

KEYNOTES:

① COMMUNICATIONS WIRING SHALL BE IN RIGID CONDUIT FROM FLOW METER MONITORING PANEL TO THE CHILLER PLANT CONTROL PANEL, UTILIZING BELDEN 89842 MULTI-CONDUCTOR - LOW CAPACITANCE COMPUTER AND COMPUTER POS CABLE OR EQUIVALENT.

LEGEND:

- ⊘ BALL VALVE (1/4" TURN, SHUT OFF TYPE (SV))
- ⊘ GLOBE VALVE (GV)
- ⊘ REFRIGERANT GAS LEAK SENSOR
- ⊘ SOLENOID VALVE
- ⊘ SAMPLE PET COCK (SPC)
- ⊘ STRAINER (STN)

NOTE:
1. TWO FANS, (E) F-6 & F-7, AT CWPB11 - GLENMONT.

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 41715, Expiration Date: 2018-03-08

CONTRACT NO.
FQ17162

DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	DESCRIPTION
B. VERMAKATH	05/17				
A. PINKOISO	05/17				
J. SILVA	05/17				
B. VERMAKATH	05/17				

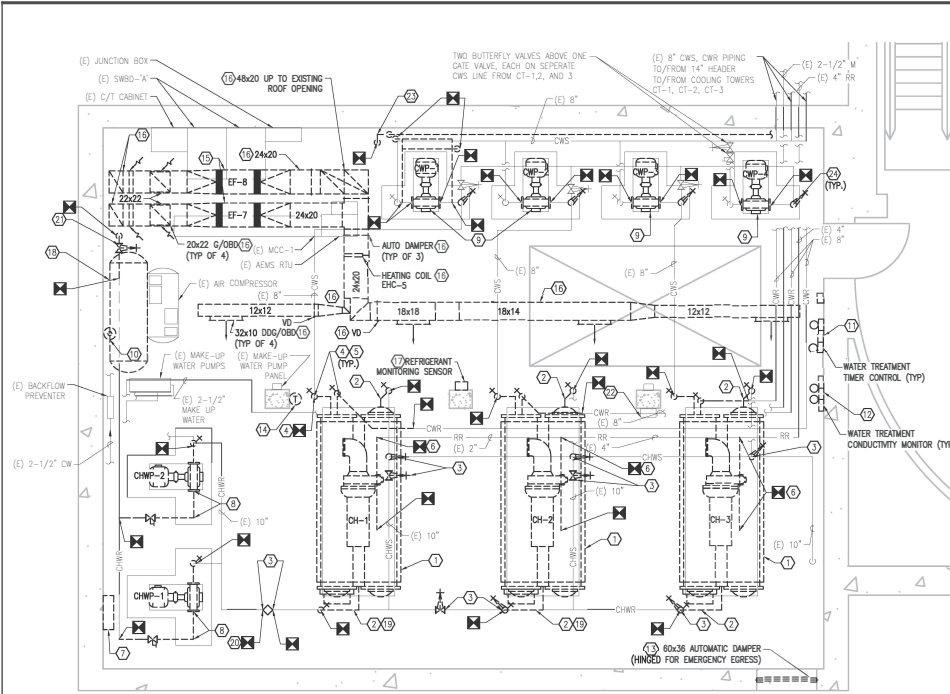
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED: *Mark H. [Signature]*

GFP A GARRETT FIRMING/PARSONS JOINT VENTURE
 SUBMITTED: *[Signature]*
 PROJECT MANAGER

REPLACEMENT OF CHILLERS AND COOLING TOWERS AT THREE METRO-RAIL STATIONS
 CWPB11 - GLENMONT
 CHILLER PLANT MONITORING DIAGRAM

SCALE: NOT TO SCALE
 DRAWING NO.: CWPB11-M-611
 M1299-020



GENERAL NOTES:

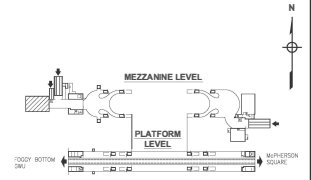
- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.

KEYNOTES:

- 1) REMOVE AND DISPOSE OF CHILLER, CHILLER SUPPORT, STARTER, WIRING, DISCONNECT, AEMS SENSORS, AND CONTROLS. REMOVAL SHALL INCLUDE R-134a EMULATION BY A CERTIFIED COMPANY. RECOVERED REFRIGERANT SHALL BE CLEANED AND THEN BE TURNED OVER TO PLANT.
- 2) REMOVE AND DISPOSE OF CHILLED WATER PIPING (CHWS, CHWR), INSULATION, SUPPORT, TEMPERATURE AND PRESSURE GAUGES. EXTENT OF PIPING REMOVAL SHALL BE, IN GENERAL, TO THE INDICATED ISOLATION VALVE FLANGE FROM THE CHILLER. EXACT DEMOLITION POINT SHALL BE FIELD COORDINATED BY CONTRACTOR TO ACCOMMODATE NEW PIPING CONNECTIONS.
- 3) REMOVE AND DISPOSE OF CHILLED WATER PIPING VALVES AS IDENTIFIED TO BE DEMOLISHED. (APPROXIMATELY TEN 10" BUTTERFLY VALVES WITH HAND WHEEL, NINE 10" GATE VALVES WITH HAND WHEEL, ONE 10" BALANCING VALVE WITH HAND WHEEL, AND TWO 10" CHECK VALVES). EXACT QUANTITY OF VALVES SHALL BE VERIFIED BY INSTALLING CONTRACTOR.
- 4) REMOVE AND DISPOSE OF CONDENSER WATER PIPING (CWR, CWS), INSULATION, TEMPERATURE AND PRESSURE GAUGES. EXTENT OF PIPING REMOVAL SHALL BE, IN GENERAL, TO THE INDICATED ISOLATION VALVE FLANGE FROM THE CHILLER. EXACT DEMOLITION POINT SHALL BE FIELD COORDINATED BY CONTRACTOR TO ACCOMMODATE NEW PIPING CONNECTIONS.
- 5) REMOVE AND DISPOSE OF THE CONDENSER WATER PIPING VALVE. (APPROXIMATE OF SIX 4" BUTTERFLY VALVES WITH HAND WHEEL). EXACT QUANTITY OF VALVES SHALL BE FIELD VERIFIED BY INSTALLING CONTRACTOR.
- 6) REMOVE EXISTING 2" REFRIGERANT RELIEF (VENT) PIPING TO EXTENT SHOWN.
- 7) REMOVE AND DISPOSE OF CHILLER CONTROL PANEL.
- 8) REMOVE AND DISPOSE OF CHILLED WATER PUMPS, CHWP-1 AND CHWP-2. REMOVAL SHALL INCLUDE PUMP, MOTOR, CONTROL WIRING, PIPING, SUPPORT, ISOLATION VALVES, STRAINER AND CHECK VALVE, WITH ALL INSTRUMENTATION AND CONTROLS. EXISTING VIBRATION SUPPORT, INERTIAL PAD AND EQUIPMENT TO REMAIN AND BE RE-USED. EXTENT OF PIPING REMOVAL SHALL BE, IN GENERAL, TO THE INDICATED ISOLATION VALVE FLANGE FROM THE CHILLER. EXACT DEMOLITION POINT SHALL BE FIELD COORDINATED BY CONTRACTOR TO ACCOMMODATE NEW PIPING CONNECTIONS.
- 9) REMOVE AND DISPOSE OF CONDENSER WATER PUMPS, CWP-1, CWP-2, CWP-3, AND CWP-4 UP TO THE PIPE CONNECTION FLANGES. REMOVAL SHALL INCLUDE PUMP, MOTOR, AND CONTROL WIRING. EXISTING VIBRATION SUPPORT, INERTIAL PAD, AND EQUIPMENT PAD TO REMAIN.
- 10) REMOVE AND DISPOSE OF CHEMICAL POT FEEDER & ACCESSORIES FOR CHILLED WATER AND CONDENSER WATER SYSTEM.
- 11) REMOVE AND DISPOSE OF EXISTING CONDENSER WATER TREATMENT SYSTEM (INCLUDING VALVES, PIPING, SUPPORTS, CHEMICAL DRUMS, METERING PUMPS, AND RELATED ELECTRICAL/CONTROL ACCESSORIES). EXISTING VALCO SYSTEM AND COMPONENTS SHALL REMAIN AS-IS AND RE-USED.
- 12) REMOVE AND DISPOSE OF EXISTING CONDUCTIVITY MONITORS.
- 13) REMOVE AND DISPOSE OF EXISTING LOWER, DAMPER, AND CORRESPONDING ELECTRICAL/PNEUMATIC CONTROLS.
- 14) REMOVE AND DISPOSE OF THERMOSTAT.
- 15) REMOVE AND DISPOSE OF EXHAUST FANS EF-7 AND EF-8. REMOVAL SHALL INCLUDE FAN, FAN MOTOR, SUPPORT, CONTROL WIRING, AND ACCESSORIES.
- 16) REMOVE AND DISPOSE OF DUCTWORK, SUPPORTS, GRILLES, DUCT HEATER, DAMPER, AND ASSOCIATED ELECTRICAL/PNEUMATIC CONTROLS.
- 17) REMOVE AND DISPOSE OF EXISTING REFRIGERANT MONITORING SENSOR, INCLUDING ALL TUBING AND DEVICES.
- 18) REMOVE AND DISPOSE OF EXISTING EXPANSION TANK. TANK SUPPORT SHALL REMAIN AND BE REUSED.
- 19) 10" CHWR PIPING TO CHILLER, 10" CWR PIPING FROM SERIES CHILLER ARE LOCKED UNDERNEATH THE 10" CHWR PIPING MAN. CONTRACTOR SHALL FIELD VERIFY.
- 20) EXTENT OF ALL VALVE REPLACEMENT SHALL BE INCLUSIVE OF THE CONNECTION FLANGES (TYPICAL).
- 21) REMOVE CHWR PIPING, INSULATION, AND GATE VALVE TO ACCOMMODATE NEW AIR SEPARATOR. FIELD COORDINATE WITH NEW WORK.
- 22) REMOVE AND DISPOSE OF DIFFERENTIAL PRESSURE SWITCH.
- 23) REMOVE ABANDONED PIPING FROM OLD CONDUCTIVITY MONITOR. TERMINATE DRAIN PIPING FROM CWS TO NEAREST FLOOR DRAIN.
- 24) POSITION OF EXISTING CHECK VALVE AND GATE VALVE ON CWS DISCHARGE PIPING TO BE SWAPPED DURING NEW WORK PHASE OF THIS DESIGN.

CHILLER ROOM FLOOR PLAN - DEMOLITION

SCALE: 1/4" = 1'-0"



DESIGNED	REFERENCE DRAWINGS		REVISIONS	
	NUMBER	DESCRIPTION	DATE	BY
B. VIGNANAWAN	05/17			
DRAWN	K. RICHARD			
CHECKED	B. SILVA			
APPROVED	B. SILVA			

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
 DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
 OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
 APPROVED: *Mark H. [Signature]*

GFP A SACKETT FERRIERE/PURSONS JOINT VENTURE
 SUBMITTED: *[Signature]*
 PROJECT MANAGER

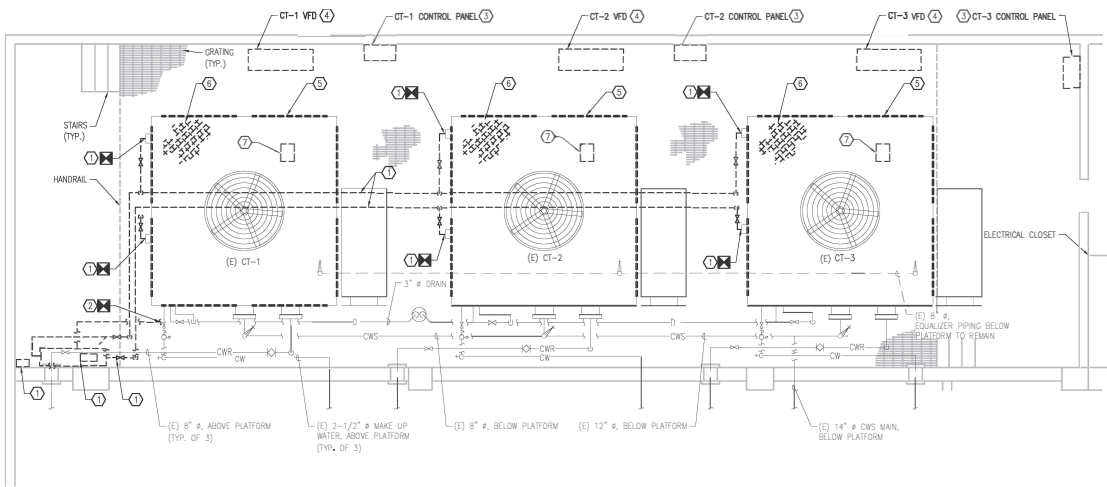
CONTRACT NO. FQ17162
 REPLACEMENT OF CHILLERS AND COOLING TOWERS AT THREE METRO-RAIL STATIONS
 CWP03 - FARRAGUT WEST
 MECHANICAL PLAN - DEMOLITION
 SCALE: 1/4"=1'-0" DRAWING NO. CWP03-M-100 M1299-021

GENERAL NOTES:

- A. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND QUANTITIES OF EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING PRIOR TO DEMOLITION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. COOLING TOWERS LOCATED ON THE ROOF OF BUILDING 1825 EYE STREET NW, WASHINGTON, DC.
- D. ALL COOLING TOWER COMPONENTS THAT ARE REMOVED ARE TO BE REPLACED IN KIND. INSTALLING CONTRACTOR SHALL COORDINATE WITH COOLING TOWER MANUFACTURER PRIOR TO REMOVAL.

KEYNOTES:

- ① REMOVE AND DISPOSE OF EXISTING ABANDONED CONDENSER WATER TREATMENT SYSTEM AND ITS COMPONENTS ON THE ROOF. REMOVAL SHALL INCLUDE PUMP, MOTOR, RELATED ELECTRICAL/CONTROL ACCESSORIES, DISCONNECT, PIPING, VALVES, STRAINER AND PIPING SUPPORT.
- ② REMOVE AND DISPOSE OF EXISTING DRAIN PIPING TO THE EXTENT SHOWN.
- ③ REMOVE COOLING TOWER FAN STARTER, DISCONNECT, AND CONTROLS.
- ④ REMOVE EXISTING VARIABLE FREQUENCY DRIVE ALONG WITH ITS ENCLOSURE.
- ⑤ REMOVE AND DISPOSE OF EXISTING LOUVER ON COOLING TOWER.
- ⑥ REMOVE AND DISPOSE OF EXISTING FILL IN THE COOLING TOWER.
- ⑦ REMOVE EXISTING FAN MOTOR, BELT DRIVEN FAN DRIVE ASSEMBLY, BELTS, SHEAVES, AND MOUNTING HARDWARE.



COOLING TOWER - PARTIAL ROOF PLAN - DEMOLITION
SCALE: 3/16" = 1'-0"



CONTRACT NO.
FQ17162

DESIGNED	B. VEDANATHAN	05/17
DRAWN	K. RICHARD	05/17
CHECKED	B. SILVA	05/17
APPROVED	B. SILVA	05/17

NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

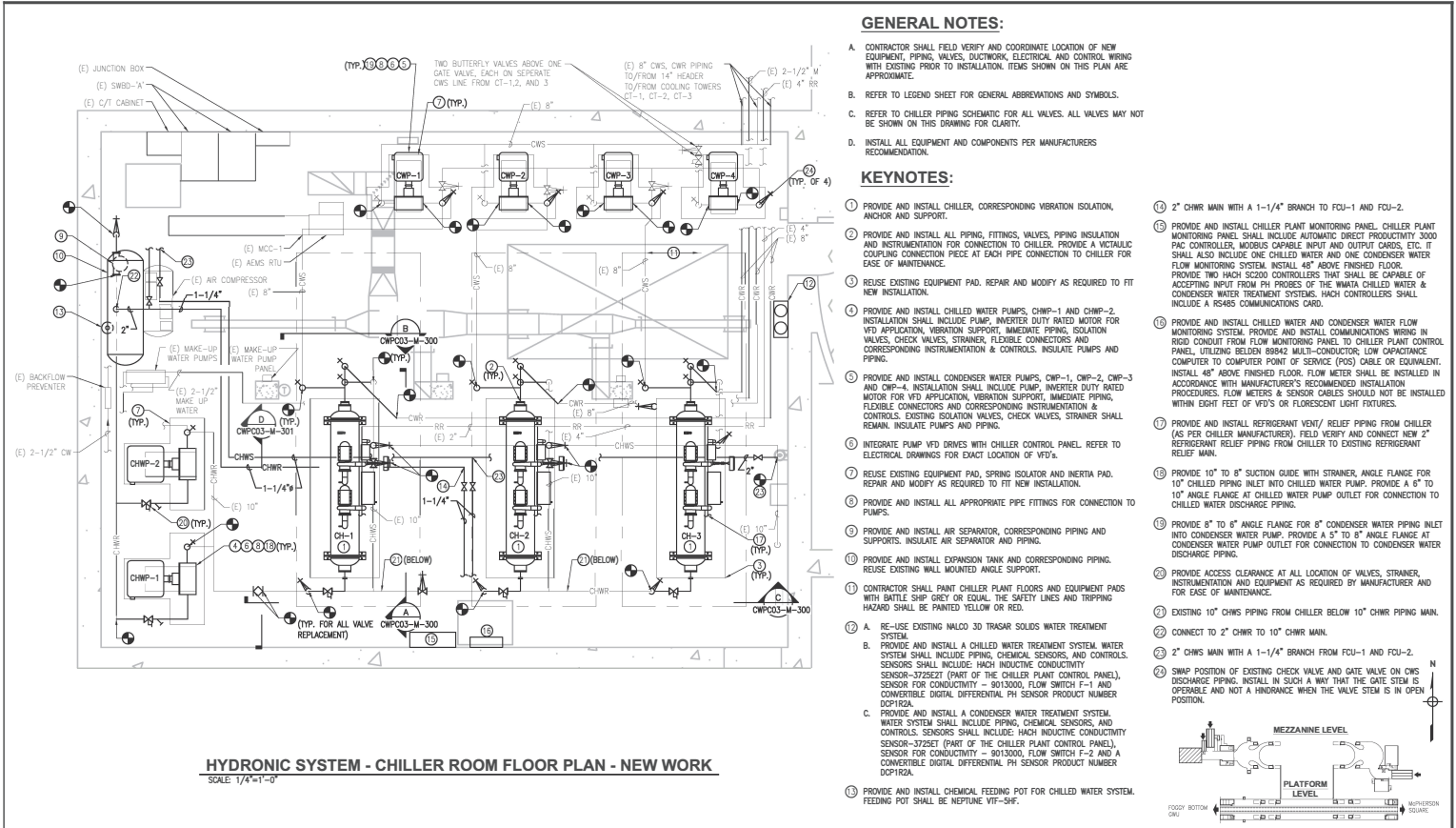
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE
AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED: *Mark H. [Signature]*

GFP A GARRETT FIRMING/PINCUS
JOINT VENTURE
SUBMITTED: *[Signature]*
PROJECT MANAGER

REPLACEMENT OF CHILLERS AND COOLING TOWERS AT THREE METRO-RAIL STATIONS
CWPC03 - FARRAGUT WEST
MECHANICAL ROOF PLAN - DEMOLITION
SCALE: 3/16"=1'-0" 1 0 1 3 5 7
DRAWING NO. CWPC03-M-101 M1299-022



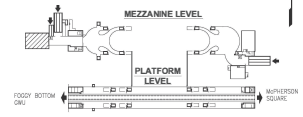
HYDRONIC SYSTEM - CHILLER ROOM FLOOR PLAN - NEW WORK
SCALE: 1/4"=1'-0"

GENERAL NOTES:

- A. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE LOCATION OF NEW EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL, AND CONTROL WIRING WITH EXISTING PRIOR TO INSTALLATION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. REFER TO CHILLER PIPING SCHEMATIC FOR ALL VALVES. ALL VALVES MAY NOT BE SHOWN ON THIS DRAWING FOR CLARITY.
- D. INSTALL ALL EQUIPMENT AND COMPONENTS PER MANUFACTURERS RECOMMENDATION.

KEYNOTES:

- 1. PROVIDE AND INSTALL CHILLER, CORRESPONDING VIBRATION ISOLATION, AND/OR AND SUPPORT.
- 2. PROVIDE AND INSTALL ALL PIPING, FITTINGS, VALVES, PIPING INSULATION AND INSTRUMENTATION FOR CONNECTION TO CHILLER. PROVIDE A VERTICAL COUPLING CONNECTION PIECE AT EACH PIPE CONNECTION TO CHILLER FOR EASE OF MAINTENANCE.
- 3. REUSE EXISTING EQUIPMENT PAD. REPAIR AND MODIFY AS REQUIRED TO FIT NEW INSTALLATION.
- 4. PROVIDE AND INSTALL CHILLED WATER PUMPS, CWP-1 AND CWP-2. INSTALLATION SHALL INCLUDE PUMP, INVERTER DUTY RATED MOTOR FOR VFD APPLICATION, VIBRATION SUPPORT, IMMEDIATE PIPING, ISOLATION VALVES, CHECK VALVES, STRAINER, FLEXIBLE CONNECTORS AND CORRESPONDING INSTRUMENTATION & CONTROLS. INSULATE PUMPS AND PIPING.
- 5. PROVIDE AND INSTALL CONDENSER WATER PUMPS, CWP-1, CWP-2, CWP-3 AND CWP-4. INSTALLATION SHALL INCLUDE PUMP, INVERTER DUTY RATED MOTOR FOR VFD APPLICATION, VIBRATION SUPPORT, IMMEDIATE PIPING, FLEXIBLE CONNECTORS AND CORRESPONDING INSTRUMENTATION & CONTROLS. EXISTING ISOLATION VALVES, CHECK VALVES, STRAINER SHALL REMAIN. INSULATE PUMPS AND PIPING.
- 6. INTEGRATE PUMP VFD DRIVES WITH CHILLER CONTROL PANEL. REFER TO ELECTRICAL DRAWINGS FOR EXACT LOCATION OF VFD'S.
- 7. REUSE EXISTING EQUIPMENT PAD, SPRING ISOLATOR AND INERTIA PAD. REPAIR AND MODIFY AS REQUIRED TO FIT NEW INSTALLATION.
- 8. PROVIDE AND INSTALL ALL APPROPRIATE PIPE FITTINGS FOR CONNECTION TO PUMPS.
- 9. PROVIDE AND INSTALL AIR SEPARATOR, CORRESPONDING PIPING AND SUPPORTS. INSULATE AIR SEPARATOR AND PIPING.
- 10. PROVIDE AND INSTALL EXPANSION TANK AND CORRESPONDING PIPING. REUSE EXISTING WALL MOUNTED ANGLE SUPPORT.
- 11. CONTRACTOR SHALL PAINT CHILLER PLANT FLOORS AND EQUIPMENT PADS WITH SATTLE SHIP GREY OR EQUAL. THE SHEET LINES AND TRIPPING HAZARD SHALL BE PAINTED YELLOW OR RED.
- 12. A. RE-USE EXISTING MALCO 30 TRASAR SOLIDS WATER TREATMENT SYSTEM.
B. PROVIDE AND INSTALL A CHILLED WATER TREATMENT SYSTEM. WATER SYSTEM SHALL INCLUDE PIPING, CHEMICAL SENSORS, AND CONTROLS. SENSORS SHALL INCLUDE: HACH INDUCTIVE CONDUCTIVITY SENSOR-372SETZ (PART OF THE CHILLER PLANT CONTROL PANEL), SENSOR FOR CONDUCTIVITY - 8013000, FLOW SWITCH F-1 AND CONVERTIBLE DIGITAL DIFFERENTIAL PH SENSOR PRODUCT NUMBER DCP1R2A.
C. PROVIDE AND INSTALL A CONDENSER WATER TREATMENT SYSTEM. WATER SYSTEM SHALL INCLUDE PIPING, CHEMICAL SENSORS, AND CONTROLS. SENSORS SHALL INCLUDE: HACH INDUCTIVE CONDUCTIVITY SENSOR-372SETZ (PART OF THE CHILLER PLANT CONTROL PANEL), SENSOR FOR CONDUCTIVITY - 8013000, FLOW SWITCH F-2 AND A CONVERTIBLE DIGITAL DIFFERENTIAL PH SENSOR PRODUCT NUMBER DCP1R2A.
- 13. PROVIDE AND INSTALL CHEMICAL FEEDING POT FOR CHILLED WATER SYSTEM. FEEDING POT SHALL BE NEPTUNE VIT-SF.
- 14. 2" CHWR MAIN WITH A 1-1/4" BRANCH TO FCU-1 AND FCU-2.
- 15. PROVIDE AND INSTALL CHILLER PLANT MONITORING PANEL. CHILLER PLANT MONITORING PANEL SHALL INCLUDE AUTOMATIC DIRECT PRODUCTIVITY 3000 PAC CONTROLLER, MODBUS CAPABLE INPUT AND OUTPUT CARDS, ETC. IT SHALL ALSO INCLUDE ONE CHILLED WATER AND ONE CONDENSER WATER FLOW MONITORING SYSTEM. INSTALL 48" ABOVE FINISHED FLOOR. PROVIDE TWO HIGH SECOND CONTROLLERS THAT SHALL BE CAPABLE OF ACCEPTING INPUT FROM PH PROBES OF THE WMTA CHILLED WATER & CONDENSER WATER TREATMENT SYSTEMS. HACH CONTROLLERS SHALL INCLUDE A SCADA COMMUNICATIONS CARD.
- 16. PROVIDE AND INSTALL CHILLED WATER AND CONDENSER WATER FLOW MONITORING SYSTEM. PROVIDE AND INSTALL COMMUNICATIONS WIRING IN RIGID CONDUIT FROM FLOW MONITORING PANEL TO CHILLER PLANT CONTROL PANEL. UTILIZE REGION 8084Z MULTI-CONDUCTOR, LOW CAPACITANCE COMPUTER TO COMPUTER POINT OF SERVICE (POS) CABLE OR EQUIVALENT. INSTALL 48" ABOVE FINISHED FLOOR. FLOW METER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES. FLOW METERS & SENSOR CABLES SHOULD NOT BE INSTALLED WITHIN EIGHT FEET OF VFD'S OR FLORESCENT LIGHT FIXTURES.
- 17. PROVIDE AND INSTALL REFRIGERANT VENT/RELIEF PIPING FROM CHILLER (AS PER CHILLER MANUFACTURER). FIELD VERIFY AND CONNECT NEW 2" REFRIGERANT RELIEF PIPING FROM CHILLER TO EXISTING REFRIGERANT RELIEF MAN.
- 18. PROVIDE 10" TO 8" SUCTION GUIDE WITH STRAINER, ANGLE FLANGE FOR 10" CHILLED PIPING INLET INTO CHILLED WATER PUMP. PROVIDE A 6" TO 10" ANGLE FLANGE AT CHILLED WATER PUMP OUTLET FOR CONNECTION TO CHILLED WATER DISCHARGE PIPING.
- 19. PROVIDE 8" TO 6" ANGLE FLANGE FOR 8" CONDENSER WATER PIPING INLET INTO CONDENSER WATER PUMP. PROVIDE A 5" TO 8" ANGLE FLANGE AT CONDENSER WATER PUMP OUTLET FOR CONNECTION TO CONDENSER WATER DISCHARGE PIPING.
- 20. PROVIDE ACCESS CLEARANCE AT ALL LOCATION OF VALVES, STRAINER, INSTRUMENTATION AND EQUIPMENT AS REQUIRED BY MANUFACTURER AND FOR EASE OF MAINTENANCE.
- 21. EXISTING 10" CHWS PIPING FROM CHILLER BELOW 10" CHWR PIPING MAIN.
- 22. CONNECT TO 2" CHWR TO 10" CHWR MAIN.
- 23. 2" CHWS MAIN WITH A 1-1/4" BRANCH FROM FCU-1 AND FCU-2.
- 24. SWAP POSITION OF EXISTING CHECK VALVE AND GATE VALVE ON CHWS DISCHARGE PIPING. INSTALL IN SUCH A WAY THAT THE GATE STEM IS OPERABLE AND NOT A HINDRANCE WHEN THE VALVE STEM IS IN OPEN POSITION.



DESIGNED	B. YOKINATHAN	DATE	05/17
DRAWN	A. PRKOWSKI	DATE	05/17
CHECKED	B. SILVA	DATE	05/17
APPROVED	B. SILVA	DATE	05/17

REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED: *Mark H. [Signature]*

PROJECT MANAGER: *[Signature]*

REPLACEMENT OF CHILLERS AND COOLING TOWERS AT THREE METRO-RAIL STATIONS
CWP03 - FARRAGUT WEST
MECHANICAL PLAN - NEW WORK

SCALE: 1/4"=1'-0"

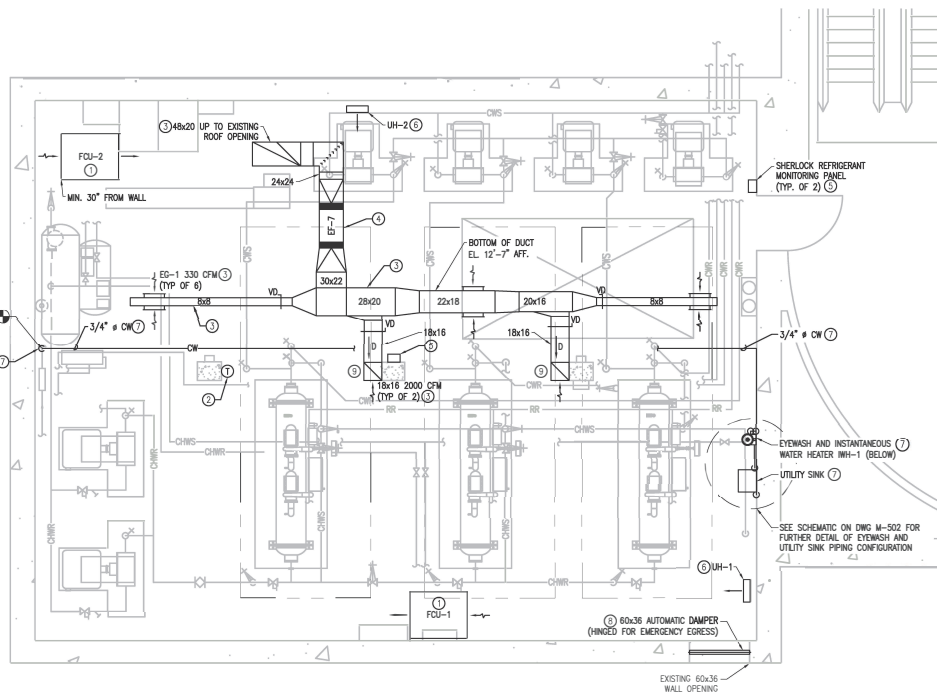
DRAWING NO: CWP03-M-102
M1299-023

GENERAL NOTES:

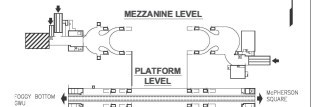
- A. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE LOCATION OF NEW EQUIPMENT, PIPING, VALVES, DUCTWORK, ELECTRICAL AND CONTROL WIRING WITH EXISTING PRIOR TO INSTALLATION. ITEMS SHOWN ON THIS PLAN ARE APPROXIMATE.
- B. REFER TO LEGEND SHEET FOR GENERAL ABBREVIATIONS AND SYMBOLS.
- C. INSTALL ALL EQUIPMENT, COMPONENTS PER MANUFACTURER'S RECOMMENDATION.

KEYNOTES:

- ① PROVIDE AND INSTALL NEW THERMOSTATICALLY CONTROLLED FAN COIL UNIT INCLUDING PIPING, VALVES, AND SUPPORTS. SUPPLY WATER TO THE UNIT SHALL BE TAPPED FROM THE CHWS, RETURN SHALL TAP INTO THE CHWR. CONTRACTOR SHALL FIELD ROUTE CONDENSATE DRAINAGE FROM FAN COIL UNIT TO THE NEAREST ACCESSIBLE FLOOR DRAIN.
- ② PROVIDE AND INSTALL NEW THERMOSTAT FOR NEW FAN COIL UNIT.
- ③ PROVIDE AND INSTALL NEW EXHAUST DUCTWORK, INCLUDING, BUT NOT LIMITED TO: ALL NECESSARY FITTINGS, SUPPORTS, DAMPERS, AND GRILLES. CONTRACTOR SHALL FIELD COORDINATE THE HEIGHT OF DUCTWORK ABOVE FLOOR TO AVOID ANY INTERFERENCE WITH OTHER PIPING, EQUIPMENT, AND LIGHTING.
- ④ PROVIDE AND INSTALL NEW EXHAUST FAN, INCLUDING SUPPORTS AND ANY ASSOCIATED WIRING AND CONTROLS. CONTRACTOR SHALL UTILIZE FLEXIBLE CONNECTIONS AND TRANSITION AS REQUIRED AT FAN INLET AND OUTLET FOR CONNECTION TO NEW DUCTWORK AND PROVIDE APPROPRIATE TRANSITION. PROVIDE SUPPORT WITH SPRING VIBRATION ISOLATORS. EXHAUST FAN F-7 TO BE SIZED TO MEET THE REQUIREMENTS OF ASHRAE 15.
- ⑤ PROVIDE AND INSTALL NEW EXHAUST LEAK MONITORING AND CONTROL SYSTEM, INCLUDING TUBING, SENSORS, STRIKE LIGHTS, AND ALARM. INTEGRATE WITH NEW EXHAUST FAN EF-7. INTEGRATE WITH CHILLER PLANT MONITORING PANEL. REFRIGERANT DETECTION SYSTEM SHALL UTILIZE SHERLOCK 402-M CONTROL MODULE AND SHERLOCK REFRIGERANT GAS SENSOR FOR R134A. TWO REFRIGERANT DETECTION SENSORS SHALL BE USED AND THE PROBES SHALL BE LOCATED BELOW EACH REFRIGERANT MONITORING PANEL. CONTRACTOR SHALL FIELD VERIFY AND INSTALL SENSORS 18" ABOVE FINISHED FLOOR LEVEL. REFER TO EXHAUST FAN SEQUENCE OF OPERATION ON DRAWING CWPC03-M-610.
- ⑥ PROVIDE AND INSTALL NEW UNIT HEATER INCLUDING SUPPORTS.
- ⑦ PROVIDE AND INSTALL NEW EYEWASH, UTILITY SINK AND FACET, AND ASSOCIATED INSTANTANEOUS WATER HEATER AND PIPING. EYEWASH WATER SUPPLY SHALL BE FIELD ROUTED TO CONNECT UPSTREAM OF THE EXISTING MAKE-UP WATER BACKFLOW PREVENTER. PROVIDE INLINE ISOLATION VALVE, STRAINER, REDUCED PRESSURE TYPE BACKFLOW PREVENTER AT AN ACCESSIBLE LOCATION. SEE SCHEMATIC ON DWG M-502 FOR FURTHER DETAIL OF EYEWASH, UTILITY SINK, AND WATER HEATER PIPING CONFIGURATION.
- ⑧ PROVIDE AND INSTALL NEW THERMOSTATICALLY CONTROLLED AUTOMATIC DAMPER FOR FRESH AIR INTAKE, HINGED FOR EMERGENCY EGRESS.
- ⑨ TERMINATE EXHAUST DUCT WITH A 16x14 WIREMESH SCREEN AT A 45° ANGLE AND 18" ABOVE FINISHED FLOOR. WIREMESH SCREEN SHALL BE 1/4"x1/4"



AIR SYSTEM - CHILLER ROOM FLOOR PLAN - NEW WORK
SCALE: 1/4"=1'-0"



DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS	
		NUMBER	DESCRIPTION	DATE	BY
B. VIGNATI	05/17				
M. OLIVA	05/17				
K. SILVA	05/17				
B. SILVA	05/17				



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APPROVED: *Mark H. [Signature]*

GFP A GARRETT FIRMING/PARSONS JOINT VENTURE
SUBMITTED: *[Signature]*
PROJECT MANAGER

CONTRACT NO. **FQ17162**

REPLACEMENT OF CHILLERS AND COOLING TOWERS AT THREE METRO-RAIL STATIONS
CWPC03 - FARRAGUT WEST
MECHANICAL PLAN - NEW WORK

SCALE: 1/4"=1'-0" 1 0 1 2 3 4 5
DRAWING NO. **CWPC03-M-103** M1299-024