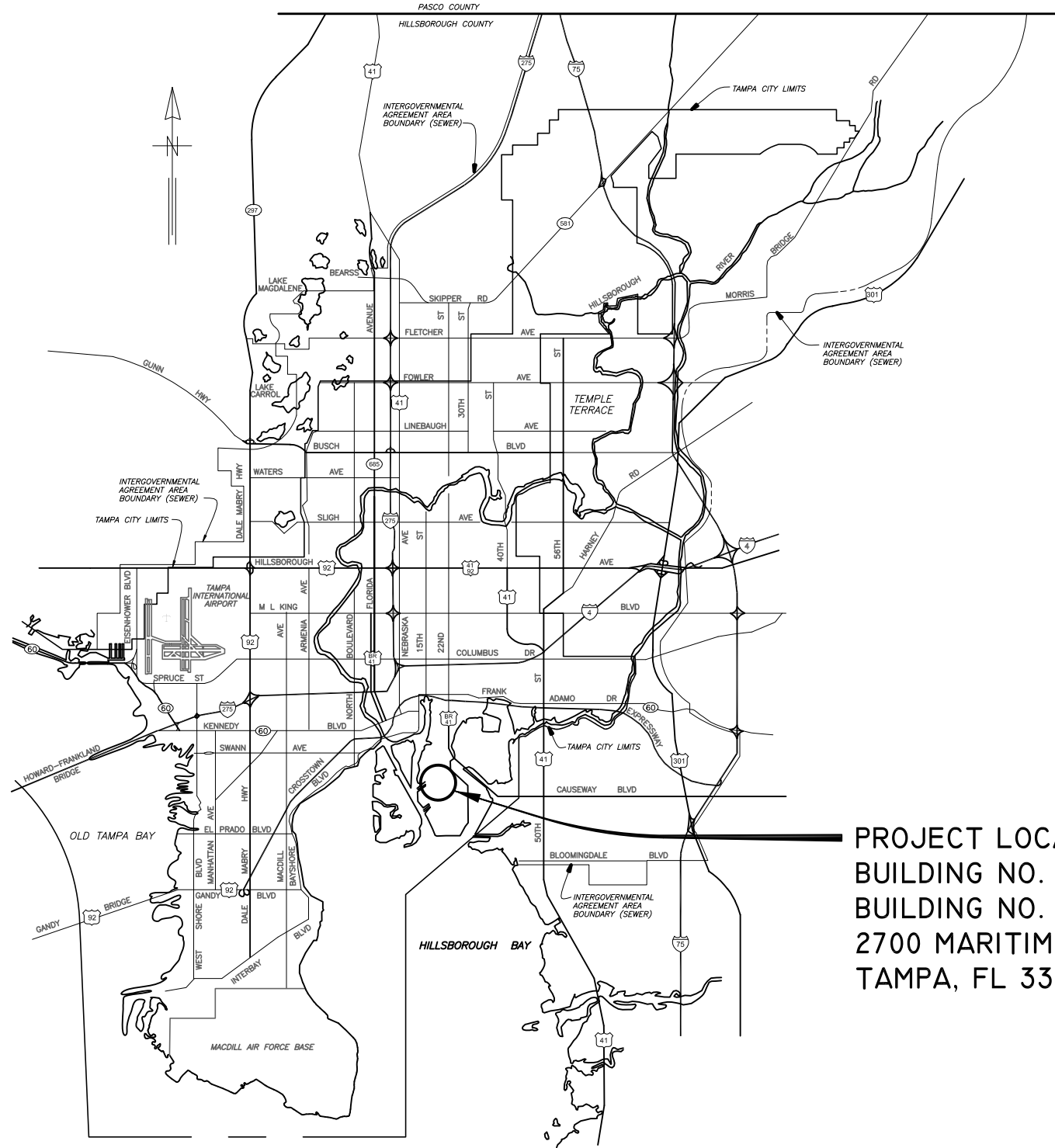


LOCATION MAP



PROJECT LOCATION  
BUILDING NO. 15 AND  
BUILDING NO. 47  
2700 MARITIME BLVD.  
TAMPA, FL 33605

PLANS

FOR

CITY OF TAMPA FLORIDA  
WASTEWATER DEPARTMENT

FOR

THE CONSTRUCTION OF THE

HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

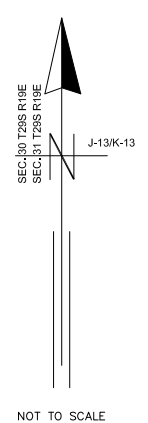
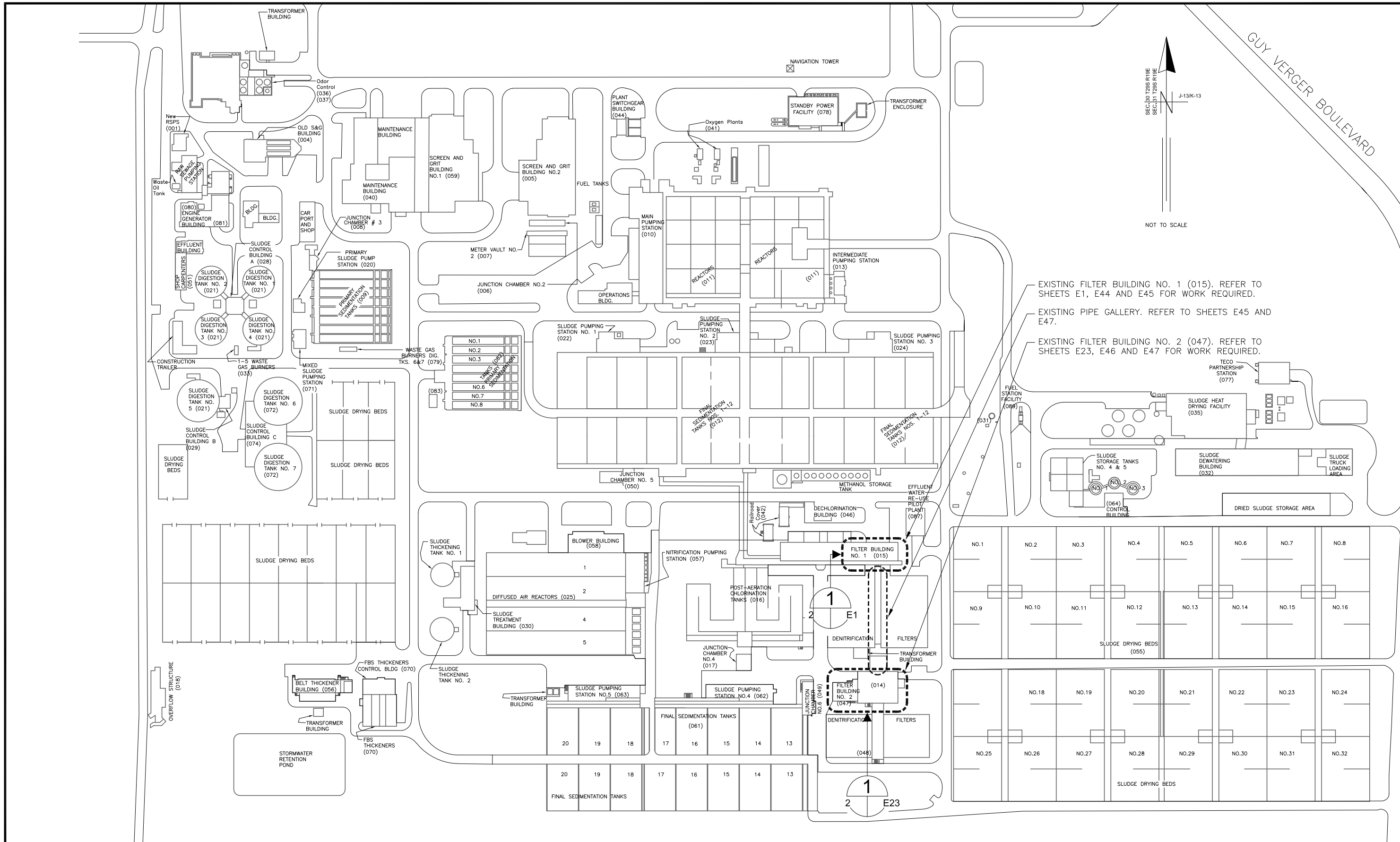
CONTRACT: 19-C-00036

JANUARY 2021



**TRICON**  
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Suite 350  
Tampa, FL 33602  
813.227.9190  
Certificate of Authorization No. 8363



EXISTING FILTER BUILDING NO. 1 (015). REFER TO SHEETS E1, E44 AND E45 FOR WORK REQUIRED.

EXISTING PIPE GALLERY. REFER TO SHEETS E45 AND E47.

EXISTING FILTER BUILDING NO. 2 (047). REFER TO SHEETS E23, E46 AND E47 FOR WORK REQUIRED.

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JOB No.	231901542						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE  
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWWP  
 NEW FILTER BUILDING  
 PLC REPLACEMENT**

**HOWARD F. CURREN AWWP  
 SITE PLAN**

SHEET NUMBER	2
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542

**DRAWING INDEX**

SHEET No.	SHEET TITLE
1	COVER SHEET
2	HOWARD F. CURREN AWTP SITE PLAN
3	INDEX, GENERAL NOTES AND SCOPE OF WORK
EG1	ELECTRICAL SYMBOLS AND LEGEND SHEET 1 OF 2
EG2	ELECTRICAL SYMBOLS AND LEGEND SHEET 2 OF 2
E1	FILTER BUILDING No. 1 (015): PARTIAL PLAN – ELEV 23’-6”
E2	EXISTING FILTER CONTROL CONSOLE ANNUNCIATOR MODIFICATIONS
E3	EXISTING FILTER CONTROL CONSOLE ANNUNCIATOR LOWER SECTION MODIFICATIONS
E4	EXISTING FILTER CONTROL CONSOLE (EAST FILTERS, FRONT) MODIFICATIONS
E5	EXISTING FILTER CONTROL CONSOLE (WEST FILTERS, FRONT) MODIFICATIONS
E6	EXISTING FILTER CONTROL CONSOLE (EAST FILTERS, REAR) MODIFICATIONS
E7	EXISTING FILTER CONTROL CONSOLE (WEST FILTERS, REAR) MODIFICATIONS
E8	PROPOSED FILTER BUILDING No. 1 FILTER CONTROL PANEL
E9	FILTER BUILDING No. 1 EAST FILTER CONTROL PANEL POWER WIRING DIAGRAM
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E11	FILTER BUILDING No. 1 EAST FILTER DISCRETE INPUT I/O
E12	FILTER BUILDING No. 1 EAST FILTER DISCRETE INPUT I/O
E13	FILTER BUILDING No. 1 EAST FILTER DISCRETE INPUT I/O
E14	FILTER BUILDING No. 1 EAST FILTER RELAY OUTPUT I/O
E15	FILTER BUILDING No. 1 EAST FILTER RELAY OUTPUT I/O
E16	FILTER BUILDING No. 1 WEST FILTER DISCRETE INPUT I/O
E17	FILTER BUILDING No. 1 WEST FILTER DISCRETE INPUT I/O
E18	FILTER BUILDING No. 1 WEST FILTER DISCRETE INPUT I/O
E19	FILTER BUILDING No. 1 WEST FILTER RELAY OUTPUT I/O
E20	FILTER BUILDING No. 1 WEST FILTER RELAY OUTPUT I/O
E21	FILTER BUILDING No. 1 WEST FILTER RELAY OUTPUT I/O
E22	FILTER BUILDING No. 1 PROPOSED CABLE SCHEDULE
E23	FILTER BUILDING No. 2 (047): PARTIAL PLAN – ELEV 26’-0”
E24	FILTER BUILDING No. 2 EXISTING FILTER PANEL EXTERIOR MODIFICATIONS
E25	FILTER BUILDING No. 2 EXISTING FILTER PANEL INTERIOR MODIFICATIONS
E26	FILTER BUILDING No. 2 FILTER CONTROL PANELS WEST WALL ELEVATIONS
E27	FILTER BUILDING No. 2 EAST FILTER CONTROL PANEL ELEVATIONS
E28	FILTER BUILDING No. 2 EAST FILTER CONTROL PANEL POWER WIRING DIAGRAM
E29	FILTER BUILDING No. 2 EAST FILTER DISCRETE INPUT I/O
E30	FILTER BUILDING No. 2 EAST FILTER DISCRETE INPUT I/O
E31	FILTER BUILDING No. 2 EAST FILTER DISCRETE INPUT I/O
E32	FILTER BUILDING No. 2 EAST FILTER DISCRETE INPUT I/O
E33	FILTER BUILDING No. 2 EAST FILTER RELAY OUTPUT I/O
E34	FILTER BUILDING No. 2 EAST FILTER RELAY OUTPUT I/O
E35	FILTER BUILDING No. 2 EAST FILTER PROPOSED CABLE SCHEDULE
E36	FILTER BUILDING No. 2 WEST FILTER CONTROL PANEL ELEVATIONS
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E38	FILTER BUILDING No. 2 WEST FILTER DISCRETE INPUT I/O
E39	FILTER BUILDING No. 2 WEST FILTER DISCRETE INPUT I/O
E40	FILTER BUILDING No. 2 WEST FILTER DISCRETE INPUT I/O
E41	FILTER BUILDING No. 2 WEST FILTER RELAY OUTPUT I/O
E42	FILTER BUILDING No. 2 WEST FILTER RELAY OUTPUT I/O
E43	FILTER BUILDING No. 2 WEST FILTER PROPOSED CABLE SCHEDULE
E44	FILTER BUILDING No. 1 (015): PARTIAL PLAN – ELEV 11’-0”
E45	FILTER BUILDING No. 1 (015): PARTIAL PLAN – ELEV 3’-6”
E46	FILTER BUILDING No. 2 (047): PARTIAL PLAN – ELEV 3’-6”
E47	FILTER BUILDING No. 1 (049): PARTIAL PLAN – ELEV 11’-0”
E48	RODENT INTRUSION PREVENTION DETAIL
E49	PROPOSED FILTER CONTROLS NETWORK
E50	CONDUIT AND CABLE SCHEDULE (SHEET 1 OF 2)
E51	CONDUIT AND CABLE SCHEDULE (SHEET 2 OF 2)

GENERAL NOTES:

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
- ALL MAIN POWER CONDUCTORS SHALL BE STRANDED COPPER, #12 AWG MIN. W/XHHW-2 INSULATION, UNLESS OTHERWISE NOTED.
- ALL WIRING SHALL BE IDENTIFIED W/NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
- VERIFY ALL MECHANICAL EQUIPMENT SIZES AND RATING PRIOR TO CONNECTING.
- FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
- PLANS ARE DESIGNED IN ACCORDANCE WITH THE 7TH EDITION 2020 OF THE FLORIDA BUILDING CODE, THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE AND CHAPTER 5 OF THE CITY OF TAMPA CODE AND SHALL BE INSPECTED BY CITY OF TAMPA/HILLSBOROUGH COUNTY ELECTRICAL INSPECTORS AS APPLICABLE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL WORK PERFORMED SHALL ADHERE TO THE SAME ACCORDANCE AND ALL APPLICABLE LOCAL ORDINANCES.
- ALL THREADED CONNECTIONS SHALL BE COATED W/ ALUMA-SHIELD ANTI-SIEZE COMPOUND MANUFACTURED BY THOMAS & BETTS (T & B) OR EQUAL.
- ALL PANELS, DISCONNECTS, SWITCHES, AND EQUIPMENT COVERPLATES SHALL BE LABELED W/ NAMEPLATES. NAMEPLATES SHALL BE THREE-PLY PHENOLIC BLACK-WHITE-BLACK ENGRAVED THROUGH THE FIRST BLACK LAYER. LETTERING SHALL BE 0.5 CM (3/16”) MIN. EDGE OF NAMEPLATE SHALL BE BEVELED 45 DEG.
- ALL CONDUIT SHALL BE SUPPORTED AT MAXIMUM 5’-0” INTERVALS.
- ALL CIRCUITS SHALL HAVE A PROPERLY SIZED GROUNDING CONDUCTOR ROUTED INSIDE EACH CONDUIT W/ POWER CONDUCTORS.
- ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS, NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNED IN THE DRAWINGS.
- NEATLY COIL ALL SPARE CONDUCTORS & TAPE W/ VINYL ELECTRICAL TAPE (SCOTCH 33+).
- PROVIDE A MINIMUM OF 3’-6” CLEARANCE IN FRONT OF ALL ELECTRICAL EQUIPMENT IN ACCORDANCE W/ ARTICLE 110 OF THE NEC.
- ALL FASTENING HARDWARE (SCREW, BOLTS, NUTS ETC.) SHALL BE 316-STAINLESS STEEL, FASTENING HARDWARE CONSTRUCTED OF FERROUS MATERIAL ARE NOT ACCEPTABLE.
- EXPOSED CONDUITS SHALL BE NON-COATED RIGID ALUMINUM CONDUIT, UNLESS OTHERWISE NOTED (UON). INSTALL PVC COATED RIGID ALUMINUM CONDUIT TO THE WET WELL, UNLESS OTHERWISE NOTED (UON).
- DIRECT BURIED AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. TRANSITIONS FROM ABOVE-GRADE RIGID ALUMINUM CONDUIT TO NONMETALLIC CONDUIT SHALL BE ACCOMPLISHED WITH A THREADED ADAPTER. RIGID ALUMINUM CONDUIT INSTALLED ABOVE GRADE AND EXTENDING BELOW GRADE SHALL INCLUDE THE FIRST 90° ELBOW. ALL RIGID ALUMINUM CONDUITS EXTENDING BELOW GRADE SHALL BE COATED WITH TWO COATS OF ASPHALTUM-TYPE PAINT ALONG ITS ENTIRE LENGTH BELOW GRADE AND EXTENDING 6” ABOVE GRADE OR ABOVE THE TOP OF THE FINISHED SLAB.
- ABOVE GRADE INDOOR, AND NON-WASHDOWN AREAS, RIGID ALUMINUM CONDUIT CONNECTIONS TO CONTROL BOXES, ETC. SHALL BE MADE WITH ALUMINUM DOUBLE LOCKNUTS AND BUSHINGS. TURN DOWN ON THREADS TO SOLIDLY CONNECT RACEWAY TO BOX OR ENCLOSURE.
- ALUMINUM WATERTIGHT HUBS (MYERS HUBS) SHALL BE USED FOR CONNECTIONS TO CONTROL BOXES, ETC. MOUNTED OUTDOORS, BELOW GRADE, OR WASHDOWN AREAS.
- A 316-STAINLESS STEEL CHANNEL ERECTOR SYSTEM SHALL BE USED TO SUPPORT ALL CONDUITS, BOXES ETC. USE 316 STAINLESS STEEL MOUNTING HARDWARE.
- THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS NECESSARY TO EXECUTE THE PROPOSED INSTALLATIONS.
- 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.
- PULL BOXES SHALL BE INSTALLED AS NECESSARY TO FACILITATE WIRE PULLS AND AVOID EXCESSIVE PULLING TENSION ON WIRING. IN NO CASE SHALL CONDUIT LENGTHS EXCEED 150’ OR THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) WITHOUT A PULL BOX. PULL BOXES SHALL BE SIZED IN ACCORDANCE WITH ARTICLE 314 OF THE NEC.
- ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED AND AS SPECIFIED, OR AS APPROVED BY THE ENGINEER. THE PANEL BUILDER SHALL BE UL-508A CERTIFIED AND A UL LABEL SHALL BE ATTACHED TO THE INSIDE OF THE ENCLOSURE.
- ALL COMPONENTS TO BE MOUNTED ON PANEL USING TAPPED HOLES.
- ALL CONTROL WIRING SHALL BE STRANDED XHHW-2 COPPER, MINIMUM AWG #14 AND SHALL HAVE SPADE LUG TERMINATIONS.
- ALL MECHANICAL CONNECTORS SHALL BE TORQUED PER NEC, UL OR MANUFACTURER’S SPECIFICATIONS.
- CONDUCTORS WITHIN THE ENCLOSURE AND NOT ROUTED IN WIREWAYS, SHALL BE SECURED TO THE BACK PANEL WITH MECHANICAL FASTENERS, FASTENERS SECURED WITH ADHESIVE ARE NOT ACCEPTABLE.
- ALL HINGED SURFACES SHALL BE GROUNDED WITH A BONDING JUMPER SECURED TO THE ENCLOSURE OR BACKPANEL.

SCOPE OF WORK:

- THE EXISTING GE FANUC SERIES 90-70 PLCs, GENIUS I/O BLOCKS AND ALL ASSOCIATED EQUIPMENT LOCATED IN FILTER BUILDINGS NO. 1 AND NO. 2 SHALL BE REMOVED.
- THE EXISTING ANNUNCIATOR LOCATED ON THE FILTER CONTROL CONSOLE IN FILTER BUILDING NO. 1 AND THE ANNUNCIATOR LOCATED ON THE FILTER CONTROL PANEL IN FILTER BUILDING NO. 2 SHALL BE REMOVED.
- ALL REMOVED EQUIPMENT SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF PROPERLY AS DIRECTED BY THE CITY.
- PROVIDE AND INSTALL THE PROGRAMMABLE LOGIC CONTROLLERS (PLC’S), ETHERNET SWITCHES, ENCLOSURES, ETC. AS INDICATED ON THE DRAWINGS.
- VERIFY EXISTING POWER/INSTRUMENTATION/CONTROL CONNECTIONS IN THE FIELD PRIOR TO COMMENCING DEMOLITION WORK. CREATE A POINT-TO-POINT WIRING LIST AND MARK COORDINATE INSTRUMENTATION/CONTROL CONNECTIONS WITH CITY PERSONNEL.
- PROVIDE AND INSTALL A PLC COMPLETE WITH BACK-UP POWER SUPPLIES, I/O RACKS, INPUT AND OUTPUT CARDS FOR SYSTEM CONTROL AND ALL APPURTENANCES REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM.
- PROVIDE AND INSTALL AN ANNUNCIATOR IN ORDER TO PROVIDE ALARM INDICATION. A MAPLE SYSTEM HMI SHALL BE PROVIDED AND INSTALLED.
- PROVIDE AND INSTALL A NEMA 12 ENCLOSURE TO HOUSE THE PROPOSED PLC’S AT FILTER BUILDING NO. 1. AND NEMA 4X STAINLESS STEEL ENCLOSURES.
- PROVIDE AND INSTALL NEMA 4X STAINLESS STEEL ENCLOSURES TO HOUSE THE PROPOSED PLC’S AT FILTER BUILDING NO. 2.
- PROVIDE AND INSTALL CONDUIT AND ELECTRICAL WIRING AS SHOWN, SPECIFIED AND REQUIRED.
- PROVIDE AND INSTALL STAINLESS STEEL CHANNEL ERECTOR SYSTEMS TO MOUNT SUPPORT ENCLOSURES, BOXES, CONDUITS, AND OTHER EQUIPMENT.
- REFER TO SPECIFICATIONS FOR OTHER DETAILS



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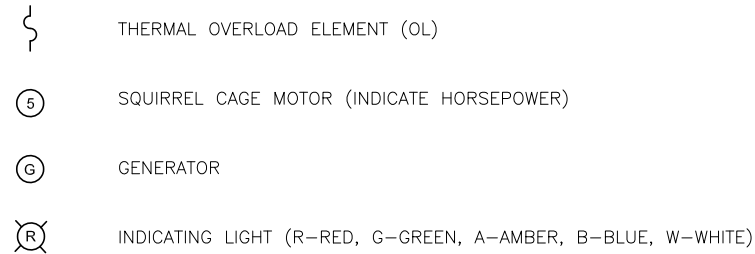
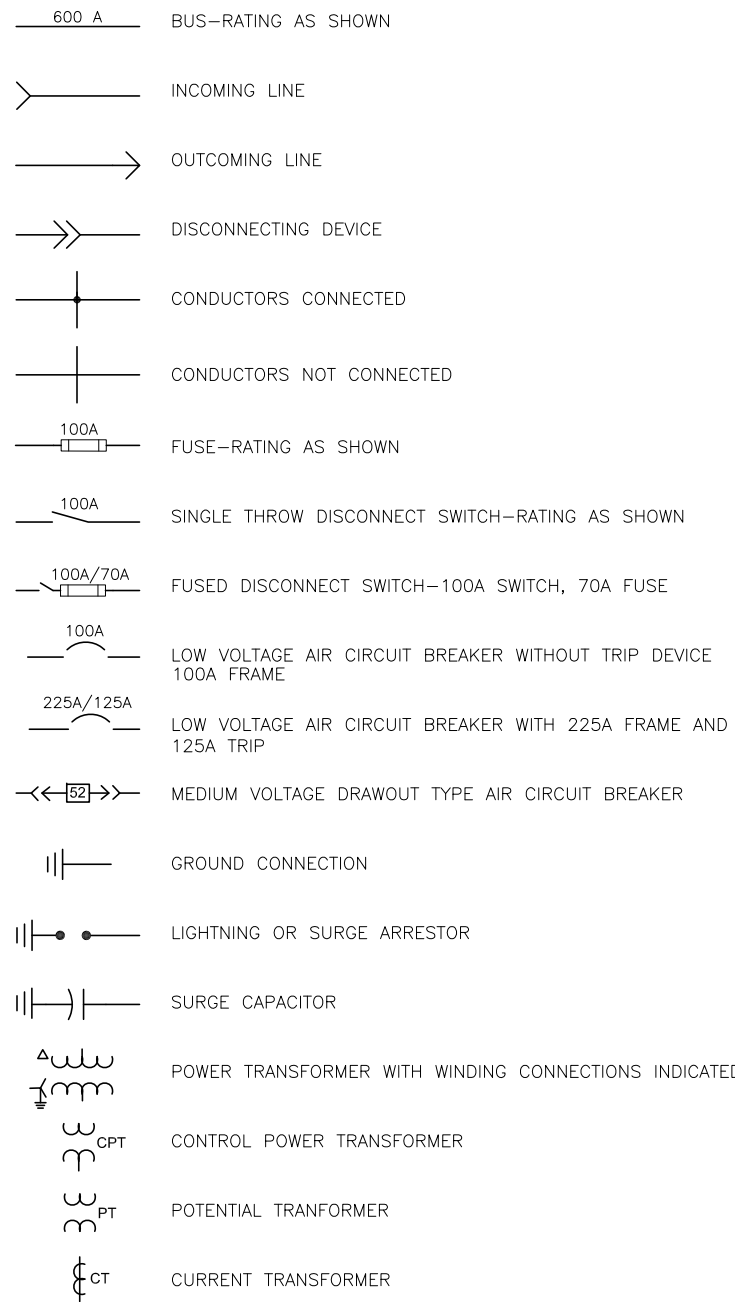
**City of Tampa Wastewater Department**  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

**INDEX, SCHEDULES AND**  
**GENERAL NOTES**

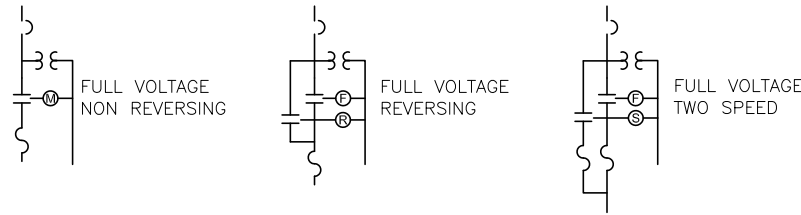
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542
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SHEET NUMBER  
**3**

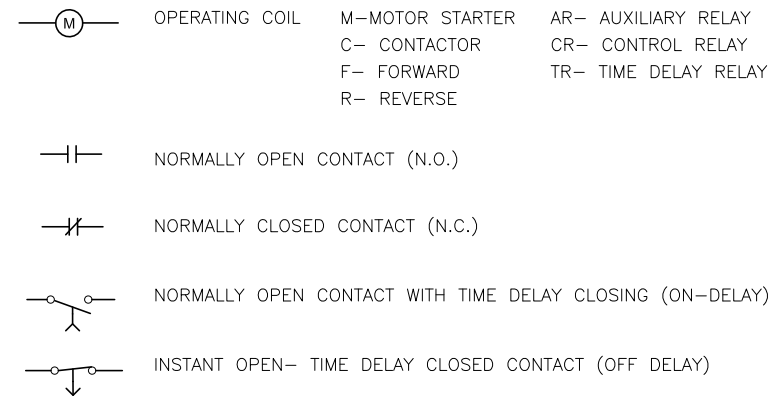
ONE LINE DIAGRAM SYMBOLS



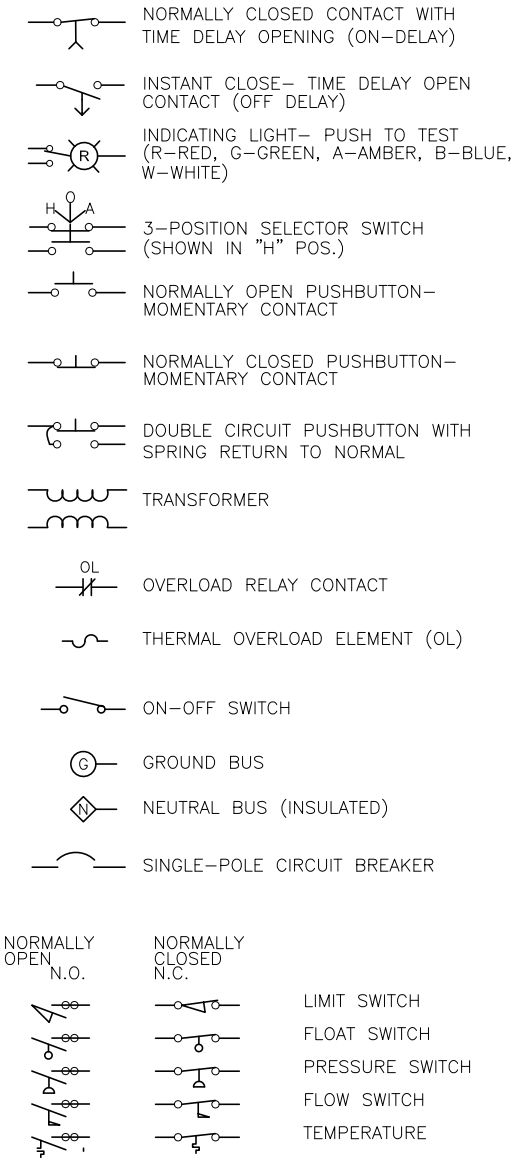
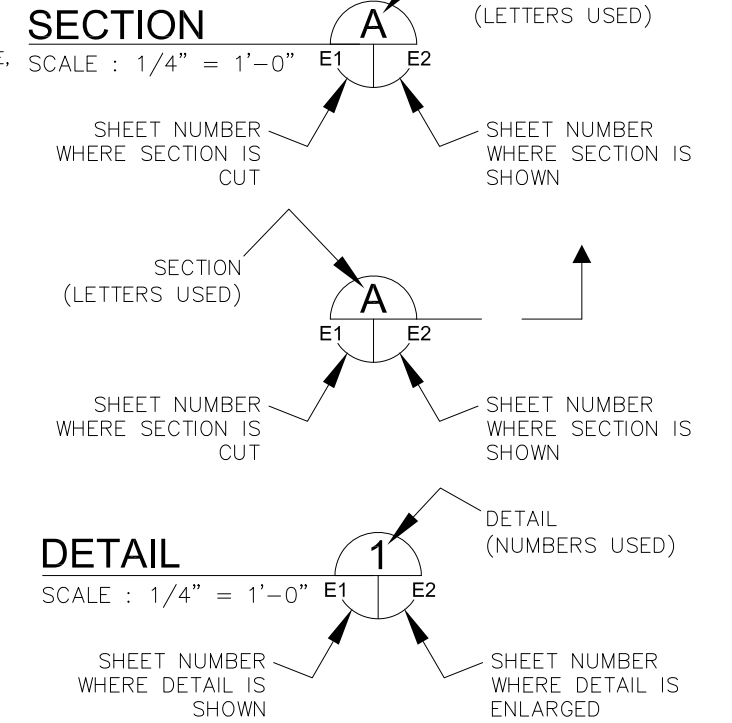
COMBINATION STARTER WITH CONTROL TRANSFORMERS AND OVERLOAD RELAYS AND MOTOR CIRCUIT PROTECTOR



SCHEMATIC AND WIRING DIAGRAM SYMBOLS



EXAMPLE OF SECTION CUT AND DETAIL



NOTE:

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.



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AS SHOWN

City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

ELECTRICAL SYMBOLS  
AND LEGEND  
SHEET 1 OF 2

SHEET NUMBER

EG1

TIMOTHY THOMAS, P.E. No. 47079

FILE: 231901542

POWER AND LIGHTING SYMBOLS

- EXPOSED CONDUIT RUN
- CONDUIT RUN CONCEALED IN FLOOR OR UNDERGROUND
- CONDUIT RUN CONCEALED IN WALLS, ABOVE SUSPENDED CEILING, OR IN ROOF SLAB
- CONDUIT WITH HOT, NEUTRAL AND GROUND WIRES (LONG LINE IS NEUTRAL; LONG LINE WITH DOTS DENOTE GROUND)
- HOMERUN TO LIGHTING PANELBOARD (PNL-1 INDICATES PANELBOARD AND 1, 3, 5 INDICATES 20A-1P CKTS. 1, 3 AND 5)
- FLEXIBLE LIQUIDTIGHT CONDUIT
- CONDUIT-UP (OR TOWARDS VIEWER)
- CONDUIT-DOWN (OR AWAY FROM VIEWER)
- GROUNDING CONDUCTOR
- GROUND ROD
- LIGHTNING ROD
- CEILING MOUNTED INCANDESCENT OR MERCURY VAPOR FIXTURE. "A" INDICATES FIXTURE TYPE LISTED IN SCHEDULE
- WALL MOUNTED LIGHTING FIXTURE
- EXIT SIGN
- EMERGENCY INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
- FLUORESCENT FIXTURE
- EMERGENCY FLUORESCENT FIXTURE

- POLE MOUNTED LIGHTING FIXTURE
- DUPLEX RECEPTACLE- 20 A, 120 V, 3 WIRE (TO PNL- CIRCUIT No.4)
- SINGLE RECEPTACLE - 2 POLE, 3 WIRE, 240V, RATING NOTED
- 3 POLE, 4 WIRE, 240V WELDING OUTLET (60 A)
- SINGLE POLE SWITCH
- TWO POLE SWITCH
- THREE WAY SWITCH
- OUTLET BOX WITH BLANK COVER
- JUNCTION BOX
- PULL BOX
- TERMINAL BOX

GENERAL SYMBOLS

- START-STOP PUSHBUTTON
- ON-OFF MAINTAINED CONTACT PUSHBUTTON WITH LOCK ATTACHMENT
- INDICATING LIGHT AND START-STOP PUSHBUTTON WITH LOCK ATTACHMENT ON STOP
- PUSH/PULL BUTTON WITH STOP LOCK. (PULL TO RESUME- PUSH TO STOP)
- SELECTOR SWITCH ("HOA" INDICATES HAND, OFF, AND AUTO; "MOR" INDICATES MANUAL, OFF, AND REMOTE; ETC.)
- ON-OFF SWITCH WITH LOCK ATTACHMENT ON OFF POSITION

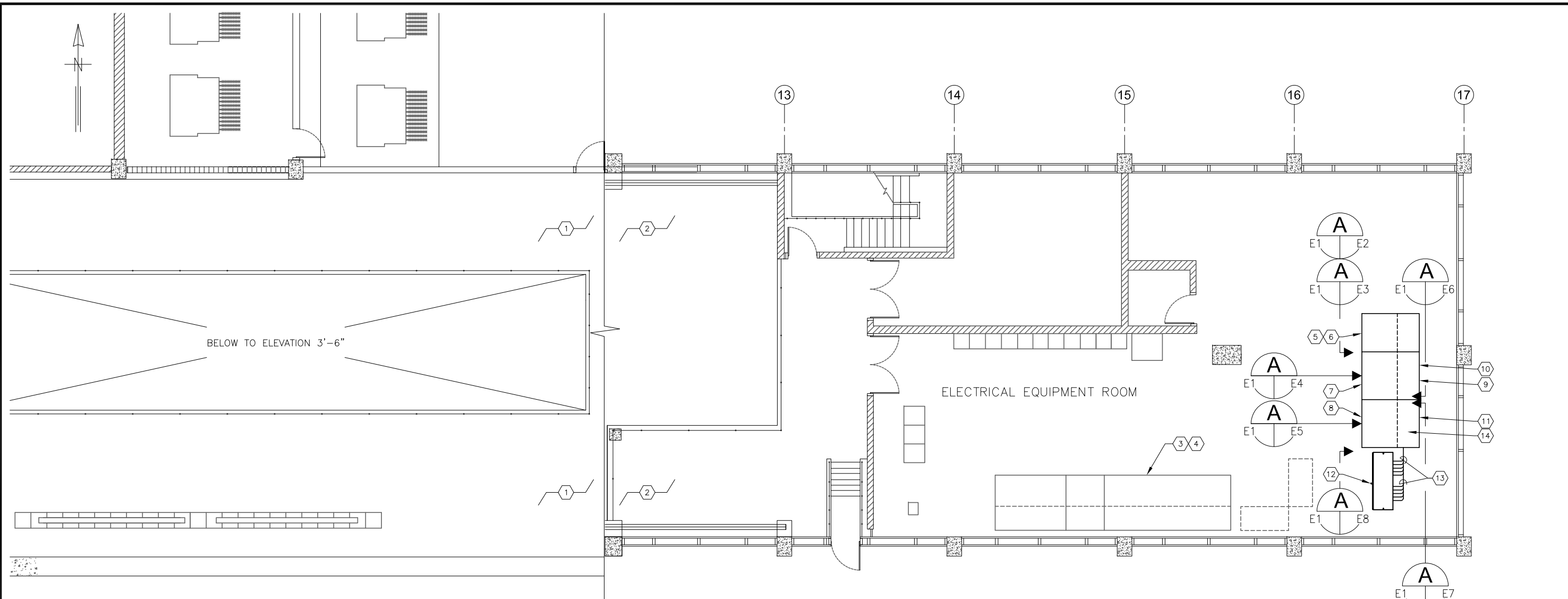
- FLOW SWITCH
- LIMIT SWITCH
- PRESSURE SWITCH
- SOLENOID OPERATED VALVE
- TEMPERATURE SWITCH
- FLOAT SWITCH
- LEVEL TRANSMITTER (PRESSURE ANALOG TYPE)
- LEVEL TRANSMITTER (FLOAT TYPE)
- TEMPERATURE TRANSMITTER
- FLOW TRANSMITTER
- MH DESIGNATES MOUNTING HEIGHT
- WP DESIGNATES WATERPROOF EQUIPMENT
- XP DESIGNATES EXPLOSIONPROOF EQUIPMENT
- MOV DESIGNATES MOTOR OPERATED VALVE
- EX. DESIGNATES EXISTING EQUIPMENT
- PROP. DESIGNATES PROPOSED EQUIPMENT

NOTE:

THE SYMBOLS SHOWN COMPRISE A GENERAL LEGEND TO FACILITATE THE USE OF PLANS. REFER TO THE PLANS AND SPECIFICATIONS FOR ITEMS REQUIRED.

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SCALE	AS SHOWN
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**FILTER BUILDING No. 1 (015):  
PARTIAL FLOOR PLAN - ELEVATION 23'-6"**  
SCALE : 1" = 10'-0"



**KEYED NOTES:**

- ① EXISTING PLAN AT ELEVATION 11'-0".
- ② EXISTING PLAN AT ELEVATION 23'-6".
- ③ EXISTING FBP-FS AT ELEVATION 23'-6". NO WORK REQUIRED.
- ④ EXISTING FBP-ANN AT ELEVATION 23'-6". NO WORK REQUIRED.
- ⑤ EXISTING FILTER CONTROL CONSOLE (ANNUNCIATOR PANEL, UPPER SECTION). REFER TO ELEVATION AND DETAILS ON SHEET E2.
- ⑥ EXISTING FILTER CONTROL CONSOLE (ANNUNCIATOR PANEL, LOWER SECTION). REFER TO ELEVATION AND DETAILS ON SHEET E3.
- ⑦ EXISTING FILTER CONTROL CONSOLE (EAST FILTERS, FRONT LOWER SECTION). REFER INTERIOR ELEVATION AND DETAILS ON SHEET E4.
- ⑧ EXISTING FILTER CONTROL CONSOLE (WEST FILTERS, FRONT LOWER SECTION). REFER INTERIOR ELEVATION AND DETAILS ON SHEET E5.
- ⑨ EXISTING FILTER CONTROL CONSOLE (EAST FILTERS, REAR). REFER INTERIOR ELEVATION AND DETAILS ON SHEET E6.
- ⑩ EXISTING GE PLC WITH CRU320 CPU AND ETM001 ETHERNET COMMUNICATION MODULE. PLC INSTALLED ON DOOR OF EAST FILTER CONSOLE. PLC TO BE CONNECTED TO NEW ETHERNET SWITCH WITH CAT 6 CABLE. REFER TO SHEET E49.
- ⑪ EXISTING FILTER CONTROL CONSOLE (WEST FILTERS, REAR). REFER INTERIOR ELEVATION AND DETAILS ON SHEET E7.
- ⑫ PROPOSED FILTER PLC CONTROL CABINET. REFER TO ELEVATION AND DETAILS ON SHEET E8.
- ⑬ PROVIDE AND INSTALL CONDUIT AND CONDUCTORS REQUIRED FOR NEW FILTER CONTROL CABINET I/O, POWER, FIBER AND ETHERNET COMMUNICATIONS. FB1W1, FB1W2, FB1W3, FB1W4, FB1WPDC, FB1WPAC, FB1E1, FB1E2, FB1E3, FB1EPAC, F01FB1FB2, F02FB1FB2, EFB1HMI AND EFB1PLC. CONTRACTOR SHALL UTILIZE 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT, ALUMINUM CONDUIT CLAMPS, ALUMINUM CONDUIT AND FLEXIBLE ALUMINUM CONDUIT AS REQUIRED TO TRANSITION CONDUCTORS FROM EXISTING CONTROL CONSOLE TO NEW CONTROL PANEL.
- ⑭ CONTRACTOR SHALL UTILIZE EXISTING SPACE IN FLOOR SLAB TO INSTALL F01FB1FB2 AND F02FB1FB2. FOR CONTINUATION OF F01FB1FB2 AND F02FB1FB2 CONDUITS REFER TO SHEET E45.

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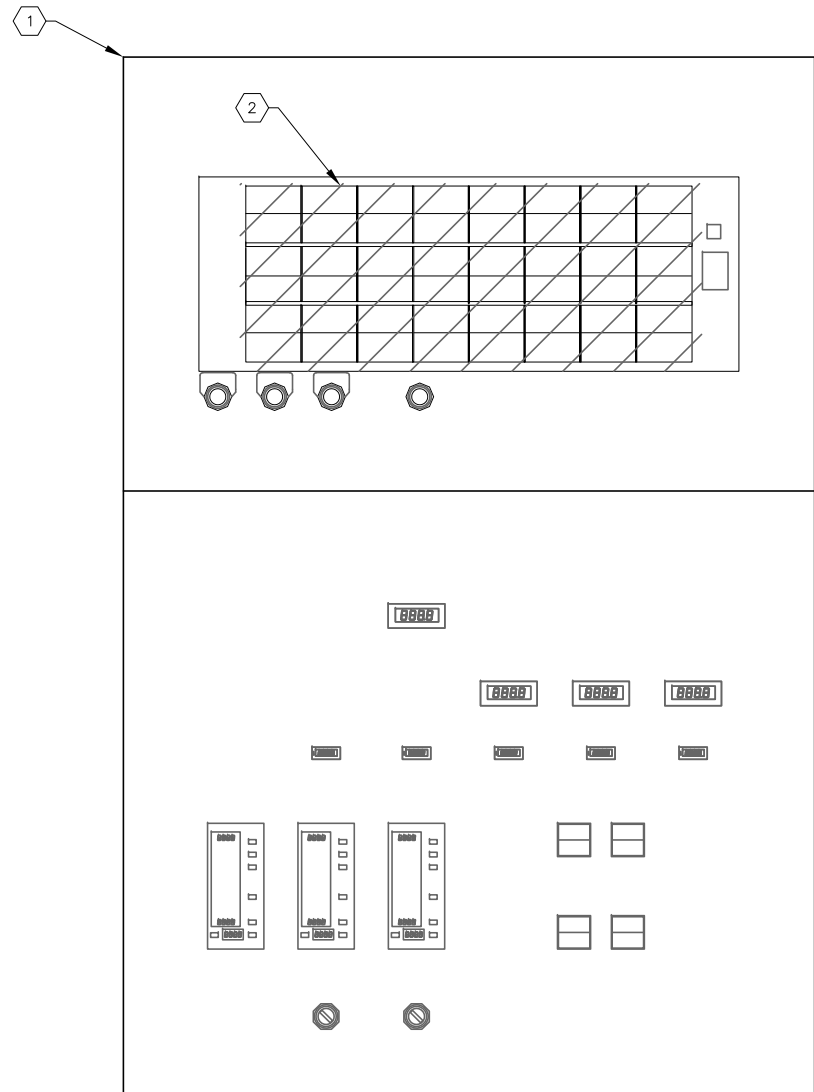
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NEW FILTER BUILDING  
PLC REPLACEMENT**

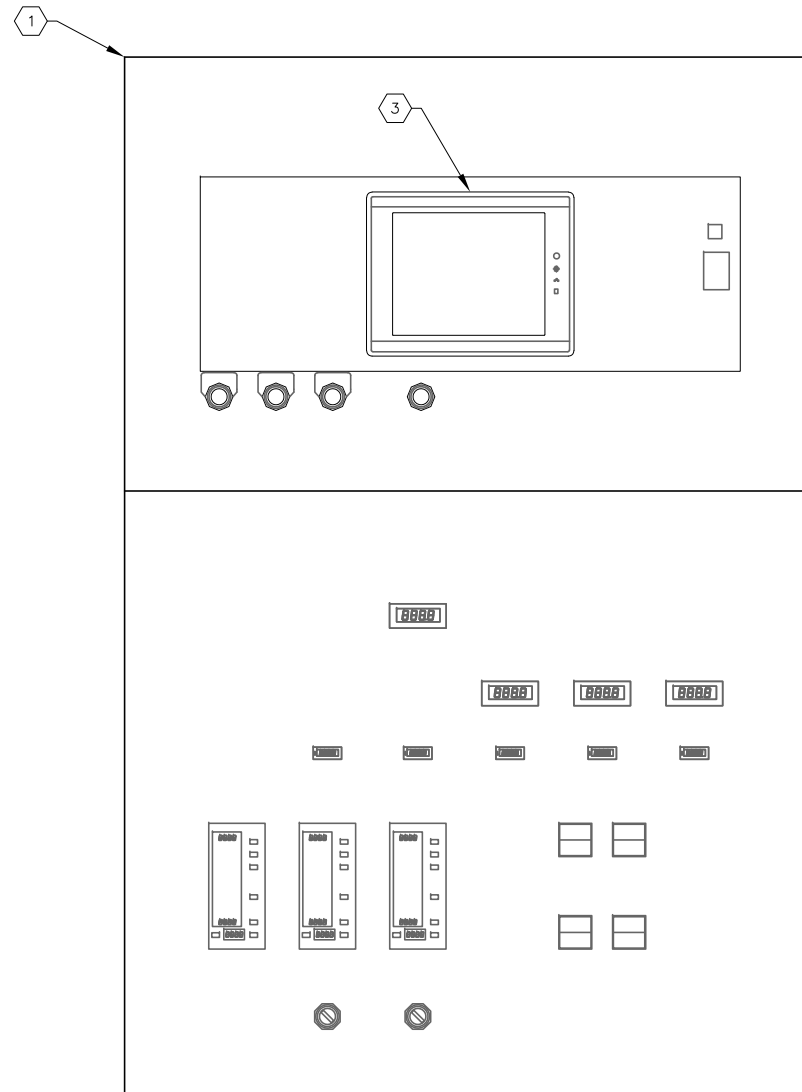
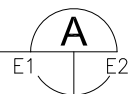
**FILTER BUILDING NO. 1 (015):  
PARTIAL PLAN - ELEV 23'-6"**

SHEET NUMBER	<b>E1</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



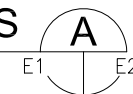
**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (UPPER  
LEFT SECTION) ELEVATION**

SCALE: NOT TO SCALE



**PROPOSED FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (UPPER LEFT  
SECTION) PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE.
- ② EXISTING ANNUNCIATOR PANEL TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES. CONTRACTOR SHALL REMOVE EXISTING ANNUNCIATOR PANEL. AFTER REMOVAL, THE CONTRACTOR SHALL PROVIDE AND INSTALL 1/4" ALUMINUM PLATE OVER EXISTING CUT-OUT. ALUMINUM PLATE SHALL HAVE AN APPROPRIATELY SIZED CUT-OUT TO ACCOMMODATE THE NEW MAPLE SYSTEMS HMI TO BE PROVIDED IN KEYED NOTE #3. PAINT ALUMINUM PLATE TO MATCH EXISTING SURFACE.
- ③ CONTRACTOR TO PROVIDE AND INSTALL NEW 15" HUMAN-MACHINE INTERFACE (HMI), MAPLE SYSTEMS #HMI5150P. HMI SHALL BE USED TO DISPLAY ALL STATUS AND ALARM INFORMATION - TOUCH SCREEN PROMPTS TO DISPLAY ADDITIONAL INFORMATION.



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DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE

NOT TO SCALE

**City of Tampa Wastewater Department**  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

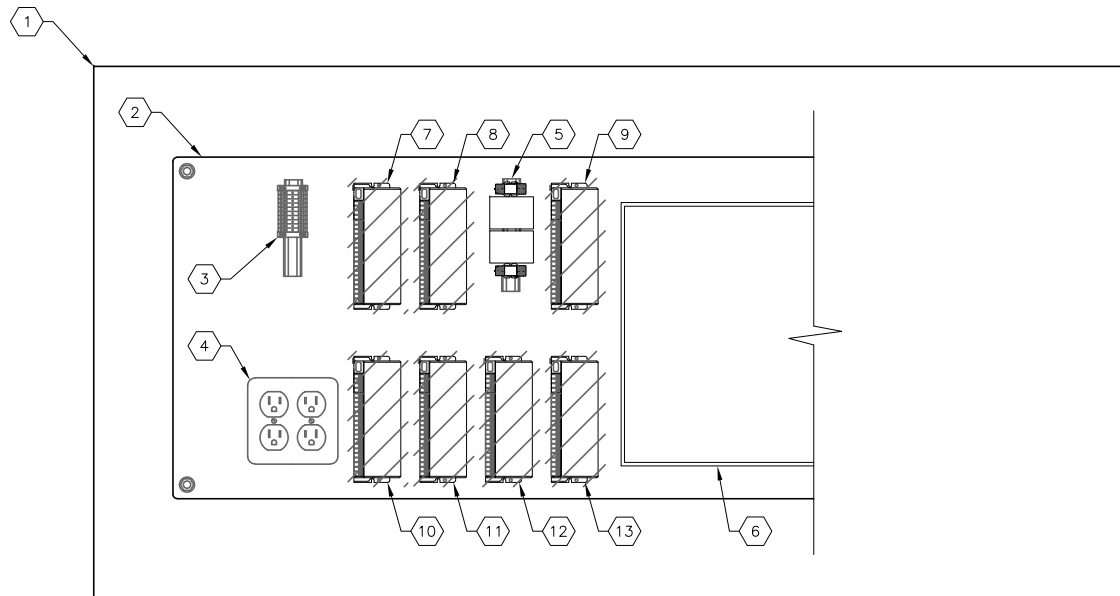
**EXISTING FILTER CONTROL  
CONSOLE ANNUNCIATOR  
MODIFICATIONS**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

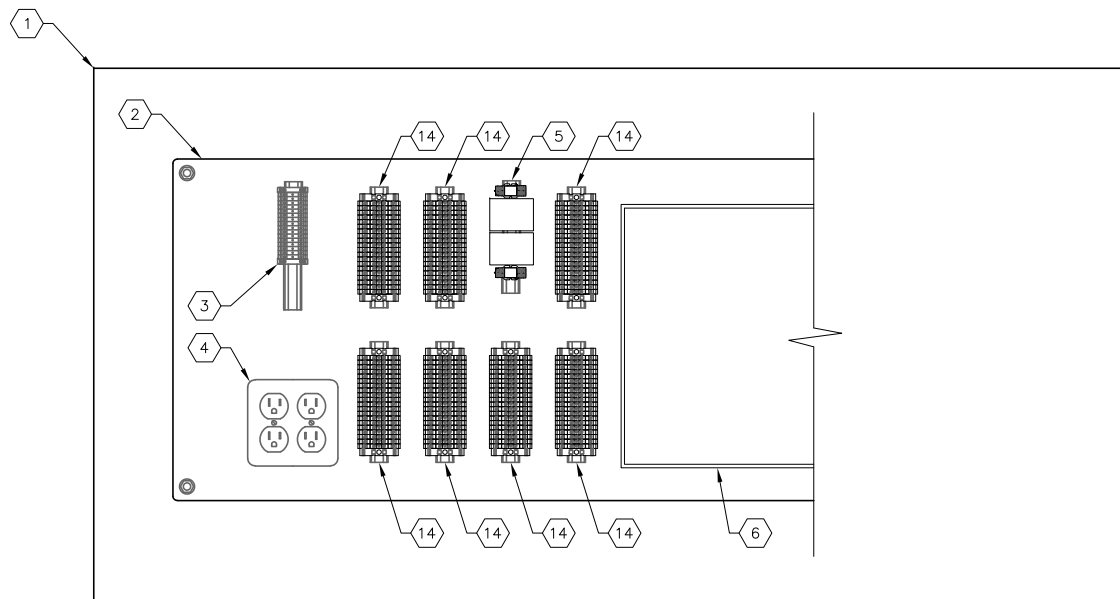
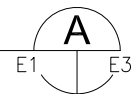
**E2**

FILE: 231901542



**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER LEFT  
SECTION) ELEVATION**

SCALE: NOT TO SCALE



**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER LEFT  
SECTION) PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE, LEFTMOST PANEL. FRONT OF CONSOLE, LOWER LEVEL SHOWN WITH DOOR OPEN.
- ② EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- ③ EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- ④ EXISTING QUAD RECEPTACLE TO REMAIN. NO WORK REQUIRED.
- ⑤ EXISTING RELAYS TO REMAIN. NO WORK REQUIRED.
- ⑥ EXISTING EQUIPMENT RACK TO REMAIN. NO WORK REQUIRED.
- ⑦ EXISTING I/O BLOCK (BLK 1, 3161/3176 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑧ EXISTING I/O BLOCK (BLK 2, 3177/3192 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑨ EXISTING I/O BLOCK (BLK 18, 9177/9192 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑩ EXISTING I/O BLOCK (BLK 3, 3193/3208 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑪ EXISTING I/O BLOCK (BLK 4, 3209/3244 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑫ EXISTING I/O BLOCK (BLK 19, 9193/9208 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑬ EXISTING I/O BLOCK (BLK 20, 9209/9224 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑭ PROVIDE AND INSTALL TWENTY (2) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET. REFER TO SHEET E8 FOR PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET ELEVATION AND DETAILS.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 2. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.



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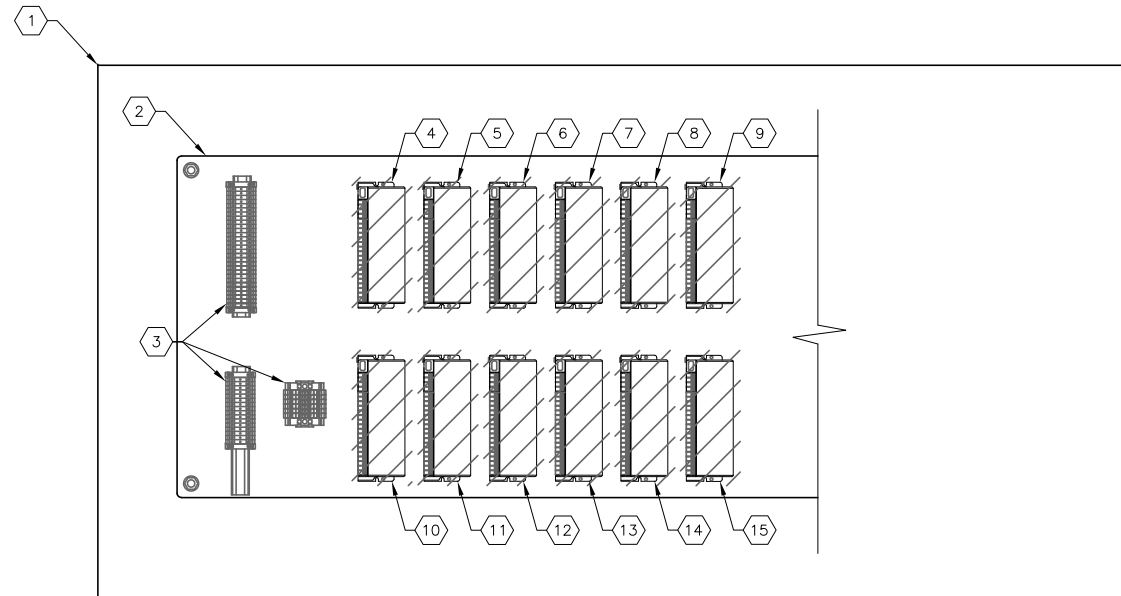
SCALE  
  
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**EXISTING FILTER CONTROL  
CONSOLE ANNUNCIATOR LOWER  
SECTION MODIFICATIONS**

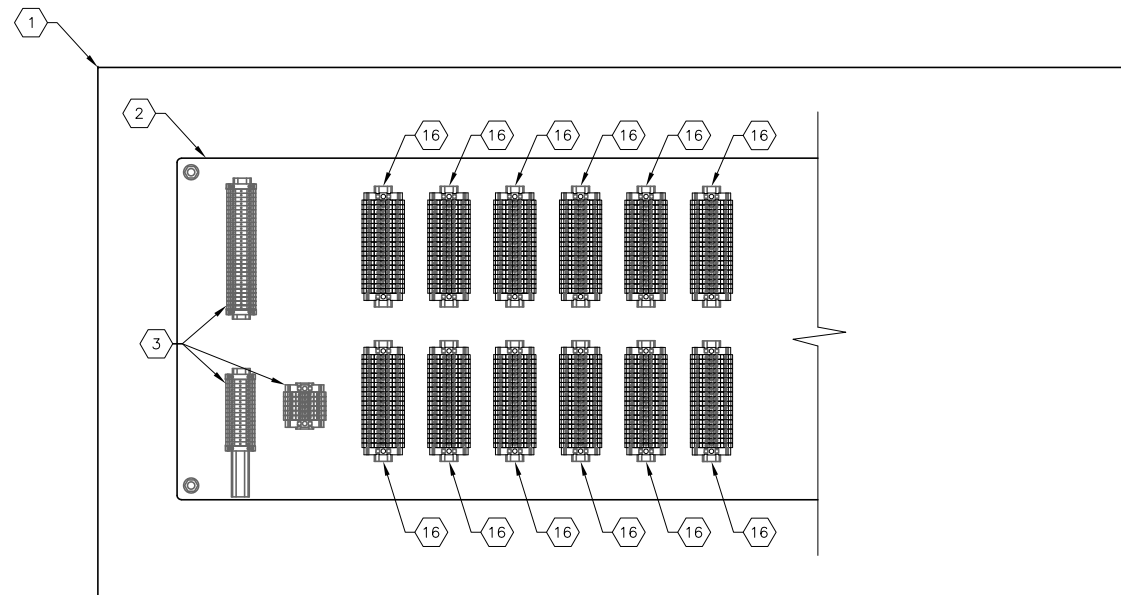
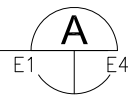
TIMOTHY THOMAS, P.E. No. 47079	SHEET NUMBER <b>E3</b> FILE: 231901542
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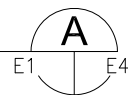
**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER MIDDLE  
SECTION) ELEVATION**

SCALE: NOT TO SCALE



**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER MIDDLE  
SECTION) PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE, LEFTMOST PANEL. FRONT OF CONSOLE, LOWER LEVEL SHOWN WITH DOOR OPEN.
- ② EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- ③ EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- ④ EXISTING I/O BLOCK (BLK 13, 2001/2016 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑤ EXISTING I/O BLOCK (BLK 15, 2017/2032 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑥ EXISTING I/O BLOCK (BLK 17, 2033/2048 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑦ EXISTING I/O BLOCK (BLK 19, 2049/2064 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑧ EXISTING I/O BLOCK (BLK 21, 2065/2080 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑨ EXISTING I/O BLOCK (BLK 23, 2081/2096 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑩ EXISTING I/O BLOCK (BLK 14, 2001/2016 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑪ EXISTING I/O BLOCK (BLK 16, 2017/2032 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑫ EXISTING I/O BLOCK (BLK 18, 2033/2048 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑬ EXISTING I/O BLOCK (BLK 20, 2049/2065 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑭ EXISTING I/O BLOCK (BLK 22, 2065/2080 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑮ EXISTING I/O BLOCK (BLK 24, 2081/2096 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑯ PROVIDE AND INSTALL TWENTY (20) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET. REFER TO SHEET E8 FOR PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET ELEVATION AND DETAILS.

**GENERAL NOTES:**

1. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
2. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.



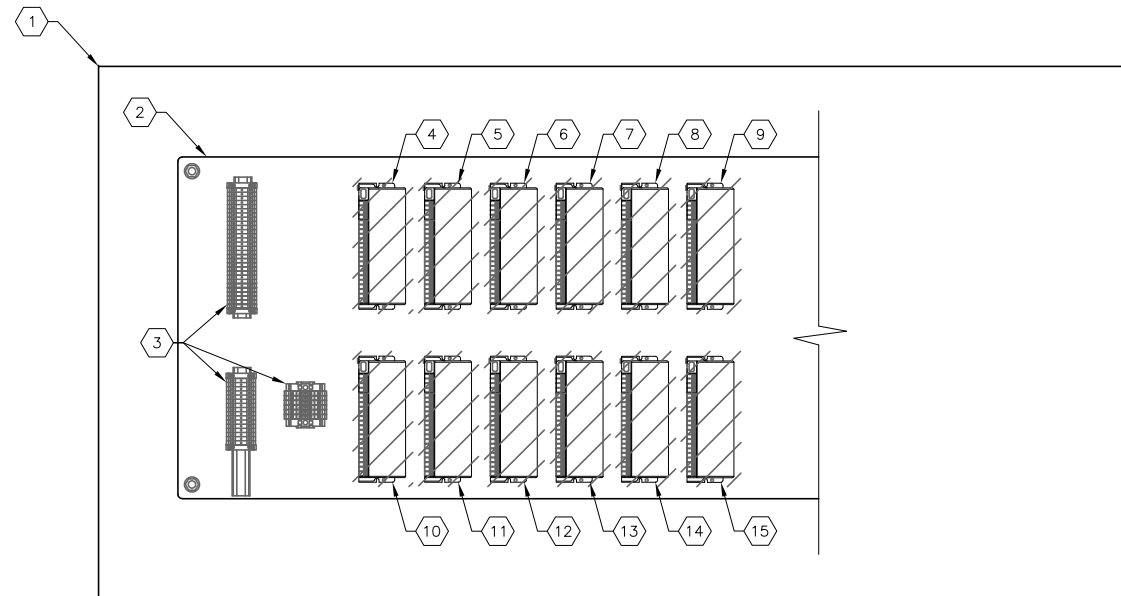
JOB No.	231901542								
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NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

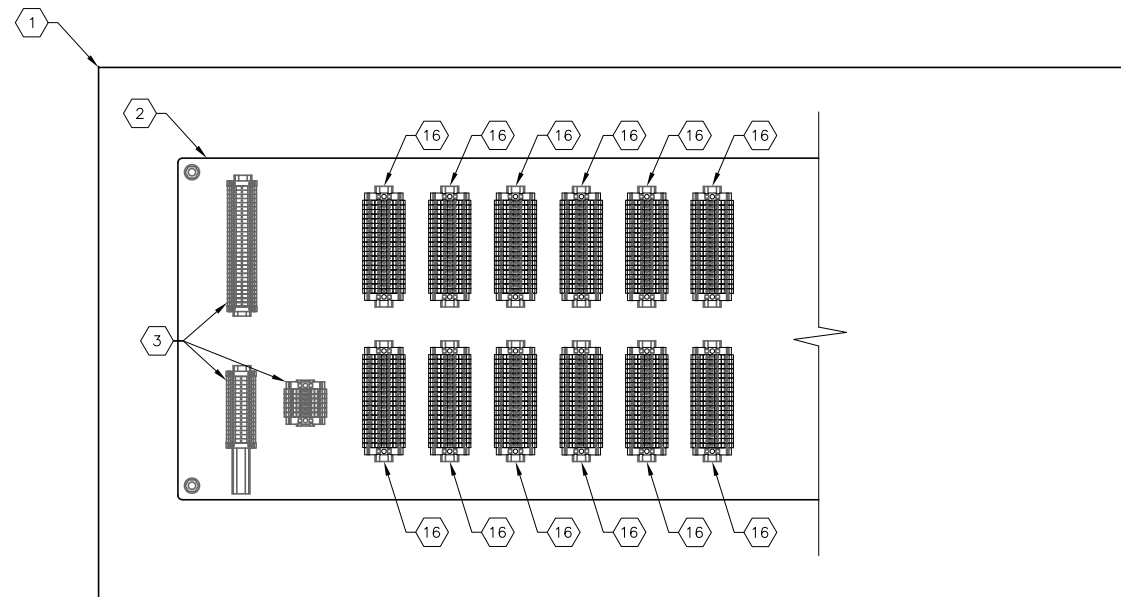
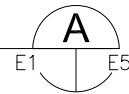
**EXISTING FILTER CONTROL  
CONSOLE (EAST FILTERS,  
FRONT) MODIFICATIONS**

TIMOTHY THOMAS, P.E. No. 47079	SHEET NUMBER <b>E4</b> FILE: 231901542
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**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER RIGHT  
SECTION) ELEVATION**

SCALE: NOT TO SCALE



**EXISTING FILTER CONTROL CONSOLE  
ANNUNCIATOR PANEL (LOWER RIGHT  
SECTION) PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE, LEFTMOST PANEL. FRONT OF CONSOLE, LOWER LEVEL SHOWN WITH DOOR OPEN.
- ② EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- ③ EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- ④ EXISTING I/O BLOCK (BLK 13, 8001/8016 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑤ EXISTING I/O BLOCK (BLK 15, 8017/8032 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑥ EXISTING I/O BLOCK (BLK 17, 8033/8048 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑦ EXISTING I/O BLOCK (BLK 19, 8049/8064 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑧ EXISTING I/O BLOCK (BLK 21, 8065/8080 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑨ EXISTING I/O BLOCK (BLK 23, 8081/8096 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑩ EXISTING I/O BLOCK (BLK 14, 8001/8016 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑪ EXISTING I/O BLOCK (BLK 16, 8017/8032 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑫ EXISTING I/O BLOCK (BLK 18, 8033/8048 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑬ EXISTING I/O BLOCK (BLK 20, 8049/8065 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑭ EXISTING I/O BLOCK (BLK 22, 8065/8080 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑮ EXISTING I/O BLOCK (BLK 24, 8081/8096 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑯ PROVIDE AND INSTALL TWENTY (20) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET. REFER TO SHEET E8 FOR PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET ELEVATION AND DETAILS.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 2. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.



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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

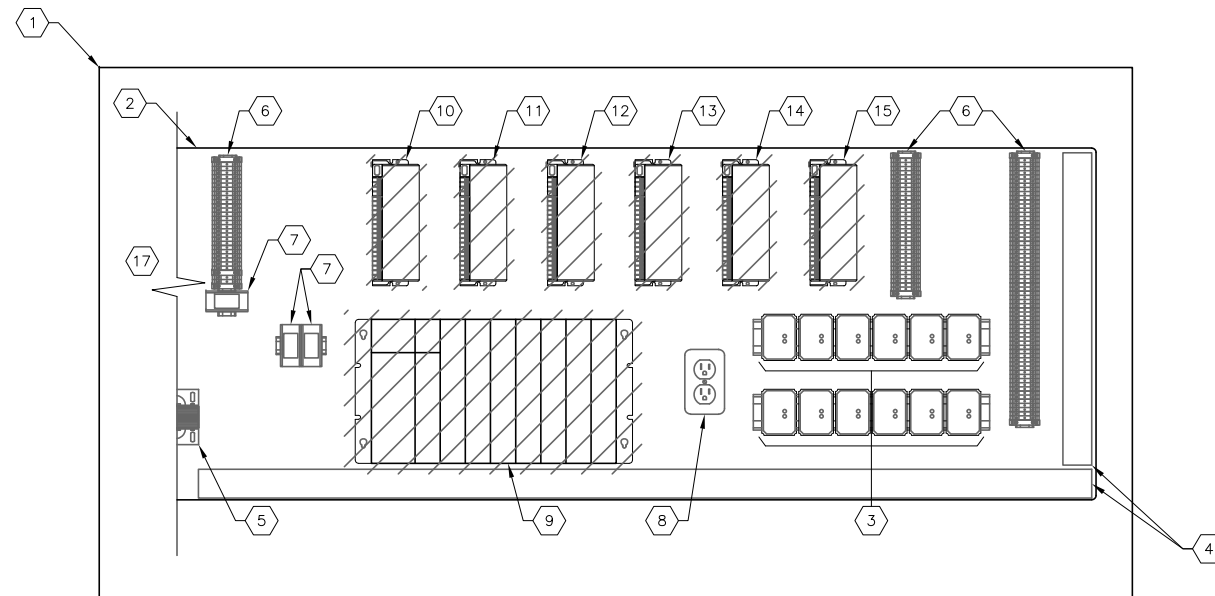
SCALE  
NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

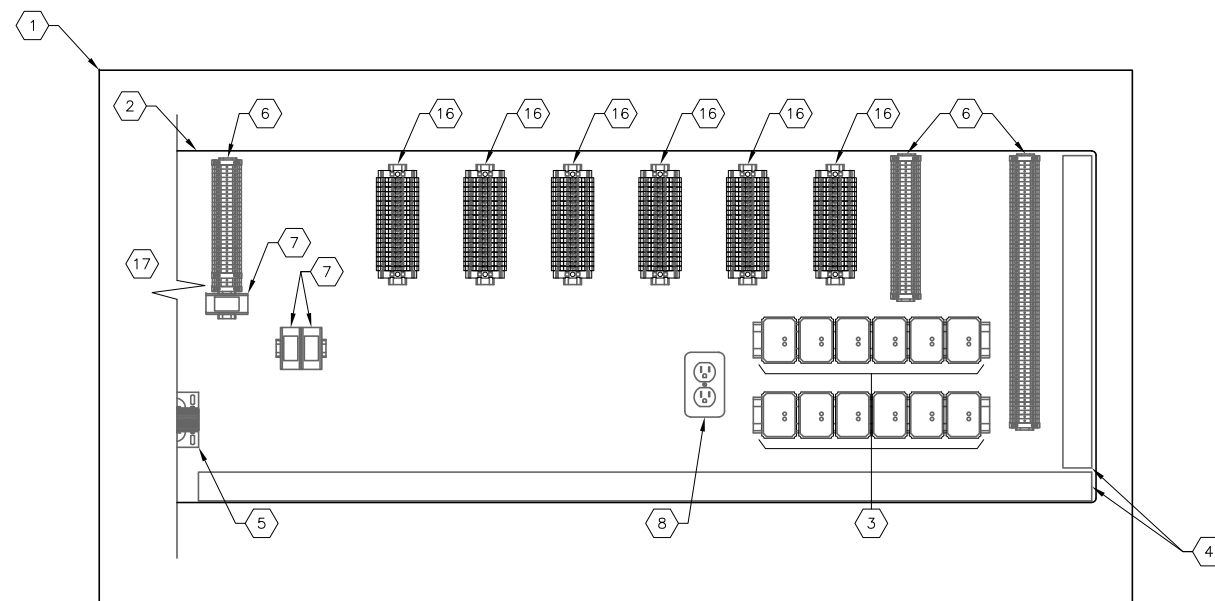
**EXISTING FILTER CONTROL  
CONSOLE (WEST FILTERS,  
FRONT) MODIFICATIONS**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E5**  
FILE: 231901542



**EXISTING FILTER CONTROL CONSOLE  
(EAST FILTERS, REAR) INTERIOR PANEL ELEVATION** A  
SCALE: NOT TO SCALE



**EXISTING FILTER CONTROL CONSOLE  
(EAST FILTERS, REAR) PROPOSED MODIFICATIONS** A  
SCALE: NOT TO SCALE

**KEYED NOTES:**

- 1 EXISTING FILTER CONTROL CONSOLE, EAST FILTERS CONTROLS. BACK OF CONSOLE SHOWN WITH DOORS OPEN.
- 2 EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- 3 EXISTING SIGNAL ISOLATORS TO REMAIN. NO WORK REQUIRED.
- 4 EXISTING PANDUIT TO REMAIN. NO WORK REQUIRED.
- 5 EXISTING POWER SUPPLY TO REMAIN. NO WORK REQUIRED.
- 6 EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- 7 EXISTING RELAY TO REMAIN. NO WORK REQUIRED.
- 8 EXISTING RECEPTACLE TO REMAIN. NO WORK REQUIRED.
- 9 EXISTING GE 90-70 PLC AND ASSOCIATED RACK COMPONENTS TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 10 EXISTING EAST I/O BLOCK (BLK 7, 2161/2176 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 11 EXISTING EAST I/O BLOCK (BLK 8, 2161/2176 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 12 EXISTING EAST I/O BLOCK (BLK 9, 2177/2192 I, 24/48V DC 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 13 EXISTING EAST I/O BLOCK (BLK 10, 2193/2208 I, 24/48V DC 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 14 EXISTING EAST I/O BLOCK (BLK 11, 2177/2192 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 15 EXISTING EAST I/O BLOCK (BLK 12, 2193/2208 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 16 PROVIDE AND INSTALL TWENTY (20) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET. REFER TO SHEET E8 FOR PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET ELEVATION AND DETAILS.
- 17 REFER TO SHEET E7 FOR CONTINUATION OF EAST FILTER CONTROLS BACKPANEL TO WEST FILTER CONTROLS BACKPANEL.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 2. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.



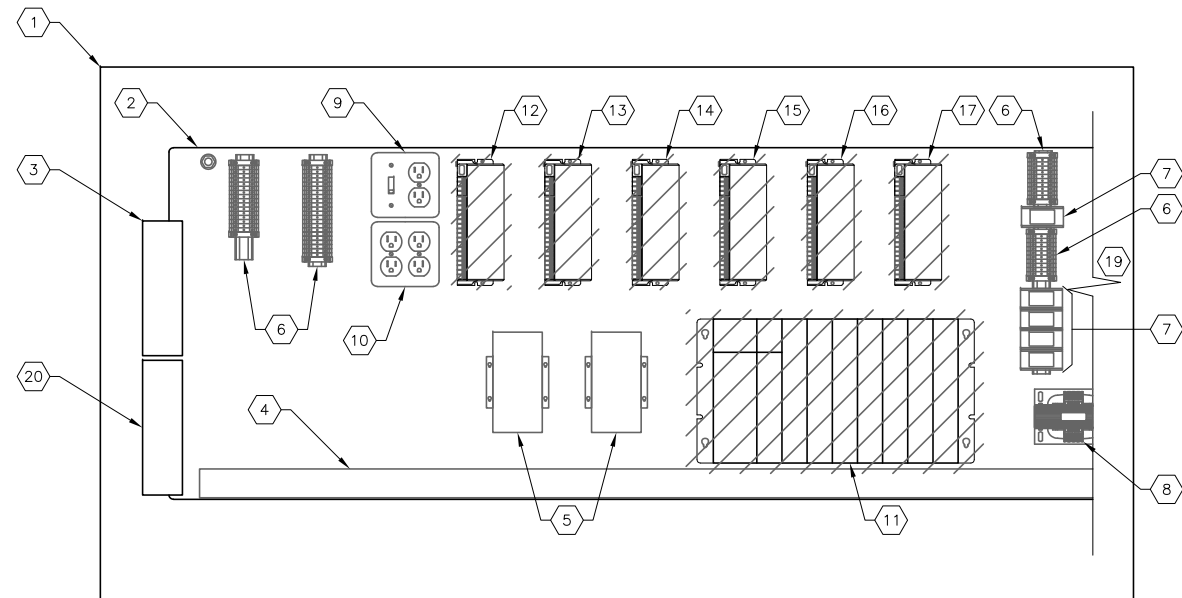
JOB No.	231901542								
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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

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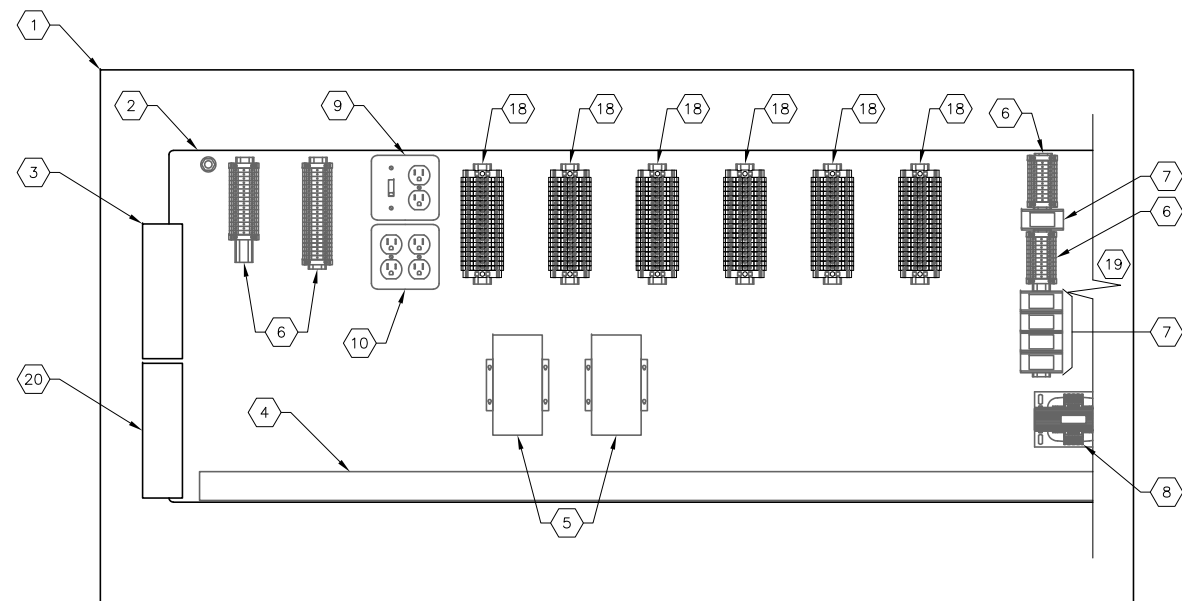
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**EXISTING FILTER CONTROL  
CONSOLE (EAST FILTERS,  
REAR) MODIFICATIONS**

TIMOTHY THOMAS, P.E. No. 47079	SHEET NUMBER <b>E6</b> FILE: 231901542
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**EXISTING FILTER CONTROL CONSOLE  
(WEST FILERS, REAR) INTERIOR PANEL ELEVATION A**  
SCALE: NOT TO SCALE



**EXISTING FILTER CONTROL CONSOLE  
(WEST FILERS, REAR) PROPOSED MODIFICATIONS A**  
SCALE: NOT TO SCALE

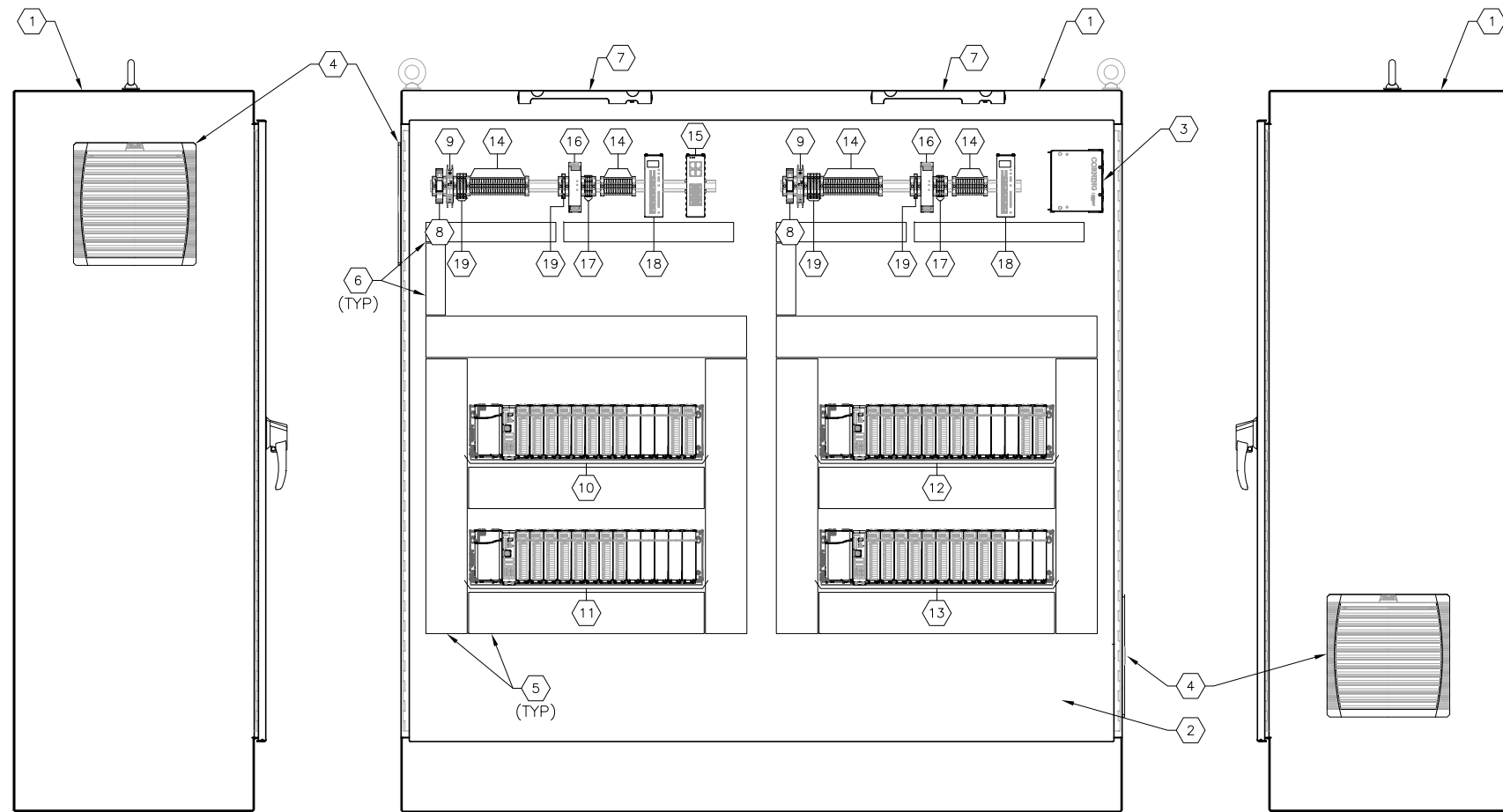
**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE, WEST FILTERS CONTROLS. BACK OF CONSOLE SHOWN WITH DOORS OPEN.
- ② EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- ③ EXISTING 120V AC DISTRIBUTION PANELBOARD TO REMAIN. NO WORK REQUIRED.
- ④ EXISTING PANDUIT TO REMAIN. NO WORK REQUIRED.
- ⑤ EXISTING POWER SUPPLY TO REMAIN. NO WORK REQUIRED.
- ⑥ EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- ⑦ EXISTING RELAY TO REMAIN. NO WORK REQUIRED.
- ⑧ EXISTING POWER SUPPLY TO REMAIN. NO WORK REQUIRED.
- ⑨ EXISTING RECEPTACLE AND SWITCH TO REMAIN. NO WORK REQUIRED.
- ⑩ EXISTING RECEPTACLES TO REMAIN. NO WORK REQUIRED.
- ⑪ EXISTING GE 90-70 PLC AND ASSOCIATED RACK COMPONENTS TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑫ EXISTING WEST I/O BLOCK (BLK 21, 8161/8176 I, 115V 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑬ EXISTING WEST I/O BLOCK (BLK 22, 8161/8176 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑭ EXISTING WEST I/O BLOCK (BLK 23, 8177/8192 I, 24/48V DC 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑮ EXISTING WEST I/O BLOCK (BLK 24, 8193/8208 I, 24/48V DC 16 PT. DISCRETE INPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑯ EXISTING WEST I/O BLOCK (BLK 25, 8177/8192 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑰ EXISTING WEST I/O BLOCK (BLK 26, 8193/8208 Q, 16 PT. RELAY OUTPUT) TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- ⑱ PROVIDE AND INSTALL TWENTY (20) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET. REFER TO SHEET E8 FOR PROPOSED FILTER BUILDING No. 1 - FILTER CONTROL CABINET ELEVATION AND DETAILS.
- ⑳ REFER TO SHEET E6 FOR CONTINUATION OF WEST FILTER CONTROLS BACKPANEL TO EAST FILTER CONTROLS BACKPANEL.
- ㉑ EXISTING 120V AC UPS DISTRIBUTION PANELBOARD TO REMAIN. CONTRACTOR TO UTILIZE EXISTING CIRCUITS FOR PROPOSED FILTER CONTROL CABINET. REFER TO SHEETS E9 AND E10.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 2. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.

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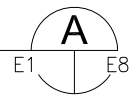


**LEFT SIDE ELEVATION**

**PROPOSED FILTER BUILDING No. 1  
FILTER CONTROL PANEL  
INTERIOR PANEL ELEVATION**

**RIGHT SIDE ELEVATION**

SCALE: NOT TO SCALE



NOTE: ELEVATION SHOWN WITH DOORS OPEN

**GENERAL NOTES:**

1. PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
2. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED.
3. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.
4. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHC110E.

**KEYED NOTES:**

1. PROPOSED FILTER CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 1. PROVIDE AND INSTALL 72" X 72" X 24" NEMA 12 ENCLOSURE WITH CONTINUOUS HINGE DOOR, FEET, DOOR STOP KITS AND 3-POINT LATCH. HAMMOND 1418ZY24.
2. PROVIDE AND INSTALL 68" X 68" BACKPANEL. HAMMOND 72ZYFW.
3. PROVIDE AND INSTALL FIBER OPTIC PATCH PANEL. REFER ALSO TO SPECIFICATIONS.
4. PROVIDE AND INSTALL PANEL EXHAUST FILTER PFANNENBERG PART #PFA 6000-11740004055.
5. PROVIDE AND INSTALL NEW 4" X 4" PANDUIT.
6. PROVIDE AND INSTALL NEW 2" X 4" PANDUIT.
7. PROVIDE AND INSTALL 120V, 5W LED CABINET LIGHT WITH TOGGLE SWITCH. HOFFMAN CAT # LEDA1S35. PROVIDE BRACKET TO MOUNT FIXTURE TO BACKPANEL.
8. PROVIDE AND INSTALL 120V SURGE PROTECTION DEVICE. PHOENIX CONTACT 2907918 WITH PHOENIX CONTACT 2907924 BASE.
9. PROVIDE AND INSTALL 120V, 15A SINGLE-POLE CIRCUIT BREAKER. CIRCUIT BREAKER SHALL BE ALLEN BRADLEY TYPE 1489M.
10. PROVIDE AND INSTALL NEW FILTER CONTROL PANEL EAST RACK 'FB1-E-1'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; EIGHT (8) 120 VAC INPUT MODULES, GE IC694MDL250; TWO (2) 24V DC INPUT MODULES, IC694MDL241; THREE (3) BLANK FILLER MODULES, GE IC694ACC310.
11. PROVIDE AND INSTALL NEW FILTER CONTROL PANEL EAST RACK 'FB1-E-2'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; EIGHT (8) RELAY OUTPUT MODULES, GE IC694MDL916; FIVE (5) BLANK FILLER MODULES, GE IC694ACC310.
12. PROVIDE AND INSTALL NEW FILTER CONTROL PANEL WEST RACK 'FB1-W-1'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; EIGHT (8) 120 VAC INPUT MODULES, GE IC694MDL250; TWO (2) 24V DC INPUT MODULES, IC694MDL241; THREE (3) BLANK FILLER MODULES, GE IC694ACC310.
13. PROVIDE AND INSTALL NEW FILTER CONTROL PANEL WEST RACK 'FB1-W-2'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; TEN (10) RELAY OUTPUT MODULES, GE IC694MDL916; THREE (3) BLANK FILLER MODULES, GE IC694ACC310.
14. PROVIDE AND INSTALL NEW TERMINAL BLOCKS. PHOENIX CONTACT #3044102.
15. PROVIDE AND INSTALL NEW PROFINET ENABLED ETHERNET SWITCH. EMERSON IC086GLM064 WITH SIX (6) ETHERNET 10/100 PORTS AND FOUR (4) SFP PORTS.
16. PROVIDE AND INSTALL NEW 120VAC-24VDC POWER SUPPLY WITH 3.5 AMPERE OUTPUT DC POWER. PHOENIX CONTACT #2866747.
17. PROVIDE AND INSTALL NEW FUSED TERMINAL BLOCKS WITH LED INDICATOR, 24VDC. SQUARE D AB1FUSE435U5XB.
18. PROVIDE AND INSTALL NEW STANDALONE CONTROLLER. GE RX3i CPL410.
19. PROVIDE AND INSTALL 120V, THERMAL CIRCUIT BREAKERS. REFER SHEETS E9 AND E10 FOR QUANTITY/AMPERAGE. ALL THERMAL CIRCUIT BREAKERS SHALL BE PHOENIX CONTACT TCP TYPE. PROVIDE EACH BREAKER WITH SCREW TYPE CONNECTION, FUSE BASE TERMINAL BLOCK, PHOENIX CONTACT TYPE UK 6-FSI/C.



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

JOB No.	231901542						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

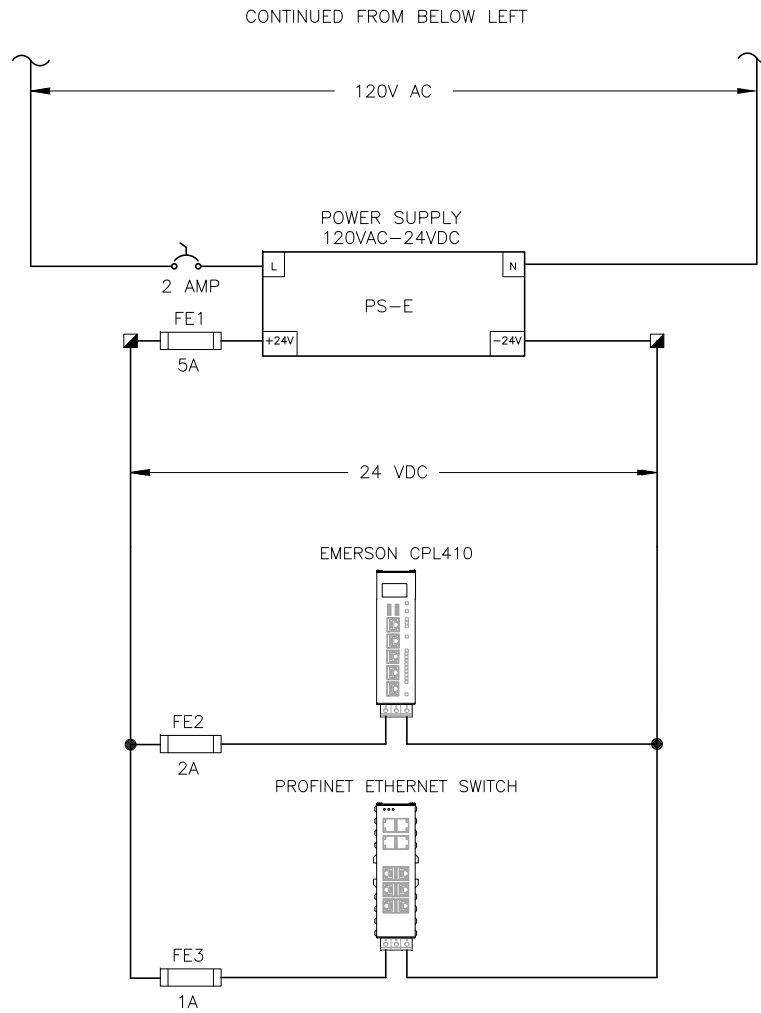
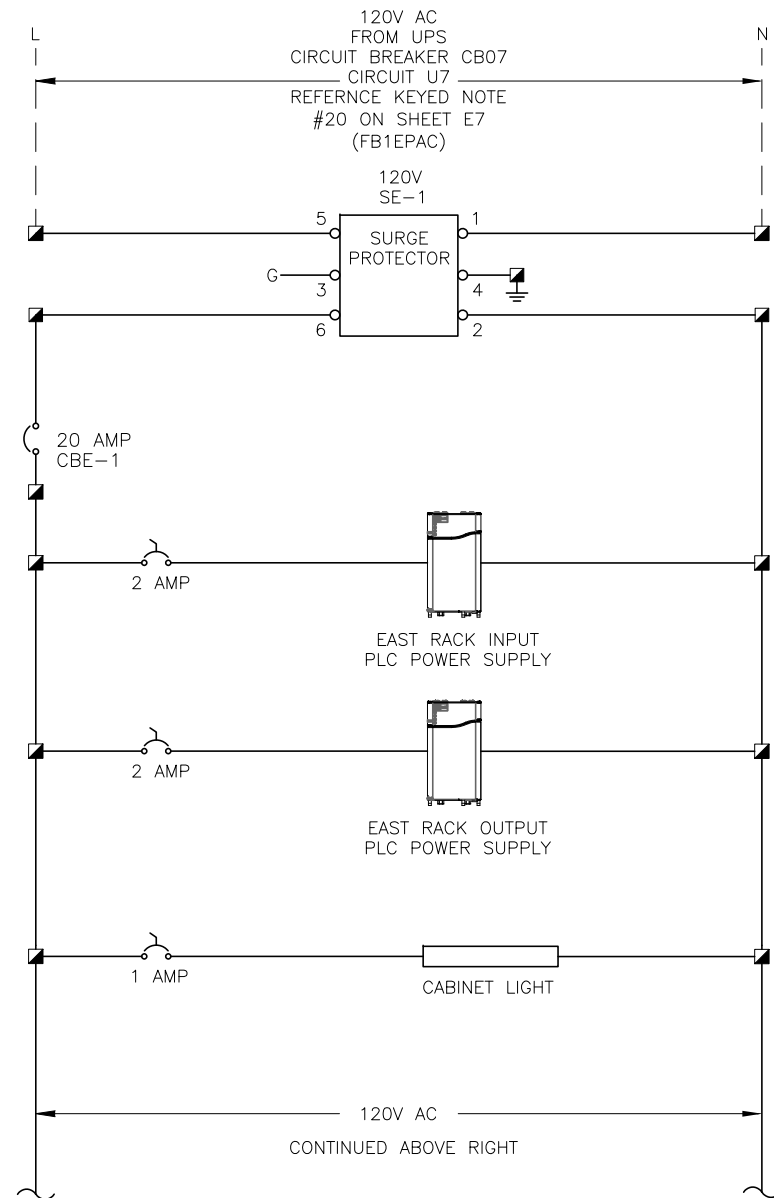
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NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**PROPOSED  
FILTER BUILDING No. 1  
FILTER CONTROL PANEL**

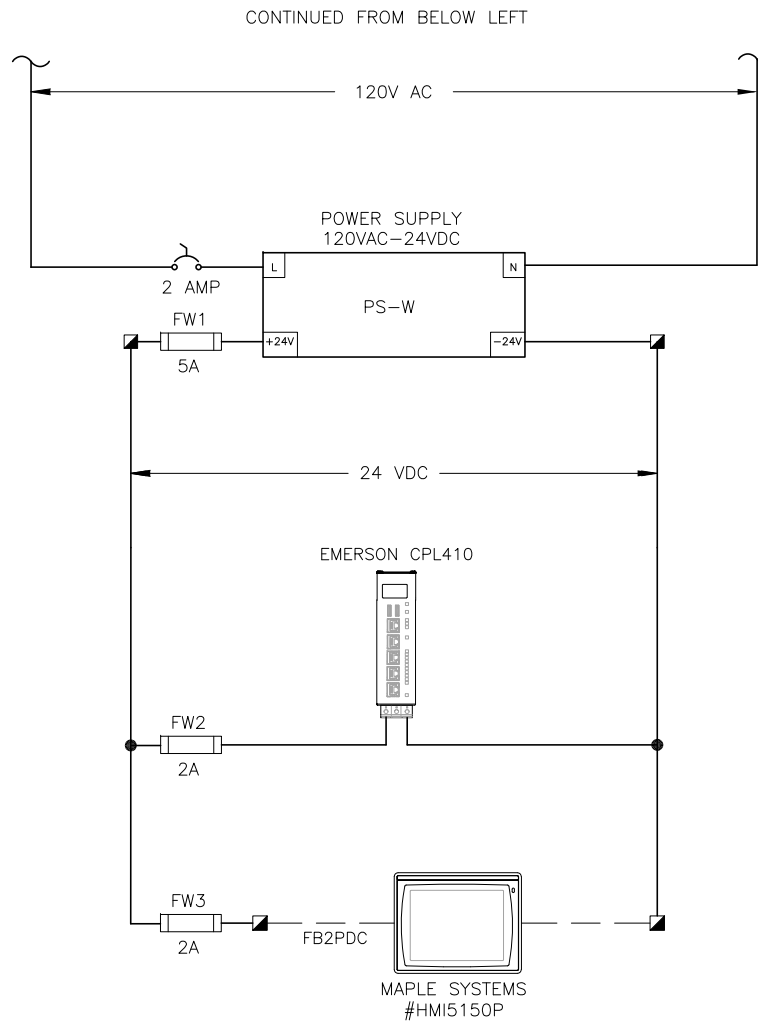
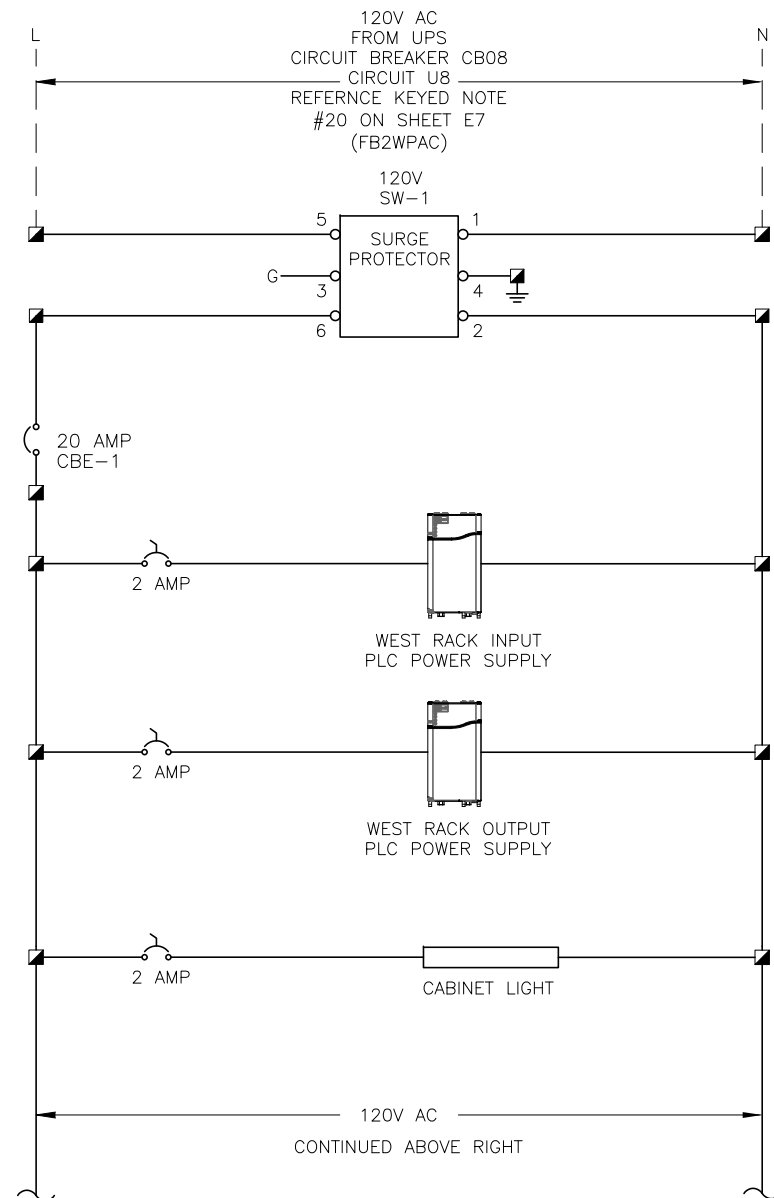
SHEET NUMBER	<b>E8</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



**FILTER BUILDING No. 1  
EAST FILTER CONTROL PANEL  
POWER WIRING DIAGRAM**

JOB No.	231901542						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

NOT TO SCALE



**FILTER BUILDING No. 1  
WEST FILTER CONTROL PANEL  
POWER WIRING DIAGRAM**



JOB No.	231901542								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

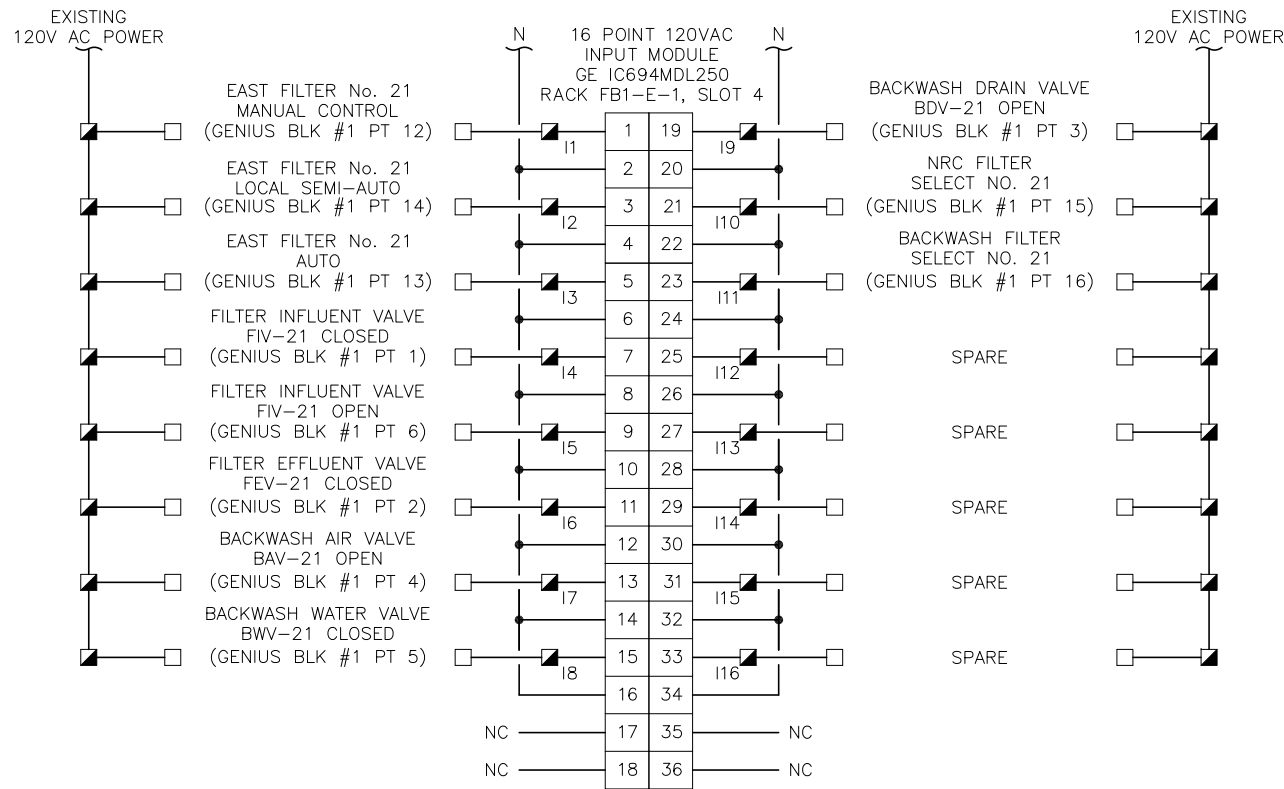
NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

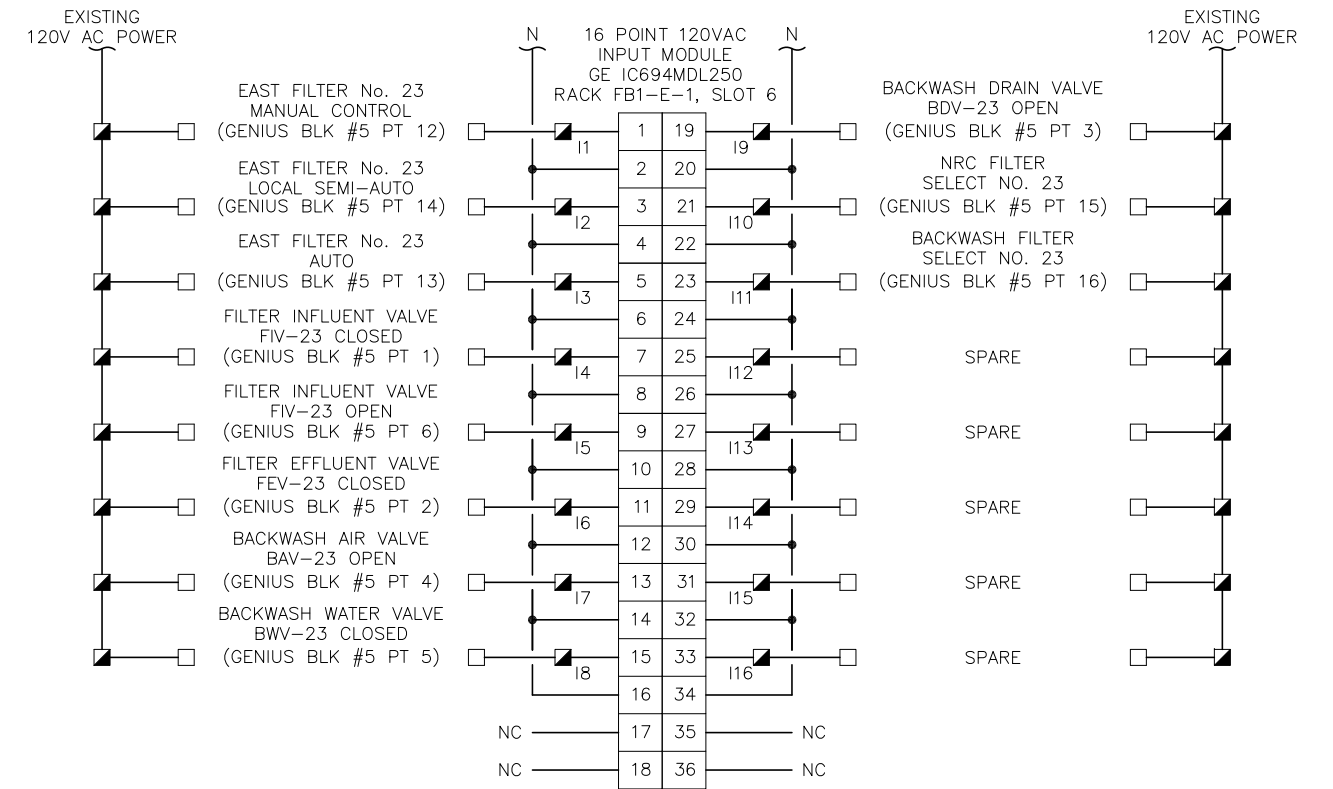
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WEST FILTER CONTROL PANEL  
POWER WIRING DIAGRAM**

TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542
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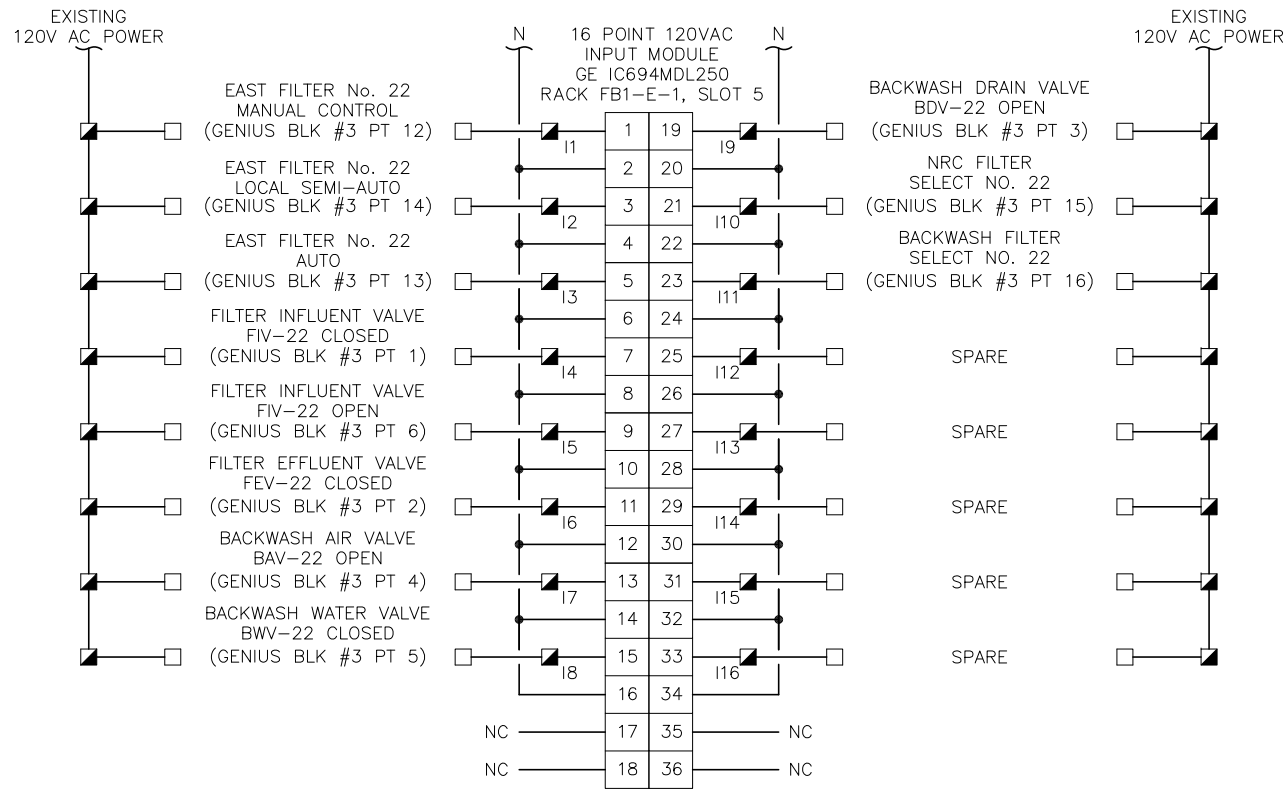
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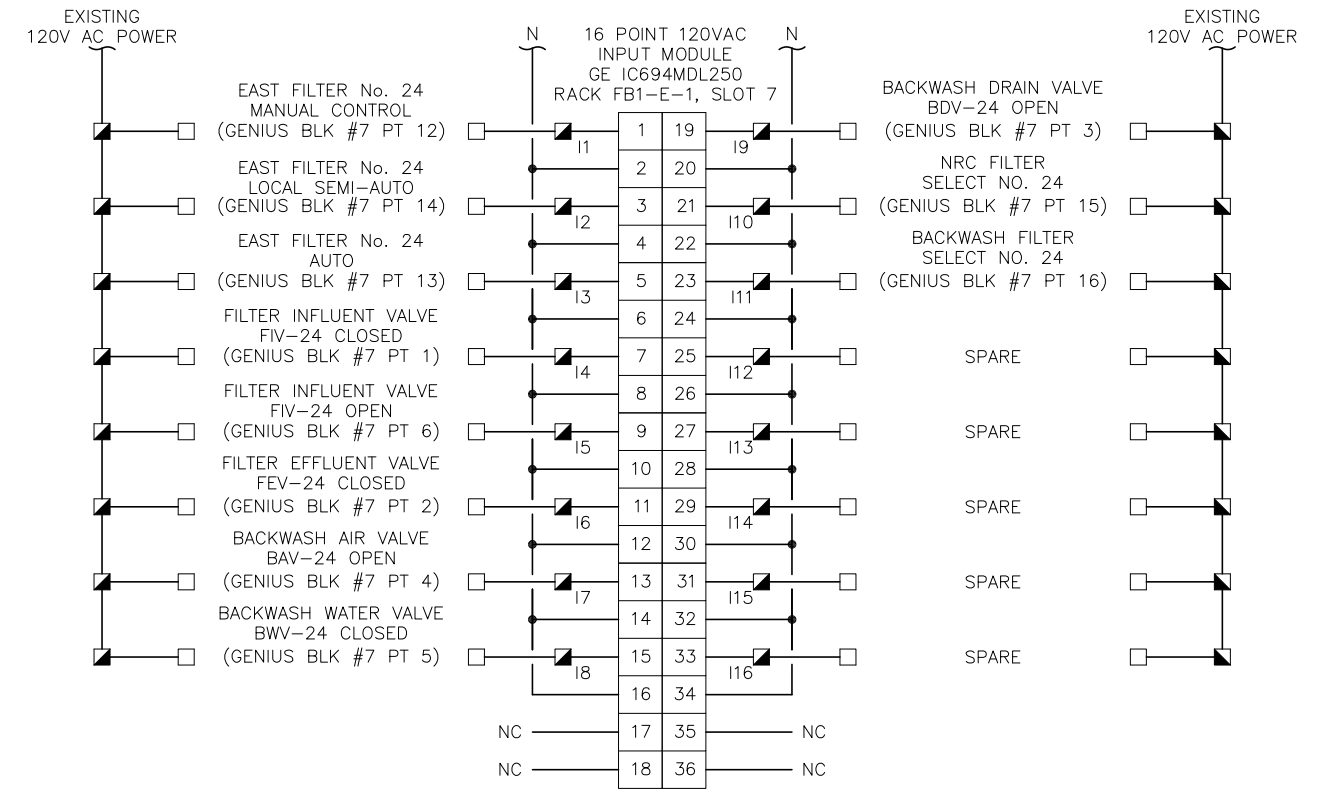
PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 4



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 6

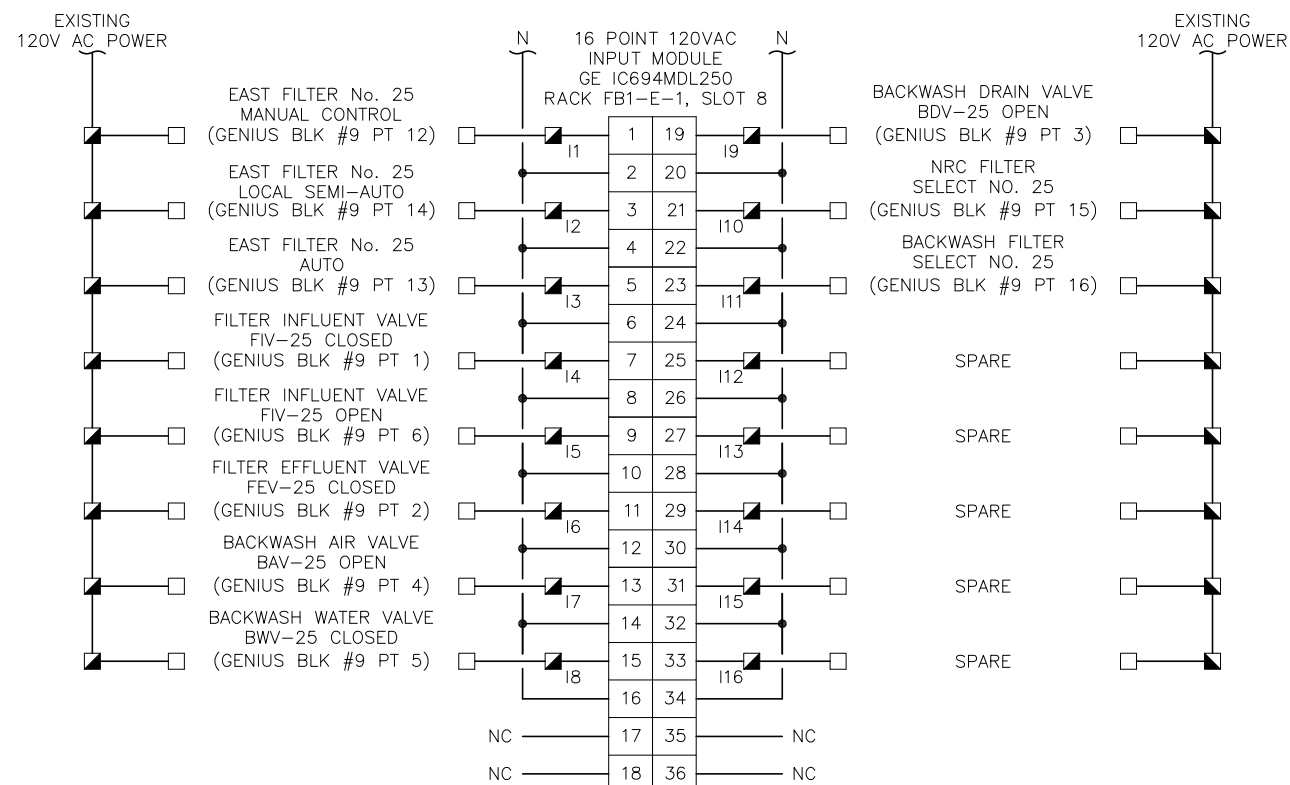


PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 5

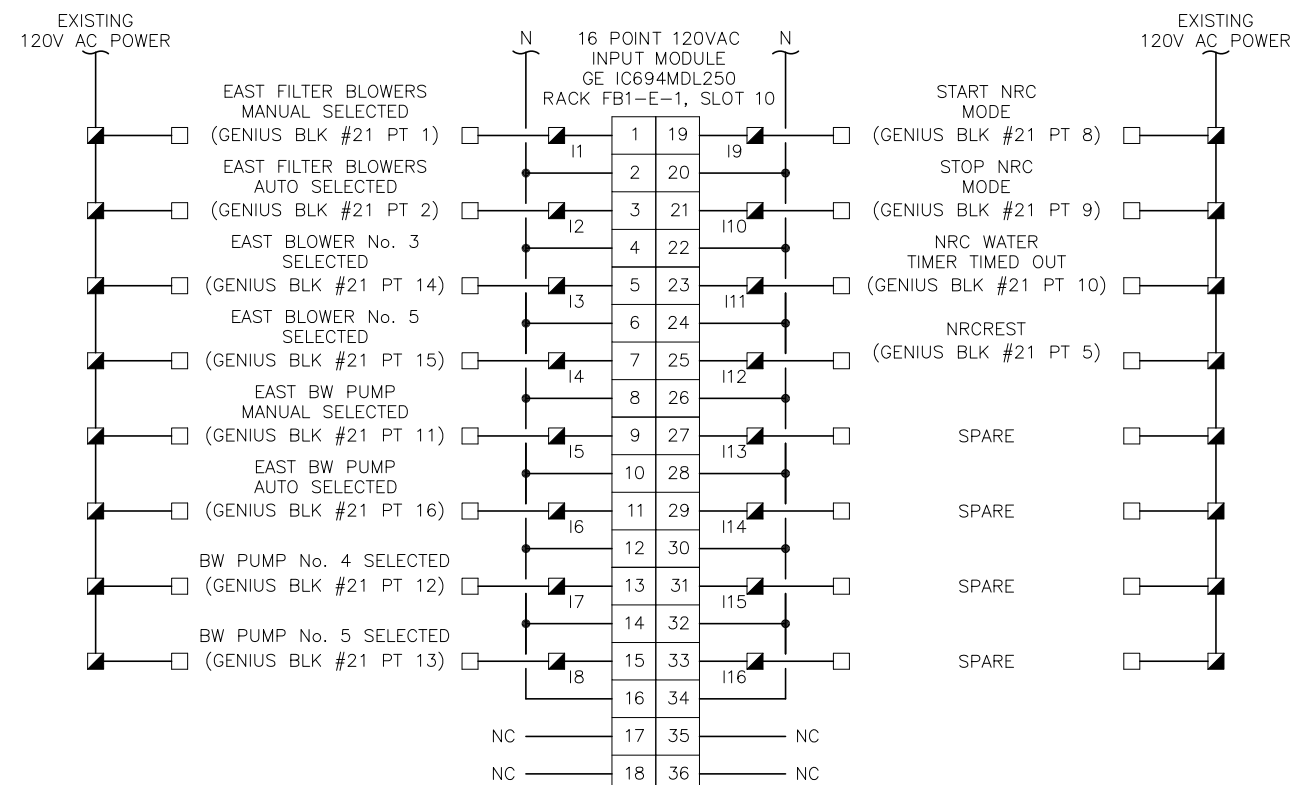


PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 7

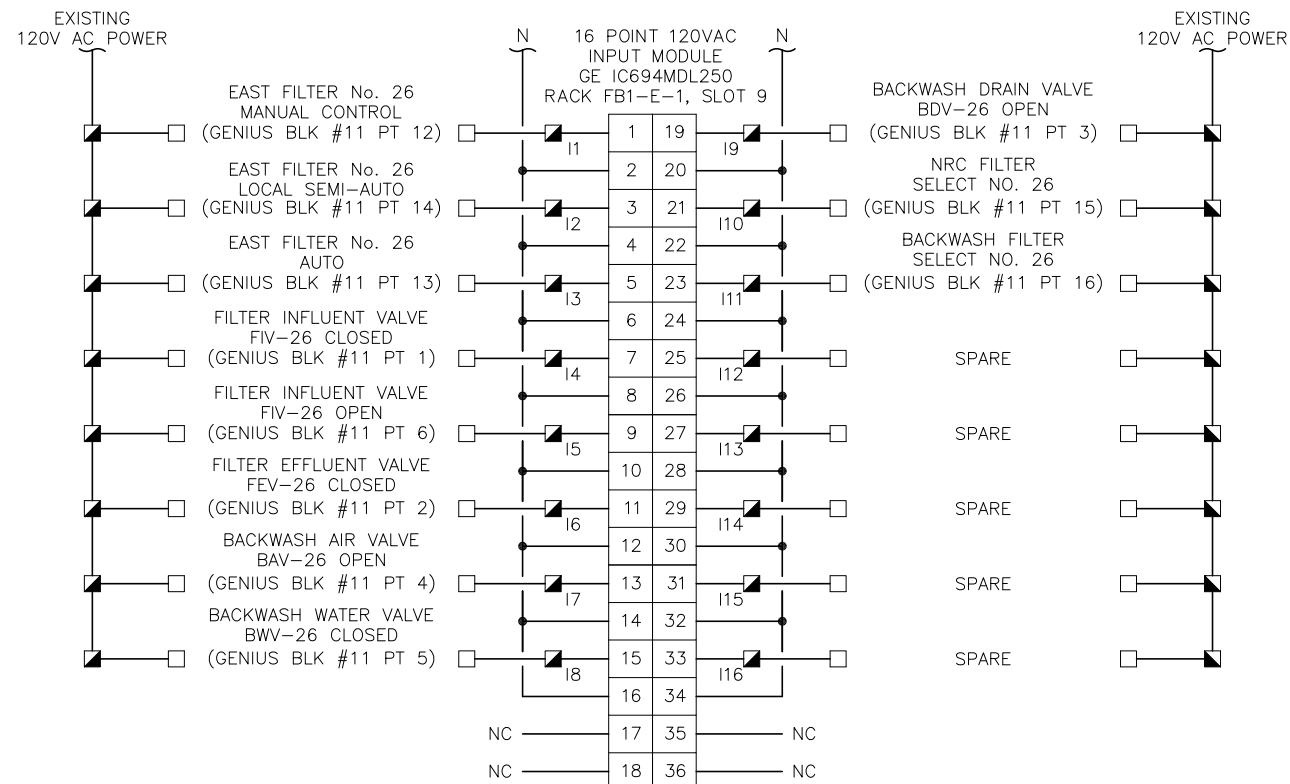




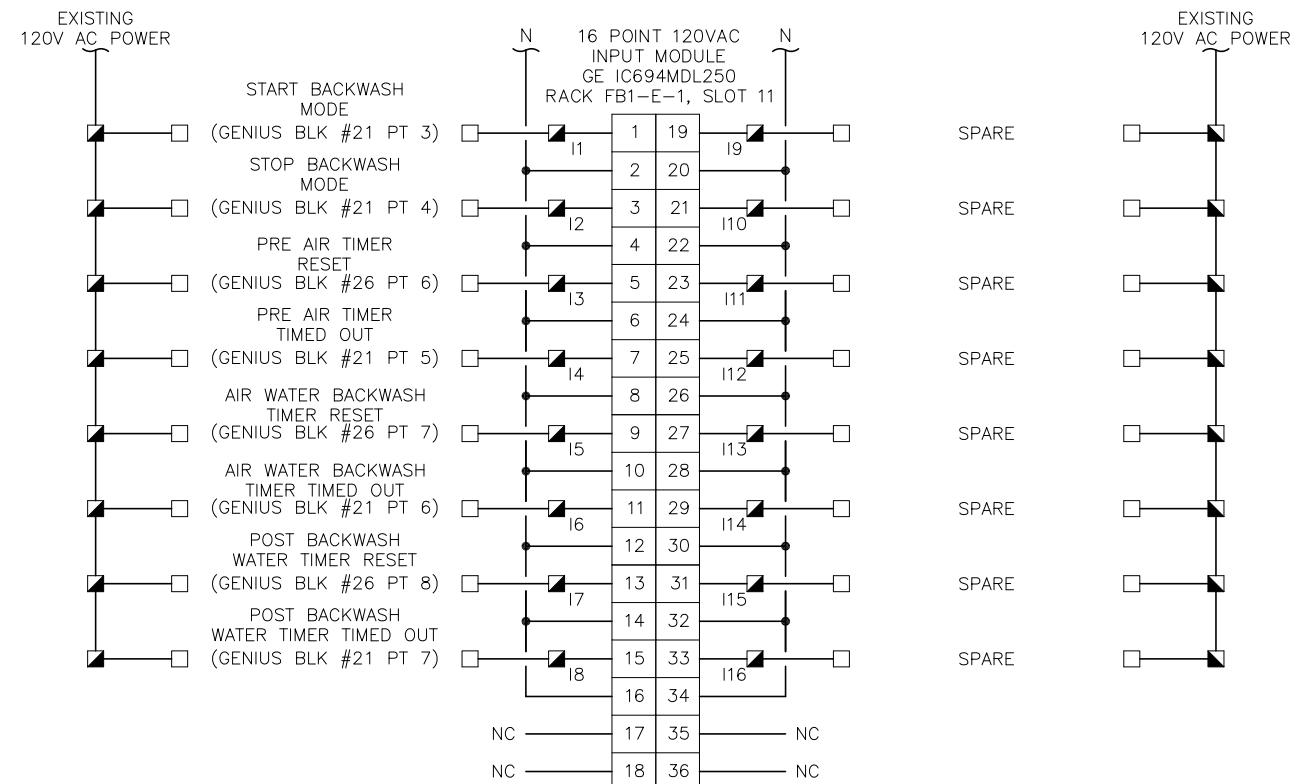
PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 8



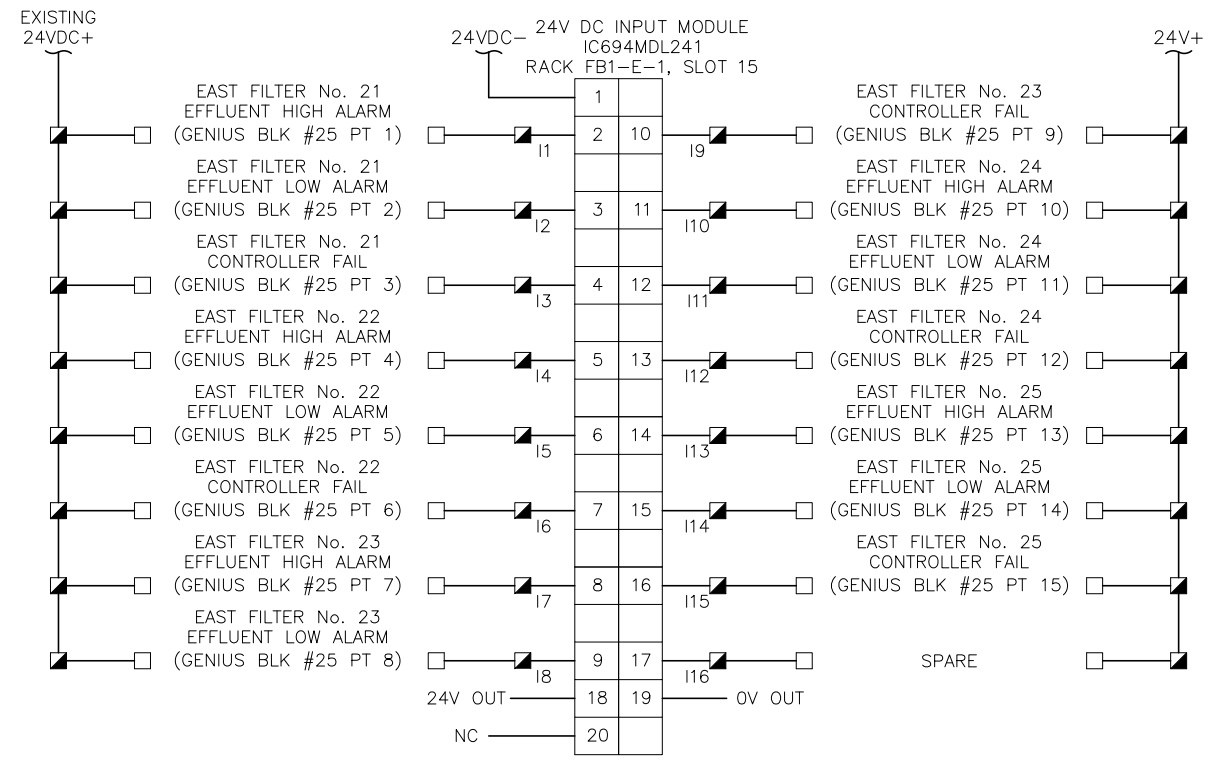
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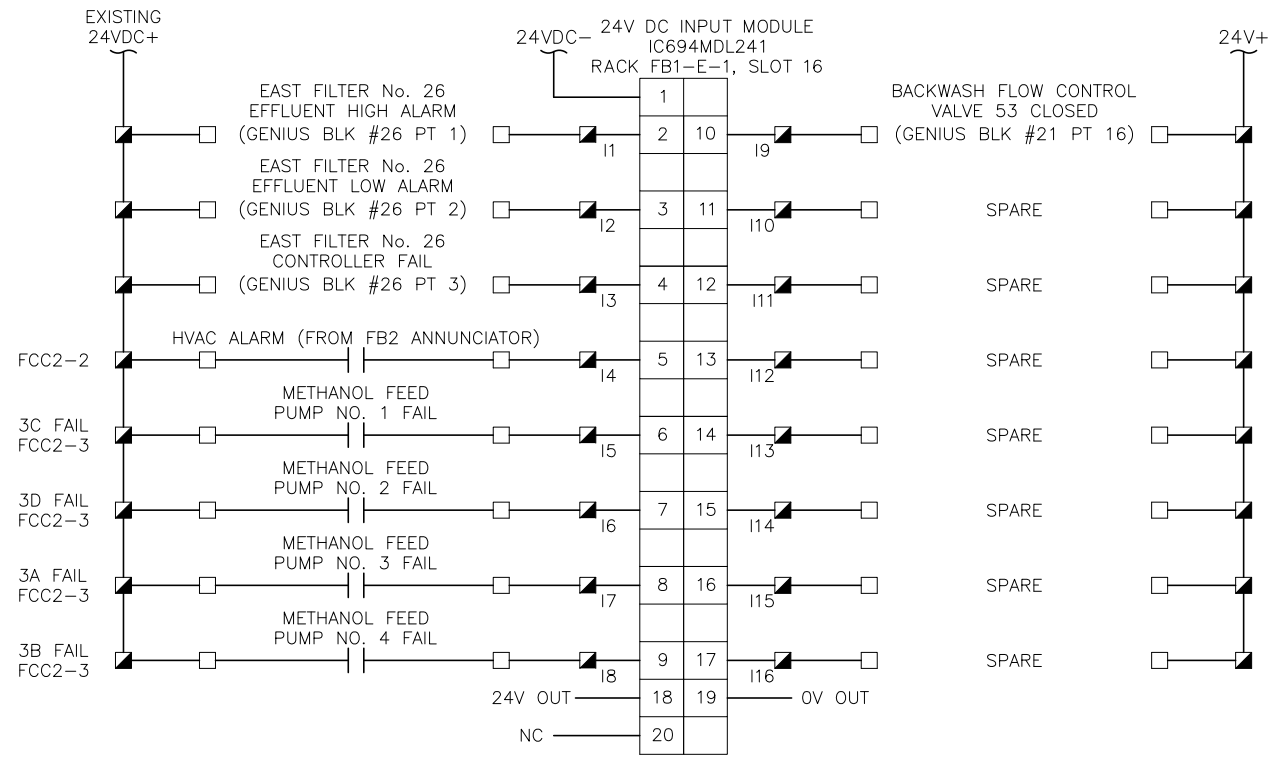
PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 9



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 11



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 15



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 16



JOB No.	231901542								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

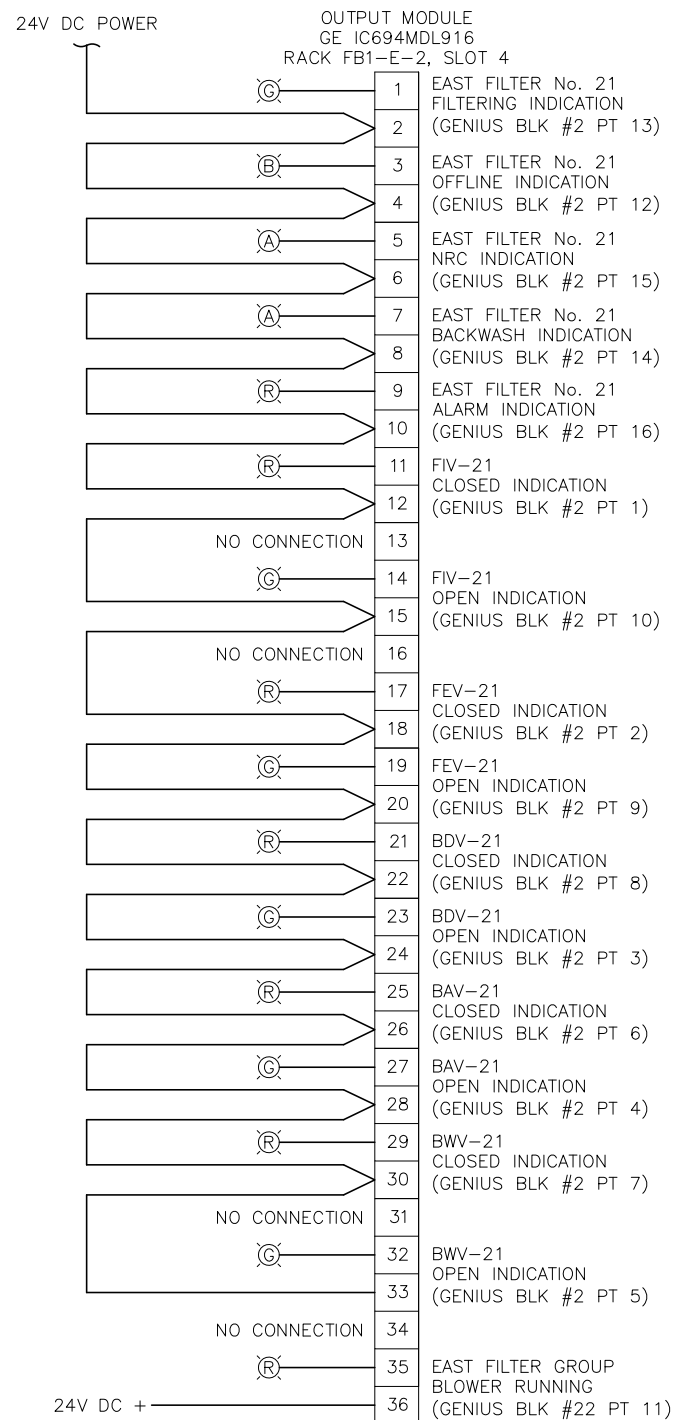
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AS SHOWN

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

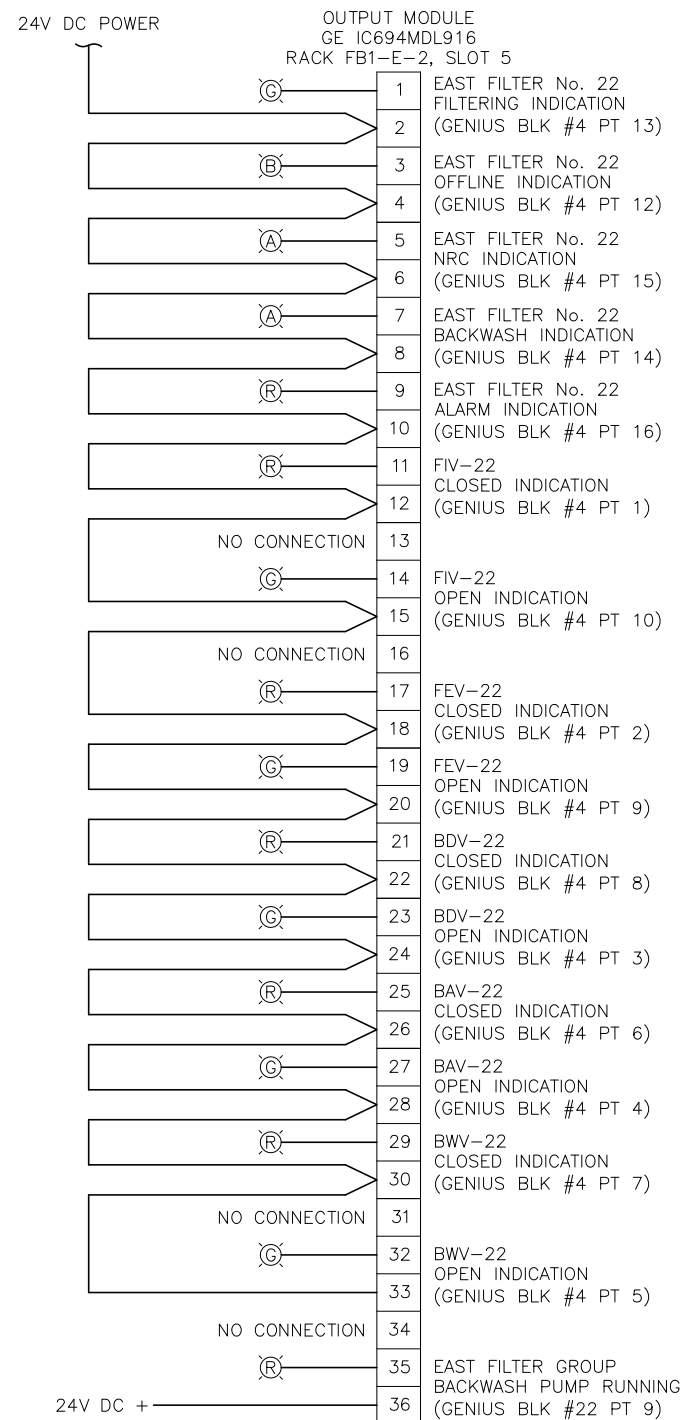
**FILTER BUILDING NO. 1  
EAST FILTER  
DISCRETE INPUT I/O**

TIMOTHY THOMAS, P.E. No. 47079

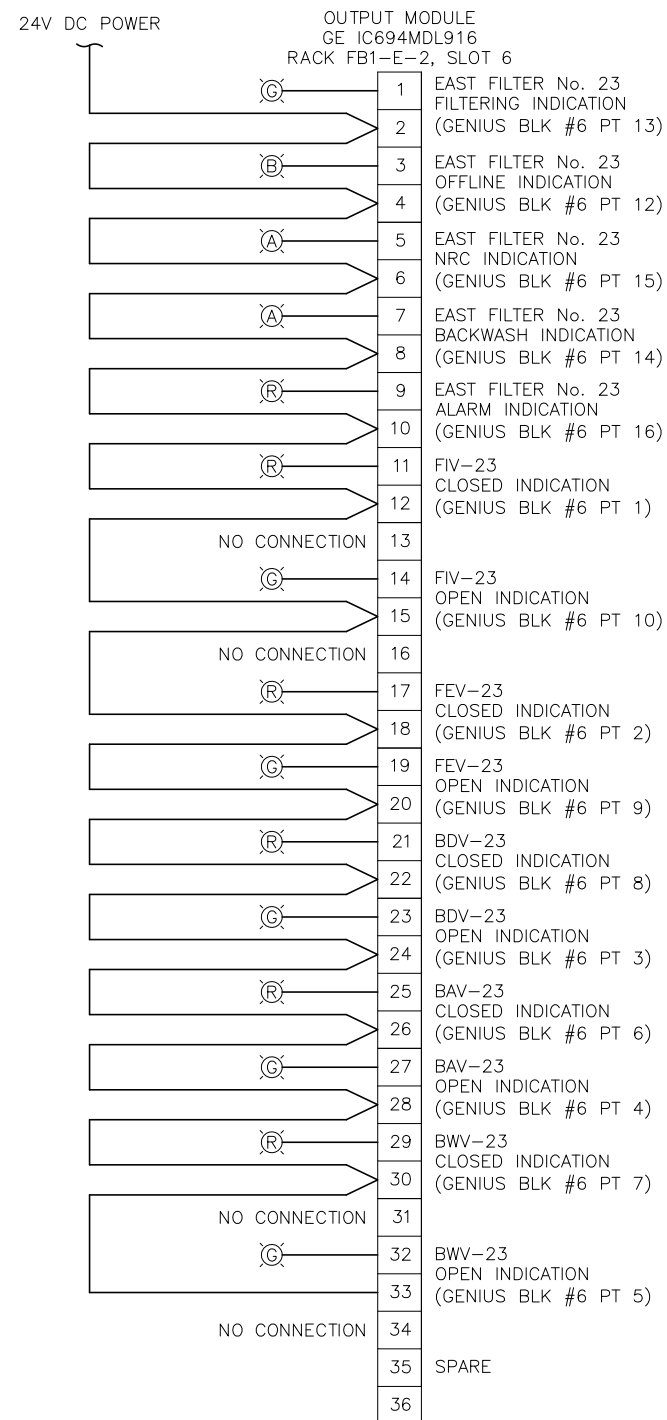
SHEET NUMBER  
**E13**  
FILE: 231901542



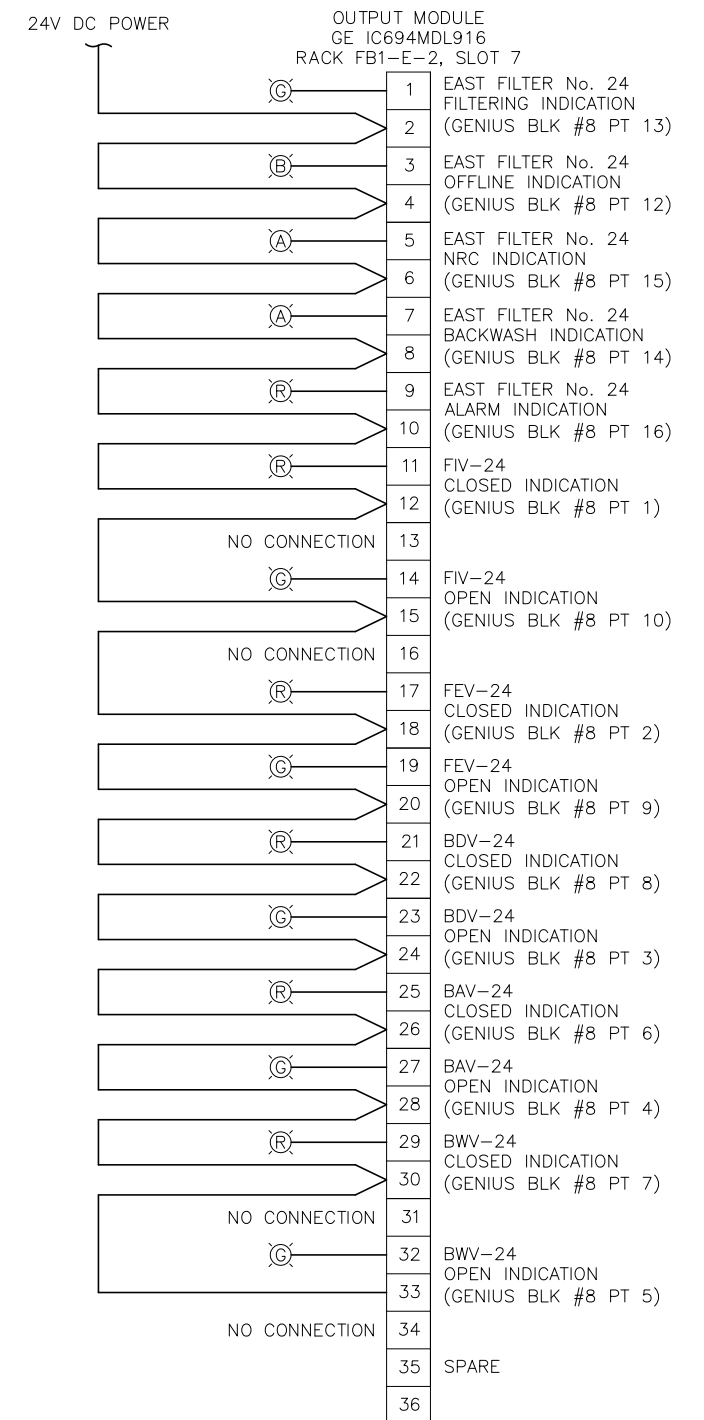
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 4



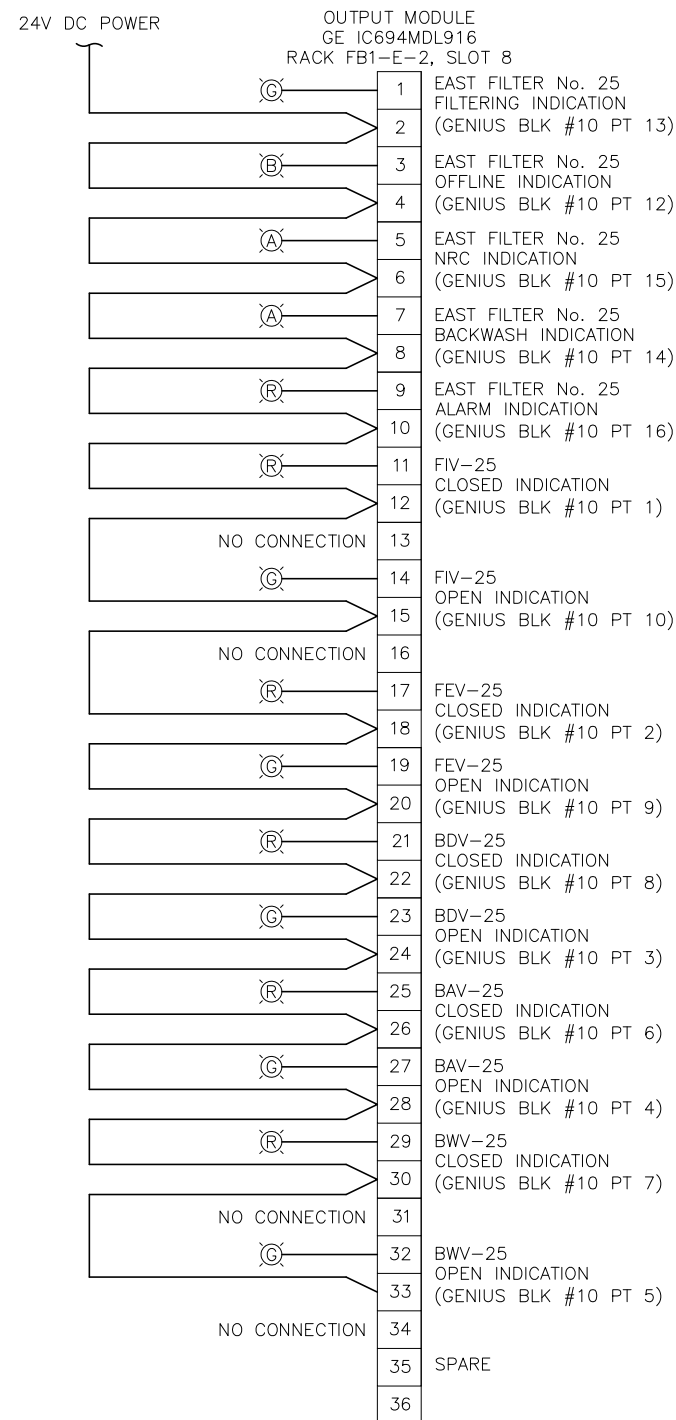
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 5



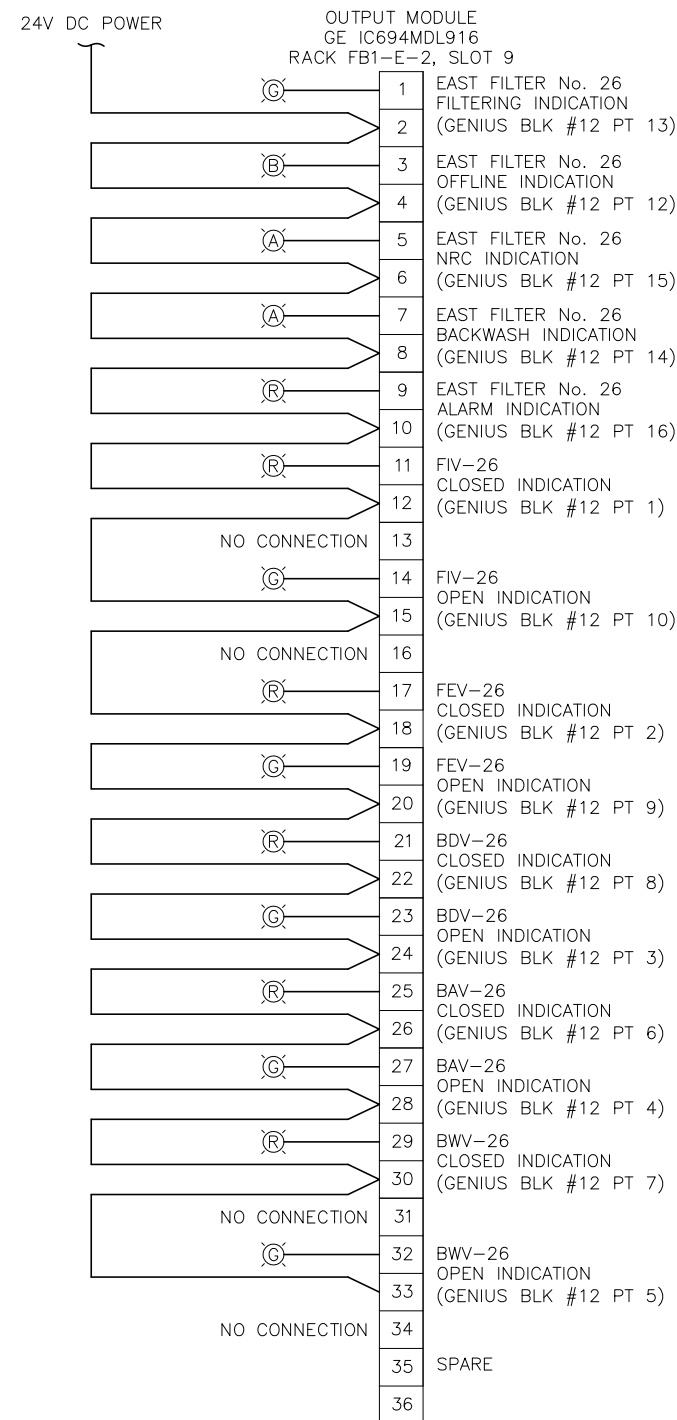
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 6



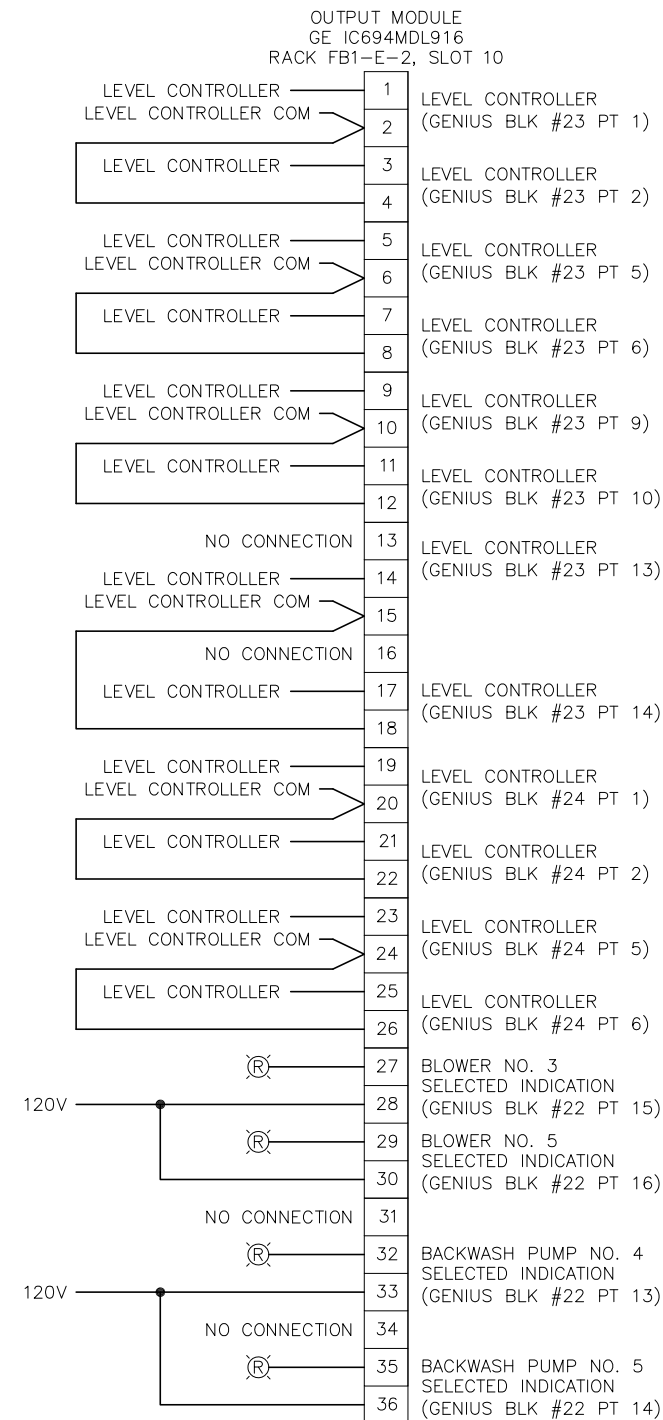
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 7



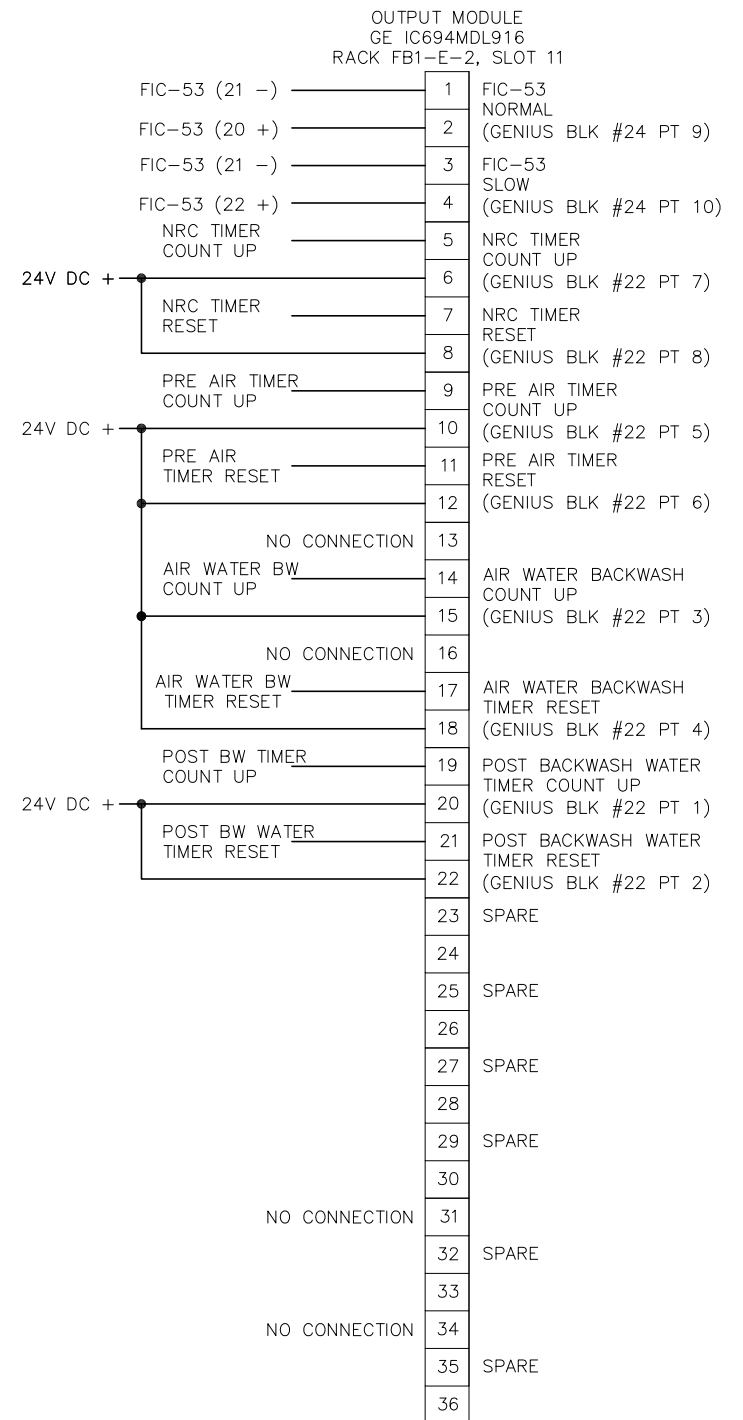
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 8



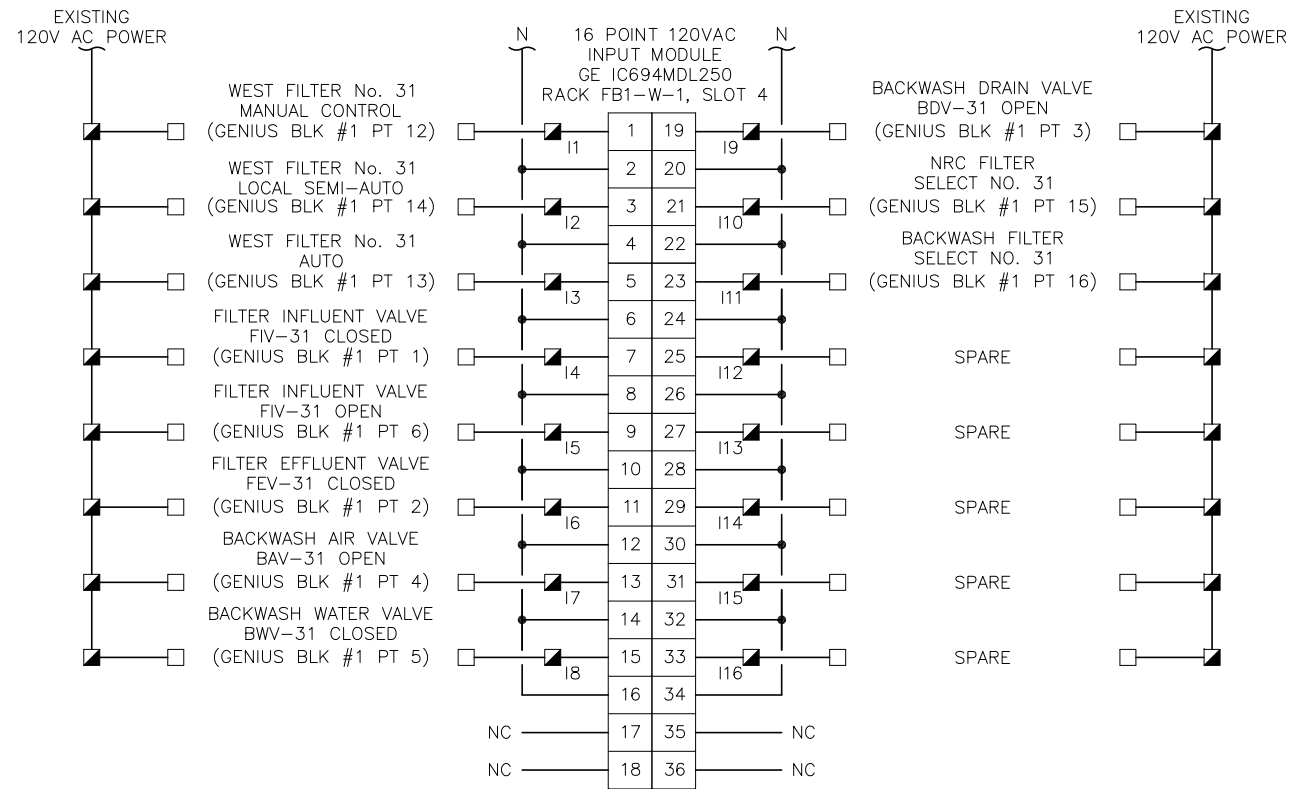
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 9



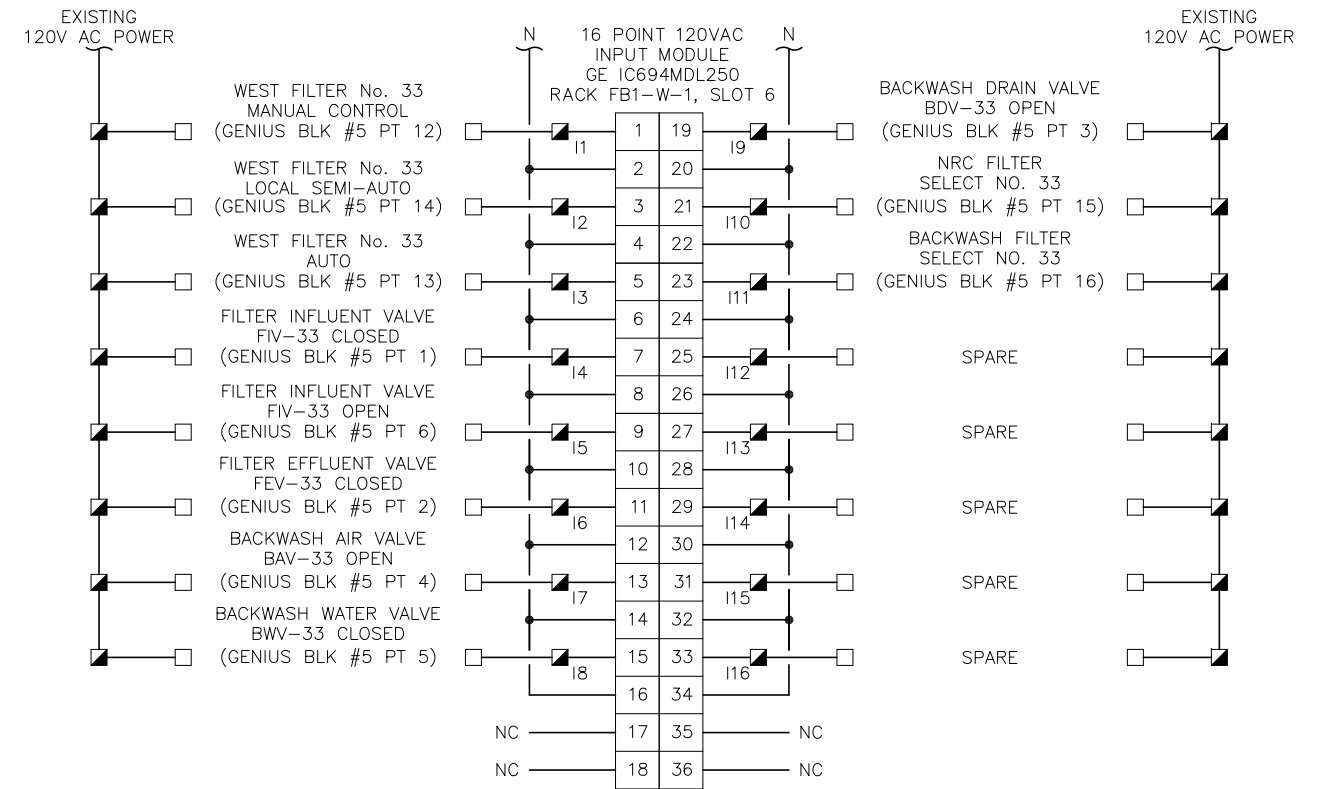
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 10



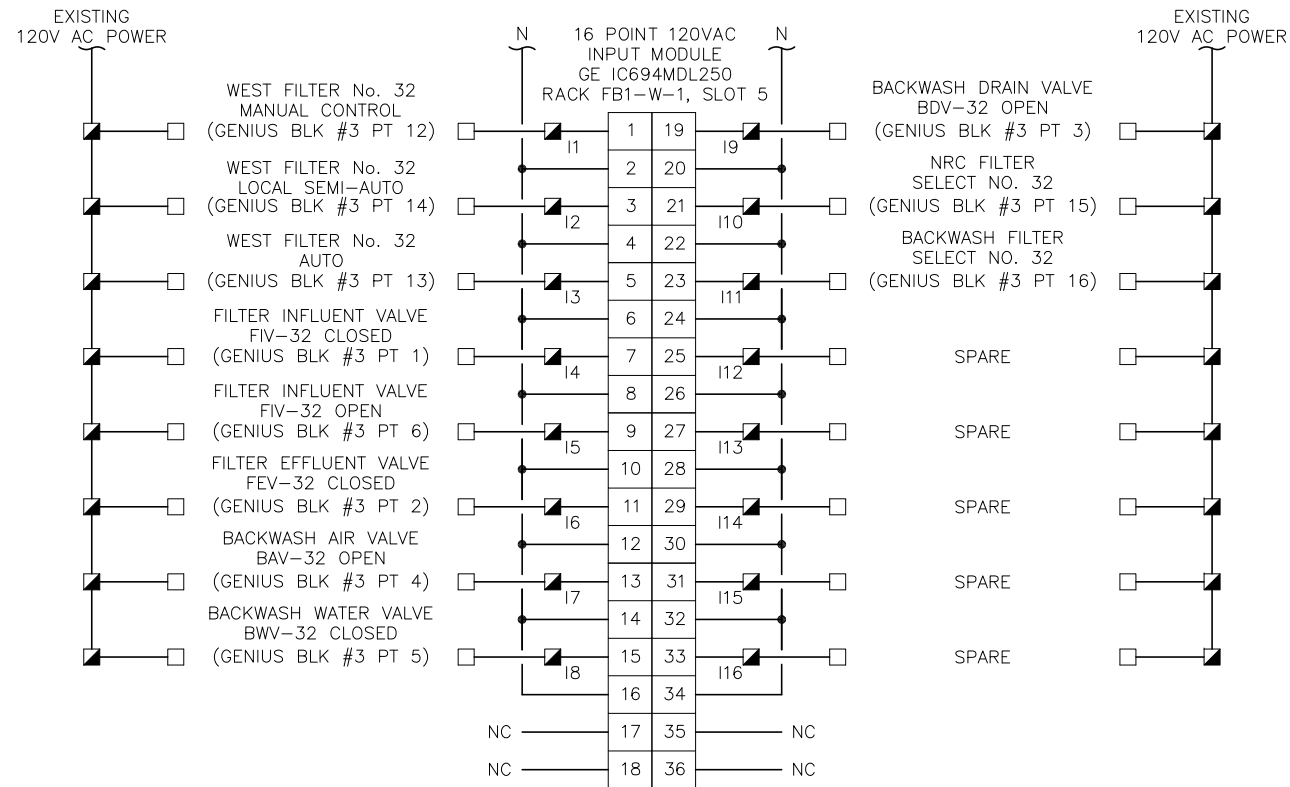
PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 11



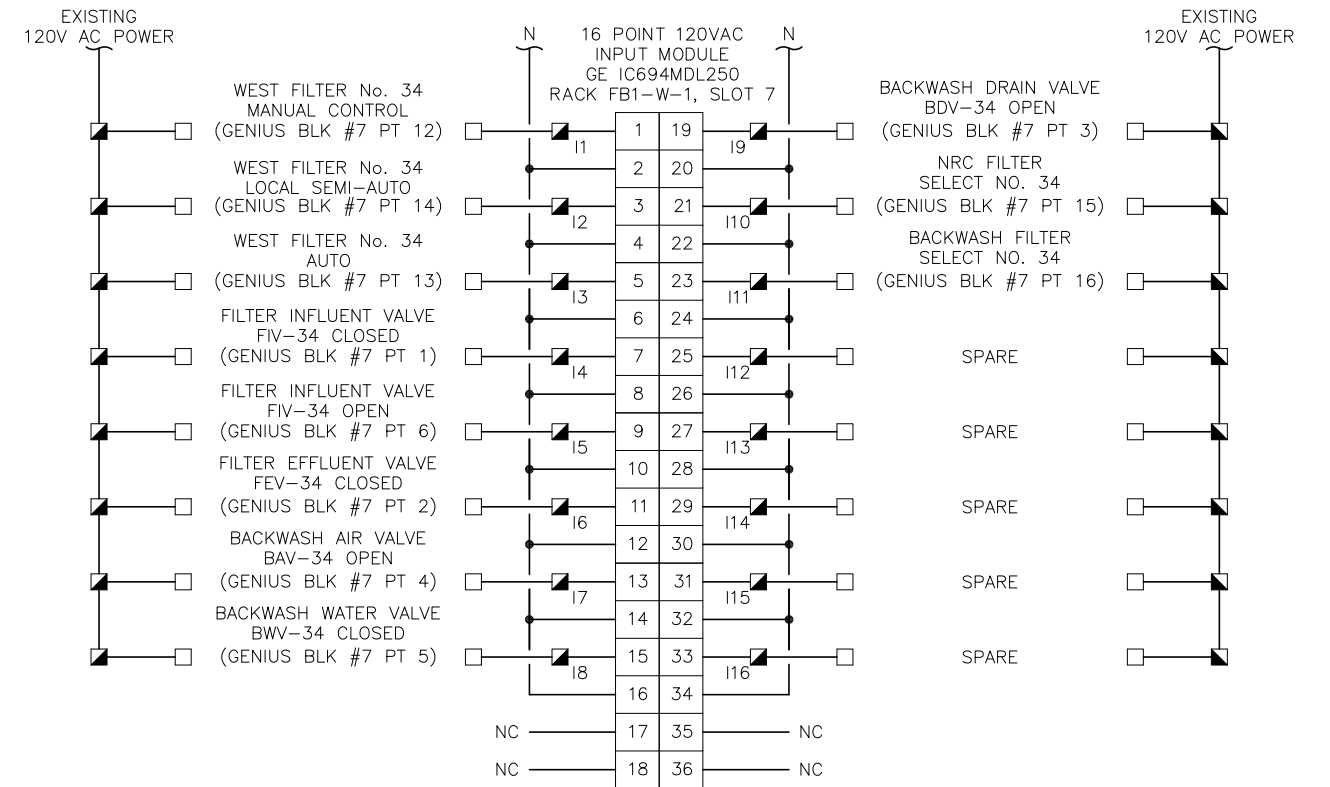
PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 4



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 6



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 5



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 7



JOB No.	231901542						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE

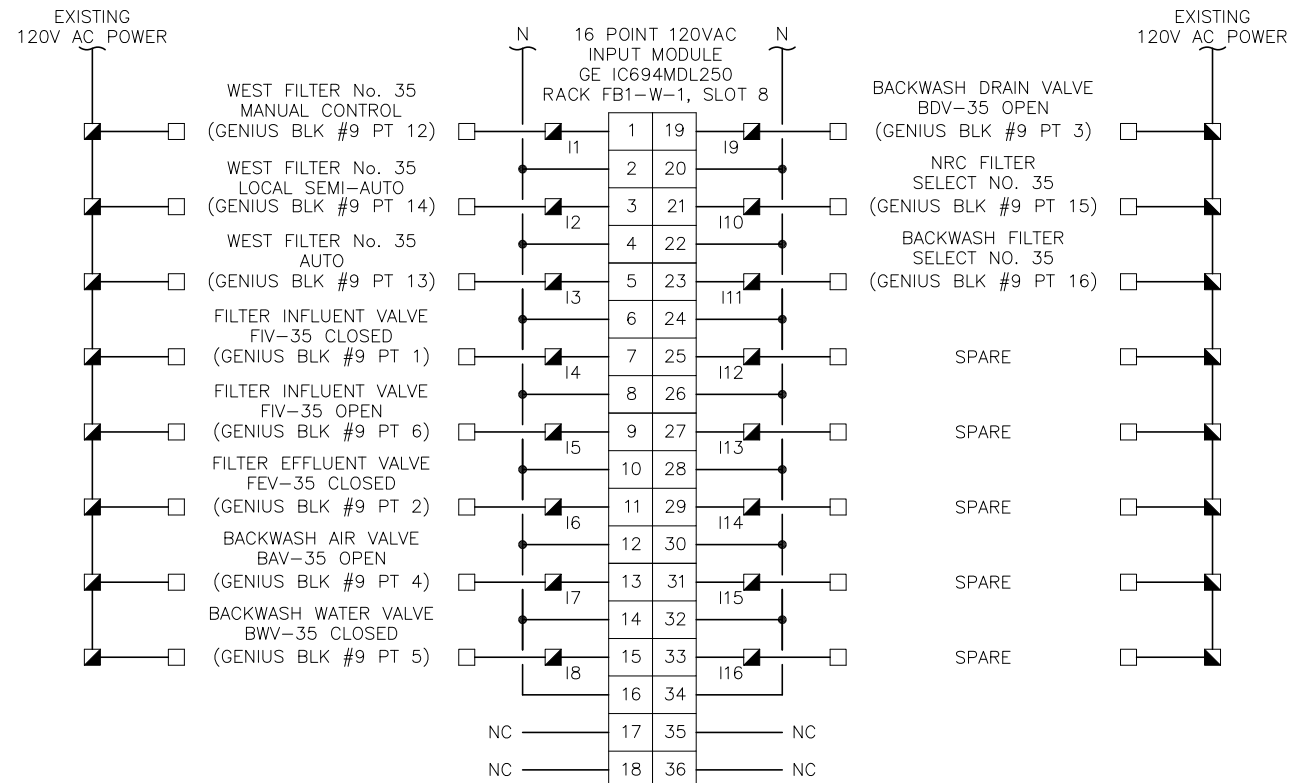
AS SHOWN

City of Tampa Wastewater Department

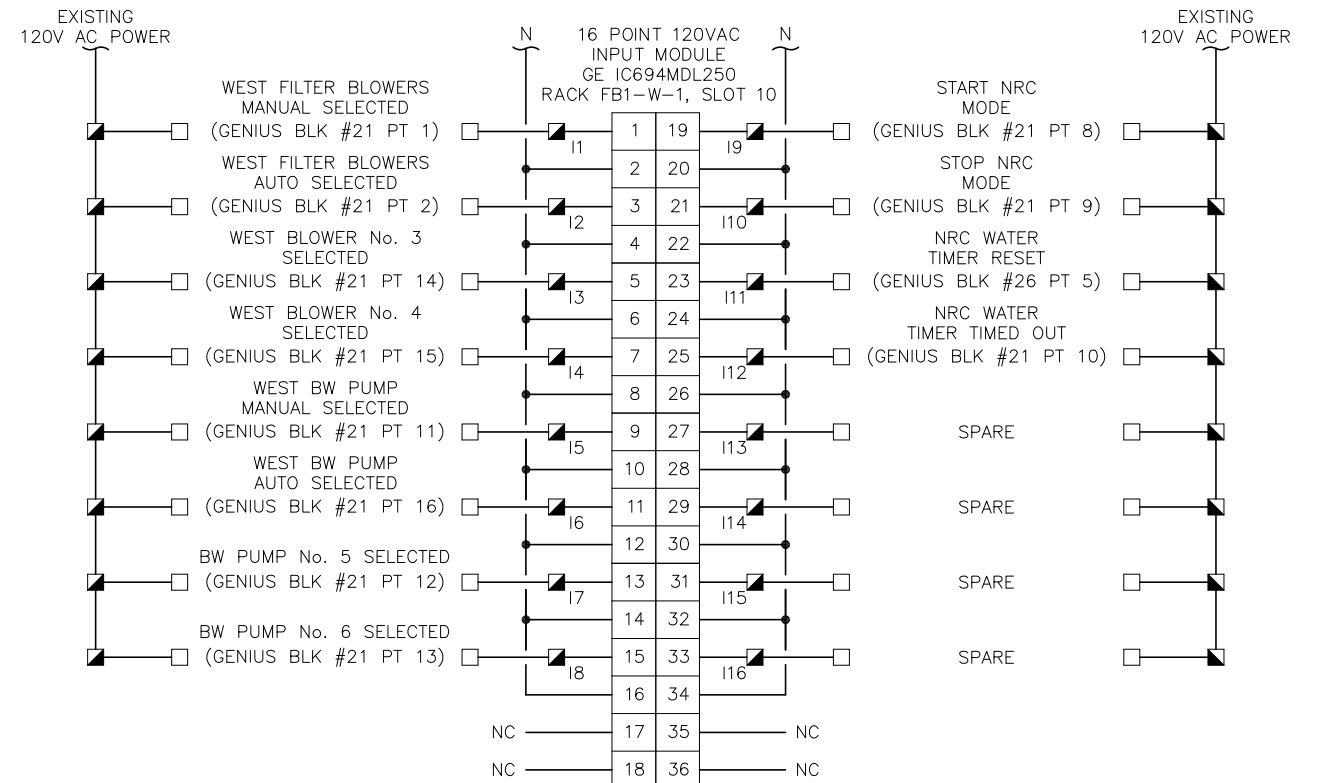
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 1  
WEST FILTER  
DISCRETE INPUT I/O

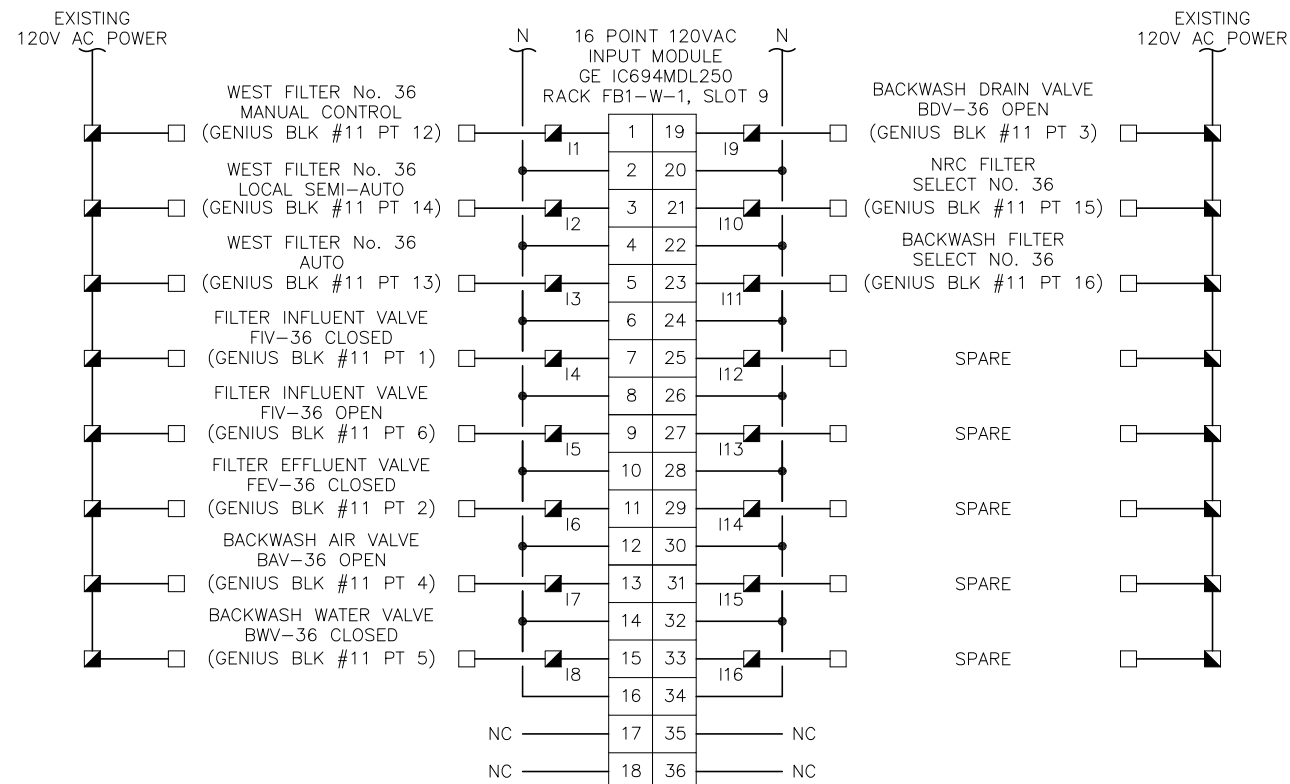
SHEET NUMBER	E16
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



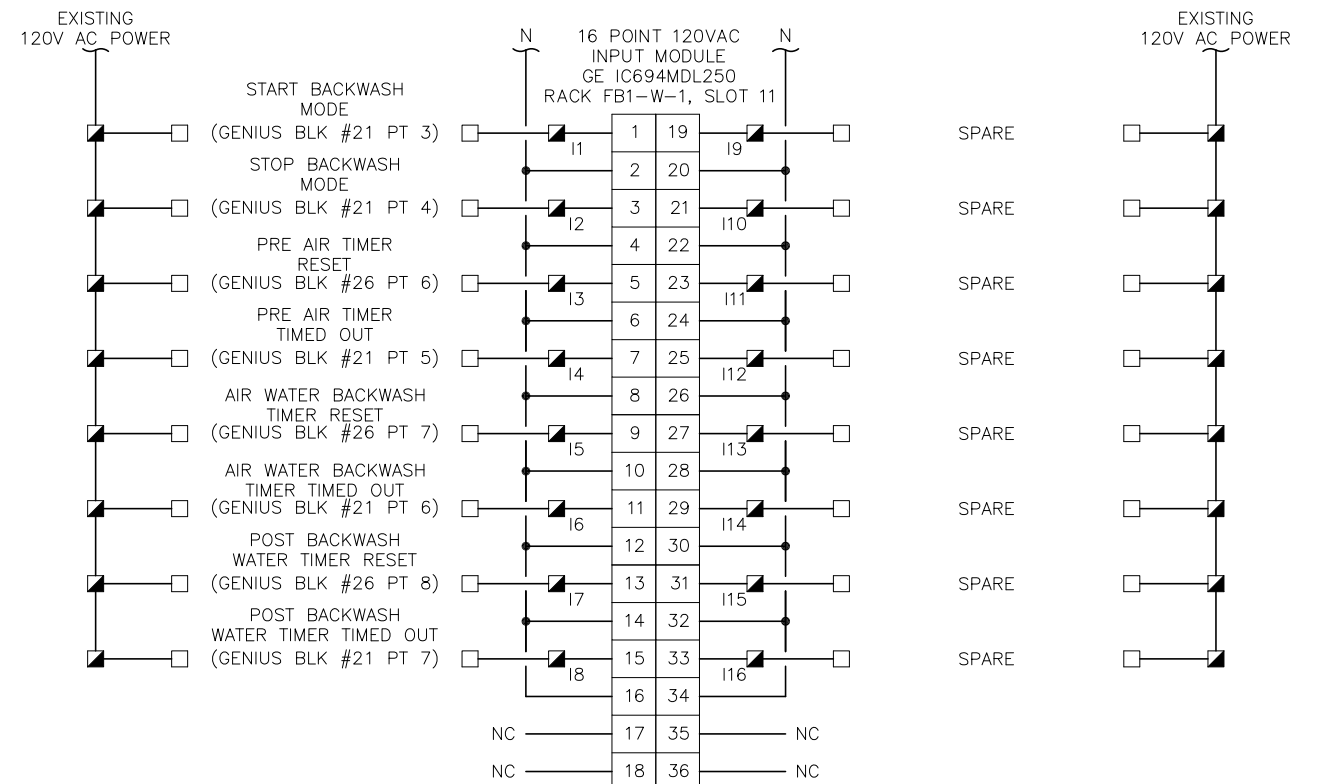
PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 8



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 10



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 9



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 11



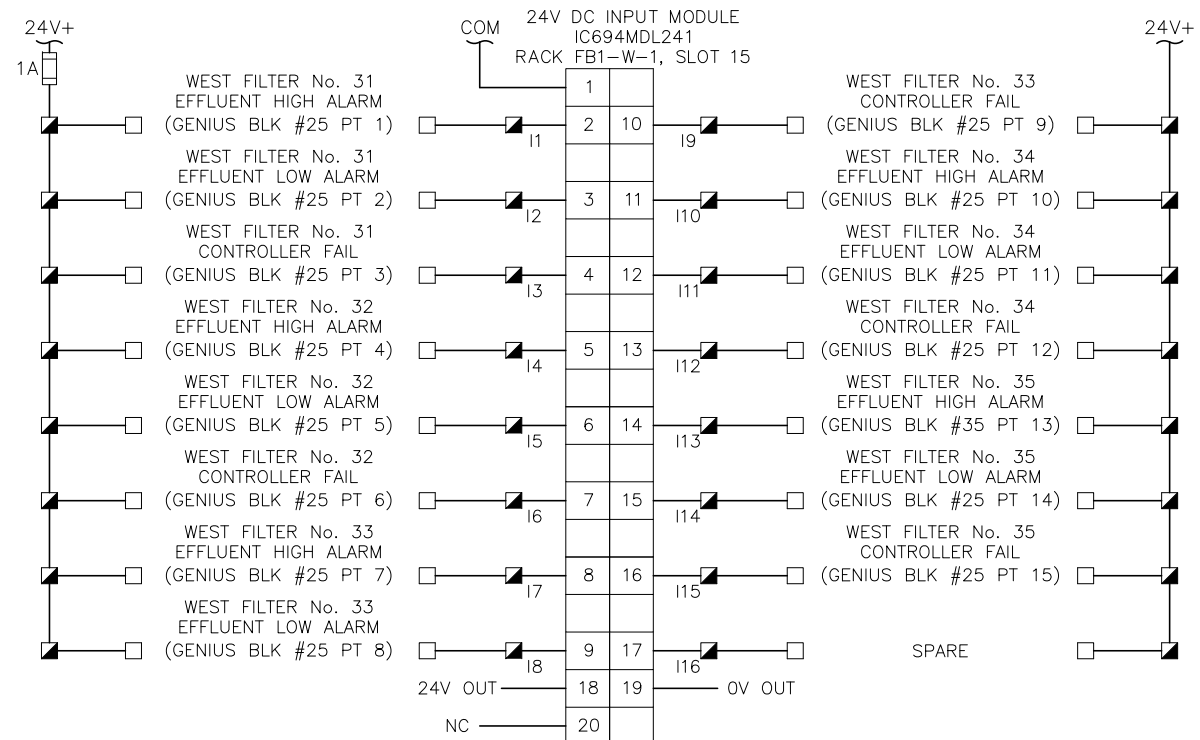
JOB No.	231901542						
DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE	AS SHOWN
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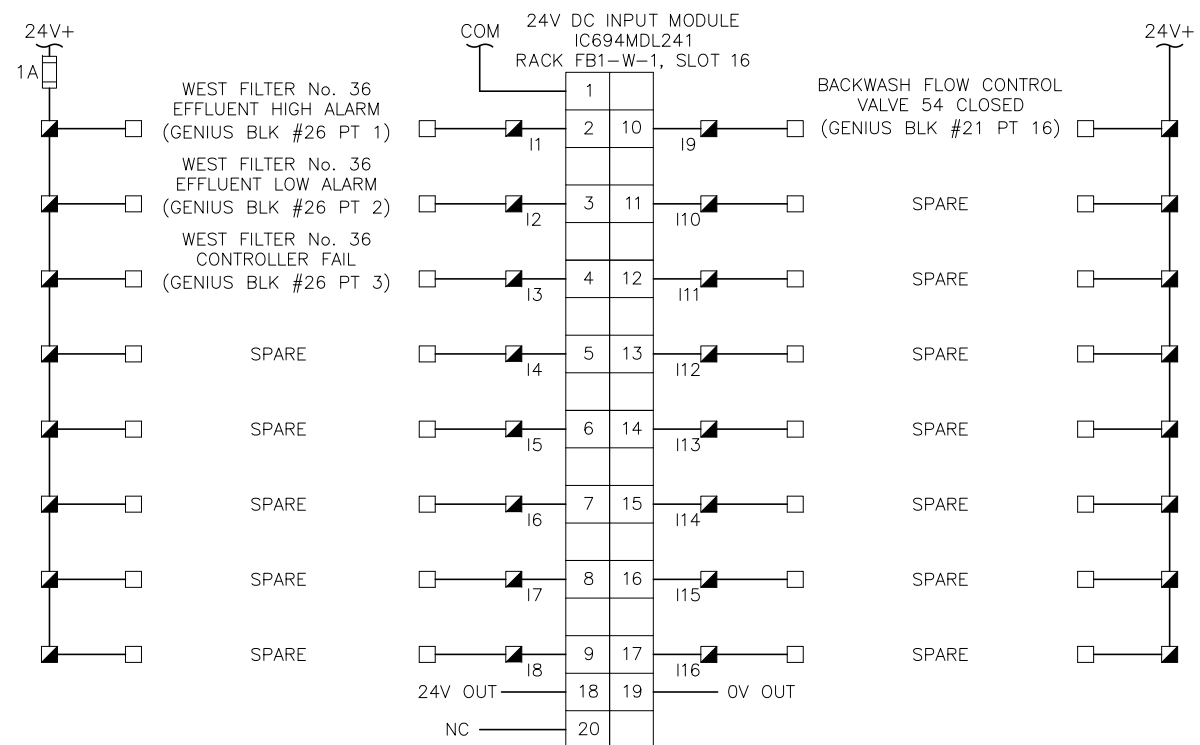
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

**FILTER BUILDING NO. 1**  
**WEST FILTER**  
**DISCRETE INPUT I/O**

SHEET NUMBER	E17
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 15



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 16



JOB No.	231901542								
DESIGNED	TD								
DRAWN	JLH								
CHECKED	TD								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE

AS SHOWN

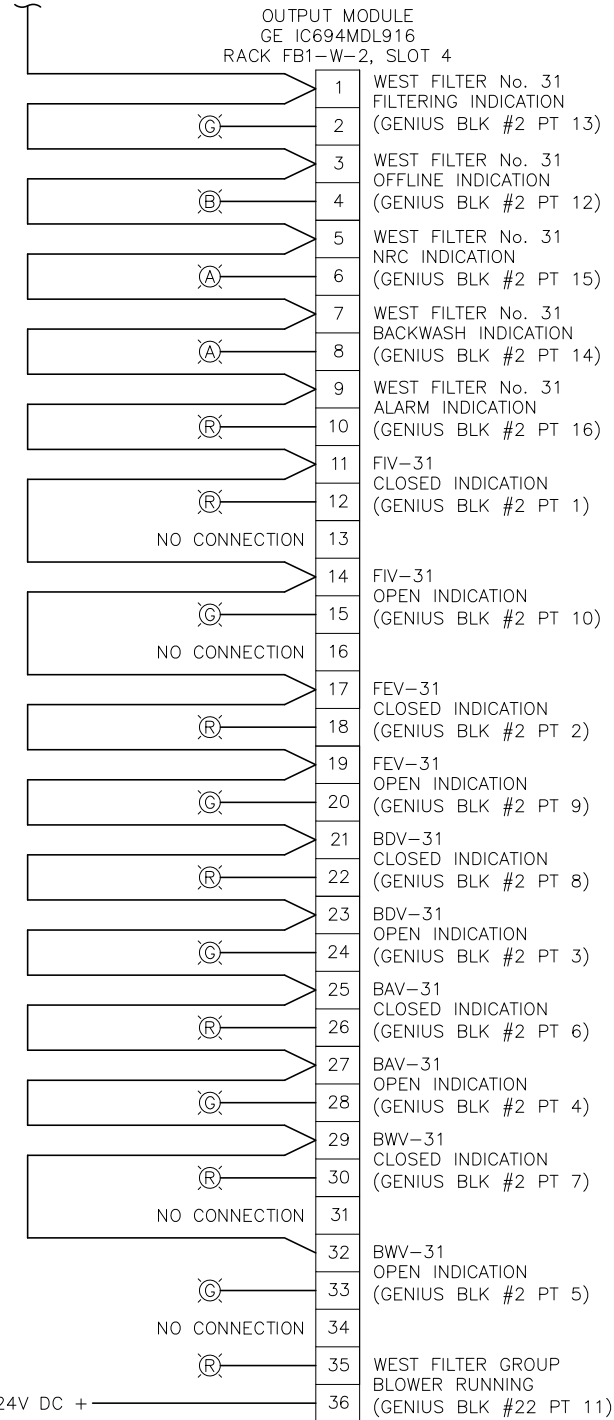
City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 1  
WEST FILTER  
DISCRETE INPUT I/O

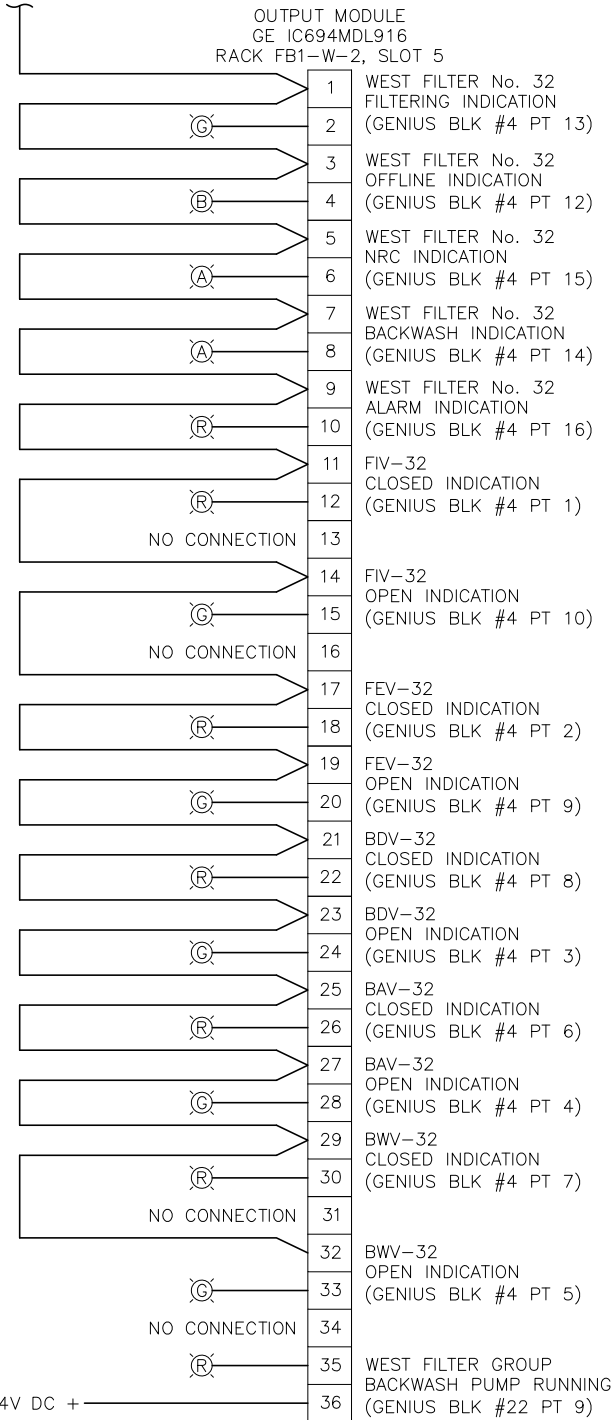
SHEET NUMBER	E18
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542

24V DC POWER



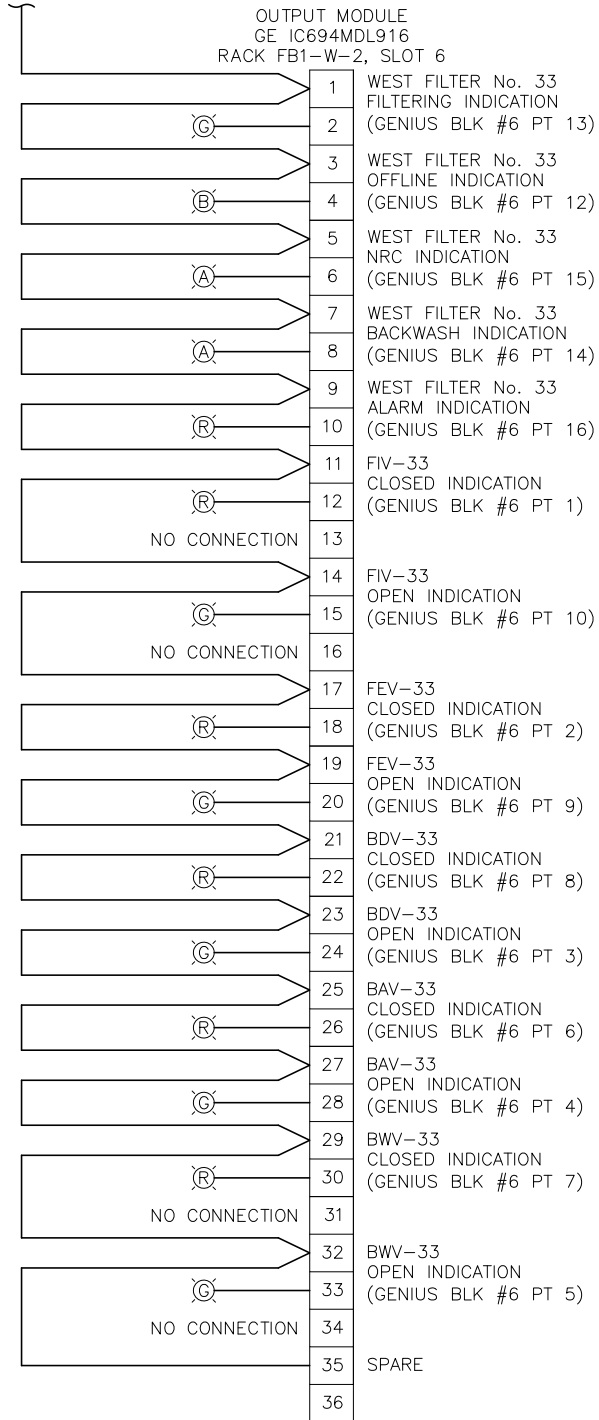
**PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 4**

24V DC POWER



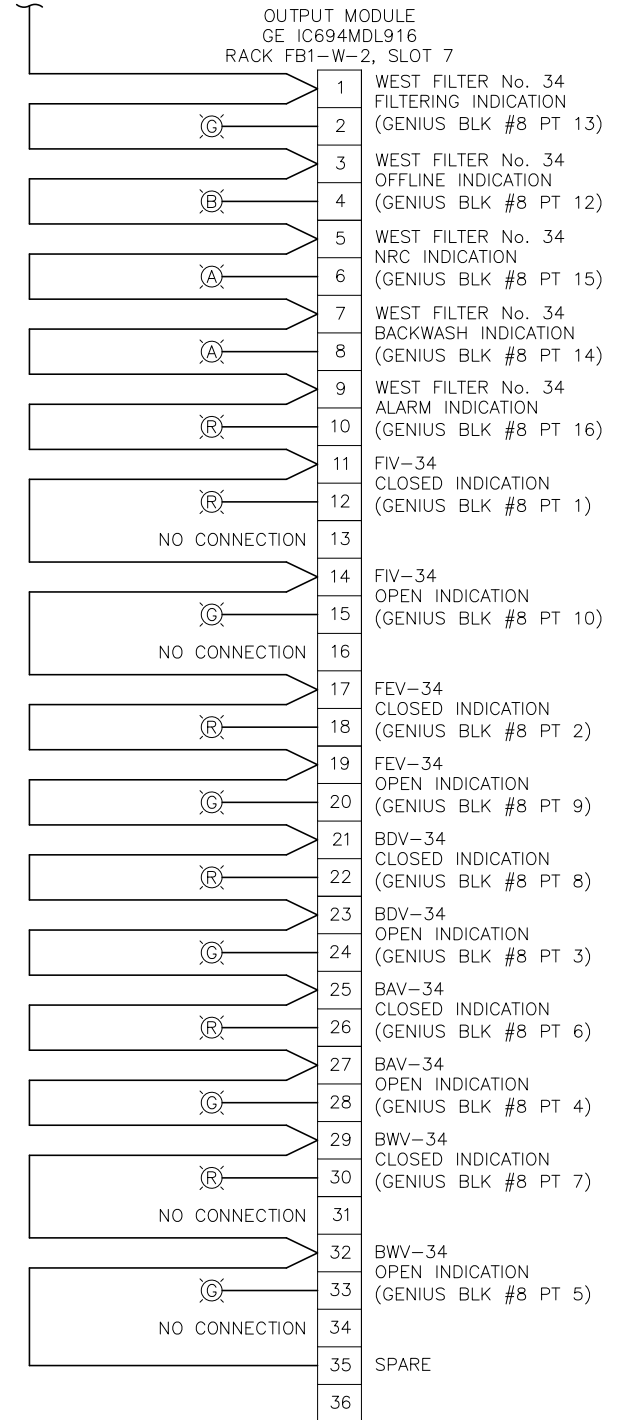
**PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 5**

24V DC POWER



**PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 6**

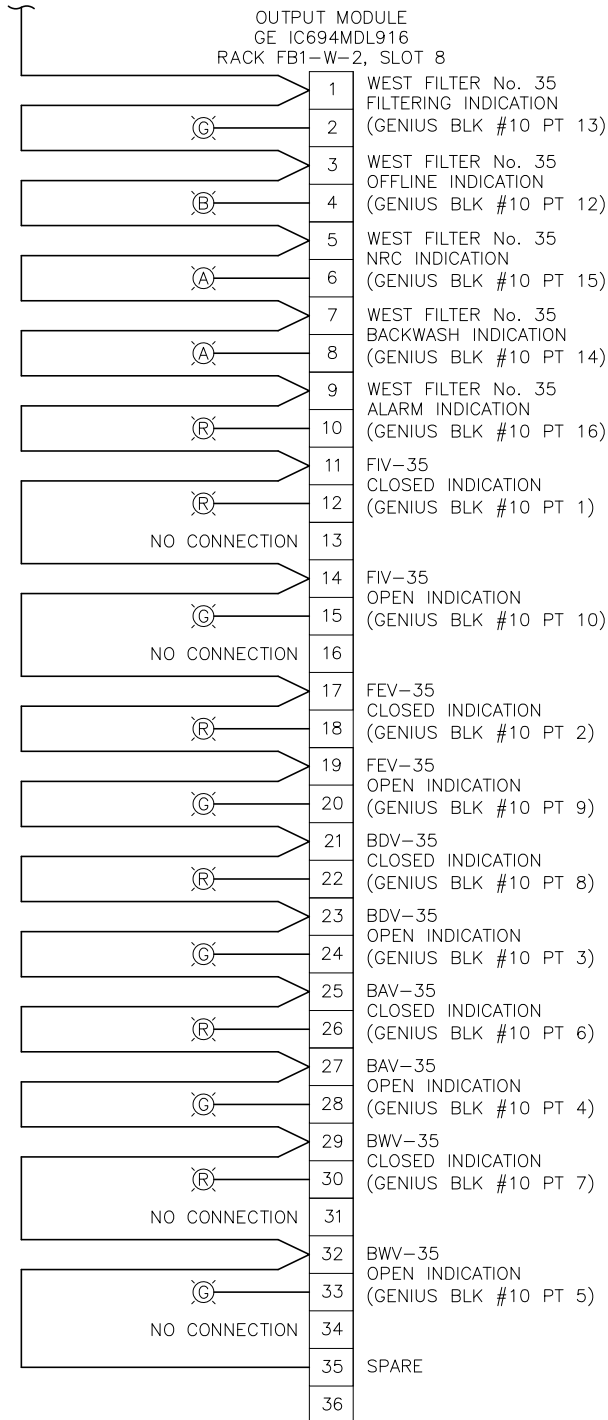
24V DC POWER



**PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 7**

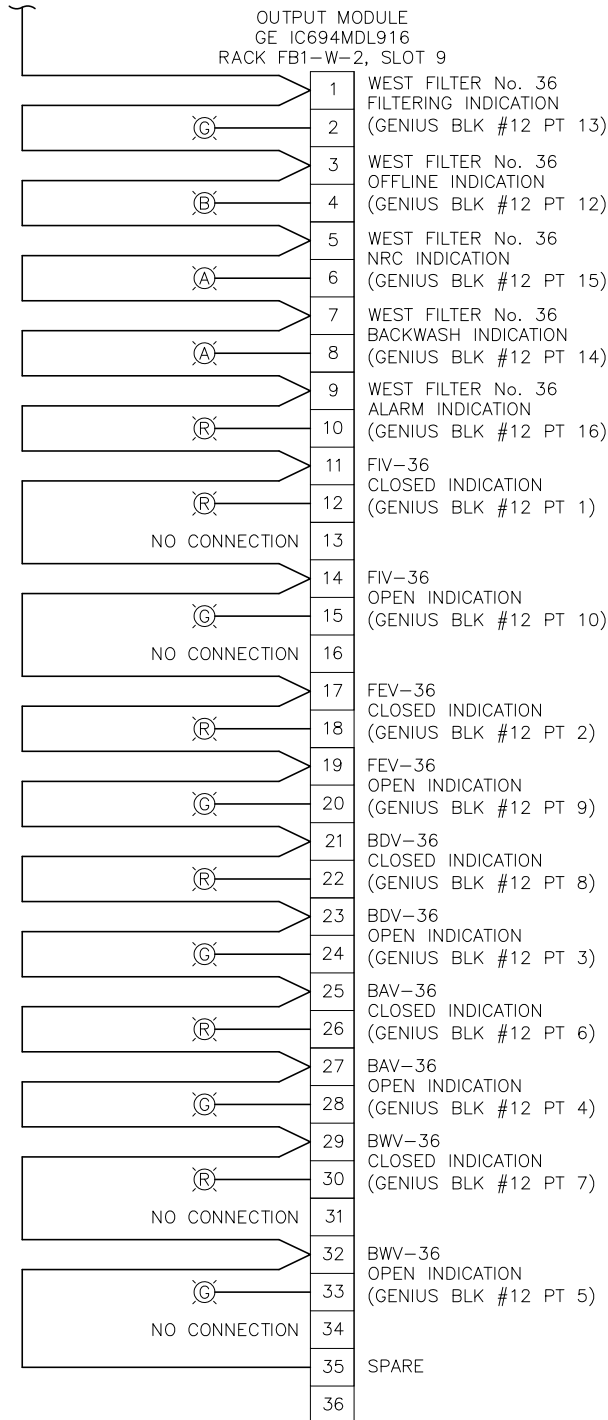


24V DC POWER

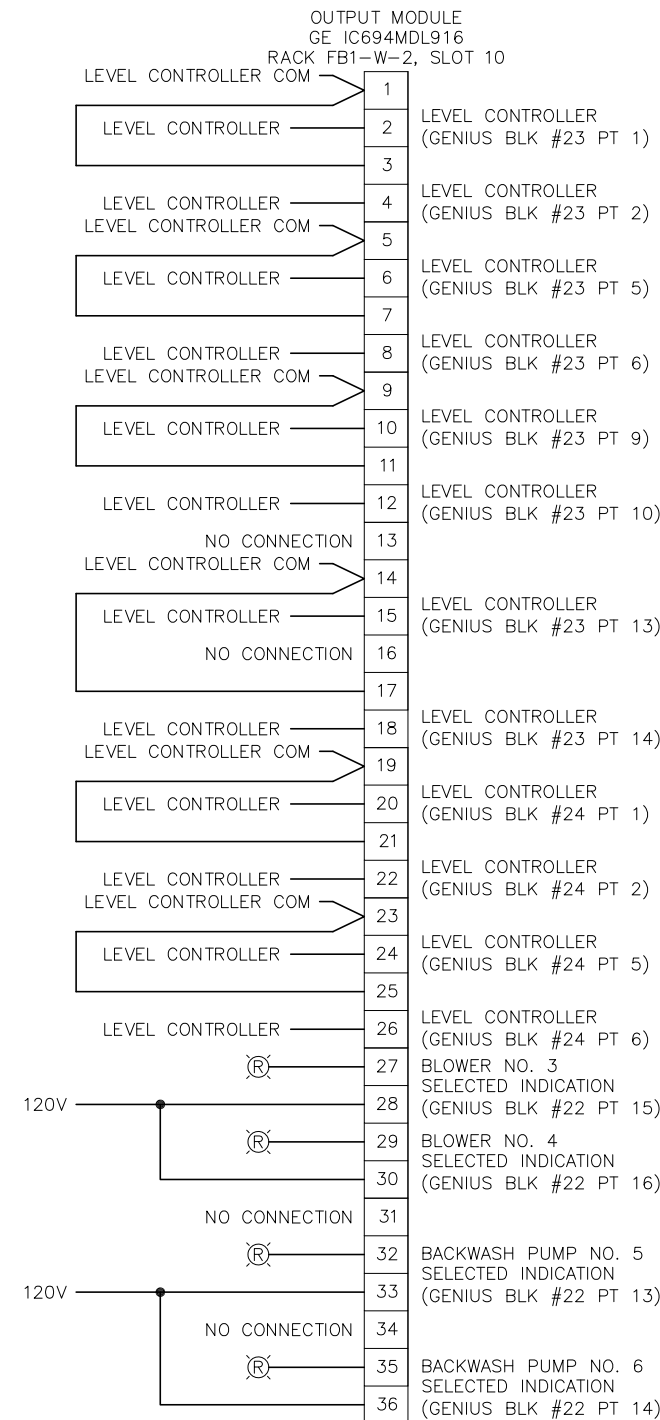


PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 8

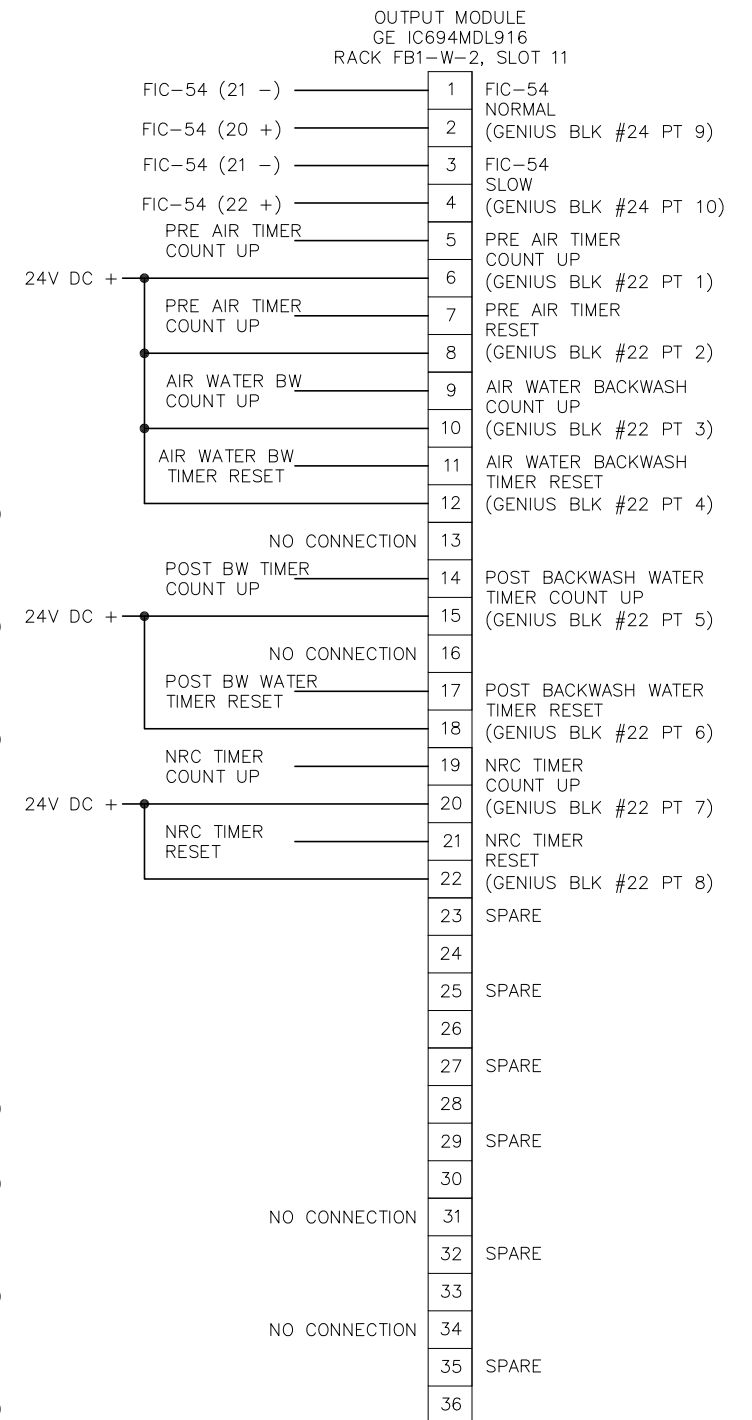
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PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 9



PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 10



PLC RELAY OUTPUT CARD WIRING DIAGRAM - SLOT 11



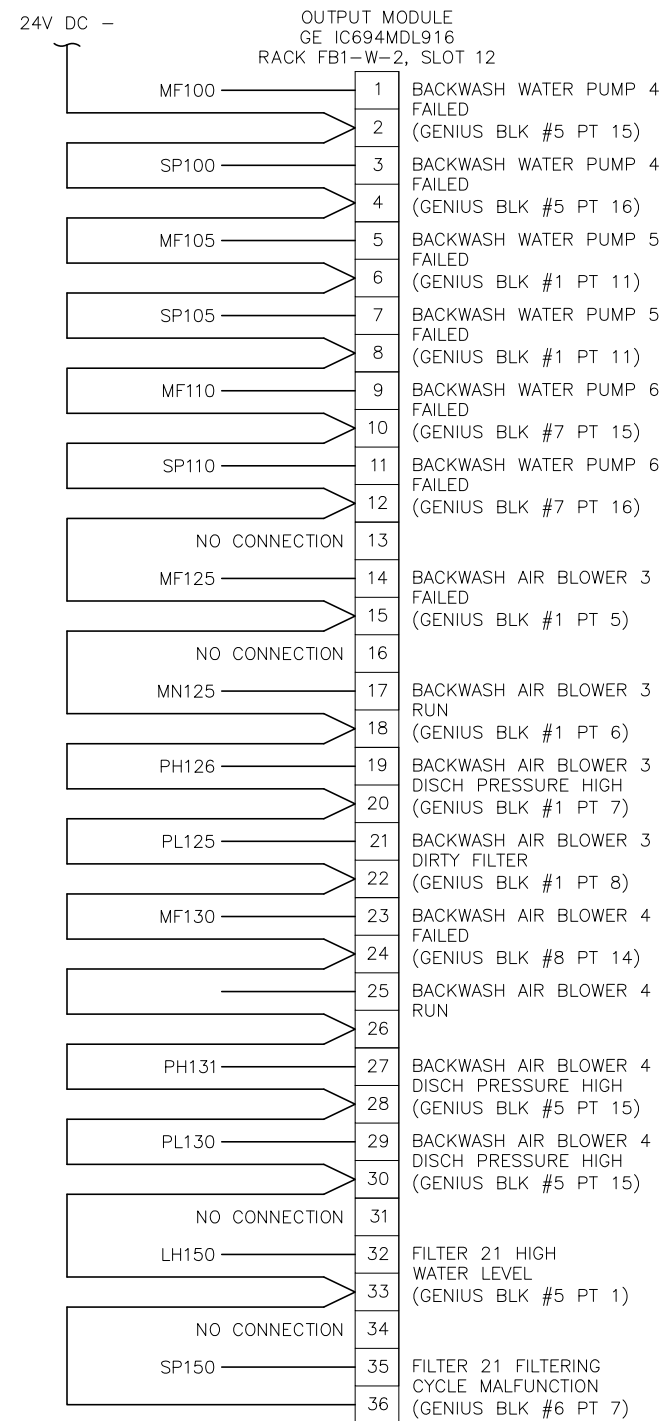
JOB No.	231901542								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE  
  
AS SHOWN

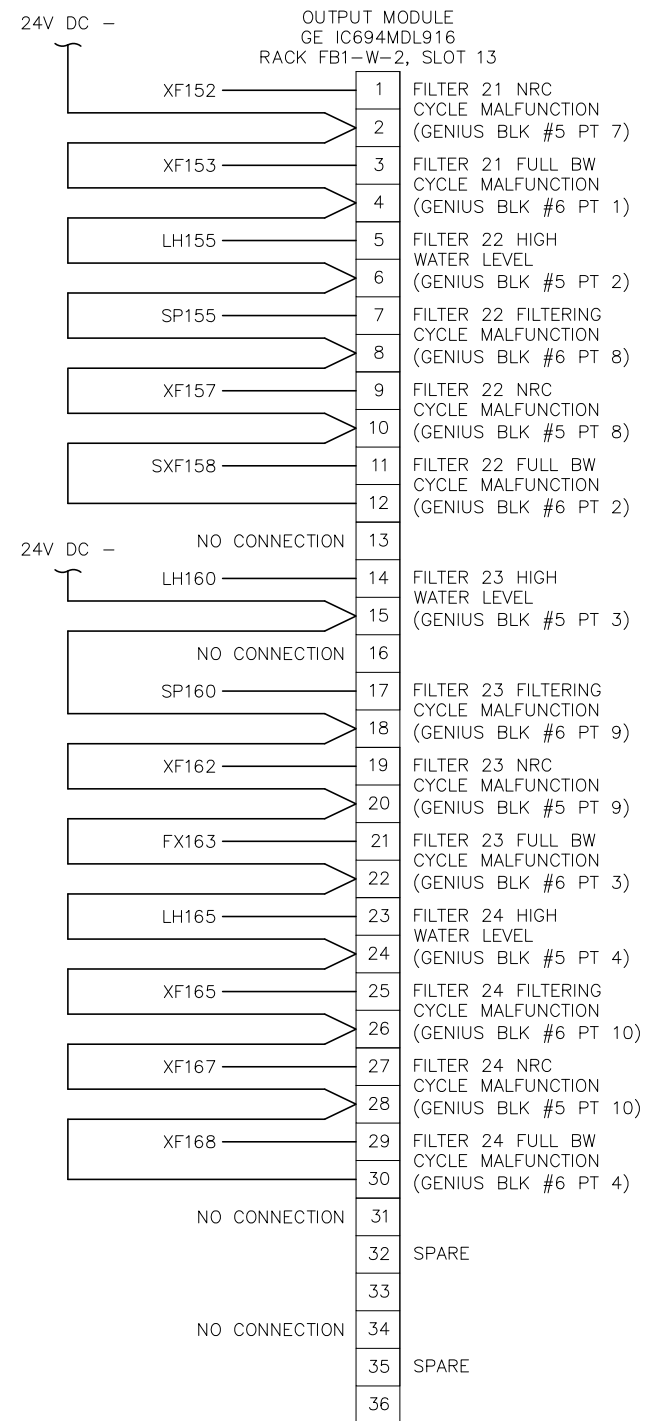
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 1  
WEST FILTER  
RELAY OUTPUT I/O**

SHEET NUMBER	E20
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 12



PLC RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 13



JOB No.	231901542								
DESIGNED	TDT								
DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE	
AS SHOWN	

City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 1  
WEST FILTER  
RELAY OUTPUT I/O

SHEET NUMBER	E21
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542

RACK FB1-E-1	
I/O MODULE:	CABLE:
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 4	FB1-E-1-4
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 5	FB1-E-1-5
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 6	FB1-E-1-6
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 7	FB1-E-1-7
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 8	FB1-E-1-8
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 9	FB1-E-1-9
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 10	FB1-E-1-10
16 POINT 120VAC INPUT MODULE RACK FB1-E-1, SLOT 11	FB1-E-1-11
16 POINT 24VDC INPUT MODULE RACK FB1-E-1, SLOT 15	FB1-E-1-15
16 POINT 24VDC INPUT MODULE RACK FB1-E-1, SLOT 16	FB1-E-1-16

RACK FB1-E-2	
I/O MODULE:	CABLE:
OUTPUT MODULE RACK FB1-E-2, SLOT 4	FB1-E-2-4
OUTPUT MODULE RACK FB1-E-2, SLOT 5	FB1-E-2-5
OUTPUT MODULE RACK FB1-E-2, SLOT 6	FB1-E-2-6
OUTPUT MODULE RACK FB1-E-2, SLOT 7	FB1-E-2-7
OUTPUT MODULE RACK FB1-E-2, SLOT 8	FB1-E-2-8
OUTPUT MODULE RACK FB1-E-2, SLOT 9	FB1-E-2-9
OUTPUT MODULE RACK FB1-E-2, SLOT 10	FB1-E-2-10
OUTPUT MODULE RACK FB1-E-2, SLOT 11	FB1-E-2-11

RACK FB1-W-1	
I/O MODULE:	CABLE:
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 4	FB1-W-1-4
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 5	FB1-W-1-5
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 6	FB1-W-1-6
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 7	FB1-W-1-7
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 8	FB1-W-1-8
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 9	FB1-W-1-9
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 10	FB1-W-1-10
16 POINT 120VAC INPUT MODULE RACK FB1-W-1, SLOT 11	FB1-W-1-11
16 POINT 24VDC INPUT MODULE RACK FB1-W-1, SLOT 15	FB1-E-1-15
16 POINT 24VDC INPUT MODULE RACK FB1-W-1, SLOT 16	FB1-E-1-16

RACK FB1-W-1	
I/O MODULE:	CABLE:
OUTPUT MODULE RACK FB1-W-2, SLOT 4	FB1-W-2-4
OUTPUT MODULE RACK FB1-W-2, SLOT 5	FB1-W-2-5
OUTPUT MODULE RACK FB1-W-2, SLOT 6	FB1-W-2-6
OUTPUT MODULE RACK FB1-W-2, SLOT 7	FB1-W-2-7
OUTPUT MODULE RACK FB1-W-2, SLOT 8	FB1-W-2-8
OUTPUT MODULE RACK FB1-W-2, SLOT 9	FB1-W-2-9
OUTPUT MODULE RACK FB1-W-2, SLOT 10	FB1-W-2-10
OUTPUT MODULE RACK FB1-W-2, SLOT 11	FB1-W-2-11
OUTPUT MODULE RACK FB1-W-2, SLOT 12	FB1-W-2-12
OUTPUT MODULE RACK FB1-W-2, SLOT 13	FB1-W-2-13



JOB No.	231901542								
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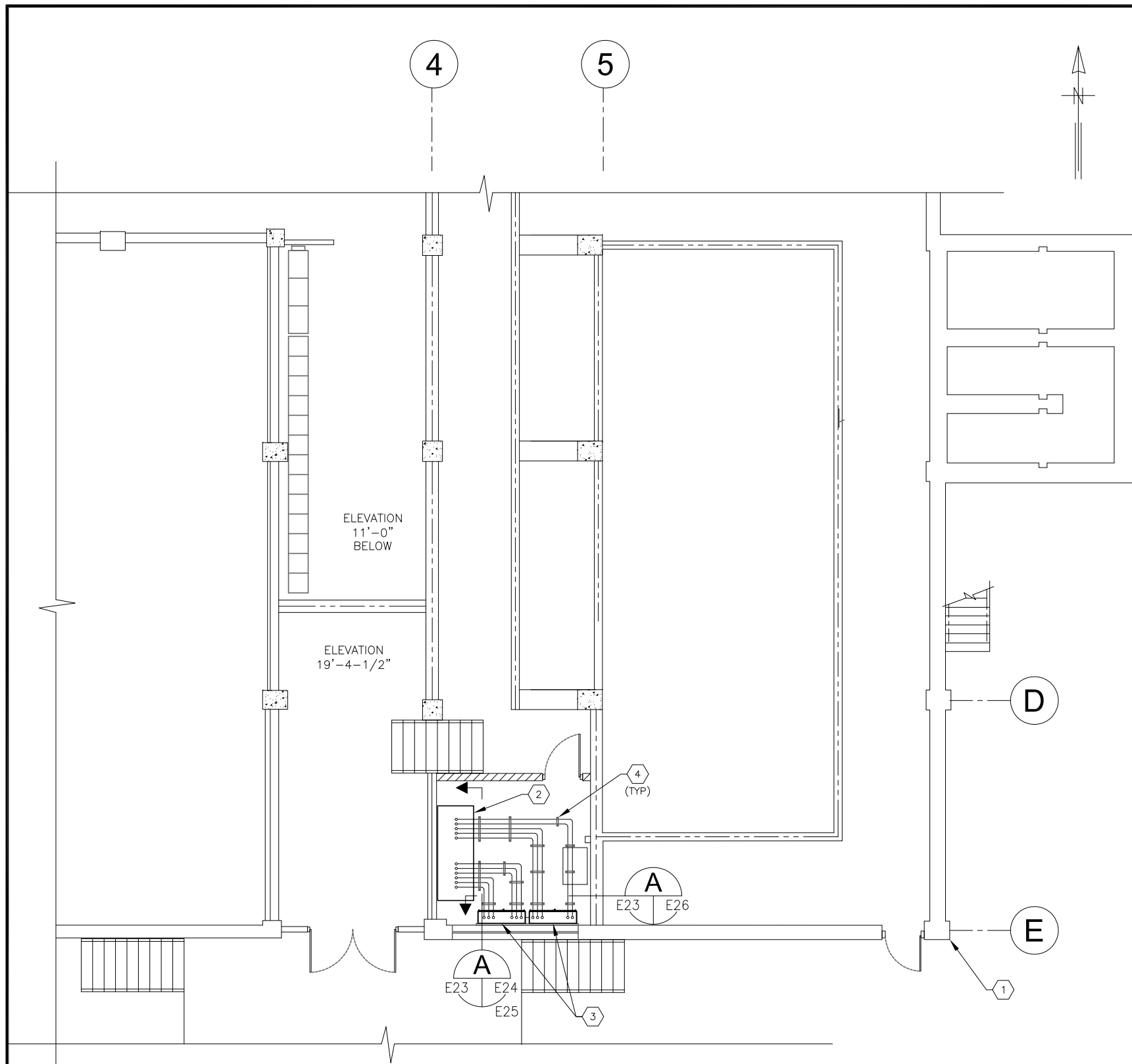
SCALE  
  
AS SHOWN

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 1  
PROPOSED CABLE SCHEDULE**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E22**  
FILE: 231901542



- KEYED NOTES:**
- ① FILTER BUILDING NO. 2 (047), EXISTING PLAN AT ELEVATION 26'-0".
  - ② EXISTING FILTER BUILDING No. 2 FILTER CONTROL PANEL. REFER TO ELEVATION AND DETAILS ON SHEETS E24 AND E25 FOR EXISTING CONDITIONS AND PROPOSED MODIFICATIONS.
  - ③ PROPOSED FILTER BUILDING No. 2 FILTER CONTROL PANELS. REFER TO WEST WALL ELEVATION ON SHEET E26.
  - ④ PROPOSED TRAPEZE HANGER. PROVIDE STAINLESS STEEL 1-5/8" X 1-5/8" UNISTRUT WITH 3/8" STAINLESS STEEL ALL THREAD AND STAINLESS STEEL HARDWARE.

- GENERAL NOTES:**
- 1. REFER TO SHEET E26 FOR FILTER CONTROL PANEL ELEVATIONS AND CONDUIT REQUIREMENTS.
  - 2. NOT ALL CONDUITS SHOWN FOR CLARITY. REFER ALSO TO SHEET E26.

**FILTER BUILDING NO.2 (047) : PLAN ELEVATION 26'-0"**  
 SCALE : 3/32" = 1'-0" A  
2 | E23

**TRICON**  
 CONSULTING ENGINEERS  
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 Suite 350  
 Tampa, FL 33602  
 813.227.9190  
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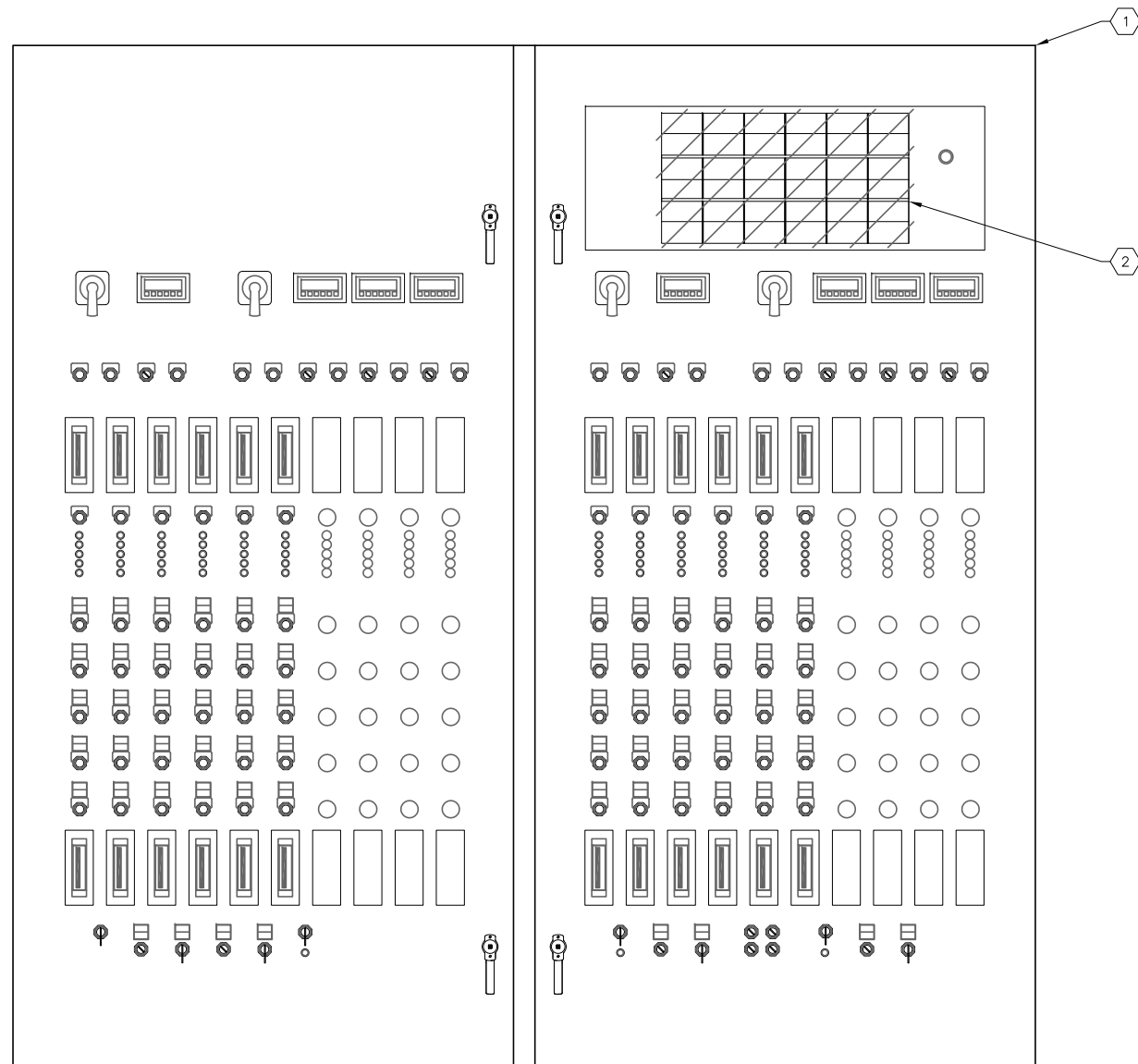
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DESIGNED	TDT						
DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE	AS SHOWN
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

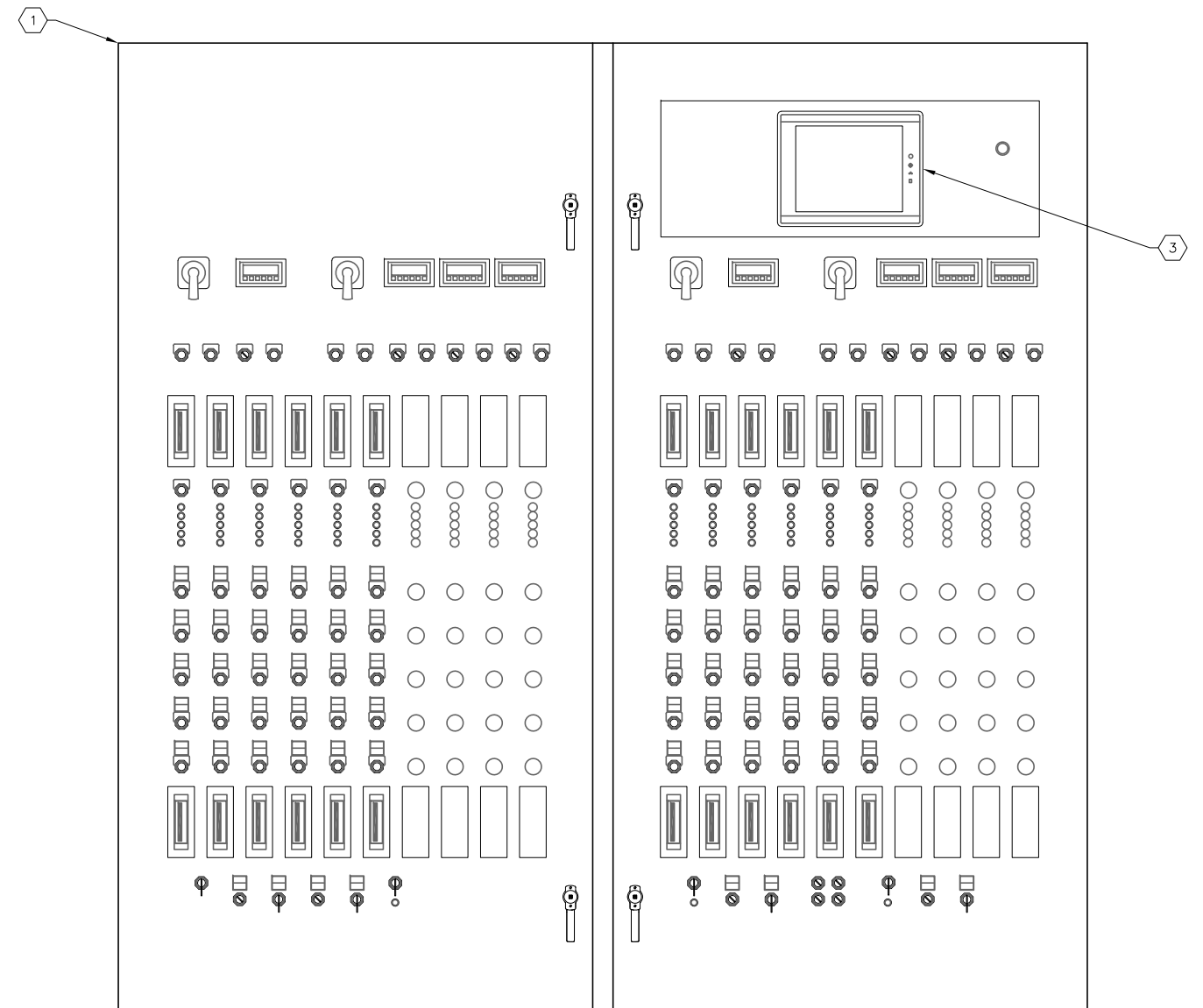
**FILTER BUILDING NO. 2 (047):**  
**PARTIAL PLAN - ELEV 26'-0"**

SHEET NUMBER	<b>E23</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



**FILTER BUILDING No. 2  
EXISTING FILTER CONTROL PANEL  
FRONT EXTERIOR ELEVATION**

SCALE: NOT TO SCALE



**FILTER BUILDING No. 2  
EXISTING FILTER CONTROL PANEL  
PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE LOCATED IN FILTER BUILDING No. 2.
- ② EXISTING ANNUNCIATOR PANEL TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES. CONTRACTOR SHALL REMOVE EXISTING ANNUNCIATOR PANEL. AFTER REMOVAL, THE CONTRACTOR SHALL PROVIDE AND INSTALL 1/4" ALUMINUM PLATE OVER EXISTING CUT-OUT. ALUMINUM PLATE SHALL HAVE AN APPROPRIATELY SIZED CUT-OUT TO ACCOMMODATE THE NEW MAPLE SYSTEMS HMI TO BE PROVIDED IN KEYED NOTE #3. PAINT ALUMINUM PLATE TO MATCH EXISTING SURFACE.
- ③ CONTRACTOR TO PROVIDE AND INSTALL NEW 15" HUMAN-MACHINE INTERFACE (HMI), MAPLE SYSTEMS #HMI5150P. HMI SHALL BE USED TO DISPLAY ALL STATUS AND ALARM INFORMATION - TOUCH SCREEN PROMPTS TO DISPLAY ADDITIONAL INFORMATION.



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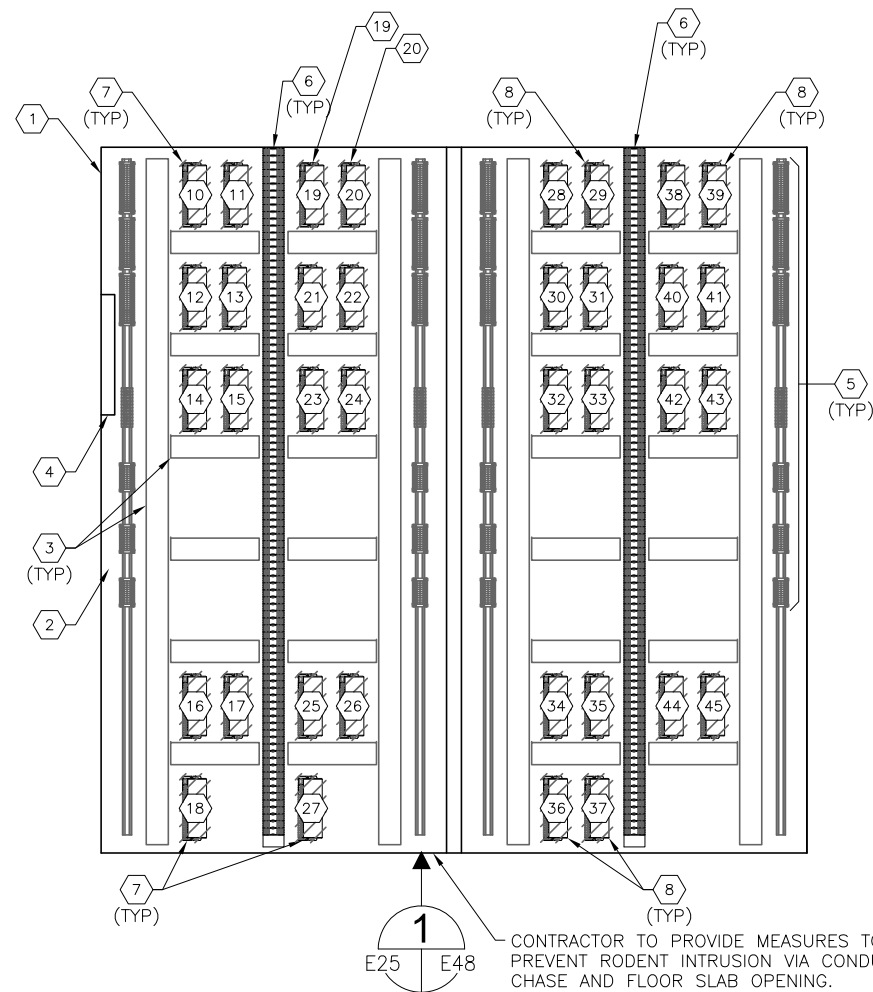
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWWP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING No. 2  
EXISTING FILTER PANEL  
EXTERIOR MODIFICATIONS**

TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542
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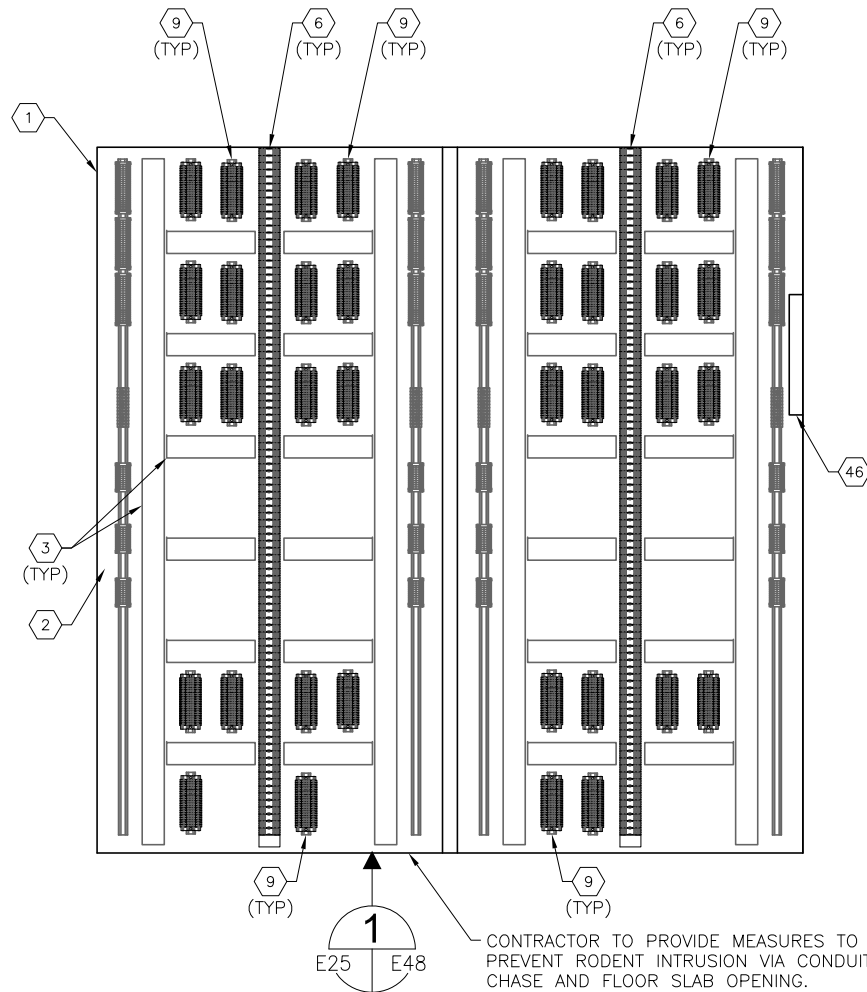
SHEET NUMBER  
**E24**



**FILTER BUILDING No. 2  
EXISTING FILTER CONTROL PANEL  
FRONT INTERIOR ELEVATION**

SCALE: NOT TO SCALE

A  
E23 | E25



**FILTER BUILDING No. 2  
EXISTING FILTER CONTROL PANEL  
PROPOSED MODIFICATIONS**

SCALE: NOT TO SCALE

A  
E23 | E25

**KEYED NOTES:**

- 1 FILTER BUILDING No. 2, EXISTING FILTER CONTROL PANEL SHOWN WITH DOORS OPEN.
- 2 EXISTING BACKPANEL TO REMAIN. NO WORK REQUIRED.
- 3 EXISTING PANDUIT TO REMAIN. NO WORK REQUIRED.
- 4 EXISTING 120V POWER PANEL (MOUNTED ON SIDE WALL OF ENCLOSURE) TO REMAIN. NO WORK REQUIRED.
- 5 EXISTING TERMINAL BLOCKS TO REMAIN. NO WORK REQUIRED.
- 6 EXISTING RELAYS TO REMAIN. NO WORK REQUIRED.
- 7 EXISTING EAST FILTERS GE GENIUS I/O BLOCK TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 8 EXISTING WEST FILTERS GE GENIUS I/O BLOCK TO BE REMOVED AND DELIVERED TO THE CITY OF TAMPA FOR INVENTORY PURPOSES.
- 9 PROVIDE AND INSTALL TWENTY (20) 600V DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-J3. TERMINAL BLOCKS TO SERVE AS POINT OF TERMINATION FOR FIELD WIRING. NEW CONDUCTORS SHALL BE INSTALLED FROM TERMINAL BLOCKS TO EXTEND FIELD DEVICE CONDUCTORS TO PROPOSED FILTER BUILDING No. 2 EAST OR WEST FILTER CONTROL CABINETS. REFER TO SHEETS E27 AND E36 FOR RESPECTIVE PROPOSED FILTER BUILDING No. 2 FILTER CONTROL CABINET ELEVATIONS AND DETAILS.
- 10 EAST BLK2 1001-1016 Q.
- 11 EAST BLK1 2081-2096 I.
- 12 EAST BLK6 1033-1048 Q.
- 13 EAST BLK5 1033-1048 I.
- 14 EAST BLK10 1065-1080 Q.
- 15 EAST BLK9 1065-1080 I.
- 16 EAST BLK14 3001-3016 I.
- 17 EAST BLK15 3017-3032 I.
- 18 EAST BLK28 1177-1192 Q.
- 19 EAST BLK3 1017-1032 I.
- 20 EAST BLK4 1017-1032 Q.
- 21 EAST BLK7 1049-1064 I.
- 22 EAST BLK8 1049-1064 Q.
- 23 EAST BLK11 1081-1096 I.
- 24 EAST BLK12 1081-1096 Q.
- 25 EAST BLK25 1161-1176 I.
- 26 EAST BLK27 1161-1176 Q.
- 27 EAST BLK26 1177-1192 I.
- 28 WEST BLK2 7001-7016 Q.
- 29 WEST BLK1 7001-7016 I.
- 30 WEST BLK6 7033-7048 Q.
- 31 WEST BLK5 7033-7048 I.
- 32 WEST BLK10 7065-7080 Q.
- 33 WEST BLK9 7065-7080 I.
- 34 WEST BLK27 7161-7176 Q.
- 35 WEST BLK25 7161-7176 I.
- 36 WEST BLK28 7177-7192 Q.
- 37 WEST BLK17 3049-3064 I.
- 38 WEST BLK3 7017-7132 I.
- 39 WEST BLK4 7017-7032 Q.
- 40 WEST BLK7 7049-7064 I.
- 41 WEST BLK8 7049-7064 Q.
- 42 WEST BLK11 7081-7096 I.
- 43 WEST BLK12 7081-7096 Q.
- 44 WEST BLK16 3033-3048 I.
- 45 WEST BLK26 7177-7192 I.
- 46 EXISTING 120V POWER PANEL (MOUNTED ON SIDE WALL OF ENCLOSURE) TO REMAIN. CONTRACTOR TO UTILIZE EXISTING SPARE CIRCUIT BREAKERS 21 AND 22 FOR NEW EAST FILTER CONTROL PANEL AND WEST FILTER CONTROL PANEL 120V AC POWER. CONTRACTOR TO FIELD VERIFY THAT CIRCUITS ARE PWERED VIA UPS UNIT.

**GENERAL NOTES:**

1. PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
2. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED.
3. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.
4. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHCI10E.



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CHECKED	TDT								
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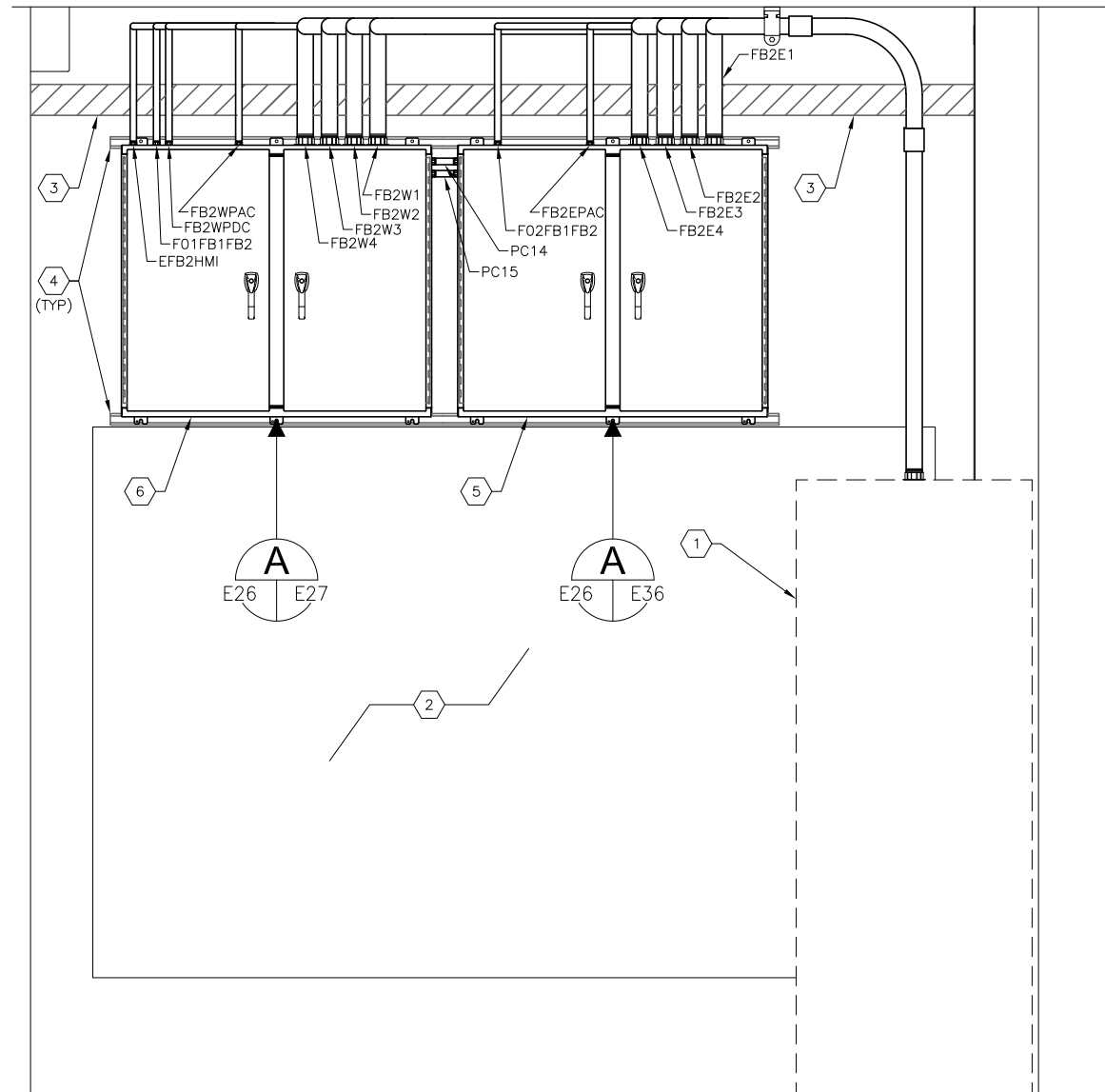
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NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING No. 2  
EXISTING FILTER PANEL  
INTERIOR MODIFICATIONS**

SHEET NUMBER	E25
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



- KEYED NOTES:**
- 1 EXISTING FILTER BUILDING No. 2 FILTER CONTROL PANEL. REFER TO ELEVATION AND DETAILS ON SHEETS E24 AND E25 FOR EXISTING CONDITIONS AND PROPOSED MODIFICATIONS.
  - 2 EXISTING WEST WALL WINDOW. NO WORK REQUIRED.
  - 3 EXISTING CONDUIT AND CABLE INSTALLED IN THIS AREA.
  - 4 PROVIDE AND INSTALL 1-5/8" X 1-5/8" STAINLESS STEEL UNISTRUT.
  - 5 PROPOSED FILTER BUILDING No. 2 EAST FILTER CONTROL PANEL. REFER TO ELEVATION AND DETAILS ON SHEETS E27.
  - 6 PROPOSED FILTER BUILDING No. 2 WEST FILTER CONTROL PANEL. REFER TO ELEVATION AND DETAILS ON SHEETS E36.

**FILTER BUILDING NO.2 (047) : PLAN ELEVATION 26'-0"** A  
 SCALE : 3/32" = 1'-0" E23 | E26



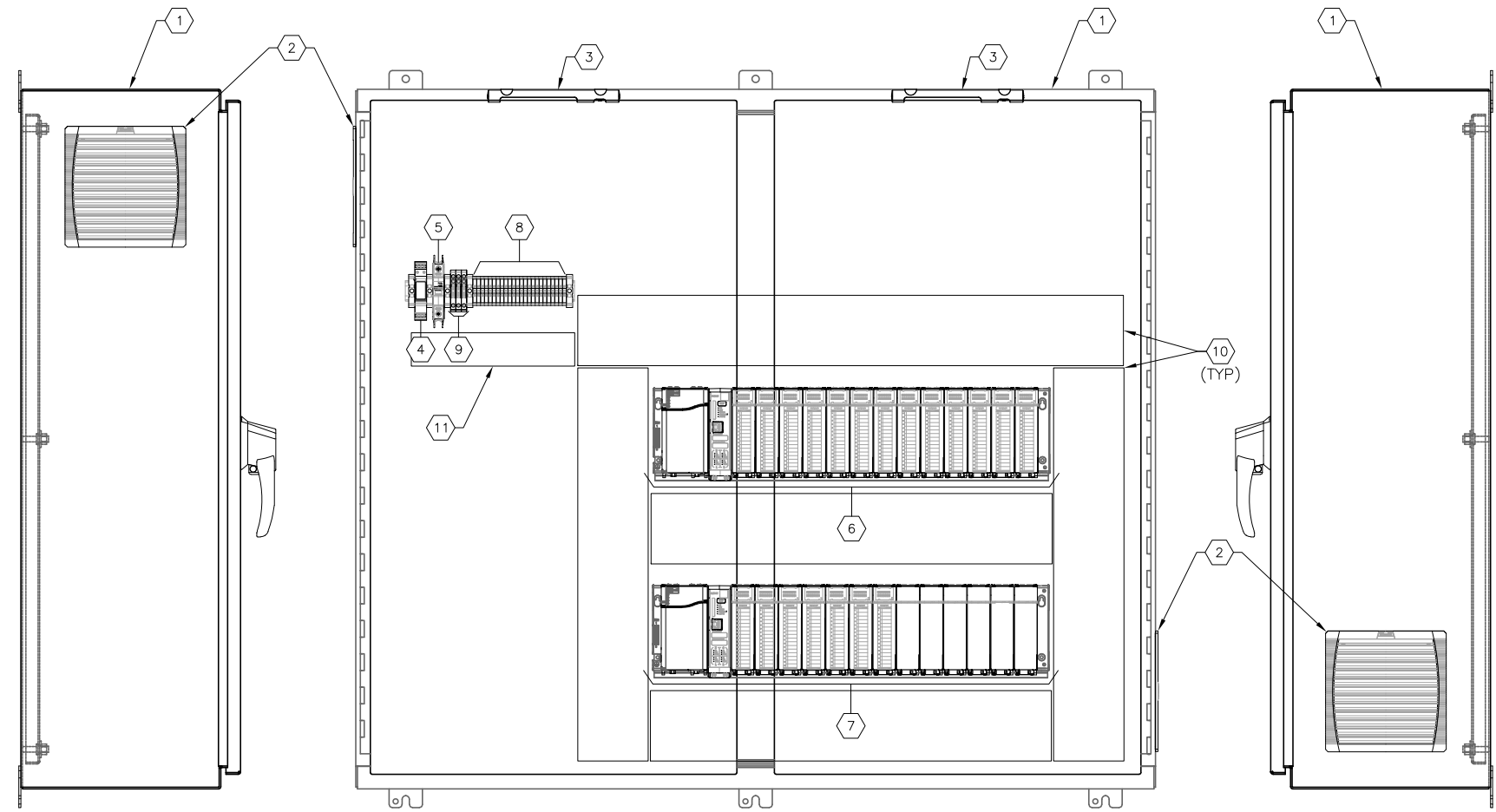
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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE  
AS SHOWN

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

**FILTER BUILDING NO. 2**  
**FILTER CONTROL PANELS**  
**WEST WALL ELEVATION**

SHEET NUMBER	<b>E26</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



**LEFT SIDE ELEVATION**

**PROPOSED FILTER BUILDING No. 2 EAST FILTER CONTROL PANEL INTERIOR ELEVATION**

**RIGHT SIDE ELEVATION**

**A**  
E26 | E27

NOTE: ELEVATION SHOWN WITH DOORS OPEN

**KEYED NOTES:**

- 1 PROPOSED EAST FILTER CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 2. PROVIDE AND INSTALL 42" X 48" X 24" NEMA 4X STAINLESS STEEL ENCLOSURE WITH CONTINUOUS HINGE DOOR, DOOR STOP KITS, 3-POINT LATCH AND REMOVABLE CENTER POST. HAMMOND PART NUMBER HN4WM424812S16.
- 2 PROVIDE AND INSTALL PANEL EXHAUST FILTER PFANNENBERG PART #PFA 6000-11740004055.
- 3 PROVIDE AND INSTALL 120V, 5W LED CABINET LIGHT WITH TOGGLE SWITCH. HOFFMAN CAT # LEDA1S35. PROVIDE BRACKET TO MOUNT FIXTURE TO BACKPANEL.
- 4 PROVIDE AND INSTALL 120V SURGE PROTECTION DEVICE. PHOENIX CONTACT 2907918 WITH PHOENIX CONTACT 2907924 BASE.
- 5 PROVIDE AND INSTALL 120V, 15A SINGLE-POLE CIRCUIT BREAKER. CIRCUIT BREAKER SHALL BE ALLEN BRADLEY TYPE 1489M.
- 6 PROVIDE AND INSTALL NEW FILTER CONTROL PANEL EAST RACK 'FB2-E-1'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; ELEVEN (11) 120 VAC INPUT MODULES, GE IC694MDL250; TWO (2) 24VDC INPUT MODULES, GE IC694MDL241; ONE (1) BLANK FILLER MODULE, GE IC694ACC310.
- 7 PROVIDE AND INSTALL NEW FILTER CONTROL PANEL EAST RACK 'FB2-E-2'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; SEVEN (7) RELAY OUTPUT MODULES, GE IC694MDL916; SIX (6) BLANK FILLER MODULES, GE IC694ACC310.
- 8 PROVIDE AND INSTALL NEW TERMINAL BLOCKS. PHOENIX CONTACT #3044102.
- 9 PROVIDE AND INSTALL 120V, THERMAL CIRCUIT BREAKERS. REFER SHEET E28 FOR QUANTITY/AMPERAGE. ALL THERMAL CIRCUIT BREAKERS SHALL BE PHOENIX CONTACT TCP TYPE. PROVIDE EACH BREAKER WITH SCREW TYPE CONNECTION, FUSE BASE TERMINAL BLOCK, PHOENIX CONTACT TYPE UK 6-FSI/C.
- 10 PROVIDE AND INSTALL NEW 4" X 4" PANDUIT.
- 11 PROVIDE AND INSTALL NEW 2" X 4" PANDUIT.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
- 2. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 3. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.
- 4. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHCI10E.



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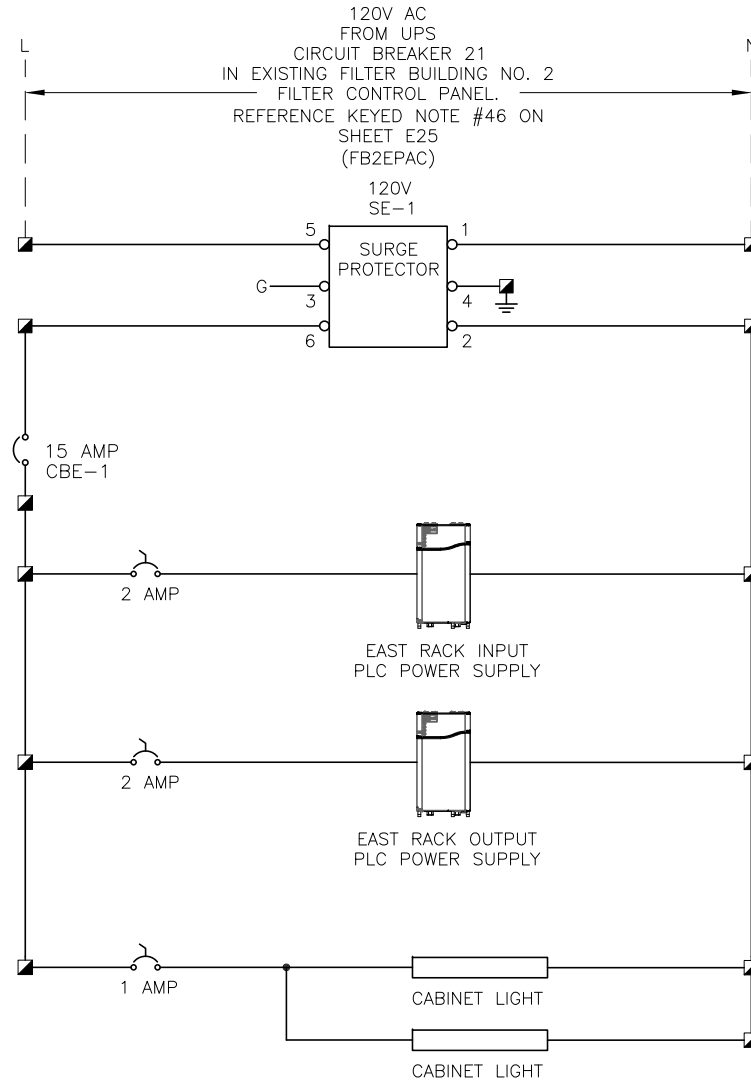
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 2  
EAST FILTER CONTROL PANEL  
ELEVATIONS**

SHEET NUMBER	<b>E27</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542





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HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

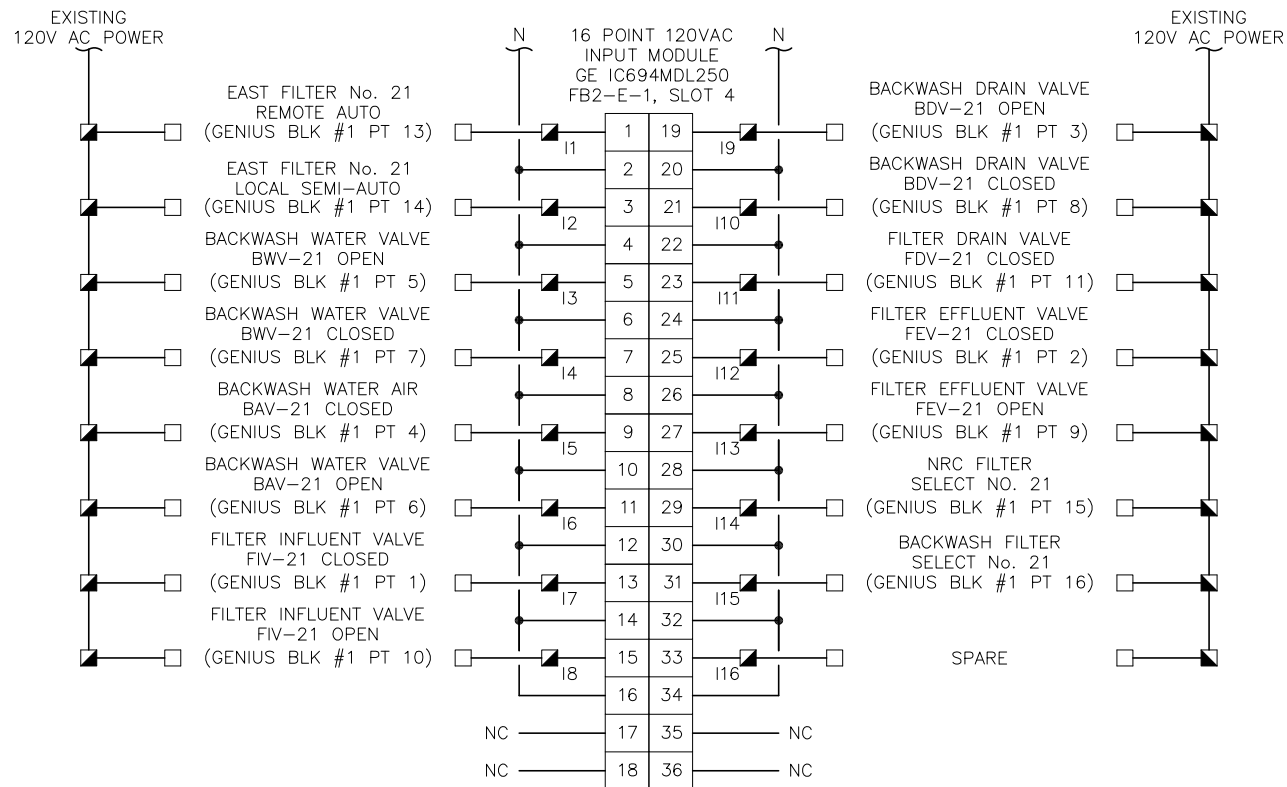
FILTER BUILDING No. 2  
EAST FILTER CONTROL PANEL  
POWER WIRING DIAGRAM

TIMOTHY THOMAS, P.E. No. 47079

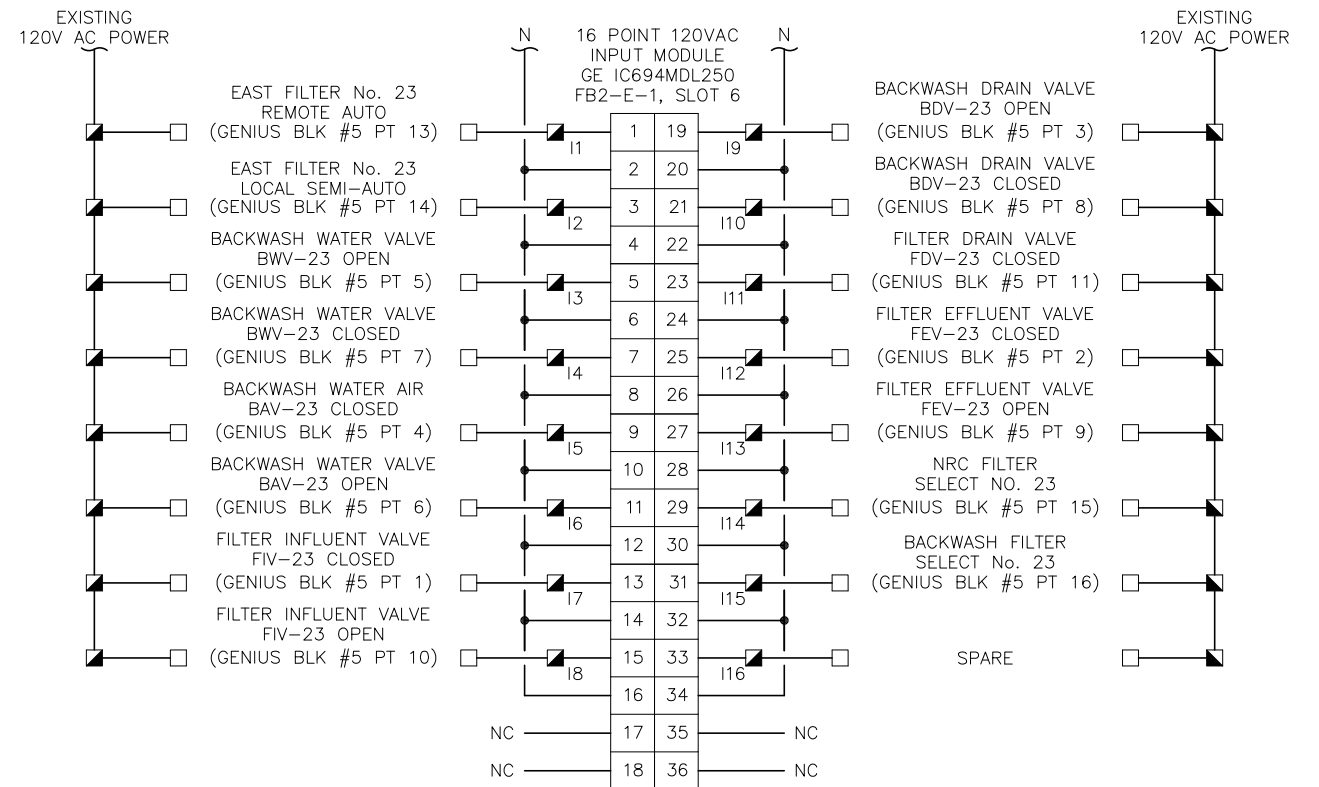
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E28

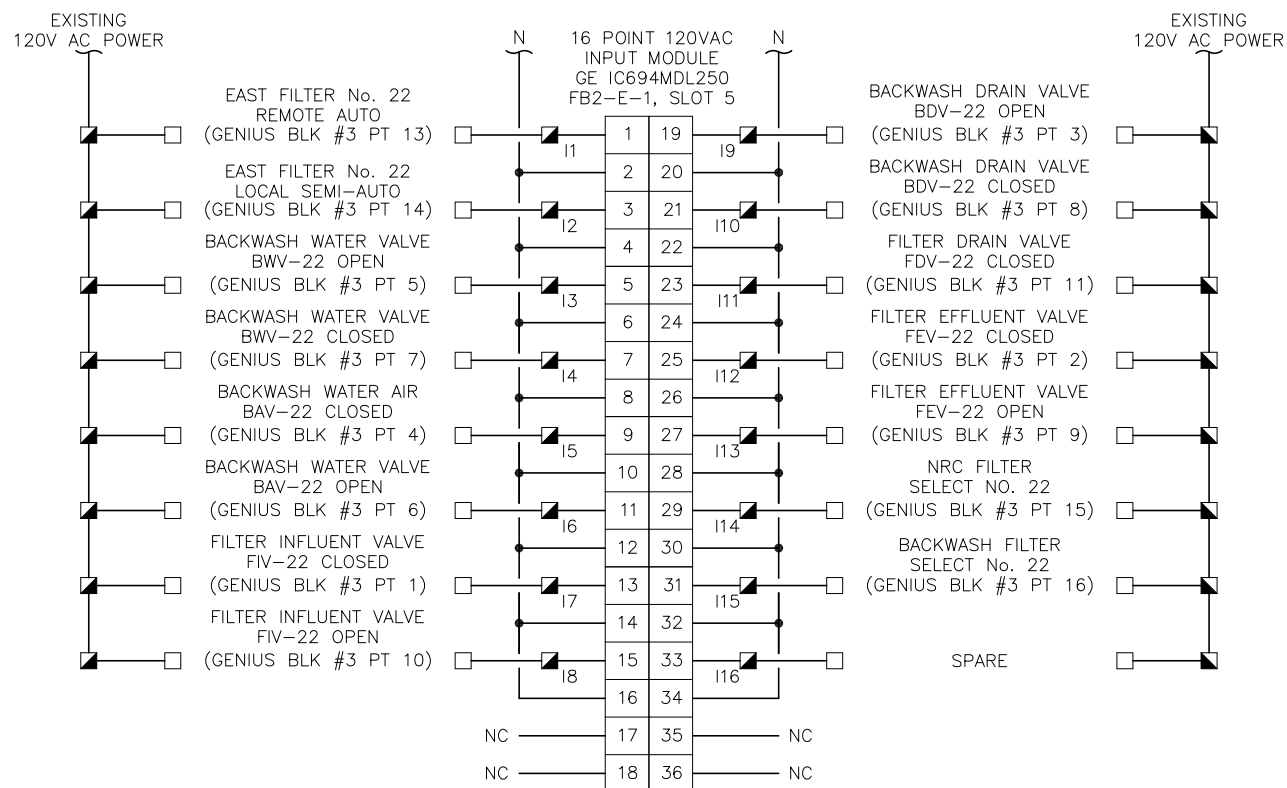
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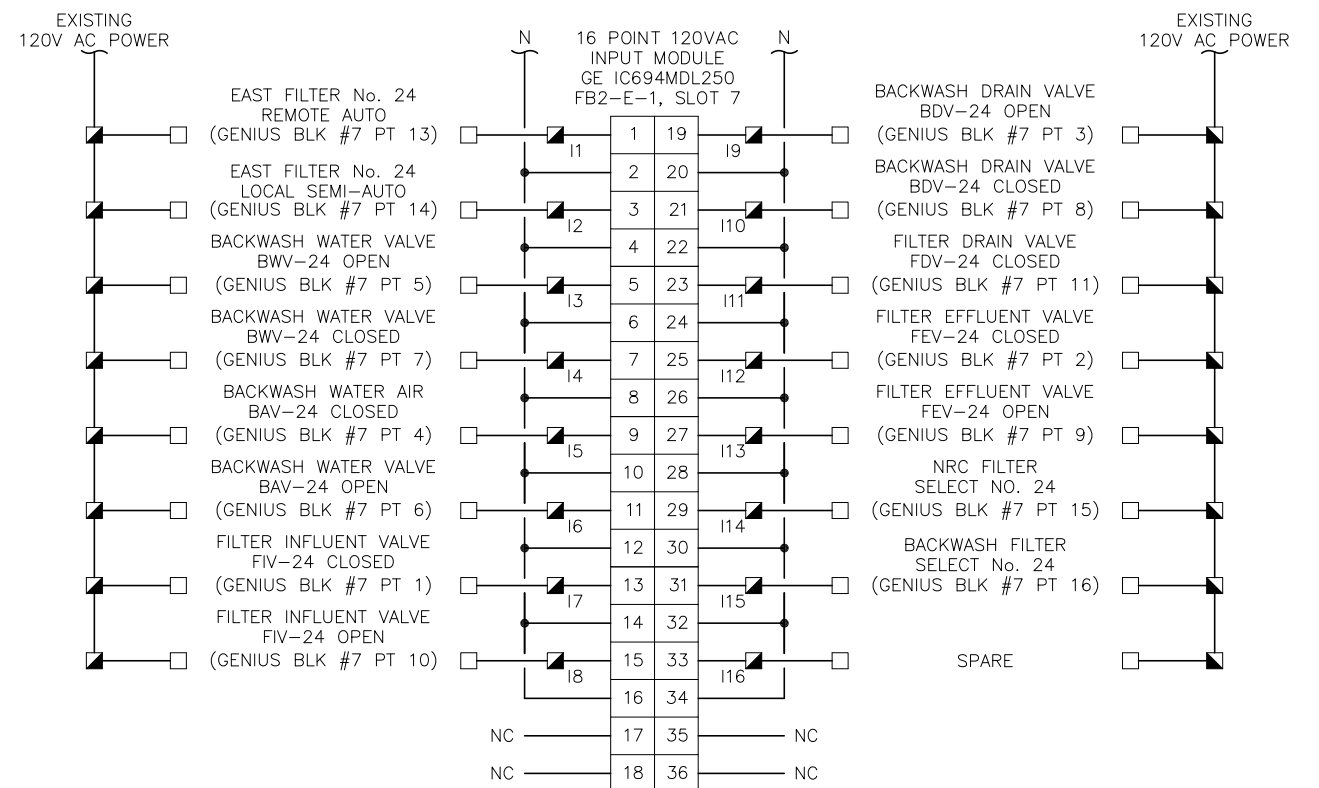
FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 4



FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 6



FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 5



FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 7



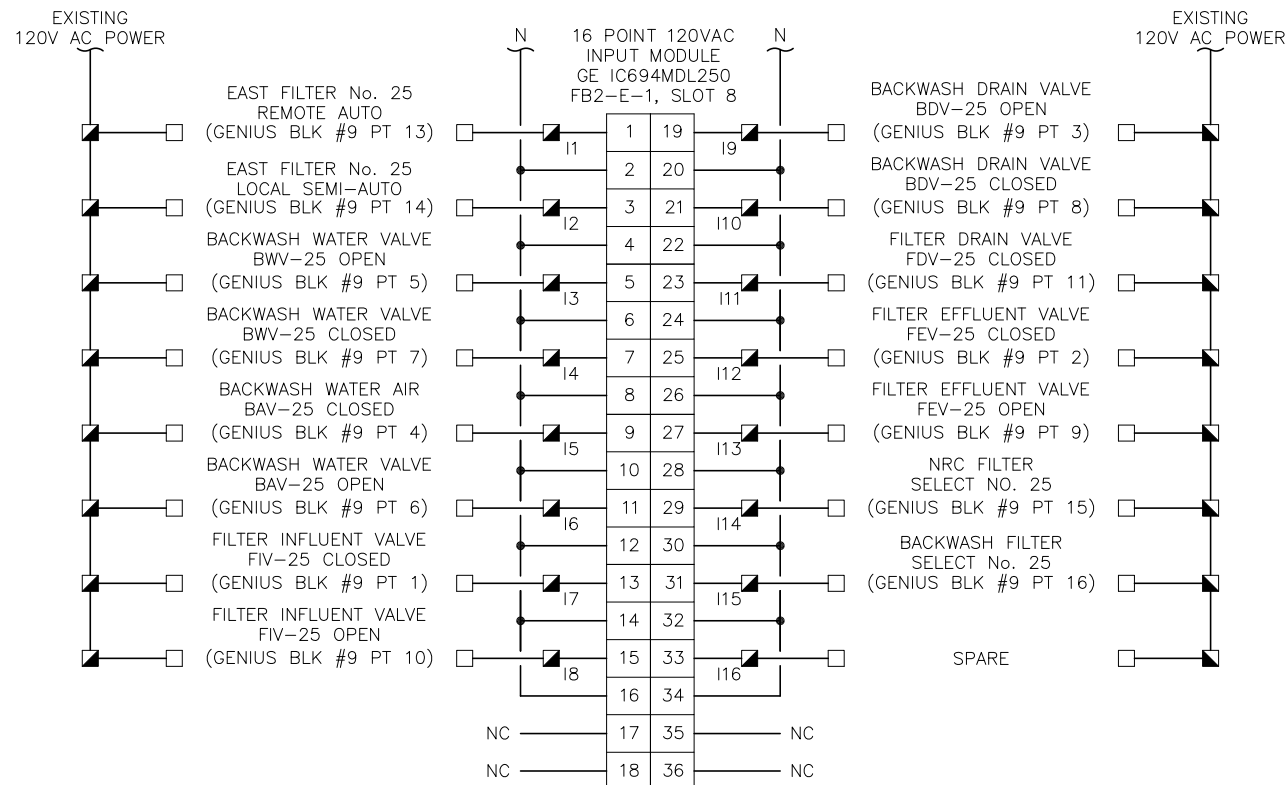
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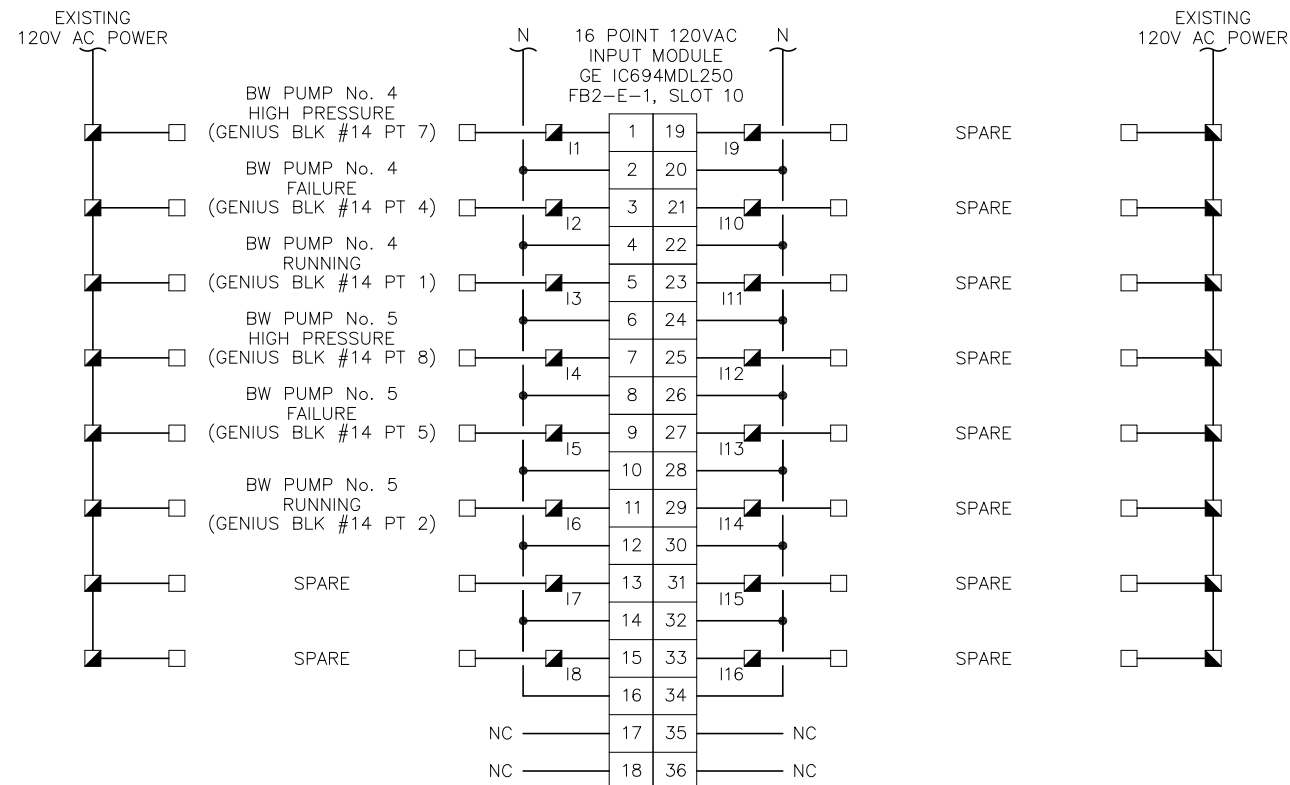
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HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 2  
EAST FILTER  
DISCRETE INPUT I/O

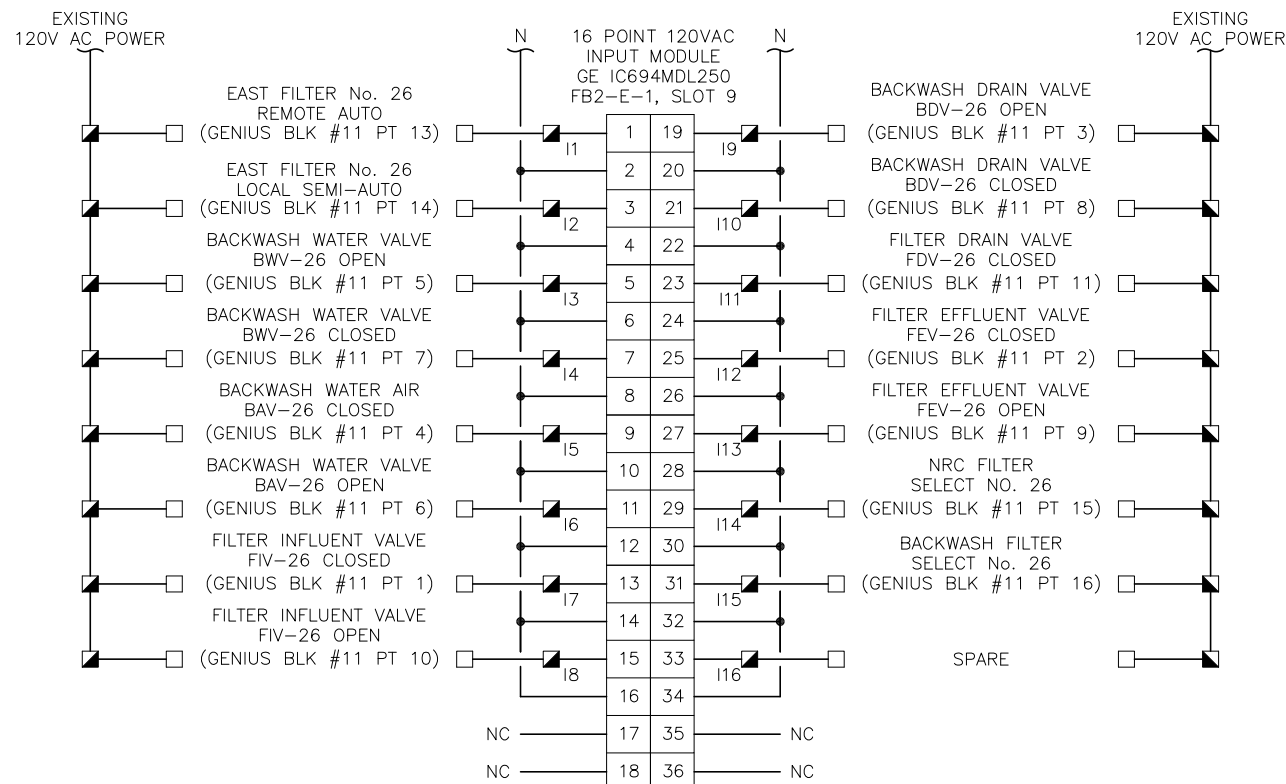
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TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



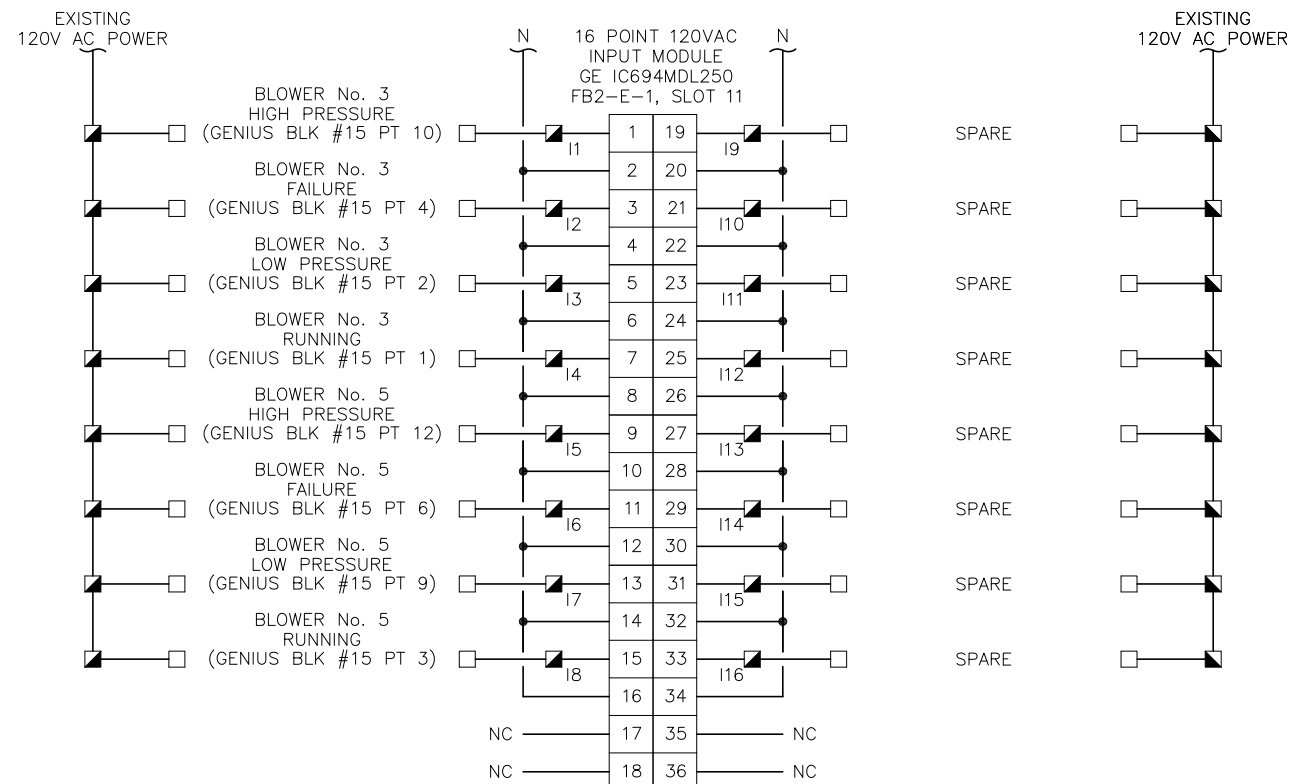
FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 8



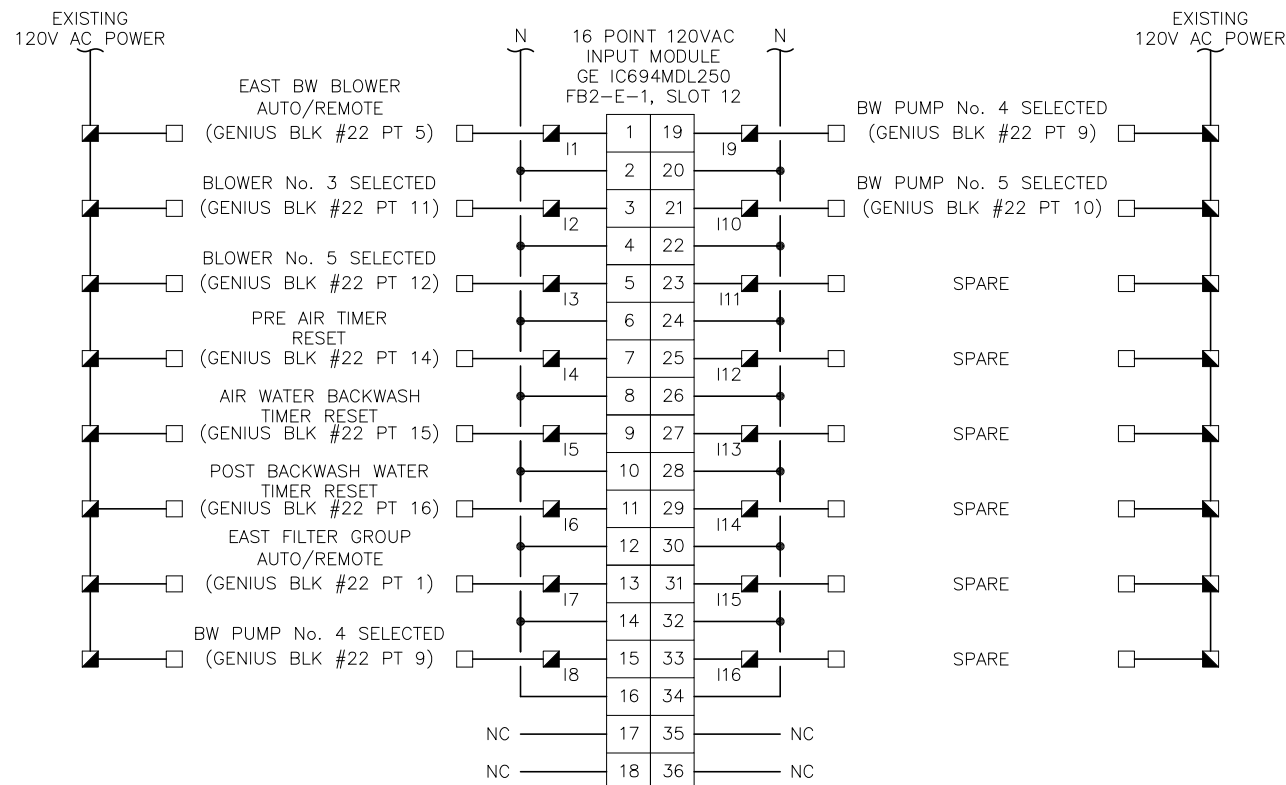
FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 10



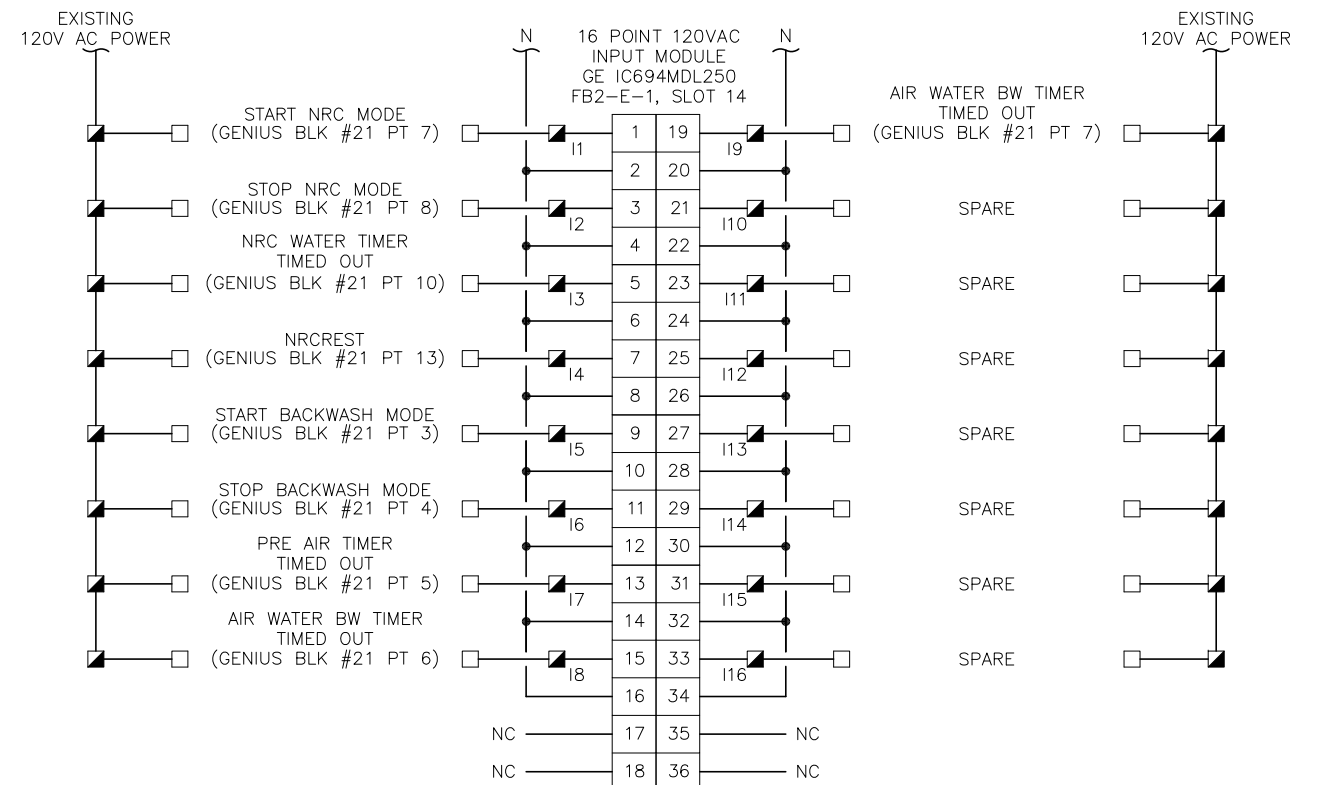
FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 9



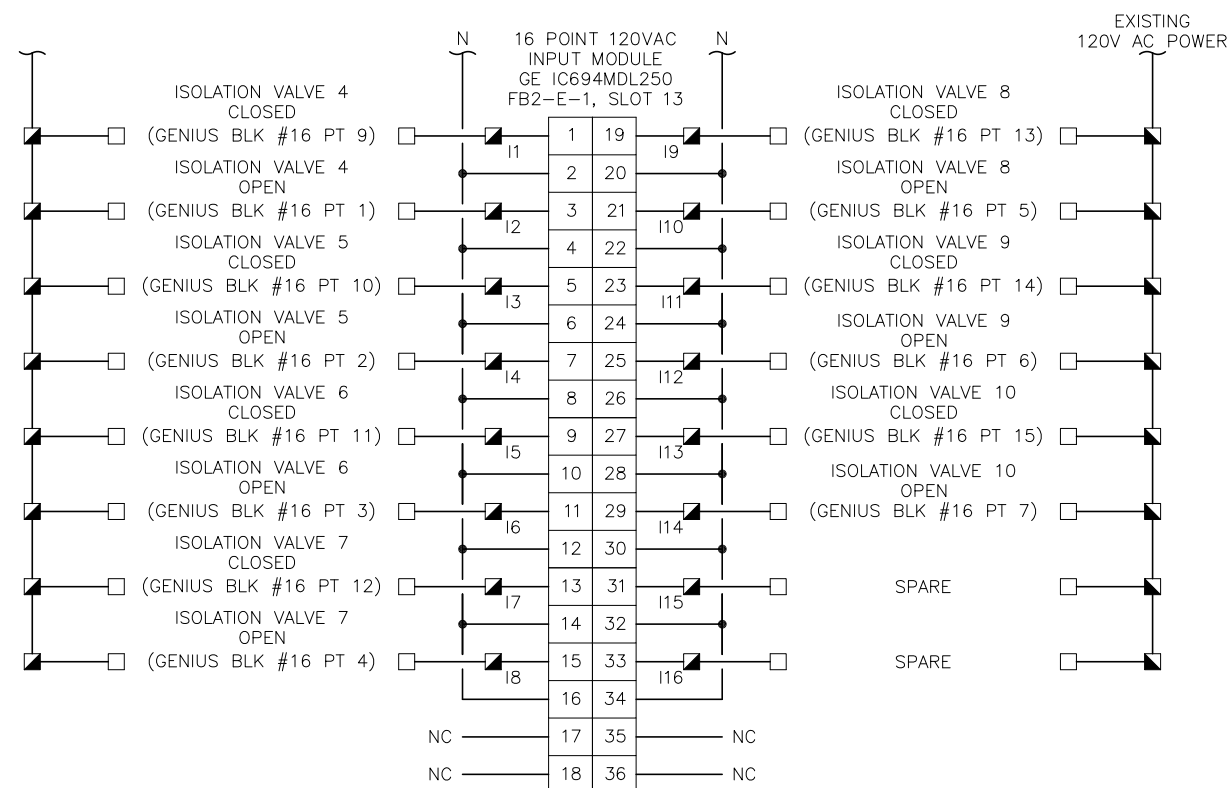
FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 11



**FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 12**



**FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 14**



**FB2-E-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 13**



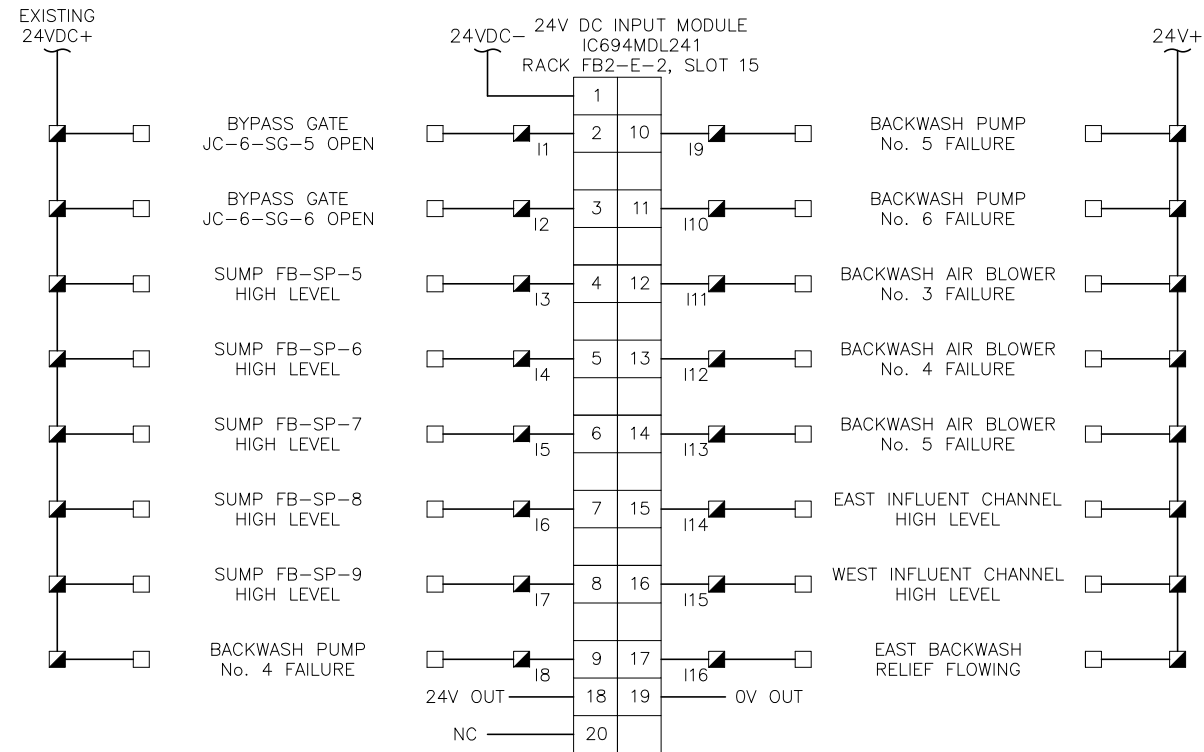
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

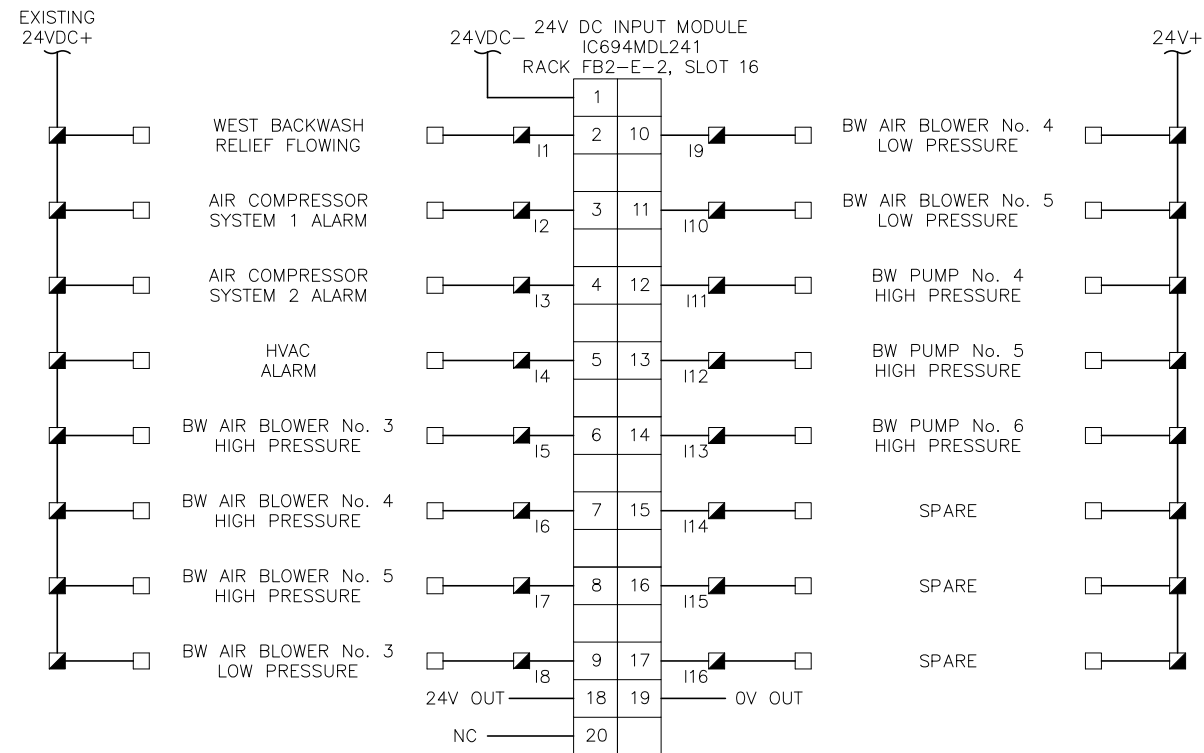
**FILTER BUILDING NO. 2  
EAST FILTER  
DISCRETE INPUT I/O**

SHEET NUMBER	E31
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



NOTE:  
INPUTS SHOWN ON THIS SHEET REPRESENT EXISTING ANNUNCIATOR INPUTS. AS THE EXISTING ANNUNCIATOR WILL BE REPLACED, THESE INPUTS WILL BE REQUIRED TO BE INTEGRATED INTO THE SCADA SYSTEM.

PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 15



PLC DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 16



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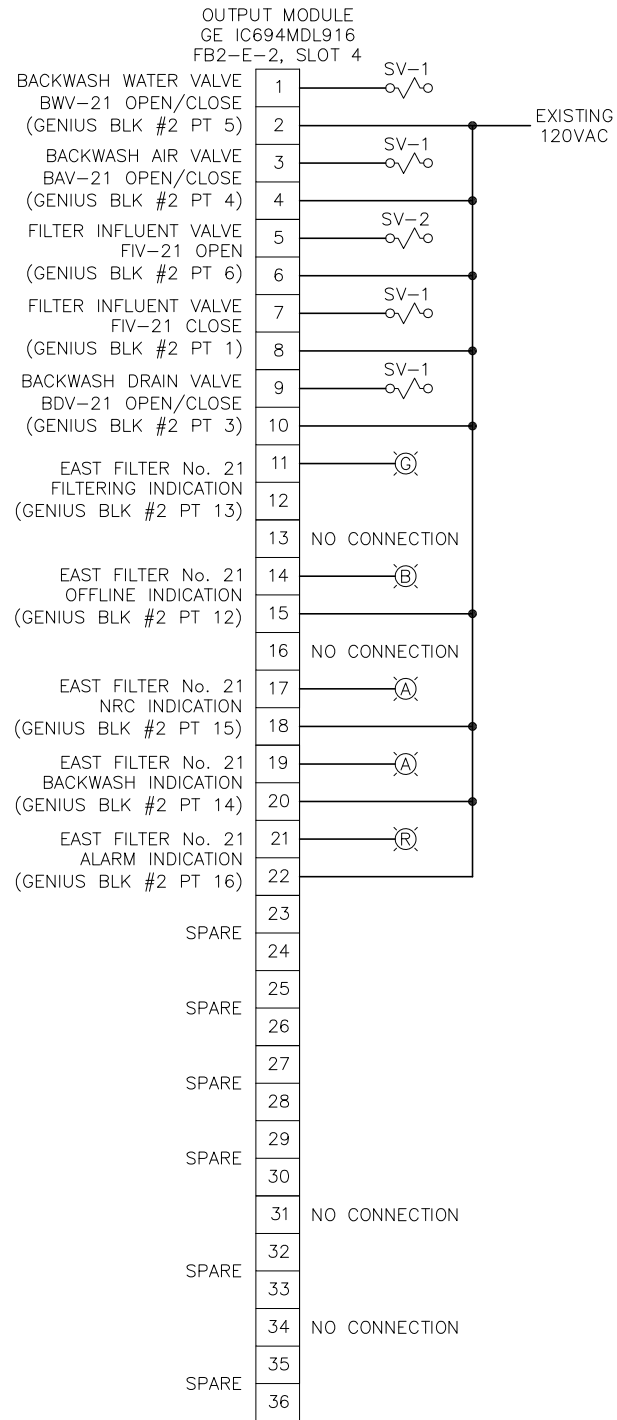
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City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

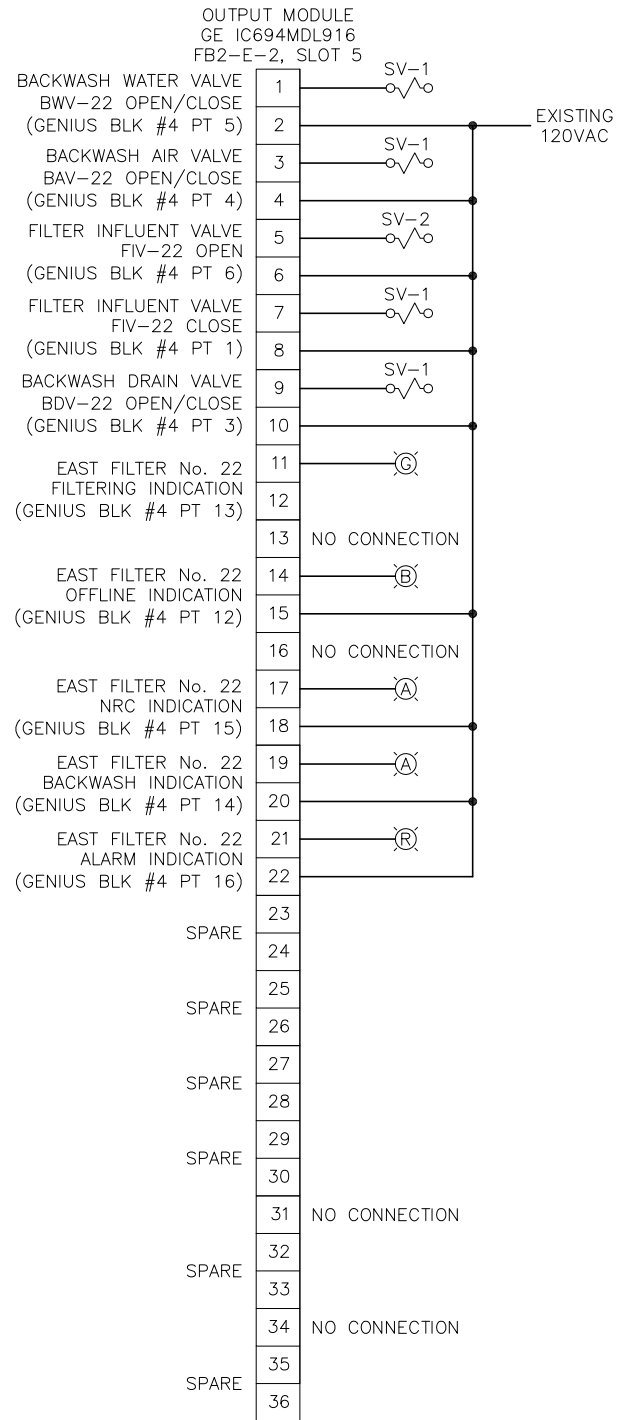
FILTER BUILDING NO. 2  
EAST FILTER  
DISCRETE INPUT I/O

TIMOTHY THOMAS, P.E. No. 47079

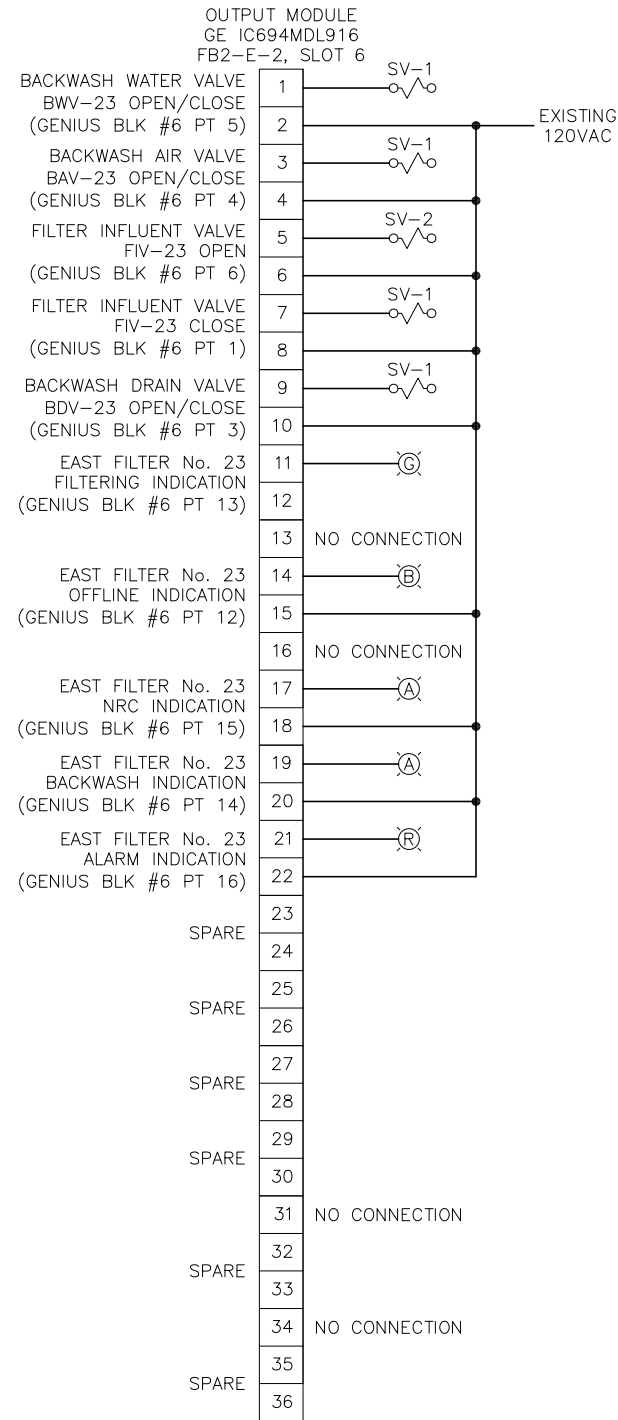
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E32  
FILE: 231901542



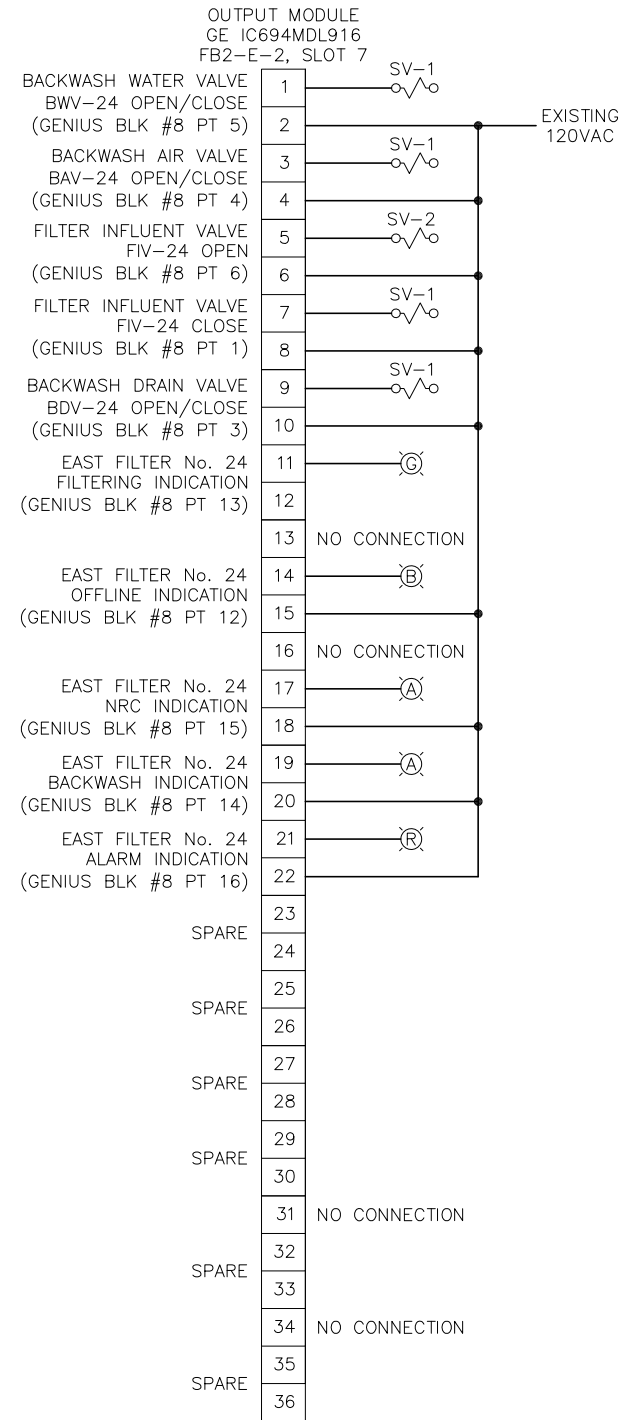
**FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 4**



**FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 5**



**FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 6**



**FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 7**



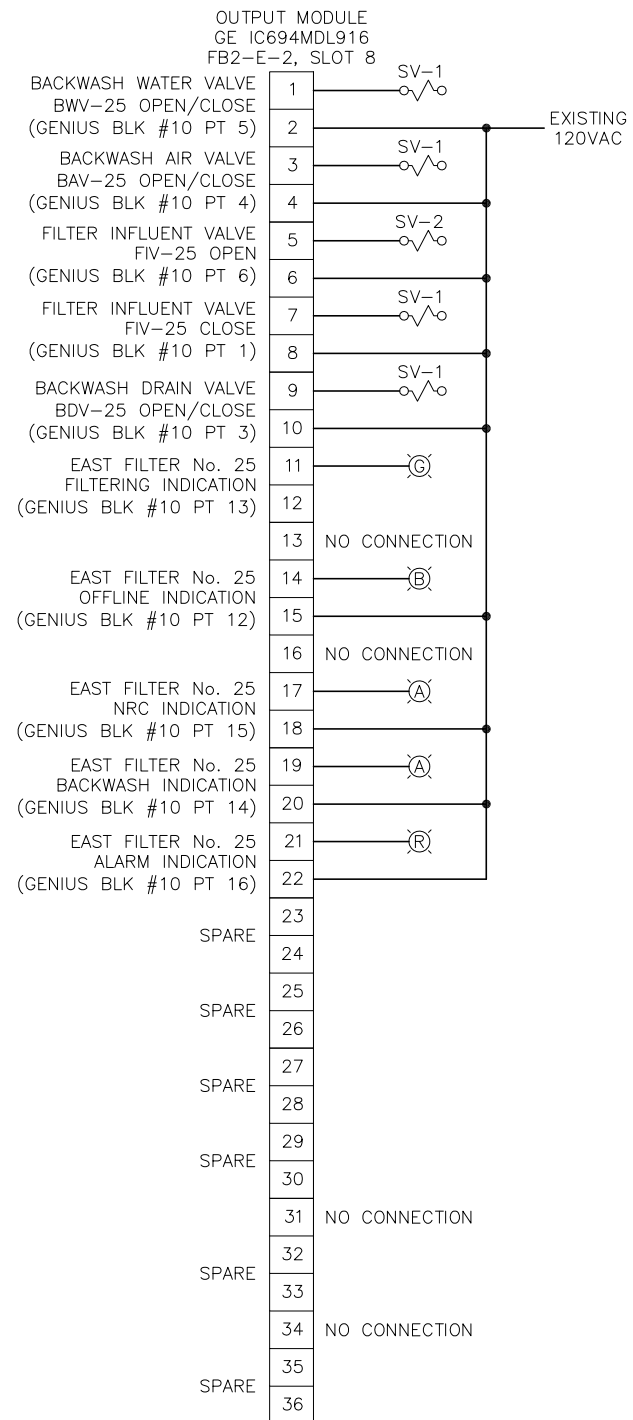
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DESIGNED	TDT							
DRAWN	JLH							
CHECKED	TDT							
DATE	1/2021	No.		DATE	BY	APP	REVISION	DESCRIPTION

SCALE	
AS SHOWN	

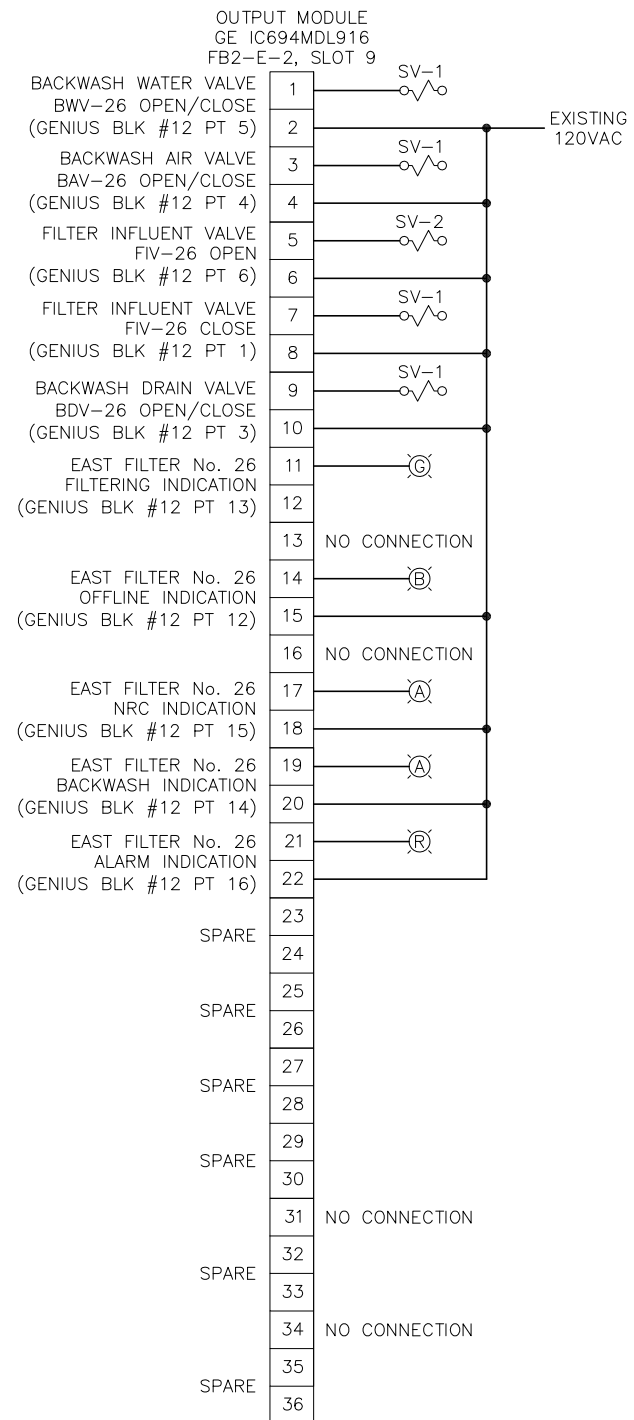
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 2  
EAST FILTER  
RELAY OUTPUT I/O**

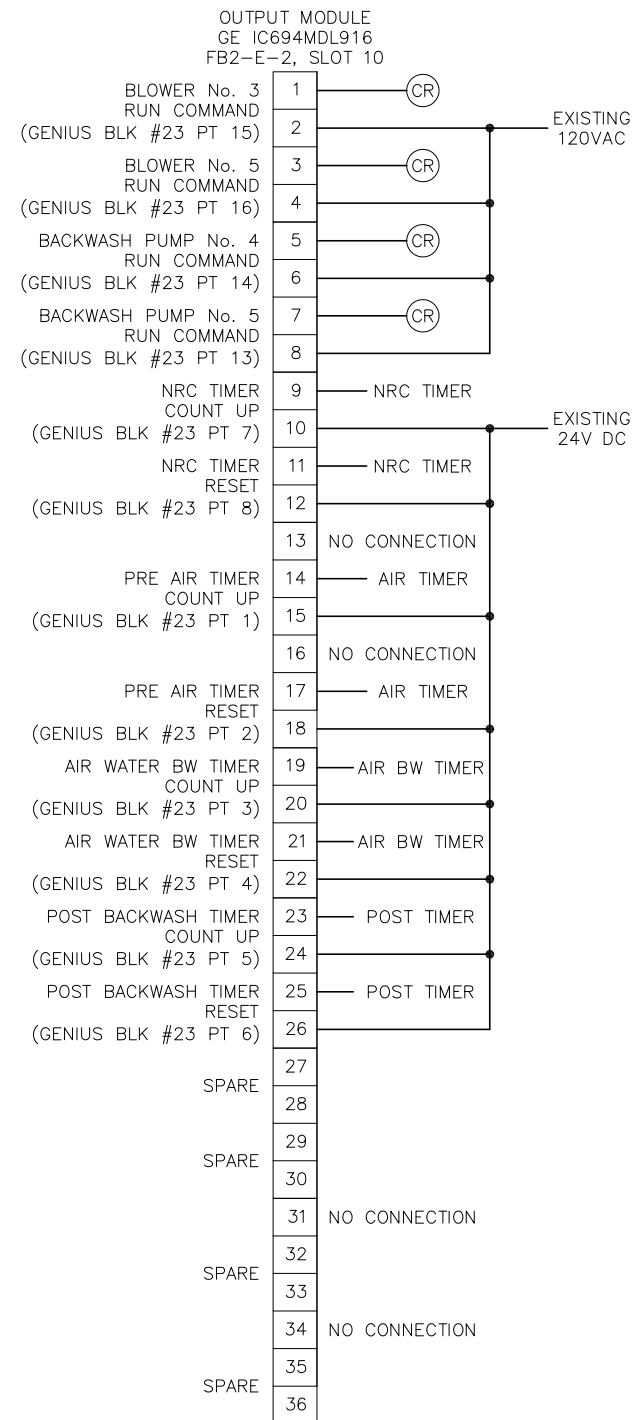
SHEET NUMBER	E33
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 8



FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 9



FB2-E-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 10

RACK FB2-E-1	
I/O MODULE:	CABLE:
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 4	FB2-E-1-4
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 5	FB2-E-1-5
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 6	FB2-E-1-6
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 7	FB2-E-1-7
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 8	FB2-E-1-8
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 9	FB2-E-1-9
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 10	FB2-E-1-10
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 11	FB2-E-1-11
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 11	FB2-E-1-12
16 POINT 120VAC INPUT MODULE RACK FB2-E-1, SLOT 11	FB2-E-1-13
16 POINT 24VDC INPUT MODULE RACK FB2-E-1, SLOT 15	FB2-E-1-15
16 POINT 24VDC INPUT MODULE RACK FB2-E-1, SLOT 16	FB2-E-1-16

RACK FB2-E-2	
I/O MODULE:	CABLE:
OUTPUT MODULE RACK FB2-E-2, SLOT 4	FB2-E-2-4
OUTPUT MODULE RACK FB2-E-2, SLOT 5	FB2-E-2-5
OUTPUT MODULE RACK FB2-E-2, SLOT 6	FB2-E-2-6
OUTPUT MODULE RACK FB2-E-2, SLOT 7	FB2-E-2-7
OUTPUT MODULE RACK FB2-E-2, SLOT 8	FB2-E-2-8
OUTPUT MODULE RACK FB2-E-2, SLOT 9	FB2-E-2-9
OUTPUT MODULE RACK FB2-E-2, SLOT 10	FB2-E-2-10



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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE	
AS SHOWN	

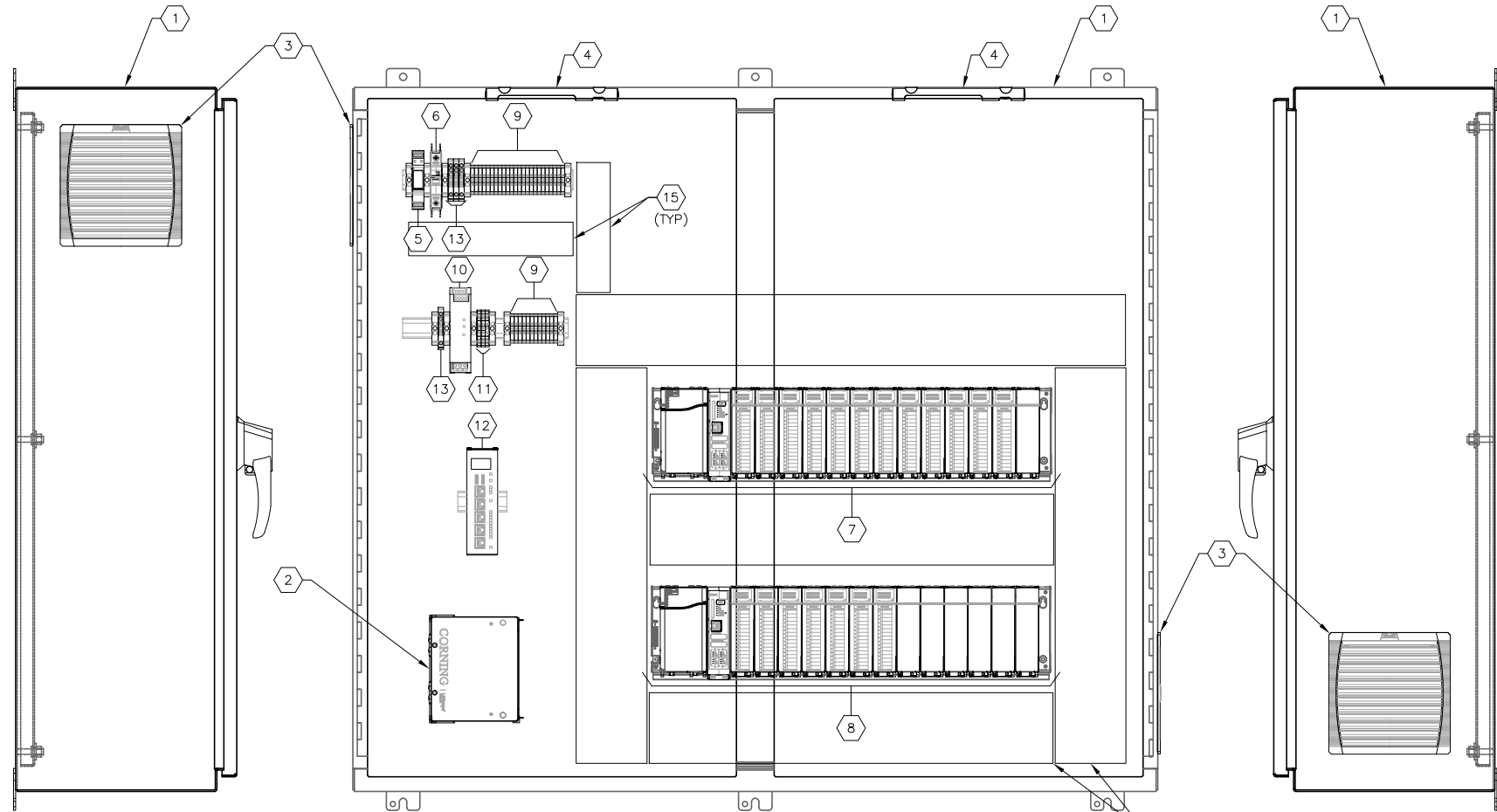
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
 NEW FILTER BUILDING  
 PLC REPLACEMENT**

**FILTER BUILDING NO. 2  
 EAST FILTER PROPOSED I/O  
 MAPPING & CABLE SCHEDULE**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER	E35
FILE:	231901542





**LEFT SIDE ELEVATION**

**PROPOSED FILTER BUILDING No. 2 WEST FILTER CONTROL PANEL INTERIOR ELEVATION**

**RIGHT SIDE ELEVATION**

A  
E26 | E36

NOTE: ELEVATION SHOWN WITH DOORS OPEN

**KEYED NOTES:**

- 1 PROPOSED WEST FILTER CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 2. PROVIDE AND INSTALL 42" X 48" X 24" NEMA 4X STAINLESS STEEL ENCLOSURE WITH CONTINUOUS HINGE DOOR, DOOR STOP KITS, 3-POINT LATCH AND REMOVABLE CENTER POST. HAMMOND PART NUMBER HN4WM424812S16.
- 2 PROVIDE AND INSTALL FIBER OPTIC PATCH PANEL. REFER ALSO TO SPECIFICATIONS.
- 3 PROVIDE AND INSTALL PANEL EXHAUST FILTER PFANNENBERG PART #PFA 6000-11740004055.
- 4 PROVIDE AND INSTALL 120V, 5W LED CABINET LIGHT WITH TOGGLE SWITCH. HOFFMAN CAT # LEDA1S35. PROVIDE BRACKET TO MOUNT FIXTURE TO BACKPANEL.
- 5 PROVIDE AND INSTALL 120V SURGE PROTECTION DEVICE. PHOENIX CONTACT 2907918 WITH PHOENIX CONTACT 2907924 BASE.
- 6 PROVIDE AND INSTALL 120V, 15A SINGLE-POLE CIRCUIT BREAKER. CIRCUIT BREAKER SHALL BE ALLEN BRADLEY TYPE 1489M.
- 7 PROVIDE AND INSTALL NEW FILTER CONTROL PANEL WEST RACK 'FB2-W-1'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; TWELVE (12) 120 VAC INPUT MODULES, GE IC694MDL250; ONE (1) BLANK FILLER MODULE, GE IC694ACC310.
- 8 PROVIDE AND INSTALL NEW FILTER CONTROL PANEL WEST RACK 'FB2-W-2'. RACK TO CONSIST OF: ONE (1) RX3i 16 SLOT UNIVERSAL BASE, GE IC695CHS016; ONE (1) 120V POWER SUPPLY, GE IC695PSA140; ONE (1) RX3i PROFINET SCANNER MODULE, GE IC695PNS001; SEVEN (7) RELAY OUTPUT MODULES, GE IC694MDL916; SIX (6) BLANK FILLER MODULES, GE IC694ACC310.
- 9 PROVIDE AND INSTALL NEW TERMINAL BLOCKS. PHOENIX CONTACT #3044102.
- 10 PROVIDE AND INSTALL NEW 120VAC-24VDC POWER SUPPLY WITH 3.5 AMPERE OUTPUT DC POWER. PHOENIX CONTACT #2866747.
- 11 PROVIDE AND INSTALL NEW FUSED TERMINAL BLOCKS WITH LED INDICATOR, 24VDC. SQUARE D AB1FUSE435U5XB.
- 12 PROVIDE AND INSTALL NEW ETHERNET SWITCH. EMERSON IC086GLM064.
- 13 PROVIDE AND INSTALL 120V, THERMAL CIRCUIT BREAKERS. REFER SHEET E38 FOR QUANTITY/AMPERAGE. ALL THERMAL CIRCUIT BREAKERS SHALL BE PHOENIX CONTACT TCP TYPE. PROVIDE EACH BREAKER WITH SCREW TYPE CONNECTION, FUSE BASE TERMINAL BLOCK, PHOENIX CONTACT TYPE UK 6-FSI/C.
- 14 PROVIDE AND INSTALL NEW 4" X 4" PANDUIT.
- 15 PROVIDE AND INSTALL NEW 2" X 4" PANDUIT.

**GENERAL NOTES:**

- 1. PROVIDE AND INSTALL #12 GREEN COPPER BONDING CONDUCTOR BETWEEN PANEL AND DOOR (TYPICAL FOR BOTH DOORS).
- 2. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS, TERMINAL JUMPERS AND SPACERS AS REQUIRED FOR NEW TERMINAL BLOCKS TO BE INSTALLED
- 3. PROVIDE AND INSTALL 35mm ALUMINUM DIN RAIL QUANTITY AS REQUIRED.
- 4. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHC110E.



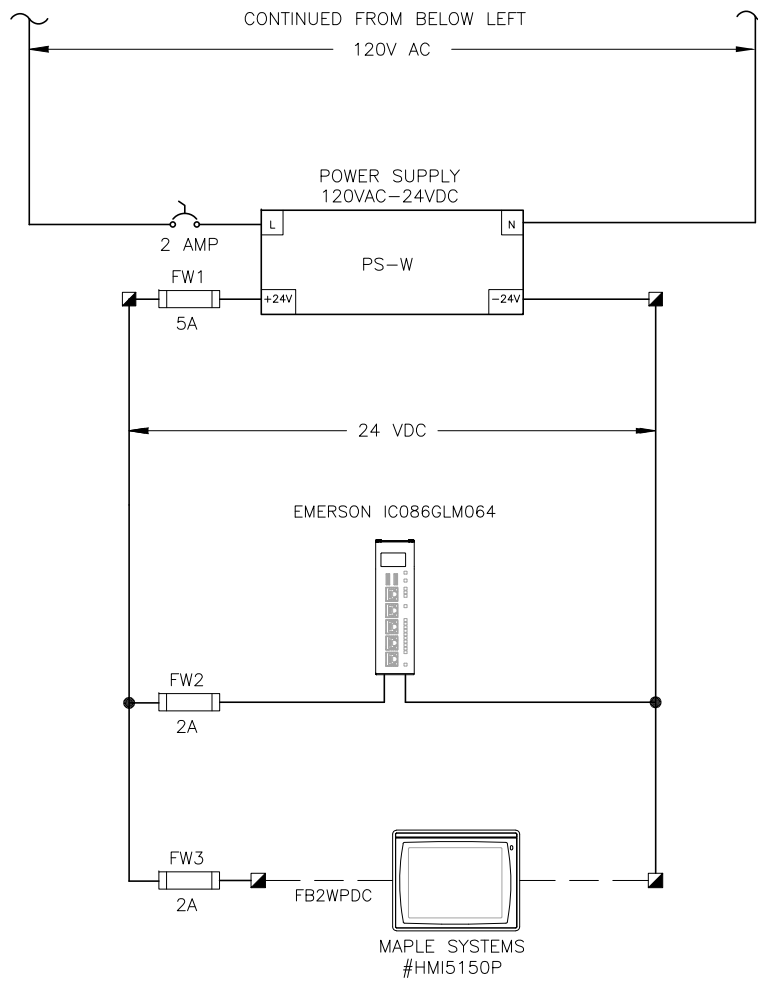
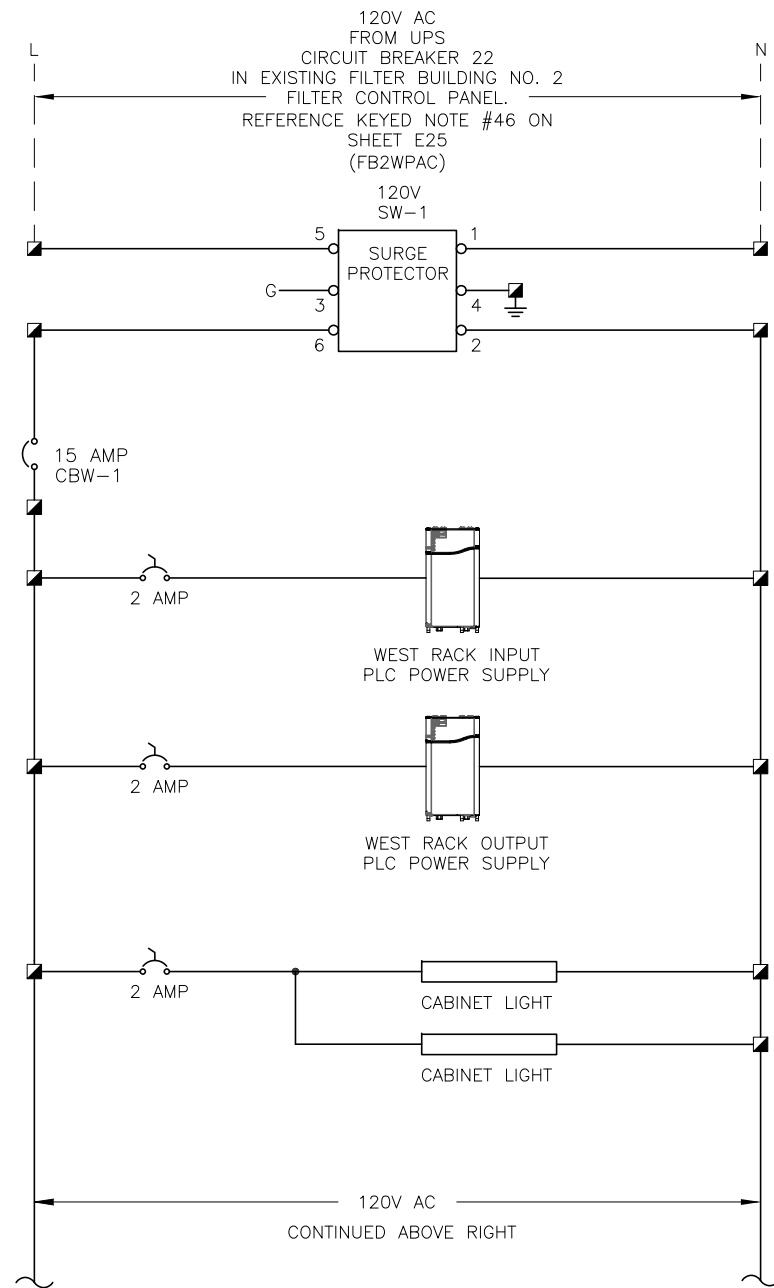
JOB No.	231901542						
DESIGNED	TDI						
DRAWN	JLH						
CHECKED	TDI						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE  
  
AS SHOWN

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 2  
WEST FILTER CONTROL PANEL  
ELEVATIONS**

SHEET NUMBER	<b>E36</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



JOB No.	231901542								
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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE

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City of Tampa Wastewater Department

HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

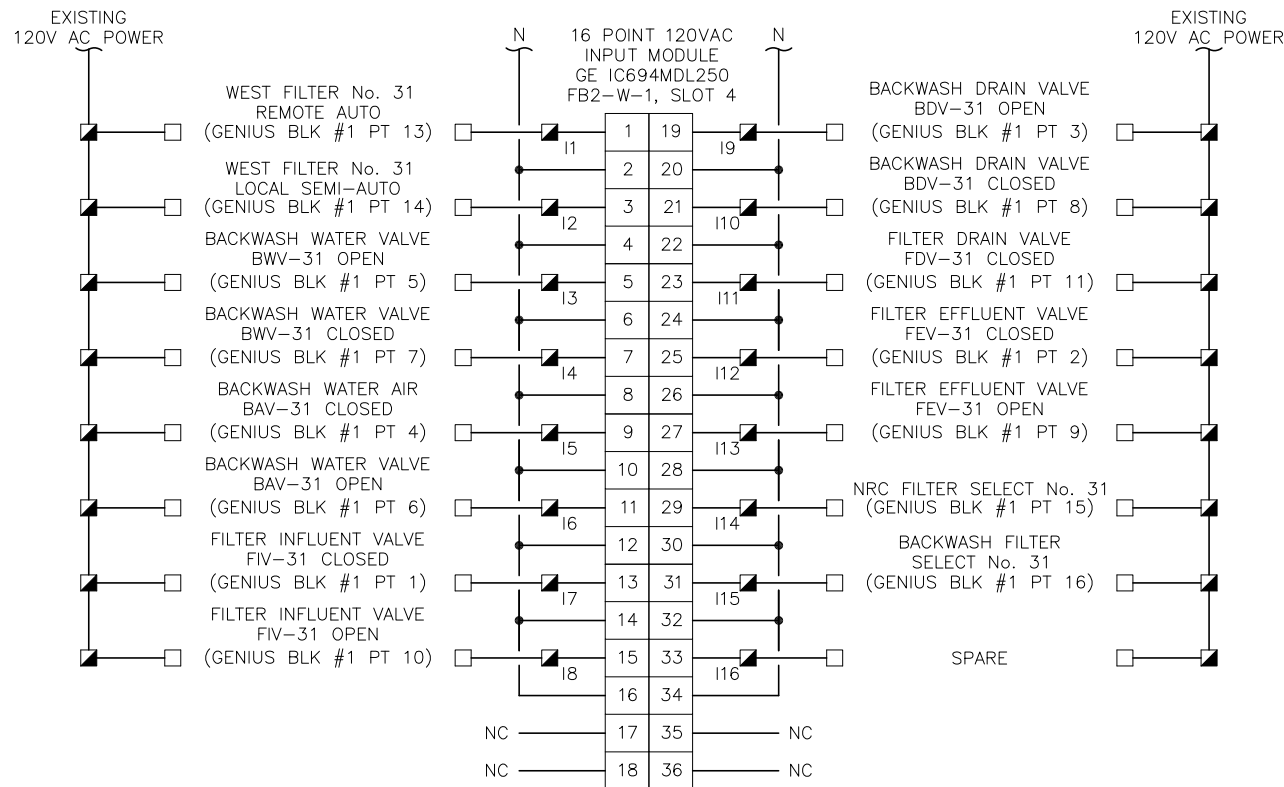
FILTER BUILDING No. 2  
EAST FILTER CONTROL PANEL  
POWER WIRING DIAGRAM

TIMOTHY THOMAS, P.E. No. 47079

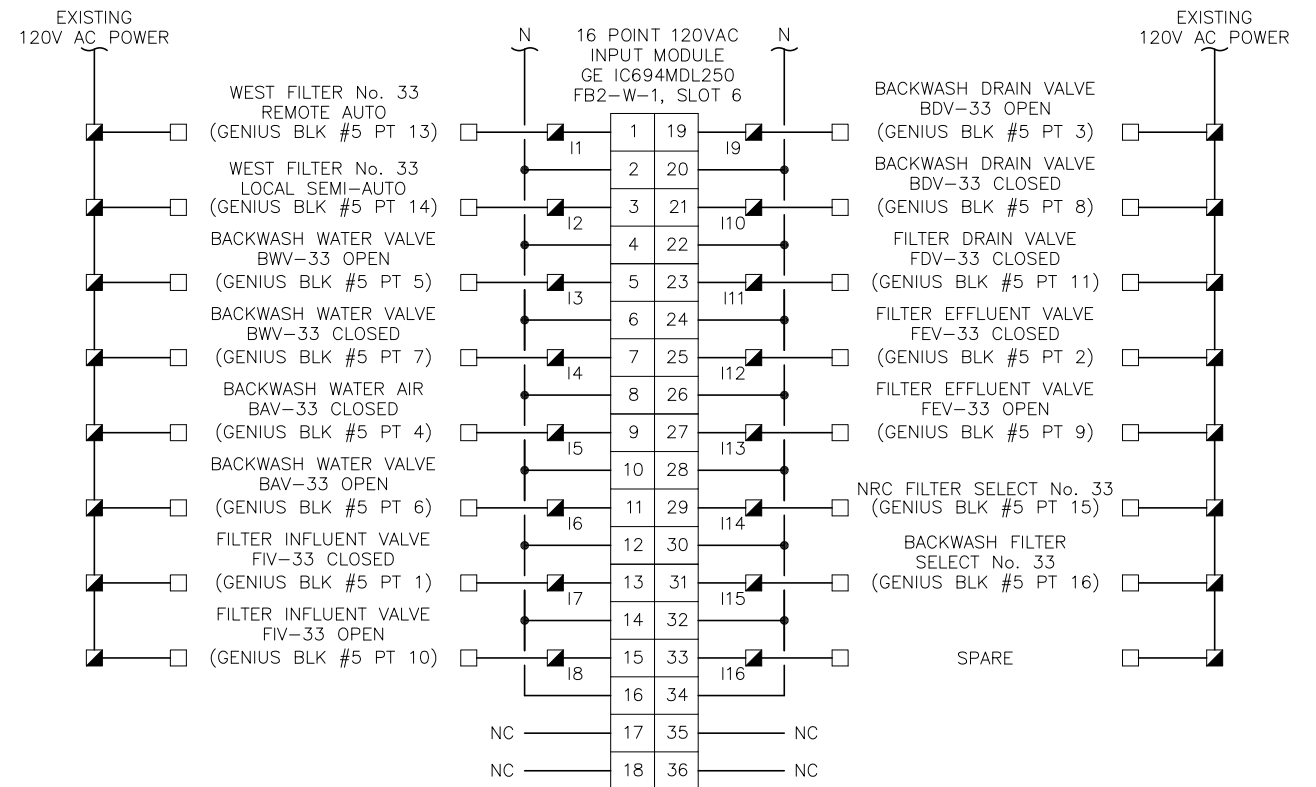
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E37

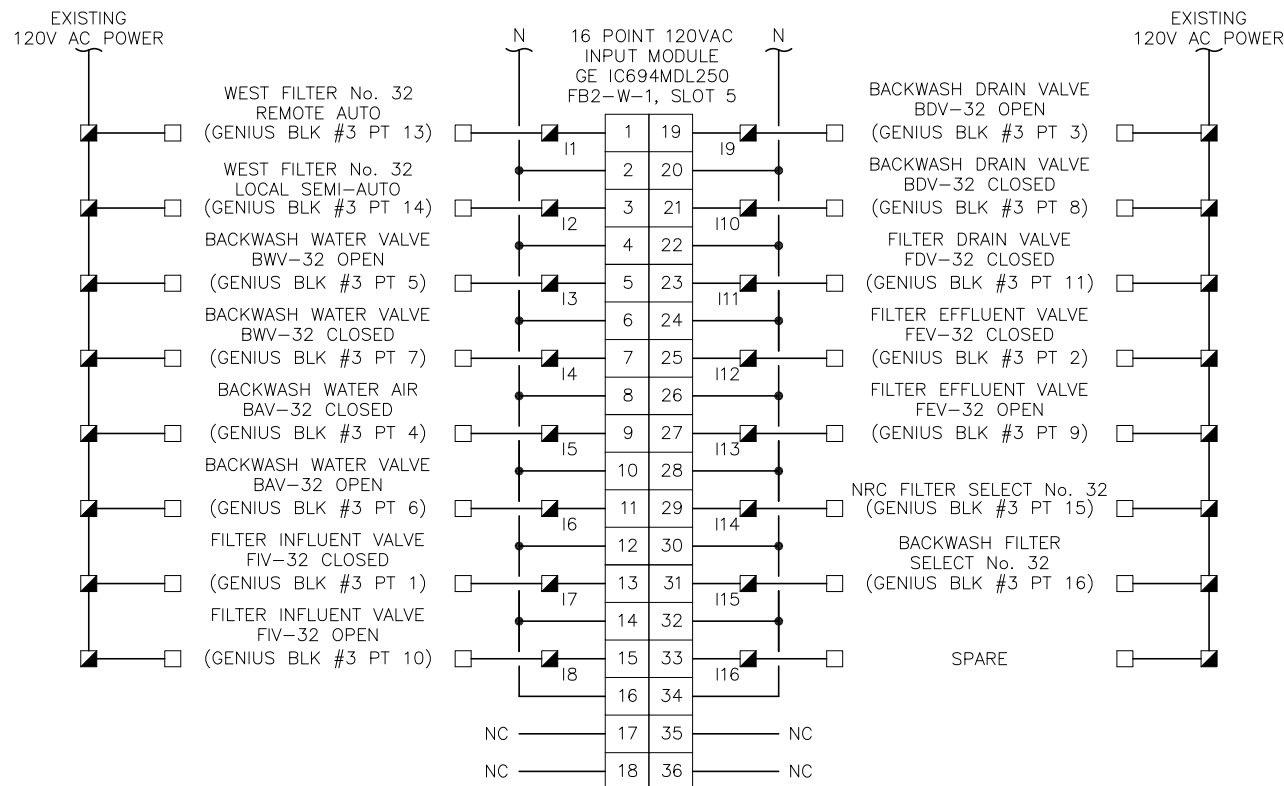
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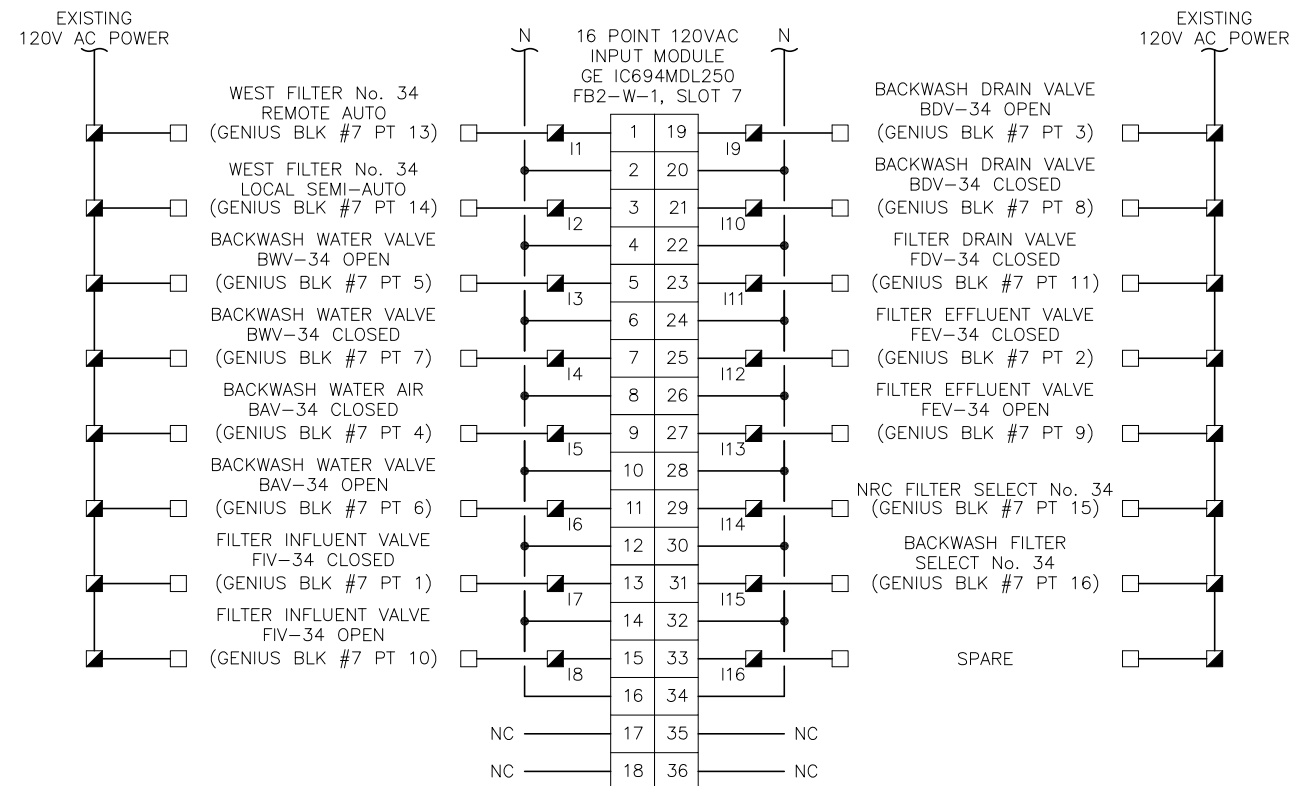
FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 4



FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 6



FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 5



FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 7



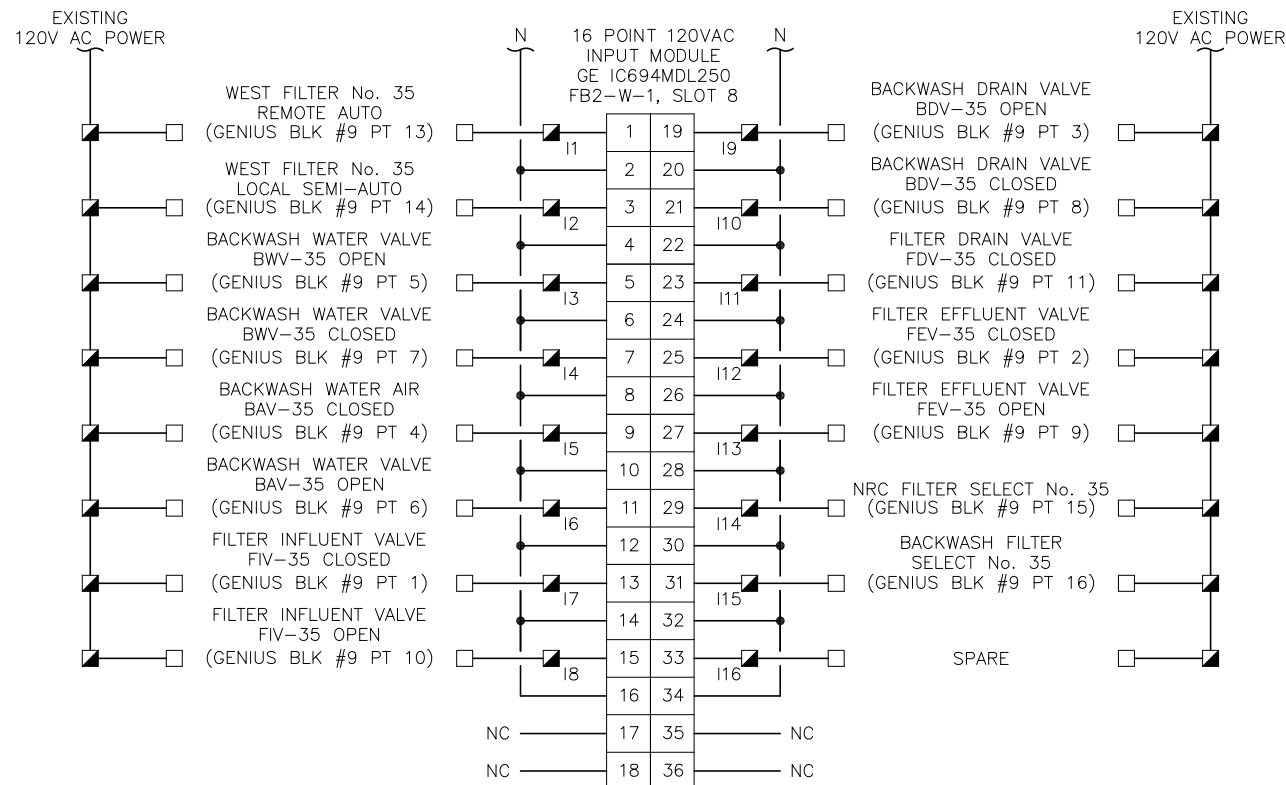
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DRAWN	JLH						
CHECKED	TD						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE	AS SHOWN
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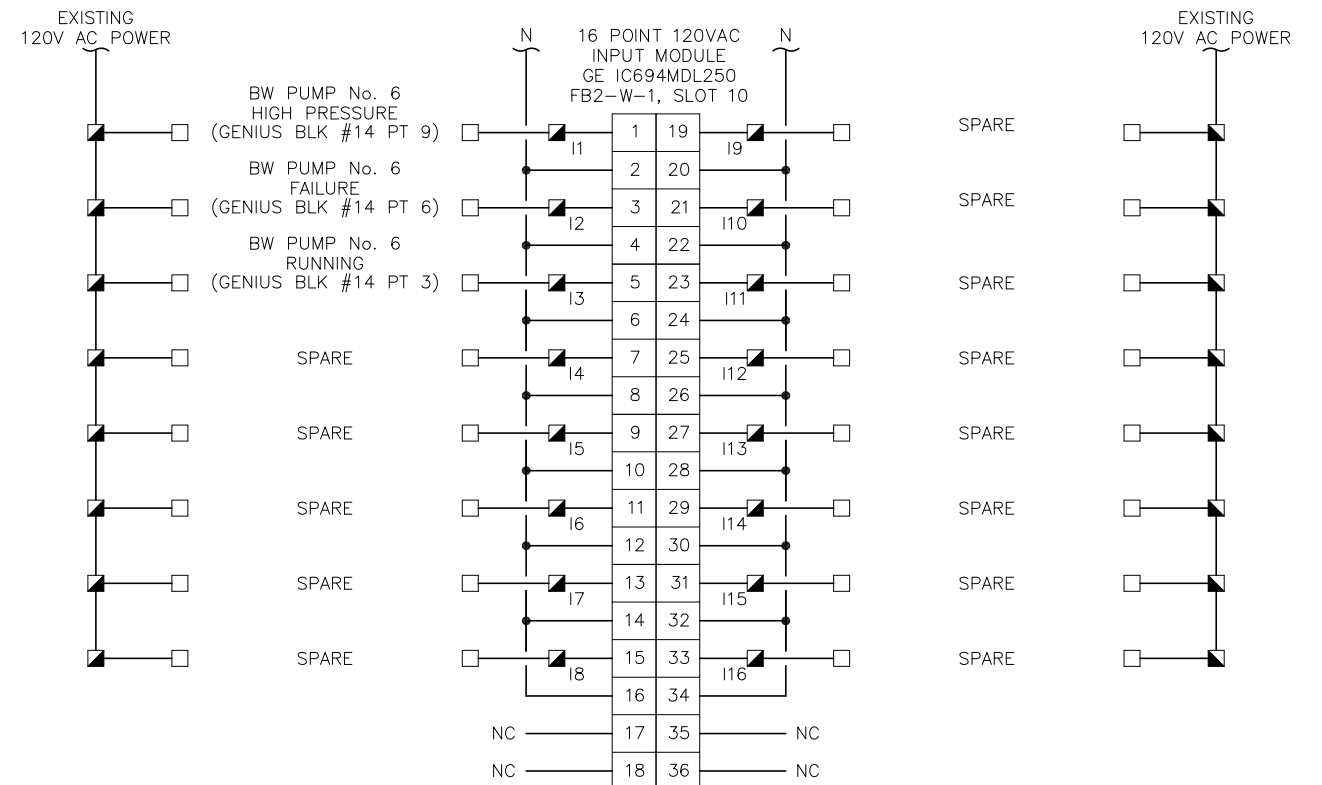
City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 2  
WEST FILTER  
DISCRETE INPUT I/O

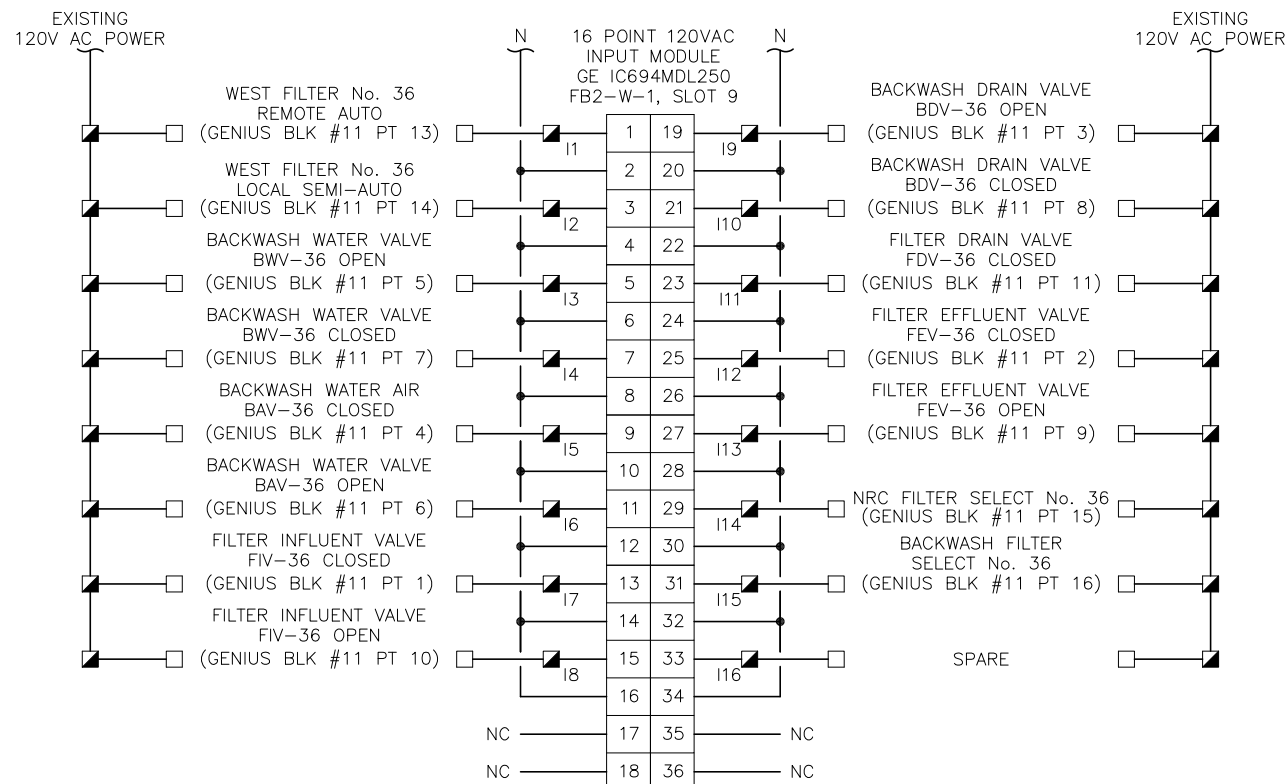
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TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



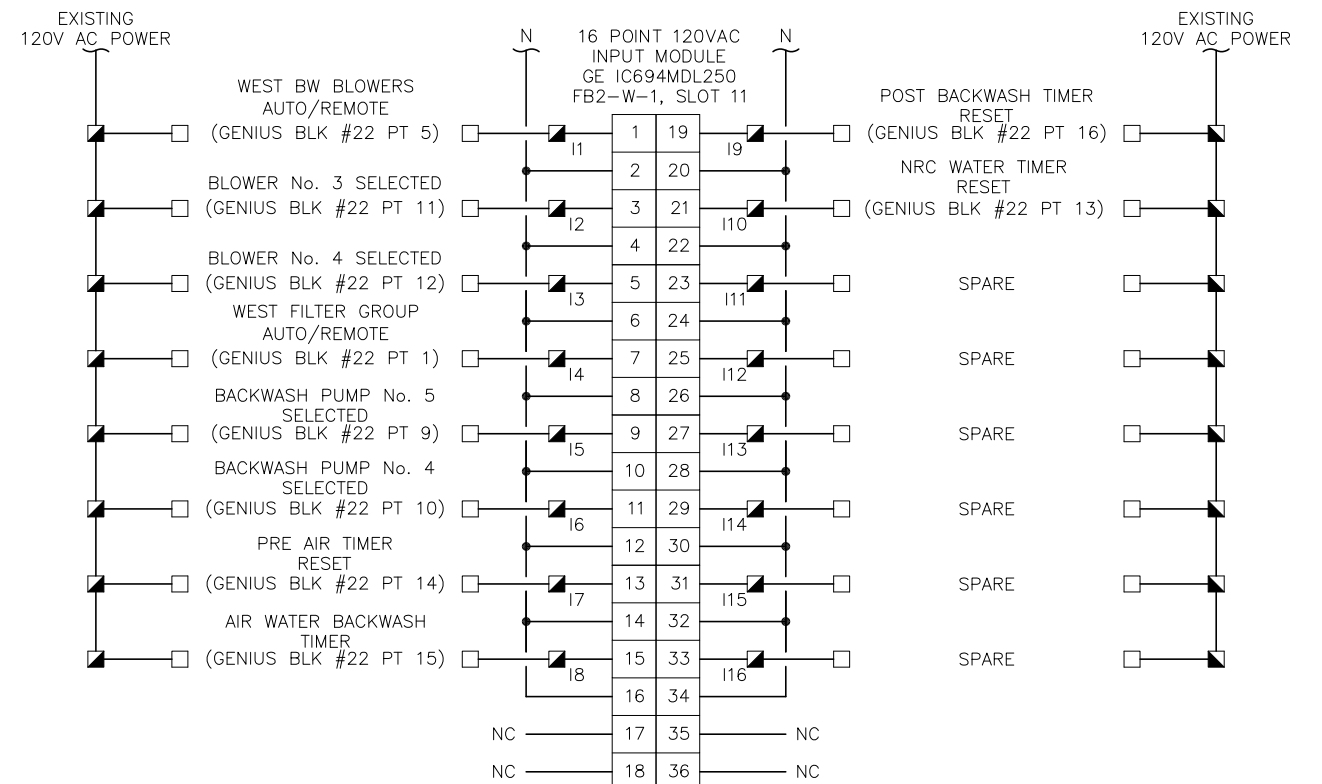
**FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 8**



**FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 10**



**FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 9**



**FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 11**



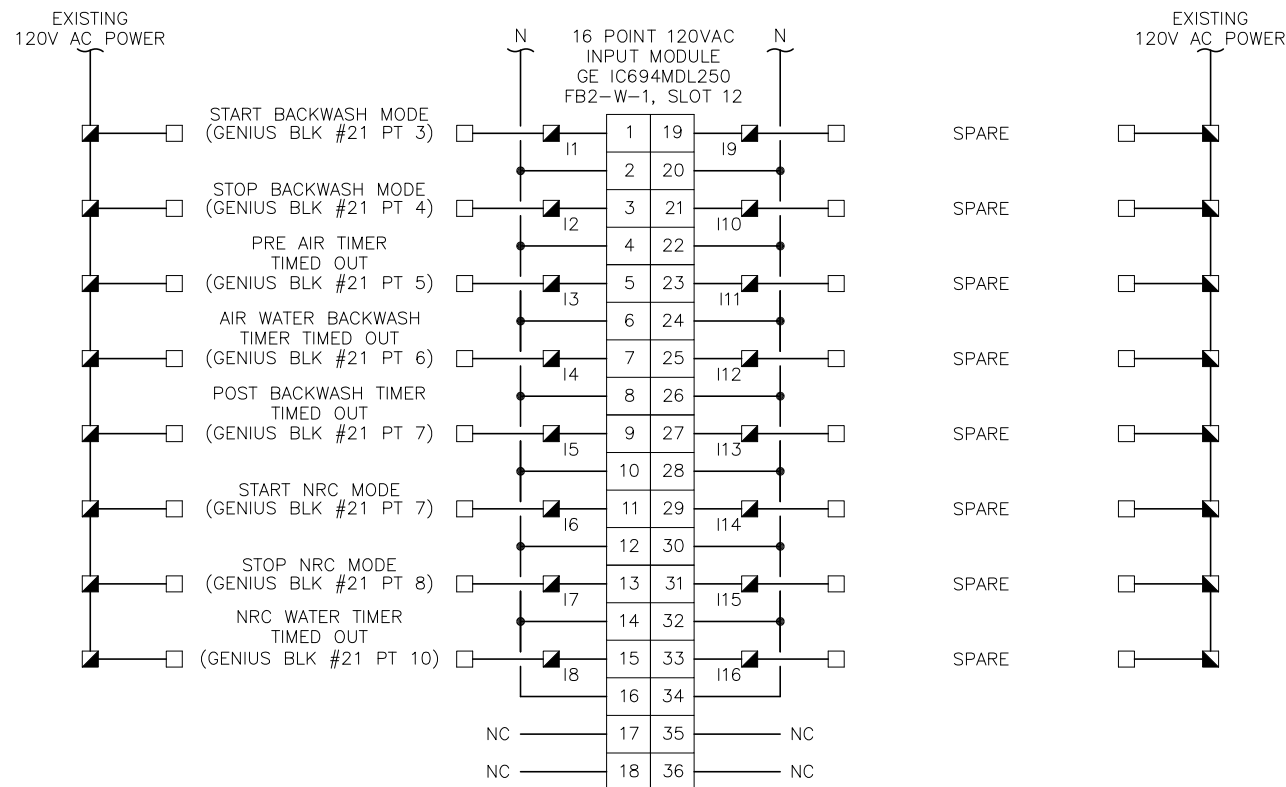
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DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

SCALE	AS SHOWN
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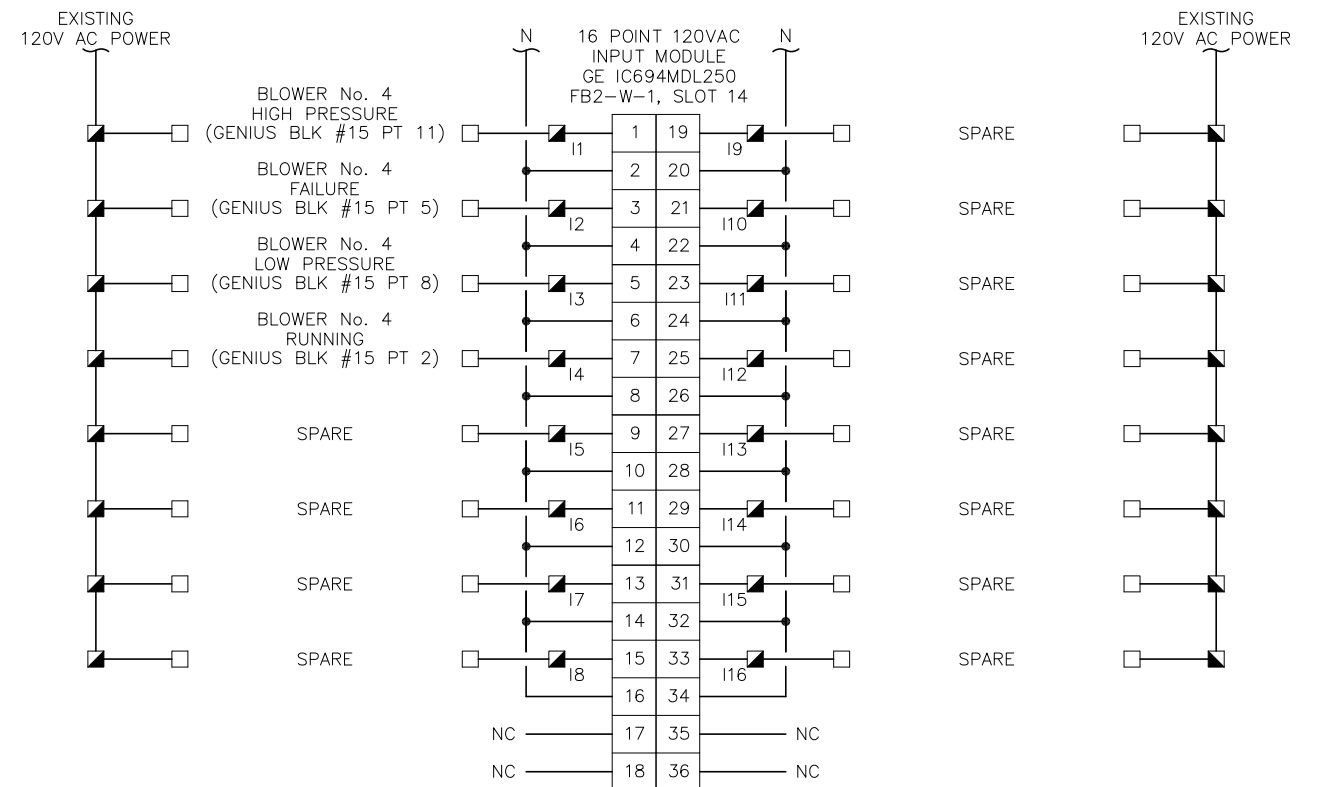
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

**FILTER BUILDING NO. 2**  
**WEST FILTER**  
**DISCRETE INPUT I/O**

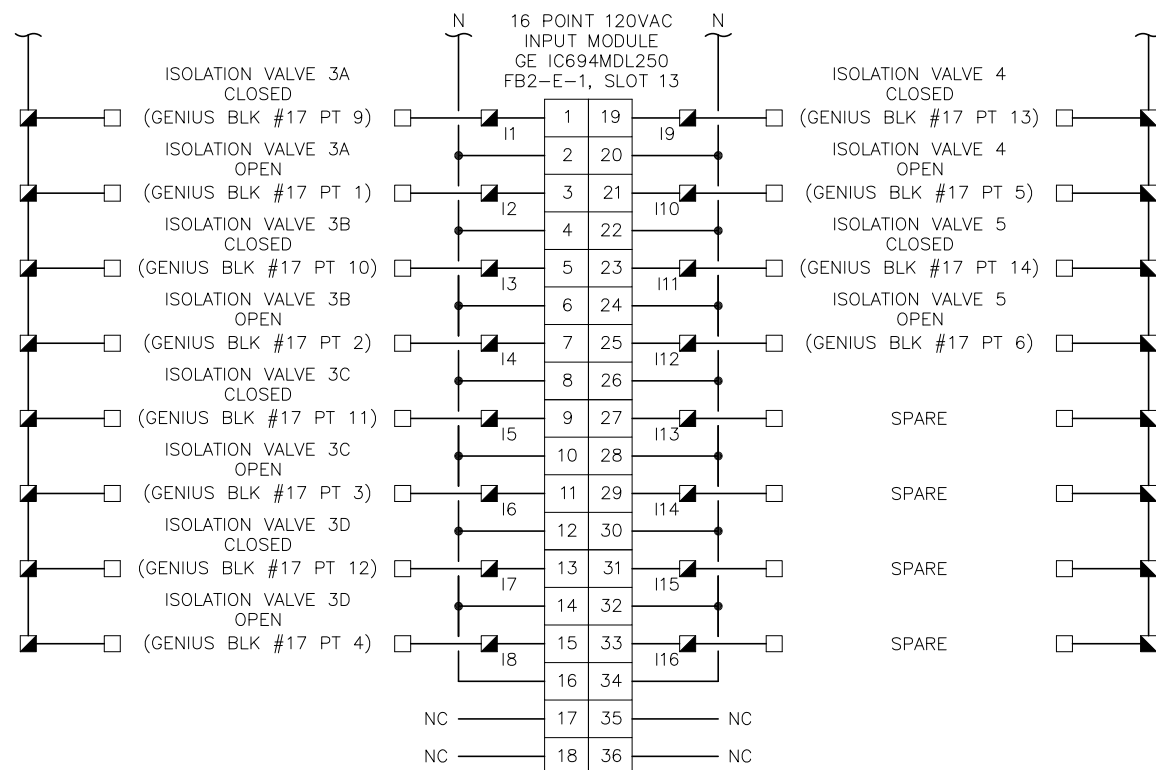
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TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



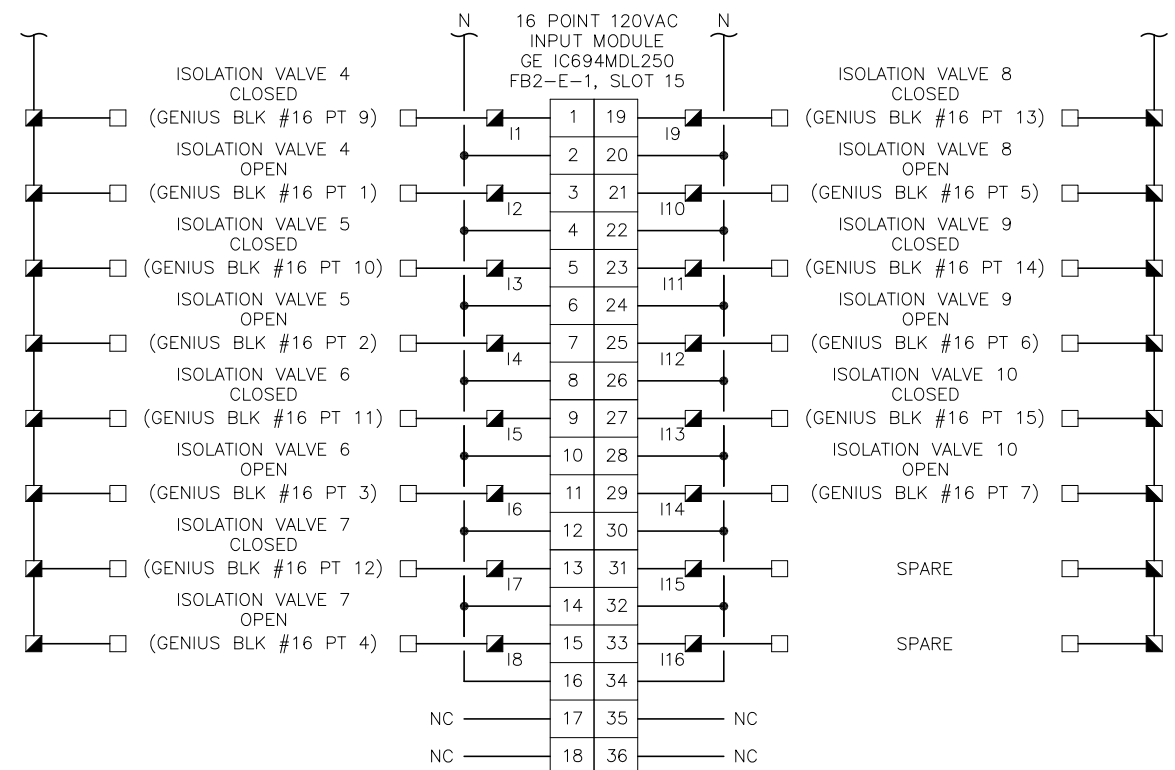
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FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 14



FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 13



FB2-W-1 DISCRETE INPUT CARD WIRING DIAGRAM - SLOT 15



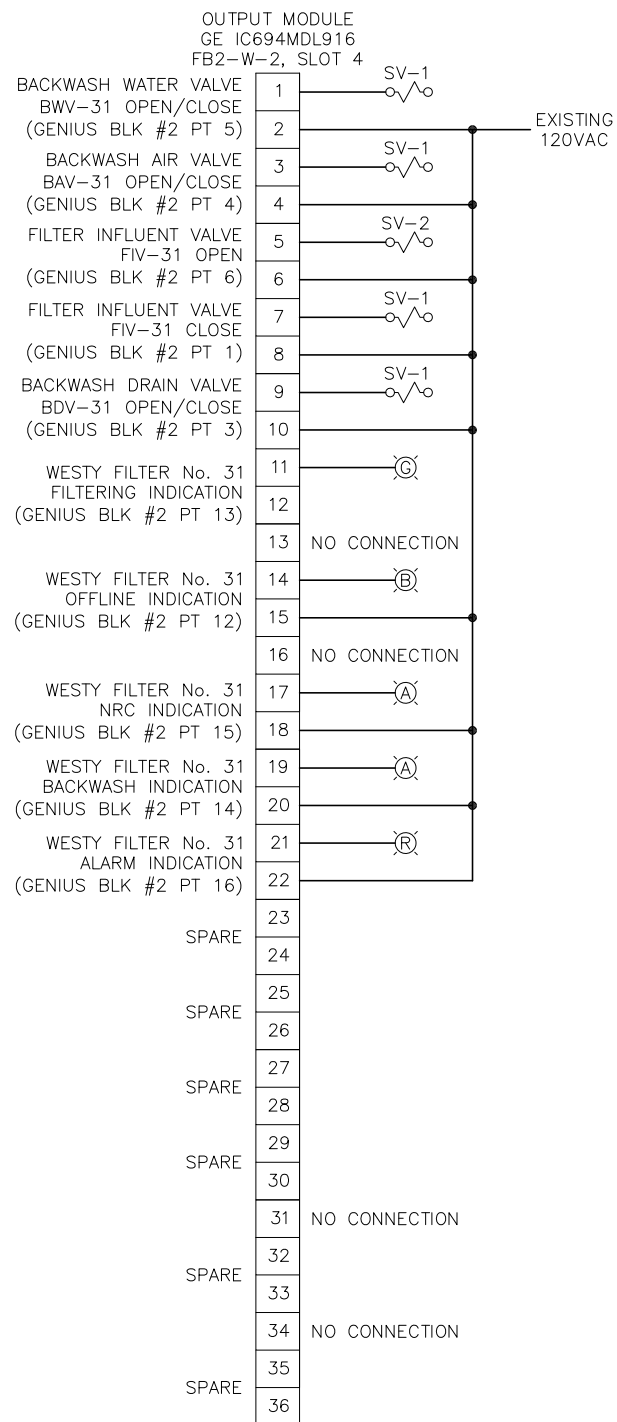
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CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

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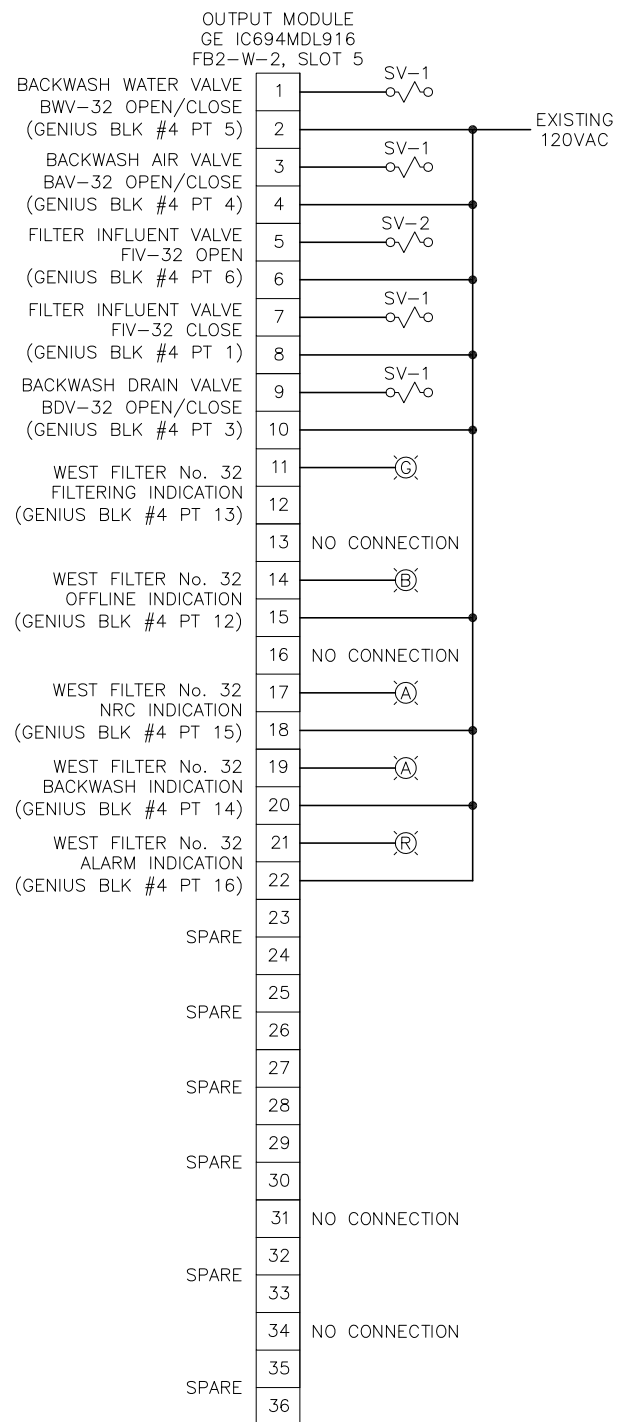
City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 2  
WEST FILTER  
DISCRETE INPUT I/O

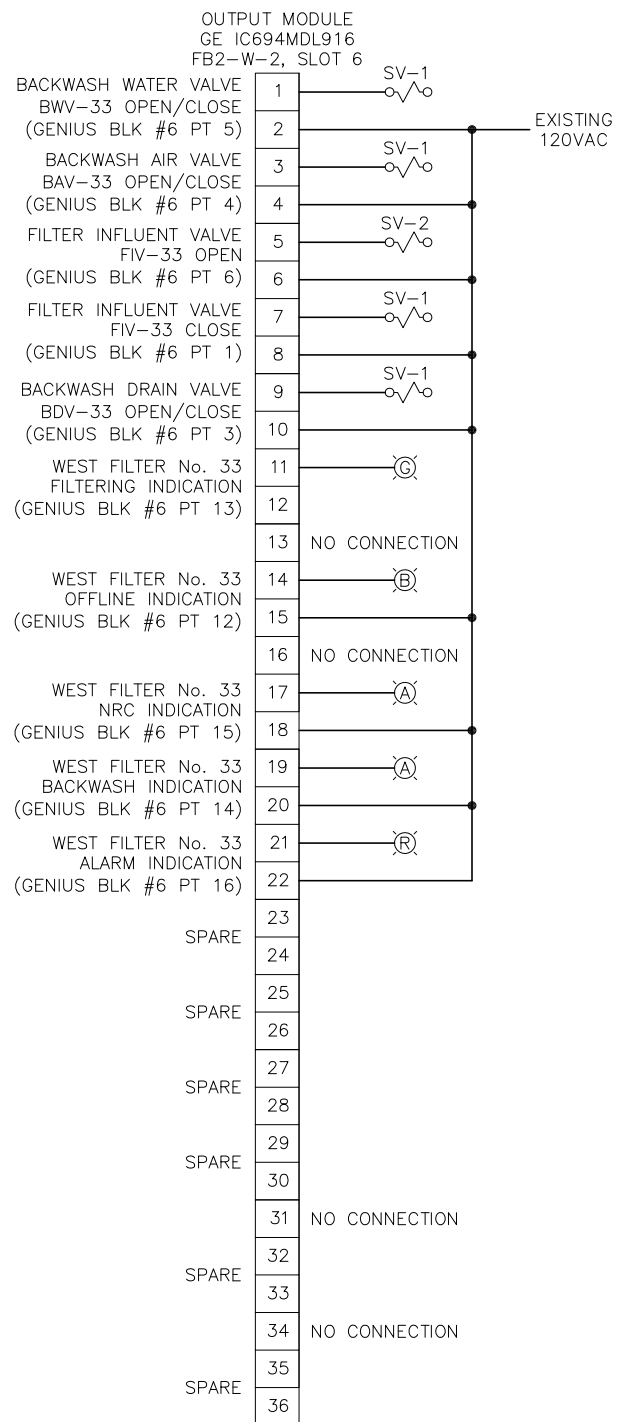
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TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



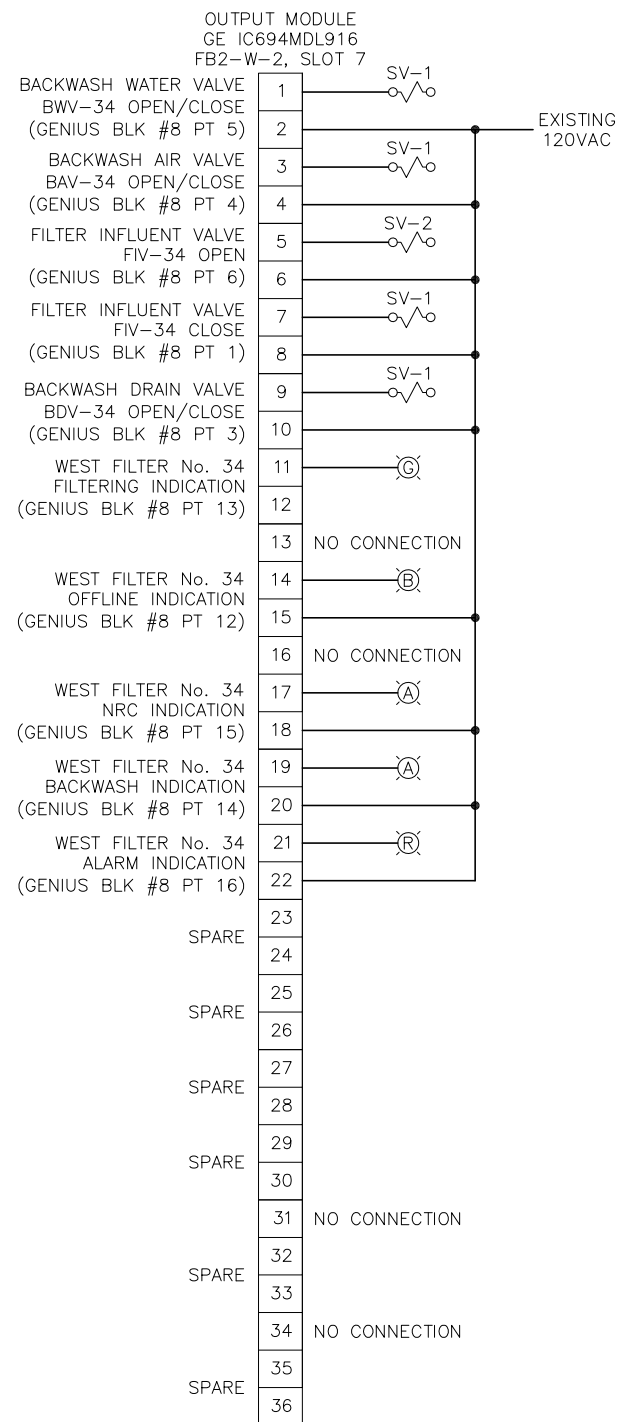
FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 4



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 5



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 6



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 7



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SCALE

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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

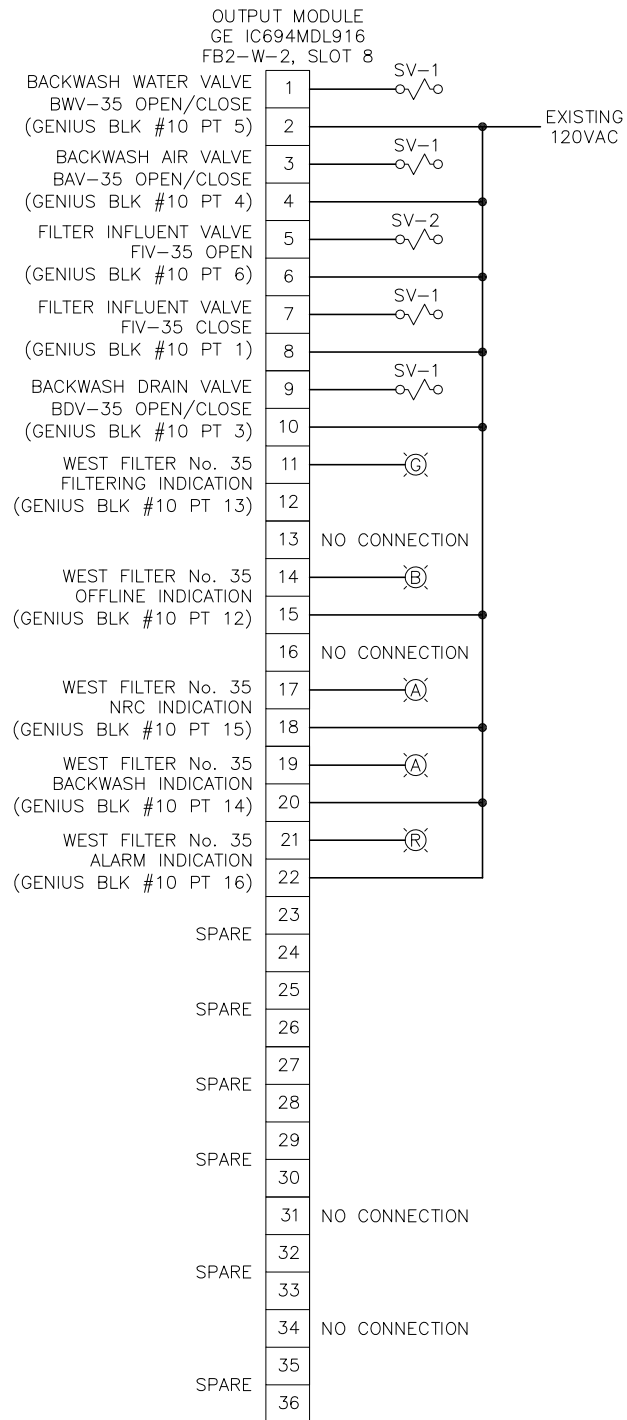
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WEST FILTER  
RELAY OUTPUT I/O**

SHEET NUMBER

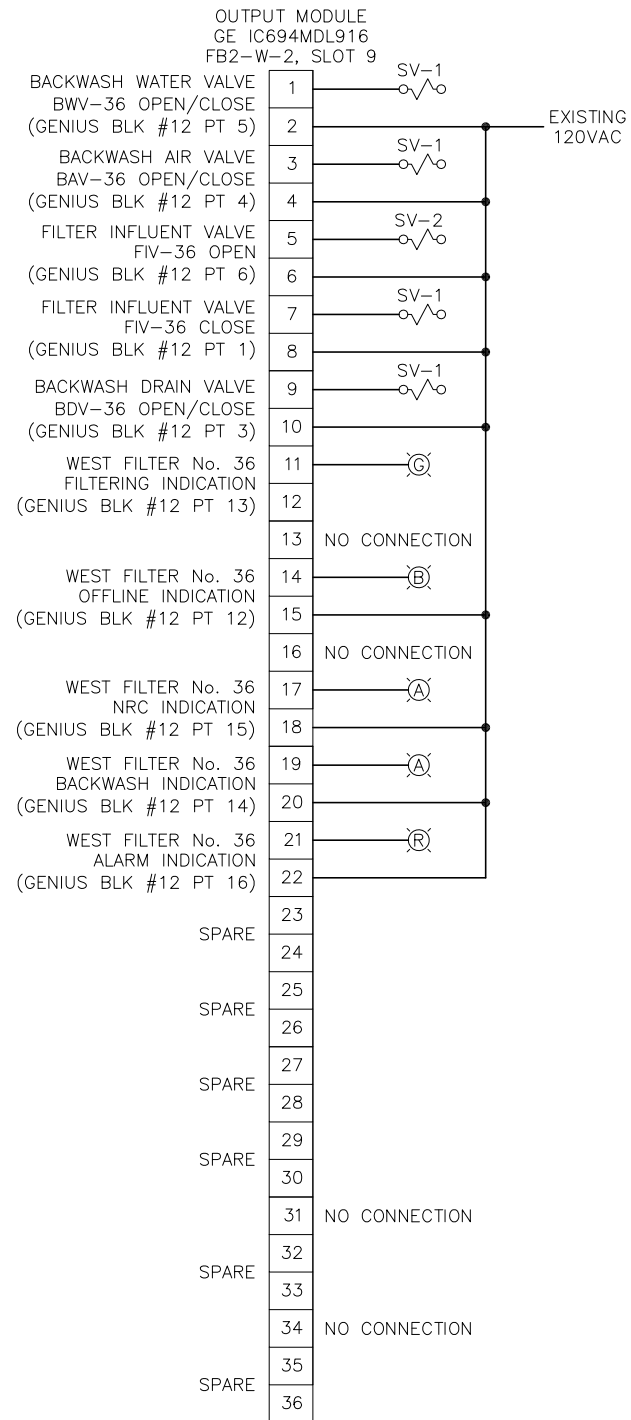
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TIMOTHY THOMAS, P.E. No. 47079

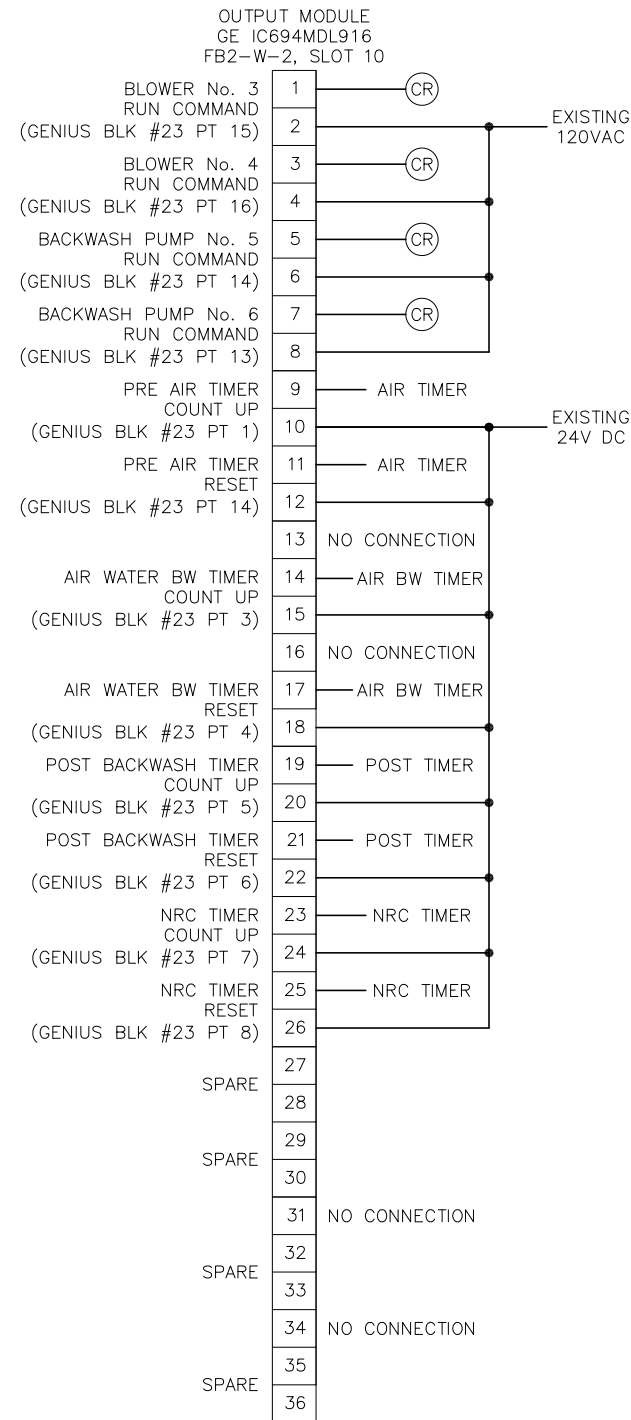
FILE: 231901542



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 8



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 9



FB2-W-2 RELAY OUTPUT CARD  
WIRING DIAGRAM - SLOT 10



JOB No.	231901542								
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DRAWN	JLH								
CHECKED	TDT								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

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AS SHOWN

City of Tampa Wastewater Department  
HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT

FILTER BUILDING NO. 2  
WEST FILTER  
RELAY OUTPUT I/O

SHEET NUMBER	E42
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542

RACK FB2-W-1	
I/O MODUE:	CABLE:
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 4	FB2-W-1-4
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 5	FB2-W-1-5
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 6	FB2-W-1-6
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 7	FB2-W-1-7
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 8	FB2-W-1-8
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 9	FB2-W-1-9
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 10	FB2-W-1-10
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 11	FB2-W-1-11
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 12	FB2-W-1-12
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 13	FB2-W-1-13
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 14	FB2-W-1-14
16 POINT 120VAC INPUT MODULE RACK FB2-W-1, SLOT 15	FB2-W-1-15

RACK FB2-W-1	
I/O MODUE:	CABLE:
OUTPUT MODULE RACK FB2-W-2, SLOT 4	FB2-W-2-4
OUTPUT MODULE RACK FB2-W-2, SLOT 5	FB2-W-2-5
OUTPUT MODULE RACK FB2-W-2, SLOT 6	FB2-W-2-6
OUTPUT MODULE RACK FB2-W-2, SLOT 7	FB2-W-2-7
OUTPUT MODULE RACK FB2-W-2, SLOT 8	FB2-W-2-8
OUTPUT MODULE RACK FB2-W-2, SLOT 9	FB2-W-2-9
OUTPUT MODULE RACK FB2-W-2, SLOT 10	FB2-W-2-10



JOB No.	231901542								
DESIGNED	TDI								
DRAWN	JLH								
CHECKED	TDI								
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE	
AS SHOWN	

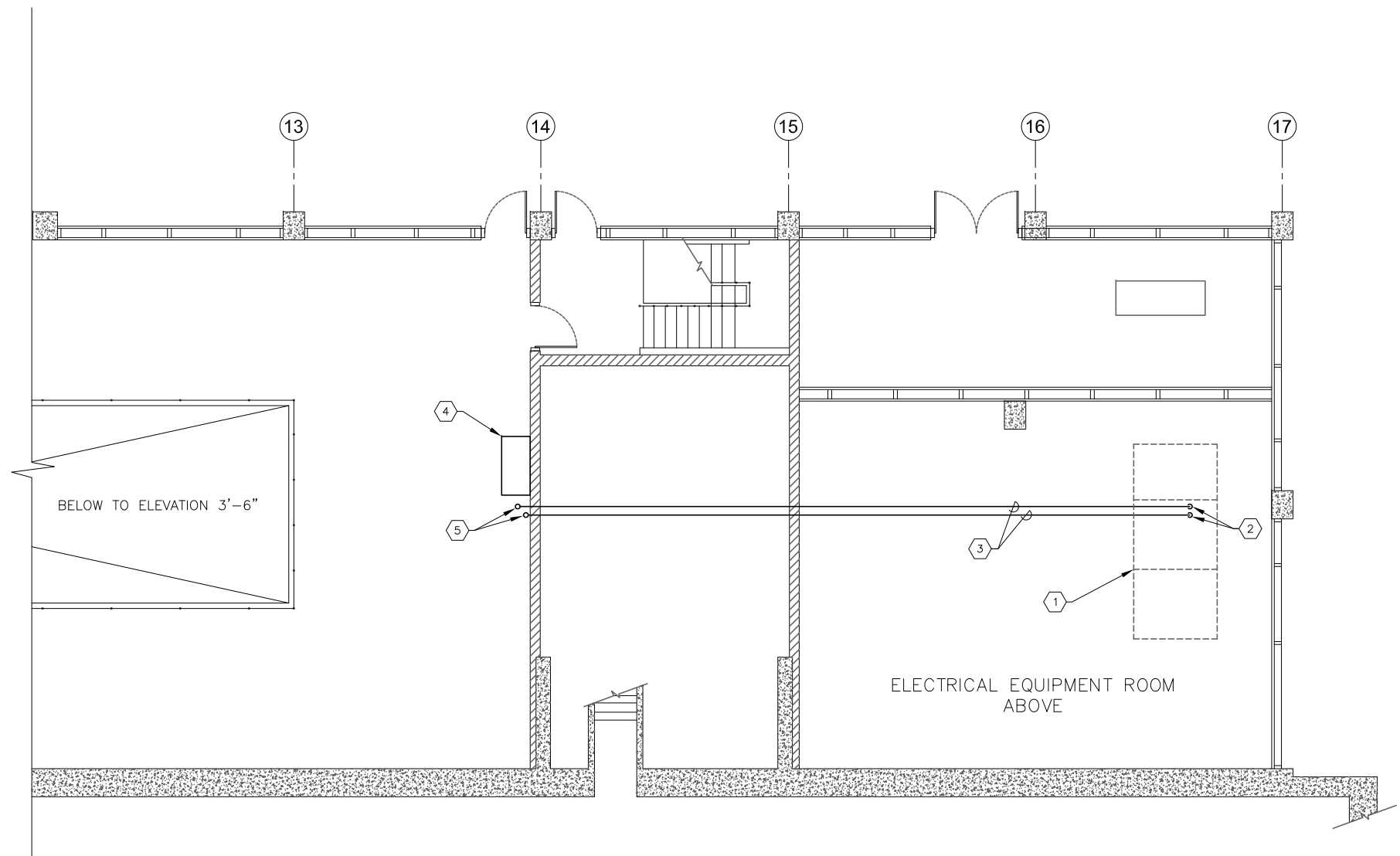
City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
 NEW FILTER BUILDING  
 PLC REPLACEMENT**

**FILTER BUILDING NO. 2  
 WEST FILTER PROPOSED I/O  
 MAPPING & CABLE SCHEDULE**

TIMOTHY THOMAS, P.E. No. 47079

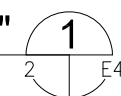
SHEET NUMBER	E43
FILE:	231901542





**FILTER BUILDING No. 1 (015):  
PARTIAL FLOOR PLAN - ELEVATION 11'-0"**

SCALE : 1" = 10'-0"



**KEYED NOTES:**

- ① EXISTING FILTER BUILDING No. 2 FILTER CONTROL CONSOLE. LOCATED ABOVE ON ELEVATION 23'-6". REFER ALSO TO SHEET E1.
- ② CONTRACTOR TO UTILIZE EXISTING CHASE TO ENTER INTO OPEN BOTTOM OF FILTER CONTROL CONSOLE.
- ③ CONDUITS FO1FB1FB2 AND FO2FB1FB2 CONDUITS RUN WITH EXISTING CONDUITS IN CONDUIT CHASE LOCATED ON ELEVATION 11'-0".
- ④ EXISTING PULLBOX AT ELEVATION 13'-6".
- ⑤ CONTRACTOR TO CORE-DRILL EXISTING FLOOR SLAB TO PROVIDE ACCESS FOR FO1FB1FB2 AND FO2FB1FB2 FROM ELEVATION 3'-6". REFER TO SHEET E45 FOR CONTINUATION.

**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD ROUTE CONDUITS SHOWN AS REQUIRED. ROUTING IS SEMI-DIAGRAMMATICAL. CONTRACTOR SHALL PROVIDE ALL STRAPS, TRAPEZE HANGERS, PULLBOXES AND CONDUIT L.B.'S AS REQUIRED. CONTRACTOR SHALL INSTALL RACEWAY FOR FIBER OPTIC CABLE AS NOT TO EXCEED THE MINIMUM BENDING RADIUS OF THE FIBER OPTIC CABLE.



JOB No.	231901542						
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DRAWN	JLH						
CHECKED	TDT						
DATE	1/2021	No.	DATE	BY	APP	REVISION	DESCRIPTION

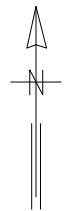
SCALE  
  
NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**FILTER BUILDING NO. 1 (015):  
PARTIAL PLAN - ELEV 11'-0"**

TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542
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SHEET NUMBER  
**E44**

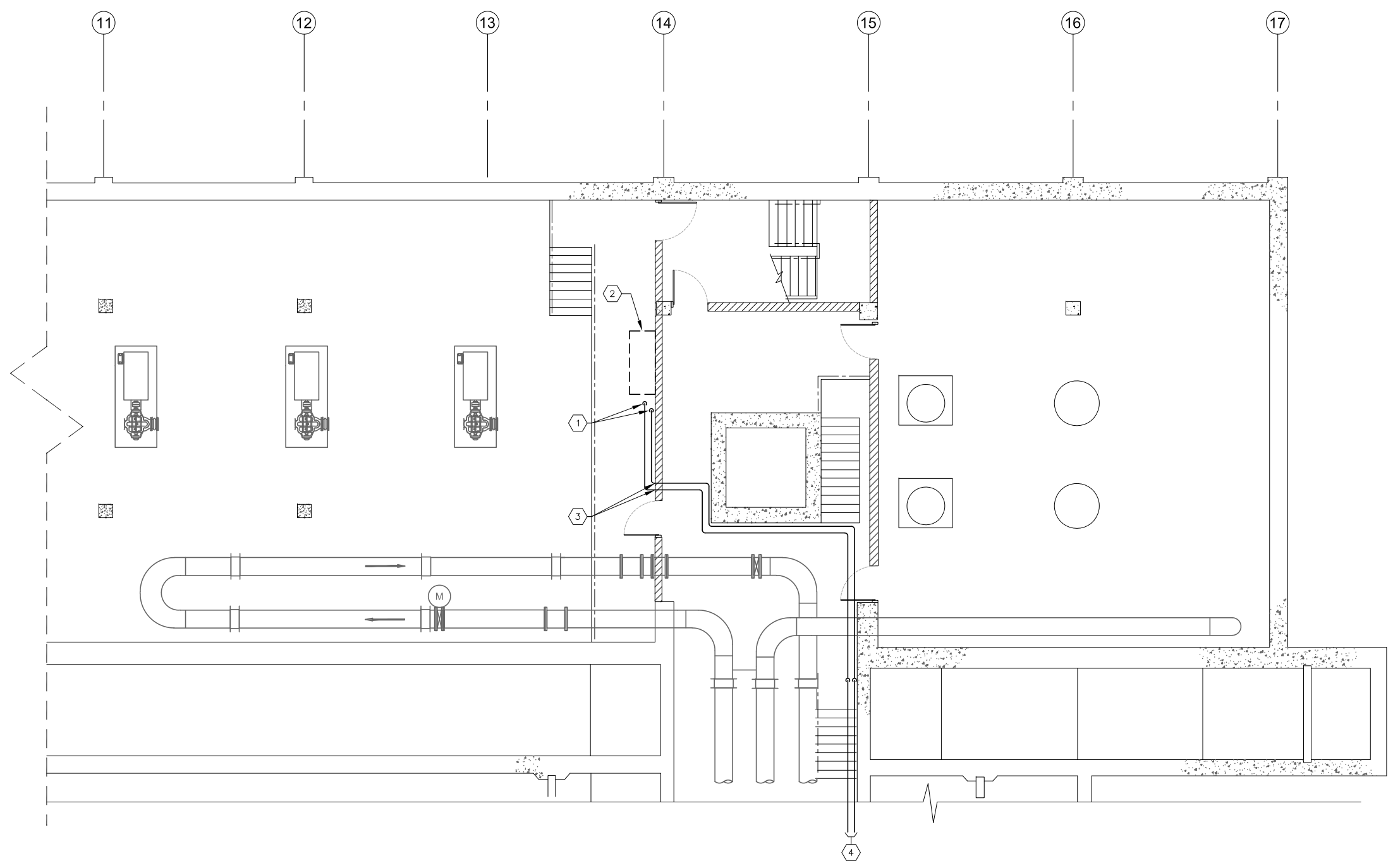


**KEYED NOTES:**

- ① CONDUITS F01FB1FB2 AND F02FB1FB2. CONDUITS CONTINUED UP TO ELEVATION 11'-0". REFER ALSO TO SHEET E44.
- ② EXISTING PULLBOX LOCATED ABOVE AT ELEVATION 13'-6".
- ③ CONTRACTOR TO CORE-DRILL EXISTING WALL TO PROVIDE ACCESS FOR F01FB1FB2 AND F02FB1FB2.
- ④ CONDUITS F01FB1FB2 AND F02FB1FB2. CONDUITS CONTINUED TO FILTER BUILDING No. 2 VIA PIPE GALLERY. REFER TO SHEET E46 FOR CONTINUATION AND SHEET 2 FOR PIPE GALLERY LOCATION.

**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD ROUTE CONDUITS SHOWN AS REQUIRED. ROUTING IS SEMI-DIAGRAMMATICAL. CONTRACTOR SHALL PROVIDE ALL STRAPS, TRAPEZE HANGERS, PULLBOXES AND CONDUIT L.B.'S AS REQUIRED. CONTRACTOR SHALL INSTALL RACEWAY FOR FIBER OPTIC CABLE AS NOT TO EXCEED THE MINIMUM BENDING RADIUS OF THE FIBER OPTIC CABLE.



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

SCALE : 1" = 10'-0"

1  
2 | E45



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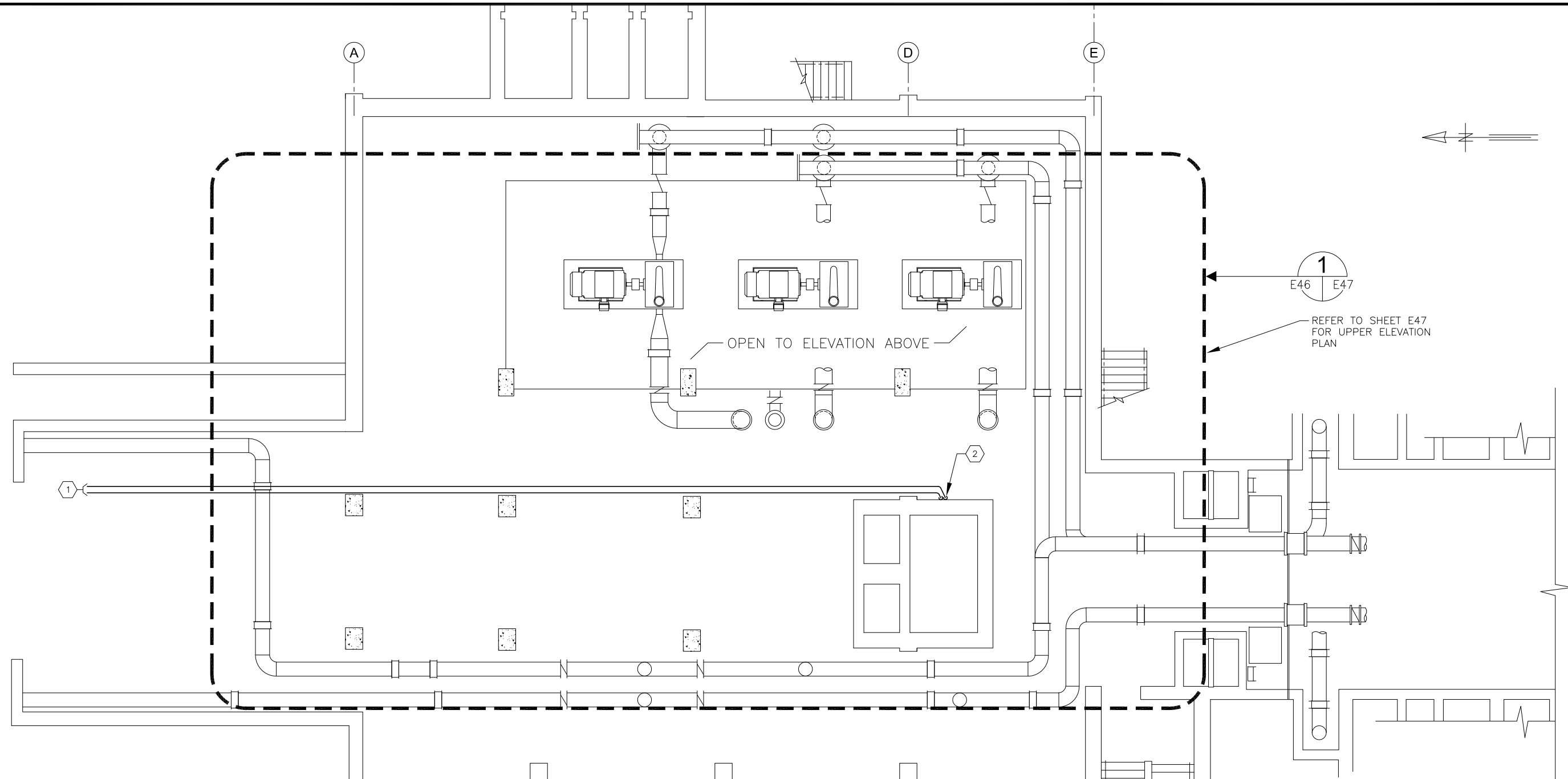
SCALE  
  
NOT TO SCALE

City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

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

TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542
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SHEET NUMBER  
**E45**



**FILTER BUILDING NO.2 (047) : PLAN ELEVATION 3'-6"**

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

1  
2 | E46

**KEYED NOTES:**

- ① CONDUITS F01FB1FB2 AND F02FB1FB2. CONDUITS CONTINUED FROM SHEET E45.
- ② CONDUITS F01FB1FB2 AND F02FB1FB2. CONDUITS TO CONTINUE UP TO ELEVATION 11'-0". REFER TO SHEET E47 FOR CONTINUATION.

**GENERAL NOTES:**

1. CONTRACTOR SHALL FIELD ROUTE CONDUITS SHOWN AS REQUIRED. ROUTING IS SEMI-DIAGRAMMATICAL. CONTRACTOR SHALL PROVIDE ALL STRAPS, TRAPEZE HANGERS, PULLBOXES AND CONDUIT L.B.'S AS REQUIRED. CONTRACTOR SHALL INSTALL RACEWAY FOR FIBER OPTIC CABLE AS NOT TO EXCEED THE MINIMUM BENDING RADIUS OF THE FIBER OPTIC CABLE.



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SCALE	AS SHOWN
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City of Tampa Wastewater Department  
**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

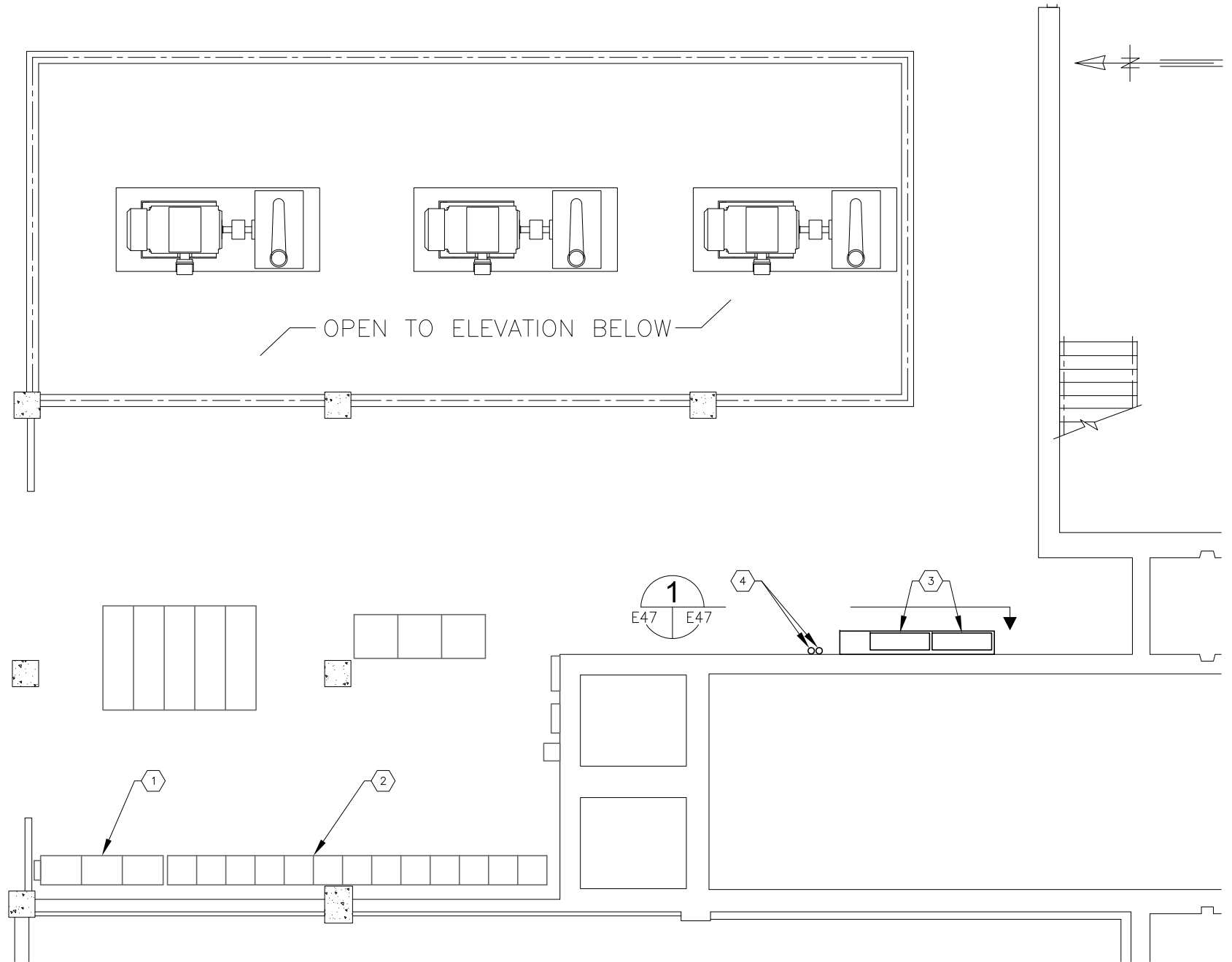
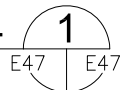
**FILTER BUILDING NO. 2 (047):  
PARTIAL PLAN - ELEV 3'-6"**

SHEET NUMBER	E46
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



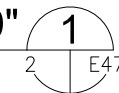
**CONDUCTOR CHASE DETAIL**

SCALE: N.T.S.



**FILTER BUILDING NO.2 (047) : PLAN ELEVATION 11'-0"**

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



**KEYED NOTES:**

- ① EXISTING MOTOR CONTROL CENTER DESIGNATED 'MCC-85'. NO WORK REQUIRED.
- ② EXISTING MOTOR CONTROL CENTER DESIGNATED 'MCC-86'. NO WORK REQUIRED.
- ③ EXISTING WIREWAY AND CHASE TO ELEVATION 23'-6". REFER TO ELEVATION ON THIS SHEET.
- ④ CONTRACTOR TO CORE-DRILL SLAB AS REQUIRED TO ALLOW FOR THE INSTALLATION CONDUITS F01FB1FB2 AND F02FB1FB2. CONTRACTOR TO UTILIZE FLEXIBLE, NON-METALLIC CONDUIT TO WIREWAY OR CHASE AS REQUIRED TO INSTALL FIBER TO EXISTING FILTER BUILDING No. 2 FILTER CONTROL PANEL.
- ⑤ EXISTING FOAM AND INSTALLATION INSTALLED AT ENTRY TO FILTER CONTROL CABINET TO PREVENT RODENT INTRUSION. REFER TO DETAIL ON SHEET E48 FOR WORK REQUIRED TO PREVENT RODENT INTRUSION.



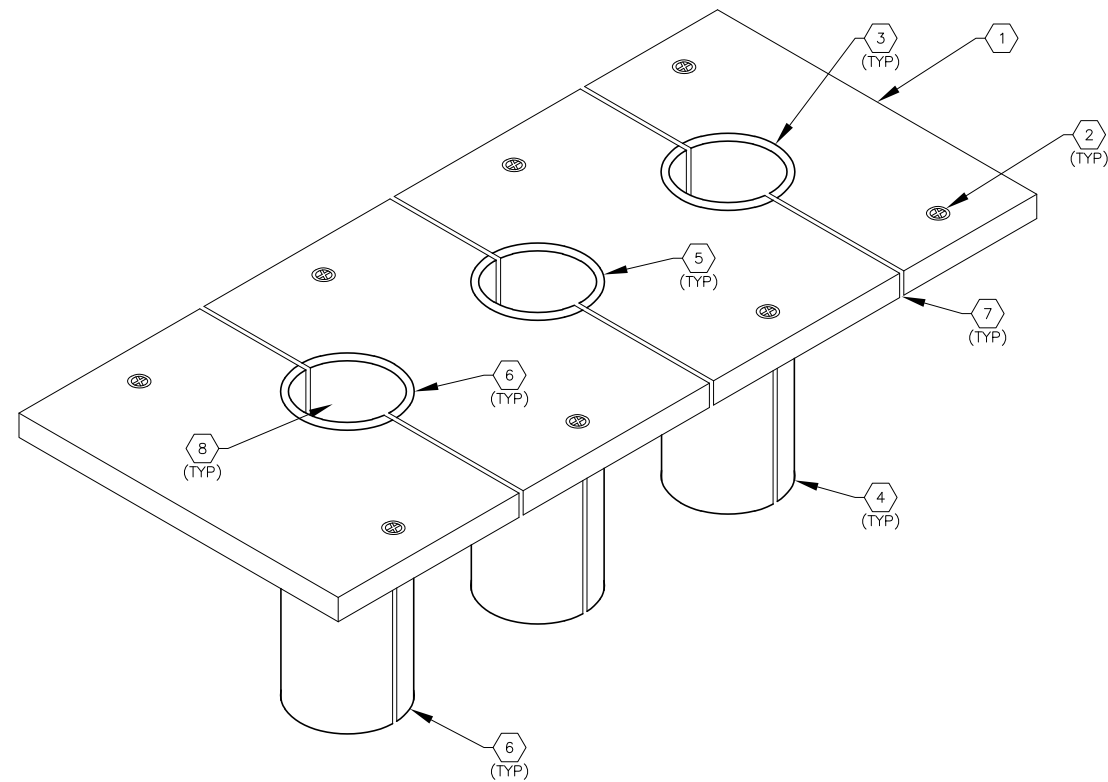
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SCALE	AS SHOWN
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**City of Tampa Wastewater Department**  
**HOWARD F. CURREN AWTP**  
**NEW FILTER BUILDING**  
**PLC REPLACEMENT**

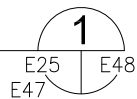
**FILTER BUILDING NO. 2 (047):**  
**PARTIAL PLAN - ELEV 11'-0"**

SHEET NUMBER	<b>E47</b>
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



**RODENT INTRUSION PREVENTION DETAIL**

SCALE: N.T.S.



**KEYED NOTES:**

- 1 CONTRACTOR TO PROVIDE ALUMINUM PLATE WITH MINIMUM 0.25" THICKNESS. SIZE AS REQUIRED TO COMPLETELY COVER OPENING IN FLOOR SLAB OF EXISTING FILTER CABINET.
- 2 CONTRACTOR SHALL DRILL PLATE WITH APPROPRIATELY SIZED HOLE AND SECURE ALUMINUM PLATE TO FLOOR SLAB WITH STAINLESS STEEL TAPCONS. (TYPICAL).
- 3 CONTRACTOR TO PROVIDE ROUND ALUMINUM TUBING WITH MINIMUM 0.125" THICKNESS. QUANTITY AND SIZE TO BE BASED THE NUMBER OF CABLES/CONDUCTORS TO BE ACCOMMODATED WITH NO MORE THAN 40% FILL. PROVIDE A MINIMUM OF ONE (1) 2" ROUND TUBE FOR FUTURE.
- 4 ROUND ALUMINUM TUBING SHALL BE A MINIMUM LENGTH OF 5 INCHES.
- 5 ATTACH ROUND ALUMINUM TUBING TO ALUMINUM PLATE VIA FULL FILET WELD.
- 6 REAM ALUMINUM TUBING AS REQUIRED TO REMOVE ANY SHARP EDGES.
- 7 AFTER UNIT IS COMPLETELY ASSEMBLED, BAND SAW AS INDICATED TO ALLOW FOR INDIVIDUAL REMOVAL OF COMPONENTS.
- 8 AFTER INSTALLATION OF ALL CABLES/CONDUCTORS, FILL TUBING WITH DUCT SEAL (IDEAL OR EQUAL). FILL TUBING AS COMPLETELY AS POSSIBLE.

**GENERAL NOTES:**

- 1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ASSEMBLY FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS OR FABRICATION.



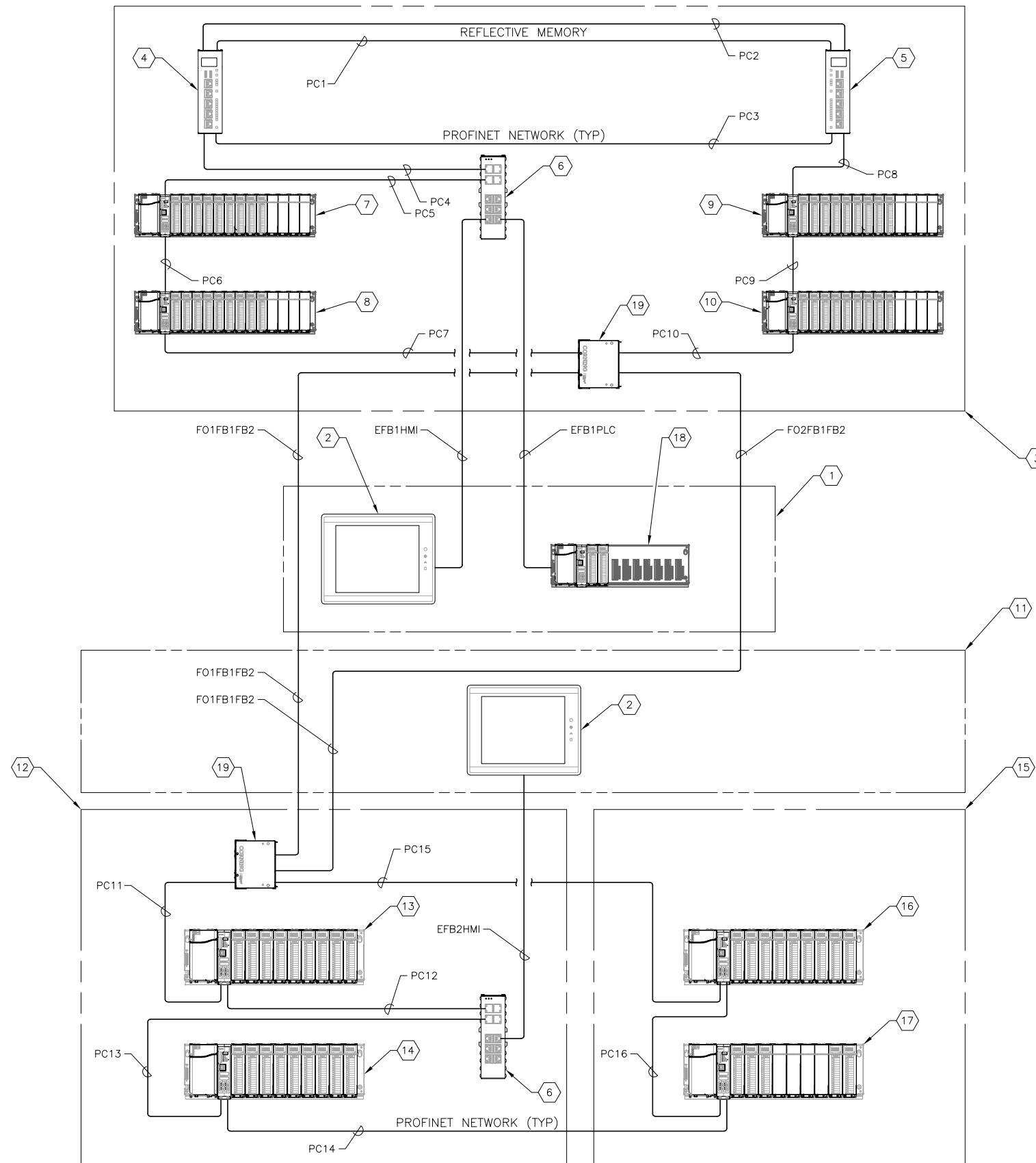
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**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**RODENT INTRUSION  
PREVENTION DETAIL**

SHEET NUMBER	E48
TIMOTHY THOMAS, P.E. No. 47079	FILE: 231901542



**KEYED NOTES:**

- ① EXISTING FILTER CONTROL CONSOLE (ANNUNCIATOR PANEL) IN FILTER BUILDING No. 1. REFER TO SHEET E1 FOR LOCATION.
- ② PROPOSED HMI. MAPLE SYSTEMS #HMI5150P.
- ③ PROPOSED FILTER CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 1. REFER TO SHEET E8 FOR DETAILS.
- ④ PROPOSED STANDALONE CONTROLLER. GE RX3i CPL410 FOR WEST FILTER RACK.
- ⑤ PROPOSED STANDALONE CONTROLLER. GE RX3i CPL410 FOR EAST FILTER RACK.
- ⑥ PROPOSED PROFINET ENABLED ETHERNET SWITCH. EMERSON IC086GLM064.
- ⑦ PROPOSED FILTER CONTROL PANEL WEST RACK 'FB1-W-1'.
- ⑧ PROPOSED FILTER CONTROL PANEL WEST RACK 'FB1-W-2'.
- ⑨ PROPOSED FILTER CONTROL PANEL EAST RACK 'FB1-E-1'.
- ⑩ PROPOSED FILTER CONTROL PANEL EAST RACK 'FB1-E-2'.
- ⑪ EXISTING LOCAL CONTROL PANEL IN FILTER BUILDING No. 2. REFER TO SHEET E23 FOR LOCATION.
- ⑫ PROPOSED WEST LOCAL CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 2. REFER TO SHEET E36 FOR DETAILS.
- ⑬ PROPOSED REMOTE I/O RACK 'FB2-W-1'.
- ⑭ PROPOSED REMOTE I/O RACK 'FB2-W-2'.
- ⑮ PROPOSED EAST LOCAL CONTROL PANEL TO BE INSTALLED IN EXISTING FILTER BUILDING No. 2. REFER TO SHEET E27 FOR DETAILS.
- ⑯ PROPOSED REMOTE I/O RACK 'FB2-E-1'.
- ⑰ PROPOSED REMOTE I/O RACK 'FB2-E-2'.
- ⑱ EXISTING RX3i PLC RACK TO REMAIN IN EXISTING FILTER BUILDING No. 1 CONTROL CONSOLE. REFER TO SHEET E1 KEYED NOTE #10 FOR LOCATION.
- ⑲ FIBER OPTIC PATCH PANEL. REFER ALSO TO SPECIFICATIONS.



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**HOWARD F. CURREN AWTP  
NEW FILTER BUILDING  
PLC REPLACEMENT**

**PROPOSED FILTER  
CONTROLS NETWORK**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E49**  
FILE: 231901542

MCC-59A CONDUIT AND CABLE SCHEDULE

CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
FB1W1	3"	6 (SIX) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-W-1-4, FB1-W-1-5, FB1-W-1-6, FB1-W-1-7, FB1-W-1-8 AND FB1-W-1-9.
FB1W2	3"	6 (SIX) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-W-1-10, FB1-W-1-11, FB1-W-2-4, FB1-W-2-5, FB1-W-2-6 AND FB1-W-2-7.
FB1W3	3"	6 (SIX) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-W-2-8, FB1-W-2-9, FB1-W-2-10, FB1-W-2-11, FB1-W-2-12 AND FB1-W-2-13.
FB1W4	3"	4 (FOUR) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-E-1-15, FB1-E-1-16, FB1-W-1-15 AND FB1-W-1-16.
FB1WPDC	3/4"	2-#12 + #12 GND	FB1 FILTER CONTROL PANEL	EX FB1 CONTROL CONSOLE	24V DC POWER FOR NEW FB1 CONTROL CONSOLE HMI. MAPLE SYSTEMS #HMI5150P
FB1WPAC	3/4"	2-#12 + #12 GND	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	120V POWER FOR NEW FB1 CONTROL CONSOLE (WEST RACK).
FB1E1	3"	6 (SIX) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-E-1-4, FB1-E-1-5, FB1-E-1-6, FB1-E-1-7, FB1-E-1-8 AND FB1-E-1-9.
FB1E2	3"	6 (SIX) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES: FB1-E-1-10, FB1-E-1-11, FB1-E-2-4, FB1-E-2-5, FB1-E-2-6 AND FB1-E-2-7.
FB1E3	3"	4 (FOUR) 20/C-#16 CABLES	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	CABLES:FB1-E-2-8, FB1-E-2-9, FB1-E-2-10 AND FB1-E-2-11.
FB1EPAC	3/4"	2-#12 + #12 GND	EX FB1 CONTROL CONSOLE	FB1 FILTER CONTROL PANEL	120V POWER FOR NEW FB1 CONTROL CONSOLE (EAST RACK).
FB2W1	3"	6 (SIX) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 WEST FILTER CP	CABLES: FB2-W-1-4, FB2-W-1-5, FB2-W-1-6, FB2-W-1-7, FB2-W-1-8 AND FB2-W-1-9.
FB2W2	3"	6 (SIX) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 WEST FILTER CP	CABLES: FB2-W-1-10, FB2-W-1-11, FB2-W-1-12, FB2-W-13, FB2-W-1-14 AND FB2-W-1-15.
FB2W3	3"	5 (FIVE) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 WEST FILTER CP	CABLES: FB2-W-2-4, FB2-W-2-5, FB2-W-2-6, FB2-W-2-7 AND FB2-W-2-8.
FB2W4	3"	2 (TWO) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 WEST FILTER CP	CABLES: FB2-W-2-9 AND FB2-W-2-10.
FB2WPDC	3/4"	2-#12 + #12 GND	EX FB2 FILTER CP	FB2 WEST FILTER CP	24V DC POWER FOR NEW FB2 CONTROL CONSOLE HMI. MAPLE SYSTEMS #HMI5150P
FB2WPAC	3/4"	2-#12 + #12 GND	EX FB2 FILTER CP	FB2 WEST FILTER CP	120V POWER FOR NEW FB1 CONTROL CONSOLE (WEST RACK).
FB2E1	3"	6 (SIX) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 EAST FILTER CP	CABLES: FB2-E-1-4, FB2-E-1-5, FB2-E-1-6, FB2-E-1-7, FB2-E-1-8 AND FB2-E-1-9.
FB2E2	3"	6 (SIX) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 EAST FILTER CP	CABLES: FB2-E-1-10, FB2-E-1-11, FB2-E-1-12, FB2-E-1-13, FB2-E-2-4 AND FB2-E-2-5.
FB2E3	3"	5 (FIVE) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 EAST FILTER CP	CABLES: FB2-E-2-6, FB2-E-2-7, FB2-E-2-8, FB2-E-2-9 AND FB2-E-2-10.
FB2E4	3"	2 (TWO) 20/C-#16 CABLES	EX FB2 FILTER CP	FB2 EAST FILTER CP	CABLES: FB2-E-1-15 AND FB2-E-1-16.
FB2EPAC	3/4"	2-#12 + #12 GND	EX FB2 FILTER CP	FB2 EAST FILTER CP	120V POWER FOR NEW FB1 CONTROL CONSOLE (EAST RACK).



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PLC REPLACEMENT**

**CONDUIT AND CABLE  
SCHEDULE  
SHEET 1 OF 2**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E50**  
FILE: 231901542

MCC-59A CONDUIT AND CABLE SCHEDULE

CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
F01FB1FB2	1"	6 COUNT FIBER OPTIC CABLE	FB1 PATCH PANEL	FB2 PATCH PANEL	SINGLE MODE FIBER VIA FIBER OPTIC PATCH OPTIC PATCH PANEL
F02FB1FB2	1"	6 COUNT FIBER OPTIC CABLE	FB1 PATCH PANEL	FB2 PATCH PANEL	SINGLE MODE FIBER VIA FIBER OPTIC PATCH OPTIC PATCH PANEL
PC1	N/A	FIBER OPTIC PATCH CABLE	WEST PANEL CPL410	EAST PANEL CPL410	SINGLE MODE FIBER OPTIC PATCH CABLE
PC2	N/A	FIBER OPTIC PATCH CABLE	WEST PANEL CPL410	EAST PANEL CPL410	SINGLE MODE FIBER OPTIC PATCH CABLE
PC3	N/A	FIBER OPTIC PATCH CABLE	WEST PANEL CPL410	EAST PANEL CPL410	SINGLE MODE FIBER OPTIC PATCH CABLE
PC4	N/A	FIBER OPTIC PATCH CABLE	WEST PANEL CPL410	FB1 ETHERNET SWITCH	MULTIMODE FIBER OPTIC PATCH CABLE
PC5	N/A	FIBER OPTIC PATCH CABLE	FB1 ETHERNET SWITCH	FB1-W-1 I/O RACK	MULTIMODE FIBER OPTIC PATCH CABLE
PC6	N/A	FIBER OPTIC PATCH CABLE	FB1-W-1 I/O RACK	FB1-W-2 I/O RACK	MULTIMODE FIBER OPTIC PATCH CABLE
PC7	N/A	FIBER OPTIC PATCH CABLE	FB1-W-2 I/O RACK	FB1 PATCH PANEL	SINGLE MODE FIBER OPTIC PATCH CABLE
PC8	N/A	FIBER OPTIC PATCH CABLE	EAST PANEL CPL410	FB1-E-1 I/O RACK	MULTIMODE FIBER OPTIC PATCH CABLE
PC9	N/A	FIBER OPTIC PATCH CABLE	FB1-E-1 I/O RACK	FB1-E-2 I/O RACK	MULTIMODE FIBER OPTIC PATCH CABLE
PC10	N/A	FIBER OPTIC PATCH CABLE	FB1-E-2 I/O RACK	FB1 PATCH PANEL	SINGLE MODE FIBER OPTIC PATCH CABLE
PC11	N/A	FIBER OPTIC PATCH CABLE	FB2 PATCH PANEL	FB2-W-1	SINGLE MODE FIBER OPTIC PATCH CABLE
PC12	N/A	FIBER OPTIC PATCH CABLE	FB2-W-1	FB2 ETHERNET SWITCH	MULTIMODE FIBER OPTIC PATCH CABLE
PC13	N/A	FIBER OPTIC PATCH CABLE	FB2 ETHERNET SWITCH	FB2-W-2	MULTIMODE FIBER OPTIC PATCH CABLE
PC14	1"	FIBER OPTIC PATCH CABLE	FB2-W-2	FB2-E-2	MULTIMODE FIBER OPTIC PATCH CABLE
PC15	N/A	FIBER OPTIC PATCH CABLE	FB2-E-2	FB2-E-1	SINGLE MODE FIBER OPTIC PATCH CABLE
PC16	1"	FIBER OPTIC PATCH CABLE	FB2-E-1	FB2-E-2	MULTIMODE FIBER OPTIC PATCH CABLE
EFB1HMI	1"	CAT 6 ETHERNET CABLE	FB1 FILTER CONTROL PANEL	EX FB1 CONTROL CONSOLE	
EFB1PLC	1"	CAT 6 ETHERNET CABLE	FB1 FILTER CONTROL PANEL	EX FB1 CONTROL CONSOLE	
EFB2HMI	1"	CAT 6 ETHERNET CABLE	FB2 WEST FILTER CP	EX FB2 FILTER CP	



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**CONDUIT AND CABLE  
SCHEDULE  
SHEET 2 OF 2**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER  
**E51**  
FILE: 231901542