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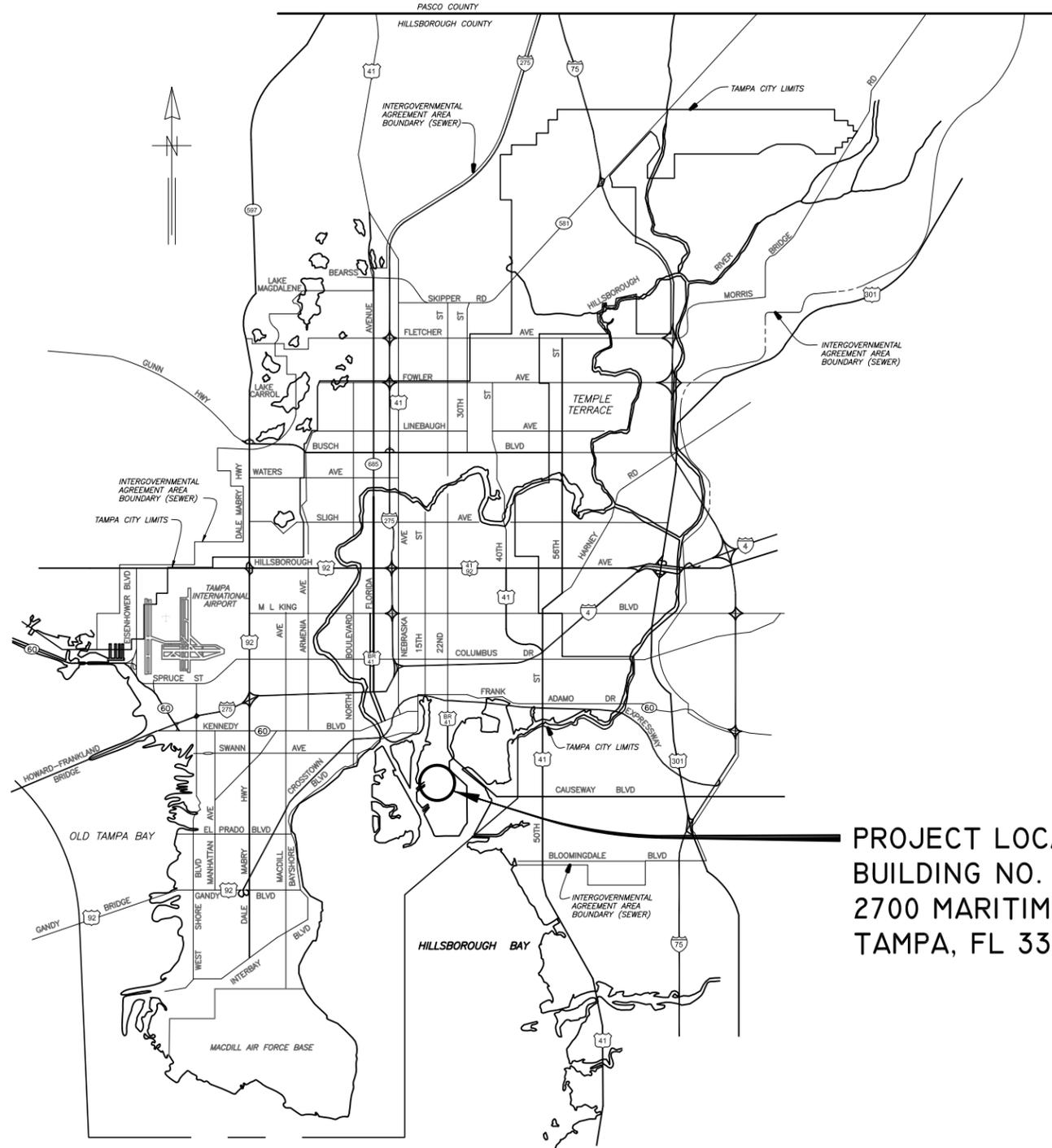
**Please Email ALL Questions:**

**[MailTo:ContractAdministration@TampaGov.net](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

LOCATION MAP



PROJECT LOCATION  
BUILDING NO. 15  
2700 MARITIME BLVD.  
TAMPA, FL 33605

PLANS

FOR

CITY OF TAMPA FLORIDA  
WASTEWATER DEPARTMENT

FOR

THE CONSTRUCTION OF THE

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

CONTRACT: 17-C-00027

MARCH 2018



**TRICON**  
CONSULTING ENGINEERS

777 S. Harbour Island Blvd,  
Suite 250  
Tampa, FL 33602  
813.227.9190  
Certificate of Authorization No. 8363

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**GENERAL NOTES**

THE WORK CONSIST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND TECHNICAL SUPERVISION TO INSTALL NEW MOTOR CONTROL CENTER 59 (MCC-59) AND MOTOR CONTROL CENTER 59A (MCC-59A) AS INDICATED AND SHOWN. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
- ALL WIRING SHALL BE IDENTIFIED WITH NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
- FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
- ALL NEW EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED WITH A BLACK ON WHITE LAMACOID TAG ENGRAVED WITH MINIMUM 3/16 INCH LETTERING.
- ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
- ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
- REPLACE THE EXISTING MCC-59 AND MCC-59A AS SHOWN AND SPECIFIED.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2017, 6TH EDITION, THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SERIES 70/NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
- TEST AND START-UP REPORTS FOR THE PROPOSED SWITCHGEAR SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE (O&M) MANUALS PROVIDED UNDER THIS CONTRACT. ALL CIRCUIT BREAKER SETTINGS SHALL BE TABULATED AND INCLUDED IN THE O&M MANUAL.

**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 HFC AWTP FILTER BUILDING NO. 1, MCC-59 AND MCC-59A REPLACEMENT. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

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

**SPECIFICALLY:**

**A. DEMOLITION**

- PRIOR TO DEMOLITION, THE PROPOSED MOTOR CONTROL CENTERS SHALL BE ON SITE AND READY FOR INSTALLATION. TEMPORARY POWER SHALL BE AS DESCRIBED IN THE TEMPORARY POWER SEQUENCE OF WORK (SHOWN BELOW). THE CONTRACTOR SHALL SUPPLY AND INSTALL ANY AND ALL CONDUIT, CABLING, ETC. THAT MAY BE REQUIRED TO FACILITATE THE TEMPORARY POWER CONNECTIONS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CUT SHEETS DETAILING HIS TEMPORARY POWER SYSTEM PROPOSAL FOR ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING POWER AT ALL TIMES TO THE SAID FACILITIES AND PERFORMING ALL ASSOCIATED MAINTENANCE FUNCTIONS. IF DURING HIS PRECONSTRUCTION INVESTIGATION, THE CONTRACTOR UNCOVERS AN ALTERNATE METHOD FOR SUPPLYING TEMPORARY POWER TO ALL, OR PART OF, THE REQUIRED LOADS; HE WILL NOTIFY THE ENGINEER, IN WRITING, THROUGH THE RFI PROCESS. AFTER ENGINEER'S PRELIMINARY APPROVAL, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CUT SHEETS FOR THE PROPOSED TEMPORARY POWER SYSTEM AS WELL AS THE AMOUNT OF CREDIT OFFERED TO THE CITY FOR FINAL APPROVAL.
- VERIFY EXISTING POWER CONNECTIONS IN THE FIELD PRIOR TO COMMENCING DEMOLITION WORK.
- REMOVE EXISTING MCC-59 AND MCC-59A AND PREPARE EXISTING CONCRETE PAD AS REQUIRED TO INSTALL THE NEW MOTOR CONTROL CENTERS.
- INSTALL MOTOR CONTROL CENTERS AND MAKE CABLE CONNECTIONS AS SHOWN.
- PERFORM A SHORT CIRCUIT AND COORDINATION STUDY AS DETAILED IN SECTION 16085 OF THESE SPECIFICATIONS. THE STUDY SHALL BE USED TO DETERMINE THE PROPER SETTINGS FOR THE MCC-59 AND MCC-59A CIRCUIT BREAKERS, ETC. THE SHORT CIRCUIT STUDY SHALL BE SIGNED, SEALED AND APPROVED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

**TEMPORARY POWER SEQUENCE OF WORK**

THE CONTRACTOR SHALL COORDINATE ALL REQUIRED OUTAGES/WORK WITH THE CITY OF TAMPA. PRIOR TO ANY OUTAGE, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE CITY OF TAMPA. THE REQUEST SHALL DETAIL THE NATURE OF THE OUTAGE, ALL EQUIPMENT AFFECTED BY THE OUTAGE, THE AMOUNT OF TIME REQUIRED FOR THE OUTAGE AND A CONTINGENCY PLAN FOR THE OUTAGE. THE OUTAGE REQUEST SHALL BE SUBMITTED TO THE CITY A MINIMUM OF 2 WEEKS PRIOR TO THE DATE OF THE REQUESTED OUTAGE. THE CONTRACTOR SHALL NOT BE ALLOWED TO INITIATE THE OUTAGE PRIOR TO RECEIVING WRITTEN APPROVAL FROM THE CITY OF TAMPA.

POWER OUTAGES WILL BE PERMITTED ONLY ON DAYS THAT BACKWASHING IS NOT SCHEDULED - THE CONTRACTOR SHALL COORDINATE THESE TIMES WITH THE CITY OF TAMPA.

THE SEQUENCE OF WORK FOR PROVIDING TEMPORARY POWER DURING THE INSTALLATION OF MCC-59 AND MCC-59A SHALL BE AS FOLLOWS:

- THE CONTRACTOR SHALL PROVIDE AND INSTALL THE PROPOSED TEMPORARY POWER AND CONTROL EQUIPMENT AS NOTED ON THE DRAWINGS.
- PROVIDE AND INSTALL TEMPORARY CONDUCTORS BETWEEN EXISTING MCC-58 AND MCC-59/MCC-59A TEMPORARY EQUIPMENT AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL MEGGER ALL TEMPORARY CABLES AFTER INSTALLATION.
- ONCE THE TEMPORARY EQUIPMENT HAS BEEN ENERGIZED AND TESTED, THE CONTRACTOR SHALL BEGIN THE TRANSFER OF POWER AND CONTROLS FROM INDIVIDUAL PIECES OF EQUIPMENT FROM THE MCC-59 OR MCC-59A SYSTEM TO THE TEMPORARY SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF TAMPA AS TO DATE/TIME OF TRANSFER AND EQUIPMENT TO BE TRANSFERRED. CONTRACTOR SHALL OPEN APPROPRIATE CIRCUIT BREAKERS AND PERFORM LOCK-OUT, TAG-OUT PROCEDURES.
- ONCE ALL COMPONENTS OF THE SYSTEM ARE ON THE TEMPORARY POWER/CONTROL SYSTEM EXISTING CONDUCTORS MAY BE REMOVED AND THE INSTALLATION OF MCC-59 AND MCC-59A MAY COMMENCE.
- ONCE THE PHYSICAL INSTALLATION OF MCC-59 AND MCC-59A IS COMPLETE (PRIOR TO BEING ENERGIZED), THE CONTRACTOR SHALL MEGGER ALL CONDUCTORS.
- ONCE TESTING IS COMPLETE AND MCC-59 AND MCC-59A HAVE BEEN ACCEPTED BY THE CITY, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY CONDUIT AND CONDUCTORS. CONTRACTOR SHALL PLUG ANY OPENING CREATED FOR TEMPORARY CONDUIT.



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DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

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**City of Tampa Wastewater Department**

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**INDEX, SCHEDULES AND  
GENERAL NOTES**

SHEET NUMBER

2

TIMOTHY THOMAS, P.E. No. 47079

FILE: 171700842E01

TEMPORARY POWER SEQUENCE OF WORK (CONTINUED):

THE CONTRACTOR SHALL COORDINATE ALL REQUIRED OUTAGES/WORK WITH THE CITY OF TAMPA. PRIOR TO ANY OUTAGE, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE CITY OF TAMPA. THE REQUEST SHALL DETAIL THE NATURE OF THE OUTAGE, ALL EQUIPMENT AFFECTED BY THE OUTAGE, THE AMOUNT OF TIME REQUIRED FOR THE OUTAGE AND A CONTINGENCY PLAN FOR THE OUTAGE. THE OUTAGE REQUEST SHALL BE SUBMITTED TO THE CITY A MINIMUM OF 2 WEEKS PRIOR TO THE DATE OF THE REQUESTED OUTAGE. THE CONTRACTOR SHALL NOT BE ALLOWED TO INITIATE THE OUTAGE PRIOR TO RECEIVING WRITTEN APPROVAL FROM THE CITY OF TAMPA.

THE SEQUENCE OF WORK FOR PROVIDING TEMPORARY POWER DURING THE INSTALLATION OF MCC-59 AND MCC-59A SHALL BE AS FOLLOWS:

1. FOR EACH OF THE STEPS IDENTIFIED BELOW, THE CONTRACTOR SHALL SUBMIT TO THE CITY OF TAMPA, IN WRITING, A REQUEST TO COMMENCE WITH THE PROCEDURE. THE CONTRACTOR SHALL NOT BEGIN ANY OF THE PROCEDURES LISTED BELOW WITHOUT WRITTEN AUTHORIZATION FROM THE CITY OF TAMPA.
2. PROVIDE AND INSTALL BOTH TEMPORARY MOTOR CONTROL CENTERS, TEMPORARY 15 KVA TRANSFORMER AND TEMPORARY PANELBOARD 'PP'. THIS SHALL INCLUDE ALL CABLE TRAY AND ASSOCIATED CABLES TO BE UTILIZED SOLELY BETWEEN THE TEMPORARY POWER EQUIPMENT (EXISTING MCC-58 TO TEMPORARY MCC-59, TEMPORARY MCC-59 TO TEMPORARY MCC-59A, TEMPORARY MCC-59A TO TEMPORARY PANELBOARD 'PP'). THE CONTRACTOR SHALL MEGGER ALL TEMPORARY CABLES AFTER INSTALLATION.
3. INSTALL (AS COMPLETE AS POSSIBLE) EITHER TEMPORARY FEEDER 59T17 OR 59T17A (BASED ON EASE OF INSTALLATION). OPEN ASSOCIATED FEEDER CIRCUIT BREAKERS IN MCC-59 AND MCC-59B AND REMOVE EXISTING FEEDER CONDUCTORS. COMPLETE INSTALLATION OF TEMPORARY FEEDER. ONCE THIS EFFORT IS COMPLETED MIMIC PROCESS FOR OTHER BUS AND FEEDER.
4. UTILIZING TEMPORARY CABLE TRAY AND EXISTING CONDUIT TRAPEZE SUPPORTS, FIELD ROUTE TEMPORARY CABLES FROM TEMPORARY MCC-59 AND TEMPORARY MCC-59A TO ASSOCIATED DEVICES.
5. FOR ALL TEMPORARY CABLE INSTALLATIONS, THE TRANSITION FROM THE PUMPS (LOCATED ON ELEVATION 3'-6") TO THE ASSOCIATED TEMPORARY PANELBOARDS AND TEMPORARY MOTOR CONTROL PANELS (LOCATED ON ELEVATION 11'-0") SHALL BE VIA THE OPENING IN THE ELEVATION 11'-0" FLOOR SLAB (REFER TO DRAWINGS). ALL TEMPORARY CABLES SHALL BE SECURED TO CONDUIT TRAPEZE SUPPORT SYSTEM, HANDRAILS, OR OTHER MEANS AS APPROVED BY THE CITY OF TAMPA.
6. AT NO TIME SHALL MORE THAN ONE (1) PUMP BE REMOVED FROM SERVICE IN ORDER TO INSTALL TEMPORARY CONNECTIONS. TEMPORARY CONNECTIONS TO PUMP MOTORS SHALL NOT BE MADE CONCURRENTLY.
7. AFTER SUCCESSFUL MEGGER TESTS ON BOTH TEMPORARY POWER AND CONTROL CABLES, CLOSE THE ASSOCIATED TEMPORARY MCC CIRCUIT BREAKER AND TEST MOTOR FOR PROPER OPERATION.
8. AFTER ALL MOTORS AND DEVICES ARE ON TEMPORARY POWER, OPEN THE CIRCUIT BREAKERS IN SWITCHGEAR 56 WHICH FEED MCC-59 BUS 1 AND MCC-59 BUS 2. LOCKOUT CIRCUIT BREAKERS. REMOVE THE ASSOCIATED FEEDER CONDUCTORS.
9. DISCONNECT CONDUCTORS FROM ASSOCIATED CIRCUIT BREAKERS/STARTERS WITHIN MCC-59. REMOVE EXISTING MCC-59 AND CONDUCTORS.
10. DISCONNECT CONDUCTORS FROM ASSOCIATED CIRCUIT BREAKERS/STARTERS WITHIN MCC-59A. REMOVE EXISTING MCC-59A AND CONDUCTORS.
11. NEW CONDUCTORS SHALL BE INSTALLED AND MEGGER TESTED. THE ORDER OF THE TEMPORARY CONNECTION PROCESSES SHALL BE REVERSED WITH EACH TEMPORARY CONNECTION BEING REPLACED IN KIND WITH THE PROPOSED PERMANENT CONNECTION. THEREFORE, THE LAST PERMANENT CONNECTIONS TO BE MADE SHALL BE THE MCC-59 BUS 1 AND MCC-59 BUS 2 FEEDERS FROM SWITCHBOARD 56. THIS SHALL ALLOW FOR POWER TO TEMPORARY MCC-59 AND TEMPORARY MCC-59A TO BE THE LAST TEMPORARY CONNECTION.
12. ONCE THE PHYSICAL INSTALLATION OF THE NEW MCC-59 AND MCC-59A IS COMPLETE, ALL NEW FEEDER CONDUCTORS HAVE BEEN INSTALLED AND ALL TESTS HAVE BEEN ACCEPTED/APPROVED, THE CONTRACTOR SHALL REMOVE THE ASSOCIATED LOCKS ON THE CIRCUIT BREAKERS IN SWITCHGEAR 56 AND THEN CLOSE THE CIRCUIT BREAKERS. THE CONTRACTOR SHALL THEN CLOSE MCC-59'S MAIN CIRCUIT BREAKER BUS 1 AND MAIN CIRCUIT BREAKER BUS 2. FOLLOWING, THE CONTRACTOR SHALL CLOSE MCC-59'S FEEDER CIRCUIT BREAKERS TO MCC-59A AND ASSOCIATED MCC-59A MAIN CIRCUIT BREAKERS.
13. ONCE TESTING IS COMPLETE AND BOTH MOTOR CONTROL CENTERS HAVE BEEN ACCEPTED BY THE CITY, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EQUIPMENT, CABLE TRAY, CONDUIT AND CONDUCTORS.

TEMPORARY CONDUIT SYSTEM NOTE:

TEMPORARY CONDUIT SYSTEMS NEED NOT BE SPECIFICATION GRADE. SCHEDULE 80 PVC CONDUIT MAY BE USED UNLESS EXPOSED TO POSSIBLE MECHANICAL DAMAGE - USE GALVANIZED STEEL RIGID CONDUIT IN THOSE LOCATIONS. THE CONTRACTOR HAS THE OPTION OF USING ALUMINUM OR GALVANIZED STEEL CABLE TRAY. ALTERNATE CORROSION RESISTANT MOUNTING HARDWARE (SCREWS, BOLTS, NUTS, WASHERS, ETC.) MAY BE USED IN LIEU OF 316 STAINLESS STEEL. CONSTRUCTION CHANNEL, TUBING, ETC. MAY BE GALVANIZED STEEL. THE TEMPORARY CONDUIT SYSTEM MUST BE TOTALLY REMOVED PRIOR TO CONTRACT CLOSE-OUT. ALL DAMAGED SURFACES MUST BE RESTORED AS NEAR TO ORIGINAL CONDITION AS POSSIBLE.



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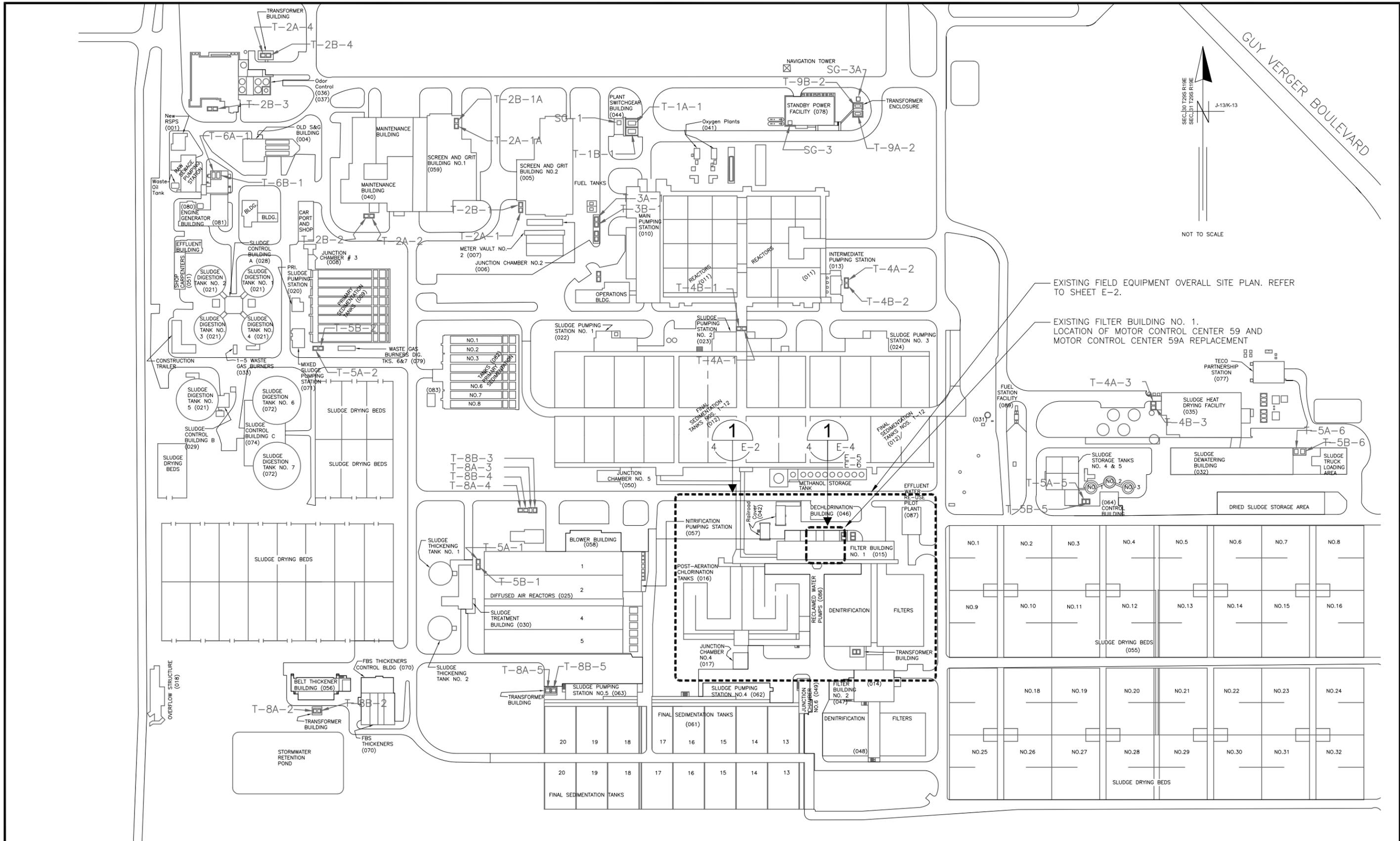
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HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**TEMPORARY POWER  
SEQUENCE OF WORK**

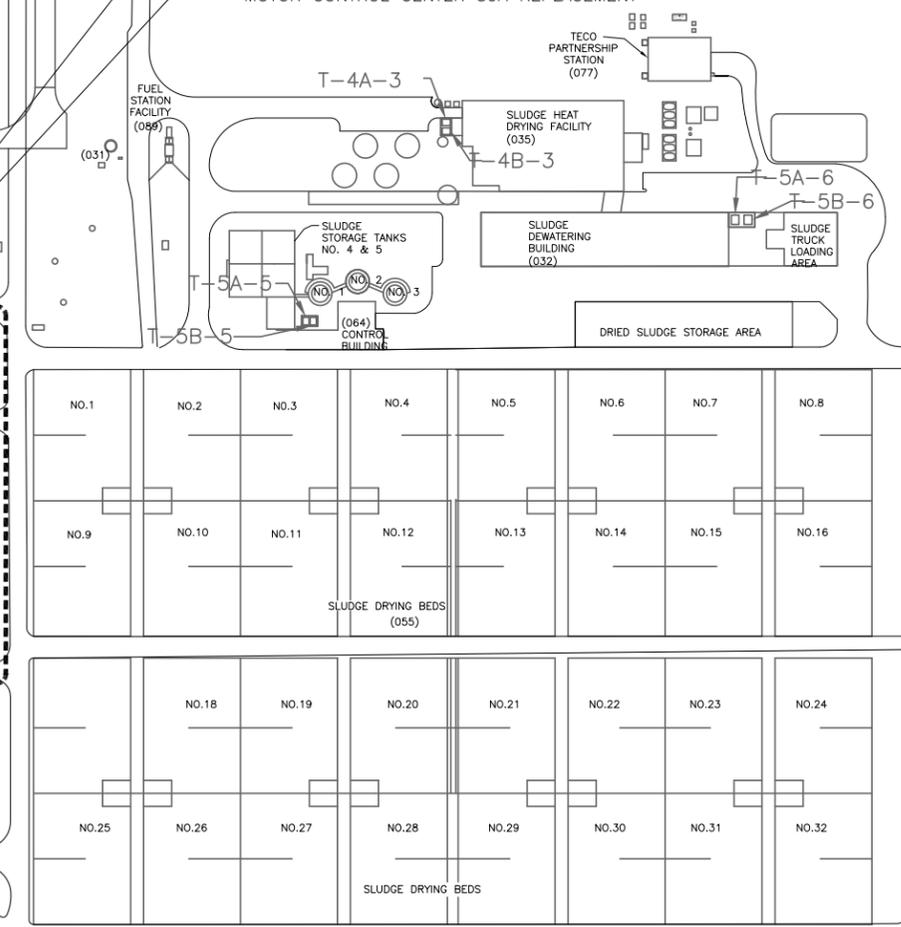
TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**3**  
FILE: 171700842E01



EXISTING FIELD EQUIPMENT OVERALL SITE PLAN. REFER TO SHEET E-2.

EXISTING FILTER BUILDING NO. 1. LOCATION OF MOTOR CONTROL CENTER 59 AND MOTOR CONTROL CENTER 59A REPLACEMENT



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City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

SITE PLAN FOR  
MCC-59 AND MCC-59A  
REPLACEMENT

SHEET NUMBER	4
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01

CONDUIT RUN EXPOSED  
 CONDUIT RUN CONCEALED UNDERGROUND  
 CONDUIT RUN CONCEALED IN FLOOR OR SLAB  
 GROUNDING ELECTRODE CONDUCTOR

CONDUIT STUB OUT AND CAP  
 GROUND ROD  
 JUNCTION BOX  
 JUNCTION BOX WITH FLEXIBLE CONNECTION

TRANSFORMER, 480V INDICATED PRIMARY VOLTAGE, 120/240V INDICATES SECONDARY VOLTAGE, 15 KVA REPRESENTS POWER RATING, AND 1\* INDICATES SINGLE PHASE (THREE PHASE IF NOT INDICATED)

THERMAL MAGNETIC CIRCUIT BREAKER WITH NUMBER OF POLES AND AMPERE RATING  
 3P 30A

COMBINATION MAGNETIC STARTER WITH CONTROL POWER TRANSFORMER (SIZED FOR LOAD). LETTERS INDICATE TYPE:  
 N - NON-REVERSING  
 R - REVERSING  
 2S - TWO-SPEED  
 C - CONTACTOR  
 SS - SOLID STATE SOFT START

XXX	XXX_DEVICE	DESCRIPTION
HLS		HIGH LEVEL SWITCH
HOA		HAND-OFF-AUTO
LD		LEAK DETECTION
LLS		LOW LEVEL SWITCH
LOR		LOCAL-OFF-REMOTE
PB		PUSH BUTTON
RTU		REMOTE TERMINAL UNIT
SS		SOFT STARTER
SS/B		SOFT START OR BYPASS
TS		TEMPERATURE SWITCH
TVSS		TRANSIENT VOLTAGE SURGE SUPPRESSOR
ZS		POSITION SENSOR (LIMIT SWITCH)

FUSE  
 MOTOR  
 THERMAL OVERLOAD

UTILITY METER

TRANSFER SWITCH

ELECTRIC PANELBOARD

DISCONNECT OR SAFETY SWITCH

FLOAT SWITCH. OPENS ON LOW LEVEL.

FLOAT SWITCH. CLOSSES ON LOW LEVEL.

NORMALLY OPEN (N.O.) CONTACT

NORMALLY CLOSED (N.C.) CONTACT

GROUND CONNECTION

INDICATING PILOT LIGHT LETTER INDICATES COLOR OF LENS  
 R = RED  
 A = AMBER

DISCONNECT OR TOGGLE SWITCH

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 OF ELECTRICAL CONTACTS ON SWITCH SHOWN ON CONTROL SCHEMATIC

LIMIT SWITCH NORMALLY CLOSED CONTACT. CONTACT OPENS WHEN ACTUATED

TORQUE SWITCH NORMALLY CLOSED CONTACT. CONTACT OPENS WHEN ACTUATED

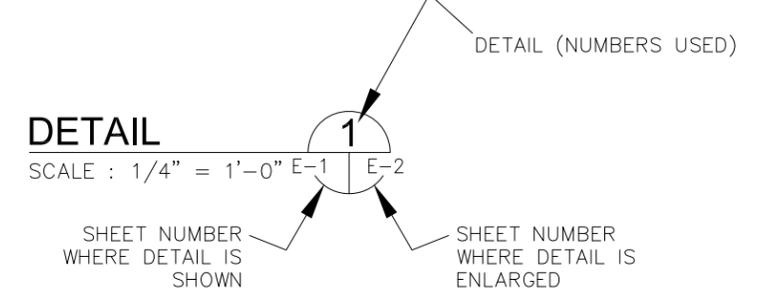
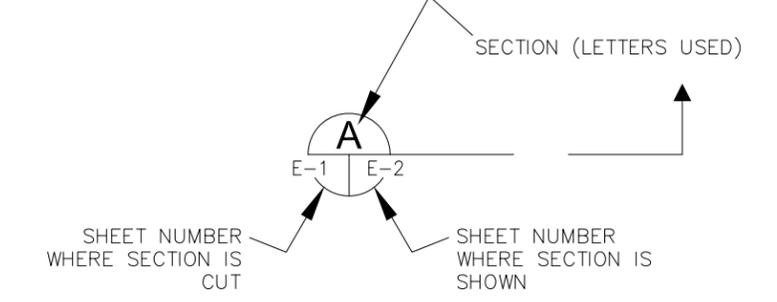
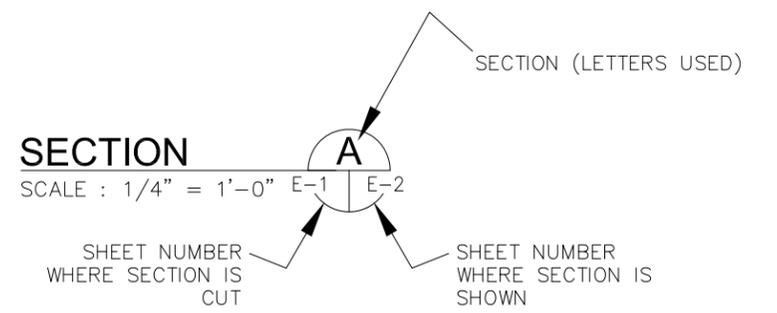
PUMP THERMAL SENSOR

SOLID STATE TRIP UNIT WITH FUNCTIONS NOTED:  
 50 INSTANTANEOUS TRIP  
 51 TIME DELAY TRIP  
 51G GROUND FAULT TRIP

**ABBREVIATIONS:**

4C	4 CONDUCTOR
A	AMPS
AF	AMPERE FRAME
AM	AMMETER
AT	AMPERE TRIP
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATL	ACROSS-THE-LINE
C	CONDUIT
CLF	CURRENT LIMITING FUSE
CONT STA	CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
EO	ELECTRICALLY OPERATED
ELEC	ELECTRICAL
ETM	ELAPSED TIME METER
EX	EXISTING
EXP	EXPLOSION PROOF
FU	FUSE
GFI	GROUND FAULT INTERRUPTER
GND	GROUNDING CONDUCTOR
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
KI	KIRK-KEY INTERLOCK
KVA	KILOVOLT AMPERES
KW	KILOWATTS
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PB	PUSHBUTTON
PH	PHASE
PM	POWER MONITOR
RECP	RECEPTACLE
RPM	REVOLUTIONS PER MINUTE
RTU	REMOTE TERMINAL UNIT
RVSS	REDUCED VOLTAGE SOFT STARTER
SPD	SURGE PROTECTION DEVICE
TYP	TYPICAL
V	VOLTS
W	WIRE
WP	WEATHERPROOF

**EXAMPLE OF SECTION CUT AND DETAIL**



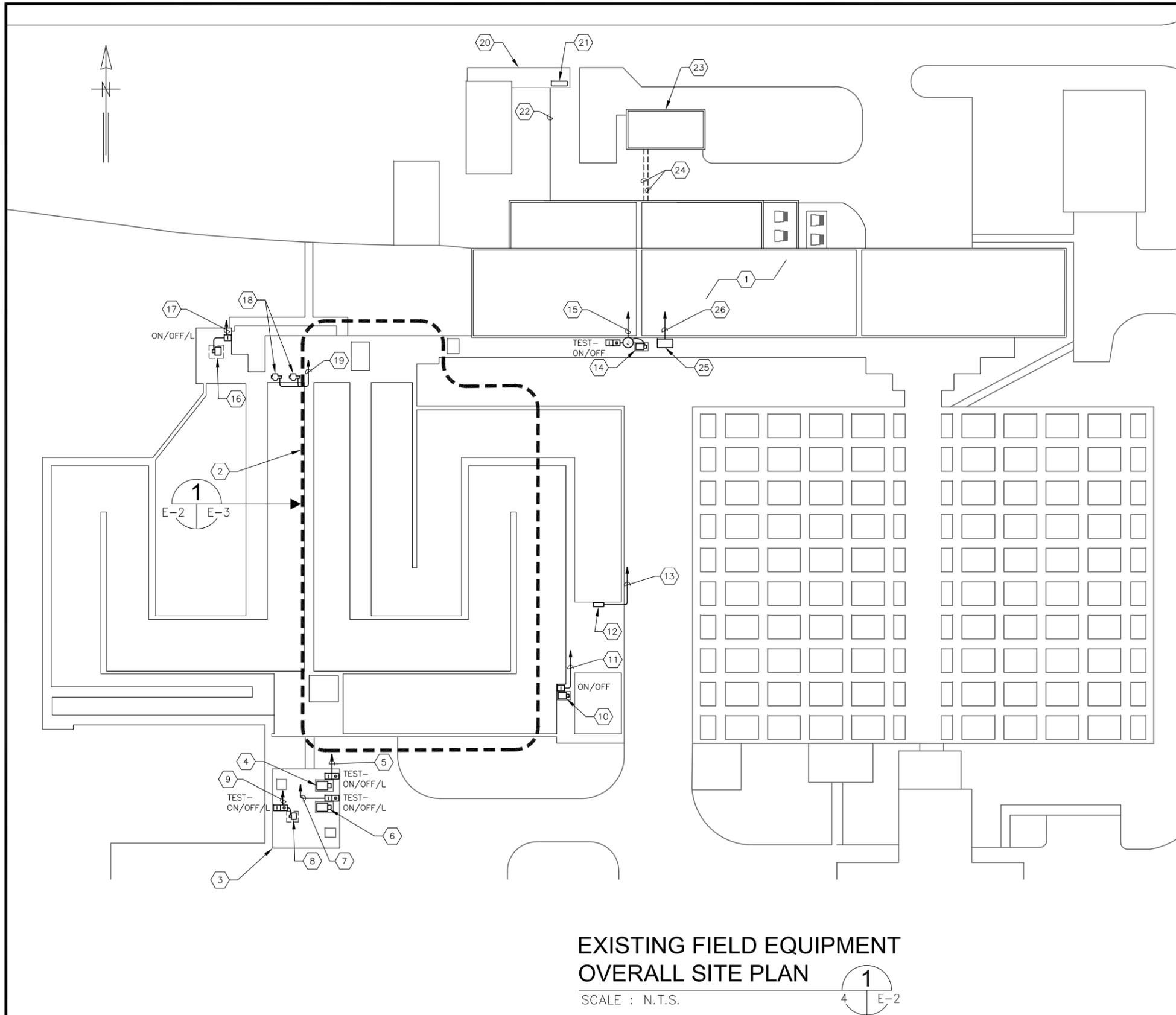
	EXISTING THEROMSTAT		EXISTING WELDING OUTLET
	SINGLE POLE SWITCH		PRESSURE SWITCH
	JUNCTION BOX		PRESSURE SWITCH
	JUNCTION BOX		SEAL WATER SOLENOID
	EMERGENCY LIGHT		SEAL WATER SOLENOID
	ON/OFF SWITCH IN SINGLE DEVICE JUNCTION BOX 'L' INDICATES ON/OFF SWITCH INCLUDES MECHANICAL LOCKOUT DEVICE		
	ON/OFF SWITCH WITH TEST PUSHBUTTON IN TWO DEVICE JUNCTION BOX 'L' INDICATES ON/OFF SWITCH INCLUDES MECHANICAL LOCKOUT DEVICE		
	TEST/ON/OFF PUSHBUTTON STATION IN THREE DEVICE JUNCTION BOX 'L' INDICATES STATION INCLUDES MECHANICAL LOCKOUT DEVICE		

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**ELECTRICAL LEGEND AND ABBREVIATIONS**



**KEYED NOTES:**

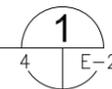
- ① EXISTING FILTER BUILDING NO. 1. REFER TO SHEETS E-4, E-5 AND E-6.
- ② EXISTING POST AERATION AND CHLORINATION TANKS. REFER TO SHEET E-3 FOR WORK REQUIRED.
- ③ EXISTING JUNCTION CHAMBER NO. 4.
- ④ EXISTING 480V, 3 $\phi$ , 10 HP MECHANICAL MIXER, JC-4-MM-1.
- ⑤ EXISTING CONDUIT AND CONDUCTORS 59M39 AND 59M39A.
- ⑥ EXISTING 480V, 3 $\phi$ , 10 HP MECHANICAL MIXER, JC-4-MM-2.
- ⑦ EXISTING CONDUIT AND CONDUCTORS 59M40 AND 59M40A.
- ⑧ EXISTING 480V, 3 $\phi$ , 1 HP SAMPLE PUMP JC-4-SSP-1 (IN WET WELL).
- ⑨ EXISTING CONDUIT AND CONDUCTORS 59M36.
- ⑩ EXISTING 480V, 3 $\phi$ , 1 HP SAMPLE PUMP: PRE-SULFONATED NO. 1 SAMPLE PUMP (REUSE ISLAND).
- ⑪ EXISTING CONDUIT AND CONDUCTORS 59M45, 59M45A AND 59M45B.
- ⑫ EXISTING 277/480V, 3 $\phi$ , PANELBOARD 'PNL-1'. PANELBOARD CURRENTLY FEEDS SLUICE GATES SG-13, SG-14, SG-15 AND SG-16.
- ⑬ EXISTING CONDUIT AND CONDUCTORS 59M34.
- ⑭ EXISTING 480V, 3 $\phi$ , 1 HP SAMPLE PUMP FB-SSP-5.
- ⑮ EXISTING CONDUIT AND CONDUCTORS 59M38.
- ⑯ EXISTING 480V, 3 $\phi$ , 20 HP DEWATERING PUMP SA-DP-1.
- ⑰ EXISTING CONDUIT AND CONDUCTORS 59M41.
- ⑱ EXISTING 480V, 3 $\phi$ , SLUICE GATE: CA-SG-5 AND CA-SG-6.
- ⑲ EXISTING CONDUIT AND CONDUCTORS 59M35.
- ⑳ EXISTING METHANOL CHEMICAL HANDLING EQUIPMENT PLATFORM (CHEP).
- ㉑ APPROXIMATE LOCATION OF EXISTING MCC-59B.
- ㉒ CURRENTLY, MCC-59B IS FED FROM MCC-59 VIA TWO (2) 480V FEEDERS (ONE FROM EACH BUS). ONE FEEDER EXITS MCC-59 OVERHEAD, TRAVELS THROUGH FILTER BUILDING NO. 1 (OVERHEAD), EXITS FILTER BUILDING NO. 1 ABOVEGROUND AND TRAVELS ACROSS TO CHEMICAL HANDLING EQUIPMENT PLATFORM VIA AN ELEVATED PIPE SUPPORT. THE GENERAL LOCATION OF THE PIPE SUPPORT IS IDENTIFIED BY THIS NOTE. REFER TO SHEET E-4 (59M17A) FOR CONDUIT ROUTING WITHIN FILTER BUILDING NO. 1. THE SECOND FEEDER EXITS THE BOTTOM OF MCC-59, TRAVELS THE ELEVATION 3'-6" LEVEL AND CONTINUES UNDERGROUND TO THE CHEMICAL HANDLING EQUIPMENT PLATFORM. THE EXACT ROUTING IS NOT KNOWN.
- ㉓ EXISTING DECHLORINATION BUILDING.
- ㉔ EXISTING CONDUIT TO BE REUSED WITH NEW CONDUCTORS PROVIDED. CONDUIT/CONDUCTORS SOURCE IS PANEL 'PP'. REFER TO NOTES ON SHEET E-5 AND E-20.
- ㉕ EXISTING FLOW METER TO REMAIN.
- ㉖ PROVIDE NEW CONDUIT AND CONDUCTORS (59M44) TO LB-53-SUB.

**GENERAL NOTES:**

1. ALL EXISTING INSTALLATIONS DENOTED ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUIT LOCATIONS, ROUTING AND DISTANCES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS.
3. NOT ALL CONDUIT FIELD ROUTING IS DEPICTED FOR CLARITY.

**EXISTING FIELD EQUIPMENT  
OVERALL SITE PLAN**

SCALE : N.T.S.



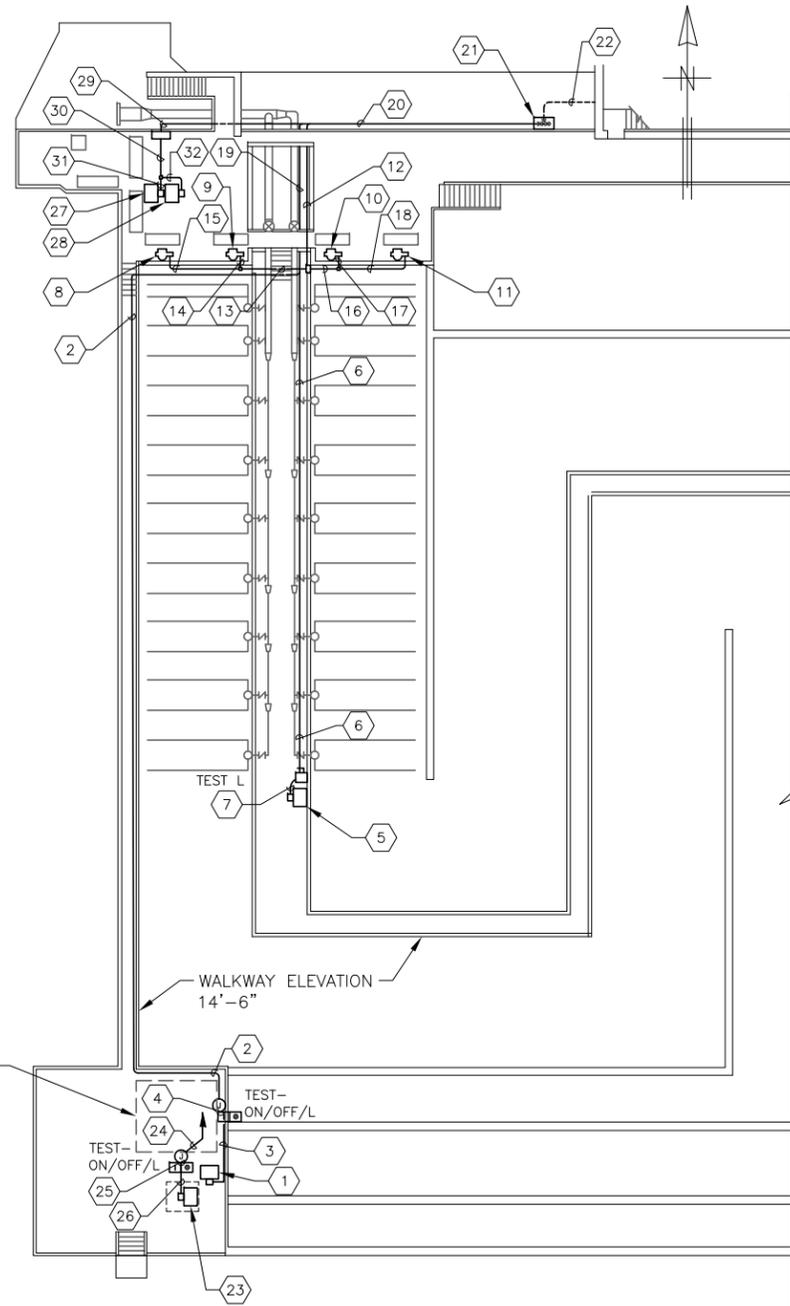
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HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

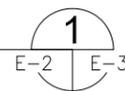
**EXISTING FIELD EQUIPMENT  
OVERALL SITE PLAN**

SHEET NUMBER	E-2
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



# POST AERATION AND CHLORINATION TANKS POWER PLAN

SCALE : N.T.S.



### KEYED NOTES:

- ① EXISTING 480V, 3Ø, 1 HP SAMPLE PUMP CA-SSP-1.
- ② EXISTING CONDUIT AND CONDUCTORS: 59M7.
- ③ EXISTING CONDUIT AND CONDUCTORS: 59M7A.
- ④ EXISTING CONDUIT AND CONDUCTORS: 59M7B.
- ⑤ EXISTING 480V, 3Ø, 1 HP SAMPLE PUMP CA-SSP-2.
- ⑥ EXISTING CONDUIT AND CONDUCTORS: 59M8.
- ⑦ EXISTING CONDUIT AND CONDUCTORS: 59M8A.
- ⑧ EXISTING 480V, 3Ø, SLUICE GATE: CA-SG-1.
- ⑨ EXISTING 480V, 3Ø, SLUICE GATE: CA-SG-2.
- ⑩ EXISTING 480V, 3Ø, SLUICE GATE: CA-SG-3.
- ⑪ EXISTING 480V, 3Ø, SLUICE GATE: CA-SG-4.
- ⑫ EXISTING CONDUIT AND CONDUCTORS: 59M5.
- ⑬ EXISTING CONDUIT AND CONDUCTORS: 59M5A.
- ⑭ EXISTING CONDUIT AND CONDUCTORS: 59M5B.
- ⑮ EXISTING CONDUIT AND CONDUCTORS: 59M5C.
- ⑯ EXISTING CONDUIT AND CONDUCTORS: 59M5D.
- ⑰ EXISTING CONDUIT AND CONDUCTORS: 59M5E.
- ⑱ EXISTING CONDUIT AND CONDUCTORS: 59M5F.
- ⑲ EXISTING CONDUIT AND CONDUCTORS: 59M7, 59M8 & 59N16. 59N16 REQUIRES NO WORK AND IS NOT LISTED IN THE CONDUIT AND CABLE SCHEDULES.
- ⑳ EXISTING CONDUIT AND CONDUCTORS: 59M5, 59M7, 59M8, 59M46 & 59N16. 59N16 REQUIRES NO WORK AND IS NOT LISTED IN THE CONDUIT AND CABLE SCHEDULES.
- ㉑ EXISTING WALL MOUNTED PARTITIONED PULLBOX OF NEMA 4 CONSTRUCTION WITH GASKETED SCREW HELD COVER. NO WORK REQUIRED.
- ㉒ EXISTING DIRECT BURIED CONDUITS AT ELEVATION 9'-0" AND 9'-6". FOR CONTINUATION REFER TO FILTER BUILDING FLOOR PLAN SHEET E-5.
- ㉓ EXISTING 480V, 3Ø, 1 HP SAMPLE PUMP CA-SSP-4 (IN WET WELL).
- ㉔ EXISTING CONDUIT AND CONDUCTORS 59M37.
- ㉕ EXISTING CONDUIT AND CONDUCTORS 59M37B.
- ㉖ EXISTING CONDUIT AND CONDUCTORS 59M37A.
- ㉗ EXISTING 480V, 3Ø, 1 HP SAMPLE PUMP CA-SSP-3A.
- ㉘ EXISTING 480V, 3Ø, 1 HP SAMPLE PUMP CA-SSP-3B.
- ㉙ EXISTING CONDUIT AND CONDUCTORS: 59M46.
- ㉚ EXISTING CONDUIT AND CONDUCTORS: 59M46A.
- ㉛ EXISTING CONDUIT AND CONDUCTORS: 59M46B.
- ㉜ EXISTING CONDUIT AND CONDUCTORS: 59M46C.

### GENERAL NOTES:

1. ALL EXISTING INSTALLATIONS DENOTED ARE FOR THE CONTRACTOR'S REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUIT LOCATIONS, ROUTING AND DISTANCES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS.
3. NOT ALL CONDUIT FIELD ROUTING IS DEPICTED FOR CLARITY.



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HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

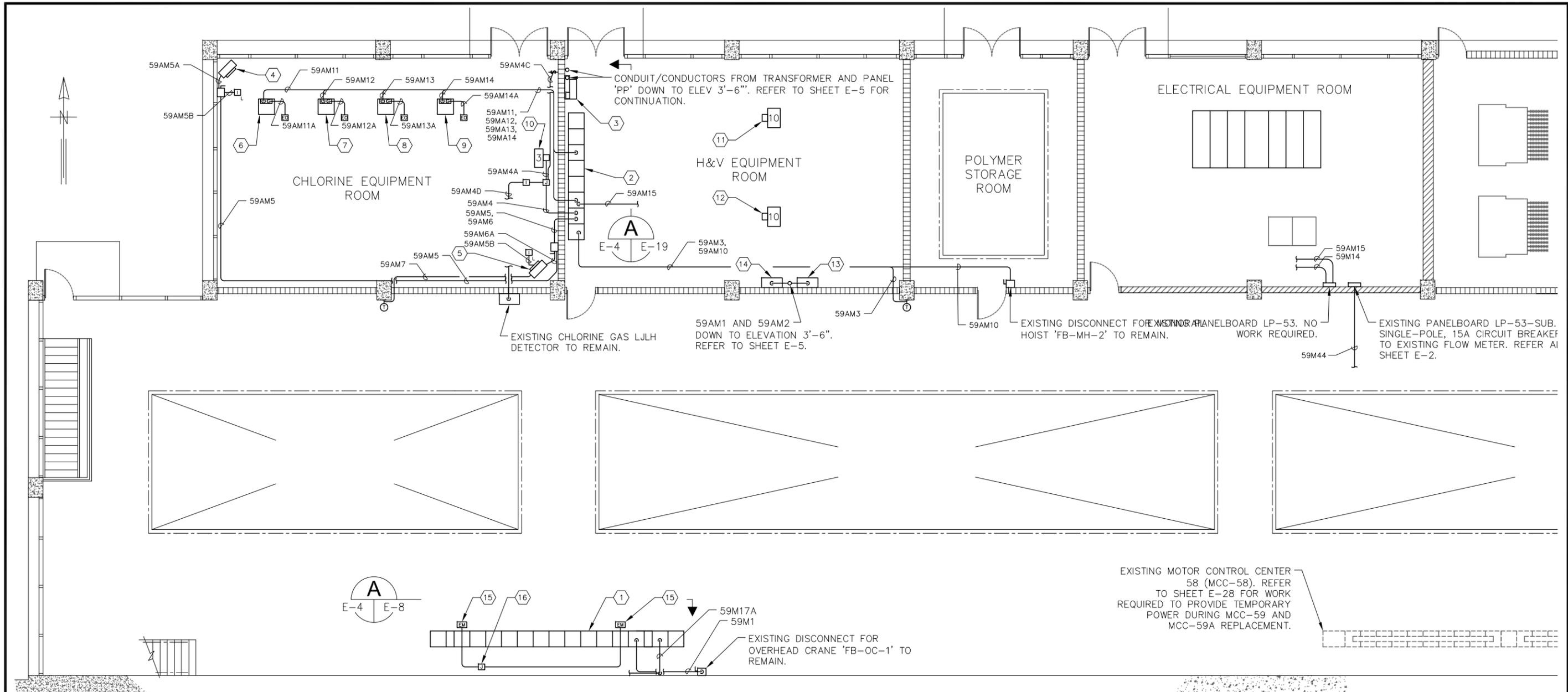
POST AERATION AND CHLORINATION TANKS  
POWER PLAN

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

E-3

FILE: 171700842E01



**FILTER BUILDING NO.1 (015) : PLAN ELEVATION 11'-0"** 1  
4 | E-4  
SCALE : 3/32" = 1'-0"

**KEYED NOTES:**

- |  |   |  |  |
|--|---|--|--|
| <p>1 EXISTING 277/480V, 1,200A MOTOR CONTROL CENTER 59 (MCC-59) TO BE REPLACED. REFER ALSO TO SHEET E-8 FOR EXISTING FRONT ELEVATION.</p> <p>2 EXISTING 277/480V, 400A MOTOR CONTROL CENTER 59A (MCC-59A) TO BE REPLACED. REFER ALSO TO SHEET E-20 FOR EXISTING FRONT ELEVATION.</p> <p>3 EXISTING 480V, 3-POLE CIRCUIT BREAKER (CURRENTLY TAPPED INTO MCC-59A BUS), 277/480V, 3Ø 100A PANELBOARD 'PP' AND 480-120/240V, SINGLE-PHASE 25 KVA TRANSFORMER TO BE REMOVED AND REPLACED. REFER ALSO TO SHEET E-20.</p> | <p>4 EXISTING 480V, 3Ø UNIT HEATER 'FB-UH-1' TO REMAIN.</p> <p>5 EXISTING 480V, 3Ø UNIT HEATER 'FB-UH-2' TO REMAIN.</p> <p>6 EXISTING 480V, 3Ø CHLORINE EVAPORATOR 'FB-EV-1' TO REMAIN.</p> <p>7 EXISTING 480V, 3Ø CHLORINE EVAPORATOR 'FB-EV-2' TO REMAIN.</p> <p>8 EXISTING 480V, 3Ø CHLORINE EVAPORATOR 'FB-EV-3' TO REMAIN.</p> | <p>9 EXISTING 480V, 3Ø CHLORINE EVAPORATOR 'FB-EV-4' TO REMAIN.</p> <p>10 EXISTING 480V, 3Ø 3 HP EXHAUST FAN 'FB-REF-2' TO REMAIN.</p> <p>11 EXISTING 480V, 3Ø 10 HP SUPPLY FAN 'FB-S-1A' TO REMAIN.</p> <p>12 EXISTING 480V, 3Ø 10 HP SUPPLY FAN 'FB-S-1B' TO REMAIN.</p> <p>13 EXISTING 480V, 3Ø 10 HP VFD FOR SUPPLY FAN 'FB-S-1A' TO REMAIN.</p> | <p>14 EXISTING 480V, 3Ø 10 HP VFD FOR SUPPLY FAN 'FB-S-1B' TO REMAIN.</p> <p>15 EXISTING EMERGENCY LIGHT (TYPICAL OF 2). NEW EMERGENCY LIGHTS SHALL BE PROVIDED FOR NEW MCC-59. REFER TO KEYED NOTE BELOW FOR POWER.</p> <p>16 EXISTING JUNCTION BOX (MOUNTED ON WALL) CONTAINING 120V AC CIRCUIT. EXISTING 120V AC CIRCUIT SHALL BE REUSED.</p> |
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MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

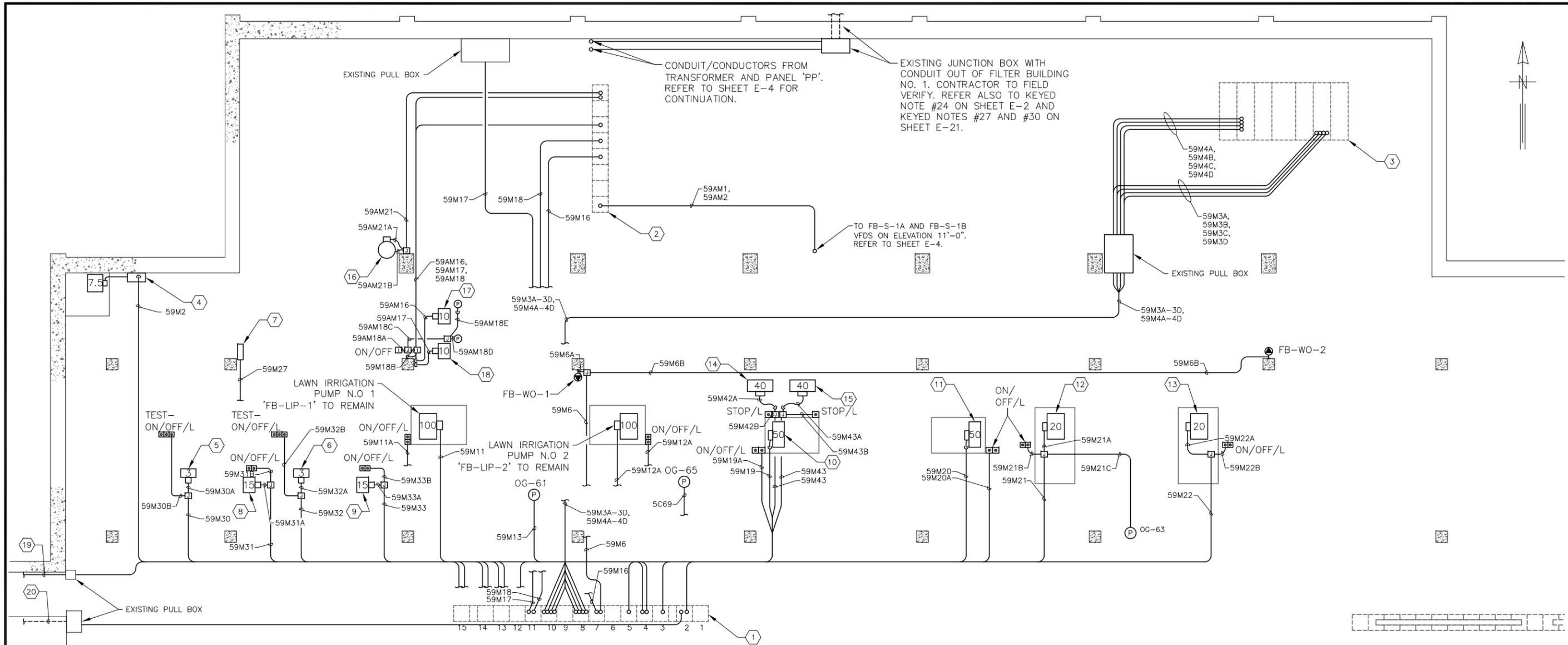
**EXISTING CONDITIONS PLAN  
ELEVATION 11'-0"**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

**E-4**

FILE: 171700842E01



**FILTER BUILDING NO.1 (015) : PLAN ELEVATION 3'-6"**

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



**KEYED NOTES:**

- |   |  |   |  |
|---|--|---|--|
| <p>1 EXISTING FOOTPRINT OF 277/480V, 1,200A MCC-59 (TO BE REPLACED) ABOVE ON ELEVATION 11'-0".</p> <p>2 EXISTING FOOTPRINT OF 277/480V, 400A MCC-59A (TO BE REPLACED) ABOVE ON ELEVATION 11'-0".</p> <p>3 EXISTING FOOTPRINT OF 277/480V, 2,000A SWITCHGEAR 56 (TO REMAIN) ABOVE ON ELEVATION 11'-0". REFER TO SHEET E-28 FOR WORK REQUIRED TO PROVIDE TEMPORARY POWER DURING MCC-59 AND MCC-59A REPLACEMENT.</p> <p>4 EXISTING SUMP PUMP CONTROLLER FOR SUMP PUMP FB-SP-1.</p> <p>5 EXISTING EFFLUENT WATER STRAINER NO. 1 'FB-EWS-1' TO REMAIN.</p> | <p>6 EXISTING EFFLUENT WATER STRAINER NO. 2 'FB-EWS-2' TO REMAIN.</p> <p>7 EXISTING EFFLUENT WATER STRAINERS CONTROL PANEL TO REMAIN.</p> <p>8 EXISTING STRAINER BACKWASH WATER PUMP NO. 1 'FB-SBW-1' TO REMAIN.</p> <p>9 EXISTING STRAINER BACKWASH WATER PUMP NO. 2 'FB-SBW-2' TO REMAIN.</p> <p>10 EXISTING CHLORINE SOLUTION WATER PUMP NO. 1 'FB-CHSW-1' TO REMAIN.</p> | <p>11 EXISTING CHLORINE SOLUTION WATER PUMP NO. 2 'FB-CHSW-2' TO REMAIN.</p> <p>12 EXISTING THICKENING TANK DILUTION WATER PUMP NO. 1 'FB-TDP-1' TO REMAIN.</p> <p>13 EXISTING THICKENING TANK DILUTION WATER PUMP NO. 2 'FB-TDP-2' TO REMAIN.</p> <p>14 EXISTING DECHLORINATION PUMP NO. 1 TO REMAIN.</p> <p>15 EXISTING DECHLORINATION PUMP NO. 2 TO REMAIN.</p> <p>16 EXISTING CHLORINE SOLUTION SUPPLY/DRAIN VALVE TO REMAIN.</p> | <p>17 EXISTING CHLORINE SUPPLY PUMP NO. 1 'FB-CSSP-1' TO REMAIN.</p> <p>18 EXISTING CHLORINE SUPPLY PUMP NO. 2 'FB-CSSP-2' TO REMAIN.</p> <p>19 59M3, FOR CONTINUATION REFER TO SHEET E-7.</p> <p>20 EXISTING DIRECT BURIED CONDUITS. FOR CONTINUATION REFER TO POST AERATION AND CHLORINATION TANKS POWER PLAN SHEET E-3.</p> |
|---|--|---|--|



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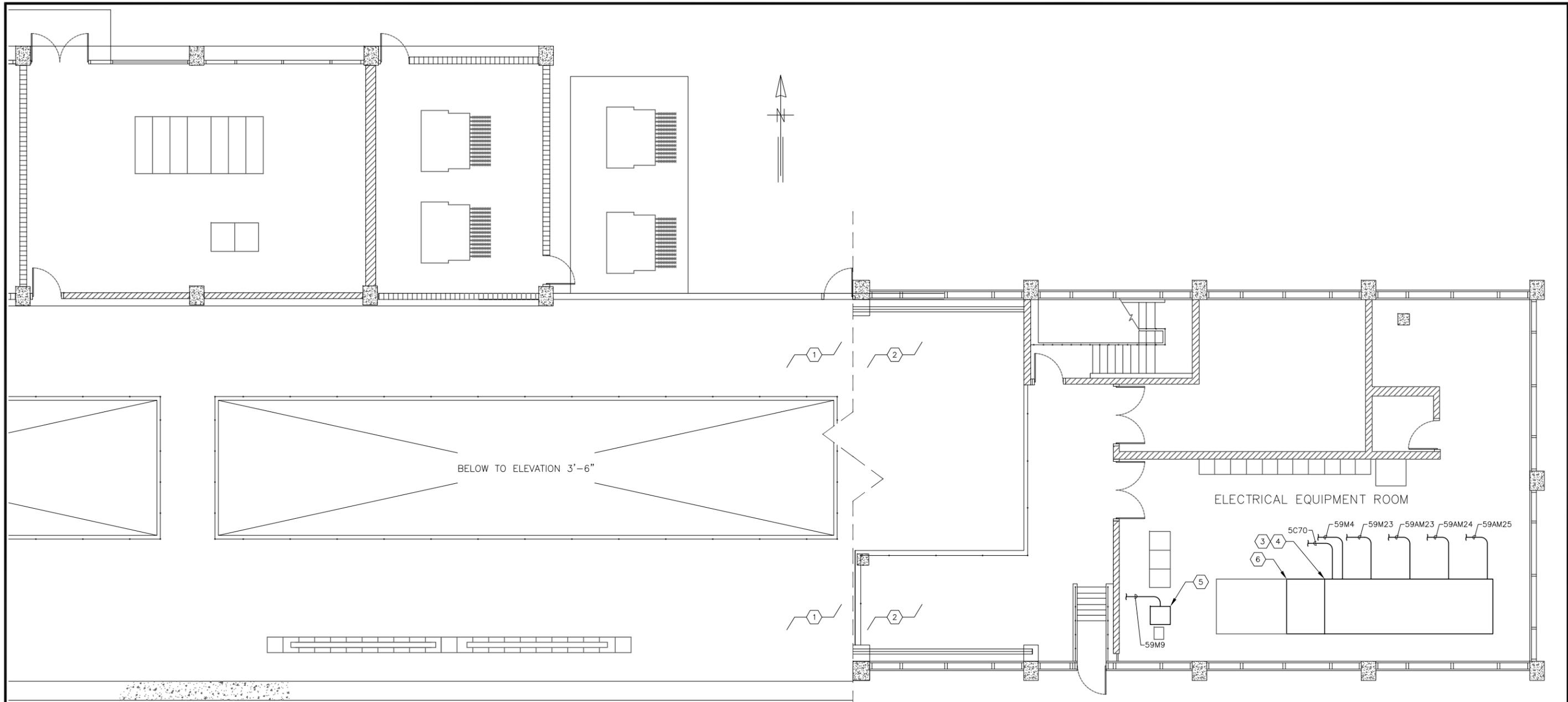
SCALE

AS SHOWN

**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**EXISTING CONDITIONS PLAN  
ELEVATION 3'-6"**

SHEET NUMBER	E-5
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



**FILTER BUILDING NO.1 (015) : PLAN ELEVATION 23'-6"**  
 SCALE : 3/32" = 1'-0"  
 1  
 4 | E-4

KEYED NOTES:	
1	EXISTING PLAN AT ELEVATION 11'-0".
2	EXISTING PLAN AT ELEVATION 23'-6".
3	EXISTING FBP-FS AT ELEVATION 23'-6".
4	EXISTING FBP-ANN AT ELEVATION 23'-6".
5	EXISTING RESIDUAL CHLORINE ANALYZER AT ELEVATION 23'-6".
6	EXISTING CONTROL CONSOLE AT ELEVATION 23'-6".



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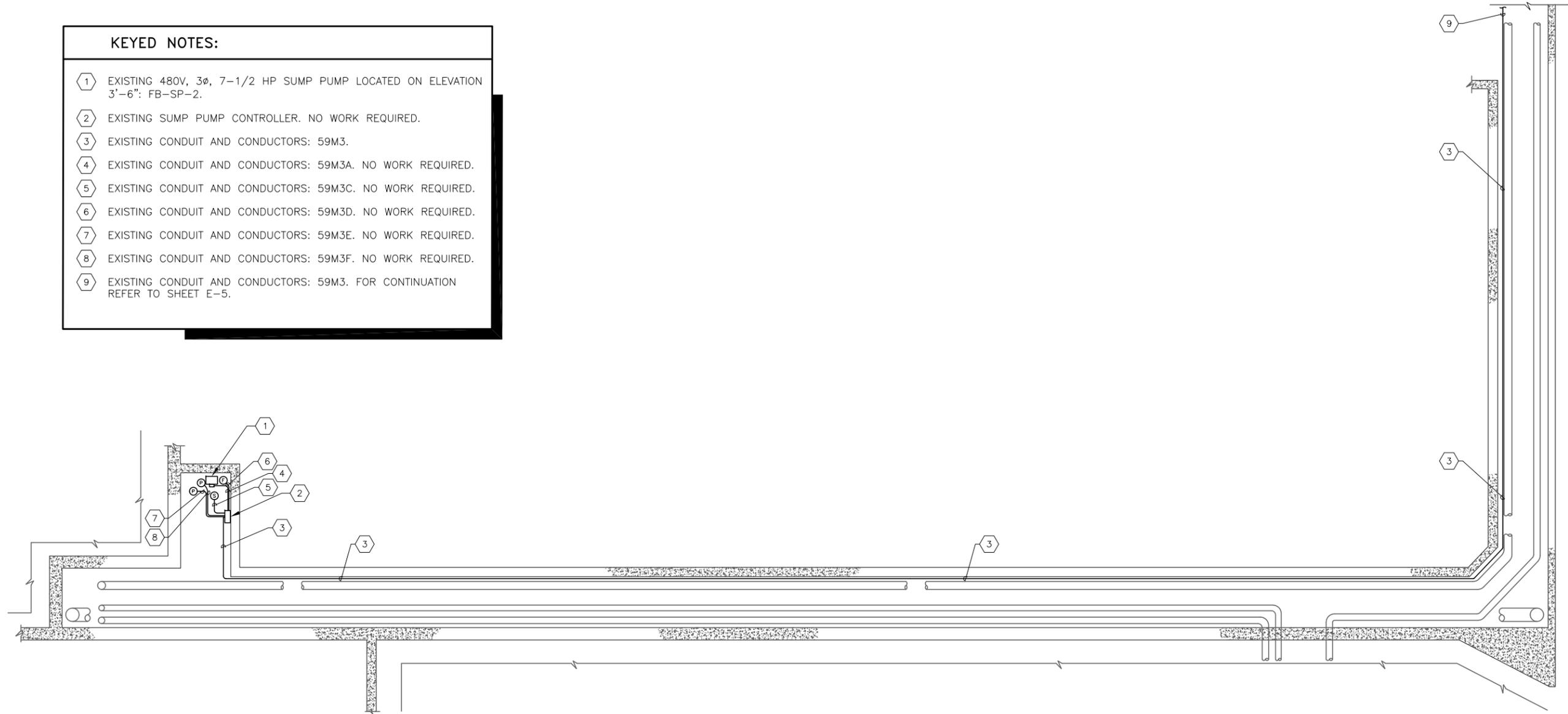
**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**EXISTING CONDITIONS PLAN  
 ELEVATION 23'-6"**

SHEET NUMBER
<b>E-6</b>
TIMOTHY THOMAS, P.E. No. 47079
FILE: 171700842E01

**KEYED NOTES:**

- ① EXISTING 480V, 3 $\phi$ , 7-1/2 HP SUMP PUMP LOCATED ON ELEVATION 3'-6": FB-SP-2.
- ② EXISTING SUMP PUMP CONTROLLER. NO WORK REQUIRED.
- ③ EXISTING CONDUIT AND CONDUCTORS: 59M3.
- ④ EXISTING CONDUIT AND CONDUCTORS: 59M3A. NO WORK REQUIRED.
- ⑤ EXISTING CONDUIT AND CONDUCTORS: 59M3C. NO WORK REQUIRED.
- ⑥ EXISTING CONDUIT AND CONDUCTORS: 59M3D. NO WORK REQUIRED.
- ⑦ EXISTING CONDUIT AND CONDUCTORS: 59M3E. NO WORK REQUIRED.
- ⑧ EXISTING CONDUIT AND CONDUCTORS: 59M3F. NO WORK REQUIRED.
- ⑨ EXISTING CONDUIT AND CONDUCTORS: 59M3. FOR CONTINUATION REFER TO SHEET E-5.



**PIPE TUNNEL ACCESS  
PLAN ELEVATION 3'-6"**  
SCALE : N.T.S.



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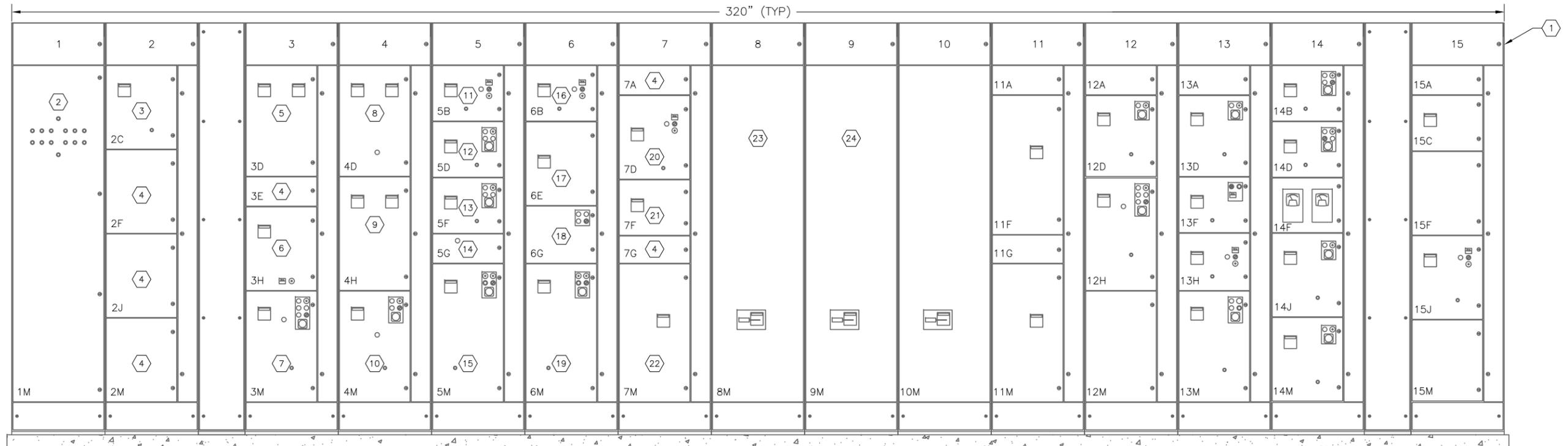
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**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**PIPE TUNNEL ACCESS PLAN  
ELEVATION 3'-6"**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER	E-7
FILE:	171700842E01



### EXISTING MCC 59 FRONT ELEVATION

SCALE : N.T.S.

A  
E-4 | E-8

#### KEYED NOTES:

- |   |   |  |
|---|---|--|
| <p>① 277/480V, 1,200A, 3<math>\phi</math>, 3-WIRE MCC-59. CONTRACTOR SHALL REMOVE EXISTING MCC AND PROVIDE NEW MCC-59 PER SPECIFICATIONS.</p> <p>② STAR CONTROL CONSOLE. GENERAL NOTE 1.</p> <p>③ 480V, 400AF/150AT 3-POLE CIRCUIT BREAKER FOR MCC-59B (BUS NO. 1). GENERAL NOTE 2.</p> <p>④ SPARE BUCKET. REFER TO PROPOSED MCC-59 ELEVATION AND MCC-59 ONE-LINE DIAGRAM FOR SPARES REQUIRED IN THE NEW MCC-59.</p> <p>⑤ 24" BUCKET CONTAINING ONE 480V, 100AF/40AT 3-POLE CIRCUIT BREAKER FOR OVERHEAD CRANE 'FB-OC-1'. NOTE 2. THE BUCKET ALSO CONTAINS ONE CIRCUIT BREAKER FOR SECTION 1M FEEDER. GENERAL NOTE 2.</p> <p>⑥ 480V STARTER FOR DEWATERING PUMP 'SA-DP-1'. GENERAL NOTE 2.</p> <p>⑦ 480V, 100AF/100AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION WATER PUMP NO. 2 'FB-CHSW-2'. GENERAL NOTE 2.</p> <p>⑧ 24" BUCKET CONTAINING ONE 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR SUMP PUMP NO. 1 'FB-SP-1'. NOTE 2. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR SUMP PUMP NO. 2 'FB-SP-2'. GENERAL NOTES 2 AND 4.</p> | <p>⑨ 24" BUCKET CONTAINING ONE 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR SLUICE GATES CA-SG-1 THRU CA-SG-4. NOTE 2. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR WELDING OUTLETS 'FB-WO-1'. GENERAL NOTE 2.</p> <p>⑩ 480V, 100AF/90AT 3-POLE CIRCUIT BREAKER FOR DECHLORINATION PUMP NO. 2. GENERAL NOTE 2.</p> <p>⑪ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SAMPLE PUMP NO. 3 'CA-SSP-3'. GENERAL NOTE 2.</p> <p>⑫ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SAMPLE PUMP NO. 1 'CA-SSP-1'. GENERAL NOTE 2.</p> <p>⑬ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SAMPLING PUMP, PRE-SULFONATED SAMPLE PUMP AND POST-SULFONATING SAMPLE PUMP. NEW, INDIVIDUAL CIRCUIT BREAKERS SHALL BE PROVIDED FOR THE SAMPLING PUMPS IN THE PROPOSED MCC-59.</p> <p>⑭ 6" BUCKET CONTAINING A RESET PUSHBUTTON FOR THE PRE-SULFONATED SAMPLE PUMP. GENERAL NOTE 1.</p> <p>⑮ 480V, 200AF/200AT 3-POLE CIRCUIT BREAKER FOR LAWN IRRIGATION PUMP NO. 2 'FB-LIP-2'. GENERAL NOTE 2.</p> | <p>⑯ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SAMPLE PUMP NO. 4 'CA-SSP-4'. GENERAL NOTE 2.</p> <p>⑰ 480V, 100AF/15AT 2-POLE CIRCUIT BREAKER FOR OPEN CHANNEL FLOW METER. GENERAL NOTE 1.</p> <p>⑱ 12" BUCKET SERVING AS RELAY COMPARTMENT. GENERAL NOTE 2.</p> <p>⑲ 480V, 200AF/200AT 3-POLE CIRCUIT BREAKER FOR LAWN IRRIGATION PUMP NO. 1 'FB-LIP-1'. GENERAL NOTE 2.</p> <p>⑳ 480V, 100AF/25AT 3-POLE CIRCUIT BREAKER FOR MECHANICAL MIXER 'JC-4-MM-1'. GENERAL NOTE 2.</p> <p>㉑ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SLUICE GATES SG5 AND SG6. GENERAL NOTE 2.</p> <p>㉒ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59A (BUS NO. 1). GENERAL NOTE 2.</p> <p>㉓ 480V, 1200AF/1200AT 3-POLE CIRCUIT BREAKER FROM SWITCHGEAR NO. 56 BUS NO. 1 FEEDER. GENERAL NOTE 2.</p> <p>㉔ 480V, 1200AF/1200AT 3-POLE TIE CIRCUIT BREAKER. GENERAL NOTE 2.</p> |
|---|---|--|

#### GENERAL NOTES:

- |  |   |
|--|---|
| <p>1. THIS EXISTING DEVICE WILL BECOME OBSOLETE UNDER THIS CONTRACT. DUPLICATION IN THE NEW MCC-59 PROPOSED IS NOT REQUIRED.</p> <p>2. THIS EXISTING DEVICE SHALL BE DUPLICATED IN THE NEW MCC-59 PROPOSED. REFER ALSO TO SHEETS E-12 AND E-13 FOR PROPOSED MCC-59 ONE-LINE DIAGRAM.</p> | <p>3. REFER TO SHEET E-9 FOR CONTINUATION OF NOTES FOR EXISTING MCC-59 FRONT ELEVATION.</p> <p>4. REFER TO SHEET E-7 FOR LOCATION OF SUMP PUMP NO. 2 'FB-SP-2'.</p> |
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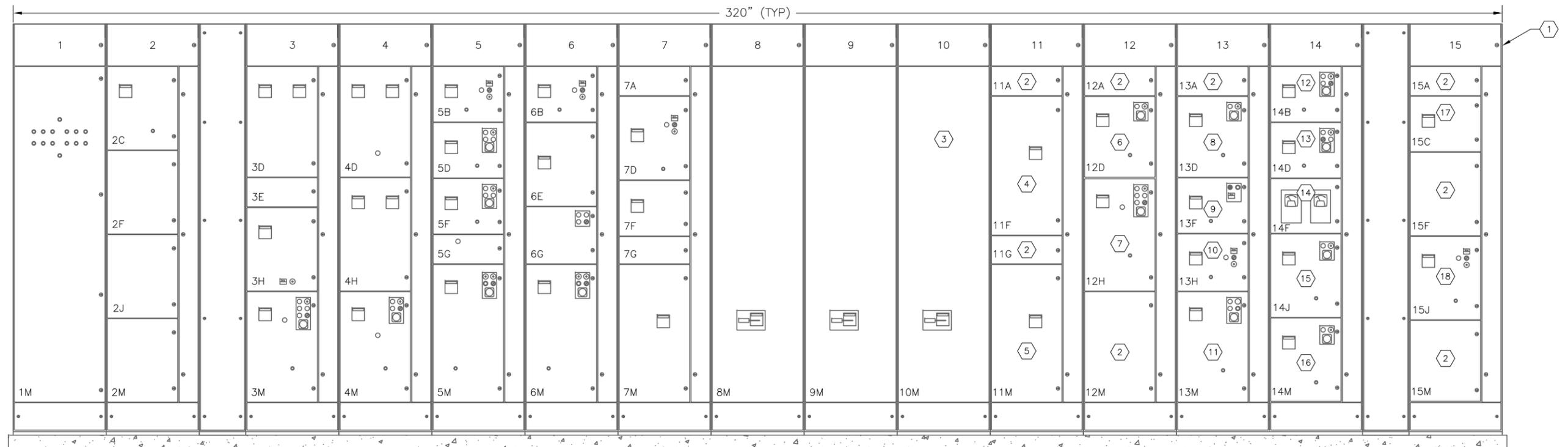
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SCALE  
  
NOT TO SCALE

City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

EXISTING MCC-59  
FRONT ELEVATION  
(SHEET 1 OF 2)

SHEET NUMBER	E-8
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



### EXISTING MCC 59 FRONT ELEVATION

SCALE : N.T.S.



#### KEYED NOTES:

- |  |  |
|--|--|
| <p>① 277/480V, 1,200A, 3<math>\phi</math>, 3-WIRE MCC-59. CONTRACTOR SHALL REMOVE EXISTING MCC AND PROVIDE NEW MCC-59 PER SPECIFICATIONS.</p> <p>② SPARE BUCKET. REFER TO PROPOSED MCC-59 ELEVATION AND MCC-59 ONE-LINE DIAGRAM FOR SPARES REQUIRED IN THE NEW MCC-59.</p> <p>③ 480V, 1200AF/1200AT 3-POLE CIRCUIT BREAKER FROM SWITCHGEAR NO. 56 BUS NO. 2 FEEDER. GENERAL NOTE 2.</p> <p>④ 480V, 400AF/150AT 3-POLE CIRCUIT BREAKER FOR MCC-59B (BUS NO. 2). GENERAL NOTE 2.</p> <p>⑤ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59A (BUS NO. 2). GENERAL NOTE 2.</p> <p>⑥ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR EFFLUENT WATER STRAINER DRIVE 'FB-EWS-2'. GENERAL NOTE 2.</p> <p>⑦ 480V, 100AF/100AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION WATER PUMP NO. 1 'FB-CHSW-1'. GENERAL NOTE 2.</p> <p>⑧ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR EFFLUENT WATER STRAINER DRIVE 'FB-EWS-1'. GENERAL NOTE 2.</p> <p>⑨ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SEWAGE SAMPLE PUMP NO. 5. GENERAL NOTE 2.</p> | <p>⑩ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SAMPLE PUMP 'JC-4-SSP-1'. GENERAL NOTE 2.</p> <p>⑪ 480V, 100AF/90AT 3-POLE CIRCUIT BREAKER FOR DECHLORINATION PUMP NO. 1. GENERAL NOTE 2.</p> <p>⑫ 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR DILUTION WATER PUMP NO. 1 'FB-TDP-1'. GENERAL NOTE 2.</p> <p>⑬ 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR DILUTION WATER PUMP NO. 2 'FB-TDP-2'. GENERAL NOTE 2.</p> <p>⑭ METERS FOR THICKENING TANK DILUTION WATER PUMPS. NOTE 1.</p> <p>⑮ 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR EFFLUENT WATER STRAINER BACKWASH PUMP 'FB-SBW-1'. GENERAL NOTE 2.</p> <p>⑯ 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR EFFLUENT WATER STRAINER BACKWASH PUMP 'FB-SBW-2'. GENERAL NOTE 2.</p> <p>⑰ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR SLUICE GATE SG13 THRU SG16. GENERAL NOTE 2.</p> <p>⑱ 480V, 100AF/25AT 3-POLE CIRCUIT BREAKER FOR MECHANICAL MIXER 'JC-4-MM-2'. GENERAL NOTE 2.</p> |
|--|--|

#### GENERAL NOTES:

- THIS EXISTING DEVICE WILL BECOME OBSOLETE UNDER THIS CONTRACT. DUPLICATION IN THE NEW MCC-59 PROPOSED IS NOT REQUIRED.
- THIS EXISTING DEVICE SHALL BE DUPLICATED IN THE NEW MCC-59 PROPOSED. REFER ALSO TO SHEETS E-12 AND E-13 FOR PROPOSED MCC-59 ONE-LINE DIAGRAM.



777 S. Harbour Island Blvd.  
Suite 250  
Tampa, FL 33602  
813.227.9190  
Certificate of Authorization No. 8363

JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

NOT TO SCALE

City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

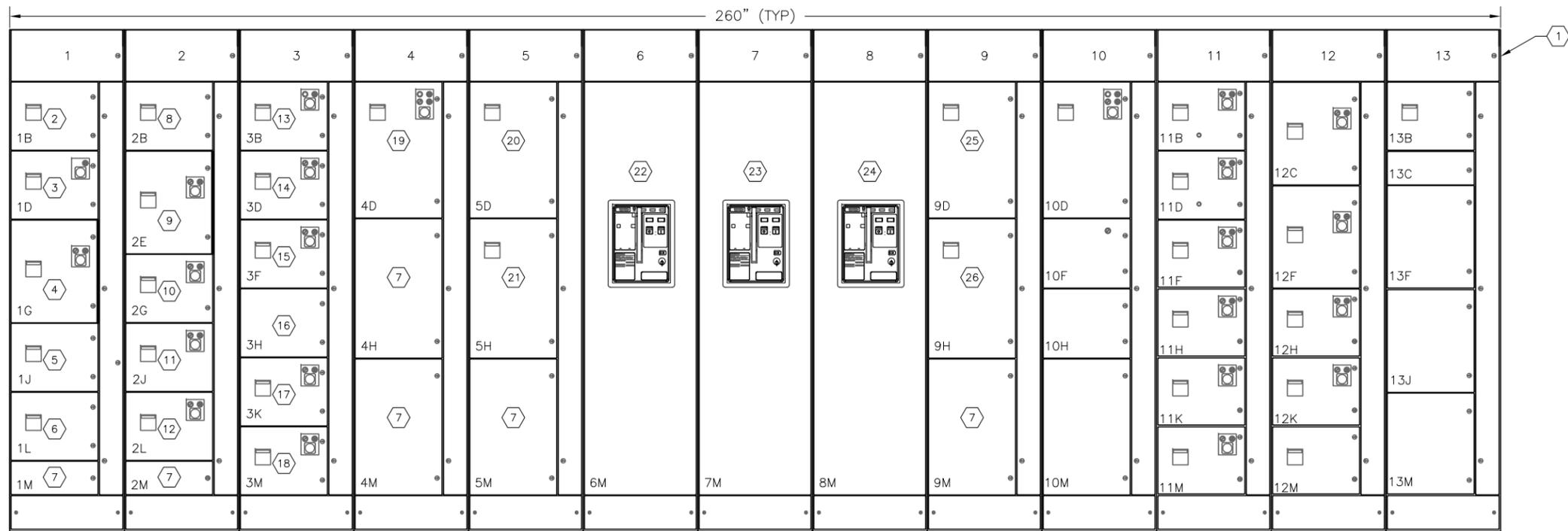
EXISTING MCC-59  
FRONT ELEVATION  
(SHEET 2 OF 2)

SHEET NUMBER

E-9

TIMOTHY THOMAS, P.E. No. 47079

FILE: 171700842E01



PROPOSED WIREWAY, 6 INCHES IN HEIGHT. REFER TO SHEET E-11 FOR DETAILS

20" (TYP)

### PROPOSED MCC 59 FRONT ELEVATION

SCALE : N.T.S.

#### KEYED NOTES:

- |   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>① 277/480V, 1,200A, 3<math>\phi</math>, 3-WIRE MCC-59.</li> <li>② 480V, 100AF/40AT 3-POLE CIRCUIT BREAKER FOR OVERHEAD CRANE, FB-OH-1.</li> <li>③ DEWATERING PUMP NO. 1, SA-DP-1, 15 HP ACROSS-THE-LINE STARTER.</li> <li>④ CHLORINE SOLUTION WATER PUMP NO. 1, FB-CHSW-1, 50 HP ACROSS-THE-LINE STARTER.</li> <li>⑤ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR SUMP PUMP NO. 1, FB-SP-1.</li> <li>⑥ 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR SLUICE GATES CA-SG-1, CA-SG-2, CA-SG-3 AND CA-SG-4.</li> <li>⑦ PROPOSED SPACE.</li> <li>⑧ 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR WELDING OUTLETS FB-WO-1 AND FB-WO-2.</li> <li>⑨ DECHLORINATION PUMP NO. 1, 40 HP ACROSS-THE-LINE STARTER.</li> </ul> | <ul style="list-style-type: none"> <li>⑩ EFFLUENT WATER STRAINER DRIVE NO. 1, FB-EWS-1, 3 HP ACROSS-THE-LINE STARTER.</li> <li>⑪ JUNCTION CHAMBER 4 SAMPLE PUMP JC-4-SSP-1, 1 HP ACROSS-THE-LINE STARTER.</li> <li>⑫ CHLORINE SAMPLING PUMP, BACKUP FINAL, CA-SSP-1, 1 HP ACROSS-THE-LINE STARTER.</li> <li>⑬ SEWAGE SAMPLING PUMP NO. 5 FB-SSP-5, 1 HP ACROSS-THE-LINE STARTER.</li> <li>⑭ MECHANICAL MIXER, JC-4-MM-1, 10 HP ACROSS-THE-LINE STARTER.</li> <li>⑮ SAMPLE PUMP NO. 4, POST STATIC MIX, CA-SSP-3A, 1 HP ACROSS-THE-LINE STARTER.</li> <li>⑯ PROPOSED SPACE.</li> <li>⑰ THICKENING TANKS DILUTION WATER PUMP NO. 1, FB-TDP-1, 20 HP ACROSS-THE-LINE STARTER.</li> <li>⑱ EFFLUENT WATER STRAINER BACK WASH PUMP NO. 1, FB-SBW-1, 15 HP ACROSS-THE-LINE STARTER.</li> </ul> | <ul style="list-style-type: none"> <li>⑲ LAWN IRRIGATION PUMP NO. 1, FB-LIP-1, 100 HP ACROSS-THE-LINE STARTER.</li> <li>⑳ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59A BUS NO. 1 FEEDER.</li> <li>㉑ 480V, 400AF/150AT 3-POLE CIRCUIT BREAKER FOR MCC-59B BUS NO. 1 FEEDER.</li> <li>㉒ 480V, 1,200AF/1,200AT ELECTRICALLY OPERATED, 3-POLE CIRCUIT BREAKER FOR SWITCHGEAR 56 BUS NO. 1 FEEDER.</li> <li>㉓ 480V, 1,200AF/1,200AT ELECTRICALLY OPERATED, 3-POLE TIE CIRCUIT BREAKER.</li> <li>㉔ 480V, 1,200AF/1,200AT ELECTRICALLY OPERATED, 3-POLE CIRCUIT BREAKER FOR SWITCHGEAR 56 BUS NO. 2 FEEDER.</li> <li>㉕ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59A BUS NO. 2 FEEDER.</li> <li>㉖ 480V, 400AF/150AT 3-POLE CIRCUIT BREAKER FOR MCC-59B BUS NO. 2 FEEDER.</li> </ul> |
|---|---|---|

#### GENERAL NOTES:

1. REFER TO SHEET E-11 FOR CONTINUATION OF NOTES FOR PROPOSED MCC-59 FRONT ELEVATION.
2. REFER ALSO TO SHEETS E-12 AND SHEET E-13 FOR PROPOSED MCC-59 ONE-LINE DIAGRAM.
3. VERTICAL BUS FOR SECTIONS 5 AND 9 SHALL BE 800 AMPERE.



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Suite 250  
Tampa, FL 33602  
813.227.9190  
Certificate of Authorization No. 8363

JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

NOT TO SCALE

City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

PROPOSED MCC-59  
FRONT ELEVATION  
(SHEET 1 OF 2)

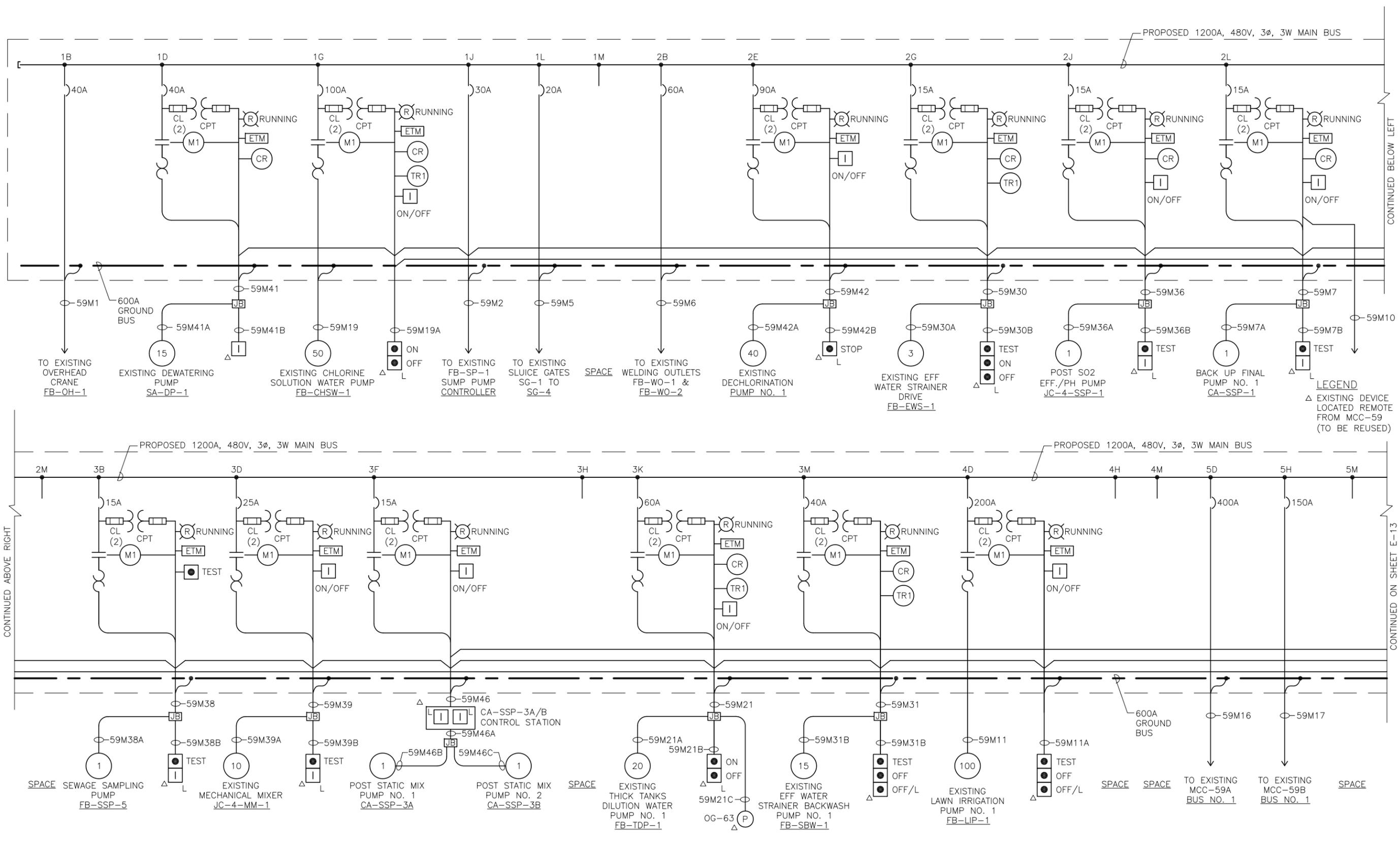
SHEET NUMBER

E-10

TIMOTHY THOMAS, P.E. No. 47079

FILE: 171700842E01





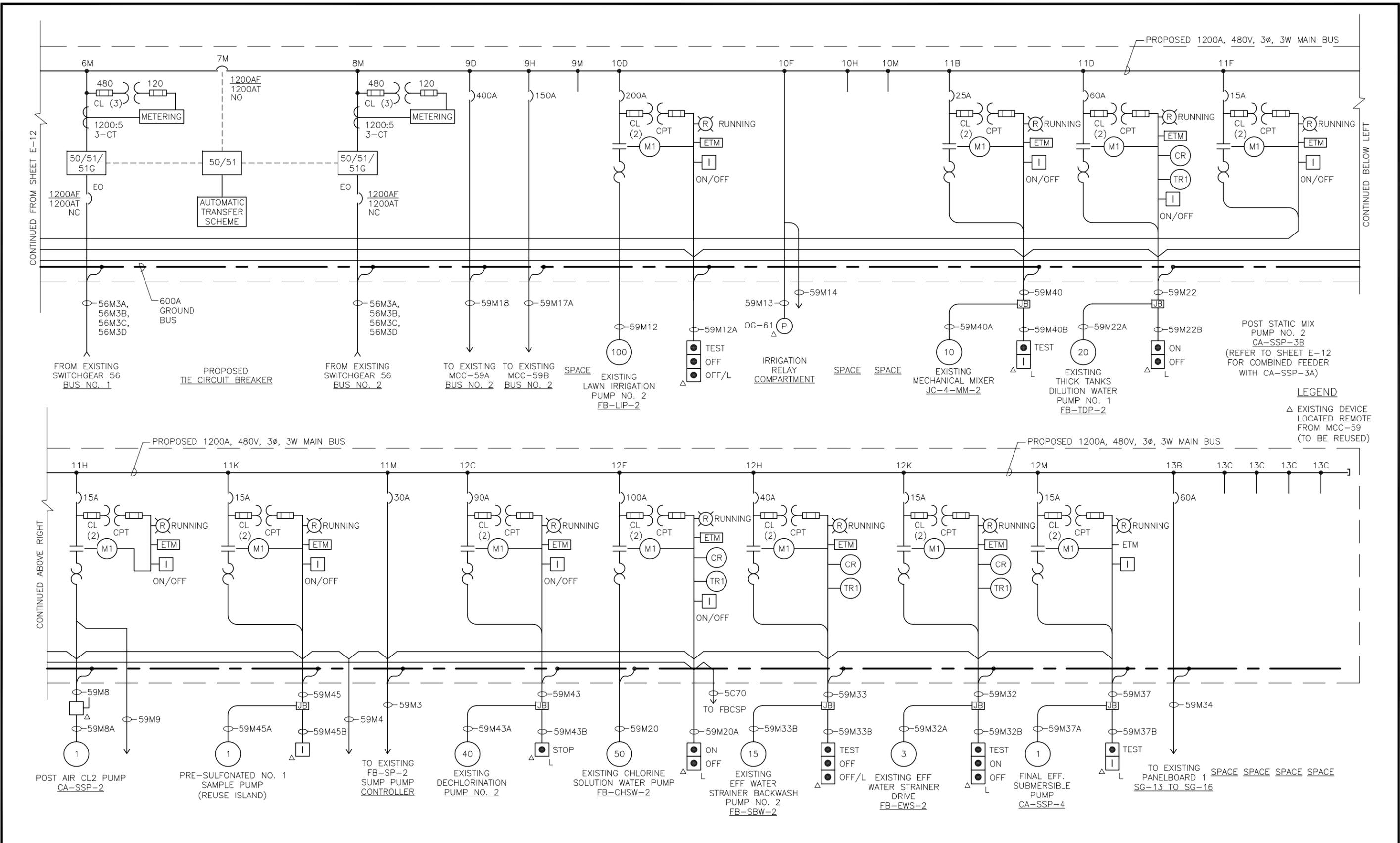
JOB No.	171700842						
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City of Tampa Wastewater Department  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

MCC-59 ELECTRICAL  
 ONE-LINE DIAGRAM  
 (SHEET 1 OF 2)

SHEET NUMBER	E-12
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



**LEGEND**  
 Δ EXISTING DEVICE LOCATED REMOTE FROM MCC-59 (TO BE REUSED)

**TRICON CONSULTING ENGINEERS**  
 777 S. Harbour Island Blvd.  
 Suite 250  
 Tampa, FL 33602  
 813.227.9190  
 Certificate of Authorization No. B363

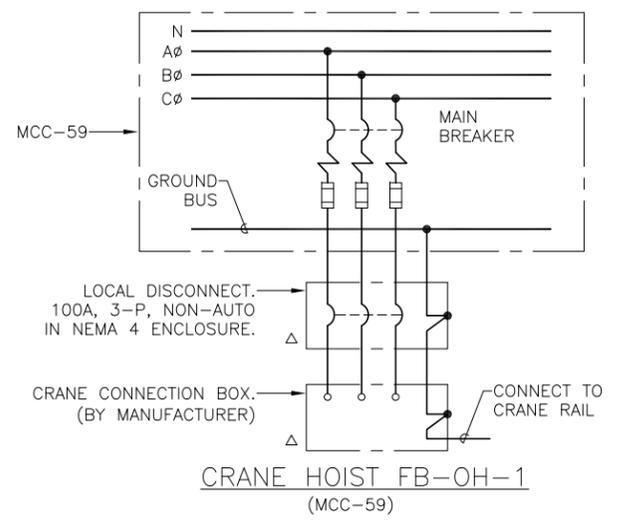
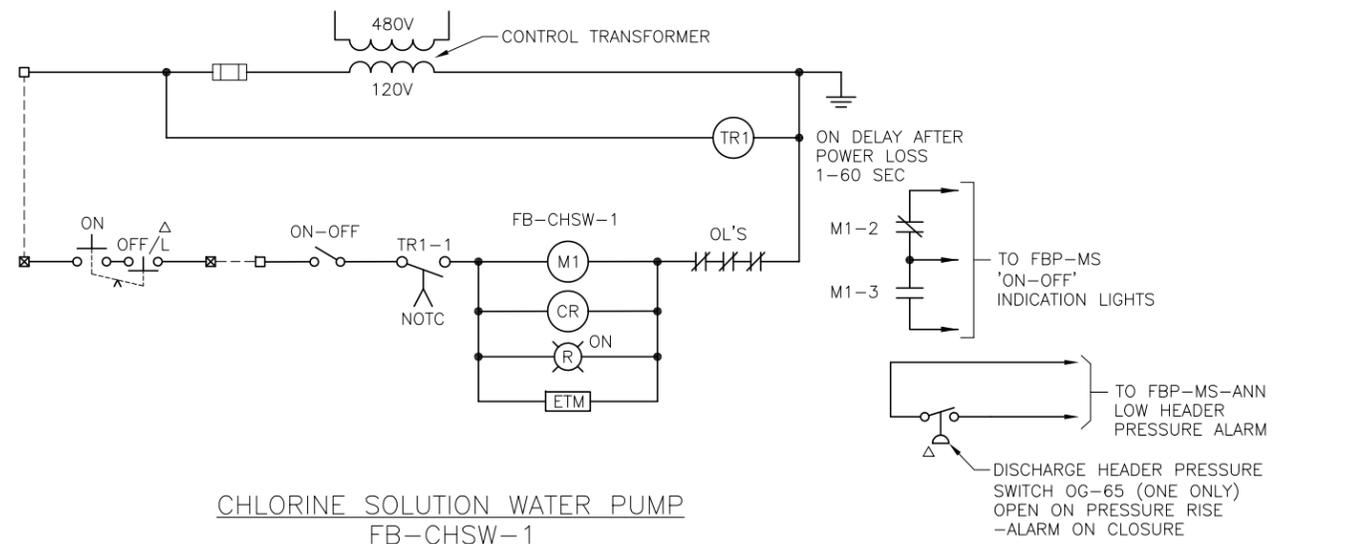
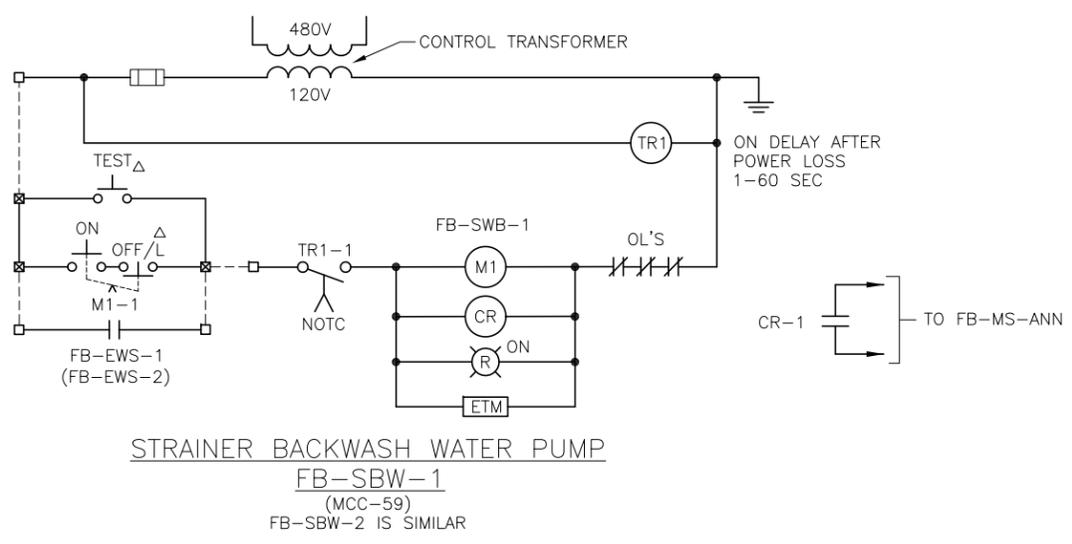
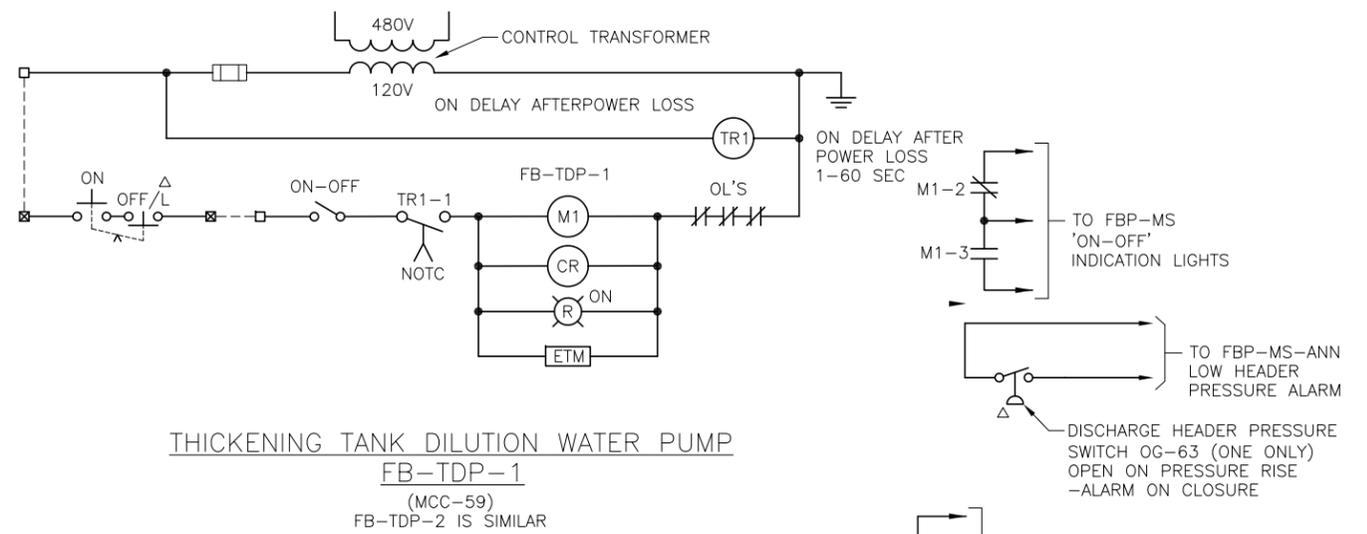
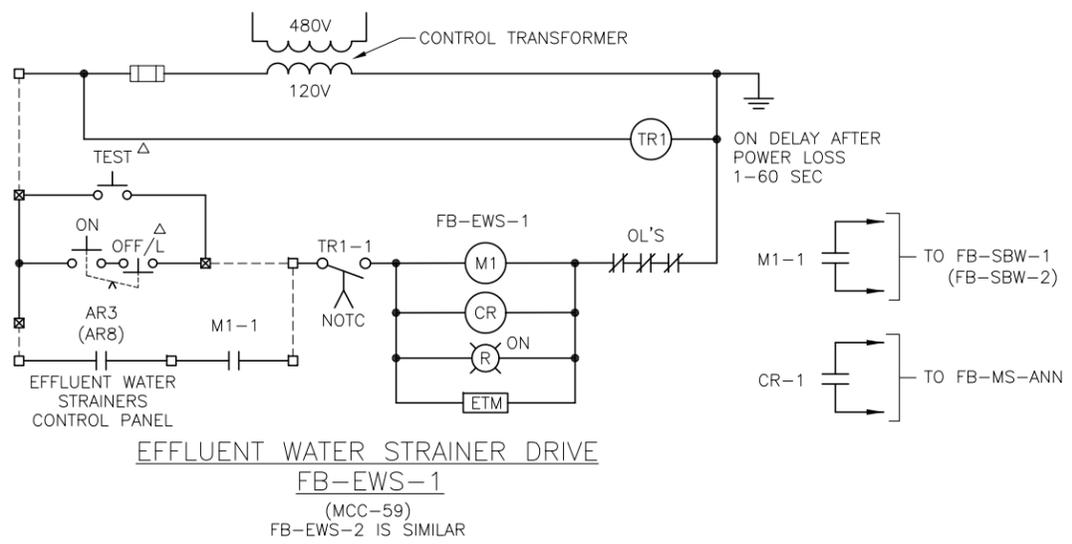
JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE  
  
NOT TO SCALE

**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**MCC-59 ELECTRICAL ONE-LINE DIAGRAM (SHEET 2 OF 2)**

SHEET NUMBER	E-13
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



**CONTROLS DESIGNATIONS**

- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-59 (TO BE REUSED)
- INDICATES TERMINAL BLOCK WITHIN MCC-59
- ⊠ INDICATES TERMINAL ON FIELD DEVICE

JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

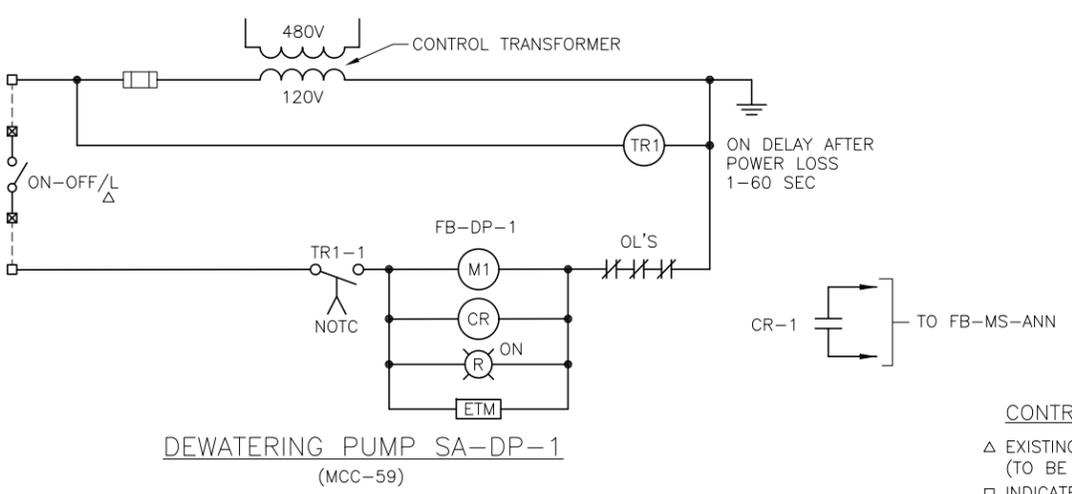
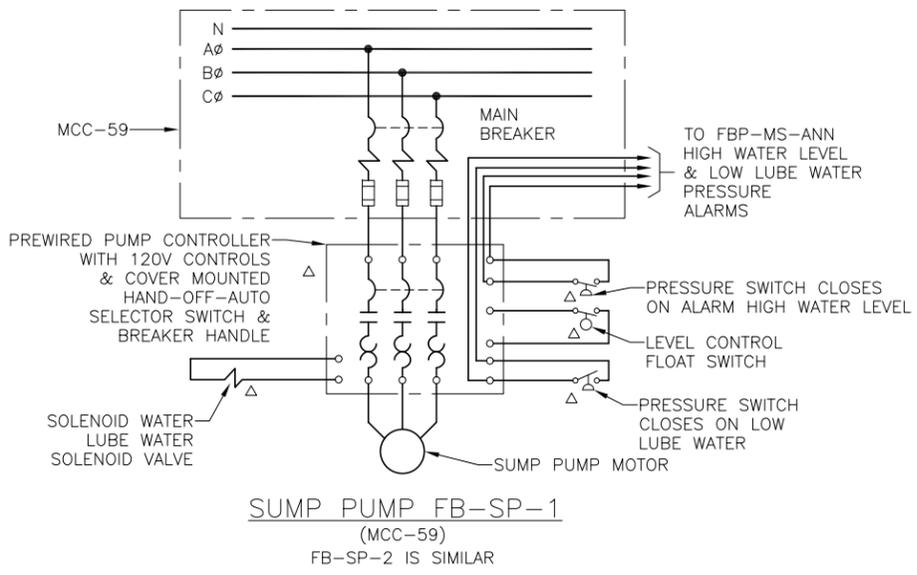
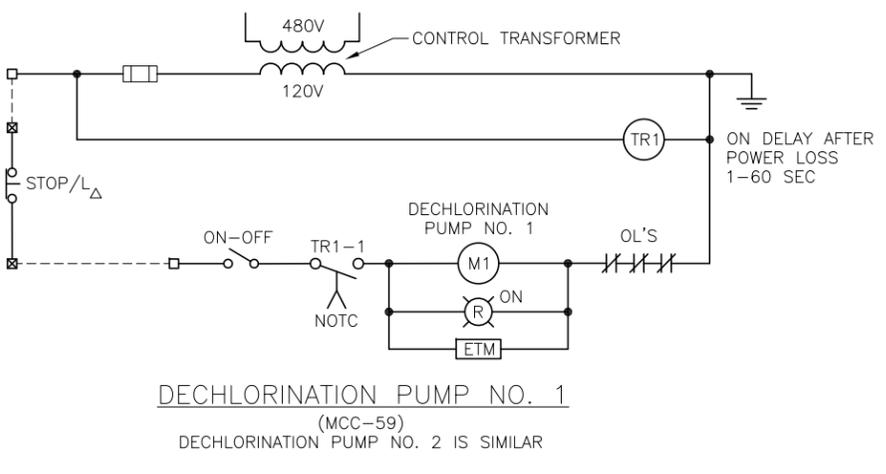
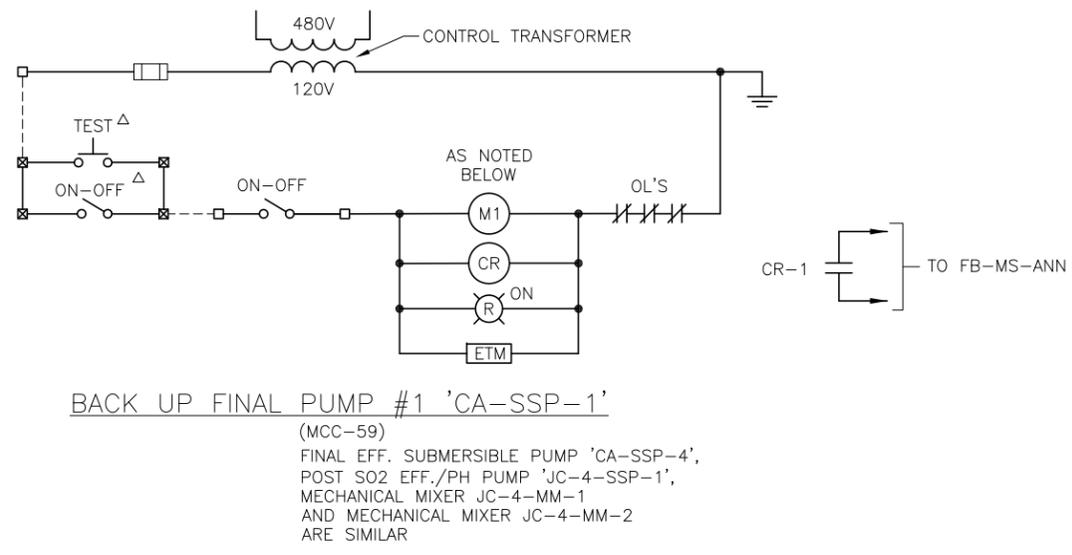
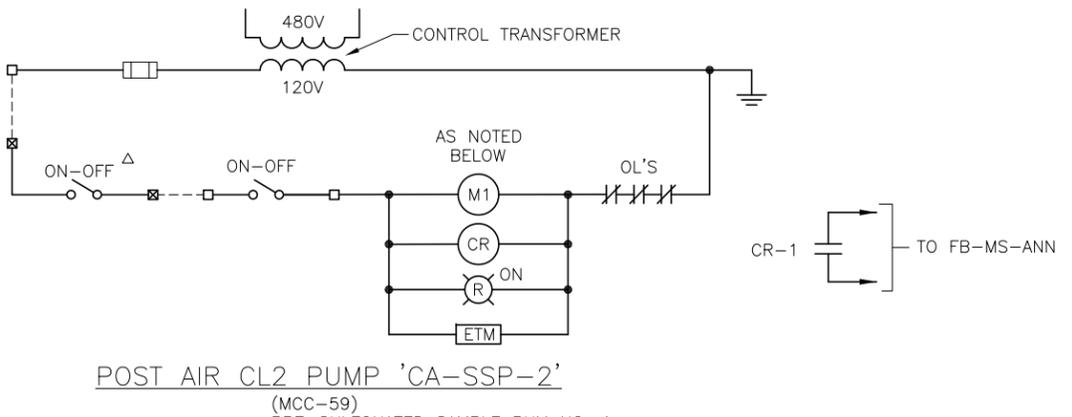
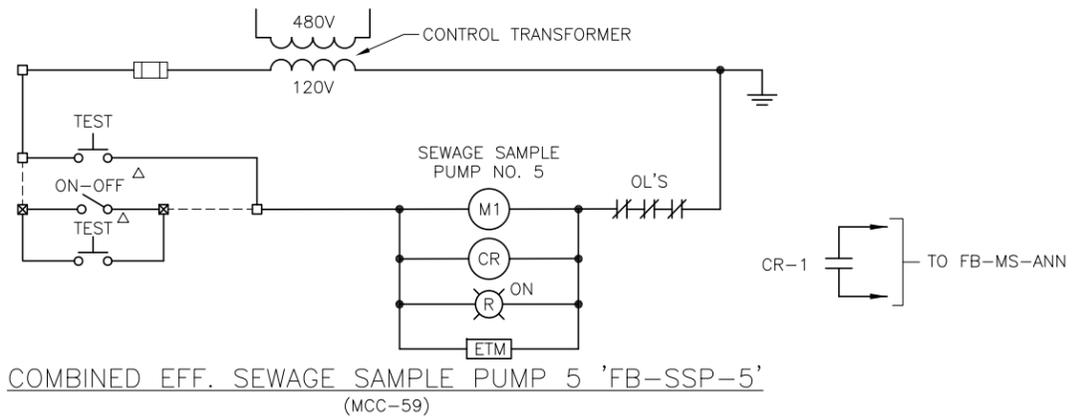
SCALE

NOT TO SCALE

City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**MCC-59 TYPICAL MOTOR CONTROL SCHEMATICS**  
 (SHEET 1 OF 3)



**CONTROLS DESIGNATIONS**

Δ EXISTING DEVICE LOCATED REMOTE FROM MCC-59 (TO BE REUSED)

□ INDICATES TERMINAL BLOCK WITHIN MCC-59

⊠ INDICATES TERMINAL ON FIELD DEVICE



JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

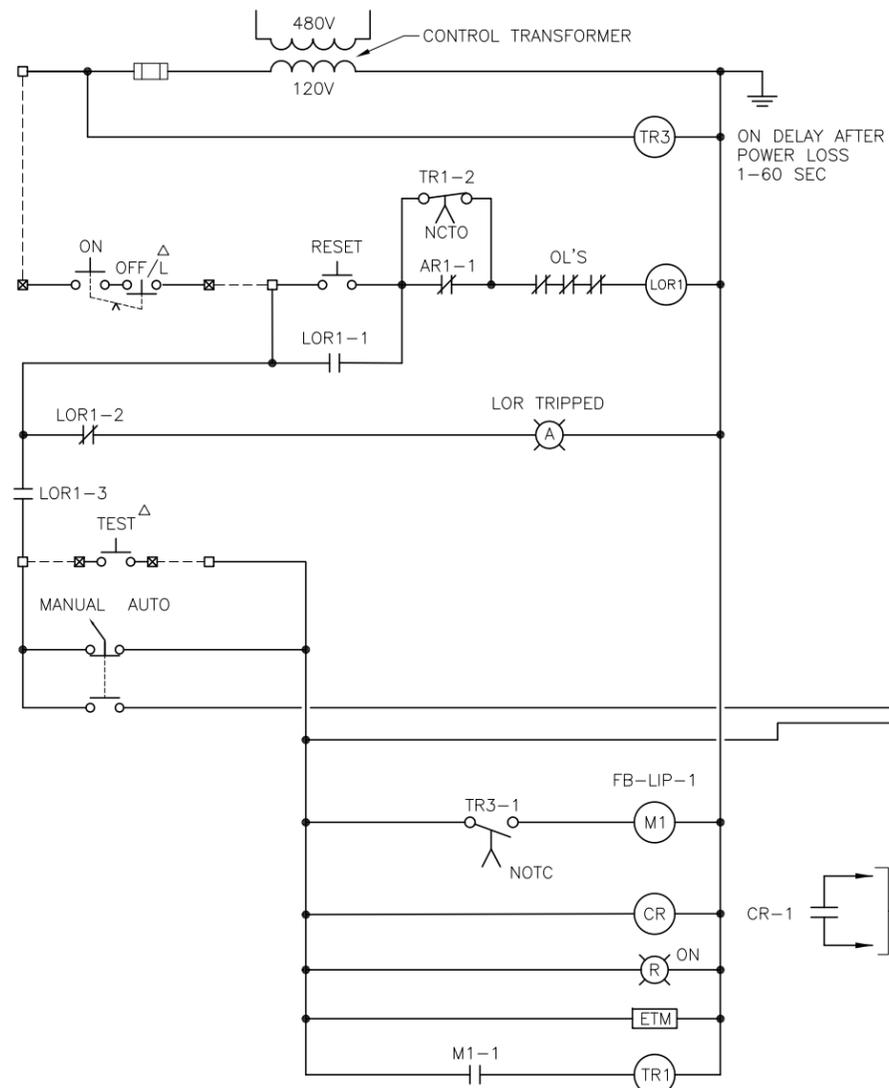
NOT TO SCALE

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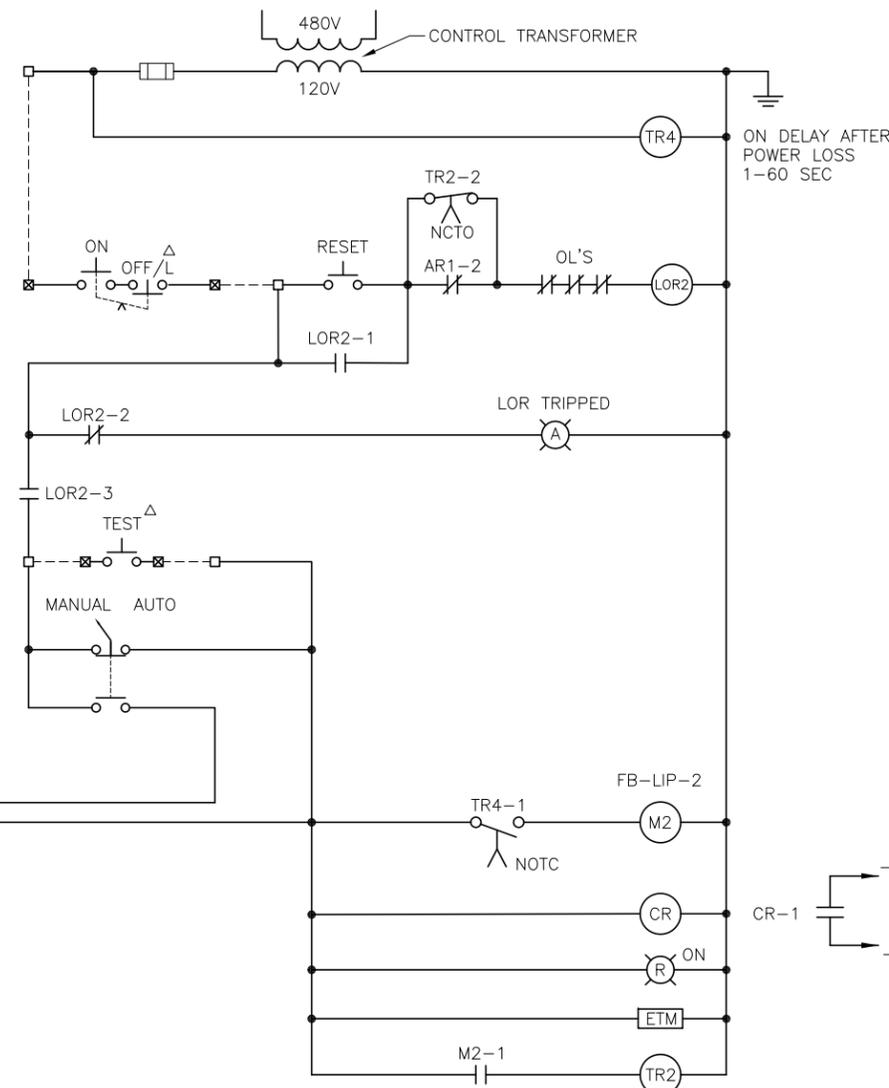
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

MCC-59 TYPICAL MOTOR CONTROL SCHEMATICS (SHEET 2 OF 3)

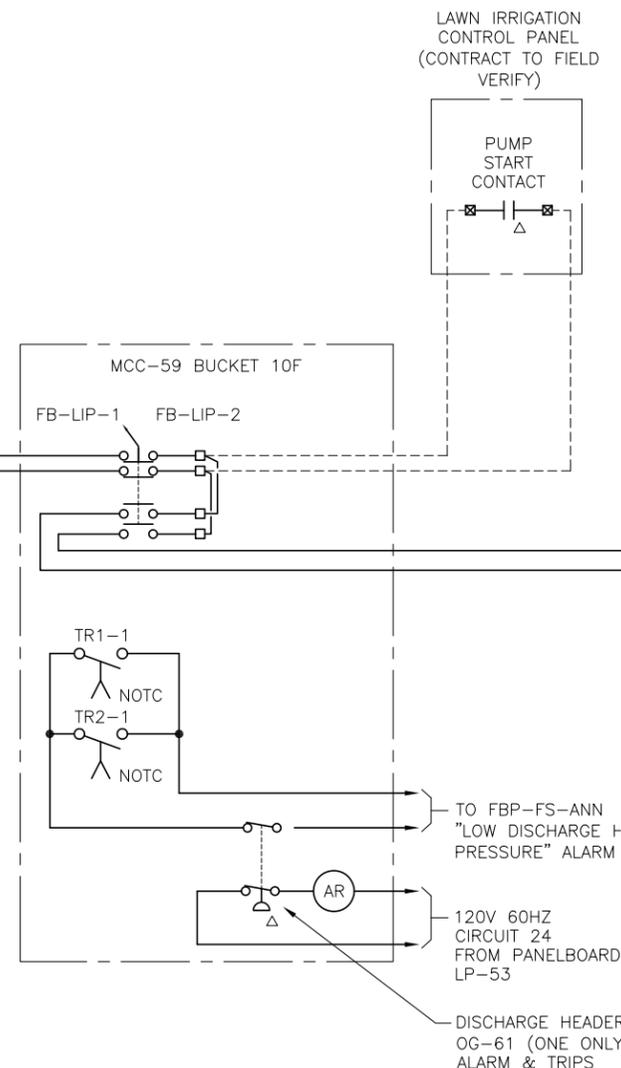
SHEET NUMBER	E-15
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



LAWN IRRIGATION PUMP NO. 1  
FB-LIP-1  
(MCC-59)



LAWN IRRIGATION PUMP NO. 2  
FB-LIP-2  
(MCC-59)



LAWN IRRIGATION CONTROL PANEL  
(CONTRACT TO FIELD VERIFY)

PUMP START CONTACT

CONTROLS DESIGNATIONS  
 Δ EXISTING DEVICE LOCATED REMOTE FROM MCC-59 (TO BE REUSED)  
 □ INDICATES TERMINAL BLOCK WITHIN MCC-59  
 ⊠ INDICATES TERMINAL ON FIELD DEVICE



JOB No.	171700842					
DESIGNED	TDT					
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SCALE  
  
NOT TO SCALE

City of Tampa Wastewater Department  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

MCC-59 TYPICAL MOTOR CONTROL SCHEMATICS  
 (SHEET 3 OF 3)

SHEET NUMBER	E-16
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01

MCC-59 CONDUIT AND CABLE SCHEDULE

CONDUIT No.	SIZE	NUMBER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
59M1	1"	3-#8 + 1-#10 GND	MCC-59	FB-OH-1 DISCONNECT	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M2	1"	3-#12 + 4-#14 + 1-#12 GND	MCC-59	FB-SP-1 CONTROLLER	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M3	1"	3-#12 + 4-#14 + 1-#12 GND	MCC-59	FB-SP-2 CONTROLLER	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUCTOR QUANTITY, CONDUIT SIZING/ROUTING.
59M4	2"	64-#14 (10 SPARE)	MCC-59	FBP-MS-ANN	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
59M5	3/4"	3-#12 + 1-#12 GND	MCC-59	J.B. AT MOTOR CA-SG-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M5A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SG-1	MOTOR CA-SG-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M5B	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SG-1	J.B. AT MOTOR CA-SG-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M5C	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SG-2	MOTOR CA-SG-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M5D	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SG-3	MOTOR CA-SG-3	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M5F	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SG-4	MOTOR CA-SG-4	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M6	1-1/4"	3-#4 + 1-#8 GND	MCC-59	J.B. AT FB-WO-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M6A	1-1/4"	3-#4 + 1-#8 GND	J.B. AT FB-WO-1	FB-WO-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M6B	1-1/4"	3-#4 + 1-#8 GND	J.B. AT FB-WO-1	FB-WO-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M7	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR CA-SSP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M7A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SSP-1	MOTOR CA-SSP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M7B	3/4"	2-#14	J.B. AT MOTOR CA-SSP-1	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M8	1"	3-#12 + 1-#12 GND	MCC-59	DISCONNECT AT CA-SSP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M8A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SSP-2	MOTOR CA-SSP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M9	1"	9-#14 (3 SPARE)	MCC-59	RESIDUAL CHLOR ANALYZER	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. FOR EXISTING RESIDUAL CHLORINE ANALYZER LOCATION REFER TO SHEET E-6.
59M10	1"	10-#14 (3 SPARE)	MCC-59	SAMPLE PUMP CON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M11	2"	3-#3/0 + 1-#4 GND	MCC-59	LAWN IRR PUMP FB-LIP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M11A	3/4"	4-#14	MCC-59	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M12	2"	3-#3/0 + 1-#4 GND	MCC-59	LAWN IRR PUMP FB-LIP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M12A	3/4"	4-#14	MCC-59	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M13	3/4"	4-#14	MCC-59	PRESS SWITCH OG-61	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M14	3/4"	2-#12 + 1-#12 GND	MCC-59	PANELBOARD LP-53	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. PANELBOARD LP-53 LOCATED IN ELECTRICAL EQUIPMENT ROOM (SHEET E-4). CIRCUIT 24
59M16	3"	3-#250MCM + 1-#4 GND	MCC-59	MCC-59A (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M17	3"	3-#1/0 + 1-#4 GND	MCC-59	MCC-59B (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M17A	3"	3-#1/0 + 1-#4 GND	MCC-59	MCC-59B (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M18	3"	3-#250MCM + 1-#4 GND	MCC-59	MCC-59A (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M19	1-1/2"	3-#2 + 1-#6 GND	MCC-59	MOTOR FB-CHSW-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M19A	3/4"	4-#14	MCC-59	P.B. STATION AT FB-CHSW-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M20	1-1/2"	3-#2 + 1-#6 GND	MCC-59	MOTOR FB-CHSW-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M20A	3/4"	4-#14	MCC-59	P.B. STATION AT FB-CHSW-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M21	1-1/4"	3-#8 + 4-#14 + 1-#10 GND	MCC-59	MOTOR FB-TDP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M21A	1"	3-#8 + 1-#10 GND	J.B. AT MOTOR FB-TDP-1	MOTOR FB-TDP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M21B	3/4"	2-#14	J.B. AT MOTOR FB-TDP-1	P.B. STATION AT FB-TDP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M21C	3/4"	2-#14	J.B. AT MOTOR FB-TDP-1	PRESS SWITCH OG-63	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M22	1-1/4"	3-#8 + 2-#14 + 1-#10 GND	MCC-59	MOTOR FB-TDP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M22A	1"	3-#8 + 1-#10 GND	J.B. AT MOTOR FB-TDP-2	MOTOR FB-TDP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M22B	3/4"	2-#14	J.B. AT MOTOR FB-TDP-2	P.B. STATION AT FB-TDP-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M23	1"	9-#14 (3 SPARE)	MCC-59	FBP-MS INDICATING LIGHTS	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. FOR EXISTING FBP-MS LOCATION REFER TO SHEET E-6.
59M27	1-1/4"	16-#14 (4 SPARE)	MCC-59	EFF WATER STR CON PANEL	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.

CONTINUED ON SHEET E-18



JOB No.	171700842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE	
NOT TO SCALE	

**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**MCC-59 CONDUIT  
 AND CABLE SCHEDULE  
 (SHEET 1 OF 3)**

SHEET NUMBER	E-17
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01

MCC-59 CONDUIT AND CABLE SCHEDULE (CONTINUED)					
59M30	1"	3-#12 + 4-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR FB-EWS-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M30A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR FB-EWS-1	MOTOR FB-EWS-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M30B	3/4"	4-#14	J.B. AT MOTOR FB-EWS-1	P.B. STATION AT FB-EWS-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M31	1"	3-#10 + 4-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR FB-SBW-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M31A	3/4"	3-#10 + 1-#12 GND	J.B. AT MOTOR FB-SBW-1	MOTOR FB-SBW-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M31B	3/4"	4-#14	J.B. AT MOTOR FB-SBW-1	P.B. STATION AT FB-SBW-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M32	1"	3-#12 + 4-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR FB-EWS-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M32A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR FB-EWS-2	MOTOR FB-EWS-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M32B	3/4"	4-#14	J.B. AT MOTOR FB-EWS-2	P.B. STATION AT FB-EWS-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M33	1"	3-#10 + 4-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR FB-SBW-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M33A	3/4"	3-#10 + 1-#12 GND	J.B. AT MOTOR FB-SBW-2	MOTOR FB-SBW-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M33B	3/4"	4-#14	J.B. AT MOTOR FB-SBW-2	P.B. STATION AT FB-SBW-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M34	2"	3-#4 + 1-#6	MCC-59	PANELBOARD 1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. REFER TO SHEET E-2 FOR PANELBOARD 1 LOCATION.
59M36	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR JC-4-SSP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M36A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR JC-4-SSP-1	MOTOR JC-4-SSP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M36B	3/4"	2-#14	J.B. AT MOTOR JC-4-SSP-1	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M37	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR CA-SSP-4	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M37A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR CA-SSP-4	MOTOR CA-SSP-4	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M37B	3/4"	2-#14	J.B. AT MOTOR CA-SSP-4	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M38	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-59	J.B. AT MOTOR FB-SSP-5	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M38A	3/4"	3-#12 + 1-#12 GND	J.B. AT MOTOR FB-SSP-5	MOTOR SEW SP 5 FB-SSP-5	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M38B	3/4"	2-#14	J.B. AT MOTOR FB-SSP-5	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M39	1"	3-#8 + 2-#14 + 1-#10 GND	MCC-59	J.B. AT MOTOR JC-4-MM-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M39A	3/4"	2-#14	MCC-59	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M40	1"	3-#8 + 2-#14 + 1-#10 GND	MCC-59	J.B. AT MOTOR JC-4-MM-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M40A	3/4"	3-#8 + 2-#14 + 1-#10 GND	J.B. AT MOTOR JC-4-MM-2	MOTOR JC-4-MM-2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M40B	3/4"	2-#14	MCC-59	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M41	1"	3-#10 + 2-#14 + 1-#10 GND	MCC-59	J.B. AT MOTOR SA-DP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M41A	3/4"	3-#10 + 1-#10 GND	J.B. AT MOTOR SA-DP-1	MOTOR SA-DP-1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M41B	3/4"	2-#14	J.B. AT MOTOR SA-DP-1	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M42	1-1/4"	3-#6 + 4-#14 + 1-#8 GND	MCC-59	J.B. AT MOTOR	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M42A	1-1/4"	3-#6 + 1-#8 GND	J.B. AT MOTOR	DECHLORINATION MOTOR 1	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M42B	3/4"	2-#14	J.B. AT MOTOR	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M43	1-1/4"	3-#6 + 4-#14 + 1-#8 GND	MCC-59	J.B. AT MOTOR	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M43A	1-1/4"	3-#6 + 1-#8 GND	J.B. AT MOTOR	DECHLORINATION MOTOR 2	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M43B	3/4"	2-#14	J.B. AT MOTOR	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M44	3/4"	2-#12 + 1-#12 GND	LP-53-SUB	EXISTING FLOW METER	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.. CONTRACTOR TO FIELD VERIFY CONDUIT ROUTING.
59M45	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-59	J.B. AT PRE-SULFONATED	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M45A	3/4"	3-#12 + 1-#12 GND	J.B. AT PRE-SULFONATED	PRE-SULFONATED MOTOR	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M45B	3/4"	2-#14	J.B. AT PRE-SULFONATED	PUSHBUTTON STATION	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M46	1"	6-#12 + 4-#14 + 1-#12 GND	MCC-59	CA-SSP-3A/B CONT. STA.	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M46A	3/4"	6-#12 + 1-#12 GND	CA-SSP-3A/B CONT. STA.	J.B. AT CA-SSP-3A/B	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M46B	3/4"	3-#12 + 1-#12 GND	J.B. AT CA-SSP-3A/B	MOTOR AT CA-SSP-3A	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59M46C	3/4"	3-#12 + 1-#12 GND	J.B. AT CA-SSP-3A/B	MOTOR AT CA-SSP-3B	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.

CONTINUED ON SHEET E-19



JOB No.	171700842								
DESIGNED	TDT								
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DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION		

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**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**MCC-59 CONDUIT AND CABLE SCHEDULE (SHEET 2 OF 3)**

SHEET NUMBER
E-18
TIMOTHY THOMAS, P.E. No. 47079
FILE: 171700842E01

MCC-59 CONDUIT AND CABLE SCHEDULE (CONTINUED)					
CONDUIT No.	SIZE	NUMBER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
5C69	3/4"	2-#14	PRESS SWITCH OG-65	FBCSP-ANN	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
5C70	3/4"	6-#14	MCC-59	FBCSP INDICATING LIGHTS	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M3A	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M3B	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M3C	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M3D	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 1)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M4A	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M4B	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M4C	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
56M4D	3-1/2"	3-#350MCM + 1-#4/0 GND	SWITCHGEAR 56	MCC-59 (BUS NO. 2)	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.



JOB No.	171700842								
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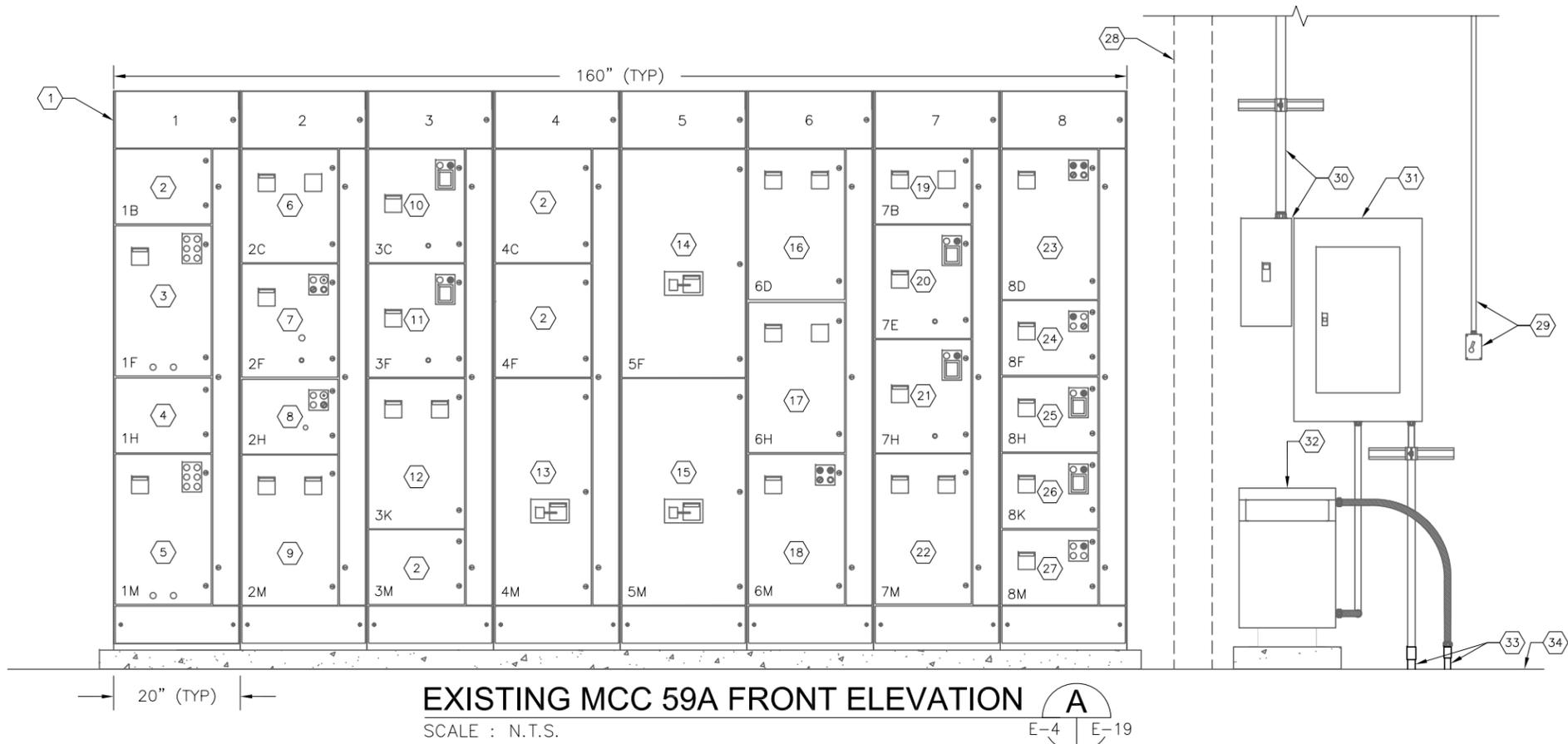
City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

MCC-59 CONDUIT  
AND CABLE SCHEDULE  
(SHEET 3 OF 3)

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
E-19  
FILE: 171700842E01



- KEYED NOTES:**
- 28 EXISTING PIPE DOWN TO ELEVATION 3'-6". NO WORK REQUIRED.
  - 29 EXISTING LIGHT SWITCH AND ASSOCIATED CONDUIT/CONDUCTORS. NO WORK REQUIRED.
  - 30 EXISTING 480V, 3-POLE, 100A ENCLOSED CIRCUIT BREAKER AND ASSOCIATED CONDUIT/CONDUCTORS TO BE REMOVED. EXISTING 100A FEEDER IS TAPPED DIRECTLY TO MCC-59A BUS. REFER TO SHEET E-21 FOR NEW WORK REQUIRED.
  - 31 EXISTING 480V, 3-PHASE, 3-WIRE, 100A PANELBOARD 'PP' AND ASSOCIATED CONDUIT/CONDUCTORS TO BE REMOVED. REFER TO SHEET E-21 FOR NEW WORK REQUIRED.
  - 32 EXISTING 480-120/240V, SINGLE-PHASE, 25 KVA TRANSFORMER AND ASSOCIATED CONDUIT/CONDUCTORS TO BE REMOVED. REFER TO SHEET E-21 FOR NEW WORK REQUIRED.
  - 33 EXISTING CONDUITS WHICH PENETRATE SLAB DOWN TO ELEVATION 3'-6" SHALL REMAIN AND BE REUSED AFTER CLEANING. REFER TO SHEET E-21 FOR NEW WORK REQUIRED.
  - 34 ELEVATION 11'-0" FLOOR SLAB.

- GENERAL NOTES:**
1. THIS EXISTING DEVICE WILL BECOME OBSOLETE UNDER THIS CONTRACT. DUPLICATION IN THE NEW MCC-59A PROPOSED IS NOT REQUIRED.
  2. THIS EXISTING DEVICE SHALL BE DUPLICATED IN THE NEW MCC-59A PROPOSED. REFER ALSO TO SHEET E-23 FOR PROPOSED MCC-59A ONE-LINE DIAGRAM.

- KEYED NOTES:**
- 1 277/480V, 600A, 3 $\phi$ , 3-WIRE MCC-59A. CONTRACTOR SHALL REMOVE EXISTING MCC AND PROVIDE NEW MCC-59A PER SPECIFICATIONS.
  - 2 SPARE BUCKET. REFER TO PROPOSED MCC-59A ELEVATION AND MCC-59A ONE-LINE DIAGRAM FOR SPARES REQUIRED IN THE NEW MCC-59A.
  - 3 SUPPLY FAN NO. 1A 'FB-S-1A', 10 HP ACROSS-THE-LINE HIGH SPEED AND LOW SPEED STARTERS. CIRCUIT BREAKER ONLY WILL BE REQUIRED IN THE NEW MCC-59A.
  - 4 THERMOSTAT CONTROLS. NEW THERMOSTAT CONTROLS TO BE PROVIDED IN NEW MCC-59A. GENERAL NOTE 2.
  - 5 480V, 100AF/25AT 3-POLE CIRCUIT BREAKER FOR SUPPLY FAN NO. 1B 'FB-S-1B'. CIRCUIT BREAKER ONLY WILL BE REQUIRED IN THE NEW MCC-59A.
  - 6 480V, 100AF/40AT 3-POLE CIRCUIT BREAKER FOR POLYMER FEED PUMPS. GENERAL NOTE 1.
  - 7 EXHAUST FAN 'FB-REF-2', 3 HP ACROSS-THE-LINE STARTER. GENERAL NOTE 2.
  - 8 UNIT HEATER CONTROLS. NEW UNIT HEATER CONTROLS TO BE PROVIDED IN NEW MCC-59A. GENERAL NOTE 2.
  - 9 24" BUCKET CONTAINING ONE 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR UNIT HEATER NO. 1 'FB-UH-1'. NOTE 2. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR UNIT HEATER NO. 2 'FB-UH-2'. GENERAL NOTE 2.
  - 10 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR LIQUID ALUM CIRCULATION PUMP NO. 1 'FB-LAC-1'. GENERAL NOTE 1.
  - 11 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR LIQUID ALUM CIRCULATION PUMP NO. 2 'FB-LAC-2'. GENERAL NOTE 1.
  - 12 24" BUCKET CONTAINING ONE 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 1 'FB-EV-1'. NOTE 2. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 3 'FB-EV-3'. GENERAL NOTE 2.
  - 13 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59 BUS NO. 1 FEEDER. GENERAL NOTE 2.
  - 14 480V, 400AF/400AT 3-POLE TIE CIRCUIT BREAKER. GENERAL NOTE 2.
  - 15 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59 BUS NO. 2 FEEDER. GENERAL NOTE 2.
  - 16 24" BUCKET CONTAINING ONE 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 2 'FB-EV-2'. NOTE 2. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 4 'FB-EV-4'. GENERAL NOTE 2.
  - 17 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR MONORAIL HOIST NO. 2 'FB-MH-2'. GENERAL NOTE 2.
  - 18 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION SUPPLY PUMP NO. 2. GENERAL NOTE 2.
  - 19 480V, 100AF/20AT 3-POLE CIRCUIT BREAKER FOR "AIR COMPRESSOR BLUE". GENERAL NOTE 1.
  - 20 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR POLYMER FEED PUMP NO. 1 'FB-APP-1'. GENERAL NOTE 1.
  - 21 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR POLYMER FEED PUMP NO. 2 'FB-APP-2'. GENERAL NOTE 1.
  - 22 24" BUCKET CONTAINING ONE 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR POLYMER ACTIVATION UNIT NO. 1 'FB-PAU-1'. GENERAL NOTE 1. THE BUCKET ALSO CONTAINS ONE 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR POLYMER ACTIVATION UNIT NO. 1 'FB-PAU-1'. GENERAL NOTE 1.
  - 23 480V, 100AF/60AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION SUPPLY PUMP NO. 1. GENERAL NOTE 2.
  - 24 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION SUPPLY/DRAIN VALVE CONTROLS. GENERAL NOTE 2.
  - 25 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR LIQUID POLYMER TANK MIXER NO. 1 'FB-PTM-1'. GENERAL NOTE 1.
  - 26 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR LIQUID POLYMER TANK MIXER NO. 2 'FB-PTM-2'. GENERAL NOTE 1.
  - 27 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR LIQUID POLYMER TRANSFER PUMP NO. 1 'FB-PTP-1'. GENERAL NOTE 1.



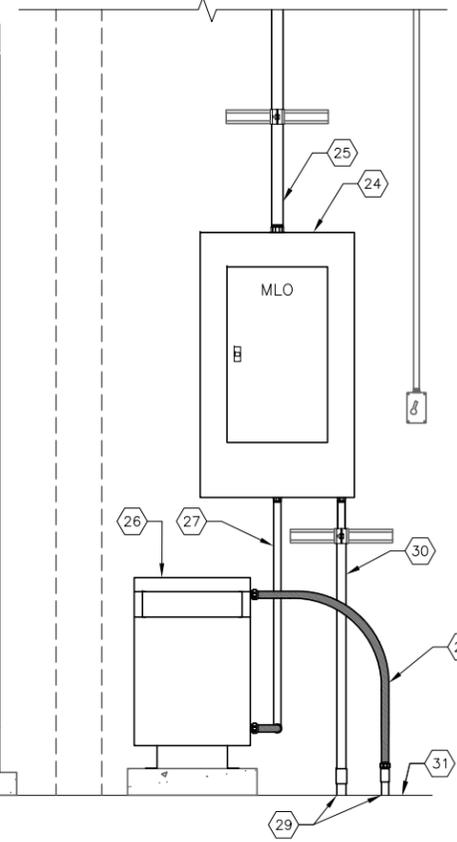
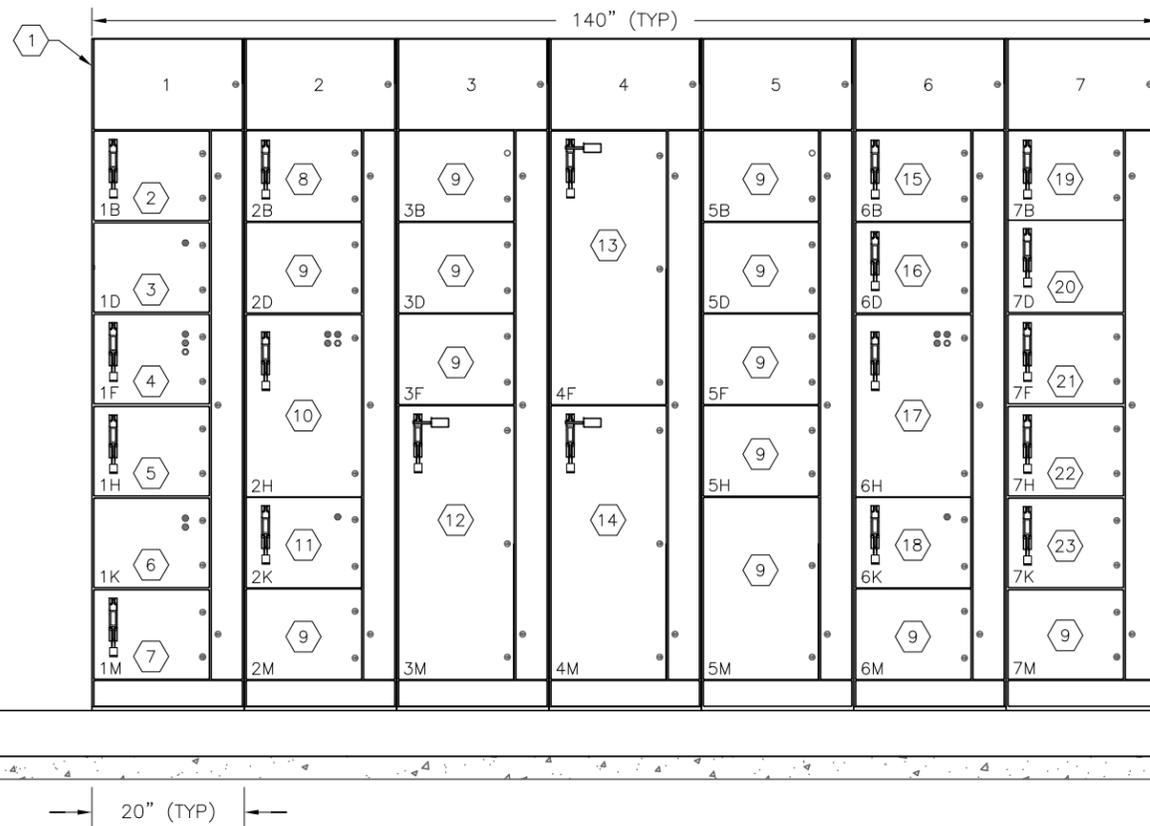
JOB No.	171700842						
DESIGNED	TDT						
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CHECKED	TDT						
DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE  
  
NOT TO SCALE

City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

EXISTING MCC-59A  
FRONT ELEVATION

SHEET NUMBER	E-20
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



**GENERAL NOTES:**

1. REFER TO SHEET E-23 FOR PROPOSED MCC-59A ONE-LINE DIAGRAM.

**PROPOSED MCC 59A FRONT ELEVATION**

SCALE : N.T.S.

**KEYED NOTES:**

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| <p>① 277/480V, 600A, 3<math>\phi</math>, 3-WIRE MCC-59A.</p> <p>② 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR SUPPLY FAN 'FB-S-1A'.</p> <p>③ SUPPLY FANS THERMOSTAT CONTROLS. REFER TO CONTROL SCHEMATICS SHEET E-24.</p> <p>④ EXHAUST FAN 'FB-REF-2', 3 HP ACROSS-THE-LINE STARTER.</p> <p>⑤ 480V, 20A CONTACTOR FOR UNIT HEATER NO. 1 'FB-UH-1'.</p> <p>⑥ UNIT HEATER CONTROLS. REFER TO CONTROL SCHEMATICS SHEET E-24.</p> <p>⑦ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 1 'FB-EV-1'.</p> <p>⑧ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 3 'FB-EV-3'.</p> <p>⑨ PROPOSED SPACE.</p> <p>⑩ CHLORINE SOLUTION SUPPLY PUMP NO. 1, FB-CSSP-1, 10 HP SOFTSTARTER.</p> <p>⑪ PROPOSED SPACE.</p> <p>⑫ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59 BUS NO. 1 FEEDER.</p> | <p>⑬ 480V, 400AF/400AT 3-POLE TIE CIRCUIT BREAKER.</p> <p>⑭ 480V, 400AF/400AT 3-POLE CIRCUIT BREAKER FOR MCC-59 BUS NO. 2 FEEDER.</p> <p>⑮ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 2 'FB-EV-2'.</p> <p>⑯ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR CHLORINE EVAPORATOR NO. 4 'FB-EV-4'.</p> <p>⑰ CHLORINE SOLUTION SUPPLY PUMP NO. 2, FB-CSSP-2, 10 HP SOFTSTARTER.</p> <p>⑱ PROPOSED SPACE.</p> <p>⑲ 480V, 100AF/30AT 3-POLE CIRCUIT BREAKER FOR SUPPLY FAN 'FB-S-1B'.</p> <p>⑳ 480V, 20A 3-POLE CONTACTOR FOR UNIT HEATER NO. 2 'FB-UH-2'.</p> <p>㉑ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR MONORAIL HOIST 'FB-MH-2'.</p> <p>㉒ 480V, 100AF/100AT 3-POLE CIRCUIT BREAKER FOR PANELBOARD 'PP'.</p> <p>㉓ 480V, 100AF/15AT 3-POLE CIRCUIT BREAKER FOR CHLORINE SOLUTION SUPPLY/DRAIN VALVE CONTROLS.</p> | <p>㉔ PROVIDE AND INSTALL NEW 480V, 3-PHASE, 3-WIRE 100A M.L.O. PANELBOARD 'PP', PANELBOARD SHALL BE SUITABLE FOR USE ON 480V, 3-PHASE, 3-WIRE SYSTEM. SIEMENS TYPE P2 WITH BQD CIRCUIT BREAKERS OR EQUAL. REFER TO SHEET E-22 FOR PROPOSED PANEL SCHEDULE.</p> <p>㉕ PROVIDE AND INSTALL 3-#3 + 1- #8 IN 1-1/4" CONDUIT TO MCC-59A (59AM27).</p> <p>㉖ PROVIDE AND INSTALL NEW 480-120/240V, SINGLE-PHASE, 25 KVA TRANSFORMER. GROUND TRANSFORMER PER NEC REQUIREMENTS.</p> <p>㉗ PROVIDE AND INSTALL 2-#6 + 1-#10 GND IN 1-1/4" CONDUIT. PROVIDE FLEXIBLE CONNECTION TO TRANSFORMER.</p> <p>㉘ PROVIDE AND INSTALL 2-#6 + 1-#10 GND IN 1" CONDUIT. PROVIDE FLEXIBLE CONNECTION TO TRANSFORMER. REFER ALSO TO NOTE #27.</p> <p>㉙ EXISTING CONDUIT PENETRATION DOWN TO LEVEL 3'-6". CONTRACTOR SHALL REUSE THIS RACEWAY AFTER CLEANING. REFER TO SHEET E-5 FOR CONTINUATION.</p> <p>㉚ CONTRACTOR TO FIELD VERIFY EXISTING CONDUCTOR SIZES AND QUANTITIES SERVED BY EXISTING PANELBOARD 'PP' AND DUPLICATE EXISTING CONDUCTORS/CONDUIT. REFER ALSO TO NOTE #27.</p> <p>㉛ ELEVATION 11'-0" FLOOR SLAB.</p> <p>㉜ PROPOSED WIREWAY, 6 INCHES IN HEIGHT. REFER ALSO TO SPECIFICATIONS AND SHEET E-22 FOR MCC-59A INSTALLATION DETAILS.</p> |
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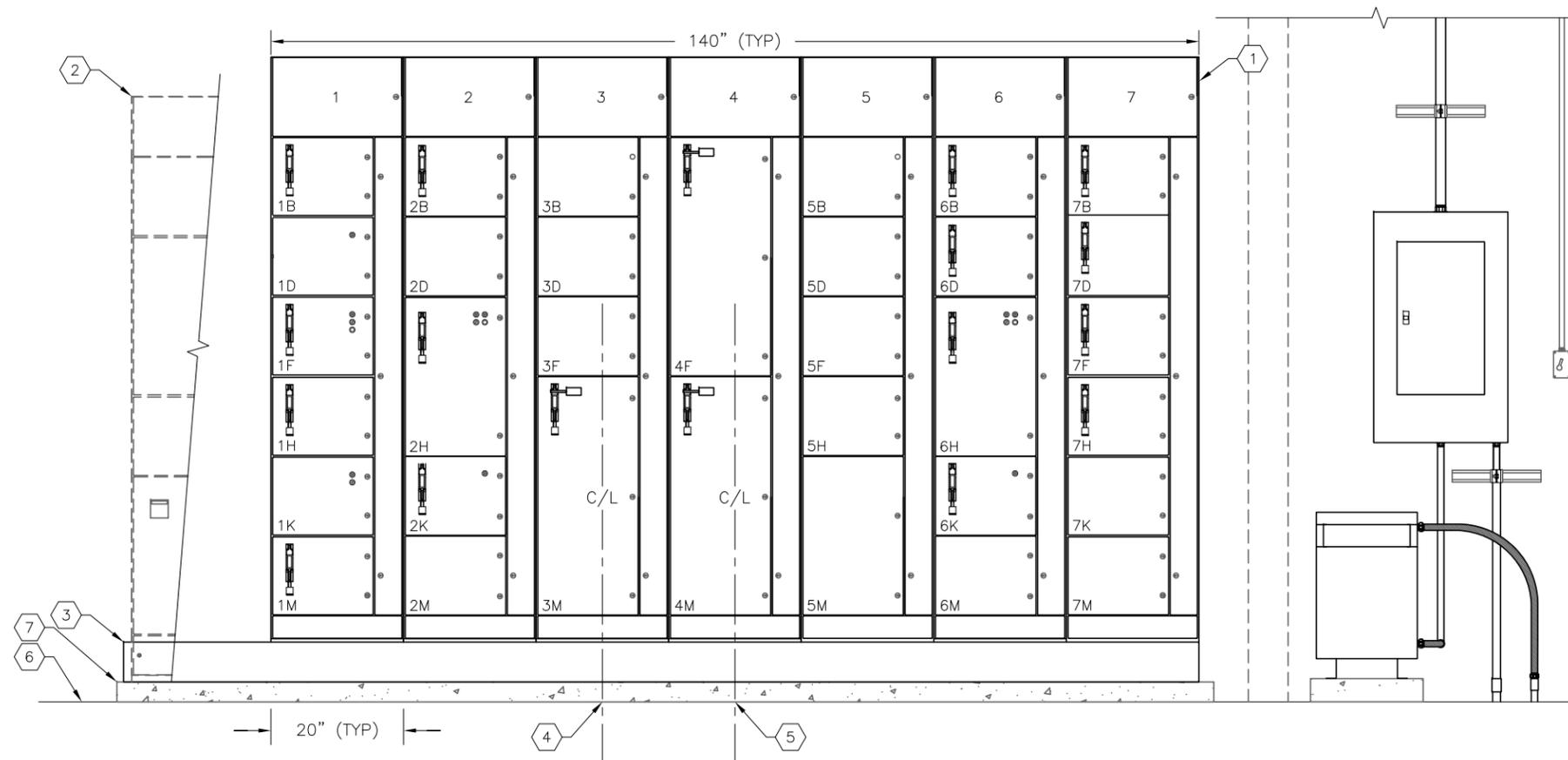
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**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**PROPOSED MCC-59A  
FRONT ELEVATION**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E-21**  
FILE: 171700842E01



**PROPOSED MCC 59A INSTALLATION ELEVATION**  
SCALE : N.T.S.

480V DISTRIBUTION PANELBOARD "PP" SCHEDULE				
MAINS:		100A M.L.O.		
AIC RATING:		14K RMS. AMPS. SYMM.		
LOCATION:		H&V EQUIPMENT ROOM		
VOLTAGE:		VOLTAGE: 480V, 3PH, 3W, 60HZ.		
UNIT No.	DESCRIPTION	POLE	BREAKER	
			AMPS	TYPE
1	1 $\phi$ TRANSFORMER	2	50	BQD
2	SO2 EVAPORATOR NO. 1	3	20	BQD
3	SO2 EVAPORATOR NO. 2	3	20	BQD
4	SO2 EVAPORATOR NO. 3	3	20	BQD
5	DECHLOR BLDG UNIT HEATER NO. 1	3	20	BQD
6	DECHLOR BLDG UNIT HEATER NO. 2	3	20	BQD
7	SPARE	3	20	BQD
8	SPARE	3	20	BQD

**NOTES:**

- CONTRACTOR TO FIELD VERIFY ALL CIRCUIT BREAKER BREAKERS SIZES.

KEYED NOTES:	
1	PROPOSED 277/480V, 600A, 3 $\phi$ , 3-WIRE MCC-59A. NEW MCC-59A WILL HAVE ONE (1) LESS SECTION THAN THE ORIGINAL MCC.
2	OUTLINE OF EXISTING MCC-59A TO BE REMOVED AND REPLACED.
3	PROPOSED WIREWAY, 6 INCHES IN HEIGHT. REFER ALSO TO SPECIFICATIONS. TO ACCOMMODATE ALL EXISTING CONDUCTORS AND CONDUIT, THE PROPOSED WIREWAY SHALL BE PROVIDED WITH THE SAME DIMENSIONS OF THE EXISTING MCC-59A TO BE REMOVED.
4	EXISTING CENTERLINE OF SECTION WHICH WILL CONTAIN THE MCC-59 BUS NO. 1 FEEDER CIRCUIT BREAKER. DUE TO THE SIZES/QUANTITIES OF THE CONDUIT/CONDUCTORS ASSOCIATED WITH THE MCC-59 BUS NO. 1 FEEDER, THE CONTRACTOR SHALL ALIGN THE PROPOSED MCC SECTION CONTAINING THIS CIRCUIT BREAKER IN THIS POSITION.
5	EXISTING CENTERLINE OF SECTION WHICH WILL CONTAIN THE TIE CIRCUIT BREAKER AND MCC-59 BUS NO. 2 FEEDER CIRCUIT BREAKER. DUE TO THE SIZES/QUANTITIES OF THE CONDUIT/CONDUCTORS ASSOCIATED WITH THE MCC-59 BUS NO. 2 FEEDER, THE CONTRACTOR SHALL ALIGN THE PROPOSED MCC SECTION CONTAINING THESE CIRCUIT BREAKERS IN THIS POSITION.
6	ELEVATION 11'-0" FLOOR SLAB.
7	EXISTING MCC-59A HOUSEKEEPING PAD TO REMAIN.



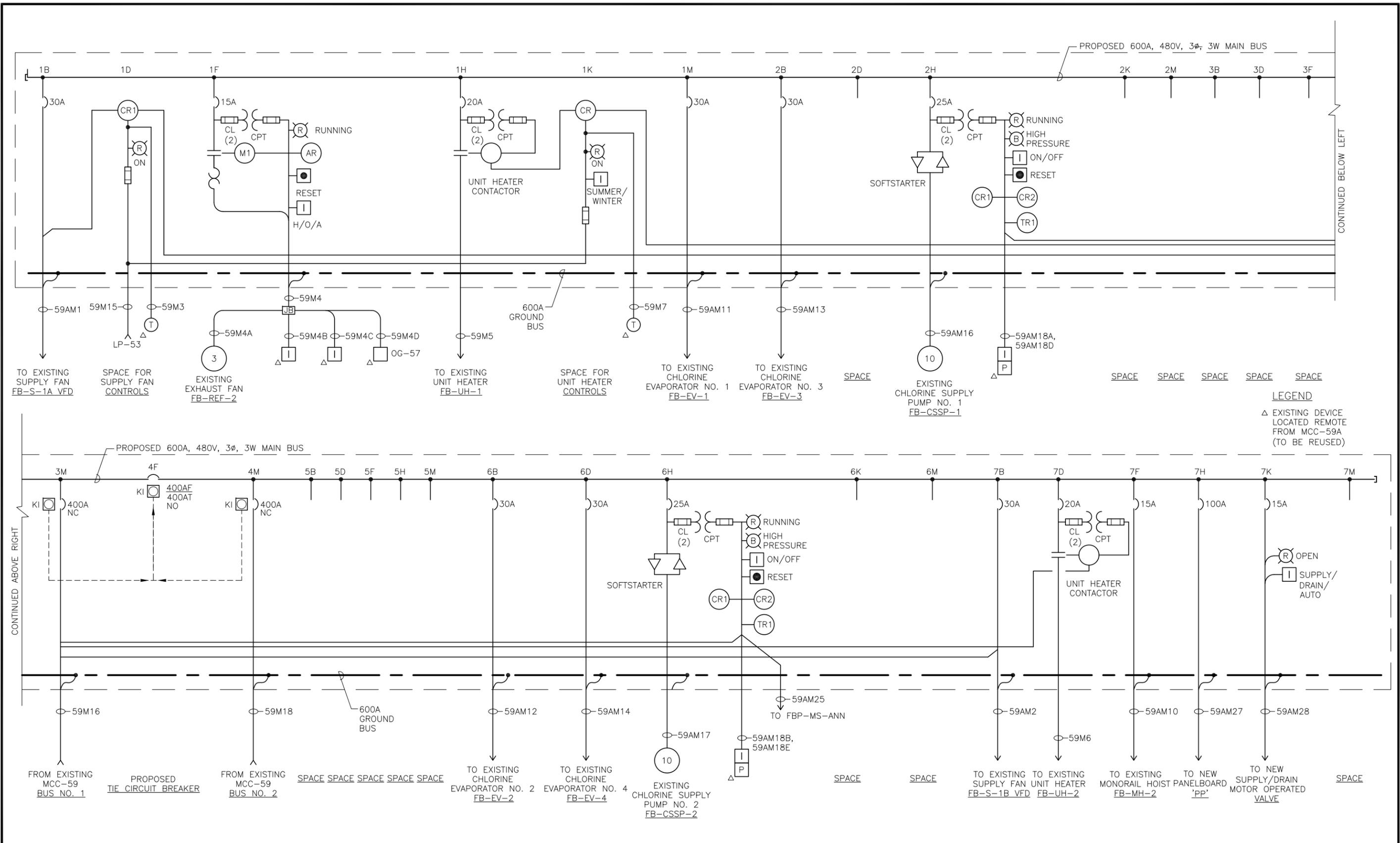
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City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**PROPOSED MCC-59A  
INSTALLATION DETAILS**

SHEET NUMBER	E-22
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



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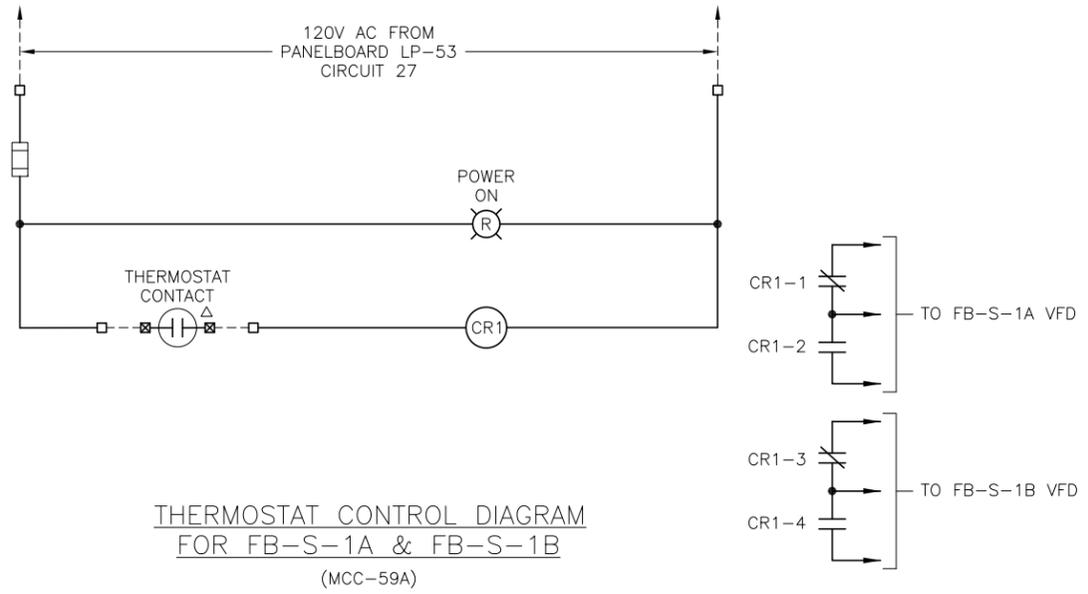
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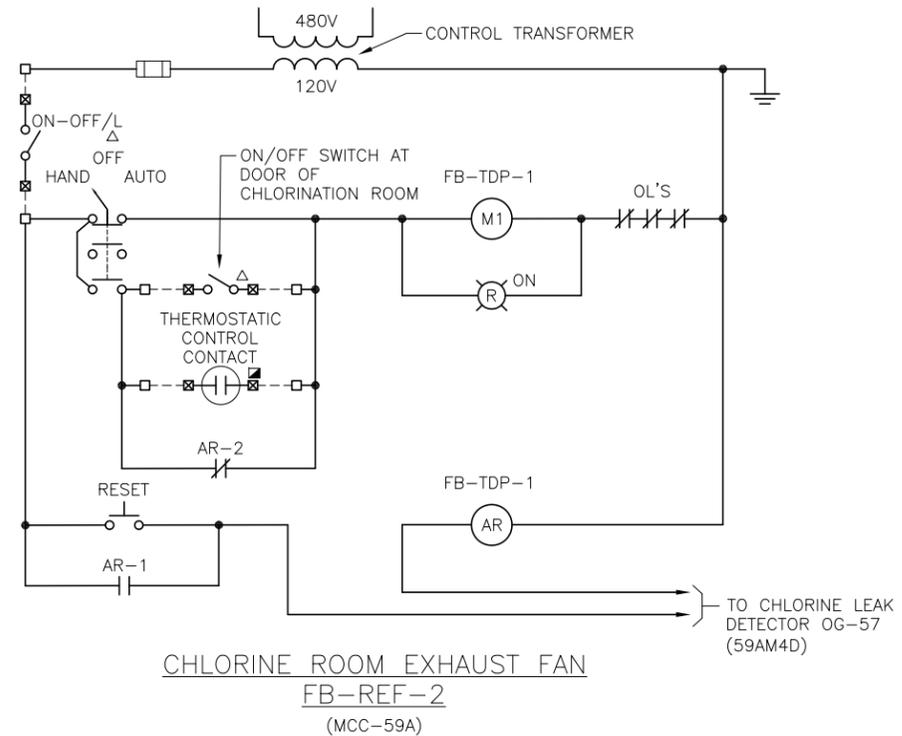
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 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**MCC-59A ELECTRICAL ONE-LINE DIAGRAM**

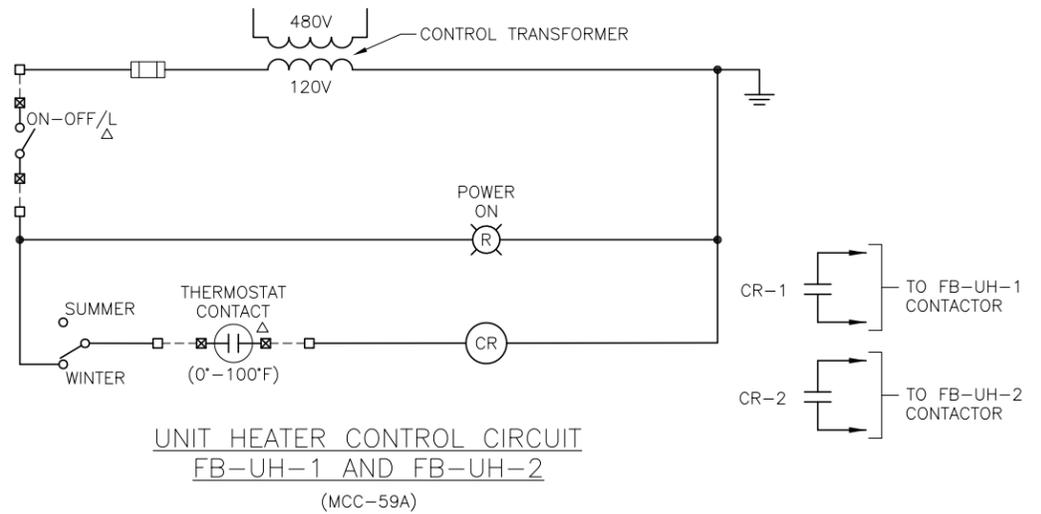
SHEET NUMBER	E-23
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



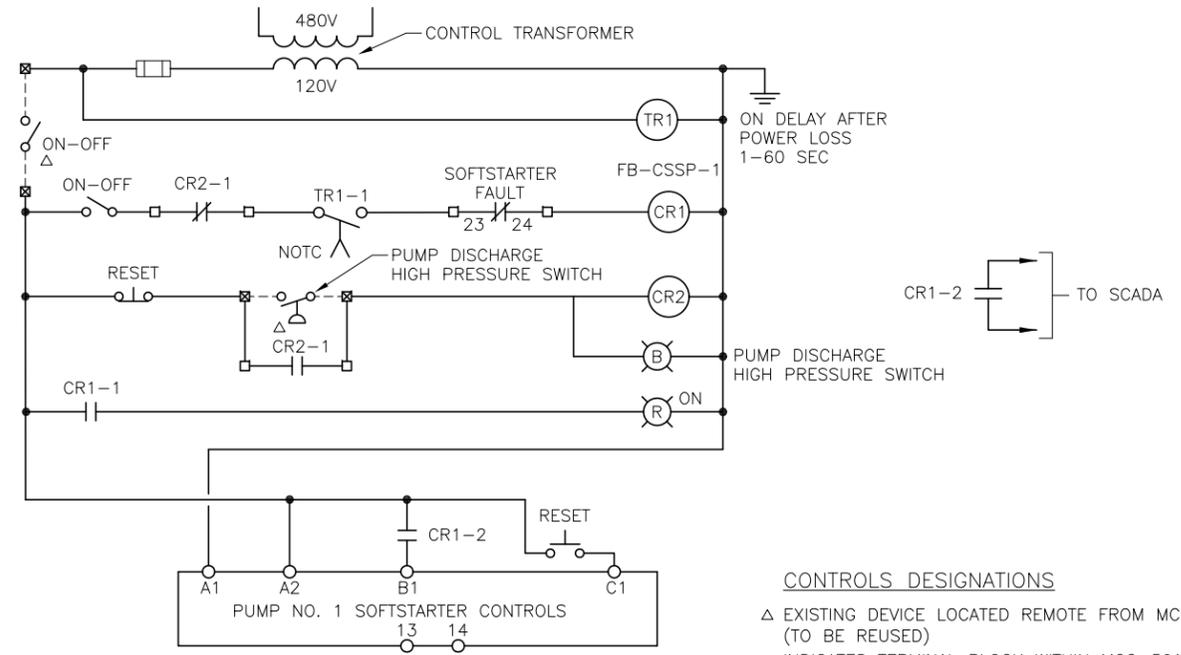
**THERMOSTAT CONTROL DIAGRAM FOR FB-S-1A & FB-S-1B**  
(MCC-59A)



**CHLORINE ROOM EXHAUST FAN FB-REF-2**  
(MCC-59A)



**UNIT HEATER CONTROL CIRCUIT FB-UH-1 AND FB-UH-2**  
(MCC-59A)



**CHLORINE SOLUTION SUPPLY PUMP FB-CSSP-1**  
(MCC-59A)  
FB-CSSP-2 IS SIMILAR

**CONTROLS DESIGNATIONS**

- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-59A (TO BE REUSED)
- INDICATES TERMINAL BLOCK WITHIN MCC-59A
- ⊠ INDICATES TERMINAL ON FIELD DEVICE
- INDICATES DEVICE LOCATED WITHIN THE EXISTING HVAC SYSTEM TEMPERATURE CONTROL PANEL (HVAC-TCP) (TO BE REUSED)



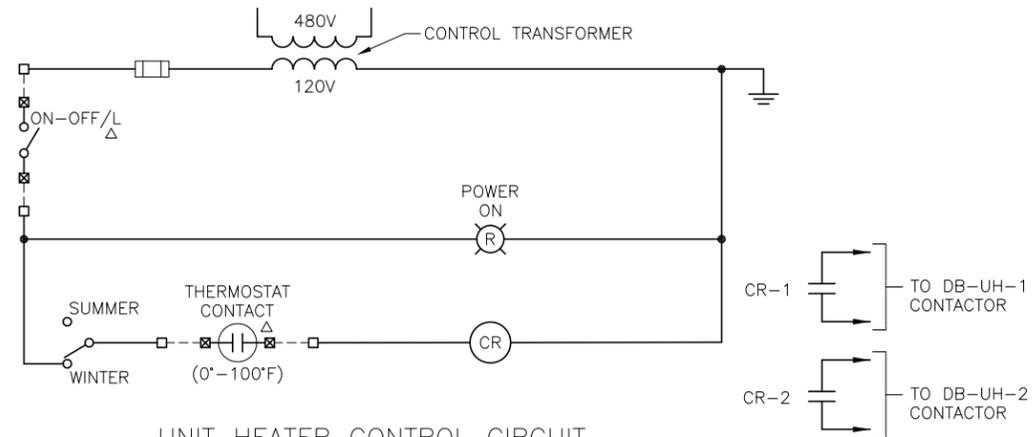
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MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**MCC-59A TYPICAL MOTOR CONTROL SCHEMATICS**  
(SHEET 1 OF 2)

SHEET NUMBER	E-24
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



UNIT HEATER CONTROL CIRCUIT  
DB-UH-1 AND DB-UH-2

(FED FROM PANELBOARD PP)

CONTROLS DESIGNATIONS

- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-59A (TO BE REUSED)
- INDICATES TERMINAL BLOCK WITHIN MCC-59A
- ⊠ INDICATES TERMINAL ON FIELD DEVICE
- INDICATES DEVICE LOCATED WITHIN THE EXISTING HVAC SYSTEM TEMPERATURE CONTROL PANEL (HVAC-TCP) (TO BE REUSED)



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MOTOR CONTROL CENTER 59  
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MCC-59A TYPICAL MOTOR  
CONTROL SCHEMATICS  
(SHEET 2 OF 2)

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
E-25  
FILE: 171700842E01



MCC-59A CONDUIT AND CABLE SCHEDULE

CONDUIT No.	SIZE	NUMBER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
59AM21	1"	3-#12 + 6-#14 + 1-#12 GND	MCC-59A	J.B. AT SUPPLY/DRAIN MOV	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM21A	3/4"	3-#12 + 1-#12 GND	J.B. AT SUPPLY/DRAIN MOV	SUPPLY/DRAIN MOV MOTOR	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM21A	3/4"	6-#14	J.B. AT SUPPLY/DRAIN MOV	MOV MOTOR CONTROLS	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM23	1-1/2"	24-#14 (8 SPARES)	MCC-59A	FBCSP-ANN	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM24	1-1/2"	26-#14 (5 SPARES)	MCC-59A	FBP-CHS	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM25	1-1/2"	18-#14 (4 SPARES)	MCC-59A	FBP-MS-ANN	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM26	3/4"	3-#12 + 1-#12 GND	MCC-59A	FBP-MS-ANN	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
59AM27	1-1/4"	3-#3 + 1-#8 GND	MCC-59A	PANELBOARD 'PP'	CONDUIT AND CONDUCTORS TO BE NEW.



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MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

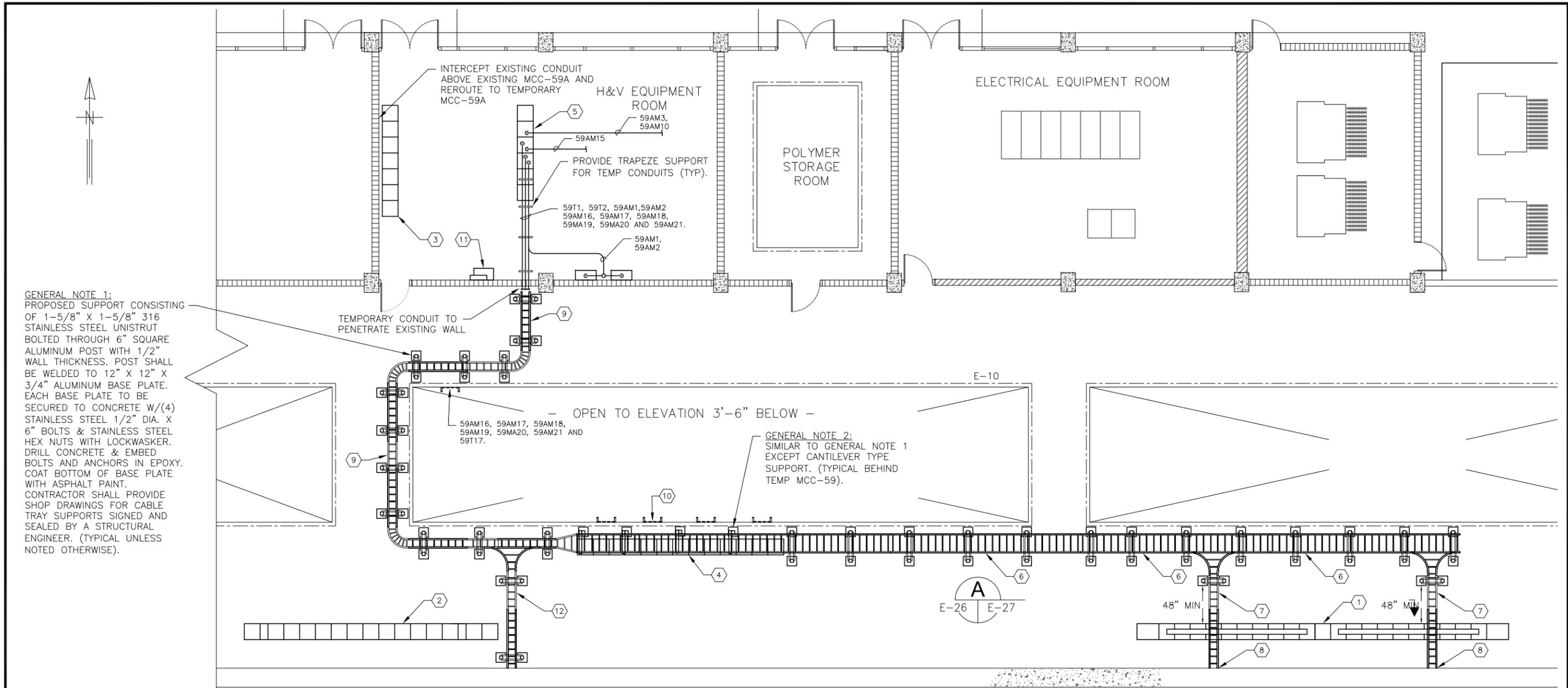
MCC-59A CONDUIT  
AND CABLE SCHEDULE  
(SHEET 2 OF 2)

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

E-27

FILE: 171700842E01



**GENERAL NOTE 1:**  
 PROPOSED SUPPORT CONSISTING OF 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT BOLTED THROUGH 6" SQUARE ALUMINUM POST WITH 1/2" WALL THICKNESS. POST SHALL BE WELDED TO 12" X 12" X 3/4" ALUMINUM BASE PLATE. EACH BASE PLATE TO BE SECURED TO CONCRETE W/(4) STAINLESS STEEL 1/2" DIA. X 6" BOLTS & STAINLESS STEEL HEX NUTS WITH LOCKWASHER. DRILL CONCRETE & EMBED BOLTS AND ANCHORS IN EPOXY. COAT BOTTOM OF BASE PLATE WITH ASPHALT PAINT. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR CABLE TRAY SUPPORTS SIGNED AND SEALED BY A STRUCTURAL ENGINEER. (TYPICAL UNLESS NOTED OTHERWISE).

**GENERAL NOTE 2:**  
 SIMILAR TO GENERAL NOTE 1 EXCEPT CANTILEVER TYPE SUPPORT. (TYPICAL BEHIND TEMP MCC-59).

**TEMPORARY POWER EQUIPMENT LAYOUT PLAN ELEVATION 11'-0"**

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

**KEYED NOTES:**

- ① EXISTING 480V, 1,200A MCC-58. REFER TO SHEET E-34 FOR PROVIDING TEMPORARY POWER TO TEMPORARY MCC-59 AND TEMPORARY MCC-59A DURING CONSTRUCTION.
- ② EXISTING 480V, 1,200A MCC-59 TO BE REPLACED.
- ③ EXISTING 480V, 400A MCC-59A TO BE REPLACED.
- ④ PROPOSED LOCATION FOR TEMPORARY 480V, 1,200A MCC-59. REFER TO SHEET E-34 FOR PROVIDING TEMPORARY POWER FROM MCC-58.
- ⑤ PROPOSED LOCATION FOR TEMPORARY 480V, 400A MCC-59A. COORDINATE PROPOSED LOCATION WITH EXISTING LIGHT FIXTURES WITHIN ROOM. REFER TO SHEET E-34 FOR PROVIDING TEMPORARY POWER FROM MCC-58.
- ⑥ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR AT ELEV 11'-0". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING MCC-58 ELEVATION OR AS REQUIRED. CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 58T1, 58T2, 58T3, AND 58T4.
- ⑦ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR AT ELEV 11'-0". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING MCC-58 ELEVATION OR AS REQUIRED. CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 58T1 AND 58T2 OR 58T3 AND 58T4.
- ⑧ CONTRACTOR TO SECURE CABLE TRAY TO EXISTING WALL.
- ⑨ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR AT ELEV 11'-0". CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 59T1, 59T2, AND ANY CONDUCTORS WHICH THE TRAY CAN ACCOMMODATE BASED ON FIELD ROUTING.
- ⑩ CONTRACTOR TO PROVIDE AND INSTALL ALUMINUM CABLE TRAY SECURED TO SIDE OF ELEV 11'-0" FLOOR SLAB FOR ACCESS OF TEMPORARY CONDUCTORS DOWN TO ELEVATION 3'-6" (TYPICAL).
- ⑪ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 480V-120/240V 15 KVA TRANSFORMER AND 480V, 3Ø, 3-WIRE PANELBOARD 'PP'. COORDINATE LOCATION WITH THE CITY OF TAMPA.
- ⑫ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 59T17A.



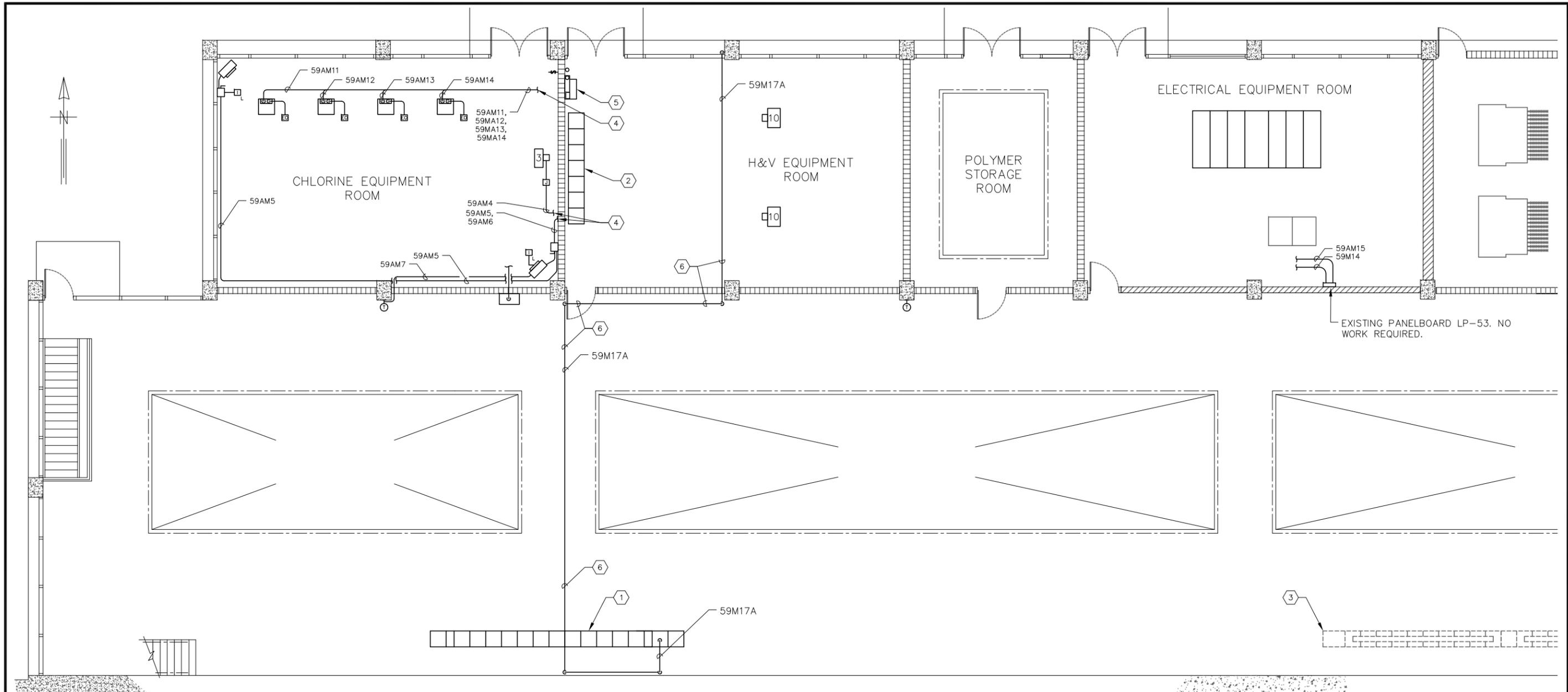
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**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**TEMPORARY POWER EQUIPMENT LAYOUT PLAN**

SHEET NUMBER	E-28
TIMOTHY THOMAS, P.E. No. 47079	FILE:



### ELEVATION 11'-0" TEMPORARY CONDUIT/CONDUCTOR NOTES

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

**KEYED NOTES:**

- ① EXISTING MCC-59.

② EXISTING MCC-59A.

③ EXISTING MCC-58.

④ EXISTING CONDUIT/CONDUCTORS TO BE INTERCEPTED AND TEMPORARILY REROUTED TO TEMPORARY MCC-59A. REFER ALSO TO SHEET E-28.
- ⑤ EXISTING 480V, 3Ø 3-WIRE 100A PANELBOARD 'PP' AND 480-120/240V, SINGLE-PHASE 15 KVA TRANSFORMER TO BE TEMPORARILY DUPLICATED. REFER ALSO TO SHEET E-28.

⑥ 59M17A EXITS THE TOP OF EXISTING MCC-59, IS ROUTED TO THE SOUTH WALL OF FILTER BUILDING NO. 1 AND THEN GOES UP THE WALL TO THE CEILING (TO AVOID OVERHEAD CRANE). THE CONDUIT TRAVELS ACROSS THE CEILING AND EVENTUALLY IS ROUTED DOWN AND THROUGH THE H&V EQUIPMENT ROOM BEFORE EXITING THE BUILDING. THE CONDUIT RUN HAS NUMEROUS CONDUIT L.B.'S INSTALLED AND MAY BE INTERCEPTED AT ANY LOGICAL POINT.

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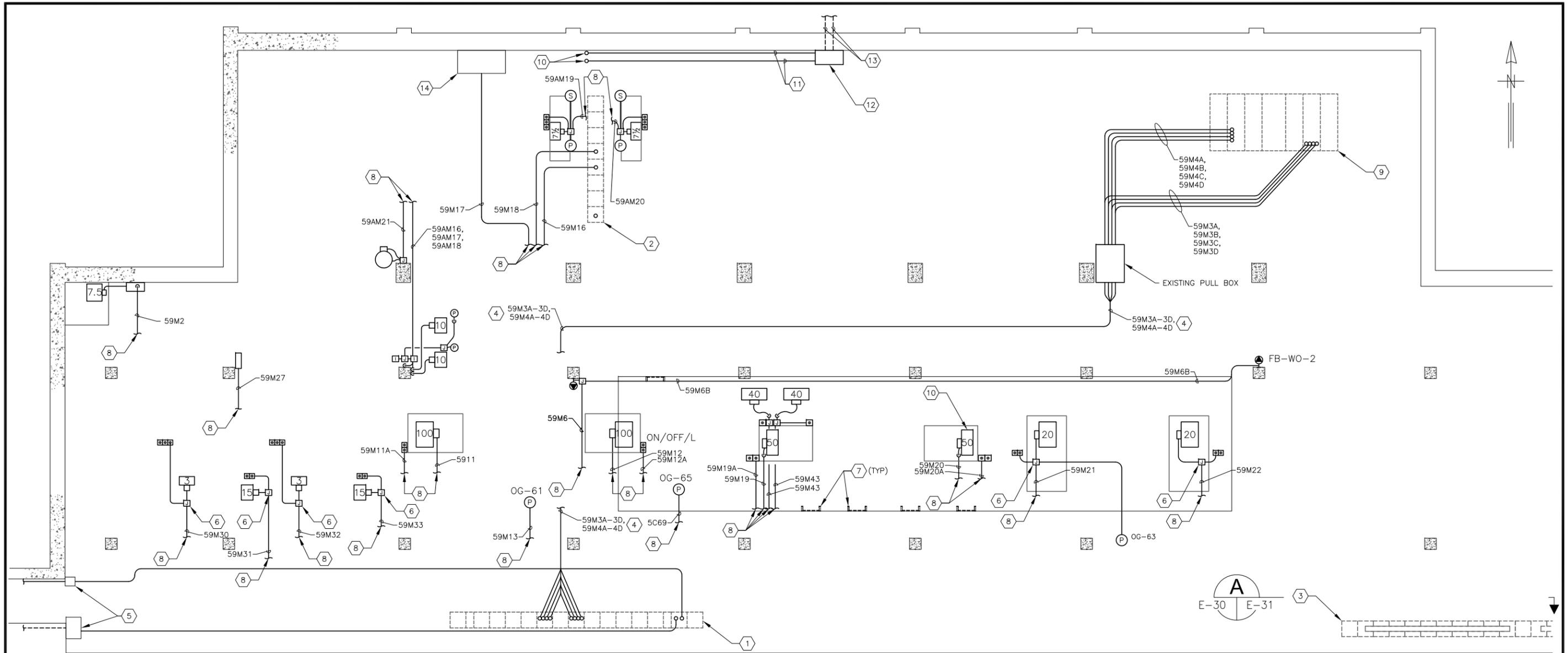
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**City of Tampa Wastewater Department**

HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**ELEVATION 11'-0" TEMPORARY  
CONDUIT/CONDUCTOR NOTES**

SHEET NUMBER	E-29
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



### ELEVATION 3'-6" TEMPORARY CONDUIT/CONDUCTOR NOTES

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

#### KEYED NOTES:

- ① EXISTING FOOTPRINT OF 277/480V, 1,200A MCC-59 (TO BE REPLACED) ABOVE ON ELEVATION 11'-0".
- ② EXISTING FOOTPRINT OF 277/480V, 400A MCC-59A (TO BE REPLACED) ABOVE ON ELEVATION 11'-0".
- ③ EXISTING FOOTPRINT OF 277/480V, 1,200A MCC-58 (TO REMAIN) ABOVE ON ELEVATION 11'-0". REFER TO SHEET E-31 FOR WORK REQUIRED TO PROVIDE TEMPORARY POWER DURING MCC-59 AND MCC-59A REPLACEMENT.
- ④ EXISTING CONDUCTORS 59M3A-3D, 59M4A-4D WILL BE REPLACED, BUT WILL NOT BE REQUIRED DURING THE TIME IN WHICH TEMPORARY POWER IS IN PLACE, THEREFORE, NO TEMPORARY CONDUCTORS ARE REQUIRED.
- ⑤ EXISTING PULL BOX FOR CONDUITS OUT TO SHEETS E-2, E-3 AND E-7. CONTRACTOR MAY INTERCEPT EXISTING CONDUIT TO FIELD DEVICES AT THIS POINT.
- ⑥ EXISTING JUNCTION BOX (OR CONDULET BODY). CONTRACTOR MAY INSTALL TEMPORARY CONDUCTORS FROM TEMPORARY MCC TO DEVICES AT THIS POINT. PROVIDE FITTINGS, JUNCTION BOXES, OR OTHER FITTINGS AS REQUIRED.
- ⑦ CONTRACTOR TO PROVIDE AND INSTALL ALUMINUM CABLE TRAY SECURED TO SIDE OF ELEV 11'-0" FLOOR SLAB FOR ACCESS OF TEMPORARY CONDUCTORS DOWN TO ELEVATION 3'-6" (TYPICAL).
- ⑧ TEMPORARY CONDUCTORS TO BE ROUTED UP TO ELEVATION 11'-0" VIA CABLE TRAY. REFER TO NOTE #10 ON SHEET E-28.
- ⑨ EXISTING SWITCHGEAR 56 (TO REMAIN).
- ⑩ EXISTING CONDUITS DOWN FROM ELEVATION 11'-0". CONDUITS ORIGINATE FROM 15 KVA TRANSFORMER AND PANLEBOARD 'PP'. REFER TO SHEET E-21 FOR ASSOCIATED CONDUCTORS.
- ⑪ EXISTING CONDUITS ASSOCIATED WITH KEYED NOTE #10 ABOVE.
- ⑫ EXISTING PULL BOX.
- ⑬ EXISTING CONDUITS TO DECHLORINATION BUILDING. REFER TO SHEET E-21 FOR ASSOCIATED CONDUCTORS.
- ⑭ EXISTING PULL BOX UTILIZED FOR 59M17.



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MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

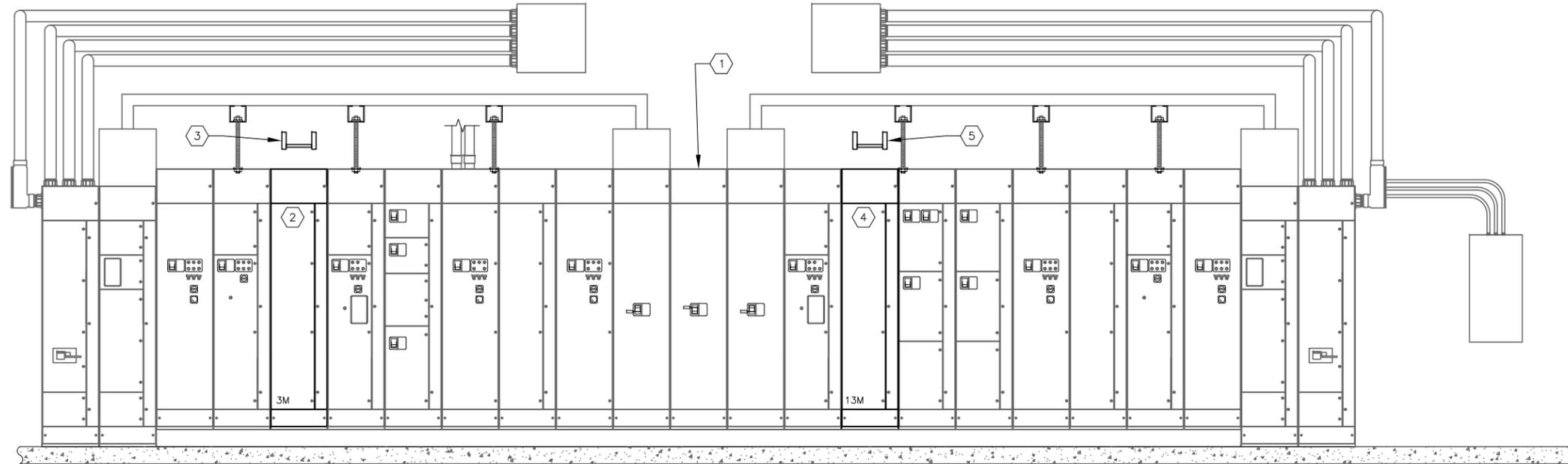
ELEVATION 3'-6" TEMPORARY  
CONDUIT/CONDUCTOR NOTES

SHEET NUMBER

E-30

TIMOTHY THOMAS, P.E. No. 47079

FILE: 171700842E01



**EXISTING MCC-58 FRONT ELEVATION** A  
 SCALE : N.T.S. E-30 | E-32

**KEYED NOTES:**

- |   |  |
|---|--|
| <p>① EXISTING MOTOR CONTROL CENTER 58 (MCC-58).</p> <p>② EXISTING SECTION 3M CONSISTING OF PREPARED SPACE. CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY 480V, 600A, 3-POLE CIRCUIT BREAKER FOR TEMPORARY POWER TO TEMPORARY MCC-59.</p> <p>③ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR AT ELEV 11'-0". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING MCC-58 ELEVATION OR AS REQUIRED. CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 58T1 AND 58T2. CONTRACTOR TO SECURE CABLE TRAY TO EXISTING WALL.</p> | <p>④ EXISTING SECTION 13M CONSISTING OF PREPARED SPACE. CONTRACTOR SHALL PROVIDE AND INSTALL TEMPORARY 480V, 600A, 3-POLE CIRCUIT BREAKER FOR TEMPORARY POWER TO TEMPORARY MCC-59.</p> <p>⑤ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR AT ELEV 11'-0". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING MCC-58 ELEVATION OR AS REQUIRED. CABLE TRAY TO BE UTILIZED FOR TEMPORARY POWER CABLES 58T3 AND 58T4. CONTRACTOR TO SECURE CABLE TRAY TO EXISTING WALL.</p> |
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JOB No.	171700842						
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DATE	3/2018	No.	DATE	BY	APP	REVISION	DESCRIPTION

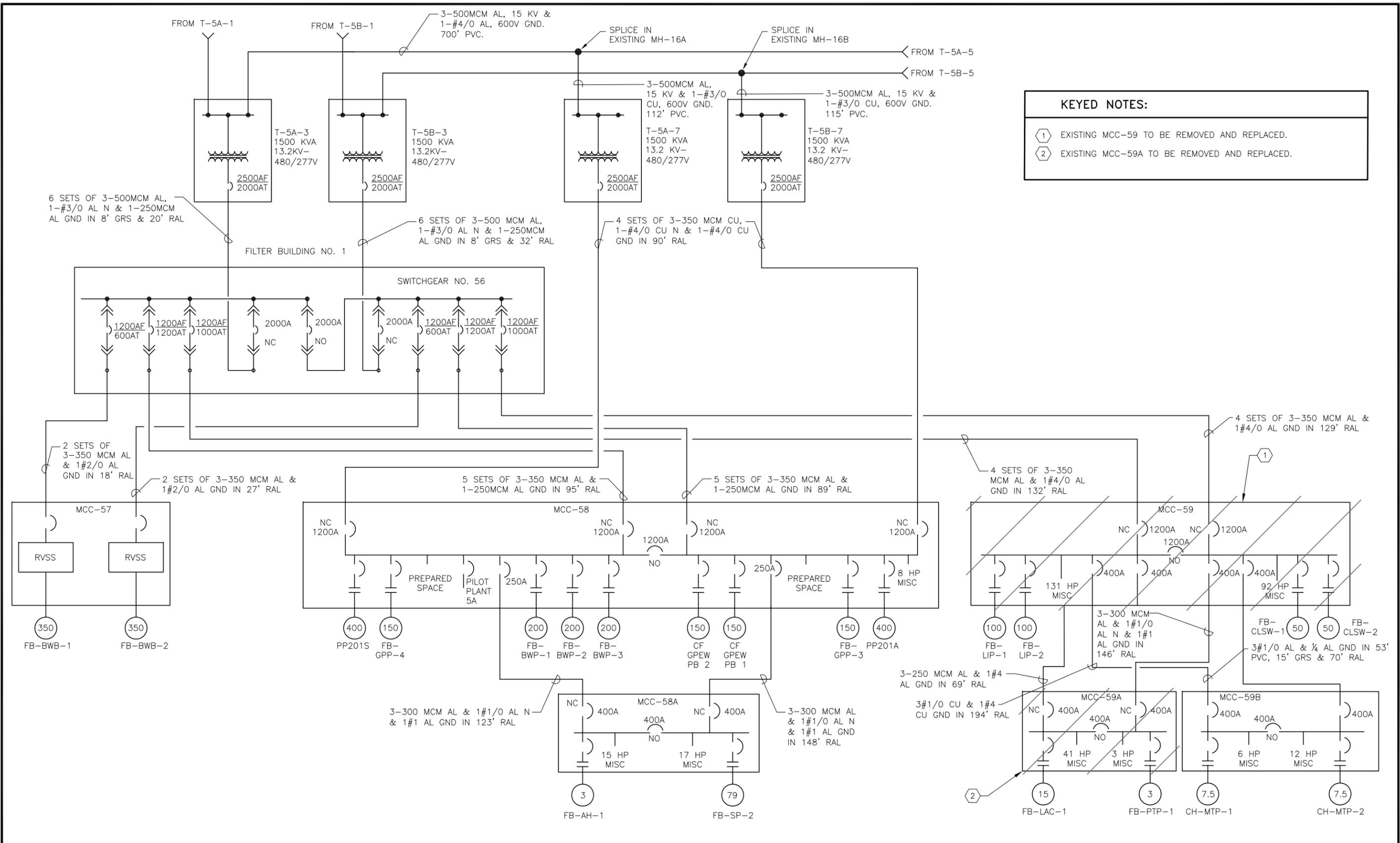
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AS SHOWN

**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**EXISTING MCC-58  
 FRONT ELEVATION**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
<b>E-31</b>
FILE: 171700842E01



**KEYED NOTES:**

① EXISTING MCC-59 TO BE REMOVED AND REPLACED.

② EXISTING MCC-59A TO BE REMOVED AND REPLACED.

**TRICON CONSULTING ENGINEERS**  
 777 S. Harbour Island Blvd.  
 Suite 250  
 Tampa, FL 33602  
 813.227.9190  
 Certificate of Authorization No. 8363

JOB No.	171700842						
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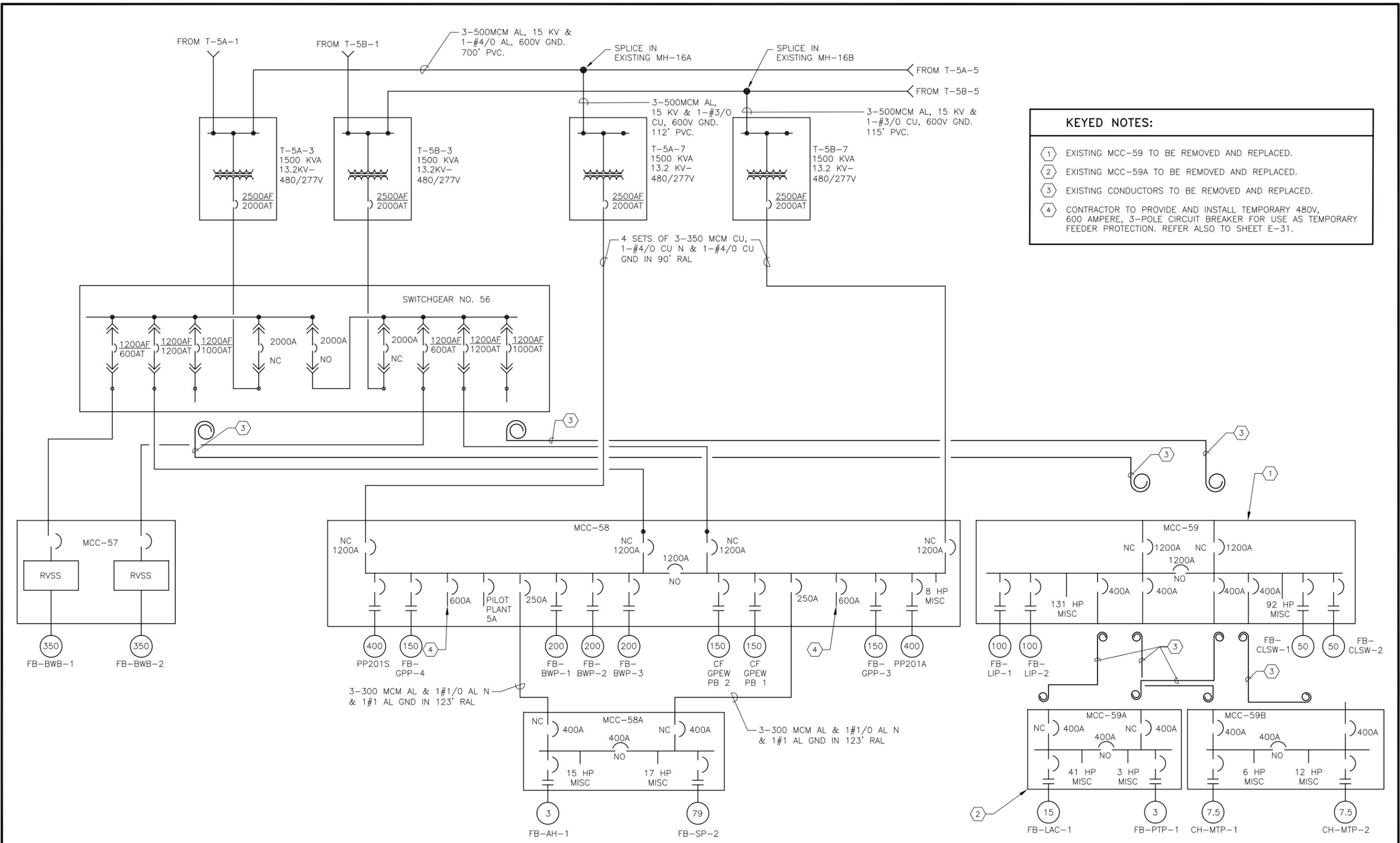
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**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**FILTER BUILDING NO. 1  
 EXISTING ONE-LINE DIAGRAM**

SHEET NUMBER	E-32
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



- KEYED NOTES:**
- ① EXISTING MCC-59 TO BE REMOVED AND REPLACED.
  - ② EXISTING MCC-59A TO BE REMOVED AND REPLACED.
  - ③ EXISTING CONDUCTORS TO BE REMOVED AND REPLACED.
  - ④ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 480V, 600 AMPERE, 3-POLE CIRCUIT BREAKER FOR USE AS TEMPORARY FEEDER PROTECTION. REFER ALSO TO SHEET E-31.

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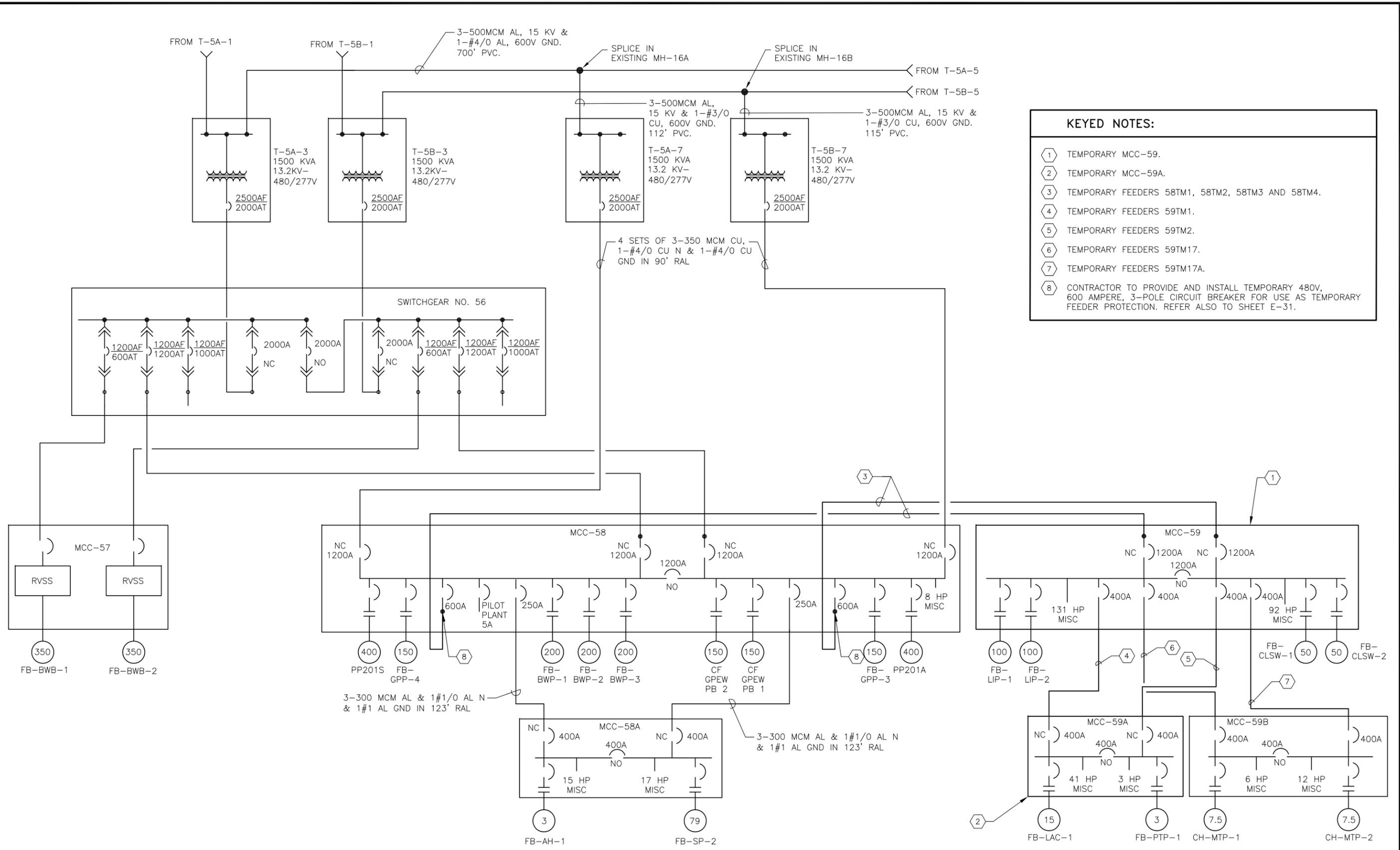
JOB No.	171700842					
DESIGNED	TDT					
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DATE	3/2018	No.	DATE	BY	APP	REVISION DESCRIPTION

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**City of Tampa Wastewater Department**  
 HOWARD F. CURREN AWTP  
 MOTOR CONTROL CENTER 59  
 AND 59A REPLACEMENT

**FILTER BUILDING NO. 1  
 TEMPORARY ONE-LINE DIAGRAM  
 (SHEET 1 OF 2)**

SHEET NUMBER	E-33
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01



- KEYED NOTES:**
- ① TEMPORARY MCC-59.
  - ② TEMPORARY MCC-59A.
  - ③ TEMPORARY FEEDERS 58TM1, 58TM2, 58TM3 AND 58TM4.
  - ④ TEMPORARY FEEDERS 59TM1.
  - ⑤ TEMPORARY FEEDERS 59TM2.
  - ⑥ TEMPORARY FEEDERS 59TM17.
  - ⑦ TEMPORARY FEEDERS 59TM17A.
  - ⑧ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 480V, 600 AMPERE, 3-POLE CIRCUIT BREAKER FOR USE AS TEMPORARY FEEDER PROTECTION. REFER ALSO TO SHEET E-31.



JOB No.	171700842						
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**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
AND 59A REPLACEMENT

**FILTER BUILDING NO. 1  
TEMPORARY ONE-LINE DIAGRAM  
(SHEET 2 OF 2)**

SHEET NUMBER	E-34
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171700842E01

MCC-59 BUS 1 LOAD CALCULATION				
EQUIPMENT	BUS No.	H.P.	DEMAND KVA	DEMAND AMPERES
MCC-59B, BUS #1	1		32.1	38.6
OVERHEAD CRANE (FB-OC-1)	1	10.0	11.6	14.0
DEWATERING PUMP (SA-DP-1)	1	15.0	17.6	21.0
CHLORINE SOL WATER PMP #1 (FB-CHSW-1)	1	50.0	54.0	65.0
SUMP PUMP 1 (FB-SP-1)	1	7.5	9.1	11.0
SLUICE GATES CA-SG-1 TO CA-SG-4	1	4.0	6.0	7.2
WELDING OUTLET (WO-01)	1		40.0	48.0
DECHLORINATION PUMP #1	1	40.0	43.2	52.0
EFF WATER STRAINER DRIVE (EWS-2)	1	0.3	0.6	0.7
SAMPLE PUMP (JC-4-SSP-1)	1	7.5	9.1	11.0
SEWAGE SAMPLE PUMP (FB-SSP-5)	1	7.5	9.1	11.0
MECHANICAL MIXER #1 (JC-4-MM-1)	1	10.0	11.6	14.0
SAMPLE PUMP 4 (CA-SSP-4)	1	0.5	0.8	1.0
FLOW METER POWER	1		0.5	0.5
THICK TANKS DIL. WATER #1 (TDP-1)	1	20.0	22.0	27.0
EFF. WATER STRAINER B/W PUMP #1 (SBW-1)	1	15.0	17.5	21.0
LAWN IRRIGATION PUMP #1 (FB-LIP-1)	1	100.0	112.0	124.0
MCC-59A, BUS #1	1		72.3	93.8
TOTAL MCC-59 BUS 1	1		469.1	560.8

MCC-59 BUS 2 LOAD CALCULATION				
EQUIPMENT	BUS No.	H.P.	DEMAND KVA	DEMAND AMPERES
MCC-59B, BUS #2	2		32.1	38.6
LAWN IRRIGATION PUMP #1 (FB-LIP-1)	2	100.0	112.0	124.0
MECHANICAL MIXER #2 (JC-4-MM-2)	2	10.0	11.6	14.0
THICK TANKS DIL. WATER #2 (FB-TDP-2)	2	20.0	22.0	27.0
SAMPLE PUMP 2 (CA-SSP-2)	2	0.5	0.8	1.0
SAMPLE PUMP 3 (CA-SSP-3)	2	0.5	0.8	1.0
SUMP PUMP 2 (PT-SP-1)	2	7.5	9.1	11.0
DECHLORINATION PUMP #2	2	40.0	43.2	52.0
CHLORINE SOL WATER PMP #2 (FB-CHSW-2)	2	50.0	54.0	65.0
EFF WATER STRAINER B/W PUMP #2 (SBW-2)	2	15.0	17.5	21.0
EFF WATER STRAINER DRIVE (EWS-2)	2	0.3	0.6	0.7
SAMPLE PUMP 4 (CA-SSP-4)	2	7.5	9.1	11.0
SLUICE GATES SG-13 TO SG-16	2	4.0	6.0	7.2
MCC-59A, BUS #2	1		86.2	111.7
TOTAL MCC-59 BUS 1	1		414.1	496.2

**KEYED NOTES:**

① MCC-59 BUS 1 LOAD IS CALCULATED AS 571.8 AMPERES:  
 ② MCC-59 BUS 2 LOAD IS CALCULATED AS 496.2 AMPERES:  
 ③ MCC-59A BUS 1 LOAD IS CALCULATED AS 104.8 AMPERES:  
 ④ MCC-59A BUS 2 LOAD IS CALCULATED AS 122.7 AMPERES:

MCC-59A BUS 1 LOAD CALCULATION				
EQUIPMENT	BUS No.	H.P.	DEMAND KVA	DEMAND AMPERES
SUPPLY FAN FB-S-1A	1	15.0	17.6	21.0
EXHAUST FAN FB-REF-2	1	3.0	3.2	4.8
UNIT HEATER FB-UH-1	1		3.6	12.0
CHLORINE EVAPORATOR #1 (FB-EV-1)	1		17.6	21.0
CHLORINE EVAPORATOR #3 (FB-EV-3)	1		17.6	21.0
CHLORINE SOLUTION PUMP #1 (FB-CSSP-1)	1	10.0	12.7	14.0
TOTAL MCC-59A BUS 1	1		72.3	93.8

MCC-59A BUS 2 LOAD CALCULATION				
EQUIPMENT	BUS No.	H.P.	DEMAND KVA	DEMAND AMPERES
CHLORINE EVAPORATOR #2 (FB-EV-2)	2		17.6	21.0
CHLORINE EVAPORATOR #4 (FB-EV-4)	2		17.6	21.0
CHLORINE SOLUTION PUMP #2 (FB-CSSP-2)	2	10.0	12.7	14.0
SUPPLY FAN FB-S-1B	2	15.0	17.6	21.0
EXHAUST FAN FB-REF-2	2	3.0	3.2	4.8
UNIT HEATER FB-UH-2	2		3.6	12.0
MONORAIL HOIST (FB-MH-1)	2	3.0	3.2	4.8
PANELBOARD 'PP'	2	7.5	9.1	11.0
SUPPLY/DRAIN VALVE NOV	2	1.0	1.6	2.1
TOTAL MCC-59A BUS 2	2		86.2	111.7

**TEMPORARY CIRCUIT BREAKER AND CONDUCTOR CALCULATIONS**

MCC-59  
 LOAD OF MCC-59 BUS 1 = 571.8 AMPERES  
 LOAD OF MCC-59 BUS 2 = 496.2 AMPERES  
 CIRCUIT BREAKERS TO BE UTILIZED FOR TEMPORARY POWER MCC-59 FEEDERS WILL BE 600 AMPERES.  
 TEMPORARY FEEDERS FOR MCC-59 BUS 1 AND MCC-59 BUS 2 SHALL CONSIST OF -  
 TWO (2) PARALLEL RUNS OF 4 CONDUCTOR 350 MCM CU TRAY CABLE. 75' RATING FOR A SINGLE 4 CONDUCTOR 350 MCM CU TRAY CABLE IS 310 AMPERES. WITH CONDUCTORS IN PARALLEL 2 X 310A = 620 AMPERES.

MCC-59A  
 LOAD OF MCC-59A BUS 1 = 104.8 AMPERES  
 LOAD OF MCC-59A BUS 2 = 122.7 AMPERES  
 CIRCUIT BREAKERS TO BE UTILIZED FOR TEMPORARY POWER MCC-59A FEEDERS WILL BE 400 AMPERES.  
 TEMPORARY FEEDERS FOR MCC-59A BUS 1 AND MCC-59A BUS 2 SHALL CONSIST OF -  
 TWO PARALLEL RUNS OF 4 CONDUCTOR 3/0 CU TRAY CABLE. 75' RATING FOR A SINGLE 4 CONDUCTOR 3/0 CU TRAY CABLE IS 200 AMPERES. WITH CONDUCTORS IN PARALLEL 2 X 200A = 400 AMPERES.

**TEMPORARY POWER CONDUIT AND CABLE SCHEDULE**

CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
58TM1	TRAY	4/C: 350 MCM CU + 1-#1 GND	MCC-58 BUS 1	TEMP MCC-59 BUS 1	CONDUCTORS TO BE NEW. INSTALLED IN 24" CABLE TRAY.
58TM2	TRAY	4/C: 350 MCM CU + 1-#1 GND	MCC-58 BUS 1	TEMP MCC-59 BUS 1	CONDUCTORS TO BE NEW. INSTALLED IN 24" CABLE TRAY.
58TM3	TRAY	4/C: 350 MCM CU + 1-#1 GND	MCC-58 BUS 2	TEMP MCC-59 BUS 2	CONDUCTORS TO BE NEW. INSTALLED IN 24" CABLE TRAY.
58TM4	TRAY	4/C: 350 MCM CU + 1-#1 GND	MCC-58 BUS 2	TEMP MCC-59 BUS 2	CONDUCTORS TO BE NEW. INSTALLED IN 24" CABLE TRAY.
59TM1	TRAY	TWO RUNS OF 4/C: 3/0 CU + 1-#6 GND	TEMP MCC-59 BUS 1	TEMP MCC-59A BUS 1	CONDUCTORS TO BE NEW. INSTALLED IN 12" CABLE TRAY AND 3" CONDUIT.
59TM2	TRAY	TWO RUNS OF 4/C: 3/0 CU + 1-#6 GND	TEMP MCC-59 BUS 2	TEMP MCC-59A BUS 2	CONDUCTORS TO BE NEW. INSTALLED IN 12" CABLE TRAY AND 3" CONDUIT.
59TM17	TRAY	4/C: 1/0 CU + 1-#6 GND	TEMP MCC-59 BUS 1	MCC-59B BUS 1	CONDUCTORS TO BE NEW. INSTALLED IN 12" CABLE TRAY AND 3" CONDUIT.
59TM17A	TRAY	4/C: 1/0 CU + 1-#6 GND	TEMP MCC-59 BUS 2	MCC-59B BUS 2	CONDUCTORS TO BE NEW. INSTALLED IN 12" CABLE TRAY AND 3" CONDUIT.



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**City of Tampa Wastewater Department**  
HOWARD F. CURREN AWTP  
MOTOR CONTROL CENTER 59  
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**TEMPORARY CABLE SCHEDULE**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E-36**  
FILE: 171700842E01