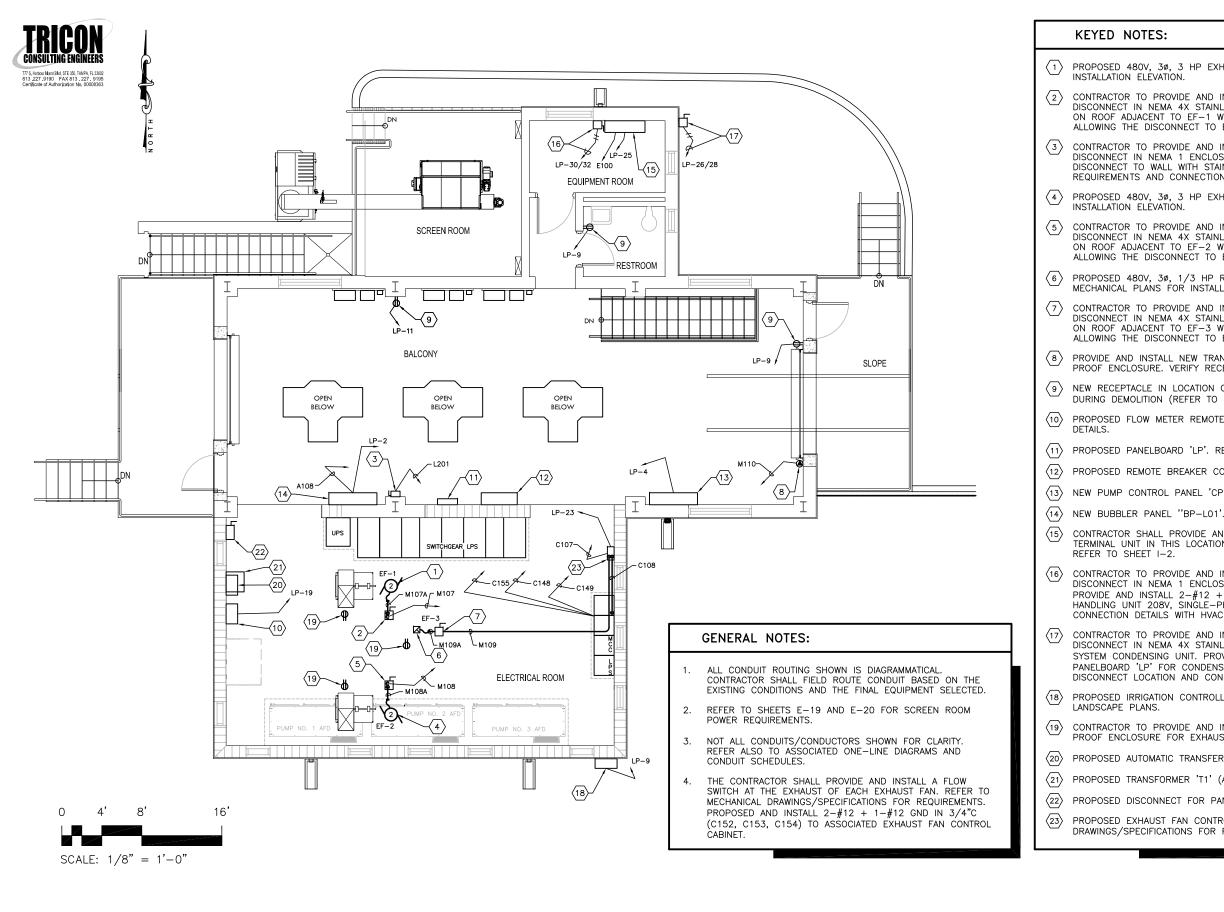
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CITY of TAMPA

WASTEWATER DEPARTMENT

TYPICAL CONTROL SYSTEM SCHEMATIC

SHEET



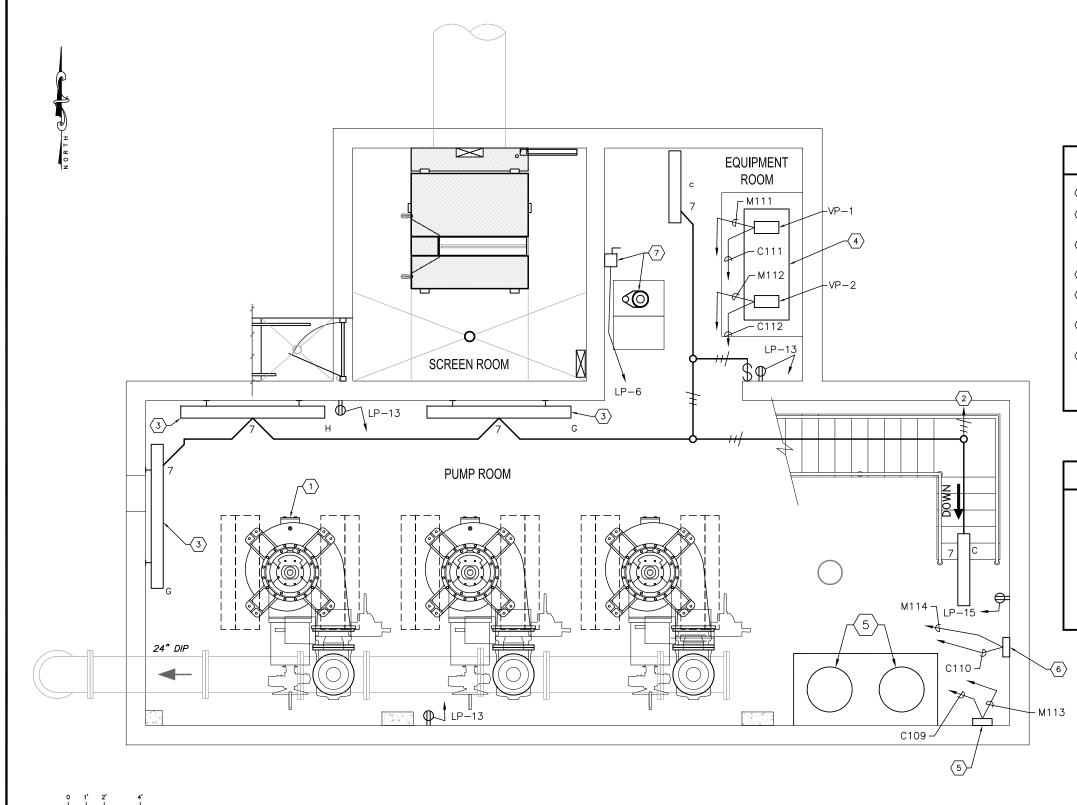
- PROPOSED 480V, 3Ø, 3 HP EXHAUST FAN EF-1. REFER TO MECHANICAL PLANS FOR
- CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-1. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-1 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE FOR OVERHEAD CRANE POWER. MOUNT DISCONNECT TO WALL WITH STAINLESS STEEL UNISTRUT. COORDINATE CRANE POWER REQUIREMENTS AND CONNECTIONS TO CRANE POWER WITH OVERHEAD CRANE SUPPLIER.
- PROPOSED 480V, 3Ø, 3 HP EXHAUST FAN EF-2. REFER TO MECHANICAL PLANS FOR
- CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-2. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-2 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
- PROPOSED 480V, 3ø, 1/3 HP ROOF MOUNTED EXHAUST FAN EF-3. REFER TO MECHANICAL PLANS FOR INSTALLATION ELEVATION.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 600V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR EF-3. MOUNT DISCONNECT ON ROOF ADJACENT TO EF-3 WITH STAINLESS STEEL UNISTRUT. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION.
- PROVIDE AND INSTALL NEW TRANSFER CART RECEPTACLE. NEMA L16-20R IN WEATHER PROOF ENCLOSURE. VERIFY RECEPTACLE TYPE WITH CART MANUFACTURER.
- NEW RECEPTACLE IN LOCATION OF EXISTING RECEPTACLE THAT HAS BEEN REMOVED DURING DEMOLITION (REFER TO SHEET E-7).
- PROPOSED FLOW METER REMOTE TRANSMITTER CABINET. REFER TO SHEET I-20 FOR
- PROPOSED PANELBOARD 'LP'. REFER ALSO TO SHEET E-10.
- PROPOSED REMOTE BREAKER CONTROL PANEL 'RBCP'. REFER ALSO TO SHEET E-10.
- NEW PUMP CONTROL PANEL 'CP-L01'. REFER TO SHEET I-2 FOR DETAILS.
- NEW BUBBLER PANEL "BP-L01". REFER TO SHEET I-2 FOR DETAILS.
- CONTRACTOR SHALL PROVIDE AND INSTALL A NEW MOTOROLA ACE3600 REMOTE TERMINAL UNIT IN THIS LOCATION, COMPLETE WITH UPS, BATTERY AND POWER SUPPLY.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 240V, 2-POLE, 20A NON-FUSED DISCONNECT IN NEMA 1 ENCLOSURE FOR PROPOSED DUCTLESS AIR HANDLING UNIT. PROVIDE AND INSTALL 2-#12+1-#12 gnd in 3/4"C. To panelboard 'lp' for air handling unit 208V, single-phase power. Coordinate disconnect location and CONNECTION DETAILS WITH HVAC CONTRACTOR.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 240V, 2-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR PROPOSED DUCTLESS SYSTEM CONDENSING UNIT. PROVIDE AND INSTALL 2-#10 + 1-#10 GND IN 3/4"C. TO PANELBOARD 'LP' FOR CONDENSING UNIT 208V, SINGLE-PHASE POWER. COORDINATE DISCONNECT LOCATION AND CONNECTION DETAILS WITH HVAC CONTRACTOR.
- 18 PROPOSED IRRIGATION CONTROLLER. COORDINATE EXACT INSTALLATION LOCATION WITH
- CONTRACTOR TO PROVIDE AND INSTALL NEW DUPLEX 20A. GFI RECEPTACLE IN WEATHER PROOF ENCLOSURE FOR EXHAUST FAN MAINTENANCE. CIRCUIT LP-29.
- PROPOSED AUTOMATIC TRANSFER SWITCH (ATS). REFER ALSO TO SHEET E-10.
- PROPOSED TRANSFORMER 'T1' (ABOVE ATS). REFER ALSO TO SHEET E-10.
- PROPOSED DISCONNECT FOR PANELBOARD 'LP'. REFER ALSO TO SHEET E-10.
- PROPOSED EXHAUST FAN CONTROL PANEL. REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS FOR REQUIREMENTS.

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CITY of TAMPA WASTEWATER DEPARTMENT

PROPOSED UPPER LEVEL POWER PLAN

SHEET



- 1 PROPOSED PUMP AND 250 HP MOTOR (TYP. OF 3)
- CIRCUIT LP-7 (AND SWITCH LEG) CONTINUED DOWN FROM UPPER LEVEL LIGHT SWITCH. REFER ALSO TO SHEET E-17, KEYED NOTE #2.
- FIXTURE TO BE INSTALLED CANTILEVERED ON EXISTING WALL AS HIGH AS POSSIBLE. ANGLE FIXTURE AWAY FROM WALL TO INCREASE ILLUMINATED AREA.
- 4 PROPOSED DUPLEX TANK-MOUNTED VACUUM PRIMING SYSTEM.
- $\stackrel{\textstyle \leftarrow}{\text{\fontfamily}}$ Proposed 120 Gallon vertical tank mounted compressor with local control panel. CP-1.
- 6 PROPOSED 120 GALLON VERTICAL TANK MOUNTED COMPRESSOR WITH LOCAL CONTROL PANEL. CP-2.
- PROPOSED SUMP PUMP. CONTRACTOR TO PROVIDE AND INSTALL NEW 240V, 2-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR SUMP PUMP. PROVIDE CORD/CABLE FITTING WITH GLAND NUT AND NEOPRENE BUSHING TO ACCOMMODATE SUMP PUMP POWER CABLE.

GENERAL NOTES:

- 1. ALL CONDUIT ROUTING SHOWN IS DIAGRAMMATICAL. CONTRACTOR SHALL FIELD ROUTE CONDUIT BASED ON THE EXISTING CONDITIONS AND THE FINAL EQUIPMENT SELECTED.
- 2. REFER TO SHEETS E-19 AND E-20 FOR SCREEN ROOM LIGHTING AND POWER REQUIREMENTS.
- 3. REFER TO SHEET E-45 FOR LIGHTING FIXTURE SCHEDULE.
- 4. NOT ALL CONDUITS/CONDUCTORS SHOWN FOR CLARITY. REFER ALSO TO ASSOCIATED ONE—LINE DIAGRAMS AND CONDUIT SCHEDULES.



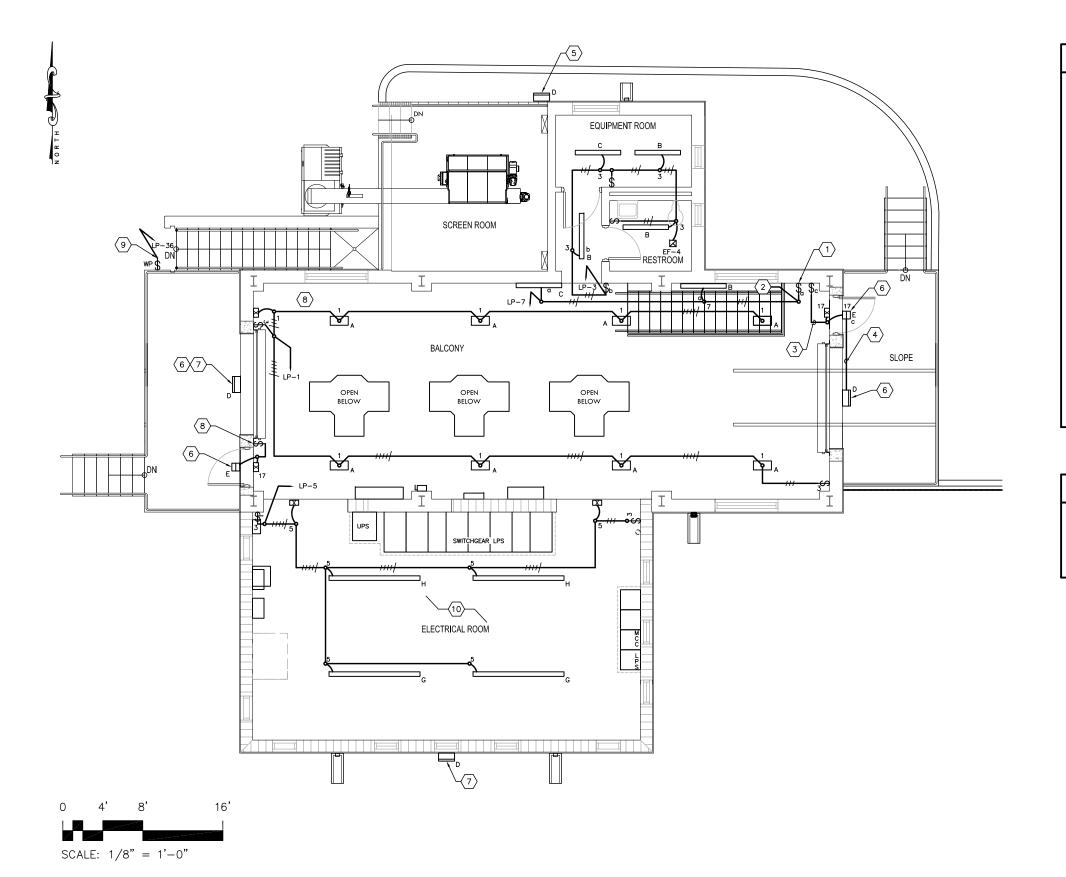


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TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

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PROPOSED LOWER LEVEL POWER AND LIGHTING PLAN

SHEET



- SWITCH TO BE UTILIZED FOR LOWER LEVEL LIGHTING. PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C. CIRCUIT LP-7.
- 2 FOR CONTINUATION REFER TO SHEET E-16.
- PROVIDE AND INSTALL 2-#10 + 1-#10 GND IN 3/4"C. FOR EXTERIOR LIGHTING CIRCUIT. CIRCUIT LP-17.
- 5 PROPOSED AREA LIGHT AT EXISTING FIXTURE ELEVATION. FIXTURE TYPE 'D'.
- 6 PROPOSED DOOR LIGHT INSTALLED DIRECTLY ABOVE DOOR. FIXTURE TYPE 'E'.
- $\langle 7 \rangle$ PROPOSED AREA LIGHT AT EXISTING FIXTURE ELEVATION. FIXTURE TYPE 'D'.
- (8) CONNECT TO PROPOSED EXTERIOR LIGHTING CIRCUIT LP-17.
- PROVIDE AND INSTALL 120V, 15A, 3-WAY SWITCH IN WEATHERPROOF, CAST ALUMINUM FS BOX. SWITCH TO CONTROL FIXTURE LOCATED ABOVE SCREEN ROOM DOOR. REFER ALSO TO SHEET E-19, KEYED NOTES #5, #6 AND #7 FOR FIXTURE LOCATION AND CONTINUATION OF CIRCUIT. PROVIDE AND INSTALL SINGLE-GANG WEATHERPROOF SWITCH COVER, BELL #5121-0. INSURE INSTALLED LOCATION DOES NOT INTERFERE WITH STOP-LOG INSERTION OR REMOVAL. PROVIDE AND INSTALL 3-#12 + 1-#12 GND IN 3/4"C. DOWN TO LIGHT FIXTURE. CIRCUIT LP-36.
- 10) REFER TO OTHER PLAN SHEETS FOR NOTES REGARDING CONDUIT TO BE INSTALLED ON ELECTRICAL ROOM CEILING. CONTRACTOR SHALL COORDINATE LIGHT FIXTURE INSTALLATION WITH FIXTURES TO BE PROVIDED. IF NECESSARY, OFFSET FIXTURES 6" OFF OF ELECTRICAL ROOM CEILING WITH STAINLESS STEEL UNISTRUT OR STAINLESS STEEL UNISTRUT AND STAINLESS STEEL THREADED ROD.

GENERAL NOTES:

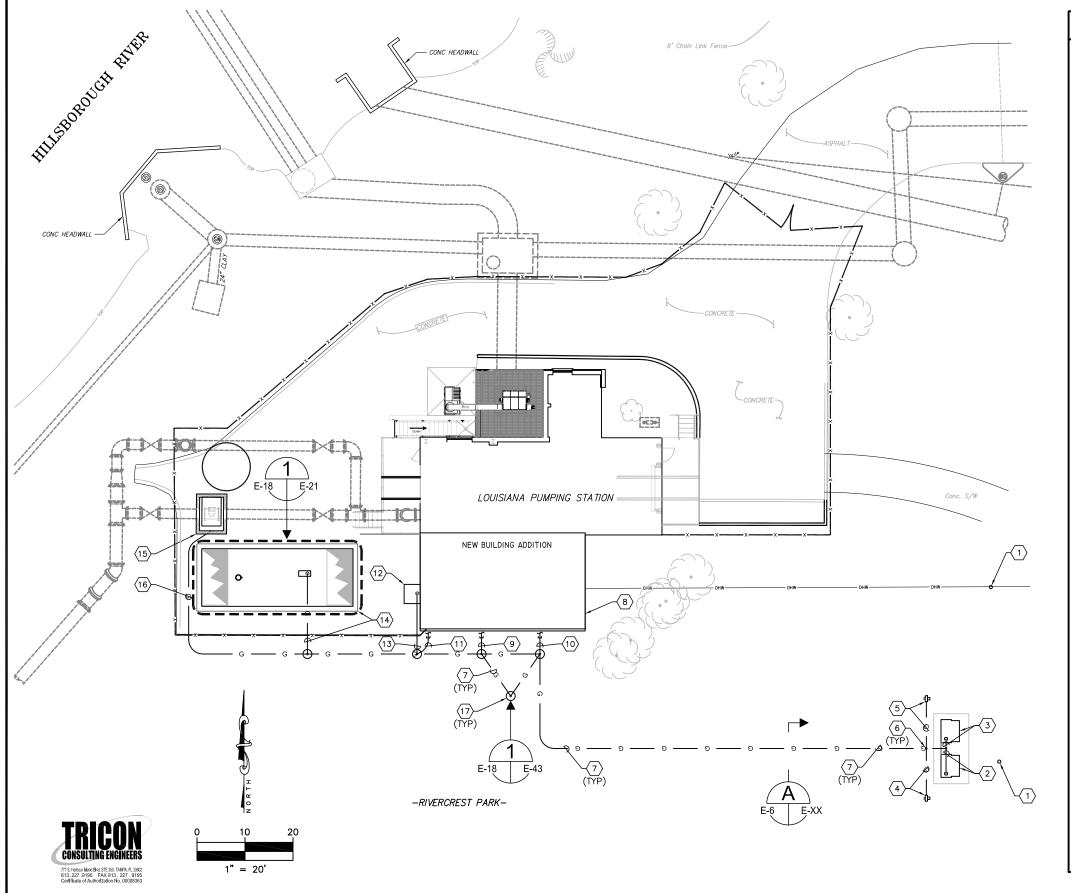
- 1. REFER TO SHEET E-45 FOR LIGHTING FIXTURE SCHEDULE.
- 2. TYPE 'D' FIXTURES ARE TO BE CONTROLLED BY INTEGRAL FIXTURE PHOTOCELL.
- . REFER TO SHEETS E-19 AND E-20 FOR SCREEN ROOM LIGHTING DETAILS.

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CONSULTING ENGINEERS
77 S. Huston Flated Brid. STE 300, TABPA. P. 33002
B13. 227, 9190. FAX B13. 227, 9196
Certificate of Authorization No. 00000883

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PROPOSED UPPER LEVEL LIGHTING PLAN

SHEET



- $\fbox{1}$ EXISTING TAMPA ELECTRIC COMPANY (TECO) POWER DISTRIBUTION POLE. REFER ALSO TO SHEET E-5.
- PROPOSED 13.2KV-277/480V, 3-PHASE, 4-WIRE 1,000 KVA TRANSFORMER 'A'.
 TRANSFORMER TO BE PROVIDED AND INSTALLED BY TECO. PROVIDE #4/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO TRANSFORMER. VERIFY GROUNDING REQUIREMENTS WITH TECO.
- 3 PROPOSED 13.2KV-277/480V, 3-PHASE, 4-WIRE 1,000 KVA TRANSFORMER 'B'. TRANSFORMER TO BE PROVIDED AND INSTALLED BY TECO. PROVIDE #4/0 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO TRANSFORMER. VERIFY GROUNDING REQUIREMENTS WITH TECO.
- PROPOSED LOCATION OF TECO TRANSFORMER 'A' ELECTRIC METER. PROVIDE #4
 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO METER. VERIFY
 GROUNDING REQUIREMENTS WITH TECO.
- PROPOSED LOCATION OF TECO TRANSFORMER 'B' ELECTRIC METER. PROVIDE #4
 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO METER. VERIFY
 GROUNDING REQUIREMENTS WITH TECO.
- 6 PROVIDE EXOTHERMIC WELD. TYPICAL.
- 7 PROVIDE AND INSTALL #4/O BARE COPPER GROUNDING ELECTRODE CONDUCTOR. CONDUCTOR TO BE DIRECT BURIED A MINIMUM OF 24" BELOW GRADE.
- 8 PROPOSED ELECTRICAL ROOM BUILDING ADDITION TO THE EXISTING LOUISIANA PUMP STATION BUILDING. REFER TO SHEET E-10 SWITCHGEAR AND TRANSFORMER LOCATIONS FOR KEYED NOTES #9, #10 AND #11.
- 9 PROVIDE AND INSTALL 250 kcmil BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO SWITCHGEAR LPS BUS 'A' MAIN CIRCUIT BREAKER CUBICLE. INSTALL GROUNDING ELECTRODE CONDUCTOR IN 1-1/4"C. IN/UNDER ELECTRICAL ROOM SLAB. CONDUIT TO EXTEND 2'-0" OFF OF BUILDING EXTERIOR AND TERMINATE. GROUNDING ELECTRODE CONDUCTOR TO CONTINUE TO GROUNDING GRID.
- PROVIDE AND INSTALL 250 kcmil BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO SWITCHGEAR LPS BUS 'B' MAIN CIRCUIT BREAKER CUBICLE. INSTALL GROUNDING ELECTRODE CONDUCTOR IN SCH. 80 PVC 1-1/4"C. IN/UNDER ELECTRICAL ROOM SLAB. CONDUIT TO EXTEND 2'-0" OFF OF BUILDING EXTERIOR AND TERMINATE. GROUNDING ELECTRODE CONDUCTOR TO CONTINUE TO GROUNDING GRID.
- PROVIDE AND INSTALL #8 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO 45 KVA TRANSFORMER IN ELECTRICAL ROOM. INSTALL GROUNDING ELECTRODE CONDUCTOR IN 1"C. IN/UNDER ELECTRICAL ROOM SLAB. CONDUIT TO EXTEND 2'-0" OFF OF BUILDING EXTERIOR AND TERMINATE. GROUNDING ELECTRODE CONDUCTOR TO CONTINUE TO GROUNDING GRID.
- (12) PROPOSED PORTABLE GENERATOR TERMINAL BOX.
- PROVIDE AND INSTALL 250 kcmil BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO PORTABLE GENERATOR TERMINAL BOX. INSTALL GROUNDING ELECTRODE CONDUCTOR IN 1-1/4"C. TO EXISTING GRADE. CONTRACTOR SHALL CUT EXISTING CONCRETE SLAB, INSTALL GROUNDING ELECTRODE CONDUCTOR AND REPAIR SLAB TO EXISTING CONDITIONS. GROUNDING ELECTRODE CONDUCTOR TO CONTINUE TO GROUNDING GRID.
- PROPOSED 277/480V, 750 KW GENERATOR. REFER TO SHEET E-21 FOR OTHER GROUNDING ELECTRODE CONDUCTOR INSTALLATION DETAILS. PROVIDE AND INSTALL 250 kcmil BARE COPPER GROUNDING ELECTRODE CONDUCTOR. CONDUCTOR TO BE DIRECT BURIED A MINIMUM OF 24" BELOW GRADE.
- (15) PROPOSED FLOW METER VAULT. REFER TO SHEET I-20 FOR DETAILS.
- PROVIDE AND INSTALL #8 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO FLOW METER FLANGES AND GROUNDING RINGS. INSTALL GROUNDING ELECTRODE CONDUCTOR IN 1"C. UNDER EXISTING CONCRETE SLAB. CONDUIT TO EXTEND 2'-0" OFF OF SLAB EDGE AND TERMINATE. GROUNDING ELECTRODE CONDUCTOR TO CONTINUE TO GROUNDING GRID. CONTRACTOR SHALL CUT EXISTING CONCRETE SLAB, INSTALL GROUNDING ELECTRODE CONDUCTOR AND REPAIR SLAB TO EXISTING CONDITIONS.
- (17) CONTRACTOR TO PROVIDE AND INSTALL NEW STAINLESS STEEL GROUND ROD, 5/8" X 20'-0" AND GROUND ROD TEST WELL. REFER ALSO TO GROUND ROD DETAIL ON SHEET E-43.

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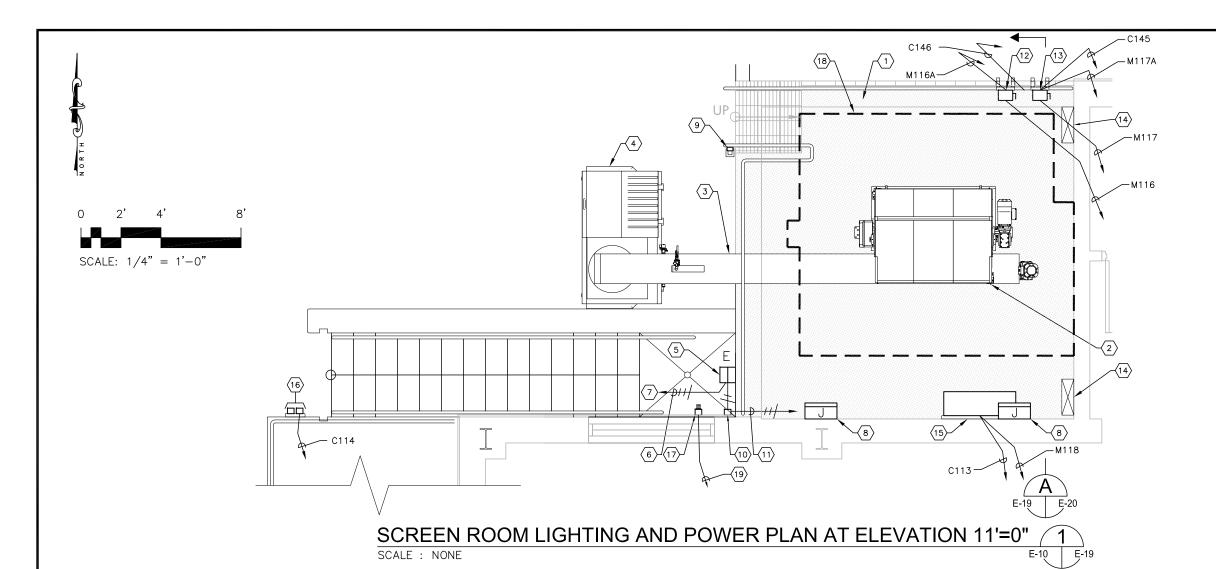
TIMOTHY THOMAS, PE
FLORIDA LICENSE PE 47079

1 DATE: 7/25/18

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PROPOSED GROUNDING PLAN

SHEET





GENERAL NOTES:

THE CONTRACTOR SHALL PROVIDE AND INSTALL A FLOW SWITCH AT THE EXHAUST OF EACH SUPPLY FAN. REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS FOR REQUIREMENTS. PROPOSED AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C (C150, C151) TO ASSOCIATED SUPPLY FAN AFD. CONDUIT AND WIRING SHALL MEET THE NEC REQUIREMENTS FOR INSTALLATION IN A CLASS DIV. 2 AREA.

KEYED NOTES:

TIMOTHY THOMAS, PE

- \langle 1 \rangle PROPOSED DIAMOND PLATE AROUND AUTOMATIC BAR-SCREEN AT ELEVATION 11'-0".
- 2 PROPOSED AUTOMATIC BAR-SCREEN.
- 3 PROPOSED COMPACTOR AND DISPOSAL SYSTEM UP TO ELEVATION 12'-5".
- 4 PROPOSED DUMPSTER/WASTE RECEPTACLE.
- (5) FIXTURE TYPE 'E' INSTALLED ABOVE SCREEN ROOM DOOR.
- 6 PROVIDE AND INSTALL 3-#12 + 1-#12 GND IN 3/4"C. TO SWITCH LOCATED AT SCREEN ROOM STAIRWELL. REFER TO KEYED NOTE #9 ON SHEET E-17 FOR SWITCH LOCATION.
- FOR CONTINUATION OF CIRCUIT REFER TO KEYED NOTE #9 ON SHEET E-17
- 8 PROPOSED FIXTURE TYPE 'J' MOUNTED 10'-0" ABOVE AUTOMATIC BAR-SCREEN GRATING. FIXTURES TO BE CONTROLLER BY SWITCH IN KEYED NOTE #10.
- 9 PROVIDE AND INSTALL 120V, 15A, SINGLE-POLE SWITCH IN WEATHERPROOF, CAST ALUMINUM FS BOX. PROVIDE AND INSTALL SINGLE-GANG WEATHERPROOF SWITCH COVER, BELL #5121-0. SWITCH TO CONTROL FIXTURE INDICATED IN KEYED NOTE #5 ABOVE. MOUNT SWITCH WITH 2" SQUARE ALUMINUM POST. PROVIDE FULL FILLET WELD TO 4" X 4" X 3/4" ALUMINUM BASE PLATE. SECURE BASE PLATE TO CONCRETE W/(4) STAINLESS STEEL 1/2" DIA. X 8" BOLTS & STAINLESS STEEL HEX NUTS WITH LOCKWASHER. DRILL CONCRETE & EMBED BOLTS AND ANCHORS IN EPOXY. COAT BOTTOM OF BASE PLATE WITH ASPHALT PAINT. PROVIDE NEOPRENE GASKET BETWEEN ALL STAINLESS STEEL AND ALUMINUM COMPONENTS. WELD ALUMINUM CAP TO TOP OF POST. POST SHALL BE OF A LENGTH TO ELEVATE SWITCH ABOVE PROPOSED HANDRAIL. PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C. TO LIGHT FIXTURES. CIRCUIT LP-36.

- PROVIDE AND INSTALL 120V, 15A, SINGLE-POLE SWITCH IN WEATHERPROOF, CAST ALUMINUM FS BOX. PROVIDE AND INSTALL SINGLE-GANG WEATHERPROOF SWITCH COVER, BELL #5121-0. SWITCH TO CONTROL SCREEN ROOM FIXTURES.
- PROVIDE AND INSTALL 3-#12 + 1-#12 GND IN 3/4"C. TO FIXTURES LOCATED IN SCREEN ROOM. PROVIDE AND INSTALL 3/4" EYS SEAL FITTINGS AS REQUIRED.
- PROVIDE AND INSTALL NEW 480V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR SF-1. MOUNT DISCONNECT TO HANDRAIL AND SLAB WALL WITH STAINLESS STEEL UNISTRUT AND U-BOLTS. COORDINATE EXACT INSTALLATION LOCATION WITH SF-1 LOCATION. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION. PROVIDE FACTORY INSTALLED AUXILIARY CONTACT FOR AFD SHUTDOWN WHEN SUPPLY FAN MOTOR IS DISCONNECTED. PROVIDE 2-#12 + 1-#12GND IN 3/4"C. TO SUPPLY FAN AFD (C145).
- (13) PROVIDE AND INSTALL NEW 480V, 3-POLE, 30A NON-FUSED DISCONNECT IN NEMA 4X STAINLESS STEEL ENCLOSURE FOR SF-2. MOUNT DISCONNECT TO HANDRAIL AND SLAB WALL WITH STAINLESS STEEL UNISTRUT AND U-BOLTS. COORDINATE EXACT INSTALLATION LOCATION WITH SF-2 LOCATION. PROVIDE PROVISIONS ALLOWING THE DISCONNECT TO BE PAD-LOCKED IN THE OPEN OR CLOSED POSITION. PROVIDE FACTORY INSTALLED AUXILIARY CONTACT FOR AFD SHUTDOWN WHEN SUPPLY FAN MOTOR IS DISCONNECTED. PROVIDE 2-#12 + 1-#12GND IN 3/4"C. TO SUPPLY FAN AFD (C146).

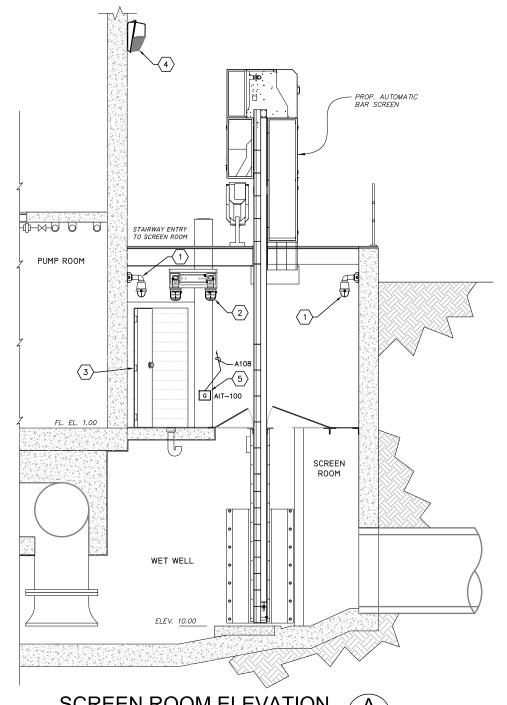
- PROPOSED DUCTWORK FOR SUPPLY FAN.
- PROPOSED AUTOMATIC BAR-SREEN CONTROL PANEL (MOUNTED BELOW LIGHT FIXTURE) MOUNT AUTOMATIC BAR-SCREEN CONTROL PANEL TO WALL WITH STAINLESS STEEL UNISTRUT. CONTRACTOR SHALL COORDINATE ALL FIELD WIRING REQUIREMENTS WITH THE AUTOMATIC BAR-SCREEN MANUFACTURER. FIELD DEVICES INCLUDE, BUT ARE NOT LIMITED TO: RAKE MOTOR, LIFTING MOTOR, COMPACTOR MOTOR, POSITION SENSORS, E-STOPS, SOLENOID VALVES, LEVEL TRANSDUCERS, ETC. CONNECTIONS TO ALL FIELD DEVICES SHALL BE VIA NON-METALLIC FLEXIBLE CONDUIT.
- PROVIDE AND INSTALL SF-1 AND SF-2 CONTROLS IN WEATHERPROOF, CAST ALUMINUM FS BOXES. MOUNT CONTROLS TO WALL WITH 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT. REFER ALSO TO PROPOSED FAN CONTROLS ON SHEETS É-39 AND E-40.
- PROVIDE AND INSTALL RED ALARM LIGHT, 120V, FEDERAL SIGNAL MODEL #131DST. MOUNT LIGHT ON WEATHER PROOF JUNCTION BOX. PROVIDE LABEL READING "SCREEN ROOOM LEL
- (18) CLASS I, DIV 2, 36" ENVELOP AROUND SCREENING EQUIPMENT.
- (19) PROVIDE 2-#12 + 1-#12 GND IN 3/4"C. TO CP-L01 FOR LEL WARNING LIGHT CONTROL

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CITY of TAMPA WASTEWATER DEPARTMENT

PROPOSED SCREEN ROOM DETAILS

SHEET

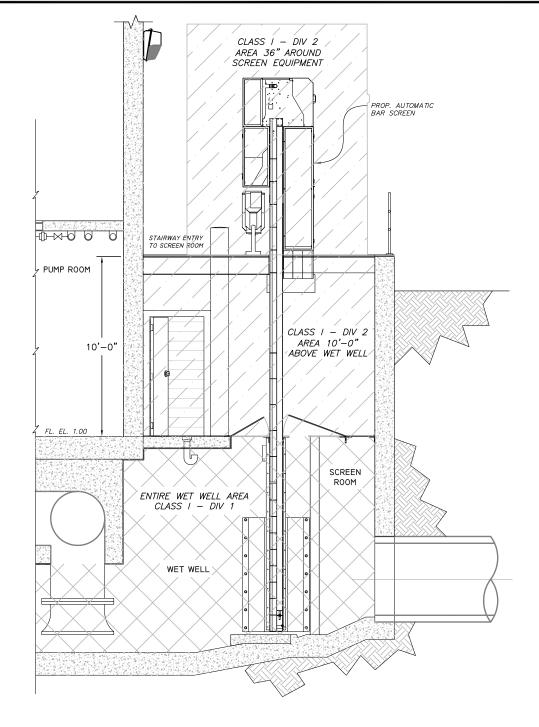


SCREEN ROOM ELEVATION A
SCALE: NONE E-19 F-20

KEYED NOTES:

TIMOTHY THOMAS, PE

- 1 PROVIDE AND INSTALL SCREEN ROOM FIXTURE TYPE 'F'.
- 2 PROVIDE AND INSTALL SCREEN ROOM EMERGENCY LIGHTING FIXTURE TYPE 'EM'.
- PROPOSED SCREEN ROOM ENTRY DOOR. REFER TO SHEET E-19 FOR LIGHT FIXTURE SWITCH AND HOA SELECTOR SWITCH TO BE PROVIDED ON THE EXTERIOR OF THE DOOR.
- PROPOSED FIXTURE TYPE 'J' MOUNTED 10'-0" ABOVE AUTOMATIC BAR-SCREEN DIAMOND PLATE. REFER TO SHEET E-19.
- 5 CONTRACTOR TO PROVIDE AND INSTALL NEW LEL GAS ANALYZER. DET—TRONICS MODEL PIR9400S3P2AW WITH STAINLESS STEEL DETECTOR.



HAZARDOUS AREA CLASSIFICATION LEGEND :







CLASS I, DIVISION 1 AREA

CLASS I, DIVISION 2 AREA

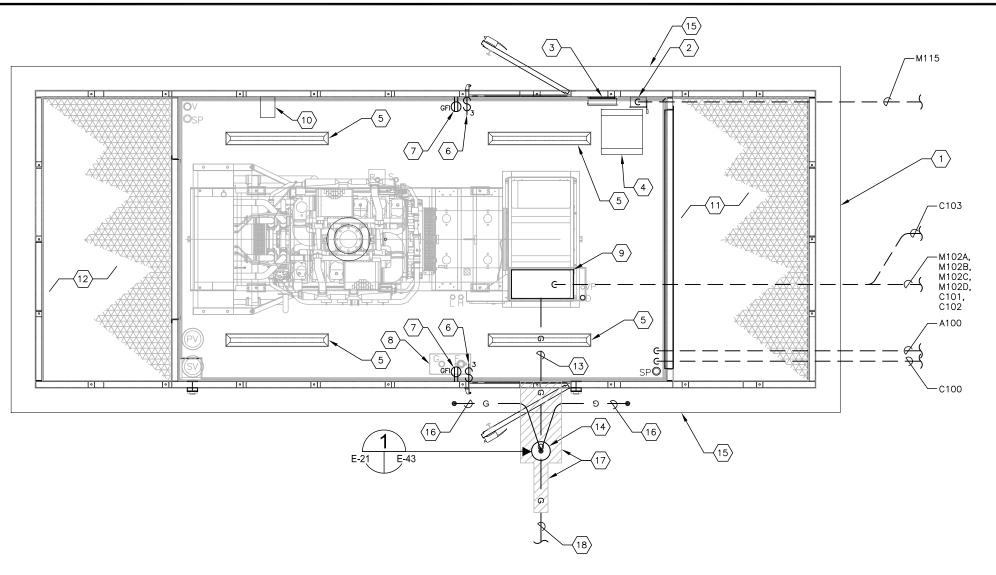
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PROPOSED SCREEN ROOM ELEVATION AND DETAILS

SHEET





GENERAL NOTES:

- 1. THIS DRAWING SHOWS LAYOUTS AND DIMENSIONS BASED ON A PARTICULAR MANUFACTURER. THE CONTRACTOR SHALL COORDINATE DIMENSIONS, STUBUP LOCATIONS AND EQUIPMENT LOCATIONS WITH THE MANUFACTURER SUBMITTED/PROVIDED.
- 2. THE GENERATOR ENCLOSURE SHALL BE PROVIDED WITH A 60 AMPERE DISCONNECT SWITCH, 120/208V, 3Ø, MCB LOADCENTER, 25 KVA, 480V-120/208V, 3Ø, TRANSFORMER, FLUORESCENT LIGHTING FIXTURES, 3-WAY SWITCHES AND DUPLEX GFCI RECEPTACLES, AS NOTED AND SPECIFIED. ALL EQUIPMENT PROVIDED BY THE SUPPLIER OF THE ENCLOSURE PACKAGE SHALL BE PROVIDED AND INSTALLED WITH ALL ASSOCIATED CONDUIT AND CONDUCTORS FOR POWER AND CONTROLS AS REQUIRED FOR A COMPLETE AND FUNCTIONING UNIT.
- 3. GENERATOR NEUTRAL SHALL NOT BE BONDED TO GROUND.

STANDBY GENERATOR DETAIL 1 SCALE: NONE E-6 E-2

KEYED NOTES:

TIMOTHY THOMAS, PE

FLORIDA LICENSE PE 47079

- 1 NEW 277/480V, 750 KW GENERATOR IN CORROSION RESISTANT, ALUMINUM, WEATHER—PROOF, SOUND ATTENUATED ENCLOSURE. REFER ALSO TO SPECIFICATIONS.
- 60 AMPERE FUSED DISCONNECT SWITCH PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- 3 100 AMPERE, 120/208V, 3Ø, MCB LOADCENTER PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- 25 KVA, 480V-120/208V, 3Ø, TRANSFORMER PROVIDED AS PART OF THE ENCLOSURE PACKAGE. TRANSFORMER LOCATED ABOVE DISCONNECT AND LOADCENTER. PROVIDE AND INSTALL #6 BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO GROUND ROD IN KEYED NOTE #14.
- (5) LED LIGHT FIXTURE PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- $\overbrace{6}$ 3-way switches provided as part of the enclosure package.

- 7 20A, 125V DUPLEX GFI RECEPTACLE PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- 8 SKID-MOUNTED DIESEL TANK FILL STATION PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- 9 STUBUP LOCATION FOR 480V FEEDER CIRCUIT, GENERATOR STARTER CIRCUIT, GENERATOR SHUT DOWN AND SCADA I/O. COORDINATE/VERIFY EXACT LOCATION WITH ENCLOSURE MANUFACTURER.
- $\langle 10 \rangle$ BATTERY CHARGER TO BE PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- AIR INTAKE WITH BIRDSCREEN ABOVE, PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- 412 AIR DISCHARGE WITH BIRDSCREEN ABOVE, PROVIDED AS PART OF THE ENCLOSURE PACKAGE.
- CONTRACTOR TO PROVIDE AND INSTALL A 250 kcmil BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO NEW GROUND ROD (KEYED NOTE #14).

- CONTRACTOR TO PROVIDE AND INSTALL NEW STAINLESS STEEL GROUND ROD, 5/8" X 20'-0" AND GROUND ROD TEST WELL. REFER ALSO TO GROUND ROD DETAIL ON SHEET E-43.
- PROPOSED 2" THICK GENERATOR SLAB. REFER TO CIVIL DRAWINGS FOR
- CONTRACTOR TO PROVIDE AND INSTALL A #4/O AWG BARE COPPER CONDUCTOR BETWEEN THE GROUND ROD AND THE REINFORCING STEEL EMBEDDED IN THE GENERATOR CONCRETE SLAB. PROVIDE EXOTHERMIC WELD TO REINFORCING STEEL.
- CONTRACTOR SHALL CUT EXISTING CONCRETE SLAB, INSTALL GROUNDING ELECTRODE CONDUCTORS AND GROUND ROD TEST WELL AND REPAIR SLAB TO EXISTING CONDITIONS.
- CONTRACTOR TO PROVIDE AND INSTALL A #4/O BARE COPPER GROUNDING ELECTRODE CONDUCTOR TO THE GROUND GRID SHOWN ON SHEET E-18.

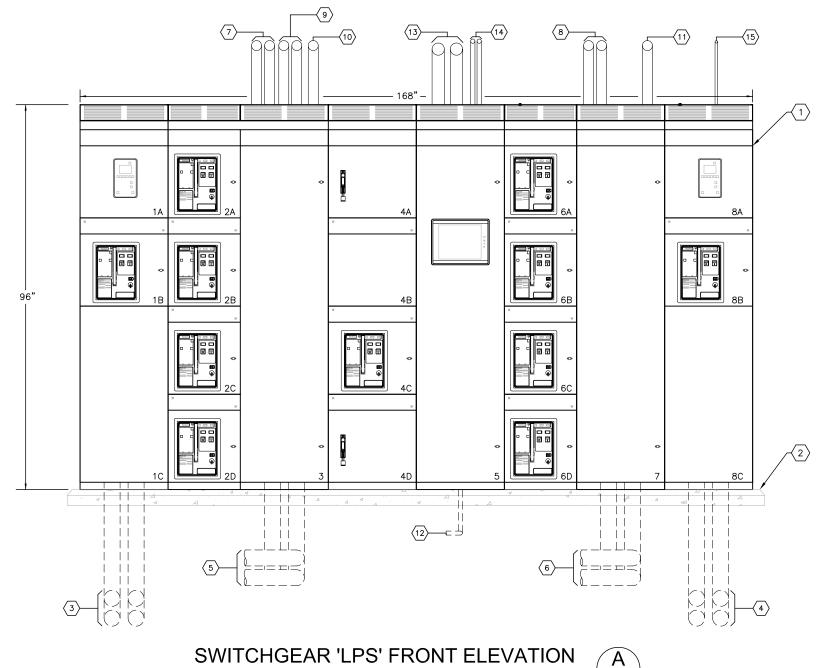


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STANDBY GENERATOR DETAILS

SHEET



SWITCHGEAR 'SG-LPS' SCHEDULE

METERING EQUIPMENT

MAIN CIRCUIT BREAKER CABLE COMPARTMENT

MCC-LPS BUS A FEEDER BREAKER AFD-1 FEEDER BREAKER

AFD-3 FEEDER BREAKER

GENERATOR FEEDER BREAKER CABLE COMPARTMENT

SURGE PROTECTION DEVICE CONTROL POWER TRANSFORMERS

4C 4D BUS TIE BREAKER

SURGE PROTECTION DEVICE AUTOMATIC TRANSFER SCHEME PLC

MCC-LPS BUS B FEEDER BREAKER

AFD-2 FEEDER BREAKER

FUTURE AFD-4 FEEDER BREAKER (W/O TRIP UNIT) PORTABLE GENERATOR CIRCUIT BREAKER

CABLE COMPARTMENT

METERING EQUIPMENT MAIN CIRCUIT BREAKER

8B 8C CABLE COMPARTMENT

SCALE : N.T.S.



(13) C115 AND C116.

(14) C117 AND C118.

(15) RS100

KEYED NOTES:

TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079

- PROPOSED SWITCHGEAR 'LPS'. REFER TO SHEET E-10, KEYED NOTE #1 FOR LOCATION. REFER TO SHEET E-23 FOR ONE-LINE DIAGRAM.
- PROVIDE NEW 4" CONCRETE HOUSEKEEPING PAD WITH 45" CHAMFERED EDGES. HOUSEKEEPING PADS SHALL EXTEND 3" BEYOND EQUIPMENT (TYPICAL).
- (3) M100A, M100B, M100C AND M100D.
- 4 M101A, M101B, M101C AND M101D.
- (5) M102A, M102B, M102C AND M102D.

- 6 M103A, M103B, M103C AND M103D.
- (7) M104A AND M104B.
- (8) M105A AND M105B.
- 9 M106A AND M106B.
- (10) M119.
- (11) M120.

GENERAL NOTES:

- 1. FOR CONDUIT SCHEDULES REFER TO SHEETS E-46, E-47, E-48 AND E-49.
- 2. FOR PROPOSED EQUIPMENT LAYOUT, REFER TO SHEET E-10. CONDUIT ROUTING AND CONDUIT ELEVATIONS UNDER SLAB REFER TO SHEETS E-12 AND E-13.

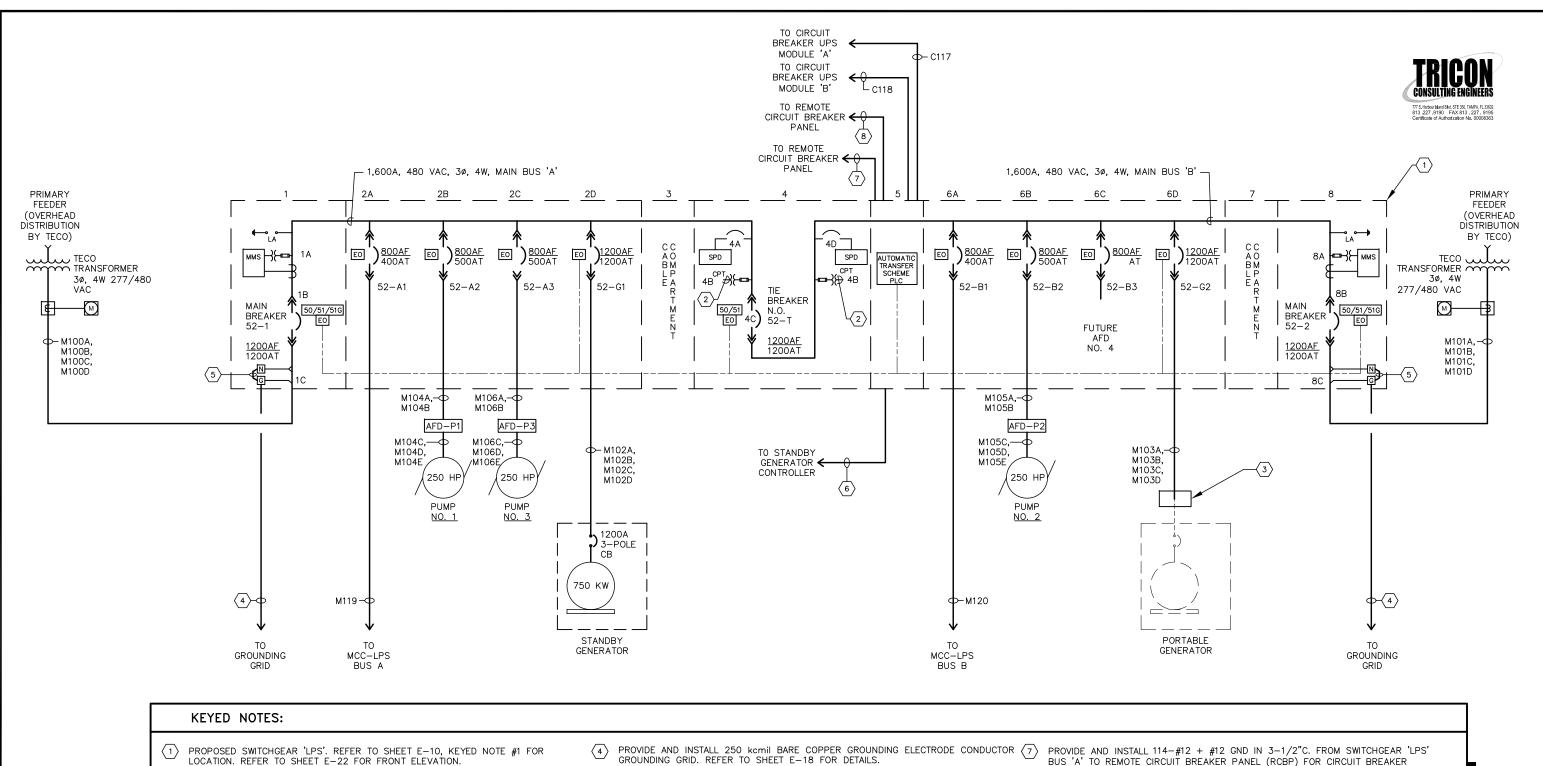


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CITY of TAMPA WASTEWATER DEPARTMENT

SWITCHGEAR LPS ELEVATION AND DETAILS

SHEET



- LOCATION. REFER TO SHEET E-22 FOR FRONT ELEVATION.
- 2) FOR FEEDERS ONLY. MAINS, TIE AND GENERATOR C.B. SHALL BE POWERED BY U.P.S. (TYPICAL).
- 3 PROPOSED GENERATOR DOCKING STATION. REFER TO SHEET E-6, KEYED NOTE #14
- PROVIDE AND INSTALL 250 kcmil BARE COPPER BONDING JUMPER.
- $\langle 6 \rangle$ PROVIDE AND INSTALL 4-#12 + 1-#12 GND IN 1"C. FROM SWITCHGEAR 'LPS' AUTOMATIC TRANSFER SCHEME PLC TO STANDBY GENERATOR CONTROLLER 2-#12 GENERATOR START COMMAND AND 2-#12 SPARE. (CO12).

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J.L.H.

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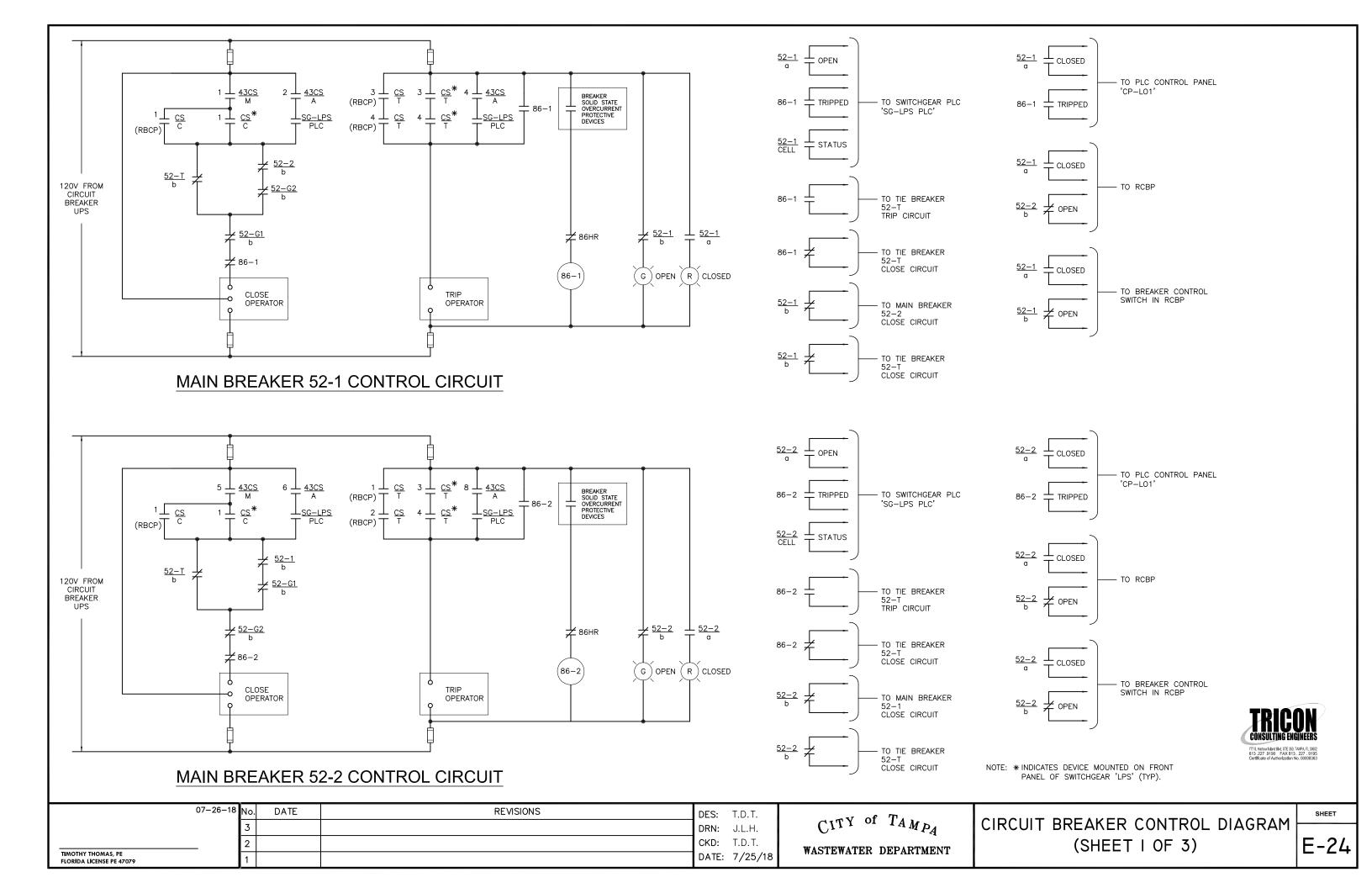
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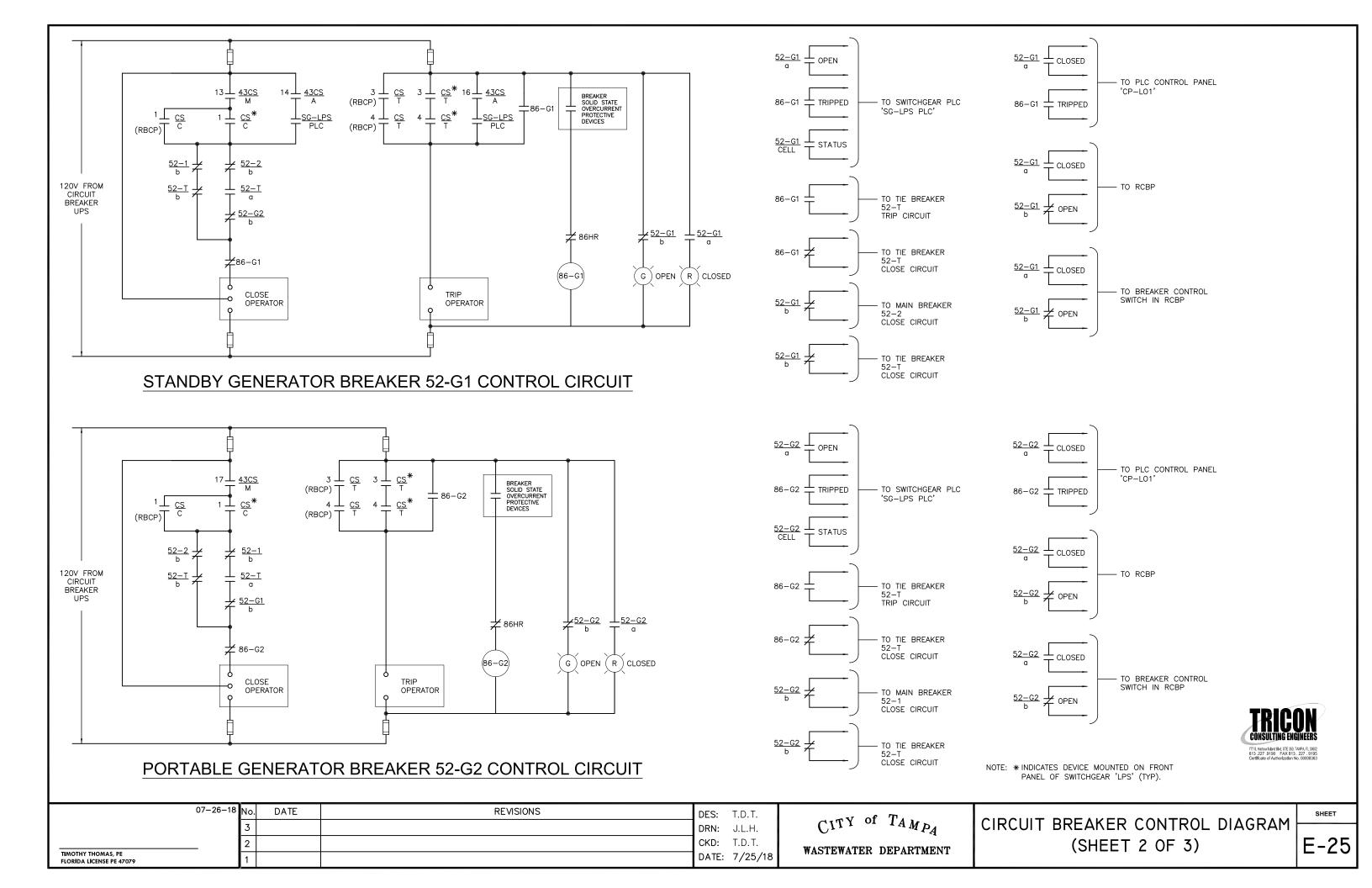
- BUS 'A' TO REMOTE CIRCUIT BREAKER PANEL (RCBP) FOR CIRCUIT BREAKER CONTROL AND STATUS. CONDUCTOR COUNT INCLUDES SPARES. (C115).
- PROVIDE AND INSTALL 114-#12 + #12 GND IN 3-1/2"C. FROM SWITCHGEAR 'LPS' BUS 'B' TO REMOTE CIRCUIT BREAKER PANEL (RCBP) FOR CIRCUIT BREAKER CONTROL AND STATUS. CONDUCTOR COUNT INCLUDES SPARES. (C116).

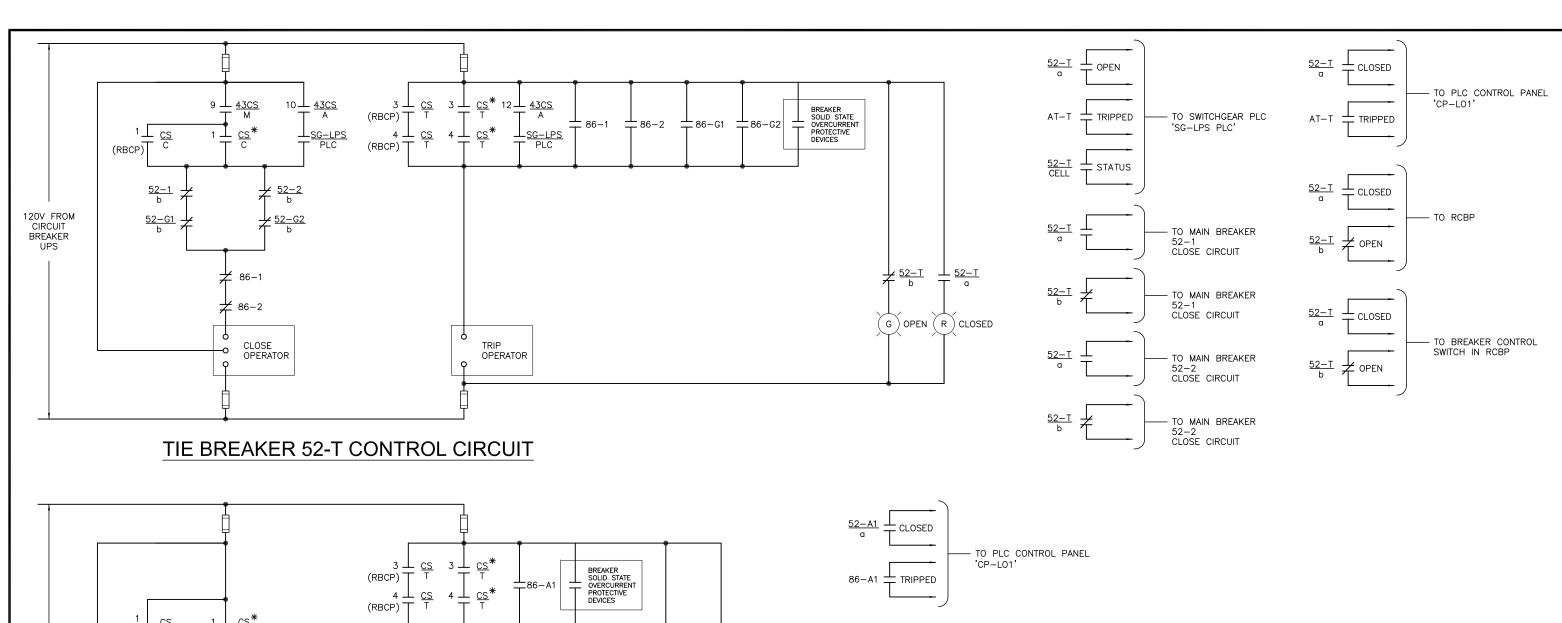
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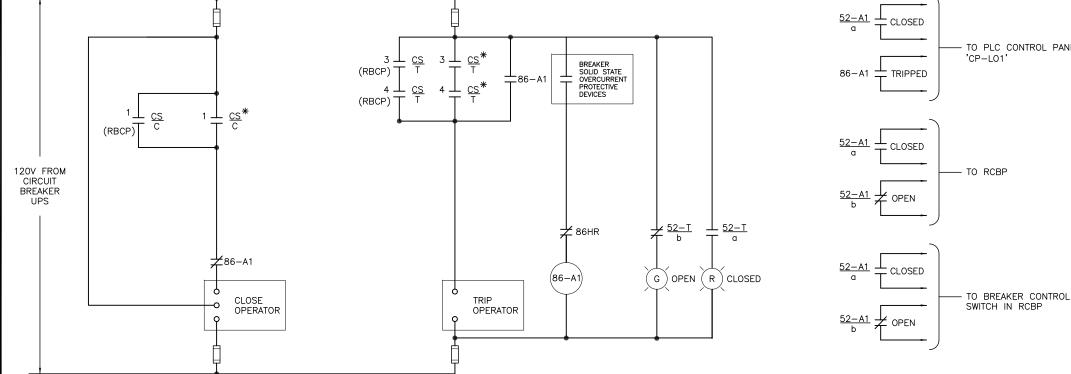
CITY of TAMPA WASTEWATER DEPARTMENT

SWITCHGEAR LPS ONE LINE DIAGRAM SHEET









TO BREAKER CONTROL
SWITCH IN RCBP

TRICON
CONSULTING ENGINEERS
177 5 Networkland Side (SIT TAN A FL SIZE)
1913 227 9190 FAX 1913 227 9190

FEEDER BREAKER 52-A1 CONTROL CIRCUIT

NOTE: CIRCUIT IS SIMILAR FOR 52-A1, 2, 3 AND 52-B1, 2, 3

NOTE: *INDICATES DEVICE MOUNTED ON FRONT PANEL OF SWITCHGEAR 'LPS' (TYP).

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T.D.T.

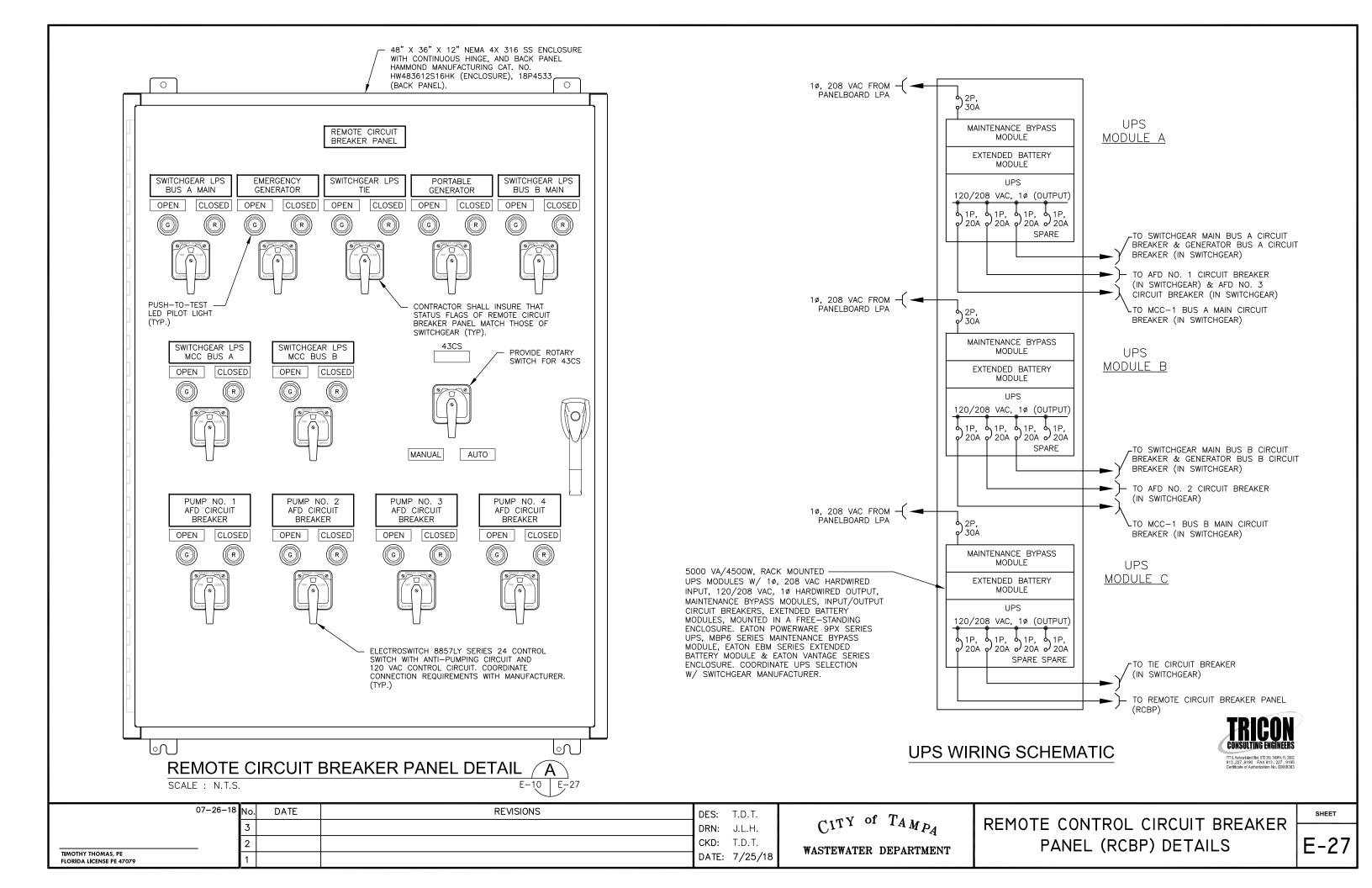
J.L.H.

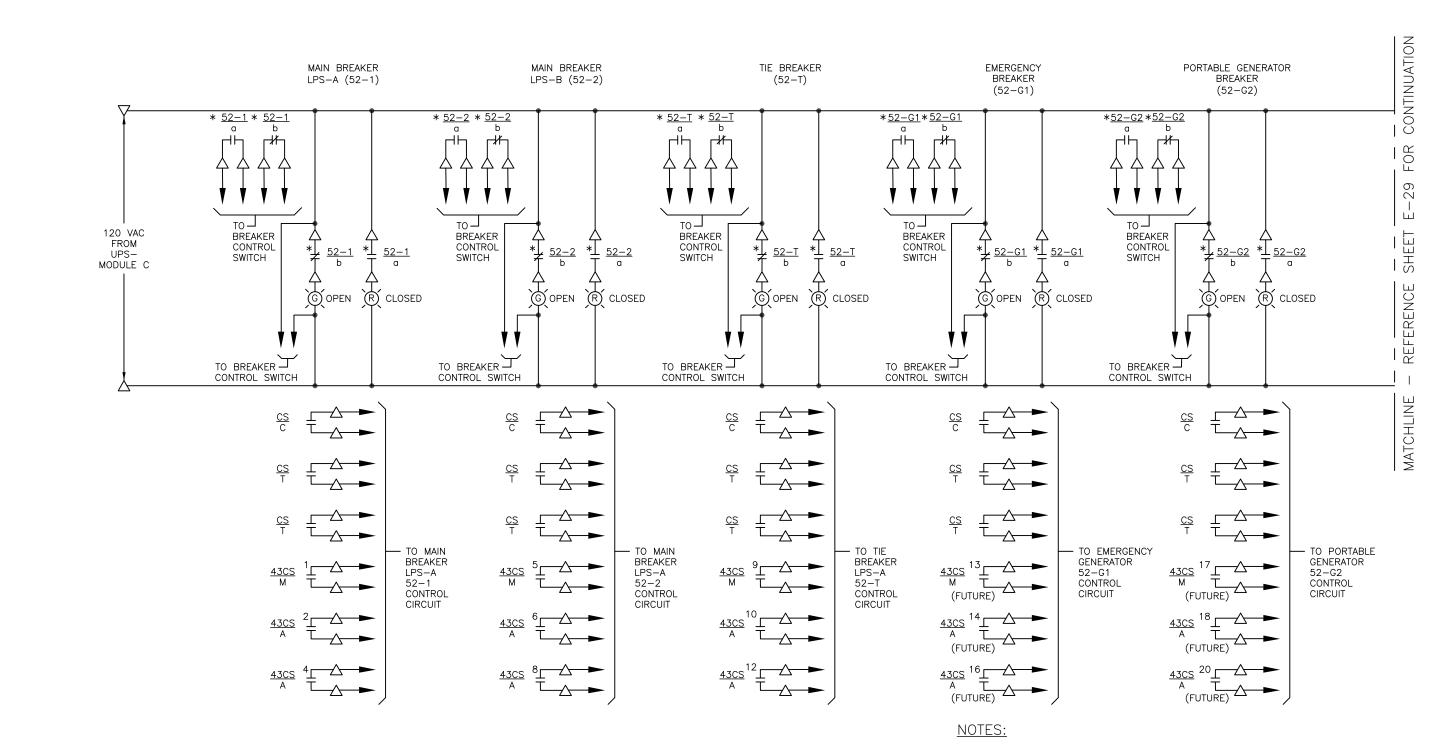
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CIRCUIT BREAKER CONTROL DIAGRAM (SHEET 3 OF 3)

SHEET





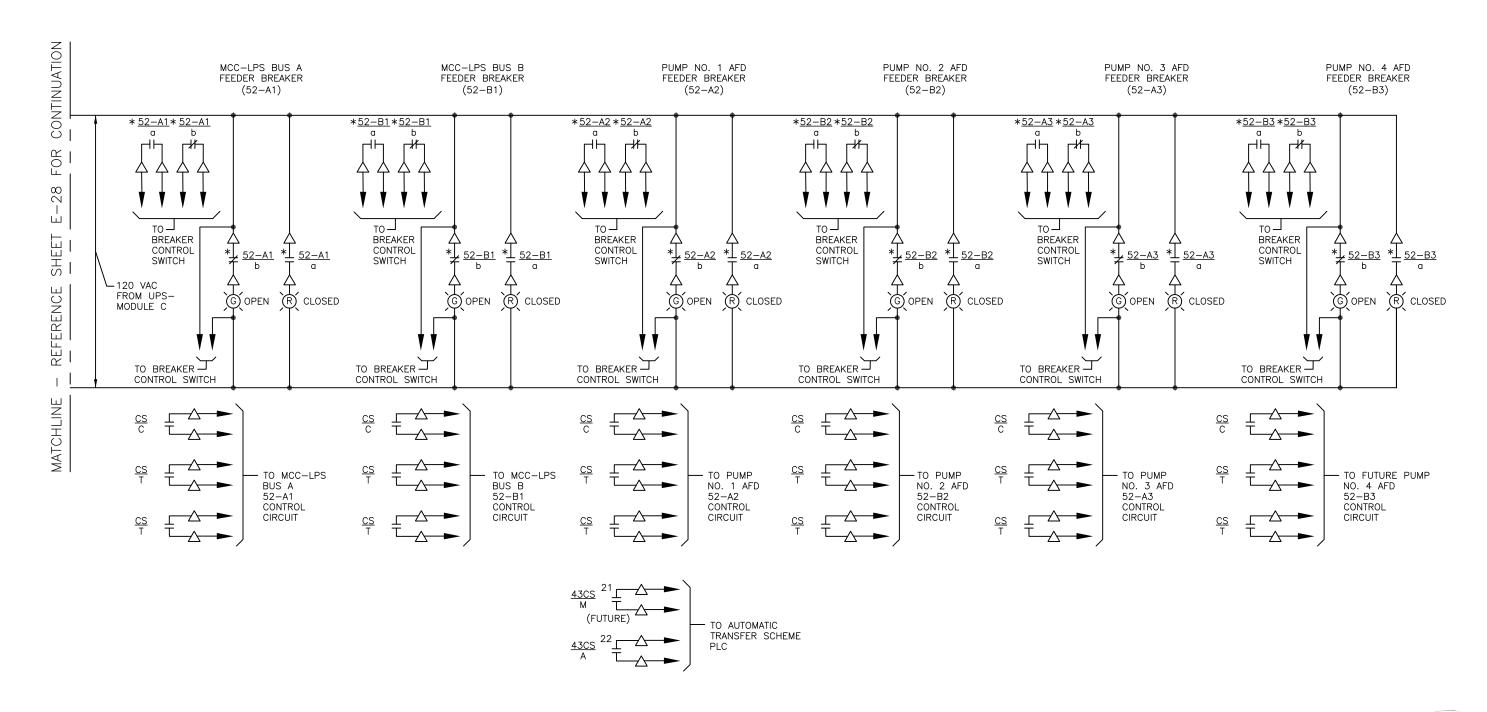
- * INDICATES DEVICE LOCATED REMOTE FROM REMOTE CIRCUIT BREAKER PANEL
- \triangle DENOTES TERMINAL FOR FIELD CONNECTION



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REMOTE CONTROL CIRCUIT BREAKER PANEL WIRING DETAILS



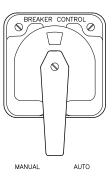


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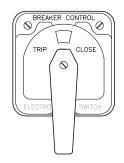
REMOTE CONTROL CIRCUIT BREAKER PANEL WIRING DETAILS

SHEET



MAIN-TIE-MAIN BREAKERS MANUAL/AUTO TRANSFER SELECTOR SWITCH 43CS								
CONTACTO		POSI	TION					
CONTACTS HANDLE END		MANUAL	AUTO	FUNCTION				
1 2	1			MAIN BREAKER NO. 1 CLOSE CIRCUIT				
$\rightarrow \vdash \rightarrow \vdash \rightarrow \vdash$	2		>	MAIN BREAKER NO. 1 CLOSE CIRCUIT				
3 4	3	><		SPARE				
$\rightarrow \vdash \rightarrow \vdash \rightarrow \vdash \rightarrow$	4		> <	MAIN BREAKER NO. 1 TRIP CIRCUIT				
5 6	5	><		MAIN BREAKER NO. 2 CLOSE CIRCUIT				
\rightarrow \vdash \rightarrow \vdash	6		><	MAIN BREAKER NO. 2 CLOSE CIRCUIT				
7 8	7	><		SPARE				
어는 어는	8		><	MAIN BREAKER NO. 2 TRIP CIRCUIT				
9 10	9			TIE BREAKER CLOSE CIRCUIT				
어는 어는	10		><	TIE BREAKER CLOSE CIRCUIT				
11 12	11	><		SPARE				
	12		><	TIE BREAKER TRIP CIRCUIT				
13 14	13	\geq		STANDBY GENERATOR CLOSE CIRCUIT				
어Ի 어Ի	14		\nearrow	STANDBY GENERATOR CLOSE CIRCUIT				
15 16	15	\times		SPARE				
에는 에는	16		><	STANDBY GENERATOR TRIP CIRCUIT				
17 18	17	\nearrow		PORTABLE GENERATOR CLOSE CIRCUIT				
어는 어는	18		\times	SPARE				
19 20	19			SPARE				
어는 어는	20		$\geq <$	SPARE				
21 22	21			TO AUTOMATIC TRANSFER SCHEME PLC				
	22			TO AUTOMATIC TRANSFER SCHEME PLC				

X - INDICATES CONTACT CLOSED (MAINTAINED CONTACT)



TYPICAL BREAKER CONTROL SWITCH CS AT SWITCHBOARD AND RCBP							
CONTACTO			POSITION		FUNCTION		
CONTACTS HANDLE END		CLOSE NORMAL TR		TRIP			
1 2	1				CLOSE CIRCUIT		
어는 어는	2	><			SPARE		
3 4 →	3 4			\nearrow	TRIP CIRCUIT		
5 6 H- H-0	5 6				SPARE		

X - INDICATES CONTACT CLOSED (SPRING RETURN FROM CLOSE AND TRIP TO NORMAL)



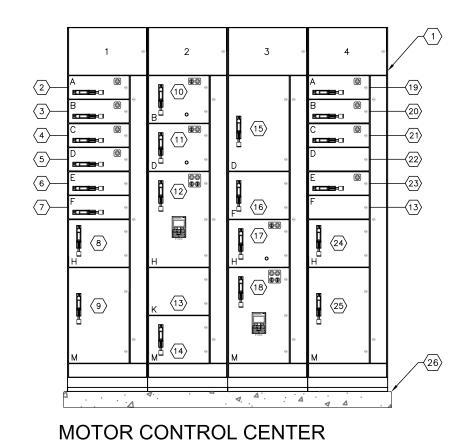
١٥.	DATE	REVISIONS	DES:	T.D.T.
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CIRCUIT BREAKER CONTROL SCHEDULE SHEET

E-30

DATE: 7/25/18 WASTEWATER DEFARTMENT



MCC-LPS LOAD SUMMARY				
LOAD	BUS 'A' CONNECTED	BUS 'A' DEMAND	BUS 'B' CONNECTED	BUS 'B' <u>DEMAND</u>
AIR COMPRESSOR AC-1 CONTROL PANEL (1A)	7.6 AMPS	7.6 AMPS	0.0 AMPS	0.0 AMPS
VACUUM PUMP VP1- CONTROL PANEL (1B)	6.2 AMPS	6.2 AMPS	0.0 AMPS	0.0 AMPS
PUMP No. 1 MOTOR OPERATED KNIFE GATE (1C)	1.6 AMPS	0.0 AMPS	0.0 AMPS	0.0 AMPS
PUMP No. 3 MOTOR OPERATED KNIFE GATE (1D)	1.6 AMPS	0.0 AMPS	0.0 AMPS	0.0 AMPS
OVERHEAD CRANE (1E)	0.8 AMPS	0.0 AMPS	0.0 AMPS	0.0 AMPS
BAR-SCREEN CONTROL PANEL (1F)	12.0 AMPS	9.8 AMPS	0.0 AMPS	0.0 AMPS
EXHAUST FAN EF-1 (2B)	4.8 AMPS	4.8 AMPS	0.0 AMPS	0.0 AMPS
EXHAUST FAN EF-3 (2D)	0.9 AMPS	0.9 AMPS	0.0 AMPS	0.0 AMPS
SUPPLY FAN SF-1 (2H)	1.6 AMPS	0.8 AMPS	0.0 AMPS	0.0 AMPS
TRANSFORMER T1 (2M)	42.1 AMPS	38.4 AMPS	0.0 AMPS	0.0 AMPS
EXHAUST FAN EF-2 (3H)	0.0 AMPS	0.0 AMPS	4.8 AMPS	4.8 AMPS
SUPPLY FAN SF-2 (3M)	0.0 AMPS	0.0 AMPS	1.6 AMPS	0.8 AMPS
AIR COMPRESSOR AC-2 CONTROL PANEL (4A)	0.0 AMPS	0.0 AMPS	7.6 AMPS	7.6 AMPS
VACUUM PUMP VP2- CONTROL PANEL (4B)	0.0 AMPS	0.0 AMPS	6.2 AMPS	6.2 AMPS
PUMP No. 2 MOTOR OPERATED KNIFE GATE (4C)	0.0 AMPS	0.0. AMPS	1.6 AMPS	0.8 AMPS
TRANSFER CART RECEPTACLE (4E)	0.0 AMPS	0.0 AMPS	10.0 AMPS	10.0 AMPS
TRANSFORMER T1 (3F)	0.0 AMPS	0.0 AMPS	42.1 AMPS	38.4 AMPS
TOTAL :	79.2 AMPS	65.1 AMPS	73.9 AMPS	68.6 AMPS

TOTAL CONNECTED LOAD FOR MCC-LPS = 152.3 AMPERES
NEW MOTOR CONTROL CENTER MCC-LPS WILL BE RATED FOR 400 AMPERES

KEYED NOTES:

SCALE: N.T.S.

- NEW MOTOR CONTROL CENTER MCC-LPS IN NEMA 1 ENCLOSURE. REFER ALSO TO ONE-LINE DIAGRAM ON SHEET E-32.
- 2 CIRCUIT BREAKER FOR AIR COMPRESSOR AC-1 CONTROL PANEL.
- 3 CIRCUIT BREAKER FOR VACUUM PUMP VP-1 CONTROL PANEL.

'MCC-LPS' FRONT ELEVATION

- 4 CIRCUIT BREAKER FOR PUMP No. 1 KNIFE GATE MOTOR OPERATED VALVE.
- (5) CIRCUIT BREAKER FOR PUMP No. 3 KNIFE GATE MOTOR OPERATED VALVE.
- $\left\langle \mathbf{6} \right\rangle$ CIRCUIT BREAKER FOR OVERHEAD CRANE.
- (7) CIRCUIT BREAKER FOR AUTOMATIC BAR-SCREEN CONTROLLER.
- $\left\langle 8\right\rangle$ BUS 'A' SURGE PROTECTION DEVICE.
- 9 BUS 'A' 400A MAIN CIRCUIT BREAKER WITH KEY INTERLOCK.

- $\langle 10 \rangle$ STARTER FOR EXHAUST FAN EF-1.
- $\langle 11 \rangle$ STARTER FOR EXHAUST FAN EF-3.
- $\langle 12 \rangle$ AFD FOR SUPPLY FAN SF-1.
- (13) PROPOSED SPACE.
- BUS 'A' 70A CIRCUIT BREAKER FOR AUTOMATIC TRANSFER SWITCH.
- (15) 400A BUS TIE BREAKER WITH KEY INTERLOCK.
- (16) BUS 'B' 70A CIRCUIT BREAKER FOR TRANSFER SWITCH.
- \$\langle 17 \rangle STARTER FOR EXHAUST FAN EF-2.
- $\langle 18 \rangle$ AFD FOR SUPPLY FAN SF-2.

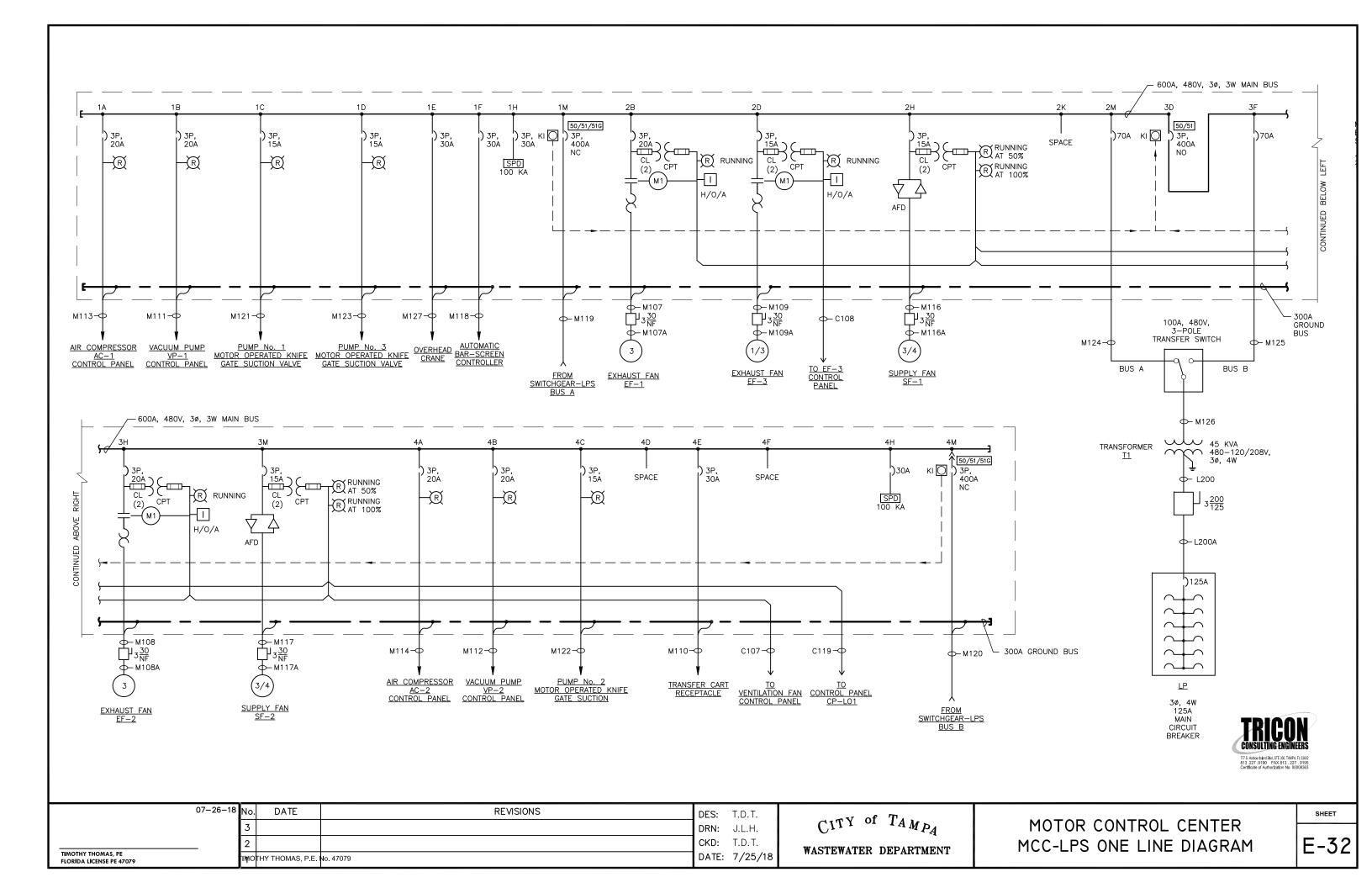
- (19) CIRCUIT BREAKER FOR AIR COMPRESSOR AC-2 CONTROL PANEL.
- (20) CIRCUIT BREAKER FOR VACUUM PUMP VP-2 CONTROL PANEL.
- (21) CIRCUIT BREAKER FOR PUMP No. 2 KNIFE GATE MOTOR OPERATED VALVE.
- SPACE FOR FUTURE FOR PUMP No. 4 KNIFE GATE MOTOR OPERATED VALVE.
- (23) CIRCUIT BREAKER FOR TRANSFER CART.
- $\langle 24 \rangle$ BUS 'B' SURGE PROTECTION DEVICE.
- 25) BUS 'B' 400A MAIN CIRCUIT BREAKER WITH KEY INTERLOCK.
- PROVIDE NEW 4" CONCRETE HOUSEKEEPING PAD WITH 45" CHAMFERED EDGES. HOUSEKEEPING PADS SHALL EXTEND 3" BEYOND EQUIPMENT (TYPICAL).

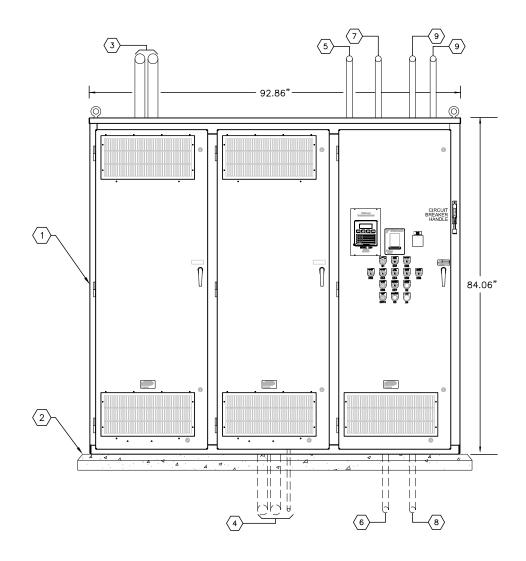


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 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

MOTOR CONTROL CENTER MCC-LPS ELEVATION





ADJUSTABLE	FREQUENCY	DRIVE SPECIAL	PARAMETER SETTING TABLE
PARAMETER	DATA	UNIT	DESCRIPTION/REMARKS
b1-01	0	N/A	SPEED REFERENCE = DIGITAL OPERATOR
b1-02	1	N/A	START/STOP CONTROL = TERMINALS
b5-01	0	N/A	PI MODE DISABLED
d1-01	10	SYSTEM UNITS	HAND MODE SPEED (TO BE SET BY USER)
E1-01	480	VOLTS	STANDARD MAX VOLTAGE SETTING
E1-05	460	VOLTS	MAXIMUM OUTPUT VOLTAGE SETTING
E2-01		AMPERES	MOTOR FULL LOAD AMPERES (TO BE SET BY USER)
H1-04	6A	N/A	TERMINAL S6 = DRIVE ENABLE
H1-05	24	N/A	TERMINAL S7 = EXTERNAL FAULT (NORMALLY OPEN)
H2-01	0	N/A	TERMINALS M1-M2 = DRIVE RUNNING
H2-02	6	N/A	TERMINALS $M3-M4 = DRIVE READY$
H3-09	2	N/A	TERMINAL A2 = AUX REFERENCE
H4-04	3	N/A	TERMINAL AM = OUTPUT CURRENT
H4-07	2	N/A	TERMINAL FM = $4-20$ mA OUTPUT
H4-08	2	N/A	TERMINAL AM = $4-20$ mA OUTPUT
L4-05	0	N/A	FREQUENCY REFERENCE LOSS DETECTION DISABLED
P1-02	1	SYSTEM UNITS	SYSTEM UNITS (TO BE SET BY USER)
P1-03	00145	SYSTEM UNITS	SYSTEM SCALING (TO BE SET BY USER)
P1-06	0	HZ	MINIMUM FREQUENCY (TO BE SET BY USER)
P5-04	0	N/A	DRIVE KEYPAD HAND SET DISABLED

TYPICAL AFD FRONT ELEVATION SCALE: N.T.S.

KEYED NOTES:

- PROPOSED PUMP NO. 1 AFD. TYPICAL OF THREE. REFER TO SHEET E-10, KEYED (5) C104 (OR C105 C106 AS APPLICABLE). NOTE #5 FOR AFD LOCATIONS.
- PROVIDE NEW 4" CONCRETE HOUSEKEEPING PAD WITH 45' CHAMFERED EDGES. HOUSEKEEPING PADS SHALL EXTEND 3" BEYOND EQUIPMENT (TYPICAL).
- 3 M104A AND M104B (OR M105A AND M105B OR M106A AND M106B AS
- 4) M104C, M104D AND M104E (OR M105C, M105D AND M105E OR M106C, M106D AND M106E AS APPLICABLE).
- 6 A101 (OR A102 OR A103 AS APPLICABLE).
- 7 C120 (OR C121 C122 AS APPLICABLE).
- (8) C132 (OR C133 C134 AS APPLICABLE).
- 9 AFD RS-485 COMMUNICATIONS CABLES. (RS101, RS102 AND RS103 AS REQUIRED).

GENERAL NOTES:

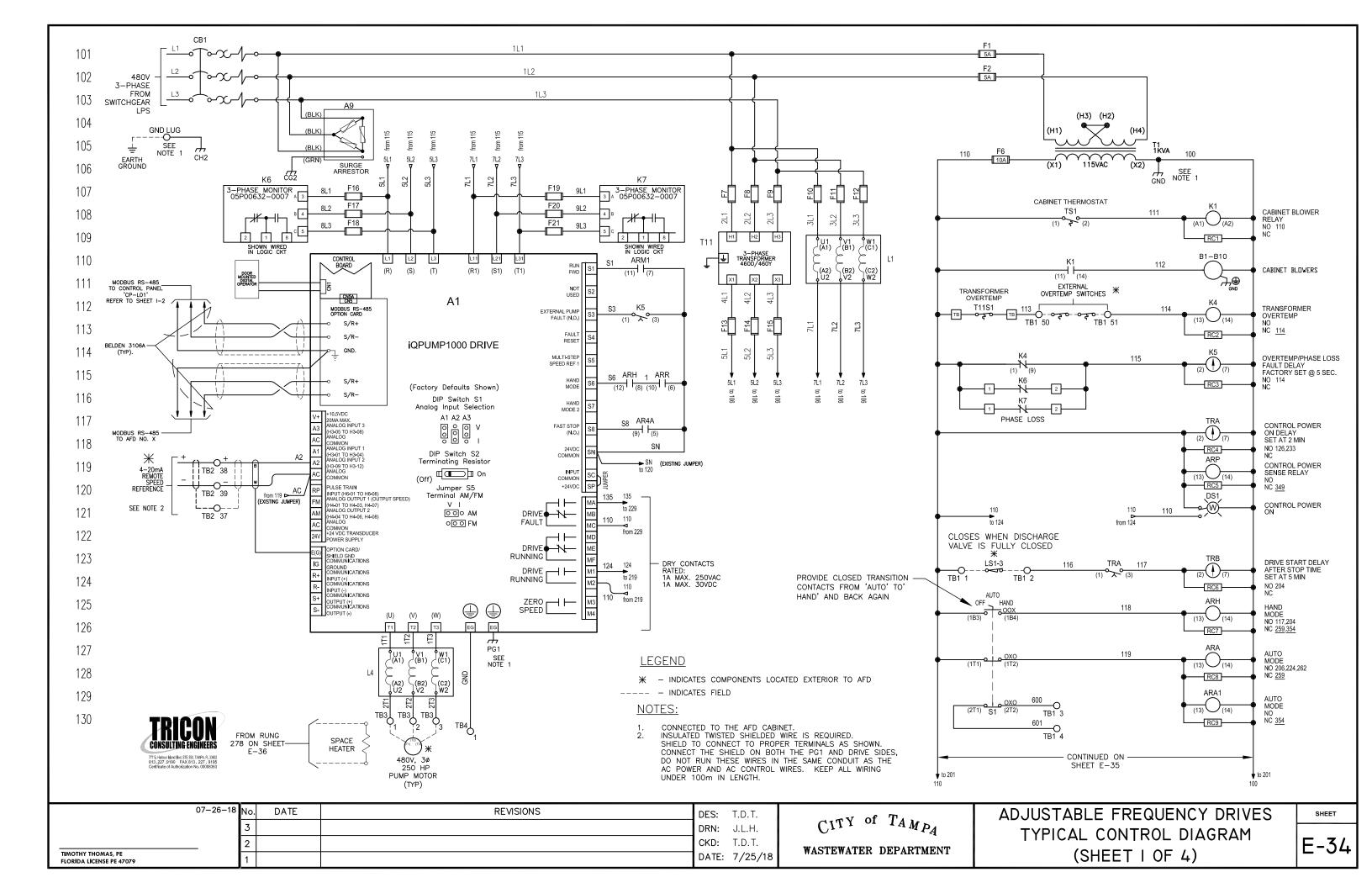
- 1. FOR CONDUIT SCHEDULES REFER TO SHEETS E-46, E-47, E-48 AND E-49.
- 2. FOR PROPOSED EQUIPMENT LAYOUT, REFER TO SHEET E-10. CONDUIT ROUTING AND CONDUIT ELEVATIONS UNDER SLAB REFER TO SHEETS E-12 AND E-13.

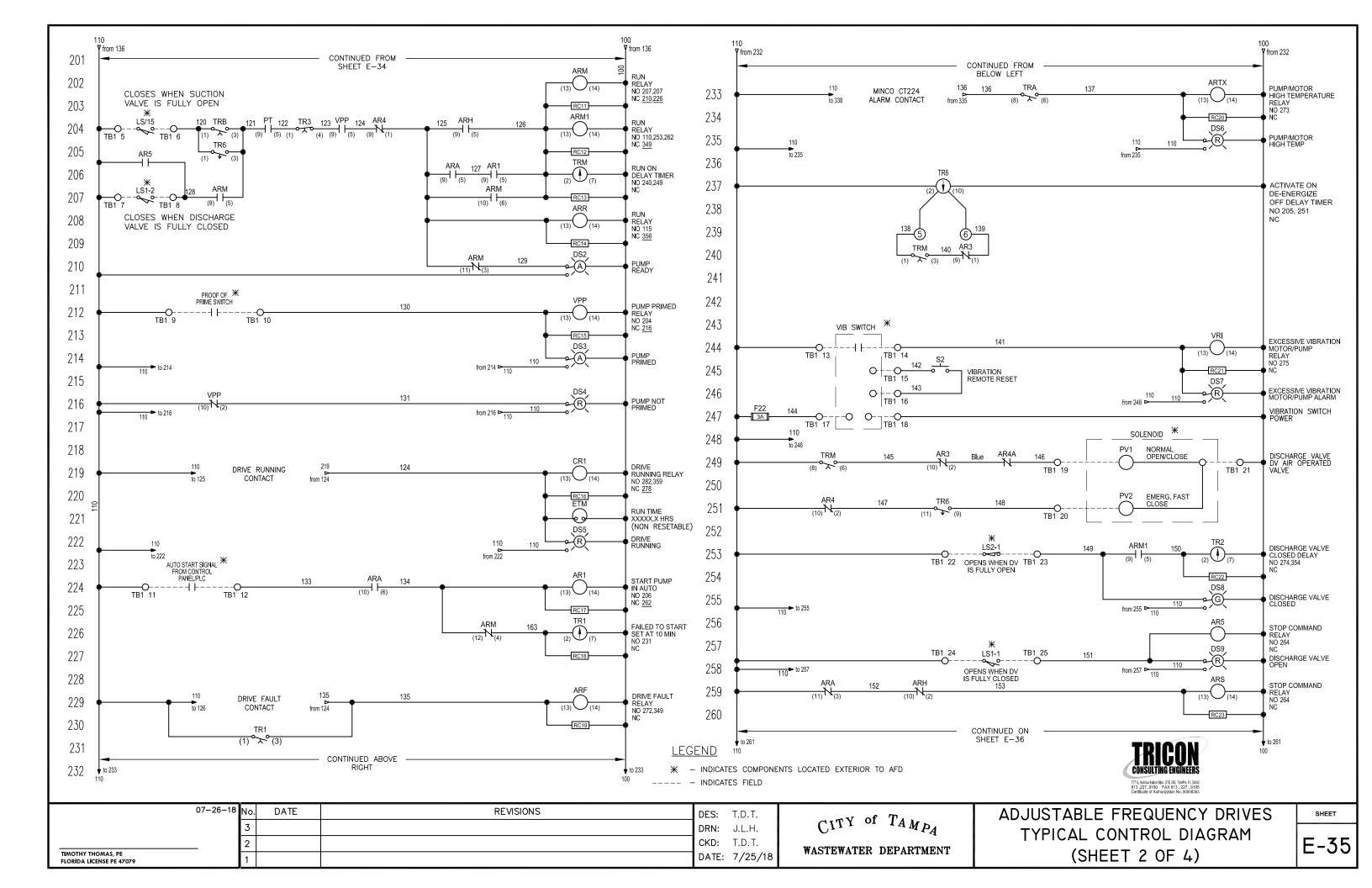


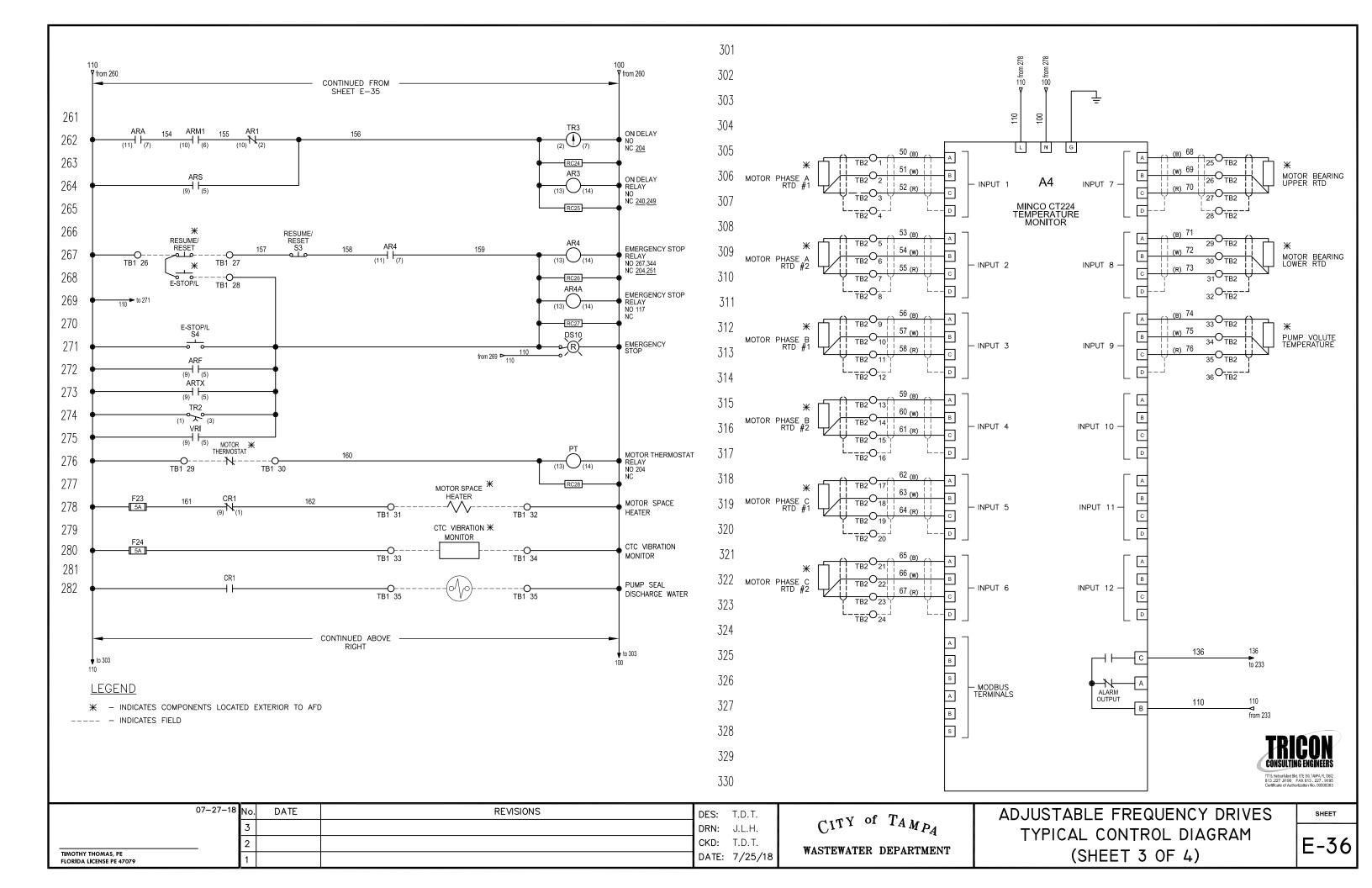
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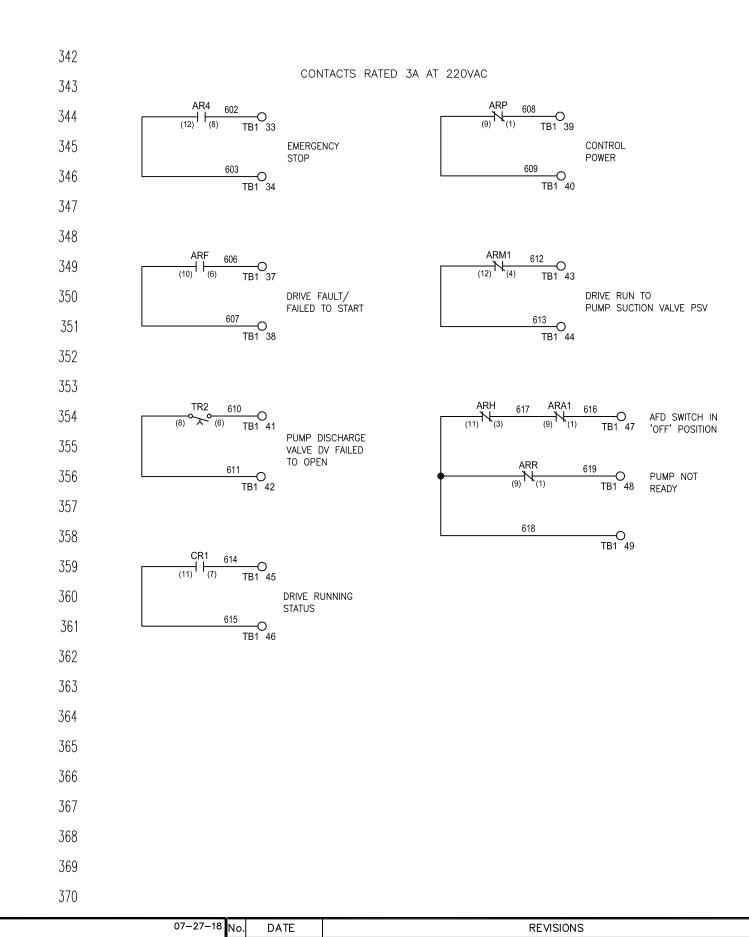
CITY of TAMPA WASTEWATER DEPARTMENT

ADJUSTABLE FREQUENCY DRIVES TYPICAL ELEVATIONS AND DETAILS SHEET











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DRN: J.L.H.

CKD: T.D.T.

DATE: 7/25/18

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ADJUSTABLE FREQUENCY DRIVES
TYPICAL CONTROL DIAGRAM
(SHEET 4 OF 4)

SHEET

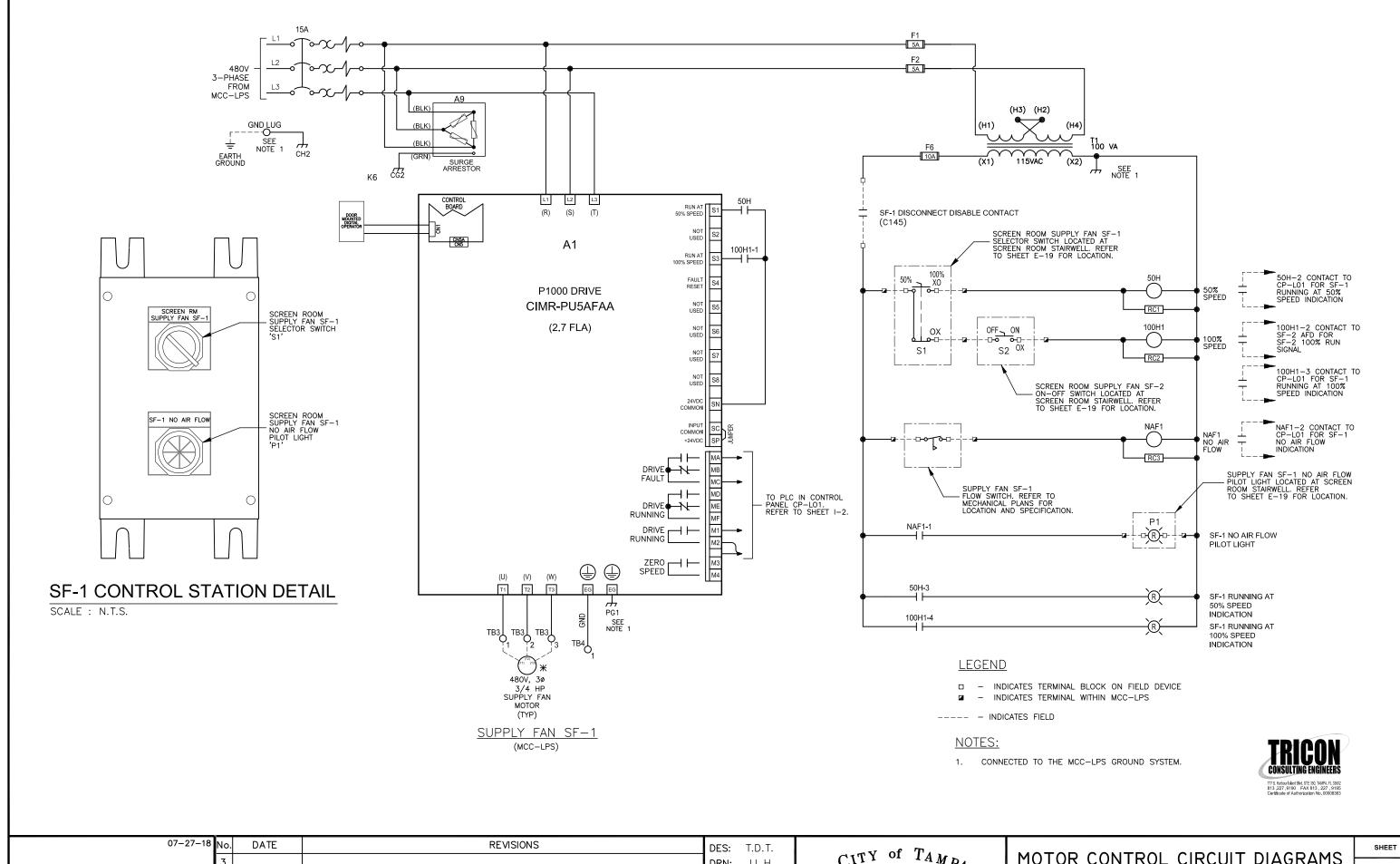
LIMIT SWITCH CONTACT DEVELOPMENT FOR PNEUMATIC DISCHARGE VALVE OPERATORS								
		OPER	RATOR POSIT	ION				
ROTOR NO.	CONTACT NO.	FULL OPEN	INTER- MEDIATE	FULL CLOSED	CONTACT FUNCTION			
	1		\mathbb{N}		VA. OPEN IND. LT			
LS1	2	><			START DELAY CKT.			
LST	3		\mathbb{X}	\nearrow	RUN CKT.			
	4	><			SPARE			
	1	><	\nearrow		VA. CLOSED IND. LT			
LS2	2			><	SPARE			
LSZ	3		\nearrow		SPARE			
	4				SPARE			

LIMIT SWITCH CONTACT DEVELOPMENT FOR MOTORIZED PUMP SUCTION VALVE OPERATORS (KNIFE GATE)								
		OPER	RATOR POSIT					
ROTOR NO.	CONTACT NO.	FULL OPEN	INTER- MEDIATE	FULL CLOSED	CONTACT FUNCTION			
1	1				BYPASS CKT.			
	2				PUMP PERMISSIVE			
	3				INDICATOR LIGHT			
	4				FORWARD (OPEN) LIMIT			
2	5				BYPASS CKT.			
	6				SPARE			
	7				INDICATOR LIGHT			
	8				REVERSE (CLOSED) LIMIT			
3	9				AUXILIARY			
	10				CONTROL PANEL/PLC			
	11				AUXILIARY			
	12				AUXILIARY			
4	13				AUXILIARY			
	14				CONTROL PANEL/PLC			
	15				PUMP START CKT.			
	16				AUXILIARY			



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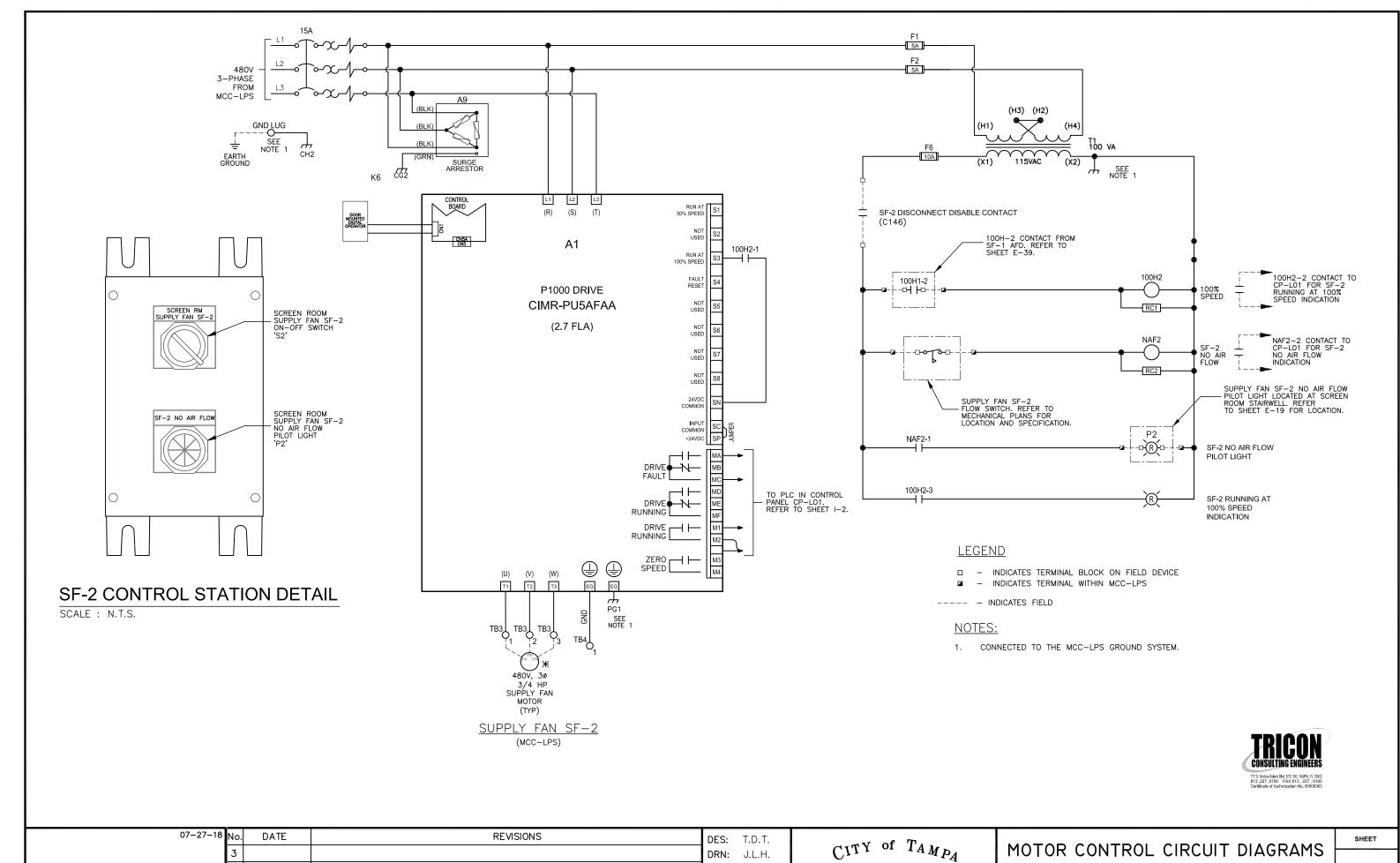
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WASTEWATER	DEPARTMENT



DRN: J.L.H. CKD: T.D.T. TIMOTHY THOMAS, PE DATE: 7/25/18

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MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET | OF 3)



DRN:

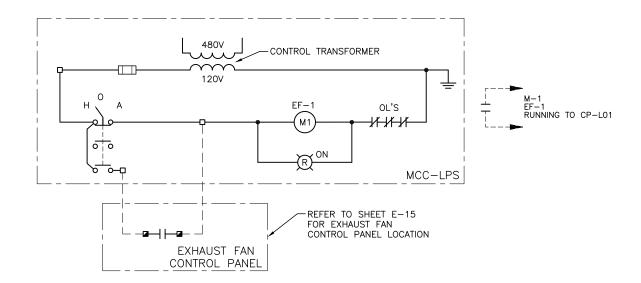
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DATE: 7/25/18

WASTEWATER DEPARTMENT

MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET 2 OF 3)



EXHAUST FAN EF-1 (MCC-LPS)

(MCC-LPS) EF-2 AND EF-3 ARE SIMILAR

<u>LEGEND</u>

- □ INDICATES TERMINAL BLOCK WITHIN MCC-LPS
- ☑ INDICATES TERMINAL IN EXHAUST FAN CONTROL PANEL
- ---- INDICATES FIELD WIRING



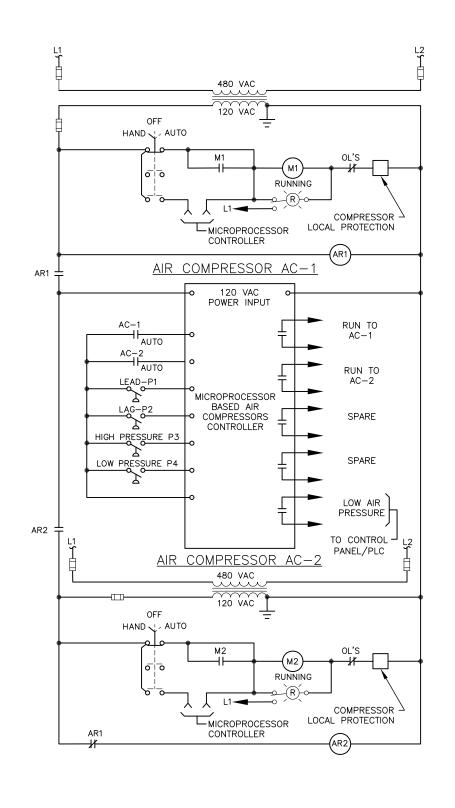
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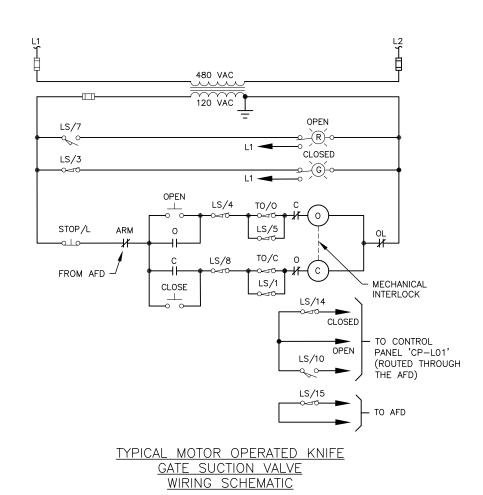
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MOTOR CONTROL CIRCUIT DIAGRAMS (SHEET 3 OF 3)

SHEET

| E-41

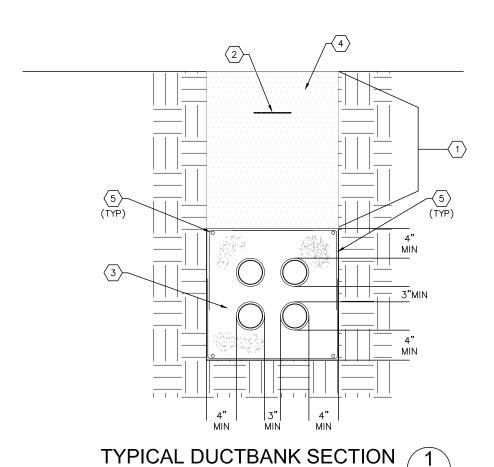






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AIR COMPRESSOR AND PUMP SUCTION VALVES CONTROL DIAGRAMS



DUCTBANK SECTION KEYED NOTES:

SCALE: N.T.S.

- DUCTBANK SHALL BE INSTALLED AT A MINIMUM OF 30" BELOW FINISHED GRADE, BUT SHALL BE COORDINATED WITH DEPTHS REQUIRED FOR NEW ELECTRICAL ROOM ADDITION (REFER TO SHEET E-13). DUCTBANK INSTALLED LOWER THAN 30" BELOW FINISHED GRADE SHALL BE RECORDED INDICATED ON THE CONTRACT'S AS-BUILT DRAWINGS TO COMPLY WITH THE NATIONAL ELECTRICAL CODE.
- PROVIDE WARNING TAPE (6" MINIMUM WIDTH) A MAXIMUM OF 12" BELOW FINISHED GRADE.
- 3 CONCRETE SHALL BE 3000 PSI MINIMUM COMPRESSION STRENGTH.
- 4 COMPACTED FILL

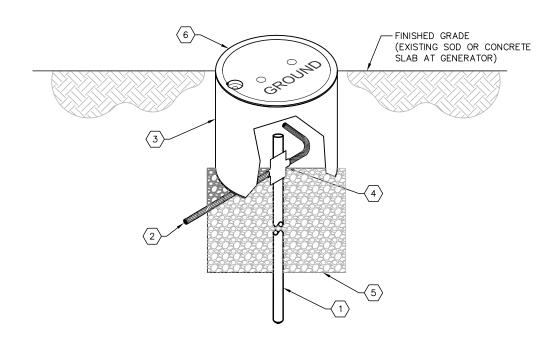
TIMOTHY THOMAS, PE

FLORIDA LICENSE PE 47079

- (5) #4 REBARS CONTINOUS, EQUALLY SPACED (12 INCHES MAXIMUM) ON CENTER.
- (6) #4 HOOP AT 24" O.C..

DUCTBANK GENERAL NOTES:

- PROVIDE PLASTIC SPACERS FOR DUCTBANK CONSTRUCTION. LOCATE DUCT SPACERS ON MAXIMUM 48" CENTERS FOR THE ENTIRE LENGTH OF THE DUCTBANK.
- 2. ALL SPARE CONDUITS SHALL INCLUDE A PULL WIRE AND SHALL BE CAPPED



GROUND TEST WELL DETAIL KEYED NOTES:

- NEW GROUND ROD, STAINLESS STEEL, $5/8" \times 20'-0"$ (TYP).
- (2) COPPER GROUNDING ELECTRODE CONDUCTOR (SIZE AS INDICATED ON ASSOCIATED PLAN).
- PROVIDE AND INSTALL HARGER 362PS12CILS80, SCHEDULE 80 PVC GROUND TEST WELL (TYP).
- 4 EXOTHERMIC WELD.
- 5 PROVIDE 6" MINIMUM OF CRUSHED STONE.
- 6 GROUND TEST WELL CAST IRON COVER.

TYPICAL GROUND TEST WELL DETAIL 1
SCALE: N.T.S. E-18 F-45

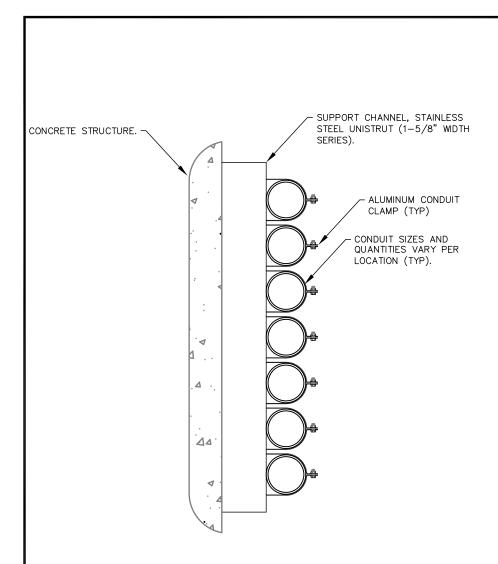


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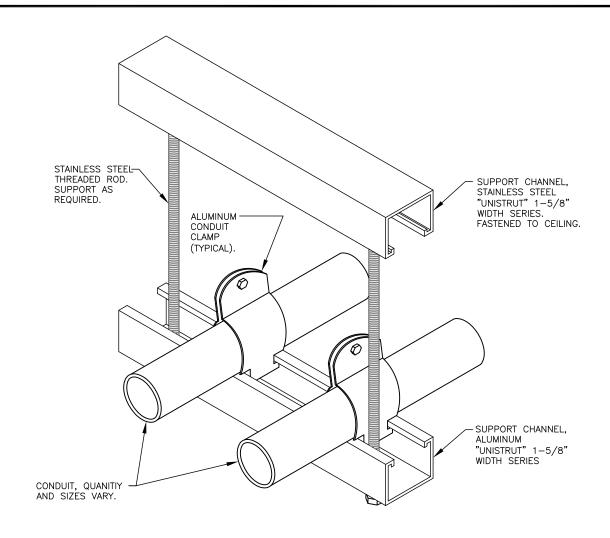
ELECTRICAL DETAILS
(SHEET | OF 2)

SHEET



TYPICAL VERTICAL CONDUIT INSTALLATION DETAIL

SCALE: N.T.S.



TYPICAL TRAPEZE CONDUIT HANGER DETAIL

SCALE: N.T.S.



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N:	J.L.H.	
D:	T.D.T.	
TE:	7/25/18	

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ELECTRICAL DETAILS (SHEET 2 OF 2)

SHEET

			F	PRO	POS	ED	PAI	NEL	SC	HED	ULE	<u>-</u>			
PANEL 'LP' SQUARE D NQOD	CO.	; 120/	′208 VO	LTS, 39	ø, 4W			P MAIN BREAKE	•	PROVI	DE BOL	T-ON	BREAKE	RS	SURFACE ENCLOSURE ' TOP AT 5'-6" AFF
EQUIPMENT SERVED	CIRCL		AKER	K۱	/A/PHA	SE	CIRC.	CIRC.	K٧	/A/PHA			UIT BR		EQUIPMENT SERVED
	POLE		FRAME	Α	В	С	NO.	NO.	Α	В	С	POLE	AMPS	FRAME	
UPPER LEVEL LIGHTING	1	20	QOB	1.6			1	2	0.4			1	15	QOB	BUBBLER PANEL 'BP-L01'
UPPER LEVEL LIGHTING	1	20	QOB		0.5		3	4		0.9		1	20	QOB	CONTROL PANEL 'CP-L01'
UPPER LEVEL LIGHTING	1	20	QOB			0.3	5	6			1.7	3	25	QOB	SUMP PUMP
LOWER LEVEL LIGHTING	1	20	QOB	0.4			7	8	1.4			3	20	QOB	TRAVELING BRIDGE CRANE
UPPER LEVEL RECEPTACLES	1	20	QOB		0.8		9	10		1.4		_	_	_	" "
UPPER LEVEL RECEPTACLES	1	20	QOB			0.6	11	12			1.4	_	_	_	" "
LOWER LEVEL RECEPTACLES	1	20	QOB	0.4			13	14	2.5			2	30	QOB	UPS - MODULE 'A'
LOWER LEVEL RECEPTACLES	1	20	QOB		0.6	\sim	15	16		2.5		_	_	_	" "
EXTERIOR LIGHTING	1	20	QOB			0.5	17	18			2.5	2	30	QOB	UPS - MODULE 'B'
FLOW METER TRANSMITTER	1	20	QOB	0.2			19	20	2.5			_	_	_	" "
SPARE	1	20	QOB				21	22		2.5		2	30	QOB	UPS - MODULE 'C'
EX FAN CONTROL PANEL	1	20	QOB			0.1	23	24			2.5	_	_	_	" "
MOTOROLA/SCADA CABINET	1	20	QOB	0.2			25	26	2.0			2	40	QOB	DUCTLESS SYSTEM COND UNI
ODOR CONTROL CHEMICAL TANK	1	20	QOB		0.4		27	28		2.0		_	_	_	" "
FAN MAINTENANCE RECEPTACLES	1	20	QOB			0.4	29	30			0.8	2	15	QOB	DUCTLESS AIR HANDLER
SPARE	1	20	QOB				31	32	0.8			_	_	_	" "
SPARE	1	20	QOB		نـــــا		33	34		0.2		1	20	QOB	IRRIGATION CONTROLLER
SPARE	1	20	QOB				35	36			0.4	1	15	QOB	SCREEN ROOM LIGHTING
SPACE							37	38							SPARE
SPACE					نـــــا		39	40							SPARE
SPACE							41	42							SPARE
	SUB	-TOTAL	_ KVA	2.8	2.3	1.8			9.6	9.5	9.3				

TOTAL CONNECTED LOAD = 35.3 KVA

TOTAL DEMAND LOAD = 31.9 KVA

		LIGHTING FI	XTURE SCHEDUL	.E		
TYPE	MANUFACTURER	CATALOG NUMBER	LAMP(S)	VOLTS	MOUNTING	REMARKS
А	COLUMBIA	LLHP240HWEUC6TL151	(1) 281W LED BOARDS	120	PENDANT	PROVIDE 15A, 6 FOOT CORD AND TWIST LOCK PLUG AS REQUIRED. PROVIDE SAFETY CHAIN. COORDINATE MOUNTING HEIGHT WITH BRIDGE CRANE AND EXHAUST FANS.
В	COLUMBIA	LXEM4-50ML-RA-EU	(1) 47W LED BOARD	120	WALL/CEILING	4' LED STRIP LUMINAIRE
С	COLUMBIA	LXEM4-50ML-RA-EU-ELL14	(1) 47W LED BOARD	120	WALL/CEILING	SAME AS FIXTURE 'B' BUT PROVIDE LED EMERGENCY BATTERY PACK - LITHONIA OPTION ELL4.
D	LITHONIA	TWH LED 30C 1000 50K T3M 120 PE DDBXD	(1) 104W DRIVER	120	WALL	LED WALLPACK LUMINAIRE. UL WET LABEL, WITH INTEGRAL PHOTOCELL.
E	LITHONIA	TWS LED 1 50K 120	(1) 36W DRIVER	120	WALL	LED WALL LUMINAIRE. UL WET LABEL.
F	CROUSE-HINDS	EVLEDBX2C701	(1) 19W DRIVER	120	WALL	PROVIDE GLOBE AND GUARD. SUITABLE FOR USE IN CLASS 1, DIVISION 1 ENVIRONMENT. UL WET LABEL.
G	COLUMBIA	LXEM8-50ML-RA-EU-	(1) 94W LED BOARD	120	WALL/CEILING	8' LED STRIP LUMINAIRE
Н	COLUMBIA	LXEM8-50ML-RA-EU-ELL14	(1) 94W LED BOARD	120	WALL/CEILING	SAME AS FIXTURE 'G' BUT PROVIDE LED EMERGENCY BATTERY PACK - LITHONIA OPTION ELL14.
J	LITHONIA	TWH LED 30C 1000 50K T3M 120 DDBXD	(1) 104W DRIVER	120	WALL	LED WALLPACK LUMINAIRE. UL WET LABEL. SIMILAR TO FIXTURE TYPE 'D', BUT WITHOUT PE CONTROL. MOUNT FIXTURES AT 10'-0".
X	LITHONIA	LQMP3R120/277ELN	(1) 1W DRIVER	120/277	UNIVERSAL	LED EXIT SIGN WITH NICKEL CADMIUM BATTERY BACKUP
EM	LARSON ELECTRONICS	EXP-EMG-EXF-12W-2L	(1) 9.5W DRIVER	120/277	WALL	SUITABLE FOR USE IN CLASS 1, DIVISION 1 ENVIRONMENT.



07-26-18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/1

 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

ELECTRICAL SCHEDULES

SHEET

CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	то	REMARKS
И100A	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'A'	SWITCHGEAR 'LPS' BUS A	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
1100B	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'A'	SWITCHGEAR 'LPS' BUS A	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
1100C	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'A'	SWITCHGEAR 'LPS' BUS A	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
И100D	4"	SPARE CONDUIT	TECO TRANSFORMER 'A'	SWITCHGEAR 'LPS' BUS A	PROVIDE SPARE CONDUIT, INSTALL PULLSTRING AND CAP. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
M101A	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'B'	SWITCHGEAR 'LPS' BUS B	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
M101B	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'B'	SWITCHGEAR 'LPS' BUS B	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
M101C	4"	3-600 kcmil + 1-250 kcmil NEU	TECO TRANSFORMER 'B'	SWITCHGEAR 'LPS' BUS B	COORDINATE TRANSFORMER CONNECTIONS WITH TECO. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
M101D	4"	SPARE CONDUIT	TECO TRANSFORMER 'B'	SWITCHGEAR 'LPS' BUS B	PROVIDE SPARE CONDUIT, INSTALL PULLSTRING AND CAP. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DETAIL.
M102A	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	STANDBY GENERATOR	SWITCHGEAR 'LPS' BUS A	COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DET
M102B	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	STANDBY GENERATOR	SWITCHGEAR 'LPS' BUS A	COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DET
M102C	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	STANDBY GENERATOR	SWITCHGEAR 'LPS' BUS A	COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER. CONDUIT INSTALLED IN DUCTBANK. REFER TO SHEET E-43 FOR TYPICAL DUCTBANK DE
M102D	4"	SPARE CONDUIT	STANDBY GENERATOR	SWITCHGEAR 'LPS' BUS A	PROVIDE SPARE CONDUIT, INSTALL PULLSTRING AND CAP. COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER. CONDUIT INSTALLED IN DUCTB
M103A	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	PORTABLE GENERATOR	SWITCHGEAR 'LPS' BUS B	PROVIDE PORTABLE GENERATOR TERMINAL BOX.
M103B	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	PORTABLE GENERATOR	SWITCHGEAR 'LPS' BUS B	PROVIDE PORTABLE GENERATOR TERMINAL BOX.
M103C	4"	3-600 kcmil + 1-250 kcmil NEU + 1-#3/0 GND	PORTABLE GENERATOR	SWITCHGEAR 'LPS' BUS B	PROVIDE PORTABLE GENERATOR TERMINAL BOX.
M103D	4"	SPARE CONDUIT	PORTABLE GENERATOR	SWITCHGEAR 'LPS' BUS B	PROVIDE SPARE CONDUIT, INSTALL PULLSTRING AND CAP.
M104A	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS A	PUMP NO. 1 AFD	
M104B	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS A	PUMP NO. 1 AFD	
M104C	3"	3-350 kcmil + #1 GND	PUMP NO. 1 AFD	PUMP NO. 1	
M104D	3"	3-350 kcmil + #1 GND	PUMP NO. 1 AFD	PUMP NO. 1	
M104E	3/4"	3-#12 + 1-#12 GND	PUMP NO. 1 AFD	PUMP NO. 1	120V SPACE HEATER CIRCUIT
M105A	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS B	PUMP NO. 2 AFD	
M105B	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS B	PUMP NO. 2 AFD	
M105C	3"	3-350 kcmil + #1 GND	PUMP NO. 2 AFD	PUMP NO. 2	
M105D	3"	3-350 kcmil + #1 GND	PUMP NO. 2 AFD	PUMP NO. 2	
M105E	3/4"	3-#12 + 1-#12 GND	PUMP NO. 2 AFD	PUMP NO. 2	120V SPACE HEATER CIRCUIT
M106A	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS A	PUMP NO. 3 AFD	
M106B	3"	3-350 kcmil + #1 GND	SWITCHGEAR 'LPS' BUS A	PUMP NO. 3 AFD	
M106C	3"	3-350 kcmil + #1 GND	PUMP NO. 3 AFD	PUMP NO. 3	
M106D	3"	3-350 kcmil + #1 GND	PUMP NO. 3 AFD	PUMP NO. 3	
M106E	3/4"	3-#12 + 1-#12 GND	PUMP NO. 3 AFD	PUMP NO. 3	120V SPACE HEATER CIRCUIT
M107	3/4"	3-#12 + 1-#12 GND	MCC-LPS	EXHAUST FAN EF-1 DISC	
M107 A	3/4"	3-#12 + 1-#12 GND	EXHAUST FAN EF-1 DISC	EXHAUST FAN	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
M108	3/4"	3-#12 + 1-#12 GND	MCC-LPS	EXHAUST FAN EF-2 DISC	
M108A	3/4"	3-#12 + 1-#12 GND	EXHAUST FAN EF-2 DISC	EXHAUST FAN	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
M109	3/4"	3-#12 + 1-#12 GND	MCC-LPS	EXHAUST FAN EF-3 DISC	
M109A	3/4"	3-#12 + 1-#12 GND	EXHAUST FAN EF-3 DISC	EXHAUST FAN	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
M110	3/4"	3-#10 + 1-#10 GND	MCC-LPS	TRANSFER CART RECEPT	
M111	3/4"	3-#10 + 1-#10 GND	MCC-LPS	VACUUM PUMP VP-1 C.P.	VACUUM PUMP NO. 1 POWER. PROVIDE NON-METALLIC FLEXIBLE CONNECTION TO CONTROL PANEL.
M112	3/4"	3-#10 + 1-#10 GND	MCC-LPS	VACUUM PUMP VP-2 C.P.	VACUUM PUMP NO. 2 POWER. PROVIDE NON-METALLIC FLEXIBLE CONNECTION TO CONTROL PANEL.
M113	3/4"	3-#10 + 1-#10 GND	MCC-LPS	AIR COMPRESSOR CP-1 C.P.	AIR COMPRESSOR NO. 1 POWER. PROVIDE NON-METALLIC FLEXIBLE CONNECTION TO CONTROL PANEL.
M114	3/4"	3-#10 + 1-#10 GND	MCC-LPS	AIR COMPRESSOR CP-1 C.P.	AIR COMPRESSOR NO. 2 POWER. PROVIDE NON-METALLIC FLEXIBLE CONNECTION TO CONTROL PANEL.

CONTINUED ON SHEET E−47

CONSULTING ENGINEERS
777, S. Hutbour Island Slid, STE 390, TAMPA, FL 33802
813, 227, 9190 FAX, 813, 227, 9196
certificate of Authorization No., 00000383

07-27-18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

 C^{1TY} of $T_{A}{}_{MP_{\mathcal{A}}}$ wastewater department

CONDUIT SCHEDULE (SHEET I OF 4)

SHEET

IDLUIT ::	017-	NUMBER OF COMPUTERS (2)	FROM		PENNING.
IDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	ТО	REMARKS
15	1"	3-#8 + 1-#10 GND	GEN XFMR DISCONNECT	MCC-LPS	GENERATOR ANCILLARY EQUIPMENT 25 KVA TRANSFORMER FEEDER. COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER
6	3/4"	3-#12 + 1-#12 GND	MCC-LPS	SF-1 DISCONNECT	
16A	3/4"	3-#12 + 1-#12 GND	SF-1 DISCONNECT	SUPPLY FAN SF-1	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
,	3/4"	3-#12 + 1-#12 GND	MCC-LPS	SF-2 DISCONNECT	
7A	3/4"	3-#12 + 1-#12 GND	SF-2 DISCONNECT	SUPPLY FAN SF-2	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO FAN.
8	3/4"	3-#10 + 1-#10 GND	MCC-LPS	BAR-SCREEN C.P.	
9	4"	3-#600 kcmil + 1-#3 GND	SWITCHGEAR 'LPS' BUS A	MCC-LPS BUS 'A'	
:0	4"	3-#600 kcmil + 1-#3 GND	SWITCHGEAR 'LPS' BUS B	MCC-LPS BUS 'B'	
:1	3/4"	3-#12 + 1-#12 GND	MCC-LPS	PUMP NO. 1 EAKGV	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
2	3/4"	3-#12 + 1-#12 GND	MCC-LPS	PUMP NO. 2 EAKGV	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
	3/4"	3-#12 + 1-#12 GND	MCC-LPS	PUMP NO. 3 EAKGV	PROVIDE NON-METALLIC FLEXIBLE WEATHERPROOF CONNECTION TO ELECTRICALLY ACTUATED KNIFE GATE VALVE.
:4	1"	3-#6 + 1-#8 GND	MCC-LPS BUS 'A'	AUTOMATIC TRANFER SWITCH	NORMAL POWER TO TRANSFORMER T1.
5	1"	3-#6 + 1-#8 GND	MCC-LPS BUS 'B'	AUTOMATIC TRANFER SWITCH	ALTERNATE POWER TO TRANSFORMER T1.
6	1"	3-#6 + 1-#8 GND	AUTOMATIC TRANFER SWITCH	TRANSFORMER T1	POWER TO TRANSFORMER T1. PROVIDE NON-METALLIC FLEXIBLE CONDUIT CONNECTION TO TRANSFORMER T1.
		0.17.0.00151.0.571150177.0.77	MOTOROL : :	00.104	
1	1"	CAT 6 SHIELD ETHERNET CABLE	MOTOROLA ACE3600	CP-L01	ETHERNET COMMUNICATIONS
)	2"	3-#2/0 + 1-#2/0 NEU + 1-#6 GND	TRANSFORMER T1	TRANS T1 DISCONNECT	POWER TO PANELBOARD LP.
)A	2"	3-#2/0 + 1-#2/0 NEU + 1-#6 GND	TRANS T1 DISCONNECT	PANELBOARD LP	POWER TO PANELBOARD LP.
	3/4"	3-#10 + 1-#10 GND	PANELBOARD LP	OVERHEAD CRANE	208V, 3Ø POWER TO OVERHEAD CRANE. CIRCUIT LP-8/10/12.

CONTINUED ON SHEET E-48



07-27-18	No.	DATE	REVISIONS	DES:	T.D.T.	CITY Of '
	3			DRN:	J.L.H.	CITY of
	2			CKD:	T.D.T.	WASTEWATER DE
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18	WASIEWAIEK DE

 T_{AMP_A} DEPARTMENT CONDUIT SCHEDULE (SHEET 2 OF 4)

SHEET

MCC-59 CON	NDUIT AND	CABLE SCHEDULE (CONTINUED)			
CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	то	REMARKS
C100	1"	12-#12 + 1-#12 GND	GENERATOR ENCLOSURE	CP-L01	GENERATOR DIESEL TANK MONITORING. 2-#12 TANK LEAK DETECTION ALARM, 2-#12 TANK LOW LEVEL ALARM, 2-#12 TANK HIGH LEVEL ALARM AND 6-#12 SPARE.
C101	1"	8-#12 + 1-#12 GND	GENERATOR CONTROLLER	CP-L01	GENERATOR MONITORING. 2-#12 GENERATOR RUNNING INDICATION, 2-#12 GENERATOR FAILURE INDICATION AND 4-#12 SPARE.
C102	1"	4-#12 + 1-#12 GND	GENERATOR CONTROLLER	SWITCHGEAR 'LPS' PLC	2-#12 GENERATOR START COMMAND AND 2-#12 SPARE.
C103	1"	2-#12 + 1-#12 GND	GENERATOR CONTROLLER	GENERATOR EM STOP P.B.	
C104	1-1/2"	50-#12 + 1-#12 GND	PUMP NO. 1 AFD	PUMP NO. 1 TERMINAL BOX	PUMP NO. 1 TERMINAL BOX LOCATED ADJACENT TO PUMP NO. 1 IN LOWER LEVEL PUMP ROOM.
C105	1-1/2"	50-#12 + 1-#12 GND	PUMP NO. 2 AFD	PUMP NO. 2 TERMINAL BOX	PUMP NO. 2 TERMINAL BOX LOCATED ADJACENT TO PUMP NO. 2 IN LOWER LEVEL PUMP ROOM.
C106	1-1/2"	50-#12 + 1-#12 GND	PUMP NO. 3 AFD	PUMP NO. 3 TERMINAL BOX	PUMP NO. 3 TERMINAL BOX LOCATED ADJACENT TO PUMP NO. 3 IN LOWER LEVEL PUMP ROOM.
C107	3/4"	4-#12 + 1-#12 GND	EXHAUST FAN C.P.	CP-L01	EXHAUST FAN EF-1 AND EF-2 NO AIR FLOW ALARM SIGNAL.
C108	3/4"	6-#12 + 1-#12 GND	EXHAUST FAN C.P.	MCC-LPS	EF-1, EF-2 AND EF-3 RUN COMMAND SIGNALS.
C109	3/4"	4-#12 + 1-#12 GND	CP-L01	COMPRESSOR CP-1	COMPRESSOR NO. 1 CONTROL PANEL STATUS SIGNALS. PROVIDE FLEXIBLE CONNECTION TO CONTROL PANEL.
C110	3/4"	4-#12 + 1-#12 GND	CP-L01	COMPRESSOR CP-2	COMPRESSOR NO. 2 CONTROL PANEL STATUS SIGNALS. PROVIDE FLEXIBLE CONNECTION TO CONTROL PANEL.
C111	3/4"	2-#12 + 1-#12 GND	CP-L01	VACUUM PUMP VP-1 C.P.	VACUUM PUMP NO. 1 CONTROL PANEL STATUS SIGNALS. PROVIDE FLEXIBLE CONNECTION TO CONTROL PANEL.
C112	3/4"	2-#12 + 1-#12 GND	CP-L01	VACUUM PUMP VP-2 C.P.	VACUUM PUMP NO. 2 CONTROL PANEL STATUS SIGNALS. PROVIDE FLEXIBLE CONNECTION TO CONTROL PANEL.
C113	3/4"	12-#12 + 1-#12 GND	CP-L01	BAR-SCREEN C.P.	AUTOMATIC BAR-SCREEN: RACK RUNNING, COMPACTOR RUNNING AND COMMON FAULT ALARM INDICATION. COUNT INCLUDES SPARES.
C114	1"	12-#12 + 1-#12 GND	HOA SWITCH AT SCREEN RM.	VENTILATION FAN CONTROLS	REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SUPPLY FAN CONTROL REQUIREMENTS. COUNT INCLUDES SPARES.
C115	3-1/2"	114-#12 + 1-#12 GND	SWITCHGEAR 'LPS' BUS 'A'	REMOTE CB PANEL (RCBP)	CIRCUIT BREAKER CONTROL AND STATUS. CONDUCTOR COUNT INCLUDES SPARES.
C116	3-1/2"	114-#12 + 1-#12 GND	SWITCHGEAR 'LPS' BUS 'A'	REMOTE CB PANEL (RCBP)	CIRCUIT BREAKER CONTROL AND STATUS. CONDUCTOR COUNT INCLUDES SPARES.
C117	1-1/4"	3-#10 + 3-#10 NEU + 1-#10 GND	SWITCHGEAR 'LPS' BUS 'A'	CIRCUIT BREAKER UPS 'A'	SWITCHGEAR BUS 'A' CIRCUIT BREAKER UPS POWER.
C118	1-1/4"	3-#10 + 3-#10 NEU + 1-#10 GND	SWITCHGEAR 'LPS' BUS 'B'	CIRCUIT BREAKER UPS 'B'	SWITCHGEAR BUS 'B' CIRCUIT BREAKER UPS POWER.
C119	3/4"	8-#12 + 1-#12 GND	MCC-LPS	CP-L01	SUPPLY FAN SF-1 AND SF-2 AFD DRIVE RUNNING AND DRIVE FAULT SIGNALS TO PLC.
C120	1-1/2"	28-#12 + 1-#12 GND	PUMP NO. 1 AFD	CP-L01	PUMP NO. 1 AFD STATUS AND CONTROL SIGNALS. CONDUCTOR COUNT INCLUDES SPARES.
C121	1-1/2"	28-#12 + 1-#12 GND	PUMP NO. 2 AFD	CP-L01	PUMP NO. 2 AFD STATUS AND CONTROL SIGNALS. CONDUCTOR COUNT INCLUDES SPARES.
C122	1-1/2"	28-#12 + 1-#12 GND	PUMP NO. 3 AFD	CP-L01	PUMP NO. 3 AFD STATUS AND CONTROL SIGNALS. CONDUCTOR COUNT INCLUDES SPARES.
C123	3/4"	3-3/C#12	PUMP NO. 1 PV1, PV2	PUMP NO. 1 AFD	PUMP NO. 1 PNEUMATIC PLUG VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
C124	3/4"	3-3/C#12	PUMP NO. 1 PV1, PV2	PUMP NO. 2 AFD	PUMP NO. 2 PNEUMATIC PLUG VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
C125	3/4"	3-3/C#12	PUMP NO. 1 PV1, PV2	PUMP NO. 3 AFD	PUMP NO. 3 PNEUMATIC PLUG VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
C126	3/4"	4-3/C#12	PLUG VALVE LIMIT SWITCHES	PUMP NO. 1 AFD	PUMP NO. 1 PNEUMATIC VALVE LIMIT SWITCHES. INSTALL SUBMERSIBLE CABLES.
C127	3/4"	4-3/C#12	PLUG VALVE LIMIT SWITCHES	PUMP NO. 2 AFD	PUMP NO. 2 PNEUMATIC VALVE LIMIT SWITCHES. INSTALL SUBMERSIBLE CABLES.
C128	3/4"	4-3/C#12	PLUG VALVE LIMIT SWITCHES	PUMP NO. 3 AFD	PUMP NO. 3 PNEUMATIC VALVE LIMIT SWITCHES. INSTALL SUBMERSIBLE CABLES.
C129	3/4"	1-3/C-#12	PROOF OF PRIME SWITCH	PUMP NO. 1 TERMINAL J.B.	PUMP NO. 1 PROOF OF PRIME INDICATION. INSTALL SUBMERSIBLE CABLES.
C130	3/4"	1-3/C-#12	PROOF OF PRIME SWITCH	PUMP NO. 2 TERMINAL J.B.	PUMP NO. 2 PROOF OF PRIME INDICATION. INSTALL SUBMERSIBLE CABLES.
C131	3/4"	1-3/C-#12	PROOF OF PRIME SWITCH	PUMP NO. 3 TERMINAL J.B.	PUMP NO. 3 PROOF OF PRIME INDICATION. INSTALL SUBMERSIBLE CABLES.
C132	1"	3-3/C#12	SUCTION VALVE LIMIT SW	PUMP NO. 1 AFD	PUMP NO. 1 MOTOR OPERATED SUCTION VALVE LIMIT SWITCH INDICATIONS. INSTALL SUBMERSIBLE CABLES.
C133	1"	3-3/C#12	SUCTION VALVE LIMIT SW	PUMP NO. 2 AFD	PUMP NO. 2 MOTOR OPERATED SUCTION VALVE LIMIT SWITCH INDICATIONS. INSTALL SUBMERSIBLE CABLES.
C134	1"	3-3/C#12	SUCTION VALVE LIMIT SW	PUMP NO. 3 AFD	PUMP NO. 3 MOTOR OPERATED SUCTION VALVE LIMIT SWITCH INDICATIONS. INSTALL SUBMERSIBLE CABLES.
C135	3/4"	6-#12 + 1-#12 GND	VIBRATION SWITCH	PUMP NO. 1 TERMINAL J.B.	PUMP NO. 1 VIBRATION INDICATION.
C136	3/4"	6-#12 + 1-#12 GND	VIBRATION SWITCH	PUMP NO. 2 TERMINAL J.B.	PUMP NO. 2 VIBRATION INDICATION.
C137	3/4"	6-#12 + 1-#12 GND	VIBRATION SWITCH	PUMP NO. 3 TERMINAL J.B.	PUMP NO. 3 VIBRATION INDICATION.
C138	3/4"	3-#12 + 1-#12 GND	RESUME/RESET/STOP/L P.B.		PUMP NO. 1 RESUME/RESET/E-STOP/L PUSHBUTTON STATION.
C139	3/4"	3-#12 + 1-#12 GND	· · · · · · · · · · · · · · · · · · ·		PUMP NO. 2 RESUME/RESET/E-STOP/L PUSHBUTTON STATION.
C140	3/4"	3-#12 + 1-#12 GND		PUMP NO. 3 TERMINAL J.B.	PUMP NO. 3 RESUME/RESET/E-STOP/L PUSHBUTTON STATION.
C141	-, .	NOT USED			, ,,

CONTINUED ON SHEET E-49

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	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

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CONDUIT SCHEDULE (SHEET 3 OF 4)

SHEE

ONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	то	REMARKS
142	3/4"	1-3/C-#12	PUMP NO. 1 BALL VALVE	PUMP NO. 1 TERMINAL J.B.	120V AC POWER (FROM PUMP NO. 1 AFD) FOR PUMP SEAL DISCHARGE WATER BALL VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
143	3/4"	1-3/C-#12	PUMP NO. 2 BALL VALVE	PUMP NO. 2 TERMINAL J.B.	120V AC POWER (FROM PUMP NO. 2 AFD) FOR PUMP SEAL DISCHARGE WATER BALL VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
144	3/4"	1-3/C-#12	PUMP NO. 3 BALL VALVE	PUMP NO. 3 TERMINAL J.B.	120V AC POWER (FROM PUMP NO. 3 AFD) FOR PUMP SEAL DISCHARGE WATER BALL VALVE CONTROL. INSTALL SUBMERSIBLE CABLES.
C145	3/4"	2-#12 + 1-#12 GND	SF-1 DISCONNECT	SF-1 AFD	SF-1 AFD DISABLE CONTROL.
C146	3/4"	2-#12 + 1-#12 GND	SF-2 DISCONNECT	SF-2 AFD	SF-2 AFD DISABLE CONTROL.
C147	3/4"	2-#12 + 1-#12 GND	LEL WARNING LIGHT	CP-L01	LEL WARNING LIGHT CONTROL
C148	3/4"	14-#14 + 1-#14 GND	MCC-LPS	CP-L01	CONDUCTORS FOR SF-1 MONITORING, COUNT INCLUDES SPARES.
C149	3/4"	12-#14 + 1-#14 GND	MCC-LPS	CP-L01	CONDUCTORS FOR SF-2 MONITORING. COUNT INCLUDES SPARES.
C150	3/4"	2-#12 + 1-#12 GND	SF-1 FLOW SWITCH	SF-1 AFD	SF-1 NO AIR FLOW INDICATION.
C151	3/4"	2-#12 + 1-#12 GND	SF-2 FLOW SWITCH	SF-2 AFD	SF-2 NO AIR FLOW INDICATION.
C152	3/4"	2-#12 + 1-#12 GND	EF-1 FLOW SWITCH	EXHAUST FAN C.P.	EF-1 NO AIR FLOW INDICATION.
C153	3/4"	2-#12 + 1-#12 GND	EF-2 FLOW SWITCH	EXHAUST FAN C.P.	EF-1 NO AIR FLOW INDICATION.
C154	3/4"	2-#12 + 1-#12 GND	EF-3 FLOW SWITCH	EXHAUST FAN C.P.	EF-1 NO AIR FLOW INDICATION.
C155	3/4"	8-#14 + 1-#14 GND	MCC-LPS	CP-L01	CONDUCTORS FOR EF-1, EF-2 AND EF-3 MONITORING. COUNT INCLUDES SPARES.
	'	n n : : : - : - : - : - : - : - : -			
A100	1"	2/C-#16 (BELDEN 8719)	GENERATOR DIESEL TANK	CP-L01	GENERATOR DIESEL TANK LEVEL TRANSMITTER 4-20mA SIGNAL. COORDINATE CONDUIT STUB-UP LOCATION WITH GENERATOR ENCLOSURE SUPPLIER.
A101	1-1/2"	9-3/C-#18 TWISTED SHIELDED	PUMP NO. 1 AFD	PUMP NO. 1 RTD'S	PUMP TEMPERATURE, BELDEN 8618.
A102	1-1/2"	9-3/C-#18 TWISTED SHIELDED	PUMP NO. 2 AFD	PUMP NO. 2 RTD'S	PUMP TEMPERATURE, BELDEN 8618.
A103	1-1/2"	9-3/C-#18 TWISTED SHIELDED	PUMP NO. 3 AFD	PUMP NO. 3 RTD'S	PUMP TEMPERATURE, BELDEN 8618.
A104	1-1/2"	4-2/C-#16 TWISTED SHIELDED	PUMP NO. 1 VIB MONITOR	CONTROL PANEL CP-L01	PUMP AND MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS. BELDEN 8719. ALSO PROVIDE 4-#12 + 1-#12 GND FOR MOTOR VIBRATION AND PUMP VIBRATION ALARMS
A105	1-1/2"	4-2/C-#18 TWISTED SHIELDED	PUMP NO. 2 VIB MONITOR	CONTROL PANEL CP-L01	PUMP AND MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS. BELDEN 8719. ALSO PROVIDE 4-#12 + 1-#12 GND FOR MOTOR VIBRATION AND PUMP VIBRATION ALARMS.
A106	1-1/2"	4-2/C-#18 TWISTED SHIELDED	PUMP NO. 3 VIB MONITOR	CONTROL PANEL CP-L01	PUMP AND MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS. BELDEN 8719. ALSO PROVIDE 4-#12 + 1-#12 GND FOR MOTOR VIBRATION AND PUMP VIBRATION ALARMS
A107	1-1/4"	3-2/C-#16 (BELDEN 8719)	REMOTE FM CABINET	CP-L01	UP STREAM BUBBLER, DOWN STREAM BUBBLER AND FLOW METER 4-20mA SIGNALS.
A108	3/4"	3/C-#16	AIT-100	CONTROL PANEL CP-L01	SCREEN ROOM LEL GAS DETECTOR.
A109	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 1 MOTOR ACC	PUMP NO. 1 VIB MONITOR	PUMP NO. 1 MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS.
A110	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 1 PUMP ACC	PUMP NO. 1 VIB MONITOR	PUMP NO. 1 VIBRATION AND TEMPERATURE 4—20mA SIGNALS.
A111	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 2 MOTOR ACC	PUMP NO. 2 VIB MONITOR	PUMP NO. 2 MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS.
A112	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 2 PUMP ACC	PUMP NO. 2 VIB MONITOR	PUMP NO. 2 VIBRATION AND TEMPERATURE 4-20mA SIGNALS.
A113	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 3 MOTOR ACC	PUMP NO. 3 VIB MONITOR	PUMP NO. 3 MOTOR VIBRATION AND TEMPERATURE 4-20mA SIGNALS.
A114	1"	SUPPLIED BY MANUFACTURER	PUMP NO. 3 PUMP ACC	PUMP NO. 3 VIB MONITOR	PUMP NO. 3 VIBRATION AND TEMPERATURE 4-20mA SIGNALS.
A115	1"	2-2/C-#16 TWISTED SHIELDED	BP-L01	REMOTE FM CABINET	UP STREAM AND DOWN STREAM LEVEL 4-20mA SIGNALS.
		, "			
RS100	1"	SUPPLIED BY MANUFACTURER	SWITCHGEAR LPS	CP-L01	SWITCHGEAR LPS RS-485 COMMUNICATIONS CABLE. COORDINATE CONDUCTOR TYPE AND CONDUIT SIZE REQUIRED WITH SWITCHGEAR LPS SUPPLIER.
RS101	1"	#22 SHIELDED, BELDEN 3106A	PUMP 1 AFD	CP-L01	AFD RS-485 COMMUNICATIONS CABLE.
RS102	1"	#22 SHIELDED, BELDEN 3106A	PUMP 1 AFD	PUMP 2 AFD	AFD RS-485 COMMUNICATIONS CABLE.
RS103	1"	#22 SHIELDED, BELDEN 3106A	PUMP 2 AFD	PUMP 3 AFD	AFD RS-485 COMMUNICATIONS CABLE.
		"			
R01	1"	SUPPLIED BY MANUFACTURER	REMOTE KNIFE GATE OPER	KNIFE GATE VALVE OPER	COORDINATE CONDUCTOR TYPE AND CONDUIT SIZE REQUIRED FOR REMOTE KNIFE GATE NO. 1 OPERATOR WITH KNIFE GATE MOTOR OPERATED VALVE SUPPLIER.
R02	1"	SUPPLIED BY MANUFACTURER	REMOTE KNIFE GATE OPER	KNIFE GATE VALVE OPER	COORDINATE CONDUCTOR TYPE AND CONDUIT SIZE REQUIRED FOR REMOTE KNIFE GATE NO. 2 OPERATOR WITH KNIFE GATE MOTOR OPERATED VALVE SUPPLIER.
R03	1"	SUPPLIED BY MANUFACTURER	REMOTE KNIFE GATE OPER	KNIFE GATE VALVE OPER	COORDINATE CONDUCTOR TYPE AND CONDUIT SIZE REQUIRED FOR REMOTE KNIFE GATE NO. 3 OPERATOR WITH KNIFE GATE MOTOR OPERATED VALVE SUPPLIER.
	·			The state of the	The state of the s
F100	4"	SUPPLIED BY MANUFACTURER	FLOW METER SENSOR	REMOTE TRANSMIT CABINET	



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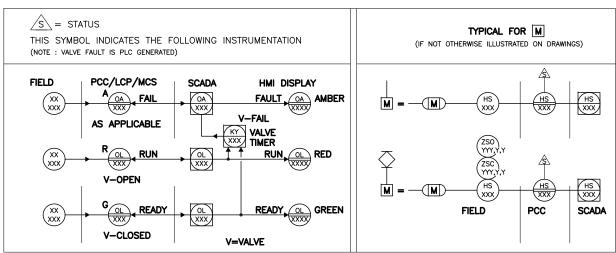
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CONDUIT SCHEDULE (SHEET 4 OF 4)

SHEET

FUNCTION SYMBOL SCHEDULE

		IDENTIF	FICATION LETTER	S						
	FIRST L	ETTER	SUCCEEDING LETTERS							
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER					
Α	ANALYSIS		ALARM							
В	BURNER, COMBUSTION		PROGRAMMER							
С	CONDUCTIVITY			CONTROL	CLOSED					
D	DENSITY	DIFFERENTIAL								
Ε	VOLTAGE		SENSOR (PRIMARY ELEMENT)							
F	FLOW RATE	RATIO (FRACTION)								
G	GAGING		GLASS VIEWING DEVICE							
Н	HAND				HIGH					
ı	CURRENT (ELECTRICAL)		INDICATE							
J	POWER	SCAN								
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION						
L	LEVEL		LIGHT (PILOT)		LOW					
М	MOTOR	MOMENTARY			MIDDLE, INTERMEDIATE					
N	VIBRATION		IGNITOR	ISOLATOR						
0	OPERATION	OFFSET	ORIFICE, RESTRICTION		OPEN					
Р	PRESSURE, VACUUM		POINT (TEST) CONNECTION							
Q	QUANTITY, EVENT	INTEGRATE, TOTALIZE	INTEGRATE							
R	RADIATION		RECORD, PRINT							
S	SPEED, FREQUENCY	SAFETY		SWITCH						
Т	TEMPERATURE			TRANSMIT						
U	MULTIVARIABLE	TREND	MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION					
٧	VISCOSITY	VACUUM		VALVE, DAMPER, LOUVER, GATE						
W	WEIGHT, FORCE, TORQUE		WELL							
Х	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED					
Υ				RELAY, COMPUTE, CONVERT						
Z	POSITION			FINAL CONTROL ELEMENT	UNCLASSIFIED					



LINE DESIGNATIONS

CONTROLLER NOTATION

PV= PROCESS VARIABLE INPUT SP= SET POINT INPUT

C = CONTROL OUTPUT

INPUT/OUTPUT NOTATIONS

AI = ANALOG INPUT

AO = ANALOG OUTPUT

DI = DISCRETE INPUT

DO = DISCRETE OUTPUT

HAND SWITCH NOTATION

HOA = HAND-OFF-AUTO

S/S = START/STOP

SEL = SELECTOR

O/C = OPEN/CLOSE

0/0 = ON/OFF

LOS = LOCKOUT-START

LOR = LOCAL-OFF-REMOTE

OAC = OPEN-AUTO CLOSE

CAO = CLOSED-AUTO OPEN

OSC = OPEN-STOP-CLOSE

MISCELLANEOUS NOTATIONS

S/D = SHUTDOWN

O/R = OVERRIDE

MCS = MASTER CONTROL STATION

AFD = ADJUSTABLE FREQUENCY DRIVE

PCC = PROCESS CONTROL CABINET

LCP = LOCAL CONTROL PANEL

ES = ELECTRICAL SUPPLY (120VAC)

AS = AIR SUPPLY

MISCELLANEOUS SYMBOLS

VALVE DESIGNATIONS

MOV = MOTOR OPERATED VALVE

GENERAL ABBREVIATIONS

SCADA - SUPERVISORY CONTROL AND

DATA ACQUISITION.

PLC - PROGRAMMABLE LOGIC CONTROL

CONTINUATION OF SIGNAL OR DATA

SA - SURGE SUPPRESSOR DEVICE

B = BLOWER OR FAN

EQUIPMENT NOTATION

E = ENGINE

G = GENERATOR

F = FILTER

GS = GRINDER/SCREEN

K = COMPRESSOR

T = TANK OR SUMP

H = HOIST

ME = MECHANICAL EQUIPMENT

MX = MIXER

P = PUMP

TO/FROM SHEET NUMBER INDICATED

I INTERLOCK

AIR PURGE SET

S

SOLENOID VALVE

₽ c

CYLINDER ACTUATION

→ MAG METER

ULTRASONIC LEVEL TRANSDUCER

BUBBLER TUBE

0

(M)

MOTOR

BASIC SYMBOLS

PLC

OR

SINGLE MUTIPLE FUNCTION FUNCTION OR FIELD MOUNTED INSTRUMENT OR DEVICE FRONT OF PANEL MOUNTED INSTRUMENT ON LCP, OR REAR OF PANEL MOUNTED INSTRUMENT ON LCP, OR PCC, MCS, OR VFD FRONT OF PANEL MOUNTED INSTRUMENT ON MAIN OR PANEL REAR OF PANEL MOUNTED INSTRUMENT ON MAIN OR PLC AND/OR COMPUTER SOFTWARE COMPONENT OR (OPERATOR ACCESSIBLE UNDER NORMAL CONDITIONS) OR PLC AND/OR COMPUTER GENERATED COMPONENT OR (NOT OPERATOR ACCESSIBLE UNDER NORMAL CONDITIONS)



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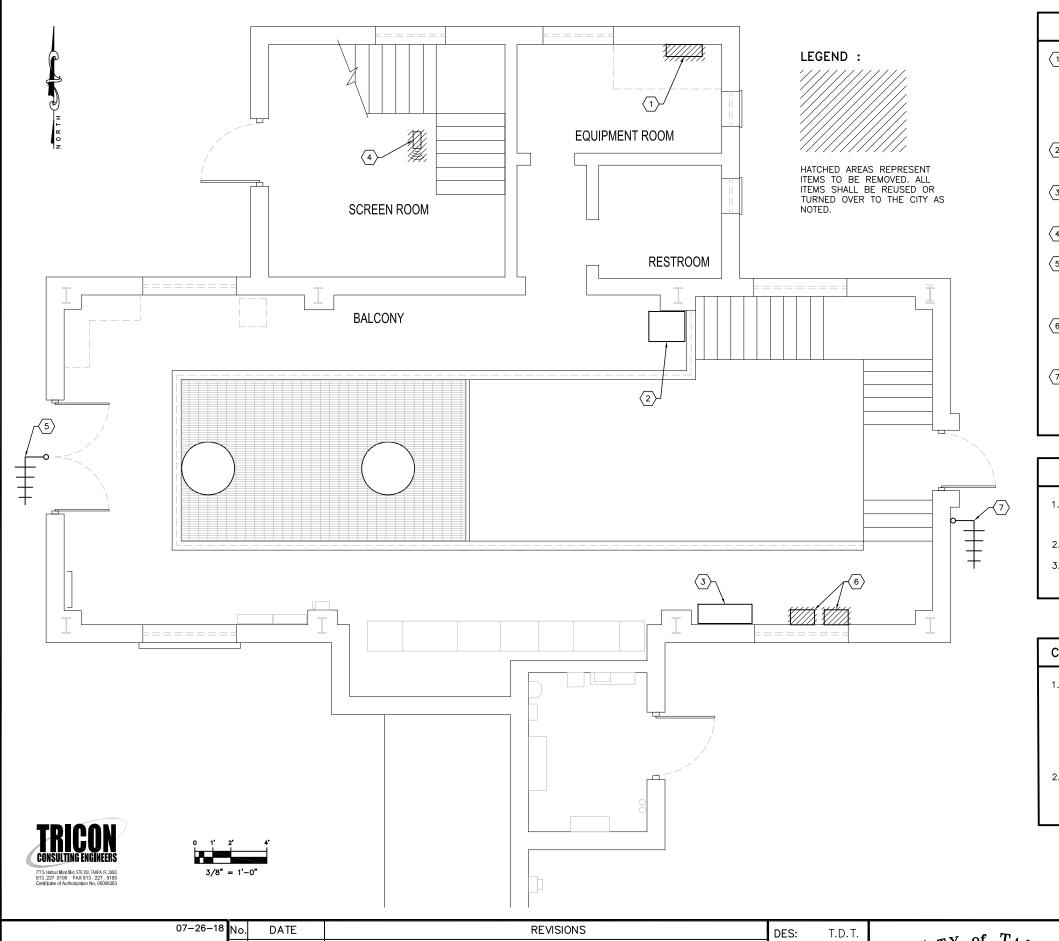
CITY of TAMPA

INSTRUMENTATION AND CONTROL LEGEND AND SYMBOLS

SHEET

TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079 WASTEWATER DEPARTMENT

SCADA PLC INPUT/OUTPUT



KEYED NOTES:

- EXISTING CABINET CONTAINING EXISTING MOSCAD—L UNIT, MOTOROLA RADIUS CM 200 RADIO, BRIGHTHOUSE CABLE MODEM, LINSYS RVO42 VPN ROUTER, UPS, BATTERY AND POWER SUPPLY. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW MOSCAD ACE3600 REMOTE TERMINAL UNIT IN THIS LOCATION, COMPLETE WITH UPS, BATTERY AND POWER SUPPLY. THE EXISTING COMPONENTS SHALL BE REUSED AS A MEANS OF PROVIDING TEMPORARY RADIO COMMUNICATIONS DURING CONSTRUCTION. REFER TO SCOPE OF WORK NOTE #14 ON SHEET E-3 FOR TEMPORARY RADIO COMMUNICATIONS
- 2 EXISTING PUMP CONTROL CABINET TO BE REMOVED. CONTRACTOR TO PROVIDE AND INSTALL NEW BUBBLER PANEL, TO BE DESIGNATED 'BP-L01'. REFER TO SHEETS I-3FOR NEW 'BP-L01' LOCATION.
- (3) EXISTING PLC CABINET TO BE REMOVED. CONTRACTOR TO PROVIDE AND INSTALL NEW SCADA CONTROL PANEL, TO BE DESIGNATED 'CP-L01'. REFER TO SHEET I-7 FOR CP-L01 DETAILS.
- PULSAR ULTRASONIC LEVEL TRANSDUCER TO BE REMOVED AND PROVIDED TO THE CITY OF TAMPA AS INVENTORY.
- EXISTING ANTENNA TO REMAIN. CONTRACTOR SHALL RAISE ANTENNA AN ADDITIONAL 5'-0" ABOVE EXISTING ELEVATION BY INSTALLING NEW GALVANIZED STEEL PIPE. CONTRACTOR SHALL PROVIDE A NEW COAXIAL CABLE AND CONDUIT TO ACCOMMODATE NEW ANTENNA ELEVATION. REFER ALSO TO NOTE #7 FOR RELOCATING OMNI ANTENNA TO THIS LOCATION AND ELEVATION.
- CONTRACTOR TO REMOVE EXISTING JUNCTION BOX. JUNCTION BOX CONTAINS EXISTING BRIGHTHOUSE COAXIAL COMMUNICATIONS CABLE. COAXIAL COMMUNICATIONS CABLE TO BE REROUTED TO NEW PUMP CONTROL PANEL 'CP-L01'. REFER TO SHEET I-3 FOR
- (7) EXISTING ANTENNA TO BE RELOCATED TO SAME HEIGHT AND ELEVATION AS ANTENNA INDICATED IN KEYED NOTE #5 ABOVE. CONTRACTOR SHALL PROVIDE A NEW COAXIAL CABLE AND CONDUIT TO ACCOMMODATE NEW ANTENNA ELEVATION. CONTRACTOR SHALL ROUTE EXISTING RADIO COAXIAL CABLE TO NEW MOTOROLA ACE3600 UNIT. REFER TO SHEET I-3 FOR NEW MOTOROLA ACE3600 UNIT LOCATION.

GENERAL NOTES:

- ALL EQUIPMENT DEPICTED ON THIS DRAWING IS EXISTING. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING A BID OR COMMENCING CONSTRUCTION.
- COORDINATE ALL DEMOLITION ACTIVITIES WITH THE OWNER AND OTHER TRADES.
- ALL EXISTING INSTALLATIONS DENOTED ON THIS DRAWING ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION.

CONSTRUCTION NOTES:

- THE LOUISIANA AVENUE RADIO SYSTEM SERVES AS A COMMUNICATIONS HUB FOR THE CITY OF TAMPA. THESE COMMUNICATIONS SHALL BE REQUIRED TO BE KEPT IN SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A PLAN FOR REVIEW AND APPROVAL TO KEEP THESE COMMUNICATIONS OPERATIONAL DURING THE REMOVAL OF THE EXISTING MOTOROLA EQUIPMENT AND THE REMOVAL/RELOCATION OF EXISTING ANTENNAS. THIS PLAN SHALL INCLUDE THE SEQUENCE OF WORK TO BE PERFORMED, A LIST OF ALL TEMPORARY EQUIPMENT TO BE SUPPLIED, AND THE TEMPORARY EQUIPMENT'S SPECIFICATIONS.
- THE EXISTING MOSCAD EQUIPMENT SHALL BE REPLACED IN—KIND WITH NEW MOTOROLA ACE3600 REMOTE TERMINAL UNIT. THE CONTRACTOR SHALL BE ALLOWED TO USE ANY EXISTING MOSCAD EQUIPMENT AS PART OF THE TEMPORARY COMMUNICATIONS PLAN TO BE UTILIZED DURING CONSTRUCTION.

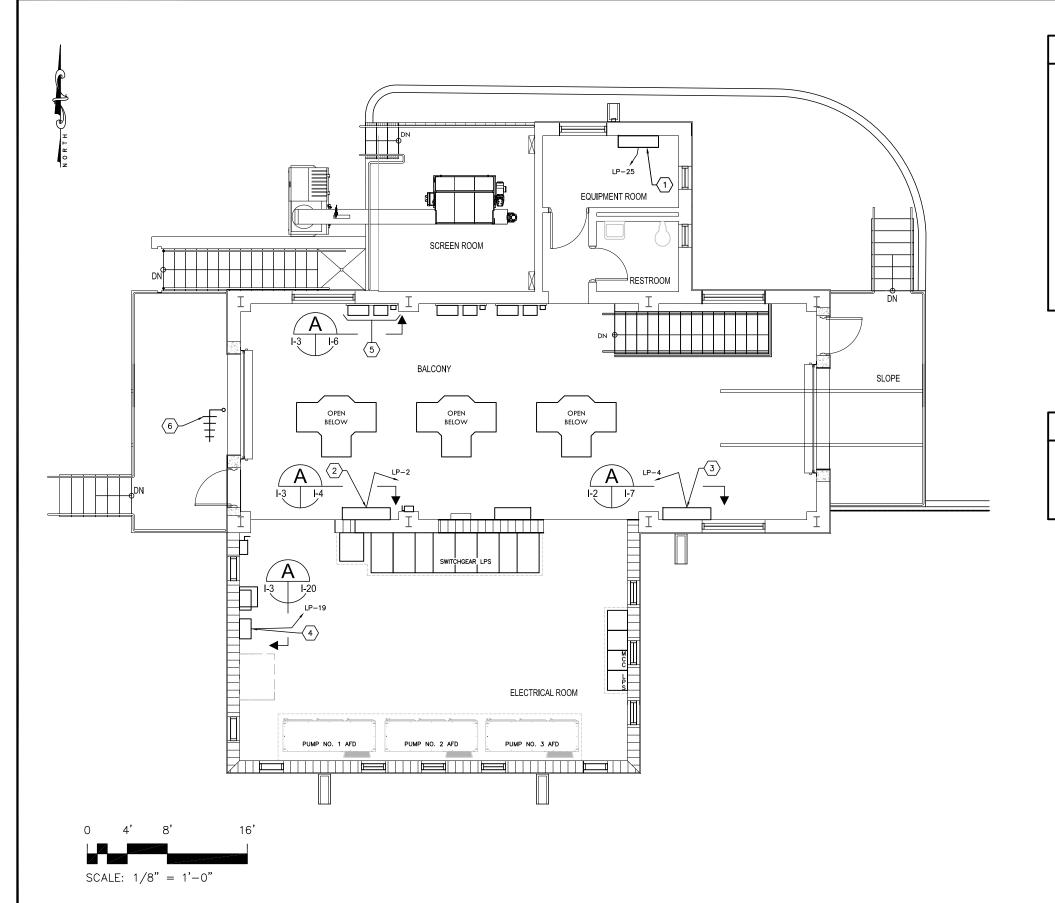
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TIMOTHY THOMAS, PE	1			DATE:	7/25/

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CITY of TAMPA WASTEWATER DEPARTMENT

EXISTING INSTRUMENTATION AND CONTROLS PLAN

SHEET



KEYED NOTES:

- PROPOSED LOCATION OF NEW MOTOROLA ACE3600 REMOTE TERMINAL UNIT. THE NEW REMOTE TERMINAL UNIT SHALL PROVIDE THE SAME FUNCTIONALITY AS THE EXISTING MOSCAD UNIT TO BE REPLACED. THE CONTRACTOR SHALL PROVIDE ALL ANCILLARY EQUIPMENT (RADIO, UNINTERRUPTIBLE POWER SUPPLY (UPS), BATTERY, POWER SUPPLY, FUSING, LICENSE, ETC.) AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
- 2 PROPOSED LOCATION OF NEW BUBBLER CONTROL PANEL TO BE DESIGNATED 'BP-L01'. REFER TO SHEETS I-4 AND I-5 FOR BP-L01 DETAILS.
- PROPOSED LOCATION OF NEW PUMP CONTROL PANEL AND SCADA PLC PANEL TO BE DESIGNATED 'CP-L01'. REFER TO SHEETS I-7 AND I-8 FOR CP-L01 DETAILS.
- $\boxed{4}$ PROPOSED LOCATION OF NEW FLOW METER REMOTE TRANSMITTER CABINET. REFER TO SHEETS I-20 FOR DETAILS.
- 5) PROPOSED LOCATION OF NEW PUMP MONITORING EQUIPMENT RACK. TYPICAL OF 3. REFER TO SHEET I-6 FOR DETAILS.
- $\fbox{6}$ REFER TO SHEET I-2, KEYED NOTES #5 AND #7 FOR RADIO ANTENNA MODIFICATION REQUIREMENTS.

GENERAL NOTES:

- I. REFER TO SHEET E-15, E-16 AND E-17 FOR INSTRUMENTATION CONTROL POWER AND SIGNAL REQUIREMENTS.
- . REFER TO SHEETS E-19 AND E-20 FOR SCREEN ROOM INSTRUMENTATION CONTROL POWER AND SIGNAL REQUIREMENTS.

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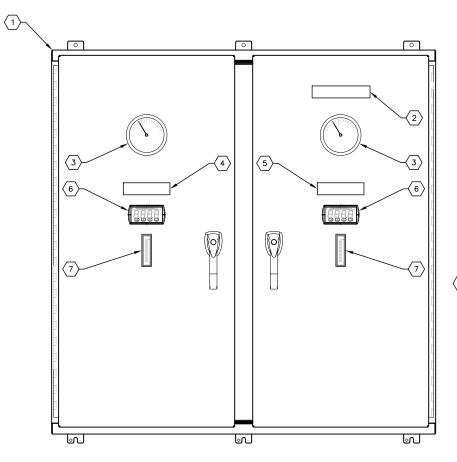
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FLORIDA LICENSE PE 47079

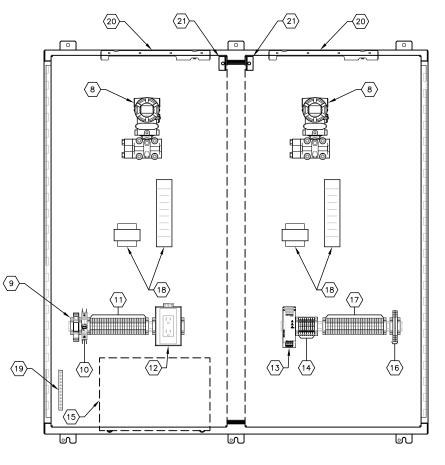
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 C^{1TY} of $T_{AMP_{\mathcal{A}}}$ WASTEWATER DEPARTMENT

PROPOSED INSTRUMENTATION AND CONTROLS PLAN

SHEET





NEW BUBLER CONTROL CABINET (BP-L01) FRONT ELEVATION A SCALE: N.T.S.

NEW BUBLER CONTROL CABINET (BP-L01) INTERIOR ELEVATION

SCALE: N.T.S.

GENERAL NOTES:

- PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
- 2. ALL TUBING INSIDE BUBBLER PANEL SHALL BE STAINLESS STEEL.
- 3. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR TERMINAL BLOCKS, FUSE HOLDERS AND SURGE PROTECTION DEVICES SHOWN OR REQUIRED.
- 4. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL (AUTOMATION DIRECT DN-R35SAL1) QUANTITY AS REQUIRED.
- 5. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHCI10E.

KEYED NOTES:

- CONTRACTOR TO PROVIDE AND INSTALL NEW 48" X 48" X 12" NEMA 4X STAINLESS STEEL ENCLOSURE WITH 3-POINT LATCHES, REMOVABLE CENTER POST BACK PANEL AND DOOR STOPS. HAMMOND HN4WM484812S16
- (2) CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "BUBBLER CONTROL PANEL BP-L01".
- (3) CONTRACTOR TO PROVIDE AND INSTALL NEW PRESSURE GAUGE.
- 4) CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "DOWN STREAM WET WELL LEVEL".
- 5 CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "UP STREAM WET WELL LEVEL".
- 6 CONTRACTOR TO PROVIDE AND INSTALL NEW PRECISION DIGITAL PROCESS METER, MODEL PD765-6X2-00, TRIDENT X2 LARGE DISPLAY PROCESS METER.
- CONTRACTOR TO PROVIDE AND INSTALL NEW OMEGA HORIZONTAL SCALE BAR GRAPH DISPLAY.

 OMEGA MODEL # BG-18-1-P7.
- 8 CONTRACTOR TO PROVIDE AND INSTALL NEW YOKOGAWA EJA SERIES GAUGE PRESSURE TRANSMITTER (LEVEL). COORDINATE TRANSMITTER MOUNTING IN THE BUBBLER PANEL WITH THE CITY.
- © CONTRACTOR TO PROVIDE AND INSTALL 120V SURGE PROTECTION DEVICE. EDCO HSP121BT-1RU.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 120V CIRCUIT BREAKER. ALLEN BRADLEY TYPE 1489M OR EQUAL, 15A.
- CONTRACTOR TO PROVIDE AND INSTALL DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-W10 FOR 120 VAC POWER CONDUCTORS.
- CONTRACTOR TO PROVIDE AND INSTALL DIN-RAIL MOUNTED DUPLEX RECEPTACLE, 15A. PHOENIX CONTACT #5600462.
- PROVIDE AND INSTALL 120VAC-24VDC POWER SUPPLY WITH 5 AMPERE OUTPUT. PHOENIX CONTACT #2866750.
- PROVIDE AND INSTALL FUSES FOR 24V DC POWER. AUTOMATION DIRECT DN-F10L110. REFER TO SHEET I-5 FOR AMPERAGES/QUANTITY REQUIRED.
- CONTRACTOR TO PROVIDE AND INSTALL NEW 700VA UPS. POWERWARE PW9130L700T, OR EQUAL.
- CONTRACTOR TO PROVIDE AND INSTALL ANALOG SURGE PROTECTION DEVICE FOR 4-20mA CIRCUITS. PHOENIX CONTACT #2838186.
- CONTRACTOR TO PROVIDE AND INSTALL DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-W10 FOR 4-20mA SIGNAL CONDUCTORS.
- (B) NEW AIR SUPPLY RELATED EQUIPMENT FOR BUBBLER SYSTEM AIR SUPPLY (AIR FILTER, PRESSURE REGULATOR, PURGEMETER, CONSTANT DIFFERENTIAL RELAY, BLOWDOWN VALVE, BLOCK AND BLEED VALVES, ETC.). REFER TO SHEET I—6 FOR DETAILS.
- (19) PROVIDE AND INSTALL GROUND BAR SYSTEM. PANDUIT UGB2/0-414-12.
- 20 PROVIDE AND INSTALL 24V DC LED CABINET LIGHT HOFFMAN LED24V15.
- PROVIDE AND INSTALL REMOTE DOOR SWITCH AND ASSOCIATED DOOR SWITCH CABLE FOR 24V DC LED CABINET LIGHT. HOFFMAN ALFSWD PROVIDE CUSTOM BRACKET TO MOUNT SWITCH TO BACKPANEL.



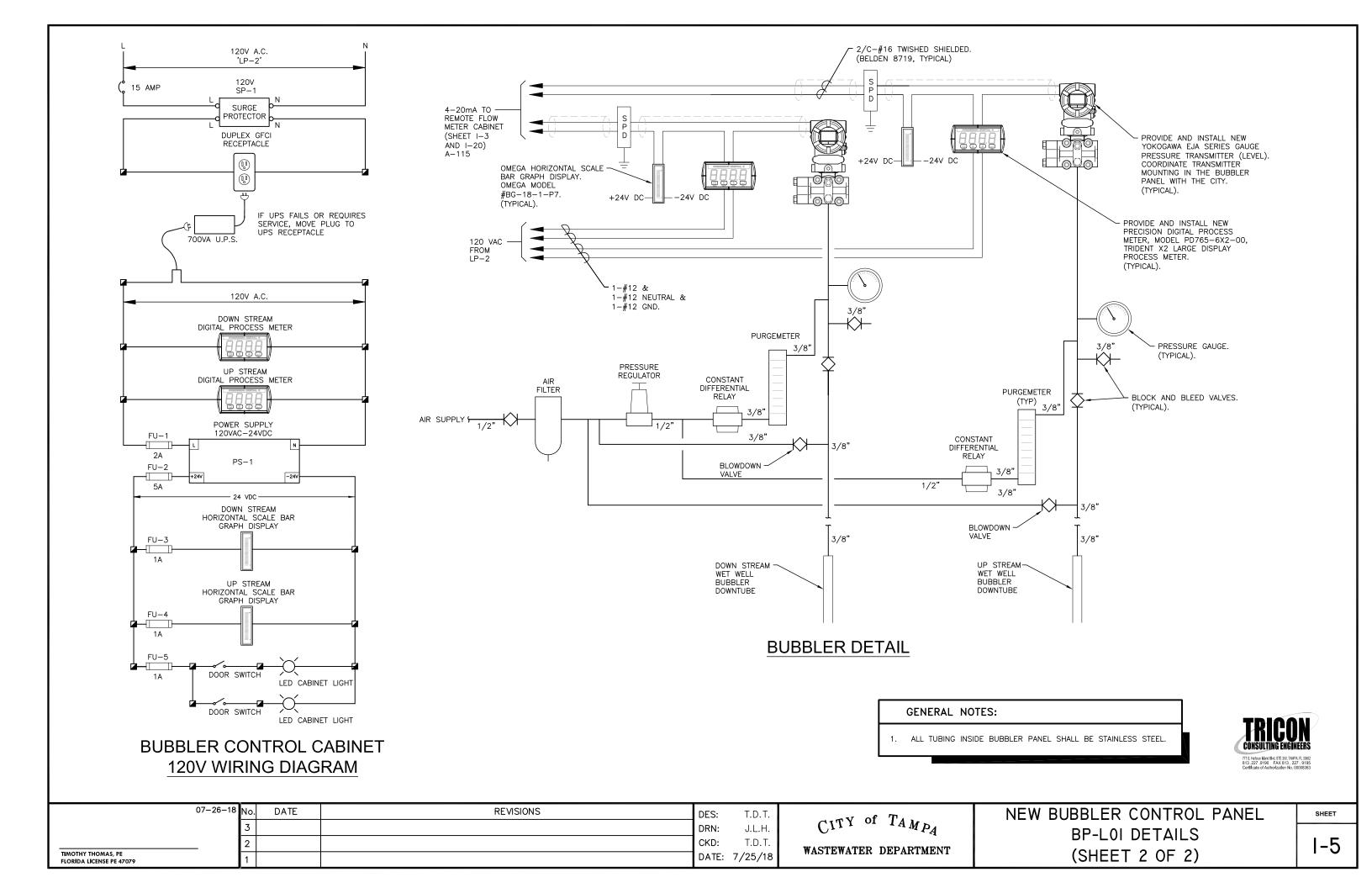
	07-26-18	No.	DATE	REVISIONS	DES:	T.D.T
		3			DRN:	J.L.H
		2			CKD:	T.D.T
TIMOTHY THOMAS, PE		1			DATE:	7/25/1

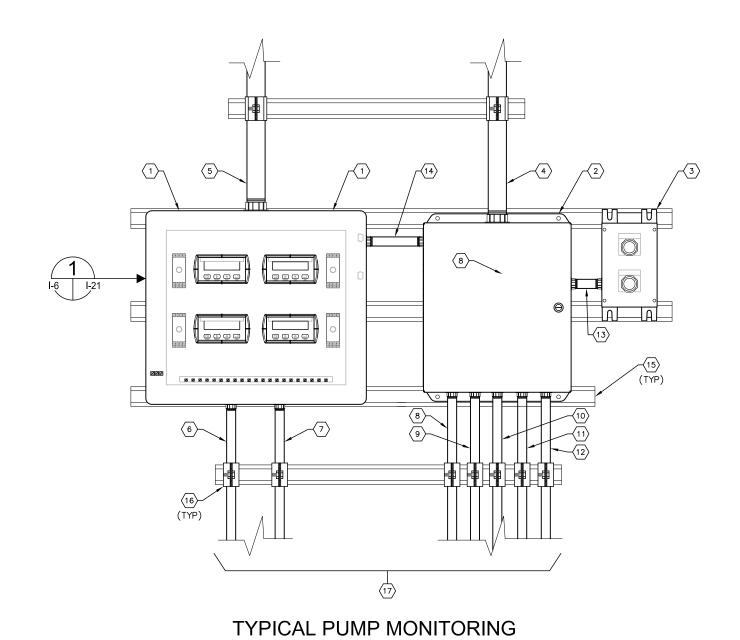
CITY of TAMPA

WASTEWATER DEPARTMENT

NEW BUBBLER CONTROL PANEL BP-L0I DETAILS (SHEET I OF 2)

SHEET





EQUIPMENT RACK DETAIL

SCALE: N.T.S.

KEYED NOTES:

- 1 PROVIDE AND INSTALL CTC VIBRATION MONITOR. REFER TO SHEET E-10 FOR LOCATION.
- PROVIDE AND INSTALL TERMINAL JUNCTION BOX. JUNCTION BOX SHALL BE 16" X 14" X 8" NEMA 4X STAINLESS STEEL, HAMMOND EJ16148S16 OR EQUAL.
- $\ensuremath{\langle 3 \rangle}$ Provide and install resume/reset, E-stop/L pushbutton station in Nema 4X stainless steel enclosure.
- PROPOSED AFD CONTROLS (C104, C105 OR C106). ROUTE CONDUIT AROUND BALCONY EXTERIOR WALL. COORDINATE HEIGHT WITH LIGHTING FIXTURES, BRIDGE CRANE AND MECHANICAL PIPING.
- 5 PROPOSED CTC VIBRATION MONITOR SIGNALS (A104, A105 OR A106).
- 6 PROPOSED MOTOR ACCELEEROMETER/TEMPERATURE SIGNAL CABLE (A109, A111 OR A113).
- 7 PROPOSED PUMP ACCELEEROMETER/TEMPERATURE SIGNAL CABLE (A110, A112 OR A114).
- 8 PROPOSED MOTOR VIBRATION SWITCH CABLE (C135, C136 OR C137).
- 9 PROPOSED PNEUMATIC PLUG VALVE SOLENOID CONTROL (C123, C124 OR C125).
- (10) PROPOSED PNEUMATIC VALVE LIMIT SWITCH SIGNAL CABLES (C126, C127 OR C128).
- PROPOSED PROOF OF PRIME SIGNAL CABLES (C129, C130 OR C131).
- PROPOSED 120V AC POWER FOR PUMP SEAL DISCHARGE WATER BALL VALVE CONTROL (C142, C143 OR C144).
- PROPOSED RESUME/RESET/E-STOP/L PUSHBUTTON STATION CONTROLS (C138, C139 OR C140).
- PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN 3/4"C. FOR CTC VIBRATION MONITOR 120V AC POWER (FROM ASSOCIATED AFD).
- $\langle 15 \rangle$ PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT (TYPICAL).
- (16) PROVIDE AND INSTALL ALUMINUM CONDUIT CLAMP (TYPICAL).
- $\stackrel{\mbox{\scriptsize (17)}}{\mbox{\scriptsize (17)}}$ TO ASSOCIATED PUMP AND MOTOR LOCATED BELOW IN PUMP ROOM. REFER ALSO TO SHEET E-14.

GENERAL NOTES:

 PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR OF TERMINAL JUNCTION BOX.



07-27-18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

 C^{TTY} of $T_{AMP_{\mathcal{A}}}$ wastewater department

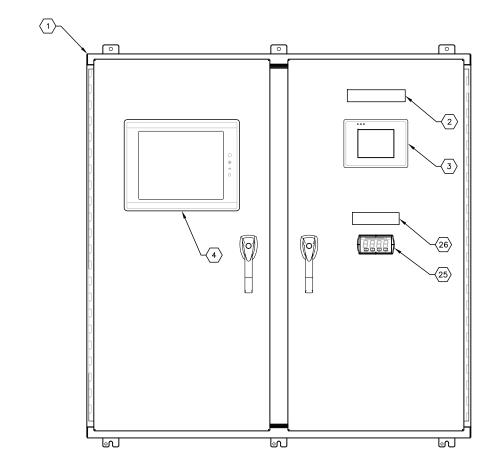
PROPOSED PUMP
CONTROL/MONITORING EQUIPMENT
RACK DETAILS (TYPICAL OF 3)

SHEET

KEYED NOTES:

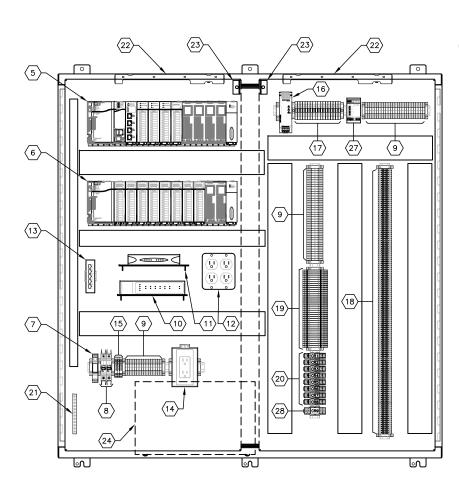
- CONTRACTOR TO PROVIDE AND INSTALL NEW 48" X 48" X 12" NEMA 4X STAINLESS STEEL ENCLOSURE WITH 3-POINT LATCHES, REMOVABLE CENTER POST BACK PANEL AND DOOR STOPS. HAMMOND HN4WM484812S16
- (2) CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "PUMP CONTROL PANEL CP-L01".
- (3) CONTRACTOR TO PROVIDE AND INSTALL NEW 7" OPERATOR INTERFACE TERMINAL (OIT), MAPLE SYSTEMS HMI5070B. OIT TO SERVE AS SEWAGE PUMP CONTROL PARAMETER INPUT DEVICE AND PROCESS STATUS MONITOR.
- 4) PROVIDE AND INSTALL NEW 15" OPERATOR INTERFACE TERMINAL (OIT),
 MAPLE SYSTEMS #HMI515OP. OIT SHALL BE USED TO DISPLAY ALL STATUS
 AND ALARM INFORMATION TOUCH SCREEN PROMPTS TO DISPLAY
 ADDITIONAL INFORMATION.
- (5) CONTRACTOR TO PROVIDE AND INSTALL PROPOSED CP-L01 PLC RACK. PLC RACK TO CONSIST OF: ONE (1) GE RX3i CPU, IC695CPE305-ABAG; ONE (1) SERIAL COMMUNICATION MODULE, GE IC695CMM004; TWO (2) ANALOG INPUT MODULES, GE IC694ALG616; ONE (1) ANALOG OUTPUT MODULE, GE IC694ALG392; ONE (1) RELAY OUTPUT MODULE, GE IC694MDL931; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) 12-SLOT BACK PLANE: GE IC695CHS012; ONE (1) RX3I SERIAL BUS TRANSMITTER, GE IC695LRE001.
- PROVIDE AND INSTALL EXPANSION RACK. EXPANSION RACK TO CONSIST OF:
 ONE (1) 120V POWER SUPPLY, GE IC695PSA140; EIGHT (8) 24V DC INPUT
 MODULES, GE IC694MDL241; ONE (1) 12—SLOT EXPANSION RACK, GE
 IC695CHS392 (AND ASSOCIATED EXPANSION CABLE GE IC693CBL302);
 ONE (1) RX3I SERIAL BUS TRANSMITTER, GE IC695LRE001.
- PROVIDE AND INSTALL INCOMING 120V POWER SURGE PROTECTION DEVICE. PHOENIX CONTACT #2858357.
- PROVIDE AND INSTALL 120V CIRCUIT BREAKERS. SQUARE-D QOU115 AND QOU110.
- PROVIDE AND INSTALL MULTI-LEVEL TERMINAL BLOCKS. PHOENIX CONTACT #3044636.
- (10) PROVIDE AND INSTALL NEW CISCO RV320 DUAL GIGABIT WAN ISP ROUTER.

 PROVIDE AND INSTALL ALUMINUM SHELF FOR ROUTER.
- PROVIDE AND INSTALL NEW BRIGHTHOUSE CABLE MODEM. PROVIDE AND INSTALL ALUMINUM SHELF FOR CABLE MODEM.
- PROVIDE AND INSTALL GFI RECEPTACLES, HUBBELL, GFR5352IA OR EQUAL FOR BRIGHTHOUSE CABLE MODEM, CISCO RV320 SYSTEMS ROUTER AND ETHERNET SWITCH.
- (13) PROVIDE AND INSTALL 5-PORT ETHERNET SWITCH. HIRSCHMANN 5TX.
- PROVIDE AND INSTALL NEW 120V, 20A DUPLEX UTILITY RECEPTACLE. PHOENIX CONTACT #5600525 FOR UPS POWER.
- PROVIDE AND INSTALL 120V, THERMAL CIRCUIT BREAKERS. REFER TO PUMP CONTROL WIRING DIAGRAM ON SHEET I-8 FOR QUANTITIES AND SIZES. ALL THERMAL CIRCUIT BREAKERS SHALL BE PHOENIX CONTACT TCP TYPE.
- PROVIDE AND INSTALL 120VAC-24VDC POWER SUPPLY 'PS1' WITH 10 AMPERE OUTPUT. PHOENIX CONTACT #2866763.
- PROVIDE AND INSTALL FUSE TERMINAL BLOCKS FOR DC POWER. PHOENIX CONTACT UK 5—HESI. REFER TO PUMP CONTROL WIRING DIAGRAM ON SHEET I—8 FOR QUANTITIES AND SIZES.
- (18) PROVIDE AND INSTALL SURGE PROTECTION DEVICES FOR 24V DC DISCRETE INPUT CIRCUITS. PHOENIX CONTACT #2794699.
- PROVIDE AND INSTALL SURGE PROTECTION DEVICES FOR 4-20mA ANALOG INPUT AND OUTPUT CIRCUITS. PHOENIX CONTACT #2838186.
- PROVIDE AND INSTALL SQUARE—D 8501 R SERIES (OR EQUAL) SPDT RELAYS WITH 24V DC COILS. PROVIDE RELAY BASE AND HOLD DOWN SPRING FOR RELAY.





- (21) PROVIDE AND INSTALL GROUND BAR SYSTEM. PANDUIT UGB2/0-414-12.
- PROVIDE AND INSTALL 24V DC LED CABINET LIGHT HOFFMAN LED24V15.
- PROVIDE AND INSTALL REMOTE DOOR SWITCH SWITCH AND ASSOCIATED DOOR SWITCH CABLE FOR 24V DC LED CABINET LIGHT. HOFFMAN ALFSWD PROVIDE CUSTOM BRACKET TO MOUNT SWITCH TO BACKPANEL.
- 24) PROVIDE AND INSTALL 1000VA UPS. POWERWARE PW9130L 1000T-XL, OR
- (25) CONTRACTOR TO PROVIDE AND INSTALL NEW PRECISION DIGITAL PROCESS METER, MODEL PD765-6X2-00, TRIDENT X2 LARGE DISPLAY PROCESS METER.
- (26) CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "SCREEN ROOM IFL LEVEL".
- (27) CONTRACTOR TO PROVIDE AND INSTALL NEW 4-20mA SIGNAL ISOLATOR/CONVERTER. MOORE INDUSTRIES ECT/4-20mA/2X4-20mA/117AC/DIN, OR EQUAL. IF INSTRUMENT REQUIRES LOOP POWER, CONTRACTOR SHALL INSTALL ECT/4-20mA/2X4-20mA/117AC/TX/DIN, OR EQUAL.
- 28) PROVIDE AND INSTALL SQUARE-D 8501 R SERIES (OR EQUAL) DPDT RELAYS WITH 24V DC COILS. PROVIDE RELAY BASE AND HOLD DOWN SPRING FOR RELAY.



NEW PUMP CONTROL PANEL 'CP-L01' INTERIOR ELEVATION

SCALE · NITS

GENERAL NOTES:

- PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
- PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR TERMINAL BLOCKS, FUSE HOLDERS AND SURGE PROTECTION DEVICES SHOWN OR REQUIRED.
- PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL (AUTOMATION DIRECT DN-R35SAL1) QUANTITY AS REQUIRED.
- PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHCI10E.
- 5. CONTRACTOR SHALL COORDINATE THE CITY'S REQUIREMENTS TO INTEGRATE EXISTING I/O INTO CP-L01. REFER TO SHEET I-13 FOR EXISTING I/O REQUIRED. PROVIDE AND CONDUIT AND CONDUCTORS TO EXTEND EXISTING CIRCUITS AS REQUIRED.

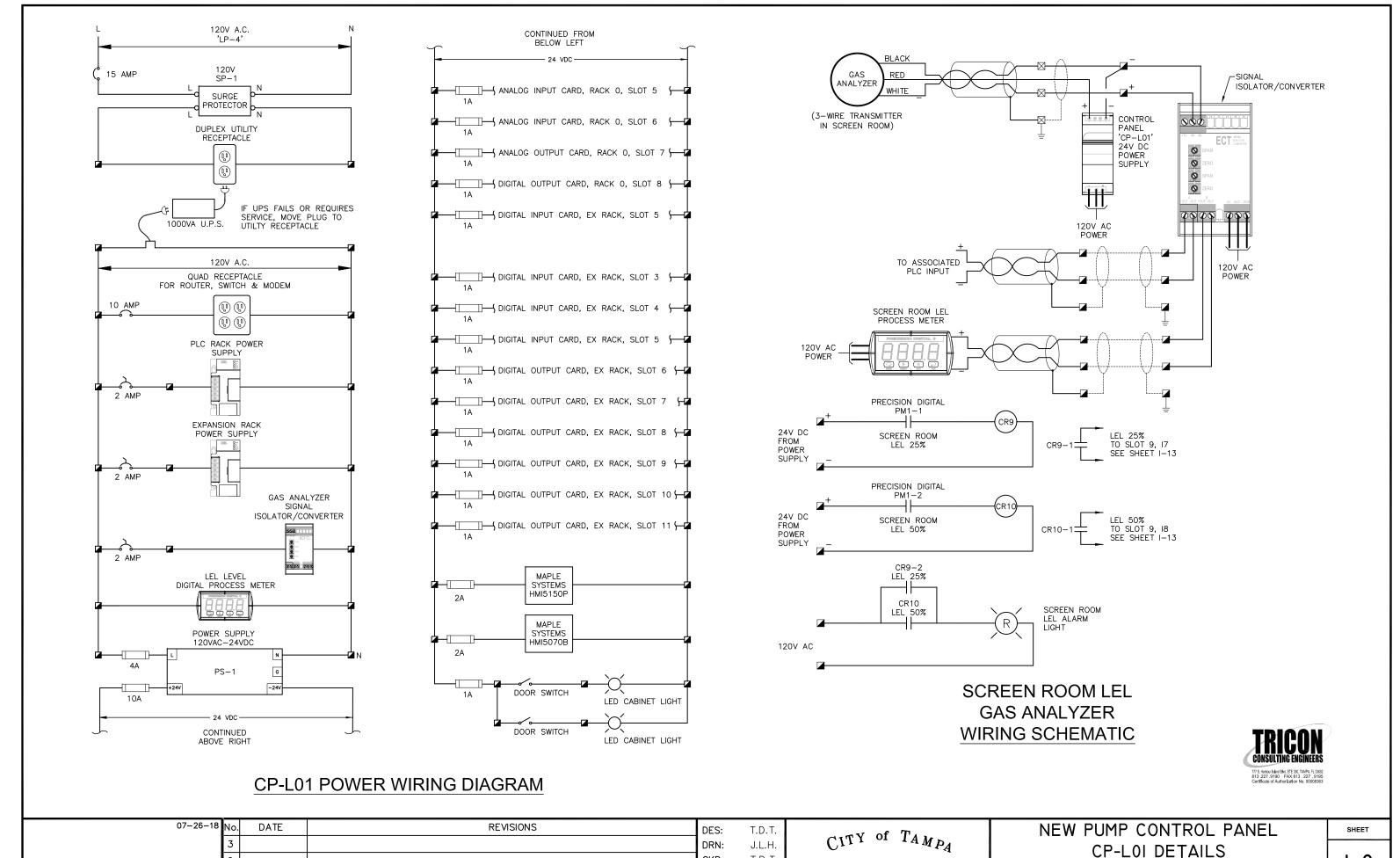
07–2	6-18 No	. DATE	REVISIONS	DES:	T.D.1
	3			DRN:	J.L.F
	2			CKD:	T.D.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/1

CITY of TAMPA

WASTEWATER DEPARTMENT

NEW PUMP CONTROL PANEL CP-L0I DETAILS (SHEET I OF 2)

SHEET



T.D.T.

DATE: 7/25/18

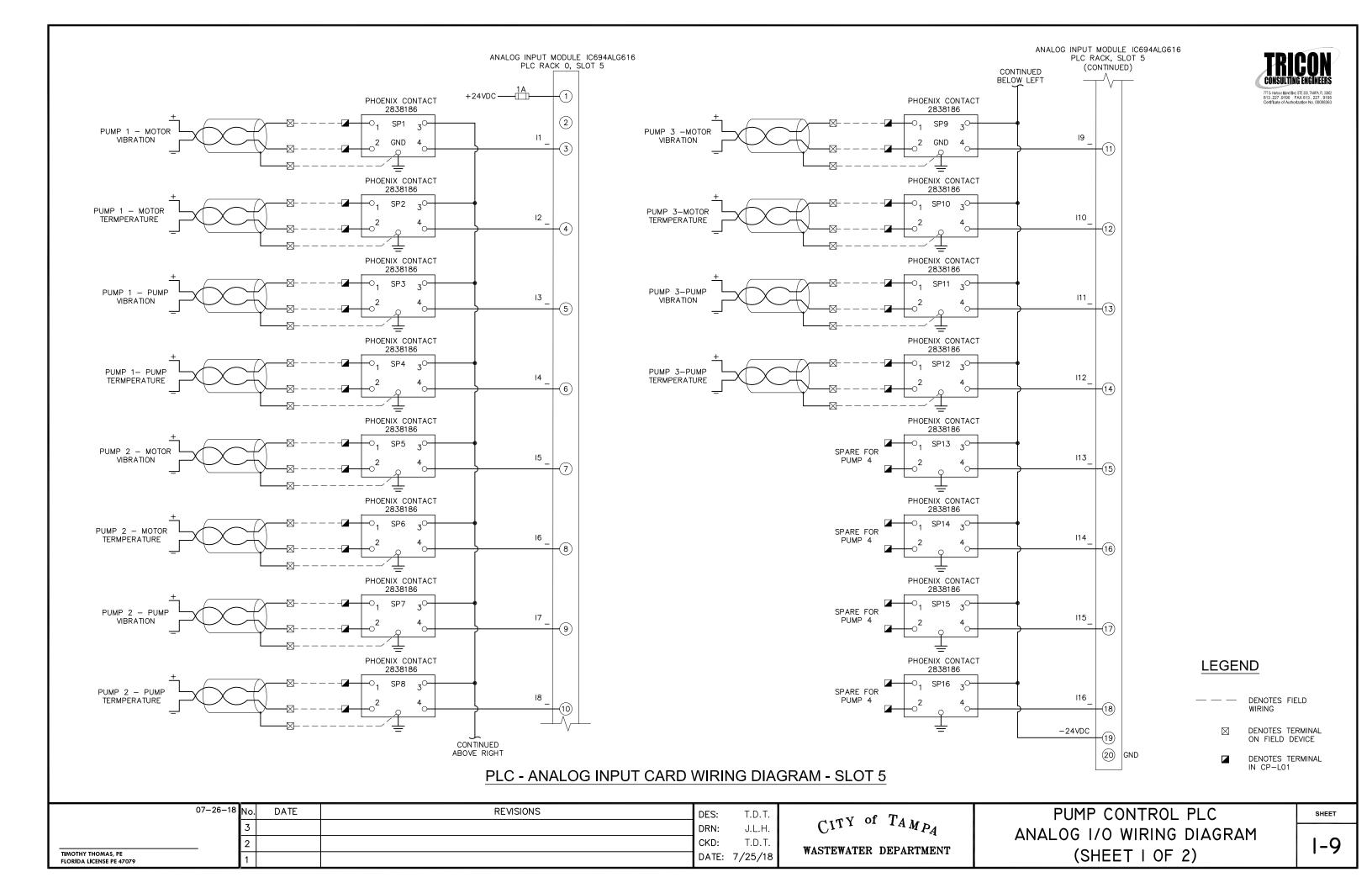
WASTEWATER DEPARTMENT

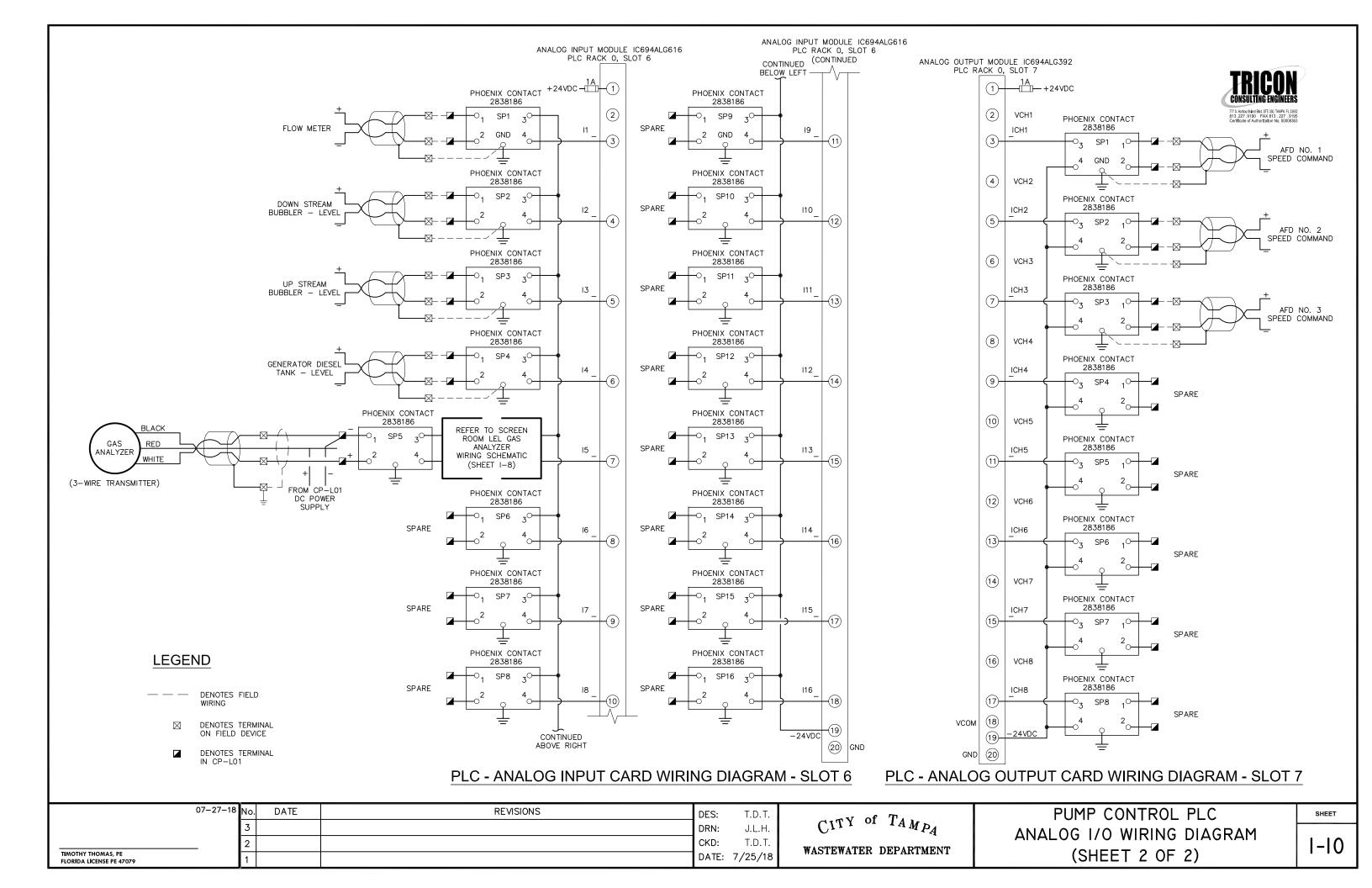
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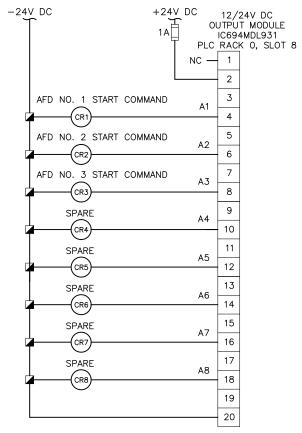
TIMOTHY THOMAS, PE

1-8

(SHEET 2 OF 2)







PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 8

LEGEND

— — DENOTES FIELD WIRING

DENOTES TERMINAL ON FIELD DEVICE

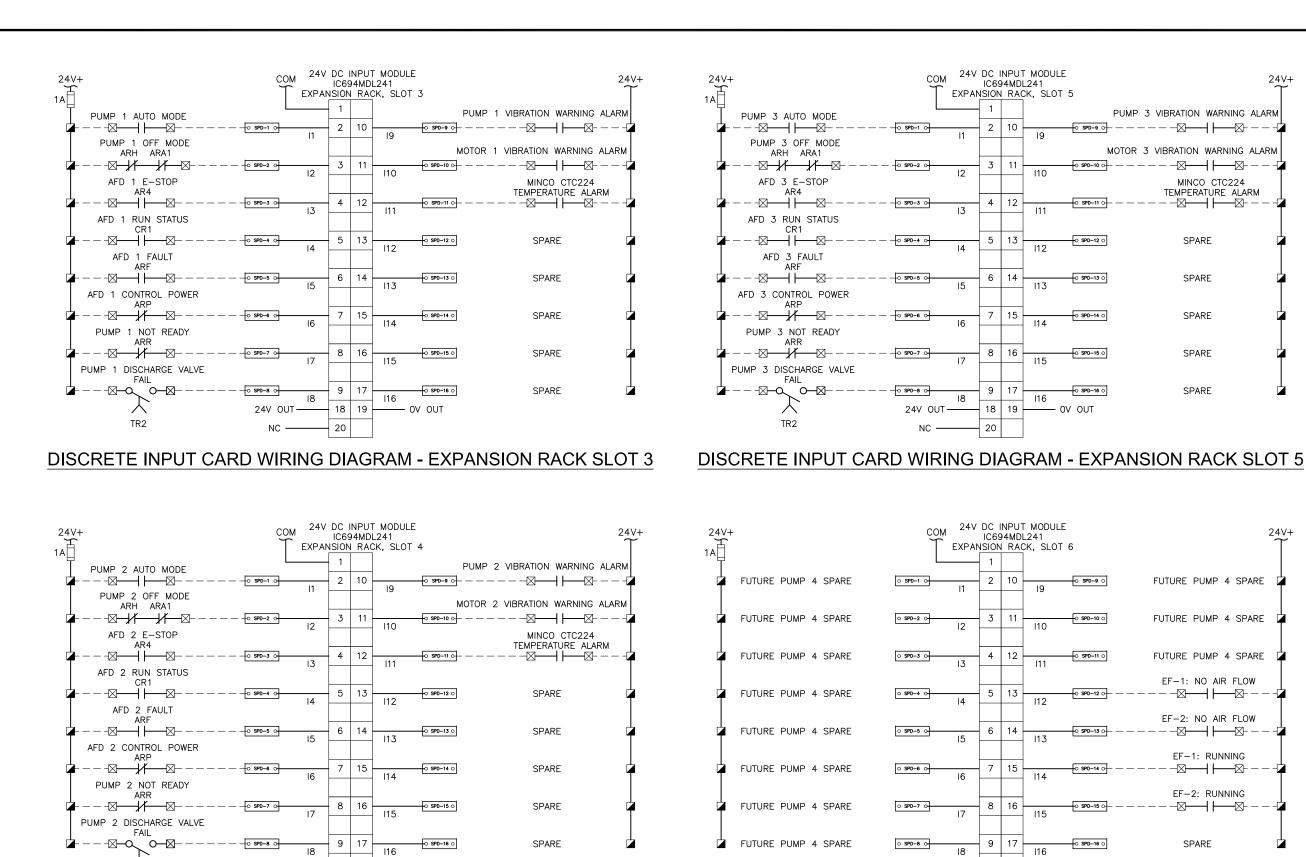
DENOTES TERMINAL IN CP-L01

SHEET

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TRIGOR CONSULTING ENGINEERS 777 S. Hetoor Idend Strd. 551 250, TAIPPA Ft. 30802 613 - 227 9190 - 574 513 - 227 9190 Certificate of Authorization No. 000003833

	07–26–18 No	. DATE	REVISIONS	DES:	T.D.T.	GITY Of TARE	PUMP CONTROL PLC
	3			DRN:	J.L.H.	CITY of TAMPA	DISCRETE I/O WIRING DIAGRAM
1.	2			CKD:	T.D.T.	WASTEWATER DEPARTMENT	•
	TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079			DATE: 7	7/25/18	WASIEWAIEN DELANIMENI	(SHEET I OF 3)



24V+

24V+

PUMP 3 VIBRATION WARNING ALARM

TEMPERATURE ALARM

SPARE

SPARE

SPARE

SPARE

FUTURE PUMP 4 SPARE

FUTURE PUMP 4 SPARE

FUTURE PUMP 4 SPARE

EF-1: NO AIR FLOW

EF-2: NO AIR FLOW

EF-2: RUNNING

SPARE

LEGEND

DENOTES FIELD WIRING

DENOTES TERMINAL ON FIELD DEVICE

DENOTES TERMINAL IN CP-L01

DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 6

- 18 | 19 |----- OV OUT

07–27–18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

18 | 19 | OV OUT

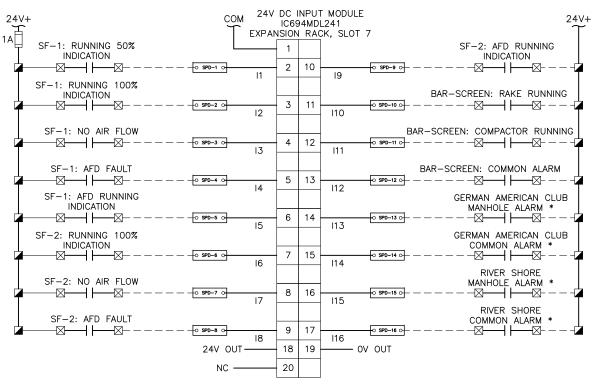
DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 4

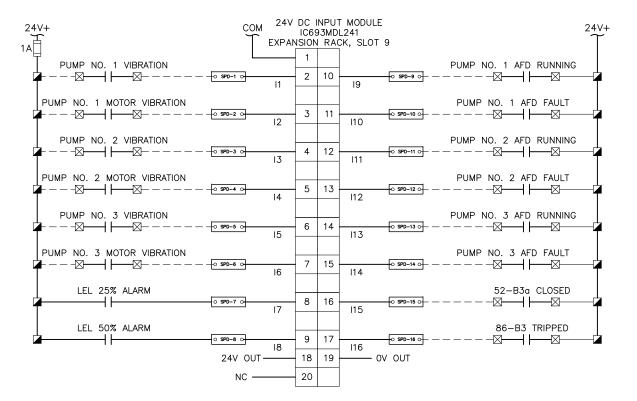
CITY of TAMPA WASTEWATER DEPARTMENT

PUMP CONTROL PLC DISCRETE I/O WIRING DIAGRAM (SHEET 2 OF 3)

1-12

SHEET





LEGEND

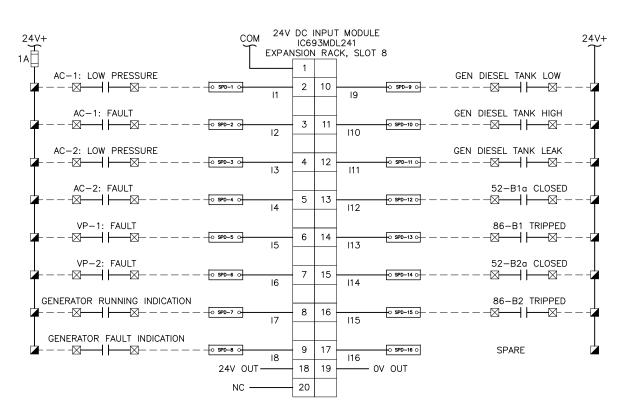
---- DENOTES FIELD WIRING

DENOTES TERMINAL
ON FIELD DEVICE

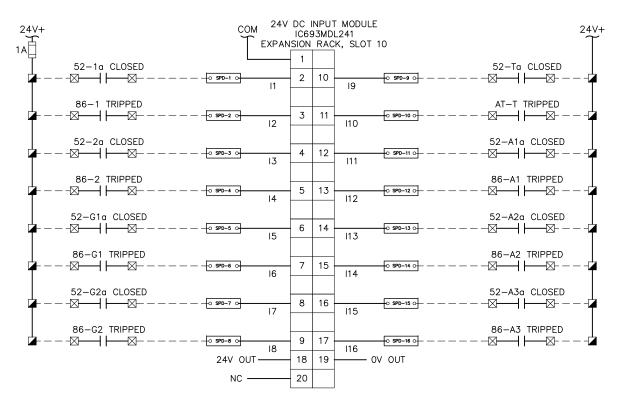
DENOTES TERMINAL IN CP-L01

* DENOTES EXISTING
I/O. COORDINATE
REQUIREMENTS WITH
THE CITY OF TAMPA

DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 7



DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 9

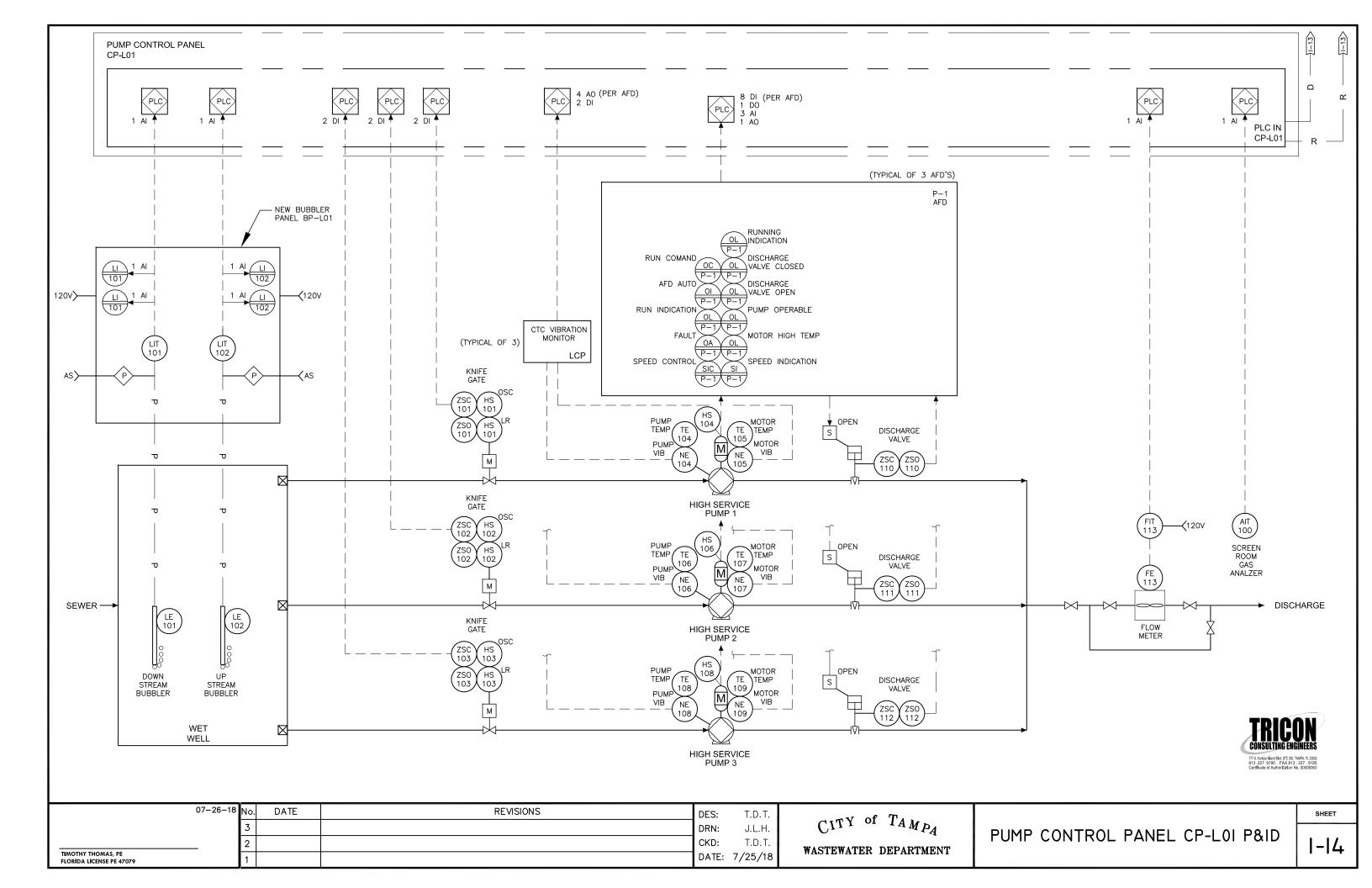


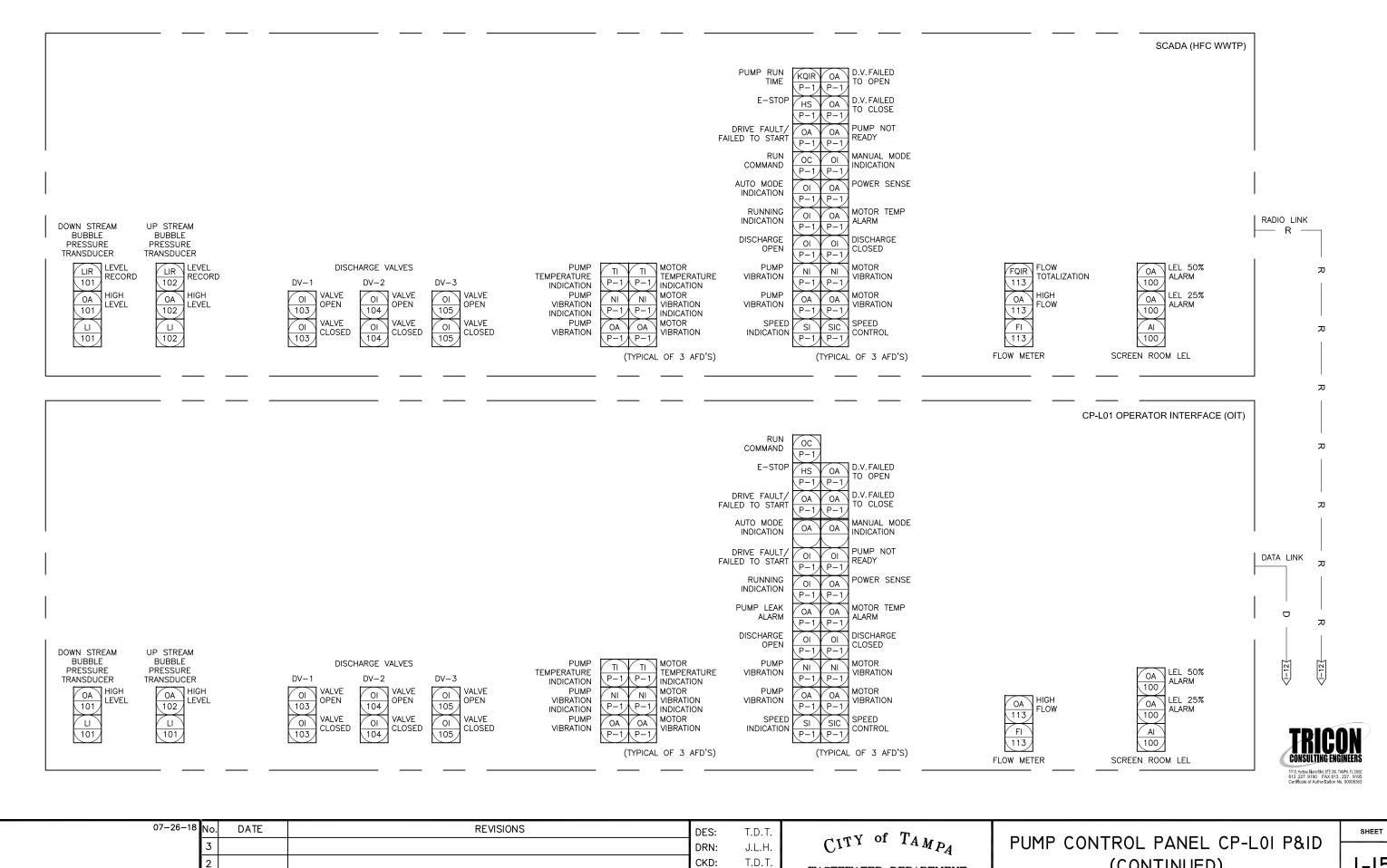
DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 8

DISCRETE INPUT CARD WIRING DIAGRAM - EXPANSION RACK SLOT 10

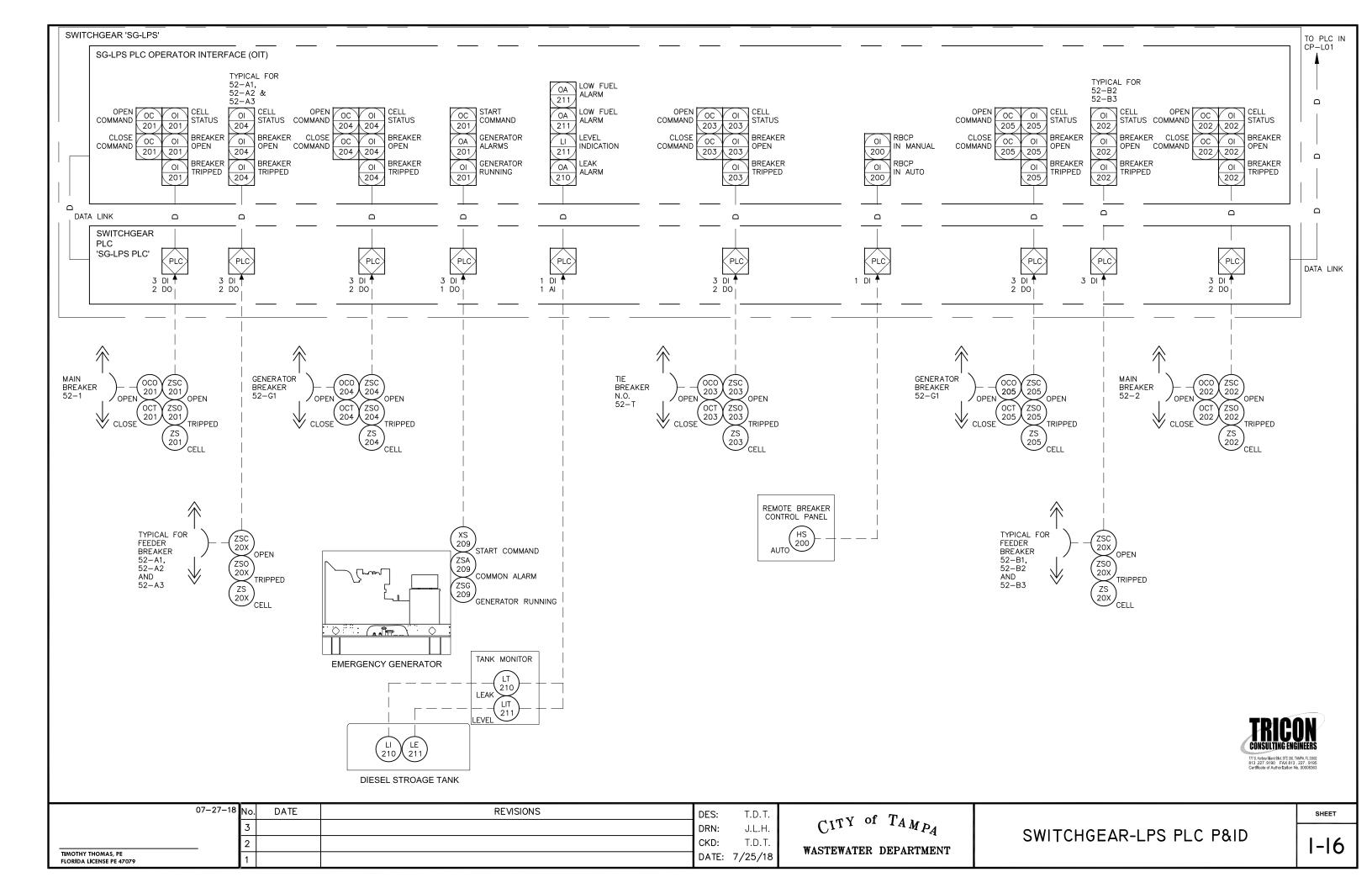


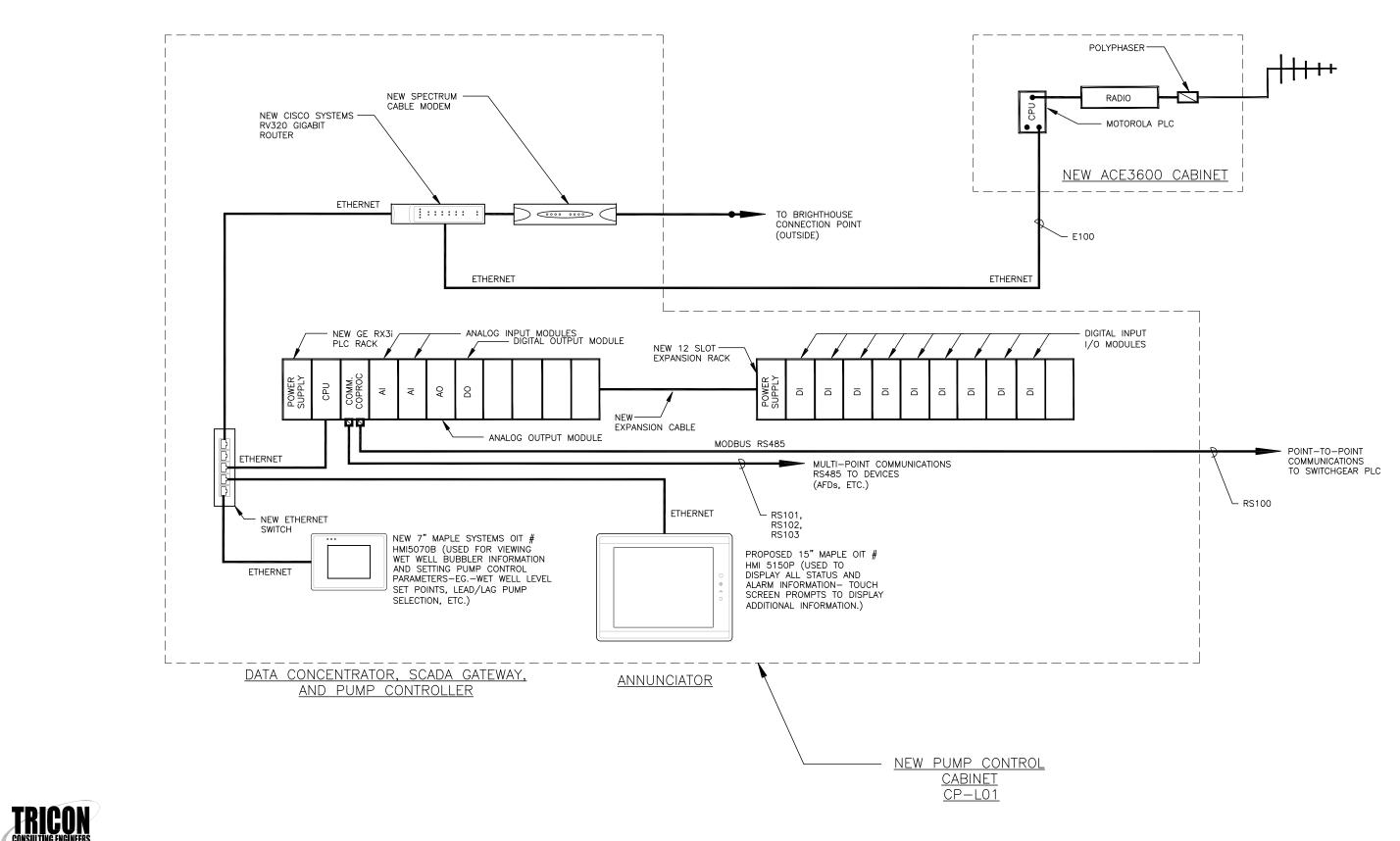
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	07-26-18	No.	DATE	REVISIONS	DES:	T.D.T.	of Ti	PUMP CONTROL PLC	SHEET
		3			DRN:	J.L.H.	CITY of TAMPA	DISCRETE I/O WIRING DIAGRAM	
		2			CKD:	T.D.T.	WASTEWATER DEPARTMENT		1-13
	TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1	-		DATE:	7/25/18	WASIEWAIEW DELAWIMENI	(SHEET 3 OF 3)	





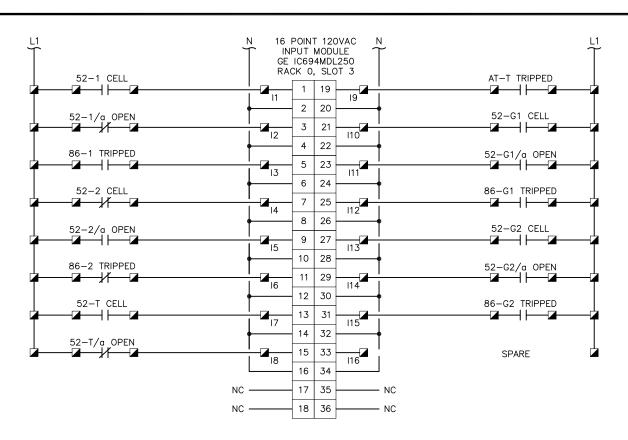
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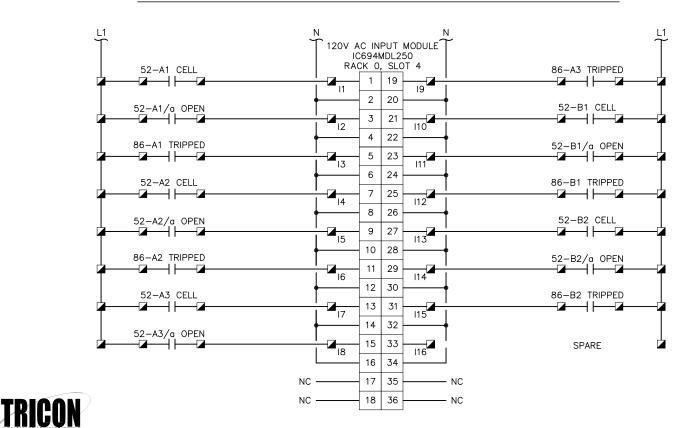


777 S. Harbour Island Blvd, STE 350, TAMPA, FL 33602 813 .227 .9190 FAX 813 . 227 . 9195 Certificate of Authorization No. 00008363

07–27–18	No. DATE	REVISIONS	DES:	T.D.T.	CITY Of TARE		SHEET	ı
	3		DRN:	J.L.H.	CMII or $IAMPA$	COMMUNICATIONS RISER DIAGRAM		1
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1		CKD: DATE:	7/25/18	WASTEWATER DEPARTMENT		1-1/	



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 3



120V AC INPUT MODULE IC694MDL250 RACK 0, SLOT 5 52-B2 CELL 1 19 -SPARE 2 20 52-B2/a OPEN 3 21 -12 SPARE 4 22 86-B2 TRIPPED -13 -2---|-----5 23 -SPARE 6 24 -25 SPARE I12 SPARE 14 8 26 9 27 SPARE SPARE 10 28 11 29 -SPARE SPARE 12 | 30 | 13 31 -SPARE 115 SPARE 17 14 | 32 | SPARE 15 | 33 | SPARE 17 | 35 | 18 | 36 -

PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 5

GENERAL NOTES:

1. INPUT AND OUTPUT MODULE MANUFACTURER AND CATALOG NUMBERS ARE PRESENTED AS AN EXAMPLE ONLY. THE MANUFACTURER OF THE SWITCHGEAR AUTOMATIC TRANSFER SCHEME PLC MAY UTILIZE PLC COMPONENTS OF A DIFFERENT MANUFACTURER.

PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 4

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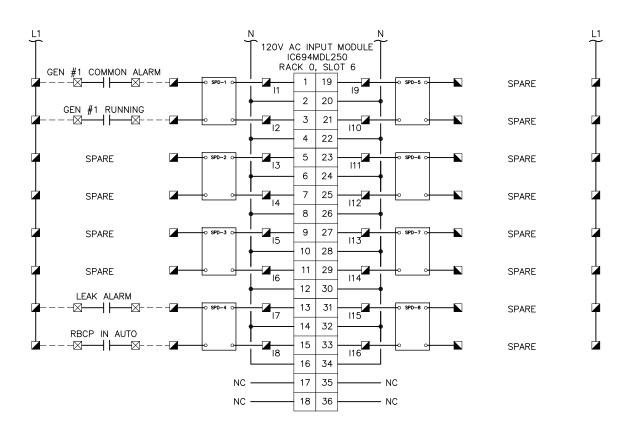
07–26–18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

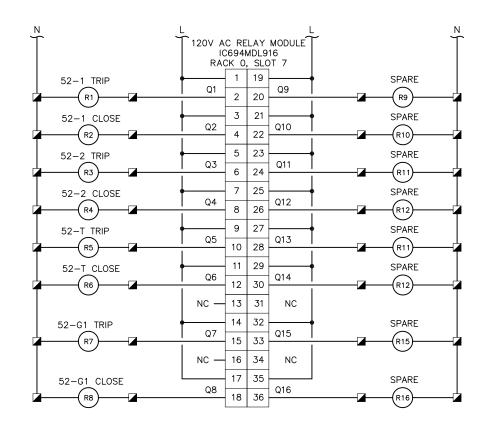
SWITCHGEAR LPS PLC I/O WIRING DIAGRAM (AUTOMATIC TRANSFER SCHEME)

1-18

SHEET



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 6



PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 7

GENERAL NOTES:

1. INPUT AND OUTPUT MODULE MANUFACTURER AND CATALOG NUMBERS ARE PRESENTED AS AN EXAMPLE ONLY. THE MANUFACTURER OF THE SWITCHGEAR AUTOMATIC TRANSFER SCHEME PLC MAY UTILIZE PLC COMPONENTS OF A DIFFERENT MANUFACTURER.

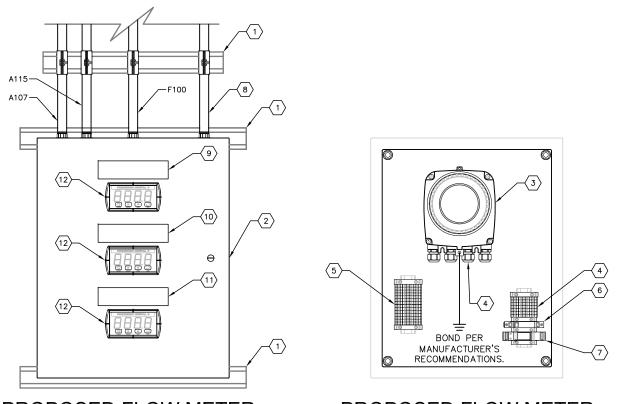


07-26-18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

SWITCHGEAR LPS PLC I/O WIRING DIAGRAM (AUTOMATIC TRANSFER SCHEME)

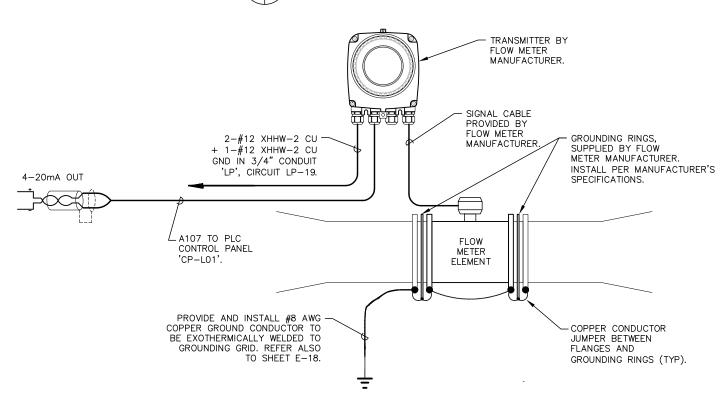
SHEET



PROPOSED FLOW METER REMOTE TRANSMITTER CABINET REMOTE TRANSMITTER CABINET FRONT ELEVATION

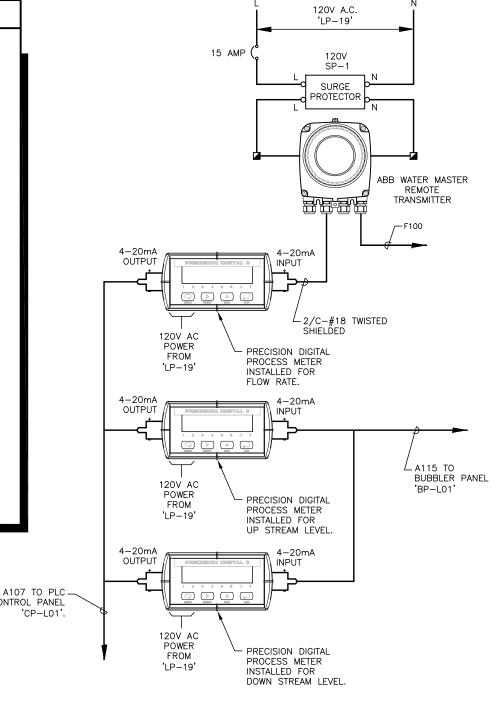
SCALE: N.T.S.

PROPOSED FLOW METER INTERIOR ELEVATION SCALE: N.T.S.



KEYED NOTES:

- PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT WITH STAINLESS STEEL
- REMOTE TRANSMITTER CABINET. 20" X 20" X 12" NEMA 1 ENCLOSURE. HAMMOND EN4SD201612GY. PROVIDE BACKPLATE.
- PROVIDE AND INSTALL ABB WATER MASTER REMOTE TRANSMITTER.
- PROVIDE AND INSTALL TERMINAL BLOCKS WITH ALUMINUM DIN RAIL FOR 120V AC CONDUCTORS. PHOENIX CONTACT UK5N.
- PROVIDE AND INSTALL TERMINAL BLOCKS WITH ALUMINUM DIN RAIL FOR 24V DC CONDUCTORS. PHOENIX CONTACT UK5N.
- PROVIDE AND INSTALL SINGLE-POLE CIRCUIT BREAKER. 120V, 15A. SQUARE D QOU-115.
- PROVIDE AND INSTALL INCOMING 120V POWER SURGE PROTECTION DEVICES. PHOENIX CONTACT
- PROVIDE AND INSTALL 2-#12 XHHW-2 CU + 1-#12 XHHW-2 CU GND IN 3/4" CONDUIT FROM PANELBOARD 'LP' TO FLOW METER REMOTE TRANSMITTER TRANSMITTER CABINET FOR 120V POWER, CIRCUIT LP-19.
- 9 CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "FLOW RATE".
- CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "UP STREAM WET WELL LEVEL".
- CONTRACTOR TO PROVIDE AND INSTALL NEW LEGEND PLATE, "DOWN STREAM WET WELL LEVEL".
- CONTRACTOR TO PROVIDE AND INSTALL NEW PRECISION DIGITAL PROCESS METER, MODEL PD765-6X2-00, TRIDENT X2 LARGE DISPLAY



PROPOSED FLOW METER REMOTE TRANSMITTER CABINET **WIRING DIAGRAM**



PROPOSED FLOW METER DETAILS

07-	-26–18 No	. DATE	REVISIONS	DES:
	3			DRN:
	2			CKD:
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE: 7/

T.D.T. T.D.T. /25/18

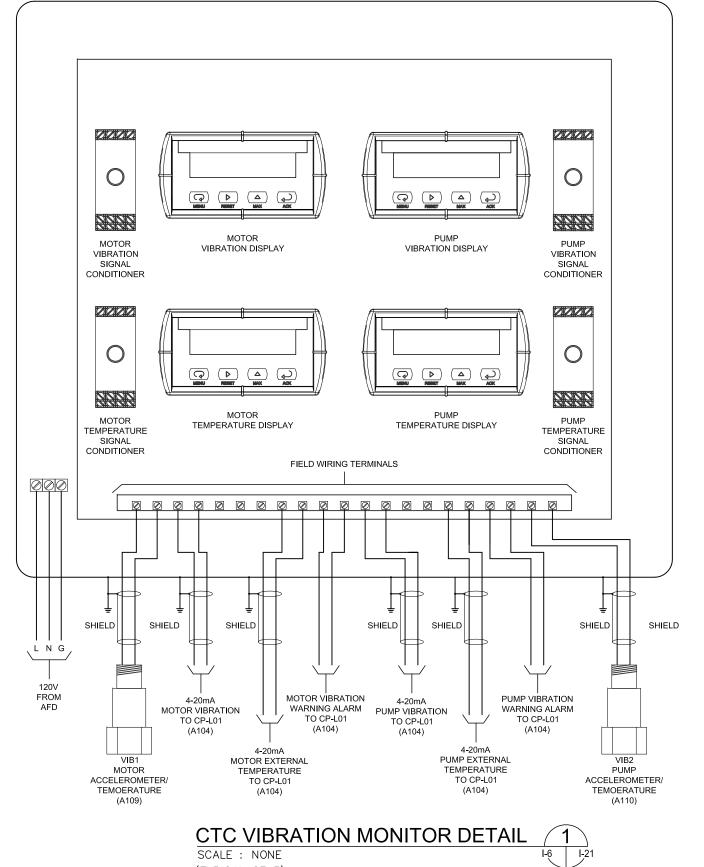
CITY of TAMPA WASTEWATER DEPARTMENT

CONTROL PANEL

'CP-L01'.

FLOW METER REMOTE TRANSMITTER **DETAILS**

SHEET



GENERAL NOTES:

CONDUITS NOTED (A104, A109 AND A110) PERTAIN TO PUMP NO. 1 ONLY. REFER TO CONDUIT SCHEDULE ON SHEET E-49 FOR CONDUIT REQUIRED FOR PUMPS NO. 2 AND NO. 3.

(TYPICAL OF 3)



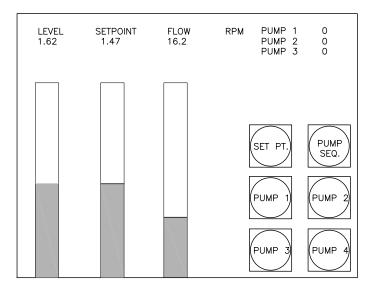


07-26-18	No.	DATE	REVISIONS	DES:	T.D.T.
	3			DRN:	J.L.H.
	2			CKD:	T.D.T.
TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079	1			DATE:	7/25/18

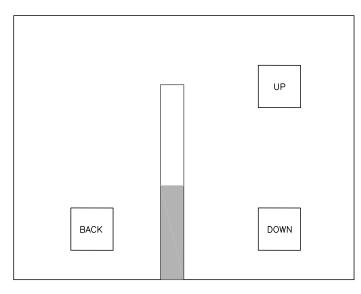
CITY of TAMPA WASTEWATER DEPARTMENT

PUMP NO. I CTC VIBRATION MONITOR DETAILS (TYPICAL OF 3)

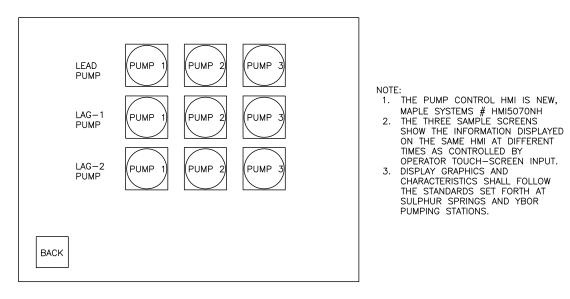
SHEET



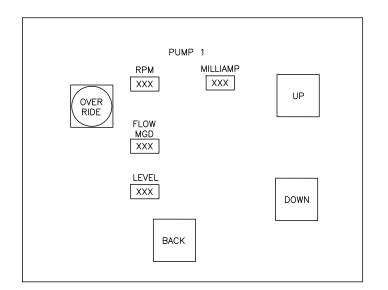
PROP. PUMP CONTROL- HOME SCREEN



PROP. PUMP CONTROL-SETPOINT SCREEN



PROP. PUMP CONTROL-PUMP SEQUENCE SCREEN



PROP. PUMP CONTROL-OVERRIDE SCREEN



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CITY of TAMPA WASTEWATER DEPARTMENT

PROPOSED SAMPLE PUMP CONTROL SCREENS

TIMES AS CONTROLLED BY OPERATOR TOUCH-SCREEN INPUT.

PUMPING STATIONS.

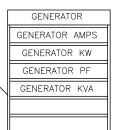
SHEET

STOPPED RUNNING STOPPED STOPPED MAIN "A" CLOSED 0.0 % SPEED 67.8 % SPEED 0.0 % SPEED 0.0 % SPEED MAIN "B" CLOSED 0.0 KW 97.3 KW 0.0 KW 0.0 KW TIE OPENED 0.0 AMPS 146 AMPS 0.0 AMPS 0.0 AMPS MAIN "A" AMPS FAIL TO START FAIL TO START FAIL TO START FAIL TO START MAIN "B" AMPS AFD READY AFD READY AFD NOT READY AFD READY MAIN "A" KW W.W. UPSTREAM HIGH WARNING P#2 FAILED TO START P#3 MOTOR VIBRATION W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#2 AFD FAIL P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 AFD FAIL P#1 AFD FAIL P#2 PUMP VIBRATION P#4 MOTOR TEMP ALARM P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR TEMP ALARM P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR TEMP ALARM P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#1 DISH. VALVE FAIL TO CLOSE P#2 PUMP VIBRATION P#4 AFD FAIL P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#1 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP TEMPERATURE P#1 PUMP TEMPERATURE P#3 AFD FAIL	PUMP #1	PUMP #	# 2	PUMP #3	Pl	JMP #4	SWITCHGEAR
0.0 KW 97.3 KW 0.0 KW 0.0 KW TIE OPENED 0.0 AMPS 146 AMPS 0.0 AMPS 0.0 AMPS MAIN "A" AMPS FAIL TO START FAIL TO START FAIL TO START FAIL TO START MAIN "B" AMPS AFD READY AFD READY AFD NOT READY AFD READY MAIN "A" KW W.W. UPSTREAM HIGH WARNING P#2 FAILED TO START P#3 MOTOR VIBRATION W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#2 AFD FAIL P#4 FAILED TO START P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#3 PUMP VIBRATION P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#3 PUMP VIBRATION P#4 AFD FAIL P#1 AFD FAIL P#2 PUMP TEMPERATURE P#4 MOTOR VIBRATION P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#1 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP TEMPERATURE P#1 PUMP TEMPERATURE P#3 AFD FAIL	STOPPED RUNNIN		IG	STOPPED	S.	TOPPED	MAIN "A" CLOSED
0.0 AMPS 146 AMPS 0.0 AMPS 0.0 AMPS MAIN "A" AMPS FAIL TO START FAIL TO START FAIL TO START FAIL TO START MAIN "B" AMPS AFD READY AFD READY AFD NOT READY AFD READY MAIN "A" KW W.W. UPSTREAM HIGH WARNING P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#2 AFD FAIL P#4 FAILED TO START P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#1 DISH. VALVE FAIL TO CLOSE P#2 PUMP VIBRATION P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 MOTOR VIBRATION P#4 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#4 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#4 PUMP VIBRATION P#4 PUMP VIBRATION P#4 PUMP TEMPERATURE P#4 PUMP TEMPERATURE	0.0 % SPEED 67.8 % SI		PEED	0.0 % SPEED	0.0	% SPEED	MAIN "B" CLOSED
FAIL TO START FAIL TO START FAIL TO START FAIL TO START MAIN "B" AMPS AFD READY AFD READY AFD NOT READY AFD READY MAIN "A" KW W.W. UPSTREAM HIGH WARNING P#2 FAILED TO START P#3 MOTOR VIBRATION W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#2 AFD FAIL P#4 FAILED TO START P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#1 DISH. VALVE FAIL TO CLOSE P#2 PUMP VIBRATION P#4 AFD FAIL P#1 AFD FAIL P#2 PUMP TEMPERATURE P#4 MOTOR TEMP ALARM P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#1 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP TEMPERATURE P#1 PUMP TEMPERATURE P#3 AFD FAIL	0.0 KW 97.3 K		W	0.0 KW	C).0 KW	TIE OPENED
AFD READY AFD READY AFD NOT READY AFD NOT READY AFD READY MAIN "A" KW W.W. UPSTREAM HIGH WARNING P#2 FAILED TO START W.W. UPSTREAM HIGH ALARM W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 FAILED TO START P#4 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#3 PUMP VIBRATION P#4 AFD FAIL P#4 AFD FAIL P#4 MOTOR TEMP ALARM P#4 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#4 MOTOR VIBRATION P#4 MOTOR VIBRATION P#4 MOTOR VIBRATION P#4 PUMP VIBRATION P#4 PUMP VIBRATION P#4 PUMP TEMPERATURE P#4 PUMP TEMPERATURE	0.0 AMPS 146 AM		PS	0.0 AMPS	0.	0 AMPS	MAIN "A" AMPS
W.W. UPSTREAM HIGH WARNING P#2 FAILED TO START P#3 MOTOR VIBRATION W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#2 AFD FAIL P#4 FAILED TO START P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#1 DISH. VALVE FAIL TO OPEN P#2 MOTOR VIBRATION P#4 DISH. VALVE FAIL TO CLOSE P#1 DISH. VALVE FAIL TO CLOSE P#2 PUMP VIBRATION P#4 AFD FAIL P#1 AFD FAIL P#2 PUMP TEMPERATURE P#1 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#1 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#1 PUMP VIBRATION P#3 DISH. VALVE FAIL TO CLOSE P#4 PUMP TEMPERATURE P#1 PUMP TEMPERATURE P#3 AFD FAIL	FAIL TO START FAIL TO S		TART	FAIL TO START	FAIL	TO START	MAIN "B" AMPS
W.W. UPSTREAM HIGH ALARM P#2 DISH. VALVE FAIL TO OPEN P#3 PUMP VIBRATION W.W. DWNSTREAM LOW WARNING P#2 DISH. VALVE FAIL TO CLOSE P#3 PUMP TEMPERATURE BUBBLER CNTRL PWR FAIL P#1 FAILED TO START P#2 MOTOR TEMP ALARM P#4 DISH. VALVE FAIL TO OPEN P#4 DISH. VALVE FAIL TO OPEN P#4 DISH. VALVE FAIL TO OPEN P#4 DISH. VALVE FAIL TO CLOSE P#4 AFD FAIL P#4 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR TEMP ALARM P#3 FAILED TO START P#4 MOTOR VIBRATION P#3 DISH. VALVE FAIL TO OPEN P#4 PUMP VIBRATION P#4 PUMP VIBRATION P#4 PUMP TEMPERATURE P#4 PUMP TEMPERATURE	AFD READY	AFD REA	ADY	AFD NOT READY	AFI	D READY	MAIN "A" KW
P#3 MOTOR TEMP ALARM WASTEWATER FLOW MGD	W.W. UPSTREAM HIG W.W. DWNSTREAM LC BUBBLER CNTRL PW P#1 FAILED TO STAI P#1 DISH. VALVE FA P#1 DISH. VALVE FA P#1 AFD FAIL P#1 MOTOR TEMP A P#1 MOTOR VIBRATIO P#1 PUMP VIBRATIO	H ALARM DW WARNING R FAIL RT AIL TO OPEN MIL TO CLOSE LARM DN N NTURE	P#2 DI: P#2 AF P#2 MC P#2 MC P#2 PL P#3 FA P#3 DI P#3 AF	SH. VALVE FAIL TO SH. VALVE FAIL TO SH. VALVE FAIL TO TO FAIL OTOR TEMP ALARM OTOR VIBRATION JMP VIBRATION JMP TEMPERATURE NILED TO START ISH. VALVE FAIL TO SH. VALVE FAIL TO TO FAIL	OPEN CLOSE OPEN	P#3 PUMP P#4 FAILED P#4 DISH. \ P#4 AFD FA P#4 MOTOR P#4 PUMP P#4 PUMP	VIBRATION TEMPERATURE TO START VALVE FAIL TO OPEN VALVE FAIL TO CLOSE IL TEMP ALARM VIBRATION VIBRATION TEMPERATURE

<u>PROPOSED</u>	ANNUNCIATOR	SAMPLE	SCREEN	1

PUMP #1 PUMP #		#2	PUMP #3		JMP #4	SWITCHGEAR
STOPPED RUNNIN		NG	STOPPED	STOPPED		MAIN "A" KW
0.0 % SPEED 67.8 % SF		SPEED	0.0 % SPEED	0.0	% SPEED	MAIN "B" KW
0.0 KW	0.0 KW 97.3 K		0.0 KW	().0 KW	MAIN "A" PF
0.0 AMPS 146 AM		MPS	0.0 AMPS	0.	0 AMPS	MAIN "B" PF
FAIL TO START	FAIL TO	START	FAIL TO START	FAIL	TO START	MAIN "A" KVA
AFD READY	AFD RE	ADY	AFD NOT READY	AF	D READY	MAIN "B" KVA
LIGHTING ATS ON BULIGHTING ATS ON BULIGHTING ATS ON BULIGHTING ATS ON BULIGHT AND AUTOMATICAL		RAKE F BAR-SO GEN DI GEN DI GENERA	CTOR RUNNING RUNNING CREEN FAULT ESEL TANK LOW ESEL TANK HIGH ATOR RUNNING ESEL TANK LEVEL			

PROPOSED ANNUNCIATOR SAMPLE SCREEN 2



ADDITIONAL GENERATOR

- NOTE:

 1. THE NEW ANNUNCIATOR HMI SHALL BE A MAPLE SYSTEMS # HMI5150P.

 2. SCREEN 1 AND SCREEN 2 SHOWS THE INFORMATION DISPLAYED ON THE SAME HMI AT DIFFERENT TIMES AS CONTROLLED BY OPERATOR TOUCH—SCREEN INPUT.

 3. DISPLAY GRAPHICS AND CHARACTERISTICS SHALL FOLLOW THE STANDARDS SET FORTH AT SULPHUR SPRINGS AND YBOR PUMPING STATIONS.



07-26-18 No. DATE REVISIONS DES: T.D.T. DRN: J.L.H. CKD: T.D.T. TIMOTHY THOMAS, PE FLORIDA LICENSE PE 47079 DATE: 7/25/18

CITY of TAMPA WASTEWATER DEPARTMENT

PROPOSED SAMPLE ANNUNCIATOR SCREENS SHEET