

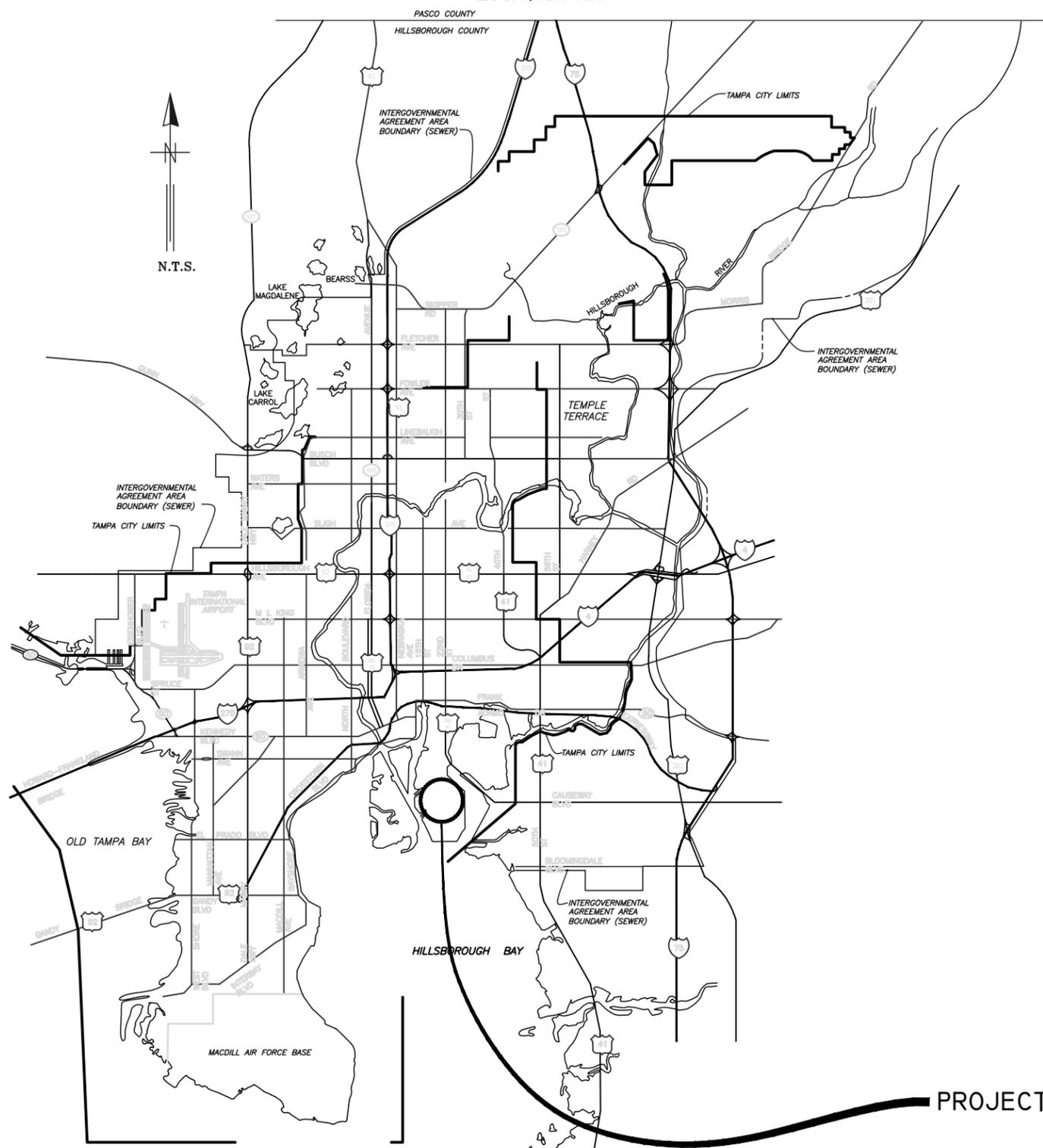
The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:
[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

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

B____-____

LOCATION MAP



CITY of TAMPA



WASTEWATER DEPARTMENT

PLANS FOR

HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT

FILTER BUILDING NO. 2 FLOW METER REPLACEMENT

CONTRACT 19-C-00056

PROJECT LOCATION

User: ssry Drawing Name: \\sawer\sewer\Projects\HFC AWTP Filter Building No.2 Flow Meter Replacements\Drafting\DWG\HFCAMTP Filter Building No.2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am

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



No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
DRN: WA/KLT
CKD:
DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

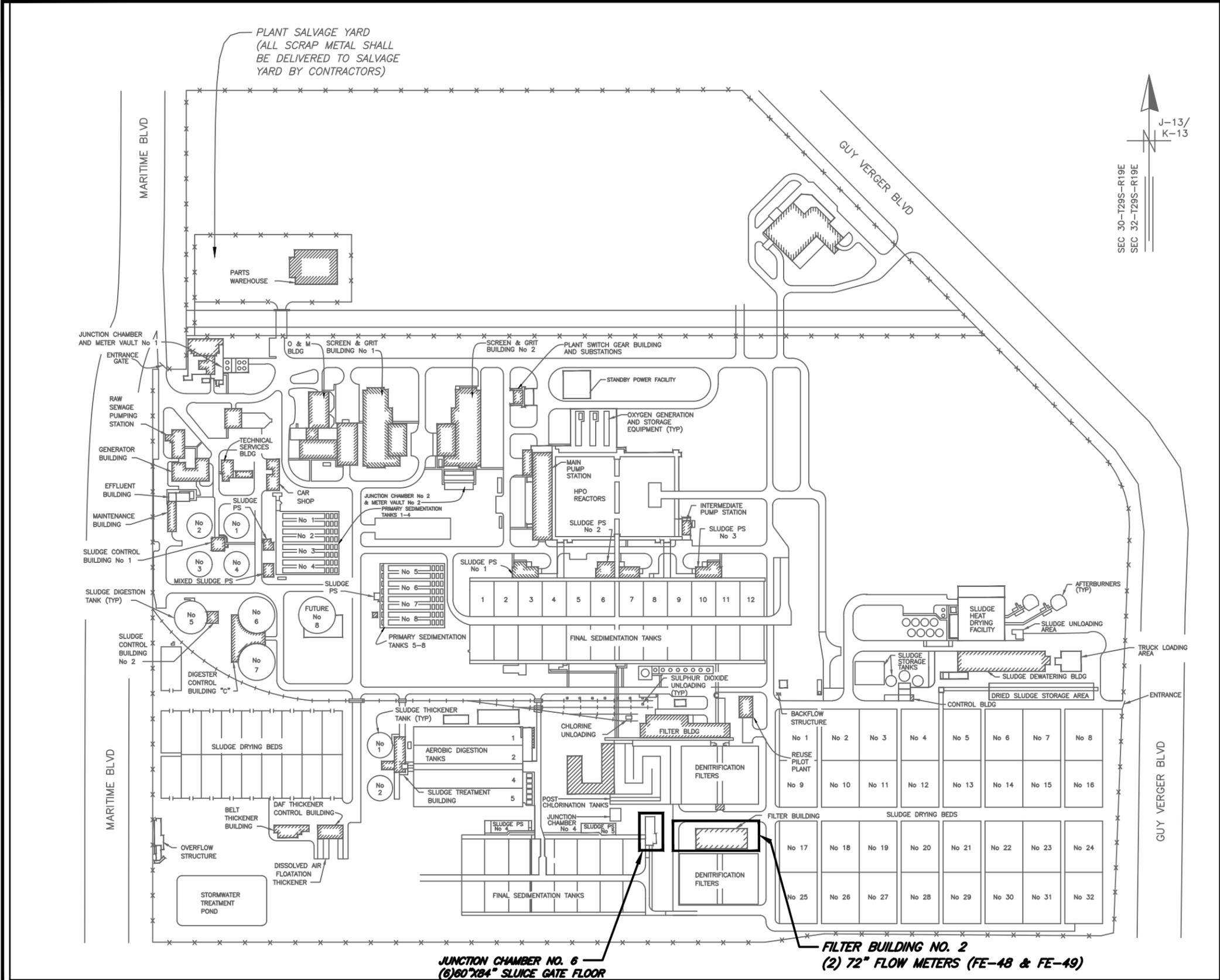
HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

COVER SHEET

SHEET
1

B_____

SHEET	DESCRIPTION
1	COVER SHEET
2	PROJECT MAP AND INDEX
3	GENERAL NOTES/AERIAL VIEW
4	PROPOSED STOP LOGS
5	FILTER BUILDING NO. 2 - DEMOLITION PLAN VIEW
6	FILTER BUILDING NO. 2 - DEMOLITION SECTION VIEW
7	JUNCTION CHAMBER NO. 6 - DEMOLITION PLAN VIEW
8	FILTER BUILDING NO. 2 - PROPOSED PLAN VIEW
9	FILTER BUILDING NO. 2 - PROPOSED SECTION A VIEW
10	FILTER BUILDING NO. 2 - PROPOSED SECTION B VIEW
11	JUNCTION CHAMBER NO. 6 - PROPOSED PLAN AND SECTION C VIEW
12	MISCELLANEOUS DETAILS
E-1	ELECTRICAL GENERAL NOTES AND SCOPE OF WORK
E-2	SLUICE GATE REPLACEMENT OVERALL ELECTRICAL SITE PLAN
E-3	ELECTRICAL INDEX, SCHEDULES AND GENERAL NOTES
E-4	FILTER BUILDING NO. 2 METER VAULT ELECTRICAL PLAN ELEVATION 4'-0"
E-5	FILTER BUILDING NO. 2 MCC-86 LOCATION ELEVATION 11'-0"
E-6	RSPS NO. 4 AND JC-6 PROPOSED ELECTRICAL PLAN
E-7	MOTOR CONTROL CENTER MCC-86 ELEVATIONS
E-8	FLOW METER TRANSMITTER DETAILS
E-9	SLUICE GATE CONTROL SCHEMATICS & CONTACT DEVELOPMENT
E-10	CONDUIT AND CABLE SCHEDULE



JUNCTION CHAMBER NO. 6
(6) 60"x84" SLUICE GATE FLOOR
STAND OPERATORS
(JC6-SG-1, JC6-SG-2,
JC6-SG-3, JC6-SG-4,
JC6-SG-5, AND JC6-SG-6)

FILTER BUILDING NO. 2
(2) 72" FLOW METERS (FE-48 & FE-49)

PROJECT MAP
N.T.S.

User: sry Drawing Name: \\sawer\Share\WasteWater Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am

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

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
 DRN: WA/KLT
 CKD:
 DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

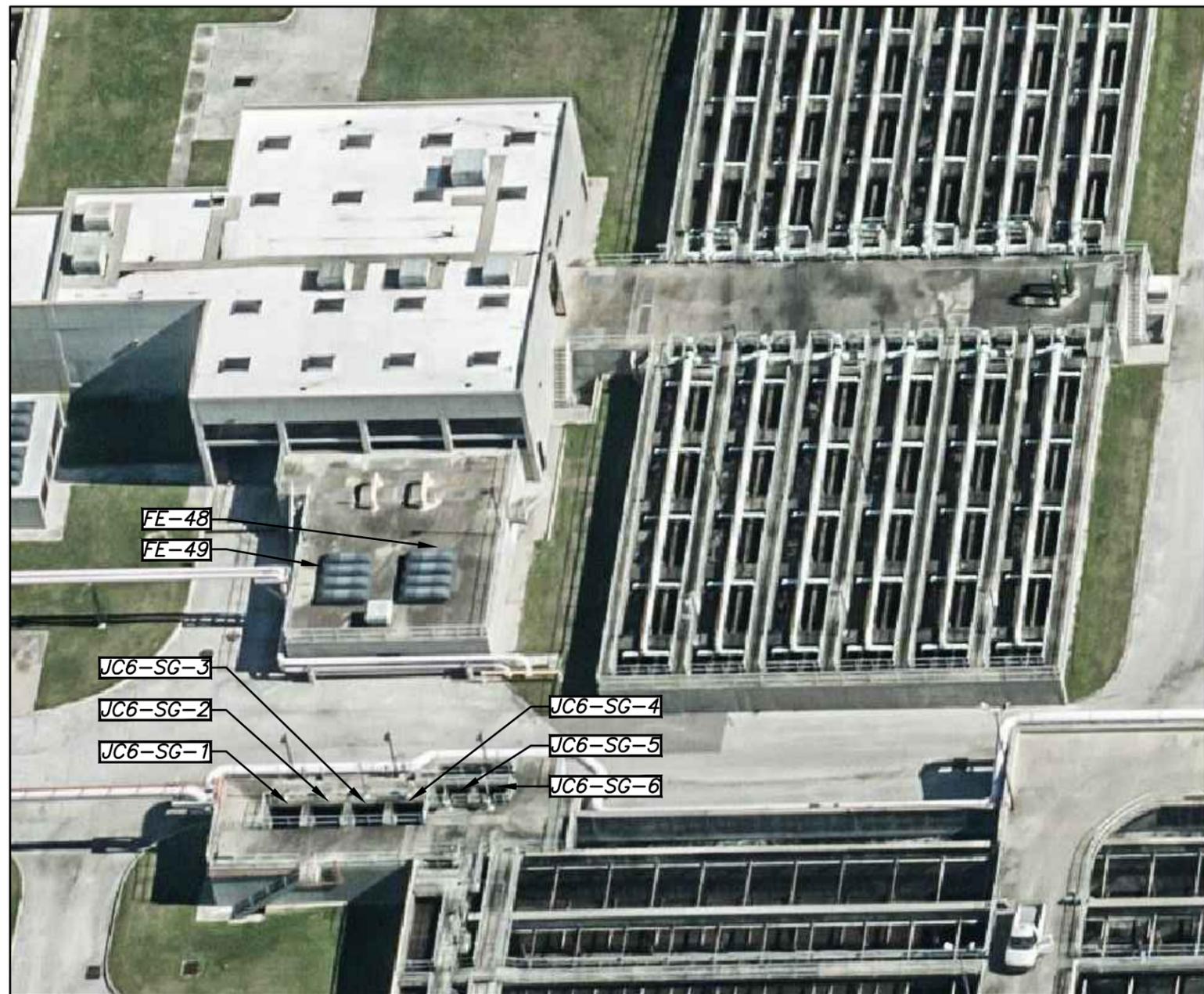
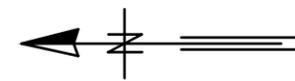
HFC AWWP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT
 PROJECT MAP AND INDEX

SHEET
2

GENERAL NOTES:

- G-1 CONTRACTOR SHALL REPLACE THE 72" (FE-49) AND 48" (FE-48) INFLUENT METERS AND ASSOCIATED PIPING LOCATED INSIDE THE FILTER BUILDING NO. 2 IN TWO PHASES AS SHOWING ON THE DRAWINGS. EXISTING 48" (FE-48) INFLUENT METER SHALL BE REPLACED WITH A 72" INFLUENT METER AS SHOWN ON THE DRAWINGS.
- G-2 CONTRACTOR SHALL REPLACE (4) 60"x84" INFLUENT FLUSH BOTTOM CLOSURE SLUICE GATE FLOOR STAND OPERATORS (JC6-SG-1, JC6-SG-2, JC6-SG-3, AND JC6-SG-4) AND (2) 60"x84" INFLUENT BYPASS SLUICE GATE (DOWNWARD-OPENING) FLOOR STAND OPERATORS (JC6-SG-5 AND JC6-SG-6) AT THE JUNCTION CHAMBER NO. 6 AS SHOWN ON THE DRAWINGS.
- G-3 CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH TREATMENT PLANT PERSONNEL PLANT OPERATIONS. CONTRACTOR SHALL REPLACE (6) SLUICE GATE FLOOR STAND OPERATORS BEFORE REPLACEMENT OF THE FLOW METERS CAN START.
- G-4 CONTRACTOR WILL BE ALLOWED TO WORK ON ONLY ONE METER AT A TIME, STARTING WITH THE REPLACEMENT OF THE 48" (FE-48) INFLUENT METER (PHASE 1). THE PROPOSED FE-48 INFLUENT METER SHALL OPERATE A MINIMUM OF (7) DAYS OF TROUBLE FREE TEST PERIOD PRIOR TO THE REMOVAL OF THE REMAINING INFLUENT METER (FE-49). AFTER INSTALLATION AND ACCEPTABLE OPERATIONAL PERIOD OF THE FE-48 INFLUENT METER, THE CONTRACTOR SHALL REPLACE THE EXISTING FE-49 INFLUENT METER (PHASE 2). SHOULD ANY PROBLEMS ARISE DURING THE TESTING PERIOD, CONTRACTOR SHALL REMEDY THE PROBLEM(S) AS SOON AS PRACTICAL AND THE TROUBLE FREE TEST PERIOD SHALL RESTART.
- G-5 REPLACING INFLUENT METERS (FE-48 AND FE-49) REQUIRES THE REMOVAL OF THE EXISTING REMOVABLE SKYLIGHTS (10'X14'). CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING SKYLIGHT DURING REMOVAL OR REPLACEMENT. CONTRACTOR SHALL RESEAL SKYLIGHT AT JOB COMPLETION.
- G-6 EXISTING DIMENSIONS ARE BASED ON AS-BUILT DRAWINGS. TRUE DIMENSIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO LAYOUT AND SHOP DRAWINGS SUBMITTAL.
- G-7 SHOP DRAWINGS SHALL BE SUBMITTED IN PDF FORMAT FOR ALL PROPOSED NEW ITEMS. ELECTRONIC PDF FORMAT SHALL BE HIGH QUALITY, EASILY READABLE, SEARCHABLE AND PROVIDED WITH BOOKMARKS.
- G-8 CONTRACTOR IS RESPONSIBLE FOR MEETING ALL FEDERAL, STATE, AND LOCAL GOVERNMENT REGULATIONS IN REGARDS TO WORKING CONDITIONS AND MATERIALS HANDLING AND DISPOSAL.
- G-9 CONTRACTOR SHALL MEET ALL REQUIREMENTS AS LISTED IN THE SPECIFIC PROVISIONS AND INDIVIDUAL SPECIFICATION SECTIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- G-10 ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FLORIDA BUILDING CODE 6TH EDITION 2017, CHAPTER 5 OF THE CITY OF TAMPA CODE AND NATIONAL ELECTRIC CODE 2014 EDITION.
- G-11 THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM FILTER INFLUENT CONDUIT. THE DEBRIS SHALL BE REMOVED FROM THE CONDUITS AND TEMPORARILY PLACED IN DRYING BEDS DESIGNATED BY THE CITY. AT THE COMPLETION THE PROJECT, THE CONTRACTOR SHALL COORDINATE TO HAVE THE CITY LOAD THE MATERIALS INTO TRUCKS FOR PROPER LANDFILL DISPOSAL. THE CITY WILL PAY THE CONTRACTOR BASED ON TONNAGE AS DETERMINED BY WEIGHT TICKETS AND THE CONTRACTOR'S UNIT COST BID PER TON ON DEBRIS REMOVED FROM THE DRYING BEDS. THE CITY ESTIMATES 320 TONS (200 CY) OF DEBRIS WILL NEED TO BE REMOVED.
- G-12 THE CONTRACTOR SHALL PAINT ALL NEW PIPING AND EXISTING FILTER INFLUENT AND DRAIN PIPING INSIDE THE FILTER ROOM. ALL PAINTED PIPING SHALL BE COLOR CODED AND IDENTIFIED AS SPECIFIED.

B_____



PROJECT LOCATION AERIAL

User: sary Drawing Name: \\sawer\SewerShare\WasteWater Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements\Drafting\DWG\HFCAMTP Filter Building No. 2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 1:15am

No.	DATE	REVISIONS
3		
2		
1		

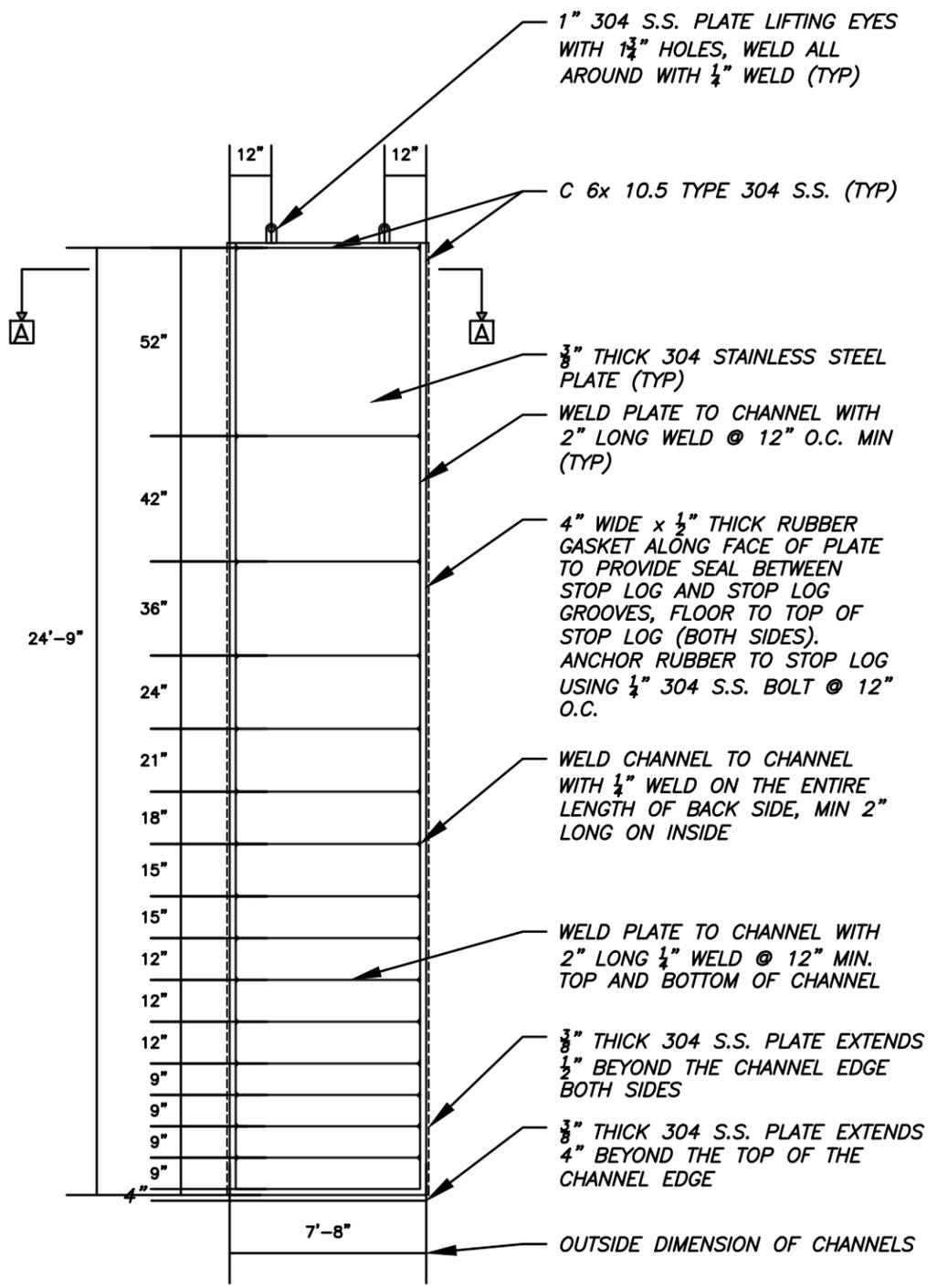
DES: KJG
 DRN: WA/KLT
 CKD:
 DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

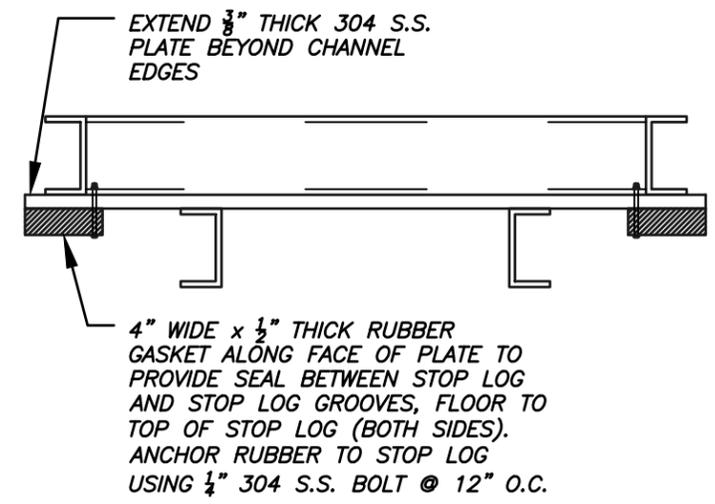
HFC AWWP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT
 GENERAL NOTES/AERIAL VIEW

SHEET
3

User: sary Drawing Name: \\sawer\Share\Projects\HFC AWTP Filter Building No.2 Flow Meter Replacements\Drafting\DWG\HFCMTP Filter Building No. 2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am



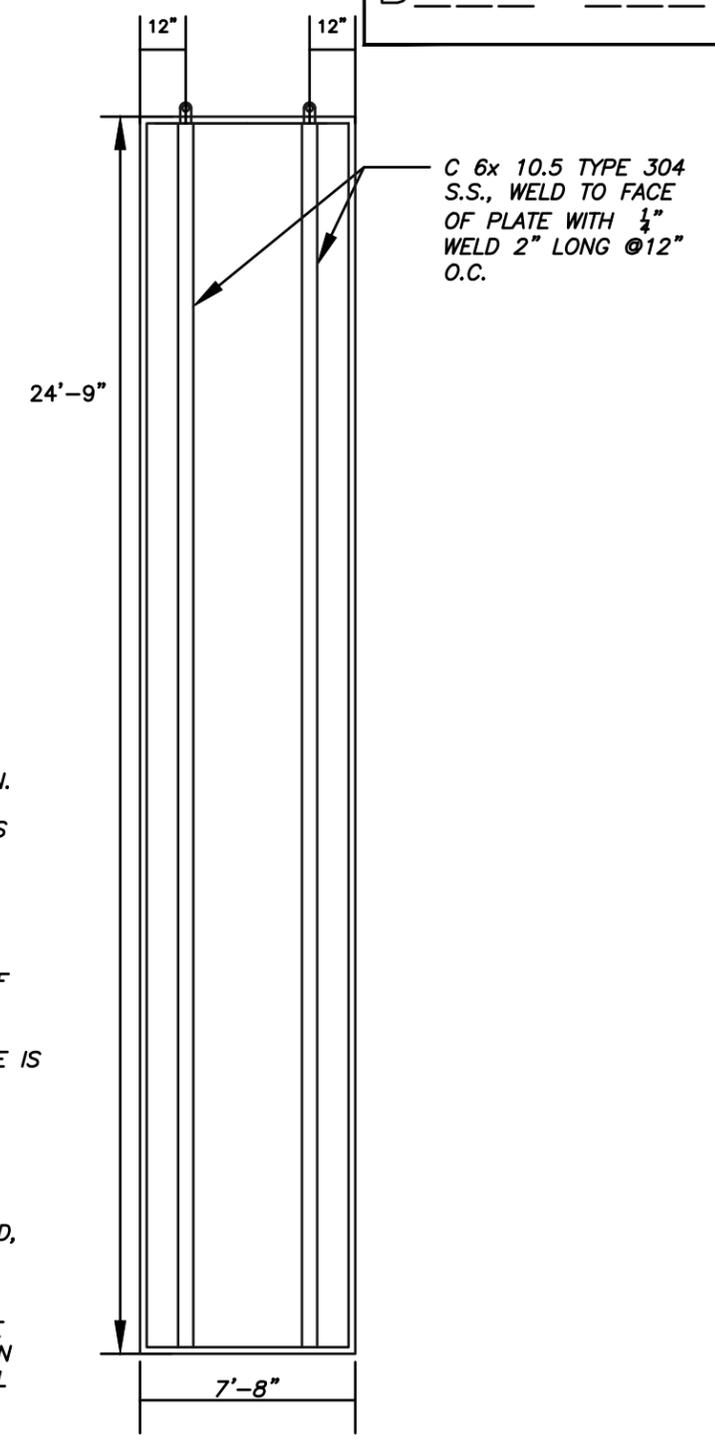
PROPOSED BACK OF STOP LOG
SCALE: 1/4" = 1' - 0"



PROPOSED SECTION A
N.T.S.

STOP LOG NOTES:

- S-1 CONTRACTOR WILL BE REQUIRED TO FABRICATE AND INSTALL (3) 304 STAINLESS STEEL STOP LOGS AT THE FILTER INFLUENT CONDUIT. REFER TO SHEET 8 FOR EXACT LOCATION.
- S-2 STOP LOGS SHALL BE CONSTRUCTED WITH 304L STAINLESS STEEL STRUCTURAL MEMBERS AND PLATES.
- S-3 (3) STOP LOGS SHALL BE DESIGNED FOR THE FILTER INFLUENT CONDUIT TO RESIST A MAXIMUM WATER HEIGHT OF 20' WITH A MAXIMUM DEFLECTION OF 0.125" AND SHALL BE AS WATERTIGHT AS POSSIBLE WITH RUBBER MATERIAL SECURELY ATTACHED TO THEIR WETTED PERIMETER. APPROXIMATE HEIGHT OF EACH STOP LOG IS 24'-9" AND WIDTH OF EACH STOP LOG GROOVE OPENING IS APPROXIMATELY 7'-9".
- S-4 THE EXISTING LOG GROOVES ARE 1/4" THICK FRP CHANNELS. THE SIZE OF THE GROOVE IS ONLY 6" WIDE BY 1 5/8" DEEP. CONTRACTOR SHALL MEASURE THE STOP LOG GROOVE IN MULTIPLE LOCATIONS FOR UNIFORMITY PRIOR TO STOP LOG FABRICATION.
- S-5 CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. FABRICATION DRAWINGS MUST REFLECT FIELD VERIFIED MEASUREMENTS.
- S-6 CONTRACTOR SHALL INSTALL STOP LOGS AS REQUIRED. AFTER STOP LOGS ARE INSTALLED, THE CONTRACTOR WILL BE REQUIRED TO SUPPLY DEWATERING PUMPS NECESSARY TO REMOVE THE REMAINING WATER IN THE INFUENT CONDUIT.
- S-7 CONTRACTOR SHALL MINIMIZE ANY STOP LOG LEAKAGE AS NECESSARY TO FACILITATE THE WORK REQUIRED IN THIS CONTRACT. LEAKAGE MAY BE REDUCED BY INSTALLING VISQUEEN ROLL BEHIND THE (WATER SIDE) OF THE STOP LOGS, OR INJECT OAKUM OR A CHEMICAL GROUT. ALL ITEMS LISTED SHALL BE CONTAINED, REMOVED AND PROPERLY DISGARDED OF AFTER THE WORK HAS BEEN COMPLETED.
- S-8 AT THE COMPLETION OF THIS PROJECT THE (3) STOP LOGS SHALL BECOME THE PROPERTY OF THE CITY OF TAMPA AND SHALL BE DELIVERED TO A TREATMENT PLANT SITE FOR STORAGE AS DIRECTED BY THE CITY.



PROPOSED FRONT OF STOP LOG
SCALE: 1/4" = 1' - 0"

No.	DATE	REVISIONS
3		
2		
1		

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

DES: KJG
DRN: WA/KLT
CKD:
DATE: Oct-19

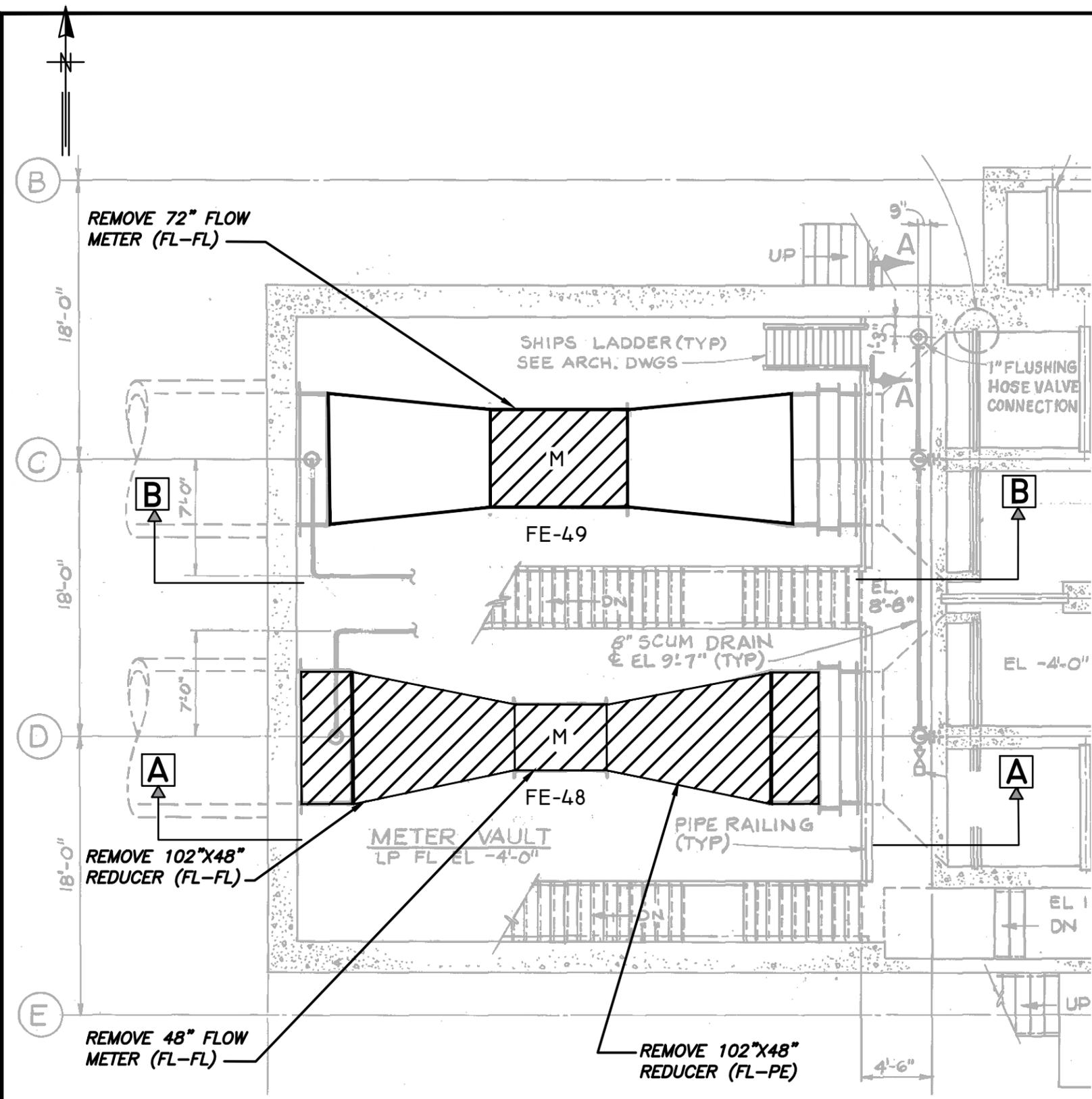
CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT
PROPOSED STOP LOGS

SHEET
4

User: sry Drawing Name: \\sewer\Share\WasteWater Projects\HFC AWTP Filter Building No.2 Flow Meter Replacements\Drafting\DWG\HFC\AWTP Filter Building No.2 Flow Meter Replacements KLT.dwg
 Layout: Oct 24, 2019 - 11:15am

B _____



72" FLOW METER (FE-49)



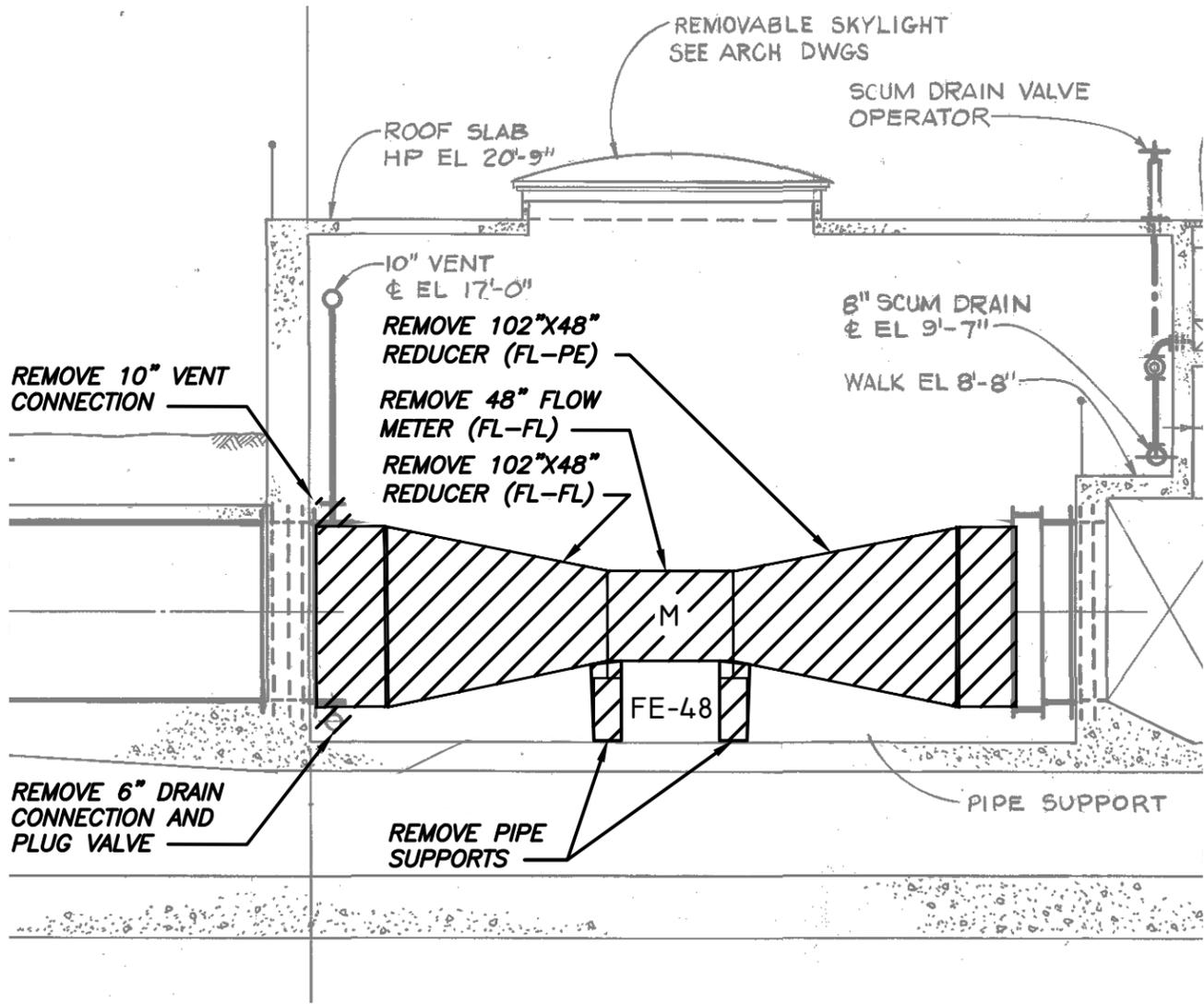
48" FLOW METER (FE-48)

HATCH AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED

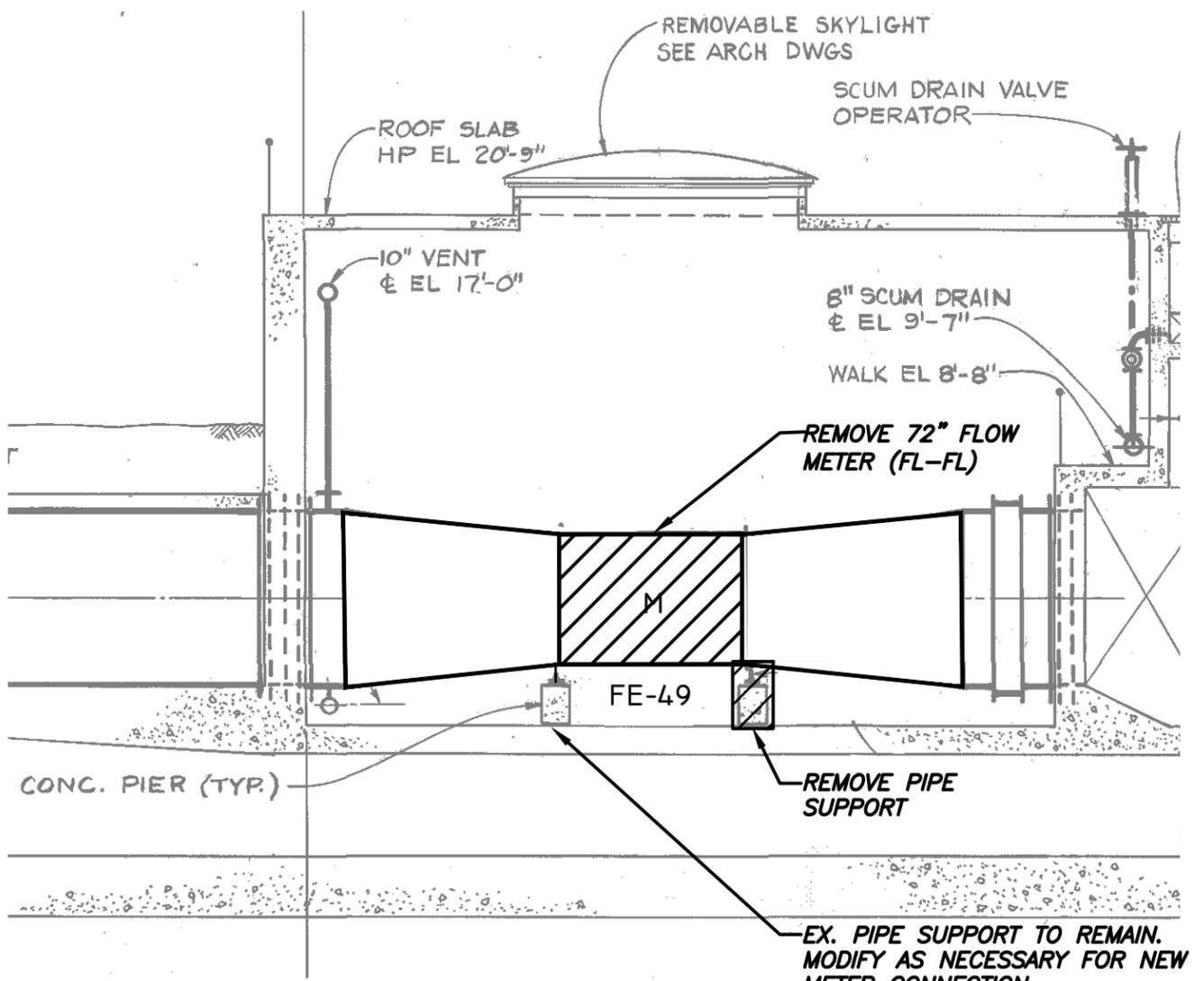
DEMOLITION PLAN VIEW - FILTER BUILDING NO. 2
 SCALE: 1/8" = 1' - 0"

No.	DATE	REVISIONS	DES: KJG	CITY of TAMPA WASTEWATER DEPARTMENT	HFC AWTP FILTER BUILDING NO. 2 FLOW METER REPLACEMENT FILTER BUILDING NO. 2 - DEMOLITION PLAN VIEW	SHEET 5
3			DRN: WA/KLT			
2			CKD:			
1			DATE: Oct-19			

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



DEMOLITION SECTION A VIEW - FILTER BUILDING NO. 2
SCALE: 1/8" = 1' - 0"



DEMOLITION SECTION B VIEW - FILTER BUILDING NO. 2
SCALE: 1/8" = 1' - 0"

HATCH AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED

User: sary Drawing Name: \\sawer\Share\Projects\WasteWater Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements KLT.dwg Layout - Oct 24, 2019 - 11:15am

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

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
DRN: WA/KLT
CKD:
DATE: Oct-19

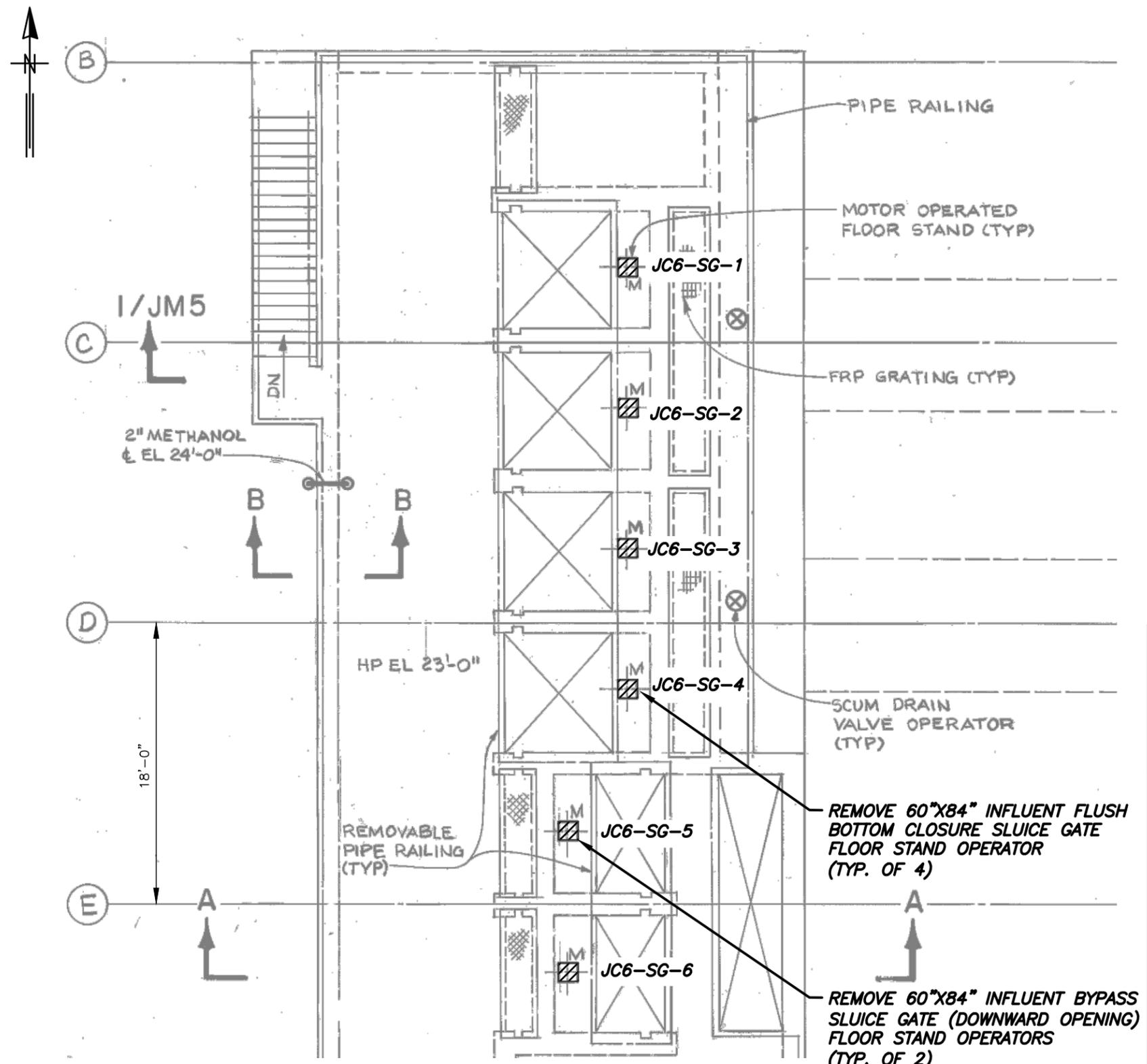
CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWWP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT
FILTER BUILDING NO. 2 - DEMOLITION
SECTION VIEWS

SHEET
6

User: sary Drawing Name: \\sawer\sewer\Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements\Drafting\DWG\HFC AWWP Filter Building No.2 Flow Meter Replacements KLT.dwg
 Layout: Oct 24, 2019 1:15pm

B _____



DEMOLITION PLAN VIEW - JUNCTION CHAMBER NO. 6
 SCALE: 1/8" = 1'-0"

HATCHED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE REMOVED



FLUSH BOTTOM CLOSURE SLUDGE GATES
 (JC6-SG-1, JC6-SG-2, JC6-SG-3, JC6-SG-4)



SLUDGE GATES (DOWNWARD OPENING) (JC6-SG-5, JC6-SG-6)

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
 DRN: WA/KLT
 CKD:
 DATE: Oct-19

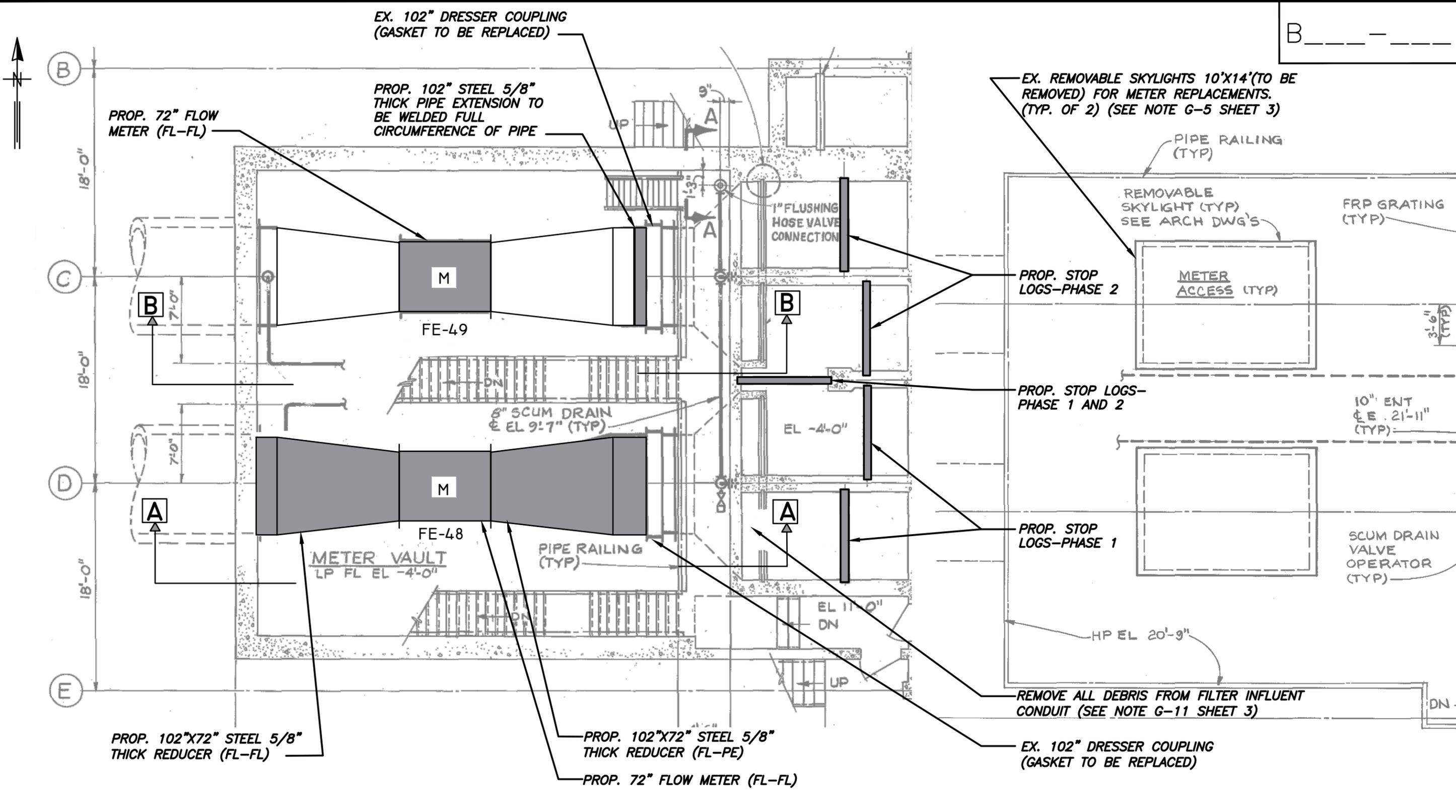
CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWWP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT
 JUNCTION CHAMBER NO. 6 -
 DEMOLITION PLAN VIEW

SHEET
 7

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

User: sary Drawing Name: \\sawer\Share\WasteWater Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements No.2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am



PROPOSED SECTIONAL PLAN VIEW EL. 14'-0" - FILTER BUILDING NO. 2

PROPOSED - SECTIONAL PLAN VIEW EL. 26'-0" - FILTER BUILDING NO. 2

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

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

SHADED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE INSTALLED

No.	DATE	REVISIONS
3		
2		
1		

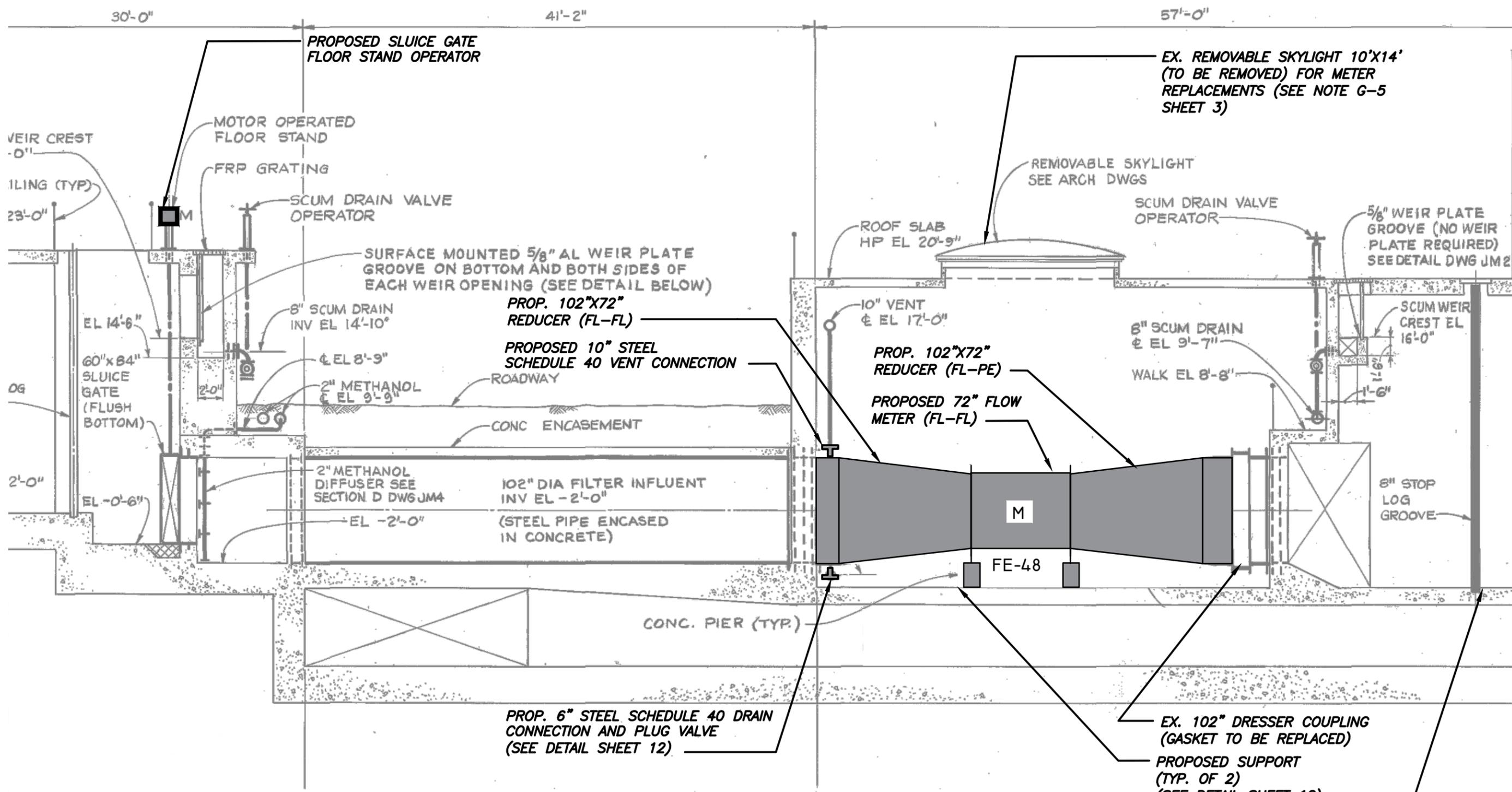
DES: KJG
DRN: WA/KLT
CKD:
DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWWP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT
FILTER BUILDING NO. 2-PROPOSED PLAN VIEW

SHEET
8

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



PROPOSED SECTION A - FILTER BUILDING NO. 2
SCALE: 1/8" = 1' - 0"

User: sry Drawing Name: \\sawer\SewerShare\Projects\HFC AWWP Filter Building No.2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am

No.	DATE	REVISIONS
3		
2		
1		

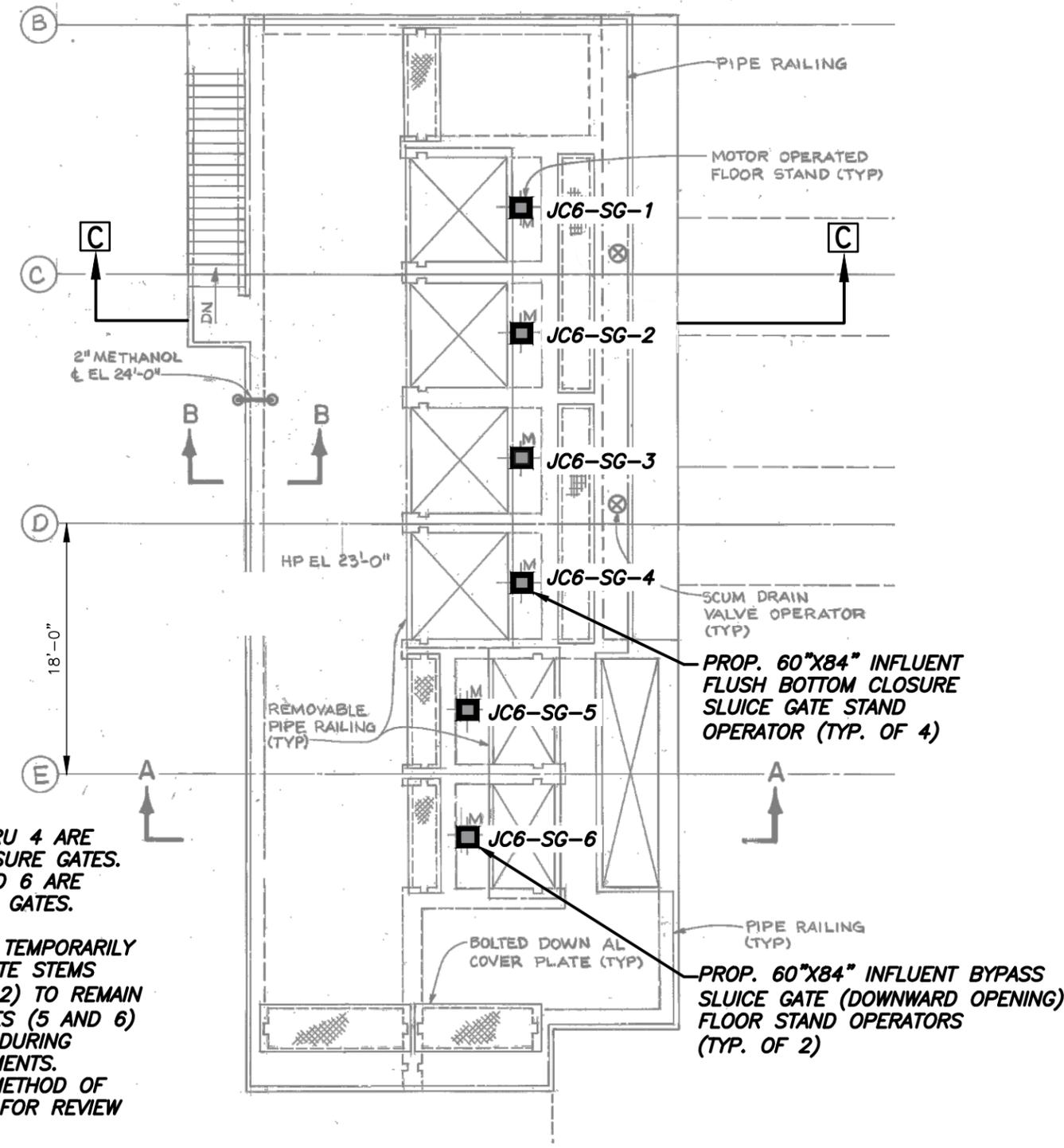
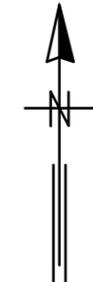
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	DES: KJG DRN: WA/KLT CKD: DATE: Oct-19
---	---

CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWWP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT
FILTER BUILDING NO. 2-PROP. SECTION A VIEW

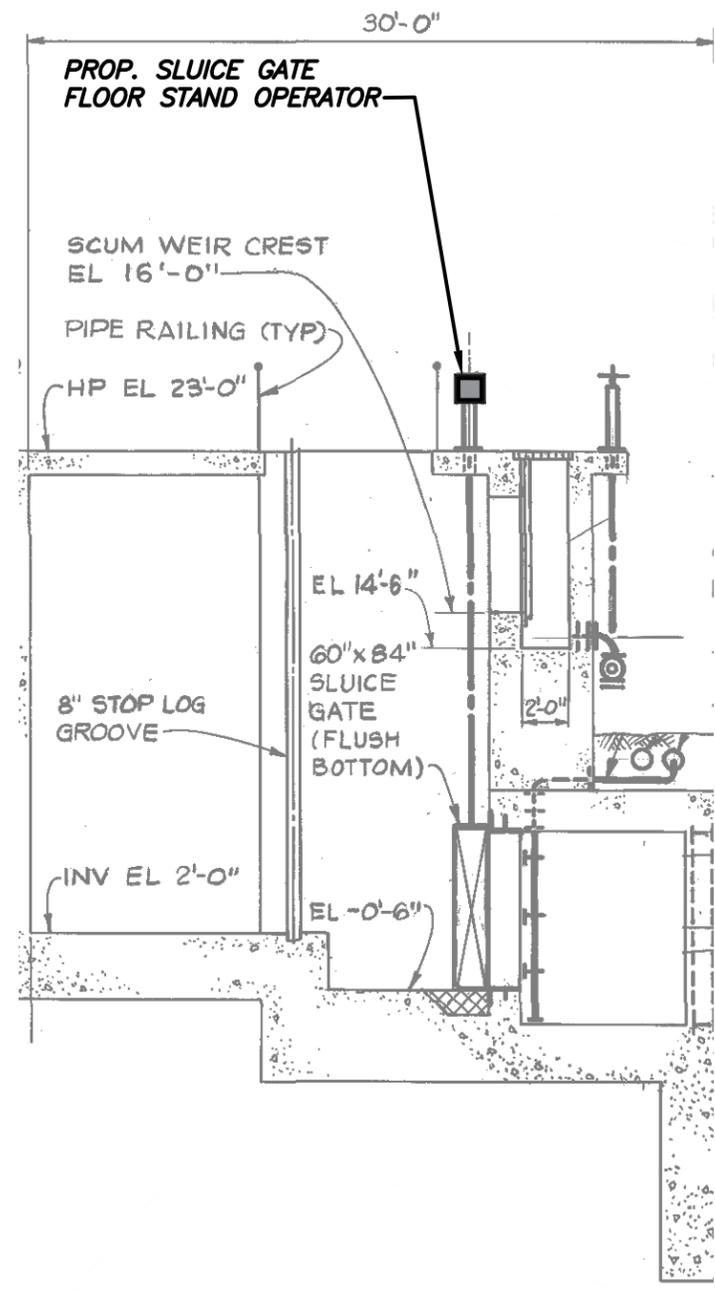
User: sary Drawing Name: \\sawer\Share\Projects\WasteWater Projects\HFC AWP Filter Building No.2 Flow Meter Replacements\1:15am Layout - Oct 24, 2019 - 1:15am

B _____



NOTE:
 1. SLUICE GATES 1 THRU 4 ARE FLUSH BOTTOM CLOSURE GATES. SLUICE GATES 5 AND 6 ARE DOWNWARD OPENING GATES.
 2. CONTRACTOR SHALL TEMPORARILY SUPPORT SLUICE GATE STEMS FOR GATES (1 AND 2) TO REMAIN OPEN AND FOR GATES (5 AND 6) TO REMAIN CLOSED DURING OPERATOR REPLACEMENTS. SUBMIT PROPOSED METHOD OF SUPPORTING STEMS FOR REVIEW AND APPROVAL.

PROPOSED PLAN VIEW - JUNCTION CHAMBER NO. 6
 SCALE: 3/32" = 1' - 0"



PROPOSED SECTION C - JUNCTION CHAMBER NO. 6
 SCALE: 1/8" = 1' - 0"

SHADED AREAS ON THIS SHEET INDICATE PIPING AND EQUIPMENT TO BE INSTALLED

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
 DRN: WA/KLT
 CKD:
 DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

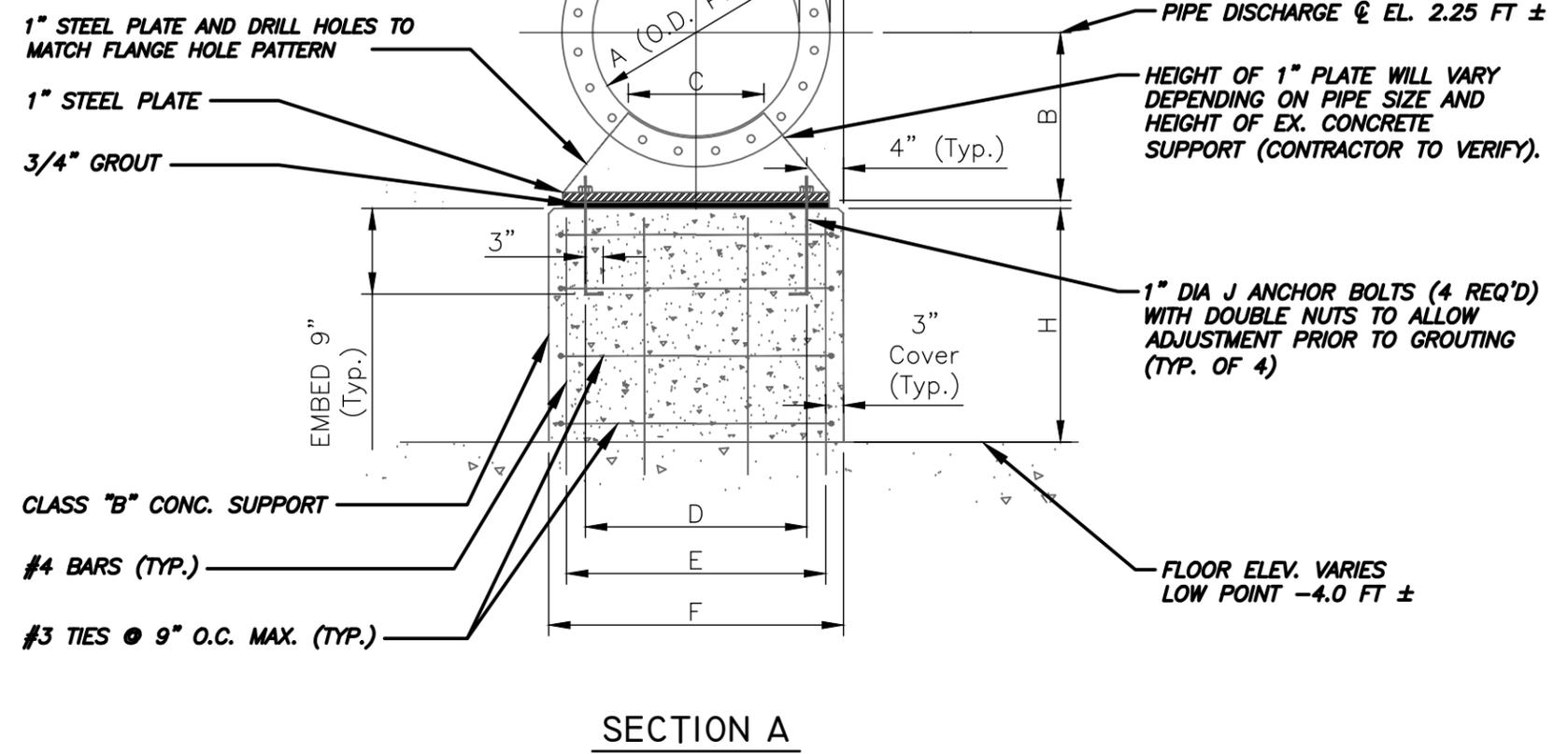
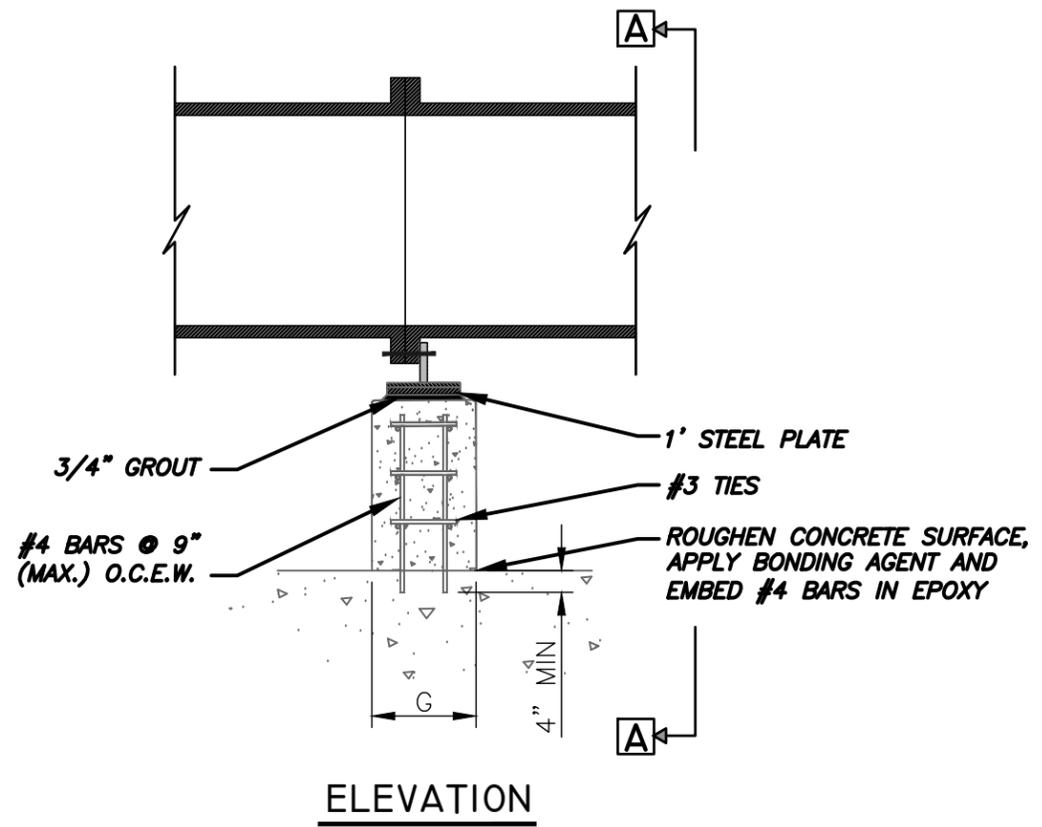
HFC AWP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT
 JUNCTION CHAMBER NO. 6 - PROPOSED PLAN
 AND SECTION C VIEW

SHEET
 11

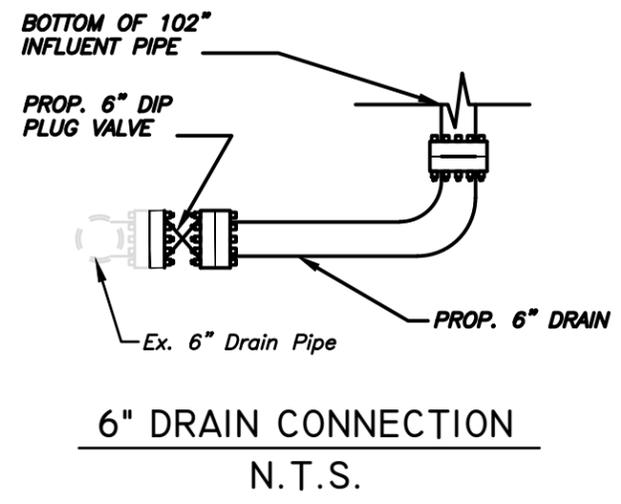
JACINTO CARLOS FERRAS, P.E. #49454
 DESIGN DIVISION HEAD
 WASTEWATER DEPARTMENT

SCHEDULE							
A	B	C	D	E	F	G	H
72"	4'-0"	2'-7"	2'-10"	3'-4"	3'-10"	1'-4"	1'-8-1/4"±

B_____



PIPE SUPPORT DETAIL
N.T.S.



User: sary Drawing Name: \\sawer\Projects\WasteWater Projects\HFC AWP Filter Building No.2 Flow Meter Replacements No.2 Flow Meter Replacements KLT.dwg Layout: Oct 24, 2019 - 11:15am

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

No.	DATE	REVISIONS
3		
2		
1		

DES: KJG
DRN: WA/KLT
CKD:
DATE: Oct-19

CITY of TAMPA
WASTEWATER DEPARTMENT

HFC AWP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT
MISCELLANEOUS DETAILS

SHEET
12

GENERAL NOTES

THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND TECHNICAL SUPERVISION FOR THE PROPOSED REPLACEMENT OF VARIOUS MOTOR OPERATED VALVE ACTUATORS AND FLOW METERS AS INDICATED AND SHOWN. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2. ALL WIRING SHALL BE IDENTIFIED WITH NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
3. FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
4. ALL NEW EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED WITH A BLACK ON WHITE LAMACOID TAG ENGRAVED WITH MINIMUM 3/16 INCH LETTERING.
5. ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
6. 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.
7. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 6TH EDITION 2017, THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SERIES 70/NATIONAL ELECTRICAL CODE (NEC) 2014 EDITION AND CHAPTER 6 OF THE CITY OF TAMPA CODE.
8. TEST AND START-UP REPORTS FOR THE PROPOSED MOTOR OPERATED VALVES AND FLOW METER REMOTE TRANSMITTERS 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. 2 FLOW METER REPLACEMENT. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

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

SPECIFICALLY:

A. INSTALLATION

1. PRIOR TO DEMOLITION, THE PROPOSED MOTOR OPERATED VALVE ACTUATORS AND FLOW METER REMOTE TRANSMITTERS SHALL BE ON SITE AND READY FOR INSTALLATION. NO TEMPORARY POWER SHALL BE REQUIRED DURING THE REPLACEMENT OF THE EQUIPMENT.
2. VERIFY EXISTING CONTROL AND POWER CONNECTIONS IN THE FIELD PRIOR TO COMMENCING DEMOLITION WORK.
3. REMOVE THE EXISTING MOTOR OPERATED VALVE ACTUATORS AND FLOW METERS. PREPARE THE EXISTING SPACES AS REQUIRED TO INSTALL THE NEW EQUIPMENT.
4. INSTALL THE MOTOR OPERATED VALVE ACTUATORS AND FLOW METERS.
5. INSTALL NEW CONDUIT, CONDUCTORS, JUNCTION BOXES, CHANNEL SUPPORTS AND CIRCUIT BREAKERS AS SHOWN, INDICATED OR REQUIRED.
6. MAKE CABLE CONNECTIONS AS SHOWN.
7. FE 48'S FLOW SIGNAL IS CONNECTED TO ANALOG INPUT 2 AND FE 49 IS CONNECTED TO ANALOG INPUT #1 ON THE RTU PLC LOCATED IN FILTER BUILDING #2. THE CONTRACTOR SHALL RECONNECT THESE EXISTING INPUTS IN THE RTU PLC.



JOB No.	231901842								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION		

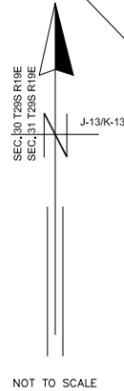
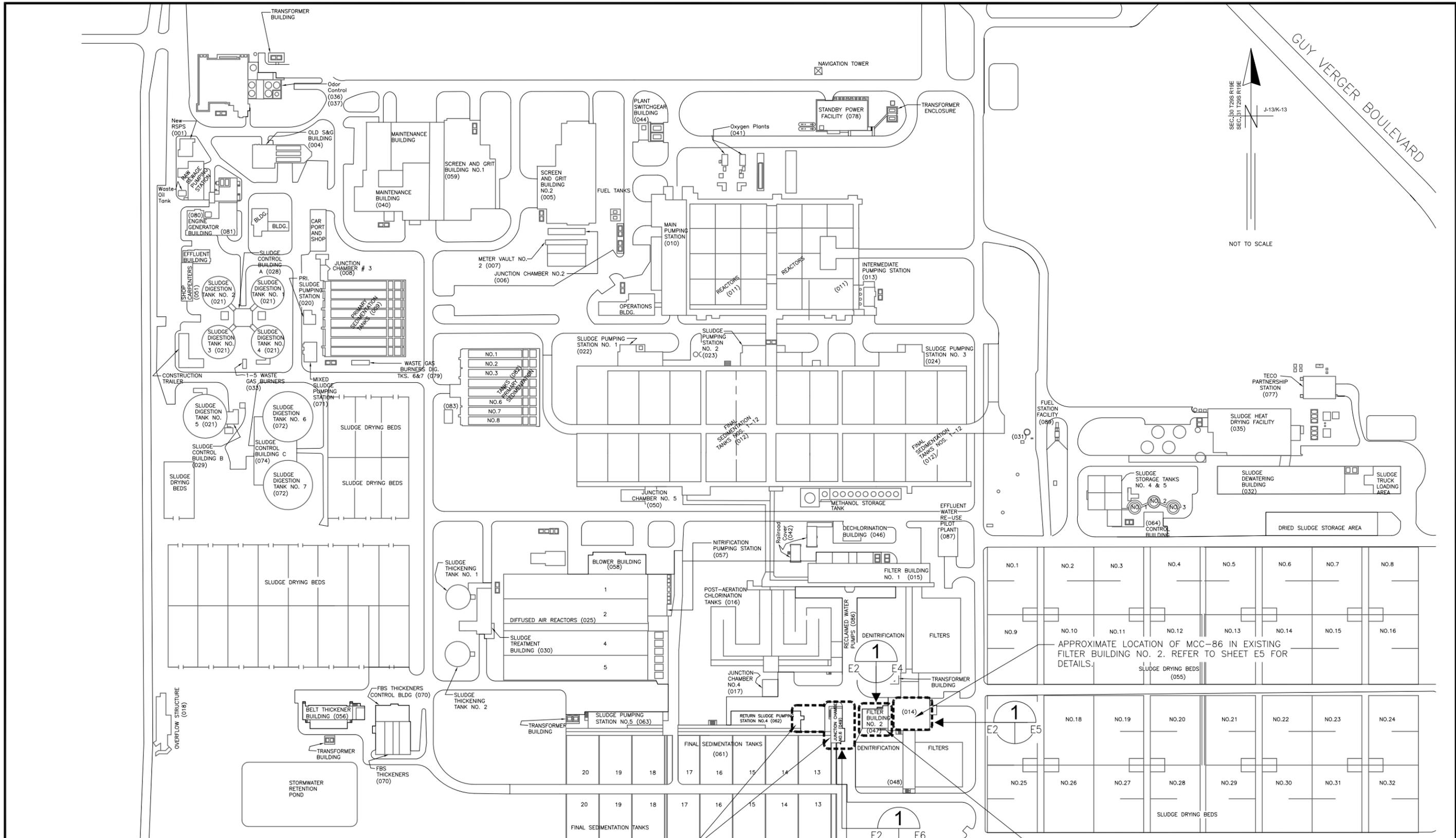
SCALE	
AS SHOWN	

City of Tampa Wastewater Department
HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

GENERAL NOTES AND SCOPE OF WORK

TIMOTHY THOMAS, P.E. No. 47079

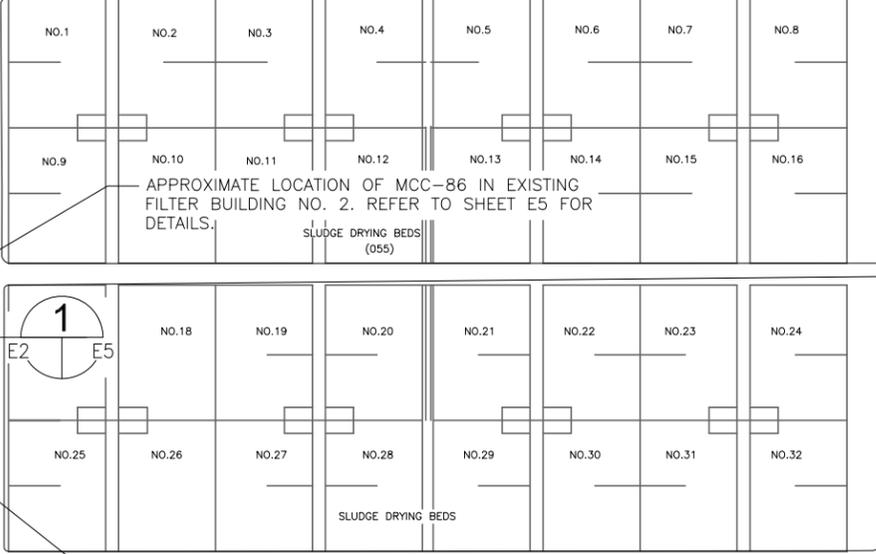
SHEET NUMBER	E1
FILE:	231901842E01



GUY VERGER BOULEVARD

EXISTING RETURN SLUDGE PUMPING STATION NO. 4 & JUNCTION CHAMBER NO. 6. REFER TO SHEET E6 FOR DETAILS OF NEW MOTOR OPERATED VALVE INSTALLATION.

EXISTING FILTER BUILDING NO. 2 METER VAULT. REFER TO SHEET E4 FOR DETAILS OF NEW FLOW METER INSTALLATION.



TRICON CONSULTING ENGINEERS
 777 S. Harbour Island Blvd.
 Suite 350
 Tampa, FL 33602
 813.227.9190
 Certificate of Authorization No. 8363

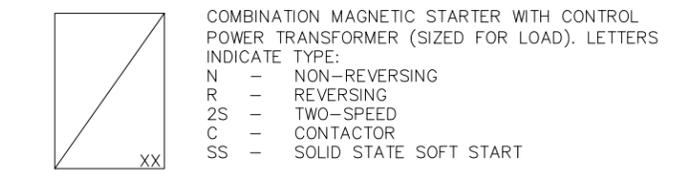
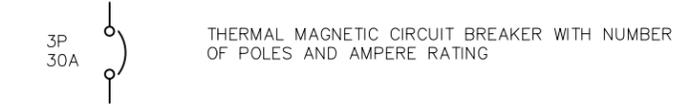
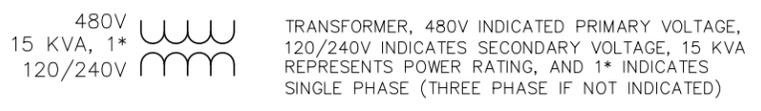
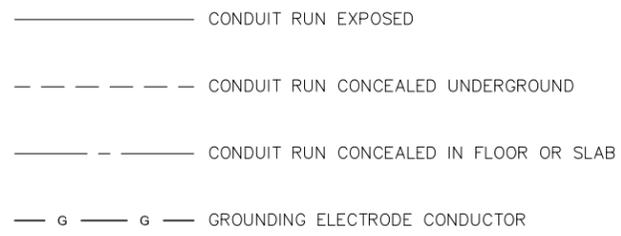
JOB No.	231901842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE
 NOT TO SCALE

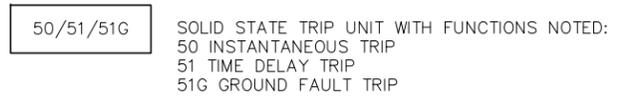
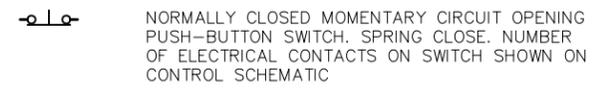
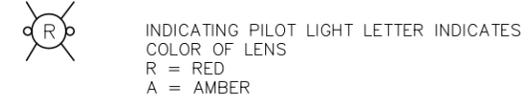
City of Tampa Wastewater Department
 HFC AWTP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT

**SLUICE GATE REPLACEMENT
 OVERALL ELECTRICAL
 SITE PLAN**

SHEET NUMBER	E2
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901842E01



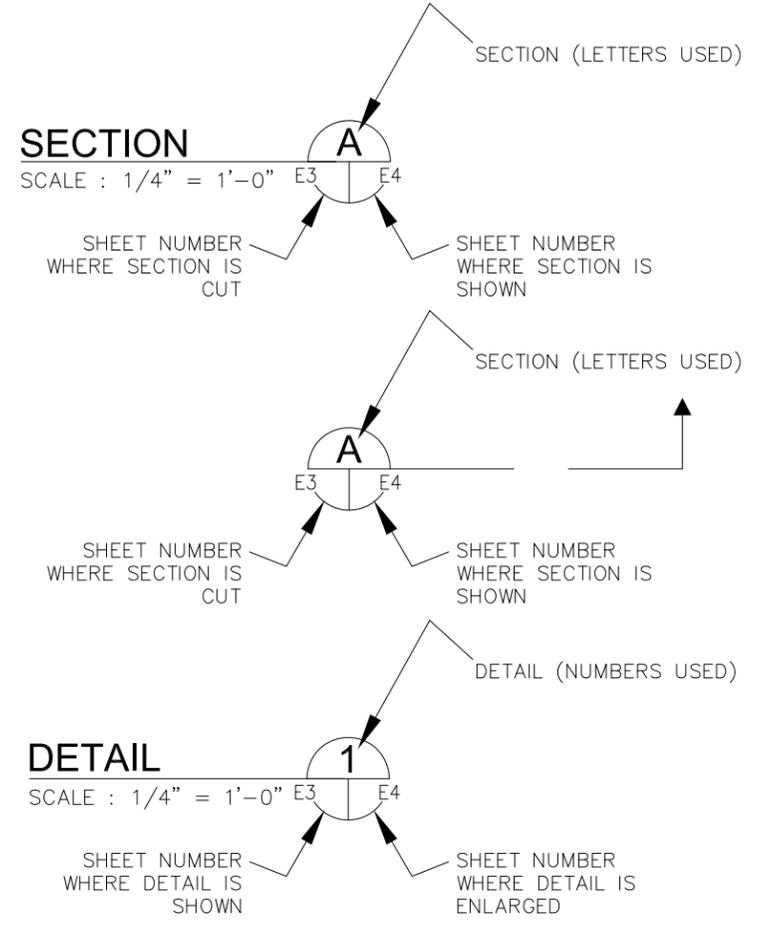
XXX	XXX DEVICE	DESCRIPTION
HLS	HLS	HIGH LEVEL SWITCH
HOA	HOA	HAND-OFF-AUTO
LD	LD	LEAK DETECTION
LLS	LLS	LOW LEVEL SWITCH
LOR	LOR	LOCAL-OFF-REMOTE
PB	PB	PUSH BUTTON
RTU	RTU	REMOTE TERMINAL UNIT
SS	SS	SOFT STARTER
SS/B	SS/B	SOFT START OR BYPASS
TCP	TCP	TEMPERATURE CONTROL PANEL
TS	TS	TEMPERATURE SWITCH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



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
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



JOB No.	231901842								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE

AS SHOWN

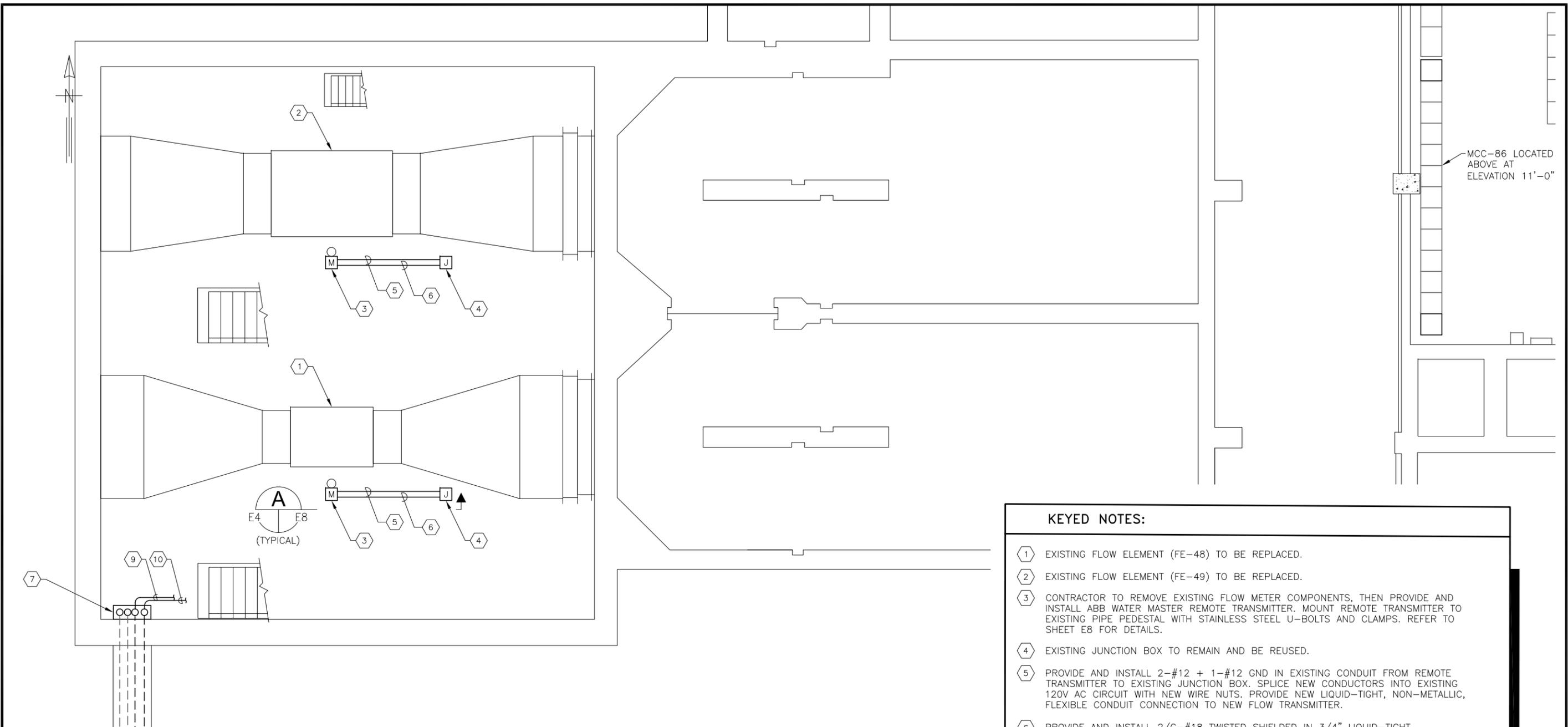
City of Tampa Wastewater Department

HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

INDEX, SCHEDULES AND GENERAL NOTES

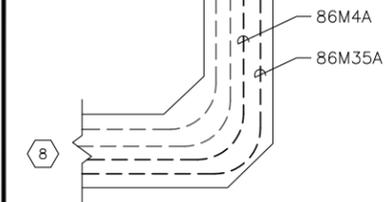
TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E3
FILE: 231901842E01



FILTER BUILDING NO. 2 METER VAULT: PLAN ELEVATION 4'-0" 1
 SCALE : 1/8" = 1'-0" E2 | E4

- KEYED NOTES:**
- ① EXISTING FLOW ELEMENT (FE-48) TO BE REPLACED.
 - ② EXISTING FLOW ELEMENT (FE-49) TO BE REPLACED.
 - ③ CONTRACTOR TO REMOVE EXISTING FLOW METER COMPONENTS, THEN PROVIDE AND INSTALL ABB WATER MASTER REMOTE TRANSMITTER. MOUNT REMOTE TRANSMITTER TO EXISTING PIPE PEDESTAL WITH STAINLESS STEEL U-BOLTS AND CLAMPS. REFER TO SHEET E8 FOR DETAILS.
 - ④ EXISTING JUNCTION BOX TO REMAIN AND BE REUSED.
 - ⑤ PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN EXISTING CONDUIT FROM REMOTE TRANSMITTER TO EXISTING JUNCTION BOX. SPLICE NEW CONDUCTORS INTO EXISTING 120V AC CIRCUIT WITH NEW WIRE NUTS. PROVIDE NEW LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT CONNECTION TO NEW FLOW TRANSMITTER.
 - ⑥ PROVIDE AND INSTALL 2/C-#18 TWISTED SHIELDED IN 3/4" LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT FROM REMOTE TRANSMITTER TO EXISTING JUNCTION BOX. SPLICE INTO EXISTING CONDUCTORS WITH NEW IDEAL PUSH-IN WIRE CONNECTORS. PART #30-1632. TOTAL OF THREE (3) REQUIRED. PROVIDE NEW LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT CONNECTION TO NEW FLOW TRANSMITTER.
 - ⑦ EXISTING PULL BOX TO REMAIN AND BE REUSED.
 - ⑧ EXISTING DUCTBANK. WORK REQUIRED FOR 86M4A AND 86M35A ONLY. DUCTBANK CONTINUES TO JUNCTION CHAMBER NO. 6. REFER TO SHEET E6 FOR CONTINUATION.
 - ⑨ EXISTING CONDUCTORS AND CONDUIT (86M4) CONTINUES TO MCC-86 LOCATED ON ELEVATION 11'-0". REFER TO ABOVE RIGHT AND SHEET E5 FOR MCC-86 LOCATION.
 - ⑩ EXISTING CONDUCTORS AND CONDUIT (86M35) CONTINUES TO MCC-86 LOCATED ON ELEVATION 11'-0". REFER TO ABOVE RIGHT AND SHEET E5 FOR MCC-86 LOCATION.

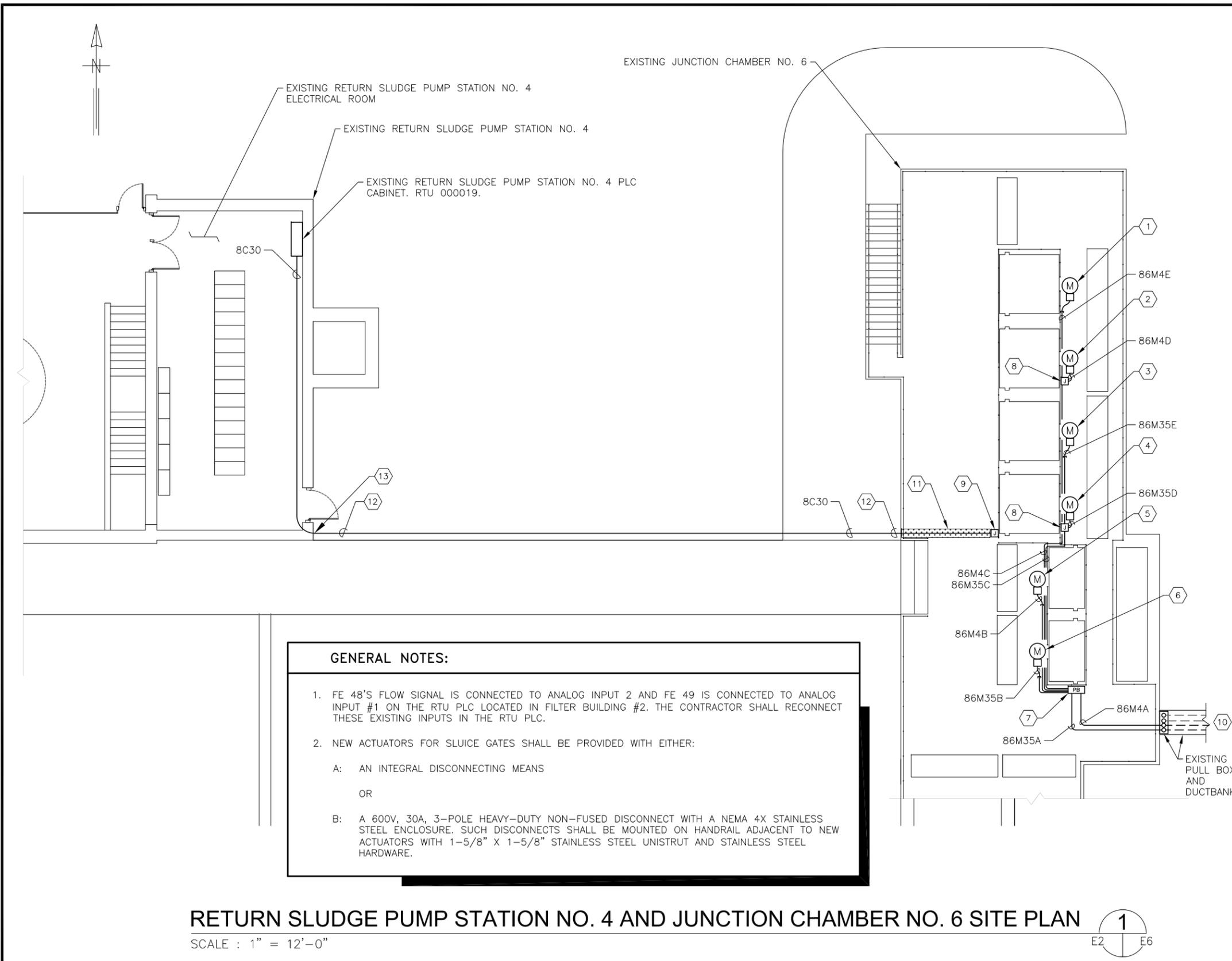


JOB No.	231901842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE
 AS SHOWN

City of Tampa Wastewater Department
 HFC AWTP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT

**FILTER BUILDING NO. 2
 METER VAULT ELECTRIC PLAN
 ELEVATION 4'-0"**



- KEYED NOTES:**
- 1 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-1 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. FIELD ROUTE CONDUIT AND PROVIDE JUNCTION BOXES AS REQUIRED. PROVIDE FLEXIBLE, LIQUID-TIGHT, NON-METALLIC CONNECTION TO SLUICE GATE OPERATOR. (8C24)
 - 2 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-2 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. REQUIREMENTS SHALL BE AS INDICATED IN KEYED NOTE #1. (8C25)
 - 3 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-3 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. REQUIREMENTS SHALL BE AS INDICATED IN KEYED NOTE #1. (8C26)
 - 4 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-4 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. REQUIREMENTS SHALL BE AS INDICATED IN KEYED NOTE #1. (8C27)
 - 5 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-5 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. REQUIREMENTS SHALL BE AS INDICATED IN KEYED NOTE #1. (8C28)
 - 6 EXISTING ACTUATOR FOR SLUICE GATE JC-6-SG-6 TO BE REPLACED. PROVIDE AND INSTALL NEW 3/4" C. WITH 2/C-#16 TWISTED SHIELDED (BELDEDN 8719) FROM SLUICE GATE ACTUATOR TO NEW JUNCTION BOX SHOWN IN KEYED NOTE #9. REQUIREMENTS SHALL BE AS INDICATED IN KEYED NOTE #1. (8C29)
 - 7 EXISTING PULL BOX TO REMAIN AND BE REUSED.
 - 8 EXISTING JUNCTION BOX TO REMAIN AND BE REUSED.
 - 9 CONTRACTOR TO PROVIDE AND INSTALL NEW 8" X 6" NEMA 4X STAINLESS STEEL JUNCTION BOX. HAMMOND EJ863S16 WITH STAINLESS STEEL BACKPANEL. PROVIDE TWENTY FOUR (24) TERMINAL BLOCKS (ALLEN BRADLEY TYPE 1492-H) WITH END BARRIERS AND END ANCHORS. MOUNT TERMINAL BLOCKS ON ALUMINUM DIN RAIL. MOUNT JUNCTION BOX ON EXISTING HANDRAIL WITH 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT AND STAINLESS STEEL HARDWARE.
 - 10 EXISTING DUCTBANK. WORK REQUIRED FOR 86M4A AND 86M35A ONLY. DUCTBANK CONTINUES TO FILTER BUILDING NO. 2 METER VAULT. REFER TO SHEET E4 FOR CONTINUATION.
 - 11 PROVIDE AND INSTALL DROP OVER CABLE PROTECTOR WITH SINGLE 2.25 INCH CHANNEL. ELECTRIDUCT PART #CP1X225-GP-DO. CABLE PROTECTOR INTERLOCKS WITH STANDARD 3'-0" LENGTHS. PROVIDE QUANTITY AS REQUIRED. CUT LAST PROTECTOR AS REQUIRED FOR PROPER FIT.
 - 12 CONTRACTOR SHALL INSTALL NEW CONDUIT ON EXTERIOR OF THE FINAL SEDIMENTATION TANK WALL ADJACENT TO EXISTING CONDUIT.
 - 13 CONTRACTOR SHALL CORE DRILL EXISTING WALL, INSTALL CONDUIT AND GROUT OPENING.

GENERAL NOTES:

1. FE 48'S FLOW SIGNAL IS CONNECTED TO ANALOG INPUT 2 AND FE 49 IS CONNECTED TO ANALOG INPUT #1 ON THE RTU PLC LOCATED IN FILTER BUILDING #2. THE CONTRACTOR SHALL RECONNECT THESE EXISTING INPUTS IN THE RTU PLC.
2. NEW ACTUATORS FOR SLUICE GATES SHALL BE PROVIDED WITH EITHER:
 - A: AN INTEGRAL DISCONNECTING MEANS
 - OR
 - B: A 600V, 30A, 3-POLE HEAVY-DUTY NON-FUSED DISCONNECT WITH A NEMA 4X STAINLESS STEEL ENCLOSURE. SUCH DISCONNECTS SHALL BE MOUNTED ON HANDRAIL ADJACENT TO NEW ACTUATORS WITH 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT AND STAINLESS STEEL HARDWARE.

RETURN SLUDGE PUMP STATION NO. 4 AND JUNCTION CHAMBER NO. 6 SITE PLAN

SCALE : 1" = 12'-0"



TRICON CONSULTING ENGINEERS
 777 S. Harbour Island Blvd.
 Suite 350
 Tampa, FL 33602
 813.227.9190
 Certificate of Authorization No. 8363

JOB No.	231901842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION

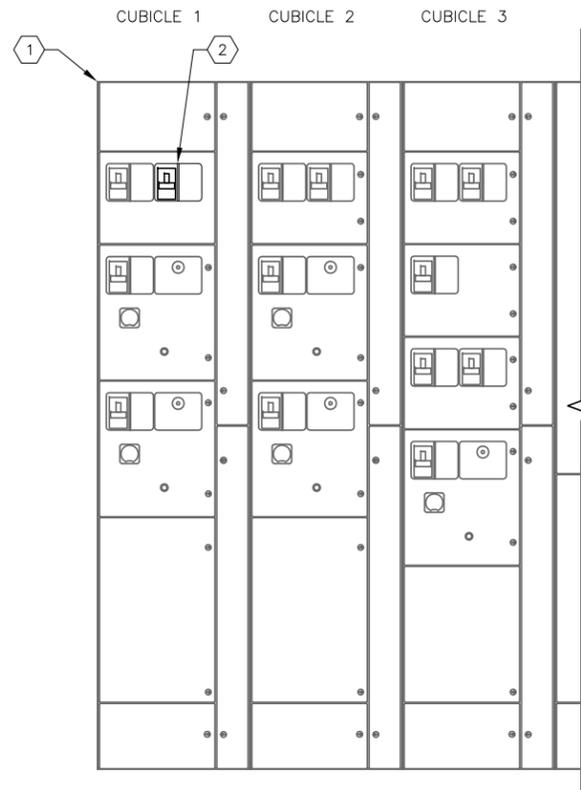
SCALE
 AS SHOWN

City of Tampa Wastewater Department
 HFC AWTP FILTER BUILDING NO. 2
 FLOW METER REPLACEMENT

**RSPS NO. 4 AND JC-6
 PROPOSED ELECTRICAL PLAN**

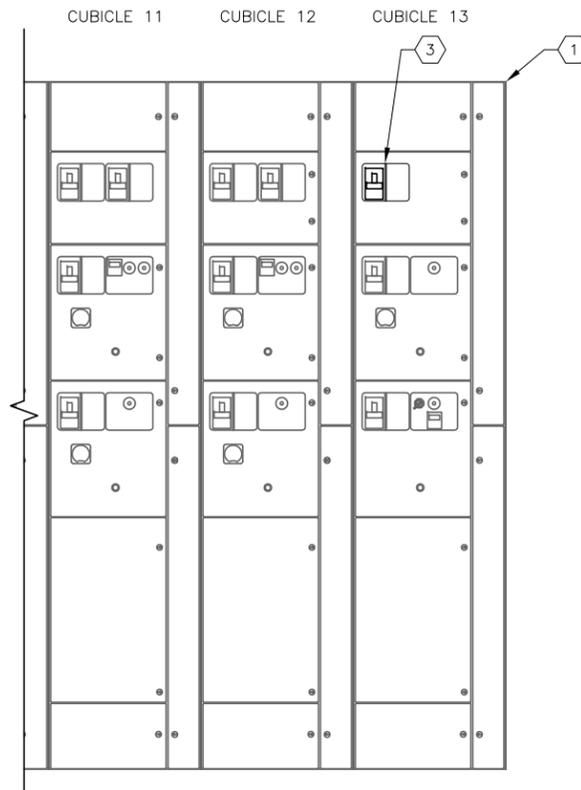
TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E6
 FILE: 231901842E01



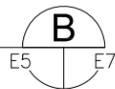
**MCC-86 PARTIAL
FRONT ELEVATION**

SCALE: NOT TO SCALE



**MCC-86 PARTIAL
FRONT ELEVATION**

SCALE: NOT TO SCALE



KEYED NOTES:

- ① EXISTING MOTOR CONTROL CENTER DESIGNATED 'MCC-86'.
- ② CONTRACTOR SHALL REUSE EXISTING 3-POLE, 600V, 20A CIRCUIT BREAKER DESIGNATED AS 'SLUICE GATE JC-6-3,4,6'.
- ③ CONTRACTOR SHALL REUSE EXISTING 3-POLE, 600V, 20A CIRCUIT BREAKER DESIGNATED AS 'SLUICE GATE JC-6-1,2,5'.



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. B363

JOB No.	231901842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

AS SHOWN

City of Tampa Wastewater Department

HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

**MOTOR CONTROL CENTER
MCC-86 ELEVATIONS**

SHEET NUMBER

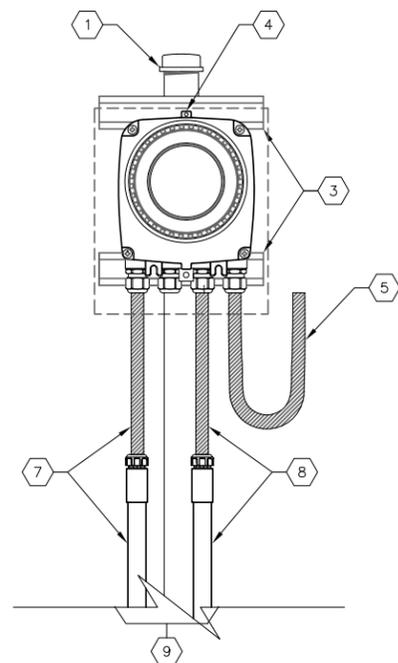
E7

TIMOTHY THOMAS, P.E. No. 47079

FILE: 231901842E01



EXISTING REMOTE TRANSMITTER DETAILS A
SCALE: NOT TO SCALE E4 | E8



NEW REMOTE TRANSMITTER INSTALLATION DETAILS A
SCALE: NOT TO SCALE E4 | E8

KEYED NOTES:

- ① CONTRACTOR SHALL REUSE EXISTING PIPE PEDESTAL.
- ② CONTRACTOR TO REMOVE EXISTING FLOW METER TRANSMITTER AND PROVIDE AND INSTALL NEW ABB WATER MASTER REMOTE TRANSMITTER.
- ③ PROVIDE AND INSTALL 1-5/8" X 7/8" STAINLESS STEEL UNISTRUT FOR TRANSMITTER MOUNTING.
- ④ CONTRACTOR TO PROVIDE AND INSTALL ABB WATER MASTER REMOTE TRANSMITTER. MOUNT REMOTE TRANSMITTER TO EXISTING PIPE PEDESTAL WITH STAINLESS STEEL U-BOLTS AND CLAMPS.
- ⑤ CONTINUE LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT AS NEAR AS POSSIBLE TO FLOW METER ELEMENT. ALL SLACK SENSOR CABLE SHALL BE LOOPED AT TRANSMITTER AND SECURED WITH NYLON TIE-WRAP.
- ⑥ EXISTING JUNCTION BOX CONTAINING CONDUCTORS FOR 120V AC POWER AND 4-20mA CONDUCTORS FOR ANALOG FLOW SIGNAL. EXISTING JUNCTION BOX TO REMAIN AND BE REUSED.
- ⑦ EXISTING CONDUCTORS FOR 120V AC POWER TO BE REPLACED. PROVIDE AND INSTALL 2-#12 + 1-#12 GND IN EXISTING CONDUIT FROM REMOTE TRANSMITTER TO EXISTING JUNCTION BOX. SPLICE INTO EXISTING 120V AC CIRCUIT WITH NEW WIRE NUTS. PROVIDE 3/4" LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT CONNECTION TO TRANSMITTER.
- ⑧ EXISTING CONDUCTORS FOR REMOTE TRANSMITTER 4-20mA ANALOG OUTPUT TO BE REPLACED. PROVIDE AND INSTALL 2/C-#18 TWISTED SHIELDED IN EXISTING CONDUIT FROM REMOTE TRANSMITTER TO EXISTING JUNCTION BOX. SPLICE INTO EXISTING CONDUCTORS WITH NEW IDEAL PUSH-IN WIRE CONNECTORS. PART #30-1632. TOTAL OF THREE (3) REQUIRED. PROVIDE 3/4" LIQUID-TIGHT, NON-METALLIC, FLEXIBLE CONDUIT CONNECTION TO TRANSMITTER.
- ⑨ CONDUITS CONTINUE TO EXISTING JUNCTION BOX INDICATED IN KEYED NOTE #6.



777 S. Harbour Island Blvd.
Suite 350
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

JOB No.	231901842						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

AS SHOWN

City of Tampa Wastewater Department

HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

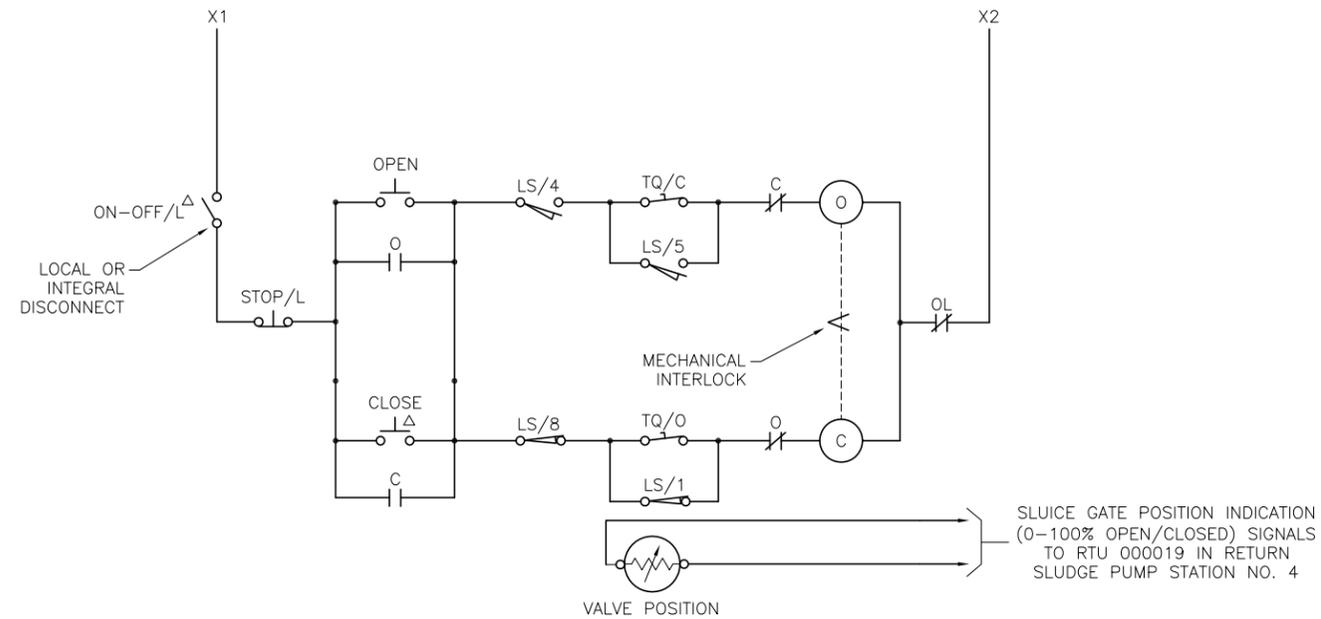
**FLOW METER TRANSMITTER
DETAILS**

SHEET NUMBER

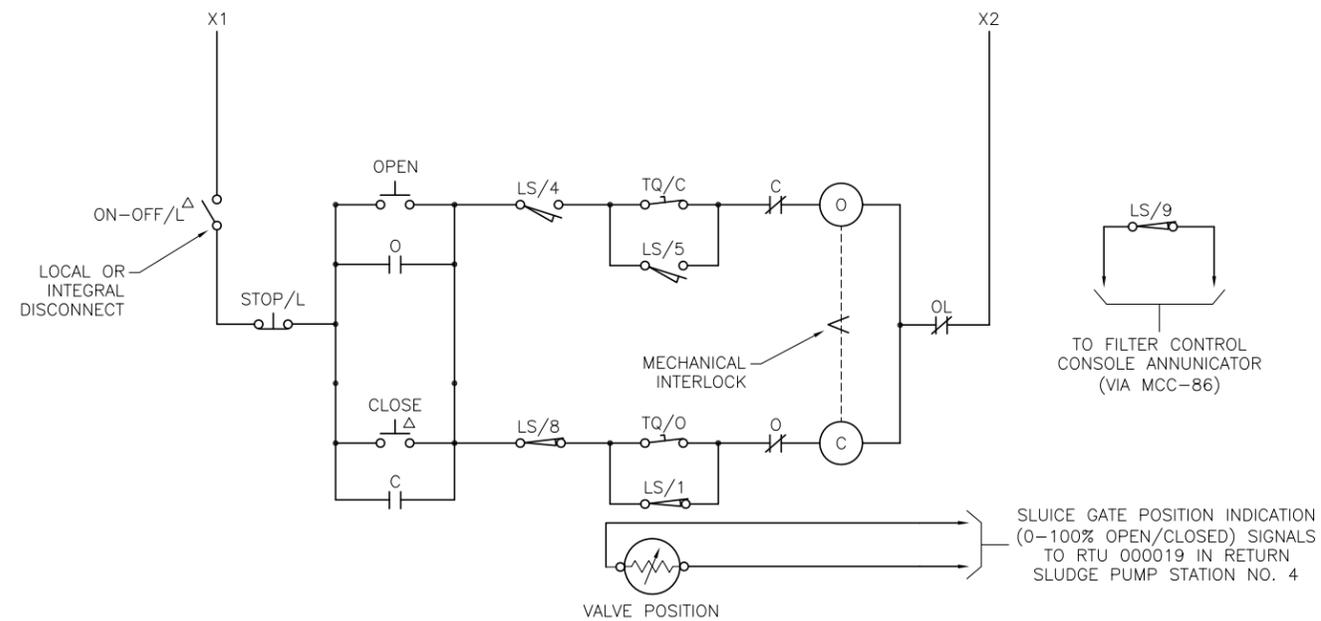
E8

TIMOTHY THOMAS, P.E. No. 47079

FILE: 231901842E01



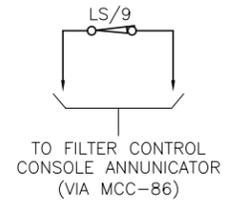
SLUICE GATE JC-6-SG-1 WIRING DIAGRAM
(TYPICAL FOR JC-6-SG-2 THRU JC-6-SG-4)



SLUICE GATE JC-6-SG-5 WIRING DIAGRAM
(TYPICAL FOR JC-6-SG-6)

ROTOR NO.	CONTACT NO.	OPERATOR POSITION			CONTACT FUNCTION
		FULL OPEN	INTER-MEDIATE	FULL CLOSED	
1	1	---	---	---	BYPASS CIRCUIT
	2	---	---	---	AUXILIARY
	3	---	---	---	AUXILIARY
	4	---	---	---	FORWARD (OPEN LIMIT)
2	5	---	---	---	BYPASS CIRCUIT
	6	---	---	---	AUXILIARY
	7	---	---	---	AUXILIARY
	8	---	---	---	OPEN INDICATION LIGHT *
3	9	---	---	---	OPEN INDICATION LIGHT **
	10	---	---	---	REVERSE (CLOSED) LIMIT
	11	---	---	---	AUXILIARY
	12	---	---	---	AUXILIARY
4	13	---	---	---	CLOSED INDICATION LIGHT *
	14	---	---	---	CLOSED INDICATION LIGHT **
	15	---	---	---	AUXILIARY
	16	---	---	---	AUXILIARY

TQ/C - CLOSING TORQUE SWITCH * INDICATING LIGHT IN GRSCP-5, 6
TQ/O - OPENING TORQUE SWITCH ** INDICATING LIGHT IN GRSCP-7, 8
 INDICATES CONTACT CLOSED
 INDICATES CONTACT OPEN



SLUICE GATE POSITION INDICATION
(0-100% OPEN/CLOSED) SIGNALS
TO RTU 000019 IN RETURN
SLUDGE PUMP STATION NO. 4

CONDUIT AND CABLE SCHEDULE					
CONDUIT No.	SIZE	NUMBER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
86M4	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-86	PULL BOX IN METER VAULT	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-1, JC-6-SG-2 & JC-6-SG-5).
86M4A	2"	3-#12 + 2-#14 + 1-#12 GND	PULL BOX IN METER VAULT	PULL BOX NEAR JC-6-SG-6	2" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-1, JC-6-SG-2 & JC-6-SG-5).
86M4B	1"	3-#12 + 2-#14 + 1-#12 GND	PULL BOX NEAR JC-6-SG-6	JC-6-SG-5	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-5.
86M4C	1"	3-#12 + 1-#12 GND	PULL BOX NEAR JC-6-SG-6	J.B. NEAR JC-6-SG-2	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-1 & JC-6-SG-2).
86M4D	1"	3-#12 + 1-#12 GND	J.B. NEAR JC-6-SG-2	JC-6-SG-2	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-2.
86M4E	1"	3-#12 + 1-#12 GND	J.B. NEAR JC-6-SG-2	JC-6-SG-1	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-1.
86M35	1"	3-#12 + 2-#14 + 1-#12 GND	MCC-86	PULL BOX IN METER VAULT	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-3, JC-6-SG-4 & JC-6-SG-6).
86M35A	2"	3-#12 + 2-#14 + 1-#12 GND	PULL BOX IN METER VAULT	PULL BOX NEAR JC-6-SG-6	2" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-3, JC-6-SG-4 & JC-6-SG-6).
86M35B	1"	3-#12 + 2-#14 + 1-#12 GND	PULL BOX NEAR JC-6-SG-6	JC-6-SG-6	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-6.
86M35C	1"	3-#12 + 1-#12 GND	PULL BOX NEAR JC-6-SG-6	J.B. NEAR JC-6-SG-4	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS. (JC-6-SG-3 & JC-6-SG-4).
86M35D	1"	3-#12 + 1-#12 GND	J.B. NEAR JC-6-SG-4	JC-6-SG-4	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-4.
86M35E	1"	3-#12 + 1-#12 GND	J.B. NEAR JC-6-SG-4	JC-6-SG-3	1" CONDUIT IS EXISTING TO BE REUSED AFTER CLEANING, PROVIDE NEW CONDUCTORS AND NEW LIQUID-TIGHT, NON-METALLIC FLEXIBLE CONNECTION TO JC-6-SG-3.
8C24	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-1	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C25	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-2	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C26	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-3	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C27	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-4	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C28	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-5	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C29	3/4"	ONE (1) 2/C-#16 TWISTED SHIELDED	JC-6-SG-6	JC NO. 6 PULL BOX	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).
8C30	1-1/2"	SIX (6) 2/C-#16 TWISTED SHIELDED	JC NO. 6 PULL BOX	RTU 000019	3/4" CONDUIT IS NEW, PROVIDE NEW CONDUCTORS. (BELDEN 8719).



JOB No.	231901842								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	10/2019	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE

AS SHOWN

City of Tampa Wastewater Department
HFC AWTP FILTER BUILDING NO. 2
FLOW METER REPLACEMENT

CONDUIT AND CABLE SCHEDULE

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E10
FILE: 231901842E01